

**LONGHORN ARMY
AMMUNITION PLANT
KARNACK, TEXAS**

**ADMINISTRATIVE
RECORD**

Volume 33

2018

Bate Stamp Numbers

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Prepared for

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

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

VOLUME 33

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
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Date: August 14, 2018
Bate Stamp: 00886472 – 00887899

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: SMARTCHEM
Client ID: 50WW06-051016	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 10:35
Collect Date: 05/10/2016 10:10	Dilution: 1	File ID: SC160513001.025
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Alkalinity, Total (as CaCO3)	11-43-8	246		40.0	20.0	10.0

Certificate of Analysis

Sample #: L16050571-05	PrePrep Method: N/A	Instrument: SMARTCHEM2
Client ID: 50WW06-051016	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 10:59
Collect Date: 05/10/2016 10:10	Dilution: 1	File ID: S2160513002.027
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Phosphorus, Total	7723-14-0	0.450		0.400	0.200	0.100

Certificate of Analysis

Sample #: L16050571-05	PrePrep Method: N/A	Instrument: BURET
Client ID: 50WW06-051016	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 10:10	Dilution: 1	File ID: ET.1605111015-18
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 #: L16050571-05	PrePrep Method: N/A	Instrument: TOC-VWP
Client ID: 50WW06-051016	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 13:42
Collect Date: 05/10/2016 10:10	Dilution: 10	File ID: TC05122016.011
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Organic Carbon	TOC	32.1		20.0	10.0	5.00

Certificate of Analysis

Sample #: L16050571-06	PrePrep Method: N/A	Instrument: ICP-THERMO3
Client ID: 50WW06FF-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 18:13
Collect Date: 05/10/2016 10:10	Dilution: 1	File ID: T3.051616.181354
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Dissolved	7439-89-6	0.110	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 #: L16050571-06	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 50WW06FF-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 12:52
Collect Date: 05/10/2016 10:10	Dilution: 1	File ID: NI.051216.125217
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Manganese, Dissolved	7439-96-5	0.0557		0.00400	0.00200	0.00100

Certificate of Analysis

Sample #: L16050571-07	PrePrep Method: N/A	Instrument: HPMS11
Client ID: 50WW12-051016	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 22:28
Collect Date: 05/10/2016 11:20	Dilution: 1	File ID: 11M11942
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	0.195	J	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	2.26		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	3.93		1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	7.35		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.780	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
1,1,1,2-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
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

Lab Report #: L16050571

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Stephanie Mossburg

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
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	107	85	115			
1,2-Dichloroethane-d4	112	70	120			
Toluene-d8	105	85	120			
4-Bromofluorobenzene	101	75	120			
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 #: L16050571-07	PrePrep Method: N/A	Instrument: HPMS11
Client ID: 50WW12-051016	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 19:54
Collect Date: 05/10/2016 11:20	Dilution: 10	File ID: 11M11967
Sample Tag: DL01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Trichloroethene	79-01-6	417		10.0	5.00	2.50
Surrogate	Recovery	Lower Limit	Upper Limit	Q		
Dibromofluoromethane	107	85	115			
1,2-Dichloroethane-d4	110	70	120			
Toluene-d8	103	85	120			
4-Bromofluorobenzene	101	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 #: L16050571-07	PrePrep Method: N/A	Instrument: HP16
Client ID: 50WW12-051016	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 17:02
Collect Date: 05/10/2016 11:20	Dilution: 1	File ID: 16G49881
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Methane	74-82-8	5.81		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 #: L16050571-07	PrePrep Method: N/A	Instrument: HP16
Client ID: 50WW12-051016	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 17:22
Collect Date: 05/10/2016 11:20	Dilution: 5	File ID: 16G49904
Sample Tag: DL01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Carbon Dioxide	124-38-9	398000		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 #: L16050571-07	PrePrep Method: N/A	Instrument: LCMS1
Client ID: 50WW12-051016	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 17:10
Collect Date: 05/10/2016 11:20	Dilution: 10000	File ID: 1LM.LM34995
Sample Tag: DL01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	87800		4000	2000	1000

Certificate of Analysis

Sample #: L16050571-07	PrePrep Method: N/A	Instrument: IC1
Client ID: 50WW12-051016	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 00:38
Collect Date: 05/10/2016 11:20	Dilution: 10	File ID: I1_051116-24
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Nitrate	14797-55-8	2.00	U	4.00	2.00	1.00
Nitrite	14797-65-0	1.02	J	4.00	2.00	1.00
Sulfate	14808-79-8	592		20.0	10.0	5.00

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 #: L16050571-07	PrePrep Method: N/A	Instrument: IC1
Client ID: 50WW12-051016	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 00:56
Collect Date: 05/10/2016 11:20	Dilution: 50	File ID: I1_051116-25
Sample Tag: DL02	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chloride	16887-00-6	1160		20.0	10.0	5.00
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 #: L16050571-07	PrePrep Method: N/A	Instrument: SMARTCHEM
Client ID: 50WW12-051016	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 10:36
Collect Date: 05/10/2016 11:20	Dilution: 1	File ID: SC160513001.026
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Alkalinity, Total (as CaCO3)	11-43-8	202		40.0	20.0	10.0

Certificate of Analysis

Sample #: L16050571-07	PrePrep Method: N/A	Instrument: SMARTCHEM2
Client ID: 50WW12-051016	Prep Method: 365.4	Prep Date: N/A
Matrix: Water	Analytical Method: 365.4	Cal Date: 05/13/2016 10:44
Workgroup #: WG568685	Analyst: DCM	Run Date: 05/13/2016 10:59
Collect Date: 05/10/2016 11:20	Dilution: 1	File ID: S2160513002.028
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 #: L16050571
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050571-07	PrePrep Method: N/A	Instrument: BURET
Client ID: 50WW12-051016	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 11:20	Dilution: 1	File ID: ET.1605111015-19
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 #: L16050571-07	PrePrep Method: N/A	Instrument: TOC-VWP
Client ID: 50WW12-051016	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 14:20
Collect Date: 05/10/2016 11:20	Dilution: 5	File ID: TC05122016.012
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Organic Carbon	TOC	28.5		10.0	5.00	2.50

Certificate of Analysis

Sample #: L16050571-08	PrePrep Method: N/A	Instrument: ICP-THERMO3
Client ID: 50WW12FF-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 18:17
Collect Date: 05/10/2016 11:20	Dilution: 1	File ID: T3.051616.181751
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Dissolved	7439-89-6	0.0788	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 #: L16050571-08	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 50WW12FF-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 12:55
Collect Date: 05/10/2016 11:20	Dilution: 1	File ID: NI.051216.125529
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Manganese, Dissolved	7439-96-5	0.0743		0.00400	0.00200	0.00100

Certificate of Analysis

Sample #: L16050571-09	PrePrep Method: N/A	Instrument: HPMS11
Client ID: 50WW24-051016	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 05/13/2016 19:26
Workgroup #: WG569736	Analyst: JDS	Run Date: 05/20/2016 21:06
Collect Date: 05/10/2016 13:20	Dilution: 1	File ID: 11M11995
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	0.500	U	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	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

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	110	85	115			
1,2-Dichloroethane-d4	116	70	120			
Toluene-d8	102	85	120			
4-Bromofluorobenzene	99.5	75	120			
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 #: L16050571-09	PrePrep Method: N/A	Instrument: HP16
Client ID: 50WW24-051016	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 17:13
Collect Date: 05/10/2016 13:20	Dilution: 1	File ID: 16G49882
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 #: L16050571-09	PrePrep Method: N/A	Instrument: HP16
Client ID: 50WW24-051016	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 17:33
Collect Date: 05/10/2016 13:20	Dilution: 10	File ID: 16G49905
Sample Tag: DL01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Carbon Dioxide	124-38-9	729000		100000	50000	25000
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 #: L16050571-09	PrePrep Method: N/A	Instrument: LCMS1
Client ID: 50WW24-051016	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 17:29
Collect Date: 05/10/2016 13:20	Dilution: 10	File ID: 1LM.LM34996
Sample Tag: DL01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	36.8		4.00	2.00	1.00

Certificate of Analysis

Sample #: L16050571-09	PrePrep Method: N/A	Instrument: IC1
Client ID: 50WW24-051016	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 01:13
Collect Date: 05/10/2016 13:20	Dilution: 2	File ID: 11_051116-26
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	103		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 #: L16050571-09	PrePrep Method: N/A	Instrument: IC1
Client ID: 50WW24-051016	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 02:06
Collect Date: 05/10/2016 13:20	Dilution: 20	File ID: I1_051116-29
Sample Tag: DL02	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chloride	16887-00-6	392		8.00	4.00	2.00
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 #: L16050571-09	PrePrep Method: N/A	Instrument: SMARTCHEM
Client ID: 50WW24-051016	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 10:36
Collect Date: 05/10/2016 13:20	Dilution: 1	File ID: SC160513001.027
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Alkalinity, Total (as CaCO3)	11-43-8	263		40.0	20.0	10.0

Certificate of Analysis

Sample #: L16050571-09	PrePrep Method: N/A	Instrument: SMARTCHEM2
Client ID: 50WW24-051016	Prep Method: 365.4	Prep Date: N/A
Matrix: Water	Analytical Method: 365.4	Cal Date: 05/13/2016 10:44
Workgroup #: WG568685	Analyst: DCM	Run Date: 05/13/2016 11:00
Collect Date: 05/10/2016 13:20	Dilution: 1	File ID: S2160513002.029
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Phosphorus, Total	7723-14-0	0.270	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 #: L16050571-09	PrePrep Method: N/A	Instrument: BURET
Client ID: 50WW24-051016	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 13:20	Dilution: 1	File ID: ET.1605111015-20
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 #: L16050571-09	PrePrep Method: N/A	Instrument: TOC-VWP
Client ID: 50WW24-051016	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 14:55
Collect Date: 05/10/2016 13:20	Dilution: 10	File ID: TC05122016.013
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Organic Carbon	TOC	84.1		20.0	10.0	5.00

Certificate of Analysis

Sample #: L16050571-10	PrePrep Method: N/A	Instrument: ICP-THERMO3
Client ID: 50WW24FF-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 18:21
Collect Date: 05/10/2016 13:20	Dilution: 1	File ID: T3.051616.182146
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 #: L16050571

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050571-10	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 50WW24FF-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 12:58
Collect Date: 05/10/2016 13:20	Dilution: 1	File ID: NI.051216.125840
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Manganese, Dissolved	7439-96-5	0.0116		0.00400	0.00200	0.00100

Certificate of Analysis

Sample #: L16050571-11	PrePrep Method: N/A	Instrument: HPMS11
Client ID: 50WW23-051016	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 23:31
Collect Date: 05/10/2016 14:35	Dilution: 1	File ID: 11M11944
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	0.500	U	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	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

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	110	85	115			
1,2-Dichloroethane-d4	113	70	120			
Toluene-d8	101	85	120			
4-Bromofluorobenzene	101	75	120			
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 #: L16050571-11	PrePrep Method: N/A	Instrument: HP16
Client ID: 50WW23-051016	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 17:25
Collect Date: 05/10/2016 14:35	Dilution: 1	File ID: 16G49883
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 #: L16050571-11	PrePrep Method: N/A	Instrument: HP16
Client ID: 50WW23-051016	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 17:45
Collect Date: 05/10/2016 14:35	Dilution: 5	File ID: 16G49906
Sample Tag: DL01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Carbon Dioxide	124-38-9	471000		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 #: L16050571-11	PrePrep Method: N/A	Instrument: LCMS1
Client ID: 50WW23-051016	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 17:48
Collect Date: 05/10/2016 14:35	Dilution: 1	File ID: 1LM.LM34997
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	2.15		0.400	0.200	0.100

Certificate of Analysis

Sample #: L16050571-11	PrePrep Method: N/A	Instrument: IC1
Client ID: 50WW23-051016	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 02:24
Collect Date: 05/10/2016 14:35	Dilution: 10	File ID: 11_051116-30
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Nitrate	14797-55-8	2.00	U	4.00	2.00	1.00
Nitrite	14797-65-0	1.44	J	4.00	2.00	1.00
Sulfate	14808-79-8	126		20.0	10.0	5.00
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 #: L16050571-11	PrePrep Method: N/A	Instrument: IC1
Client ID: 50WW23-051016	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 02:42
Collect Date: 05/10/2016 14:35	Dilution: 100	File ID: I1_051116-31
Sample Tag: DL02	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chloride	16887-00-6	1670		40.0	20.0	10.0
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 #: L16050571-11	PrePrep Method: N/A	Instrument: SMARTCHEM
Client ID: 50WW23-051016	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 10:37
Collect Date: 05/10/2016 14:35	Dilution: 1	File ID: SC160513001.028
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Alkalinity, Total (as CaCO ₃)	11-43-8	219		40.0	20.0	10.0

Certificate of Analysis

Sample #: L16050571-11	PrePrep Method: N/A	Instrument: SMARTCHEM2
Client ID: 50WW23-051016	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 11:01
Collect Date: 05/10/2016 14:35	Dilution: 1	File ID: S2160513002.030
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 #: L16050571
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050571-11	PrePrep Method: N/A	Instrument: BURET
Client ID: 50WW23-051016	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 14:35	Dilution: 1	File ID: ET.1605111015-21
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 #: L16050571-11	PrePrep Method: N/A	Instrument: TOC-VWP
Client ID: 50WW23-051016	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 15:38
Collect Date: 05/10/2016 14:35	Dilution: 10	File ID: TC05122016.016
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Organic Carbon	TOC	68.3		20.0	10.0	5.00

Certificate of Analysis

Sample #: L16050571-12	PrePrep Method: N/A	Instrument: ICP-THERMO3
Client ID: 50WW23FF-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 18:25
Collect Date: 05/10/2016 14:35	Dilution: 1	File ID: T3.051616.182543
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Dissolved	7439-89-6	0.157	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 #: L16050571-12	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 50WW23FF-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 13:01
Collect Date: 05/10/2016 14:35	Dilution: 1	File ID: NI.051216.130152
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Manganese, Dissolved	7439-96-5	0.0872		0.00400	0.00200	0.00100

Certificate of Analysis

Sample #: L16050571-13	PrePrep Method: N/A	Instrument: HPMS11
Client ID: TRIP BLANK	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 20:52
Collect Date: 05/10/2016 00:01	Dilution: 1	File ID: 11M11939
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	0.500	U	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	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

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	106	85	115			
1,2-Dichloroethane-d4	110	70	120			
Toluene-d8	104	85	120			
4-Bromofluorobenzene	102	75	120			
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

2.0 Full Sample Data Package

2.1 Volatiles Data

2.1.1 Volatiles GCMS Data (8260)

2.1.1.1 Summary Data

Certificate of Analysis

Certificate of Analysis

Sample #: L16050571-01	PrePrep Method: N/A	Instrument: HPMS11
Client ID: 50WW22-051016	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
1,1,1,2-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.			

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
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

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
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
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.

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
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

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
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
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.
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Certificate of Analysis

Sample #: L16050571-07

PrePrep Method: N/A

Instrument: HPMS11

Client ID: 50WW12-051016

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 22:28

Collect Date: 05/10/2016 11:20

Dilution: 1

File ID: 11M11942

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	0.195	J	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	2.26		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	3.93		1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	7.35		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.780	J	1.00	0.500	0.250

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
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
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	107	85	115	
1,2-Dichloroethane-d4	112	70	120	
Toluene-d8	105	85	120	
4-Bromofluorobenzene	101	75	120	
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.
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Lab Report #: L16050571

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050571-07

PrePrep Method: N/A

Instrument: HPMS11

Client ID: 50WW12-051016

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 19:54

Collect Date: 05/10/2016 11:20

Dilution: 10

File ID: 11M11967

Sample Tag: DL01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Trichloroethene	79-01-6	417		10.0	5.00	2.50
Surrogate	Recovery	Lower Limit	Upper Limit	Q		
Dibromofluoromethane	107	85	115			
1,2-Dichloroethane-d4	110	70	120			
Toluene-d8	103	85	120			
4-Bromofluorobenzene	101	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.					

Certificate of Analysis

Sample #: L16050571-09

PrePrep Method: N/A

Instrument: HPMS11

Client ID: 50WW24-051016

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260B

Cal Date: 05/13/2016 19:26

Workgroup #: WG569736

Analyst: JDS

Run Date: 05/20/2016 21:06

Collect Date: 05/10/2016 13:20

Dilution: 1

File ID: 11M11995

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
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

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
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
1,1,1,2-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	110	85	115	
1,2-Dichloroethane-d4	116	70	120	
Toluene-d8	102	85	120	
4-Bromofluorobenzene	99.5	75	120	

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

Certificate of Analysis

Sample #: L16050571-11

PrePrep Method: N/A

Instrument: HPMS11

Client ID: 50WW23-051016

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 23:31

Collect Date: 05/10/2016 14:35

Dilution: 1

File ID: 11M11944

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
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

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
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
1,1,1,2-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	110	85	115	
1,2-Dichloroethane-d4	113	70	120	
Toluene-d8	101	85	120	
4-Bromofluorobenzene	101	75	120	

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

Certificate of Analysis

Sample #: L16050571-13	PrePrep Method: N/A	Instrument: HPMS11
Client ID: TRIP BLANK	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 20:52
Collect Date: 05/10/2016 00:01	Dilution: 1	File ID: 11M11939
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
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

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
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
1,1,1,2-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	106	85	115	
1,2-Dichloroethane-d4	110	70	120	
Toluene-d8	104	85	120	
4-Bromofluorobenzene	102	75	120	

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

2.1.1.2 QC Summary Data

Example 8260 Calculations

1.0 Calculating the Response Factor (RF) from the initial calibration (ICAL) data:

$$RF = [(Ax) (Cis)] / [(Ais) (Cx)]$$

Example

where:

Ax = Area of the characteristic ion for the compound being measured:	3399156
Cis = Concentration of the specific internal standard (ug/mL)	25
Ais = Area of the characteristic ion of the specific internal standard	846471
Cx = Concentration of the compound in the standard being measured (ug/mL)	100

RF = Calculated Response Factor **1.0039**

2.0 Calculating the concentration (C) of a compound in water using the average RF: *

$$Cx = [(Ax) (Cis) (Vn)(D)] / [(Ais) (RF) (Vs)]$$

Example

where:

Ax = Area of the characteristic ion for the compound being measured	3122498
Cis = Concentration of the specific internal standard (ug/L)	25
D = Dilution factor for sample as a multiplier (10x = 10)	1
Ais = Area of the characteristic ion of the specific internal standard	611048
RF = Average RF from the ICAL	1.004
Vs = Purge volume of sample (mL)	10
Vn = Nominal purge volume of sample (mL) (10.0 mL)	10
Cx = Concentration of the compound in the sample being measured (ug/L)	127.2428

3.0 Calculating the concentration (C) of a compound in soil using the average RF: *

$$Cx = [(Ax) (Cis) (Wn)(D)] / [(Ais) (RF) (Ws)]$$

Example

where:

Ax = Area of the characteristic ion for the compound being measured	3122498
Cis = Concentration of the specific internal standard (ug/L)	25
D = Dilution factor for sample as a multiplier (10x = 10)	1
Ais = Area of the characteristic ion of the specific internal standard	611048
RF = Average RF from the ICAL	1.004
Ws = Weight of sample purged (g)	5
Wn = Nominal purge weight (g) (5.0 g)	5
Cx = Concentration of the compound in the sample being measured (ug/L)	127.2428

Dry weight correction:

Percent solids (PCT_S)	50
Cd = (Cx) (100)/PCT_S	254.4856

* Concentrations appearing on the instrument quantitation reports are on-column results and do not take into account initial volume, final volume, and the dilution factor.

4.0 Concentration from Linear Regression

Step 1: Retrieve Curve Data From Plot, $y = mx + b$

y = response ratio = response of analyte / response of IS = Ax/Ais

x = amount ratio = concentration analyte/concentration internal standard = Cx / Cis

m = slope from curve = 0.213

b = intercept from curve = - 0.00642

Step 2: Calculate y from Quantitation Report

$$y = 86550/593147 = 0.1459$$

Step 3: Solve for x

$$x = (y - b)/m = [(0.1459 - (-0.00642))/0.213] = 0.7152$$

Step 4: Solve for analyte concentration Cx

$$Cx = Cis (x) = (25.0)(0.7152) = 17.88$$

Example Spreadsheet Calculation:

Slope from curve, m:	0.213
Intercept from curve, b:	-0.00642
Area of analyte, Ax:	86550
Area of Internal Standard, Ais:	593147
Concentration of IS, Cis	25.00
Response Ratio:	0.145917
Amount Ratio:	0.715195
Concentration:	17.87988
Units of Internal Standard:	ug/L

5.0 Concentration from Quadratic Regression**Step 1 - Retrieve Curve Data from Plot, $y = Ax^2 + Bx + C$**

Where:

$$Ax^2 + Bx + (C - y) = 0$$

A, B, C = constants from the ICAL quadratic regression

y = Response ratio = Area of analyte/Area of internal standard (IS)

x = Amount ratio = Concentration of analyte/concentration of IS

Step 2: Calculate y from Quantitation Report

$$y = Ax/Ais$$

Step 3: Solve for x using the quadratic formula

$$Ax^2 + Bx + C - y = 0$$

$$x = \frac{b \pm \sqrt{(b^2 - 4a(c - y))}}{2a} \quad (\text{Two possible solutions})$$

Step 4: Solve for analyte concentration Cx

$$Cx = (Cis)(\text{Amount ratio})$$

Example Spreadsheet Calculation:

Value of A from plot:	-0.00629
Value of B from plot:	0.511
Value of C from plot:	-0.0276
Area of unknown from quantitation report:	293821
Area of IS from quantitation report:	784848
Response ratio, y:	0.374367
C - y:	-0.40197
Root 1 - Computed amount ratio, X1:	80.44567
Root 2 - Computed amount ratio, X2:	0.794396 use this solution
Concentration of IS, Cis:	25.00
Concentration of analyte, Cx:	19.86 ug/L

Analyst(s): CPD/AMA
 Date: 5/13/16
 Filter Lot #: 9697607

Analyst / Date		Analyst / Date	
AMA/CPD	5/13/16	CPD	5/14/16
Time On	Temp On °C	Time Off	Temp Off °C
1528	22.8	0837	22.2

Agitator Speed 30 ± 2 rpm

ZHE	Sample #	Pressure ✓	PSI ON	PSI OFF	Method	Fluid #	Matrix*	%Solid	Size Reduction		Int. Wt. (g)	Fluid Vol. (mL)
									Yes	No		
A												
B												
C												
D												
E												
F												
G												
H	05-0764-01	✓	10	10	1311	FI-177	S	100	✓		25.04	501
I												
J												
K												
L	05-0764-02	✓	10	10	1311	FI-177	S	100	✓		25.05	501
M												
N												
O												
P												
Q												
R												
S												
NA	FB1K1	NA	NA	NA	1311	FI-177	NA	NA	NA	NA	40	40

*Matrix Code = (S-solid) (SS-sand, soil or sludge) (P-paint) (O-organic) (W-water or waste)

Comments: NIA

Peer Review By: Brenda Gregory

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

Page: 1




Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS11 Dataset: 051316
 Analyst1: JDS Analyst2: NA
 Method: 8260B SOP: MSV01 / OVAP MSV01 Rev: 23 / 0
 Method: 5030B/5030C/5035A SOP: PAT01 / OVAP PAT01 Rev: 18 / 0
 Method: 624 SOP: MSV10 Rev: 14
 Maintenance Log ID: _____

Internal Standard: STD76110 Surrogate Standard: STD75929
 CCV: STD76127 LCS: STD76109 MS/MSD: NA
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: WG568769

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
11M11835	RINSE	NA	1	1		05/13/16 11:59
11M11836	WG568769-01 50ng BFB STD 8260	NA	1	1	STD76034	05/13/16 14:15
11M11837	WG568769-02 0.3ug/L ICAL STD 8260	NA	1	1	STD76127	05/13/16 14:40
11M11838	WG568769-03 0.4ug/L ICAL STD 8260	NA	1	1	STD76127	05/13/16 15:12
11M11839	WG568769-04 1.0ug/L ICAL STD 8260	NA	1	1	STD76127	05/13/16 15:43
11M11840	WG568769-05 2.0ug/L ICAL STD 8260	NA	1	1	STD76127	05/13/16 16:15
11M11841	WG568769-06 5.0ug/L ICAL STD 8260	NA	1	1	STD76127	05/13/16 16:47
11M11842	WG568769-07 20ug/L ICAL STD 8260	NA	1	1	STD76127	05/13/16 17:19
11M11843	WG568769-08 50ug/L ICAL STD 8260	NA	1	1	STD76127	05/13/16 17:51
11M11844	WG568769-09 100ug/L ICAL STD 8260	NA	1	1	STD76127	05/13/16 18:22
11M11845	WG568769-10 200ug/L ICAL STD 8260	NA	1	1	STD76127	05/13/16 18:54
11M11846	WG568769-11 300ug/L ICAL STD 8260	NA	1	1	STD76127	05/13/16 19:26
11M11847	RINSE	NA	1	1		05/13/16 19:58
11M11848	WG568769-12 50ug/L ALT SRC STD 8260	NA	1	1	STD76109	05/13/16 20:30
11M11849	RINSE	NA	1	1		05/13/16 21:02
11M11850	RINSE	NA	1	1		05/13/16 21:34

Approved: May 23, 2016

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J. J. [Signature]



Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS11 Dataset: 051816
 Analyst1: JDS Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 23
 Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18

Maintenance Log ID: _____

Internal Standard: STD76110 Surrogate Standard: STD75929
 CCV: STD76127 LCS: STD76207 MS/MSD: NA
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: WG569356

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
11M11927	WG569355-01 50ng BFB STD 8260	NA	1	1	STD76034	05/18/16 14:36
11M11928	WG569355-02 50ug/L CCV STD 8260	NA	1	1	STD76127	05/18/16 15:02
11M11929	WGXXXXXX-01 50ug/L A9-CCV STD 8260	NA	1	1	STDXXXXX	05/18/16 15:34
11M11930	WG569356-01 BLANK STD 8260	NA	1	1		05/18/16 16:06
11M11931	L16041533-01 A 826-REF-BLK	<2	1	1		05/18/16 16:38
11M11932	L16041533-02 A 826-REF-BLK	<2	1	1		05/18/16 17:09
11M11933	L16041533-03 A 826-REF-BLK	<2	1	1		05/18/16 17:41
11M11934	L16041533-04 A 826-REF-BLK	<2	1	1		05/18/16 18:13
11M11935	L16041533-05 A 826-REF-BLK	<2	1	1		05/18/16 18:45
11M11936	WG569356-02 20ug/L LCS STD 8260	NA	1	1	STD76207	05/18/16 19:17
11M11937	WG569356-03 20ug/L LCS2 STD 8260	NA	1	1	STD76207	05/18/16 19:49
11M11938	RINSE	NA	1	1		05/18/16 20:21
11M11939	L16050571-13 A TB 826-LOW	<2	1	1		05/18/16 20:52
11M11940	L16050571-01 A 826-LOW	<2	1	1		05/18/16 21:24
11M11941	L16050571-05 A 826-LOW	<2	1	1		05/18/16 21:56
11M11942	L16050571-07 A 826-LOW	<2	1	1		05/18/16 22:28
11M11943	L16050571-09 A 826-LOW	<2	1	1		05/18/16 23:00
11M11944	L16050571-11 A 826-LOW	<2	1	1		05/18/16 23:31
11M11945	L16050571-03 A 20X 826-LOW	<2	1	20		05/19/16 00:03
11M11946	L16050764-01 100X AF 826-TC	NA	17	100		05/19/16 00:35
11M11947	L16050764-02 100X AF 826-TC	NA	17	100		05/19/16 01:07
11M11948	L16050764-03 100X AF 826-TC	NA	17	100		05/19/16 01:39
11M11949	L16050764-04 100X AF 826-TC	NA	17	100		05/19/16 02:10
11M11950	CCV	NA	1	1		05/19/16 02:42
11M11951	RINSE	NA	1	1		05/19/16 03:14
11M11952	RINSE	NA	1	1		05/19/16 03:46
11M11953	WG568779-01 F. BLK 10X AF 826-TC	NA	17	10		05/19/16 04:18

Comments

Seq.	Rerun	Dil.	Reason	Analytes
16	X	10	Over Calibration Range	TCE
File ID: 11M11942				
L16050571-07				

Approved: May 23, 2016

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Sarah Vandenberg

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS11 Dataset: 051816
 Analyst1: JDS Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 23
 Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18

Maintenance Log ID: _____

Internal Standard: STD76110 Surrogate Standard: STD75929
 CCV: STD76127 LCS: STD76207 MS/MSD: NA
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: WG569356

Comments:

Comments

Seq.	Rerun	Dil.	Reason	Analytes
17	X	1	Carry-over contamination	
File ID: 11M11943				
L16050571-09				
19	X	1	Analyzed too dilute	
File ID: 11M11945				
L16050571-03				
21	X	1000	Over Calibration Range	CB
File ID: 11M11947				
L16050764-02				
22	X	1000	Over Calibration Range	CB
File ID: 11M11948				
L16050764-03				
23	X	1000	Over Calibration Range	CB
File ID: 11M11949				
L16050764-04				

Approved: May 23, 2016

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Sarah Vandenberg



Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS11 Dataset: 051916
 Analyst1: JDS Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 23
 Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18

Maintenance Log ID: _____

Internal Standard: STD76110 Surrogate Standard: STD75929
 CCV: STD76127 LCS: STD76207 MS/MSD: NA
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: WG569561

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
11M11954	WG569560-01 50ng BFB STD 8260	NA	1	1	STD76034	05/19/16 13:40
11M11955	WG569560-01 50ng BFB STD 8260	NA	1	1	STD76034	05/19/16 13:51
11M11956	WG569560-01 50ng BFB STD 8260	NA	1	1	STD76034	05/19/16 14:06
11M11957	WG569560-01 50ng BFB STD 8260	NA	1	1	STD76034	05/19/16 14:36
11M11958	WG569560-02 50ug/L CCV STD 8260	NA	1	1	STD76127	05/19/16 15:01
11M11959	WG569560-02 50ug/L CCV STD 8260	NA	1	1	STD76127	05/19/16 15:36
11M11960	WGXXXXXX-01 50ug/L A9-CCV STD 8260	NA	1	1	STDXXXXX	05/19/16 16:11
11M11961	WG569561-01 BLANK STD 8260	NA	1	1		05/19/16 16:43
11M11962	WG569561-02 20ug/L LCS STD 8260	NA	1	1	STD76207	05/19/16 17:15
11M11963	WG569561-03 20ug/L LCS2 STD 8260	NA	1	1	STD76207	05/19/16 17:47
11M11964	L16050764-02 D1 1000X AF 826-TC	NA	17	1000		05/19/16 18:19
11M11965	L16050764-03 D1 1000X AF 826-TC	NA	17	1000		05/19/16 18:51
11M11966	L16050764-04 D1 1000X AF 826-TC	NA	17	1000		05/19/16 19:22
11M11967	L16050571-07 B D1 10X 826-LOW	<2	1	10		05/19/16 19:54
11M11968	L16050571-03 B 00 826-LOW	<2	1	1		05/19/16 20:26
11M11969	L16050571-09 B A1 826-LOW	<2	1	1		05/19/16 20:58
11M11970	L16050611-01 A TB 826-SPE	<2	1	1		05/19/16 21:30
11M11971	L16050611-02 A 826-SPE	<2	1	1		05/19/16 22:02
11M11972	L16050611-04 A 826-SPE	<2	1	1		05/19/16 22:34
11M11973	L16050611-08 A 826-SPE	<2	1	1		05/19/16 23:05
11M11974	L16050611-10 A 826-SPE	<2	1	1		05/19/16 23:37
11M11975	L16050611-12 A 826-SPE	<2	1	1		05/20/16 00:09
11M11976	L16050611-06 A 10X 826-SPE	<2	1	10		05/20/16 00:41
11M11977	L16050611-07 A 10X 826-SPE	<2	1	10		05/20/16 01:13
11M11978	L16050611-14 A 100X 826-SPE	<2	1	100		05/20/16 01:45
11M11979	L16050611-16 A 200X 826-SPE	<2	1	200		05/20/16 02:16
11M11980	CCV	NA	1	1		05/20/16 02:48
11M11981	RINSE	NA	1	1		05/20/16 03:20
11M11982	RINSE	NA	1	1		05/20/16 03:52

Comments

Seq.	Rerun	Dil.	Reason	Analytes
1	X			

Approved: May 24, 2016

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Sarah Vandenberg

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS11 Dataset: 051916
 Analyst1: JDS Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 23
 Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18

Maintenance Log ID: _____

Internal Standard: STD76110 Surrogate Standard: STD75929
 CCV: STD76127 LCS: STD76207 MS/MSD: NA
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: WG569561

Comments: **Comments**

Seq.	Rerun	Dil.	Reason	Analytes
File ID: 11M11954				
WG569560-01 Tune Failed				
2	X			
File ID: 11M11955				
WG569560-01 Tune Failed				
Replace septum, liner and o-ring before next injection				
3				
File ID: 11M11956				
WG569560-01 Tune Failed				
Purge next BFB				
5	X		Check Standard Failure	
File ID: 11M11958				
WG569560-02 Too many low outliers.				
16				
File ID: 11M11969				
L16050571-09 Sample analyzed twice. Had TCE c/o both times. Reporting the lower result.				
22	X	10	Over Calibration Range	1,2-dichloroethane
File ID: 11M11975				
L16050611-12				
26	X	10	Analyzed too dilute	
File ID: 11M11979				
L16050611-16				

Approved: May 24, 2016

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS11 Dataset: 052016
 Analyst1: JDS Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 23
 Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18
 Method: 624 SOP: MSV10 Rev: 14
 Maintenance Log ID: _____

Internal Standard: STD76110 Surrogate Standard: STD75929
 CCV: STD76127 LCS: STD76207 MS/MSD: NA
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: WG569736

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
11M11984	WG569735-01 50ng BFB STD 8260	NA	1	1	STD76034	05/20/16 15:23
11M11985	WG569735-02 50ug/L CCV STD 8260	NA	1	1	STD76127	05/20/16 15:47
11M11986	WGXXXXXX-01 50ug/L A9-CCV STD 8260	NA	1	1	STDXXXXX	05/20/16 16:19
11M11987	WG569736-01 BLANK STD 8260	NA	1	1		05/20/16 16:51
11M11988	WG569736-02 20ug/L LCS STD 8260	NA	1	1	STD76207	05/20/16 17:23
11M11989	L16050767-03 A MS 826-SPE	<2	1	1	STD76207	05/20/16 17:55
11M11990	L16050767-04 A MSD 826-SPE	<2	1	1	STD76207	05/20/16 18:26
11M11991	RINSE	NA	1	1		05/20/16 18:58
11M11992	L16050611-16 B 00 10X 826-SPE	<2	1	10		05/20/16 19:30
11M11993	L16050611-12 B D1 10X 826-SPE	<2	1	10		05/20/16 20:02
11M11994	RINSE	NA	1	1		05/20/16 20:34
11M11995	L16050571-09 C A1 826-LOW	<2	1	1		05/20/16 21:06
11M11996	L16050767-02 A REF 826-SPE	7	1	1		05/20/16 21:38
11M11997	L16050767-13 A 826-SPE	<2	1	1		05/20/16 22:09
11M11998	L16050767-14 A 826-SPE	<2	1	1		05/20/16 22:41
11M11999	L16050767-15 A 826-SPE	<2	1	1		05/20/16 23:13
11M12000	L16050767-16 A 826-SPE	<2	1	1		05/20/16 23:45
11M12001	L16050767-17 A 826-SPE	<2	1	1		05/21/16 00:17
11M12002	L16050767-18 A 826-SPE	<2	1	1		05/21/16 00:49
11M12003	RINSE	NA	1	1		05/21/16 01:21
11M12004	WG569736-06 BLANK STD 624	NA	2	1		05/21/16 01:52
11M12005	L16051183-02 A 624-SPE	5	2	1		05/21/16 02:24
11M12006	L16051084-01 A 624-SPE	<2	2	1		05/21/16 02:56
11M12007	L16051084-02 A 624-SPE	<2	2	1		05/21/16 03:28
11M12008	L16051084-03 A 624-SPE	6	2	1		05/21/16 04:00
11M12009	L16051085-02 A 624-SPE1	<2	2	1		05/21/16 04:31
11M12010	L16051183-03 B 624-SPE	<2	2	1		05/21/16 05:04
11M12011	L16051085-01 A 624-SPE2	<2	2	1		05/21/16 05:35
11M12012	L16050977-01 A 624-SPE1	<2	2	1		05/21/16 06:07
11M12013	CCV	NA	1	1		05/21/16 06:39
11M12014	RINSE	NA	1	1		05/21/16 07:11
11M12015	RINSE	NA	1	1		05/21/16 07:43

Approved: May 24, 2016

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS11 Dataset: 052016
 Analyst1: JDS Analyst2: NA
 Method: 8260B SOP: MSV01 Rev: 23
 Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18
 Method: 624 SOP: MSV10 Rev: 14
 Maintenance Log ID: _____

Internal Standard: STD76110 Surrogate Standard: STD75929
 CCV: STD76127 LCS: STD76207 MS/MSD: NA
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: WG569736

Comments:

Comments

Seq.	Rerun	Dil.	Reason	Analytes
24	X	10	Over Calibration Range	TCE, cis-1,2 DCE
File ID: 11M12007				
L16051084-02				
25	X		Carry-over contamination	
File ID: 11M12008				
L16051084-03				
26	X		Carry-over contamination	
File ID: 11M12009				
L16051085-02				

Approved: May 24, 2016

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Sarah Vandenberg



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



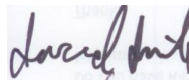
Microbac Laboratories Inc.

Data Checklist

Date: 13-MAY-2016
 Analyst: JDS
 Analyst: NA
 Method: 8260B
 Instrument: HPMS11
 Curve Workgroup: NA
 Runlog ID: 75133
 Analytical Workgroups: WG568769

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	X
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	X
Manual Integrations	X
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:
23-MAY-2016



Secondary Reviewer:
23-MAY-2016




Microbac Laboratories Inc.

Data Checklist

Date: 18-MAY-2016
 Analyst: JDS
 Analyst: NA
 Method: 8260B
 Instrument: HPMS11
 Curve Workgroup: NA
 Runlog ID: 75190
 Analytical Workgroups: WG569356

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	FJB
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	FJB
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 reasonableness of the results	X

Primary Reviewer:
23-MAY-2016



Secondary Reviewer:
23-MAY-2016




Microbac Laboratories Inc.

Data Checklist

Date: 19-MAY-2016
 Analyst: JDS
 Analyst: NA
 Method: 8260B
 Instrument: HPMS11
 Curve Workgroup: NA
 Runlog ID: 75251
 Analytical Workgroups: WG569561

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	FJB
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	FJB
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 reasonableness of the results	X

Primary Reviewer:
24-MAY-2016



Secondary Reviewer:
24-MAY-2016



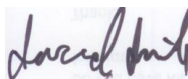

Microbac Laboratories Inc.

Data Checklist

Date: 20-MAY-2016
 Analyst: JDS
 Analyst: NA
 Method: 8260B/624
 Instrument: HPMS11
 Curve Workgroup: NA
 Runlog ID: 75254
 Analytical Workgroups: WG569736

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	X
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 reasonableness of the results	X

Primary Reviewer:
24-MAY-2016



Secondary Reviewer:
24-MAY-2016




Analytical Method:8260B
 Login Number:L16050571

AAB#:WG569356

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
50WW22-051016	01	05/10/16					05/18/2016	8.6	14		05/18/16	8.6	14	
50WW06-051016	05	05/10/16					05/18/2016	8.5	14		05/18/16	8.5	14	
50WW12-051016	07	05/10/16					05/18/2016	8.5	14		05/18/16	8.5	14	
50WW23-051016	11	05/10/16					05/18/2016	8.4	14		05/18/16	8.4	14	
TRIP BLANK	13	05/10/16					05/18/2016	8.9	14		05/18/16	8.9	14	

* = SEE PROJECT QAPP REQUIREMENTS



Analytical Method:8260B
Login Number:L16050571

AAB#:WG569561

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
50WW11-051016	03	05/10/16					05/19/2016	9.5	14		05/19/16	9.5	14	
50WW12-051016	07	05/10/16					05/19/2016	9.4	14		05/19/16	9.4	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID:4777620
Report generated 05/26/2016 15:10



Analytical Method:8260B
Login Number:L16050571

AAB#:WG569736

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
50WW24-051016	09	05/10/16					05/20/2016	10.3	14		05/20/16	10.3	14	

* = SEE PROJECT QAPP REQUIREMENTS



Login Number: L16050571
 Instrument Id: HPMS11
 Workgroup (AAB#): WG569356

Method: 8260
 CAL ID: HPMS11-13-MAY-16
 Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L16050571-01	1.00	01	111	108	101	103
L16050571-05	1.00	01	111	108	101	104
L16050571-07	1.00	01	112	107	101	105
L16050571-11	1.00	01	113	110	101	101
L16050571-13	1.00	01	110	106	102	104
WG569356-01	1.00	01	103	103	101	103
WG569356-02	1.00	01	106	108	99.5	104
WG569356-03	1.00	01	108	111	100	101

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: L16050571
 Instrument Id: HPMS11
 Workgroup (AAB#): WG569736

Method: 8260
 CAL ID: HPMS11-13-MAY-16
 Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L16050571-09	1.00	01	116	110	99.5	102
WG569736-01	1.00	01	114	109	99.6	103
WG569736-02	1.00	01	117	112	97.5	101
WG569736-06	1.00	01	<u>121</u>	114	98.4	101

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: L16050571
 Instrument Id: HPMS11
 Workgroup (AAB#): WG569561

Method: 8260
 CAL ID: HPMS11-13-MAY-16
 Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L16050571-03	1.00	01	110	105	102	103
L16050571-07	10.0	DL01	110	107	101	103
WG569561-01	1.00	01	110	107	102	103
WG569561-02	1.00	01	111	109	97.6	102
WG569561-03	1.00	01	108	108	98.1	103

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: L16050571 Work Group: WG569356
 Blank File ID: 11M11930 Blank Sample ID: WG569356-01
 Prep Date: 05/18/16 16:06 Instrument ID: HPMS11
 Analyzed Date: 05/18/16 16:06 Method: 8260B
 Analyst: JDS

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG569356-02	11M11936	05/18/16 19:17	01
LCS2	WG569356-03	11M11937	05/18/16 19:49	01
TRIP BLANK	L16050571-13	11M11939	05/18/16 20:52	01
50WW22-051016	L16050571-01	11M11940	05/18/16 21:24	01
50WW06-051016	L16050571-05	11M11941	05/18/16 21:56	01
50WW12-051016	L16050571-07	11M11942	05/18/16 22:28	01
50WW23-051016	L16050571-11	11M11944	05/18/16 23:31	01

Report Name: BLANK_SUMMARY
 PDF File ID: 4777621
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METHOD BLANK SUMMARY

Login Number: L16050571 Work Group: WG569561
 Blank File ID: 11M11961 Blank Sample ID: WG569561-01
 Prep Date: 05/19/16 16:43 Instrument ID: HPMS11
 Analyzed Date: 05/19/16 16:43 Method: 8260B
 Analyst: JDS

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG569561-02	11M11962	05/19/16 17:15	01
LCS2	WG569561-03	11M11963	05/19/16 17:47	01
50WW12-051016	L16050571-07	11M11967	05/19/16 19:54	DL01
50WW11-051016	L16050571-03	11M11968	05/19/16 20:26	01

Report Name: BLANK_SUMMARY
 PDF File ID: 4777621
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METHOD BLANK SUMMARY

Login Number: L16050571
 Blank File ID: 11M11987
 Prep Date: 05/20/16 16:51
 Analyzed Date: 05/20/16 16:51
 Analyst: JDS

Work Group: WG569736
 Blank Sample ID: WG569736-01
 Instrument ID: HPMS11
 Method: 8260B

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG569736-02	11M11988	05/20/16 17:23	01
50WW24-051016	L16050571-09	11M11995	05/20/16 21:06	01

Report Name: BLANK_SUMMARY
 PDF File ID: 4777621
 Report generated 05/26/2016 15:10



Login Number: L16050571 Prep Date: 05/18/16 16:06 Sample ID: WG569356-01
 Instrument ID: HPMS11 Run Date: 05/18/16 16:06 Prep Method: 5030B/5030C/503
 File ID: 11M11930 Analyst: JDS Method: 8260B
 Workgroup (AAB#): WG569356 Matrix: Water Units: ug/L
 Contract #: _____ Cal ID: HPMS11-13-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
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Login Number: L16050571 Prep Date: 05/18/16 16:06 Sample ID: WG569356-01
 Instrument ID: HPMS11 Run Date: 05/18/16 16:06 Prep Method: 5030B/5030C/503
 File ID: 11M11930 Analyst: JDS Method: 8260B
 Workgroup (AAB#): WG569356 Matrix: Water Units: ug/L
 Contract #: _____ Cal ID: HPMS11-13-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	103	85 - 115	PASS
1,2-Dichloroethane-d4	103	70 - 120	PASS
Toluene-d8	103	85 - 120	PASS
4-Bromofluorobenzene	101	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: 4777622
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Login Number: L16050571 Prep Date: 05/19/16 16:43 Sample ID: WG569561-01
 Instrument ID: HPMS11 Run Date: 05/19/16 16:43 Prep Method: 5030B/5030C/503
 File ID: 11M11961 Analyst: JDS Method: 8260B
 Workgroup (AAB#): WG569561 Matrix: Water Units: ug/L
 Contract #: _____ Cal ID: HPMS11-13-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
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Login Number: L16050571 Prep Date: 05/19/16 16:43 Sample ID: WG569561-01
 Instrument ID: HPMS11 Run Date: 05/19/16 16:43 Prep Method: 5030B/5030C/503
 File ID: 11M11961 Analyst: JDS Method: 8260B
 Workgroup (AAB#): WG569561 Matrix: Water Units: ug/L
 Contract #: _____ Cal ID: HPMS11-13-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	107	85 - 115	PASS
1,2-Dichloroethane-d4	110	70 - 120	PASS
Toluene-d8	103	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: 4777622
 26-MAY-2016 15:10



Login Number: L16050571 Prep Date: 05/20/16 16:51 Sample ID: WG569736-01
 Instrument ID: HPMS11 Run Date: 05/20/16 16:51 Prep Method: 5030B/5030C/503
 File ID: 11M11987 Analyst: JDS Method: 8260B
 Workgroup (AAB#): WG569736 Matrix: Water Units: ug/L
 Contract #: _____ Cal ID: HPMS11-13-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: 4777622
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Login Number: L16050571 Prep Date: 05/20/16 16:51 Sample ID: WG569736-01
 Instrument ID: HPMS11 Run Date: 05/20/16 16:51 Prep Method: 5030B/5030C/503
 File ID: 11M11987 Analyst: JDS Method: 8260B
 Workgroup (AAB#): WG569736 Matrix: Water Units: ug/L
 Contract #: _____ Cal ID: HPMS11-13-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	109	85 - 115	PASS
1,2-Dichloroethane-d4	114	70 - 120	PASS
Toluene-d8	103	85 - 120	PASS
4-Bromofluorobenzene	99.6	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: 4777622
 26-MAY-2016 15:10



Login Number: L16050571 Run Date: 05/20/2016 Sample ID: WG569736-02
 Instrument ID: HPMS11 Run Time: 17:23 Prep Method: 5030B/5030C/503
 File ID: 11M11988 Analyst: JDS Method: 8260B
 Workgroup (AAB#): WG569736 Matrix: Water Units: ug/L
 QC Key: DOD4 Lot#: STD76207 Cal ID: HPMS11-13-MAY-16

Analytes	Expected	Found	% Rec	LCS Limits		Q
Acetone	20.0	20.8	104	40	- 140	
Benzene	20.0	19.8	99.0	80	- 120	
Bromobenzene	20.0	19.4	96.9	75	- 125	
Bromochloromethane	20.0	22.1	110	65	- 130	
Bromodichloromethane	20.0	22.2	111	75	- 120	
Bromoform	20.0	21.1	105	70	- 130	
Bromomethane	20.0	19.8	99.2	30	- 145	
2-Butanone	20.0	21.1	105	30	- 150	
n-Butylbenzene	20.0	19.5	97.5	70	- 135	
sec-Butylbenzene	20.0	20.3	101	70	- 125	
tert-Butylbenzene	20.0	20.4	102	70	- 130	
Carbon disulfide	20.0	20.2	101	35	- 160	
Carbon tetrachloride	20.0	22.1	110	65	- 140	
Chlorobenzene	20.0	20.3	101	80	- 120	
Chlorodibromomethane	20.0	21.3	106	60	- 135	
Chloroethane	20.0	20.2	101	60	- 135	
Chloroform	20.0	20.7	103	65	- 135	
Chloromethane	20.0	16.9	84.7	40	- 125	
2-Chlorotoluene	20.0	20.0	100	75	- 125	
4-Chlorotoluene	20.0	20.2	101	75	- 130	
1,2-Dibromo-3-chloropropane	20.0	19.0	95.0	50	- 130	
1,2-Dibromoethane	20.0	20.6	103	80	- 120	
Dibromomethane	20.0	21.8	109	75	- 125	
1,2-Dichlorobenzene	20.0	20.7	103	70	- 120	
1,3-Dichlorobenzene	20.0	19.8	98.8	75	- 125	
1,4-Dichlorobenzene	20.0	20.1	101	75	- 125	
Dichlorodifluoromethane	20.0	16.7	83.4	30	- 155	
1,1-Dichloroethane	20.0	19.8	98.9	70	- 135	
1,2-Dichloroethane	20.0	23.5	118	70	- 130	
1,1-Dichloroethene	20.0	19.2	96.2	70	- 130	
cis-1,2-Dichloroethene	20.0	20.8	104	70	- 125	
trans-1,2-Dichloroethene	20.0	19.7	98.6	60	- 140	
1,2-Dichloropropane	20.0	20.4	102	75	- 125	
1,3-Dichloropropane	20.0	21.3	106	75	- 125	
2,2-Dichloropropane	20.0	21.8	109	70	- 135	
cis-1,3-Dichloropropene	20.0	23.8	119	70	- 130	
trans-1,3-Dichloropropene	20.0	20.5	102	55	- 140	
1,1-Dichloropropene	20.0	19.9	99.4	75	- 130	
Ethylbenzene	20.0	19.7	98.4	75	- 125	
2-Hexanone	20.0	18.2	91.1	55	- 130	
Hexachlorobutadiene	20.0	19.0	95.2	50	- 140	

LCS - Modified 03/06/2008
 PDF File ID: 4782711
 Report generated: 05/26/2016 15:17



Login Number: L16050571 Run Date: 05/20/2016 Sample ID: WG569736-02
 Instrument ID: HPMS11 Run Time: 17:23 Prep Method: 5030B/5030C/503
 File ID: 11M11988 Analyst: JDS Method: 8260B
 Workgroup (AAB#): WG569736 Matrix: Water Units: ug/L
 QC Key: DOD4 Lot#: STD76207 Cal ID: HPMS11-13-MAY-16

Analytes	Expected	Found	% Rec	LCS Limits	Q
Isopropylbenzene	20.0	20.8	104	75 - 125	
p-Isopropyltoluene	20.0	20.1	101	75 - 130	
4-Methyl-2-pentanone	20.0	20.4	102	60 - 135	
Methylene chloride	20.0	19.6	98.0	55 - 140	
Naphthalene	20.0	17.7	88.5	55 - 140	
n-Propylbenzene	20.0	20.4	102	70 - 130	
Styrene	20.0	20.6	103	65 - 135	
1,1,1,2-Tetrachloroethane	20.0	20.7	103	80 - 130	
1,1,2,2-Tetrachloroethane	20.0	19.5	97.4	65 - 130	
Tetrachloroethene	20.0	19.3	96.7	45 - 150	
Toluene	20.0	19.6	98.0	75 - 120	
1,2,3-Trichlorobenzene	20.0	18.7	93.4	55 - 140	
1,2,4-Trichlorobenzene	20.0	19.4	96.8	65 - 135	
1,1,1-Trichloroethane	20.0	22.0	110	65 - 130	
1,1,2-Trichloroethane	20.0	20.7	104	75 - 125	
Trichloroethene	20.0	21.4	107	70 - 125	
Trichlorofluoromethane	20.0	20.9	104	60 - 145	
1,2,3-Trichloropropane	20.0	20.7	103	75 - 125	
1,2,4-Trimethylbenzene	20.0	20.3	102	75 - 130	
1,3,5-Trimethylbenzene	20.0	20.3	101	75 - 130	
Vinyl chloride	20.0	19.7	98.6	50 - 145	
o-Xylene	20.0	20.5	103	80 - 120	
m-,p-Xylene	40.0	39.4	98.5	75 - 130	

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	112	85 - 115	PASS
1,2-Dichloroethane-d4	117	70 - 120	PASS
Toluene-d8	101	85 - 120	PASS
4-Bromofluorobenzene	97.5	75 - 120	PASS

* EXCEEDS %REC LIMIT



Login Number: L16050571 Analyst: JDS Prep Method: 5030B/5030C/503
 Instrument ID: HPMS11 Matrix: Water Method: 8260B
 Workgroup (AAB#): WG569561 Units: ug/L
 QC Key: DOD4 Lot #: STD76207

Sample ID: WG569561-02 LCS File ID: 11M11962 Run Date: 05/19/2016 17:15
 Sample ID: WG569561-03 LCS2 File ID: 11M11963 Run Date: 05/19/2016 17:47

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	21.1	105	0.348	80 - 130	30	
1,1,1-Trichloroethane	20.0	21.8	109	20.0	21.6	108	0.918	65 - 130	30	
1,1,2,2-Tetrachloroethane	20.0	19.3	96.7	20.0	19.1	95.6	1.07	65 - 130	30	
1,1,2-Trichloroethane	20.0	21.0	105	20.0	20.1	101	4.00	75 - 125	30	
1,1-Dichloroethane	20.0	20.0	100	20.0	19.7	98.7	1.38	70 - 135	30	
1,1-Dichloroethene	20.0	19.5	97.5	20.0	19.5	97.6	0.142	70 - 130	30	
1,1-Dichloropropene	20.0	20.1	100	20.0	20.4	102	1.72	75 - 130	30	
1,2,3-Trichlorobenzene	20.0	20.3	102	20.0	20.2	101	0.491	55 - 140	30	
1,2,3-Trichloropropane	20.0	21.3	106	20.0	20.3	101	4.96	75 - 125	30	
1,2,4-Trichlorobenzene	20.0	20.5	103	20.0	20.2	101	1.53	65 - 135	30	
1,2,4-Trimethylbenzene	20.0	20.9	105	20.0	21.0	105	0.207	75 - 130	30	
1,2-Dibromo-3-chloropropane	20.0	20.1	101	20.0	19.6	97.9	2.72	50 - 130	30	
1,2-Dibromoethane	20.0	20.8	104	20.0	20.5	103	1.30	80 - 120	30	
1,2-Dichlorobenzene	20.0	21.3	106	20.0	21.1	105	0.947	70 - 120	30	
1,2-Dichloroethane	20.0	22.8	114	20.0	22.1	110	3.27	70 - 130	30	
1,2-Dichloropropane	20.0	20.9	104	20.0	21.4	107	2.45	75 - 125	30	
1,3,5-Trimethylbenzene	20.0	21.0	105	20.0	21.0	105	0.0244	75 - 130	30	
1,3-Dichlorobenzene	20.0	20.4	102	20.0	20.7	103	1.36	75 - 125	30	
1,3-Dichloropropane	20.0	22.3	112	20.0	21.8	109	2.26	75 - 125	30	
1,4-Dichlorobenzene	20.0	20.5	103	20.0	20.6	103	0.201	75 - 125	30	
2,2-Dichloropropane	20.0	20.3	101	20.0	20.4	102	0.500	70 - 135	30	
2-Butanone	20.0	22.1	111	40.0	41.6	104	61.2	30 - 150	30	#
2-Chlorotoluene	20.0	21.0	105	20.0	21.1	106	0.656	75 - 125	30	
2-Hexanone	20.0	19.5	97.7	40.0	38.9	97.3	66.3	55 - 130	30	#
4-Chlorotoluene	20.0	20.3	102	20.0	20.5	103	0.818	75 - 130	30	
4-Methyl-2-pentanone	20.0	20.4	102	40.0	41.1	103	67.3	60 - 135	30	#
Acetone	20.0	22.8	114	40.0	42.7	107	60.8	40 - 140	30	#
Benzene	20.0	20.2	101	20.0	20.1	101	0.579	80 - 120	30	
Bromobenzene	20.0	19.9	99.7	20.0	20.0	100	0.440	75 - 125	30	
Bromochloromethane	20.0	21.6	108	20.0	21.7	108	0.569	65 - 130	30	
Bromodichloromethane	20.0	21.8	109	20.0	22.0	110	0.820	75 - 120	30	
Bromoform	20.0	20.5	102	20.0	20.5	102	0.150	70 - 130	30	
Bromomethane	20.0	21.3	106	20.0	24.2	121	12.7	30 - 145	30	
Carbon disulfide	20.0	20.6	103	40.0	41.3	103	66.7	35 - 160	30	#
Carbon tetrachloride	20.0	22.1	110	20.0	21.3	107	3.49	65 - 140	30	
Chlorobenzene	20.0	20.9	105	20.0	21.0	105	0.435	80 - 120	30	
Chloroethane	20.0	20.8	104	20.0	21.0	105	1.19	60 - 135	30	
Chloroform	20.0	20.6	103	20.0	20.4	102	1.03	65 - 135	30	
Chloromethane	20.0	19.4	97.2	20.0	18.9	94.7	2.53	40 - 125	30	
cis-1,2-Dichloroethene	20.0	20.9	105	20.0	21.2	106	1.32	70 - 125	30	

LCS_LCS2 - Modified 03/06/2008
 PDF File ID: 4777642
 Report generated: 05/26/2016 15:10



Login Number: L16050571 Analyst: JDS Prep Method: 5030B/5030C/503
 Instrument ID: HPMS11 Matrix: Water Method: 8260B
 Workgroup (AAB#): WG569561 Units: ug/L
 QC Key: DOD4 Lot #: STD76207

Sample ID: WG569561-02 LCS File ID: 11M11962 Run Date: 05/19/2016 17:15
 Sample ID: WG569561-03 LCS2 File ID: 11M11963 Run Date: 05/19/2016 17:47

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
cis-1,3-Dichloropropene	20.0	22.9	115	20.0	23.3	117	1.70	70 - 130	30	
Chlorodibromomethane	20.0	21.8	109	20.0	21.6	108	0.873	60 - 135	30	
Dibromomethane	20.0	20.7	103	20.0	20.8	104	0.394	75 - 125	30	
Dichlorodifluoromethane	20.0	18.5	92.6	20.0	18.1	90.4	2.43	30 - 155	30	
Ethylbenzene	20.0	20.2	101	20.0	20.3	102	0.759	75 - 125	30	
Hexachlorobutadiene	20.0	19.5	97.4	20.0	20.0	100	2.67	50 - 140	30	
Isopropylbenzene	20.0	21.5	108	20.0	21.4	107	0.474	75 - 125	30	
m-,p-Xylene	40.0	41.4	103	40.0	41.6	104	0.583	75 - 130	30	
Methylene chloride	20.0	20.0	100	20.0	20.4	102	1.87	55 - 140	30	
n-Butylbenzene	20.0	19.8	98.8	20.0	19.9	99.6	0.728	70 - 135	30	
n-Propylbenzene	20.0	21.3	106	20.0	21.6	108	1.73	70 - 130	30	
Naphthalene	20.0	19.7	98.5	20.0	18.9	94.4	4.31	55 - 140	30	
o-Xylene	20.0	21.1	106	20.0	21.2	106	0.521	80 - 120	30	
p-Isopropyltoluene	20.0	20.7	104	20.0	20.7	104	0.0552	75 - 130	30	
sec-Butylbenzene	20.0	20.8	104	20.0	21.0	105	0.872	70 - 125	30	
Styrene	20.0	21.3	106	20.0	21.5	108	1.11	65 - 135	30	
tert-Butylbenzene	20.0	21.4	107	20.0	20.8	104	2.94	70 - 130	30	
Tetrachloroethene	20.0	20.2	101	20.0	19.7	98.7	2.31	45 - 150	30	
Toluene	20.0	20.2	101	20.0	20.3	101	0.449	75 - 120	30	
trans-1,2-Dichloroethene	20.0	20.7	103	20.0	20.1	100	2.92	60 - 140	30	
trans-1,3-Dichloropropene	20.0	21.1	106	20.0	20.6	103	2.34	55 - 140	30	
Trichloroethene	20.0	22.4	112	20.0	22.1	110	1.49	70 - 125	30	
Trichlorofluoromethane	20.0	21.3	106	20.0	20.6	103	3.13	60 - 145	30	
Vinyl chloride	20.0	21.2	106	20.0	21.4	107	0.911	50 - 145	30	

Surogates	LCS	LCS2	Surrogate Limits	Qualifier
	% Recovery	% Recovery		
1,2-Dichloroethane-d4	111	108	70 - 120	PASS
Dibromofluoromethane	109	108	85 - 115	PASS
4-Bromofluorobenzene	97.6	98.1	75 - 120	PASS
Toluene-d8	102	103	85 - 120	PASS

* EXCEEDS %REC LIMIT
 # EXCEEDS RPD LIMIT



Login Number: L16050571 Analyst: JDS Prep Method: 5030B/5030C/503
 Instrument ID: HPMS11 Matrix: Water Method: 8260B
 Workgroup (AAB#): WG569356 Units: ug/L
 QC Key: DOD4 Lot #: STD76207

Sample ID: WG569356-02 LCS File ID: 11M11936 Run Date: 05/18/2016 19:17
 Sample ID: WG569356-03 LCS2 File ID: 11M11937 Run Date: 05/18/2016 19:49

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
1,1,1,2-Tetrachloroethane	20.0	20.6	103	20.0	19.9	99.5	3.35	80 - 130	30	
1,1,1-Trichloroethane	20.0	21.3	106	20.0	20.4	102	3.86	65 - 130	30	
1,1,2,2-Tetrachloroethane	20.0	18.4	92.1	20.0	19.5	97.4	5.60	65 - 130	30	
1,1,2-Trichloroethane	20.0	20.5	103	20.0	20.3	101	1.33	75 - 125	30	
1,1-Dichloroethane	20.0	19.4	96.8	20.0	19.2	95.9	0.884	70 - 135	30	
1,1-Dichloroethene	20.0	19.6	97.8	20.0	18.7	93.5	4.54	70 - 130	30	
1,1-Dichloropropene	20.0	20.1	101	20.0	19.3	96.6	3.96	75 - 130	30	
1,2,3-Trichlorobenzene	20.0	18.1	90.4	20.0	19.0	94.9	4.92	55 - 140	30	
1,2,3-Trichloropropane	20.0	19.2	96.1	20.0	20.2	101	5.15	75 - 125	30	
1,2,4-Trichlorobenzene	20.0	19.2	96.1	20.0	19.5	97.5	1.45	65 - 135	30	
1,2,4-Trimethylbenzene	20.0	20.8	104	20.0	20.2	101	2.95	75 - 130	30	
1,2-Dibromo-3-chloropropane	20.0	17.4	86.8	20.0	18.5	92.5	6.42	50 - 130	30	
1,2-Dibromoethane	20.0	19.8	98.8	20.0	19.9	99.6	0.807	80 - 120	30	
1,2-Dichlorobenzene	20.0	20.6	103	20.0	20.4	102	0.946	70 - 120	30	
1,2-Dichloroethane	20.0	21.6	108	20.0	21.5	107	0.661	70 - 130	30	
1,2-Dichloropropane	20.0	20.3	102	20.0	20.5	103	0.793	75 - 125	30	
1,3,5-Trimethylbenzene	20.0	20.9	105	20.0	20.2	101	3.79	75 - 130	30	
1,3-Dichlorobenzene	20.0	20.5	102	20.0	19.8	99.2	3.04	75 - 125	30	
1,3-Dichloropropane	20.0	21.5	108	20.0	21.8	109	1.24	75 - 125	30	
1,4-Dichlorobenzene	20.0	20.4	102	20.0	20.2	101	1.16	75 - 125	30	
2,2-Dichloropropane	20.0	19.8	99.0	20.0	19.1	95.7	3.41	70 - 135	30	
2-Butanone	20.0	20.2	101	20.0	21.9	110	8.08	30 - 150	30	
2-Chlorotoluene	20.0	20.9	105	20.0	20.2	101	3.47	75 - 125	30	
2-Hexanone	20.0	18.0	90.1	20.0	20.1	101	11.0	55 - 130	30	
4-Chlorotoluene	20.0	20.7	103	20.0	20.1	100	2.86	75 - 130	30	
4-Methyl-2-pentanone	20.0	19.6	98.0	20.0	21.4	107	8.89	60 - 135	30	
Acetone	20.0	20.5	103	20.0	23.9	119	15.1	40 - 140	30	
Benzene	20.0	20.0	99.8	20.0	19.5	97.7	2.19	80 - 120	30	
Bromobenzene	20.0	19.6	98.2	20.0	19.5	97.4	0.754	75 - 125	30	
Bromochloromethane	20.0	21.9	110	20.0	21.3	107	2.74	65 - 130	30	
Bromodichloromethane	20.0	21.3	106	20.0	20.2	101	5.44	75 - 120	30	
Bromoform	20.0	18.7	93.6	20.0	19.6	98.1	4.67	70 - 130	30	
Bromomethane	20.0	21.7	109	20.0	21.0	105	3.13	30 - 145	30	
Carbon disulfide	20.0	20.7	103	20.0	20.7	104	0.291	35 - 160	30	
Carbon tetrachloride	20.0	20.9	105	20.0	20.2	101	3.79	65 - 140	30	
Chlorobenzene	20.0	20.9	104	20.0	20.0	100	4.16	80 - 120	30	
Chloroethane	20.0	22.4	112	20.0	21.2	106	5.21	60 - 135	30	
Chloroform	20.0	20.1	100	20.0	19.5	97.7	2.67	65 - 135	30	
Chloromethane	20.0	19.3	96.6	20.0	19.8	99.0	2.49	40 - 125	30	
cis-1,2-Dichloroethene	20.0	20.7	103	20.0	20.2	101	2.40	70 - 125	30	

LCS_LCS2 - Modified 03/06/2008
 PDF File ID: 4777642
 Report generated: 05/26/2016 15:10



Login Number: L16050571 Analyst: JDS Prep Method: 5030B/5030C/503
 Instrument ID: HPMS11 Matrix: Water Method: 8260B
 Workgroup (AAB#): WG569356 Units: ug/L
 QC Key: DOD4 Lot #: STD76207

Sample ID: WG569356-02 LCS File ID: 11M11936 Run Date: 05/18/2016 19:17
 Sample ID: WG569356-03 LCS2 File ID: 11M11937 Run Date: 05/18/2016 19:49

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
cis-1,3-Dichloropropene	20.0	22.2	111	20.0	22.1	110	0.729	70 - 130	30	
Chlorodibromomethane	20.0	20.7	104	20.0	20.4	102	1.71	60 - 135	30	
Dibromomethane	20.0	20.3	101	20.0	20.1	101	0.654	75 - 125	30	
Dichlorodifluoromethane	20.0	21.6	108	20.0	21.3	107	1.22	30 - 155	30	
Ethylbenzene	20.0	19.9	99.7	20.0	19.2	95.8	4.00	75 - 125	30	
Hexachlorobutadiene	20.0	19.3	96.4	20.0	17.9	89.4	7.53	50 - 140	30	
Isopropylbenzene	20.0	20.9	104	20.0	20.2	101	3.23	75 - 125	30	
m-,p-Xylene	40.0	41.5	104	40.0	39.0	97.5	6.28	75 - 130	30	
Methylene chloride	20.0	20.1	100	20.0	20.1	101	0.158	55 - 140	30	
n-Butylbenzene	20.0	19.8	99.0	20.0	18.9	94.4	4.80	70 - 135	30	
n-Propylbenzene	20.0	21.3	106	20.0	20.5	102	3.92	70 - 130	30	
Naphthalene	20.0	16.6	83.0	20.0	17.8	89.2	7.14	55 - 140	30	
o-Xylene	20.0	20.9	104	20.0	20.1	100	3.77	80 - 120	30	
p-Isopropyltoluene	20.0	20.6	103	20.0	20.0	100	3.00	75 - 130	30	
sec-Butylbenzene	20.0	20.9	104	20.0	19.7	98.4	5.82	70 - 125	30	
Styrene	20.0	20.9	105	20.0	20.1	101	3.75	65 - 135	30	
tert-Butylbenzene	20.0	21.4	107	20.0	20.7	103	3.66	70 - 130	30	
Tetrachloroethene	20.0	19.5	97.6	20.0	19.1	95.5	2.21	45 - 150	30	
Toluene	20.0	20.4	102	20.0	19.2	96.2	5.60	75 - 120	30	
trans-1,2-Dichloroethene	20.0	20.2	101	20.0	19.4	97.1	4.03	60 - 140	30	
trans-1,3-Dichloropropene	20.0	19.6	98.1	20.0	20.3	101	3.18	55 - 140	30	
Trichloroethene	20.0	21.4	107	20.0	20.9	105	2.27	70 - 125	30	
Trichlorofluoromethane	20.0	20.9	104	20.0	20.1	101	3.66	60 - 145	30	
Vinyl chloride	20.0	21.9	109	20.0	21.6	108	1.46	50 - 145	30	

Surogates	LCS	LCS2	Surrogate Limits	Qualifier
	% Recovery	% Recovery		
1,2-Dichloroethane-d4	106	108	70 - 120	PASS
Dibromofluoromethane	108	111	85 - 115	PASS
4-Bromofluorobenzene	99.5	100	75 - 120	PASS
Toluene-d8	104	101	85 - 120	PASS

* EXCEEDS %REC LIMIT
 # EXCEEDS RPD LIMIT

LCS_LCS2 - Modified 03/06/2008
 PDF File ID: 4777642
 Report generated: 05/26/2016 15:10



BFB

Login Number: L16050571 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: L16050571 Tune ID: WG568769-01
 Instrument: HPMS11 Run Date: 05/13/2016
 Analyst: JDS Run Time: 14:15
 Workgroup: WG568769 File ID: 11M11836
 Cal ID: HPMS11-13-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	24.2	11638	PASS
75.0	95.0	30.0	60.0	50.2	24088	PASS
95.0	95.0	100	100	100	48016	PASS
96.0	95.0	5.00	9.00	6.26	3008	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	86.2	41402	PASS
175	174	5.00	9.00	8.26	3421	PASS
176	174	95.0	101	97.3	40288	PASS
177	176	5.00	9.00	6.92	2789	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG568769-02	STD	01	05/13/2016 14:40	
WG568769-03	STD	01	05/13/2016 15:12	
WG568769-04	STD	01	05/13/2016 15:43	
WG568769-05	STD	01	05/13/2016 16:15	
WG568769-06	STD	01	05/13/2016 16:47	
WG568769-07	STD	01	05/13/2016 17:19	
WG568769-08	STD-CCV	01	05/13/2016 17:51	
WG568769-09	STD	01	05/13/2016 18:22	
WG568769-10	STD	01	05/13/2016 18:54	
WG568769-11	STD	01	05/13/2016 19:26	
WG568769-12	SSCV	01	05/13/2016 20:30	

* Sample past 12 hour tune limit



BFB

Login Number: L16050571 Tune ID: WG569355-01
 Instrument: HPMS11 Run Date: 05/18/2016
 Analyst: JDS Run Time: 14:36
 Workgroup: WG569355 File ID: 11M11927
 Cal ID: HPMS11-13-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	22.5	6164	PASS
75.0	95.0	30.0	60.0	51.6	14112	PASS
95.0	95.0	100	100	100	27336	PASS
96.0	95.0	5.00	9.00	6.57	1797	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	95.6	26130	PASS
175	174	5.00	9.00	7.19	1878	PASS
176	174	95.0	101	98.6	25776	PASS
177	176	5.00	9.00	6.51	1677	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG569355-02	CCV	01	05/18/2016 15:02	
WG569356-01	BLANK	01	05/18/2016 16:06	
WG569356-02	LCS	01	05/18/2016 19:17	
WG569356-03	LCS2	01	05/18/2016 19:49	
L16050571-13	TRIP BLANK	01	05/18/2016 20:52	
L16050571-01	50WW22-051016	01	05/18/2016 21:24	
L16050571-05	50WW06-051016	01	05/18/2016 21:56	
L16050571-07	50WW12-051016	01	05/18/2016 22:28	
L16050571-11	50WW23-051016	01	05/18/2016 23:31	
WG568779-01	FBLK1	DL01	05/19/2016 04:18	*

* Sample past 12 hour tune limit



BFB

Login Number: L16050571 Tune ID: WG569560-01
 Instrument: HPMS11 Run Date: 05/19/2016
 Analyst: JDS Run Time: 14:36
 Workgroup: WG569560 File ID: 11M11957
 Cal ID: HPMS11-13-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	25.7	6693	PASS
75.0	95.0	30.0	60.0	52.1	13550	PASS
95.0	95.0	100	100	100	26030	PASS
96.0	95.0	5.00	9.00	6.19	1611	PASS
173	174	0	2.00	0.503	109	PASS
174	95.0	50.0	100	83.2	21666	PASS
175	174	5.00	9.00	7.81	1692	PASS
176	174	95.0	101	96.1	20828	PASS
177	176	5.00	9.00	7.44	1549	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG569560-02	CCV	01	05/19/2016 15:36	
WG569561-01	BLANK	01	05/19/2016 16:43	
WG569561-02	LCS	01	05/19/2016 17:15	
WG569561-03	LCS2	01	05/19/2016 17:47	
L16050571-07	50WW12-051016	DL01	05/19/2016 19:54	
L16050571-03	50WW11-051016	01	05/19/2016 20:26	

* Sample past 12 hour tune limit



BFB

Login Number: L16050571 Tune ID: WG569735-01
 Instrument: HPMS11 Run Date: 05/20/2016
 Analyst: JDS Run Time: 15:23
 Workgroup: WG569735 File ID: 11M11984
 Cal ID: HPMS11-13-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	25.3	9690	PASS
75.0	95.0	30.0	60.0	53.5	20514	PASS
95.0	95.0	100	100	100	38325	PASS
96.0	95.0	5.00	9.00	6.55	2510	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	87.5	33541	PASS
175	174	5.00	9.00	7.64	2563	PASS
176	174	95.0	101	95.3	31949	PASS
177	176	5.00	9.00	7.09	2266	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG569735-02	CCV	01	05/20/2016 15:47	
WG569736-01	BLANK	01	05/20/2016 16:51	
WG569736-02	LCS	01	05/20/2016 17:23	
L16050571-09	50WW24-051016	01	05/20/2016 21:06	
WG569736-06	BLANK2	01	05/21/2016 01:52	

* 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	Calibration Files								Avg	%RSD	Linear	Quad
	5	20	50	100	200	300	400	500				
	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: 8260WT.M

Title: 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11

Last Calibration: Sat May 14 18:45:57 2016

Curve: WG568769

Calibration Files

Compound	Concentration (ppm)										Avg	%RSD	Linear	Quadratic
	0.3	0.4	1	2	5	20	50	100	200	300				
	11M1837.D	11M1838.D	11M1839.D	11M1840.D	11M1841.D	11M1842.D	11M1843.D	11M1844.D	11M1845.D	11M1846.D				
I Fluorobenzene	ISTD													
T Dichlorodifluoromethane			0.345	0.368	0.326	0.431	0.400	0.424	0.417	0.424	0.392	10.308		
P Chloromethane			0.348	0.363	0.289	0.310	0.276	0.296	0.305	0.324	0.314	9.474		
C Vinyl Chloride		0.275	0.241	0.249	0.244	0.268	0.250	0.271	0.271	0.276	0.261	5.458		
T 1,3-Butadiene				0.242	0.284	0.269	0.264	0.256	0.240	0.259	0.259	6.530		
T Bromomethane		0.167	0.174	0.164	0.180	0.165	0.182	0.194	0.206	0.179	0.179	8.292		
T Chloroethane		0.164	0.165	0.151	0.174	0.161	0.171	0.173	0.181	0.167	0.167	5.524		
T Trichlorofluoromethane	0.514	0.523	0.537	0.496	0.552	0.498	0.524	0.514	0.514	0.519	0.519	3.376		
T Diethyl ether		0.189	0.191	0.195	0.196	0.188	0.193	0.193	0.192	0.192	0.192	1.552		
T Isoprene				0.299	0.331	0.317	0.323	0.325	0.325	0.325	0.320	3.522		
T Acrolein		0.013	0.022	0.024	0.024	0.024	0.025		0.027	0.023	19.436	0.999		
T 1,1,2-Trichloro-1,2,2-Trifluor		0.261	0.245	0.234	0.268	0.245	0.252	0.254	0.257	0.252	4.225			
T Acetone				0.063	0.067	0.058	0.057	0.057	0.054	0.059	7.931			
C 1,1-Dichloroethene	0.459	0.452	0.460	0.429	0.492	0.441	0.464	0.461	0.461	0.458	3.810			
T Tert-Butyl Alcohol		0.014	0.015	0.017	0.018	0.017	0.017	0.017	0.017	0.016	9.673			
T Dimethyl Sulfide				0.169	0.185	0.186	0.185	0.188	0.184	0.183	3.765			
T Iodomethane			0.043	0.072	0.164	0.206	0.217	0.219	0.208	0.162	45.603	0.999		
T Methyl acetate			0.182	0.317	0.215	0.178	0.176	0.169	0.168	0.201	26.745	1.000		
T Methylene Chloride		0.239	0.256	0.230	0.243	0.224	0.232	0.234	0.238	0.237	4.076			
T Carbon Disulfide		0.737	0.762	0.714	0.798	0.783	0.783	0.782	0.770	0.766	3.624			
T Acrylonitrile		0.072	0.069	0.075	0.085	0.081	0.085	0.085	0.090	0.080	9.576			
T Methyl Tert Butyl Ether		0.568	0.546	0.564	0.650	0.585	0.606	0.612	0.595	0.591	5.543			
T trans-1,2-Dichloroethene	0.288	0.230	0.264	0.229	0.263	0.242	0.251	0.254	0.260	0.253	7.263			
T n-Hexane			0.424	0.377	0.450	0.431	0.426	0.424	0.422	0.422	5.186			
T Diisopropyl ether		1.034	1.075	1.083	1.055	1.046	1.062		1.015	1.053	2.218			
T Vinyl Acetate				0.235	0.391	0.393	0.395	0.430	0.431	0.379	19.260	0.999		
P 1,1-Dichloroethane	0.463	0.517	0.527	0.505	0.535	0.495	0.513	0.511	0.508	0.508	4.023			
T Ethyl-Tert-Butyl ether		0.815	0.854	0.881	0.876	0.855	0.873		0.844	0.857	2.667			
T 2-Butanone				0.079	0.097	0.087	0.092	0.092	0.091	0.090	6.720			
T Propionitrile		0.023	0.025	0.026	0.029	0.027	0.027		0.027	0.026	7.381			
T 2,2-Dichloropropane		0.325	0.372	0.435	0.395	0.406	0.386	0.422	0.418	0.419	0.398	8.479		
T cis-1,2-Dichloroethene		0.276	0.266	0.289	0.269	0.294	0.271	0.280	0.284	0.285	0.279	3.456		
C Chloroform	0.587	0.483	0.491	0.514	0.480	0.509	0.470	0.486	0.489	0.482	0.499	6.767		
T 1-Bromopropane			0.014	0.041	0.045	0.047	0.048	0.049	0.050	0.050	0.043	28.190	1.000	
T Bromochloromethane		0.115	0.140	0.169	0.167	0.188	0.172	0.179	0.180	0.181	0.166	14.065		
T Tetrahydrofuran		0.074	0.061	0.058	0.067	0.061	0.062		0.059	0.063	8.769			
S Dibromofluoromethane				0.251	0.266	0.284	0.268	0.284	0.285	0.278	0.274	4.605		
T 1,1,1-Trichloroethane		0.475	0.478	0.508	0.471	0.515	0.477	0.502	0.499	0.495	0.491	3.293		
T Cyclohexane		0.477	0.485	0.547	0.509	0.574	0.551	0.560	0.558	0.556	0.535	6.606		
T 1,1-Dichloropropene		0.342	0.350	0.346	0.332	0.370	0.339	0.358	0.359	0.362	0.351	3.562		
T Carbon Tetrachloride		0.409	0.457	0.522	0.465	0.518	0.473	0.496	0.492	0.486	0.480	7.177		
T Tert-Amyl-Methyl ether			0.565	0.596	0.603	0.611	0.588	0.605		0.6	0.59537	2.5818		
S 1,2-Dichloroethane-d4			0.315	0.304	0.32	0.326	0.303	0.319	0.31	0.298	0.31197	3.15125		
T 1,2-Dichloroethane		0.388	0.391	0.419	0.395	0.441	0.402	0.413	0.409	0.391	0.40536	4.2274		
T Benzene		1.058	0.952	1.016	0.923	0.996	0.908	0.943	0.931	0.914	0.96002	5.38884		
T Trichloroethene		0.308	0.317	0.329	0.306	0.322	0.294	0.313	0.309	0.311	0.31204	3.21019		
T Methylcyclohexane		0.332	0.37	0.389	0.35	0.411	0.401	0.4	0.405	0.407	0.3851	7.28708		
C 1,2-Dichloropropane		0.259	0.262	0.273	0.254	0.276	0.257	0.268	0.27	0.273	0.26575	2.95636		
T 1,4-Dioxane				0.001	0.001	0.002	0.001	0.002		0.002	0.0014	19.4617	0.999	
T Bromodichloromethane		0.346	0.346	0.373	0.362	0.4	0.369	0.387	0.389	0.385	0.37307	5.09783		
T Dibromomethane		0.118	0.136	0.135	0.137	0.149	0.137	0.146	0.145	0.144	0.13848	6.69192		
T 2-Chloroethyl Vinyl Ether				0.112	0.138	0.128	0.136	0.138	0.135	0.13098	7.7176			
T 4-Methyl-2-Pentanone				0.06	0.08	0.073	0.076	0.077	0.077	0.07387	9.67651			
T cis-1,3-Dichloropropene		0.326	0.338	0.358	0.357	0.406	0.379	0.395	0.401	0.399	0.37315	7.91395		
T Dimethyl Disulfide				0.185	0.229	0.227	0.233	0.238	0.235	0.22454	8.74309			

I Chlorobenzene-d5	ISTD																				
S Toluene-d8				1.101	1.093	1.115	1.056	1.103	1.092	1.044	1.08625	2.42896									
C Toluene	1.309	1.253	1.287	1.269	1.347	1.249	1.287	1.241	1.149	1.2656	4.33323										
T Ethyl Methacrylate		0.234	0.233	0.25	0.299	0.285	0.289	0.291	0.281	0.27024	9.93745										
T trans-1,3-Dichloropropene		0.335	0.388	0.387	0.448	0.418	0.432	0.43	0.412	0.40623	8.82781										
T 1,1,2-Trichloroethane	0.222	0.201	0.243	0.21	0.246	0.221	0.228	0.227	0.221	0.22442	6.30977										
T 2-Hexanone				0.137	0.179	0.165	0.172	0.172	0.165	0.16482	8.91224										
T 1,3-Dichloropropane	0.337	0.338	0.351	0.355	0.396	0.361	0.374	0.373	0.358	0.36039	5.16222										
T Tetrachloroethene	0.274	0.287	0.317	0.286	0.306	0.286	0.3	0.299	0.294	0.29431	4.41886										
T Dibromochloromethane	0.283	0.297	0.336	0.33	0.378	0.354	0.372	0.372	0.359	0.3423	9.88235										
T 1,2-Dibromoethane	0.232	0.182	0.228	0.214	0.243	0.224	0.233	0.235	0.232	0.22485	7.92714										
T 1-Chlorohexane	0.37	0.399	0.414	0.391	0.442	0.429	0.44	0.438	0.432	0.41726	6.09034										
P Chlorobenzene	0.927	0.917	0.998	0.932	0.976	0.909	0.93	0.902	0.853	0.92715	4.48215										
T 1,1,1,2-Tetrachloroethane	0.341	0.361	0.405	0.366	0.388	0.371	0.384	0.385	0.376	0.37515	4.87731										
C Ethylbenzene	0.453	0.457	0.512	0.463	0.495	0.466	0.482	0.479	0.472	0.47542	3.94078										
T m-,p-Xylene	0.619	0.583	0.605	0.564	0.604	0.568	0.579	0.559	0.522	0.57798	5.08853										
T o-Xylene	0.539	0.549	0.574	0.539	0.6	0.561	0.574	0.57	0.557	0.56249	3.43829										
T Styrene	0.865	0.848	0.897	0.918	1.018	0.955	0.985	0.959	0.917	0.92933	5.96246										
P Bromoform	0.172	0.189	0.185	0.226	0.21	0.225	0.226	0.21	0.228	0.20747	10.9157										
T Isopropylbenzene	1.515	1.456	1.567	1.46	1.592	1.493	1.534	1.449	1.323	1.48754	5.34769										
I 1,4-Dichlorobenzene-d4	ISTD																				
P 1,1,2,2-Tetrachloroethane	0.288	0.357	0.369	0.371	0.441	0.396	0.412	0.428	0.442	0.38931	12.6902										
S p-Bromofluorobenzene			0.772	0.784	0.794	0.716	0.767	0.789	0.773	0.77065	3.38935										
T 1,2,3-Trichloropropane		0.087	0.129	0.138	0.151	0.137	0.142	0.148	0.148	0.13515	15.3522	0.999									
T trans-1,4-Dichloro-2-Butene		0.105	0.117	0.124	0.177	0.178	0.184	0.192	0.193	0.15883	23.0996	0.999									
T n-Propylbenzene	2.87	2.8	3.077	2.949	3.134	2.886	2.979	2.836	2.526	2.89527	6.10377										
T Bromobenzene	0.663	0.778	0.81	0.798	0.765	0.784	0.718	0.752	0.769	0.76	0.75973	5.57443									
T 1,3,5-Trimethylbenzene	2.338	2.056	2.263	2.172	2.357	2.166	2.252	2.223	2.059	2.20939	4.86261										
T 2-Chlorotoluene	2.158	2.096	2.122	2.033	2.128	1.936	2.002	1.954	1.82	2.0279	5.4704										
T 4-Chlorotoluene	1.782	1.755	1.937	1.808	1.916	1.763	1.832	1.838	1.717	1.8165	4.03452										
T a-Methylstyrene		1	1.066	1.101	1.241	1.231	1.235	1.242	1.208	1.16555	8.18507										
T tert-Butylbenzene	0.378	0.44	0.48	0.489	0.498	0.458	0.483	0.49	0.497	0.46809	8.31778										
T 1,2,4-Trimethylbenzene	2.159	2.195	2.274	2.295	2.472	2.234	2.309	2.244	2.067	2.24981	4.97706										
T sec-Butylbenzene		2.593	2.734	2.647	2.87	2.634	2.723	2.617	2.404	2.65291	5.05975										
T p-Isopropyltoluene		2.247	2.592	2.45	2.641	2.43	2.506	2.404	2.226	2.43674	6.05243										
T 1,3-Dichlorobenzene	1.487	1.488	1.538	1.46	1.53	1.398	1.451	1.446	1.406	1.46732	3.33475										
T 1,4-Dichlorobenzene	1.482	1.601	1.511	1.569	1.484	1.538	1.404	1.456	1.434	1.395	1.4873	4.59741									
T n-Butylbenzene	2.048	2.099	2.295	2.049	2.32	2.134	2.224	2.136	2.021	2.14721	5.09289										
T 1,2-Dichlorobenzene	1.33	1.26	1.333	1.432	1.33	1.406	1.296	1.343	1.326	1.31	1.33665	3.71841									
T 1,2-Dibromo-3-Chloropropane				0.057	0.079	0.096	0.081	0.086	0.087	0.091	0.08248	15.3444	0.999								
T 1,2,4-Trichlorobenzene	0.927	0.903	0.957	0.956	1.042	0.972	0.998	1.002	1.047	0.97808	4.96993										
T Hexachlorobutadiene	0.393	0.381	0.451	0.418	0.447	0.415	0.441	0.442	0.49	0.43089	7.64497										
T Naphthalene	1.885	1.633	1.765	1.712	2.026	1.824	1.878	1.821	1.794	1.81543	6.15168										
T 1,2,3-Trichlorobenzene	0.854	0.957	0.865	0.918	0.834	0.946	0.86	0.889	0.912	0.943	0.89764	4.8559									

Tue May 17 13:57:02 2016

Login Number: L16050571 Run Date: 06/14/2015 Sample ID: WG527475-10
Instrument ID: HPMS11 Run Time: 15:18 Method: 8260B
File ID: 11M08245 Analyst: TMB /DLW QC Key: DOD4
ICal Workgroup: WG527475 Cal ID: HPMS11 - 14-JUN-15

Analyte	Expected	Found	Units	RF	%D	UCL	Q
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* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds



Login Number: L16050571 Run Date: 05/13/2016 Sample ID: WG568769-12
 Instrument ID: HPMS11 Run Time: 20:30 Method: 8260B
 File ID: 11M11848 Analyst: JDS QC Key: DOD4
 ICal Workgroup: WG568769 Cal ID: HPMS11 - 13-MAY-16

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Chloroform	CCC	50.0	47.6	ug/L	0.475	4.80	20	
1,1-Dichloroethene	CCC	50.0	47.5	ug/L	0.435	4.90	20	
1,2-Dichloropropane	CCC	50.0	52.8	ug/L	0.281	5.60	20	
Ethylbenzene	CCC	50.0	52.4	ug/L	0.498	4.80	20	
Toluene	CCC	50.0	53.8	ug/L	1.36	7.50	20	
Vinyl Chloride	CCC	50.0	56.1	ug/L	0.292	12.2	20	
Bromoform	SPCC	50.0	49.8	ug/L	0.207	0.300	20	
Chlorobenzene	SPCC	50.0	53.3	ug/L	0.988	6.60	20	
Chloromethane	SPCC	50.0	55.1	ug/L	0.346	10.2	20	
1,1-Dichloroethane	SPCC	50.0	48.5	ug/L	0.493	3.00	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	54.9	ug/L	0.428	9.90	20	
Acetone		50.0	49.7	ug/L	0.0590	0.700	20	
Benzene		50.0	51.2	ug/L	0.983	2.40	20	
Bromobenzene		50.0	51.6	ug/L	0.785	3.30	20	
Bromochloromethane		50.0	53.9	ug/L	0.179	7.80	20	
Bromodichloromethane		50.0	49.5	ug/L	0.370	0.900	20	
Bromomethane		50.0	50.5	ug/L	0.181	1.00	20	
2-Butanone		50.0	50.3	ug/L	0.0904	0.700	20	
n-Butylbenzene		50.0	53.9	ug/L	2.31	7.80	20	
sec-Butylbenzene		50.0	55.9	ug/L	2.97	11.8	20	
tert-Butylbenzene		50.0	56.5	ug/L	0.529	13.1	20	
Carbon Disulfide		50.0	44.7	ug/L	0.685	10.6	20	
Carbon Tetrachloride		50.0	47.3	ug/L	0.454	5.30	20	
Dibromochloromethane		50.0	52.5	ug/L	0.360	5.10	20	
Chloroethane		50.0	58.9	ug/L	0.197	17.7	20	
2-Chlorotoluene		50.0	52.8	ug/L	2.14	5.50	20	
4-Chlorotoluene		50.0	55.4	ug/L	2.01	10.8	20	
1,2-Dibromo-3-Chloropropane		50.0	48.1	ug/L	0.0844	3.80	20	
1,2-Dibromoethane		50.0	52.6	ug/L	0.237	5.30	20	
Dibromomethane		50.0	48.0	ug/L	0.133	3.90	20	
1,2-Dichlorobenzene		50.0	53.6	ug/L	1.43	7.20	20	
1,3-Dichlorobenzene		50.0	52.7	ug/L	1.55	5.40	20	
1,4-Dichlorobenzene		50.0	53.0	ug/L	1.58	6.10	20	
Dichlorodifluoromethane		50.0	56.6	ug/L	0.443	13.2	20	
1,2-Dichloroethane		50.0	47.9	ug/L	0.388	4.20	20	
cis-1,2-Dichloroethene		50.0	53.2	ug/L	0.297	6.30	20	
trans-1,2-Dichloroethene		50.0	52.1	ug/L	0.264	4.30	20	
1,3-Dichloropropane		50.0	56.3	ug/L	0.406	12.6	20	
2,2-Dichloropropane		50.0	45.6	ug/L	0.362	8.90	20	
cis-1,3-Dichloropropene		50.0	57.6	ug/L	0.430	15.2	20	
trans-1,3-Dichloropropene		50.0	52.1	ug/L	0.423	4.20	20	
1,1-Dichloropropene		50.0	50.1	ug/L	0.352	0.200	20	

ALT - Modified 09/06/2007
 Version 1.5 PDF File ID: 4777643
 Report generated 05/26/2016 15:10



Login Number: L16050571 Run Date: 05/13/2016 Sample ID: WG568769-12
 Instrument ID: HPMS11 Run Time: 20:30 Method: 8260B
 File ID: 11M11848 Analyst: JDS QC Key: DOD4
 ICal Workgroup: WG568769 Cal ID: HPMS11 - 13-MAY-16

Analyte	Expected	Found	Units	RF	%D	UCL	Q
2-Hexanone	50.0	52.2	ug/L	0.172	4.40	20	
Hexachlorobutadiene	50.0	55.9	ug/L	0.482	11.8	20	
Isopropylbenzene	50.0	54.2	ug/L	1.61	8.50	20	
p-Isopropyltoluene	50.0	54.7	ug/L	2.67	9.40	20	
4-Methyl-2-Pentanone	50.0	52.6	ug/L	0.0777	5.10	20	
Methylene Chloride	50.0	52.0	ug/L	0.246	4.00	20	
Naphthalene	50.0	51.1	ug/L	1.86	2.30	20	
n-Propylbenzene	50.0	56.6	ug/L	3.28	13.2	20	
Styrene	50.0	55.0	ug/L	1.02	9.90	20	
1,1,1,2-Tetrachloroethane	50.0	51.0	ug/L	0.383	2.10	20	
Tetrachloroethene	50.0	52.2	ug/L	0.307	4.40	20	
1,2,3-Trichlorobenzene	50.0	54.1	ug/L	0.971	8.10	20	
1,2,4-Trichlorobenzene	50.0	55.4	ug/L	1.08	10.9	20	
1,1,1-Trichloroethane	50.0	48.1	ug/L	0.472	3.90	20	
1,1,2-Trichloroethane	50.0	52.8	ug/L	0.237	5.50	20	
Trichloroethene	50.0	52.3	ug/L	0.327	4.60	20	
Trichlorofluoromethane	50.0	47.5	ug/L	0.494	4.90	20	
1,2,3-Trichloropropane	50.0	50.1	ug/L	0.147	0.300	20	
1,2,4-Trimethylbenzene	50.0	53.8	ug/L	2.42	7.70	20	
1,3,5-Trimethylbenzene	50.0	55.1	ug/L	2.44	10.3	20	
o-Xylene	50.0	54.7	ug/L	0.615	9.40	20	
m-,p-Xylene	100	107	ug/L	0.620	7.20	20	

* Exceeds %D Limit

CCC Calibration Check Compounds
 SPCC System Performance Check Compounds



Login Number: L16050571 Run Date: 05/18/2016 Sample ID: WG569355-02
Instrument ID: HPMS11 Run Time: 15:02 Method: 8260B
File ID: 11M11928 Analyst: JDS QC Key: DOD4
Workgroup (AAB#): WG569356 Cal ID: HPMS11 - 13-MAY-16
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloroform	CCC	50.0	50.5	ug/L	0.504	1.04	20	
1,1-Dichloroethene	CCC	50.0	51.4	ug/L	0.470	2.75	20	
1,2-Dichloropropane	CCC	50.0	49.7	ug/L	0.264	0.621	20	
Ethylbenzene	CCC	50.0	49.9	ug/L	0.474	0.253	20	
Toluene	CCC	50.0	51.3	ug/L	1.30	2.53	20	
Vinyl Chloride	CCC	50.0	51.9	ug/L	0.271	3.87	20	
Bromoform	SPCC	50.0	49.7	ug/L	0.206	0.546	20	
Chlorobenzene	SPCC	50.0	50.8	ug/L	0.942	1.57	20	
Chloromethane	SPCC	50.0	45.3	ug/L	0.284	9.41	20	
1,1-Dichloroethane	SPCC	50.0	51.5	ug/L	0.524	3.09	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	47.7	ug/L	0.371	4.68	20	
Xylenes		150	151	ug/L	0.575	0.827	20	
Acetone		50.0	44.4	ug/L	0.0527	11.2	20	
Benzene		50.0	50.5	ug/L	0.969	0.980	20	
Bromobenzene		50.0	50.1	ug/L	0.761	0.116	20	
Bromochloromethane		50.0	54.3	ug/L	0.180	8.65	20	
Bromodichloromethane		50.0	52.3	ug/L	0.390	4.51	20	
Bromomethane		50.0	48.5	ug/L	0.174	3.01	20	
2-Butanone		50.0	45.1	ug/L	0.0809	9.80	20	
n-Butylbenzene		50.0	49.3	ug/L	2.12	1.45	20	
sec-Butylbenzene		50.0	50.1	ug/L	2.66	0.287	20	
tert-Butylbenzene		50.0	50.0	ug/L	0.468	0.0462	20	
Carbon Disulfide		50.0	52.4	ug/L	0.803	4.86	20	
Carbon Tetrachloride		50.0	53.7	ug/L	0.515	7.43	20	
Dibromochloromethane		50.0	52.4	ug/L	0.359	4.77	20	
Chloroethane		50.0	51.8	ug/L	0.173	3.53	20	
2-Chlorotoluene		50.0	49.9	ug/L	2.03	0.141	20	
4-Chlorotoluene		50.0	50.9	ug/L	1.85	1.84	20	
1,2-Dibromo-3-Chloropropane		50.0	41.7	ug/L	0.0730	16.6	20	
1,2-Dibromoethane		50.0	49.0	ug/L	0.220	2.04	20	
Dibromomethane		50.0	50.8	ug/L	0.141	1.61	20	
1,2-Dichlorobenzene		50.0	48.9	ug/L	1.31	2.21	20	
1,3-Dichlorobenzene		50.0	49.8	ug/L	1.46	0.376	20	
1,4-Dichlorobenzene		50.0	48.9	ug/L	1.46	2.16	20	
Dichlorodifluoromethane		50.0	47.1	ug/L	0.369	5.76	20	
1,2-Dichloroethane		50.0	51.8	ug/L	0.420	3.57	20	
cis-1,2-Dichloroethene		50.0	51.7	ug/L	0.289	3.30	20	
trans-1,2-Dichloroethene		50.0	50.9	ug/L	0.258	1.80	20	
1,3-Dichloropropane		50.0	48.8	ug/L	0.352	2.42	20	
2,2-Dichloropropane		50.0	52.5	ug/L	0.418	5.06	20	
cis-1,3-Dichloropropene		50.0	52.6	ug/L	0.393	5.28	20	
trans-1,3-Dichloropropene		50.0	51.1	ug/L	0.415	2.20	20	

CCV - Modified 03/05/2008

PDF File ID: 4777695

Report generated 05/26/2016 15:10



Login Number: L16050571 Run Date: 05/18/2016 Sample ID: WG569355-02
Instrument ID: HPMS11 Run Time: 15:02 Method: 8260B
File ID: 11M11928 Analyst: JDS QC Key: DOD4
Workgroup (AAB#): WG569356 Cal ID: HPMS11 - 13-MAY-16
Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloropropene	50.0	52.0	ug/L	0.365	4.02	20	
2-Hexanone	50.0	44.1	ug/L	0.146	11.7	20	
Hexachlorobutadiene	50.0	46.3	ug/L	0.399	7.45	20	
Isopropylbenzene	50.0	50.9	ug/L	1.51	1.78	20	
p-Isopropyltoluene	50.0	50.8	ug/L	2.48	1.62	20	
4-Methyl-2-Pentanone	50.0	45.5	ug/L	0.0672	9.04	20	
Methylene Chloride	50.0	50.3	ug/L	0.238	0.518	20	
Naphthalene	50.0	43.6	ug/L	1.58	12.8	20	
n-Propylbenzene	50.0	51.1	ug/L	2.96	2.18	20	
Styrene	50.0	52.6	ug/L	0.978	5.24	20	
1,1,1,2-Tetrachloroethane	50.0	51.3	ug/L	0.385	2.62	20	
Tetrachloroethene	50.0	51.2	ug/L	0.301	2.42	20	
1,2,3-Trichlorobenzene	50.0	43.3	ug/L	0.778	13.4	20	
1,2,4-Trichlorobenzene	50.0	46.9	ug/L	0.917	6.24	20	
1,1,1-Trichloroethane	50.0	52.7	ug/L	0.518	5.44	20	
1,1,2-Trichloroethane	50.0	48.5	ug/L	0.218	3.05	20	
Trichloroethene	50.0	51.6	ug/L	0.322	3.15	20	
Trichlorofluoromethane	50.0	52.9	ug/L	0.549	5.74	20	
1,2,3-Trichloropropane	50.0	45.7	ug/L	0.133	8.58	20	
1,2,4-Trimethylbenzene	50.0	51.5	ug/L	2.32	2.97	20	
1,3,5-Trimethylbenzene	50.0	51.0	ug/L	2.25	2.04	20	
o-Xylene	50.0	50.3	ug/L	0.566	0.583	20	
m-,p-Xylene	100	101	ug/L	0.584	0.949	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 4777695
Report generated 05/26/2016 15:10



Login Number: L16050571 Run Date: 05/19/2016 Sample ID: WG569560-02
Instrument ID: HPMS11 Run Time: 15:36 Method: 8260B
File ID: 11M11959 Analyst: JDS QC Key: DOD4
Workgroup (AAB#): WG569561 Cal ID: HPMS11 - 13-MAY-16
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloroform	CCC	50.0	52.4	ug/L	0.524	4.89	20	
1,1-Dichloroethene	CCC	50.0	51.0	ug/L	0.467	2.10	20	
1,2-Dichloropropane	CCC	50.0	50.9	ug/L	0.271	1.89	20	
Ethylbenzene	CCC	50.0	49.5	ug/L	0.470	1.06	20	
Toluene	CCC	50.0	49.9	ug/L	1.26	0.201	20	
Vinyl Chloride	CCC	50.0	52.8	ug/L	0.275	5.50	20	
Bromoform	SPCC	50.0	60.2	ug/L	0.250	20.4	20	*
Chlorobenzene	SPCC	50.0	50.4	ug/L	0.936	0.899	20	
Chloromethane	SPCC	50.0	47.0	ug/L	0.295	5.94	20	
1,1-Dichloroethane	SPCC	50.0	51.6	ug/L	0.525	3.22	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	57.4	ug/L	0.447	14.8	20	
Xylenes		150	150	ug/L	0.571	0.00547	20	
Acetone		50.0	52.0	ug/L	0.0617	3.92	20	
Benzene		50.0	50.1	ug/L	0.962	0.159	20	
Bromobenzene		50.0	50.1	ug/L	0.761	0.208	20	
Bromochloromethane		50.0	59.1	ug/L	0.196	18.1	20	
Bromodichloromethane		50.0	56.9	ug/L	0.424	13.7	20	
Bromomethane		50.0	50.7	ug/L	0.182	1.33	20	
2-Butanone		50.0	57.5	ug/L	0.103	14.9	20	
n-Butylbenzene		50.0	48.9	ug/L	2.10	2.15	20	
sec-Butylbenzene		50.0	48.7	ug/L	2.58	2.65	20	
tert-Butylbenzene		50.0	49.1	ug/L	0.460	1.79	20	
Carbon Disulfide		50.0	52.7	ug/L	0.808	5.42	20	
Carbon Tetrachloride		50.0	56.5	ug/L	0.542	12.9	20	
Dibromochloromethane		50.0	58.2	ug/L	0.398	16.4	20	
Chloroethane		50.0	49.3	ug/L	0.165	1.41	20	
2-Chlorotoluene		50.0	49.8	ug/L	2.02	0.343	20	
4-Chlorotoluene		50.0	50.1	ug/L	1.82	0.185	20	
1,2-Dibromo-3-Chloropropane		50.0	57.8	ug/L	0.102	15.7	20	
1,2-Dibromoethane		50.0	55.1	ug/L	0.248	10.2	20	
Dibromomethane		50.0	57.6	ug/L	0.160	15.2	20	
1,2-Dichlorobenzene		50.0	52.0	ug/L	1.39	3.93	20	
1,3-Dichlorobenzene		50.0	50.3	ug/L	1.47	0.506	20	
1,4-Dichlorobenzene		50.0	49.9	ug/L	1.48	0.251	20	
Dichlorodifluoromethane		50.0	47.9	ug/L	0.376	4.10	20	
1,2-Dichloroethane		50.0	58.4	ug/L	0.473	16.7	20	
cis-1,2-Dichloroethene		50.0	51.6	ug/L	0.289	3.29	20	
trans-1,2-Dichloroethene		50.0	50.1	ug/L	0.254	0.238	20	
1,3-Dichloropropane		50.0	53.8	ug/L	0.388	7.61	20	
2,2-Dichloropropane		50.0	55.8	ug/L	0.444	11.5	20	
cis-1,3-Dichloropropene		50.0	56.4	ug/L	0.421	12.7	20	
trans-1,3-Dichloropropene		50.0	56.1	ug/L	0.455	12.1	20	

CCV - Modified 03/05/2008

PDF File ID: 4777695

Report generated 05/26/2016 15:10



Login Number: L16050571 Run Date: 05/19/2016 Sample ID: WG569560-02
Instrument ID: HPMS11 Run Time: 15:36 Method: 8260B
File ID: 11M11959 Analyst: JDS QC Key: DOD4
Workgroup (AAB#): WG569561 Cal ID: HPMS11 - 13-MAY-16
Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloropropene	50.0	51.7	ug/L	0.363	3.43	20	
2-Hexanone	50.0	52.9	ug/L	0.174	5.73	20	
Hexachlorobutadiene	50.0	47.2	ug/L	0.407	5.64	20	
Isopropylbenzene	50.0	51.3	ug/L	1.53	2.55	20	
p-Isopropyltoluene	50.0	50.2	ug/L	2.44	0.312	20	
4-Methyl-2-Pentanone	50.0	55.7	ug/L	0.0823	11.4	20	
Methylene Chloride	50.0	50.7	ug/L	0.240	1.44	20	
Naphthalene	50.0	57.5	ug/L	2.09	15.0	20	
n-Propylbenzene	50.0	50.0	ug/L	2.90	0.0888	20	
Styrene	50.0	53.4	ug/L	0.992	6.74	20	
1,1,1,2-Tetrachloroethane	50.0	53.4	ug/L	0.400	6.74	20	
Tetrachloroethene	50.0	50.2	ug/L	0.296	0.479	20	
1,2,3-Trichlorobenzene	50.0	52.3	ug/L	0.939	4.55	20	
1,2,4-Trichlorobenzene	50.0	52.4	ug/L	1.02	4.76	20	
1,1,1-Trichloroethane	50.0	54.9	ug/L	0.539	9.70	20	
1,1,2-Trichloroethane	50.0	53.0	ug/L	0.238	5.94	20	
Trichloroethene	50.0	51.2	ug/L	0.319	2.34	20	
Trichlorofluoromethane	50.0	54.0	ug/L	0.561	8.00	20	
1,2,3-Trichloropropane	50.0	55.6	ug/L	0.163	11.2	20	
1,2,4-Trimethylbenzene	50.0	50.9	ug/L	2.29	1.71	20	
1,3,5-Trimethylbenzene	50.0	50.3	ug/L	2.22	0.510	20	
o-Xylene	50.0	50.2	ug/L	0.565	0.476	20	
m-,p-Xylene	100	99.8	ug/L	0.577	0.246	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 4777695
Report generated 05/26/2016 15:10



Login Number: L16050571 Run Date: 05/20/2016 Sample ID: WG569735-02
Instrument ID: HPMS11 Run Time: 15:47 Method: 8260B
File ID: 11M11985 Analyst: JDS QC Key: DOD4
Workgroup (AAB#): WG569736 Cal ID: HPMS11 - 13-MAY-16
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloroform	CCC	50.0	52.3	ug/L	0.522	4.50	20	
1,1-Dichloroethene	CCC	50.0	52.5	ug/L	0.481	4.99	20	
1,2-Dichloropropane	CCC	50.0	50.1	ug/L	0.267	0.287	20	
Ethylbenzene	CCC	50.0	50.2	ug/L	0.478	0.477	20	
Toluene	CCC	50.0	50.3	ug/L	1.27	0.632	20	
Vinyl Chloride	CCC	50.0	50.6	ug/L	0.264	1.14	20	
Bromoform	SPCC	50.0	52.3	ug/L	0.217	4.68	20	
Chlorobenzene	SPCC	50.0	50.7	ug/L	0.940	1.33	20	
Chloromethane	SPCC	50.0	44.0	ug/L	0.276	12.0	20	
1,1-Dichloroethane	SPCC	50.0	51.4	ug/L	0.522	2.77	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	45.6	ug/L	0.355	8.77	20	
Xylenes		150	150	ug/L	0.570	0.0558	20	
Acetone		50.0	45.1	ug/L	0.0536	9.76	20	
Benzene		50.0	49.2	ug/L	0.944	1.63	20	
Bromobenzene		50.0	48.2	ug/L	0.733	3.50	20	
Bromochloromethane		50.0	55.8	ug/L	0.185	11.5	20	
Bromodichloromethane		50.0	54.9	ug/L	0.409	9.74	20	
Bromomethane		50.0	40.3	ug/L	0.144	19.4	20	
2-Butanone		50.0	44.3	ug/L	0.0796	11.3	20	
n-Butylbenzene		50.0	49.9	ug/L	2.14	0.179	20	
sec-Butylbenzene		50.0	49.9	ug/L	2.65	0.143	20	
tert-Butylbenzene		50.0	49.7	ug/L	0.465	0.648	20	
Carbon Disulfide		50.0	50.0	ug/L	0.767	0.0852	20	
Carbon Tetrachloride		50.0	58.4	ug/L	0.560	16.8	20	
Dibromochloromethane		50.0	54.0	ug/L	0.370	7.93	20	
Chloroethane		50.0	48.8	ug/L	0.163	2.46	20	
2-Chlorotoluene		50.0	49.0	ug/L	1.99	2.00	20	
4-Chlorotoluene		50.0	49.4	ug/L	1.79	1.24	20	
1,2-Dibromo-3-Chloropropane		50.0	44.1	ug/L	0.0772	11.9	20	
1,2-Dibromoethane		50.0	49.7	ug/L	0.223	0.671	20	
Dibromomethane		50.0	52.3	ug/L	0.145	4.66	20	
1,2-Dichlorobenzene		50.0	48.6	ug/L	1.30	2.82	20	
1,3-Dichlorobenzene		50.0	49.4	ug/L	1.45	1.16	20	
1,4-Dichlorobenzene		50.0	48.3	ug/L	1.44	3.46	20	
Dichlorodifluoromethane		50.0	46.9	ug/L	0.367	6.23	20	
1,2-Dichloroethane		50.0	56.3	ug/L	0.457	12.6	20	
cis-1,2-Dichloroethene		50.0	51.3	ug/L	0.287	2.60	20	
trans-1,2-Dichloroethene		50.0	50.4	ug/L	0.255	0.831	20	
1,3-Dichloropropane		50.0	49.1	ug/L	0.354	1.88	20	
2,2-Dichloropropane		50.0	55.6	ug/L	0.442	11.3	20	
cis-1,3-Dichloropropene		50.0	53.5	ug/L	0.399	7.01	20	
trans-1,3-Dichloropropene		50.0	51.9	ug/L	0.422	3.81	20	

CCV - Modified 03/05/2008
PDF File ID: 4777695
Report generated 05/26/2016 15:10



Login Number: L16050571 Run Date: 05/20/2016 Sample ID: WG569735-02
Instrument ID: HPMS11 Run Time: 15:47 Method: 8260B
File ID: 11M11985 Analyst: JDS QC Key: DOD4
Workgroup (AAB#): WG569736 Cal ID: HPMS11 - 13-MAY-16
Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloropropene	50.0	52.3	ug/L	0.367	4.56	20	
2-Hexanone	50.0	42.7	ug/L	0.141	14.5	20	
Hexachlorobutadiene	50.0	47.6	ug/L	0.410	4.83	20	
Isopropylbenzene	50.0	52.2	ug/L	1.55	4.42	20	
p-Isopropyltoluene	50.0	51.0	ug/L	2.48	1.93	20	
4-Methyl-2-Pentanone	50.0	44.1	ug/L	0.0651	11.9	20	
Methylene Chloride	50.0	49.4	ug/L	0.234	1.13	20	
Naphthalene	50.0	45.4	ug/L	1.65	9.21	20	
n-Propylbenzene	50.0	50.7	ug/L	2.93	1.35	20	
Styrene	50.0	51.8	ug/L	0.964	3.69	20	
1,1,1,2-Tetrachloroethane	50.0	51.8	ug/L	0.389	3.67	20	
Tetrachloroethene	50.0	51.1	ug/L	0.301	2.18	20	
1,2,3-Trichlorobenzene	50.0	46.1	ug/L	0.828	7.77	20	
1,2,4-Trichlorobenzene	50.0	48.3	ug/L	0.944	3.50	20	
1,1,1-Trichloroethane	50.0	56.0	ug/L	0.550	12.1	20	
1,1,2-Trichloroethane	50.0	48.6	ug/L	0.218	2.73	20	
Trichloroethene	50.0	52.1	ug/L	0.325	4.23	20	
Trichlorofluoromethane	50.0	55.8	ug/L	0.580	11.6	20	
1,2,3-Trichloropropane	50.0	45.1	ug/L	0.132	9.89	20	
1,2,4-Trimethylbenzene	50.0	51.3	ug/L	2.31	2.69	20	
1,3,5-Trimethylbenzene	50.0	50.1	ug/L	2.22	0.265	20	
o-Xylene	50.0	50.1	ug/L	0.563	0.106	20	
m-,p-Xylene	100	99.9	ug/L	0.577	0.137	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 4777695
Report generated 05/26/2016 15:10



Login Number: L16050571
Instrument ID: HPMS11
Workgroup (AAB#): WG569356

ICAL CCV Number: WG568769-08
CAL ID: HPMS11-13-MAY-16
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG568769-08	NA	NA	263885	438582	521583
Upper Limit	NA	NA	527770	877164	1043166
Lower Limit	NA	NA	131943	219291	260792
<u>L16050571-01</u>	1.00	01	215457	366339	420522
L16050571-05	1.00	01	211018	360431	412771
L16050571-07	1.00	01	208100	351362	397537
L16050571-11	1.00	01	202724	349040	395764
L16050571-13	1.00	01	219898	380463	433294
WG569356-01	1.00	01	227870	399912	460128
WG569356-02	1.00	01	232640	392105	447415
WG569356-03	1.00	01	233216	397991	447483

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

Underline = Response outside limits



Login Number: L16050571
Instrument ID: HPMS11
Workgroup (AAB#): WG569561

ICAL CCV Number: WG568769-08
CAL ID: HPMS11-13-MAY-16
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG568769-08	NA	NA	263885	438582	521583
Upper Limit	NA	NA	527770	877164	1043166
Lower Limit	NA	NA	131943	219291	260792
<u>L16050571-03</u>	1.00	01	218955	378149	421690
L16050571-07	10.0	DL01	214091	367023	416604
WG569561-01	1.00	01	212892	369115	422131
WG569561-02	1.00	01	227487	374017	419033
WG569561-03	1.00	01	237425	391166	438789

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

Underline = Response outside limits



Login Number: L16050571
Instrument ID: HPMS11
Workgroup (AAB#): WG569736

ICAL CCV Number: WG568769-08
CAL ID: HPMS11-13-MAY-16
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG568769-08	NA	NA	263885	438582	521583
Upper Limit	NA	NA	527770	877164	1043166
Lower Limit	NA	NA	131943	219291	260792
<u>L16050571-09</u>	1.00	01	193973	328468	365037
WG569736-01	1.00	01	203827	342741	379404
WG569736-02	1.00	01	219934	359786	391095

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)

00886592

Login Number: L16050571
Instrument ID: HPMS11
Workgroup (AAB#): WG569356

ICAL CCV Number: WG568769-08
CAL ID: HPMS11-13-MAY-16
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG568769-08	NA	NA	17.06	14.25	10.61
Upper Limit	NA	NA	17.56	14.75	11.11
Lower Limit	NA	NA	16.56	13.75	10.11
<u>L16050571-01</u>	1.00	01	17.06	14.25	10.61
L16050571-05	1.00	01	17.06	14.25	10.61
L16050571-07	1.00	01	17.06	14.25	10.61
L16050571-11	1.00	01	17.06	14.25	10.61
L16050571-13	1.00	01	17.06	14.25	10.61
WG569356-01	1.00	01	17.06	14.25	10.61
WG569356-02	1.00	01	17.06	14.25	10.61
WG569356-03	1.00	01	17.06	14.25	10.61

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)

00886593

Login Number: L16050571
Instrument ID: HPMS11
Workgroup (AAB#): WG569561

ICAL CCV Number: WG568769-08
CAL ID: HPMS11-13-MAY-16
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG568769-08	NA	NA	17.06	14.25	10.61
Upper Limit	NA	NA	17.56	14.75	11.11
Lower Limit	NA	NA	16.56	13.75	10.11
<u>L16050571-03</u>	1.00	01	17.06	14.25	10.61
L16050571-07	10.0	DL01	17.06	14.25	10.61
WG569561-01	1.00	01	17.06	14.25	10.61
WG569561-02	1.00	01	17.06	14.25	10.61
WG569561-03	1.00	01	17.06	14.25	10.61

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)

00886594

Login Number: L16050571
Instrument ID: HPMS11
Workgroup (AAB#): WG569736

ICAL CCV Number: WG568769-08
CAL ID: HPMS11-13-MAY-16
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG568769-08	NA	NA	17.06	14.25	10.61
Upper Limit	NA	NA	17.56	14.75	11.11
Lower Limit	NA	NA	16.56	13.75	10.11
<u>L16050571-09</u>	1.00	01	17.06	14.25	10.61
WG569736-01	1.00	01	17.06	14.25	10.61
WG569736-02	1.00	01	17.06	14.25	10.61

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

Underline = Response outside limits



2.1.1.3 Sample Data

Data File : C:\MSDCHEM\1\DATA\051816\11M11940.D Vial: 14
 Acq On : 18 May 2016 21:24 Operator: JDS
 Sample : L16050571-01 A 826-LOW Inst : hpms11
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 19 13:32:54 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	420522	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	366339	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	215457	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.63	111	124162	26.9785	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	107.92%	
43) 1,2-Dichloroethane-d4	10.23	65	146219	27.8639	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	111.44%	
57) Toluene-d8	12.47	98	409161	25.7052	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	102.84%	
78) p-Bromofluorobenzene	15.64	95	167867	25.2748	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	101.08%	
Target Compounds						
3) Chloromethane	3.72	50	1270	0.2407	ug/L #	41
12) 1,1,2-Trichloro-1,2,2-Trif	6.25	101	3011	0.7104	ug/L	93
13) Acetone	6.35	43	2780	2.7840	ug/L #	64
18) Methyl acetate	7.01	43	2727	Below Cal	#	71

(#) = qualifier out of range (m) = manual integration
 11M11940.D 8260WT.M Thu May 19 13:32:55 2016

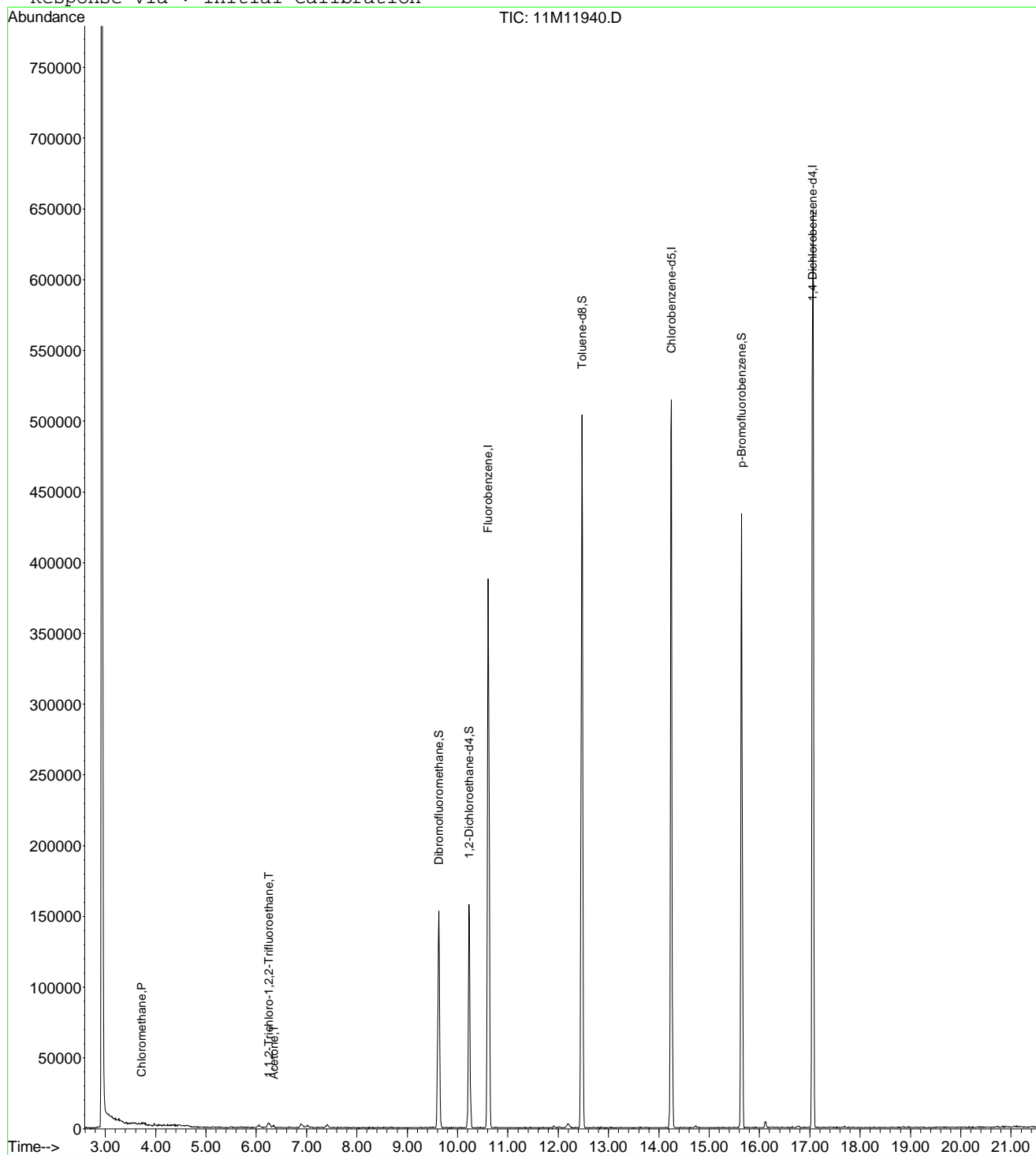
Page 1

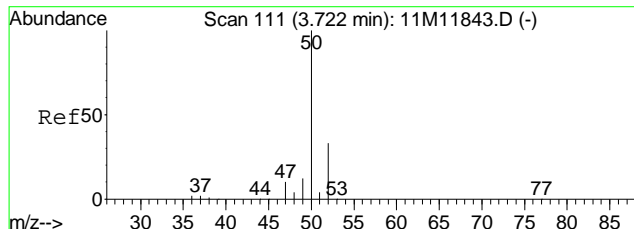
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 Acq On : 18 May 2016 21:24
 Sample : L16050571-01 A 826-LOW
 Misc : 1,1
 MS Integration Params: rteint.p
 Quant Time: May 19 13:32 2016

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

Quant Results File: 8260WT.RES

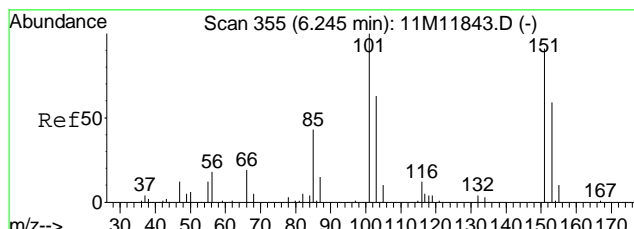
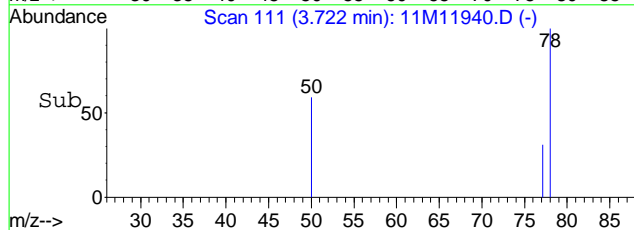
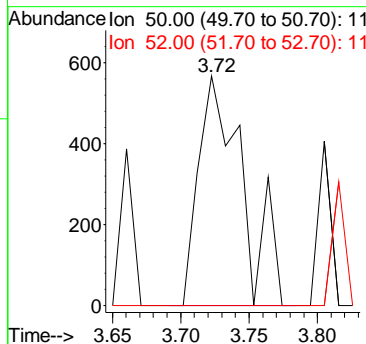
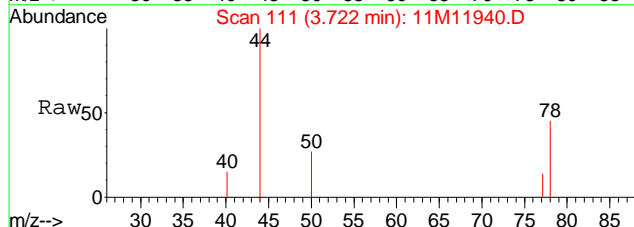
Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration





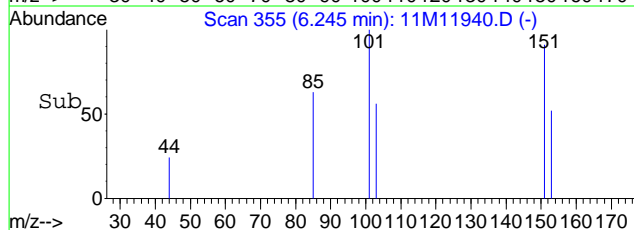
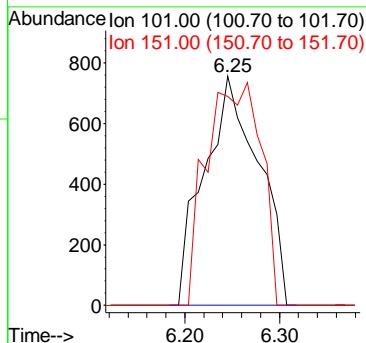
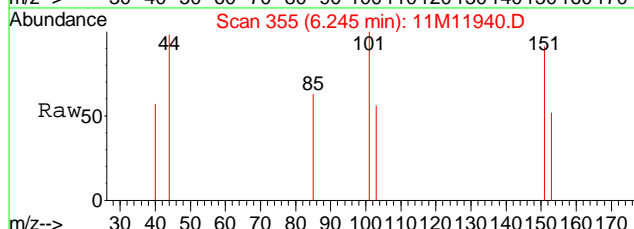
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 Chloromethane
 Concen: 0.24 ug/L
 RT: 3.72 min Scan# 111
 Delta R.T. 0.00 min
 Lab File: 11M11940.D
 Acq: 18 May 2016 21:24

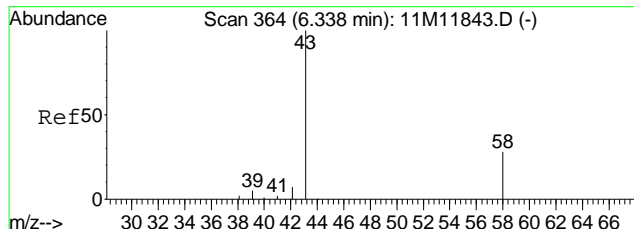
Tgt Ion: 50 Resp: 1270
 Ion Ratio Lower Upper
 50 100
 52 0.0 20.0 46.6#



#12
 1,1,2-Trichloro-1,2,2-Trifluoroethane
 Concen: 0.71 ug/L
 RT: 6.25 min Scan# 355
 Delta R.T. 0.00 min
 Lab File: 11M11940.D
 Acq: 18 May 2016 21:24

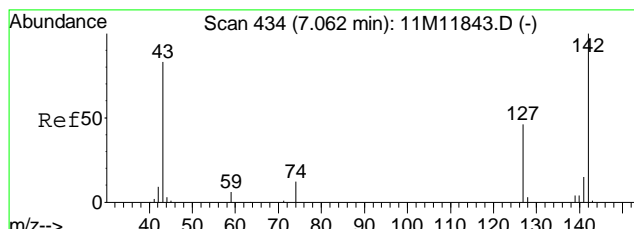
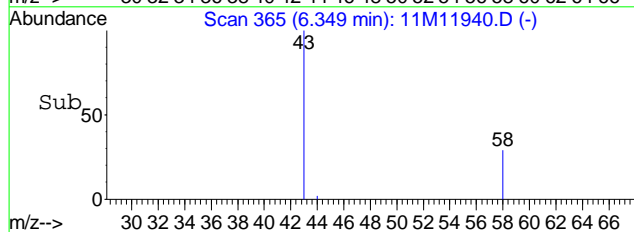
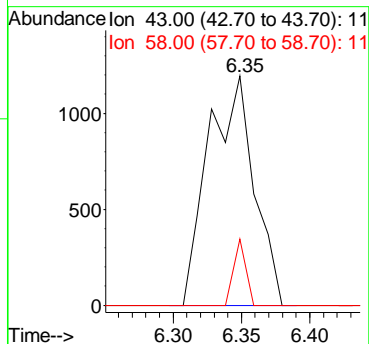
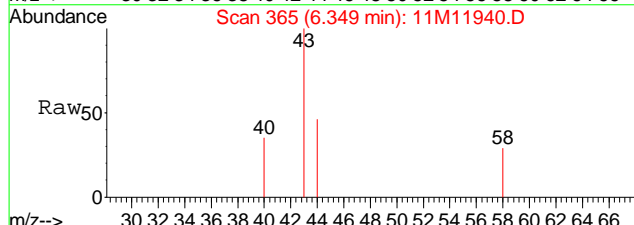
Tgt Ion: 101 Resp: 3011
 Ion Ratio Lower Upper
 101 100
 151 97.6 50.7 130.7





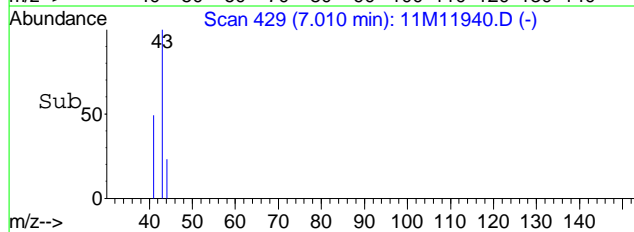
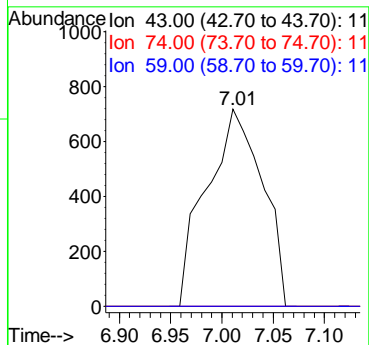
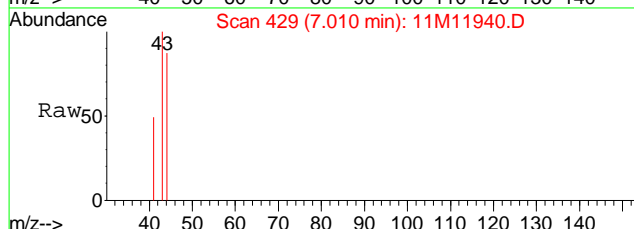
#13
 Acetone
 Concen: 2.78 ug/L
 RT: 6.35 min Scan# 365
 Delta R.T. 0.01 min
 Lab File: 11M11940.D
 Acq: 18 May 2016 21:24

Tgt Ion	Ratio	Lower	Upper
43	100		
58	7.7	15.8	36.8#



#18
 Methyl acetate
 Concen: Below Cal
 RT: 7.01 min Scan# 429
 Delta R.T. -0.05 min
 Lab File: 11M11940.D
 Acq: 18 May 2016 21:24

Tgt Ion	Ratio	Lower	Upper
43	100		
74	0.0	8.2	19.0#
59	0.0	3.9	9.1#



Data File : C:\MSDCHEM\1\DATA\051916\11M11968.D Vial: 11
 Acq On : 19 May 2016 20:26 Operator: JDS
 Sample : L16050571-03 B 00 826-LOW Inst : hpms11
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 23 17:11:46 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	421690	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	378149	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	218955	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.63	111	121076	26.2351	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	104.96%	
43) 1,2-Dichloroethane-d4	10.23	65	144959	27.5473	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	110.20%	
57) Toluene-d8	12.47	98	425113	25.8733	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	103.48%	
78) p-Bromofluorobenzene	15.64	95	172323	25.5312	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	102.12%	
Target Compounds						
						Qvalue
13) Acetone	6.34	43	625	0.6242	ug/L	# 49
14) 1,1-Dichloroethene	6.56	61	11593	1.5017	ug/L	92
18) Methyl acetate	7.01	43	1208	Below Cal		# 71
27) 1,1-Dichloroethane	8.34	63	3185	0.3715	ug/L	# 61
32) cis-1,2-Dichloroethene	9.15	96	25212	5.3519	ug/L	85
44) 1,2-Dichloroethane	10.34	62	12548	1.8352	ug/L	90
46) Trichloroethene	11.08	130	1334681	253.5770	ug/L	100
47) Methylcyclohexane	11.08	83	14447	2.2241	ug/L	# 1
64) Tetrachloroethene	13.34	164	1855	0.4167	ug/L	94

(#) = qualifier out of range (m) = manual integration
 11M11968.D 8260WT.M Mon May 23 17:11:47 2016

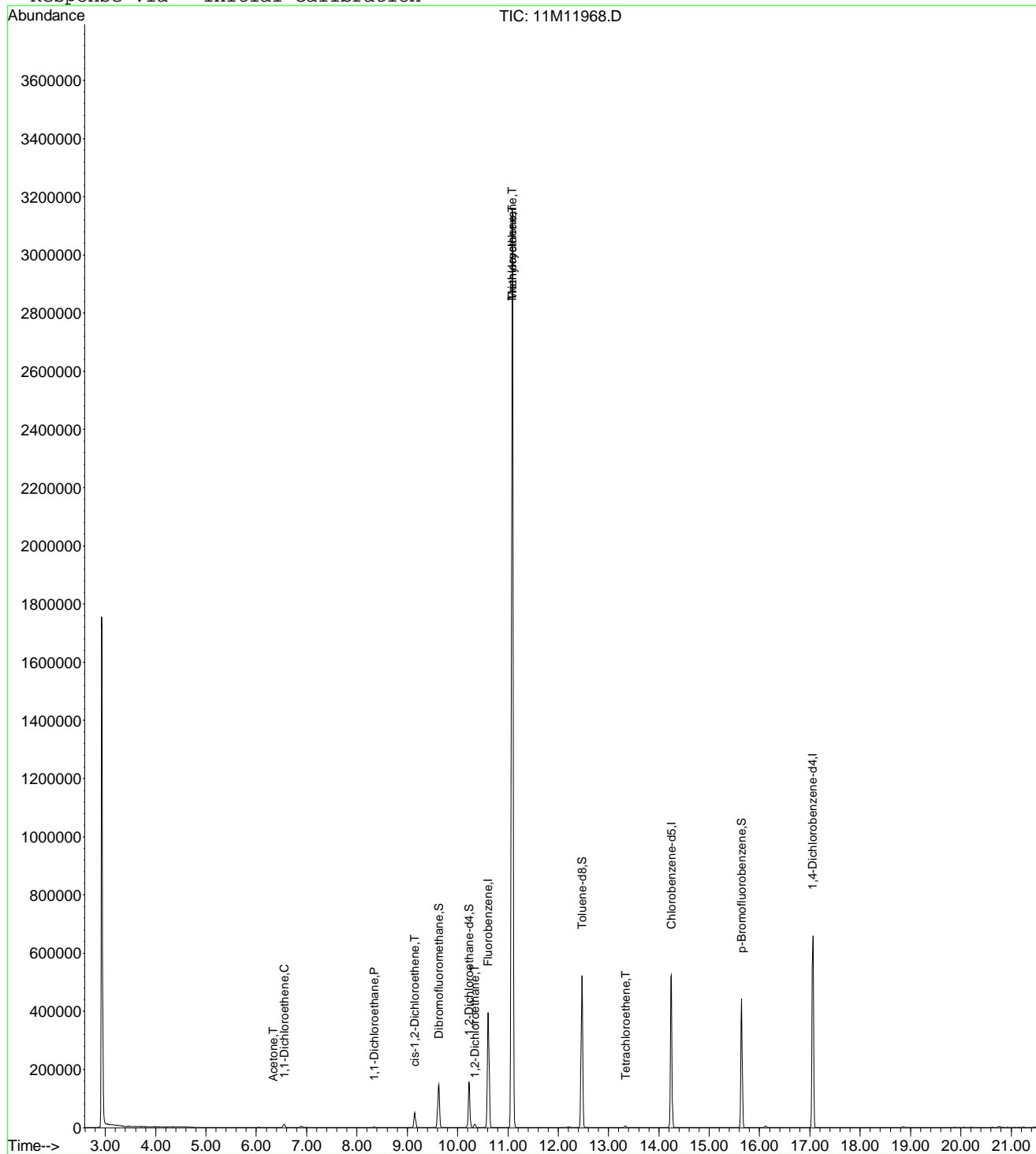
Page 1

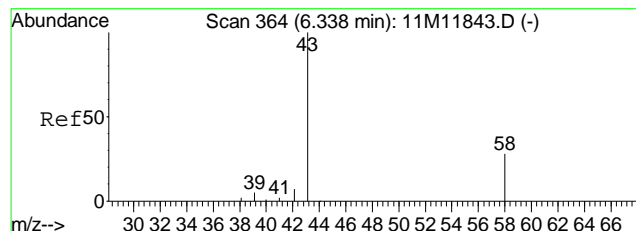
Data File : C:\MSDCHEM\1\DATA\051916\11M11968.D
 Acq On : 19 May 2016 20:26
 Sample : L16050571-03 B 00 826-LOW
 Misc : 1,1
 MS Integration Params: rteint.p
 Quant Time: May 23 17:11 2016

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

Quant Results File: 8260WT.RES

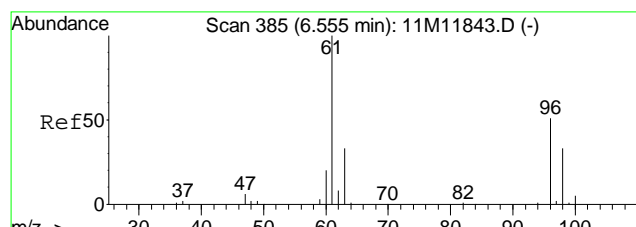
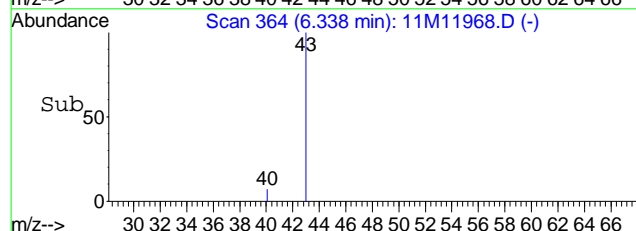
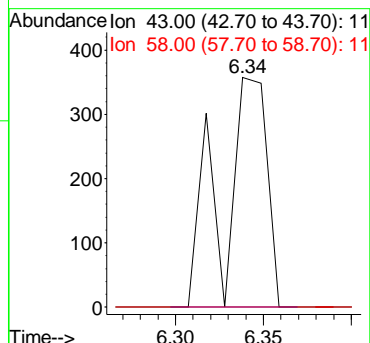
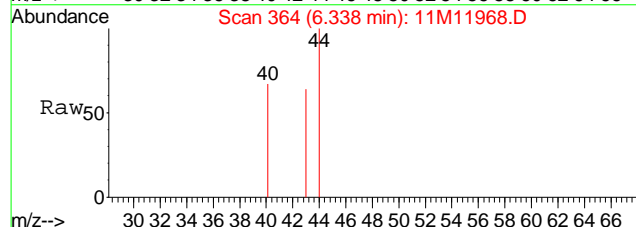
Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration





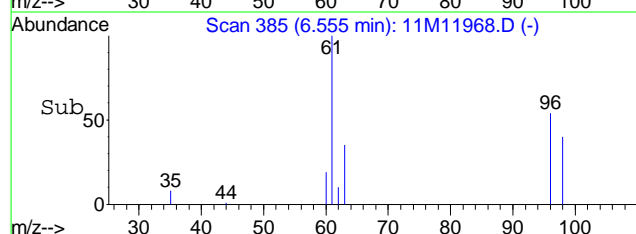
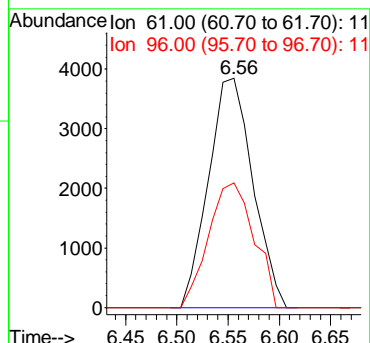
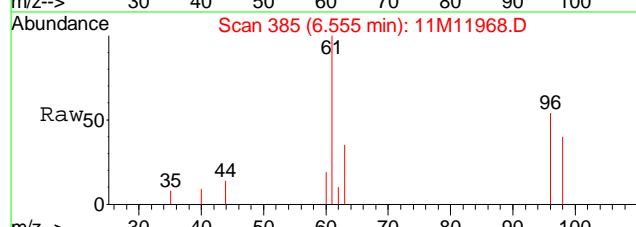
#13
 Acetone
 Concen: 0.62 ug/L
 RT: 6.34 min Scan# 364
 Delta R.T. 0.00 min
 Lab File: 11M11968.D
 Acq: 19 May 2016 20:26

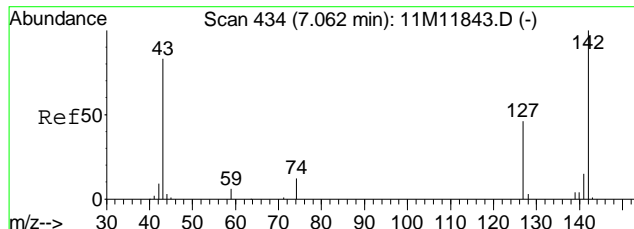
Tgt Ion	Ratio	Lower	Upper
43	100		
58	0.0	15.8	36.8#



#14
 1,1-Dichloroethene
 Concen: 1.50 ug/L
 RT: 6.56 min Scan# 385
 Delta R.T. 0.00 min
 Lab File: 11M11968.D
 Acq: 19 May 2016 20:26

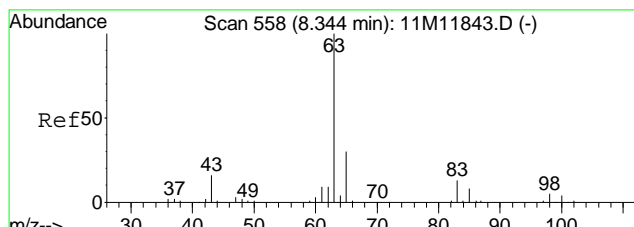
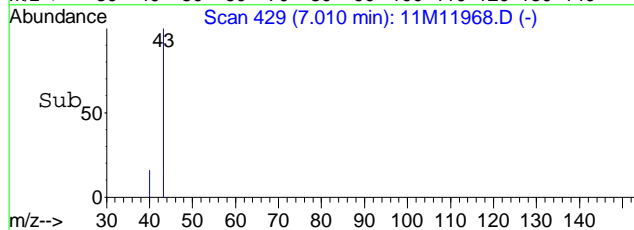
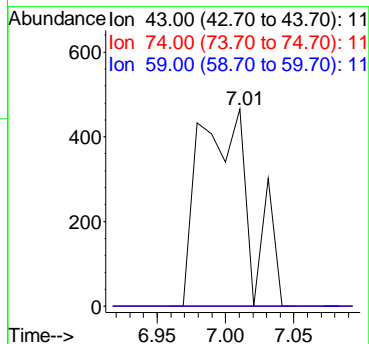
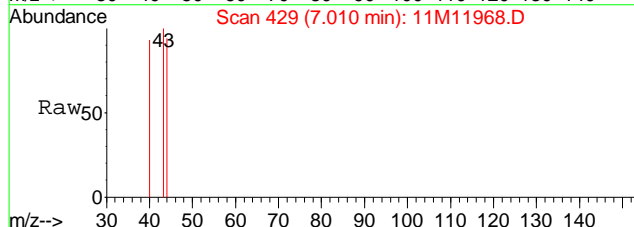
Tgt Ion	Ratio	Lower	Upper
61	100		
96	55.7	30.1	70.3





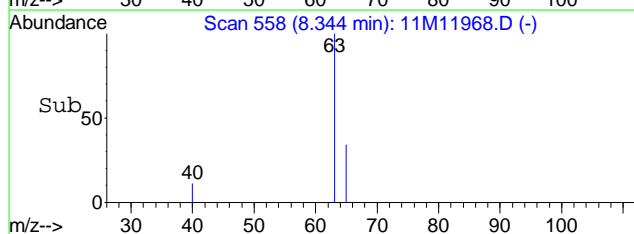
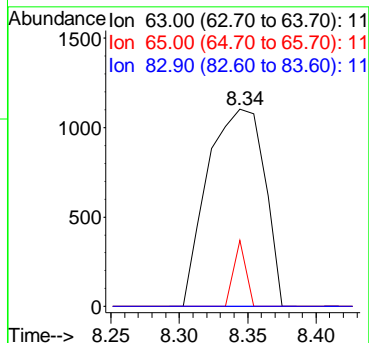
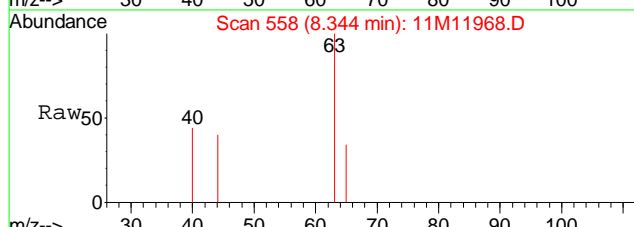
#18
Methyl acetate
Concen: Below Cal
RT: 7.01 min Scan# 429
Delta R.T. -0.05 min
Lab File: 11M11968.D
Acq: 19 May 2016 20:26

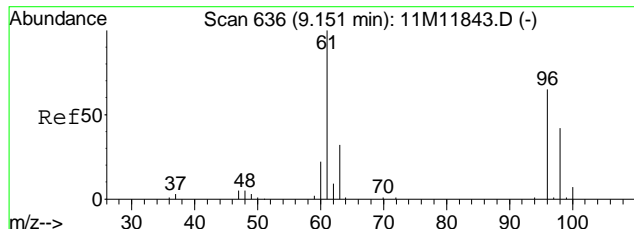
Tgt Ion	Ratio	Lower	Upper
43	100		
74	0.0	8.2	19.0#
59	0.0	3.9	9.1#



#27
1,1-Dichloroethane
Concen: 0.37 ug/L
RT: 8.34 min Scan# 558
Delta R.T. 0.00 min
Lab File: 11M11968.D
Acq: 19 May 2016 20:26

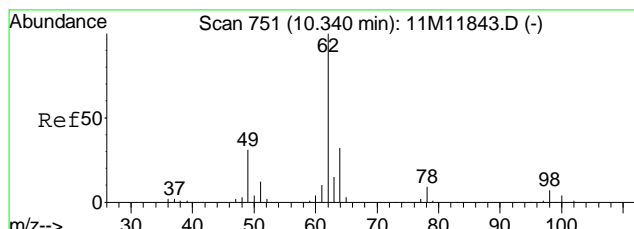
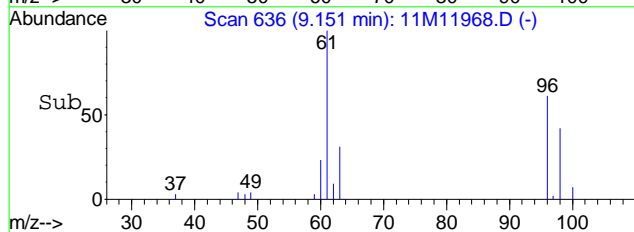
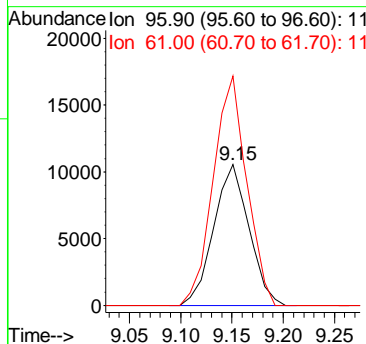
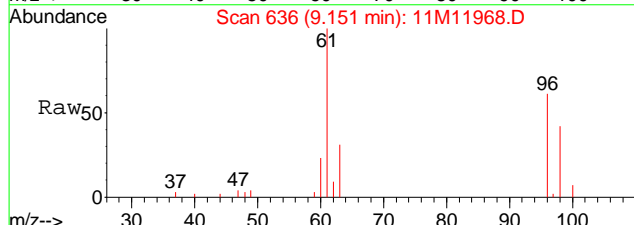
Tgt Ion	Ratio	Lower	Upper
63	100		
65	7.2	17.8	41.6#
83	0.0	7.4	17.4#





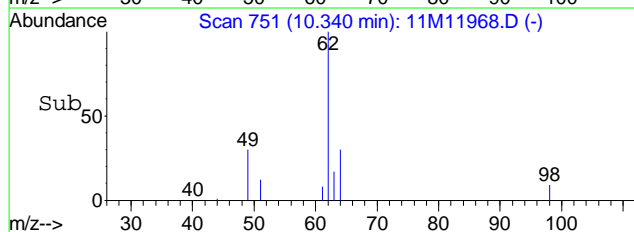
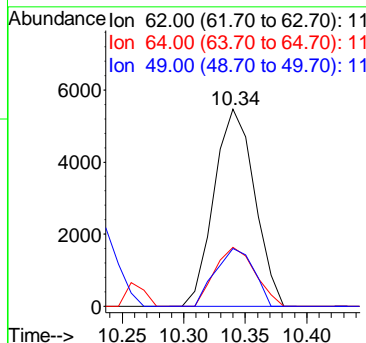
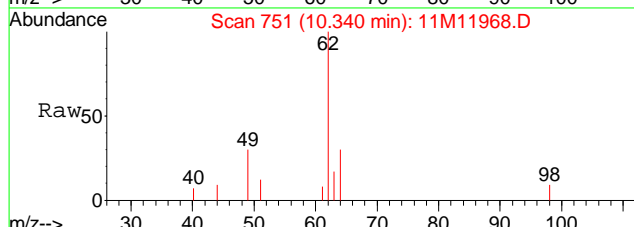
#32
 cis-1,2-Dichloroethene
 Concen: 5.35 ug/L
 RT: 9.15 min Scan# 636
 Delta R.T. 0.00 min
 Lab File: 11M11968.D
 Acq: 19 May 2016 20:26

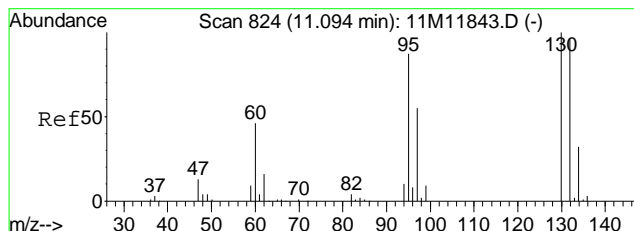
Tgt Ion	Resp	Lower	Upper
96	25212		
61	154.3	105.2	245.6



#44
 1,2-Dichloroethane
 Concen: 1.84 ug/L
 RT: 10.34 min Scan# 751
 Delta R.T. 0.00 min
 Lab File: 11M11968.D
 Acq: 19 May 2016 20:26

Tgt Ion	Resp	Lower	Upper
62	12548		
64	29.8	18.7	43.7
49	28.0	22.3	52.1

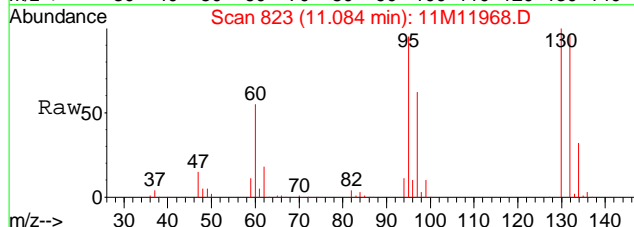




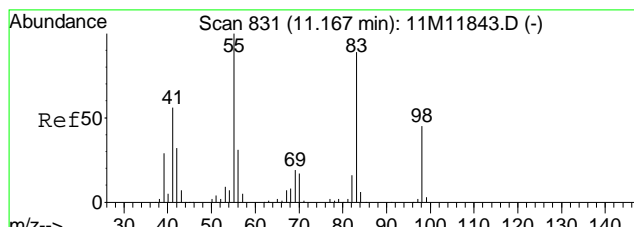
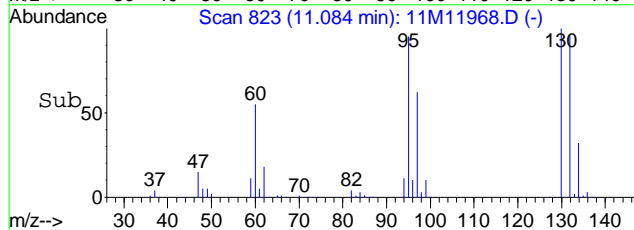
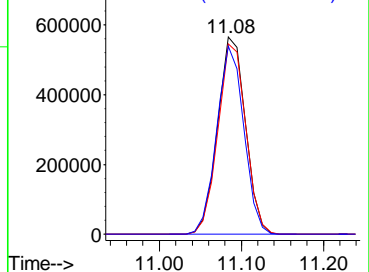
#46
 Trichloroethene
 Concen: 253.58 ug/L
 RT: 11.08 min Scan# 823
 Delta R.T. -0.01 min
 Lab File: 11M11968.D
 Acq: 19 May 2016 20:26

Tgt Ion: 130 Resp: 1334681

Ion	Ratio	Lower	Upper
130	100		
132	96.7	58.3	136.1
95	93.1	55.6	129.8



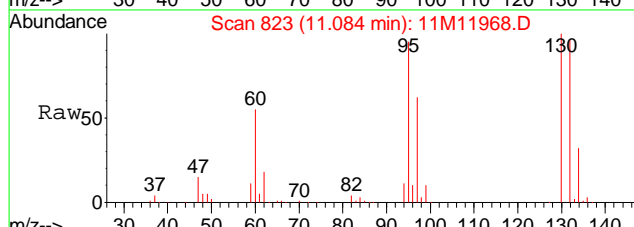
Abundance Ion 129.90 (129.60 to 130.60):
 Ion 131.90 (131.60 to 132.60):
 Ion 94.90 (94.60 to 95.60): 11



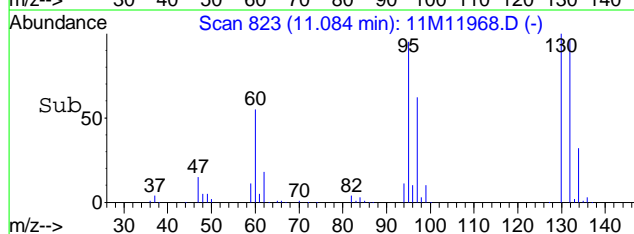
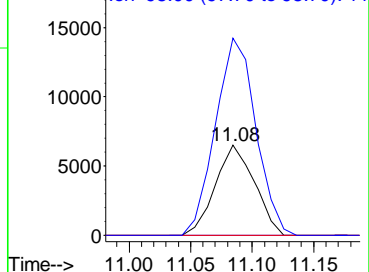
#47
 Methylcyclohexane
 Concen: 2.22 ug/L
 RT: 11.08 min Scan# 823
 Delta R.T. -0.08 min
 Lab File: 11M11968.D
 Acq: 19 May 2016 20:26

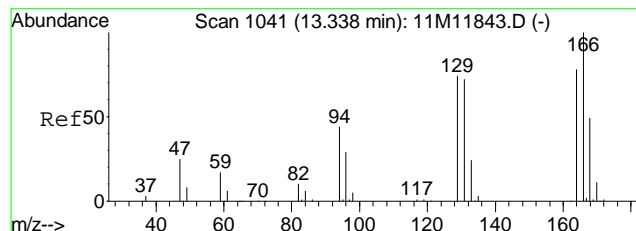
Tgt Ion: 83 Resp: 14447

Ion	Ratio	Lower	Upper
83	100		
55	0.0	66.5	155.1#
98	225.3	29.9	69.7#



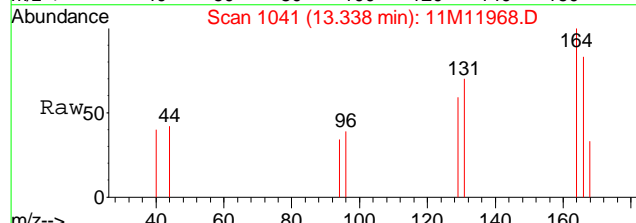
Abundance Ion 83.00 (82.70 to 83.70): 11
 Ion 55.00 (54.70 to 55.70): 11
 Ion 98.00 (97.70 to 98.70): 11



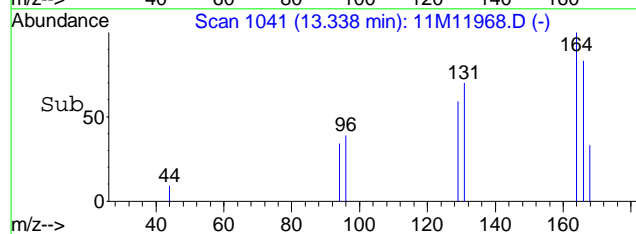
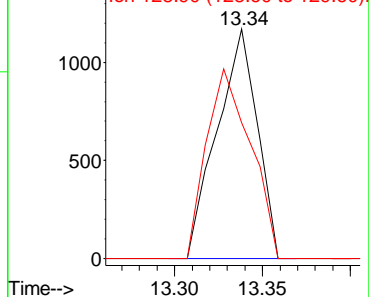


#64
 Tetrachloroethene
 Concen: 0.42 ug/L
 RT: 13.34 min Scan# 1041
 Delta R.T. 0.00 min
 Lab File: 11M11968.D
 Acq: 19 May 2016 20:26

Tgt Ion	Ratio	Lower	Upper
164	100		
129	90.4	57.9	135.1



Abundance Ion 163.80 (163.50 to 164.50):
 Ion 128.90 (128.60 to 129.60):



Data File : C:\MSDCHEM\1\DATA\051816\11M11941.D Vial: 15
 Acq On : 18 May 2016 21:56 Operator: JDS
 Sample : L16050571-05 A 826-LOW Inst : hpms11
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 19 13:32:56 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	412771	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	360431	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	211018	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.63	111	121772	26.9560	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	107.84%	
43) 1,2-Dichloroethane-d4	10.23	65	142296	27.6255	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	110.52%	
57) Toluene-d8	12.47	98	406854	25.9793	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	103.92%	
78) p-Bromofluorobenzene	15.64	95	163950	25.2043	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	100.80%	
Target Compounds						
						Qvalue
3) Chloromethane	3.71	50	1100	0.2124	ug/L	# 41
13) Acetone	6.34	43	917	0.9356	ug/L	# 49
18) Methyl acetate	7.01	43	1981	Below Cal		# 71
32) cis-1,2-Dichloroethene	9.14	96	1789	0.3880	ug/L	91
46) Trichloroethene	11.08	130	151879	29.4791	ug/L	98
47) Methylcyclohexane	11.08	83	1455	0.2288	ug/L	# 1

(#) = qualifier out of range (m) = manual integration
 11M11941.D 8260WT.M Thu May 19 13:32:57 2016

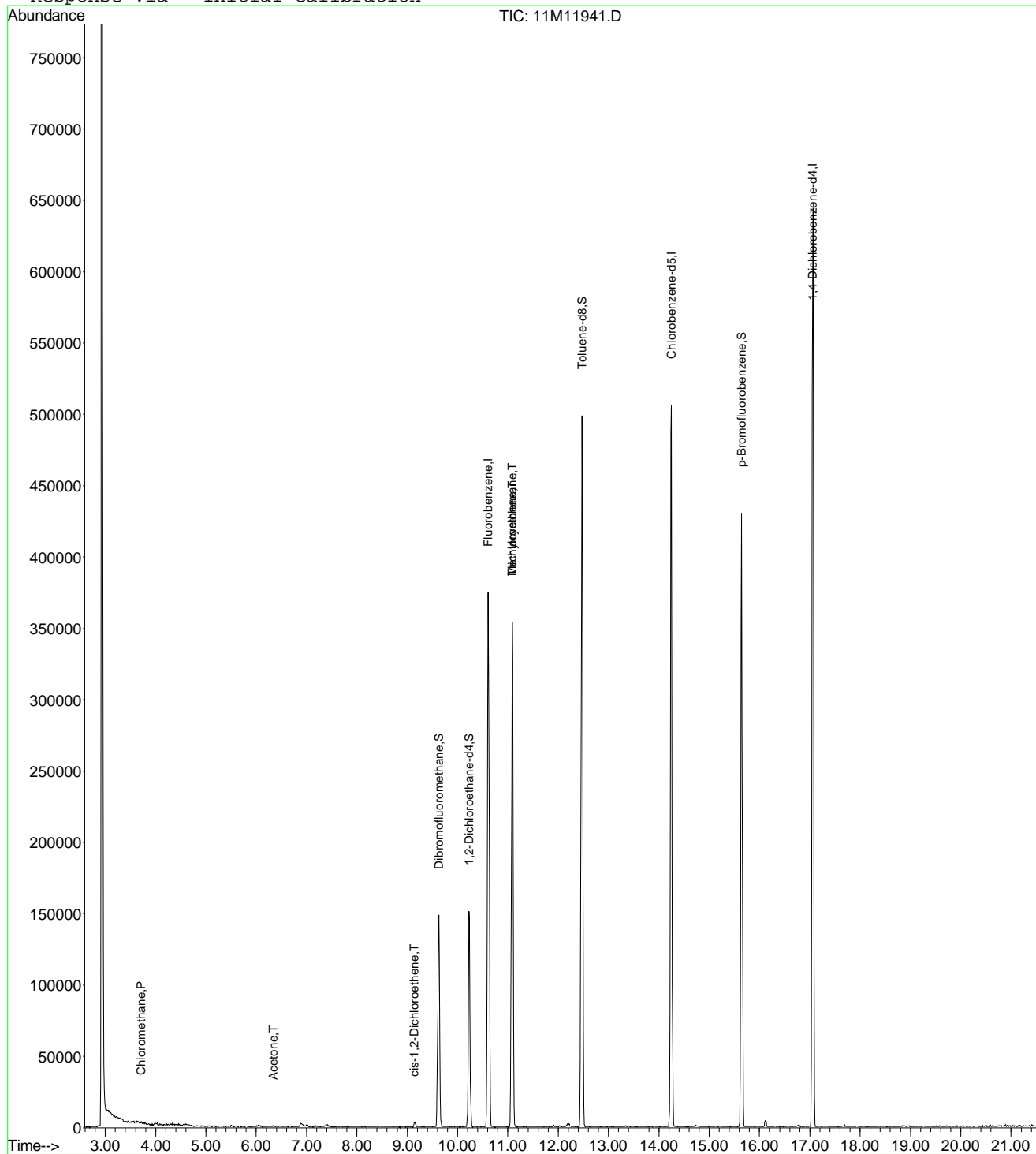
Page 1

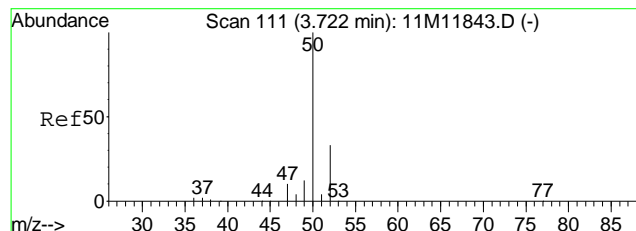
Data File : C:\MSDCHEM\1\DATA\051816\11M11941.D
 Acq On : 18 May 2016 21:56
 Sample : L16050571-05 A 826-LOW
 Misc : 1,1
 MS Integration Params: rteint.p
 Quant Time: May 19 13:32 2016

Vial: 15
 Operator: JDS
 Inst : hpms11
 Multiplr: 1.00

Quant Results File: 8260WT.RES

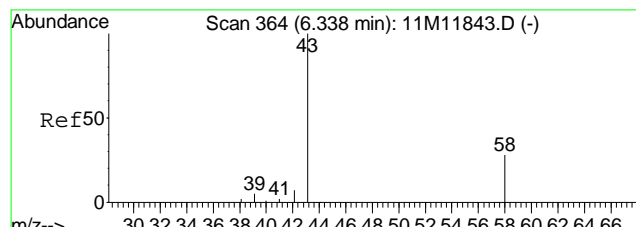
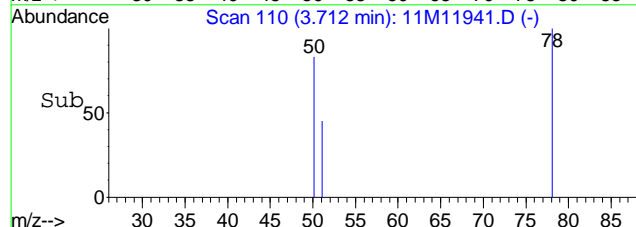
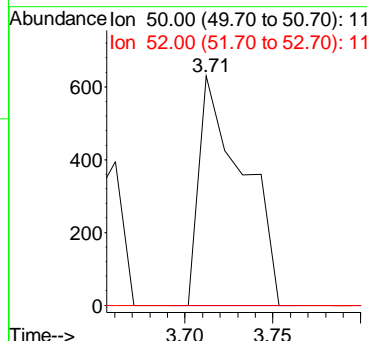
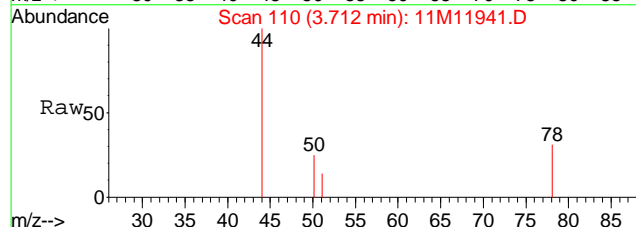
Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration





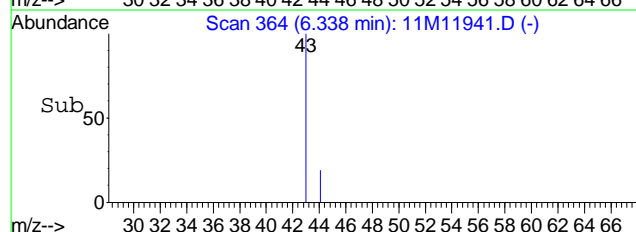
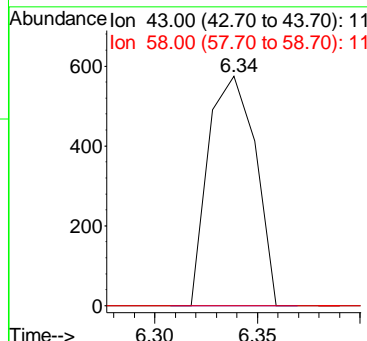
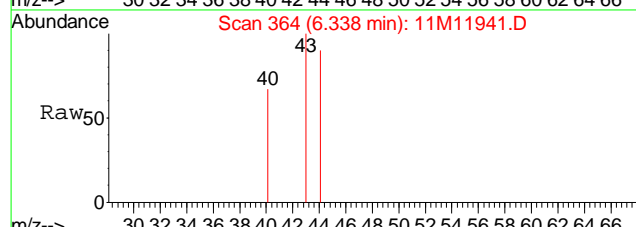
#3
 Chloromethane
 Concen: 0.21 ug/L
 RT: 3.71 min Scan# 110
 Delta R.T. -0.01 min
 Lab File: 11M11941.D
 Acq: 18 May 2016 21:56

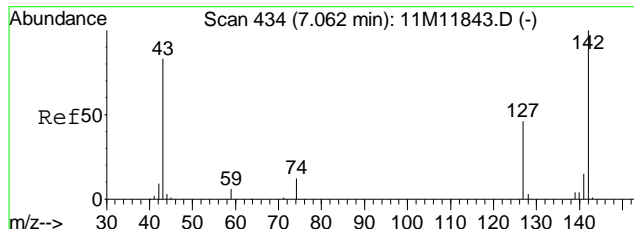
Tgt Ion	Resp	Ion	Ratio	Lower	Upper
50	1100	50	100		
52		52	0.0	20.0	46.6#



#13
 Acetone
 Concen: 0.94 ug/L
 RT: 6.34 min Scan# 364
 Delta R.T. 0.00 min
 Lab File: 11M11941.D
 Acq: 18 May 2016 21:56

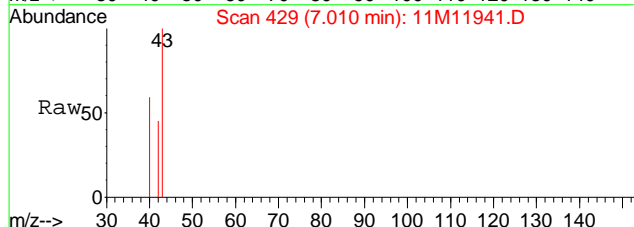
Tgt Ion	Resp	Ion	Ratio	Lower	Upper
43	917	43	100		
58		58	0.0	15.8	36.8#



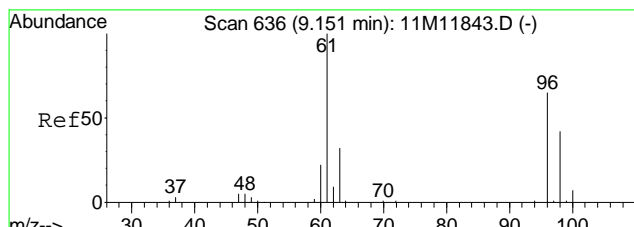
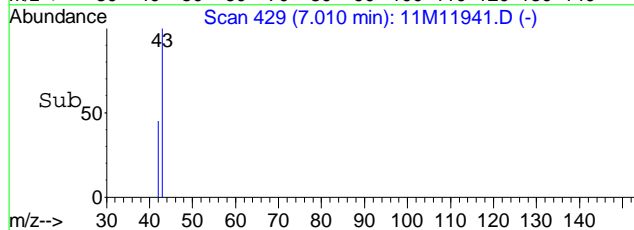
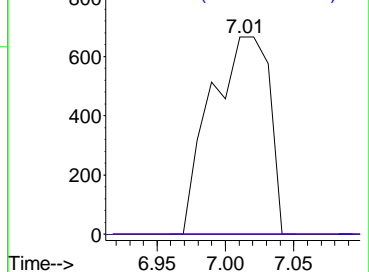


#18
Methyl acetate
Concen: Below Cal
RT: 7.01 min Scan# 429
Delta R.T. -0.05 min
Lab File: 11M11941.D
Acq: 18 May 2016 21:56

Tgt Ion	Ratio	Lower	Upper
43	100		
74	0.0	8.2	19.0#
59	0.0	3.9	9.1#

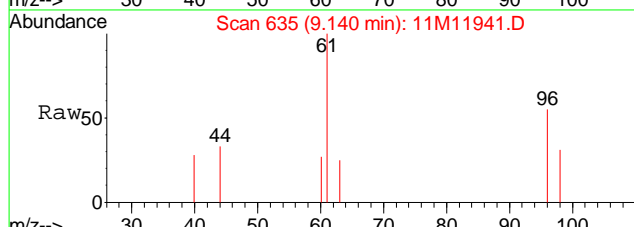


Abundance Ion 43.00 (42.70 to 43.70): 11
Ion 74.00 (73.70 to 74.70): 11
Ion 59.00 (58.70 to 59.70): 11

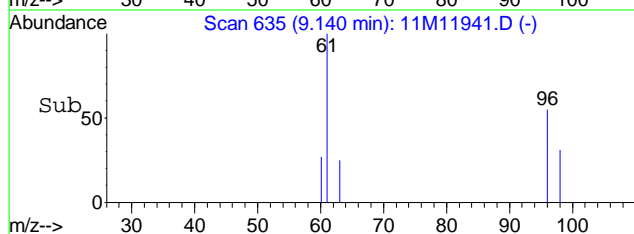
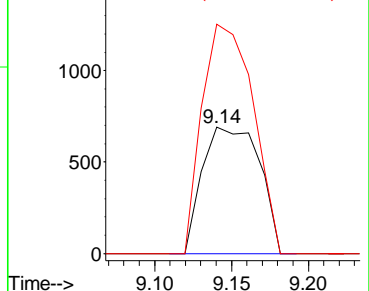


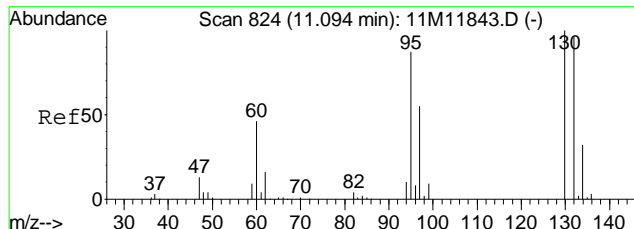
#32
cis-1,2-Dichloroethene
Concen: 0.39 ug/L
RT: 9.14 min Scan# 635
Delta R.T. -0.01 min
Lab File: 11M11941.D
Acq: 18 May 2016 21:56

Tgt Ion	Ratio	Lower	Upper
96	100		
61	162.2	105.2	245.6



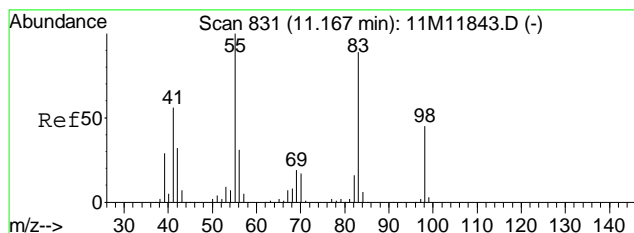
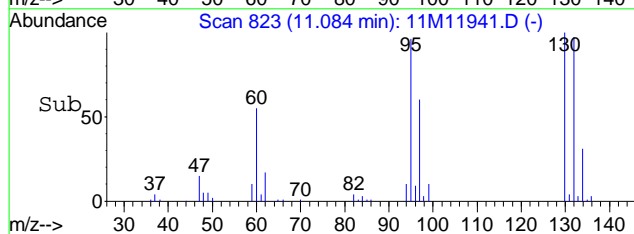
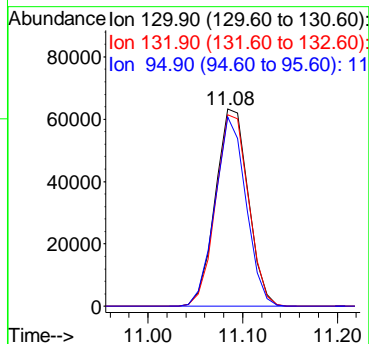
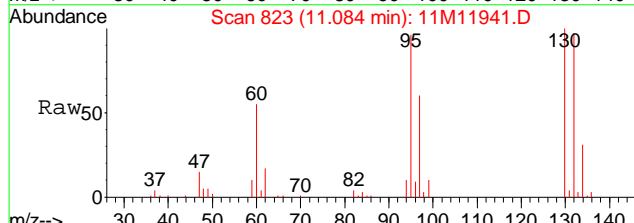
Abundance Ion 95.90 (95.60 to 96.60): 11
Ion 61.00 (60.70 to 61.70): 11





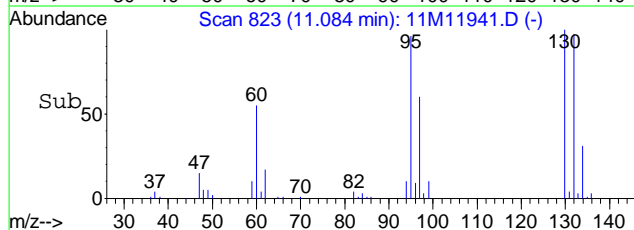
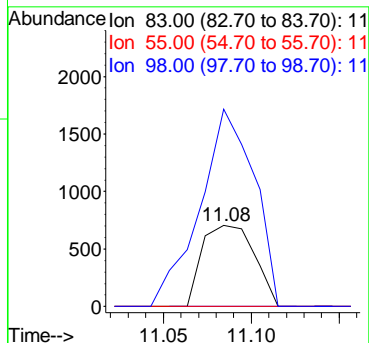
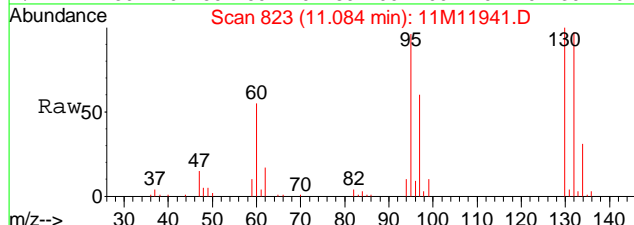
#46
 Trichloroethene
 Concen: 29.48 ug/L
 RT: 11.08 min Scan# 823
 Delta R.T. -0.01 min
 Lab File: 11M11941.D
 Acq: 18 May 2016 21:56

Tgt Ion	Ratio	Lower	Upper
130	100		
132	96.5	58.3	136.1
95	90.4	55.6	129.8



#47
 Methylcyclohexane
 Concen: 0.23 ug/L
 RT: 11.08 min Scan# 823
 Delta R.T. -0.08 min
 Lab File: 11M11941.D
 Acq: 18 May 2016 21:56

Tgt Ion	Ratio	Lower	Upper
83	100		
55	0.0	66.5	155.1#
98	253.7	29.9	69.7#



Data File : C:\MSDCHEM\1\DATA\051816\11M11942.D Vial: 16
 Acq On : 18 May 2016 22:28 Operator: JDS
 Sample : L16050571-07 A 826-LOW Inst : hpms11
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 19 13:32:58 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	397537	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	351362	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	208100	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.63	111	116722	26.8283	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	107.32%	
43) 1,2-Dichloroethane-d4	10.23	65	139475	28.1155	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	112.48%	
57) Toluene-d8	12.47	98	399048	26.1385	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	104.56%	
78) p-Bromofluorobenzene	15.64	95	161784	25.2201	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	100.88%	
Target Compounds						
						Qvalue
3) Chloromethane	3.73	50	1685	0.3378	ug/L	93
13) Acetone	6.34	43	735	0.7786	ug/L #	49
14) 1,1-Dichloroethene	6.56	61	53482	7.3488	ug/L	97
18) Methyl acetate	7.02	43	2234	Below Cal	#	71
27) 1,1-Dichloroethane	8.34	63	18236	2.2564	ug/L	97
32) cis-1,2-Dichloroethene	9.15	96	3465	0.7802	ug/L	82
33) Chloroform	9.35	83	1545	0.1947	ug/L #	54
44) 1,2-Dichloroethane	10.34	62	25310	3.9265	ug/L	89
46) Trichloroethene	11.09	130	2302592	464.0504	ug/L	99
47) Methylcyclohexane	11.08	83	25678	4.1932	ug/L #	1

(#) = qualifier out of range (m) = manual integration
 11M11942.D 8260WT.M Thu May 19 13:32:59 2016

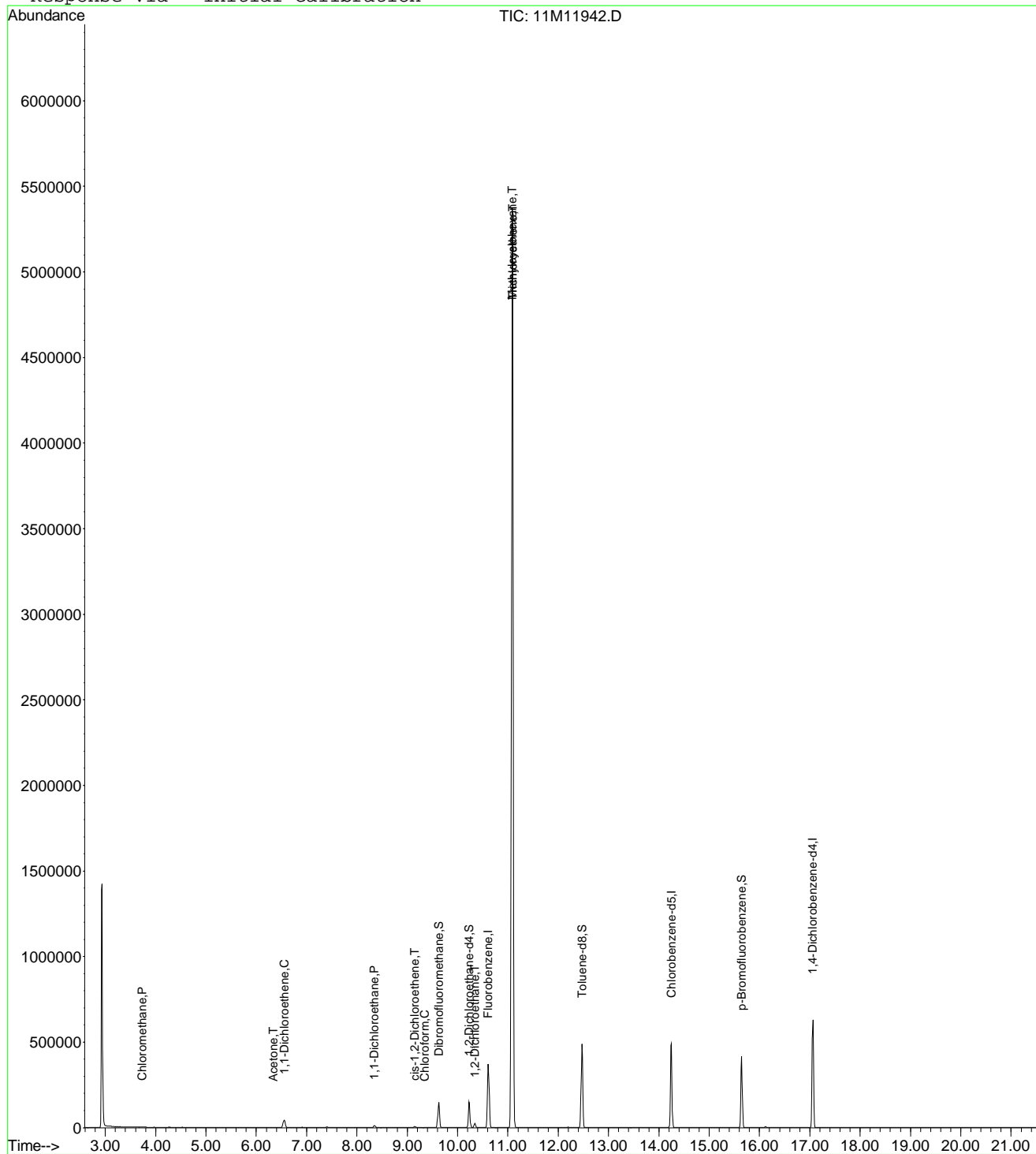
Page 1

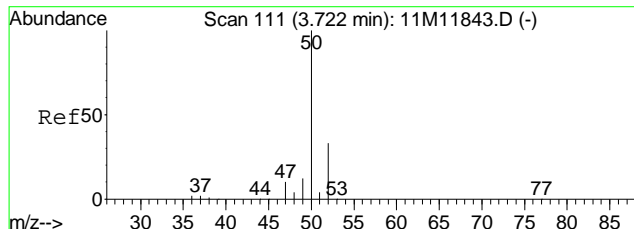
Data File : C:\MSDCHEM\1\DATA\051816\11M11942.D
 Acq On : 18 May 2016 22:28
 Sample : L16050571-07 A 826-LOW
 Misc : 1,1
 MS Integration Params: rteint.p
 Quant Time: May 19 13:32 2016

Vial: 16
 Operator: JDS
 Inst : hpms11
 Multiplr: 1.00

Quant Results File: 8260WT.RES

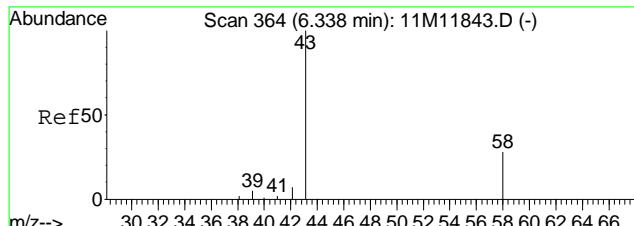
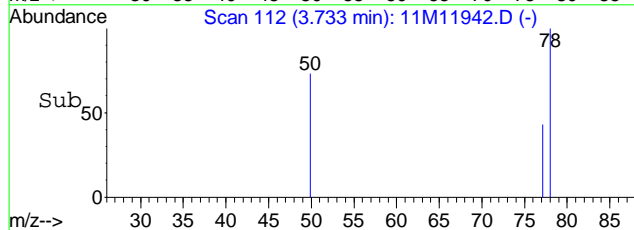
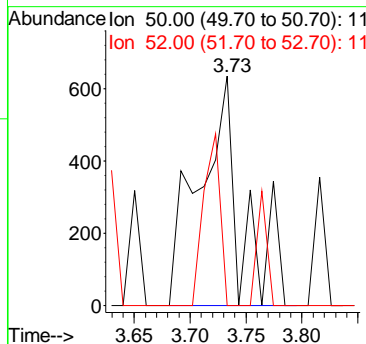
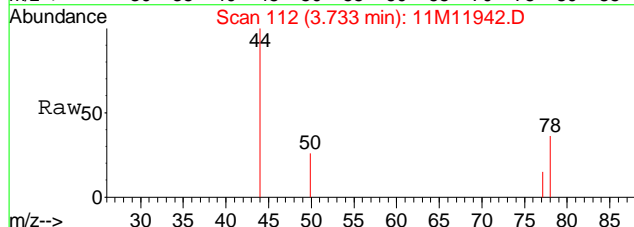
Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration





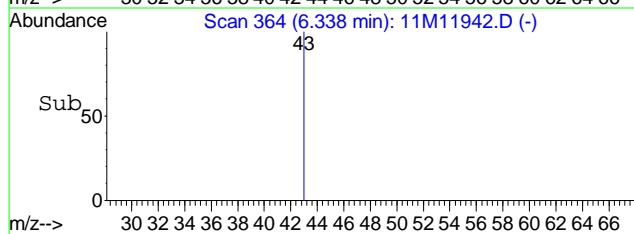
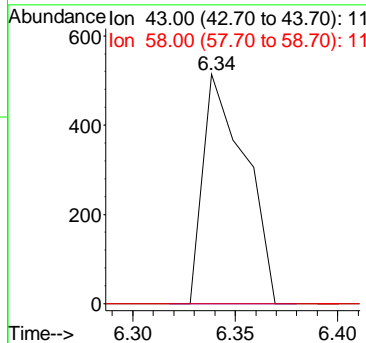
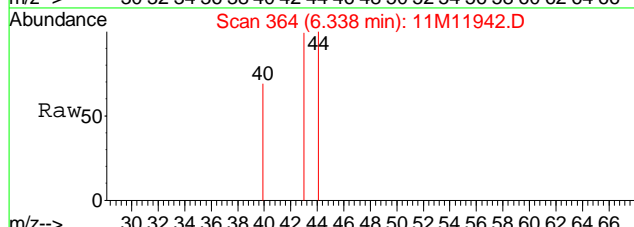
#3
 Chloromethane
 Concen: 0.34 ug/L
 RT: 3.73 min Scan# 112
 Delta R.T. 0.01 min
 Lab File: 11M11942.D
 Acq: 18 May 2016 22:28

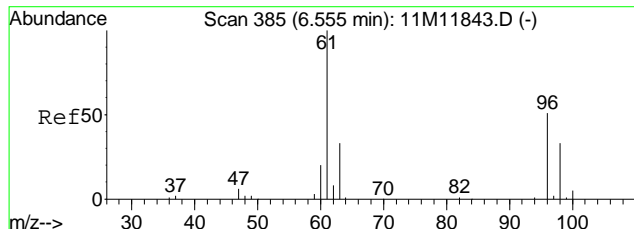
Tgt Ion	Resp	Lower	Upper
50	100		
52	29.3	20.0	46.6



#13
 Acetone
 Concen: 0.78 ug/L
 RT: 6.34 min Scan# 364
 Delta R.T. 0.00 min
 Lab File: 11M11942.D
 Acq: 18 May 2016 22:28

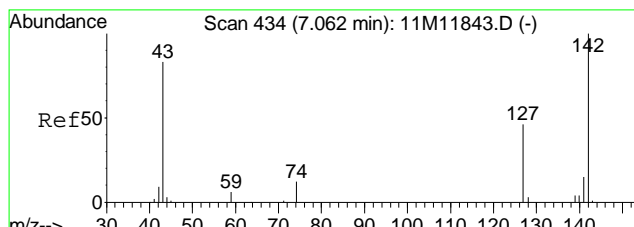
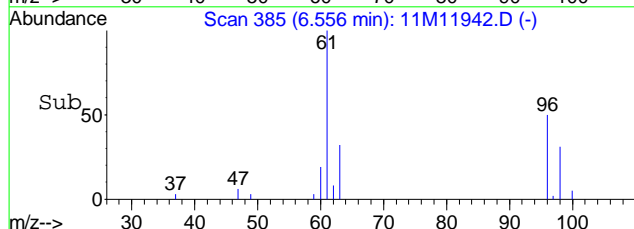
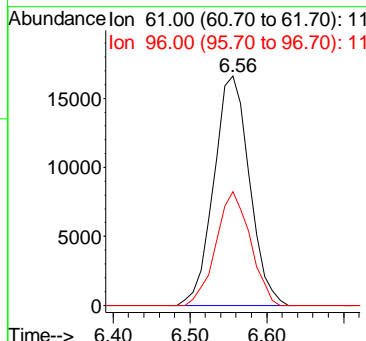
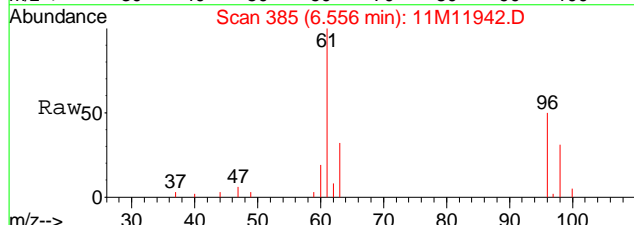
Tgt Ion	Resp	Lower	Upper
43	100		
58	0.0	15.8	36.8#





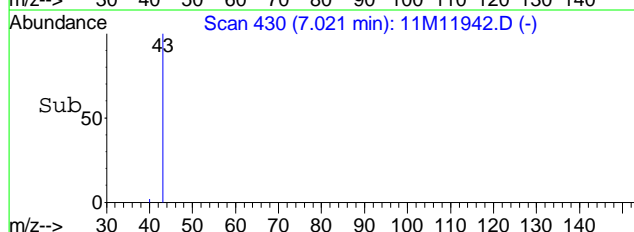
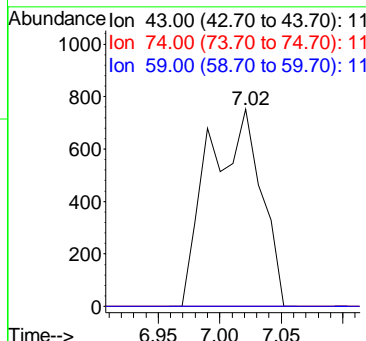
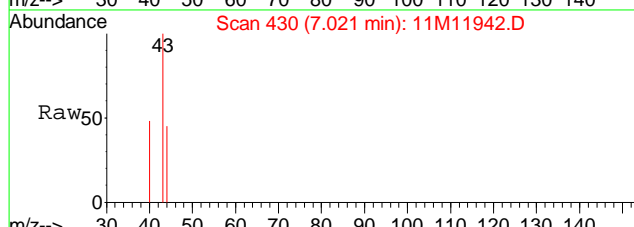
#14
 1,1-Dichloroethene
 Concen: 7.35 ug/L
 RT: 6.56 min Scan# 385
 Delta R.T. 0.00 min
 Lab File: 11M11942.D
 Acq: 18 May 2016 22:28

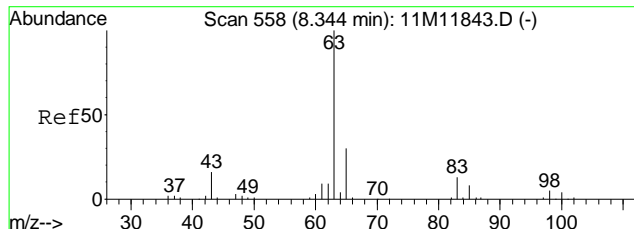
Tgt Ion	Resp	Lower	Upper
61	100		
96	47.8	30.1	70.3



#18
 Methyl acetate
 Concen: Below Cal
 RT: 7.02 min Scan# 430
 Delta R.T. -0.04 min
 Lab File: 11M11942.D
 Acq: 18 May 2016 22:28

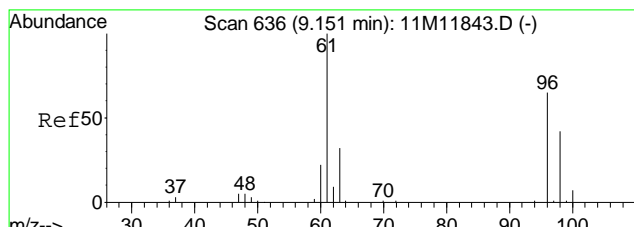
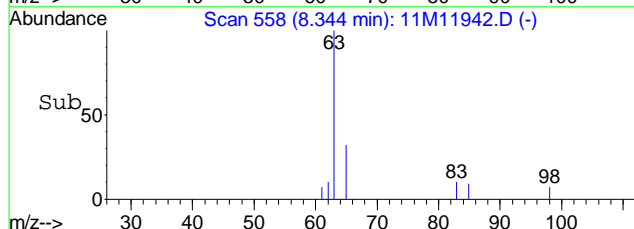
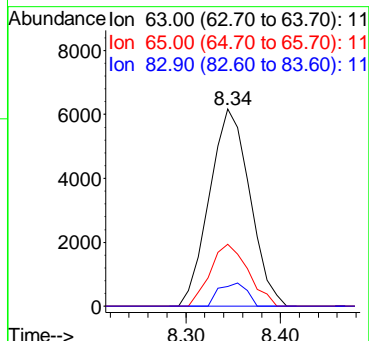
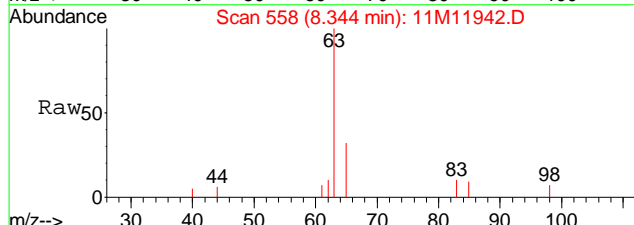
Tgt Ion	Resp	Lower	Upper
43	100		
74	0.0	8.2	19.0#
59	0.0	3.9	9.1#





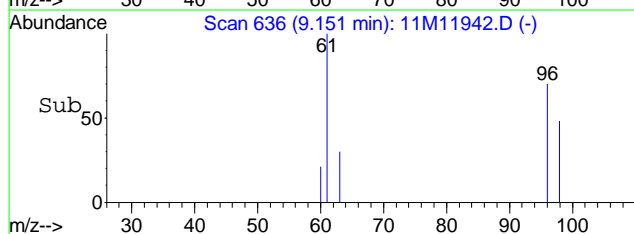
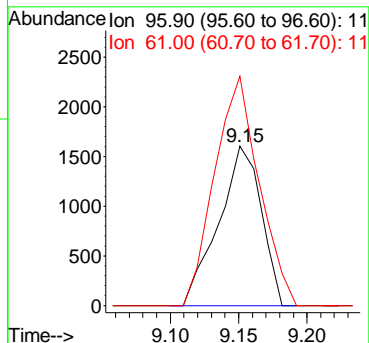
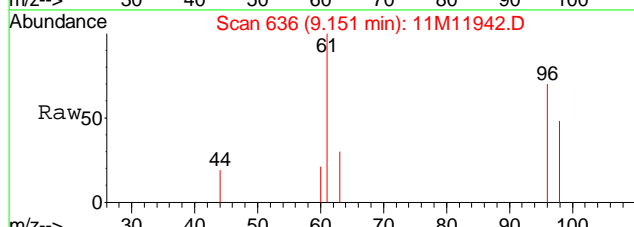
#27
 1,1-Dichloroethane
 Concen: 2.26 ug/L
 RT: 8.34 min Scan# 558
 Delta R.T. 0.00 min
 Lab File: 11M11942.D
 Acq: 18 May 2016 22:28

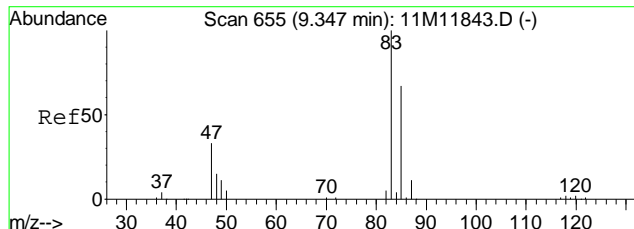
Tgt Ion	Resp	Lower	Upper
63	18236		
65	29.6	17.8	41.6
83	8.2	7.4	17.4



#32
 cis-1,2-Dichloroethene
 Concen: 0.78 ug/L
 RT: 9.15 min Scan# 636
 Delta R.T. 0.00 min
 Lab File: 11M11942.D
 Acq: 18 May 2016 22:28

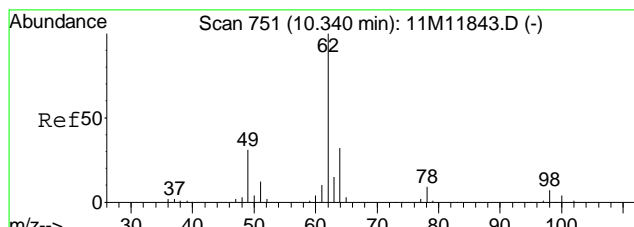
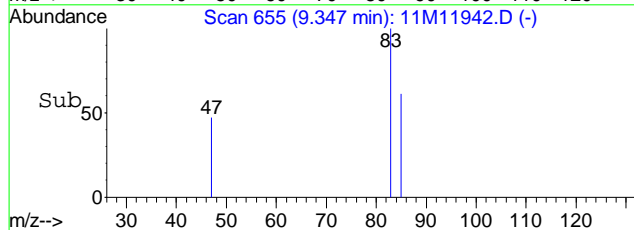
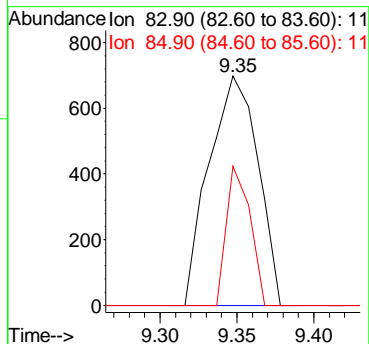
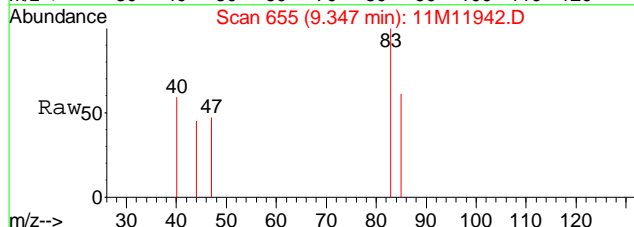
Tgt Ion	Resp	Lower	Upper
96	3465		
61	150.3	105.2	245.6





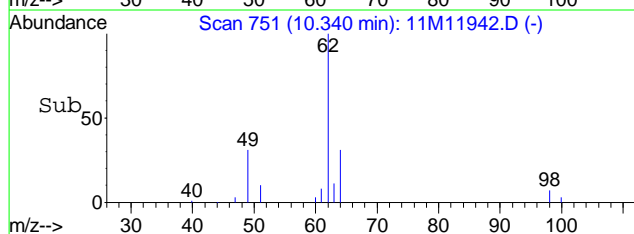
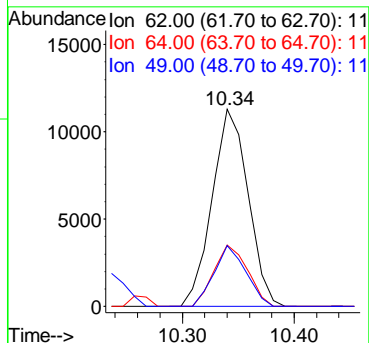
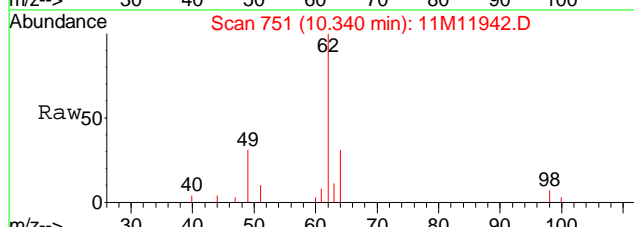
#33
 Chloroform
 Concen: 0.19 ug/L
 RT: 9.35 min Scan# 655
 Delta R.T. 0.00 min
 Lab File: 11M11942.D
 Acq: 18 May 2016 22:28

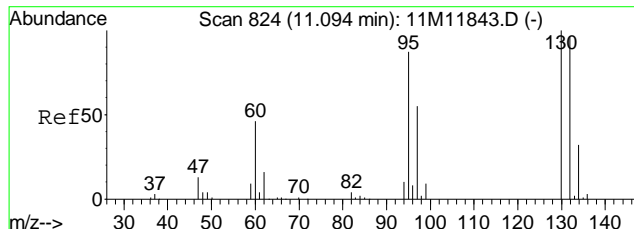
Tgt Ion	83	Resp	1545
Ion	Ratio	Lower	Upper
83	100		
85	29.3	39.2	91.4#



#44
 1,2-Dichloroethane
 Concen: 3.93 ug/L
 RT: 10.34 min Scan# 751
 Delta R.T. 0.00 min
 Lab File: 11M11942.D
 Acq: 18 May 2016 22:28

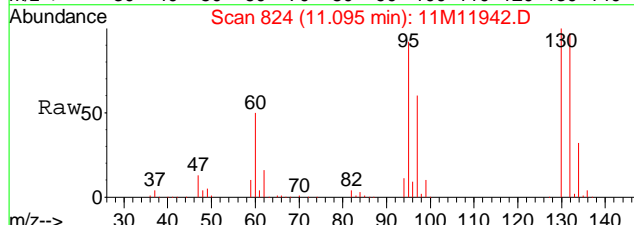
Tgt Ion	62	Resp	25310
Ion	Ratio	Lower	Upper
62	100		
64	29.2	18.7	43.7
49	27.4	22.3	52.1



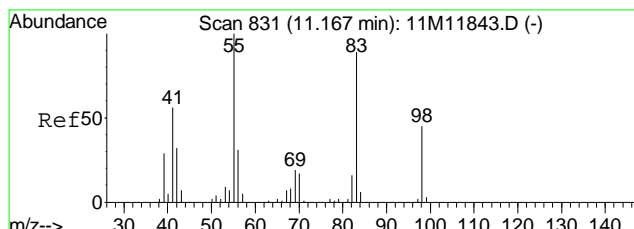
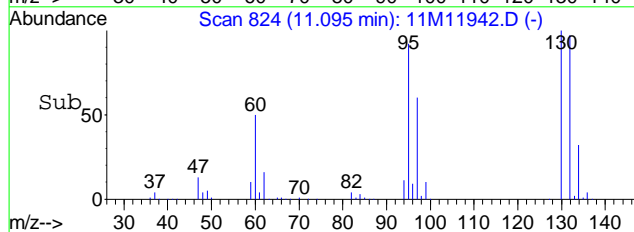
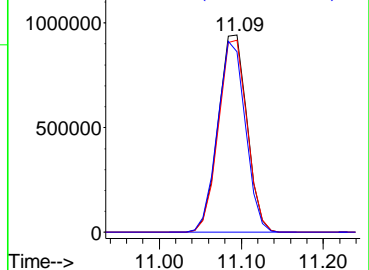


#46
 Trichloroethene
 Concen: 464.05 ug/L
 RT: 11.09 min Scan# 824
 Delta R.T. 0.00 min
 Lab File: 11M11942.D
 Acq: 18 May 2016 22:28

Tgt Ion	Resp	Lower	Upper
130	100		
132	96.7	58.3	136.1
95	93.9	55.6	129.8

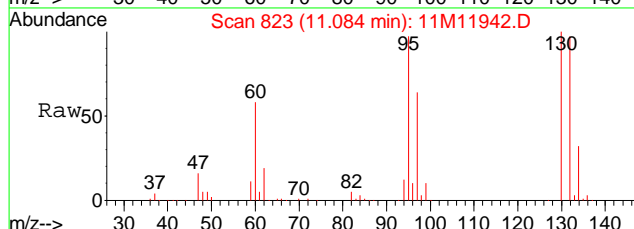


Abundance Ion 129.90 (129.60 to 130.60):
 Ion 131.90 (131.60 to 132.60):
 Ion 94.90 (94.60 to 95.60): 11

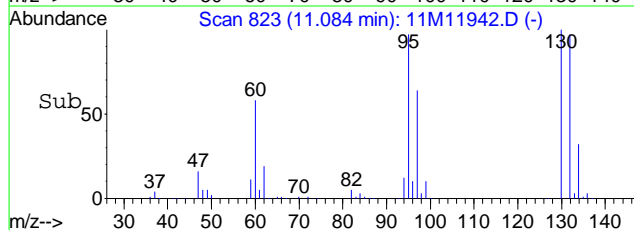
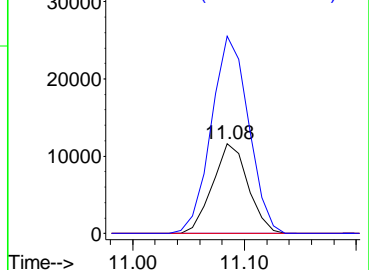


#47
 Methylcyclohexane
 Concen: 4.19 ug/L
 RT: 11.08 min Scan# 823
 Delta R.T. -0.08 min
 Lab File: 11M11942.D
 Acq: 18 May 2016 22:28

Tgt Ion	Resp	Lower	Upper
83	100		
55	0.0	66.5	155.1#
98	230.3	29.9	69.7#



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



Data File : C:\MSDCHEM\1\DATA\051916\11M11967.D Vial: 10
 Acq On : 19 May 2016 19:54 Operator: JDS
 Sample : L16050571-07 B D1 10X 826-LOW Inst : hpms11
 Misc : 1,10 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 23 17:11:43 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	416604	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	367023	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	214091	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.63	111	121502	26.6488	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	106.60%	
43) 1,2-Dichloroethane-d4	10.23	65	142334	27.3787	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	109.52%	
57) Toluene-d8	12.47	98	411080	25.7776	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	103.12%	
78) p-Bromofluorobenzene	15.64	95	166780	25.2713	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	101.08%	
Target Compounds						
14) 1,1-Dichloroethene	6.55	61	4578	0.6003	ug/L	84
18) Methyl acetate	6.99	43	1920	Below Cal	#	71
20) Carbon Disulfide	7.36	76	5201	0.4073	ug/L #	75
27) 1,1-Dichloroethane	8.34	63	1232	0.1455	ug/L #	52
44) 1,2-Dichloroethane	10.34	62	2184	0.3233	ug/L #	57
46) Trichloroethene	11.08	130	217011	41.7334	ug/L	99
47) Methylcyclohexane	11.08	83	2109	0.3286	ug/L #	1
68) Chlorobenzene	14.29	112	3054	0.2244	ug/L #	54
98) Naphthalene	19.85	128	4089	0.2630	ug/L #	67

(#) = qualifier out of range (m) = manual integration
 11M11967.D 8260WT.M Mon May 23 17:11:44 2016

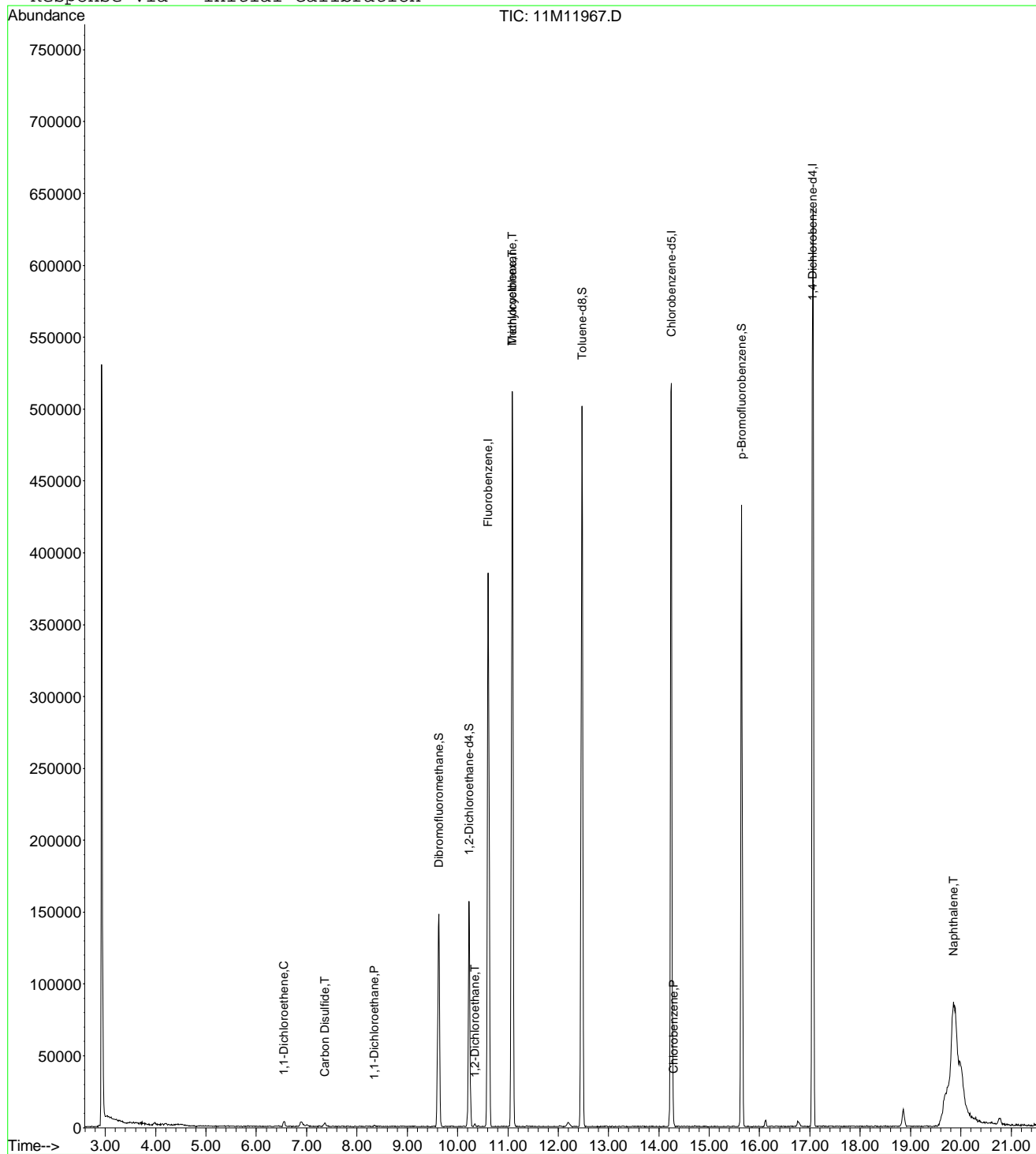
Page 1

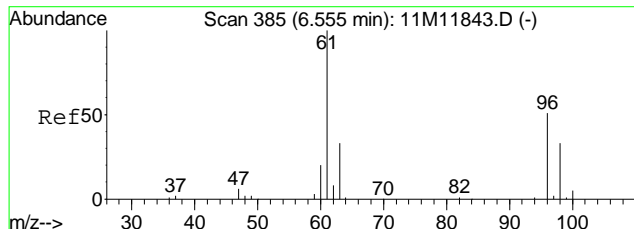
Data File : C:\MSDCHEM\1\DATA\051916\11M11967.D
 Acq On : 19 May 2016 19:54
 Sample : L16050571-07 B D1 10X 826-LOW
 Misc : 1,10
 MS Integration Params: rteint.p
 Quant Time: May 23 17:11 2016

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

Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration

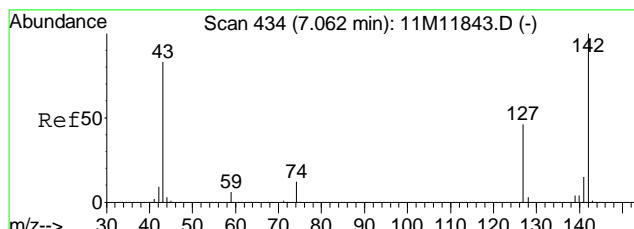
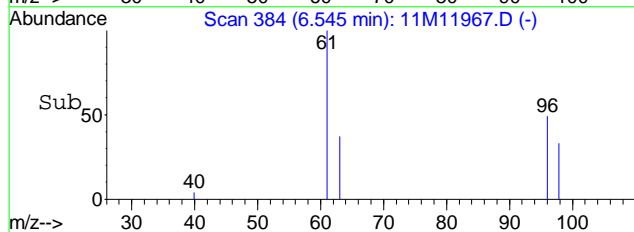
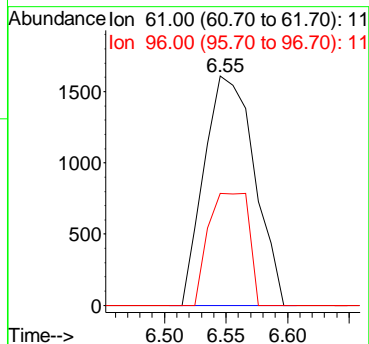
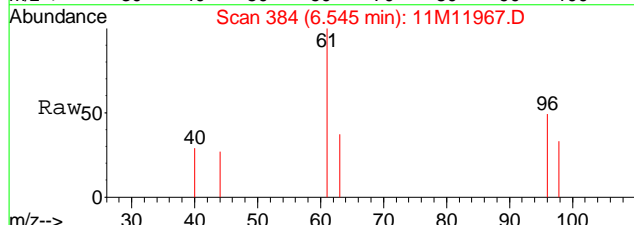




#14
 1,1-Dichloroethene
 Concen: 0.60 ug/L
 RT: 6.55 min Scan# 384
 Delta R.T. -0.01 min
 Lab File: 11M11967.D
 Acq: 19 May 2016 19:54

Tgt Ion: 61 Resp: 4578

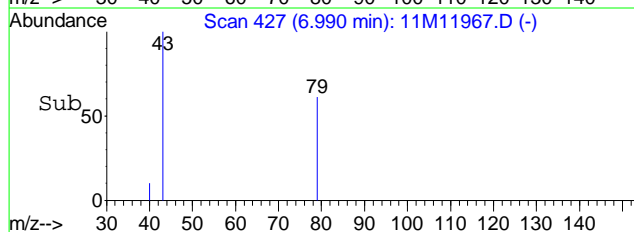
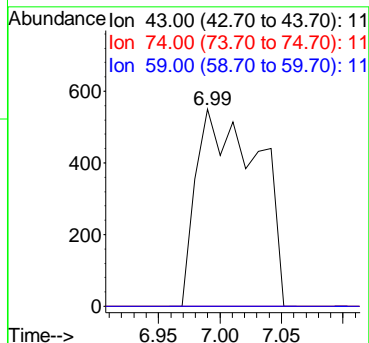
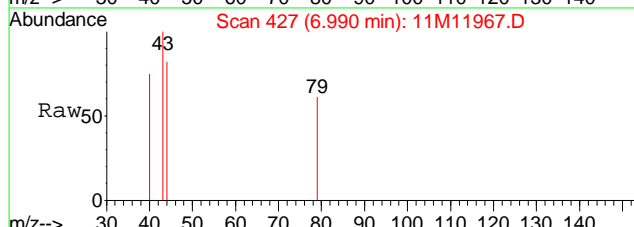
Ion	Ratio	Lower	Upper
61	100		
96	39.3	30.1	70.3

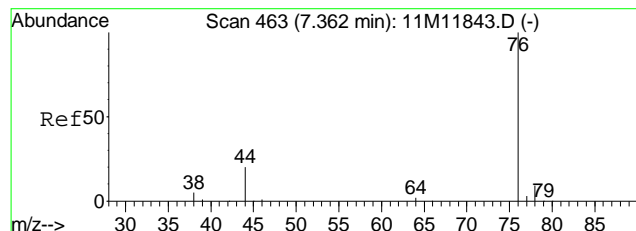


#18
 Methyl acetate
 Concen: Below Cal
 RT: 6.99 min Scan# 427
 Delta R.T. -0.07 min
 Lab File: 11M11967.D
 Acq: 19 May 2016 19:54

Tgt Ion: 43 Resp: 1920

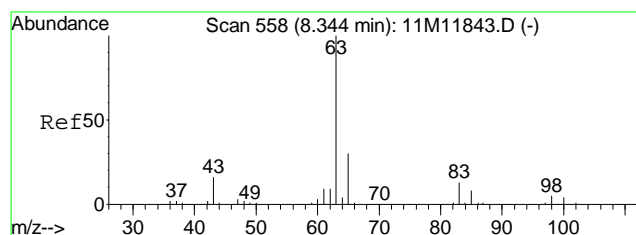
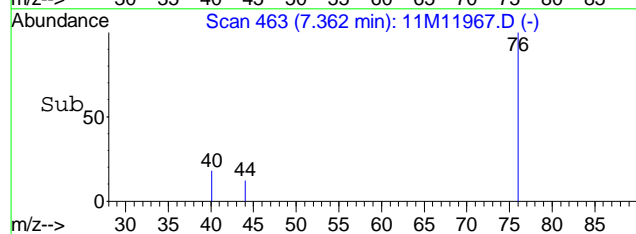
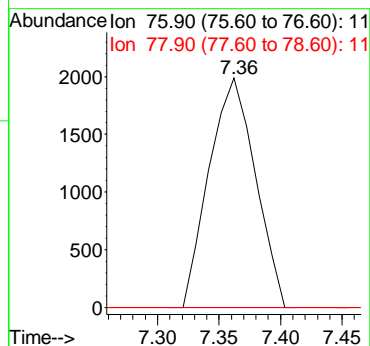
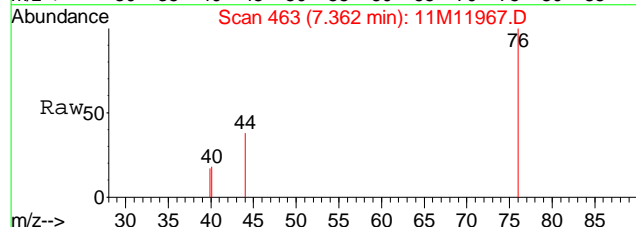
Ion	Ratio	Lower	Upper
43	100		
74	0.0	8.2	19.0#
59	0.0	3.9	9.1#





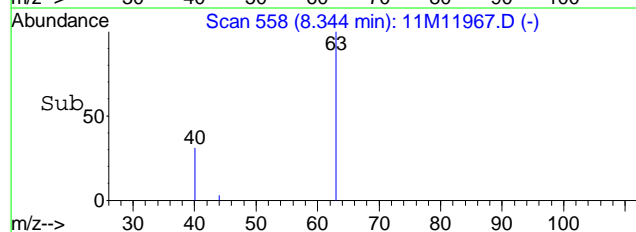
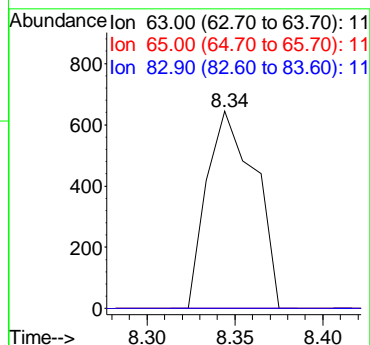
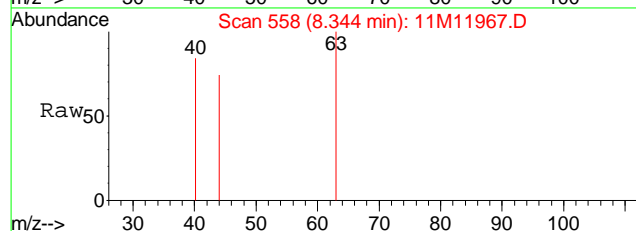
#20
Carbon Disulfide
Concen: 0.41 ug/L
RT: 7.36 min Scan# 463
Delta R.T. -0.00 min
Lab File: 11M11967.D
Acq: 19 May 2016 19:54

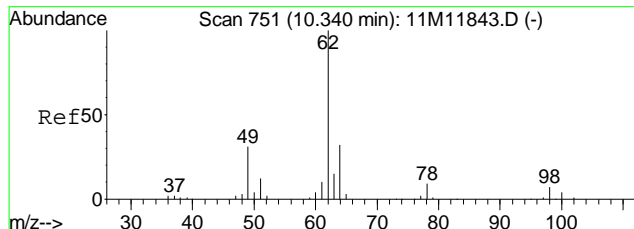
Tgt Ion: 76 Resp: 5201
Ion Ratio Lower Upper
76 100
78 0.0 5.5 12.9#



#27
1,1-Dichloroethane
Concen: 0.15 ug/L
RT: 8.34 min Scan# 558
Delta R.T. -0.00 min
Lab File: 11M11967.D
Acq: 19 May 2016 19:54

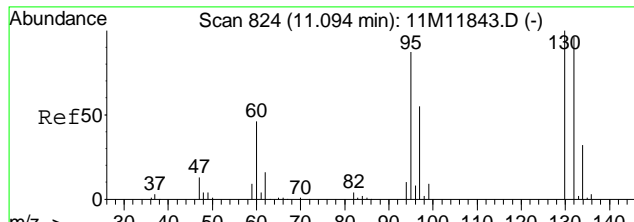
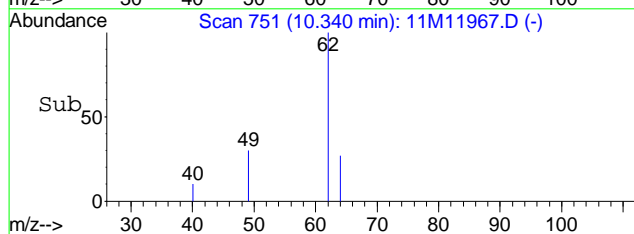
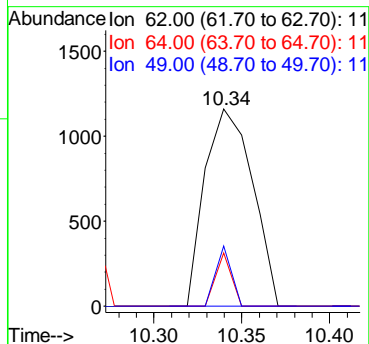
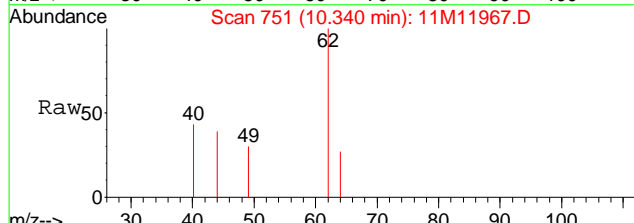
Tgt Ion: 63 Resp: 1232
Ion Ratio Lower Upper
63 100
65 0.0 17.8 41.6#
83 0.0 7.4 17.4#





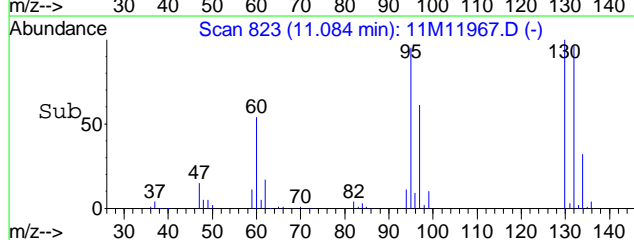
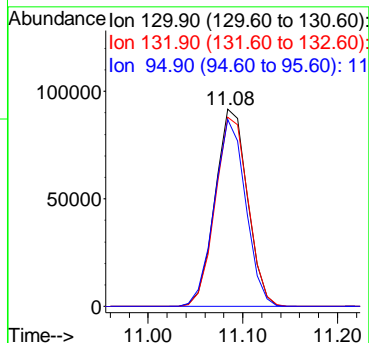
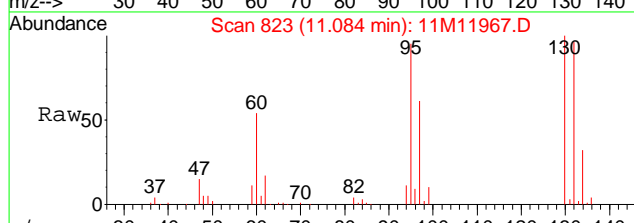
#44
 1,2-Dichloroethane
 Concen: 0.32 ug/L
 RT: 10.34 min Scan# 751
 Delta R.T. -0.00 min
 Lab File: 11M11967.D
 Acq: 19 May 2016 19:54

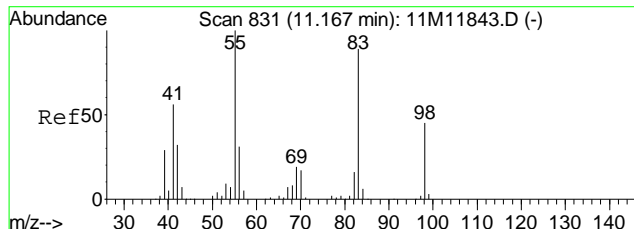
Tgt Ion	Ratio	Lower	Upper
62	100		
64	8.9	18.7	43.7#
49	10.1	22.3	52.1#



#46
 Trichloroethene
 Concen: 41.73 ug/L
 RT: 11.08 min Scan# 823
 Delta R.T. -0.01 min
 Lab File: 11M11967.D
 Acq: 19 May 2016 19:54

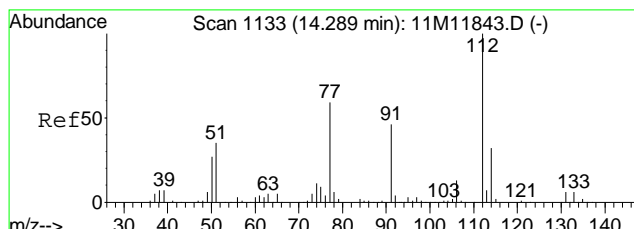
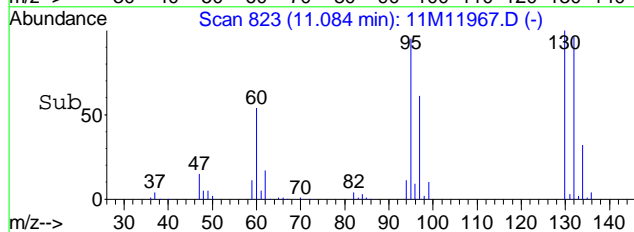
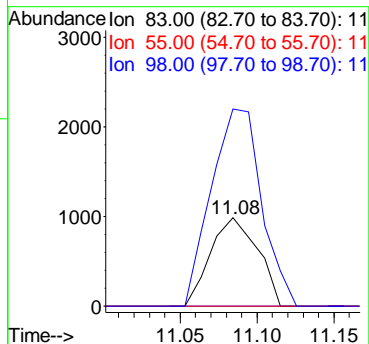
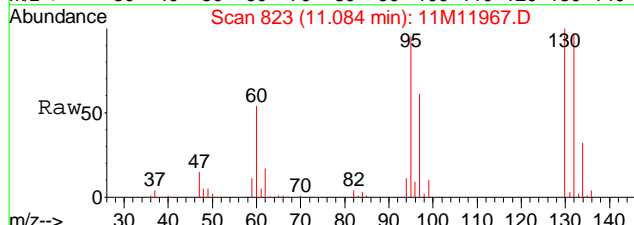
Tgt Ion	Ratio	Lower	Upper
130	100		
132	96.9	58.3	136.1
95	91.9	55.6	129.8





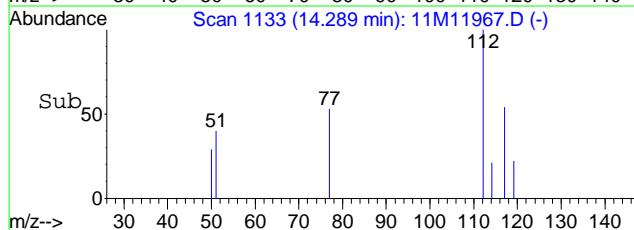
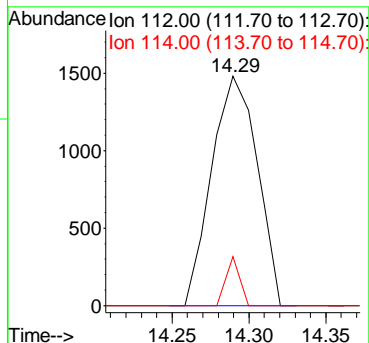
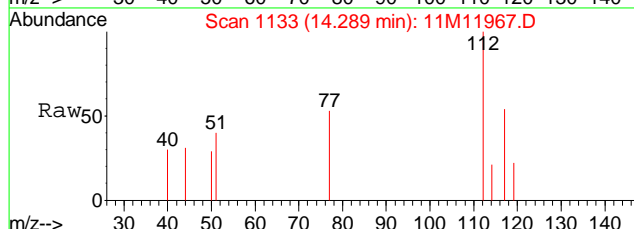
#47
Methylcyclohexane
Concen: 0.33 ug/L
RT: 11.08 min Scan# 823
Delta R.T. -0.08 min
Lab File: 11M11967.D
Acq: 19 May 2016 19:54

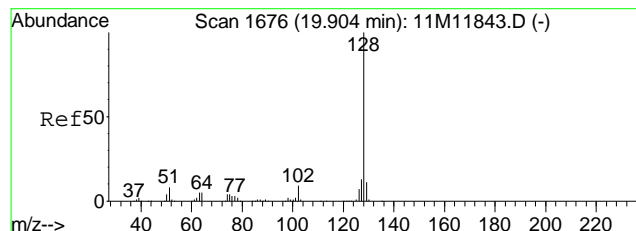
Tgt Ion	Ratio	Lower	Upper
83	100		
55	0.0	66.5	155.1#
98	237.3	29.9	69.7#



#68
Chlorobenzene
Concen: 0.22 ug/L
RT: 14.29 min Scan# 1133
Delta R.T. -0.00 min
Lab File: 11M11967.D
Acq: 19 May 2016 19:54

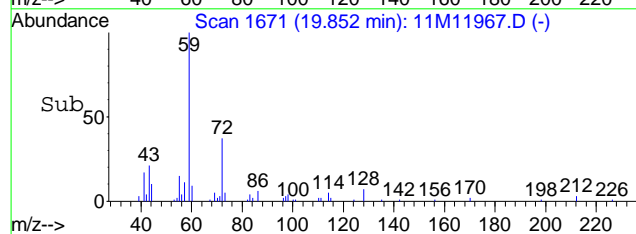
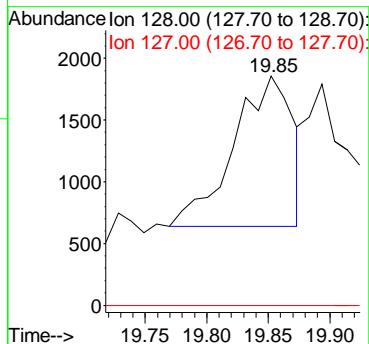
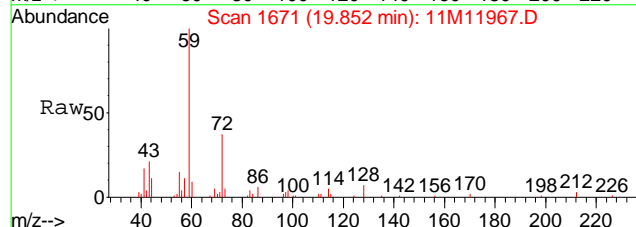
Tgt Ion	Ratio	Lower	Upper
112	100		
114	6.5	19.4	45.4#





#98
 Naphthalene
 Concen: 0.26 ug/L
 RT: 19.85 min Scan# 1671
 Delta R.T. -0.05 min
 Lab File: 11M11967.D
 Acq: 19 May 2016 19:54

Tgt Ion	Ratio	Lower	Upper
128	100		
127	0.0	11.7	14.3#



Data File : C:\MSDCHEM\1\DATA\052016\11M11995.D Vial: 12
 Acq On : 20 May 2016 21:06 Operator: JDS
 Sample : L16050571-09 C A1 826-LOW Inst : hpms11
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 24 16:49:47 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	365037	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	328468	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	193973	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.63	111	109884	27.5052	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	110.04%	
43) 1,2-Dichloroethane-d4	10.23	65	131791	28.9319	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	115.72%	
57) Toluene-d8	12.47	98	362237	25.3811	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	101.52%	
78) p-Bromofluorobenzene	15.64	95	148670	24.8636	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	99.44%	
Target Compounds						
13) Acetone	6.35	43	507	0.5849	ug/L #	49
18) Methyl acetate	7.01	43	244	Below Cal	#	71

(#) = qualifier out of range (m) = manual integration
 11M11995.D 8260WT.M Tue May 24 16:49:48 2016

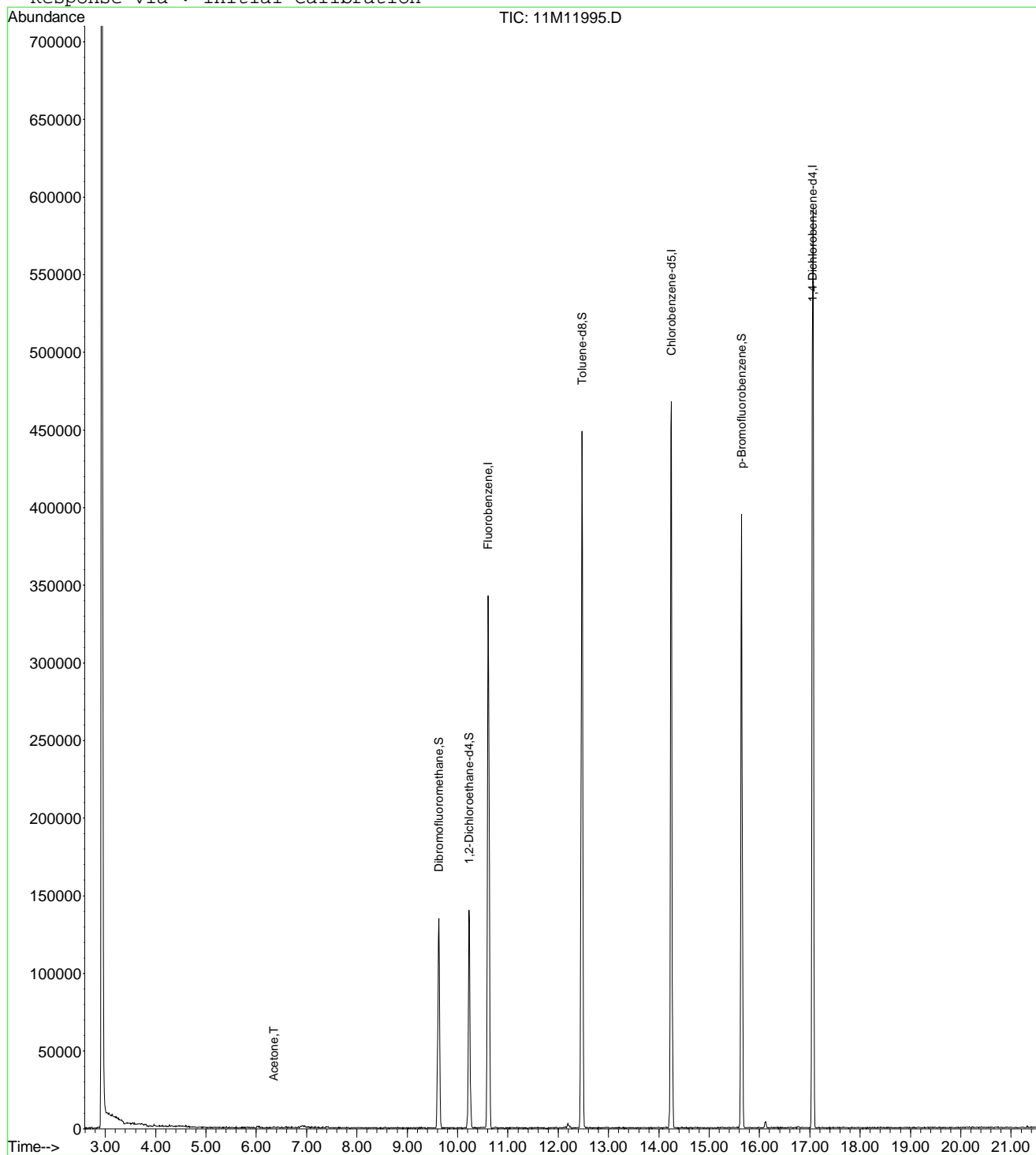
Page 1

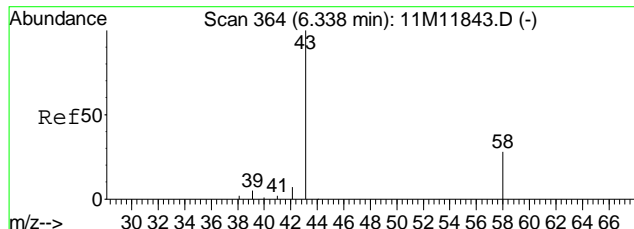
Data File : C:\MSDCHEM\1\DATA\052016\11M11995.D
 Acq On : 20 May 2016 21:06
 Sample : L16050571-09 C A1 826-LOW
 Misc : 1,1
 MS Integration Params: rteint.p
 Quant Time: May 24 16:49 2016

Vial: 12
 Operator: JDS
 Inst : hpms11
 Multiplr: 1.00

Quant Results File: 8260WT.RES

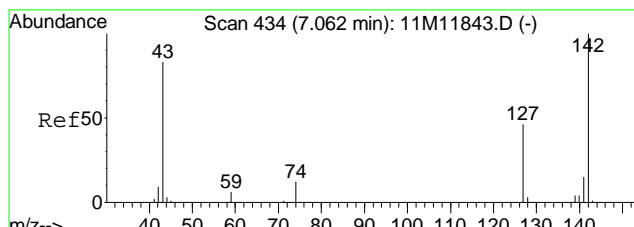
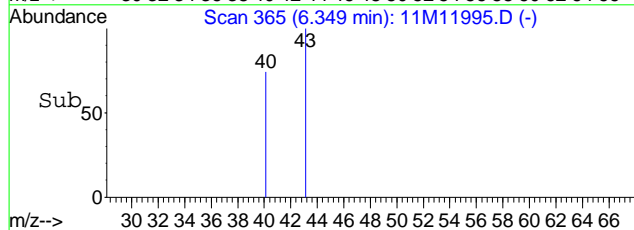
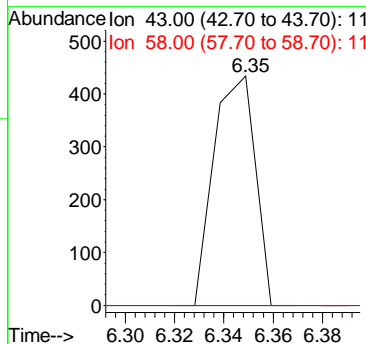
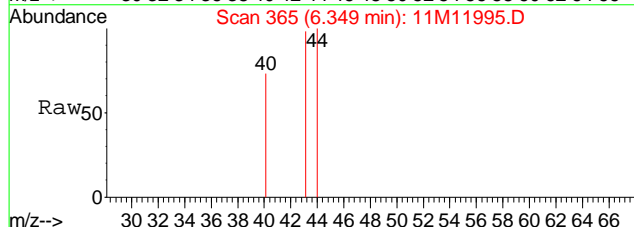
Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration





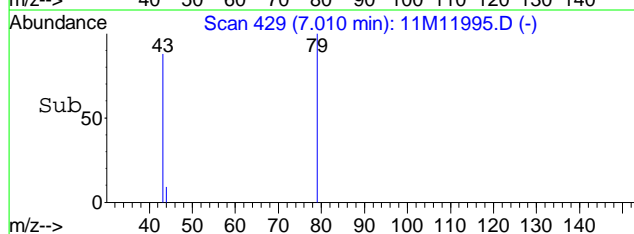
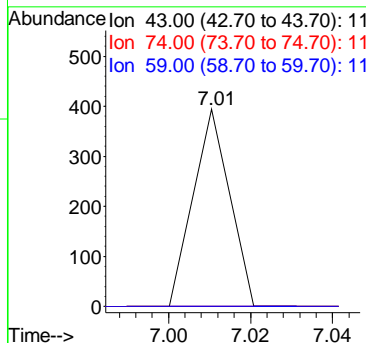
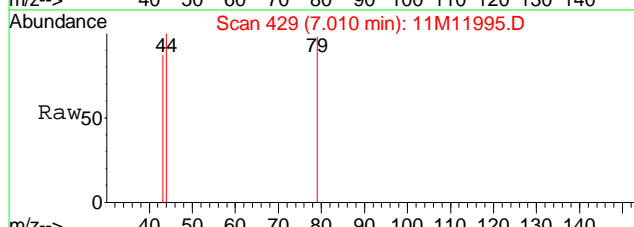
#13
 Acetone
 Concen: 0.58 ug/L
 RT: 6.35 min Scan# 365
 Delta R.T. 0.01 min
 Lab File: 11M11995.D
 Acq: 20 May 2016 21:06

Tgt Ion	Ratio	Lower	Upper
43	100		
58	0.0	15.8	36.8#



#18
 Methyl acetate
 Concen: Below Cal
 RT: 7.01 min Scan# 429
 Delta R.T. -0.05 min
 Lab File: 11M11995.D
 Acq: 20 May 2016 21:06

Tgt Ion	Ratio	Lower	Upper
43	100		
74	0.0	8.2	19.0#
59	0.0	3.9	9.1#



Data File : C:\MSDCHEM\1\DATA\051816\11M11944.D Vial: 18
 Acq On : 18 May 2016 23:31 Operator: JDS
 Sample : L16050571-11 A 826-LOW Inst : hpms11
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 19 13:33:03 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	395764	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	349040	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	202724	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.63	111	118636	27.3903	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	109.56%	
43) 1,2-Dichloroethane-d4	10.23	65	139696	28.2862	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	113.16%	
57) Toluene-d8	12.47	98	384105	25.3271	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	101.32%	
78) p-Bromofluorobenzene	15.64	95	157752	25.2437	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	100.96%	
Target Compounds						
3) Chloromethane	3.71	50	612	0.1232	ug/L	95
13) Acetone	6.34	43	1237	1.3163	ug/L	# 49
18) Methyl acetate	7.02	43	1678	Below Cal		# 71

(#) = qualifier out of range (m) = manual integration
 11M11944.D 8260WT.M Thu May 19 13:33:04 2016

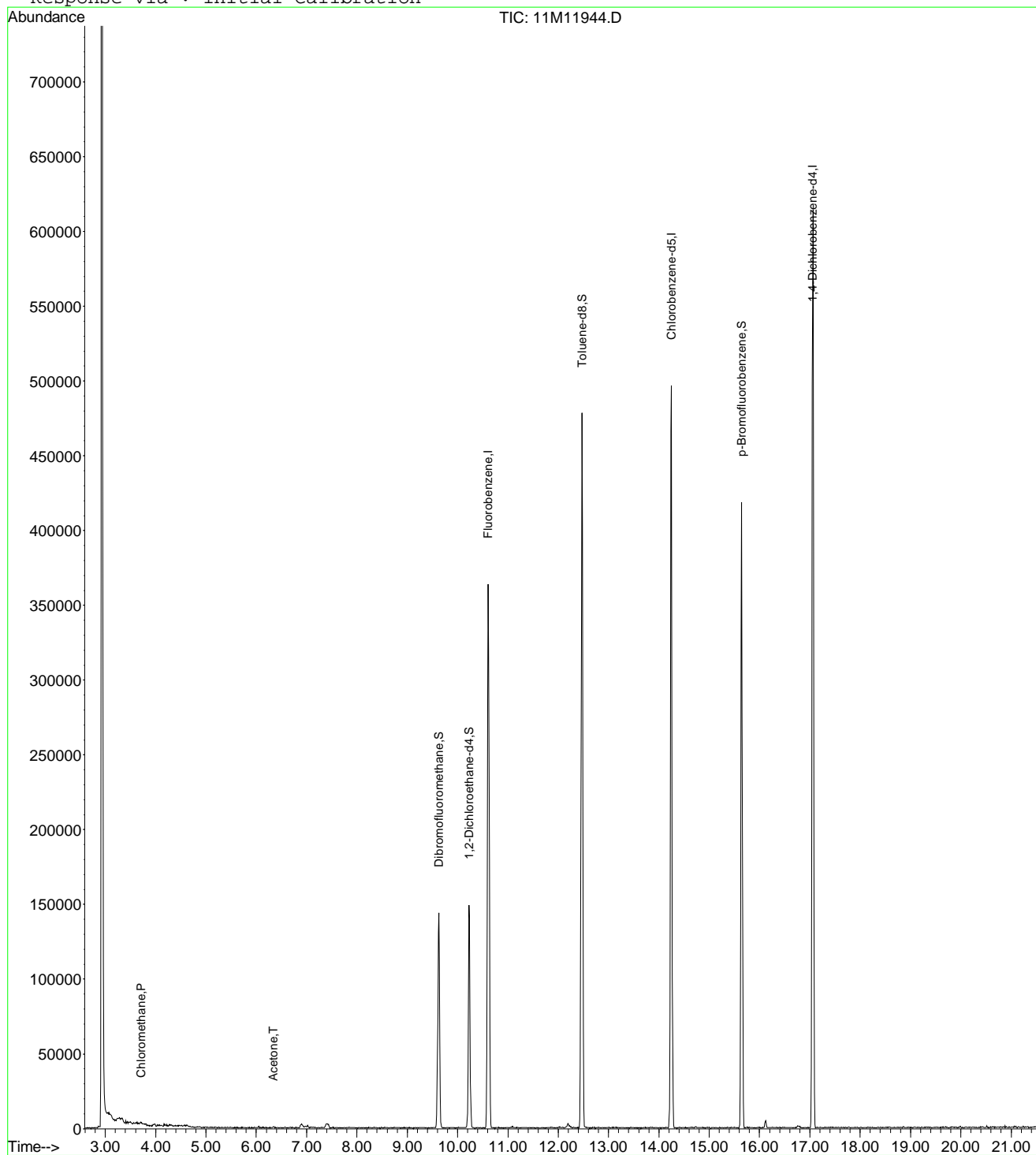
Page 1

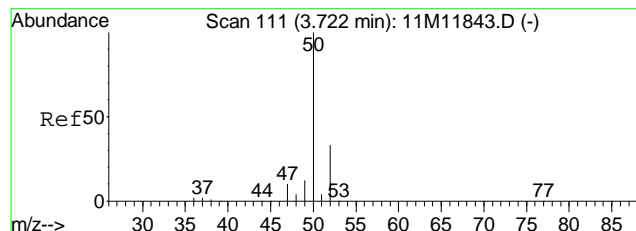
Data File : C:\MSDCHEM\1\DATA\051816\11M11944.D
 Acq On : 18 May 2016 23:31
 Sample : L16050571-11 A 826-LOW
 Misc : 1,1
 MS Integration Params: rteint.p
 Quant Time: May 19 13:33 2016

Vial: 18
 Operator: JDS
 Inst : hpms11
 Multiplr: 1.00

Quant Results File: 8260WT.RES

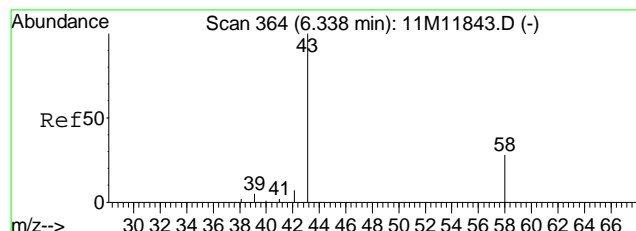
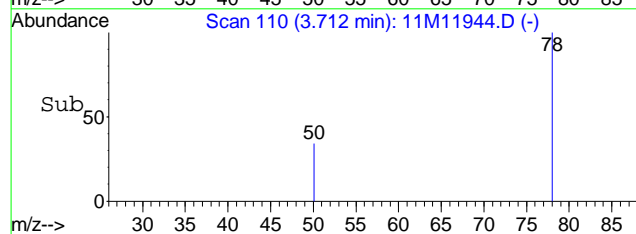
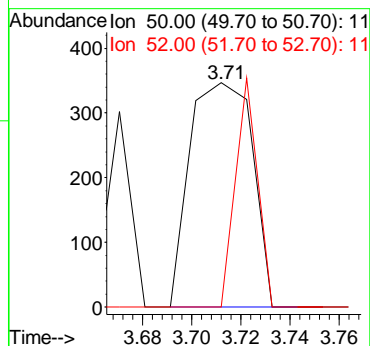
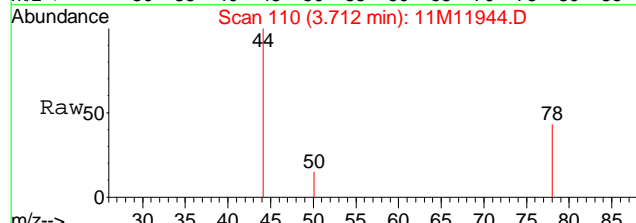
Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration





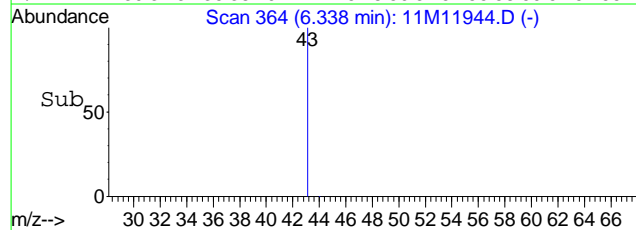
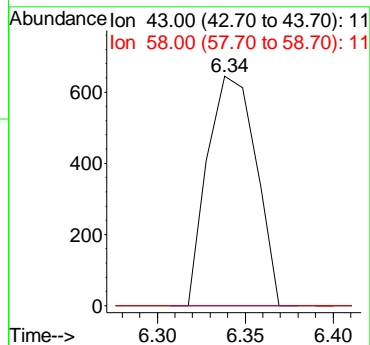
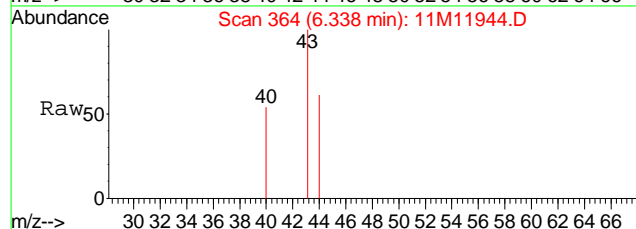
#3
 Chloromethane
 Concen: 0.12 ug/L
 RT: 3.71 min Scan# 110
 Delta R.T. -0.01 min
 Lab File: 11M11944.D
 Acq: 18 May 2016 23:31

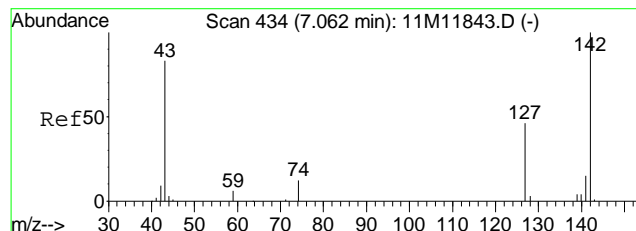
Tgt Ion	Ratio	Lower	Upper
50	100		
52	35.9	20.0	46.6



#13
 Acetone
 Concen: 1.32 ug/L
 RT: 6.34 min Scan# 364
 Delta R.T. -0.00 min
 Lab File: 11M11944.D
 Acq: 18 May 2016 23:31

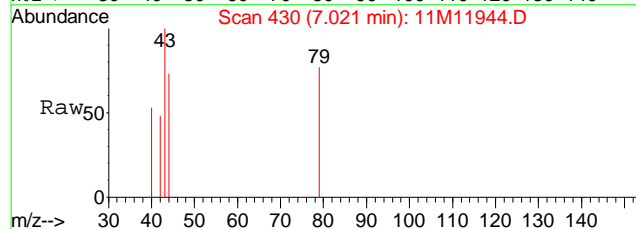
Tgt Ion	Ratio	Lower	Upper
43	100		
58	0.0	15.8	36.8#



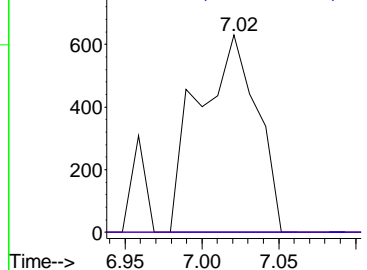
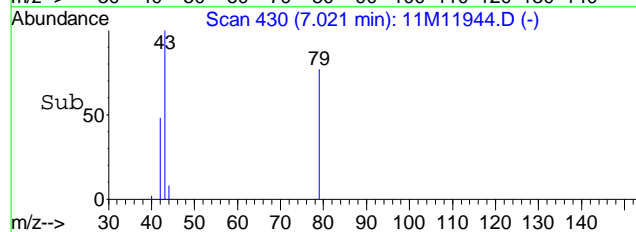


#18
Methyl acetate
Concen: Below Cal
RT: 7.02 min Scan# 430
Delta R.T. -0.04 min
Lab File: 11M11944.D
Acq: 18 May 2016 23:31

Tgt Ion	Ratio	Lower	Upper
43	100		
74	0.0	8.2	19.0#
59	0.0	3.9	9.1#



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



Data File : C:\MSDCHEM\1\DATA\051816\11M11939.D Vial: 13
 Acq On : 18 May 2016 20:52 Operator: JDS
 Sample : L16050571-13 A TB 826-LOW Inst : hpms11
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 19 13:32:52 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	433294	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	380463	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	219898	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.63	111	125442	26.4532	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	105.80%	
43) 1,2-Dichloroethane-d4	10.23	65	148252	27.4186	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	109.68%	
57) Toluene-d8	12.47	98	427926	25.8861	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	103.56%	
78) p-Bromofluorobenzene	15.64	95	173047	25.5285	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	102.12%	
Target Compounds						
3) Chloromethane	3.72	50	890	0.1637	ug/L #	69
13) Acetone	6.35	43	222	0.2158	ug/L #	49
18) Methyl acetate	7.01	43	2314	Below Cal	#	71

(#) = qualifier out of range (m) = manual integration
 11M11939.D 8260WT.M Thu May 19 13:32:52 2016

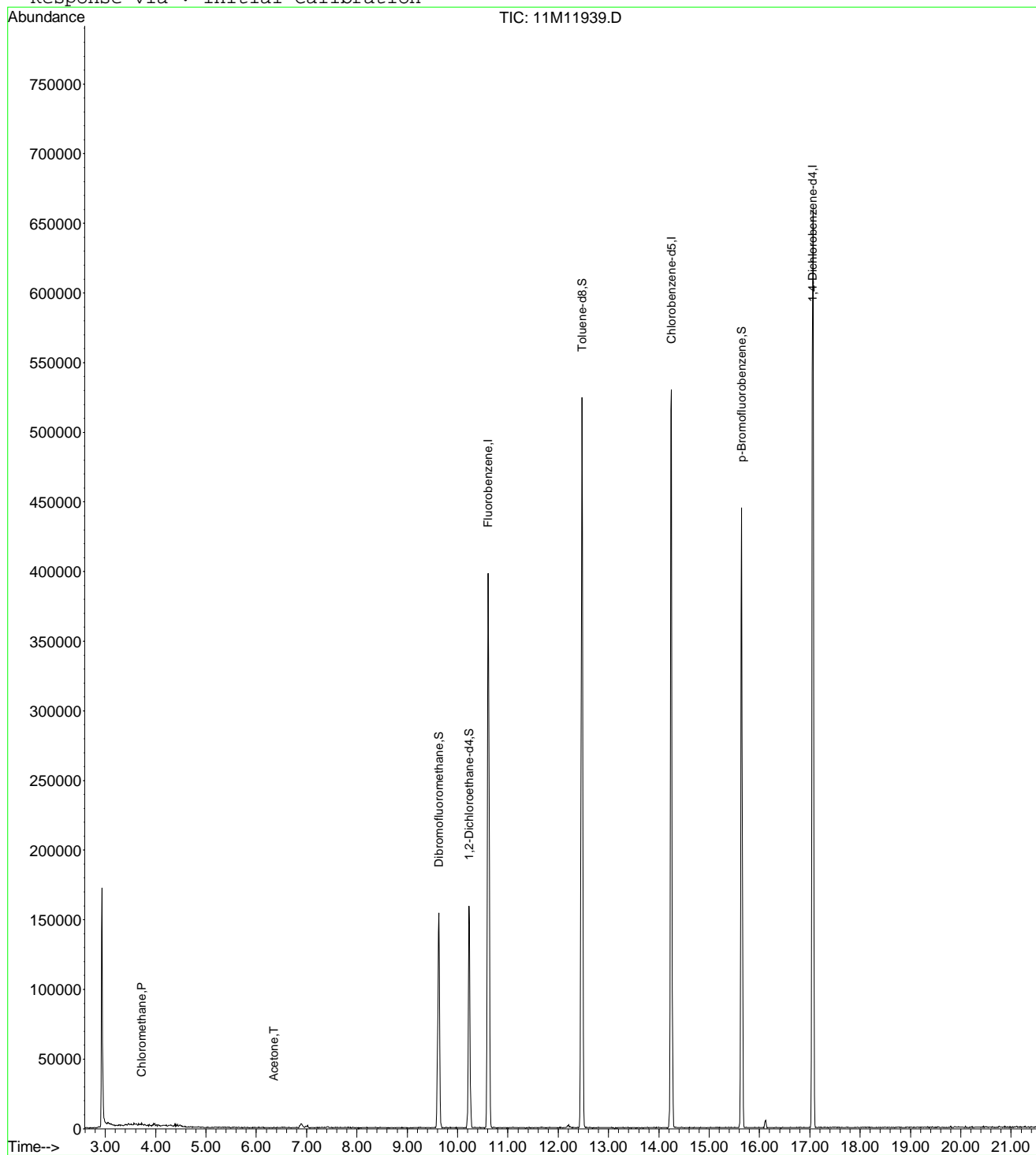
Page 1

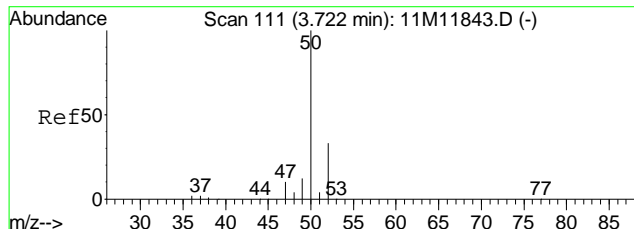
Data File : C:\MSDCHEM\1\DATA\051816\11M11939.D
 Acq On : 18 May 2016 20:52
 Sample : L16050571-13 A TB 826-LOW
 Misc : 1,1
 MS Integration Params: rteint.p
 Quant Time: May 19 13:32 2016

Vial: 13
 Operator: JDS
 Inst : hpms11
 Multiplr: 1.00

Quant Results File: 8260WT.RES

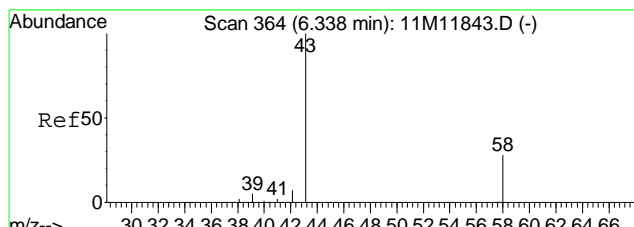
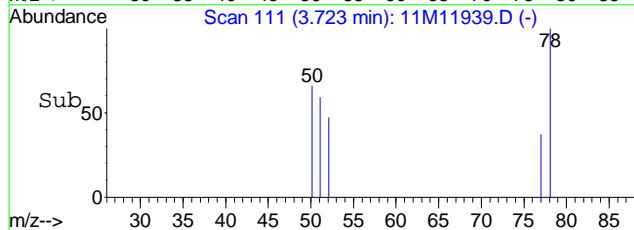
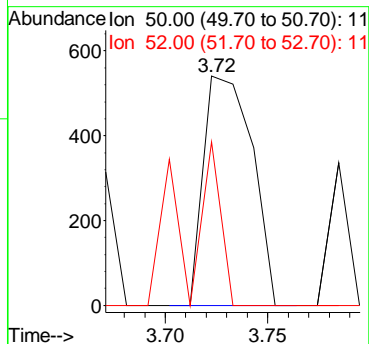
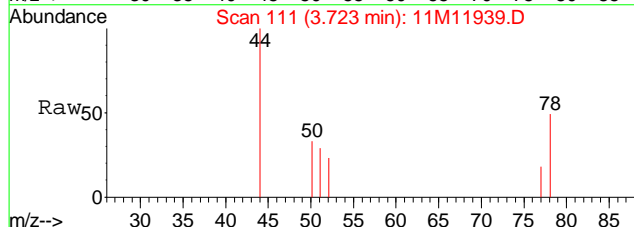
Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration





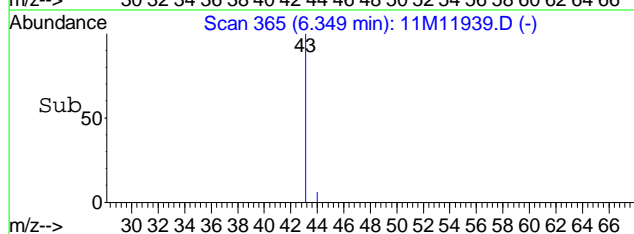
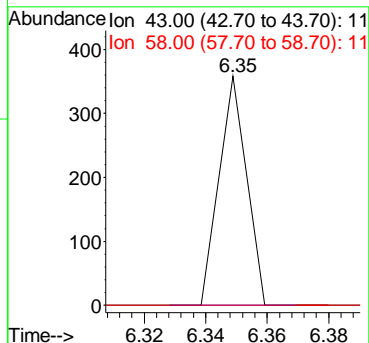
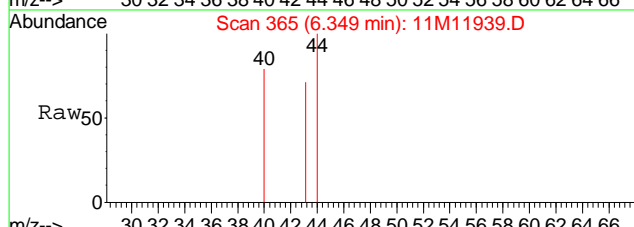
#3
 Chloromethane
 Concen: 0.16 ug/L
 RT: 3.72 min Scan# 111
 Delta R.T. 0.00 min
 Lab File: 11M11939.D
 Acq: 18 May 2016 20:52

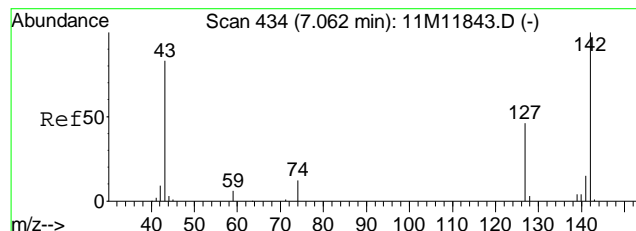
Tgt Ion	Ratio	Lower	Upper
50	100		
52	50.9	20.0	46.6#



#13
 Acetone
 Concen: 0.22 ug/L
 RT: 6.35 min Scan# 365
 Delta R.T. 0.01 min
 Lab File: 11M11939.D
 Acq: 18 May 2016 20:52

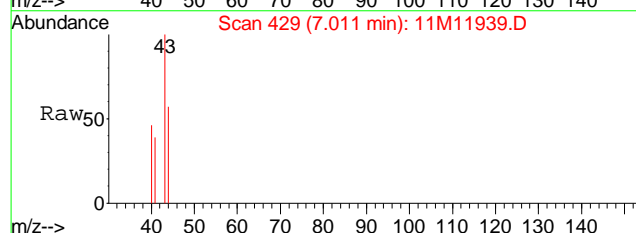
Tgt Ion	Ratio	Lower	Upper
43	100		
58	0.0	15.8	36.8#



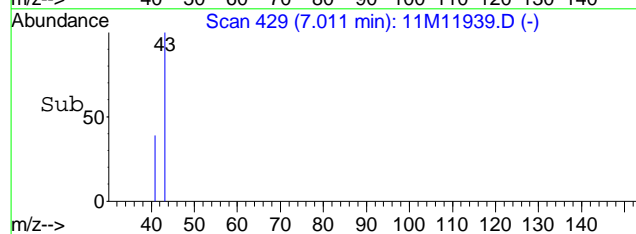
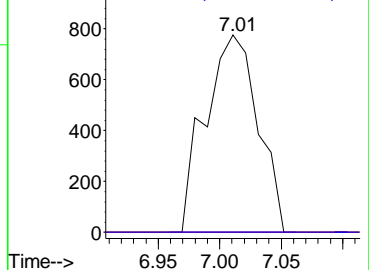


#18
 Methyl acetate
 Concen: Below Cal
 RT: 7.01 min Scan# 429
 Delta R.T. -0.05 min
 Lab File: 11M11939.D
 Acq: 18 May 2016 20:52

Tgt Ion	Ratio	Lower	Upper
43	100		
74	0.0	8.2	19.0#
59	0.0	3.9	9.1#



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



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

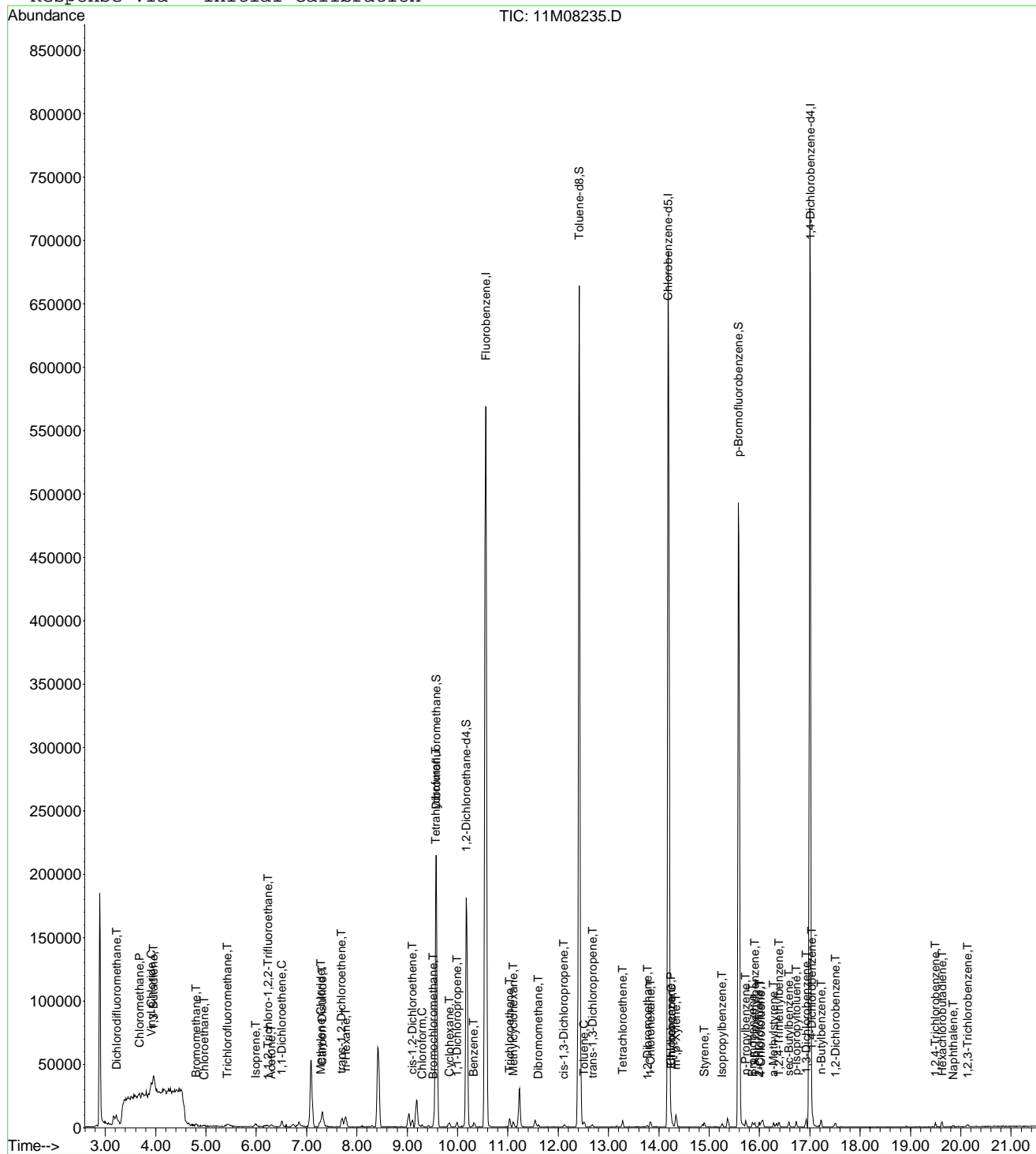
Page 2

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

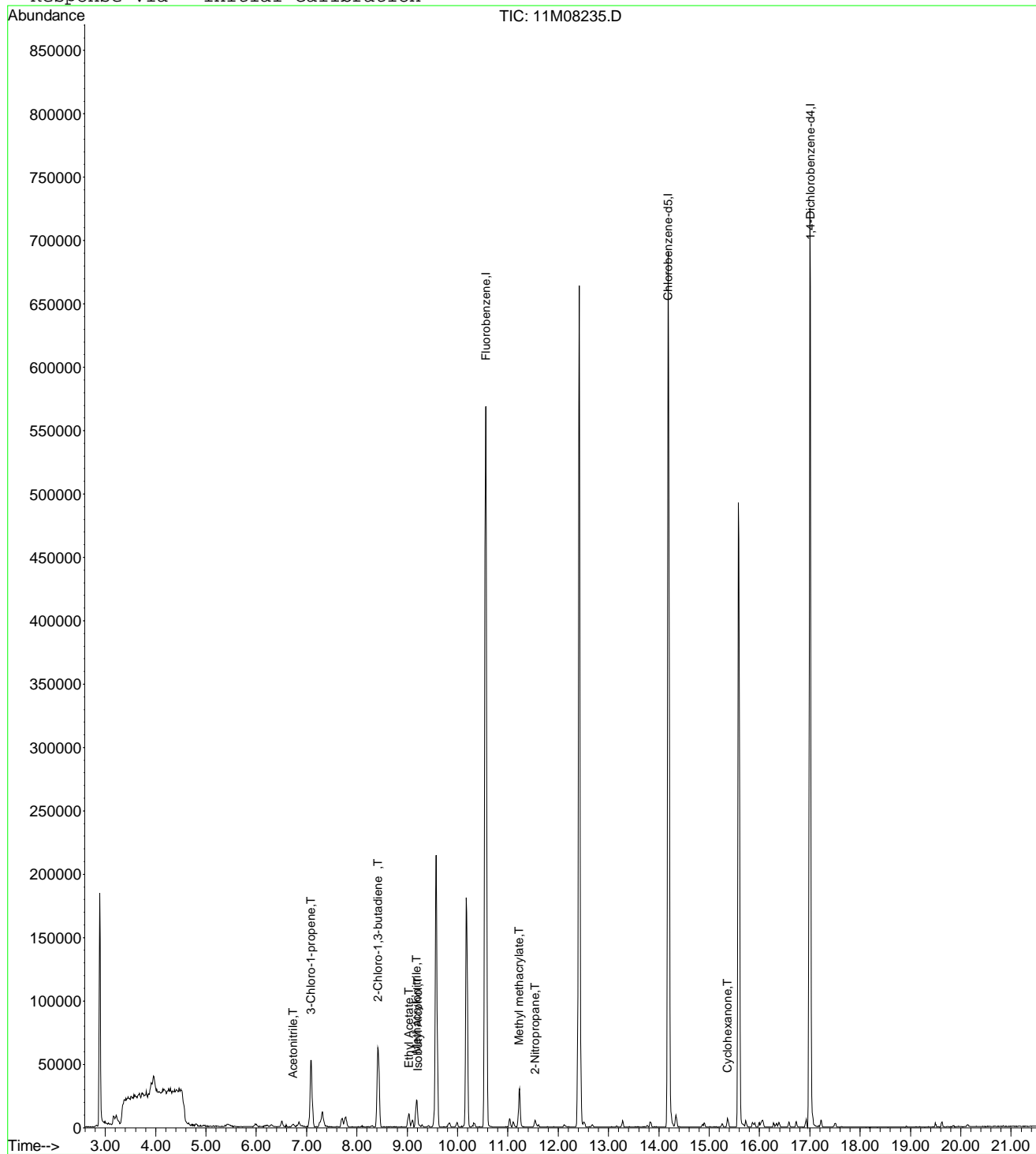
Page 1

Data File : C:\MSDCHEM\1\DATA\061415\11M08235.D
 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 16 9:43 2015

Vial: 2
 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\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

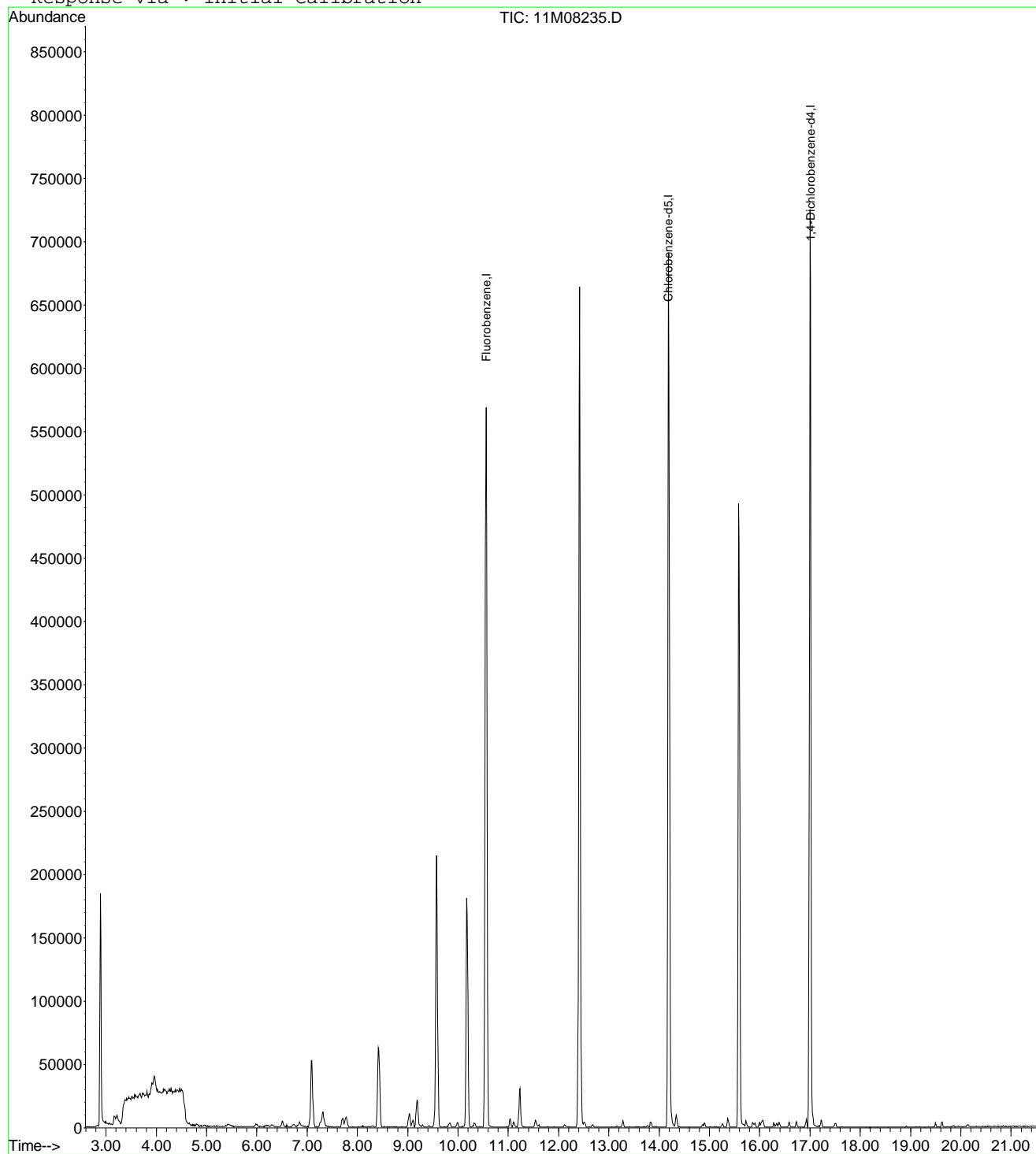
Quant Results File: A9FOOWT.RES

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

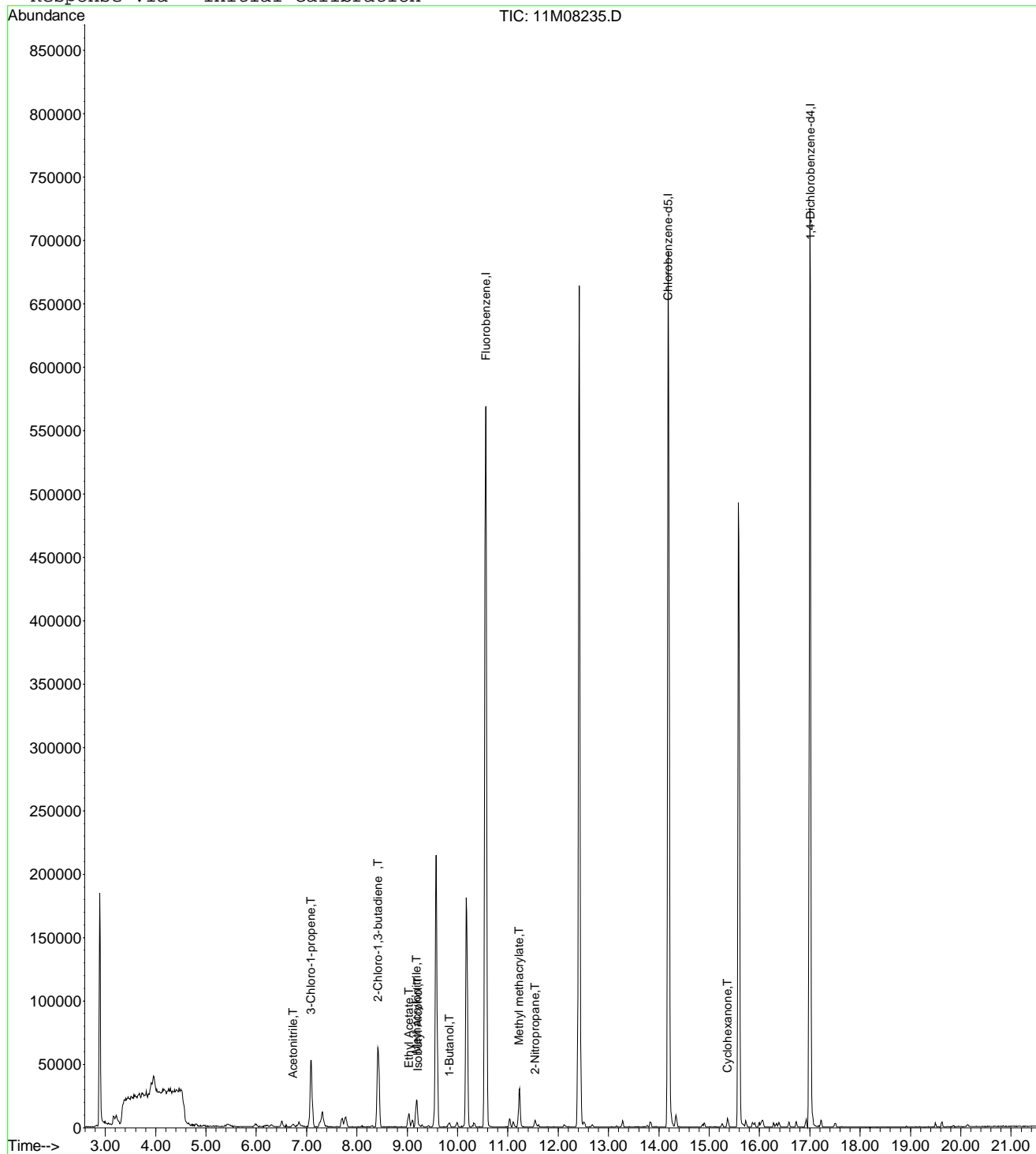
Page 1

Data File : C:\MSDCHEM\1\DATA\061415\11M08235.D
 Acq On : 14 Jun 2015 9:58
 Sample : WG527475-02 5ug/L STD8260
 Misc : 1,1 STD70883
 MS Integration Params: rteint.p
 Quant Time: Aug 20 11:43 2015

Vial: 2
 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\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

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 2015

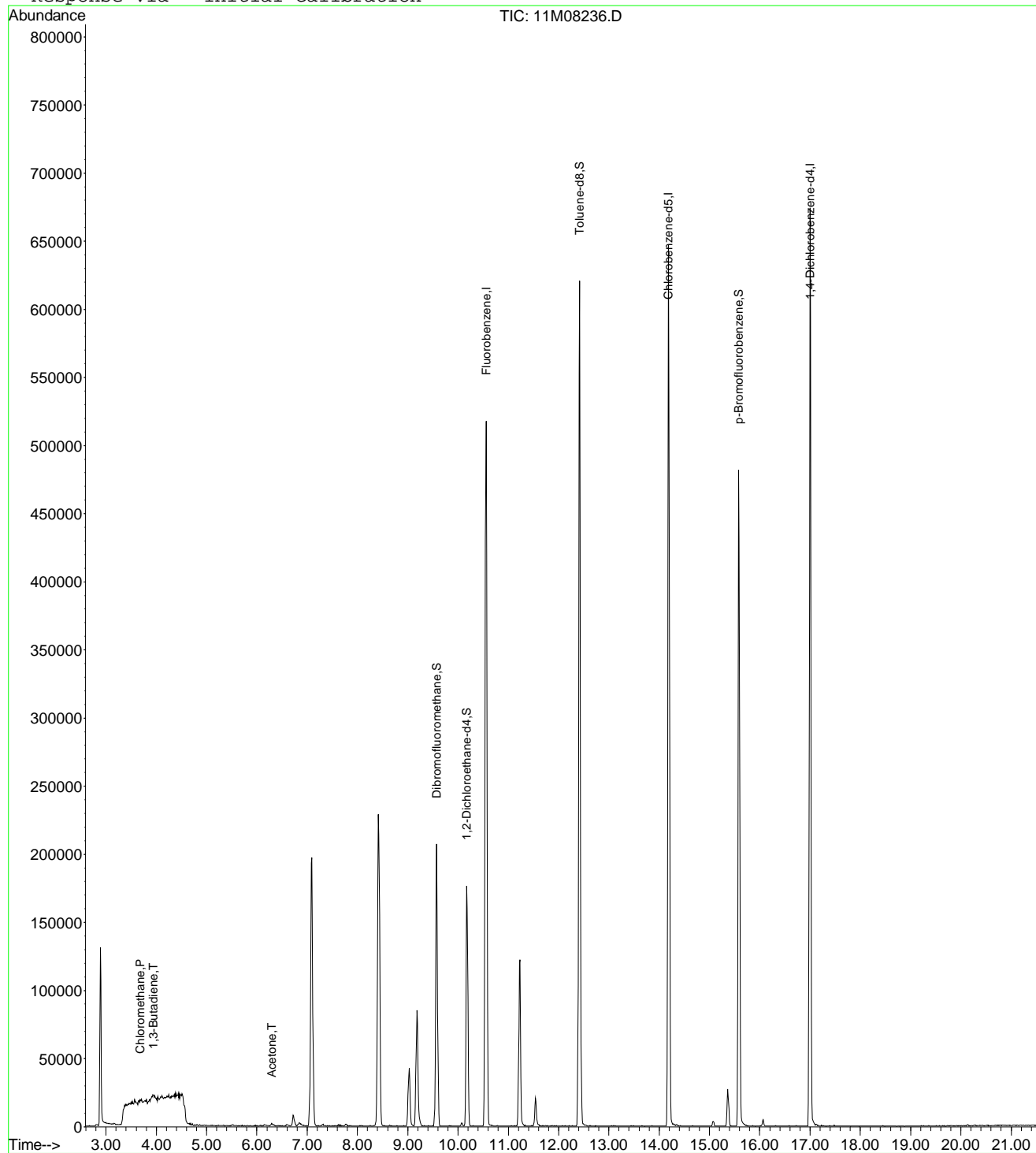
Quant Results File: 8260WTR.RES

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



11M08236.D 8260WTR.M

Sun Jun 14 10:52:28 2015

Page 2

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

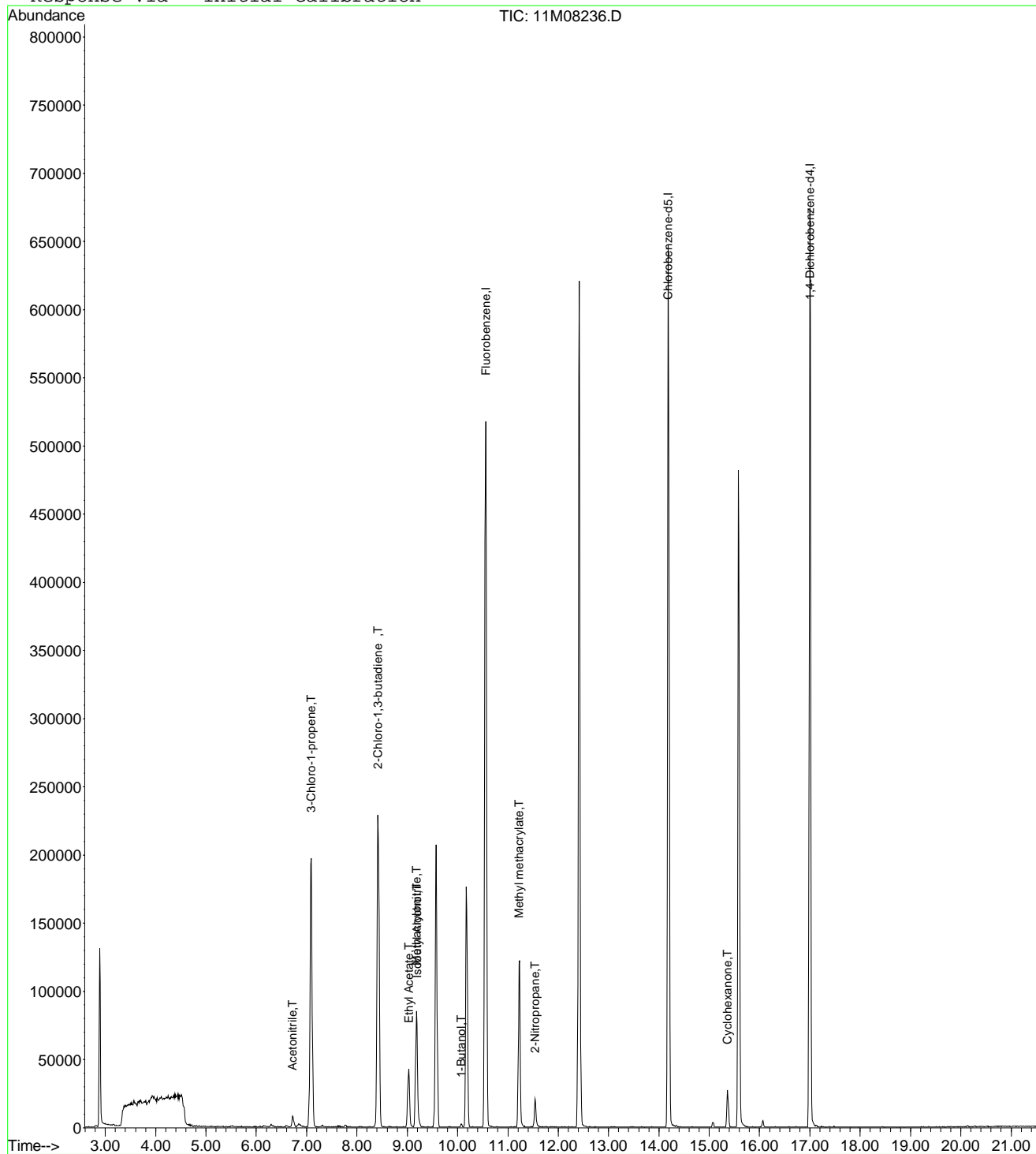
Page 1

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

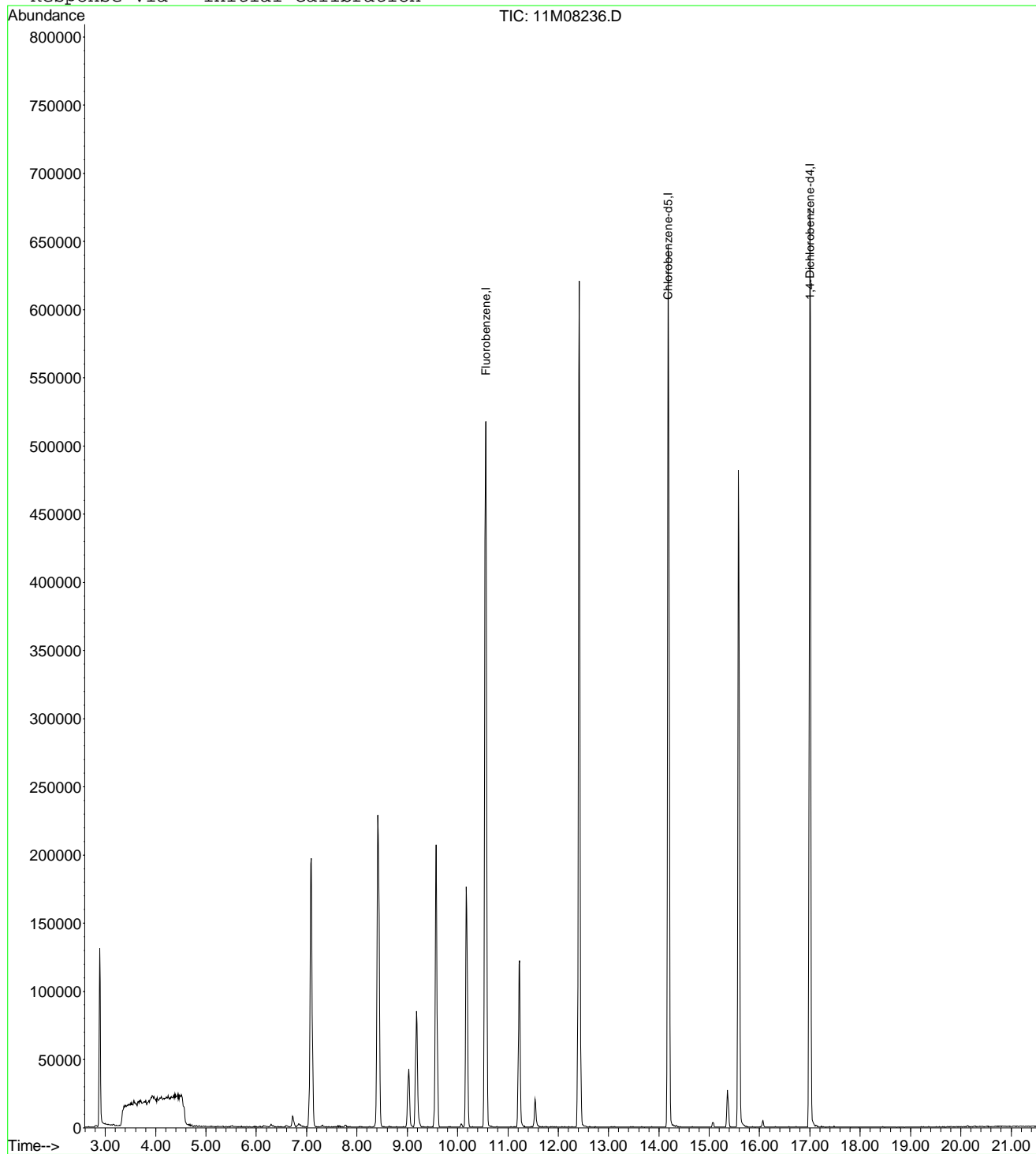
Page 1

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

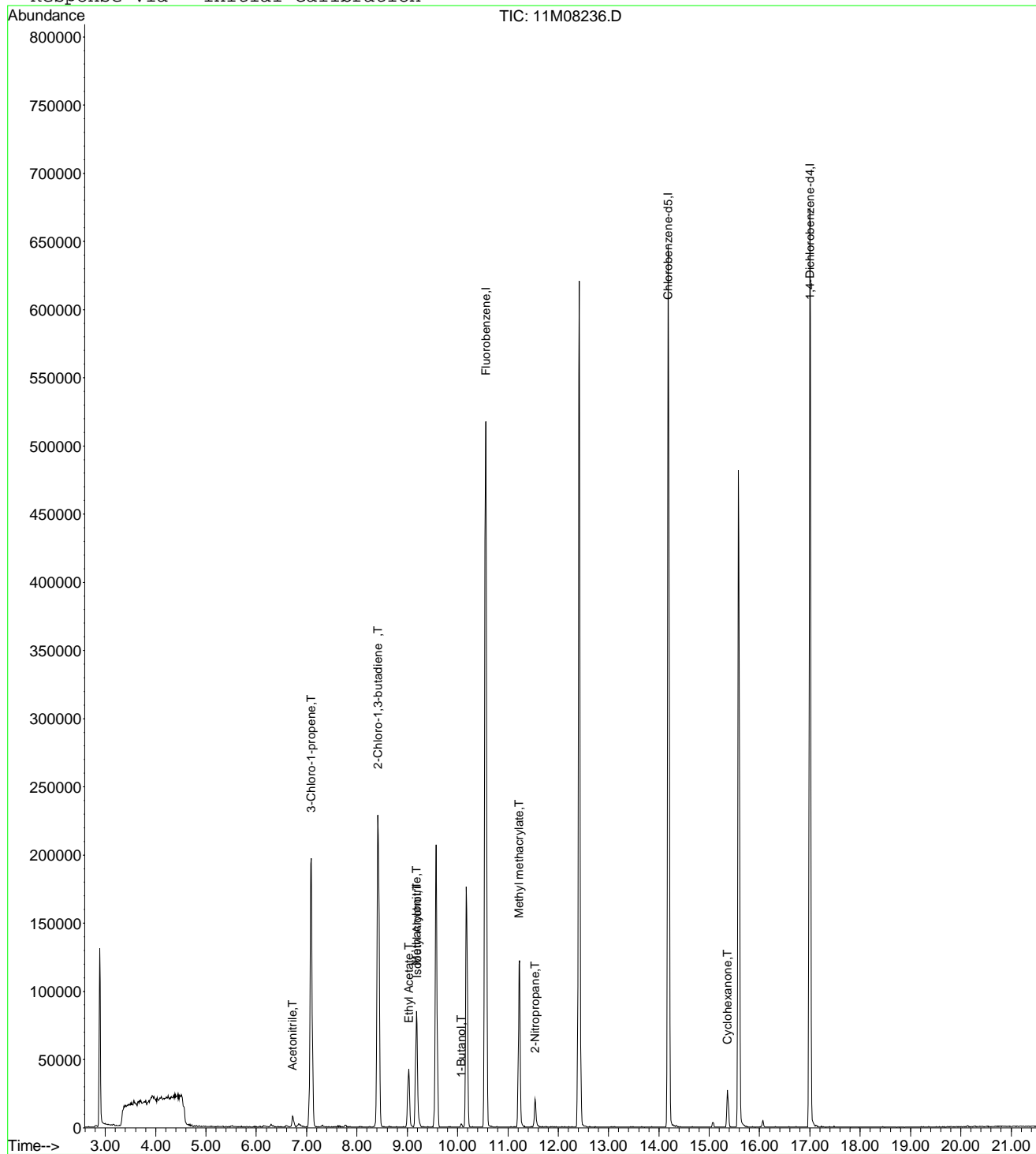
Page 1

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

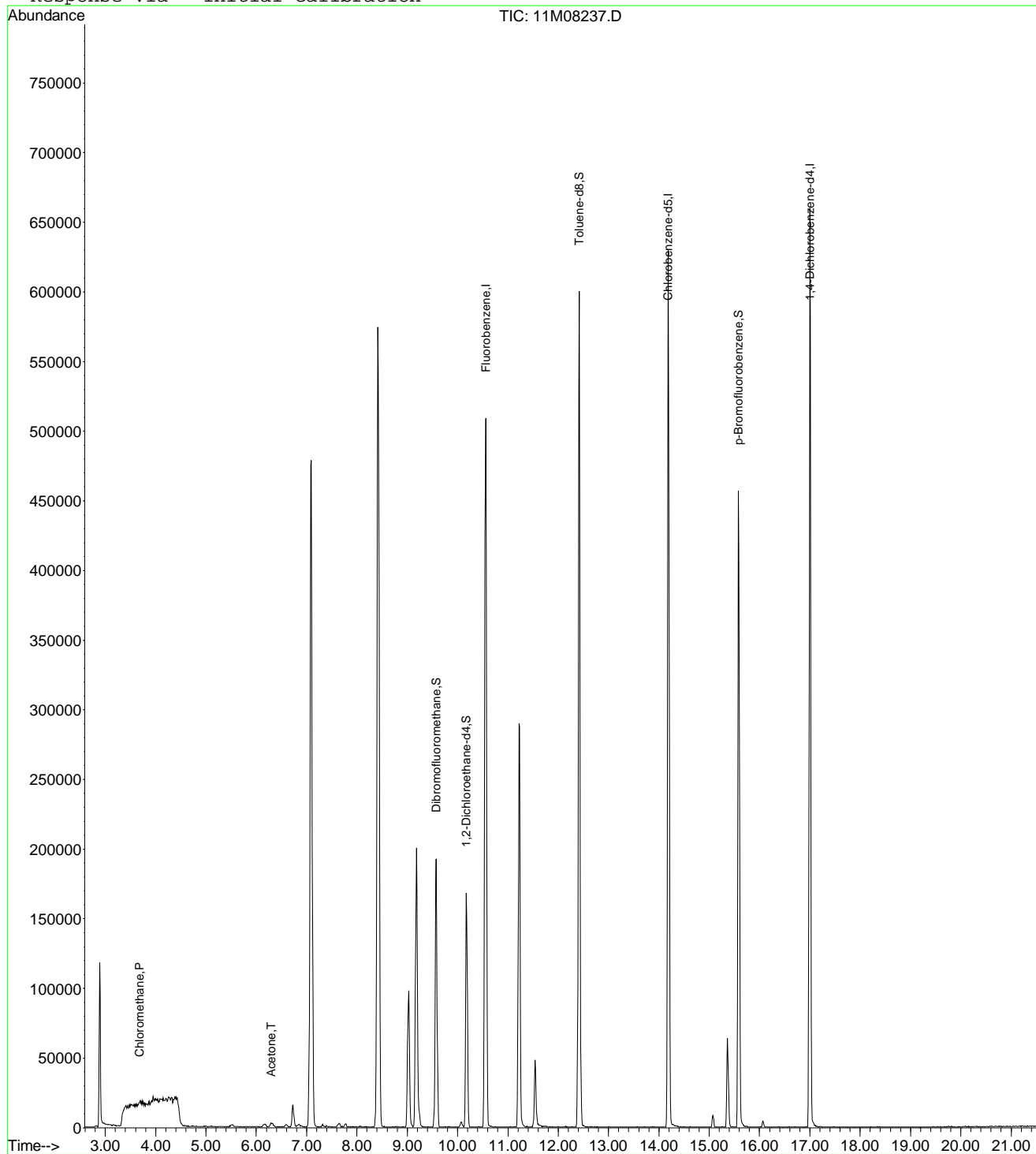
Page 1

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

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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

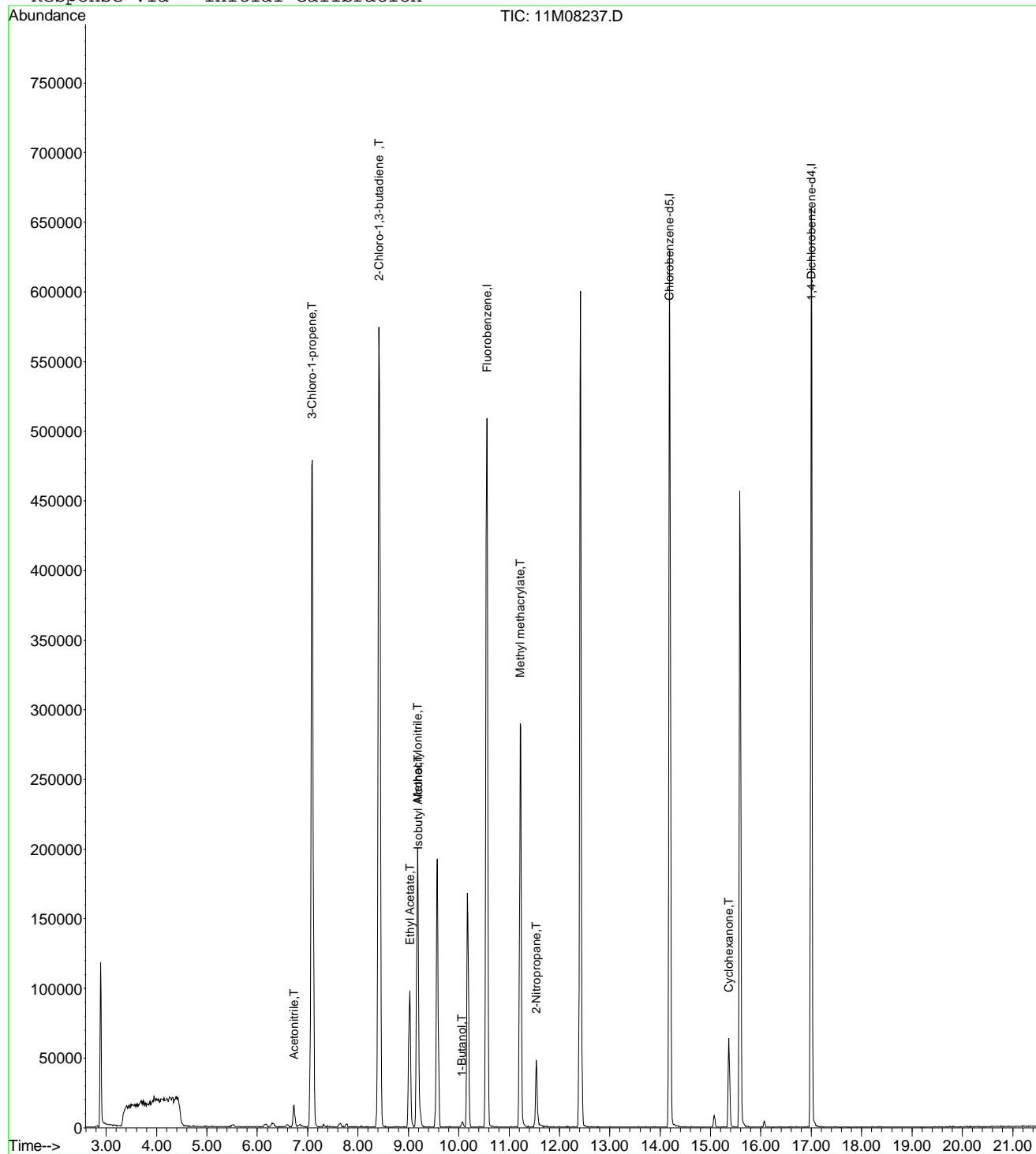
Quant Results File: A9FOOWT.RES

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

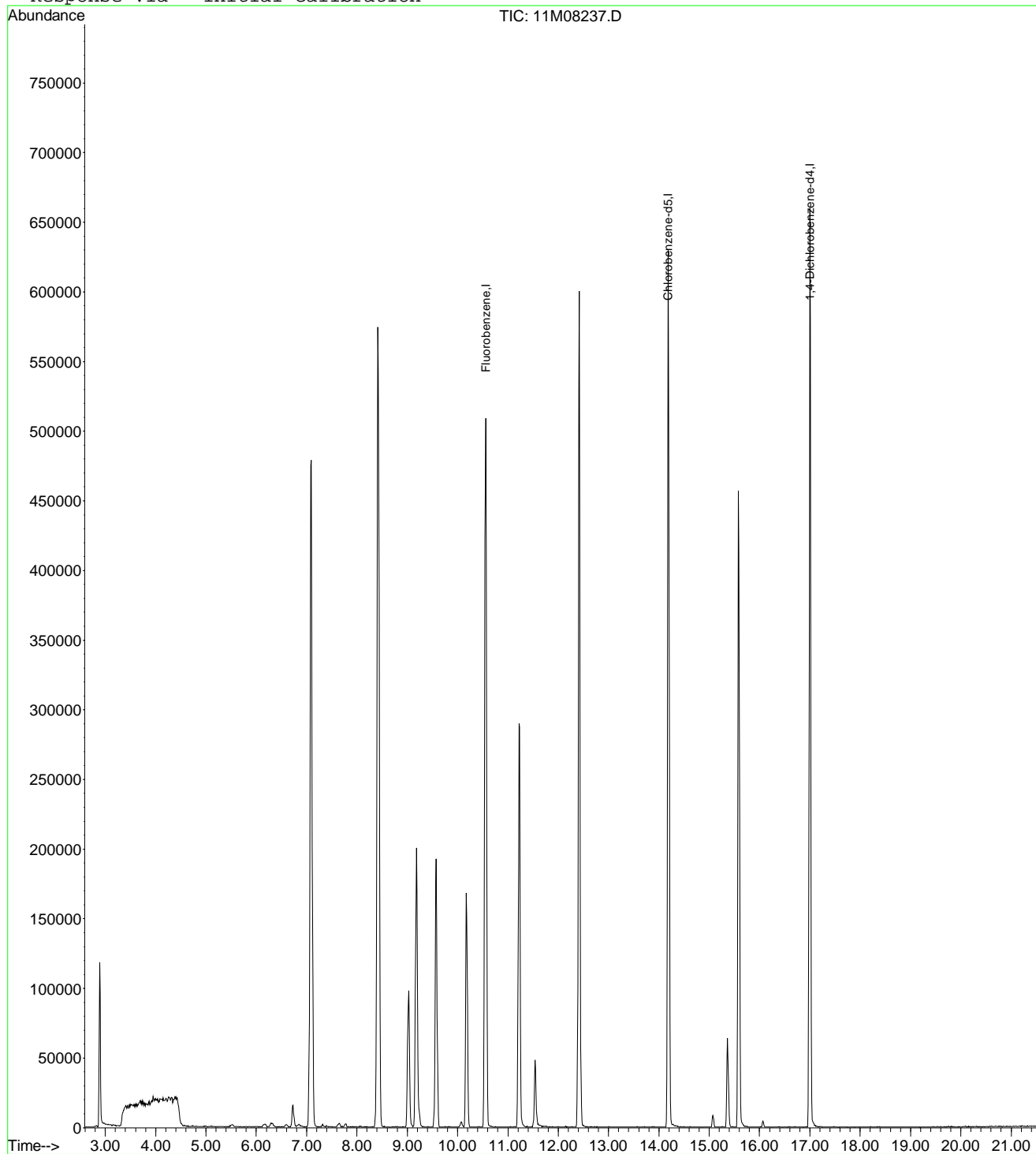
Page 1

Data File : C:\MSDCHEM\1\DATA\061415\11M08237.D
 Acq On : 14 Jun 2015 11:02
 Sample : WG527475-04 50ug/L STD8260
 Misc : 1,1 STD70883
 MS Integration Params: rteint.p
 Quant Time: Aug 20 11:28 2015

Vial: 4
 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\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

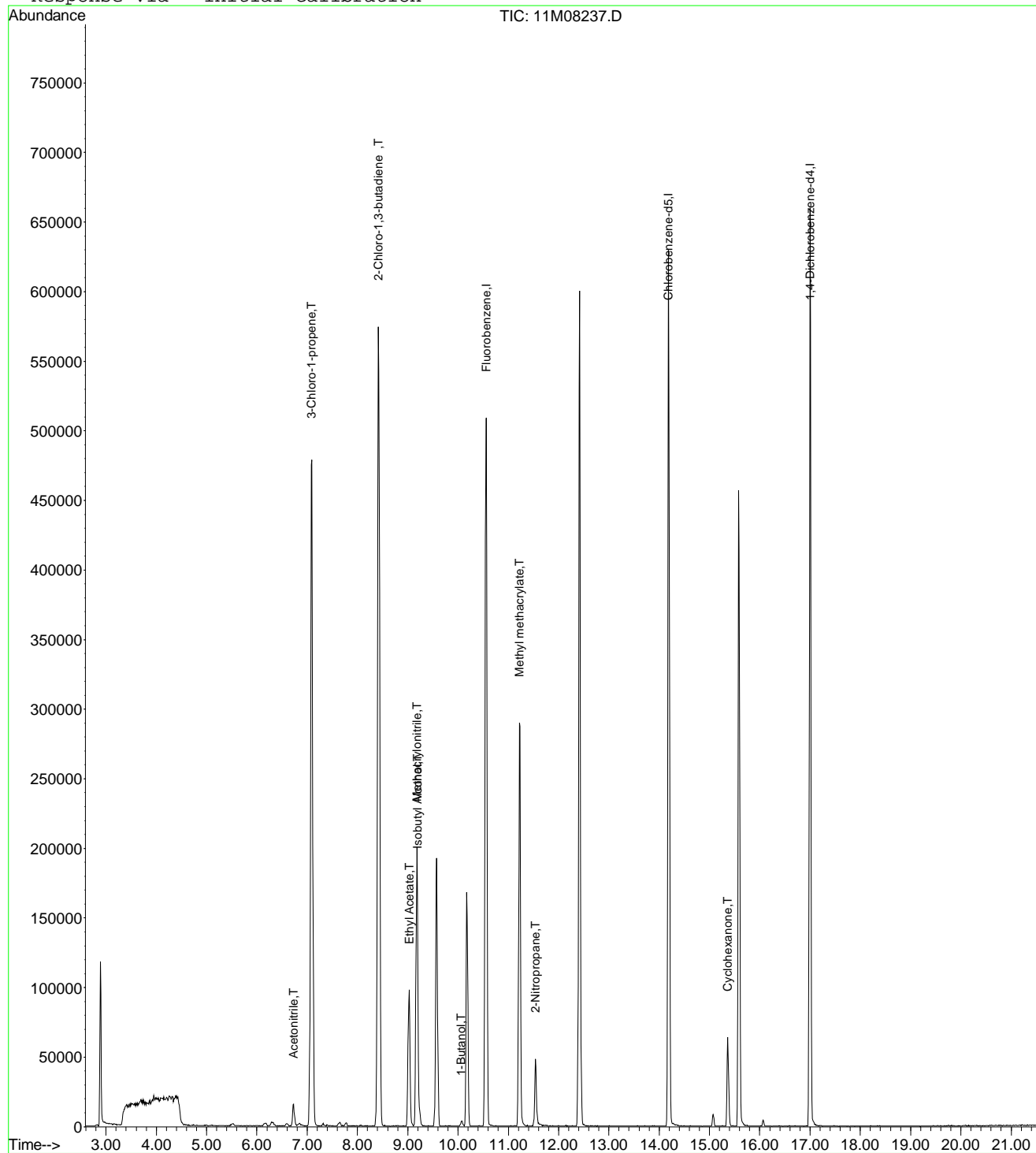
Page 1

Data File : C:\MSDCHEM\1\DATA\061415\11M08237.D
Acq On : 14 Jun 2015 11:02
Sample : WG527475-04 50ug/L STD8260
Misc : 1,1 STD70883
MS Integration Params: rteint.p
Quant Time: Aug 20 11:43 2015

Vial: 4
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



11M08237.D A9FOOWT.M

Thu Aug 20 11:43:49 2015

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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

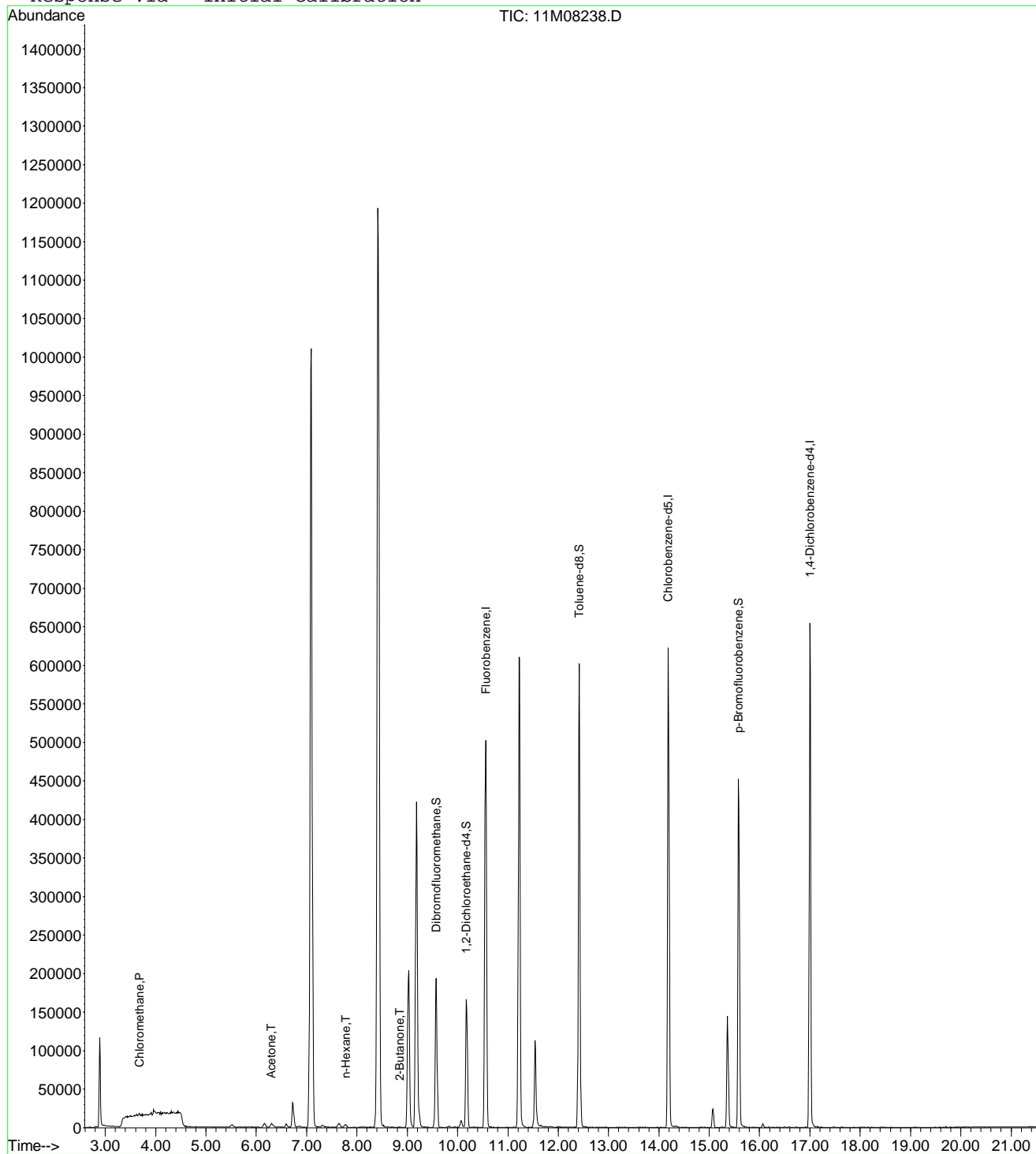
Page 1

Data File : C:\MSDchem\1\data\061415\11M08238.D
 Acq On : 14 Jun 2015 11:34
 Sample : WG527475-05 100ug/L STD8260
 Misc : 1,1 STD70883
 MS Integration Params: rteint.p
 Quant Time: Jun 14 11:56 2015

Vial: 5
 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\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

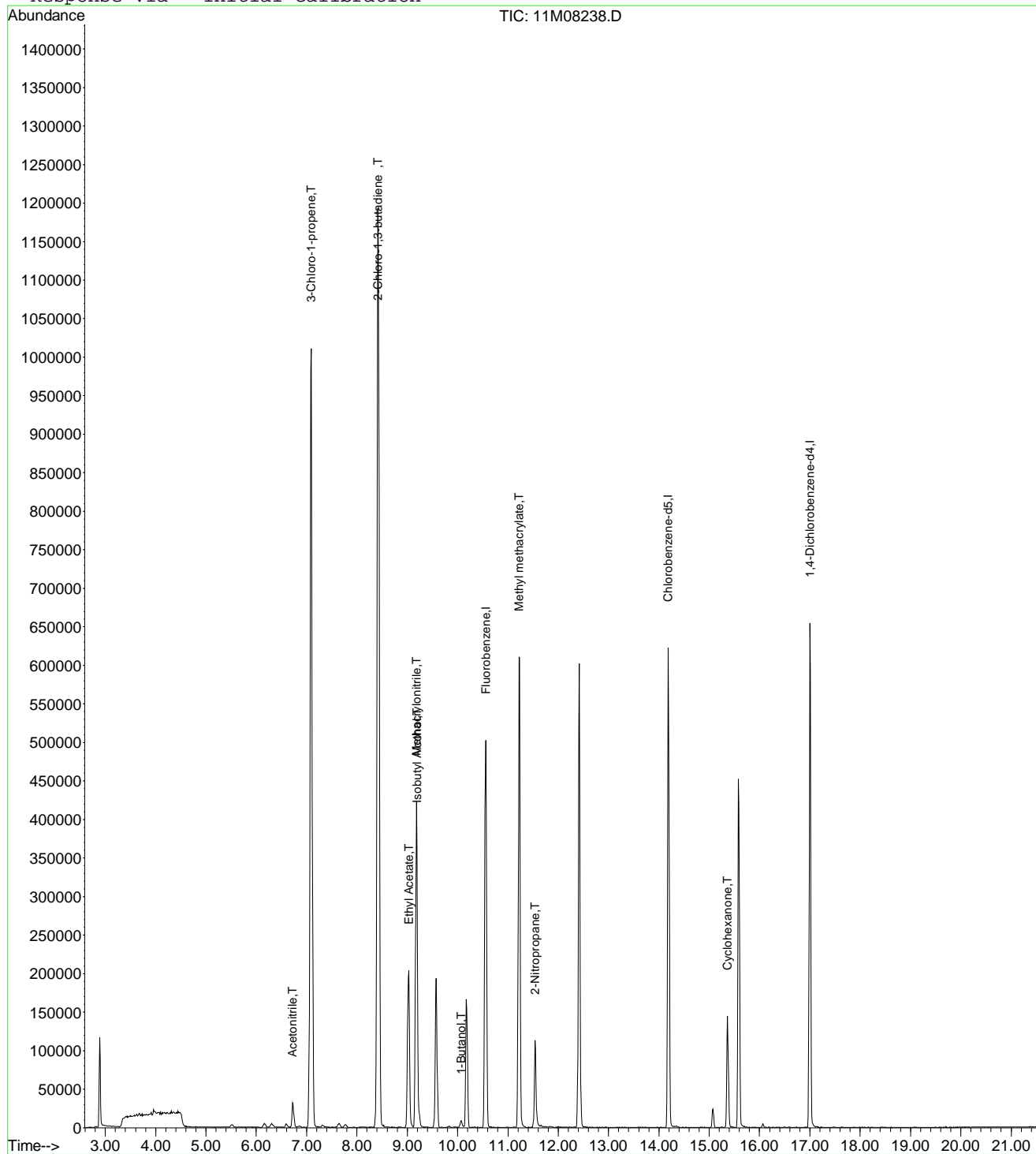
Page 1

Data File : C:\MSDCHEM\1\DATA\061415\11M08238.D
 Acq On : 14 Jun 2015 11:34
 Sample : WG527475-05 100ug/L STD8260
 Misc : 1,1 STD70883
 MS Integration Params: rteint.p
 Quant Time: Jun 16 9:43 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 : Fri Jun 05 12:09:09 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 11:28:09 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

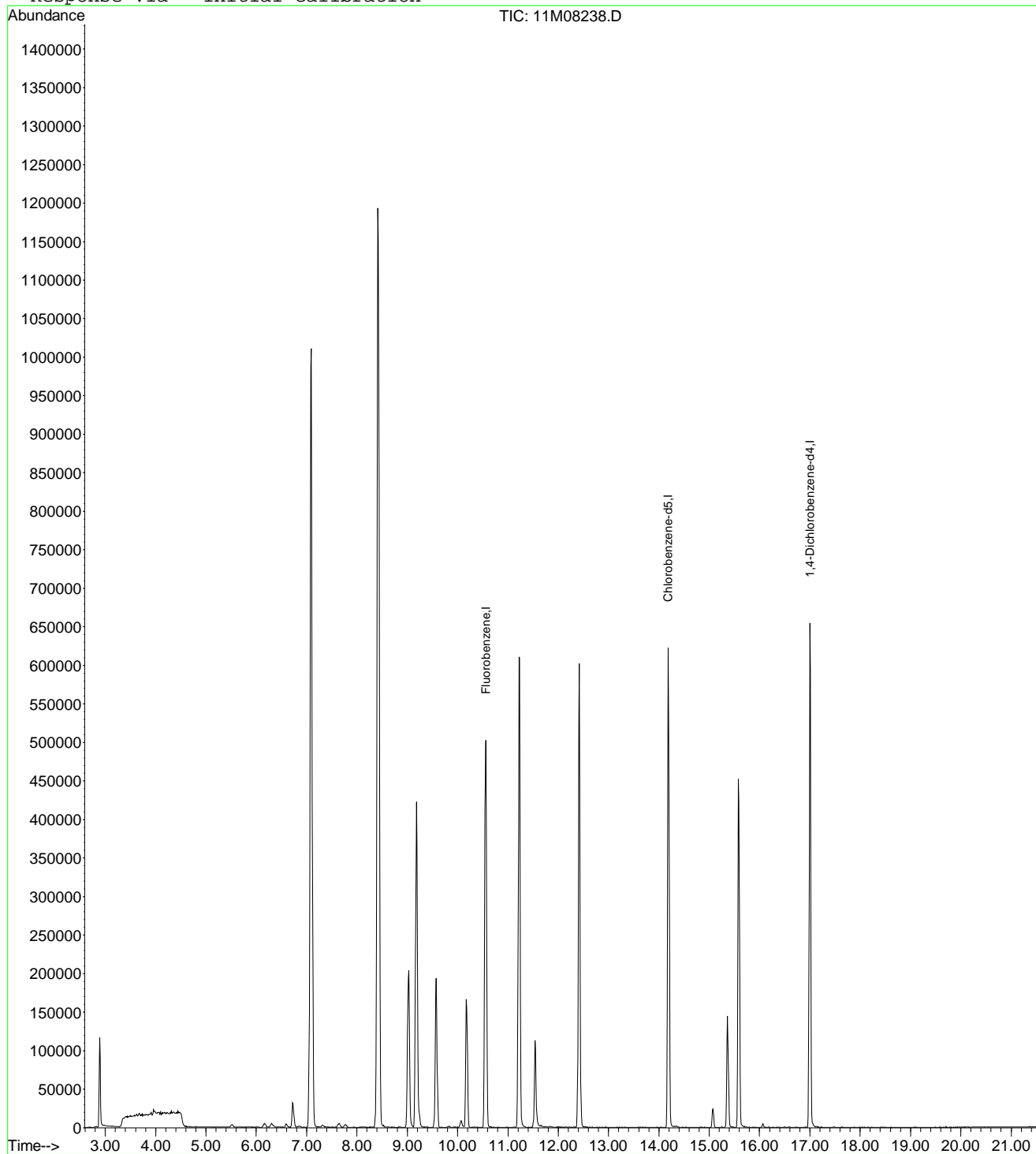
Page 1

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

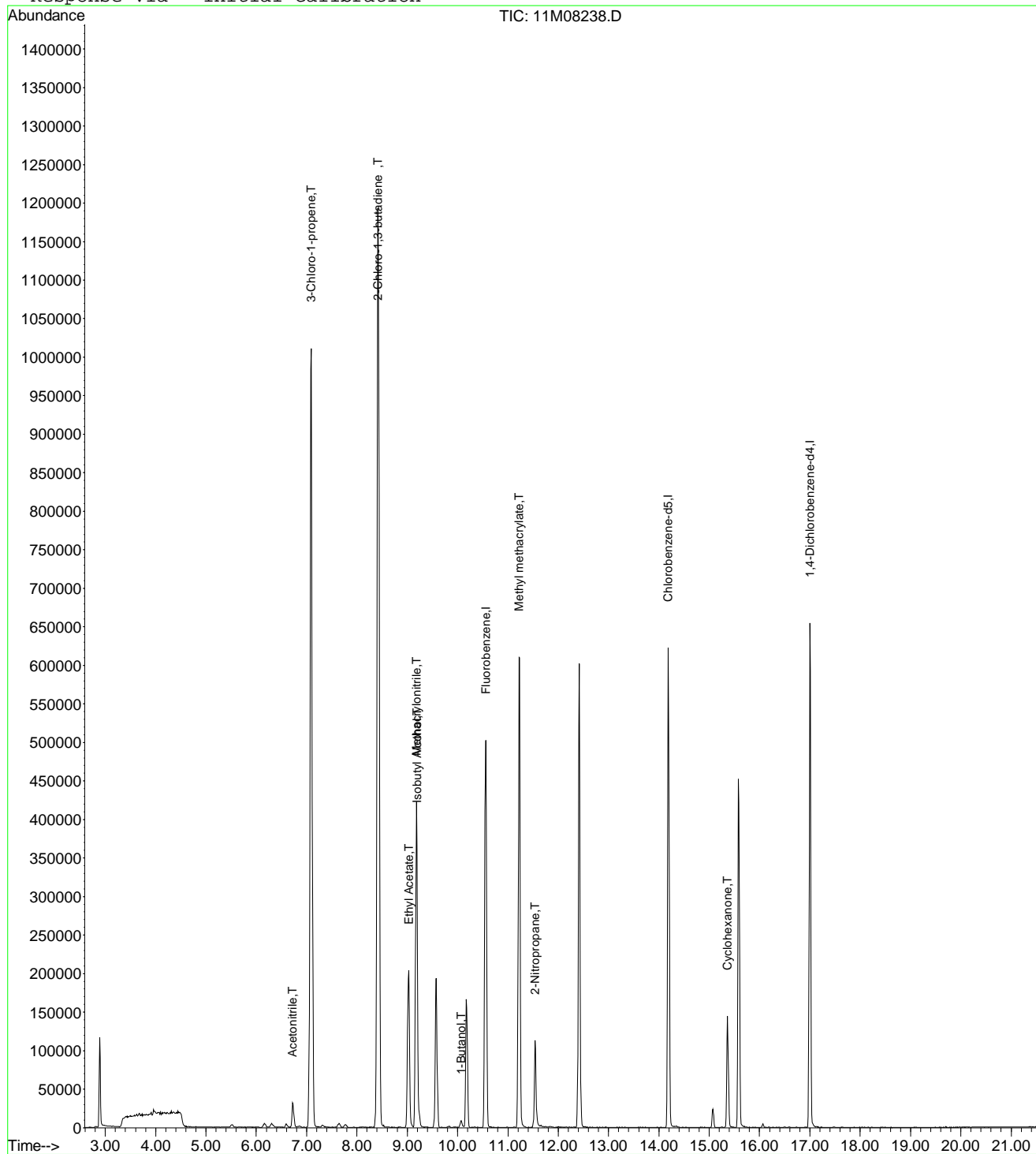
Page 1

Data File : C:\MSDCHEM\1\DATA\061415\11M08238.D
 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 11:43 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 11:41:47 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

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

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 2015

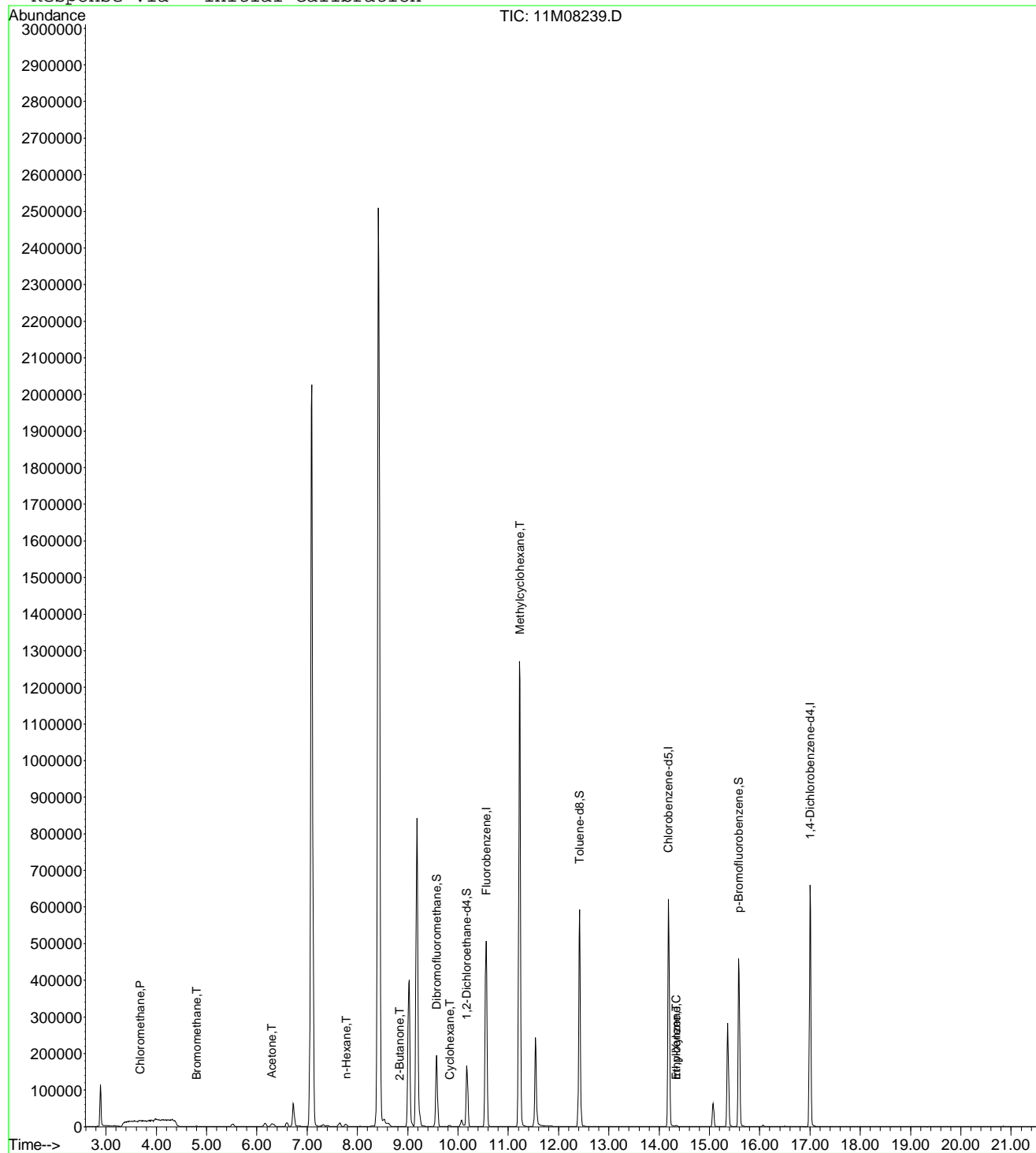
Quant Results File: 8260WTR.RES

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



11M08239.D 8260WTR.M

Sun Jun 14 12:28:25 2015

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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

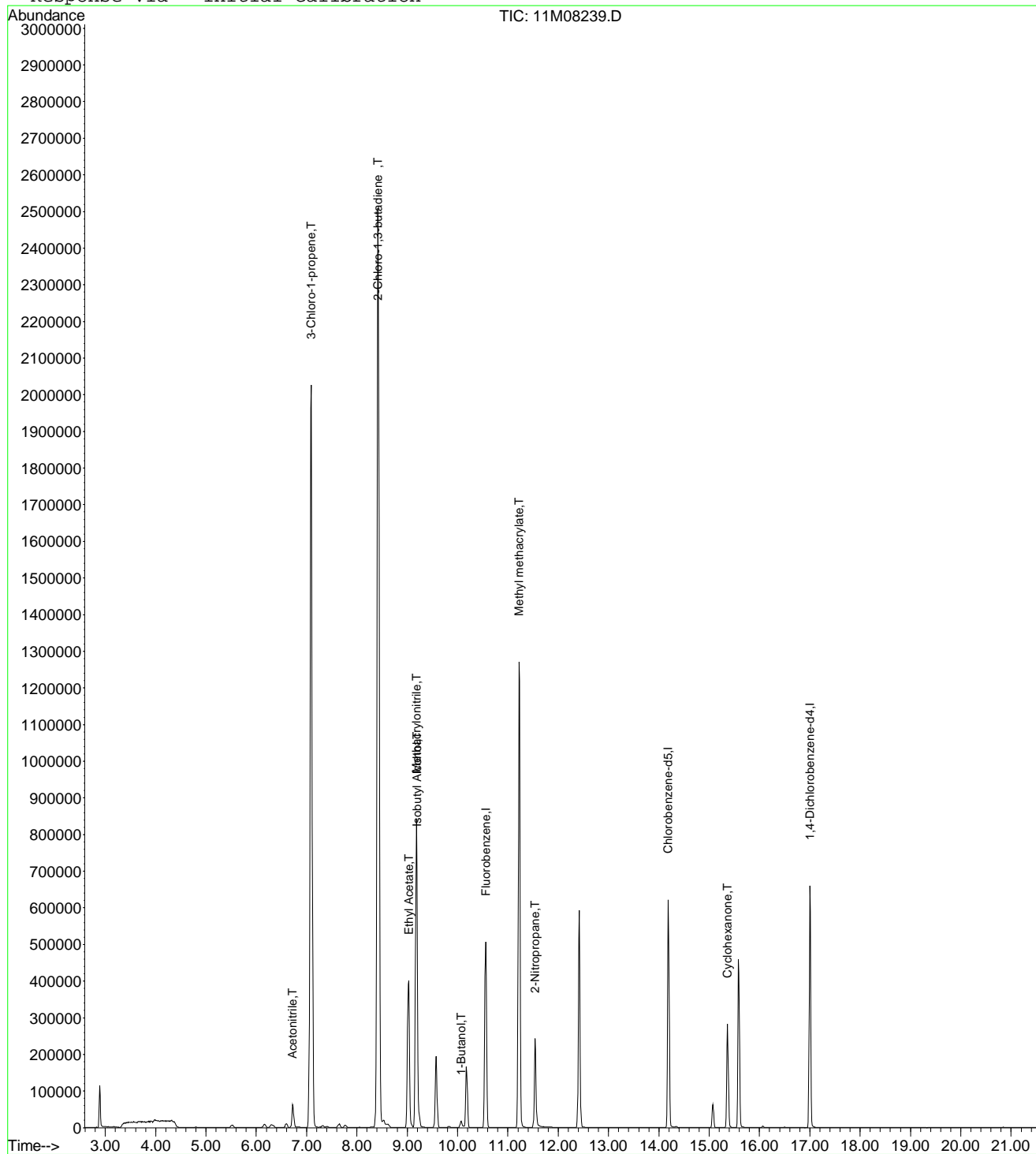
Page 1

Data File : C:\MSDCHEM\1\DATA\061415\11M08239.D
 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 16 9:43 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 : Fri Jun 05 12:09:09 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 11:28:11 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

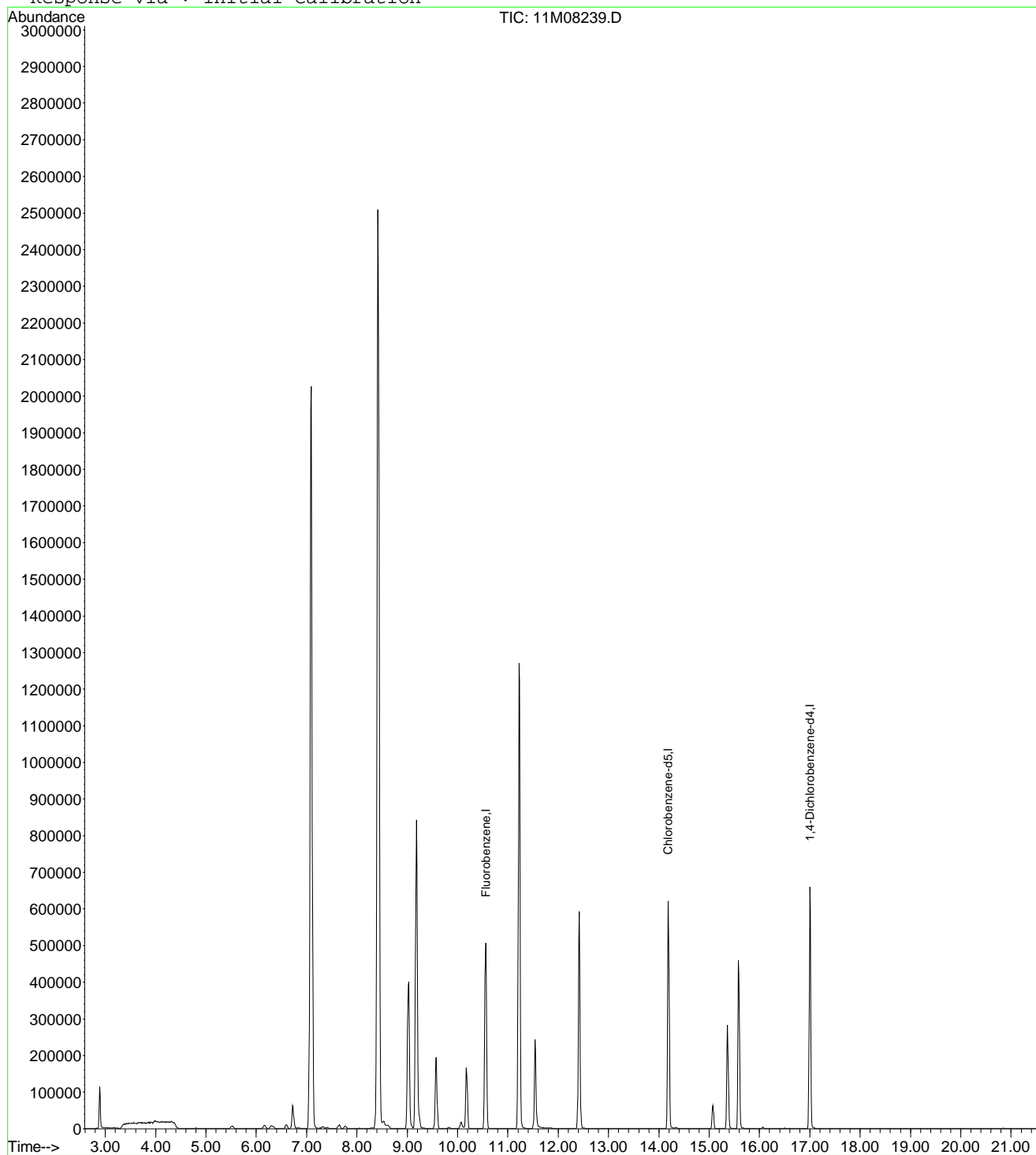
Page 1

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

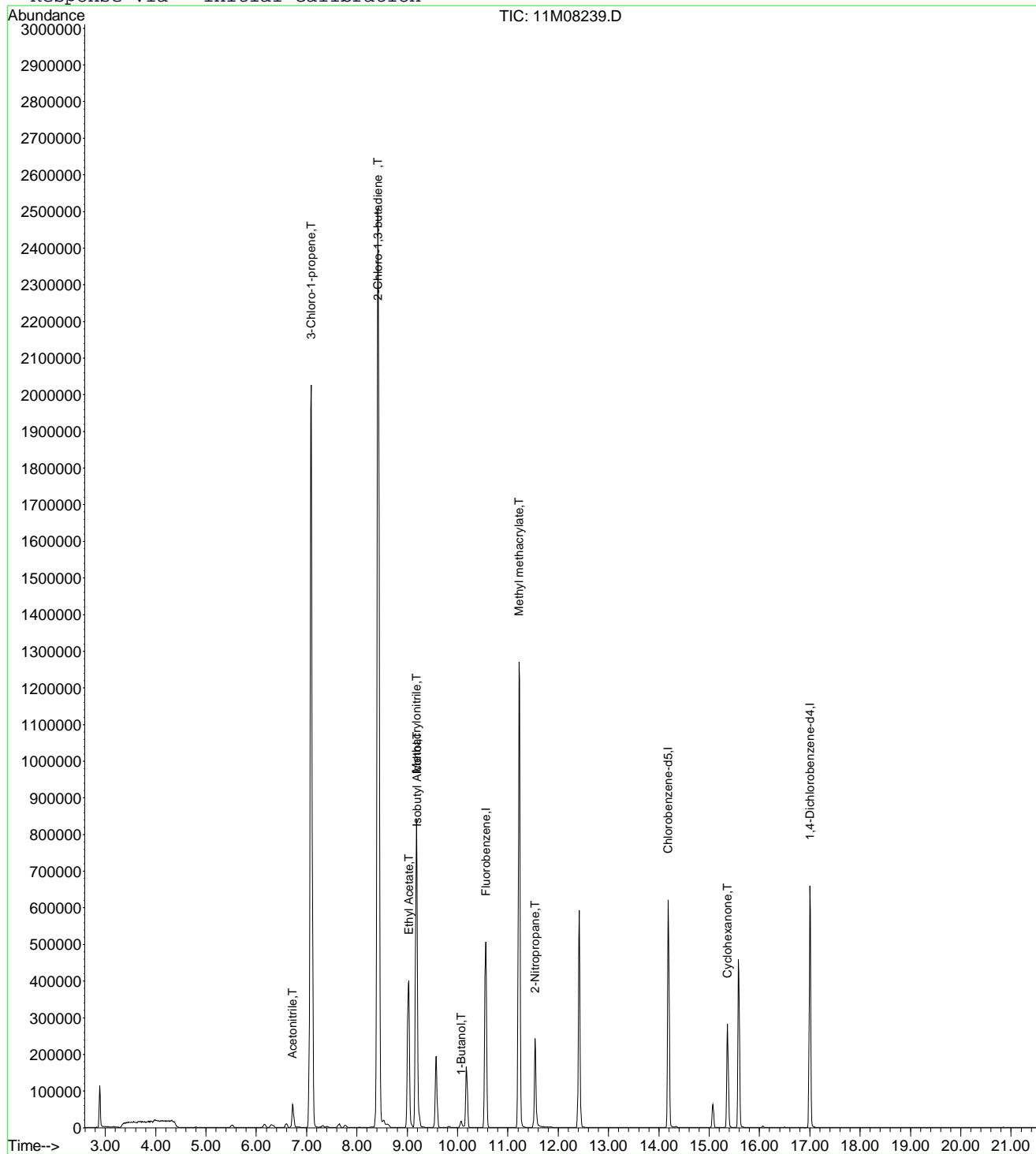
Page 1

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

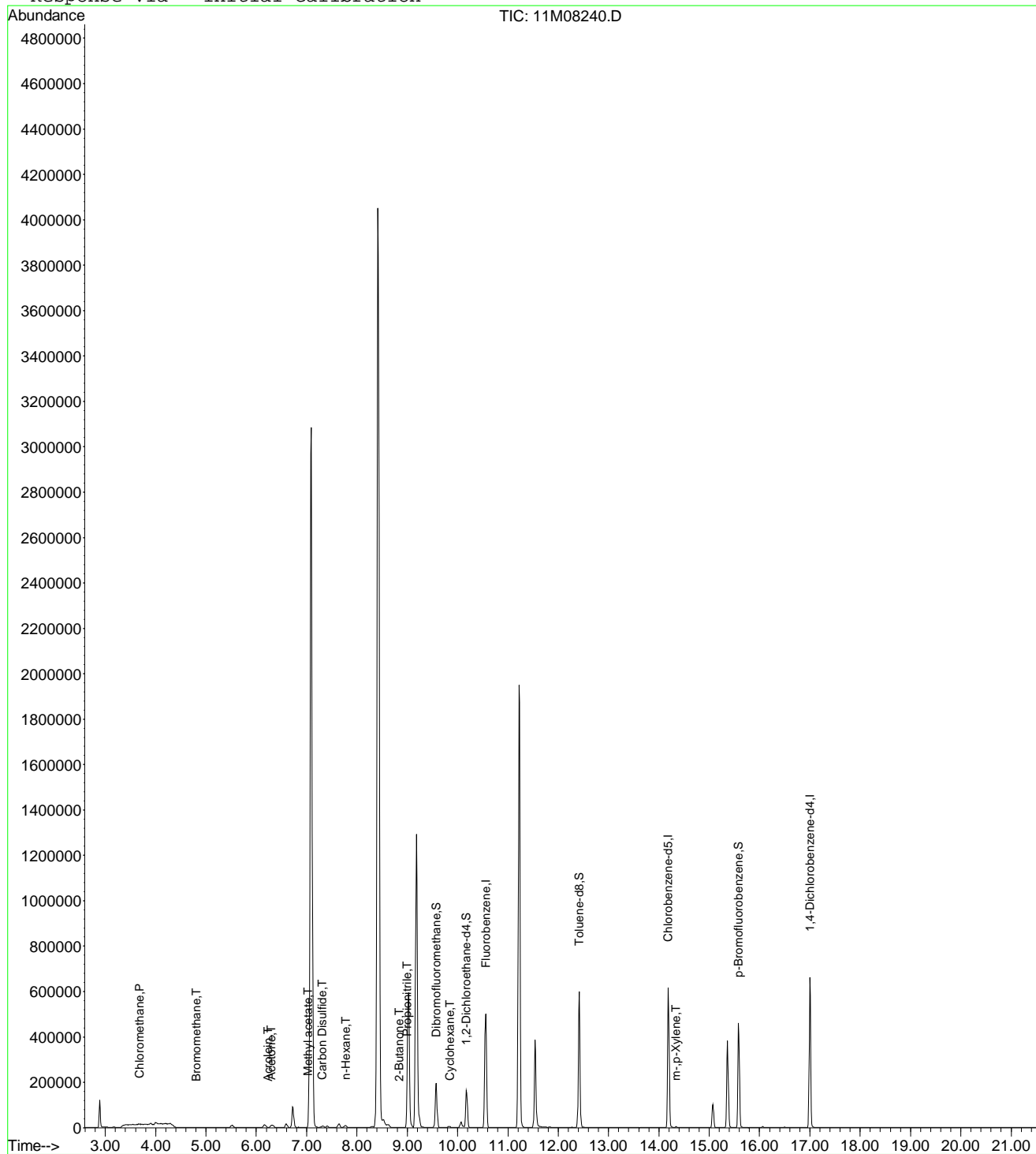
Page 1

Data File : C:\MSDchem\1\data\061415\11M08240.D
 Acq On : 14 Jun 2015 12:38
 Sample : WG527475-07 300ug/L STD8260
 Misc : 1,1 STD70883
 MS Integration Params: rteint.p
 Quant Time: Jun 14 13:00 2015

Vial: 7
 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\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

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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

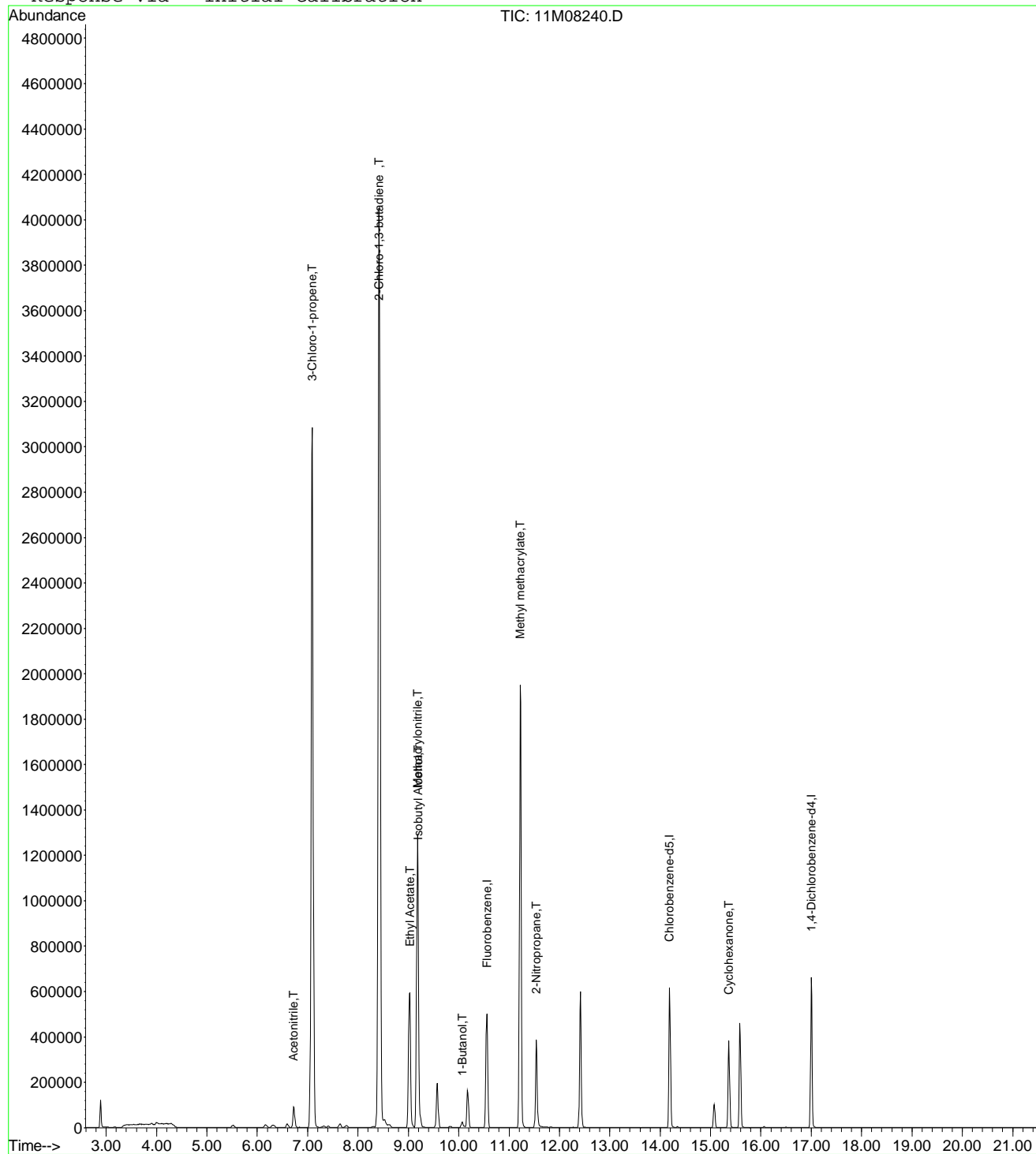
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Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)

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

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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

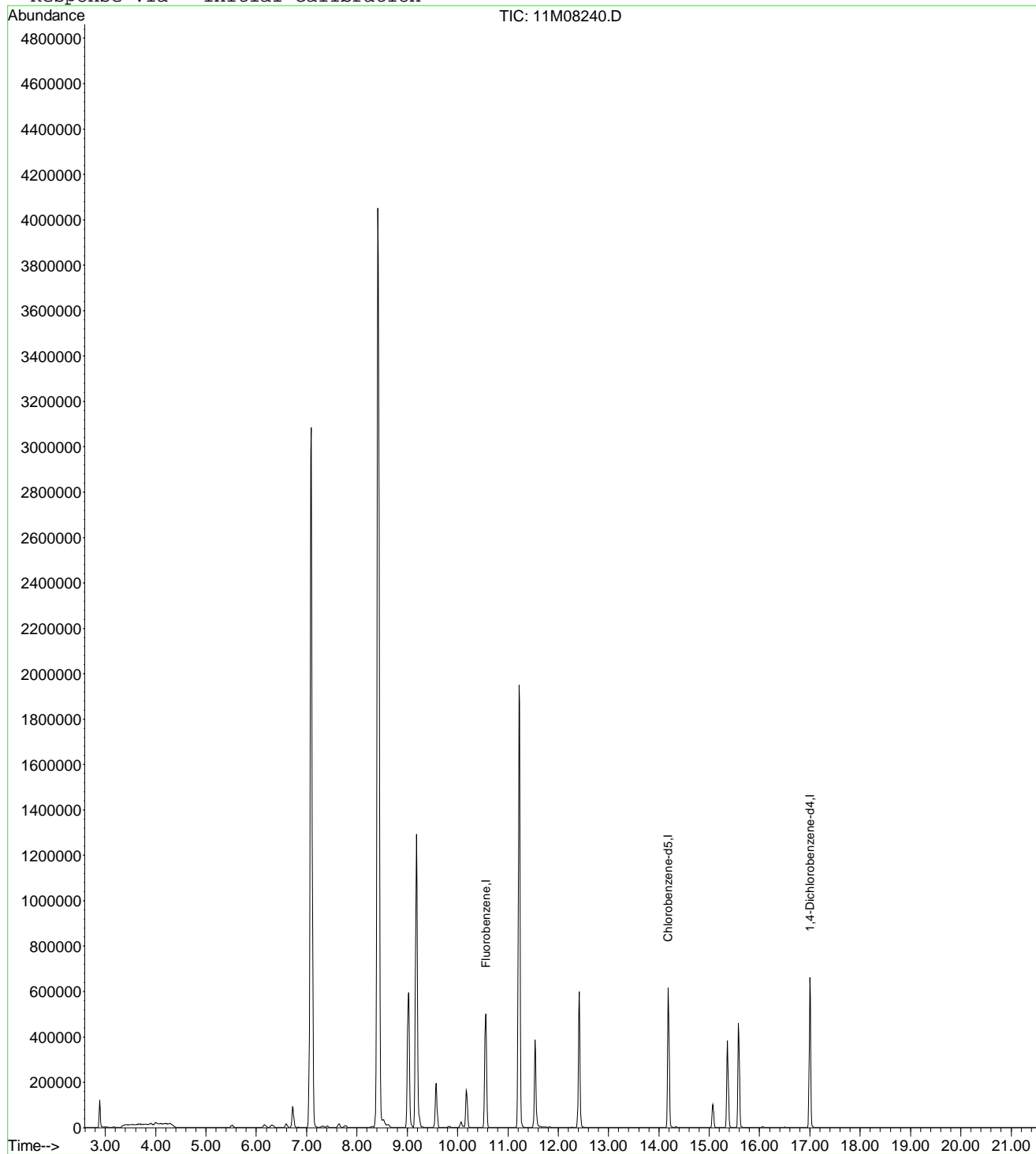
Page 1

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

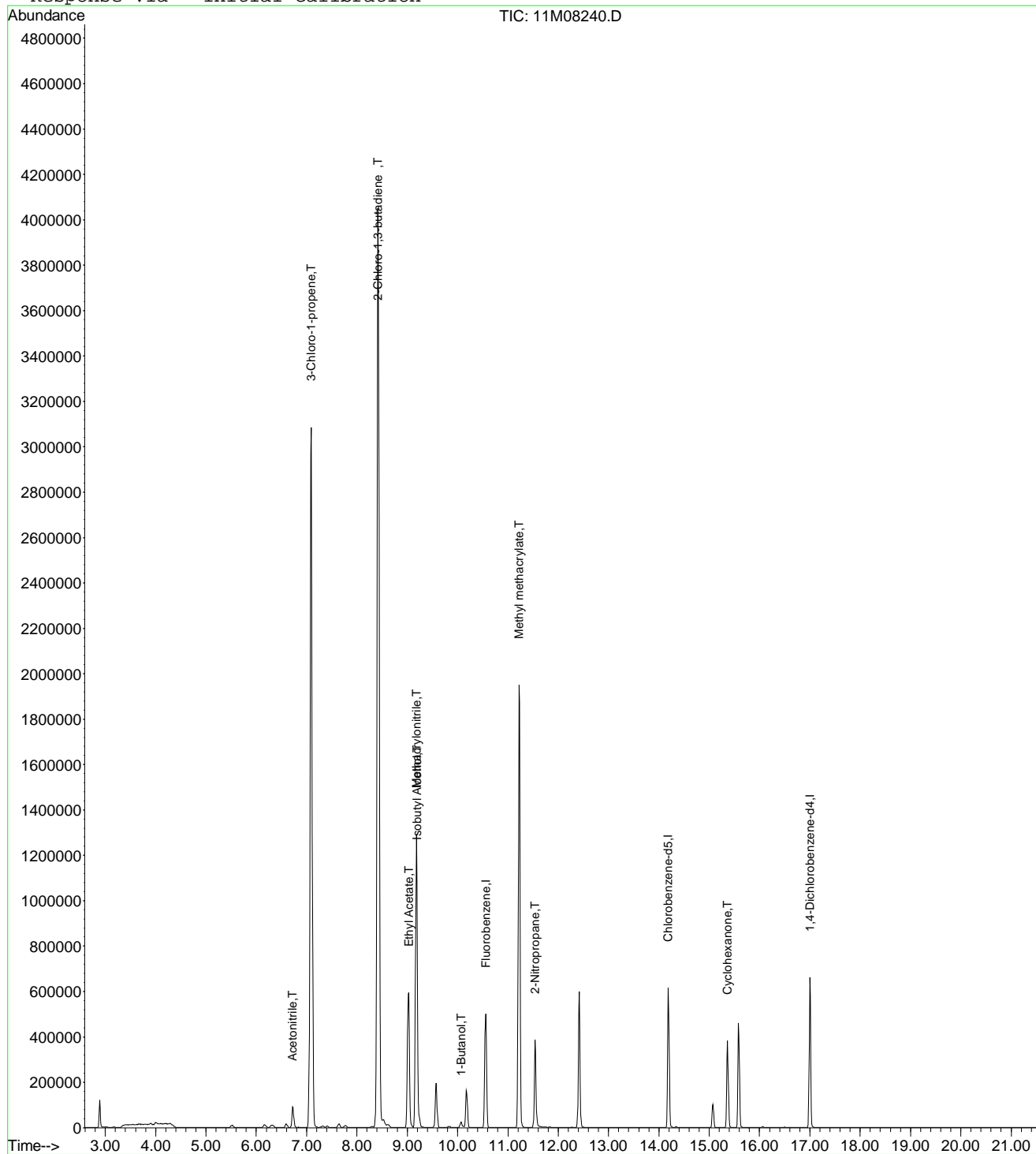
Page 1

Data File : C:\MSDCHEM\1\DATA\061415\11M08240.D
 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 11:43 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 11:41:47 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 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

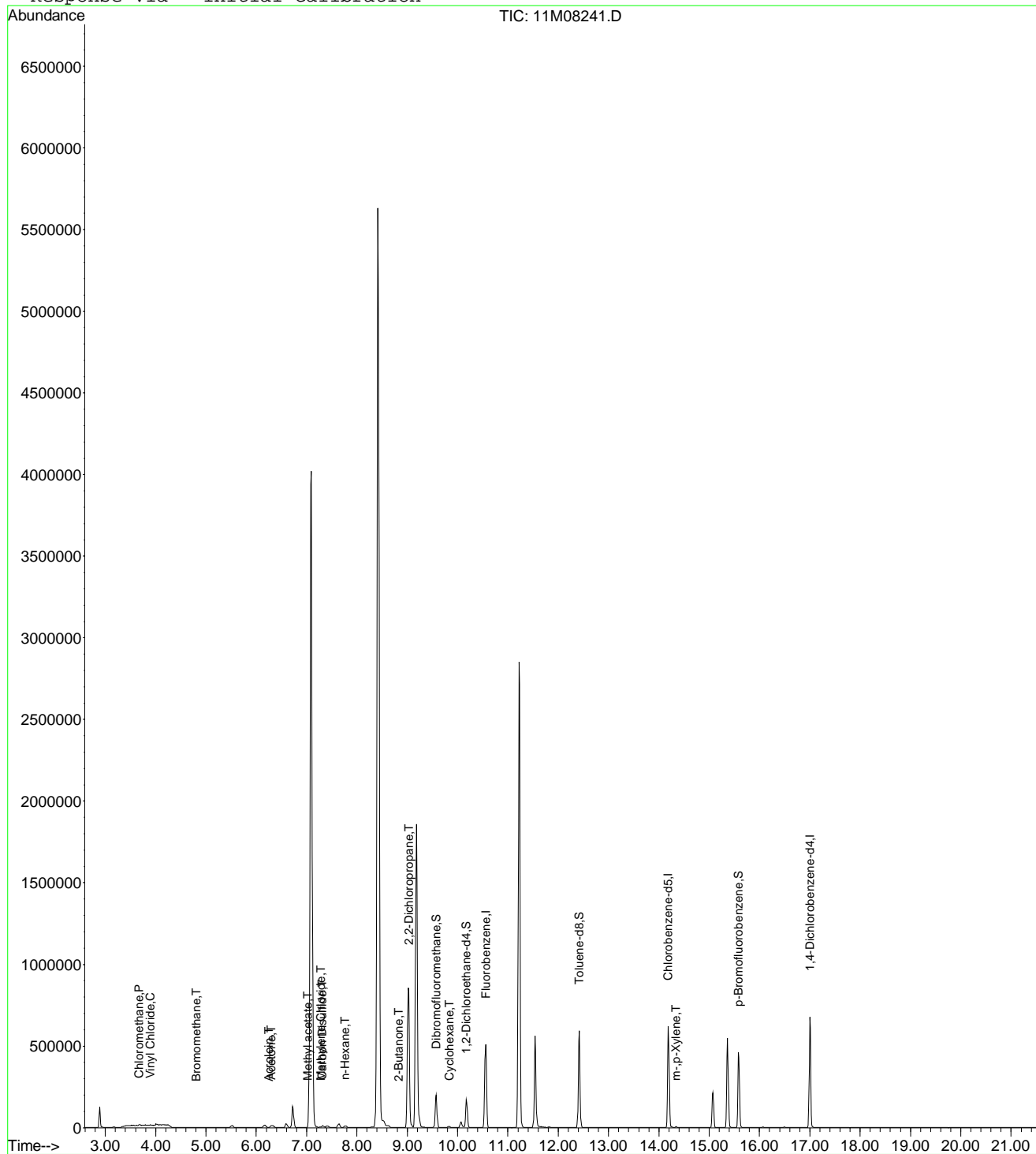
Page 1

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



11M08241.D 8260WTR.M

Sun Jun 14 13:32:14 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 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

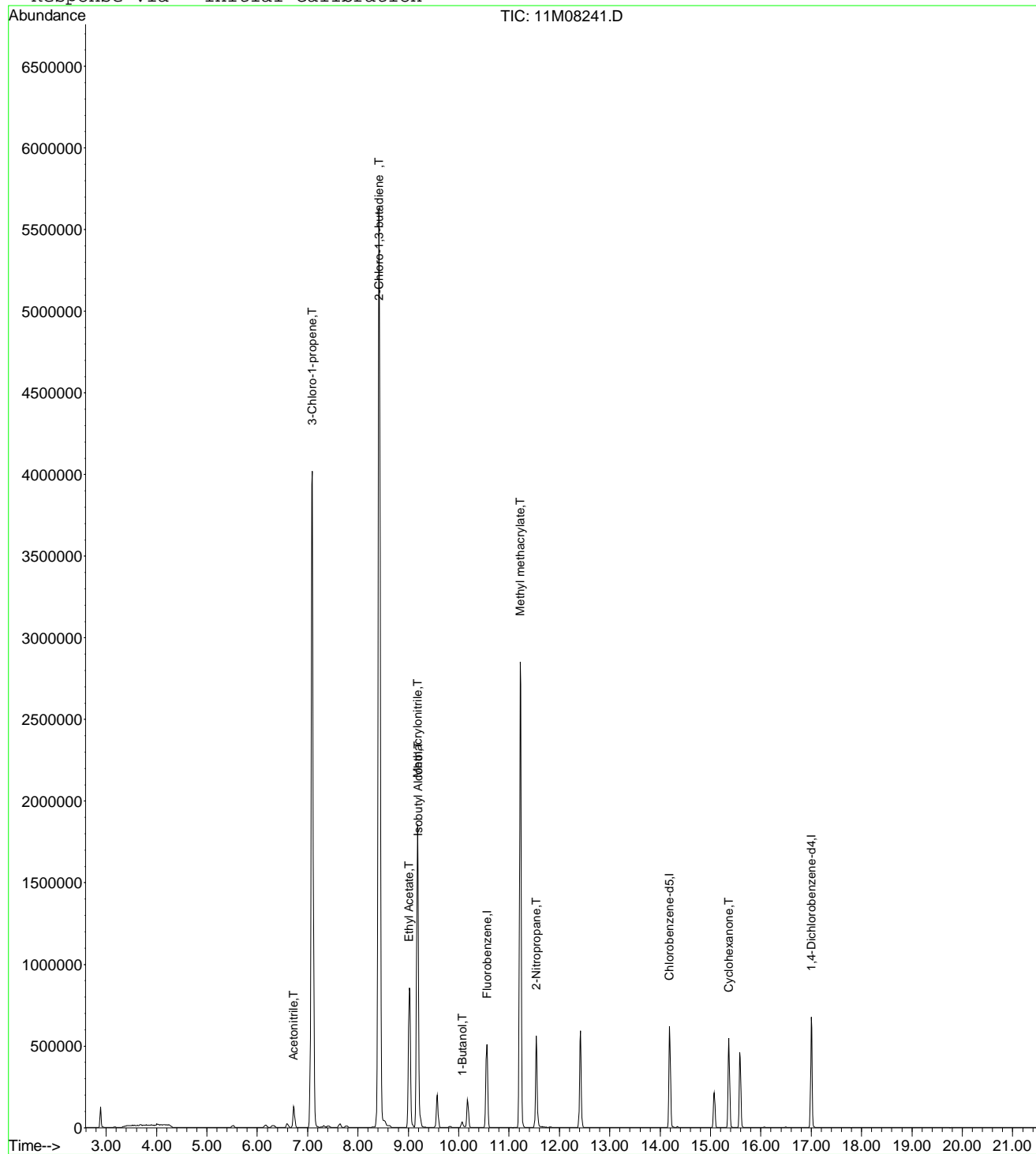
Quant Results File: A9FOOWT.RES

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

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 2015

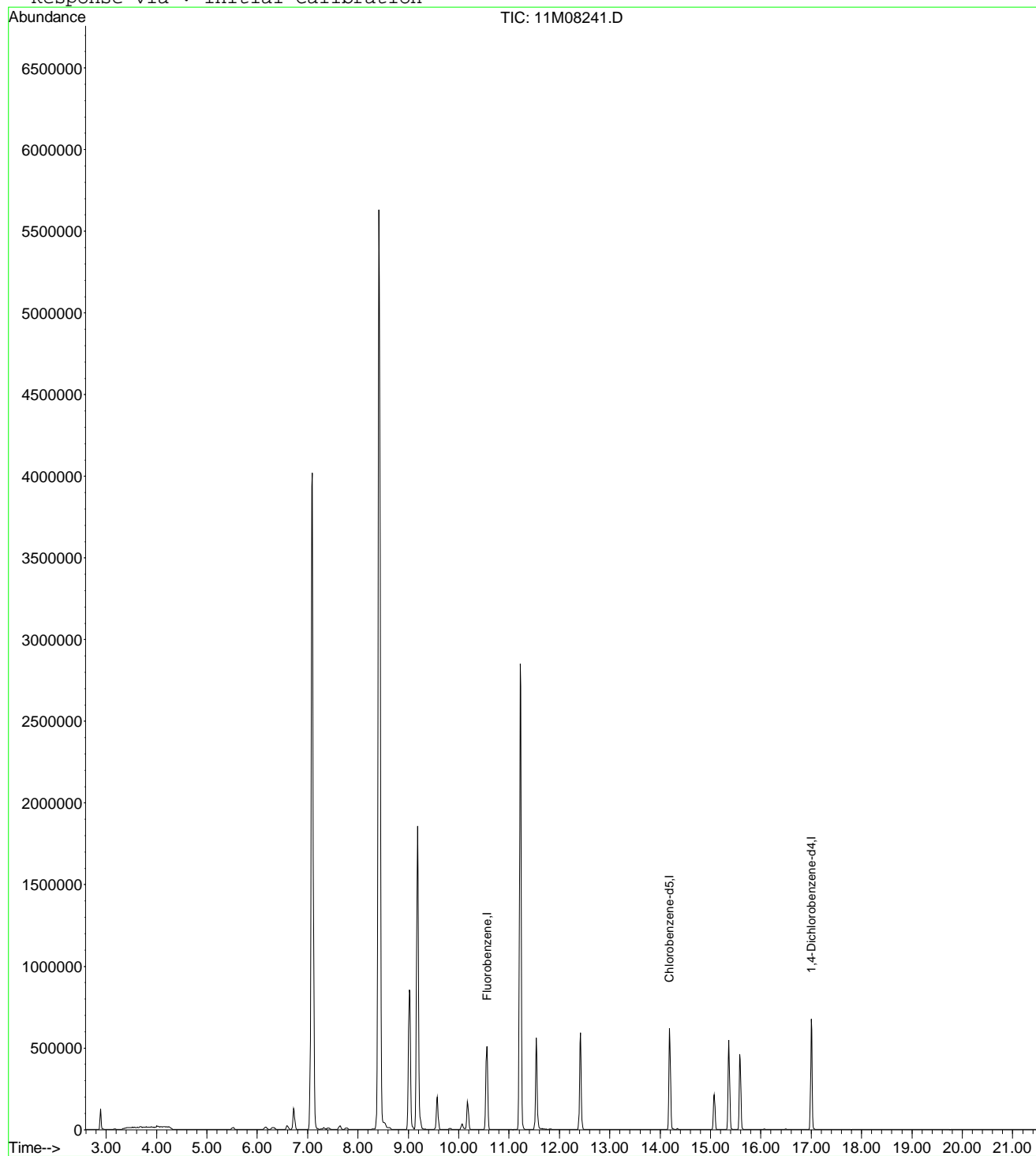
Quant Results File: A9FOOWT.RES

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



11M08241.D A9FOOWT.M

Thu Aug 20 11:28:14 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 11:43:53 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

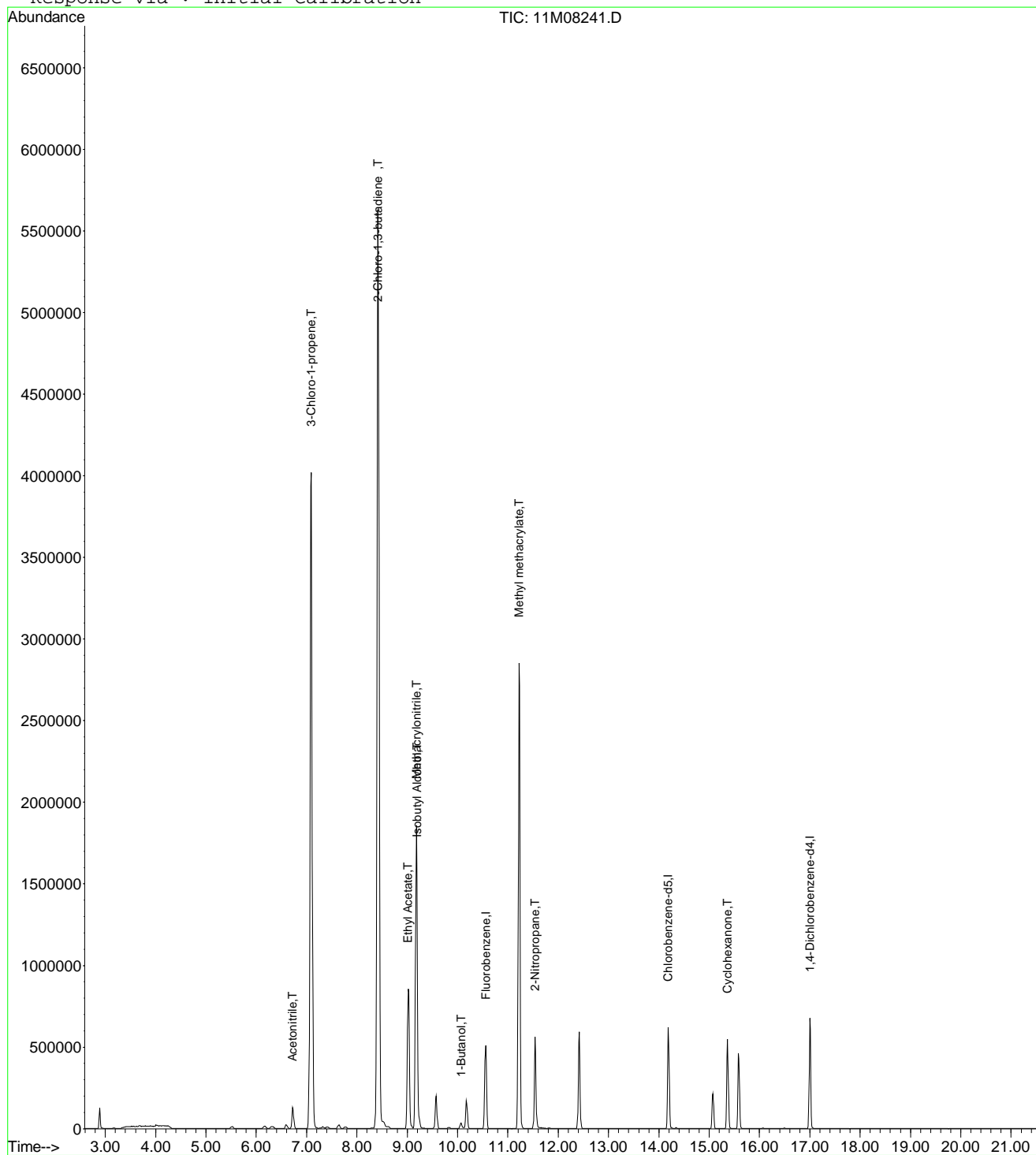
Page 1

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



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

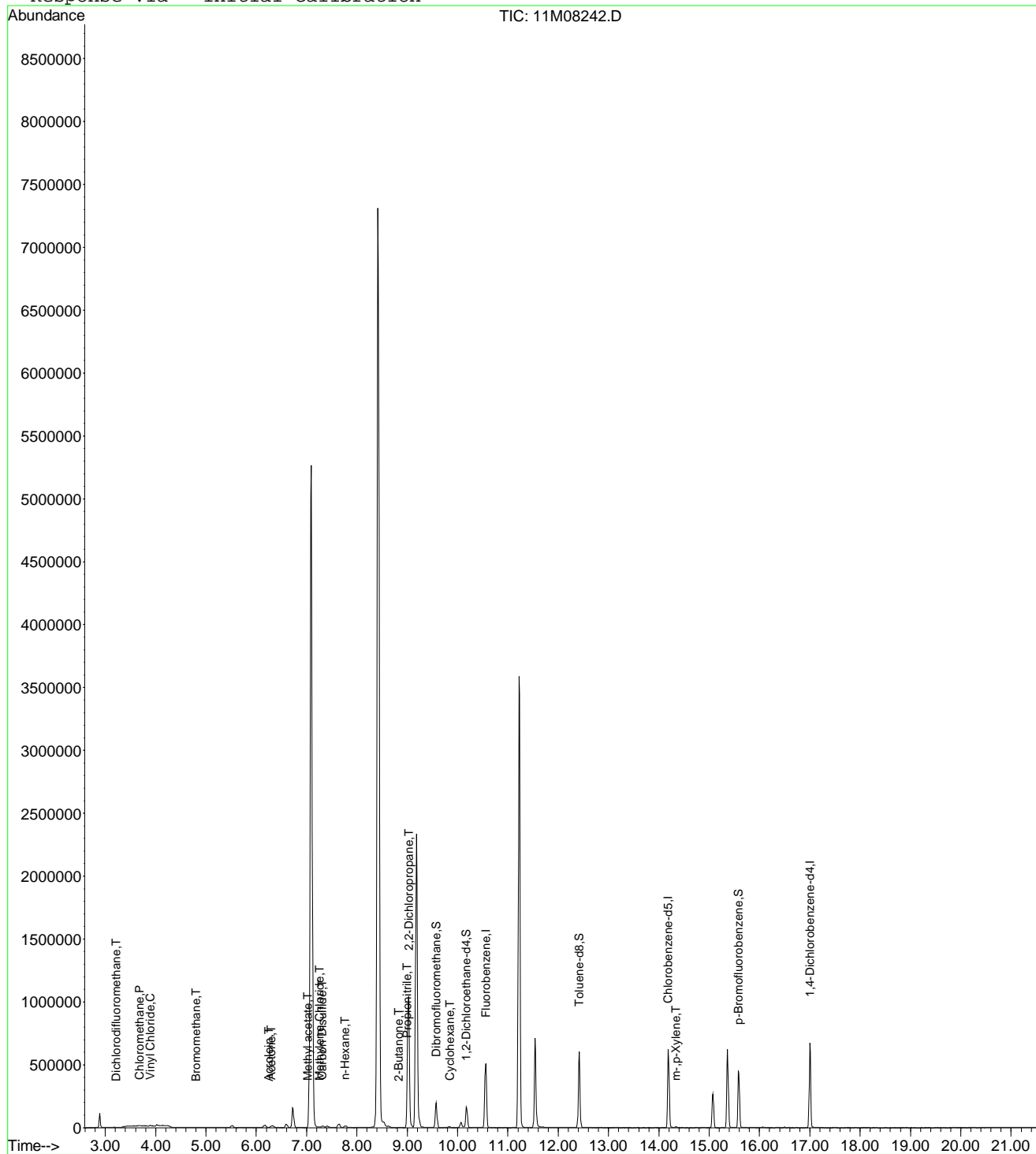
Page 1

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

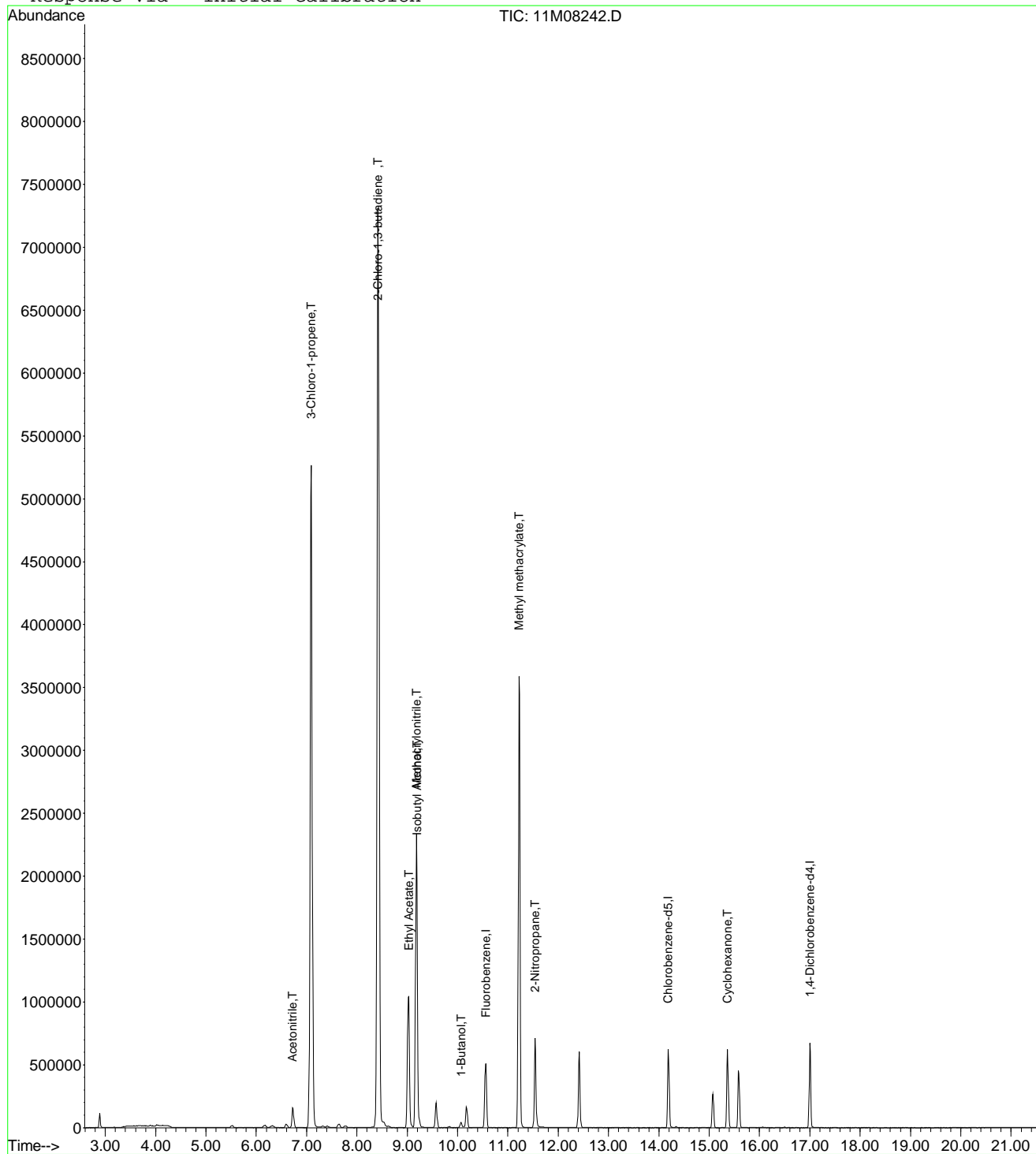
Page 1

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

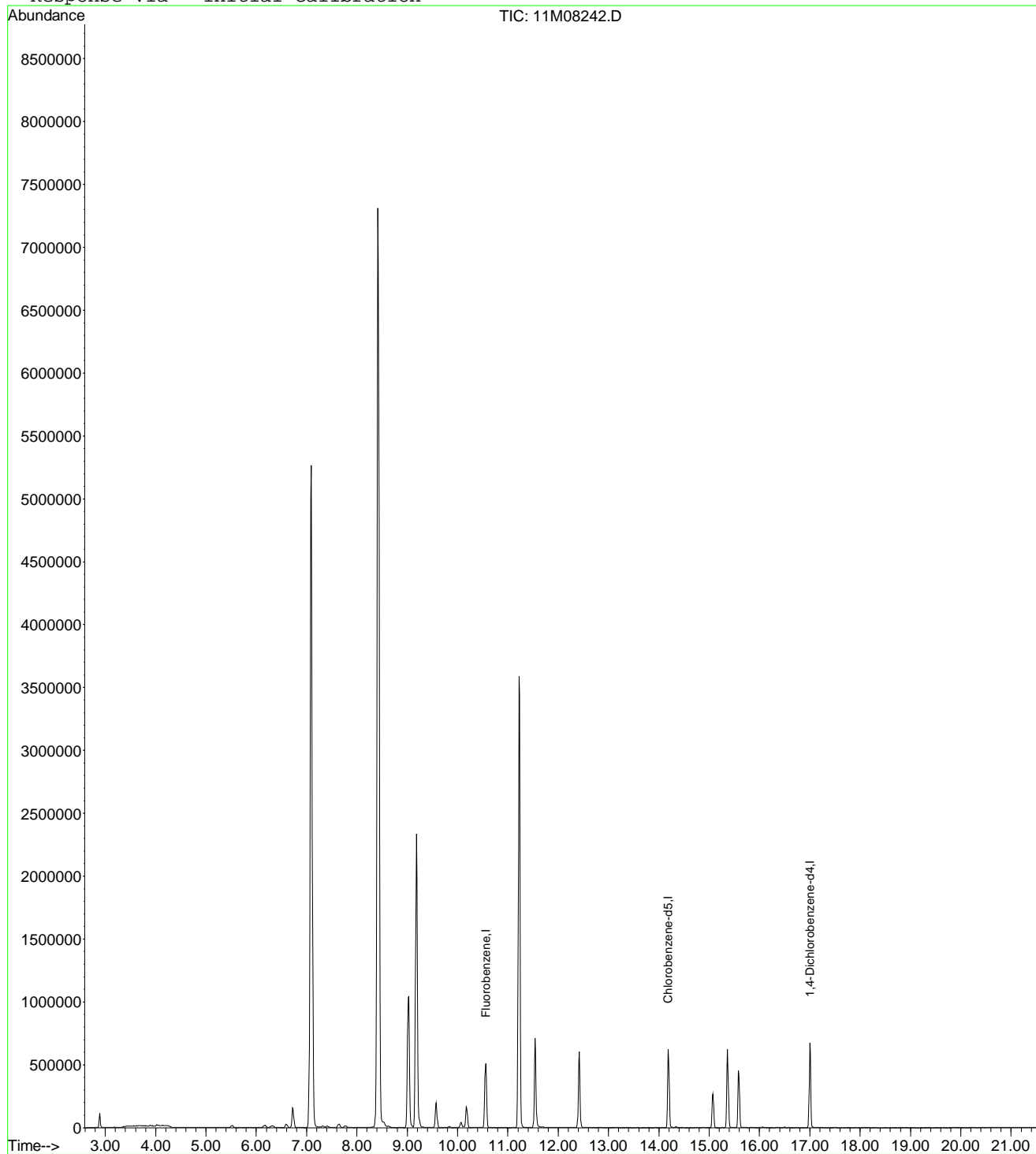
Page 1

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

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 2015

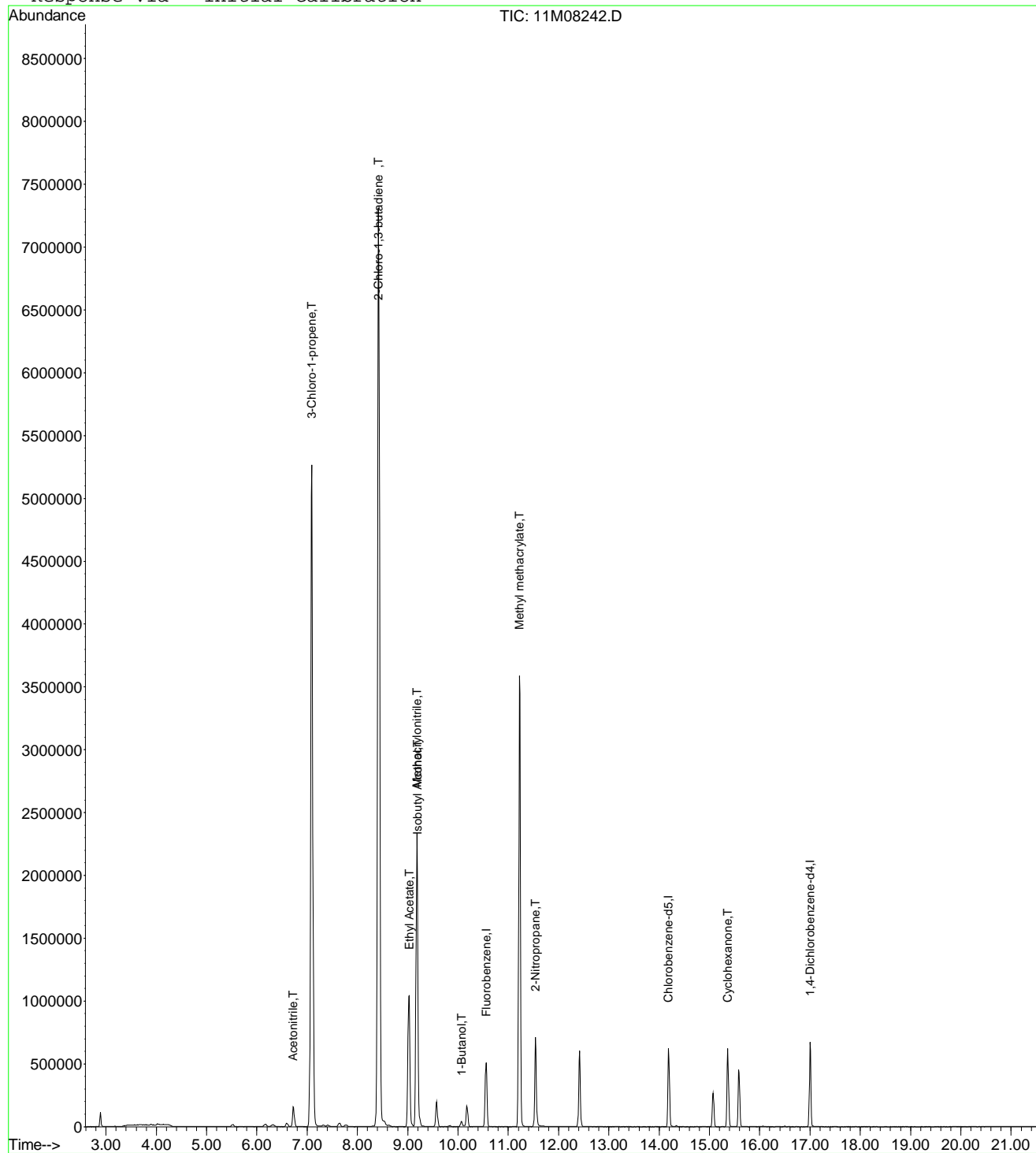
Quant Results File: A9FOOWT.RES

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

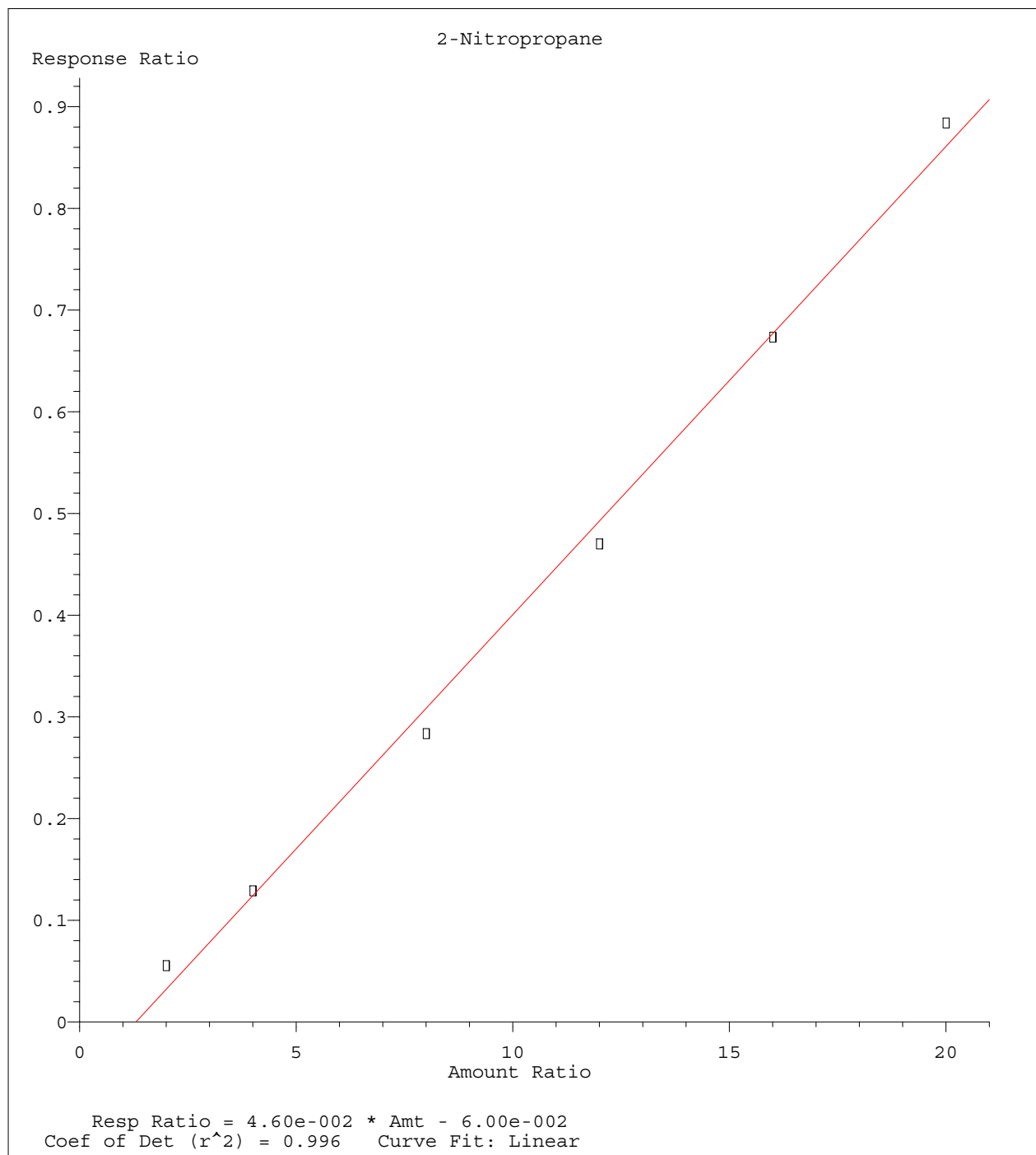
Response via : Initial Calibration



11M08242.D A9FOOWT.M

Thu Aug 20 11:43:55 2015

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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

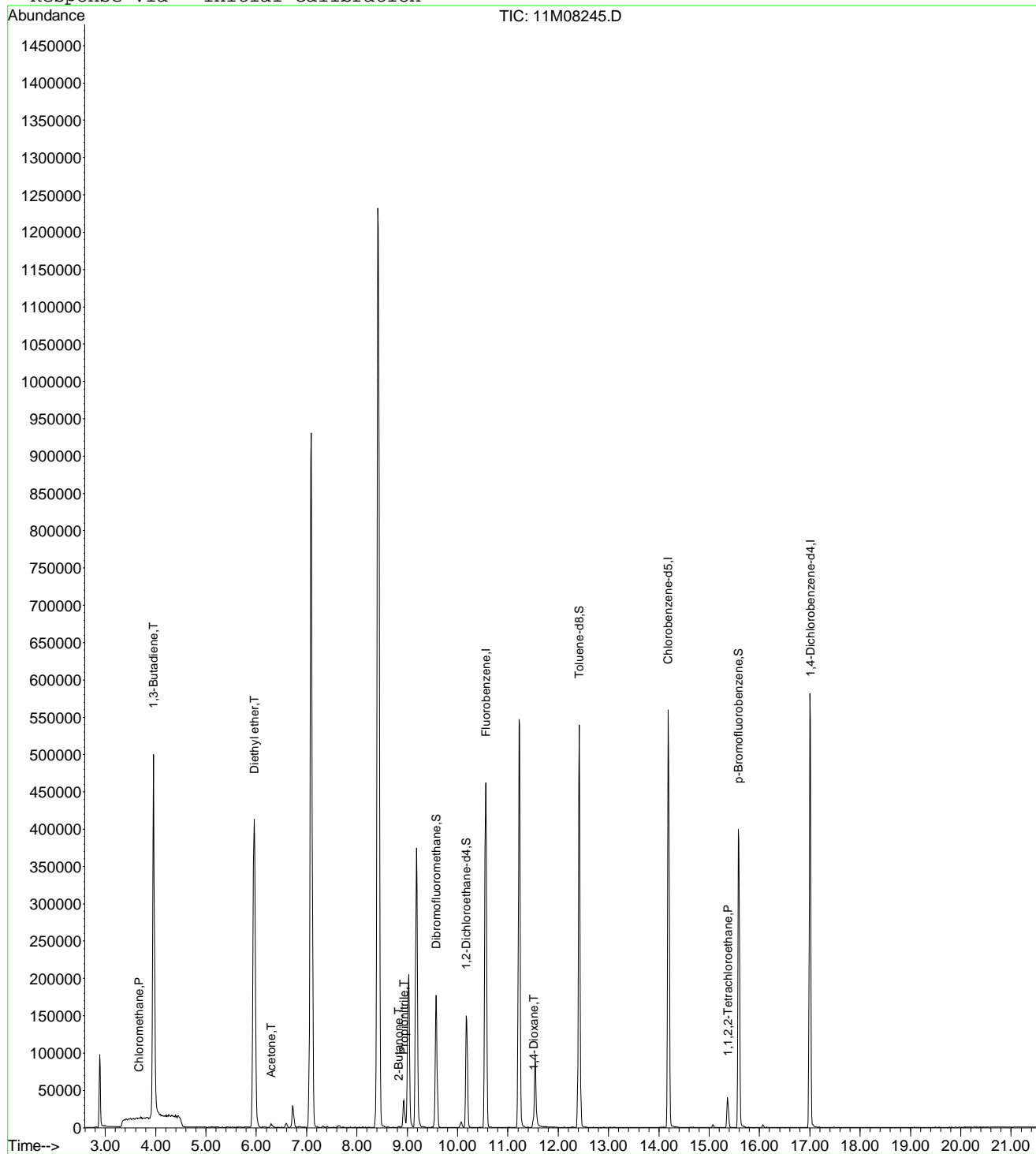
Page 1

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

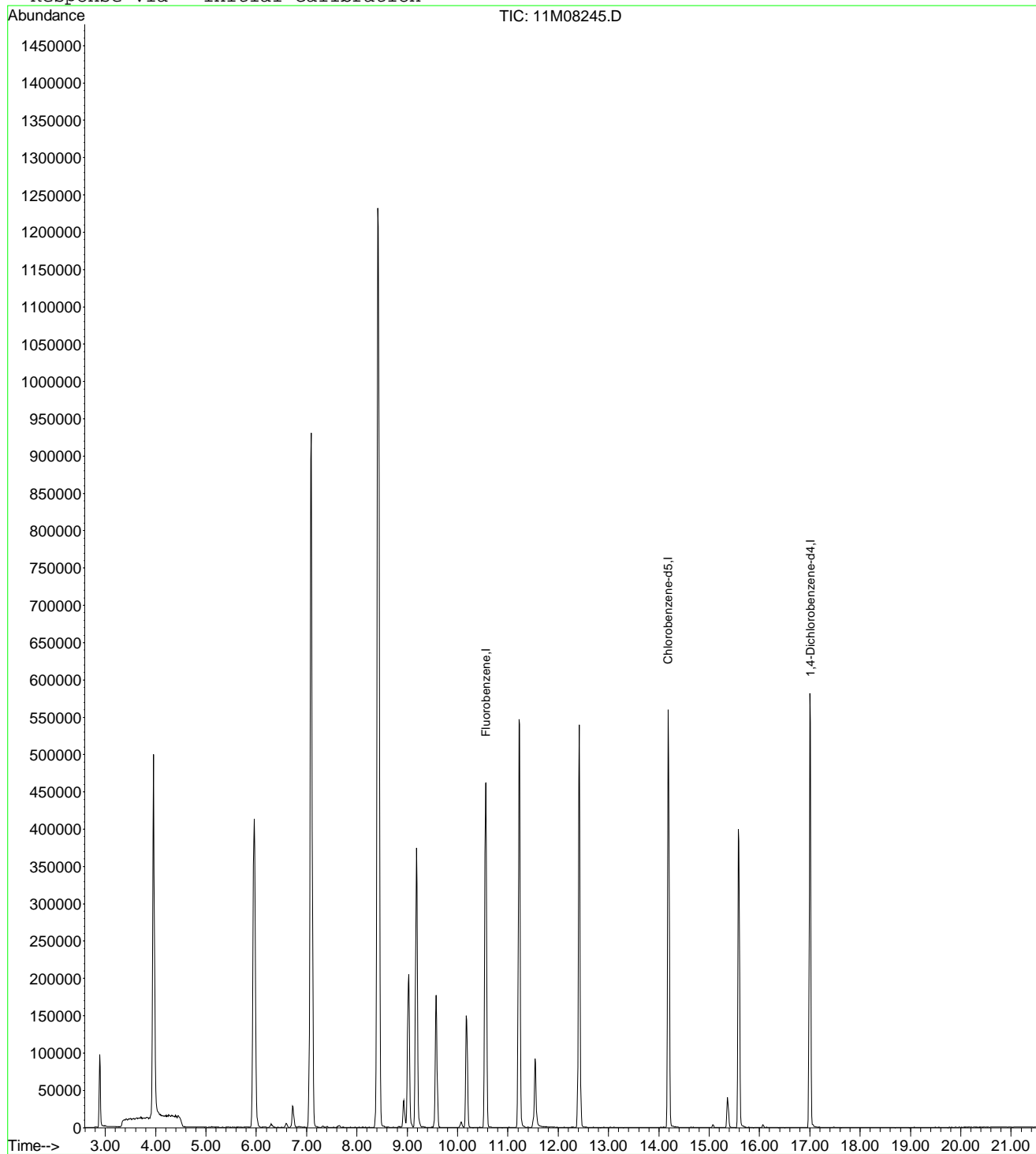
Page 1

Data File : C:\MSDCHEM\1\DATA\061415\11M08245.D
 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 11:28 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 11:27:18 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 11:43:56 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

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 2015

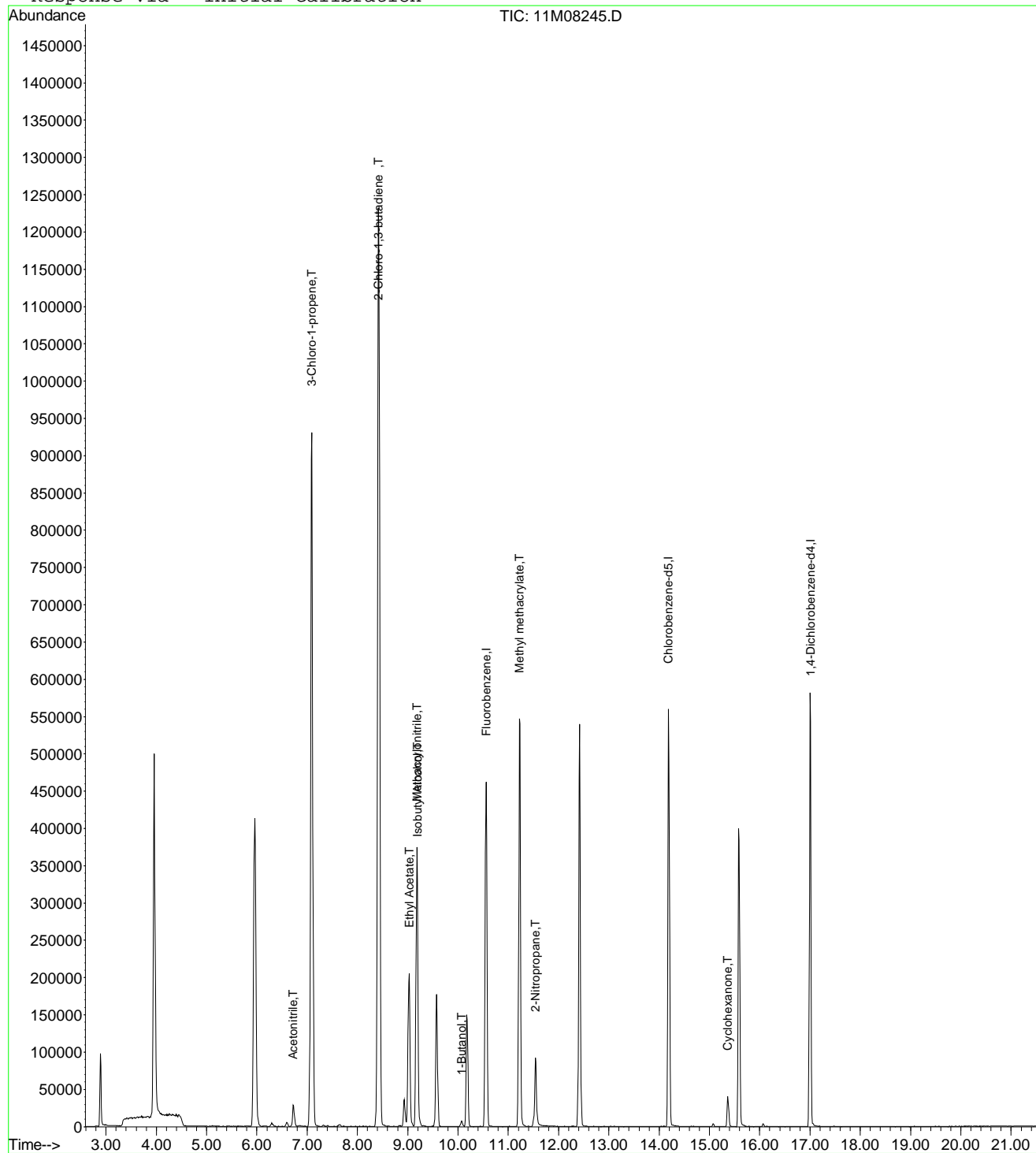
Quant Results File: A9FOOWT.RES

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



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\051316\11M11837.D Vial: 3
 Acq On : 13 May 2016 14:40 Operator: JDS
 Sample : WG568769-02 0.3ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 13 17:04:20 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Fri May 13 11:37:47 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	538041	25.00	ug/L	-0.01
56) Chlorobenzene-d5	14.25	117	450050	25.00	ug/L	-0.01
76) 1,4-Dichlorobenzene-d4	17.06	152	251600	25.00	ug/L	-0.01

System Monitoring Compounds

37) Dibromofluoromethane	0.00	111	0	0.0000	ug/L	
Spiked Amount	25.000	Range 86 - 118	Recovery	=	0.00%#	
43) 1,2-Dichloroethane-d4	0.00	65	0	0.0000	ug/L	
Spiked Amount	25.000	Range 80 - 120	Recovery	=	0.00%#	
57) Toluene-d8	12.47	98	210	0.0099	ug/L	-0.01
Spiked Amount	25.000	Range 88 - 110	Recovery	=	0.04%#	
78) p-Bromofluorobenzene	15.64	95	566	0.0689	ug/L	-0.01
Spiked Amount	25.000	Range 86 - 115	Recovery	=	0.28%#	

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.27	85	2475	0.3135	ug/L	# 66
3) Chloromethane	3.72	50	4639	0.6471	ug/L	91
4) Vinyl Chloride	3.96	62	1882	0.3288	ug/L	# 44
5) 1,3-Butadiene	4.01	54	1564	0.2900	ug/L	# 19
6) Bromomethane	4.84	94	1717	0.4723	ug/L	83
7) Chloroethane	5.00	64	616	0.1589	ug/L	# 45
8) Trichlorofluoromethane	5.49	101	3531	0.3330	ug/L	97
10) Isoprene	6.04	67	1746	0.2381	ug/L	92
12) 1,1,2-Trichloro-1,2,2-Trif	6.26	101	1344	0.2515	ug/L	96
13) Acetone	6.34	43	2389	1.4850	ug/L	# 45
14) 1,1-Dichloroethene	6.56	61	3780	0.3817	ug/L	78
16) Dimethyl Sulfide	6.80	62	762	0.1697	ug/L	78
18) Methyl acetate	7.02	43	24685	4.4975	ug/L	# 70
19) Methylene Chloride	7.31	84	1766	0.3184	ug/L	74
20) Carbon Disulfide	7.36	76	5848	0.3373	ug/L	92
22) Methyl Tert Butyl Ether	7.54	73	3068	0.2131	ug/L	# 48
23) trans-1,2-Dichloroethene	7.75	96	1449	0.2556	ug/L	91
24) n-Hexane	7.82	57	3745	0.4031	ug/L	# 73
26) Vinyl Acetate	8.30	43	2410	0.6995	ug/L	# 78
27) 1,1-Dichloroethane	8.35	63	3312	0.2969	ug/L	# 76
31) 2,2-Dichloropropane	9.10	77	2449	0.3040	ug/L	# 42
32) cis-1,2-Dichloroethene	9.15	96	1729	0.2748	ug/L	96
33) Chloroform	9.35	83	3792	0.3639	ug/L	92
35) Bromochloromethane	9.56	130	948	0.2355	ug/L	# 68
38) 1,1,1-Trichloroethane	9.85	97	3449	0.3423	ug/L	# 79
39) Cyclohexane	9.88	56	3639	0.2986	ug/L	# 84
40) 1,1-Dichloropropene	10.04	75	2365	0.3106	ug/L	# 53
41) Carbon Tetrachloride	10.17	117	2613	0.2748	ug/L	87
44) 1,2-Dichloroethane	10.35	62	2493	0.2788	ug/L	# 73
45) Benzene	10.38	78	7133	0.3275	ug/L	99
46) Trichloroethene	11.09	130	1973	0.2780	ug/L	93
47) Methylcyclohexane	11.17	83	2570	0.2986	ug/L	84
48) 1,2-Dichloropropane	11.29	63	1665	0.2692	ug/L	87
50) Bromodichloromethane	11.57	83	2418	0.2950	ug/L	# 82
51) Dibromomethane	11.65	93	756	0.2331	ug/L	88
54) cis-1,3-Dichloropropene	12.17	75	1869	0.2166	ug/L	# 82
55) Dimethyl Disulfide	12.42	79	1028	0.1910	ug/L	95
58) Toluene	12.57	91	7355	0.3156	ug/L	91
59) Ethyl Methacrylate	12.64	69	1041	0.1887	ug/L	88
60) trans-1,3-Dichloropropene	12.72	75	1951	0.2556	ug/L	# 51

(#) = qualifier out of range (m) = manual integration
 11M11837.D 8260WT.M Fri May 13 17:04:21 2016

Data File : C:\MSDCHEM\1\DATA\051316\11M11837.D Vial: 3
 Acq On : 13 May 2016 14:40 Operator: JDS
 Sample : WG568769-02 0.3ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 13 17:04:20 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Fri May 13 11:37:47 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
61) 1,1,2-Trichloroethane	12.92	97	1087	0.2492	ug/L	87
62) 2-Hexanone	12.86	43	687	0.1910	ug/L #	29
63) 1,3-Dichloropropane	13.21	76	1673	0.2309	ug/L	94
64) Tetrachloroethene	13.34	164	1703	0.3238	ug/L	94
65) Dibromochloromethane	13.59	129	1515	0.2406	ug/L	92
66) 1,2-Dibromoethane	13.82	107	966	0.2181	ug/L	98
67) 1-Chlorohexane	13.89	91	2128	0.2784	ug/L	97
68) Chlorobenzene	14.29	112	5248	0.3062	ug/L	99
69) 1,1,1,2-Tetrachloroethane	14.32	131	2025	0.3082	ug/L	98
70) Ethylbenzene	14.31	106	2602	0.2992	ug/L	88
71) m-,p-Xylene	14.40	106	6296	0.6083	ug/L	82
72) o-Xylene	14.92	106	3032	0.2937	ug/L	95
73) Styrene	14.95	104	4953	0.2828	ug/L	95
75) Isopropylbenzene	15.31	105	7848	0.3006	ug/L	93
77) 1,1,2,2-Tetrachloroethane	15.52	83	1145	0.2759	ug/L	68
81) n-Propylbenzene	15.79	91	9421	0.3332	ug/L	94
82) Bromobenzene	15.92	156	2002	0.2551	ug/L	66
83) 1,3,5-Trimethylbenzene	15.95	105	6742	0.3138	ug/L	91
84) 2-Chlorotoluene	16.05	91	6735	0.3228	ug/L	96
85) 4-Chlorotoluene	16.09	91	6023	0.3518	ug/L	99
86) a-Methylstyrene	16.34	118	2850	0.2387	ug/L	95
87) tert-Butylbenzene	16.39	134	1197	0.2539	ug/L	64
88) 1,2,4-Trimethylbenzene	16.44	105	6992	0.3180	ug/L	88
89) sec-Butylbenzene	16.65	105	8335	0.3278	ug/L	97
90) p-Isopropyltoluene	16.79	119	7094	0.3065	ug/L	96
91) 1,3-Dichlorobenzene	16.98	146	4505	0.3090	ug/L	96
92) 1,4-Dichlorobenzene	17.10	146	4475	0.3006	ug/L #	1
93) n-Butylbenzene	17.28	91	7076	0.3396	ug/L #	93
94) 1,2-Dichlorobenzene	17.56	146	4016	0.2922	ug/L	100
96) 1,2,4-Trichlorobenzene	19.55	180	2964	0.2902	ug/L	99
97) Hexachlorobutadiene	19.69	225	1160	0.2796	ug/L #	71
98) Naphthalene	19.90	128	4679	0.2394	ug/L #	93
99) 1,2,3-Trichlorobenzene	20.19	180	2578	0.2696	ug/L	87

(#) = qualifier out of range (m) = manual integration
 11M11837.D 8260WT.M Fri May 13 17:04:21 2016

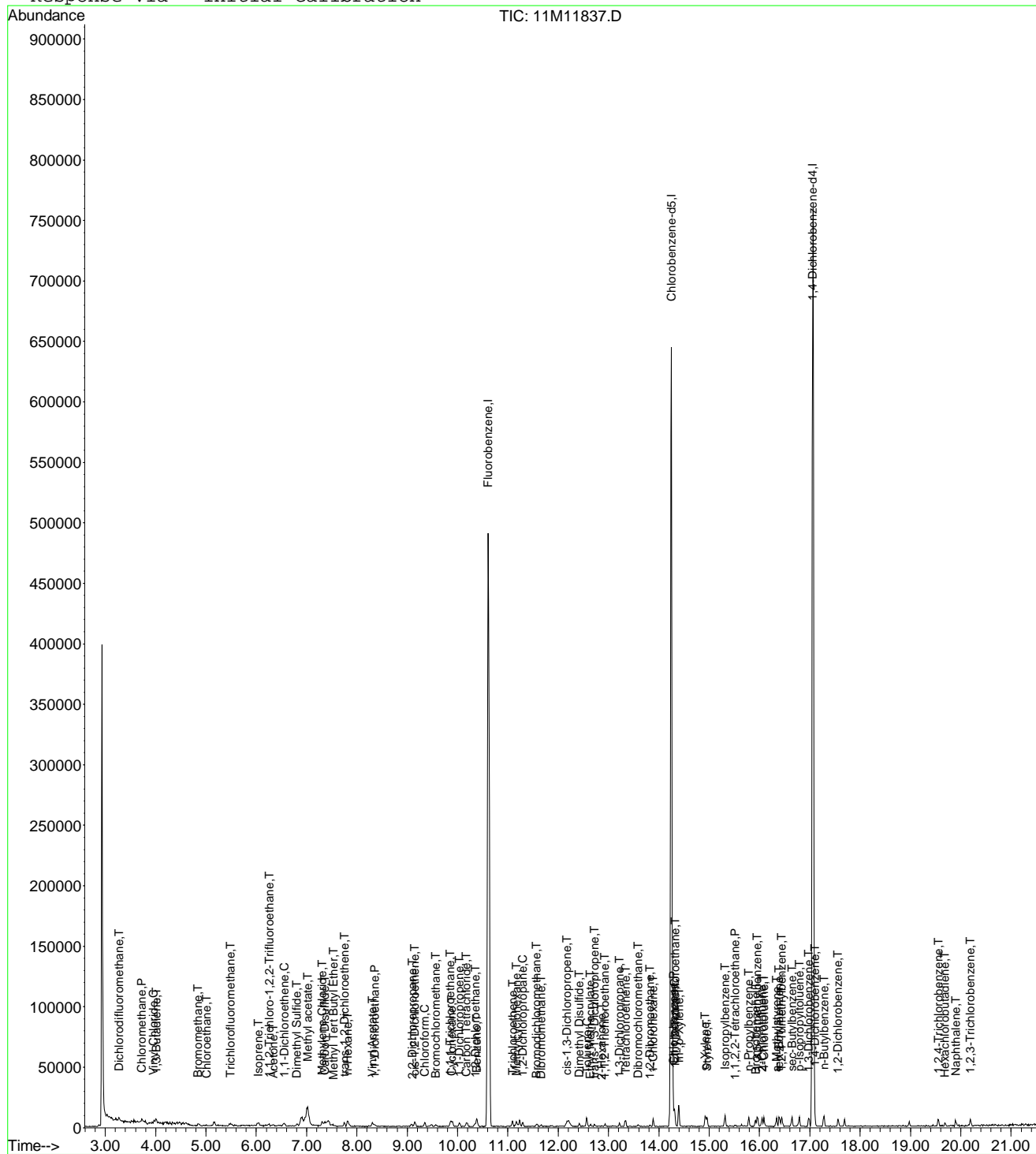
Page 2

Data File : C:\MSDCHEM\1\DATA\051316\11M11837.D
Acq On : 13 May 2016 14:40
Sample : WG568769-02 0.3ug/L ICAL STD 8260
Misc : 1,1 STD76127
MS Integration Params: rteint.p
Quant Time: May 13 17:04 2016

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

Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Fri May 13 11:37:47 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\051316\11M11837.D Vial: 3
 Acq On : 13 May 2016 14:40 Operator: JDS
 Sample : WG568769-02 0.3ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:40:10 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	0.2936	0.0	0	0.00
3 P	Chloromethane	-1.0000	0.6871	0.0	0	0.00
4 C	Vinyl Chloride	-1.0000	0.3357	0.0	0	0.00
5 T	1,3-Butadiene	-1.0000	0.2805	0.0	0	0.01
6 T	Bromomethane	-1.0000	0.4454	0.0	0	-0.01
7 T	Chloroethane	-1.0000	0.1710	0.0	0	0.00
8 T	Trichlorofluoromethane	-1.0000	0.3160	0.0	0	0.01
9 T	Diethyl ether	-1.0000	0.0000	0.0	0	-6.01#
10 T	Isoprene	-1.0000	0.2535	0.0	0	0.00
11 T	Acrolein	-1.0000	0.0000	0.0	0	-6.23#
12 T	1,1,2-Trichloro-1,2,2-Trifl	-1.0000	0.2478	0.0	0	0.01
13 T	Acetone	-1.0000	1.8699	0.0	0	0.00
14 C	1,1-Dichloroethene	-1.0000	0.3838	0.0	0	0.00
15 T	Tert-Butyl Alcohol	-1.0000	0.0000	0.0	0	-6.66#
16 T	Dimethyl Sulfide	-1.0000	0.1937	0.0	0	-0.01
17 T	Iodomethane	-1.0000	0.0000	0.0	0	-7.06#
18 T	Methyl acetate	-1.0000	5.1442	0.0	0	-0.04
19 T	Methylene Chloride	-1.0000	0.3464	0.0	0	0.00
20 T	Carbon Disulfide	-1.0000	0.3546	0.0	0	0.00
21 T	Acrylonitrile	-1.0000	0.0000	0.0	0	-7.49#
22 T	Methyl Tert Butyl Ether	-1.0000	0.2413	0.0	0	0.02
23 T	trans-1,2-Dichloroethene	-1.0000	0.2658	0.0	0	0.01
24 T	n-Hexane	-1.0000	0.4125	0.0	0	0.00
25 T	Diisopropyl ether	-1.0000	0.0083	0.0	0	0.08
26 T	Vinyl Acetate	-1.0000	2.6933	0.0	0	-0.01
27 P	1,1-Dichloroethane	-1.0000	0.3028	0.0	0	0.01
28 T	Ethyl-Tert-Butyl ether	-1.0000	0.0000	0.0	0	-8.70#
29 T	2-Butanone	-1.0000	0.0000	0.0	0	-8.87#
30 T	Propionitrile	-1.0000	0.0000	0.0	0	-8.97#
31 T	2,2-Dichloropropane	-1.0000	0.2862	0.0	0	0.01
32 T	cis-1,2-Dichloroethene	-1.0000	0.2877	0.0	0	0.00
33 C	Chloroform	0.3000	0.3530	-17.7	100	0.00
34 T	1-Bromopropane	-1.0000	0.0000	0.0	0	-9.48#
35 T	Bromochloromethane	-1.0000	0.2656	0.0	0	-0.01
36 T	Tetrahydrofuran	-1.0000	0.0000	0.0	0	-9.60#
37 S	Dibromodifluoromethane	-1.0000	0.0000	0.0	0	-9.63#
38 T	1,1,1-Trichloroethane	-1.0000	0.3263	0.0	0	0.00
39 T	Cyclohexane	-1.0000	0.3159	0.0	0	0.00
40 T	1,1-Dichloropropene	-1.0000	0.3134	0.0	0	0.00
41 T	Carbon Tetrachloride	-1.0000	0.2532	0.0	0	-0.01
42 T	Tert-Amyl-Methyl ether	-1.0000	0.0152	0.0	0	-0.09
43 S	1,2-Dichloroethane-d4	-1.0000	0.0000	0.0	0	-10.23#
44 T	1,2-Dichloroethane	-1.0000	0.2858	0.0	0	0.01
45 T	Benzene	-1.0000	0.3452	0.0	0	0.00
46 T	Trichloroethene	-1.0000	0.2938	0.0	0	0.00
47 T	Methylcyclohexane	-1.0000	0.3101	0.0	0	0.00
48 C	1,2-Dichloropropane	-1.0000	0.2911	0.0	0	0.00
49 T	1,4-Dioxane	-1.0000	0.0000	0.0	0	-11.55#
50 T	Bromodichloromethane	-1.0000	0.3012	0.0	0	0.00
51 T	Dibromomethane	-1.0000	0.2537	0.0	0	0.00
52 T	2-Chloroethyl Vinyl Ether	-1.0000	0.0000	0.0	0	-11.84#
53 T	4-Methyl-2-Pentanone	-1.0000	0.0000	0.0	0	-11.87#
54 T	cis-1,3-Dichloropropene	-1.0000	0.2327	0.0	0	0.00

(#) = Out of Range

11M11837.D 8260WT.M Sat May 14 18:41:07 2016

Page 1

Data File : C:\MSDCHEM\1\DATA\051316\11M11837.D Vial: 3
 Acq On : 13 May 2016 14:40 Operator: JDS
 Sample : WG568769-02 0.3ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:40:10 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	0.2127	0.0	0	0.00
56 I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
57 S	Toluene-d8	-1.0000	0.0107	0.0	0	0.00
58 C	Toluene	-1.0000	0.3228	0.0	0	0.01
59 T	Ethyl Methacrylate	-1.0000	0.2140	0.0	0	-0.01
60 T	trans-1,3-Dichloropropene	-1.0000	0.2668	0.0	0	-0.01
61 T	1,1,2-Trichloroethane	-1.0000	0.2691	0.0	0	-0.01
62 T	2-Hexanone	-1.0000	0.2315	0.0	0	0.00
63 T	1,3-Dichloropropane	-1.0000	0.2579	0.0	0	0.00
64 T	Tetrachloroethene	-1.0000	0.3214	0.0	0	0.00
65 T	Dibromochloromethane	-1.0000	0.2459	0.0	0	0.00
66 T	1,2-Dibromoethane	-1.0000	0.2387	0.0	0	0.00
67 T	1-Chlorohexane	-1.0000	0.2833	0.0	0	0.00
68 P	Chlorobenzene	-1.0000	0.3144	0.0	0	0.00
69 T	1,1,1,2-Tetrachloroethane	-1.0000	0.2998	0.0	0	0.00
70 C	Ethylbenzene	-1.0000	0.3040	0.0	0	0.00
71 T	m-,p-Xylene	-1.0000	0.6051	0.0	0	0.01
72 T	o-Xylene	-1.0000	0.2994	0.0	0	0.00
73 T	Styrene	-1.0000	0.2961	0.0	0	0.00
74 P	Bromoform	-1.0000	0.0798	0.0	0	-0.01
75 T	Isopropylbenzene	-1.0000	0.2931	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	0.2922	0.0	0	0.00
78 S	p-Bromofluorobenzene	-1.0000	0.0730	0.0	0	0.00
79 T	1,2,3-Trichloropropane	-1.0000	0.0000	0.0	0	-15.70#
80 T	trans-1,4-Dichloro-2-Butene	-1.0000	0.0000	0.0	0	-15.74#
81 T	n-Propylbenzene	-1.0000	0.3233	0.0	0	0.00
82 T	Bromobenzene	0.3000	0.2618	12.7	100	0.00
83 T	1,3,5-Trimethylbenzene	-1.0000	0.3032	0.0	0	-0.01
84 T	2-Chlorotoluene	-1.0000	0.3300	0.0	0	0.00
85 T	4-Chlorotoluene	-1.0000	0.3295	0.0	0	0.00
86 T	a-Methylstyrene	-1.0000	0.2430	0.0	0	0.00
87 T	tert-Butylbenzene	-1.0000	0.2541	0.0	0	-0.01
88 T	1,2,4-Trimethylbenzene	-1.0000	0.3088	0.0	0	0.00
89 T	sec-Butylbenzene	-1.0000	0.3122	0.0	0	0.00
90 T	p-Isopropyltoluene	-1.0000	0.2893	0.0	0	0.00
91 T	1,3-Dichlorobenzene	-1.0000	0.3051	0.0	0	0.00
92 T	1,4-Dichlorobenzene	0.3000	0.2990	0.3	100	0.00
93 T	n-Butylbenzene	-1.0000	0.3274	0.0	0	0.00
94 T	1,2-Dichlorobenzene	0.3000	0.2985	0.5	100	-0.01
95 T	1,2-Dibromo-3-Chloropropane	-1.0000	0.0000	0.0	0	-18.49#
96 T	1,2,4-Trichlorobenzene	-1.0000	0.3011	0.0	0	0.00
97 T	Hexachlorobutadiene	-1.0000	0.2675	0.0	0	0.00
98 T	Naphthalene	-1.0000	0.2561	0.0	0	0.00
99 T	1,2,3-Trichlorobenzene	0.3000	0.2854	4.9	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 11M11837.D 8260WT.M Sat May 14 18:41:07 2016

Page 2

Data File : C:\MSDCHEM\1\DATA\051316\11M11838.D Vial: 4
 Acq On : 13 May 2016 15:12 Operator: JDS
 Sample : WG568769-03 0.4ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 13 17:04:23 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Fri May 13 11:37:47 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	515473	25.00	ug/L	-0.01
56) Chlorobenzene-d5	14.25	117	435266	25.00	ug/L	-0.01
76) 1,4-Dichlorobenzene-d4	17.06	152	244818	25.00	ug/L	-0.01

System Monitoring Compounds

37) Dibromofluoromethane	0.00	111	0	0.0000	ug/L	
Spiked Amount	25.000	Range 86 - 118	Recovery	=	0.00%#	
43) 1,2-Dichloroethane-d4	0.00	65	0	0.0000	ug/L	
Spiked Amount	25.000	Range 80 - 120	Recovery	=	0.00%#	
57) Toluene-d8	0.00	98	0	0.0000	ug/L	
Spiked Amount	25.000	Range 88 - 110	Recovery	=	0.00%#	
78) p-Bromofluorobenzene	15.64	95	236	0.0295	ug/L	-0.01
Spiked Amount	25.000	Range 86 - 115	Recovery	=	0.12%#	

Target Compounds

					Qvalue	
2) Dichlorodifluoromethane	3.27	85	2765	0.3656	ug/L	# 66
3) Chloromethane	3.72	50	4021	0.5854	ug/L	# 77
4) Vinyl Chloride	3.96	62	2267	0.4134	ug/L	# 64
5) 1,3-Butadiene	4.01	54	2044	0.3956	ug/L	# 18
6) Bromomethane	4.85	94	1571	0.4511	ug/L	# 89
7) Chloroethane	5.01	64	1496	0.4029	ug/L	# 45
8) Trichlorofluoromethane	5.49	101	4241	0.4175	ug/L	# 96
10) Isoprene	6.03	67	2394	0.3408	ug/L	# 90
12) 1,1,2-Trichloro-1,2,2-Trif	6.28	101	1439	0.2811	ug/L	# 23
13) Acetone	6.33	43	1125	0.7299	ug/L	# 45
14) 1,1-Dichloroethene	6.56	61	3786	0.3990	ug/L	# 77
16) Dimethyl Sulfide	6.80	62	1622	0.3769	ug/L	# 59
18) Methyl acetate	7.01	43	21364	4.0629	ug/L	# 70
19) Methylene Chloride	7.32	84	2266	0.4265	ug/L	# 97
20) Carbon Disulfide	7.35	76	6628	0.3991	ug/L	# 82
22) Methyl Tert Butyl Ether	7.52	73	4808	0.3486	ug/L	# 74
23) trans-1,2-Dichloroethene	7.74	96	2372	0.4368	ug/L	# 93
24) n-Hexane	7.83	57	4212	0.4732	ug/L	# 73
26) Vinyl Acetate	8.34	43	434	0.1315	ug/L	# 78
27) 1,1-Dichloroethane	8.34	63	3822	0.3576	ug/L	# 89
29) 2-Butanone	8.88	43	484	0.2099	ug/L	# 60
31) 2,2-Dichloropropane	9.09	77	2680	0.3472	ug/L	# 55
32) cis-1,2-Dichloroethene	9.15	96	2277	0.3777	ug/L	# 91
33) Chloroform	9.35	83	3981	0.3988	ug/L	# 89
35) Bromochloromethane	9.57	130	952	0.2468	ug/L	# 57
36) Tetrahydrofuran	9.59	42	212	0.1340	ug/L	# 46
38) 1,1,1-Trichloroethane	9.85	97	3917	0.4058	ug/L	# 84
39) Cyclohexane	9.88	56	3935	0.3371	ug/L	# 80
40) 1,1-Dichloropropene	10.04	75	2817	0.3862	ug/L	# 82
41) Carbon Tetrachloride	10.18	117	3373	0.3702	ug/L	# 88
44) 1,2-Dichloroethane	10.35	62	3201	0.3737	ug/L	# 78
45) Benzene	10.39	78	8729	0.4184	ug/L	# 90
46) Trichloroethene	11.08	130	2537	0.3731	ug/L	# 93
47) Methylcyclohexane	11.17	83	2742	0.3325	ug/L	# 90
48) 1,2-Dichloropropane	11.29	63	2133	0.3600	ug/L	# 84
50) Bromodichloromethane	11.58	83	2857	0.3638	ug/L	# 84
51) Dibromomethane	11.65	93	972	0.3128	ug/L	# 81
52) 2-Chloroethyl Vinyl Ether	11.85	63	791	0.2560	ug/L	# 50
54) cis-1,3-Dichloropropene	12.17	75	2689	0.3253	ug/L	# 99
55) Dimethyl Disulfide	12.42	79	1113	0.2158	ug/L	# 74

(#) = qualifier out of range (m) = manual integration
 11M11838.D 8260WT.M Fri May 13 17:04:23 2016

Data File : C:\MSDCHEM\1\DATA\051316\11M11838.D Vial: 4
 Acq On : 13 May 2016 15:12 Operator: JDS
 Sample : WG568769-03 0.4ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 13 17:04:23 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Fri May 13 11:37:47 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) Toluene	12.56	91	9113	0.4043	ug/L	99
59) Ethyl Methacrylate	12.65	69	1556	0.2916	ug/L	96
60) trans-1,3-Dichloropropene	12.73	75	2303	0.3119	ug/L	86
61) 1,1,2-Trichloroethane	12.94	97	1549	0.3672	ug/L	85
62) 2-Hexanone	12.86	43	840	0.2415	ug/L #	11
63) 1,3-Dichloropropane	13.21	76	2345	0.3346	ug/L	82
64) Tetrachloroethene	13.34	164	1905	0.3745	ug/L	88
65) Dibromochloromethane	13.59	129	1972	0.3238	ug/L	89
66) 1,2-Dibromoethane	13.82	107	1617	0.3776	ug/L	69
67) 1-Chlorohexane	13.89	91	2578	0.3487	ug/L	77
68) Chlorobenzene	14.29	112	6458	0.3896	ug/L	93
69) 1,1,1,2-Tetrachloroethane	14.31	131	2374	0.3736	ug/L	98
70) Ethylbenzene	14.31	106	3158	0.3754	ug/L	79
71) m-,p-Xylene	14.39	106	8621	0.8613	ug/L	93
72) o-Xylene	14.93	106	3752	0.3758	ug/L	96
73) Styrene	14.95	104	6027	0.3558	ug/L	90
74) Bromoform	15.44	173	931	0.2454	ug/L	87
75) Isopropylbenzene	15.31	105	10551	0.4179	ug/L	95
77) 1,1,2,2-Tetrachloroethane	15.52	83	1129	0.2796	ug/L	84
79) 1,2,3-Trichloropropane	15.71	110	200	0.1341	ug/L #	28
81) n-Propylbenzene	15.79	91	11244	0.4087	ug/L	98
82) Bromobenzene	15.91	156	3048	0.3991	ug/L	95
83) 1,3,5-Trimethylbenzene	15.96	105	9158	0.4381	ug/L	92
84) 2-Chlorotoluene	16.05	91	8455	0.4164	ug/L	96
85) 4-Chlorotoluene	16.09	91	6979	0.4189	ug/L	92
86) a-Methylstyrene	16.34	118	4052	0.3488	ug/L	74
87) tert-Butylbenzene	16.40	134	1479	0.3224	ug/L	63
88) 1,2,4-Trimethylbenzene	16.45	105	8457	0.3953	ug/L	95
89) sec-Butylbenzene	16.65	105	10479	0.4236	ug/L	93
90) p-Isopropyltoluene	16.79	119	9613	0.4269	ug/L	93
91) 1,3-Dichlorobenzene	16.98	146	5826	0.4107	ug/L	93
92) 1,4-Dichlorobenzene	17.10	146	6273	0.4331	ug/L #	74
93) n-Butylbenzene	17.28	91	8021	0.3956	ug/L #	91
94) 1,2-Dichlorobenzene	17.57	146	4937	0.3691	ug/L	97
96) 1,2,4-Trichlorobenzene	19.55	180	3632	0.3655	ug/L	95
97) Hexachlorobutadiene	19.69	225	1539	0.3812	ug/L	96
98) Naphthalene	19.90	128	7383	0.3882	ug/L	97
99) 1,2,3-Trichlorobenzene	20.19	180	3748	0.4028	ug/L	84

(#) = qualifier out of range (m) = manual integration
 11M11838.D 8260WT.M Fri May 13 17:04:24 2016

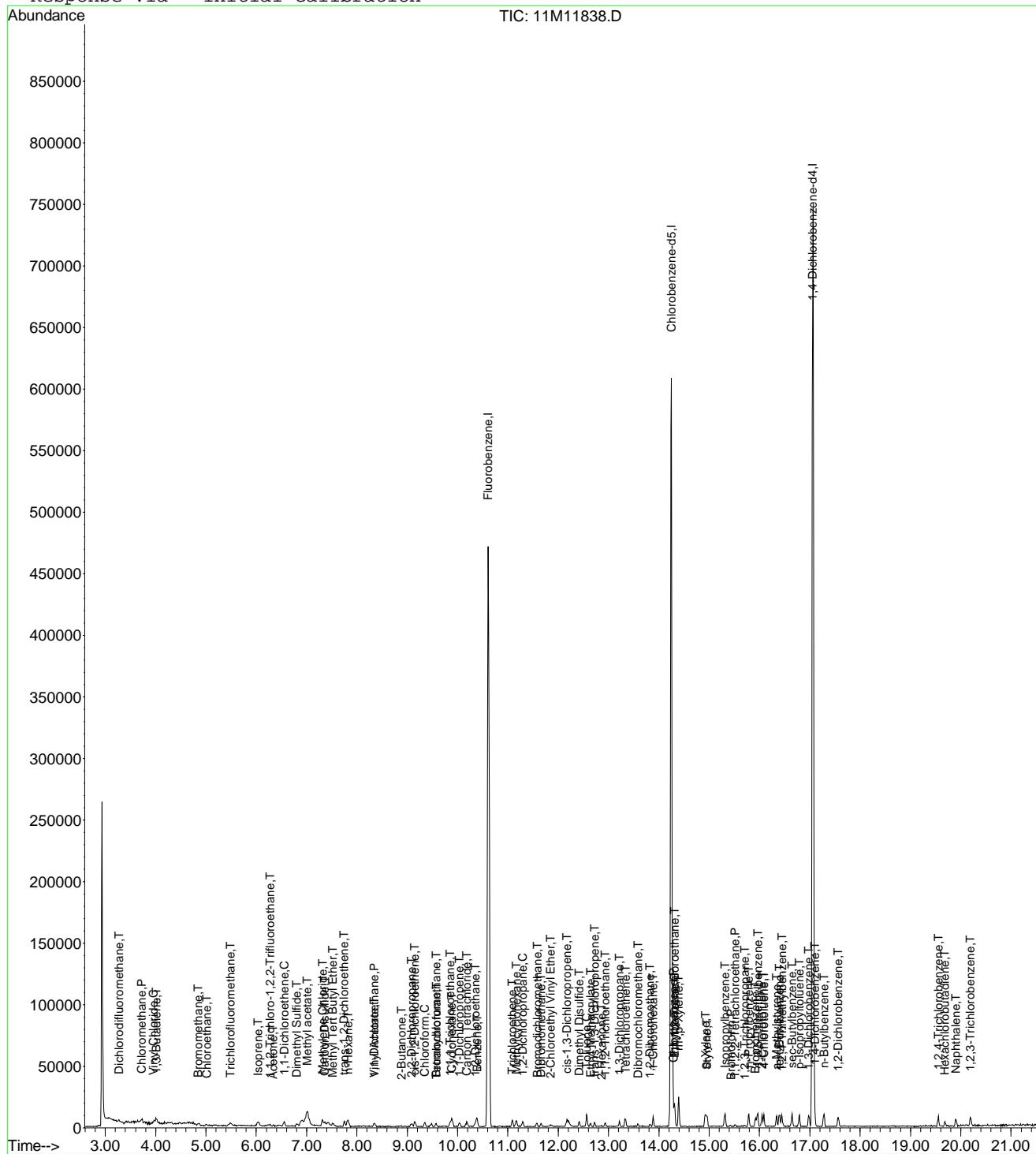
Page 2

Data File : C:\MSDCHEM\1\DATA\051316\11M11838.D
Acq On : 13 May 2016 15:12
Sample : WG568769-03 0.4ug/L ICAL STD 8260
Misc : 1,1 STD76127
MS Integration Params: rteint.p
Quant Time: May 13 17:04 2016

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

Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Fri May 13 11:37:47 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\051316\11M11839.D Vial: 5
 Acq On : 13 May 2016 15:43 Operator: JDS
 Sample : WG568769-04 1.0ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 13 17:04:25 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Fri May 13 11:37:47 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	523425	25.00	ug/L	-0.01
56) Chlorobenzene-d5	14.25	117	440574	25.00	ug/L	-0.01
76) 1,4-Dichlorobenzene-d4	17.06	152	249989	25.00	ug/L	-0.01

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.63	111	1729	0.2910	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	1.16%#	
43) 1,2-Dichloroethane-d4	10.23	65	3301	0.4585	ug/L	-0.01
Spiked Amount	25.000	Range 80 - 120	Recovery	=	1.84%#	
57) Toluene-d8	12.47	98	9307	0.4494	ug/L	-0.01
Spiked Amount	25.000	Range 88 - 110	Recovery	=	1.80%#	
78) p-Bromofluorobenzene	15.64	95	4047	0.4956	ug/L	-0.01
Spiked Amount	25.000	Range 86 - 115	Recovery	=	2.00%#	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.27	85	7215	0.9394	ug/L	98
3) Chloromethane	3.72	50	7292	1.0455	ug/L	80
4) Vinyl Chloride	3.96	62	5040	0.9051	ug/L	92
5) 1,3-Butadiene	4.02	54	5876	1.1198	ug/L #	76
6) Bromomethane	4.85	94	3488	0.9862	ug/L	94
7) Chloroethane	4.99	64	3425	0.9083	ug/L #	57
8) Trichlorofluoromethane	5.49	101	10960	1.0625	ug/L	95
9) Diethyl ether	6.01	59	19830	4.2253	ug/L	90
10) Isoprene	6.04	67	6121	0.8582	ug/L	94
11) Acrolein	6.25	56	697	1.2730	ug/L	65
12) 1,1,2-Trichloro-1,2,2-Trif	6.27	101	5456	1.0497	ug/L	90
13) Acetone	6.34	43	1782	1.1386	ug/L #	45
14) 1,1-Dichloroethene	6.55	61	9456	0.9814	ug/L	91
15) Tert-Butyl Alcohol	6.67	59	2848	6.8484	ug/L #	67
16) Dimethyl Sulfide	6.80	62	3631	0.8310	ug/L	93
18) Methyl acetate	7.01	43	20953	3.9242	ug/L #	70
19) Methylene Chloride	7.31	84	5001	0.9270	ug/L	97
20) Carbon Disulfide	7.36	76	15438	0.9154	ug/L	99
21) Acrylonitrile	7.50	53	3780	1.8795	ug/L	89
22) Methyl Tert Butyl Ether	7.53	73	11891	0.8490	ug/L	90
23) trans-1,2-Dichloroethene	7.75	96	4815	0.8732	ug/L	95
24) n-Hexane	7.82	57	9213	1.0194	ug/L #	81
25) Diisopropyl ether	8.15	45	108233	4.5267	ug/L	99
26) Vinyl Acetate	8.31	43	1723	0.5141	ug/L #	78
27) 1,1-Dichloroethane	8.34	63	10818	0.9968	ug/L	95
28) Ethyl-Tert-Butyl ether	8.70	59	85288	4.3548	ug/L	99
29) 2-Butanone	8.88	43	1368	0.5844	ug/L #	60
30) Propionitrile	8.99	54	2406	3.5185	ug/L #	60
31) 2,2-Dichloropropane	9.09	77	7787	0.9935	ug/L	90
32) cis-1,2-Dichloroethene	9.15	96	5567	0.9095	ug/L	94
33) Chloroform	9.35	83	10278	1.0139	ug/L	96
34) 1-Bromopropane	9.48	122	295	0.2934	ug/L	49
35) Bromochloromethane	9.57	130	2941	0.7509	ug/L	88
36) Tetrahydrofuran	9.60	42	7790	4.8493	ug/L	92
38) 1,1,1-Trichloroethane	9.85	97	10000	1.0202	ug/L #	90
39) Cyclohexane	9.88	56	10164	0.8574	ug/L	98
40) 1,1-Dichloropropene	10.04	75	7321	0.9884	ug/L	92
41) Carbon Tetrachloride	10.18	117	9558	1.0331	ug/L	98
42) Tert-Amyl-Methyl ether	10.13	73	59107	4.2417	ug/L	97
44) 1,2-Dichloroethane	10.34	62	8181	0.9406	ug/L	99

(#) = qualifier out of range (m) = manual integration
 11M11839.D 8260WT.M Fri May 13 17:04:25 2016

Data File : C:\MSDCHEM\1\DATA\051316\11M11839.D Vial: 5
 Acq On : 13 May 2016 15:43 Operator: JDS
 Sample : WG568769-04 1.0ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 13 17:04:25 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Fri May 13 11:37:47 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45) Benzene	10.38	78	19924	0.9404	ug/L	95
46) Trichloroethene	11.08	130	6636	0.9611	ug/L	92
47) Methylcyclohexane	11.18	83	7740	0.9243	ug/L	94
48) 1,2-Dichloropropane	11.29	63	5477	0.9103	ug/L	99
49) 1,4-Dioxane	11.55	88	187	5.1264	ug/L #	10
50) Bromodichloromethane	11.57	83	7238	0.9076	ug/L	94
51) Dibromomethane	11.65	93	2839	0.8997	ug/L	97
52) 2-Chloroethyl Vinyl Ether	11.84	63	1934	0.6164	ug/L #	72
53) 4-Methyl-2-Pentanone	11.87	58	1016	0.5282	ug/L #	42
54) cis-1,3-Dichloropropene	12.17	75	7078	0.8432	ug/L	99
55) Dimethyl Disulfide	12.42	79	3514	0.6710	ug/L	93
58) Toluene	12.56	91	22074	0.9676	ug/L	96
59) Ethyl Methacrylate	12.64	69	4130	0.7646	ug/L	88
60) trans-1,3-Dichloropropene	12.73	75	5897	0.7891	ug/L	90
61) 1,1,2-Trichloroethane	12.94	97	3547	0.8307	ug/L	96
62) 2-Hexanone	12.87	43	2461	0.6990	ug/L #	63
63) 1,3-Dichloropropane	13.21	76	5965	0.8410	ug/L	87
64) Tetrachloroethene	13.34	164	5050	0.9809	ug/L	94
65) Dibromochloromethane	13.59	129	5237	0.8497	ug/L	90
66) 1,2-Dibromoethane	13.82	107	3214	0.7414	ug/L	91
67) 1-Chlorohexane	13.89	91	7025	0.9387	ug/L	91
68) Chlorobenzene	14.29	112	16160	0.9630	ug/L	95
69) 1,1,1,2-Tetrachloroethane	14.32	131	6361	0.9889	ug/L	97
70) Ethylbenzene	14.31	106	8050	0.9455	ug/L	93
71) m-,p-Xylene	14.39	106	20545	2.0278	ug/L	95
72) o-Xylene	14.92	106	9683	0.9581	ug/L	96
73) Styrene	14.96	104	14946	0.8716	ug/L	98
74) Bromoform	15.43	173	3024	0.7876	ug/L	97
75) Isopropylbenzene	15.31	105	25656	1.0039	ug/L	92
77) 1,1,2,2-Tetrachloroethane	15.52	83	3569	0.8655	ug/L	89
79) 1,2,3-Trichloropropane	15.71	110	872	0.5724	ug/L	84
80) trans-1,4-Dichloro-2-Buten	15.74	53	1048	0.6163	ug/L #	44
81) n-Propylbenzene	15.79	91	27998	0.9967	ug/L	98
82) Bromobenzene	15.92	156	8101	1.0388	ug/L	89
83) 1,3,5-Trimethylbenzene	15.96	105	20563	0.9633	ug/L	98
84) 2-Chlorotoluene	16.05	91	20962	1.0111	ug/L	96
85) 4-Chlorotoluene	16.09	91	17553	1.0318	ug/L	100
86) a-Methylstyrene	16.34	118	10002	0.8431	ug/L	97
87) tert-Butylbenzene	16.40	134	4396	0.9384	ug/L	84
88) 1,2,4-Trimethylbenzene	16.44	105	21945	1.0045	ug/L	96
89) sec-Butylbenzene	16.65	105	25927	1.0263	ug/L	100
90) p-Isopropyltoluene	16.79	119	22467	0.9771	ug/L	96
91) 1,3-Dichlorobenzene	16.98	146	14883	1.0274	ug/L	96
92) 1,4-Dichlorobenzene	17.10	146	15106	1.0213	ug/L #	67
93) n-Butylbenzene	17.28	91	20991	1.0139	ug/L	98
94) 1,2-Dichlorobenzene	17.57	146	13331	0.9762	ug/L	99
95) 1,2-Dibromo-3-Chloropropan	18.49	75	493	0.5750	ug/L	75
96) 1,2,4-Trichlorobenzene	19.55	180	9030	0.8899	ug/L	96
97) Hexachlorobutadiene	19.69	225	3810	0.9242	ug/L	95
98) Naphthalene	19.90	128	16333	0.8410	ug/L	99
99) 1,2,3-Trichlorobenzene	20.19	180	8645	0.9098	ug/L	88

(#) = qualifier out of range (m) = manual integration
 11M11839.D 8260WT.M Fri May 13 17:04:25 2016

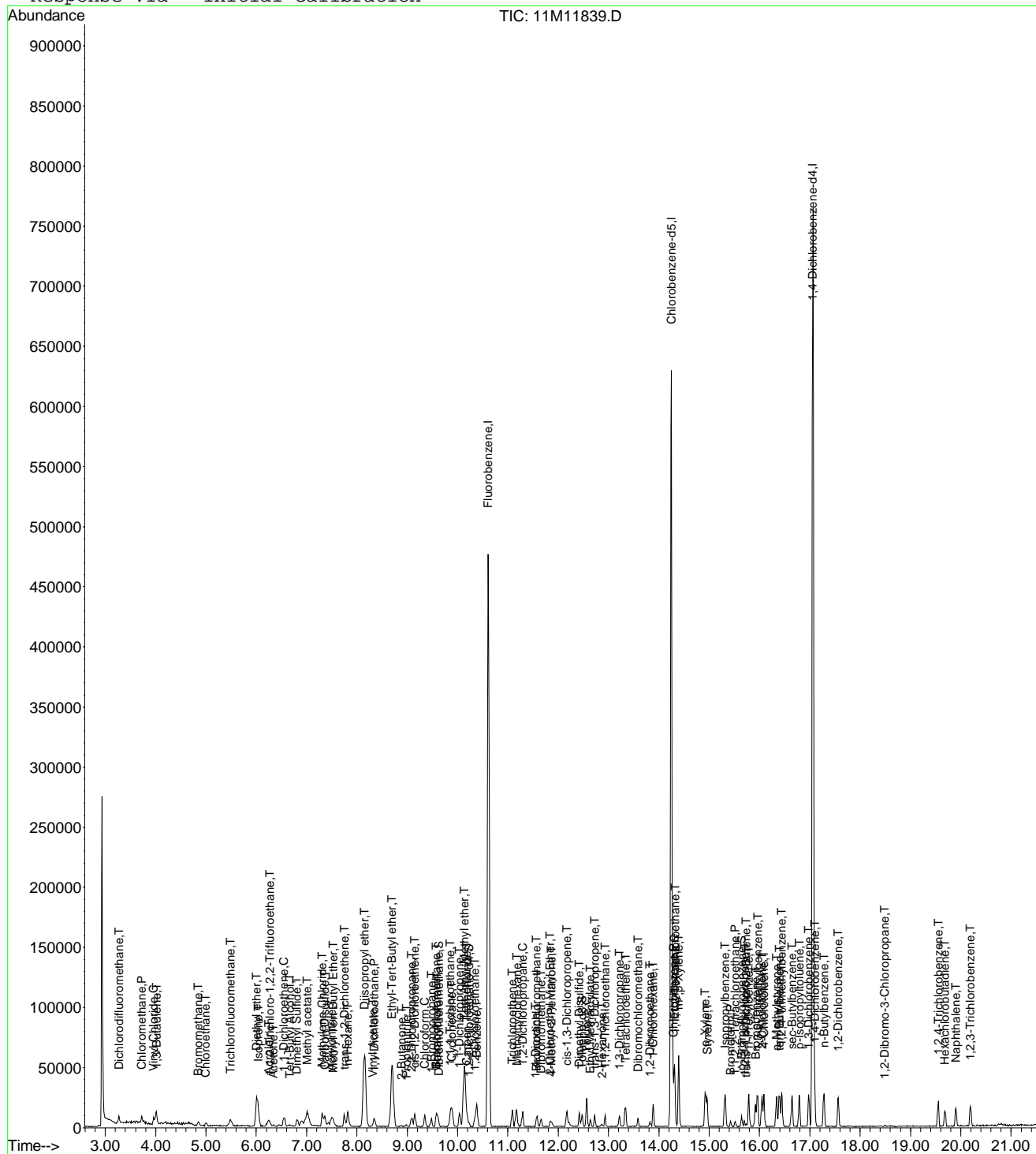
Page 2

Data File : C:\MSDCHEM\1\DATA\051316\11M11839.D
 Acq On : 13 May 2016 15:43
 Sample : WG568769-04 1.0ug/L ICAL STD 8260
 Misc : 1,1 STD76127
 MS Integration Params: rteint.p
 Quant Time: May 13 17:04 2016

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

Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Fri May 13 11:37:47 2016
 Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\051316\11M11839.D Vial: 5
 Acq On : 13 May 2016 15:43 Operator: JDS
 Sample : WG568769-04 1.0ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:40:10 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	0.8798	12.0	100	0.00
3 P	Chloromethane	1.0000	1.1102	-11.0	100	0.00
4 C	Vinyl Chloride	1.0000	0.9240	7.6	100	0.00
5 T	1,3-Butadiene	-1.0000	1.0834	0.0	100	0.02
6 T	Bromomethane	1.0000	0.9301	7.0	100	0.00
7 T	Chloroethane	1.0000	0.9773	2.3	100	-0.01
8 T	Trichlorofluoromethane	1.0000	1.0081	-0.8	100	0.01
9 T	Diethyl ether	5.0000	4.9318	1.4	100	0.00
10 T	Isoprene	-1.0000	0.9134	0.0	100	0.00
11 T	Acrolein	2.5000	2.7854	-11.4	100	0.01
12 T	1,1,2-Trichloro-1,2,2-Trifl	1.0000	1.0342	-3.4	100	0.02
13 T	Acetone	-1.0000	1.4337	0.0	0	0.00
14 C	1,1-Dichloroethene	1.0000	0.9868	1.3	100	-0.01
15 T	Tert-Butyl Alcohol	10.0000	8.2841	17.2	100	0.01
16 T	Dimethyl Sulfide	-1.0000	0.9488	0.0	100	-0.01
17 T	Iodomethane	-1.0000	2.2962	0.0	0	0.01
18 T	Methyl acetate	-1.0000	4.2835	0.0	0	-0.05
19 T	Methylene Chloride	1.0000	1.0084	-0.8	100	0.00
20 T	Carbon Disulfide	1.0000	0.9624	3.8	100	0.00
21 T	Acrylonitrile	2.5000	2.2683	9.3	100	0.01
22 T	Methyl Tert Butyl Ether	1.0000	0.9614	3.9	100	0.01
23 T	trans-1,2-Dichloroethene	1.0000	0.9079	9.2	100	0.01
24 T	n-Hexane	-1.0000	1.0430	0.0	100	0.00
25 T	Diisopropyl ether	5.0000	4.9106	1.8	100	0.00
26 T	Vinyl Acetate	-1.0000	2.6242	0.0	0	0.00
27 P	1,1-Dichloroethane	1.0000	1.0166	-1.7	100	0.00
28 T	Ethyl-Tert-Butyl ether	5.0000	4.7543	4.9	100	0.00
29 T	2-Butanone	-1.0000	0.7280	0.0	0	0.01
30 T	Propionitrile	5.0000	4.3718	12.6	100	0.01
31 T	2,2-Dichloropropane	1.0000	0.9353	6.5	100	0.00
32 T	cis-1,2-Dichloroethene	1.0000	0.9520	4.8	100	0.00
33 C	Chloroform	1.0000	0.9836	1.6	100	0.00
34 T	1-Bromopropane	1.0000	0.9106	8.9	100	0.00
35 T	Bromochloromethane	1.0000	0.8469	15.3	100	0.00
36 T	Tetrahydrofuran	5.0000	5.8710	-17.4	100	0.00
37 S	Dibromofluoromethane	-1.0000	0.3018	0.0	100	0.00
38 T	1,1,1-Trichloroethane	1.0000	0.9725	2.8	100	0.00
39 T	Cyclohexane	1.0000	0.9069	9.3	100	0.00
40 T	1,1-Dichloropropene	1.0000	0.9971	0.3	100	0.00
41 T	Carbon Tetrachloride	1.0000	0.9518	4.8	100	0.00
42 T	Tert-Amyl-Methyl ether	5.0000	4.7417	5.2	100	0.00
43 S	1,2-Dichloroethane-d4	0.5000	0.5054	-1.1	100	0.00
44 T	1,2-Dichloroethane	1.0000	0.9639	3.6	100	0.00
45 T	Benzene	1.0000	0.9912	0.9	100	0.00
46 T	Trichloroethene	1.0000	1.0157	-1.6	100	-0.01
47 T	Methylcyclohexane	1.0000	0.9600	4.0	100	0.01
48 C	1,2-Dichloropropane	1.0000	0.9844	1.6	100	0.00
49 T	1,4-Dioxane	-1.0000	28.5532	0.0	0	0.00
50 T	Bromodichloromethane	1.0000	0.9266	7.3	100	0.00
51 T	Dibromomethane	1.0000	0.9792	2.1	100	0.00
52 T	2-Chloroethyl Vinyl Ether	-1.0000	0.7053	0.0	100	0.00
53 T	4-Methyl-2-Pentanone	-1.0000	0.6569	0.0	0	0.00
54 T	cis-1,3-Dichloropropene	1.0000	0.9060	9.4	100	0.00

(#) = Out of Range

11M11839.D 8260WT.M Sat May 14 18:41:49 2016

Page 1

Data File : C:\MSDCHEM\1\DATA\051316\11M11839.D Vial: 5
 Acq On : 13 May 2016 15:43 Operator: JDS
 Sample : WG568769-04 1.0ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:40:10 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	0.7475	0.0	100	0.00
56 I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
57 S	Toluene-d8	-1.0000	0.4862	0.0	100	0.00
58 C	Toluene	1.0000	0.9897	1.0	100	0.00
59 T	Ethyl Methacrylate	1.0000	0.8672	13.3	100	-0.01
60 T	trans-1,3-Dichloropropene	1.0000	0.8237	17.6	100	0.00
61 T	1,1,2-Trichloroethane	1.0000	0.8969	10.3	100	0.00
62 T	2-Hexanone	-1.0000	0.8473	0.0	100	0.01
63 T	1,3-Dichloropropane	1.0000	0.9392	6.1	100	0.00
64 T	Tetrachloroethene	1.0000	0.9737	2.6	100	0.00
65 T	Dibromochloromethane	1.0000	0.8681	13.2	100	0.00
66 T	1,2-Dibromoethane	1.0000	0.8111	18.9	100	0.00
67 T	1-Chlorohexane	1.0000	0.9554	4.5	100	0.00
68 P	Chlorobenzene	1.0000	0.9890	1.1	100	0.00
69 T	1,1,1,2-Tetrachloroethane	1.0000	0.9621	3.8	100	0.00
70 C	Ethylbenzene	1.0000	0.9608	3.9	100	0.00
71 T	m-,p-Xylene	2.0000	2.0170	-0.9	100	0.00
72 T	o-Xylene	1.0000	0.9768	2.3	100	0.00
73 T	Styrene	1.0000	0.9126	8.7	100	0.01
74 P	Bromoform	1.0000	0.8271	17.3	100	0.00
75 T	Isopropylbenzene	1.0000	0.9787	2.1	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	0.9168	8.3	100	0.00
78 S	p-Bromofluorobenzene	-1.0000	0.5252	0.0	100	0.00
79 T	1,2,3-Trichloropropane	1.0000	0.9573	4.3	100	0.01
80 T	trans-1,4-Dichloro-2-Butene	1.0000	1.2934	-29.3#	100	0.00
81 T	n-Propylbenzene	1.0000	0.9671	3.3	100	0.00
82 T	Bromobenzene	1.0000	1.0663	-6.6	100	0.00
83 T	1,3,5-Trimethylbenzene	1.0000	0.9307	6.9	100	0.00
84 T	2-Chlorotoluene	1.0000	1.0337	-3.4	100	0.00
85 T	4-Chlorotoluene	1.0000	0.9664	3.4	100	0.00
86 T	a-Methylstyrene	1.0000	0.8582	14.2	100	0.00
87 T	tert-Butylbenzene	1.0000	0.9392	6.1	100	0.00
88 T	1,2,4-Trimethylbenzene	1.0000	0.9755	2.5	100	0.00
89 T	sec-Butylbenzene	1.0000	0.9774	2.3	100	0.00
90 T	p-Isopropyltoluene	1.0000	0.9221	7.8	100	0.00
91 T	1,3-Dichlorobenzene	1.0000	1.0144	-1.4	100	0.00
92 T	1,4-Dichlorobenzene	1.0000	1.0157	-1.6	100	0.00
93 T	n-Butylbenzene	1.0000	0.9776	2.2	100	0.00
94 T	1,2-Dichlorobenzene	1.0000	0.9974	0.3	100	0.00
95 T	1,2-Dibromo-3-Chloropropane	-1.0000	1.1961	0.0	100	0.00
96 T	1,2,4-Trichlorobenzene	1.0000	0.9233	7.7	100	0.00
97 T	Hexachlorobutadiene	1.0000	0.8843	11.6	100	0.00
98 T	Naphthalene	1.0000	0.8997	10.0	100	0.00
99 T	1,2,3-Trichlorobenzene	1.0000	0.9631	3.7	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 11M11839.D 8260WT.M Sat May 14 18:41:49 2016

Page 2

Data File : C:\MSDCHEM\1\DATA\051316\11M11840.D Vial: 6
 Acq On : 13 May 2016 16:15 Operator: JDS
 Sample : WG568769-05 2.0ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 13 17:04:26 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Fri May 13 11:37:47 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	504626	25.00	ug/L	-0.01
56) Chlorobenzene-d5	14.25	117	418265	25.00	ug/L	-0.01
76) 1,4-Dichlorobenzene-d4	17.06	152	241104	25.00	ug/L	-0.01

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.63	111	5067	0.8846	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	3.52%#	
43) 1,2-Dichloroethane-d4	10.23	65	6143	0.8851	ug/L	-0.01
Spiked Amount	25.000	Range 80 - 120	Recovery	=	3.56%#	
57) Toluene-d8	12.47	98	18425	0.9371	ug/L	-0.01
Spiked Amount	25.000	Range 88 - 110	Recovery	=	3.76%#	
78) p-Bromofluorobenzene	15.64	95	7442	0.9449	ug/L	-0.01
Spiked Amount	25.000	Range 86 - 115	Recovery	=	3.76%#	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.27	85	14866	2.0077	ug/L	98
3) Chloromethane	3.72	50	14641	2.1775	ug/L	94
4) Vinyl Chloride	3.96	62	10045	1.8711	ug/L	99
5) 1,3-Butadiene	4.01	54	10590	2.0934	ug/L	82
6) Bromomethane	4.85	94	7024	2.0600	ug/L	94
7) Chloroethane	4.99	64	6661	1.8324	ug/L	97
8) Trichlorofluoromethane	5.49	101	21690	2.1811	ug/L	99
9) Diethyl ether	6.01	59	96350	21.2945	ug/L	97
10) Isoprene	6.04	67	12682	1.8443	ug/L	94
11) Acrolein	6.23	56	5531	10.4784	ug/L	91
12) 1,1,2-Trichloro-1,2,2-Trif	6.23	101	9909	1.9774	ug/L	96
13) Acetone	6.35	43	3346	2.2176	ug/L #	68
14) 1,1-Dichloroethene	6.56	61	18584	2.0007	ug/L	98
15) Tert-Butyl Alcohol	6.66	59	15203	37.9194	ug/L #	93
16) Dimethyl Sulfide	6.81	62	7308	1.7348	ug/L	98
17) Iodomethane	7.06	142	1747	0.4335	ug/L #	49
18) Methyl acetate	7.01	43	17794	3.4567	ug/L #	75
19) Methylene Chloride	7.31	84	10330	1.9861	ug/L	99
20) Carbon Disulfide	7.36	76	30745	1.8910	ug/L	99
21) Acrylonitrile	7.49	53	17499	9.0252	ug/L	91
22) Methyl Tert Butyl Ether	7.52	73	22031	1.6315	ug/L	97
23) trans-1,2-Dichloroethene	7.74	96	10660	2.0051	ug/L	95
24) n-Hexane	7.82	57	17125	1.9654	ug/L #	94
25) Diisopropyl ether	8.15	45	542272	23.5246	ug/L	99
26) Vinyl Acetate	8.31	43	6813	2.1084	ug/L #	84
27) 1,1-Dichloroethane	8.34	63	21278	2.0336	ug/L	99
28) Ethyl-Tert-Butyl ether	8.70	59	431080	22.8311	ug/L	100
29) 2-Butanone	8.87	43	3175	1.4068	ug/L #	60
30) Propionitrile	8.99	54	12529	19.0049	ug/L	98
31) 2,2-Dichloropropane	9.09	77	17576	2.3259	ug/L	94
32) cis-1,2-Dichloroethene	9.15	96	11652	1.9746	ug/L	96
33) Chloroform	9.35	83	20769	2.1252	ug/L	96
34) 1-Bromopropane	9.48	122	1648	1.7003	ug/L	70
35) Bromochloromethane	9.57	130	6812	1.8040	ug/L	100
36) Tetrahydrofuran	9.60	42	30834	19.9093	ug/L	96
38) 1,1,1-Trichloroethane	9.84	97	20518	2.1713	ug/L #	94
39) Cyclohexane	9.88	56	22087	1.9325	ug/L	98
40) 1,1-Dichloropropene	10.04	75	13954	1.9542	ug/L	98
41) Carbon Tetrachloride	10.18	117	21054	2.3604	ug/L	98
42) Tert-Amyl-Methyl ether	10.13	73	300593	22.3753	ug/L	99

(#) = qualifier out of range (m) = manual integration
 11M11840.D 8260WT.M Fri May 13 17:04:27 2016

Data File : C:\MSDCHEM\1\DATA\051316\11M11840.D Vial: 6
 Acq On : 13 May 2016 16:15 Operator: JDS
 Sample : WG568769-05 2.0ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 13 17:04:26 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Fri May 13 11:37:47 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44) 1,2-Dichloroethane	10.34	62	16928	2.0188	ug/L	98
45) Benzene	10.38	78	41004	2.0075	ug/L	97
46) Trichloroethene	11.08	130	13283	1.9954	ug/L	96
47) Methylcyclohexane	11.17	83	15711	1.9461	ug/L	95
48) 1,2-Dichloropropane	11.29	63	11010	1.8980	ug/L	91
49) 1,4-Dioxane	11.55	88	898	25.5347	ug/L	88
50) Bromodichloromethane	11.57	83	15058	1.9584	ug/L	100
51) Dibromomethane	11.66	93	5461	1.7952	ug/L	97
52) 2-Chloroethyl Vinyl Ether	11.84	63	4894	1.6180	ug/L	83
53) 4-Methyl-2-Pentanone	11.87	58	2173	1.1717	ug/L #	65
54) cis-1,3-Dichloropropene	12.17	75	14440	1.7842	ug/L	91
55) Dimethyl Disulfide	12.42	79	7378	1.4613	ug/L	97
58) Toluene	12.56	91	43051	1.9877	ug/L	98
59) Ethyl Methacrylate	12.64	69	7792	1.5195	ug/L	95
60) trans-1,3-Dichloropropene	12.73	75	12991	1.8310	ug/L	98
61) 1,1,2-Trichloroethane	12.93	97	8138	2.0075	ug/L	91
62) 2-Hexanone	12.86	43	4715	1.4106	ug/L #	61
63) 1,3-Dichloropropane	13.21	76	11740	1.7434	ug/L	95
64) Tetrachloroethene	13.34	164	10610	2.1708	ug/L	90
65) Dibromochloromethane	13.59	129	11236	1.9202	ug/L	96
66) 1,2-Dibromoethane	13.82	107	7613	1.8499	ug/L	99
67) 1-Chlorohexane	13.89	91	13853	1.9499	ug/L	96
68) Chlorobenzene	14.29	112	33381	2.0954	ug/L	99
69) 1,1,1,2-Tetrachloroethane	14.32	131	13541	2.2175	ug/L	97
70) Ethylbenzene	14.31	106	17116	2.1175	ug/L	98
71) m-,p-Xylene	14.39	106	40469	4.2073	ug/L	95
72) o-Xylene	14.92	106	19196	2.0006	ug/L	99
73) Styrene	14.96	104	30019	1.8440	ug/L	92
74) Bromoform	15.43	173	6309	1.7308	ug/L	96
75) Isopropylbenzene	15.31	105	52419	2.1605	ug/L	98
77) 1,1,2,2-Tetrachloroethane	15.51	83	7118	1.7898	ug/L	100
79) 1,2,3-Trichloropropane	15.70	110	2487	1.6927	ug/L	98
80) trans-1,4-Dichloro-2-Butene	15.74	53	2265	1.3810	ug/L	68
81) n-Propylbenzene	15.79	91	59353	2.1908	ug/L	100
82) Bromobenzene	15.91	156	15393	2.0465	ug/L	97
83) 1,3,5-Trimethylbenzene	15.95	105	43641	2.1197	ug/L	98
84) 2-Chlorotoluene	16.05	91	40923	2.0467	ug/L	96
85) 4-Chlorotoluene	16.09	91	37360	2.2771	ug/L	97
86) a-Methylstyrene	16.34	118	20567	1.7976	ug/L	92
87) tert-Butylbenzene	16.40	134	9253	2.0481	ug/L	89
88) 1,2,4-Trimethylbenzene	16.44	105	43857	2.0815	ug/L	99
89) sec-Butylbenzene	16.65	105	52733	2.1643	ug/L	99
90) p-Isopropyltoluene	16.79	119	49990	2.2541	ug/L	98
91) 1,3-Dichlorobenzene	16.98	146	29674	2.1240	ug/L	99
92) 1,4-Dichlorobenzene	17.10	146	30258	2.1211	ug/L	87
93) n-Butylbenzene	17.28	91	44260	2.2167	ug/L	98
94) 1,2-Dichlorobenzene	17.57	146	27619	2.0969	ug/L	95
95) 1,2-Dibromo-3-Chloropropane	18.49	75	1094	1.3229	ug/L	60
96) 1,2,4-Trichlorobenzene	19.55	180	18455	1.8857	ug/L	98
97) Hexachlorobutadiene	19.69	225	8691	2.1858	ug/L	89
98) Naphthalene	19.90	128	34041	1.8174	ug/L #	95
99) 1,2,3-Trichlorobenzene	20.19	180	17703	1.9318	ug/L	99

(#) = qualifier out of range (m) = manual integration
 11M11840.D 8260WT.M Fri May 13 17:04:27 2016

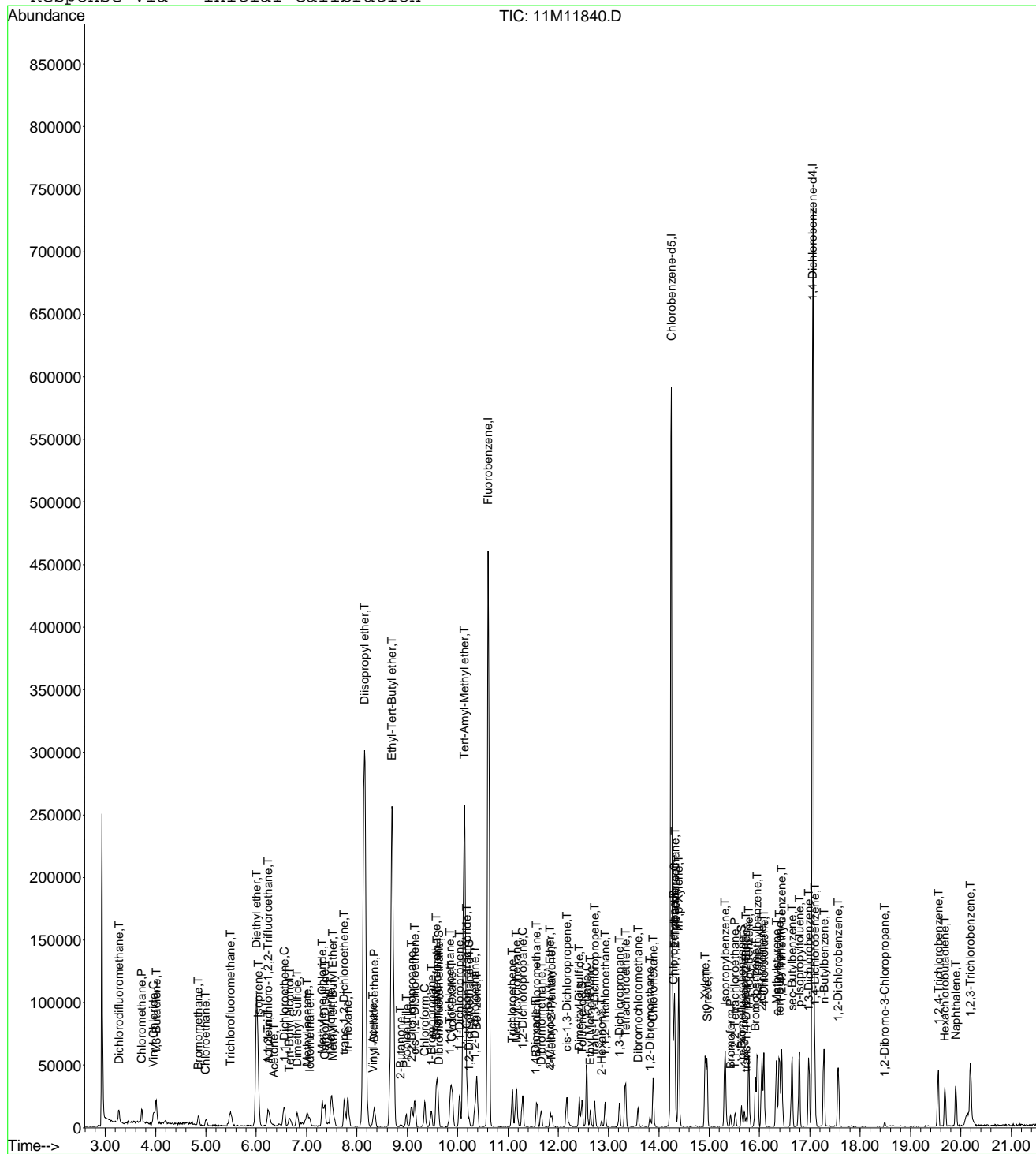
Page 2

Data File : C:\MSDCHEM\1\DATA\051316\11M11840.D
 Acq On : 13 May 2016 16:15
 Sample : WG568769-05 2.0ug/L ICAL STD 8260
 Misc : 1,1 STD76127
 MS Integration Params: rteint.p
 Quant Time: May 13 17:04 2016

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

Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Fri May 13 11:37:47 2016
 Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\051316\11M11840.D Vial: 6
 Acq On : 13 May 2016 16:15 Operator: JDS
 Sample : WG568769-05 2.0ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 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	1.8802	6.0	100	0.00
3 P	Chloromethane	2.0000	2.3121	-15.6	100	0.00
4 C	Vinyl Chloride	2.0000	1.9102	4.5	100	0.00
5 T	1,3-Butadiene	-1.0000	2.0253	0.0	100	0.01
6 T	Bromomethane	2.0000	1.9427	2.9	100	0.00
7 T	Chloroethane	2.0000	1.9714	1.4	100	-0.01
8 T	Trichlorofluoromethane	2.0000	2.0694	-3.5	100	0.01
9 T	Diethyl ether	25.0000	24.8555	0.6	100	0.00
10 T	Isoprene	-1.0000	1.9630	0.0	100	0.00
11 T	Acrolein	12.5000	12.0322	3.7	100	0.00
12 T	1,1,2-Trichloro-1,2,2-Trifl	2.0000	1.9483	2.6	100	-0.01
13 T	Acetone	-1.0000	2.7924	0.0	100	0.01
14 C	1,1-Dichloroethene	2.0000	2.0117	-0.6	100	0.00
15 T	Tert-Butyl Alcohol	50.0000	45.8688	8.3	100	0.00
16 T	Dimethyl Sulfide	-1.0000	1.9809	0.0	100	0.00
17 T	Iodomethane	2.0000	2.6580	-32.9#	100	0.00
18 T	Methyl acetate	2.0000	0.8555	57.2#	100	0.00
19 T	Methylene Chloride	2.0000	2.1606	-8.0	100	0.00
20 T	Carbon Disulfide	2.0000	1.9879	0.6	100	0.00
21 T	Acrylonitrile	12.5000	10.8919	12.9	100	0.00
22 T	Methyl Tert Butyl Ether	2.0000	1.8475	7.6	100	0.00
23 T	trans-1,2-Dichloroethene	2.0000	2.0850	-4.2	100	0.00
24 T	n-Hexane	2.0000	2.0110	-0.6	100	0.00
25 T	Diisopropyl ether	25.0000	25.5200	-2.1	100	0.00
26 T	Vinyl Acetate	-1.0000	3.2184	0.0	100	0.00
27 P	1,1-Dichloroethane	2.0000	2.0741	-3.7	100	0.00
28 T	Ethyl-Tert-Butyl ether	25.0000	24.9254	0.3	100	0.00
29 T	2-Butanone	-1.0000	1.7527	0.0	0	0.00
30 T	Propionitrile	25.0000	23.6140	5.5	100	0.01
31 T	2,2-Dichloropropane	2.0000	2.1897	-9.5	100	0.00
32 T	cis-1,2-Dichloroethene	2.0000	2.0669	-3.3	100	0.00
33 C	Chloroform	2.0000	2.0616	-3.1	100	0.00
34 T	1-Bromopropane	2.0000	2.2551	-12.8	100	0.00
35 T	Bromochloromethane	2.0000	2.0347	-1.7	100	0.00
36 T	Tetrahydrofuran	25.0000	24.1040	3.6	100	0.00
37 S	Dibromofluoromethane	1.0000	0.9175	8.3	100	0.00
38 T	1,1,1-Trichloroethane	2.0000	2.0696	-3.5	100	-0.01
39 T	Cyclohexane	2.0000	2.0442	-2.2	100	0.00
40 T	1,1-Dichloropropene	2.0000	1.9713	1.4	100	0.00
41 T	Carbon Tetrachloride	2.0000	2.1748	-8.7	100	0.00
42 T	Tert-Amyl-Methyl ether	25.0000	25.0128	-0.1	100	0.00
43 S	1,2-Dichloroethane-d4	1.0000	0.9755	2.4	100	0.00
44 T	1,2-Dichloroethane	2.0000	2.0689	-3.4	100	0.00
45 T	Benzene	2.0000	2.1160	-5.8	100	0.00
46 T	Trichloroethene	2.0000	2.1089	-5.4	100	-0.01
47 T	Methylcyclohexane	2.0000	2.0212	-1.1	100	0.00
48 C	1,2-Dichloropropane	2.0000	2.0525	-2.6	100	0.00
49 T	1,4-Dioxane	50.0000	49.5313	0.9	100	0.00
50 T	Bromodichloromethane	2.0000	1.9996	0.0	100	0.00
51 T	Dibromomethane	2.0000	1.9537	2.3	100	0.01
52 T	2-Chloroethyl Vinyl Ether	-1.0000	1.8512	0.0	100	0.00
53 T	4-Methyl-2-Pentanone	-1.0000	1.4573	0.0	100	0.00
54 T	cis-1,3-Dichloropropene	2.0000	1.9172	4.1	100	0.00

(#) = Out of Range

11M11840.D 8260WT.M Sat May 14 18:46:53 2016

Page 1

Data File : C:\MSDCHEM\1\DATA\051316\11M11840.D Vial: 6
 Acq On : 13 May 2016 16:15 Operator: JDS
 Sample : WG568769-05 2.0ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 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%

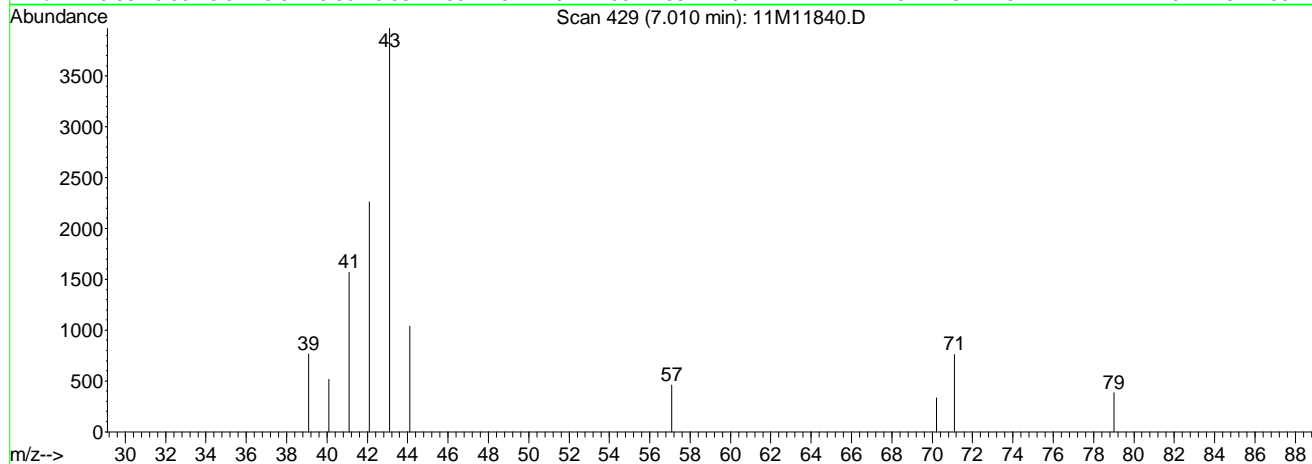
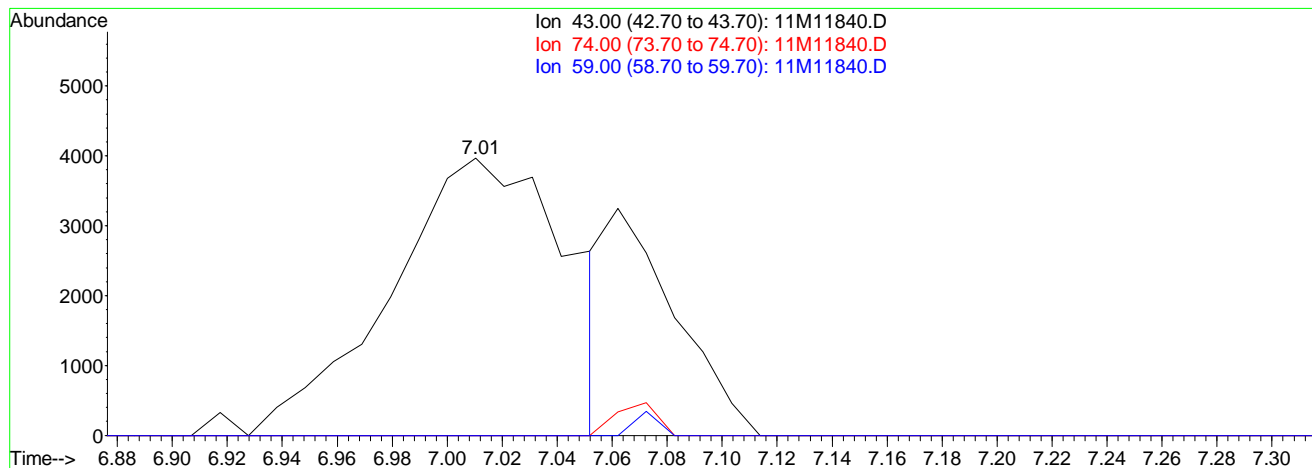
	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55 T	Dimethyl Disulfide	-1.0000	1.6278	0.0	100	0.00
56 I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
57 S	Toluene-d8	1.0000	1.0138	-1.4	100	0.00
58 C	Toluene	2.0000	2.0332	-1.7	100	0.00
59 T	Ethyl Methacrylate	2.0000	1.7234	13.8	100	-0.01
60 T	trans-1,3-Dichloropropene	2.0000	1.9114	4.4	100	0.00
61 T	1,1,2-Trichloroethane	2.0000	2.1674	-8.4	100	0.00
62 T	2-Hexanone	-1.0000	1.7098	0.0	100	0.00
63 T	1,3-Dichloropropane	2.0000	1.9471	2.6	100	0.00
64 T	Tetrachloroethene	2.0000	2.1547	-7.7	100	0.00
65 T	Dibromochloromethane	2.0000	1.9620	1.9	100	0.00
66 T	1,2-Dibromoethane	2.0000	2.0238	-1.2	100	0.00
67 T	1-Chlorohexane	2.0000	1.9844	0.8	100	0.00
68 P	Chlorobenzene	2.0000	2.1520	-7.6	100	0.00
69 T	1,1,1,2-Tetrachloroethane	2.0000	2.1574	-7.9	100	0.00
70 C	Ethylbenzene	2.0000	2.1518	-7.6	100	0.00
71 T	m-,p-Xylene	4.0000	4.1851	-4.6	100	0.00
72 T	o-Xylene	2.0000	2.0398	-2.0	100	0.00
73 T	Styrene	2.0000	1.9307	3.5	100	0.01
74 P	Bromoform	2.0000	1.8176	9.1	100	0.00
75 T	Isopropylbenzene	2.0000	2.1063	-5.3	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	1.8958	5.2	100	-0.01
78 S	p-Bromofluorobenzene	1.0000	1.0013	-0.1	100	0.00
79 T	1,2,3-Trichloropropane	2.0000	2.1172	-5.9	100	0.00
80 T	trans-1,4-Dichloro-2-Butene	2.0000	1.9762	1.2	100	0.00
81 T	n-Propylbenzene	2.0000	2.1256	-6.3	100	0.00
82 T	Bromobenzene	2.0000	2.1009	-5.0	100	-0.01
83 T	1,3,5-Trimethylbenzene	2.0000	2.0481	-2.4	100	-0.01
84 T	2-Chlorotoluene	2.0000	2.0925	-4.6	100	0.00
85 T	4-Chlorotoluene	2.0000	2.1326	-6.6	100	0.00
86 T	a-Methylstyrene	2.0000	1.8297	8.5	100	0.00
87 T	tert-Butylbenzene	2.0000	2.0497	-2.5	100	0.00
88 T	1,2,4-Trimethylbenzene	2.0000	2.0213	-1.1	100	0.00
89 T	sec-Butylbenzene	2.0000	2.0611	-3.1	100	0.00
90 T	p-Isopropyltoluene	2.0000	2.1272	-6.4	100	0.00
91 T	1,3-Dichlorobenzene	2.0000	2.0970	-4.8	100	0.00
92 T	1,4-Dichlorobenzene	2.0000	2.1095	-5.5	100	0.00
93 T	n-Butylbenzene	2.0000	2.1373	-6.9	100	0.00
94 T	1,2-Dichlorobenzene	2.0000	2.1425	-7.1	100	0.00
95 T	1,2-Dibromo-3-Chloropropane	2.0000	1.9175	4.1	100	0.00
96 T	1,2,4-Trichlorobenzene	2.0000	1.9565	2.2	100	0.00
97 T	Hexachlorobutadiene	2.0000	2.0914	-4.6	100	0.00
98 T	Naphthalene	2.0000	1.9443	2.8	100	0.00
99 T	1,2,3-Trichlorobenzene	2.0000	2.0449	-2.2	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 11M11840.D 8260WT.M Sat May 14 18:46:53 2016

Page 2

Data File : C:\MSDCHEM\1\DATA\051316\11M11840.D Vial: 6
 Acq On : 13 May 2016 16:15 Operator: JDS
 Sample : WG568769-05 2.0ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 14 18:46 2016 Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Single Level Calibration



TIC: 11M11840.D

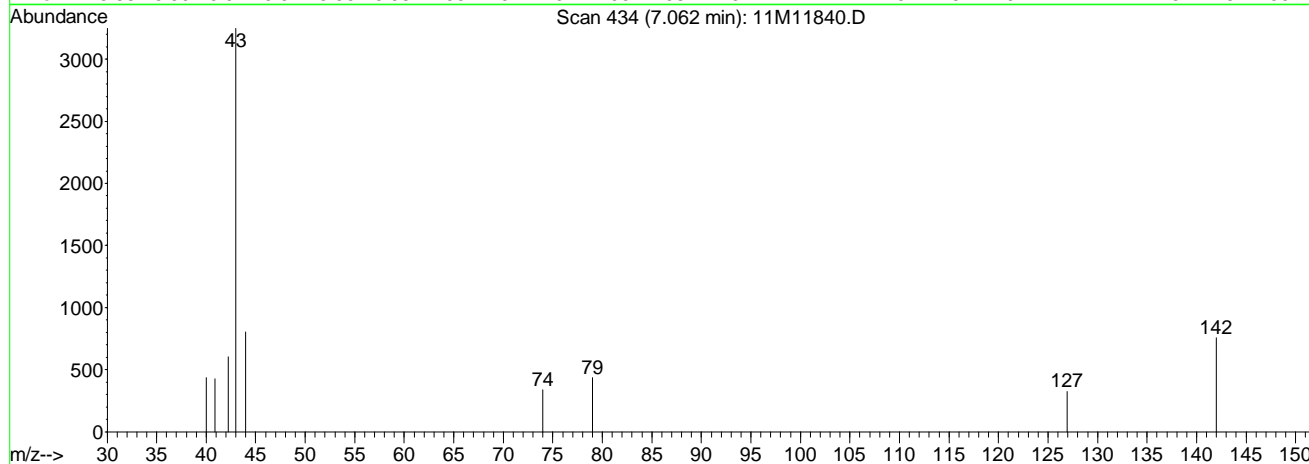
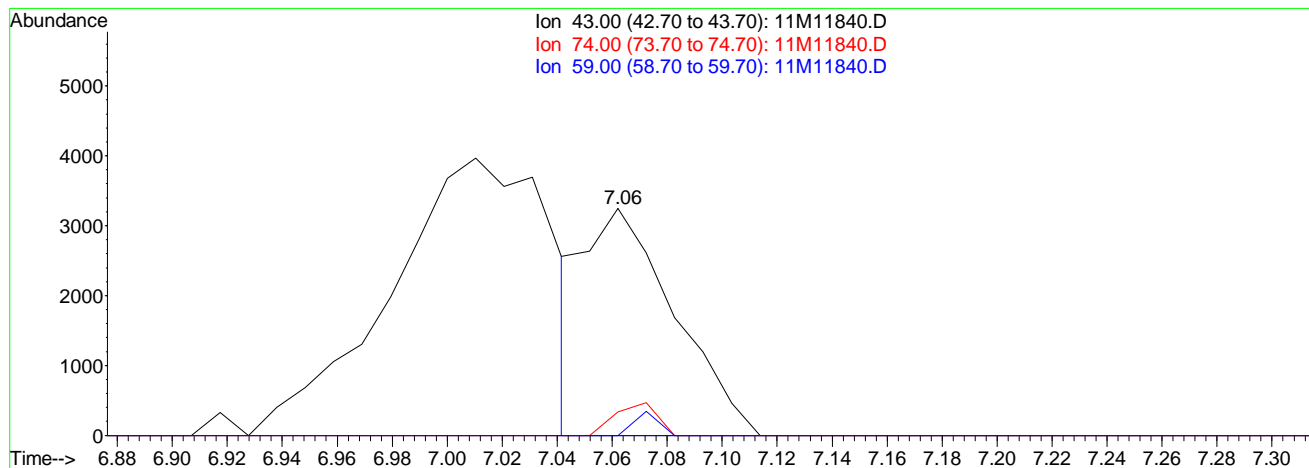
(18) Methyl acetate (T)
 7.01min 3.69ug/L
 response 17794

Ion	Exp%	Act%
43.00	100	100
74.00	13.60	2.82#
59.00	6.50	1.21#
0.00	0.00	0.00

11M11840.D 8260WT.M Sat May 14 18:46:34 2016

Data File : C:\MSDCHEM\1\DATA\051316\11M11840.D Vial: 6
 Acq On : 13 May 2016 16:15 Operator: JDS
 Sample : WG568769-05 2.0ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 14 18:46 2016 Quant Results File: temp.res

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Single Level Calibration



TIC: 11M11840.D

(18) Methyl acetate (T)

7.06min 0.86ug/L mint

response 7344

Ion	Exp%	Act%
43.00	100	100
74.00	13.60	6.84#
59.00	6.50	2.93#
0.00	0.00	0.00

11M11840.D 8260WT.M Sat May 14 18:46:39 2016

Data File : C:\MSDCHEM\1\DATA\051316\11M11841.D Vial: 7
 Acq On : 13 May 2016 16:47 Operator: JDS
 Sample : WG568769-06 5.0ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 13 17:12:58 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Fri May 13 17:07:56 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	510485	25.00	ug/L	-0.01
56) Chlorobenzene-d5	14.25	117	424113	25.00	ug/L	-0.01
76) 1,4-Dichlorobenzene-d4	17.06	152	244127	25.00	ug/L	-0.01

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.63	111	13577	2.3093	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	9.24%#	
43) 1,2-Dichloroethane-d4	10.23	65	16340	2.3640	ug/L	-0.01
Spiked Amount	25.000	Range 80 - 120	Recovery	=	9.44%#	
57) Toluene-d8	12.47	98	46369	2.3570	ug/L	-0.01
Spiked Amount	25.000	Range 88 - 110	Recovery	=	9.44%#	
78) p-Bromofluorobenzene	15.64	95	19139	2.4218	ug/L	-0.01
Spiked Amount	25.000	Range 86 - 115	Recovery	=	9.68%#	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.27	85	33260	4.2909	ug/L	97
3) Chloromethane	3.72	50	29484	4.2588	ug/L	100
4) Vinyl Chloride	3.96	62	24947	4.6446	ug/L	98
5) 1,3-Butadiene	4.00	54	24704	4.8274	ug/L	87
6) Bromomethane	4.85	94	16794	4.7876	ug/L	96
7) Chloroethane	5.00	64	15417	4.1982	ug/L	96
8) Trichlorofluoromethane	5.48	101	50663	4.8750	ug/L	98
9) Diethyl ether	6.01	59	199353	45.0064	ug/L	100
10) Isoprene	6.04	67	30513	4.3864	ug/L	99
11) Acrolein	6.25	56	12345	23.3877	ug/L	87
12) 1,1,2-Trichloro-1,2,2-Trif	6.26	101	23865	4.5585	ug/L	97
13) Acetone	6.35	43	6439	4.2186	ug/L	86
14) 1,1-Dichloroethene	6.56	61	43769	4.6158	ug/L	96
15) Tert-Butyl Alcohol	6.66	59	34212	87.4805	ug/L	100
16) Dimethyl Sulfide	6.81	62	17251	4.0482	ug/L	99
17) Iodomethane	7.06	142	7385	2.0684	ug/L	94
18) Methyl acetate	7.06	43	32363	5.4250	ug/L #	83
19) Methylene Chloride	7.31	84	23476	4.4707	ug/L	98
20) Carbon Disulfide	7.36	76	72931	4.4715	ug/L	98
21) Acrylonitrile	7.49	53	38039	20.0847	ug/L	96
22) Methyl Tert Butyl Ether	7.52	73	57597	4.3071	ug/L	98
23) trans-1,2-Dichloroethene	7.74	96	23369	4.3390	ug/L	99
24) n-Hexane	7.82	57	38507	4.3615	ug/L	99
25) Diisopropyl ether	8.15	45	1105208	48.2180	ug/L	99
26) Vinyl Acetate	8.31	43	24007	7.3442	ug/L	97
27) 1,1-Dichloroethane	8.34	63	51535	4.8316	ug/L	99
28) Ethyl-Tert-Butyl ether	8.70	59	899266	48.1312	ug/L	99
29) 2-Butanone	8.88	43	8098	3.5469	ug/L	98
30) Propionitrile	8.98	54	26204	41.2561	ug/L	97
31) 2,2-Dichloropropane	9.09	77	40285	5.2526	ug/L	97
32) cis-1,2-Dichloroethene	9.15	96	27456	4.6081	ug/L	91
33) Chloroform	9.35	83	48958	4.7306	ug/L	97
34) 1-Bromopropane	9.47	122	4632	4.9482	ug/L	88
35) Bromochloromethane	9.57	130	17073	4.6807	ug/L	99
36) Tetrahydrofuran	9.60	42	59638	39.6839	ug/L	99
38) 1,1,1-Trichloroethane	9.85	97	48123	4.8983	ug/L	100
39) Cyclohexane	9.88	56	51945	4.5931	ug/L	98
40) 1,1-Dichloropropene	10.04	75	33867	4.6344	ug/L	99
41) Carbon Tetrachloride	10.17	117	47434	5.0851	ug/L	100
42) Tert-Amyl-Methyl ether	10.13	73	615710	46.3601	ug/L	99

(#) = qualifier out of range (m) = manual integration
 11M11841.D 8260WT.M Fri May 13 17:12:59 2016

Data File : C:\MSDCHEM\1\DATA\051316\11M11841.D Vial: 7
 Acq On : 13 May 2016 16:47 Operator: JDS
 Sample : WG568769-06 5.0ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 13 17:12:58 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Fri May 13 17:07:56 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44) 1,2-Dichloroethane	10.34	62	40281	4.6727	ug/L	99
45) Benzene	10.38	78	94223	4.6151	ug/L	99
46) Trichloroethene	11.08	130	31195	4.7740	ug/L	96
47) Methylcyclohexane	11.17	83	35731	4.4100	ug/L	96
48) 1,2-Dichloropropane	11.29	63	25973	4.4921	ug/L	93
49) 1,4-Dioxane	11.56	88	2747	80.2363	ug/L	93
50) Bromodichloromethane	11.57	83	36997	4.7467	ug/L	99
51) Dibromomethane	11.65	93	13963	4.5774	ug/L	97
52) 2-Chloroethyl Vinyl Ether	11.84	63	11417	3.7313	ug/L	95
53) 4-Methyl-2-Pentanone	11.87	58	6133	3.2690	ug/L	90
54) cis-1,3-Dichloropropene	12.17	75	36461	4.5343	ug/L	100
55) Dimethyl Disulfide	12.42	79	18914	3.7032	ug/L	99
58) Toluene	12.56	91	107617	4.9467	ug/L	100
59) Ethyl Methacrylate	12.65	69	21187	4.1021	ug/L	99
60) trans-1,3-Dichloropropene	12.73	75	32824	4.5778	ug/L	99
61) 1,1,2-Trichloroethane	12.94	97	17791	4.3060	ug/L	98
62) 2-Hexanone	12.86	43	11606	3.4244	ug/L	99
63) 1,3-Dichloropropane	13.21	76	30121	4.5460	ug/L	97
64) Tetrachloroethene	13.33	164	24241	4.8819	ug/L	95
65) Dibromochloromethane	13.59	129	27989	4.7024	ug/L	95
66) 1,2-Dibromoethane	13.82	107	18147	4.4382	ug/L	96
67) 1-Chlorohexane	13.89	91	33195	4.6591	ug/L	97
68) Chlorobenzene	14.29	112	79059	4.9583	ug/L	98
69) 1,1,1,2-Tetrachloroethane	14.32	131	31047	4.8956	ug/L	97
70) Ethylbenzene	14.31	106	39304	4.8168	ug/L	95
71) m-,p-Xylene	14.39	106	95751	9.7273	ug/L	95
72) o-Xylene	14.92	106	45759	4.7228	ug/L	96
73) Styrene	14.95	104	77900	4.8227	ug/L	98
74) Bromoform	15.43	173	15663	4.1856	ug/L	97
75) Isopropylbenzene	15.31	105	123883	4.9827	ug/L	99
77) 1,1,2,2-Tetrachloroethane	15.51	83	18105	4.4049	ug/L	100
79) 1,2,3-Trichloropropane	15.70	110	6717	4.7266	ug/L	85
80) trans-1,4-Dichloro-2-Butene	15.74	53	6067	3.6507	ug/L	69
81) n-Propylbenzene	15.79	91	143972	5.2435	ug/L	99
82) Bromobenzene	15.92	156	37345	4.9800	ug/L	93
83) 1,3,5-Trimethylbenzene	15.95	105	106030	5.0309	ug/L	100
84) 2-Chlorotoluene	16.05	91	99279	4.9734	ug/L	100
85) 4-Chlorotoluene	16.09	91	88275	5.1992	ug/L	98
86) a-Methylstyrene	16.34	118	53766	4.7153	ug/L	98
87) tert-Butylbenzene	16.39	134	23868	5.2956	ug/L	97
88) 1,2,4-Trimethylbenzene	16.44	105	112072	5.2401	ug/L	99
89) sec-Butylbenzene	16.65	105	129249	5.1810	ug/L	99
90) p-Isopropyltoluene	16.79	119	119605	5.2524	ug/L	98
91) 1,3-Dichlorobenzene	16.98	146	71265	5.0271	ug/L	99
92) 1,4-Dichlorobenzene	17.10	146	72437	5.0122	ug/L	96
93) n-Butylbenzene	17.28	91	100062	4.9277	ug/L	99
94) 1,2-Dichlorobenzene	17.57	146	64925	4.9520	ug/L	98
95) 1,2-Dibromo-3-Chloropropane	18.49	75	3875	4.6567	ug/L	87
96) 1,2,4-Trichlorobenzene	19.55	180	46664	4.8629	ug/L	97
97) Hexachlorobutadiene	19.69	225	20419	5.1319	ug/L	96
98) Naphthalene	19.90	128	83612	4.4869	ug/L	99
99) 1,2,3-Trichlorobenzene	20.19	180	40714	4.5323	ug/L	98

(#) = qualifier out of range (m) = manual integration
 11M11841.D 8260WT.M Fri May 13 17:12:59 2016

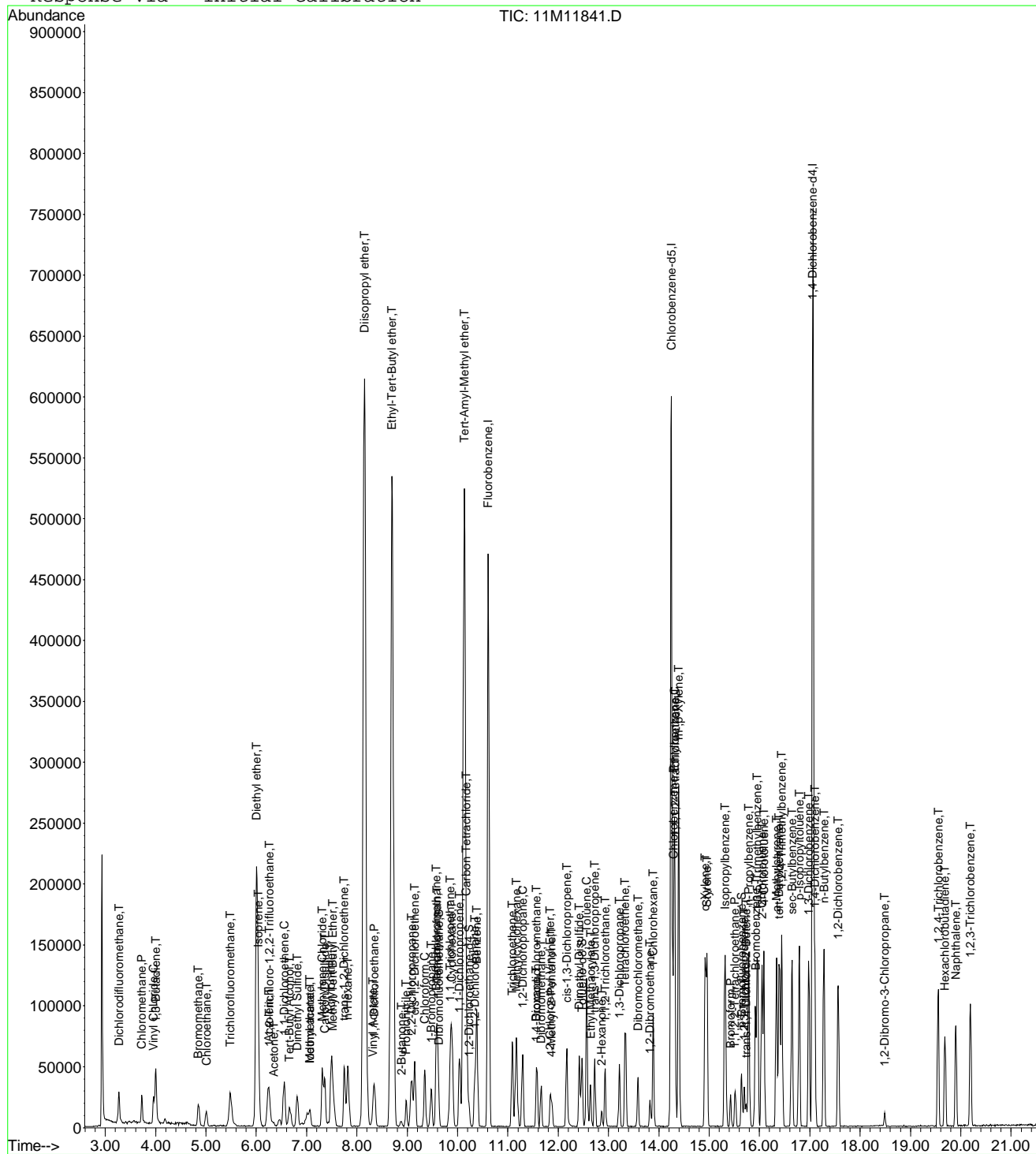
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Data File : C:\MSDCHEM\1\DATA\051316\11M11841.D
 Acq On : 13 May 2016 16:47
 Sample : WG568769-06 5.0ug/L ICAL STD 8260
 Misc : 1,1 STD76127
 MS Integration Params: rteint.p
 Quant Time: May 13 17:12 2016

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

Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Fri May 13 17:07:56 2016
 Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\051316\11M11841.D Vial: 7
 Acq On : 13 May 2016 16:47 Operator: JDS
 Sample : WG568769-06 5.0ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 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	4.1584	16.8	100	0.00
3 P	Chloromethane	5.0000	4.6027	7.9	100	0.00
4 C	Vinyl Chloride	5.0000	4.6895	6.2	100	0.00
5 T	1,3-Butadiene	5.0000	4.6702	6.6	100	0.00
6 T	Bromomethane	5.0000	4.5915	8.2	100	0.00
7 T	Chloroethane	5.0000	4.5105	9.8	100	0.00
8 T	Trichlorofluoromethane	5.0000	4.7781	4.4	100	0.00
9 T	Diethyl ether	50.0000	50.8371	-1.7	100	0.00
10 T	Isoprene	5.0000	4.6688	6.6	100	0.00
11 T	Acrolein	25.0000	24.7297	1.1	100	0.01
12 T	1,1,2-Trichloro-1,2,2-Trifl	5.0000	4.6385	7.2	100	0.01
13 T	Acetone	5.0000	5.3120	-6.2	100	0.01
14 C	1,1-Dichloroethene	5.0000	4.6835	6.3	100	0.00
15 T	Tert-Butyl Alcohol	100.0000	102.0360	-2.0	100	0.00
16 T	Dimethyl Sulfide	5.0000	4.6223	7.6	100	0.00
17 T	Iodomethane	5.0000	3.9124	21.8	100	0.00
18 T	Methyl acetate	5.0000	7.5474	-50.9#	100	0.00
19 T	Methylene Chloride	5.0000	4.8539	2.9	100	0.00
20 T	Carbon Disulfide	5.0000	4.6615	6.8	100	0.00
21 T	Acrylonitrile	25.0000	23.4049	6.4	100	0.00
22 T	Methyl Tert Butyl Ether	5.0000	4.7747	4.5	100	0.00
23 T	trans-1,2-Dichloroethene	5.0000	4.5182	9.6	100	0.00
24 T	n-Hexane	5.0000	4.4700	10.6	100	0.00
25 T	Diisopropyl ether	50.0000	51.4154	-2.8	100	0.00
26 T	Vinyl Acetate	5.0000	5.1698	-3.4	100	0.00
27 P	1,1-Dichloroethane	5.0000	4.9658	0.7	100	0.00
28 T	Ethyl-Tert-Butyl ether	50.0000	51.3996	-2.8	100	0.00
29 T	2-Butanone	5.0000	4.4190	11.6	100	0.01
30 T	Propionitrile	50.0000	48.8210	2.4	100	0.00
31 T	2,2-Dichloropropane	5.0000	4.9614	0.8	100	0.00
32 T	cis-1,2-Dichloroethene	5.0000	4.8145	3.7	100	0.00
33 C	Chloroform	5.0000	4.8039	3.9	100	0.00
34 T	1-Bromopropane	5.0000	5.1449	-2.9	100	0.00
35 T	Bromochloromethane	5.0000	5.0410	-0.8	100	0.00
36 T	Tetrahydrofuran	50.0000	46.0861	7.8	100	0.00
37 S	Dibromofluoromethane	2.5000	2.4302	2.8	100	0.00
38 T	1,1,1-Trichloroethane	5.0000	4.7984	4.0	100	0.00
39 T	Cyclohexane	5.0000	4.7526	4.9	100	0.00
40 T	1,1-Dichloropropene	5.0000	4.7295	5.4	100	0.00
41 T	Carbon Tetrachloride	5.0000	4.8435	3.1	100	-0.01
42 T	Tert-Amyl-Methyl ether	50.0000	50.6462	-1.3	100	0.00
43 S	1,2-Dichloroethane-d4	2.5000	2.5650	-2.6	100	0.00
44 T	1,2-Dichloroethane	5.0000	4.8665	2.7	100	0.00
45 T	Benzene	5.0000	4.8065	3.9	100	0.00
46 T	Trichloroethene	5.0000	4.8959	2.1	100	-0.01
47 T	Methylcyclohexane	5.0000	4.5439	9.1	100	0.00
48 C	1,2-Dichloropropane	5.0000	4.7864	4.3	100	0.00
49 T	1,4-Dioxane	100.0000	102.6541	-2.7	100	0.01
50 T	Bromodichloromethane	5.0000	4.8566	2.9	100	0.00
51 T	Dibromomethane	5.0000	4.9379	1.2	100	0.00
52 T	2-Chloroethyl Vinyl Ether	5.0000	4.2689	14.6	100	0.00
53 T	4-Methyl-2-Pentanone	5.0000	4.0658	18.7	100	0.00
54 T	cis-1,3-Dichloropropene	5.0000	4.7853	4.3	100	0.00

(#) = Out of Range

11M11841.D 8260WT.M Sat May 14 18:48:20 2016

Page 1

Data File : C:\MSDCHEM\1\DATA\051316\11M11841.D Vial: 7
 Acq On : 13 May 2016 16:47 Operator: JDS
 Sample : WG568769-06 5.0ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 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	4.1252	17.5	100	0.00
56 I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
57 S	Toluene-d8	2.5000	2.5163	-0.7	100	0.00
58 C	Toluene	5.0000	5.0124	-0.2	100	0.00
59 T	Ethyl Methacrylate	5.0000	4.6214	7.6	100	0.00
60 T	trans-1,3-Dichloropropene	5.0000	4.7629	4.7	100	0.00
61 T	1,1,2-Trichloroethane	5.0000	4.6730	6.5	100	0.00
62 T	2-Hexanone	5.0000	4.1507	17.0	100	0.00
63 T	1,3-Dichloropropane	5.0000	4.9267	1.5	100	0.00
64 T	Tetrachloroethene	5.0000	4.8551	2.9	100	-0.01
65 T	Dibromochloromethane	5.0000	4.8199	3.6	100	0.00
66 T	1,2-Dibromoethane	5.0000	4.7575	4.8	100	0.00
67 T	1-Chlorohexane	5.0000	4.6895	6.2	100	0.00
68 P	Chlorobenzene	5.0000	5.0264	-0.5	100	0.00
69 T	1,1,1,2-Tetrachloroethane	5.0000	4.8783	2.4	100	0.00
70 C	Ethylbenzene	5.0000	4.8732	2.5	100	0.00
71 T	m-,p-Xylene	10.0000	9.7654	2.3	100	0.00
72 T	o-Xylene	5.0000	4.7954	4.1	100	0.00
73 T	Styrene	5.0000	4.9411	1.2	100	0.00
74 P	Bromoform	5.0000	4.4503	11.0	100	0.00
75 T	Isopropylbenzene	5.0000	4.9091	1.8	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	5.0000	4.7624	4.8	100	-0.01
78 S	p-Bromofluorobenzene	2.5000	2.5432	-1.7	100	0.00
79 T	1,2,3-Trichloropropane	5.0000	5.0393	-0.8	100	0.00
80 T	trans-1,4-Dichloro-2-Butene	5.0000	4.0050	19.9	100	0.00
81 T	n-Propylbenzene	5.0000	5.0923	-1.8	100	0.00
82 T	Bromobenzene	5.0000	5.0338	-0.7	100	0.00
83 T	1,3,5-Trimethylbenzene	5.0000	4.9145	1.7	100	-0.01
84 T	2-Chlorotoluene	5.0000	5.0134	-0.3	100	0.00
85 T	4-Chlorotoluene	5.0000	4.9765	0.5	100	0.00
86 T	a-Methylstyrene	5.0000	4.7239	5.5	100	0.00
87 T	tert-Butylbenzene	5.0000	5.2217	-4.4	100	-0.01
88 T	1,2,4-Trimethylbenzene	5.0000	5.1012	-2.0	100	0.00
89 T	sec-Butylbenzene	5.0000	4.9892	0.2	100	0.00
90 T	p-Isopropyltoluene	5.0000	5.0265	-0.5	100	0.00
91 T	1,3-Dichlorobenzene	5.0000	4.9737	0.5	100	0.00
92 T	1,4-Dichlorobenzene	5.0000	4.9875	0.2	100	0.00
93 T	n-Butylbenzene	5.0000	4.7722	4.6	100	0.00
94 T	1,2-Dichlorobenzene	5.0000	4.9741	0.5	100	0.00
95 T	1,2-Dibromo-3-Chloropropane	5.0000	5.1051	-2.1	100	0.00
96 T	1,2,4-Trichlorobenzene	5.0000	4.8858	2.3	100	0.00
97 T	Hexachlorobutadiene	5.0000	4.8528	2.9	100	0.00
98 T	Naphthalene	5.0000	4.7164	5.7	100	0.00
99 T	1,2,3-Trichlorobenzene	5.0000	4.6448	7.1	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 11M11841.D 8260WT.M Sat May 14 18:48:20 2016

Page 2

Data File : C:\MSDCHEM\1\DATA\051316\11M11842.D Vial: 7
 Acq On : 13 May 2016 17:19 Operator: JDS
 Sample : WG568769-07 20ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 14 18:50:53 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	512017	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	433937	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	255524	25.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.63	111	58089	10.3664	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	41.48%#	
43) 1,2-Dichloroethane-d4	10.23	65	66804	10.4555	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	41.84%#	
57) Toluene-d8	12.47	98	193532	10.2645	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	41.04%#	
78) p-Bromofluorobenzene	15.64	95	81186	10.3070	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	41.24%#	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.27	85	176636	22.0179	ug/L	99
3) Chloromethane	3.72	50	126901	19.7510	ug/L	98
4) Vinyl Chloride	3.96	62	109592	20.5394	ug/L	98
5) 1,3-Butadiene	4.00	54	116317	21.9237	ug/L	96
6) Bromomethane	4.85	94	73878	20.1380	ug/L	93
7) Chloroethane	5.00	64	71103	20.7401	ug/L	100
8) Trichlorofluoromethane	5.49	101	225913	21.2425	ug/L	99
9) Diethyl ether	6.01	59	321203	81.6650	ug/L	99
10) Isoprene	6.04	67	135641	20.6925	ug/L	98
11) Acrolein	6.24	56	19366	37.8284	ug/L	95
12) 1,1,2-Trichloro-1,2,2-Trif	6.25	101	109792	21.2757	ug/L	99
13) Acetone	6.34	43	27399	22.5356	ug/L	96
14) 1,1-Dichloroethene	6.56	61	201658	21.5139	ug/L	98
15) Tert-Butyl Alcohol	6.67	59	60081	178.6532	ug/L	99
16) Dimethyl Sulfide	6.81	62	75759	20.2383	ug/L	97
17) Iodomethane	7.06	142	67280	17.2594	ug/L	97
18) Methyl acetate	7.07	43	87945	22.4983	ug/L	96
19) Methylene Chloride	7.31	84	99453	20.5013	ug/L	100
20) Carbon Disulfide	7.36	76	327043	20.8410	ug/L	100
21) Acrylonitrile	7.49	53	69618	42.7070	ug/L	95
22) Methyl Tert Butyl Ether	7.52	73	266288	22.0086	ug/L	99
23) trans-1,2-Dichloroethene	7.75	96	107858	20.7912	ug/L	99
24) n-Hexane	7.82	57	184135	21.3111	ug/L	99
25) Diisopropyl ether	8.15	45	1729257	80.2062	ug/L	99
26) Vinyl Acetate	8.31	43	160029	20.6235	ug/L	99
27) 1,1-Dichloroethane	8.34	63	218994	21.0387	ug/L	99
28) Ethyl-Tert-Butyl ether	8.70	59	1435318	81.7933	ug/L	100
29) 2-Butanone	8.87	43	39878	21.6958	ug/L	99
30) Propionitrile	8.97	54	47221	87.7149	ug/L	99
31) 2,2-Dichloropropane	9.09	77	166427	20.4352	ug/L	100
32) cis-1,2-Dichloroethene	9.15	96	120620	21.0877	ug/L	99
33) Chloroform	9.35	83	208615	20.4085	ug/L	99
34) 1-Bromopropane	9.48	122	19153	19.2424	ug/L	96
35) Bromochloromethane	9.57	130	77189	22.7226	ug/L	99
36) Tetrahydrofuran	9.60	42	109362	84.2581	ug/L	100
38) 1,1,1-Trichloroethane	9.85	97	210871	20.9631	ug/L	98
39) Cyclohexane	9.88	56	235071	21.4428	ug/L	99
40) 1,1-Dichloropropene	10.04	75	151682	21.1188	ug/L	99
41) Carbon Tetrachloride	10.17	117	212111	21.5941	ug/L	100
42) Tert-Amyl-Methyl ether	10.13	73	1001790	82.1572	ug/L	100

(#) = qualifier out of range (m) = manual integration
 11M11842.D 8260WT.M Sat May 14 18:50:54 2016

Data File : C:\MSDCHEM\1\DATA\051316\11M11842.D Vial: 7
 Acq On : 13 May 2016 17:19 Operator: JDS
 Sample : WG568769-07 20ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 14 18:50:53 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44) 1,2-Dichloroethane	10.34	62	180438	21.7339	ug/L	99
45) Benzene	10.38	78	407777	20.7394	ug/L	100
46) Trichloroethene	11.08	130	132094	20.6692	ug/L	99
47) Methylcyclohexane	11.17	83	168355	21.3455	ug/L	98
48) 1,2-Dichloropropane	11.29	63	112875	20.7388	ug/L	99
49) 1,4-Dioxane	11.56	88	4948	165.8209	ug/L	99
50) Bromodichloromethane	11.57	83	163762	21.4329	ug/L	98
51) Dibromomethane	11.65	93	61028	21.5174	ug/L	98
52) 2-Chloroethyl Vinyl Ether	11.84	63	56664	21.1238	ug/L	99
53) 4-Methyl-2-Pentanone	11.87	58	32621	21.5609	ug/L	99
54) cis-1,3-Dichloropropene	12.17	75	166399	21.7735	ug/L	100
55) Dimethyl Disulfide	12.42	79	93808	20.3984	ug/L	99
58) Toluene	12.56	91	467769	21.2936	ug/L	99
59) Ethyl Methacrylate	12.64	69	103892	22.1484	ug/L	98
60) trans-1,3-Dichloropropene	12.73	75	155661	22.0759	ug/L	100
61) 1,1,2-Trichloroethane	12.94	97	85297	21.8971	ug/L	100
62) 2-Hexanone	12.86	43	62113	21.7109	ug/L	99
63) 1,3-Dichloropropane	13.21	76	137448	21.9726	ug/L	98
64) Tetrachloroethene	13.34	164	106368	20.8217	ug/L	99
65) Dibromochloromethane	13.59	129	131143	22.0723	ug/L	99
66) 1,2-Dibromoethane	13.82	107	84381	21.6209	ug/L	99
67) 1-Chlorohexane	13.89	91	153420	21.1830	ug/L	100
68) Chlorobenzene	14.29	112	338669	21.0446	ug/L	99
69) 1,1,1,2-Tetrachloroethane	14.32	131	134571	20.6660	ug/L	98
70) Ethylbenzene	14.31	106	171752	20.8130	ug/L	97
71) m-,p-Xylene	14.39	106	419228	41.7882	ug/L	99
72) o-Xylene	14.92	106	208125	21.3170	ug/L	99
73) Styrene	14.95	104	353452	21.9116	ug/L	98
74) Bromoform	15.43	173	78592	21.8247	ug/L	100
75) Isopropylbenzene	15.31	105	552747	21.4078	ug/L	99
77) 1,1,2,2-Tetrachloroethane	15.52	83	90122	22.6486	ug/L	98
79) 1,2,3-Trichloropropane	15.70	110	30969	20.9562	ug/L	97
80) trans-1,4-Dichloro-2-Butene	15.74	53	36190	19.3325	ug/L	86
81) n-Propylbenzene	15.79	91	640711	21.6512	ug/L	100
82) Bromobenzene	15.92	156	160227	20.6340	ug/L	100
83) 1,3,5-Trimethylbenzene	15.95	105	481759	21.3337	ug/L	100
84) 2-Chlorotoluene	16.05	91	435100	20.9919	ug/L	99
85) 4-Chlorotoluene	16.09	91	391759	21.1004	ug/L	100
86) a-Methylstyrene	16.34	118	253642	21.2911	ug/L	99
87) tert-Butylbenzene	16.39	134	101859	21.2903	ug/L	99
88) 1,2,4-Trimethylbenzene	16.44	105	505239	21.9714	ug/L	98
89) sec-Butylbenzene	16.65	105	586770	21.6398	ug/L	100
90) p-Isopropyltoluene	16.79	119	539795	21.6735	ug/L	100
91) 1,3-Dichlorobenzene	16.98	146	312832	20.8591	ug/L	99
92) 1,4-Dichlorobenzene	17.10	146	314339	20.6779	ug/L	99
93) n-Butylbenzene	17.28	91	474312	21.6121	ug/L	99
94) 1,2-Dichlorobenzene	17.57	146	287316	21.0305	ug/L	100
95) 1,2-Dibromo-3-Chloropropane	18.49	75	19607	22.2193	ug/L	89
96) 1,2,4-Trichlorobenzene	19.55	180	212916	21.2982	ug/L	100
97) Hexachlorobutadiene	19.69	225	91388	20.7507	ug/L	99
98) Naphthalene	19.90	128	414073	22.3154	ug/L	99
99) 1,2,3-Trichlorobenzene	20.19	180	193437	21.0836	ug/L	99

(#) = qualifier out of range (m) = manual integration
 11M11842.D 8260WT.M Sat May 14 18:50:54 2016

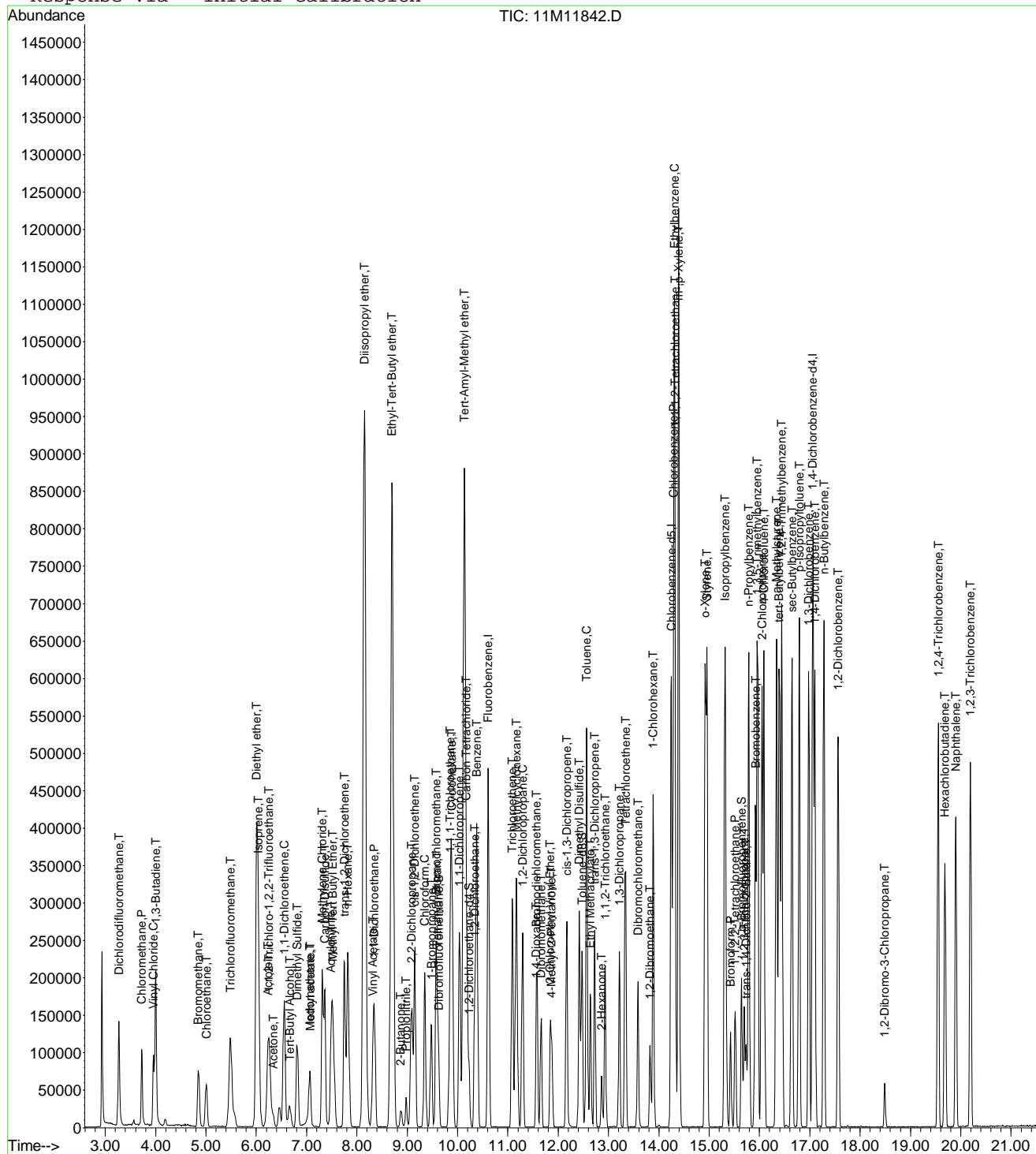
Page 2

Data File : C:\MSDCHEM\1\DATA\051316\11M11842.D
Acq On : 13 May 2016 17:19
Sample : WG568769-07 20ug/L ICAL STD 8260
Misc : 1,1 STD76127
MS Integration Params: rteint.p
Quant Time: May 14 18:50 2016

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

Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\051316\11M11843.D Vial: 8
 Acq On : 13 May 2016 17:51 Operator: JDS
 Sample : WG568769-08 50ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 14 18:50:56 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	521583	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	438582	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	263885	25.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.63	111	139784	24.4879	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	97.96%	
43) 1,2-Dichloroethane-d4	10.23	65	158200	24.3058	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	97.24%	
57) Toluene-d8	12.47	98	462969	24.2947	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	97.16%	
78) p-Bromofluorobenzene	15.64	95	188875	23.2189	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	92.88%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.27	85	416971	51.0228	ug/L	100
3) Chloromethane	3.72	50	287508	43.9273	ug/L	100
4) Vinyl Chloride	3.96	62	261024	48.0232	ug/L	100
5) 1,3-Butadiene	4.00	54	280913	51.9760	ug/L	100
6) Bromomethane	4.85	94	172294	46.1032	ug/L	100
7) Chloroethane	5.00	64	167978	48.0991	ug/L	100
8) Trichlorofluoromethane	5.48	101	519806	47.9806	ug/L	100
9) Diethyl ether	6.01	59	391891	97.8098	ug/L	100
10) Isoprene	6.04	67	331169	49.5943	ug/L	100
11) Acrolein	6.23	56	25228	47.9550	ug/L	100
12) 1,1,2-Trichloro-1,2,2-Trif	6.25	101	255341	48.5730	ug/L	100
13) Acetone	6.34	43	57896	46.7459	ug/L	98
14) 1,1-Dichloroethene	6.56	61	459793	48.1534	ug/L	100
15) Tert-Butyl Alcohol	6.66	59	69395	202.5643	ug/L	100
16) Dimethyl Sulfide	6.81	62	193959	50.8640	ug/L	100
17) Iodomethane	7.06	142	214554	49.3519	ug/L	100
18) Methyl acetate	7.06	43	185465	48.1983	ug/L	100
19) Methylene Chloride	7.31	84	233601	47.2715	ug/L	100
20) Carbon Disulfide	7.36	76	816514	51.0786	ug/L	100
21) Acrylonitrile	7.49	53	84821	51.0789	ug/L	100
22) Methyl Tert Butyl Ether	7.52	73	610666	49.5457	ug/L	100
23) trans-1,2-Dichloroethene	7.74	96	252405	47.7624	ug/L	100
24) n-Hexane	7.82	57	449694	51.0913	ug/L	100
25) Diisopropyl ether	8.15	45	2181723	99.3365	ug/L	100
26) Vinyl Acetate	8.31	43	410275	48.2141	ug/L	100
27) 1,1-Dichloroethane	8.34	63	516691	48.7281	ug/L	100
28) Ethyl-Tert-Butyl ether	8.70	59	1783350	99.7625	ug/L	100
29) 2-Butanone	8.87	43	91238	48.7281	ug/L	100
30) Propionitrile	8.97	54	56538	103.0954	ug/L	100
31) 2,2-Dichloropropane	9.09	77	402511	48.5170	ug/L	100
32) cis-1,2-Dichloroethene	9.15	96	282222	48.4353	ug/L	100
33) Chloroform	9.35	83	489993	47.0562	ug/L	100
34) 1-Bromopropane	9.48	122	50180	48.4991	ug/L	100
35) Bromochloromethane	9.57	130	179921	51.9932	ug/L	100
36) Tetrahydrofuran	9.60	42	127999	96.8083	ug/L	100
38) 1,1,1-Trichloroethane	9.85	97	497667	48.5667	ug/L	100
39) Cyclohexane	9.88	56	575045	51.4928	ug/L	100
40) 1,1-Dichloropropene	10.04	75	353148	48.2674	ug/L	100
41) Carbon Tetrachloride	10.18	117	493225	49.2921	ug/L	100
42) Tert-Amyl-Methyl ether	10.13	73	1227500	98.8215	ug/L	100

(#) = qualifier out of range (m) = manual integration
 11M11843.D 8260WT.M Sat May 14 18:50:57 2016

Data File : C:\MSDCHEM\1\DATA\051316\11M11843.D Vial: 8
 Acq On : 13 May 2016 17:51 Operator: JDS
 Sample : WG568769-08 50ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 14 18:50:56 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44) 1,2-Dichloroethane	10.34	62	419000	49.5434	ug/L	100
45) Benzene	10.38	78	947514	47.3064	ug/L	100
46) Trichloroethene	11.09	130	307211	47.1888	ug/L	100
47) Methylcyclohexane	11.17	83	418631	52.1043	ug/L	100
48) 1,2-Dichloropropane	11.29	63	268423	48.4136	ug/L	100
49) 1,4-Dioxane	11.55	88	5866	189.1665	ug/L	100
50) Bromodichloromethane	11.57	83	385292	49.5015	ug/L	100
51) Dibromomethane	11.65	93	142910	49.4635	ug/L	100
52) 2-Chloroethyl Vinyl Ether	11.84	63	133225	48.7541	ug/L	100
53) 4-Methyl-2-Pentanone	11.87	58	75720	49.1295	ug/L	100
54) cis-1,3-Dichloropropene	12.17	75	394857	50.7199	ug/L	100
55) Dimethyl Disulfide	12.42	79	236984	50.5867	ug/L	100
58) Toluene	12.56	91	1095397	49.3360	ug/L	100
59) Ethyl Methacrylate	12.65	69	249821	52.6944	ug/L	100
60) trans-1,3-Dichloropropene	12.73	75	366443	51.4187	ug/L	100
61) 1,1,2-Trichloroethane	12.93	97	194150	49.3135	ug/L	100
62) 2-Hexanone	12.86	43	144364	49.9264	ug/L	100
63) 1,3-Dichloropropane	13.21	76	316783	50.1049	ug/L	100
64) Tetrachloroethene	13.34	164	251037	48.6205	ug/L	100
65) Dibromochloromethane	13.59	129	310662	51.7330	ug/L	100
66) 1,2-Dibromoethane	13.82	107	196704	49.8676	ug/L	100
67) 1-Chlorohexane	13.89	91	376690	51.4596	ug/L	100
68) Chlorobenzene	14.29	112	797442	49.0276	ug/L	100
69) 1,1,1,2-Tetrachloroethane	14.32	131	325801	49.5033	ug/L	100
70) Ethylbenzene	14.31	106	408749	49.0078	ug/L	100
71) m-,p-Xylene	14.39	106	996141	98.2427	ug/L	100
72) o-Xylene	14.92	106	492043	49.8632	ug/L	100
73) Styrene	14.95	104	838125	51.4077	ug/L	100
74) Bromoform	15.43	173	184100	50.5823	ug/L	100
75) Isopropylbenzene	15.31	105	1309383	50.1751	ug/L	100
77) 1,1,2,2-Tetrachloroethane	15.52	83	208930	50.8426	ug/L	100
79) 1,2,3-Trichloropropane	15.70	110	72411	46.9859	ug/L	100
80) trans-1,4-Dichloro-2-Butene	15.74	53	94075	47.5347	ug/L	100
81) n-Propylbenzene	15.79	91	1522917	49.8325	ug/L	100
82) Bromobenzene	15.92	156	379178	47.2834	ug/L	100
83) 1,3,5-Trimethylbenzene	15.96	105	1143246	49.0221	ug/L	100
84) 2-Chlorotoluene	16.05	91	1021921	47.7415	ug/L	100
85) 4-Chlorotoluene	16.09	91	930690	48.5394	ug/L	100
86) a-Methylstyrene	16.34	118	649847	52.8208	ug/L	100
87) tert-Butylbenzene	16.40	134	241955	48.9705	ug/L	100
88) 1,2,4-Trimethylbenzene	16.44	105	1178963	49.6454	ug/L	100
89) sec-Butylbenzene	16.65	105	1390388	49.6522	ug/L	100
90) p-Isopropyltoluene	16.79	119	1282252	49.8529	ug/L	100
91) 1,3-Dichlorobenzene	16.98	146	737967	47.6473	ug/L	100
92) 1,4-Dichlorobenzene	17.10	146	740977	47.1987	ug/L	100
93) n-Butylbenzene	17.28	91	1126170	49.6883	ug/L	100
94) 1,2-Dichlorobenzene	17.57	146	684016	48.4812	ug/L	100
95) 1,2-Dibromo-3-Chloropropane	18.49	75	42848	46.3023	ug/L	100
96) 1,2,4-Trichlorobenzene	19.55	180	512927	49.6830	ug/L	100
97) Hexachlorobutadiene	19.69	225	219129	48.1793	ug/L	100
98) Naphthalene	19.90	128	962852	50.2463	ug/L	100
99) 1,2,3-Trichlorobenzene	20.19	180	453828	47.8975	ug/L	100

(#) = qualifier out of range (m) = manual integration
 11M11843.D 8260WT.M Sat May 14 18:50:57 2016

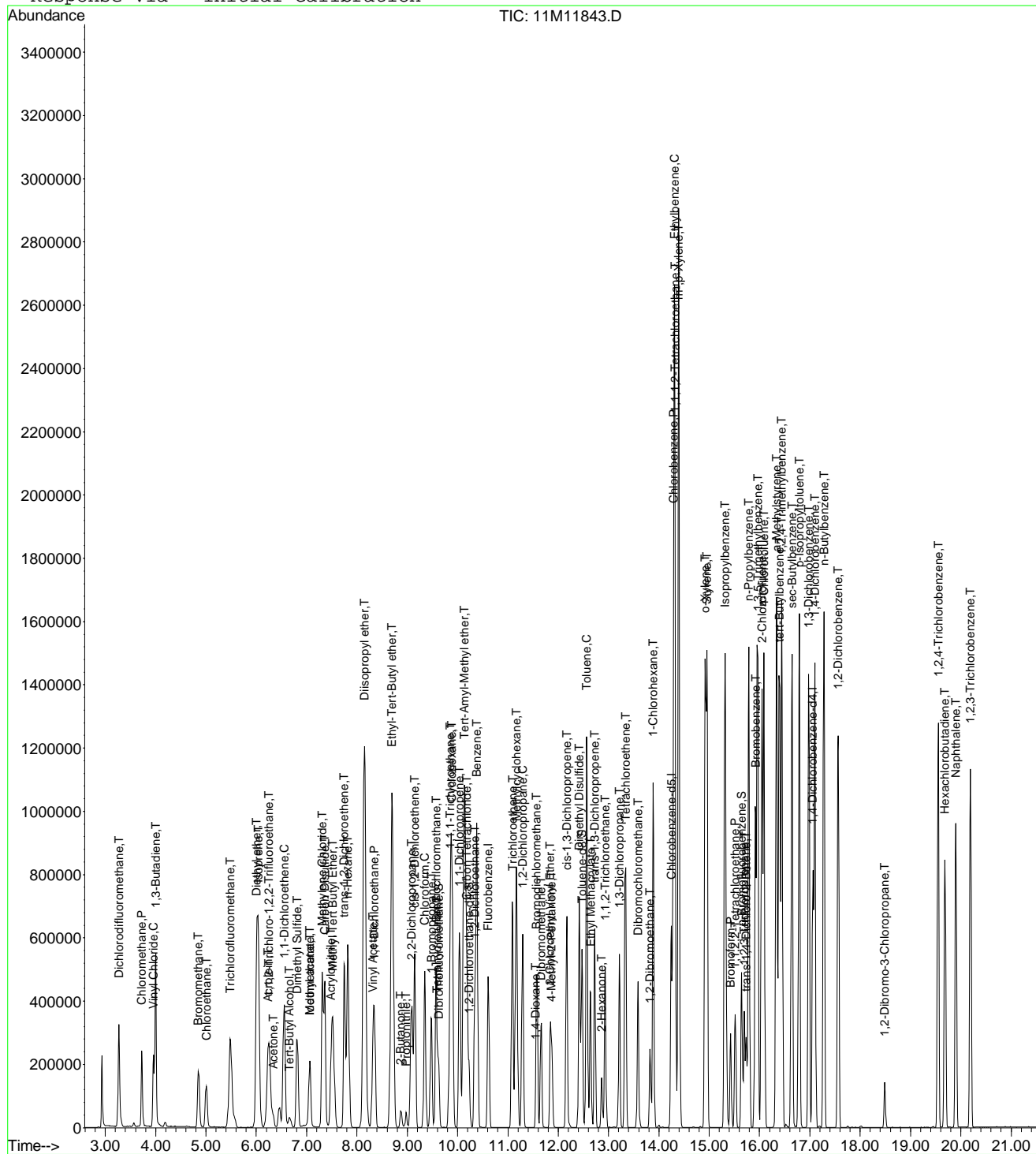
Page 2

Data File : C:\MSDCHEM\1\DATA\051316\11M11843.D
Acq On : 13 May 2016 17:51
Sample : WG568769-08 50ug/L ICAL STD 8260
Misc : 1,1 STD76127
MS Integration Params: rteint.p
Quant Time: May 14 18:50 2016

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

Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\051316\11M11844.D Vial: 9
 Acq On : 13 May 2016 18:22 Operator: JDS
 Sample : WG568769-09 100ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 14 18:50:57 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	541540	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	458522	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	275719	25.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.63	111	307700	51.9175	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	207.68%#	
43) 1,2-Dichloroethane-d4	10.23	65	345779	51.1676	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	204.68%#	
57) Toluene-d8	12.47	98	1011334	50.7627	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	203.04%#	
78) p-Bromofluorobenzene	15.64	95	423157	49.7872	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	199.16%#	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.27	85	918088	108.2020	ug/L	100
3) Chloromethane	3.72	50	641242	94.3625	ug/L	99
4) Vinyl Chloride	3.95	62	586615	103.9481	ug/L	100
5) 1,3-Butadiene	3.99	54	571156	101.7838	ug/L	99
6) Bromomethane	4.85	94	394826	101.7560	ug/L	99
7) Chloroethane	5.00	64	370541	102.1913	ug/L	99
8) Trichlorofluoromethane	5.48	101	1135647	100.9627	ug/L	98
9) Diethyl ether	6.01	59	836495	201.0821	ug/L	99
10) Isoprene	6.04	67	699724	100.9257	ug/L	100
11) Acrolein	6.24	56	55228	99.4421	ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	6.26	101	545013	99.8560	ug/L	100
13) Acetone	6.34	43	123799	96.2731	ug/L	95
14) 1,1-Dichloroethene	6.56	61	1004294	101.3022	ug/L	100
15) Tert-Butyl Alcohol	6.66	59	148134	416.4687	ug/L	98
16) Dimethyl Sulfide	6.81	62	401237	101.3432	ug/L	100
17) Iodomethane	7.06	142	471112	102.3553	ug/L	100
18) Methyl acetate	7.07	43	381031	98.0957	ug/L	99
19) Methylene Chloride	7.31	84	501609	97.7649	ug/L	99
20) Carbon Disulfide	7.36	76	1695322	102.1458	ug/L	100
21) Acrylonitrile	7.49	53	184461	106.9881	ug/L	99
22) Methyl Tert Butyl Ether	7.52	73	1312901	102.5951	ug/L	100
23) trans-1,2-Dichloroethene	7.74	96	542907	98.9478	ug/L	98
24) n-Hexane	7.82	57	921942	100.8849	ug/L	99
25) Diisopropyl ether	8.15	45	4599625	201.7086	ug/L	99
26) Vinyl Acetate	8.31	43	855488	94.3763	ug/L	99
27) 1,1-Dichloroethane	8.34	63	1111115	100.9254	ug/L	99
28) Ethyl-Tert-Butyl ether	8.70	59	3780769	203.7060	ug/L	100
29) 2-Butanone	8.87	43	198511	102.1130	ug/L	100
30) Propionitrile	8.98	54	118699	208.4678	ug/L	97
31) 2,2-Dichloropropane	9.09	77	914695	106.1904	ug/L	100
32) cis-1,2-Dichloroethene	9.15	96	606774	100.2977	ug/L	99
33) Chloroform	9.35	83	1053766	97.4685	ug/L	100
34) 1-Bromopropane	9.48	122	106914	98.8615	ug/L	100
35) Bromochloromethane	9.57	130	387239	107.7795	ug/L	100
36) Tetrahydrofuran	9.60	42	270148	196.7890	ug/L	99
38) 1,1,1-Trichloroethane	9.85	97	1088263	102.2884	ug/L	99
39) Cyclohexane	9.88	56	1213186	104.6320	ug/L	100
40) 1,1-Dichloropropene	10.04	75	775674	102.1101	ug/L	98
41) Carbon Tetrachloride	10.18	117	1074698	103.4456	ug/L	99
42) Tert-Amyl-Methyl ether	10.13	73	2619501	203.1147	ug/L	99

(#) = qualifier out of range (m) = manual integration
 11M11844.D 8260WT.M Sat May 14 18:50:58 2016

Data File : C:\MSDCHEM\1\DATA\051316\11M11844.D Vial: 9
 Acq On : 13 May 2016 18:22 Operator: JDS
 Sample : WG568769-09 100ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: May 14 18:50:57 2016

Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44) 1,2-Dichloroethane	10.34	62	895394	101.9714	ug/L	100
45) Benzene	10.38	78	2041856	98.1867	ug/L	100
46) Trichloroethene	11.08	130	677193	100.1861	ug/L	99
47) Methylcyclohexane	11.17	83	867487	103.9915	ug/L	100
48) 1,2-Dichloropropane	11.29	63	580562	100.8530	ug/L	98
49) 1,4-Dioxane	11.56	88	13651	395.0901	ug/L	100
50) Bromodichloromethane	11.57	83	837797	103.6717	ug/L	99
51) Dibromomethane	11.65	93	315786	105.2707	ug/L	99
52) 2-Chloroethyl Vinyl Ether	11.84	63	293822	103.5626	ug/L	100
53) 4-Methyl-2-Pentanone	11.87	58	164890	103.0430	ug/L	98
54) cis-1,3-Dichloropropene	12.17	75	854611	105.7305	ug/L	99
55) Dimethyl Disulfide	12.42	79	505463	103.9202	ug/L	99
58) Toluene	12.56	91	2361378	101.7300	ug/L	100
59) Ethyl Methacrylate	12.65	69	529740	106.8782	ug/L	98
60) trans-1,3-Dichloropropene	12.73	75	793063	106.4420	ug/L	99
61) 1,1,2-Trichloroethane	12.94	97	418327	101.6330	ug/L	99
62) 2-Hexanone	12.86	43	314588	104.0648	ug/L	99
63) 1,3-Dichloropropane	13.21	76	685844	103.7610	ug/L	100
64) Tetrachloroethene	13.34	164	550335	101.9528	ug/L	99
65) Dibromochloromethane	13.59	129	681591	108.5659	ug/L	100
66) 1,2-Dibromoethane	13.82	107	427945	103.7729	ug/L	99
67) 1-Chlorohexane	13.89	91	807177	105.4730	ug/L	98
68) Chlorobenzene	14.29	112	1705646	100.3046	ug/L	99
69) 1,1,1,2-Tetrachloroethane	14.32	131	704959	102.4557	ug/L	100
70) Ethylbenzene	14.31	106	883839	101.3614	ug/L	99
71) m-,p-Xylene	14.39	106	2123651	200.3333	ug/L	98
72) o-Xylene	14.92	106	1053682	102.1356	ug/L	100
73) Styrene	14.95	104	1807222	106.0282	ug/L	99
74) Bromoform	15.43	173	412378	108.3755	ug/L	100
75) Isopropylbenzene	15.31	105	2813193	103.1127	ug/L	99
77) 1,1,2,2-Tetrachloroethane	15.52	83	454052	105.7501	ug/L	99
79) 1,2,3-Trichloropropane	15.70	110	156532	96.8210	ug/L	100
80) trans-1,4-Dichloro-2-Butene	15.74	53	203327	97.5343	ug/L	96
81) n-Propylbenzene	15.79	91	3285915	102.9061	ug/L	99
82) Bromobenzene	15.92	156	828973	98.9359	ug/L	99
83) 1,3,5-Trimethylbenzene	15.96	105	2483230	101.9102	ug/L	100
84) 2-Chlorotoluene	16.05	91	2208423	98.7437	ug/L	100
85) 4-Chlorotoluene	16.09	91	2020827	100.8710	ug/L	100
86) a-Methylstyrene	16.34	118	1361545	105.9190	ug/L	99
87) tert-Butylbenzene	16.40	134	532522	103.1540	ug/L	98
88) 1,2,4-Trimethylbenzene	16.44	105	2546912	102.6457	ug/L	100
89) sec-Butylbenzene	16.65	105	3003570	102.6569	ug/L	99
90) p-Isopropyltoluene	16.79	119	2763313	102.8241	ug/L	99
91) 1,3-Dichlorobenzene	16.98	146	1600684	98.9134	ug/L	100
92) 1,4-Dichlorobenzene	17.10	146	1605475	97.8762	ug/L	100
93) n-Butylbenzene	17.28	91	2452438	103.5609	ug/L	100
94) 1,2-Dichlorobenzene	17.57	146	1481276	100.4827	ug/L	100
95) 1,2-Dibromo-3-Chloropropane	18.49	75	95062	97.5959	ug/L	99
96) 1,2,4-Trichlorobenzene	19.55	180	1100416	102.0133	ug/L	100
97) Hexachlorobutadiene	19.69	225	486893	102.4572	ug/L	100
98) Naphthalene	19.90	128	2071229	103.4477	ug/L	100
99) 1,2,3-Trichlorobenzene	20.19	180	980181	99.0092	ug/L	99

(#) = qualifier out of range (m) = manual integration
 11M11844.D 8260WT.M Sat May 14 18:50:58 2016

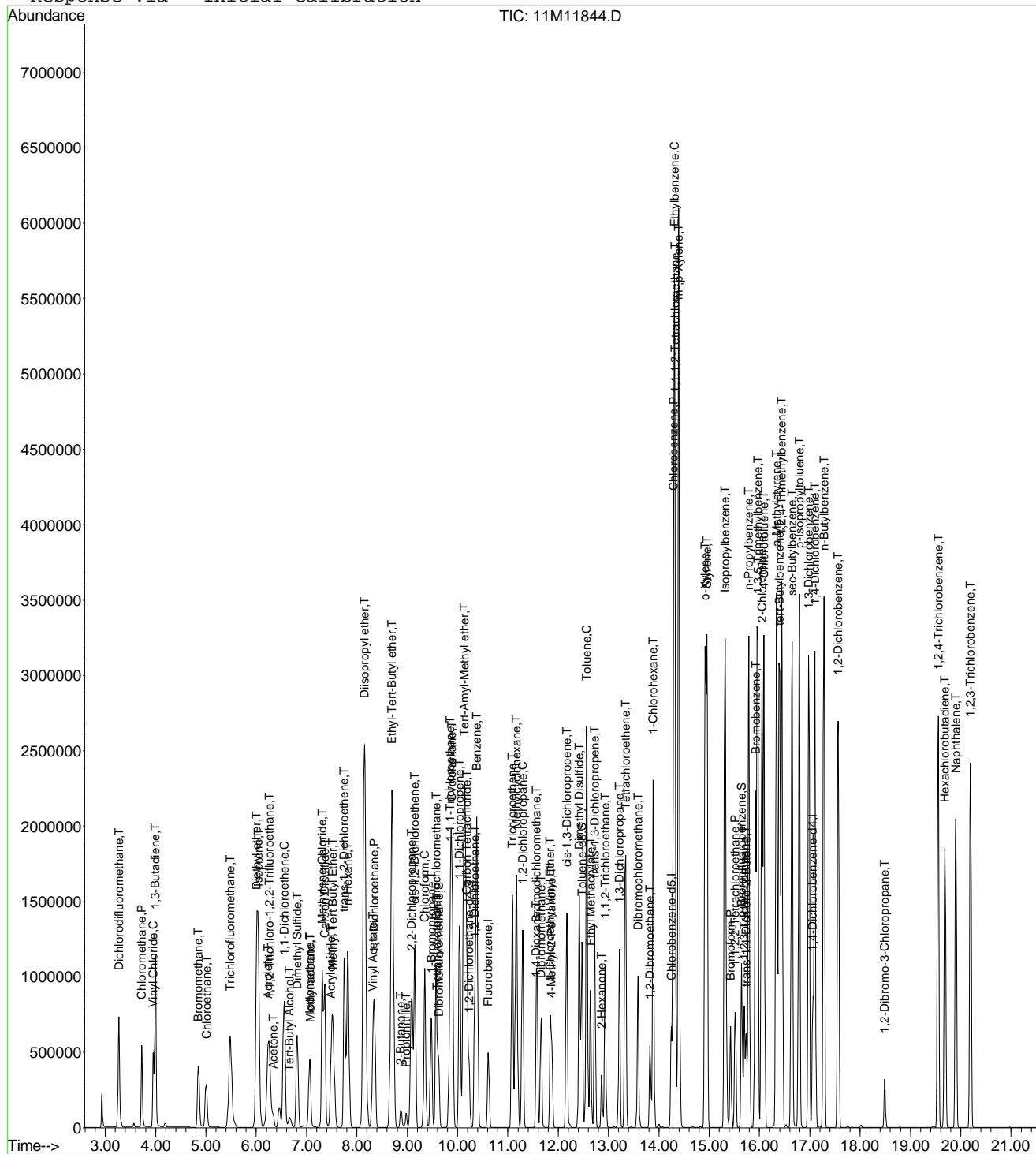
Page 2

Data File : C:\MSDCHEM\1\DATA\051316\11M11844.D
Acq On : 13 May 2016 18:22
Sample : WG568769-09 100ug/L ICAL STD 8260
Misc : 1,1 STD76127
MS Integration Params: rteint.p
Quant Time: May 14 18:50 2016

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

Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\051316\11M11845.D Vial: 10
 Acq On : 13 May 2016 18:54 Operator: JDS
 Sample : WG568769-10 200ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: May 14 18:50:59 2016

Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	552905	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	473364	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	274188	25.00	ug/L	0.00

System Monitoring Compounds

37) Dibromofluoromethane	9.63	111	629894	104.0960	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	416.40%#	
43) 1,2-Dichloroethane-d4	10.23	65	684792	99.2511	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	397.00%#	
57) Toluene-d8	12.47	98	2068111	100.5516	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	402.20%#	
78) p-Bromofluorobenzene	15.64	95	864999	102.3411	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	409.36%#	

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.27	85	1843265	212.7741	ug/L	99
3) Chloromethane	3.72	50	1346993	194.1434	ug/L	100
4) Vinyl Chloride	3.95	62	1199147	208.1209	ug/L	100
5) 1,3-Butadiene	3.99	54	1131910	197.5677	ug/L	97
6) Bromomethane	4.85	94	859963	217.0771	ug/L	100
7) Chloroethane	5.00	64	764060	206.3883	ug/L	100
8) Trichlorofluoromethane	5.48	101	2275404	198.1327	ug/L	100
9) Diethyl ether	6.03	59	2592	0.6103	ug/L #	21
10) Isoprene	6.04	67	1435794	202.8369	ug/L	97
11) Acrolein	6.25	56	3061	6.8231	ug/L	88
12) 1,1,2-Trichloro-1,2,2-Trif	6.25	101	1123889	201.6837	ug/L	99
13) Acetone	6.34	43	254053	193.5049	ug/L	96
14) 1,1-Dichloroethene	6.56	61	2040432	201.5858	ug/L	99
15) Tert-Butyl Alcohol	6.67	59	7729	21.2829	ug/L #	82
16) Dimethyl Sulfide	6.81	62	830179	205.3739	ug/L	99
17) Iodomethane	7.06	142	969857	206.1133	ug/L	99
18) Methyl acetate	7.07	43	749575	196.5068	ug/L	97
19) Methylene Chloride	7.31	84	1035656	197.7029	ug/L	97
20) Carbon Disulfide	7.36	76	3459748	204.1704	ug/L	99
21) Acrylonitrile	7.52	53	35662	20.2589	ug/L #	39
22) Methyl Tert Butyl Ether	7.52	73	2706665	207.1616	ug/L	100
23) trans-1,2-Dichloroethene	7.74	96	1121963	200.2808	ug/L	99
24) n-Hexane	7.82	57	1873652	200.8128	ug/L	99
25) Diisopropyl ether	8.16	45	16567	0.7116	ug/L #	87
26) Vinyl Acetate	8.31	43	1904053	202.8645	ug/L	100
27) 1,1-Dichloroethane	8.34	63	2261904	201.2314	ug/L	99
28) Ethyl-Tert-Butyl ether	8.70	59	9063	0.4783	ug/L	90
29) 2-Butanone	8.87	43	407543	205.3288	ug/L	99
30) Propionitrile	8.97	54	4182	7.1938	ug/L #	60
31) 2,2-Dichloropropane	9.09	77	1850091	210.3692	ug/L	100
32) cis-1,2-Dichloroethene	9.15	96	1257477	203.5843	ug/L	100
33) Chloroform	9.35	83	2160999	195.7739	ug/L	100
34) 1-Bromopropane	9.48	122	222798	201.1267	ug/L	98
35) Bromochloromethane	9.57	130	798076	217.5612	ug/L	99
36) Tetrahydrofuran	9.60	42	9110	6.4998	ug/L	97
38) 1,1,1-Trichloroethane	9.85	97	2208198	203.2875	ug/L	99
39) Cyclohexane	9.88	56	2467804	208.4625	ug/L	100
40) 1,1-Dichloropropene	10.04	75	1587009	204.6205	ug/L	99
41) Carbon Tetrachloride	10.18	117	2174730	205.0269	ug/L	99
42) Tert-Amyl-Methyl ether	10.13	73	6538	0.4965	ug/L #	83

(#) = qualifier out of range (m) = manual integration
 11M11845.D 8260WT.M Sat May 14 18:51:00 2016

Page 1

Data File : C:\MSDCHEM\1\DATA\051316\11M11845.D Vial: 10
 Acq On : 13 May 2016 18:54 Operator: JDS
 Sample : WG568769-10 200ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 14 18:50:59 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44) 1,2-Dichloroethane	10.34	62	1808450	201.7209	ug/L	99
45) Benzene	10.38	78	4119227	194.0096	ug/L	99
46) Trichloroethene	11.09	130	1367103	198.0963	ug/L	100
47) Methylcyclohexane	11.17	83	1789256	210.0812	ug/L	99
48) 1,2-Dichloropropane	11.29	63	1196100	203.5109	ug/L	99
49) 1,4-Dioxane	11.57	88	2656	94.1370	ug/L #	31
50) Bromodichloromethane	11.58	83	1721733	208.6734	ug/L	99
51) Dibromomethane	11.66	93	641583	209.4825	ug/L	100
52) 2-Chloroethyl Vinyl Ether	11.84	63	608231	209.9748	ug/L	99
53) 4-Methyl-2-Pentanone	11.87	58	342251	209.4831	ug/L	99
54) cis-1,3-Dichloropropene	12.17	75	1772737	214.8108	ug/L	100
55) Dimethyl Disulfide	12.42	79	1052498	211.9395	ug/L	98
58) Toluene	12.56	91	4699240	196.0993	ug/L	98
59) Ethyl Methacrylate	12.65	69	1101451	215.2567	ug/L	97
60) trans-1,3-Dichloropropene	12.73	75	1627488	211.5866	ug/L	99
61) 1,1,2-Trichloroethane	12.93	97	860113	202.4133	ug/L	99
62) 2-Hexanone	12.86	43	651287	208.6888	ug/L	99
63) 1,3-Dichloropropane	13.21	76	1412360	206.9756	ug/L	99
64) Tetrachloroethene	13.34	164	1133410	203.3874	ug/L	99
65) Dibromochloromethane	13.59	129	1409248	217.4313	ug/L	99
66) 1,2-Dibromoethane	13.82	107	889951	209.0389	ug/L	99
67) 1-Chlorohexane	13.89	91	1659272	210.0173	ug/L	97
68) Chlorobenzene	14.29	112	3416597	194.6214	ug/L	98
69) 1,1,1,2-Tetrachloroethane	14.32	131	1457008	205.1158	ug/L	100
70) Ethylbenzene	14.31	106	1814385	201.5551	ug/L	91
71) m-,p-Xylene	14.39	106	4230307	386.5510	ug/L	85
72) o-Xylene	14.92	106	2156790	202.5071	ug/L	96
73) Styrene	14.96	104	3630570	206.3240	ug/L	98
74) Bromoform	15.43	173	854308	217.4778	ug/L	100
75) Isopropylbenzene	15.31	105	5485636	194.7621	ug/L	97
77) 1,1,2,2-Tetrachloroethane	15.52	83	939708	220.0830	ug/L	98
79) 1,2,3-Trichloropropane	15.70	110	325518	202.0716	ug/L	99
80) trans-1,4-Dichloro-2-Butene	15.74	53	421012	202.2796	ug/L	97
81) n-Propylbenzene	15.79	91	6220435	195.8952	ug/L	95
82) Bromobenzene	15.92	156	1685980	202.3412	ug/L	99
83) 1,3,5-Trimethylbenzene	15.96	105	4875063	201.1866	ug/L	97
84) 2-Chlorotoluene	16.05	91	4287026	192.7532	ug/L	98
85) 4-Chlorotoluene	16.09	91	4030756	202.3214	ug/L	98
86) a-Methylstyrene	16.34	118	2724122	213.1015	ug/L	98
87) tert-Butylbenzene	16.40	134	1075661	209.5280	ug/L	96
88) 1,2,4-Trimethylbenzene	16.44	105	4921395	199.4496	ug/L	97
89) sec-Butylbenzene	16.65	105	5740919	197.3104	ug/L	97
90) p-Isopropyltoluene	16.79	119	5274037	197.3451	ug/L	95
91) 1,3-Dichlorobenzene	16.98	146	3171808	197.0945	ug/L	99
92) 1,4-Dichlorobenzene	17.10	146	3145357	192.8244	ug/L	99
93) n-Butylbenzene	17.28	91	4684496	198.9203	ug/L	97
94) 1,2-Dichlorobenzene	17.57	146	2909224	198.4498	ug/L	99
95) 1,2-Dibromo-3-Chloropropane	18.49	75	191088	196.6217	ug/L	99
96) 1,2,4-Trichlorobenzene	19.55	180	2198003	204.9021	ug/L	99
97) Hexachlorobutadiene	19.69	225	969160	205.0797	ug/L	99
98) Naphthalene	19.90	128	3994903	200.6399	ug/L	98
99) 1,2,3-Trichlorobenzene	20.19	180	1999949	203.1452	ug/L	99

(#) = qualifier out of range (m) = manual integration
 11M11845.D 8260WT.M Sat May 14 18:51:00 2016

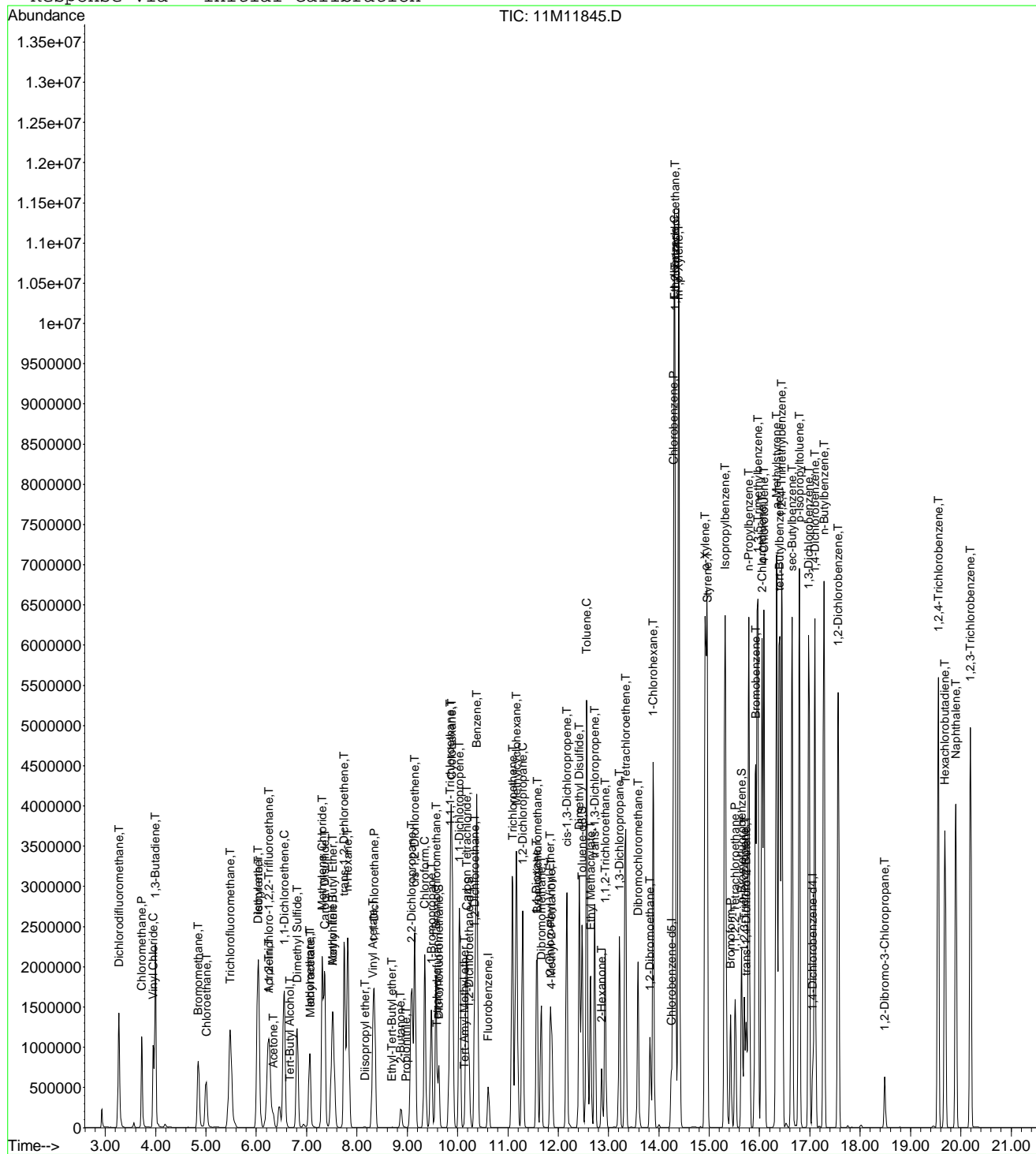
Page 2

Data File : C:\MSDCHEM\1\DATA\051316\11M11845.D
Acq On : 13 May 2016 18:54
Sample : WG568769-10 200ug/L ICAL STD 8260
Misc : 1,1 STD76127
MS Integration Params: rteint.p
Quant Time: May 14 18:50 2016

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

Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\051316\11M11846.D Vial: 11
 Acq On : 13 May 2016 19:26 Operator: JDS
 Sample : WG568769-11 300ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 14 18:51:01 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	543599	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	479542	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	277309	25.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.63	111	905755	152.2472	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	= 609.00%#		
43) 1,2-Dichloroethane-d4	10.23	65	970758	143.1066	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	= 572.44%#		
57) Toluene-d8	12.47	98	3002456	144.0987	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	= 576.40%#		
78) p-Bromofluorobenzene	15.64	95	1285822	150.4179	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	= 601.68%#		

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.27	85	2762707	324.3678	ug/L	99
3) Chloromethane	3.72	50	2113477	309.8323	ug/L	100
4) Vinyl Chloride	3.95	62	1802126	318.1269	ug/L	100
5) 1,3-Butadiene	3.99	54	1562377	277.3715	ug/L	98
6) Bromomethane	4.85	94	1341865	344.5204	ug/L	100
7) Chloroethane	5.00	64	1181546	324.6236	ug/L	100
8) Trichlorofluoromethane	5.48	101	3351045	296.7904	ug/L	99
9) Diethyl ether	6.01	59	1250668	299.5049	ug/L	97
10) Isoprene	6.04	67	2121830	304.8859	ug/L	97
11) Acrolein	6.23	56	87016	155.2272	ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	6.25	101	1679276	306.5076	ug/L	99
13) Acetone	6.34	43	352141	272.8074	ug/L	95
14) 1,1-Dichloroethene	6.56	61	3009080	302.3733	ug/L	98
15) Tert-Butyl Alcohol	6.67	59	227782	637.9680	ug/L	97
16) Dimethyl Sulfide	6.81	62	1199487	301.8151	ug/L	96
17) Iodomethane	7.06	142	1359092	295.3515	ug/L	96
18) Methyl acetate	7.07	43	1093862	303.3719	ug/L	97
19) Methylene Chloride	7.31	84	1550974	301.1438	ug/L	91
20) Carbon Disulfide	7.36	76	5025219	301.6304	ug/L	99
21) Acrylonitrile	7.49	53	292311	168.8994	ug/L	94
22) Methyl Tert Butyl Ether	7.52	73	3880019	302.0512	ug/L	100
23) trans-1,2-Dichloroethene	7.74	96	1693308	307.4459	ug/L	98
24) n-Hexane	7.82	57	2752540	300.0599	ug/L	99
25) Diisopropyl ether	8.15	45	6621718	289.2841	ug/L	99
26) Vinyl Acetate	8.31	43	2814279	303.7518	ug/L	99
27) 1,1-Dichloroethane	8.34	63	3313473	299.8312	ug/L	98
28) Ethyl-Tert-Butyl ether	8.70	59	5508427	295.6672	ug/L	99
29) 2-Butanone	8.87	43	590742	302.7235	ug/L	97
30) Propionitrile	8.99	54	177454	310.4771	ug/L	98
31) 2,2-Dichloropropane	9.09	77	2735421	316.3626	ug/L	99
32) cis-1,2-Dichloroethene	9.15	96	1856543	305.7181	ug/L	98
33) Chloroform	9.35	83	3144758	289.7739	ug/L	100
34) 1-Bromopropane	9.48	122	329211	301.9597	ug/L	98
35) Bromochloromethane	9.57	130	1179409	327.0194	ug/L	97
36) Tetrahydrofuran	9.60	42	386389	280.3985	ug/L	96
38) 1,1,1-Trichloroethane	9.85	97	3227247	302.1877	ug/L	99
39) Cyclohexane	9.88	56	3625895	311.5332	ug/L	99
40) 1,1-Dichloropropene	10.04	75	2360605	309.5743	ug/L	100
41) Carbon Tetrachloride	10.18	117	3172921	304.2542	ug/L	99
42) Tert-Amyl-Methyl ether	10.13	73	3912691	302.2388	ug/L	97

(#) = qualifier out of range (m) = manual integration
 11M11846.D 8260WT.M Sat May 14 18:51:02 2016

Data File : C:\MSDCHEM\1\DATA\051316\11M11846.D Vial: 11
 Acq On : 13 May 2016 19:26 Operator: JDS
 Sample : WG568769-11 300ug/L ICAL STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 14 18:51:01 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44) 1,2-Dichloroethane	10.34	62	2551762	289.5052	ug/L	98
45) Benzene	10.38	78	5961793	285.5987	ug/L	97
46) Trichloroethene	11.09	130	2025948	298.5901	ug/L	99
47) Methylcyclohexane	11.17	83	2657028	317.3092	ug/L	98
48) 1,2-Dichloropropane	11.29	63	1781372	308.2809	ug/L	96
49) 1,4-Dioxane	11.56	88	21540	607.7372	ug/L	100
50) Bromodichloromethane	11.57	83	2511276	309.5762	ug/L	100
51) Dibromomethane	11.65	93	939605	312.0413	ug/L	99
52) 2-Chloroethyl Vinyl Ether	11.84	63	879534	308.8327	ug/L	100
53) 4-Methyl-2-Pentanone	11.87	58	505191	314.5081	ug/L	99
54) cis-1,3-Dichloropropene	12.17	75	2604960	321.0589	ug/L	99
55) Dimethyl Disulfide	12.42	79	1529785	313.3234	ug/L	99
58) Toluene	12.56	91	6613670	272.4329	ug/L	95
59) Ethyl Methacrylate	12.65	69	1618015	312.1351	ug/L	94
60) trans-1,3-Dichloropropene	12.73	75	2369133	304.0383	ug/L	98
61) 1,1,2-Trichloroethane	12.93	97	1271039	295.2644	ug/L	98
62) 2-Hexanone	12.86	43	950079	300.5074	ug/L	97
63) 1,3-Dichloropropane	13.21	76	2062188	298.3119	ug/L	97
64) Tetrachloroethene	13.34	164	1691190	299.5697	ug/L	98
65) Dibromochloromethane	13.59	129	2065480	314.5750	ug/L	100
66) 1,2-Dibromoethane	13.82	107	1334668	309.4588	ug/L	99
67) 1-Chlorohexane	13.89	91	2483371	310.2757	ug/L	95
68) Chlorobenzene	14.29	112	4911463	276.1698	ug/L	96
69) 1,1,1,2-Tetrachloroethane	14.32	131	2161701	300.4009	ug/L	100
70) Ethylbenzene	14.31	106	2715675	297.7904	ug/L	79
71) m-,p-Xylene	14.39	106	6004062	541.5626	ug/L	73
72) o-Xylene	14.92	106	3202500	296.8179	ug/L	90
73) Styrene	14.96	104	5278134	296.0902	ug/L	96
74) Bromoform	15.43	173	1313245	330.0007	ug/L	100
75) Isopropylbenzene	15.31	105	7610374	266.7178	ug/L	92
77) 1,1,2,2-Tetrachloroethane	15.52	83	1470787	340.5868	ug/L	97
79) 1,2,3-Trichloropropane	15.70	110	494041	303.0514	ug/L	98
80) trans-1,4-Dichloro-2-Butene	15.74	53	640812	304.0444	ug/L	94
81) n-Propylbenzene	15.79	91	8405785	261.7374	ug/L	88
82) Bromobenzene	15.92	156	2530711	300.3025	ug/L	98
83) 1,3,5-Trimethylbenzene	15.96	105	6851753	279.5793	ug/L	93
84) 2-Chlorotoluene	16.05	91	6055423	269.1996	ug/L	95
85) 4-Chlorotoluene	16.09	91	5712933	283.5299	ug/L	94
86) a-Methylstyrene	16.34	118	4020347	310.9625	ug/L	96
87) tert-Butylbenzene	16.40	134	1654009	318.5583	ug/L	89
88) 1,2,4-Trimethylbenzene	16.44	105	6879061	275.6504	ug/L	91
89) sec-Butylbenzene	16.65	105	7999374	271.8373	ug/L	92
90) p-Isopropyltoluene	16.79	119	7406083	274.0036	ug/L	90
91) 1,3-Dichlorobenzene	16.98	146	4679194	287.4903	ug/L	97
92) 1,4-Dichlorobenzene	17.10	146	4642399	281.3967	ug/L	96
93) n-Butylbenzene	17.28	91	6723928	282.3084	ug/L	93
94) 1,2-Dichlorobenzene	17.57	146	4360022	294.0672	ug/L	96
95) 1,2-Dibromo-3-Chloropropane	18.49	75	302346	307.2381	ug/L	100
96) 1,2,4-Trichlorobenzene	19.55	180	3482946	321.0328	ug/L	97
97) Hexachlorobutadiene	19.69	225	1629665	340.9652	ug/L	98
98) Naphthalene	19.90	128	5970381	296.4815	ug/L #	96
99) 1,2,3-Trichlorobenzene	20.19	180	3137470	315.1025	ug/L	98

(#) = qualifier out of range (m) = manual integration
 11M11846.D 8260WT.M Sat May 14 18:51:02 2016

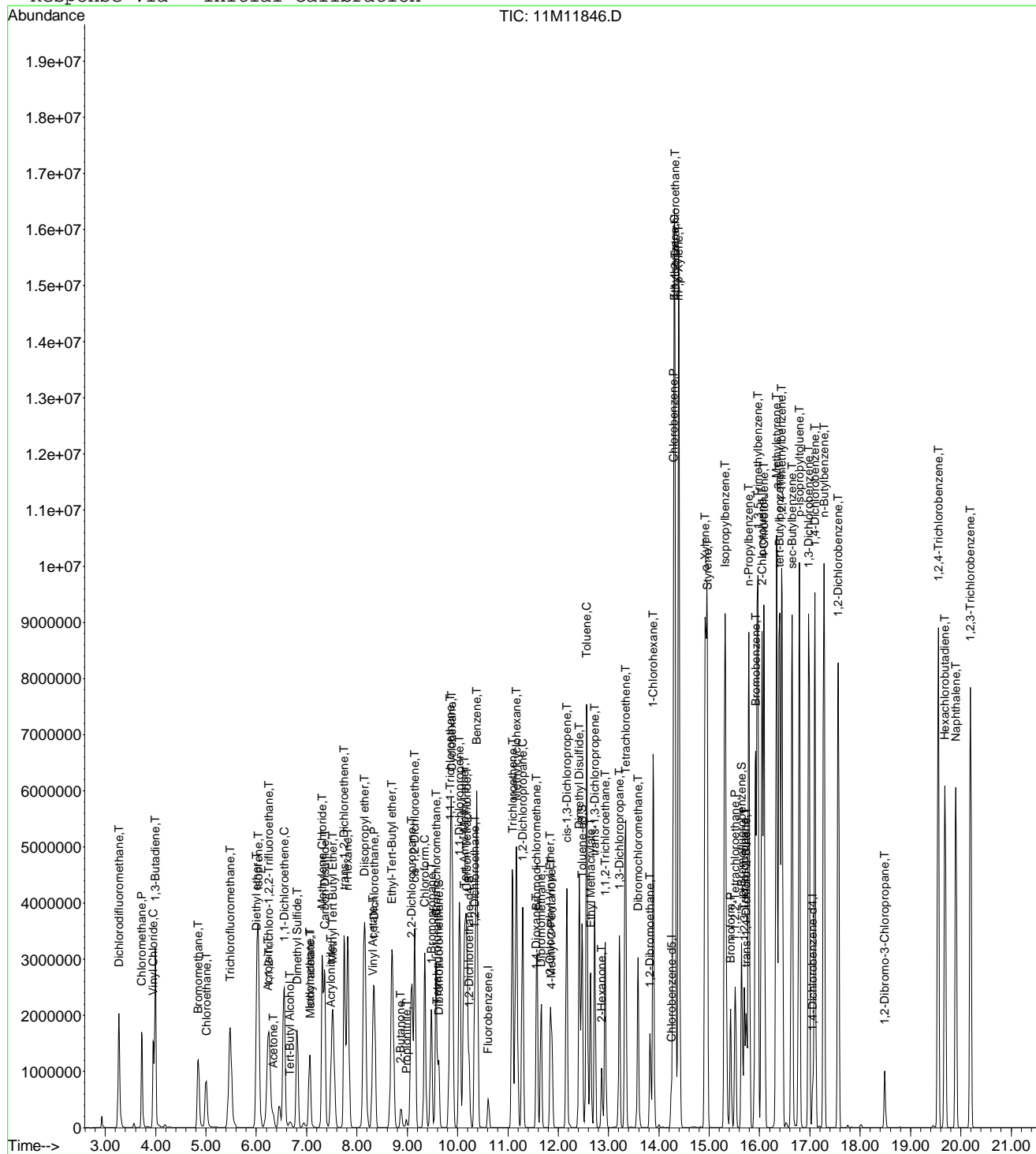
Page 2

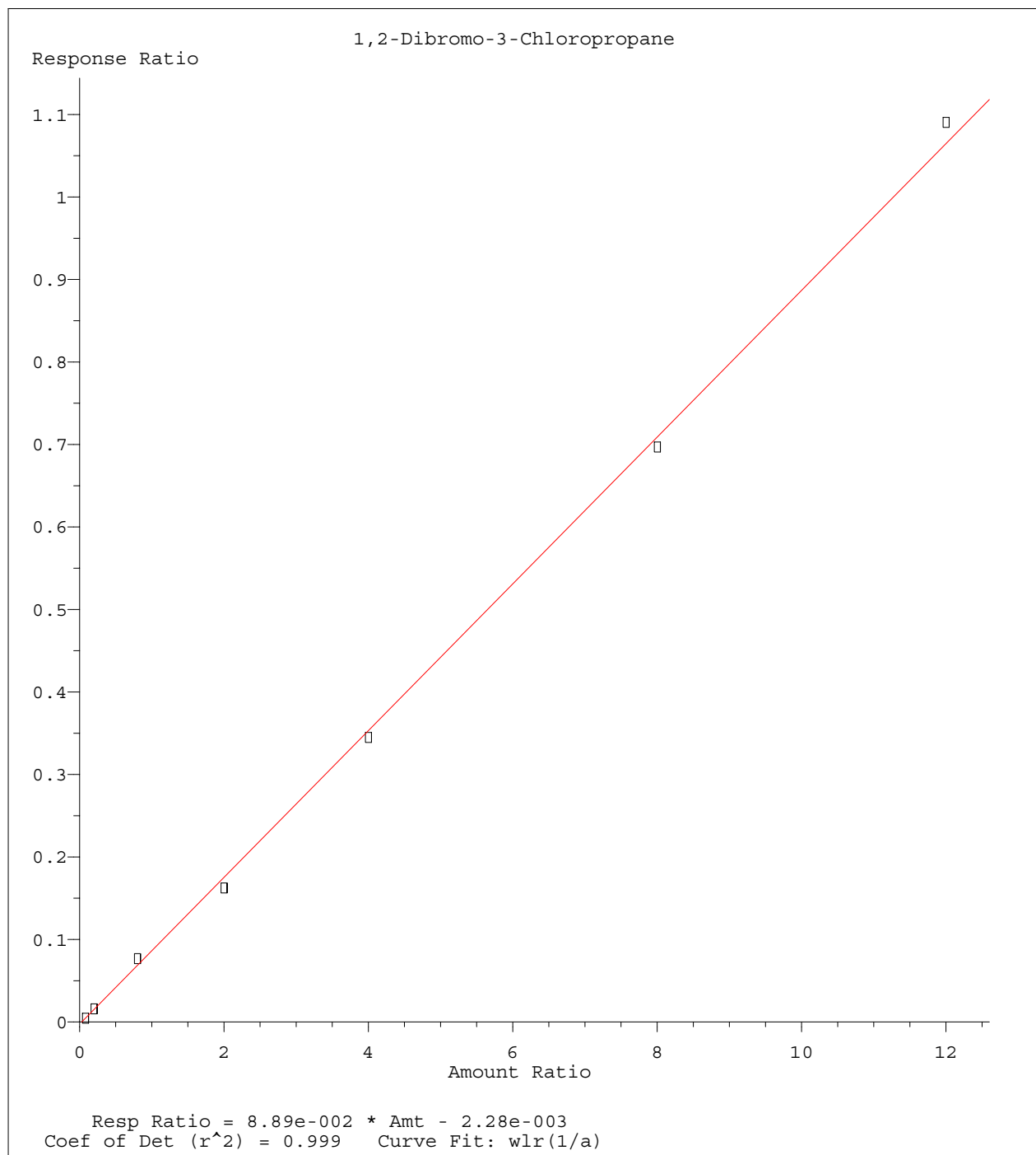
Data File : C:\MSDCHEM\1\DATA\051316\11M11846.D
Acq On : 13 May 2016 19:26
Sample : WG568769-11 300ug/L ICAL STD 8260
Misc : 1,1 STD76127
MS Integration Params: rteint.p
Quant Time: May 14 18:51 2016

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

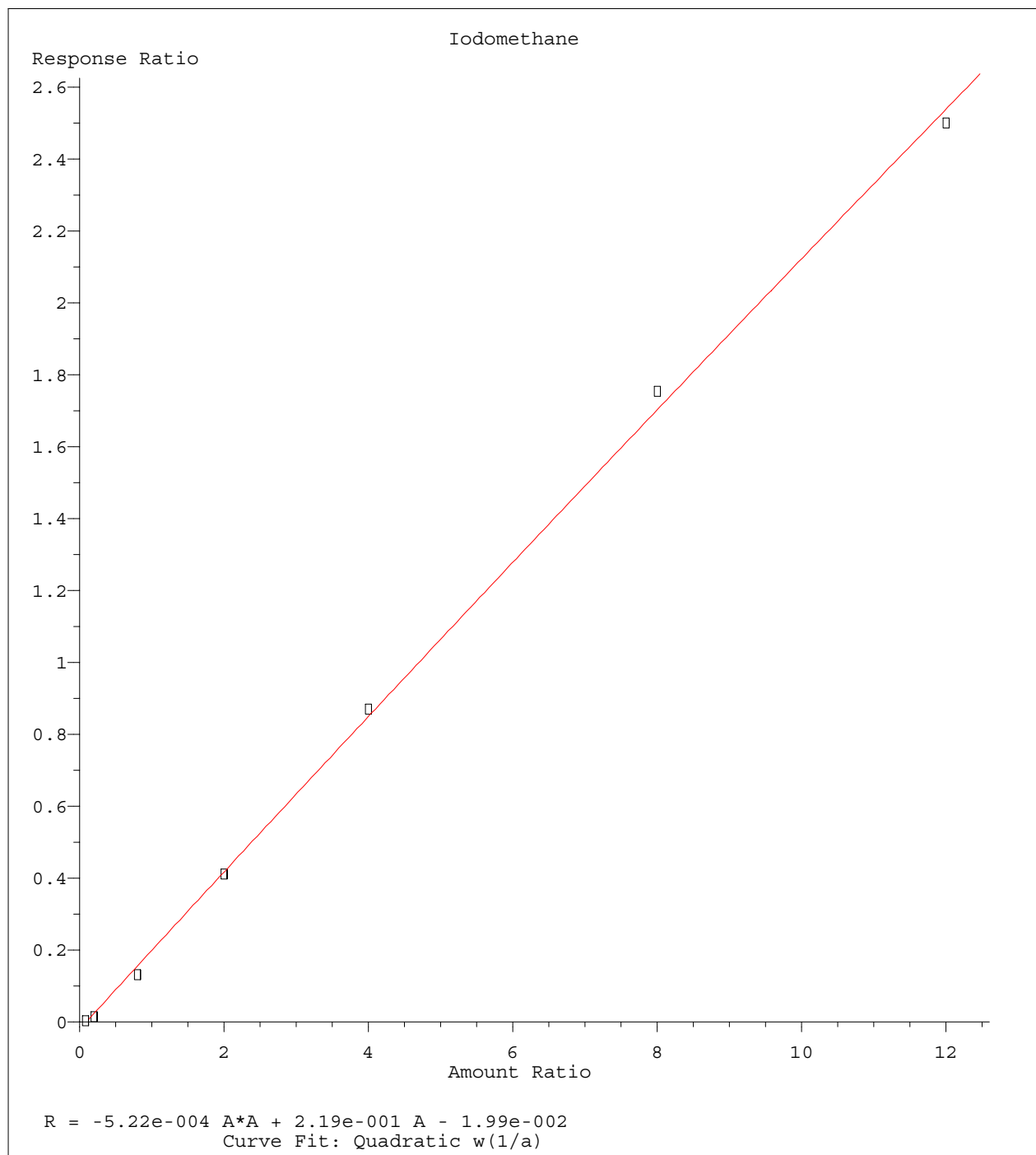
Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration

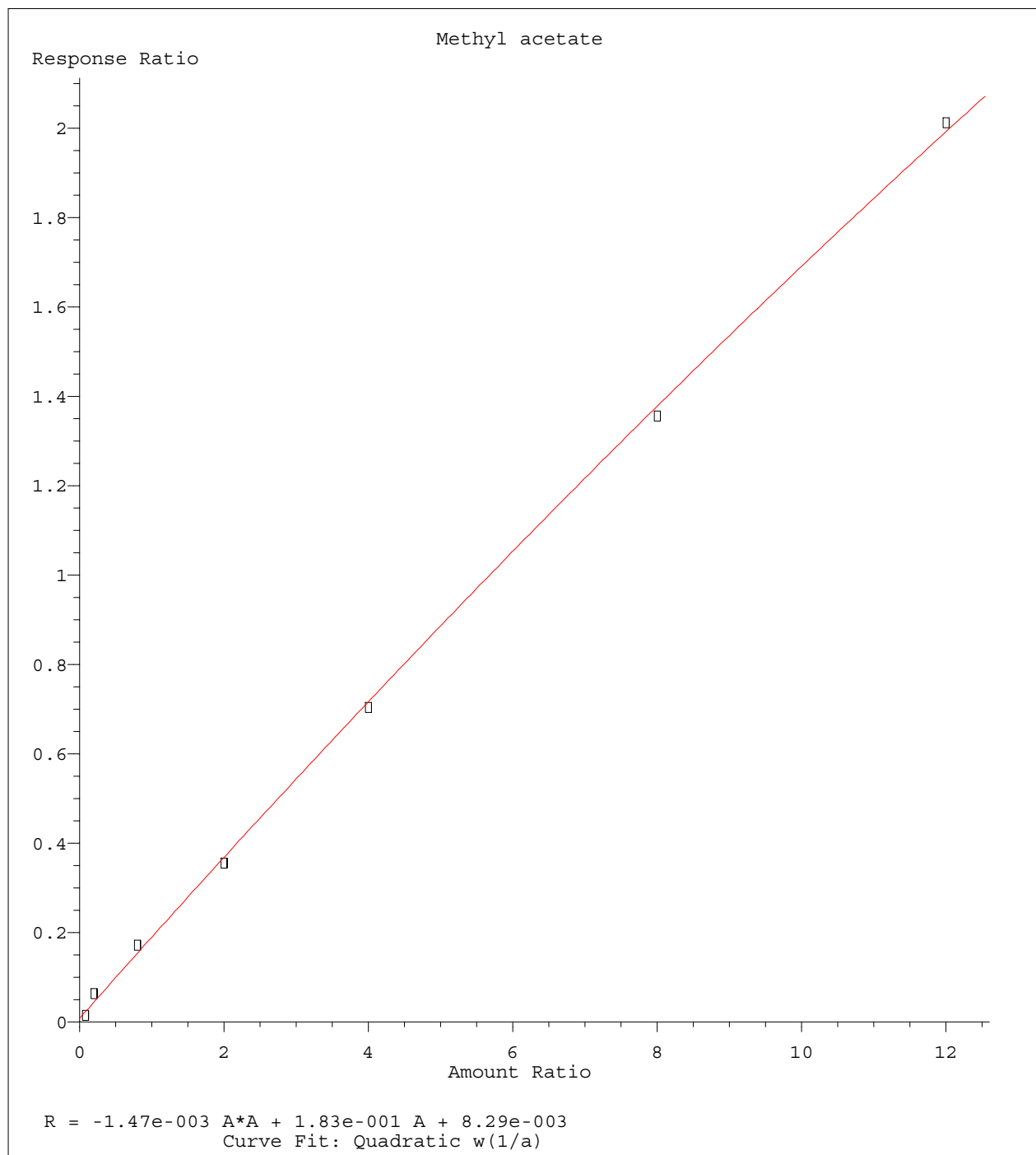




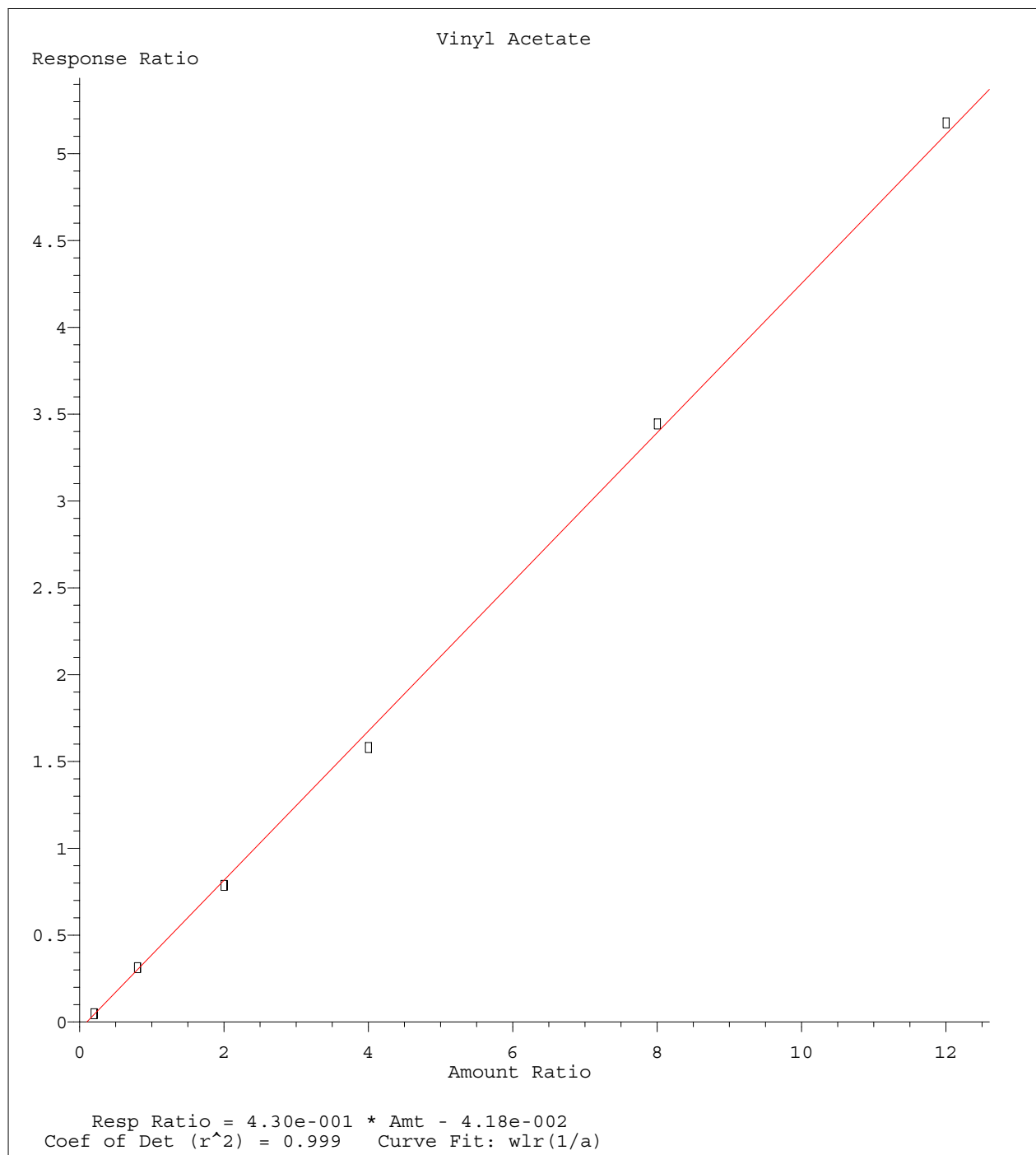
Method Name: C:\MSDCHEM\1\METHODS\8260WT.M
Calibration Table Last Updated: Sat May 14 18:45:57 2016



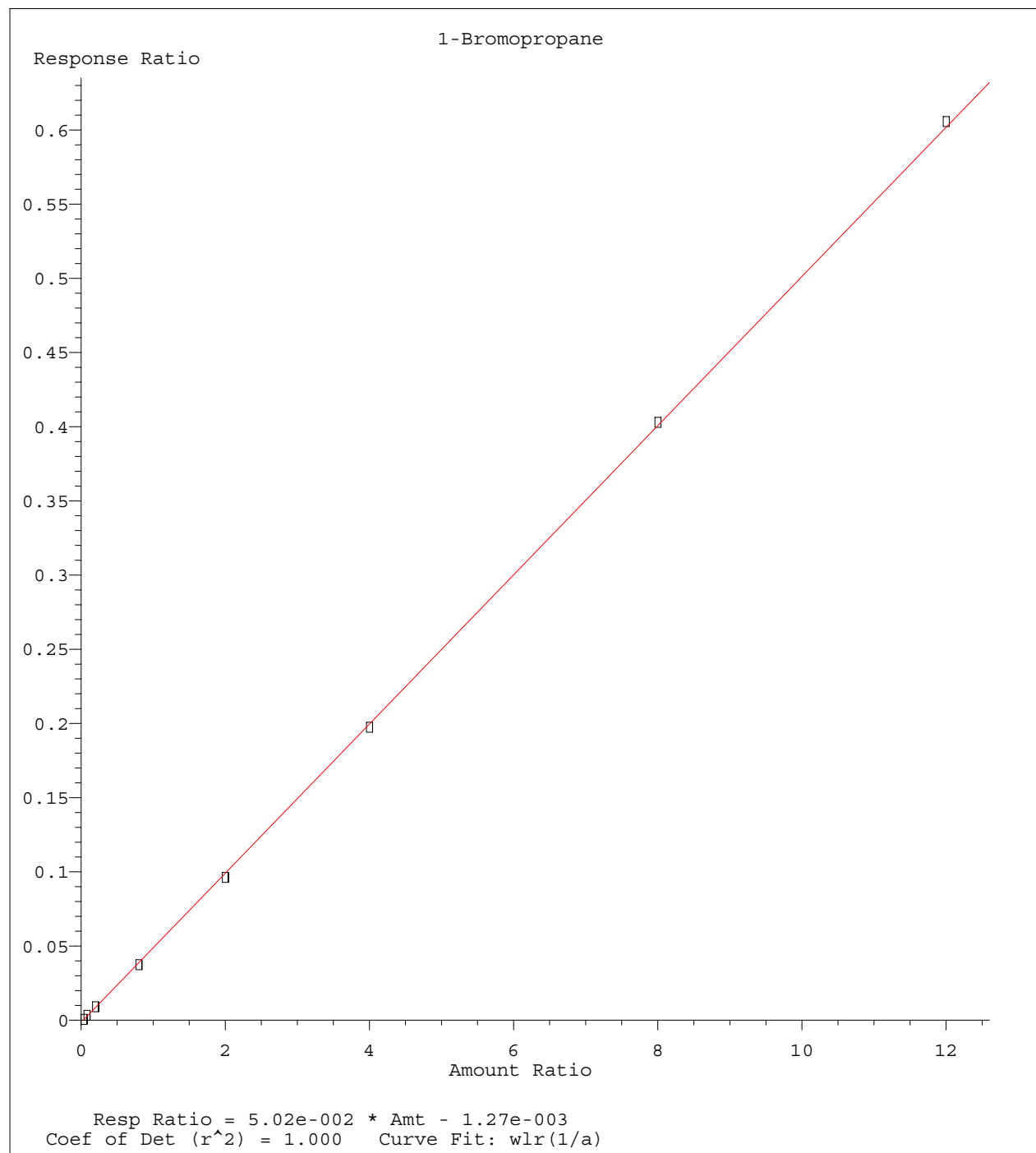
Method Name: C:\MSDCHEM\1\METHODS\8260WT.M
Calibration Table Last Updated: Sat May 14 18:45:57 2016



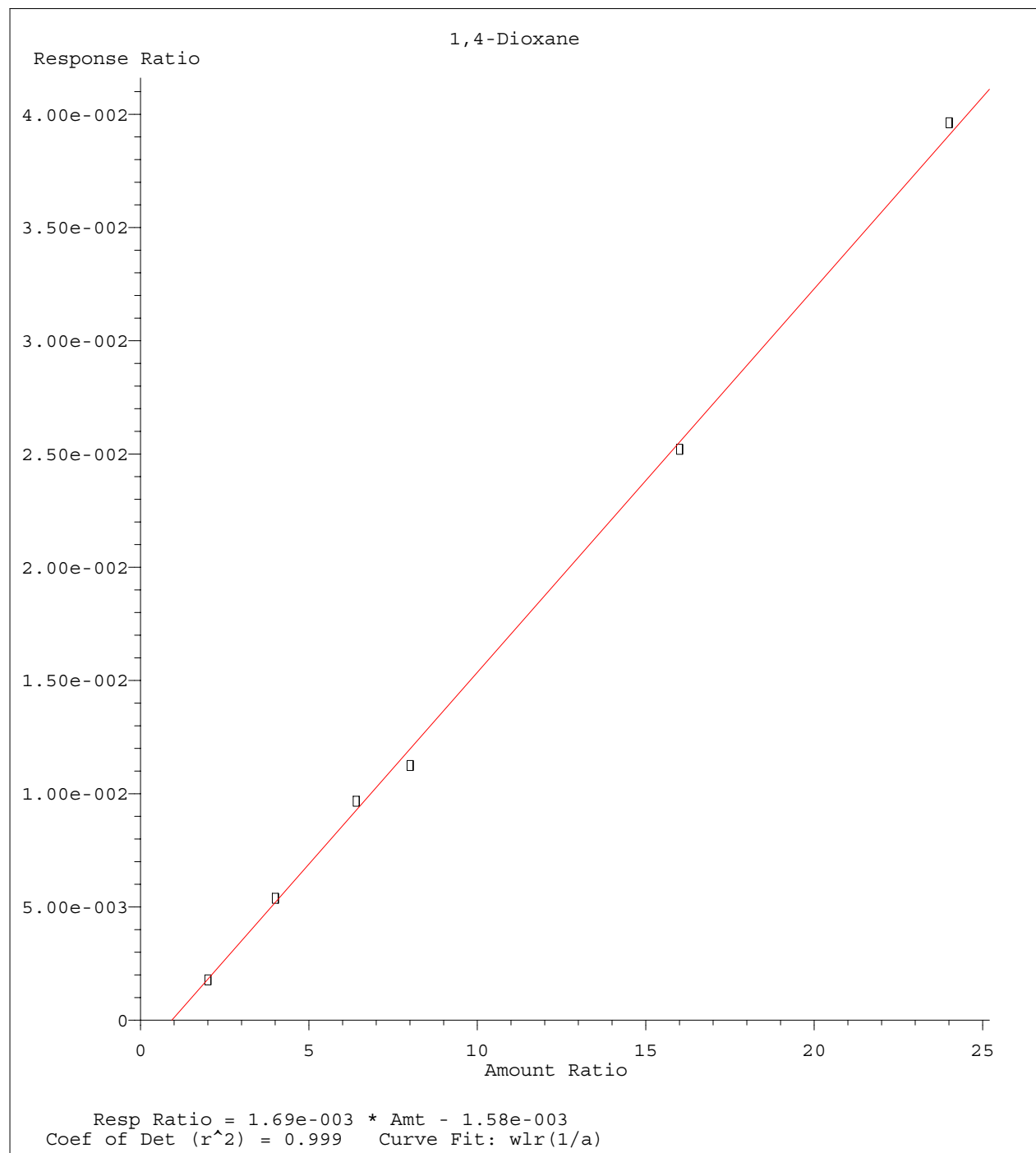
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Calibration Table Last Updated: Sat May 14 18:45:57 2016



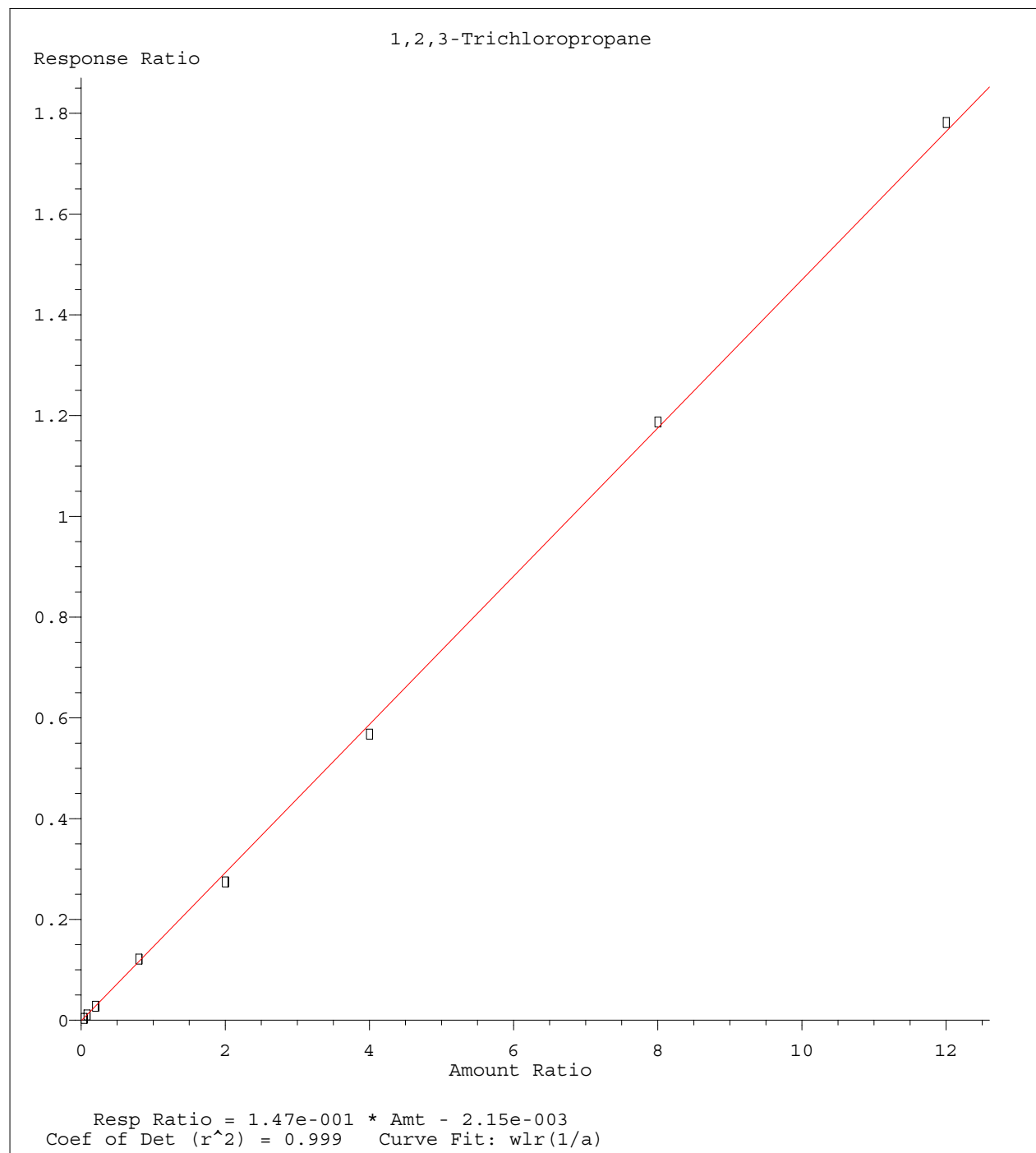
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Calibration Table Last Updated: Sat May 14 18:45:57 2016



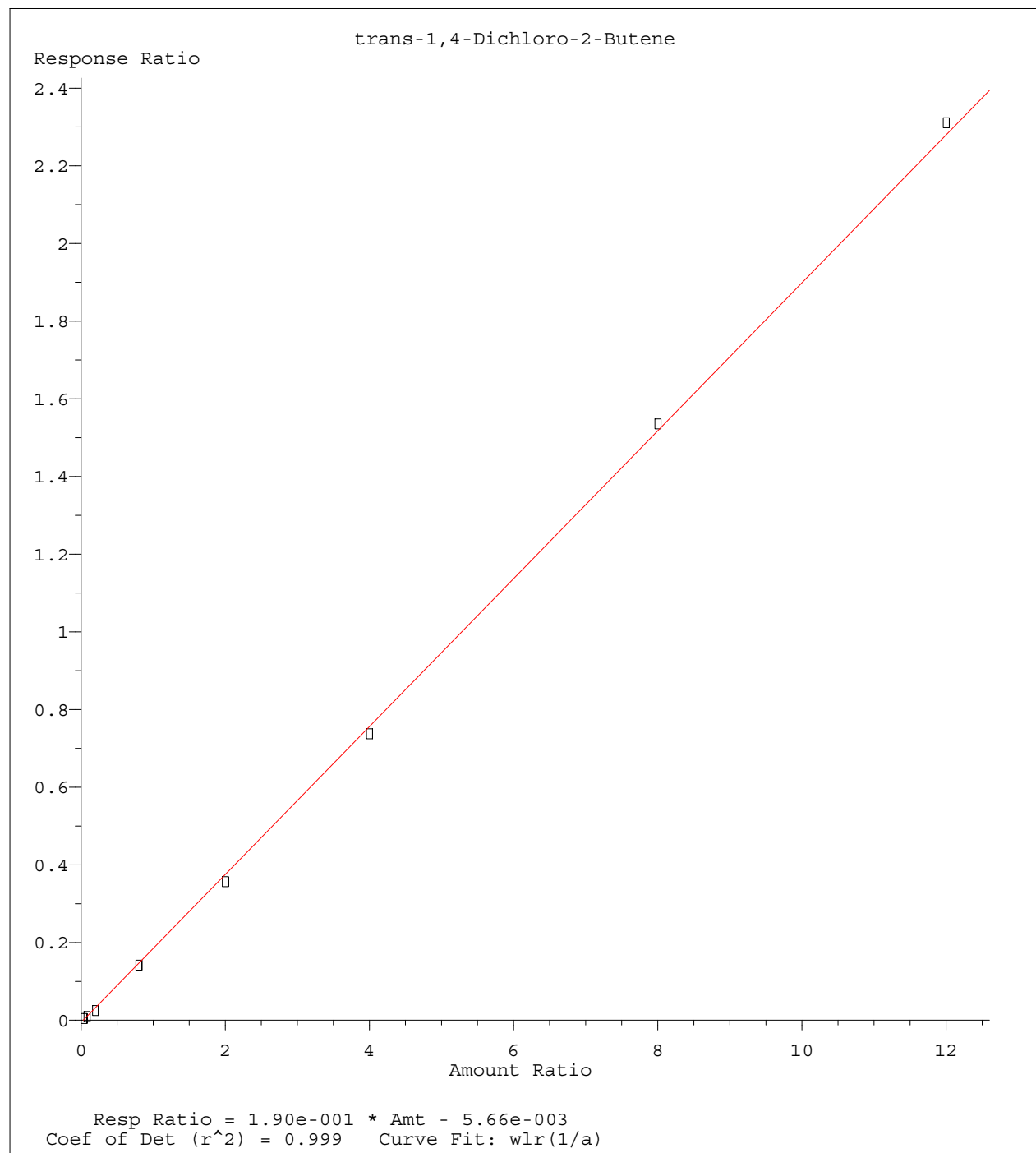
Method Name: C:\MSDCHEM\1\METHODS\8260WT.M
Calibration Table Last Updated: Sat May 14 18:45:57 2016



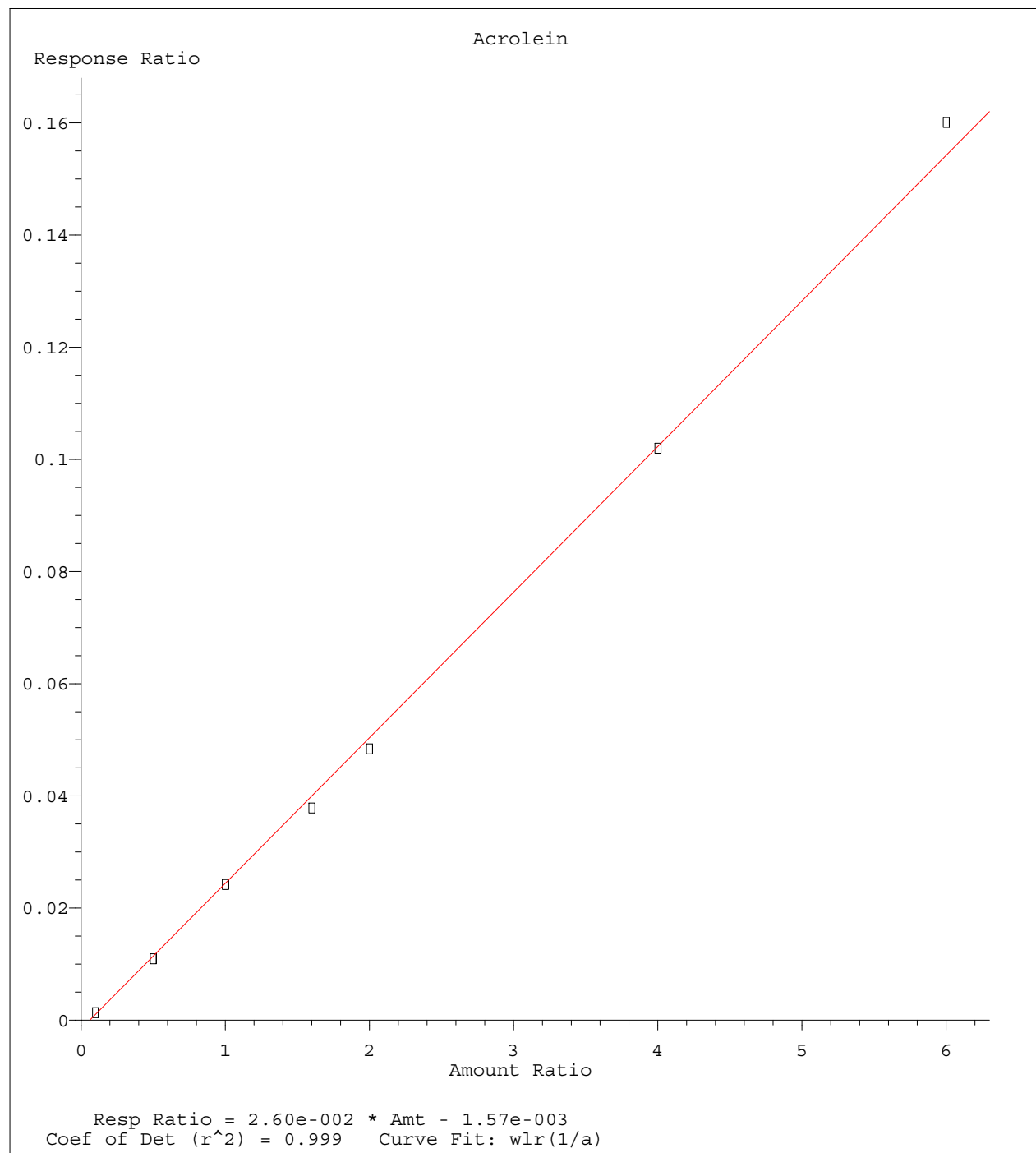
Method Name: C:\MSDCHEM\1\METHODS\8260WT.M
Calibration Table Last Updated: Sat May 14 18:45:57 2016



Method Name: C:\MSDCHEM\1\METHODS\8260WT.M
Calibration Table Last Updated: Sat May 14 18:45:57 2016



Method Name: C:\MSDCHEM\1\METHODS\8260WT.M
Calibration Table Last Updated: Sat May 14 18:45:57 2016



Method Name: C:\MSDCHEM\1\METHODS\8260WT.M
Calibration Table Last Updated: Sat May 14 18:45:57 2016

Data File : C:\MSDCHEM\1\DATA\051316\11M11848.D Vial: 13
 Acq On : 13 May 2016 20:30 Operator: JDS
 Sample : WG568769-12 50ug/L ALT SRC STD 8260 Inst : hpms11
 Misc : 1,1 STD76109 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 14 18:47:09 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	559172	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	461765	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	267551	25.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.63	111	155853	25.4675	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	101.88%	
43) 1,2-Dichloroethane-d4	10.23	65	160000	22.9299	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	91.72%	
57) Toluene-d8	12.47	98	531547	26.4930	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	105.96%	
78) p-Bromofluorobenzene	15.64	95	203747	24.7040	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	98.80%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.27	85	495777	56.5878	ug/L	98
3) Chloromethane	3.72	50	386673	55.1069	ug/L	100
4) Vinyl Chloride	3.95	62	326996	56.1165	ug/L	100
5) 1,3-Butadiene	3.99	54	212443	36.6650	ug/L	98
6) Bromomethane	4.84	94	202280	50.4885	ug/L	99
7) Chloroethane	5.00	64	220373	58.8601	ug/L	99
8) Trichlorofluoromethane	5.48	101	552017	47.5286	ug/L	99
9) Diethyl ether	6.01	59	453011	105.4639	ug/L	97
10) Isoprene	6.04	67	388108	54.2141	ug/L	93
11) Acrolein	6.23	56	56029	97.7296	ug/L	98
12) 1,1,2-Trichloro-1,2,2-Trif	6.25	101	292836	51.9609	ug/L	99
13) Acetone	6.35	43	65954	49.6723	ug/L	97
14) 1,1-Dichloroethene	6.55	61	486567	47.5319	ug/L	96
15) Tert-Butyl Alcohol	6.67	59	79387	216.1534	ug/L	96
16) Dimethyl Sulfide	6.81	62	290204	70.9875	ug/L	94
17) Iodomethane	7.06	142	176766	38.4128	ug/L	92
18) Methyl acetate	7.07	43	200985	48.7416	ug/L	98
19) Methylene Chloride	7.31	84	275442	51.9916	ug/L	91
20) Carbon Disulfide	7.35	76	765803	44.6859	ug/L	99
21) Acrylonitrile	7.49	53	93674	52.6181	ug/L	100
22) Methyl Tert Butyl Ether	7.52	73	687029	51.9942	ug/L	100
23) trans-1,2-Dichloroethene	7.74	96	295337	52.1295	ug/L	97
24) n-Hexane	7.82	57	420811	44.5959	ug/L	99
25) Diisopropyl ether	8.15	45	2449232	104.0201	ug/L	98
26) Vinyl Acetate	8.31	43	395913	43.6417	ug/L	99
27) 1,1-Dichloroethane	8.34	63	551372	48.5033	ug/L	99
28) Ethyl-Tert-Butyl ether	8.70	59	1884917	98.3560	ug/L	99
29) 2-Butanone	8.87	43	101045	50.3380	ug/L	98
30) Propionitrile	8.99	54	62190	105.7785	ug/L	98
31) 2,2-Dichloropropane	9.09	77	405332	45.5727	ug/L	100
32) cis-1,2-Dichloroethene	9.15	96	332086	53.1618	ug/L	94
33) Chloroform	9.35	83	531122	47.5773	ug/L	100
34) 1-Bromopropane	9.48	122	76460	68.6656	ug/L	96
35) Bromochloromethane	9.57	130	199933	53.8923	ug/L	96
36) Tetrahydrofuran	9.60	42	131835	93.0068	ug/L	96
38) 1,1,1-Trichloroethane	9.85	97	527857	48.0501	ug/L	99
39) Cyclohexane	9.88	56	601180	50.2142	ug/L	99
40) 1,1-Dichloropropene	10.04	75	393057	50.1107	ug/L	100
41) Carbon Tetrachloride	10.18	117	507914	47.3479	ug/L	100
42) Tert-Amyl-Methyl ether	10.13	73	1406419	105.6143	ug/L	97

(#) = qualifier out of range (m) = manual integration
 11M11848.D 8260WT.M Sat May 14 18:47:10 2016

Page 1

Data File : C:\MSDCHEM\1\DATA\051316\11M11848.D Vial: 13
 Acq On : 13 May 2016 20:30 Operator: JDS
 Sample : WG568769-12 50ug/L ALT SRC STD 8260 Inst : hpms11
 Misc : 1,1 STD76109 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 14 18:47:09 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44) 1,2-Dichloroethane	10.34	62	434117	47.8802	ug/L	99
45) Benzene	10.38	78	1098993	51.1808	ug/L	100
46) Trichloroethene	11.08	130	365193	52.3242	ug/L	99
47) Methylcyclohexane	11.17	83	450581	52.3110	ug/L	97
48) 1,2-Dichloropropane	11.29	63	313901	52.8102	ug/L	94
49) 1,4-Dioxane	11.56	88	6366	191.2043	ug/L	95
50) Bromodichloromethane	11.57	83	413329	49.5339	ug/L	99
51) Dibromomethane	11.65	93	148822	48.0471	ug/L	97
52) 2-Chloroethyl Vinyl Ether	11.84	63	152083	51.9140	ug/L	99
53) 4-Methyl-2-Pentanone	11.87	58	86849	52.5623	ug/L	99
54) cis-1,3-Dichloropropene	12.17	75	480729	57.5993	ug/L	99
55) Dimethyl Disulfide	12.42	79	261188	52.0055	ug/L	96
58) Toluene	12.56	91	1256481	53.7500	ug/L	100
59) Ethyl Methacrylate	12.65	69	284944	57.0854	ug/L	90
60) trans-1,3-Dichloropropene	12.73	75	391013	52.1118	ug/L	97
61) 1,1,2-Trichloroethane	12.93	97	218717	52.7643	ug/L	99
62) 2-Hexanone	12.86	43	158873	52.1857	ug/L	98
63) 1,3-Dichloropropane	13.21	76	374611	56.2767	ug/L	95
64) Tetrachloroethene	13.34	164	283714	52.1906	ug/L	97
65) Dibromochloromethane	13.59	129	332092	52.5252	ug/L	99
66) 1,2-Dibromoethane	13.82	107	218604	52.6373	ug/L	99
67) 1-Chlorohexane	13.89	91	420217	54.5237	ug/L	92
68) Chlorobenzene	14.29	112	912650	53.2936	ug/L	100
69) 1,1,1,2-Tetrachloroethane	14.32	131	353663	51.0389	ug/L	98
70) Ethylbenzene	14.31	106	460093	52.3943	ug/L	99
71) m-,p-Xylene	14.39	106	1144896	107.2445	ug/L	98
72) o-Xylene	14.92	106	568307	54.7003	ug/L	100
73) Styrene	14.95	104	943635	54.9735	ug/L	98
74) Bromoform	15.43	173	190959	49.8328	ug/L	99
75) Isopropylbenzene	15.31	105	1490416	54.2449	ug/L	100
77) 1,1,2,2-Tetrachloroethane	15.52	83	228913	54.9422	ug/L	100
79) 1,2,3-Trichloropropane	15.70	110	78385	50.1407	ug/L	92
80) trans-1,4-Dichloro-2-Butene	15.74	53	73730	36.9129	ug/L	62
81) n-Propylbenzene	15.79	91	1753049	56.5769	ug/L	99
82) Bromobenzene	15.92	156	419932	51.6479	ug/L	99
83) 1,3,5-Trimethylbenzene	15.95	105	1303495	55.1277	ug/L	99
84) 2-Chlorotoluene	16.05	91	1145029	52.7599	ug/L	99
85) 4-Chlorotoluene	16.09	91	1077116	55.4064	ug/L	99
86) a-Methylstyrene	16.34	118	741671	59.4584	ug/L	99
87) tert-Butylbenzene	16.40	134	283244	56.5417	ug/L	95
88) 1,2,4-Trimethylbenzene	16.44	105	1296091	53.8297	ug/L	99
89) sec-Butylbenzene	16.65	105	1586978	55.8961	ug/L	100
90) p-Isopropyltoluene	16.79	119	1426648	54.7069	ug/L	99
91) 1,3-Dichlorobenzene	16.98	146	827515	52.6969	ug/L	98
92) 1,4-Dichlorobenzene	17.10	146	844174	53.0354	ug/L	98
93) n-Butylbenzene	17.28	91	1238500	53.8957	ug/L	99
94) 1,2-Dichlorobenzene	17.57	146	766416	53.5772	ug/L	98
95) 1,2-Dibromo-3-Chloropropane	18.49	75	45158	48.1046	ug/L	97
96) 1,2,4-Trichlorobenzene	19.55	180	580278	55.4365	ug/L	99
97) Hexachlorobutadiene	19.69	225	257859	55.9180	ug/L	98
98) Naphthalene	19.90	128	993390	51.1296	ug/L	100
99) 1,2,3-Trichlorobenzene	20.19	180	519374	54.0642	ug/L	99

(#) = qualifier out of range (m) = manual integration
 11M11848.D 8260WT.M Sat May 14 18:47:10 2016

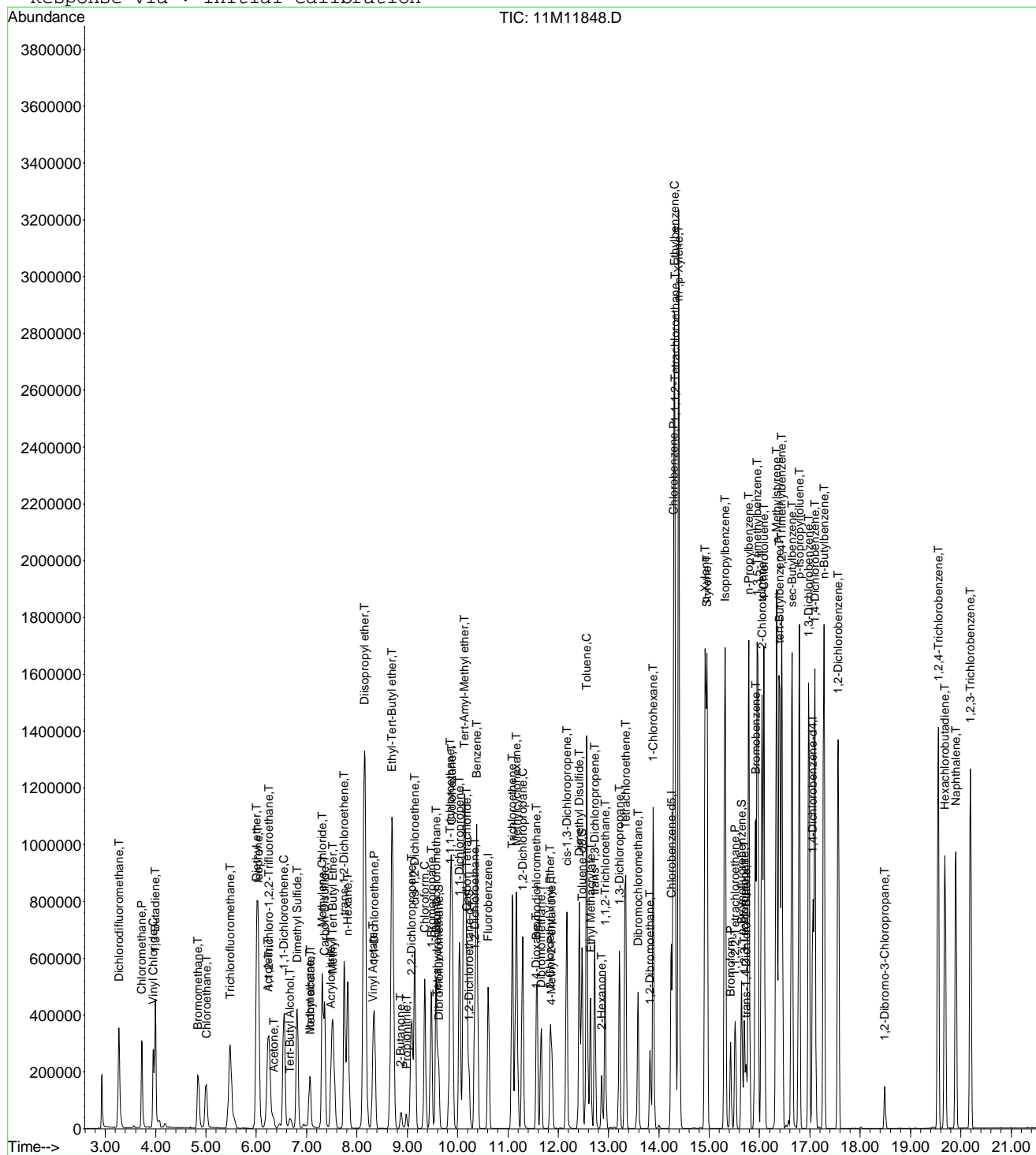
Page 2

Data File : C:\MSDCHEM\1\DATA\051316\11M11848.D
Acq On : 13 May 2016 20:30
Sample : WG568769-12 50ug/L ALT SRC STD 8260
Misc : 1,1 STD76109
MS Integration Params: rteint.p
Quant Time: May 14 18:47 2016

Vial: 13
Operator: JDS
Inst : hpms11
Multiplr: 1.00

Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\051316\11M11848.D Vial: 13
 Acq On : 13 May 2016 20:30 Operator: JDS
 Sample : WG568769-12 50ug/L ALT SRC STD 8260 Inst : hpms11
 Misc : 1,1 STD76109 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 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	107	0.00
2 T	Dichlorodifluoromethane	50.0000	56.5878	-13.2	119	0.00
3 P	Chloromethane	50.0000	55.1069	-10.2	134	0.00
4 C	Vinyl Chloride	50.0000	56.1165	-12.2	125	-0.01
5 T	1,3-Butadiene	50.0000	36.6650	26.7#	76	-0.01
6 T	Bromomethane	50.0000	50.4885	-1.0	117	-0.01
7 T	Chloroethane	50.0000	58.8601	-17.7	131	0.00
8 T	Trichlorofluoromethane	50.0000	47.5286	4.9	106	0.00
9 T	Diethyl ether	100.0000	105.4639	-5.5	116	0.00
10 T	Isoprene	50.0000	54.2141	-8.4	117	0.00
11 T	Acrolein	50.0000	97.7296	-95.5#	222	0.00
12 T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	51.9609	-3.9	115	0.00
13 T	Acetone	50.0000	49.6723	0.7	110	0.01
14 C	1,1-Dichloroethene	50.0000	47.5320	4.9	106	-0.01
15 T	Tert-Butyl Alcohol	200.0000	216.1534	-8.1	114	0.01
16 T	Dimethyl Sulfide	50.0000	70.9875	-42.0#	150	0.00
17 T	Iodomethane	50.0000	38.4128	23.2	82	0.00
18 T	Methyl acetate	50.0000	48.7416	2.5	108	0.01
19 T	Methylene Chloride	50.0000	51.9916	-4.0	118	0.00
20 T	Carbon Disulfide	50.0000	44.6859	10.6	94	-0.01
21 T	Acrylonitrile	50.0000	52.6181	-5.2	110	0.00
22 T	Methyl Tert Butyl Ether	50.0000	51.9942	-4.0	113	0.00
23 T	trans-1,2-Dichloroethene	50.0000	52.1295	-4.3	117	0.00
24 T	n-Hexane	50.0000	44.5959	10.8	94	0.00
25 T	Diisopropyl ether	100.0000	104.0201	-4.0	112	0.00
26 T	Vinyl Acetate	50.0000	43.6417	12.7	96	0.00
27 P	1,1-Dichloroethane	50.0000	48.5033	3.0	107	0.00
28 T	Ethyl-Tert-Butyl ether	100.0000	98.3560	1.6	106	0.00
29 T	2-Butanone	50.0000	50.3381	-0.7	111	0.00
30 T	Propionitrile	100.0000	105.7786	-5.8	110	0.01
31 T	2,2-Dichloropropane	50.0000	45.5727	8.9	101	0.00
32 T	cis-1,2-Dichloroethene	50.0000	53.1618	-6.3	118	0.00
33 C	Chloroform	50.0000	47.5773	4.8	108	0.00
34 T	1-Bromopropane	50.0000	68.6656	-37.3#	152	0.00
35 T	Bromochloromethane	50.0000	53.8923	-7.8	111	0.00
36 T	Tetrahydrofuran	100.0000	93.0068	7.0	103	0.00
37 S	Dibromofluoromethane	25.0000	25.4675	-1.9	111	0.00
38 T	1,1,1-Trichloroethane	50.0000	48.0501	3.9	106	0.00
39 T	Cyclohexane	50.0000	50.2142	-0.4	105	0.00
40 T	1,1-Dichloropropene	50.0000	50.1107	-0.2	111	0.00
41 T	Carbon Tetrachloride	50.0000	47.3479	5.3	103	0.00
42 T	Tert-Amyl-Methyl ether	100.0000	105.6143	-5.6	115	0.00
43 S	1,2-Dichloroethane-d4	25.0000	22.9299	8.3	101	0.00
44 T	1,2-Dichloroethane	50.0000	47.8802	4.2	104	0.00
45 T	Benzene	50.0000	51.1809	-2.4	116	0.00
46 T	Trichloroethene	50.0000	52.3242	-4.6	119	-0.01
47 T	Methylcyclohexane	50.0000	52.3110	-4.6	108	0.00
48 C	1,2-Dichloropropane	50.0000	52.8102	-5.6	117	0.00
49 T	1,4-Dioxane	200.0000	191.2043	4.4	109	0.01
50 T	Bromodichloromethane	50.0000	49.5339	0.9	107	0.00
51 T	Dibromomethane	50.0000	48.0471	3.9	104	0.00
52 T	2-Chloroethyl Vinyl Ether	50.0000	51.9140	-3.8	114	0.00
53 T	4-Methyl-2-Pentanone	50.0000	52.5623	-5.1	115	0.00
54 T	cis-1,3-Dichloropropene	50.0000	57.5993	-15.2	122	0.00

(#) = Out of Range

11M11848.D 8260WT.M Sat May 14 18:47:20 2016

Page 1

Data File : C:\MSDCHEM\1\DATA\051316\11M11848.D Vial: 13
 Acq On : 13 May 2016 20:30 Operator: JDS
 Sample : WG568769-12 50ug/L ALT SRC STD 8260 Inst : hpms11
 Misc : 1,1 STD76109 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 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	52.0055	-4.0	110	0.00
56 I	Chlorobenzene-d5	25.0000	25.0000	0.0	105	0.00
57 S	Toluene-d8	25.0000	26.4930	-6.0	115	0.00
58 C	Toluene	50.0000	53.7500	-7.5	115	0.00
59 T	Ethyl Methacrylate	50.0000	57.0854	-14.2	114	0.00
60 T	trans-1,3-Dichloropropene	50.0000	52.1118	-4.2	107	0.00
61 T	1,1,2-Trichloroethane	50.0000	52.7643	-5.5	113	0.00
62 T	2-Hexanone	50.0000	52.1857	-4.4	110	0.00
63 T	1,3-Dichloropropane	50.0000	56.2767	-12.6	118	0.00
64 T	Tetrachloroethene	50.0000	52.1906	-4.4	113	0.00
65 T	Dibromochloromethane	50.0000	52.5251	-5.1	107	0.00
66 T	1,2-Dibromoethane	50.0000	52.6373	-5.3	111	0.00
67 T	1-Chlorohexane	50.0000	54.5237	-9.0	112	0.00
68 P	Chlorobenzene	50.0000	53.2936	-6.6	114	0.00
69 T	1,1,1,2-Tetrachloroethane	50.0000	51.0388	-2.1	109	0.00
70 C	Ethylbenzene	50.0000	52.3943	-4.8	113	0.00
71 T	m-,p-Xylene	100.0000	107.2445	-7.2	115	0.00
72 T	o-Xylene	50.0000	54.7003	-9.4	115	0.00
73 T	Styrene	50.0000	54.9735	-9.9	113	0.00
74 P	Bromoform	50.0000	49.8327	0.3	104	0.00
75 T	Isopropylbenzene	50.0000	54.2449	-8.5	114	0.00
76 I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	101	0.00
77 P	1,1,2,2-Tetrachloroethane	50.0000	54.9422	-9.9	110	0.00
78 S	p-Bromofluorobenzene	25.0000	24.7040	1.2	108	0.00
79 T	1,2,3-Trichloropropane	50.0000	50.1407	-0.3	108	0.00
80 T	trans-1,4-Dichloro-2-Butene	50.0000	36.9129	26.2#	78	0.00
81 T	n-Propylbenzene	50.0000	56.5769	-13.2	115	0.00
82 T	Bromobenzene	50.0000	51.6479	-3.3	111	0.00
83 T	1,3,5-Trimethylbenzene	50.0000	55.1277	-10.3	114	-0.01
84 T	2-Chlorotoluene	50.0000	52.7599	-5.5	112	0.00
85 T	4-Chlorotoluene	50.0000	55.4064	-10.8	116	0.00
86 T	a-Methylstyrene	50.0000	59.4584	-18.9	114	0.00
87 T	tert-Butylbenzene	50.0000	56.5417	-13.1	117	0.00
88 T	1,2,4-Trimethylbenzene	50.0000	53.8297	-7.7	110	0.00
89 T	sec-Butylbenzene	50.0000	55.8961	-11.8	114	0.00
90 T	p-Isopropyltoluene	50.0000	54.7069	-9.4	111	0.00
91 T	1,3-Dichlorobenzene	50.0000	52.6969	-5.4	112	0.00
92 T	1,4-Dichlorobenzene	50.0000	53.0354	-6.1	114	0.00
93 T	n-Butylbenzene	50.0000	53.8957	-7.8	110	0.00
94 T	1,2-Dichlorobenzene	50.0000	53.5772	-7.2	112	0.00
95 T	1,2-Dibromo-3-Chloropropane	50.0000	48.1046	3.8	105	0.00
96 T	1,2,4-Trichlorobenzene	50.0000	55.4365	-10.9	113	0.00
97 T	Hexachlorobutadiene	50.0000	55.9180	-11.8	118	0.00
98 T	Naphthalene	50.0000	51.1296	-2.3	103	0.00
99 T	1,2,3-Trichlorobenzene	50.0000	54.0642	-8.1	114	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 11M11848.D 8260WT.M Sat May 14 18:47:20 2016

Page 2

Data File : C:\MSDCHEM\1\DATA\051816\11M11928.D Vial: 2
 Acq On : 18 May 2016 15:02 Operator: JDS
 Sample : WG569355-02 50ug/L CCV STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 18 17:04:25 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	509341	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	441048	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	259720	25.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.63	111	149424	26.8058	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	107.24%	
43) 1,2-Dichloroethane-d4	10.23	65	160649	25.2753	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	101.12%	
57) Toluene-d8	12.47	98	504825	26.3430	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	105.36%	
78) p-Bromofluorobenzene	15.64	95	203217	25.3827	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	101.52%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.27	85	376029	47.1188	ug/L	99
3) Chloromethane	3.72	50	289513	45.2968	ug/L	100
4) Vinyl Chloride	3.96	62	275652	51.9334	ug/L	99
5) 1,3-Butadiene	4.00	54	287924	54.5537	ug/L	99
6) Bromomethane	4.85	94	176974	48.4937	ug/L	100
7) Chloroethane	5.00	64	176544	51.7669	ug/L	99
8) Trichlorofluoromethane	5.49	101	559325	52.8693	ug/L	99
9) Diethyl ether	6.01	59	338261	86.4538	ug/L	97
10) Isoprene	6.04	67	330689	50.7127	ug/L	97
11) Acrolein	6.23	56	19300	37.8948	ug/L	98
12) 1,1,2-Trichloro-1,2,2-Trif	6.26	101	266547	51.9234	ug/L	98
13) Acetone	6.34	43	53695	44.3960	ug/L	98
14) 1,1-Dichloroethene	6.56	61	479054	51.3765	ug/L	99
15) Tert-Butyl Alcohol	6.66	59	62966	188.2156	ug/L	98
16) Dimethyl Sulfide	6.81	62	188619	50.6525	ug/L	99
17) Iodomethane	7.06	142	212002	49.9126	ug/L	100
18) Methyl acetate	7.06	43	168714	44.7701	ug/L	99
19) Methylene Chloride	7.31	84	242535	50.2590	ug/L	94
20) Carbon Disulfide	7.36	76	818421	52.4284	ug/L	100
21) Acrylonitrile	7.49	53	75381	46.4852	ug/L	99
22) Methyl Tert Butyl Ether	7.52	73	599474	49.8066	ug/L	99
23) trans-1,2-Dichloroethene	7.75	96	262662	50.8979	ug/L	100
24) n-Hexane	7.82	57	424086	49.3399	ug/L	98
25) Diisopropyl ether	8.15	45	2011837	93.8030	ug/L	99
26) Vinyl Acetate	8.31	43	329203	40.0504	ug/L	99
27) 1,1-Dichloroethane	8.34	63	533732	51.5450	ug/L	99
28) Ethyl-Tert-Butyl ether	8.70	59	1665205	95.3923	ug/L	99
29) 2-Butanone	8.87	43	82462	45.0995	ug/L	99
30) Propionitrile	8.97	54	48174	89.9553	ug/L	100
31) 2,2-Dichloropropane	9.09	77	425587	52.5315	ug/L	100
32) cis-1,2-Dichloroethene	9.15	96	293901	51.6520	ug/L	98
33) Chloroform	9.35	83	513699	50.5185	ug/L	100
34) 1-Bromopropane	9.48	122	52033	51.4597	ug/L	95
35) Bromochloromethane	9.57	130	183572	54.3232	ug/L	96
36) Tetrahydrofuran	9.60	42	106058	82.1418	ug/L	96
38) 1,1,1-Trichloroethane	9.85	97	527526	52.7179	ug/L	99
39) Cyclohexane	9.88	56	549677	50.4042	ug/L	98
40) 1,1-Dichloropropene	10.04	75	371603	52.0105	ug/L	99
41) Carbon Tetrachloride	10.18	117	524882	53.7167	ug/L	98
42) Tert-Amyl-Methyl ether	10.13	73	1151989	94.9714	ug/L	100

(#) = qualifier out of range (m) = manual integration
 11M11928.D 8260WT.M Wed May 18 17:04:26 2016

Data File : C:\MSDCHEM\1\DATA\051816\11M11928.D Vial: 2
 Acq On : 18 May 2016 15:02 Operator: JDS
 Sample : WG569355-02 50ug/L CCV STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 18 17:04:25 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44) 1,2-Dichloroethane	10.34	62	427677	51.7848	ug/L	99
45) Benzene	10.38	78	987539	50.4898	ug/L	99
46) Trichloroethene	11.08	130	327879	51.5740	ug/L	99
47) Methylcyclohexane	11.17	83	398680	50.8137	ug/L	99
48) 1,2-Dichloropropane	11.29	63	269032	49.6897	ug/L	97
49) 1,4-Dioxane	11.56	88	5943	195.3833	ug/L	90
50) Bromodichloromethane	11.58	83	397180	52.2553	ug/L	99
51) Dibromomethane	11.65	93	143339	50.8044	ug/L	97
52) 2-Chloroethyl Vinyl Ether	11.84	63	127962	47.9536	ug/L	100
53) 4-Methyl-2-Pentanone	11.87	58	68447	45.4779	ug/L	98
54) cis-1,3-Dichloropropene	12.17	75	400184	52.6397	ug/L	100
55) Dimethyl Disulfide	12.42	79	232070	50.7284	ug/L	99
58) Toluene	12.56	91	1144649	51.2661	ug/L	99
59) Ethyl Methacrylate	12.65	69	235587	49.4142	ug/L	95
60) trans-1,3-Dichloropropene	12.73	75	366223	51.1005	ug/L	99
61) 1,1,2-Trichloroethane	12.93	97	191918	48.4740	ug/L	100
62) 2-Hexanone	12.86	43	128338	44.1358	ug/L	99
63) 1,3-Dichloropropane	13.21	76	310207	48.7904	ug/L	99
64) Tetrachloroethene	13.34	164	265886	51.2085	ug/L	98
65) Dibromochloromethane	13.59	129	316347	52.3851	ug/L	99
66) 1,2-Dibromoethane	13.82	107	194284	48.9787	ug/L	100
67) 1-Chlorohexane	13.89	91	367875	49.9744	ug/L	97
68) Chlorobenzene	14.29	112	830674	50.7852	ug/L	100
69) 1,1,1,2-Tetrachloroethane	14.32	131	339575	51.3077	ug/L	98
70) Ethylbenzene	14.31	106	418306	49.8733	ug/L	98
71) m-,p-Xylene	14.39	106	1029339	100.9492	ug/L	100
72) o-Xylene	14.92	106	499061	50.2916	ug/L	97
73) Styrene	14.95	104	862740	52.6216	ug/L	99
74) Bromoform	15.43	173	182005	49.7271	ug/L	100
75) Isopropylbenzene	15.31	105	1335519	50.8905	ug/L	100
77) 1,1,2,2-Tetrachloroethane	15.52	83	192767	47.6617	ug/L	97
79) 1,2,3-Trichloropropane	15.70	110	69315	45.7083	ug/L	97
80) trans-1,4-Dichloro-2-Butene	15.74	53	85302	43.8515	ug/L	96
81) n-Propylbenzene	15.79	91	1536635	51.0878	ug/L	99
82) Bromobenzene	15.92	156	395093	50.0581	ug/L	96
83) 1,3,5-Trimethylbenzene	15.95	105	1171078	51.0208	ug/L	100
84) 2-Chlorotoluene	16.05	91	1051886	49.9295	ug/L	99
85) 4-Chlorotoluene	16.09	91	960925	50.9199	ug/L	100
86) a-Methylstyrene	16.34	118	640764	52.9177	ug/L	100
87) tert-Butylbenzene	16.40	134	243030	49.9769	ug/L	99
88) 1,2,4-Trimethylbenzene	16.44	105	1203319	51.4836	ug/L	100
89) sec-Butylbenzene	16.65	105	1381989	50.1437	ug/L	99
90) p-Isopropyltoluene	16.79	119	1286233	50.8096	ug/L	99
91) 1,3-Dichlorobenzene	16.98	146	759320	49.8122	ug/L	99
92) 1,4-Dichlorobenzene	17.10	146	755856	48.9186	ug/L	100
93) n-Butylbenzene	17.28	91	1099152	49.2739	ug/L	98
94) 1,2-Dichlorobenzene	17.57	146	678941	48.8932	ug/L	100
95) 1,2-Dibromo-3-Chloropropane	18.49	75	37913	41.6912	ug/L	98
96) 1,2,4-Trichlorobenzene	19.55	180	476326	46.8776	ug/L	99
97) Hexachlorobutadiene	19.69	225	207151	46.2762	ug/L	99
98) Naphthalene	19.90	128	822304	43.6000	ug/L	100
99) 1,2,3-Trichlorobenzene	20.19	180	404000	43.3224	ug/L	100

(#) = qualifier out of range (m) = manual integration
 11M11928.D 8260WT.M Wed May 18 17:04:26 2016

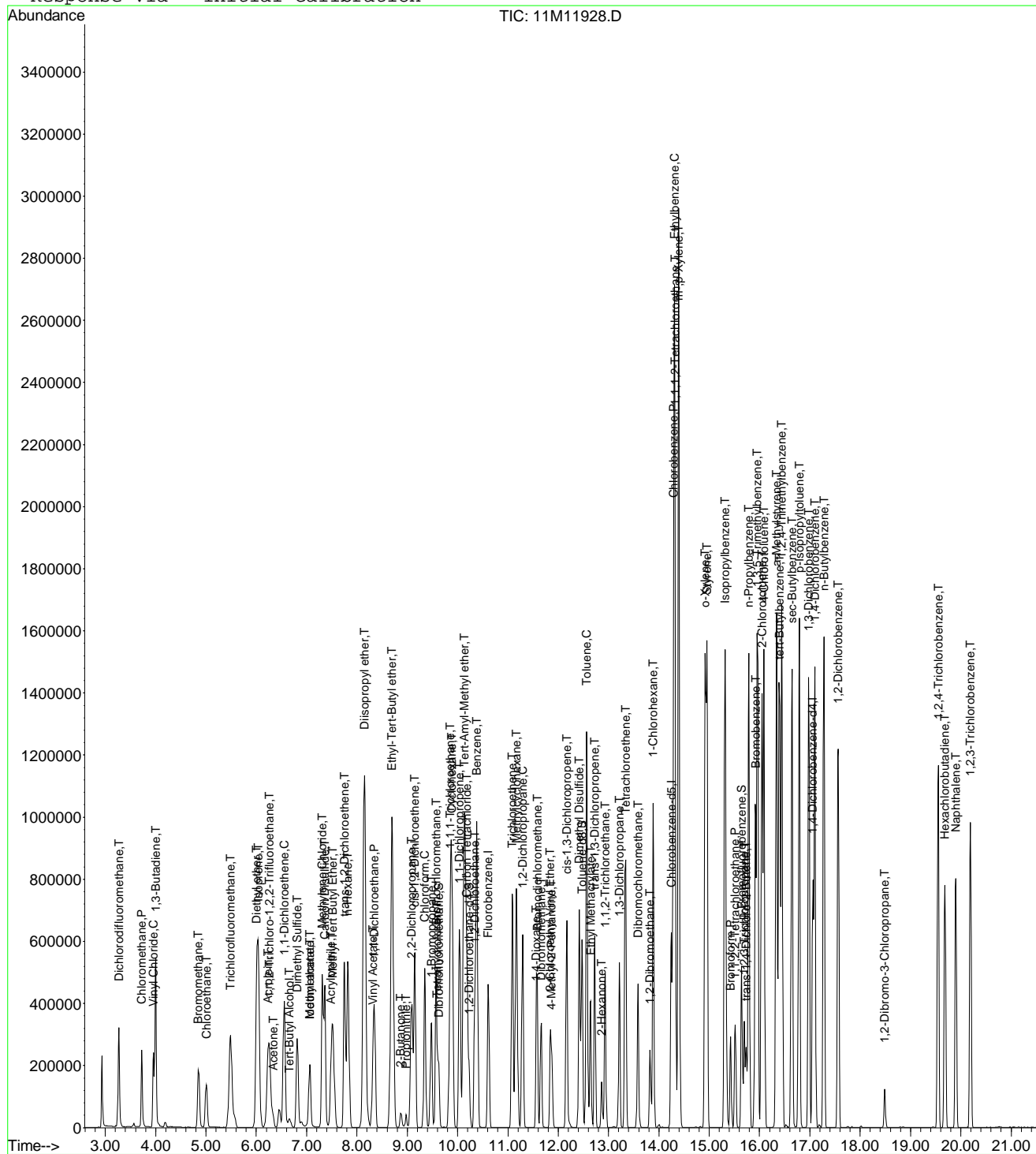
Page 2

Data File : C:\MSDCHEM\1\DATA\051816\11M11928.D
Acq On : 18 May 2016 15:02
Sample : WG569355-02 50ug/L CCV STD 8260
Misc : 1,1 STD76127
MS Integration Params: rteint.p
Quant Time: May 18 17:04 2016

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

Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\051816\11M11928.D Vial: 2
 Acq On : 18 May 2016 15:02 Operator: JDS
 Sample : WG569355-02 50ug/L CCV STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 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	0.3917	0.3691	5.8	90	0.00
3 P	Chloromethane	0.3137	0.2842	9.4	101	0.00
4 C	Vinyl Chloride	0.2605	0.2706	-3.9	106	0.00
5 T	1,3-Butadiene	0.2591	0.2826	-9.1	102	0.00
6 T	Bromomethane	0.1791	0.1737	3.0	103	0.00
7 T	Chloroethane	0.1674	0.1733	-3.5	105	0.00
8 T	Trichlorofluoromethane	0.5193	0.5491	-5.7	108	0.01
9 T	Diethyl ether	0.1920	0.1660	13.5	86	0.00
10 T	Isoprene	0.3201	0.3246	-1.4	100	0.00
11 T	Acrolein	0.0228	0.0190	16.8	77	0.00
12 T	1,1,2-Trichloro-1,2,2-Trifl	0.2520	0.2617	-3.8	104	0.01
13 T	Acetone	0.0594	0.0527	11.2	89	0.00
14 C	1,1-Dichloroethene	0.4577	0.4703	-2.8	104	0.00
15 T	Tert-Butyl Alcohol	0.0164	0.0155	5.9	91	0.00
16 T	Dimethyl Sulfide	0.1828	0.1852	-1.3	97	0.00
17 T	Iodomethane	0.1615	0.2081	-28.8#	99	0.00
18 T	Methyl acetate	0.2006	0.1656	17.5	91	0.00
19 T	Methylene Chloride	0.2369	0.2381	-0.5	104	0.00
20 T	Carbon Disulfide	0.7662	0.8034	-4.9	100	0.00
21 T	Acrylonitrile	0.0796	0.0740	7.0	89	0.00
22 T	Methyl Tert Butyl Ether	0.5908	0.5885	0.4	98	0.00
23 T	trans-1,2-Dichloroethene	0.2533	0.2578	-1.8	104	0.01
24 T	n-Hexane	0.4219	0.4163	1.3	94	0.00
25 T	Diisopropyl ether	1.0527	0.9875	6.2	92	0.00
26 T	Vinyl Acetate	0.3793	0.3232	14.8	80	0.00
27 P	1,1-Dichloroethane	0.5082	0.5239	-3.1	103	0.00
28 T	Ethyl-Tert-Butyl ether	0.8568	0.8173	4.6	93	0.00
29 T	2-Butanone	0.0897	0.0809	9.8	90	0.00
30 T	Propionitrile	0.0263	0.0237	10.0	85	0.00
31 T	2,2-Dichloropropane	0.3977	0.4178	-5.1	106	0.00
32 T	cis-1,2-Dichloroethene	0.2793	0.2885	-3.3	104	0.00
33 C	Chloroform	0.4991	0.5043	-1.0	105	0.00
34 T	1-Bromopropane	0.0432	0.0511	-18.3	104	0.00
35 T	Bromochloromethane	0.1659	0.1802	-8.7	102	0.00
36 T	Tetrahydrofuran	0.0634	0.0521	17.8	83	0.00
37 S	Dibromofluoromethane	0.2736	0.2934	-7.2	107	0.00
38 T	1,1,1-Trichloroethane	0.4911	0.5179	-5.4	106	0.00
39 T	Cyclohexane	0.5353	0.5396	-0.8	96	0.00
40 T	1,1-Dichloropropene	0.3507	0.3648	-4.0	105	0.00
41 T	Carbon Tetrachloride	0.4796	0.5153	-7.4	106	0.00
42 T	Tert-Amyl-Methyl ether	0.5954	0.5654	5.0	94	0.00
43 S	1,2-Dichloroethane-d4	0.3120	0.3154	-1.1	102	0.00
44 T	1,2-Dichloroethane	0.4054	0.4198	-3.6	102	0.00
45 T	Benzene	0.9600	0.9694	-1.0	104	0.00
46 T	Trichloroethene	0.3120	0.3219	-3.2	107	-0.01
47 T	Methylcyclohexane	0.3851	0.3914	-1.6	95	0.00
48 C	1,2-Dichloropropane	0.2657	0.2641	0.6	100	0.00
49 T	1,4-Dioxane	0.0014	0.0015	-4.3	101	0.01
50 T	Bromodichloromethane	0.3731	0.3899	-4.5	103	0.01
51 T	Dibromomethane	0.1385	0.1407	-1.6	100	0.00
52 T	2-Chloroethyl Vinyl Ether	0.1310	0.1256	4.1	96	0.00
53 T	4-Methyl-2-Pentanone	0.0739	0.0672	9.0	90	0.00
54 T	cis-1,3-Dichloropropene	0.3731	0.3928	-5.3	101	0.00

(#) = Out of Range

11M11928.D 8260WT.M Wed May 18 17:06:18 2016

Page 1

Data File : C:\MSDCHEM\1\DATA\051816\11M11928.D Vial: 2
 Acq On : 18 May 2016 15:02 Operator: JDS
 Sample : WG569355-02 50ug/L CCV STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 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	0.2245	0.2278	-1.5	98	0.00
56 I	Chlorobenzene-d5	1.0000	1.0000	0.0	101	0.00
57 S	Toluene-d8	1.0862	1.1446	-5.4	109	0.00
58 C	Toluene	1.2656	1.2977	-2.5	104	0.00
59 T	Ethyl Methacrylate	0.2702	0.2671	1.2	94	0.00
60 T	trans-1,3-Dichloropropene	0.4062	0.4152	-2.2	100	0.00
61 T	1,1,2-Trichloroethane	0.2244	0.2176	3.1	99	0.00
62 T	2-Hexanone	0.1648	0.1455	11.7	89	0.00
63 T	1,3-Dichloropropane	0.3604	0.3517	2.4	98	0.00
64 T	Tetrachloroethene	0.2943	0.3014	-2.4	106	0.00
65 T	Dibromochloromethane	0.3423	0.3586	-4.8	102	0.00
66 T	1,2-Dibromoethane	0.2248	0.2203	2.0	99	0.00
67 T	1-Chlorohexane	0.4173	0.4170	0.1	98	0.00
68 P	Chlorobenzene	0.9272	0.9417	-1.6	104	0.00
69 T	1,1,1,2-Tetrachloroethane	0.3751	0.3850	-2.6	104	0.00
70 C	Ethylbenzene	0.4754	0.4742	0.3	102	0.00
71 T	m-,p-Xylene	0.5780	0.5835	-0.9	103	0.00
72 T	o-Xylene	0.5625	0.5658	-0.6	101	0.00
73 T	Styrene	0.9293	0.9781	-5.2	103	0.00
74 P	Bromoform	0.2075	0.2063	0.5	99	0.00
75 T	Isopropylbenzene	1.4875	1.5140	-1.8	102	0.00
76 I	1,4-Dichlorobenzene-d4	1.0000	1.0000	0.0	98	0.00
77 P	1,1,2,2-Tetrachloroethane	0.3893	0.3711	4.7	92	0.00
78 S	p-Bromofluorobenzene	0.7706	0.7824	-1.5	108	0.00
79 T	1,2,3-Trichloropropane	0.1351	0.1334	1.3	96	0.00
80 T	trans-1,4-Dichloro-2-Butene	0.1588	0.1642	-3.4	91	0.00
81 T	n-Propylbenzene	2.8953	2.9583	-2.2	101	0.00
82 T	Bromobenzene	0.7597	0.7606	-0.1	104	0.00
83 T	1,3,5-Trimethylbenzene	2.2094	2.2545	-2.0	102	-0.01
84 T	2-Chlorotoluene	2.0279	2.0250	0.1	103	0.00
85 T	4-Chlorotoluene	1.8165	1.8499	-1.8	103	0.00
86 T	a-Methylstyrene	1.1656	1.2336	-5.8	99	0.00
87 T	tert-Butylbenzene	0.4681	0.4679	0.0	100	0.00
88 T	1,2,4-Trimethylbenzene	2.2498	2.3166	-3.0	102	0.00
89 T	sec-Butylbenzene	2.6529	2.6605	-0.3	99	0.00
90 T	p-Isopropyltoluene	2.4367	2.4762	-1.6	100	0.00
91 T	1,3-Dichlorobenzene	1.4673	1.4618	0.4	103	0.00
92 T	1,4-Dichlorobenzene	1.4873	1.4551	2.2	102	0.00
93 T	n-Butylbenzene	2.1472	2.1160	1.5	98	0.00
94 T	1,2-Dichlorobenzene	1.3366	1.3071	2.2	99	0.00
95 T	1,2-Dibromo-3-Chloropropane	0.0825	0.0730	11.5	88	0.00
96 T	1,2,4-Trichlorobenzene	0.9781	0.9170	6.2	93	0.00
97 T	Hexachlorobutadiene	0.4309	0.3988	7.4	95	0.00
98 T	Naphthalene	1.8154	1.5831	12.8	85	0.00
99 T	1,2,3-Trichlorobenzene	0.8976	0.7778	13.4	89	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 11M11928.D 8260WT.M Wed May 18 17:06:19 2016

Page 2

Data File : C:\MSDCHEM\1\DATA\051816\11M11928.D Vial: 2
 Acq On : 18 May 2016 15:02 Operator: JDS
 Sample : WG569355-02 50ug/L CCV STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 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	47.1188	5.8	90	0.00
3 P	Chloromethane	50.0000	45.2968	9.4	101	0.00
4 C	Vinyl Chloride	50.0000	51.9333	-3.9	106	0.00
5 T	1,3-Butadiene	50.0000	54.5536	-9.1	102	0.00
6 T	Bromomethane	50.0000	48.4937	3.0	103	0.00
7 T	Chloroethane	50.0000	51.7669	-3.5	105	0.00
8 T	Trichlorofluoromethane	50.0000	52.8693	-5.7	108	0.01
9 T	Diethyl ether	100.0000	86.4538	13.5	86	0.00
10 T	Isoprene	50.0000	50.7127	-1.4	100	0.00
11 T	Acrolein	50.0000	37.8948	24.2	77	0.00
12 T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	51.9234	-3.8	104	0.01
13 T	Acetone	50.0000	44.3960	11.2	89	0.00
14 C	1,1-Dichloroethene	50.0000	51.3765	-2.8	104	0.00
15 T	Tert-Butyl Alcohol	200.0000	188.2156	5.9	91	0.00
16 T	Dimethyl Sulfide	50.0000	50.6525	-1.3	97	0.00
17 T	Iodomethane	50.0000	49.9126	0.2	99	0.00
18 T	Methyl acetate	50.0000	44.7700	10.5	91	0.00
19 T	Methylene Chloride	50.0000	50.2590	-0.5	104	0.00
20 T	Carbon Disulfide	50.0000	52.4284	-4.9	100	0.00
21 T	Acrylonitrile	50.0000	46.4852	7.0	89	0.00
22 T	Methyl Tert Butyl Ether	50.0000	49.8066	0.4	98	0.00
23 T	trans-1,2-Dichloroethene	50.0000	50.8979	-1.8	104	0.01
24 T	n-Hexane	50.0000	49.3399	1.3	94	0.00
25 T	Diisopropyl ether	100.0000	93.8030	6.2	92	0.00
26 T	Vinyl Acetate	50.0000	40.0504	19.9	80	0.00
27 P	1,1-Dichloroethane	50.0000	51.5450	-3.1	103	0.00
28 T	Ethyl-Tert-Butyl ether	100.0000	95.3923	4.6	93	0.00
29 T	2-Butanone	50.0000	45.0996	9.8	90	0.00
30 T	Propionitrile	100.0000	89.9553	10.0	85	0.00
31 T	2,2-Dichloropropane	50.0000	52.5315	-5.1	106	0.00
32 T	cis-1,2-Dichloroethene	50.0000	51.6520	-3.3	104	0.00
33 C	Chloroform	50.0000	50.5185	-1.0	105	0.00
34 T	1-Bromopropane	50.0000	51.4597	-2.9	104	0.00
35 T	Bromochloromethane	50.0000	54.3232	-8.6	102	0.00
36 T	Tetrahydrofuran	100.0000	82.1418	17.9	83	0.00
37 S	Dibromofluoromethane	25.0000	26.8058	-7.2	107	0.00
38 T	1,1,1-Trichloroethane	50.0000	52.7179	-5.4	106	0.00
39 T	Cyclohexane	50.0000	50.4042	-0.8	96	0.00
40 T	1,1-Dichloropropene	50.0000	52.0105	-4.0	105	0.00
41 T	Carbon Tetrachloride	50.0000	53.7167	-7.4	106	0.00
42 T	Tert-Amyl-Methyl ether	100.0000	94.9714	5.0	94	0.00
43 S	1,2-Dichloroethane-d4	25.0000	25.2753	-1.1	102	0.00
44 T	1,2-Dichloroethane	50.0000	51.7848	-3.6	102	0.00
45 T	Benzene	50.0000	50.4898	-1.0	104	0.00
46 T	Trichloroethene	50.0000	51.5740	-3.1	107	-0.01
47 T	Methylcyclohexane	50.0000	50.8137	-1.6	95	0.00
48 C	1,2-Dichloropropane	50.0000	49.6897	0.6	100	0.00
49 T	1,4-Dioxane	200.0000	195.3833	2.3	101	0.01
50 T	Bromodichloromethane	50.0000	52.2553	-4.5	103	0.01
51 T	Dibromomethane	50.0000	50.8044	-1.6	100	0.00
52 T	2-Chloroethyl Vinyl Ether	50.0000	47.9536	4.1	96	0.00
53 T	4-Methyl-2-Pentanone	50.0000	45.4779	9.0	90	0.00
54 T	cis-1,3-Dichloropropene	50.0000	52.6397	-5.3	101	0.00

(#) = Out of Range

11M11928.D 8260WT.M Wed May 18 17:06:20 2016

Page 1

Data File : C:\MSDCHEM\1\DATA\051816\11M11928.D Vial: 2
 Acq On : 18 May 2016 15:02 Operator: JDS
 Sample : WG569355-02 50ug/L CCV STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 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	50.7284	-1.5	98	0.00
56 I	Chlorobenzene-d5	25.0000	25.0000	0.0	101	0.00
57 S	Toluene-d8	25.0000	26.3430	-5.4	109	0.00
58 C	Toluene	50.0000	51.2661	-2.5	104	0.00
59 T	Ethyl Methacrylate	50.0000	49.4143	1.2	94	0.00
60 T	trans-1,3-Dichloropropene	50.0000	51.1005	-2.2	100	0.00
61 T	1,1,2-Trichloroethane	50.0000	48.4740	3.1	99	0.00
62 T	2-Hexanone	50.0000	44.1358	11.7	89	0.00
63 T	1,3-Dichloropropane	50.0000	48.7904	2.4	98	0.00
64 T	Tetrachloroethene	50.0000	51.2085	-2.4	106	0.00
65 T	Dibromochloromethane	50.0000	52.3851	-4.8	102	0.00
66 T	1,2-Dibromoethane	50.0000	48.9787	2.0	99	0.00
67 T	1-Chlorohexane	50.0000	49.9744	0.1	98	0.00
68 P	Chlorobenzene	50.0000	50.7852	-1.6	104	0.00
69 T	1,1,1,2-Tetrachloroethane	50.0000	51.3077	-2.6	104	0.00
70 C	Ethylbenzene	50.0000	49.8733	0.3	102	0.00
71 T	m-,p-Xylene	100.0000	100.9492	-0.9	103	0.00
72 T	o-Xylene	50.0000	50.2916	-0.6	101	0.00
73 T	Styrene	50.0000	52.6216	-5.2	103	0.00
74 P	Bromoform	50.0000	49.7271	0.5	99	0.00
75 T	Isopropylbenzene	50.0000	50.8905	-1.8	102	0.00
76 I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	98	0.00
77 P	1,1,2,2-Tetrachloroethane	50.0000	47.6617	4.7	92	0.00
78 S	p-Bromofluorobenzene	25.0000	25.3827	-1.5	108	0.00
79 T	1,2,3-Trichloropropane	50.0000	45.7083	8.6	96	0.00
80 T	trans-1,4-Dichloro-2-Butene	50.0000	43.8515	12.3	91	0.00
81 T	n-Propylbenzene	50.0000	51.0878	-2.2	101	0.00
82 T	Bromobenzene	50.0000	50.0581	-0.1	104	0.00
83 T	1,3,5-Trimethylbenzene	50.0000	51.0209	-2.0	102	-0.01
84 T	2-Chlorotoluene	50.0000	49.9295	0.1	103	0.00
85 T	4-Chlorotoluene	50.0000	50.9199	-1.8	103	0.00
86 T	a-Methylstyrene	50.0000	52.9177	-5.8	99	0.00
87 T	tert-Butylbenzene	50.0000	49.9769	0.0	100	0.00
88 T	1,2,4-Trimethylbenzene	50.0000	51.4836	-3.0	102	0.00
89 T	sec-Butylbenzene	50.0000	50.1437	-0.3	99	0.00
90 T	p-Isopropyltoluene	50.0000	50.8096	-1.6	100	0.00
91 T	1,3-Dichlorobenzene	50.0000	49.8122	0.4	103	0.00
92 T	1,4-Dichlorobenzene	50.0000	48.9186	2.2	102	0.00
93 T	n-Butylbenzene	50.0000	49.2739	1.5	98	0.00
94 T	1,2-Dichlorobenzene	50.0000	48.8932	2.2	99	0.00
95 T	1,2-Dibromo-3-Chloropropane	50.0000	41.6912	16.6	88	0.00
96 T	1,2,4-Trichlorobenzene	50.0000	46.8776	6.2	93	0.00
97 T	Hexachlorobutadiene	50.0000	46.2762	7.4	95	0.00
98 T	Naphthalene	50.0000	43.6000	12.8	85	0.00
99 T	1,2,3-Trichlorobenzene	50.0000	43.3224	13.4	89	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 11M11928.D 8260WT.M Wed May 18 17:06:20 2016

Page 2

Data File : C:\MSDCHEM\1\DATA\051916\11M11959.D Vial: 2
 Acq On : 19 May 2016 15:36 Operator: JDS
 Sample : WG569560-02 50ug/L CCV STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 20 09:08:45 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	425698	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	382150	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	232243	25.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.63	111	129420	27.7790	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	111.12%	
43) 1,2-Dichloroethane-d4	10.23	65	153598	28.9142	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	115.64%	
57) Toluene-d8	12.47	98	424024	25.5368	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	102.16%	
78) p-Bromofluorobenzene	15.64	95	183634	25.6503	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	102.60%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.27	85	319819	47.9495	ug/L	99
3) Chloromethane	3.72	50	251219	47.0282	ug/L	99
4) Vinyl Chloride	3.96	62	234017	52.7521	ug/L	100
5) 1,3-Butadiene	4.00	54	268018	60.7599	ug/L	99
6) Bromomethane	4.85	94	154541	50.6672	ug/L	97
7) Chloroethane	5.00	64	140504	49.2941	ug/L	100
8) Trichlorofluoromethane	5.48	101	477485	54.0016	ug/L	99
9) Diethyl ether	6.01	59	309177	94.5467	ug/L	98
10) Isoprene	6.04	67	281885	51.7220	ug/L	99
11) Acrolein	6.23	56	19428	45.3332	ug/L	97
12) 1,1,2-Trichloro-1,2,2-Trif	6.24	101	219338	51.1223	ug/L	96
13) Acetone	6.34	43	52524	51.9606	ug/L	100
14) 1,1-Dichloroethene	6.56	61	397830	51.0487	ug/L	98
15) Tert-Butyl Alcohol	6.66	59	69621	248.9985	ug/L	96
16) Dimethyl Sulfide	6.81	62	159271	51.1751	ug/L	97
17) Iodomethane	7.06	142	183982	51.7485	ug/L	97
18) Methyl acetate	7.06	43	166038	53.0645	ug/L	99
19) Methylene Chloride	7.31	84	204574	50.7221	ug/L	99
20) Carbon Disulfide	7.36	76	687672	52.7082	ug/L	100
21) Acrylonitrile	7.49	53	76604	56.5212	ug/L	99
22) Methyl Tert Butyl Ether	7.52	73	580690	57.7255	ug/L	98
23) trans-1,2-Dichloroethene	7.74	96	216168	50.1189	ug/L	99
24) n-Hexane	7.82	57	371125	51.6620	ug/L	100
25) Diisopropyl ether	8.15	45	1776956	99.1306	ug/L	99
26) Vinyl Acetate	8.31	43	345760	49.7055	ug/L	99
27) 1,1-Dichloroethane	8.34	63	446662	51.6119	ug/L	99
28) Ethyl-Tert-Butyl ether	8.70	59	1542838	105.7482	ug/L	100
29) 2-Butanone	8.87	43	87817	57.4651	ug/L	100
30) Propionitrile	8.97	54	51828	115.7938	ug/L	99
31) 2,2-Dichloropropane	9.09	77	377574	55.7622	ug/L	100
32) cis-1,2-Dichloroethene	9.15	96	245600	51.6442	ug/L	98
33) Chloroform	9.35	83	445726	52.4466	ug/L	100
34) 1-Bromopropane	9.48	122	44313	52.4237	ug/L	97
35) Bromochloromethane	9.57	130	166777	59.0503	ug/L	96
36) Tetrahydrofuran	9.60	42	111886	103.6821	ug/L	99
38) 1,1,1-Trichloroethane	9.85	97	458732	54.8505	ug/L	98
39) Cyclohexane	9.88	56	484787	53.1884	ug/L	99
40) 1,1-Dichloropropene	10.04	75	308801	51.7127	ug/L	100
41) Carbon Tetrachloride	10.17	117	461098	56.4609	ug/L	99
42) Tert-Amyl-Methyl ether	10.13	73	1098084	108.3147	ug/L	100

(#) = qualifier out of range (m) = manual integration
 11M11959.D 8260WT.M Fri May 20 09:08:46 2016

Data File : C:\MSDCHEM\1\DATA\051916\11M11959.D Vial: 2
 Acq On : 19 May 2016 15:36 Operator: JDS
 Sample : WG569560-02 50ug/L CCV STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 20 09:08:45 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44) 1,2-Dichloroethane	10.34	62	402908	58.3713	ug/L	98
45) Benzene	10.38	78	818659	50.0794	ug/L	100
46) Trichloroethene	11.09	130	271889	51.1700	ug/L	99
47) Methylcyclohexane	11.17	83	347530	52.9976	ug/L	99
48) 1,2-Dichloropropane	11.29	63	230525	50.9433	ug/L	95
49) 1,4-Dioxane	11.56	88	5782	223.6199	ug/L	100
50) Bromodichloromethane	11.57	83	361223	56.8624	ug/L	99
51) Dibromomethane	11.65	93	135839	57.6061	ug/L	100
52) 2-Chloroethyl Vinyl Ether	11.84	63	124372	55.7661	ug/L	99
53) 4-Methyl-2-Pentanone	11.87	58	70079	55.7110	ug/L	99
54) cis-1,3-Dichloropropene	12.17	75	358103	56.3597	ug/L	100
55) Dimethyl Disulfide	12.42	79	212806	55.6575	ug/L	100
58) Toluene	12.56	91	965357	49.8997	ug/L	100
59) Ethyl Methacrylate	12.65	69	230322	55.7556	ug/L	99
60) trans-1,3-Dichloropropene	12.73	75	348074	56.0536	ug/L	99
61) 1,1,2-Trichloroethane	12.93	97	181708	52.9687	ug/L	99
62) 2-Hexanone	12.86	43	133193	52.8652	ug/L	98
63) 1,3-Dichloropropane	13.21	76	296399	53.8037	ug/L	100
64) Tetrachloroethene	13.34	164	226021	50.2397	ug/L	99
65) Dibromochloromethane	13.59	129	304436	58.1825	ug/L	100
66) 1,2-Dibromoethane	13.82	107	189377	55.0998	ug/L	100
67) 1-Chlorohexane	13.89	91	334785	52.4886	ug/L	99
68) Chlorobenzene	14.29	112	714989	50.4496	ug/L	100
69) 1,1,1,2-Tetrachloroethane	14.32	131	306041	53.3676	ug/L	100
70) Ethylbenzene	14.31	106	359532	49.4724	ug/L	97
71) m-,p-Xylene	14.39	106	881319	99.7538	ug/L	98
72) o-Xylene	14.92	106	431955	50.2380	ug/L	96
73) Styrene	14.95	104	758156	53.3697	ug/L	99
74) Bromoform	15.43	173	190839	60.1768	ug/L	100
75) Isopropylbenzene	15.31	105	1165895	51.2741	ug/L	100
77) 1,1,2,2-Tetrachloroethane	15.52	83	207650	57.4158	ug/L	98
79) 1,2,3-Trichloropropane	15.70	110	75521	55.6130	ug/L	94
80) trans-1,4-Dichloro-2-Butene	15.74	53	90174	51.7051	ug/L	95
81) n-Propylbenzene	15.79	91	1346004	50.0444	ug/L	100
82) Bromobenzene	15.92	156	353618	50.1040	ug/L	99
83) 1,3,5-Trimethylbenzene	15.95	105	1031467	50.2551	ug/L	99
84) 2-Chlorotoluene	16.05	91	938703	49.8287	ug/L	100
85) 4-Chlorotoluene	16.09	91	845301	50.0925	ug/L	99
86) a-Methylstyrene	16.34	118	561595	51.8667	ug/L	99
87) tert-Butylbenzene	16.40	134	213517	49.1026	ug/L	99
88) 1,2,4-Trimethylbenzene	16.44	105	1062848	50.8536	ug/L	98
89) sec-Butylbenzene	16.65	105	1199570	48.6743	ug/L	100
90) p-Isopropyltoluene	16.79	119	1135364	50.1561	ug/L	99
91) 1,3-Dichlorobenzene	16.98	146	684996	50.2529	ug/L	100
92) 1,4-Dichlorobenzene	17.10	146	689100	49.8747	ug/L	100
93) n-Butylbenzene	17.28	91	975937	48.9265	ug/L	100
94) 1,2-Dichlorobenzene	17.57	146	645261	51.9654	ug/L	99
95) 1,2-Dibromo-3-Chloropropane	18.49	75	47229	57.8280	ug/L	98
96) 1,2,4-Trichlorobenzene	19.55	180	475940	52.3813	ug/L	99
97) Hexachlorobutadiene	19.69	225	188848	47.1786	ug/L	100
98) Naphthalene	19.90	128	969445	57.4831	ug/L	100
99) 1,2,3-Trichlorobenzene	20.19	180	435906	52.2741	ug/L	99

(#) = qualifier out of range (m) = manual integration
 11M11959.D 8260WT.M Fri May 20 09:08:47 2016

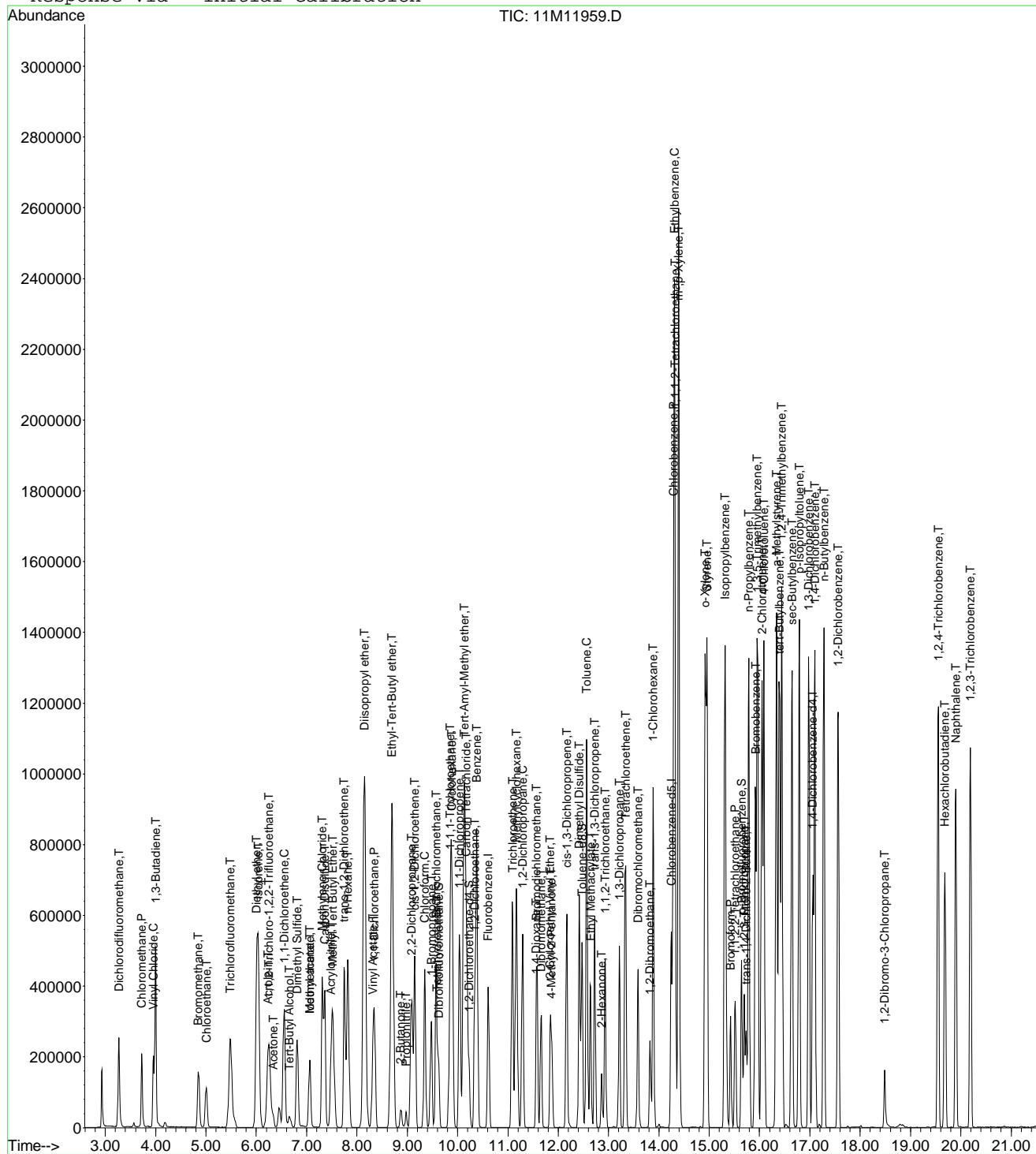
Page 2

Data File : C:\MSDCHEM\1\DATA\051916\11M11959.D
Acq On : 19 May 2016 15:36
Sample : WG569560-02 50ug/L CCV STD 8260
Misc : 1,1 STD76127
MS Integration Params: rteint.p
Quant Time: May 20 9:08 2016

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

Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\051916\11M11959.D Vial: 2
 Acq On : 19 May 2016 15:36 Operator: JDS
 Sample : WG569560-02 50ug/L CCV STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 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	0.3917	0.3756	4.1	77	0.00
3 P	Chloromethane	0.3137	0.2951	5.9	87	0.00
4 C	Vinyl Chloride	0.2605	0.2749	-5.5	90	0.00
5 T	1,3-Butadiene	0.2591	0.3148	-21.5	95	0.00
6 T	Bromomethane	0.1791	0.1815	-1.3	90	0.00
7 T	Chloroethane	0.1674	0.1650	1.4	84	0.00
8 T	Trichlorofluoromethane	0.5193	0.5608	-8.0	92	0.00
9 T	Diethyl ether	0.1920	0.1816	5.5	79	0.00
10 T	Isoprene	0.3201	0.3311	-3.4	85	0.00
11 T	Acrolein	0.0228	0.0228	-0.2	77	0.00
12 T	1,1,2-Trichloro-1,2,2-Trifl	0.2520	0.2576	-2.2	86	0.00
13 T	Acetone	0.0594	0.0617	-3.9	87	0.00
14 C	1,1-Dichloroethene	0.4577	0.4673	-2.1	87	0.00
15 T	Tert-Butyl Alcohol	0.0164	0.0204	-24.5	100	0.00
16 T	Dimethyl Sulfide	0.1828	0.1871	-2.4	82	0.00
17 T	Iodomethane	0.1615	0.2161	-33.8#	86	0.00
18 T	Methyl acetate	0.2006	0.1950	2.8	90	0.00
19 T	Methylene Chloride	0.2369	0.2403	-1.4	88	0.00
20 T	Carbon Disulfide	0.7662	0.8077	-5.4	84	0.00
21 T	Acrylonitrile	0.0796	0.0900	-13.0	90	0.00
22 T	Methyl Tert Butyl Ether	0.5908	0.6820	-15.5	95	0.00
23 T	trans-1,2-Dichloroethene	0.2533	0.2539	-0.2	86	0.00
24 T	n-Hexane	0.4219	0.4359	-3.3	83	0.00
25 T	Diisopropyl ether	1.0527	1.0436	0.9	81	0.00
26 T	Vinyl Acetate	0.3793	0.4061	-7.1	84	0.00
27 P	1,1-Dichloroethane	0.5082	0.5246	-3.2	86	0.00
28 T	Ethyl-Tert-Butyl ether	0.8568	0.9061	-5.7	87	0.00
29 T	2-Butanone	0.0897	0.1031	-14.9	96	0.00
30 T	Propionitrile	0.0263	0.0304	-15.8	92	0.00
31 T	2,2-Dichloropropane	0.3977	0.4435	-11.5	94	0.00
32 T	cis-1,2-Dichloroethene	0.2793	0.2885	-3.3	87	0.00
33 C	Chloroform	0.4991	0.5235	-4.9	91	0.00
34 T	1-Bromopropane	0.0432	0.0520	-20.6	88	0.00
35 T	Bromochloromethane	0.1659	0.1959	-18.1	93	0.00
36 T	Tetrahydrofuran	0.0634	0.0657	-3.7	87	0.00
37 S	Dibromofluoromethane	0.2736	0.3040	-11.1	93	0.00
38 T	1,1,1-Trichloroethane	0.4911	0.5388	-9.7	92	0.00
39 T	Cyclohexane	0.5353	0.5694	-6.4	84	0.00
40 T	1,1-Dichloropropene	0.3507	0.3627	-3.4	87	0.00
41 T	Carbon Tetrachloride	0.4796	0.5416	-12.9	93	-0.01
42 T	Tert-Amyl-Methyl ether	0.5954	0.6449	-8.3	89	0.00
43 S	1,2-Dichloroethane-d4	0.3120	0.3608	-15.7	97	0.00
44 T	1,2-Dichloroethane	0.4054	0.4732	-16.7	96	0.00
45 T	Benzene	0.9600	0.9616	-0.2	86	0.00
46 T	Trichloroethene	0.3120	0.3193	-2.3	89	0.00
47 T	Methylcyclohexane	0.3851	0.4082	-6.0	83	0.00
48 C	1,2-Dichloropropane	0.2657	0.2708	-1.9	86	0.00
49 T	1,4-Dioxane	0.0014	0.0017	-21.4	99	0.01
50 T	Bromodichloromethane	0.3731	0.4243	-13.7	94	0.00
51 T	Dibromomethane	0.1385	0.1596	-15.2	95	0.00
52 T	2-Chloroethyl Vinyl Ether	0.1310	0.1461	-11.5	93	0.00
53 T	4-Methyl-2-Pentanone	0.0739	0.0823	-11.4	93	0.00
54 T	cis-1,3-Dichloropropene	0.3731	0.4206	-12.7	91	0.00

(#) = Out of Range

11M11959.D 8260WT.M Fri May 20 09:15:45 2016

Page 1

Data File : C:\MSDCHEM\1\DATA\051916\11M11959.D Vial: 2
 Acq On : 19 May 2016 15:36 Operator: JDS
 Sample : WG569560-02 50ug/L CCV STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 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	0.2245	0.2500	-11.3	90	0.00
56 I	Chlorobenzene-d5	1.0000	1.0000	0.0	87	0.00
57 S	Toluene-d8	1.0862	1.1096	-2.1	92	0.00
58 C	Toluene	1.2656	1.2631	0.2	88	0.00
59 T	Ethyl Methacrylate	0.2702	0.3014	-11.5	92	0.00
60 T	trans-1,3-Dichloropropene	0.4062	0.4554	-12.1	95	0.00
61 T	1,1,2-Trichloroethane	0.2244	0.2377	-5.9	94	0.00
62 T	2-Hexanone	0.1648	0.1743	-5.7	92	0.00
63 T	1,3-Dichloropropane	0.3604	0.3878	-7.6	94	0.00
64 T	Tetrachloroethene	0.2943	0.2957	-0.5	90	0.00
65 T	Dibromochloromethane	0.3423	0.3983	-16.4	98	0.00
66 T	1,2-Dibromoethane	0.2248	0.2478	-10.2	96	0.00
67 T	1-Chlorohexane	0.4173	0.4380	-5.0	89	0.00
68 P	Chlorobenzene	0.9272	0.9355	-0.9	90	0.00
69 T	1,1,1,2-Tetrachloroethane	0.3751	0.4004	-6.7	94	0.00
70 C	Ethylbenzene	0.4754	0.4704	1.1	88	0.00
71 T	m-,p-Xylene	0.5780	0.5766	0.2	88	0.00
72 T	o-Xylene	0.5625	0.5652	-0.5	88	0.00
73 T	Styrene	0.9293	0.9920	-6.7	90	0.00
74 P	Bromoform	0.2075	0.2497	-20.4	104	0.00
75 T	Isopropylbenzene	1.4875	1.5254	-2.5	89	0.00
76 I	1,4-Dichlorobenzene-d4	1.0000	1.0000	0.0	88	0.00
77 P	1,1,2,2-Tetrachloroethane	0.3893	0.4471	-14.8	99	0.00
78 S	p-Bromofluorobenzene	0.7706	0.7907	-2.6	97	0.00
79 T	1,2,3-Trichloropropane	0.1351	0.1626	-20.3	104	0.00
80 T	trans-1,4-Dichloro-2-Butene	0.1588	0.1941	-22.2	96	0.00
81 T	n-Propylbenzene	2.8953	2.8978	-0.1	88	0.00
82 T	Bromobenzene	0.7597	0.7613	-0.2	93	0.00
83 T	1,3,5-Trimethylbenzene	2.2094	2.2207	-0.5	90	-0.01
84 T	2-Chlorotoluene	2.0279	2.0210	0.3	92	0.00
85 T	4-Chlorotoluene	1.8165	1.8199	-0.2	91	0.00
86 T	a-Methylstyrene	1.1656	1.2091	-3.7	86	0.00
87 T	tert-Butylbenzene	0.4681	0.4597	1.8	88	0.00
88 T	1,2,4-Trimethylbenzene	2.2498	2.2882	-1.7	90	0.00
89 T	sec-Butylbenzene	2.6529	2.5826	2.7	86	0.00
90 T	p-Isopropyltoluene	2.4367	2.4443	-0.3	89	0.00
91 T	1,3-Dichlorobenzene	1.4673	1.4747	-0.5	93	0.00
92 T	1,4-Dichlorobenzene	1.4873	1.4836	0.3	93	0.00
93 T	n-Butylbenzene	2.1472	2.1011	2.1	87	0.00
94 T	1,2-Dichlorobenzene	1.3366	1.3892	-3.9	94	0.00
95 T	1,2-Dibromo-3-Chloropropane	0.0825	0.1017	-23.3	110	0.00
96 T	1,2,4-Trichlorobenzene	0.9781	1.0247	-4.8	93	0.00
97 T	Hexachlorobutadiene	0.4309	0.4066	5.6	86	0.00
98 T	Naphthalene	1.8154	2.0871	-15.0	101	0.00
99 T	1,2,3-Trichlorobenzene	0.8976	0.9385	-4.5	96	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 11M11959.D 8260WT.M Fri May 20 09:15:45 2016

Page 2

Data File : C:\MSDCHEM\1\DATA\051916\11M11959.D Vial: 2
 Acq On : 19 May 2016 15:36 Operator: JDS
 Sample : WG569560-02 50ug/L CCV STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 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	47.9495	4.1	77	0.00
3 P	Chloromethane	50.0000	47.0282	5.9	87	0.00
4 C	Vinyl Chloride	50.0000	52.7521	-5.5	90	0.00
5 T	1,3-Butadiene	50.0000	60.7599	-21.5	95	0.00
6 T	Bromomethane	50.0000	50.6672	-1.3	90	0.00
7 T	Chloroethane	50.0000	49.2941	1.4	84	0.00
8 T	Trichlorofluoromethane	50.0000	54.0016	-8.0	92	0.00
9 T	Diethyl ether	100.0000	94.5467	5.5	79	0.00
10 T	Isoprene	50.0000	51.7221	-3.4	85	0.00
11 T	Acrolein	50.0000	45.3332	9.3	77	0.00
12 T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	51.1223	-2.2	86	0.00
13 T	Acetone	50.0000	51.9606	-3.9	87	0.00
14 C	1,1-Dichloroethene	50.0000	51.0487	-2.1	87	0.00
15 T	Tert-Butyl Alcohol	200.0000	248.9985	-24.5	100	0.00
16 T	Dimethyl Sulfide	50.0000	51.1752	-2.4	82	0.00
17 T	Iodomethane	50.0000	51.7485	-3.5	86	0.00
18 T	Methyl acetate	50.0000	53.0645	-6.1	90	0.00
19 T	Methylene Chloride	50.0000	50.7221	-1.4	88	0.00
20 T	Carbon Disulfide	50.0000	52.7083	-5.4	84	0.00
21 T	Acrylonitrile	50.0000	56.5212	-13.0	90	0.00
22 T	Methyl Tert Butyl Ether	50.0000	57.7255	-15.5	95	0.00
23 T	trans-1,2-Dichloroethene	50.0000	50.1189	-0.2	86	0.00
24 T	n-Hexane	50.0000	51.6621	-3.3	83	0.00
25 T	Diisopropyl ether	100.0000	99.1306	0.9	81	0.00
26 T	Vinyl Acetate	50.0000	49.7054	0.6	84	0.00
27 P	1,1-Dichloroethane	50.0000	51.6119	-3.2	86	0.00
28 T	Ethyl-Tert-Butyl ether	100.0000	105.7482	-5.7	87	0.00
29 T	2-Butanone	50.0000	57.4651	-14.9	96	0.00
30 T	Propionitrile	100.0000	115.7938	-15.8	92	0.00
31 T	2,2-Dichloropropane	50.0000	55.7622	-11.5	94	0.00
32 T	cis-1,2-Dichloroethene	50.0000	51.6442	-3.3	87	0.00
33 C	Chloroform	50.0000	52.4466	-4.9	91	0.00
34 T	1-Bromopropane	50.0000	52.4237	-4.8	88	0.00
35 T	Bromochloromethane	50.0000	59.0503	-18.1	93	0.00
36 T	Tetrahydrofuran	100.0000	103.6821	-3.7	87	0.00
37 S	Dibromofluoromethane	25.0000	27.7790	-11.1	93	0.00
38 T	1,1,1-Trichloroethane	50.0000	54.8505	-9.7	92	0.00
39 T	Cyclohexane	50.0000	53.1884	-6.4	84	0.00
40 T	1,1-Dichloropropene	50.0000	51.7127	-3.4	87	0.00
41 T	Carbon Tetrachloride	50.0000	56.4609	-12.9	93	-0.01
42 T	Tert-Amyl-Methyl ether	100.0000	108.3147	-8.3	89	0.00
43 S	1,2-Dichloroethane-d4	25.0000	28.9142	-15.7	97	0.00
44 T	1,2-Dichloroethane	50.0000	58.3713	-16.7	96	0.00
45 T	Benzene	50.0000	50.0794	-0.2	86	0.00
46 T	Trichloroethene	50.0000	51.1700	-2.3	89	0.00
47 T	Methylcyclohexane	50.0000	52.9976	-6.0	83	0.00
48 C	1,2-Dichloropropane	50.0000	50.9433	-1.9	86	0.00
49 T	1,4-Dioxane	200.0000	223.6199	-11.8	99	0.01
50 T	Bromodichloromethane	50.0000	56.8625	-13.7	94	0.00
51 T	Dibromomethane	50.0000	57.6061	-15.2	95	0.00
52 T	2-Chloroethyl Vinyl Ether	50.0000	55.7661	-11.5	93	0.00
53 T	4-Methyl-2-Pentanone	50.0000	55.7110	-11.4	93	0.00
54 T	cis-1,3-Dichloropropene	50.0000	56.3597	-12.7	91	0.00

(#) = Out of Range

11M11959.D 8260WT.M Fri May 20 09:15:47 2016

Page 1

Data File : C:\MSDCHEM\1\DATA\051916\11M11959.D Vial: 2
 Acq On : 19 May 2016 15:36 Operator: JDS
 Sample : WG569560-02 50ug/L CCV STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 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	55.6575	-11.3	90	0.00
56 I	Chlorobenzene-d5	25.0000	25.0000	0.0	87	0.00
57 S	Toluene-d8	25.0000	25.5368	-2.1	92	0.00
58 C	Toluene	50.0000	49.8997	0.2	88	0.00
59 T	Ethyl Methacrylate	50.0000	55.7556	-11.5	92	0.00
60 T	trans-1,3-Dichloropropene	50.0000	56.0536	-12.1	95	0.00
61 T	1,1,2-Trichloroethane	50.0000	52.9687	-5.9	94	0.00
62 T	2-Hexanone	50.0000	52.8652	-5.7	92	0.00
63 T	1,3-Dichloropropane	50.0000	53.8037	-7.6	94	0.00
64 T	Tetrachloroethene	50.0000	50.2397	-0.5	90	0.00
65 T	Dibromochloromethane	50.0000	58.1825	-16.4	98	0.00
66 T	1,2-Dibromoethane	50.0000	55.0998	-10.2	96	0.00
67 T	1-Chlorohexane	50.0000	52.4886	-5.0	89	0.00
68 P	Chlorobenzene	50.0000	50.4496	-0.9	90	0.00
69 T	1,1,1,2-Tetrachloroethane	50.0000	53.3676	-6.7	94	0.00
70 C	Ethylbenzene	50.0000	49.4724	1.1	88	0.00
71 T	m-,p-Xylene	100.0000	99.7538	0.2	88	0.00
72 T	o-Xylene	50.0000	50.2380	-0.5	88	0.00
73 T	Styrene	50.0000	53.3697	-6.7	90	0.00
74 P	Bromoform	50.0000	60.1768	-20.4	104	0.00
75 T	Isopropylbenzene	50.0000	51.2741	-2.5	89	0.00
76 I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	88	0.00
77 P	1,1,2,2-Tetrachloroethane	50.0000	57.4158	-14.8	99	0.00
78 S	p-Bromofluorobenzene	25.0000	25.6503	-2.6	97	0.00
79 T	1,2,3-Trichloropropane	50.0000	55.6130	-11.2	104	0.00
80 T	trans-1,4-Dichloro-2-Butene	50.0000	51.7051	-3.4	96	0.00
81 T	n-Propylbenzene	50.0000	50.0444	-0.1	88	0.00
82 T	Bromobenzene	50.0000	50.1040	-0.2	93	0.00
83 T	1,3,5-Trimethylbenzene	50.0000	50.2551	-0.5	90	-0.01
84 T	2-Chlorotoluene	50.0000	49.8287	0.3	92	0.00
85 T	4-Chlorotoluene	50.0000	50.0925	-0.2	91	0.00
86 T	a-Methylstyrene	50.0000	51.8668	-3.7	86	0.00
87 T	tert-Butylbenzene	50.0000	49.1026	1.8	88	0.00
88 T	1,2,4-Trimethylbenzene	50.0000	50.8536	-1.7	90	0.00
89 T	sec-Butylbenzene	50.0000	48.6743	2.7	86	0.00
90 T	p-Isopropyltoluene	50.0000	50.1561	-0.3	89	0.00
91 T	1,3-Dichlorobenzene	50.0000	50.2529	-0.5	93	0.00
92 T	1,4-Dichlorobenzene	50.0000	49.8747	0.3	93	0.00
93 T	n-Butylbenzene	50.0000	48.9265	2.1	87	0.00
94 T	1,2-Dichlorobenzene	50.0000	51.9654	-3.9	94	0.00
95 T	1,2-Dibromo-3-Chloropropane	50.0000	57.8280	-15.7	110	0.00
96 T	1,2,4-Trichlorobenzene	50.0000	52.3813	-4.8	93	0.00
97 T	Hexachlorobutadiene	50.0000	47.1786	5.6	86	0.00
98 T	Naphthalene	50.0000	57.4831	-15.0	101	0.00
99 T	1,2,3-Trichlorobenzene	50.0000	52.2741	-4.5	96	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 11M11959.D 8260WT.M Fri May 20 09:15:47 2016

Page 2

Data File : C:\MSDCHEM\1\DATA\052016\11M11985.D Vial: 2
 Acq On : 20 May 2016 15:47 Operator: JDS
 Sample : WG569735-02 50ug/L CCV STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 20 16:20:48 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	412707	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	365089	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	224414	25.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.63	111	125523	27.7906	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	111.16%	
43) 1,2-Dichloroethane-d4	10.23	65	142666	27.7017	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	110.80%	
57) Toluene-d8	12.47	98	411951	25.9691	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	103.88%	
78) p-Bromofluorobenzene	15.64	95	173149	25.0295	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	100.12%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.27	85	303160	46.8826	ug/L	100
3) Chloromethane	3.72	50	227831	43.9925	ug/L	99
4) Vinyl Chloride	3.96	62	217492	50.5703	ug/L	100
5) 1,3-Butadiene	3.99	54	248845	58.1891	ug/L	99
6) Bromomethane	4.85	94	119175	40.3021	ug/L	100
7) Chloroethane	5.00	64	134773	48.7718	ug/L	99
8) Trichlorofluoromethane	5.49	101	478486	55.8182	ug/L	99
9) Diethyl ether	6.01	59	260269	82.0959	ug/L	98
10) Isoprene	6.04	67	255457	48.3483	ug/L	97
11) Acrolein	6.24	56	15059	36.5468	ug/L	98
12) 1,1,2-Trichloro-1,2,2-Trif	6.25	101	216328	52.0078	ug/L	97
13) Acetone	6.34	43	44218	45.1207	ug/L	96
14) 1,1-Dichloroethene	6.56	61	396615	52.4947	ug/L	97
15) Tert-Butyl Alcohol	6.66	59	43091	158.9655	ug/L	99
16) Dimethyl Sulfide	6.81	62	147634	48.9293	ug/L	95
17) Iodomethane	7.06	142	177116	51.3997	ug/L	97
18) Methyl acetate	7.06	43	136680	44.7615	ug/L	99
19) Methylene Chloride	7.31	84	193292	49.4334	ug/L	100
20) Carbon Disulfide	7.36	76	632969	50.0426	ug/L	100
21) Acrylonitrile	7.49	53	59761	45.4818	ug/L	98
22) Methyl Tert Butyl Ether	7.52	73	493910	50.6444	ug/L	97
23) trans-1,2-Dichloroethene	7.75	96	210812	50.4156	ug/L	97
24) n-Hexane	7.82	57	344782	49.5058	ug/L	99
25) Diisopropyl ether	8.15	45	1628279	93.6957	ug/L	98
26) Vinyl Acetate	8.31	43	287065	42.9160	ug/L	99
27) 1,1-Dichloroethane	8.34	63	431109	51.3828	ug/L	99
28) Ethyl-Tert-Butyl ether	8.70	59	1344037	95.0219	ug/L	100
29) 2-Butanone	8.87	43	65681	44.3328	ug/L	100
30) Propionitrile	8.98	54	37295	85.9471	ug/L	99
31) 2,2-Dichloropropane	9.09	77	365161	55.6266	ug/L	100
32) cis-1,2-Dichloroethene	9.15	96	236507	51.2976	ug/L	97
33) Chloroform	9.35	83	430518	52.2517	ug/L	98
34) 1-Bromopropane	9.48	122	42136	51.4294	ug/L	99
35) Bromochloromethane	9.57	130	152707	55.7705	ug/L	96
36) Tetrahydrofuran	9.60	42	85676	81.8930	ug/L	99
38) 1,1,1-Trichloroethane	9.85	97	454268	56.0265	ug/L	99
39) Cyclohexane	9.88	56	450948	51.0331	ug/L	99
40) 1,1-Dichloropropene	10.04	75	302659	52.2796	ug/L	98
41) Carbon Tetrachloride	10.18	117	462267	58.3858	ug/L	100
42) Tert-Amyl-Methyl ether	10.13	73	930384	94.6616	ug/L	98

(#) = qualifier out of range (m) = manual integration
 11M11985.D 8260WT.M Fri May 20 16:20:49 2016

Data File : C:\MSDCHEM\1\DATA\052016\11M11985.D Vial: 2
 Acq On : 20 May 2016 15:47 Operator: JDS
 Sample : WG569735-02 50ug/L CCV STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 20 16:20:48 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44) 1,2-Dichloroethane	10.34	62	376870	56.3177	ug/L	97
45) Benzene	10.38	78	779520	49.1862	ug/L	100
46) Trichloroethene	11.08	130	268447	52.1126	ug/L	98
47) Methylcyclohexane	11.17	83	325953	51.2718	ug/L	99
48) 1,2-Dichloropropane	11.29	63	219981	50.1434	ug/L	95
49) 1,4-Dioxane	11.56	88	2846	124.9966	ug/L	80
50) Bromodichloromethane	11.57	83	337922	54.8689	ug/L	100
51) Dibromomethane	11.65	93	119635	52.3313	ug/L	99
52) 2-Chloroethyl Vinyl Ether	11.84	63	99592	46.0608	ug/L	98
53) 4-Methyl-2-Pentanone	11.87	58	53735	44.0626	ug/L	96
54) cis-1,3-Dichloropropene	12.17	75	329593	53.5055	ug/L	99
55) Dimethyl Disulfide	12.42	79	192381	51.8993	ug/L	98
58) Toluene	12.56	91	929951	50.3159	ug/L	99
59) Ethyl Methacrylate	12.64	69	189382	47.9873	ug/L	99
60) trans-1,3-Dichloropropene	12.73	75	307920	51.9045	ug/L	100
61) 1,1,2-Trichloroethane	12.94	97	159390	48.6341	ug/L	98
62) 2-Hexanone	12.86	43	102891	42.7465	ug/L	100
63) 1,3-Dichloropropane	13.21	76	258198	49.0595	ug/L	98
64) Tetrachloroethene	13.34	164	219586	51.0903	ug/L	99
65) Dibromochloromethane	13.59	129	269766	53.9658	ug/L	99
66) 1,2-Dibromoethane	13.82	107	163076	49.6647	ug/L	99
67) 1-Chlorohexane	13.89	91	308844	50.6843	ug/L	100
68) Chlorobenzene	14.29	112	686018	50.6674	ug/L	99
69) 1,1,1,2-Tetrachloroethane	14.32	131	283992	51.8370	ug/L	98
70) Ethylbenzene	14.31	106	348800	50.2386	ug/L	97
71) m-,p-Xylene	14.39	106	842896	99.8632	ug/L	97
72) o-Xylene	14.92	106	411152	50.0531	ug/L	94
73) Styrene	14.95	104	703601	51.8439	ug/L	97
74) Bromoform	15.43	173	158580	52.3414	ug/L	99
75) Isopropylbenzene	15.31	105	1134184	52.2105	ug/L	99
77) 1,1,2,2-Tetrachloroethane	15.52	83	159415	45.6164	ug/L	99
79) 1,2,3-Trichloropropane	15.70	110	59028	45.0538	ug/L	93
80) trans-1,4-Dichloro-2-Butene	15.74	53	71295	42.4413	ug/L	98
81) n-Propylbenzene	15.79	91	1316990	50.6739	ug/L	100
82) Bromobenzene	15.92	156	329051	48.2496	ug/L	99
83) 1,3,5-Trimethylbenzene	15.95	105	994266	50.1326	ug/L	99
84) 2-Chlorotoluene	16.05	91	891942	48.9982	ug/L	99
85) 4-Chlorotoluene	16.09	91	805175	49.3792	ug/L	99
86) a-Methylstyrene	16.34	118	532569	50.9019	ug/L	98
87) tert-Butylbenzene	16.40	134	208728	49.6759	ug/L	99
88) 1,2,4-Trimethylbenzene	16.44	105	1036911	51.3434	ug/L	99
89) sec-Butylbenzene	16.65	105	1188994	49.9283	ug/L	100
90) p-Isopropyltoluene	16.79	119	1114765	50.9642	ug/L	100
91) 1,3-Dichlorobenzene	16.98	146	650907	49.4180	ug/L	99
92) 1,4-Dichlorobenzene	17.10	146	644453	48.2705	ug/L	99
93) n-Butylbenzene	17.28	91	962005	49.9105	ug/L	99
94) 1,2-Dichlorobenzene	17.57	146	583006	48.5898	ug/L	100
95) 1,2-Dibromo-3-Chloropropane	18.49	75	34658	44.0706	ug/L	92
96) 1,2,4-Trichlorobenzene	19.55	180	423627	48.2503	ug/L	97
97) Hexachlorobutadiene	19.69	225	184050	47.5841	ug/L	99
98) Naphthalene	19.90	128	739752	45.3937	ug/L	100
99) 1,2,3-Trichlorobenzene	20.19	180	371586	46.1154	ug/L	100

(#) = qualifier out of range (m) = manual integration
 11M11985.D 8260WT.M Fri May 20 16:20:49 2016

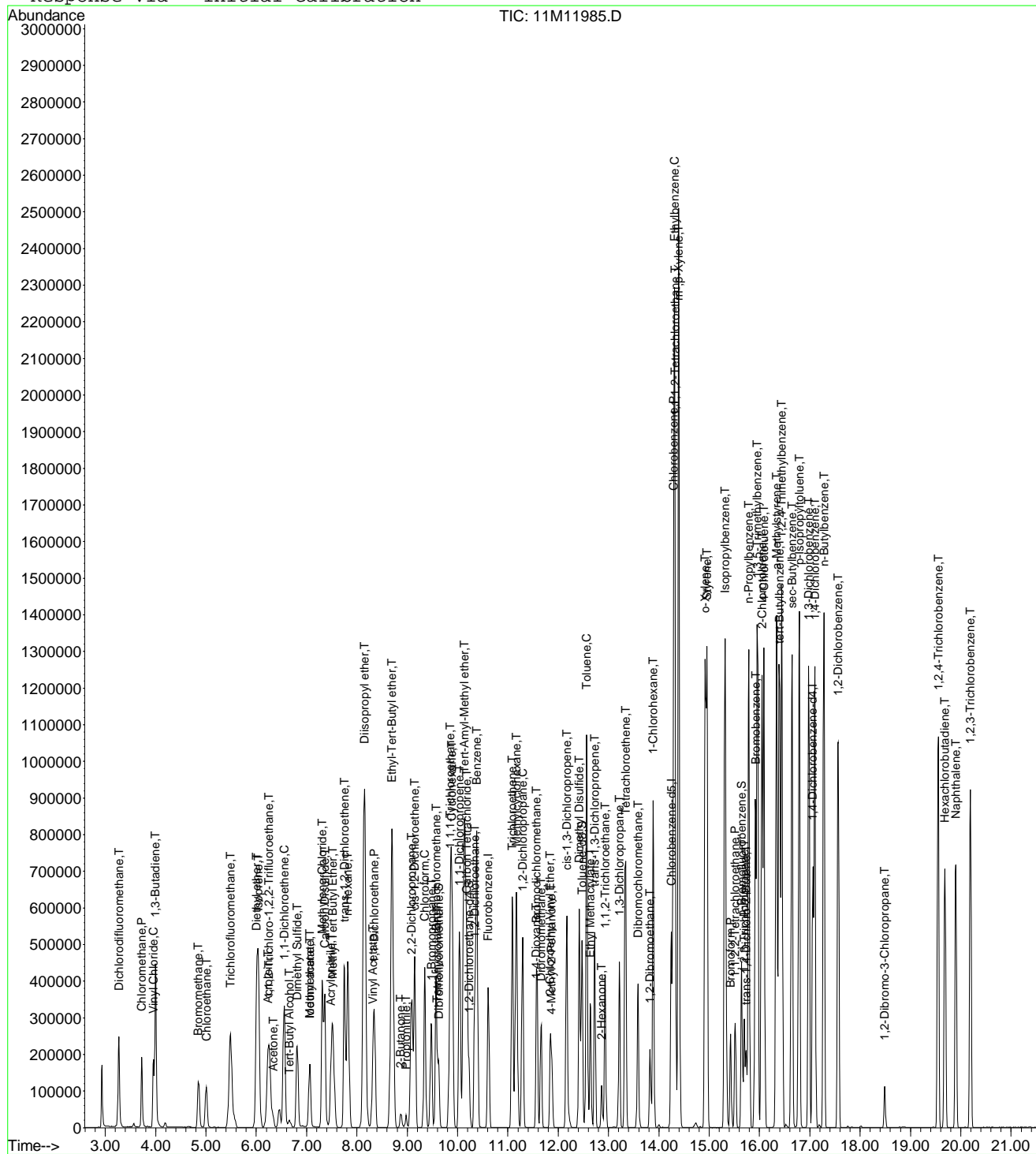
Page 2

Data File : C:\MSDCHEM\1\DATA\052016\11M11985.D
Acq On : 20 May 2016 15:47
Sample : WG569735-02 50ug/L CCV STD 8260
Misc : 1,1 STD76127
MS Integration Params: rteint.p
Quant Time: May 20 16:20 2016

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

Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\052016\11M11985.D Vial: 2
 Acq On : 20 May 2016 15:47 Operator: JDS
 Sample : WG569735-02 50ug/L CCV STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 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	79	0.00
2 T	Dichlorodifluoromethane	0.3917	0.3673	6.2	73	0.00
3 P	Chloromethane	0.3137	0.2760	12.0	79	0.00
4 C	Vinyl Chloride	0.2605	0.2635	-1.1	83	0.00
5 T	1,3-Butadiene	0.2591	0.3015	-16.4	89	-0.01
6 T	Bromomethane	0.1791	0.1444	19.4	69	0.00
7 T	Chloroethane	0.1674	0.1633	2.5	80	0.00
8 T	Trichlorofluoromethane	0.5193	0.5797	-11.6	92	0.01
9 T	Diethyl ether	0.1920	0.1577	17.9	66	0.00
10 T	Isoprene	0.3201	0.3095	3.3	77	0.00
11 T	Acrolein	0.0228	0.0182	19.9	60	0.00
12 T	1,1,2-Trichloro-1,2,2-Trifl	0.2520	0.2621	-4.0	85	0.00
13 T	Acetone	0.0594	0.0536	9.8	74	0.00
14 C	1,1-Dichloroethene	0.4577	0.4805	-5.0	86	0.00
15 T	Tert-Butyl Alcohol	0.0164	0.0131	20.5	62	0.00
16 T	Dimethyl Sulfide	0.1828	0.1789	2.1	76	0.00
17 T	Iodomethane	0.1615	0.2146	-32.9#	83	0.00
18 T	Methyl acetate	0.2006	0.1656	17.5	74	0.00
19 T	Methylene Chloride	0.2369	0.2342	1.1	83	0.00
20 T	Carbon Disulfide	0.7662	0.7669	-0.1	78	0.00
21 T	Acrylonitrile	0.0796	0.0724	9.0	70	0.00
22 T	Methyl Tert Butyl Ether	0.5908	0.5984	-1.3	81	0.00
23 T	trans-1,2-Dichloroethene	0.2533	0.2554	-0.8	84	0.01
24 T	n-Hexane	0.4219	0.4177	1.0	77	0.00
25 T	Diisopropyl ether	1.0527	0.9863	6.3	75	0.00
26 T	Vinyl Acetate	0.3793	0.3478	8.3	70	0.00
27 P	1,1-Dichloroethane	0.5082	0.5223	-2.8	83	0.00
28 T	Ethyl-Tert-Butyl ether	0.8568	0.8142	5.0	75	0.00
29 T	2-Butanone	0.0897	0.0796	11.3	72	0.00
30 T	Propionitrile	0.0263	0.0226	14.1	66	0.00
31 T	2,2-Dichloropropane	0.3977	0.4424	-11.3	91	0.00
32 T	cis-1,2-Dichloroethene	0.2793	0.2865	-2.6	84	0.00
33 C	Chloroform	0.4991	0.5216	-4.5	88	0.00
34 T	1-Bromopropane	0.0432	0.0510	-18.3	84	0.00
35 T	Bromochloromethane	0.1659	0.1850	-11.5	85	0.00
36 T	Tetrahydrofuran	0.0634	0.0519	18.1	67	0.00
37 S	Dibromofluoromethane	0.2736	0.3041	-11.2	90	0.00
38 T	1,1,1-Trichloroethane	0.4911	0.5504	-12.1	91	0.00
39 T	Cyclohexane	0.5353	0.5463	-2.1	78	0.00
40 T	1,1-Dichloropropene	0.3507	0.3667	-4.6	86	0.00
41 T	Carbon Tetrachloride	0.4796	0.5600	-16.8	94	0.00
42 T	Tert-Amyl-Methyl ether	0.5954	0.5636	5.3	76	0.00
43 S	1,2-Dichloroethane-d4	0.3120	0.3457	-10.8	90	0.00
44 T	1,2-Dichloroethane	0.4054	0.4566	-12.6	90	0.00
45 T	Benzene	0.9600	0.9444	1.6	82	0.00
46 T	Trichloroethene	0.3120	0.3252	-4.2	87	-0.01
47 T	Methylcyclohexane	0.3851	0.3949	-2.5	78	0.00
48 C	1,2-Dichloropropane	0.2657	0.2665	-0.3	82	0.00
49 T	1,4-Dioxane	0.0014	0.0009	38.6#	49#	0.01
50 T	Bromodichloromethane	0.3731	0.4094	-9.7	88	0.00
51 T	Dibromomethane	0.1385	0.1449	-4.7	84	0.00
52 T	2-Chloroethyl Vinyl Ether	0.1310	0.1207	7.9	75	0.00
53 T	4-Methyl-2-Pentanone	0.0739	0.0651	11.9	71	0.00
54 T	cis-1,3-Dichloropropene	0.3731	0.3993	-7.0	83	0.00

(#) = Out of Range

11M11985.D 8260WT.M Tue May 24 10:48:18 2016

Page 1

Data File : C:\MSDCHEM\1\DATA\052016\11M11985.D Vial: 2
 Acq On : 20 May 2016 15:47 Operator: JDS
 Sample : WG569735-02 50ug/L CCV STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 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	0.2245	0.2331	-3.8	81	0.00
56 I	Chlorobenzene-d5	1.0000	1.0000	0.0	83	0.00
57 S	Toluene-d8	1.0862	1.1284	-3.9	89	0.00
58 C	Toluene	1.2656	1.2736	-0.6	85	0.00
59 T	Ethyl Methacrylate	0.2702	0.2594	4.0	76	-0.01
60 T	trans-1,3-Dichloropropene	0.4062	0.4217	-3.8	84	0.00
61 T	1,1,2-Trichloroethane	0.2244	0.2183	2.7	82	0.00
62 T	2-Hexanone	0.1648	0.1409	14.5	71	0.00
63 T	1,3-Dichloropropane	0.3604	0.3536	1.9	82	0.00
64 T	Tetrachloroethene	0.2943	0.3007	-2.2	87	0.00
65 T	Dibromochloromethane	0.3423	0.3695	-7.9	87	0.00
66 T	1,2-Dibromoethane	0.2248	0.2233	0.7	83	0.00
67 T	1-Chlorohexane	0.4173	0.4230	-1.4	82	0.00
68 P	Chlorobenzene	0.9272	0.9395	-1.3	86	0.00
69 T	1,1,1,2-Tetrachloroethane	0.3751	0.3889	-3.7	87	0.00
70 C	Ethylbenzene	0.4754	0.4777	-0.5	85	0.00
71 T	m-,p-Xylene	0.5780	0.5772	0.1	85	0.00
72 T	o-Xylene	0.5625	0.5631	-0.1	84	0.00
73 T	Styrene	0.9293	0.9636	-3.7	84	0.00
74 P	Bromoform	0.2075	0.2172	-4.7	86	0.00
75 T	Isopropylbenzene	1.4875	1.5533	-4.4	87	0.00
76 I	1,4-Dichlorobenzene-d4	1.0000	1.0000	0.0	85	0.00
77 P	1,1,2,2-Tetrachloroethane	0.3893	0.3552	8.8	76	0.00
78 S	p-Bromofluorobenzene	0.7706	0.7716	-0.1	92	0.00
79 T	1,2,3-Trichloropropane	0.1351	0.1315	2.7	82	0.00
80 T	trans-1,4-Dichloro-2-Butene	0.1588	0.1588	-0.0	76	0.00
81 T	n-Propylbenzene	2.8953	2.9343	-1.3	86	0.00
82 T	Bromobenzene	0.7597	0.7331	3.5	87	0.00
83 T	1,3,5-Trimethylbenzene	2.2094	2.2153	-0.3	87	-0.01
84 T	2-Chlorotoluene	2.0279	1.9873	2.0	87	0.00
85 T	4-Chlorotoluene	1.8165	1.7939	1.2	87	0.00
86 T	a-Methylstyrene	1.1656	1.1866	-1.8	82	0.00
87 T	tert-Butylbenzene	0.4681	0.4651	0.6	86	0.00
88 T	1,2,4-Trimethylbenzene	2.2498	2.3103	-2.7	88	0.00
89 T	sec-Butylbenzene	2.6529	2.6491	0.1	86	0.00
90 T	p-Isopropyltoluene	2.4367	2.4837	-1.9	87	0.00
91 T	1,3-Dichlorobenzene	1.4673	1.4502	1.2	88	0.00
92 T	1,4-Dichlorobenzene	1.4873	1.4359	3.5	87	0.00
93 T	n-Butylbenzene	2.1472	2.1434	0.2	85	0.00
94 T	1,2-Dichlorobenzene	1.3366	1.2990	2.8	85	0.00
95 T	1,2-Dibromo-3-Chloropropane	0.0825	0.0772	6.4	81	0.00
96 T	1,2,4-Trichlorobenzene	0.9781	0.9438	3.5	83	0.00
97 T	Hexachlorobutadiene	0.4309	0.4101	4.8	84	0.00
98 T	Naphthalene	1.8154	1.6482	9.2	77	0.00
99 T	1,2,3-Trichlorobenzene	0.8976	0.8279	7.8	82	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 11M11985.D 8260WT.M Tue May 24 10:48:18 2016

Page 2

Data File : C:\MSDCHEM\1\DATA\052016\11M11985.D Vial: 2
 Acq On : 20 May 2016 15:47 Operator: JDS
 Sample : WG569735-02 50ug/L CCV STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 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	79	0.00
2 T	Dichlorodifluoromethane	50.0000	46.8826	6.2	73	0.00
3 P	Chloromethane	50.0000	43.9925	12.0	79	0.00
4 C	Vinyl Chloride	50.0000	50.5703	-1.1	83	0.00
5 T	1,3-Butadiene	50.0000	58.1891	-16.4	89	-0.01
6 T	Bromomethane	50.0000	40.3021	19.4	69	0.00
7 T	Chloroethane	50.0000	48.7719	2.5	80	0.00
8 T	Trichlorofluoromethane	50.0000	55.8182	-11.6	92	0.01
9 T	Diethyl ether	100.0000	82.0958	17.9	66	0.00
10 T	Isoprene	50.0000	48.3483	3.3	77	0.00
11 T	Acrolein	50.0000	36.5468	26.9#	60	0.00
12 T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	52.0078	-4.0	85	0.00
13 T	Acetone	50.0000	45.1207	9.8	74	0.00
14 C	1,1-Dichloroethene	50.0000	52.4947	-5.0	86	0.00
15 T	Tert-Butyl Alcohol	200.0000	158.9655	20.5	62	0.00
16 T	Dimethyl Sulfide	50.0000	48.9293	2.1	76	0.00
17 T	Iodomethane	50.0000	51.3997	-2.8	83	0.00
18 T	Methyl acetate	50.0000	44.7615	10.5	74	0.00
19 T	Methylene Chloride	50.0000	49.4334	1.1	83	0.00
20 T	Carbon Disulfide	50.0000	50.0425	-0.1	78	0.00
21 T	Acrylonitrile	50.0000	45.4818	9.0	70	0.00
22 T	Methyl Tert Butyl Ether	50.0000	50.6444	-1.3	81	0.00
23 T	trans-1,2-Dichloroethene	50.0000	50.4156	-0.8	84	0.01
24 T	n-Hexane	50.0000	49.5058	1.0	77	0.00
25 T	Diisopropyl ether	100.0000	93.6957	6.3	75	0.00
26 T	Vinyl Acetate	50.0000	42.9160	14.2	70	0.00
27 P	1,1-Dichloroethane	50.0000	51.3828	-2.8	83	0.00
28 T	Ethyl-Tert-Butyl ether	100.0000	95.0219	5.0	75	0.00
29 T	2-Butanone	50.0000	44.3328	11.3	72	0.00
30 T	Propionitrile	100.0000	85.9471	14.1	66	0.00
31 T	2,2-Dichloropropane	50.0000	55.6266	-11.3	91	0.00
32 T	cis-1,2-Dichloroethene	50.0000	51.2976	-2.6	84	0.00
33 C	Chloroform	50.0000	52.2517	-4.5	88	0.00
34 T	1-Bromopropane	50.0000	51.4295	-2.9	84	0.00
35 T	Bromochloromethane	50.0000	55.7705	-11.5	85	0.00
36 T	Tetrahydrofuran	100.0000	81.8930	18.1	67	0.00
37 S	Dibromofluoromethane	25.0000	27.7906	-11.2	90	0.00
38 T	1,1,1-Trichloroethane	50.0000	56.0265	-12.1	91	0.00
39 T	Cyclohexane	50.0000	51.0331	-2.1	78	0.00
40 T	1,1-Dichloropropene	50.0000	52.2796	-4.6	86	0.00
41 T	Carbon Tetrachloride	50.0000	58.3858	-16.8	94	0.00
42 T	Tert-Amyl-Methyl ether	100.0000	94.6616	5.3	76	0.00
43 S	1,2-Dichloroethane-d4	25.0000	27.7017	-10.8	90	0.00
44 T	1,2-Dichloroethane	50.0000	56.3177	-12.6	90	0.00
45 T	Benzene	50.0000	49.1862	1.6	82	0.00
46 T	Trichloroethene	50.0000	52.1126	-4.2	87	-0.01
47 T	Methylcyclohexane	50.0000	51.2718	-2.5	78	0.00
48 C	1,2-Dichloropropane	50.0000	50.1434	-0.3	82	0.00
49 T	1,4-Dioxane	200.0000	124.9966	37.5#	49	0.01
50 T	Bromodichloromethane	50.0000	54.8689	-9.7	88	0.00
51 T	Dibromomethane	50.0000	52.3313	-4.7	84	0.00
52 T	2-Chloroethyl Vinyl Ether	50.0000	46.0608	7.9	75	0.00
53 T	4-Methyl-2-Pentanone	50.0000	44.0626	11.9	71	0.00
54 T	cis-1,3-Dichloropropene	50.0000	53.5055	-7.0	83	0.00

(#) = Out of Range

11M11985.D 8260WT.M Tue May 24 10:48:20 2016

Page 1

Data File : C:\MSDCHEM\1\DATA\052016\11M11985.D Vial: 2
 Acq On : 20 May 2016 15:47 Operator: JDS
 Sample : WG569735-02 50ug/L CCV STD 8260 Inst : hpms11
 Misc : 1,1 STD76127 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 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	51.8993	-3.8	81	0.00
56 I	Chlorobenzene-d5	25.0000	25.0000	0.0	83	0.00
57 S	Toluene-d8	25.0000	25.9691	-3.9	89	0.00
58 C	Toluene	50.0000	50.3159	-0.6	85	0.00
59 T	Ethyl Methacrylate	50.0000	47.9873	4.0	76	-0.01
60 T	trans-1,3-Dichloropropene	50.0000	51.9045	-3.8	84	0.00
61 T	1,1,2-Trichloroethane	50.0000	48.6341	2.7	82	0.00
62 T	2-Hexanone	50.0000	42.7465	14.5	71	0.00
63 T	1,3-Dichloropropane	50.0000	49.0595	1.9	82	0.00
64 T	Tetrachloroethene	50.0000	51.0903	-2.2	87	0.00
65 T	Dibromochloromethane	50.0000	53.9658	-7.9	87	0.00
66 T	1,2-Dibromoethane	50.0000	49.6647	0.7	83	0.00
67 T	1-Chlorohexane	50.0000	50.6843	-1.4	82	0.00
68 P	Chlorobenzene	50.0000	50.6674	-1.3	86	0.00
69 T	1,1,1,2-Tetrachloroethane	50.0000	51.8370	-3.7	87	0.00
70 C	Ethylbenzene	50.0000	50.2386	-0.5	85	0.00
71 T	m-,p-Xylene	100.0000	99.8632	0.1	85	0.00
72 T	o-Xylene	50.0000	50.0531	-0.1	84	0.00
73 T	Styrene	50.0000	51.8439	-3.7	84	0.00
74 P	Bromoform	50.0000	52.3414	-4.7	86	0.00
75 T	Isopropylbenzene	50.0000	52.2105	-4.4	87	0.00
76 I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	85	0.00
77 P	1,1,2,2-Tetrachloroethane	50.0000	45.6164	8.8	76	0.00
78 S	p-Bromofluorobenzene	25.0000	25.0295	-0.1	92	0.00
79 T	1,2,3-Trichloropropane	50.0000	45.0538	9.9	82	0.00
80 T	trans-1,4-Dichloro-2-Butene	50.0000	42.4413	15.1	76	0.00
81 T	n-Propylbenzene	50.0000	50.6739	-1.3	86	0.00
82 T	Bromobenzene	50.0000	48.2496	3.5	87	0.00
83 T	1,3,5-Trimethylbenzene	50.0000	50.1326	-0.3	87	-0.01
84 T	2-Chlorotoluene	50.0000	48.9982	2.0	87	0.00
85 T	4-Chlorotoluene	50.0000	49.3792	1.2	87	0.00
86 T	a-Methylstyrene	50.0000	50.9019	-1.8	82	0.00
87 T	tert-Butylbenzene	50.0000	49.6759	0.6	86	0.00
88 T	1,2,4-Trimethylbenzene	50.0000	51.3434	-2.7	88	0.00
89 T	sec-Butylbenzene	50.0000	49.9283	0.1	86	0.00
90 T	p-Isopropyltoluene	50.0000	50.9642	-1.9	87	0.00
91 T	1,3-Dichlorobenzene	50.0000	49.4180	1.2	88	0.00
92 T	1,4-Dichlorobenzene	50.0000	48.2705	3.5	87	0.00
93 T	n-Butylbenzene	50.0000	49.9105	0.2	85	0.00
94 T	1,2-Dichlorobenzene	50.0000	48.5898	2.8	85	0.00
95 T	1,2-Dibromo-3-Chloropropane	50.0000	44.0706	11.9	81	0.00
96 T	1,2,4-Trichlorobenzene	50.0000	48.2503	3.5	83	0.00
97 T	Hexachlorobutadiene	50.0000	47.5841	4.8	84	0.00
98 T	Naphthalene	50.0000	45.3937	9.2	77	0.00
99 T	1,2,3-Trichlorobenzene	50.0000	46.1154	7.8	82	0.00

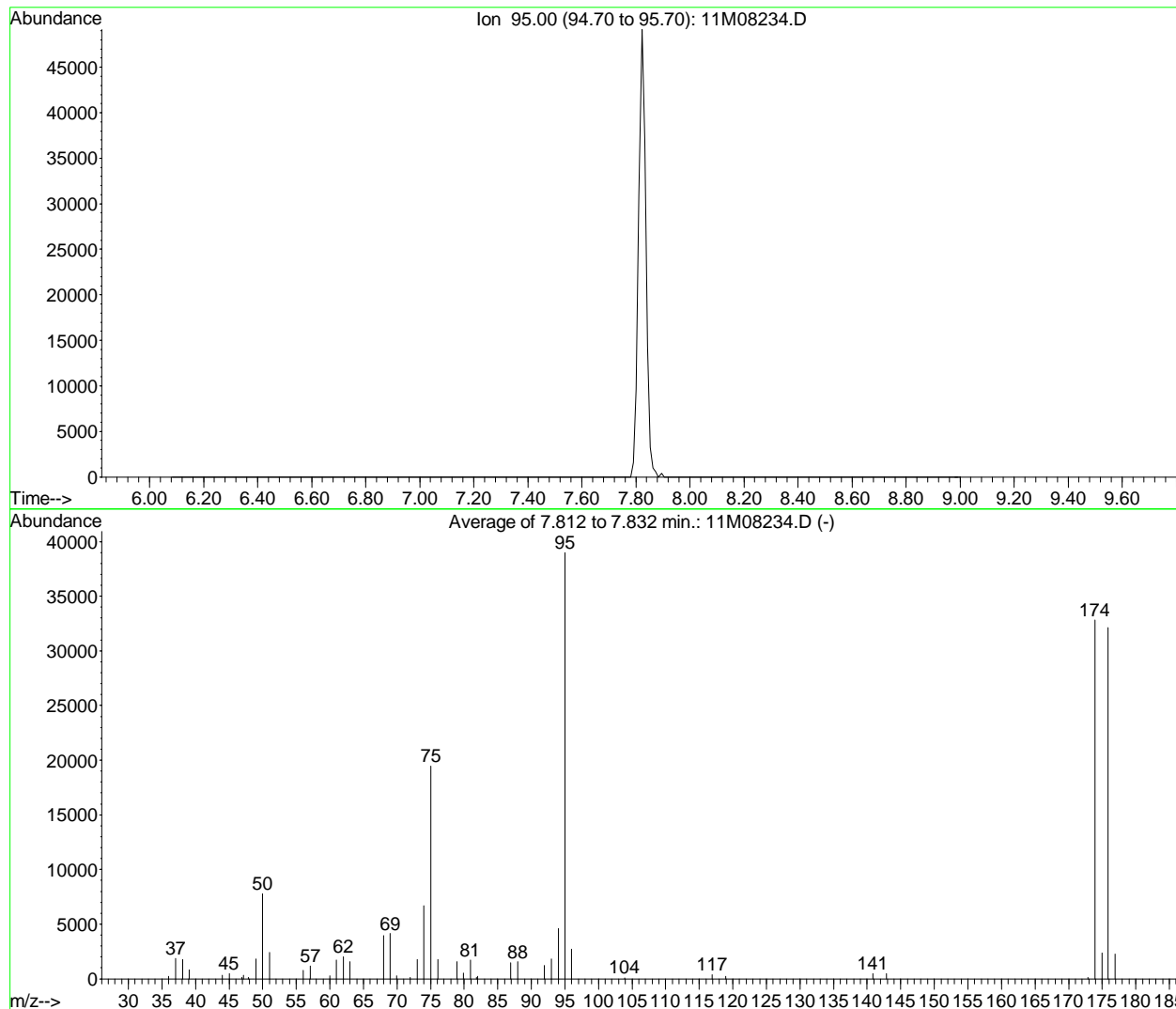
(#) = Out of Range SPCC's out = 0 CCC's out = 0
 11M11985.D 8260WT.M Tue May 24 10:48:20 2016

Page 2

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



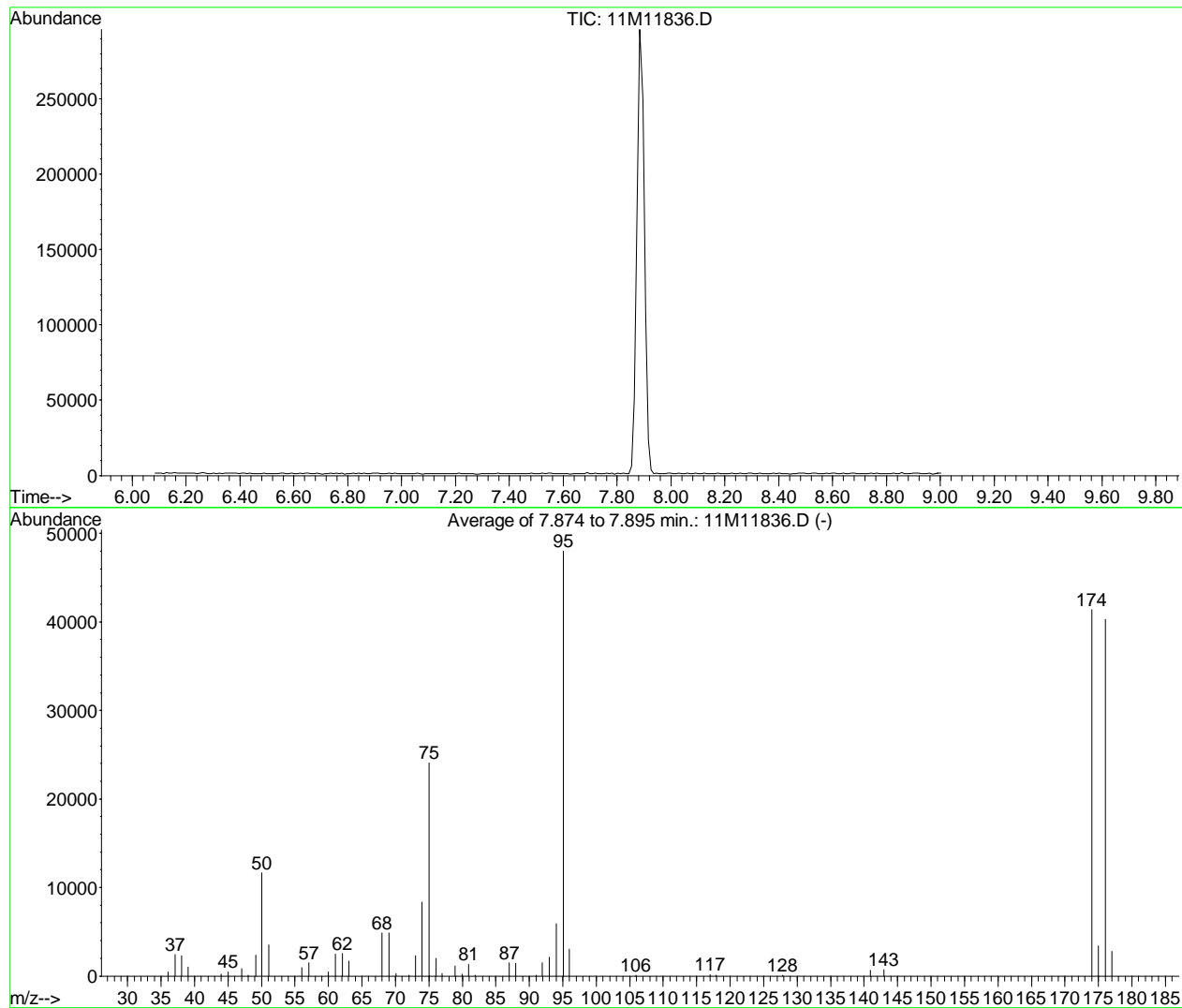
AutoFind: Scans 168, 169, 170; Background Corrected with Scan 163

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

BFB

Data File : C:\MSDCHEM\1\DATA\051316\11M11836.D Vial: 2
 Acq On : 13 May 2016 14:15 Operator: JDS
 Sample : WG568769-01 50ng BFB STD 8260 Inst : hpms11
 Misc : 1,1 STD76034 Multiplr: 1.00
 MS Integration Params: rteint.p
 Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11



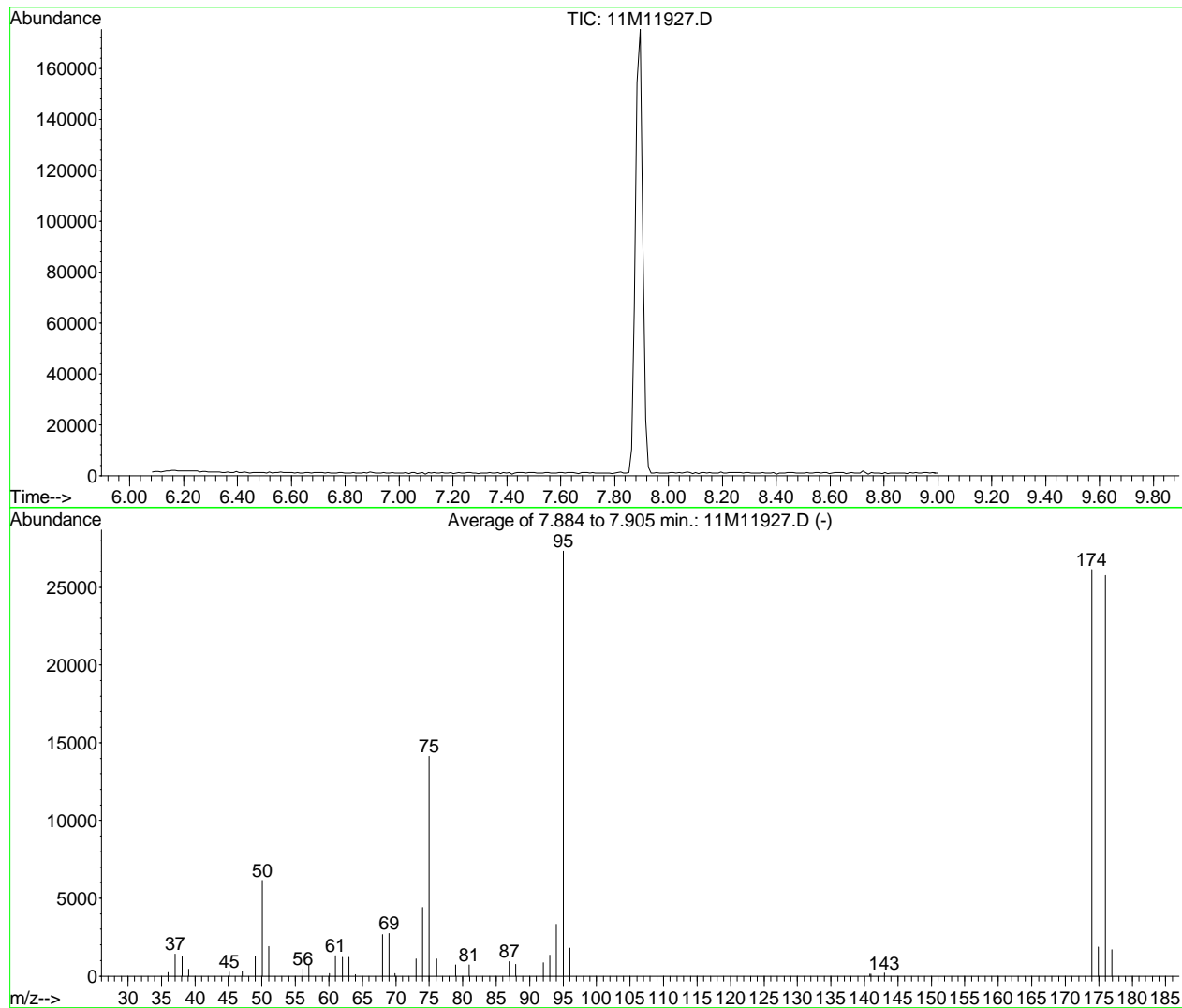
AutoFind: Scans 174, 175, 176; Background Corrected with Scan 169

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	24.2	11638	PASS
75	95	30	60	50.2	24088	PASS
95	95	100	100	100.0	48016	PASS
96	95	5	9	6.3	3008	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	86.2	41402	PASS
175	174	5	9	8.3	3421	PASS
176	174	95	101	97.3	40288	PASS
177	176	5	9	6.9	2789	PASS

11M11836.D 8260WT.M Tue May 17 14:18:03 2016

BFB

Data File : C:\MSDCHEM\1\DATA\051816\11M11927.D Vial: 1
 Acq On : 18 May 2016 14:36 Operator: JDS
 Sample : WG569355-01 50ng BFB STD 8260 Inst : hpms11
 Misc : 1,1 STD76034 Multiplr: 1.00
 MS Integration Params: rteint.p
 Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11



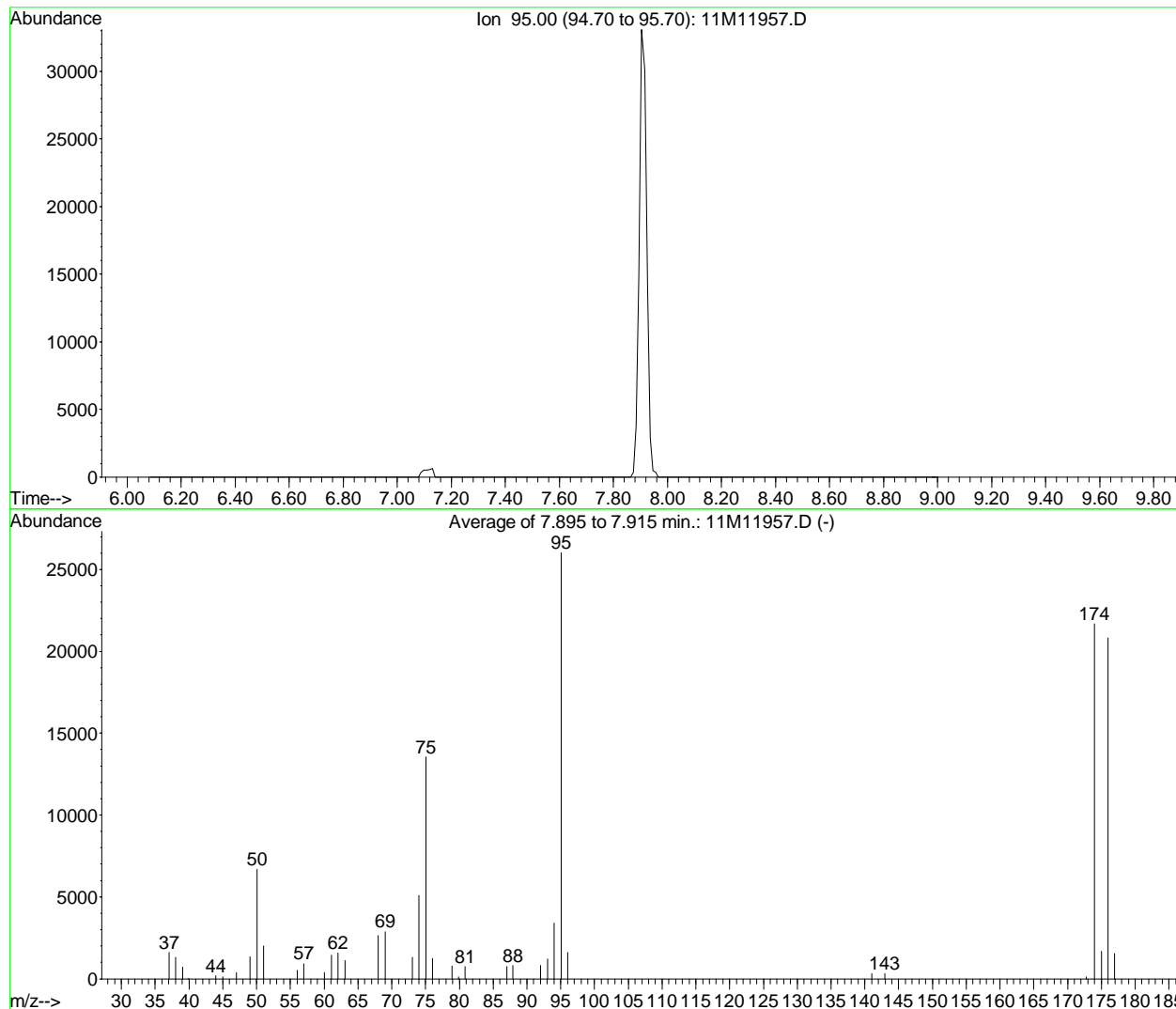
AutoFind: Scans 175, 176, 177; Background Corrected with Scan 169

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	22.5	6164	PASS
75	95	30	60	51.6	14112	PASS
95	95	100	100	100.0	27336	PASS
96	95	5	9	6.6	1797	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	95.6	26130	PASS
175	174	5	9	7.2	1878	PASS
176	174	95	101	98.6	25776	PASS
177	176	5	9	6.5	1677	PASS

11M11927.D 8260WT.M Wed May 18 17:04:12 2016

BFB

Data File : C:\MSDCHEM\1\DATA\051916\11M11957.D Vial: 1
 Acq On : 19 May 2016 14:36 Operator: JDS
 Sample : WG569560-01 50ng BFB STD 8260 Inst : hpms11
 Misc : 1,1 STD76034 Multiplr: 1.00
 MS Integration Params: rteint.p
 Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11



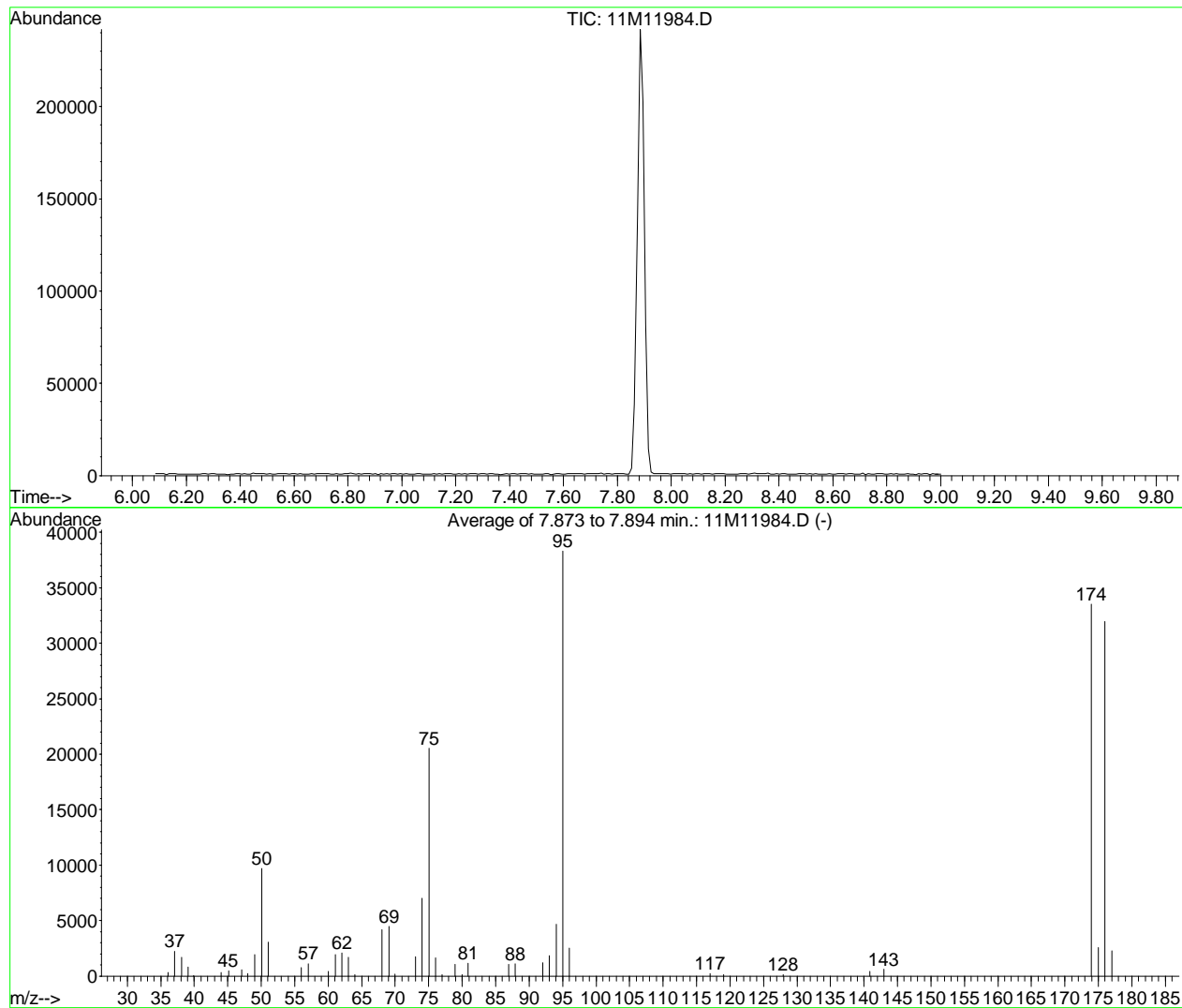
AutoFind: Scans 176, 177, 178; Background Corrected with Scan 171

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	25.7	6693	PASS
75	95	30	60	52.1	13550	PASS
95	95	100	100	100.0	26030	PASS
96	95	5	9	6.2	1611	PASS
173	174	0.00	2	0.5	109	PASS
174	95	50	100	83.2	21666	PASS
175	174	5	9	7.8	1692	PASS
176	174	95	101	96.1	20828	PASS
177	176	5	9	7.4	1549	PASS

11M11957.D 8260WT.M Tue May 24 13:40:58 2016

BFB

Data File : C:\MSDCHEM\1\DATA\052016\11M11984.D Vial: 1
 Acq On : 20 May 2016 15:23 Operator: JDS
 Sample : WG569735-01 50ng BFB STD 8260 Inst : hpms11
 Misc : 1,1 STD76034 Multiplr: 1.00
 MS Integration Params: rteint.p
 Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11



AutoFind: Scans 174, 175, 176; Background Corrected with Scan 169

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	25.3	9690	PASS
75	95	30	60	53.5	20514	PASS
95	95	100	100	100.0	38325	PASS
96	95	5	9	6.5	2510	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	87.5	33541	PASS
175	174	5	9	7.6	2563	PASS
176	174	95	101	95.3	31949	PASS
177	176	5	9	7.1	2266	PASS

11M11984.D 8260WT.M Fri May 20 16:20:42 2016

Data File : C:\MSDCHEM\1\DATA\051816\11M11930.D Vial: 4
 Acq On : 18 May 2016 16:06 Operator: JDS
 Sample : WG569356-01 BLANK STD 8260 Inst : hpms11
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 19 13:32:39 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	460128	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	399912	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	227870	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.63	111	129490	25.7143	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	102.84%	
43) 1,2-Dichloroethane-d4	10.23	65	147289	25.6519	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	102.60%	
57) Toluene-d8	12.47	98	447755	25.7683	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	103.08%	
78) p-Bromofluorobenzene	15.64	95	176803	25.1701	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	100.68%	
Target Compounds						
3) Chloromethane	3.73	50	843	0.1460	ug/L	81
13) Acetone	6.35	43	210	0.1922	ug/L	# 49
18) Methyl acetate	7.01	43	3496	Below Cal		# 71
36) Tetrahydrofuran	9.60	42	2102	1.8021	ug/L	# 56

(#) = qualifier out of range (m) = manual integration
 11M11930.D 8260WT.M Thu May 19 13:32:40 2016

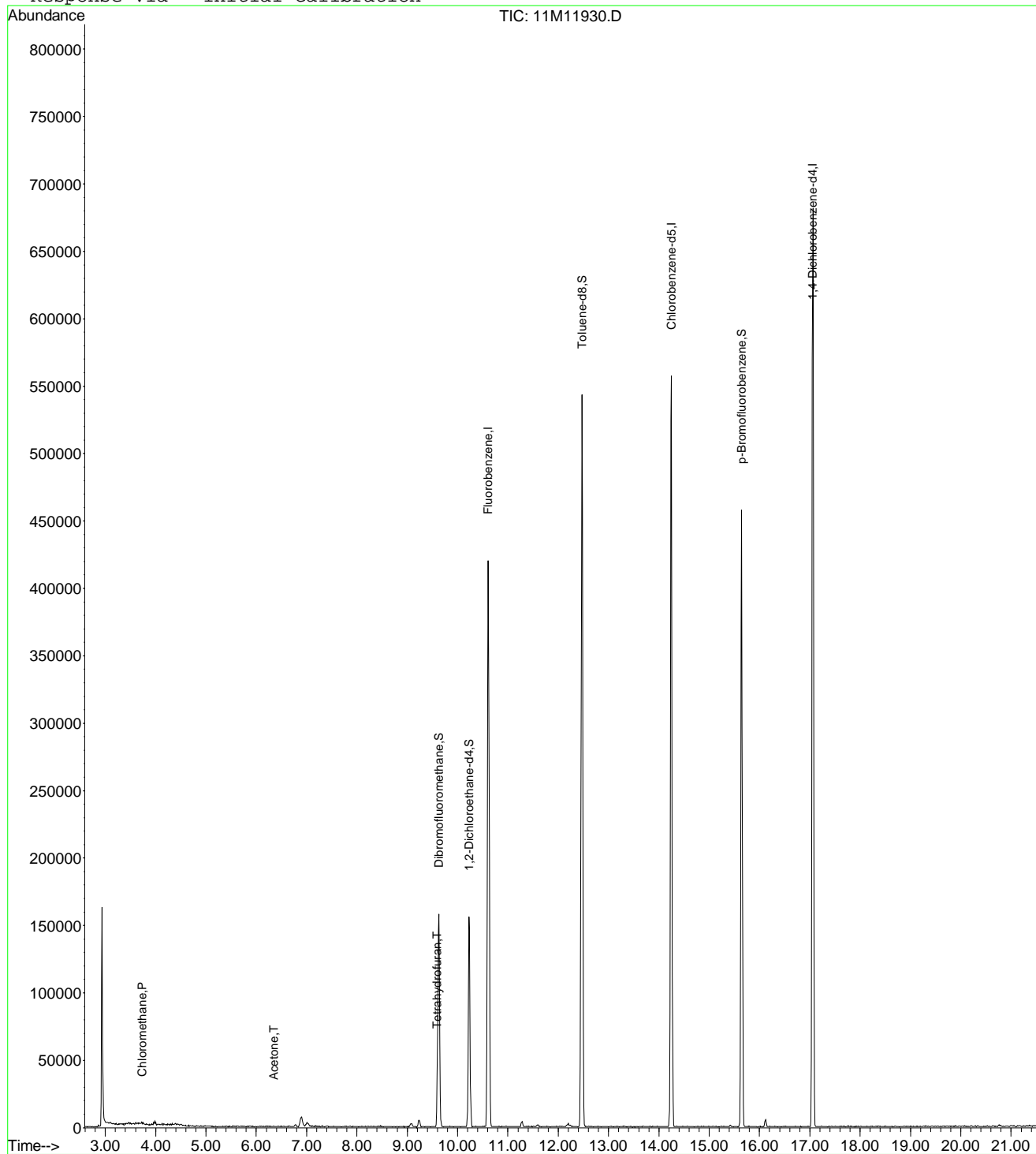
Page 1

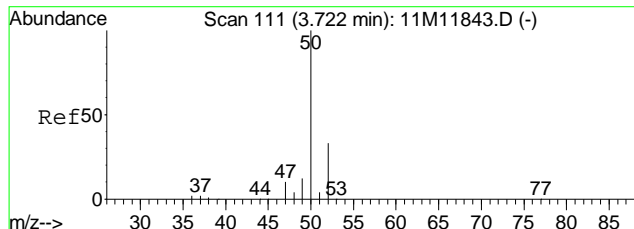
Data File : C:\MSDCHEM\1\DATA\051816\11M11930.D
 Acq On : 18 May 2016 16:06
 Sample : WG569356-01 BLANK STD 8260
 Misc : 1,1
 MS Integration Params: rteint.p
 Quant Time: May 19 13:32 2016

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

Quant Results File: 8260WT.RES

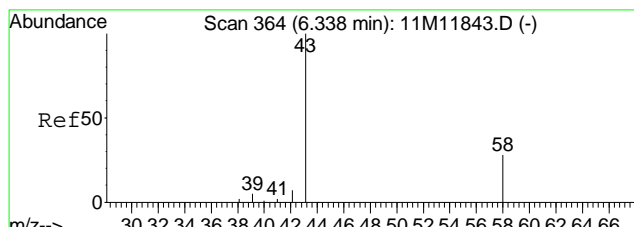
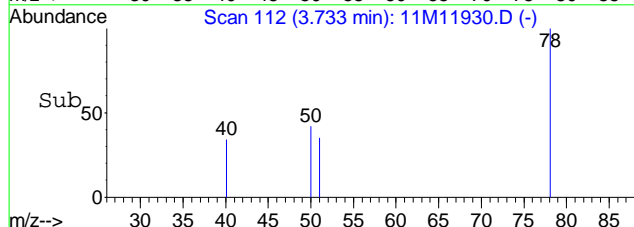
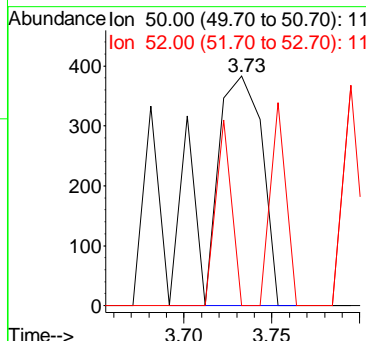
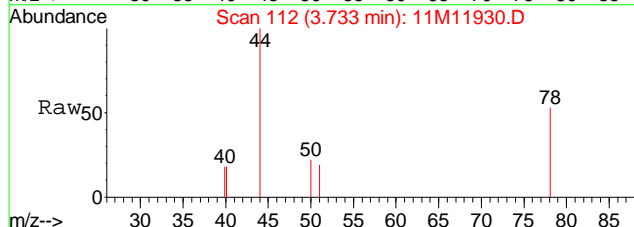
Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration





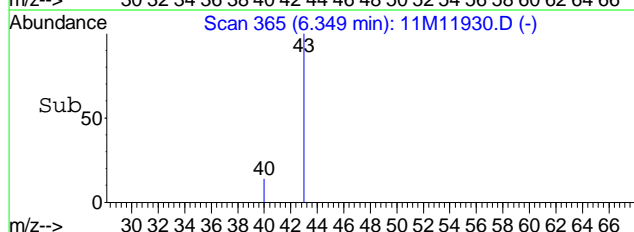
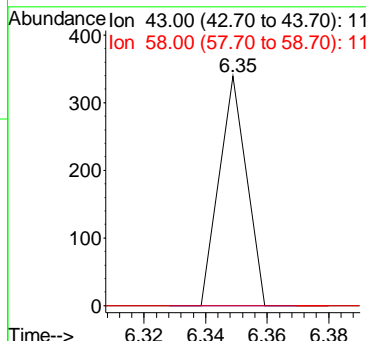
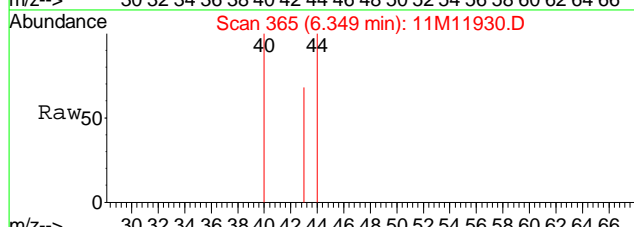
#3
 Chloromethane
 Concen: 0.15 ug/L
 RT: 3.73 min Scan# 112
 Delta R.T. 0.01 min
 Lab File: 11M11930.D
 Acq: 18 May 2016 16:06

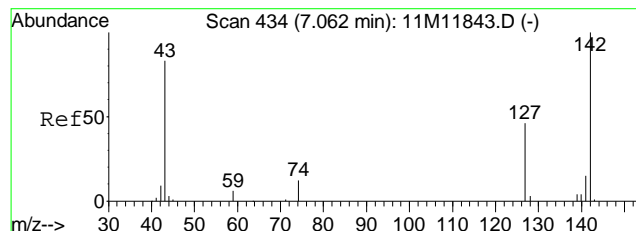
Tgt Ion	Ratio	Lower	Upper
50	100		
52	22.8	20.0	46.6



#13
 Acetone
 Concen: 0.19 ug/L
 RT: 6.35 min Scan# 365
 Delta R.T. 0.01 min
 Lab File: 11M11930.D
 Acq: 18 May 2016 16:06

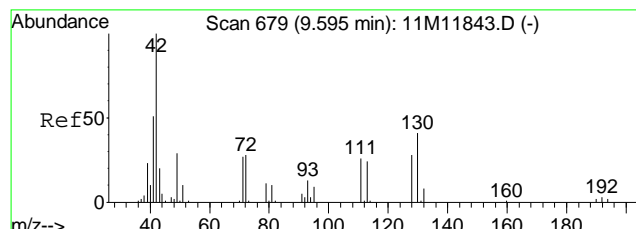
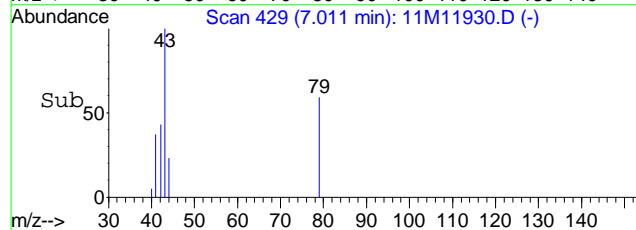
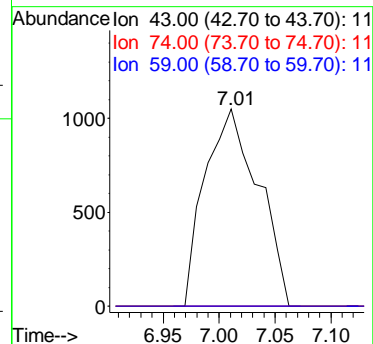
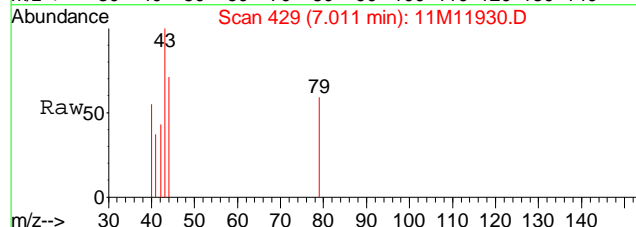
Tgt Ion	Ratio	Lower	Upper
43	100		
58	0.0	15.8	36.8#





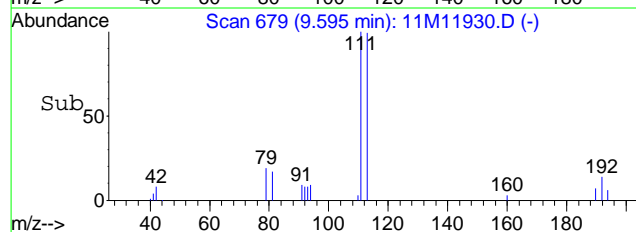
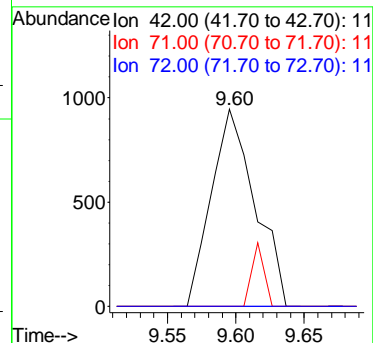
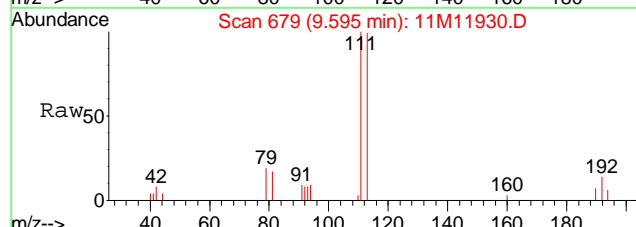
#18
Methyl acetate
Concen: Below Cal
RT: 7.01 min Scan# 429
Delta R.T. -0.05 min
Lab File: 11M11930.D
Acq: 18 May 2016 16:06

Tgt Ion	Ratio	Lower	Upper
43	100		
74	0.0	8.2	19.0#
59	0.0	3.9	9.1#



#36
Tetrahydrofuran
Concen: 1.80 ug/L
RT: 9.60 min Scan# 679
Delta R.T. 0.00 min
Lab File: 11M11930.D
Acq: 18 May 2016 16:06

Tgt Ion	Ratio	Lower	Upper
42	100		
71	9.0	16.4	38.2#
72	0.0	16.6	38.8#



Data File : C:\MSDCHEM\1\DATA\051916\11M11961.D Vial: 4
 Acq On : 19 May 2016 16:43 Operator: JDS
 Sample : WG569561-01 BLANK STD 8260 Inst : hpms11
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 20 13:13:06 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	422131	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	369115	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	212892	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.63	111	123177	26.6624	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	106.64%	
43) 1,2-Dichloroethane-d4	10.23	65	144901	27.5075	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	110.04%	
57) Toluene-d8	12.47	98	414766	25.8614	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	103.44%	
78) p-Bromofluorobenzene	15.64	95	167813	25.5711	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	102.28%	
Target Compounds						
3) Chloromethane	3.72	50	711	0.1342	ug/L	88
18) Methyl acetate	7.00	43	2331	Below Cal	#	71
36) Tetrahydrofuran	9.60	42	1862	1.7401	ug/L	# 57

(#) = qualifier out of range (m) = manual integration
 11M11961.D 8260WT.M Fri May 20 13:13:07 2016

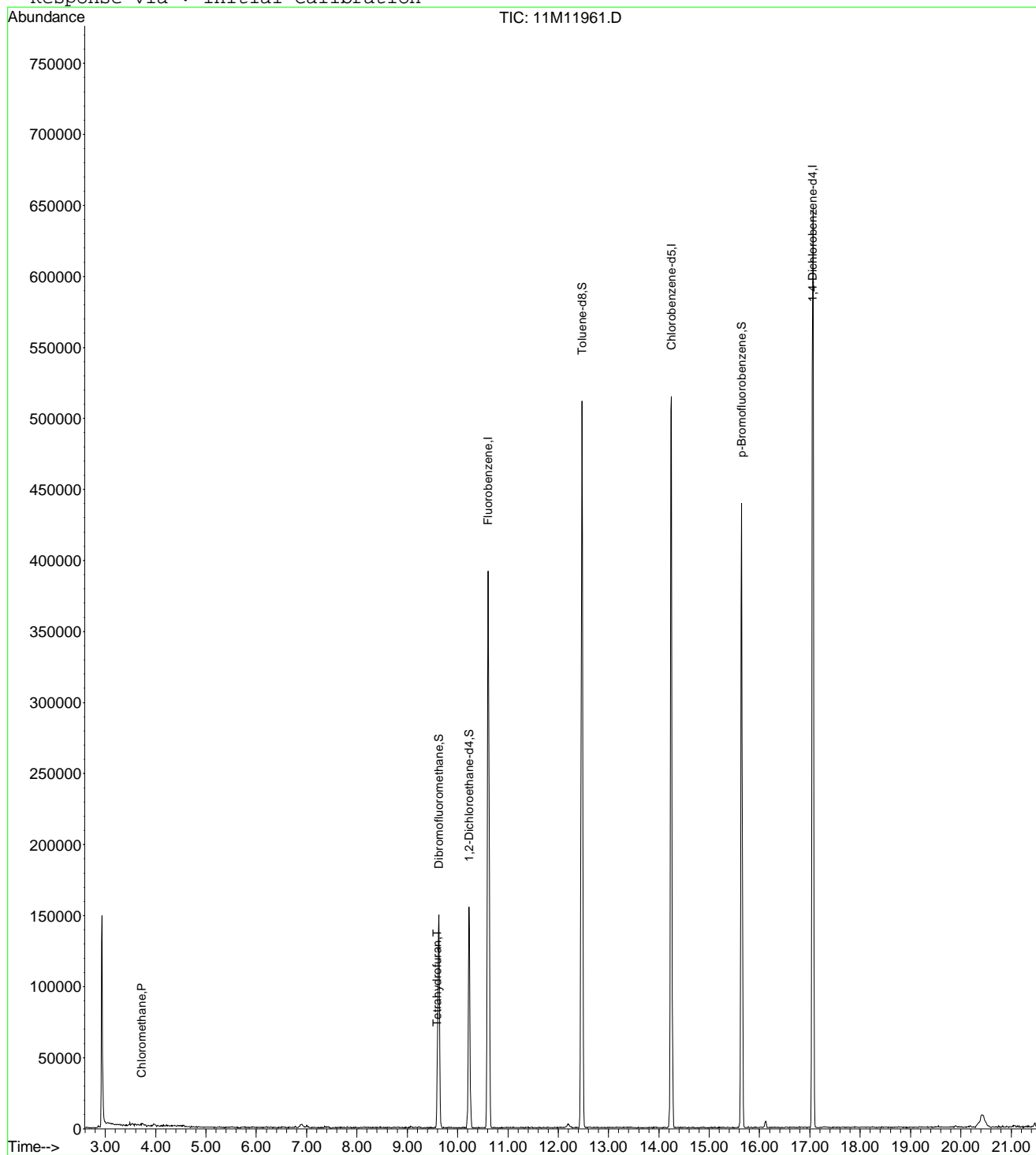
Page 1

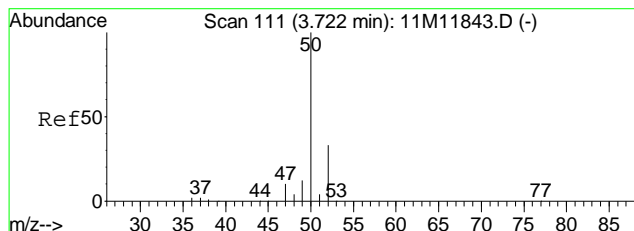
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 Acq On : 19 May 2016 16:43
 Sample : WG569561-01 BLANK STD 8260
 Misc : 1,1
 MS Integration Params: rteint.p
 Quant Time: May 20 13:13 2016

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

Quant Results File: 8260WT.RES

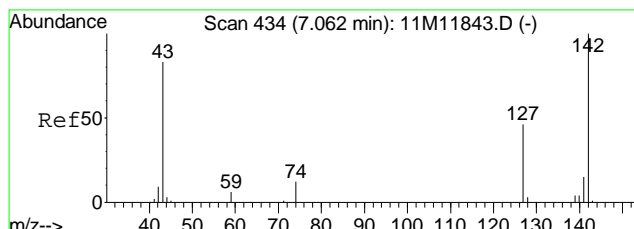
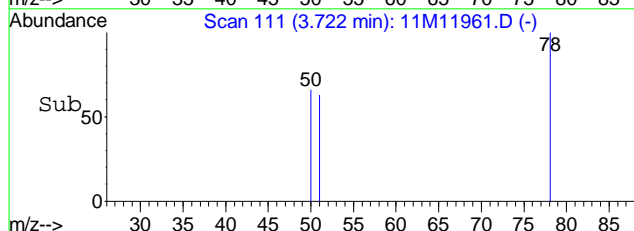
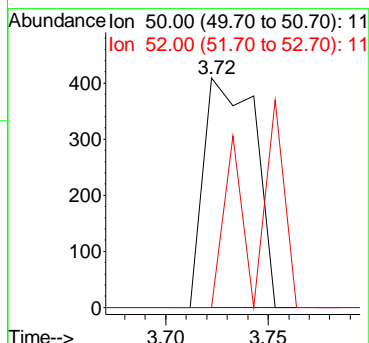
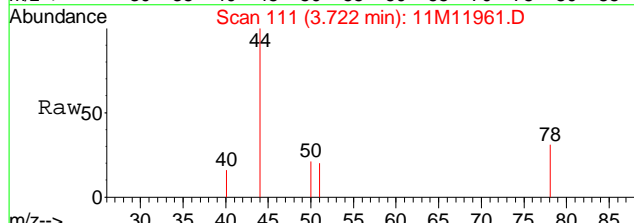
Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration





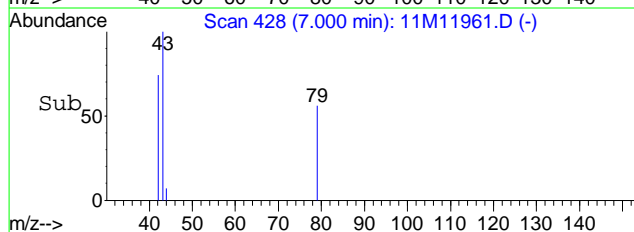
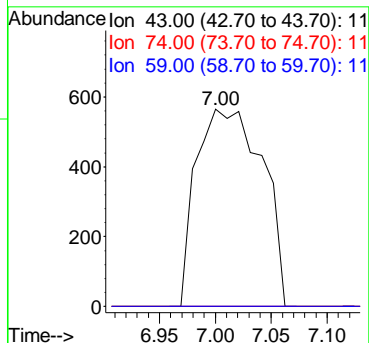
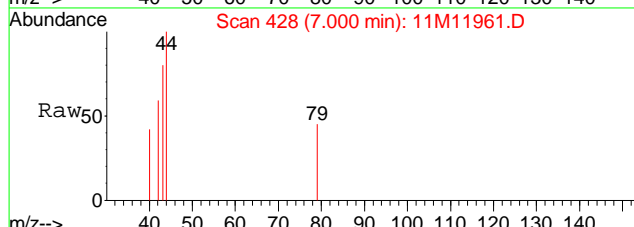
#3
 Chloromethane
 Concen: 0.13 ug/L
 RT: 3.72 min Scan# 111
 Delta R.T. -0.00 min
 Lab File: 11M11961.D
 Acq: 19 May 2016 16:43

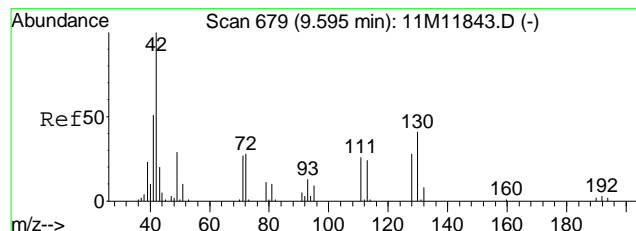
Tgt Ion	Resp	Lower	Upper
50	100		
52	26.7	20.0	46.6



#18
 Methyl acetate
 Concen: Below Cal
 RT: 7.00 min Scan# 428
 Delta R.T. -0.06 min
 Lab File: 11M11961.D
 Acq: 19 May 2016 16:43

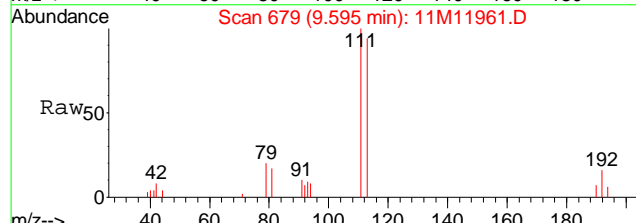
Tgt Ion	Resp	Lower	Upper
43	100		
74	0.0	8.2	19.0#
59	0.0	3.9	9.1#



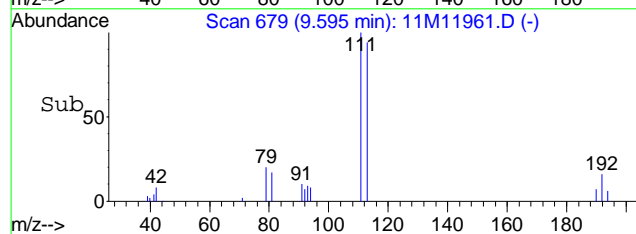
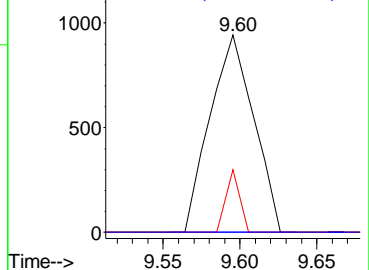


#36
 Tetrahydrofuran
 Concen: 1.74 ug/L
 RT: 9.60 min Scan# 679
 Delta R.T. -0.00 min
 Lab File: 11M11961.D
 Acq: 19 May 2016 16:43

Tgt Ion	Ratio	Lower	Upper
42	100		
71	10.0	16.4	38.2#
72	0.0	16.6	38.8#



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\051916\11M11961.D Vial: 4
 Acq On : 19 May 2016 16:43 Operator: JDS
 Sample : WG569561-01 BLANK STD 8260 Inst : hpms11
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Smoothing : ON Filtering: 5
 Sampling : 1 Min Area: 100 Area counts
 Start Thrs: 0.2 Max Peaks: 100
 Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
 Peak separation: 5

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.485	84	88	91	rBV2	1821	2143	0.17%	0.034%
2	3.536	91	93	97	rVB2	1676	3852	0.31%	0.061%
3	3.598	97	99	101	rBV2	1397	2596	0.21%	0.041%
4	3.722	110	111	116	rBV3	1383	3300	0.26%	0.052%
5	3.846	121	123	126	rBV	881	1799	0.14%	0.028%
6	3.970	132	135	140	rVB3	1929	5615	0.45%	0.088%
7	4.043	140	142	146	rBV	955	1947	0.15%	0.031%
8	4.115	146	149	150	rBV2	684	1102	0.09%	0.017%
9	4.219	156	159	160	rBV	791	1152	0.09%	0.018%
10	4.446	179	181	183	rBV	693	1082	0.09%	0.017%
11	4.860	218	221	227	rBV2	808	2507	0.20%	0.039%
12	5.170	250	251	255	rBV2	598	1277	0.10%	0.020%
13	5.273	255	261	263	rVV2	712	2217	0.18%	0.035%
14	5.325	263	266	270	rVB	594	1801	0.14%	0.028%
15	5.397	270	273	275	rBV2	576	1396	0.11%	0.022%
16	5.449	275	278	281	rBV2	516	1083	0.09%	0.017%
17	5.925	322	324	328	rVV2	657	1392	0.11%	0.022%
18	6.038	333	335	339	rBV2	568	1354	0.11%	0.021%
19	6.204	344	351	353	rBV2	702	2030	0.16%	0.032%
20	6.297	356	360	362	rVB2	504	1223	0.10%	0.019%
21	6.514	378	381	387	rVB	645	2251	0.18%	0.035%
22	6.679	392	397	399	rBV2	699	2286	0.18%	0.036%
23	6.773	404	406	409	rVV2	989	1850	0.15%	0.029%
24	6.897	411	418	424	rVV2	2457	10839	0.86%	0.171%
25	7.000	424	428	438	rVB2	1656	5317	0.42%	0.084%
26	7.352	460	462	466	rBV	988	1759	0.14%	0.028%
27	7.424	466	469	474	rVB3	1245	3624	0.29%	0.057%
28	7.579	475	484	486	rBV	395	1344	0.11%	0.021%
29	7.662	487	492	493	rVB	702	2001	0.16%	0.031%
30	7.682	493	494	497	rBV2	759	1485	0.12%	0.023%
31	7.962	519	521	528	rBV	624	2141	0.17%	0.034%
32	8.137	534	538	543	rVB	528	1619	0.13%	0.025%
33	8.644	582	587	591	rVB	635	2535	0.20%	0.040%
34	8.727	591	595	596	rBV	614	1463	0.12%	0.023%
35	8.902	609	612	614	rVB	644	1179	0.09%	0.019%
36	9.068	623	628	634	rBV2	1044	2743	0.22%	0.043%
37	9.233	641	644	646	rBV	659	1293	0.10%	0.020%
38	9.326	651	653	656	rBV2	552	1167	0.09%	0.018%
39	9.399	656	660	663	rVB2	680	1848	0.15%	0.029%
40	9.626	672	682	689	rBV	150351	383583	30.40%	6.035%
41	9.719	689	691	696	rVB2	818	1598	0.13%	0.025%
42	9.833	696	702	704	rBV2	720	2339	0.19%	0.037%

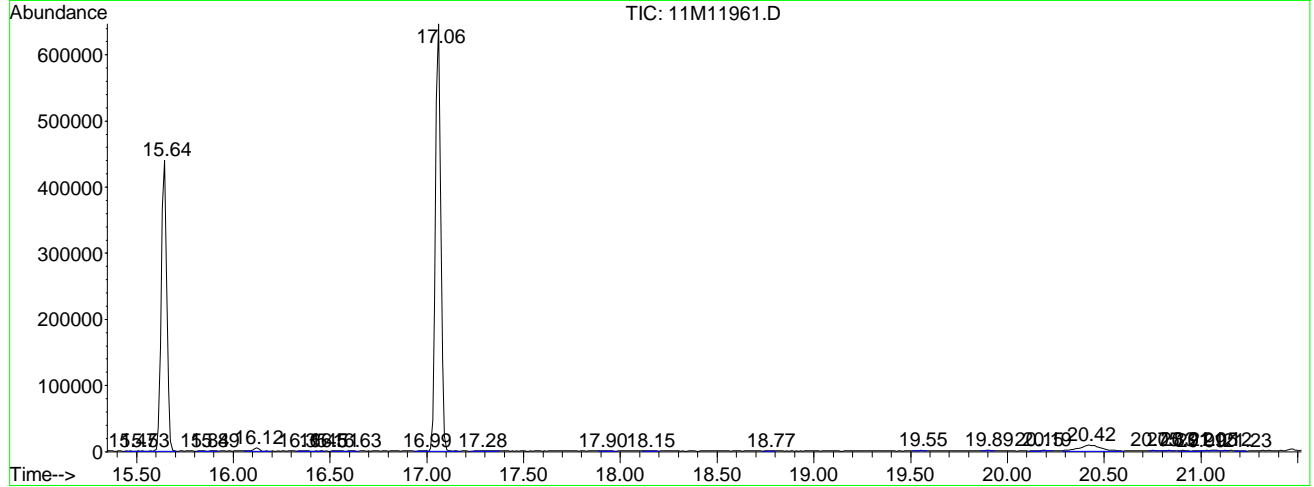
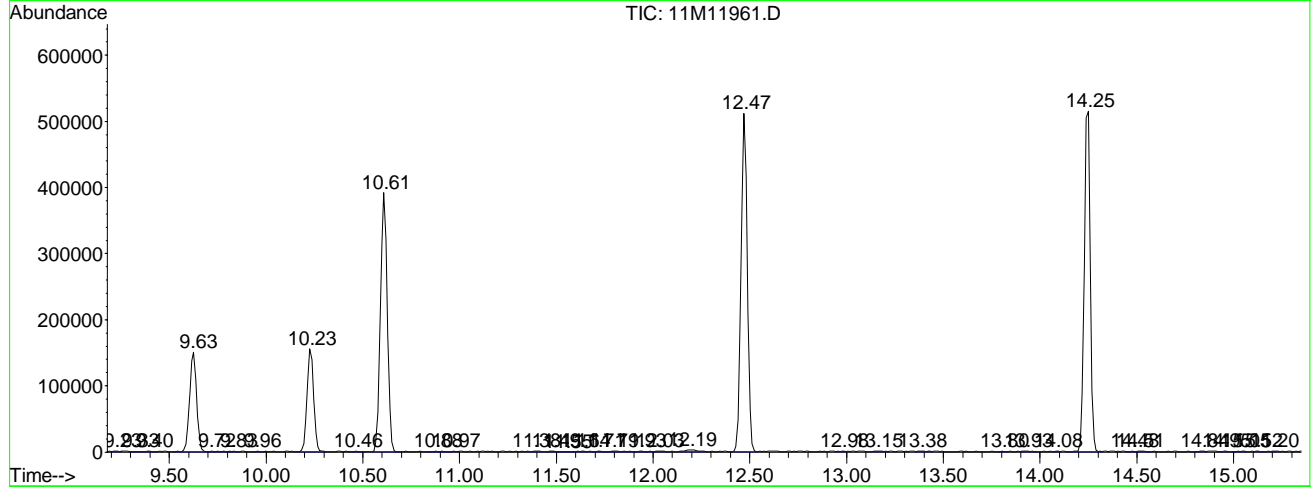
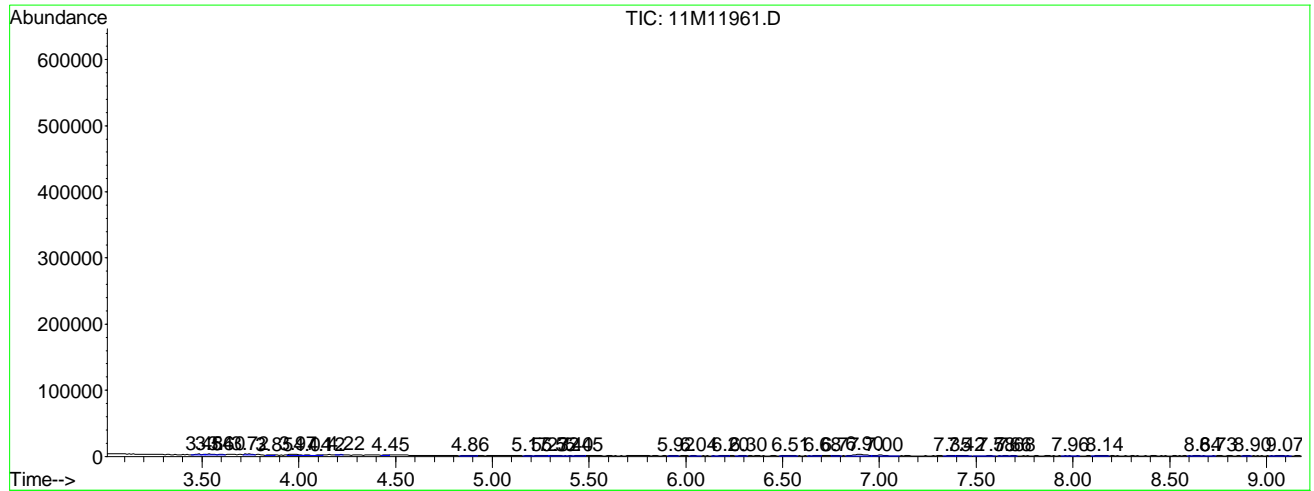
11M11961.D 8260WT.M Tue May 24 13:39:56 2016

Page 1

43	9.957	712	714	716	rBV	594	1116	0.09%	0.018%
44	10.226	733	740	748	rBV	155467	363707	28.83%	5.722%
45	10.464	760	763	767	rBV2	347	1126	0.09%	0.018%
46	10.608	771	777	786	rBV	391978	948175	75.15%	14.918%
47	10.877	798	803	805	rBV	634	1181	0.09%	0.019%
48	10.970	805	812	814	rBV2	416	1323	0.10%	0.021%
49	11.384	848	852	856	rVB	719	2191	0.17%	0.034%
50	11.487	858	862	863	rVB	671	1433	0.11%	0.023%
51	11.549	863	868	870	rBV2	435	1472	0.12%	0.023%
52	11.642	870	877	878	rBV	658	1900	0.15%	0.030%
53	11.715	879	884	890	rVB	506	2205	0.17%	0.035%
54	11.787	890	891	901	rVB2	599	2912	0.23%	0.046%
55	11.932	901	905	909	rBV	602	1707	0.14%	0.027%
56	12.025	909	914	920	rBV2	722	2896	0.23%	0.046%
57	12.190	924	930	939	rVB2	2809	11917	0.94%	0.187%
58	12.470	951	957	964	rBV	511779	1137146	90.13%	17.891%
59	12.976	1003	1006	1008	rBV2	512	1300	0.10%	0.020%
60	13.152	1020	1023	1027	rBV2	435	1232	0.10%	0.019%
61	13.380	1043	1045	1051	rVB	535	1399	0.11%	0.022%
62	13.803	1084	1086	1089	rBV	528	1076	0.09%	0.017%
63	13.927	1095	1098	1103	rBV2	725	2854	0.23%	0.045%
64	14.083	1111	1113	1115	rBV	594	1059	0.08%	0.017%
65	14.248	1119	1129	1136	rBV	514995	1127494	89.36%	17.739%
66	14.475	1148	1151	1153	rVV	630	1140	0.09%	0.018%
67	14.507	1153	1154	1160	rVB	615	1631	0.13%	0.026%
68	14.837	1182	1186	1188	rBV2	515	1360	0.11%	0.021%
69	14.951	1194	1197	1199	rBV2	519	1282	0.10%	0.020%
70	15.055	1201	1207	1208	rVB	550	1508	0.12%	0.024%
71	15.117	1212	1213	1217	rVB	768	1251	0.10%	0.020%
72	15.199	1220	1221	1225	rBV	466	1200	0.10%	0.019%
73	15.468	1244	1247	1250	rVB2	823	1305	0.10%	0.021%
74	15.530	1250	1253	1255	rBV2	530	1367	0.11%	0.022%
75	15.644	1255	1264	1270	rVV	439798	865766	68.62%	13.621%
76	15.840	1280	1283	1285	rVB	570	1175	0.09%	0.018%
77	15.892	1285	1288	1291	rBV	522	1518	0.12%	0.024%
78	16.119	1304	1310	1317	rVB	4613	10209	0.81%	0.161%
79	16.347	1330	1332	1338	rVB2	892	2800	0.22%	0.044%
80	16.450	1338	1342	1344	rBV2	705	1961	0.16%	0.031%
81	16.512	1347	1348	1354	rVV2	503	1594	0.13%	0.025%
82	16.626	1354	1359	1361	rVV	373	1067	0.08%	0.017%
83	16.988	1389	1394	1395	rBV	766	1838	0.15%	0.029%
84	17.060	1395	1401	1412	rVV	646508	1261730	100.00%	19.851%
85	17.278	1417	1422	1431	rVV2	776	3119	0.25%	0.049%
86	17.898	1481	1482	1490	rVB2	495	1123	0.09%	0.018%
87	18.146	1503	1506	1511	rVB2	421	1073	0.09%	0.017%
88	18.766	1563	1566	1569	rBV	778	1770	0.14%	0.028%
89	19.552	1638	1642	1645	rVV	1012	1531	0.12%	0.024%
90	19.893	1672	1675	1679	rBV3	1292	3007	0.24%	0.047%
91	20.152	1696	1700	1702	rBV	906	1925	0.15%	0.030%
92	20.193	1702	1704	1708	rVB2	1176	1819	0.14%	0.029%
93	20.421	1713	1726	1743	rVB3	8773	69234	5.49%	1.089%
94	20.752	1756	1758	1761	rBV2	1054	1468	0.12%	0.023%
95	20.834	1762	1766	1769	rVV2	1162	1612	0.13%	0.025%
96	20.907	1771	1773	1777	rVB2	971	1607	0.13%	0.025%
97	20.989	1777	1781	1782	rBV2	627	1231	0.10%	0.019%
98	21.051	1782	1787	1791	rBV	1371	4362	0.35%	0.069%
99	21.124	1792	1794	1796	rVB2	990	1219	0.10%	0.019%
100	21.227	1799	1804	1805	rVB2	1113	2313	0.18%	0.036%

Sum of corrected areas: 6356068

File : C:\MSDCHEM\1\DATA\051916\11M11961.D
 Operator : JDS
 Acquired : 19 May 2016 16:43 using AcqMethod 8260WT
 Instrument : hpms11
 Sample Name: WG569561-01 BLANK STD 8260
 Misc Info : 1,1
 Vial Number: 4
 Quant File :8260WT.RES (RTE Integrator)



Operator ID: JDS Date Acquired: 19 May 2016 16:43
Data File: C:\MSDCHEM\1\DATA\051916\11M11961.D
Name: WG569561-01 BLANK STD 8260
Misc: 1,1
Method: C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title: 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Library Searched: C:\DATABASE\NIST02.L

TIC Top Hit name	RT	EstConc	Units	Response	--Internal Standard--			
					#	RT	Resp	Conc

Data File : C:\MSDCHEM\1\DATA\052016\11M11987.D Vial: 4
 Acq On : 20 May 2016 16:51 Operator: JDS
 Sample : WG569736-01 BLANK STD 8260 Inst : hpms11
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 24 16:49:38 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	379404	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	342741	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	203827	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.63	111	113122	27.2435	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	108.96%	
43) 1,2-Dichloroethane-d4	10.23	65	135186	28.5534	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	114.20%	
57) Toluene-d8	12.47	98	383473	25.7501	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	103.00%	
78) p-Bromofluorobenzene	15.64	95	156433	24.8971	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	99.60%	
Target Compounds						
3) Chloromethane	3.72	50	646	0.1357	ug/L	Qvalue 97
18) Methyl acetate	7.02	43	1307	Below Cal	#	71
36) Tetrahydrofuran	9.61	42	1478	1.5367	ug/L	# 47

(#) = qualifier out of range (m) = manual integration
 11M11987.D 8260WT.M Tue May 24 16:49:39 2016

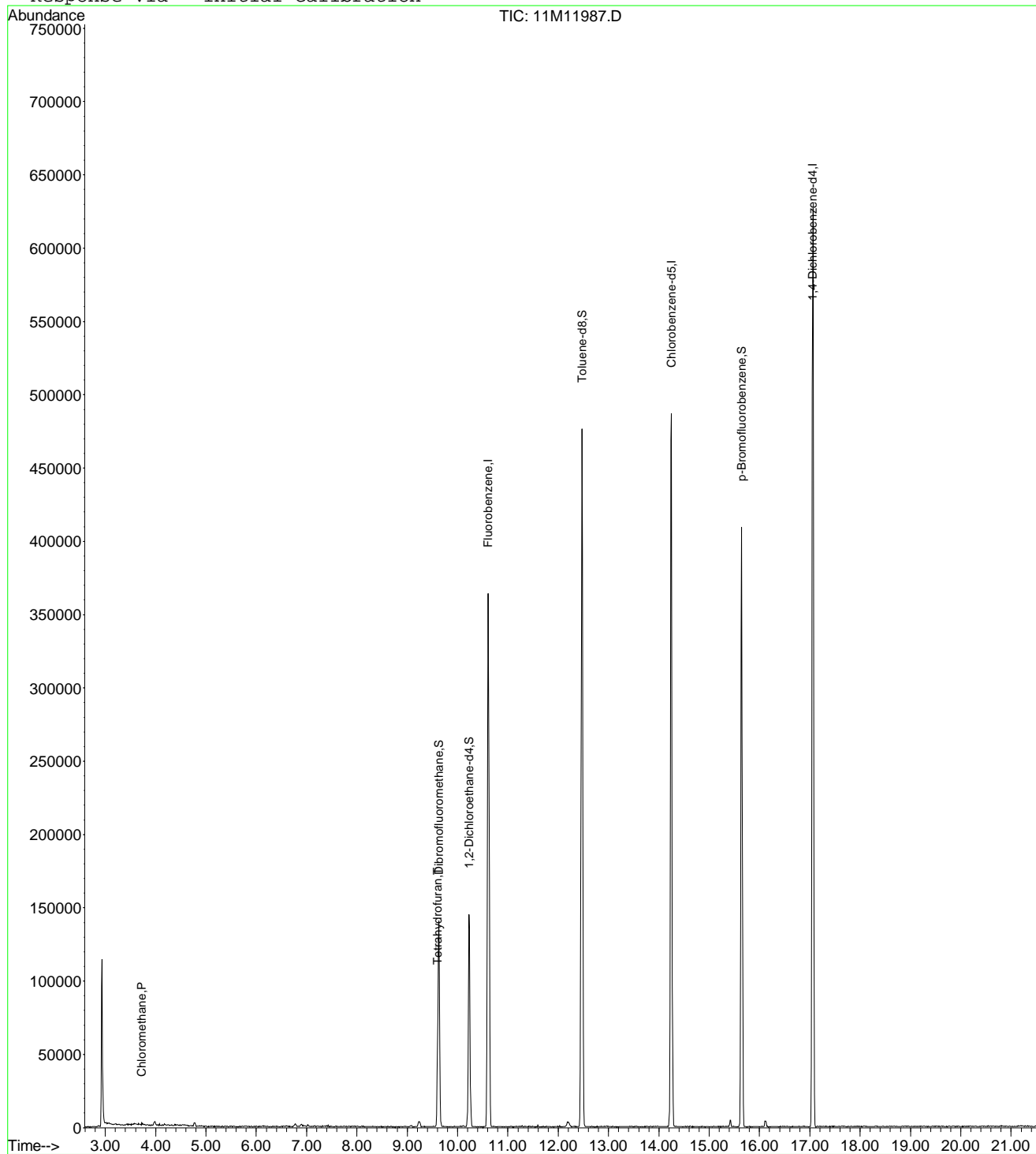
Page 1

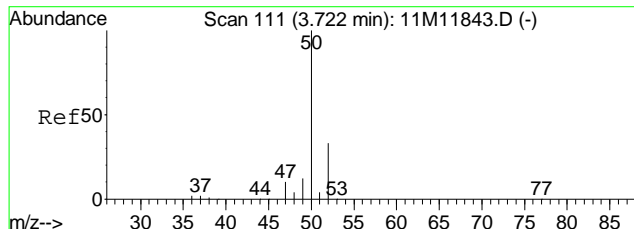
Data File : C:\MSDCHEM\1\DATA\052016\11M11987.D
 Acq On : 20 May 2016 16:51
 Sample : WG569736-01 BLANK STD 8260
 Misc : 1,1
 MS Integration Params: rteint.p
 Quant Time: May 24 16:49 2016

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

Quant Results File: 8260WT.RES

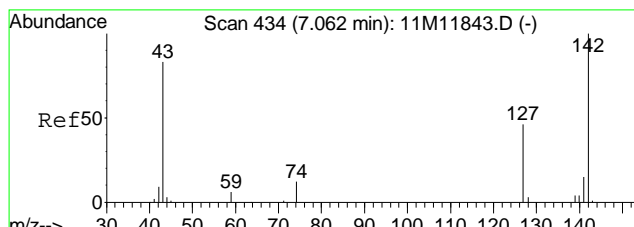
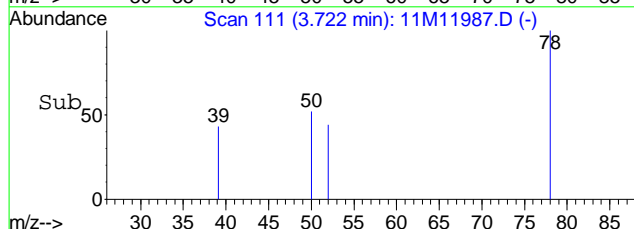
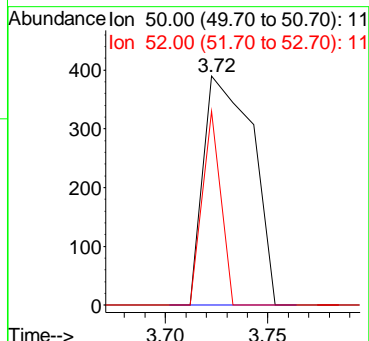
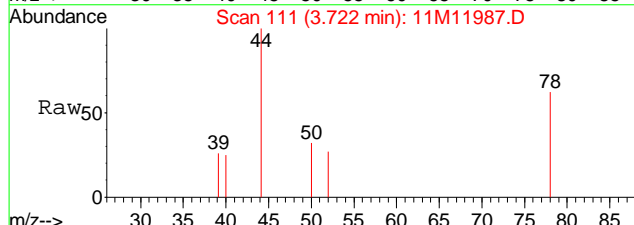
Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration





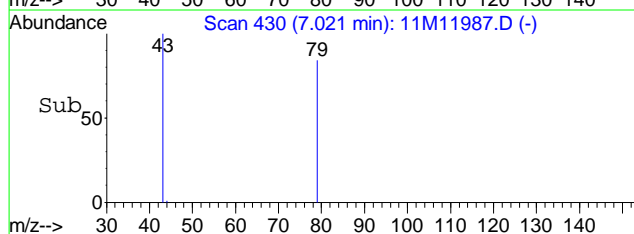
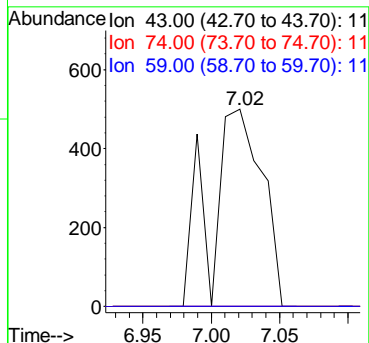
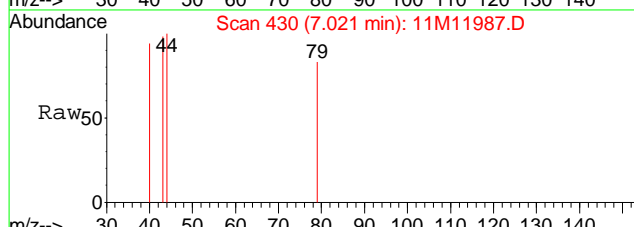
#3
 Chloromethane
 Concen: 0.14 ug/L
 RT: 3.72 min Scan# 111
 Delta R.T. 0.00 min
 Lab File: 11M11987.D
 Acq: 20 May 2016 16:51

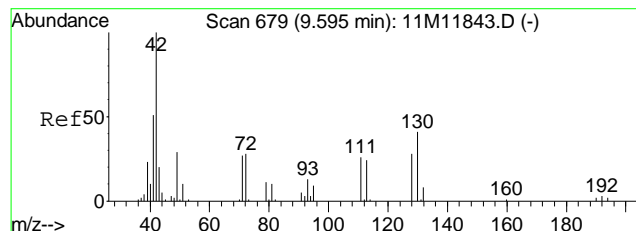
Tgt Ion	Resp	Lower	Upper
50	100		
52	31.7	20.0	46.6



#18
 Methyl acetate
 Concen: Below Cal
 RT: 7.02 min Scan# 430
 Delta R.T. -0.04 min
 Lab File: 11M11987.D
 Acq: 20 May 2016 16:51

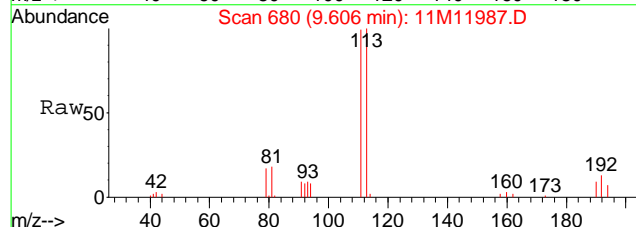
Tgt Ion	Resp	Lower	Upper
43	100		
74	0.0	8.2	19.0#
59	0.0	3.9	9.1#



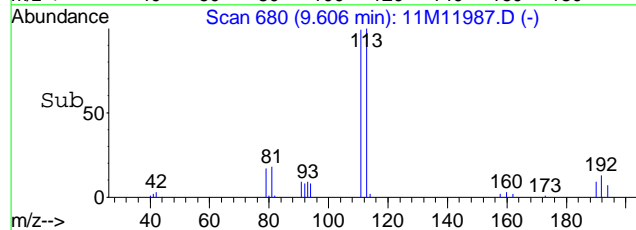
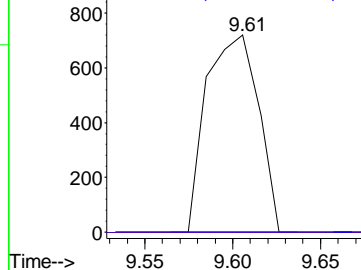


#36
 Tetrahydrofuran
 Concen: 1.54 ug/L
 RT: 9.61 min Scan# 680
 Delta R.T. 0.01 min
 Lab File: 11M11987.D
 Acq: 20 May 2016 16:51

Tgt Ion	Ratio	Lower	Upper
42	100		
71	0.0	16.4	38.2#
72	0.0	16.6	38.8#



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\052016\11M11987.D Vial: 4
 Acq On : 20 May 2016 16:51 Operator: JDS
 Sample : WG569736-01 BLANK STD 8260 Inst : hpms11
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Smoothing : ON Filtering: 5
 Sampling : 1 Min Area: 100 Area counts
 Start Thrs: 0.2 Max Peaks: 100
 Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
 Peak separation: 5

Signal : TIC

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.433	80	83	85	rVB	870	1357	0.11%	0.023%
2	3.464	85	86	89	rBV2	883	1166	0.10%	0.020%
3	3.722	110	111	115	rBV2	1457	2454	0.20%	0.042%
4	3.981	133	136	142	rVB3	2774	6083	0.51%	0.103%
5	4.177	152	155	158	rBV2	1207	2122	0.18%	0.036%
6	4.384	172	175	178	rBV	939	1582	0.13%	0.027%
7	4.767	210	212	216	rVB2	2319	4779	0.40%	0.081%
8	4.994	231	234	239	rBV2	691	2287	0.19%	0.039%
9	5.098	239	244	245	rBV2	475	1484	0.12%	0.025%
10	5.232	253	257	259	rBV2	538	1179	0.10%	0.020%
11	5.325	264	266	268	rBV	754	1293	0.11%	0.022%
12	5.366	268	270	273	rBV2	584	1122	0.09%	0.019%
13	5.480	277	281	282	rBV2	528	1171	0.10%	0.020%
14	5.542	285	287	293	rBV	527	1673	0.14%	0.028%
15	5.718	301	304	307	rBV2	605	1606	0.13%	0.027%
16	5.790	307	311	315	rVV2	547	1785	0.15%	0.030%
17	5.894	319	321	324	rVB	539	1078	0.09%	0.018%
18	5.956	324	327	329	rVB	779	1190	0.10%	0.020%
19	6.008	329	332	335	rBV2	730	1999	0.17%	0.034%
20	6.142	341	345	347	rVV	803	1802	0.15%	0.031%
21	6.504	376	380	382	rVB2	683	1419	0.12%	0.024%
22	6.545	382	384	387	rBV2	769	1572	0.13%	0.027%
23	6.773	401	406	410	rBV3	2311	6691	0.56%	0.113%
24	6.897	414	418	423	rVV2	1428	3645	0.30%	0.062%
25	7.031	428	431	434	rVB3	1196	2275	0.19%	0.039%
26	7.166	441	444	446	rVB2	921	1547	0.13%	0.026%
27	7.238	446	451	452	rBV2	604	1856	0.15%	0.031%
28	7.310	457	458	460	rBV	921	1213	0.10%	0.021%
29	7.403	465	467	468	rVV	885	1081	0.09%	0.018%
30	7.486	472	475	481	rVB2	512	2149	0.18%	0.036%
31	7.600	481	486	489	rBV2	539	1899	0.16%	0.032%
32	7.838	506	509	512	rVB	642	1513	0.13%	0.026%
33	8.096	531	534	539	rVB	743	2119	0.18%	0.036%
34	8.189	539	543	545	rBV2	485	1419	0.12%	0.024%
35	8.489	567	572	575	rBV2	621	1442	0.12%	0.024%
36	8.561	576	579	582	rVB2	528	1265	0.11%	0.021%
37	8.613	582	584	587	rBV	634	1346	0.11%	0.023%
38	8.675	587	590	594	rVB2	758	2154	0.18%	0.037%
39	8.737	594	596	598	rVB2	923	1366	0.11%	0.023%
40	8.779	598	600	603	rBV2	954	2408	0.20%	0.041%
41	8.892	606	611	612	rBV2	582	1525	0.13%	0.026%
42	8.954	616	617	623	rVV	523	1440	0.12%	0.024%

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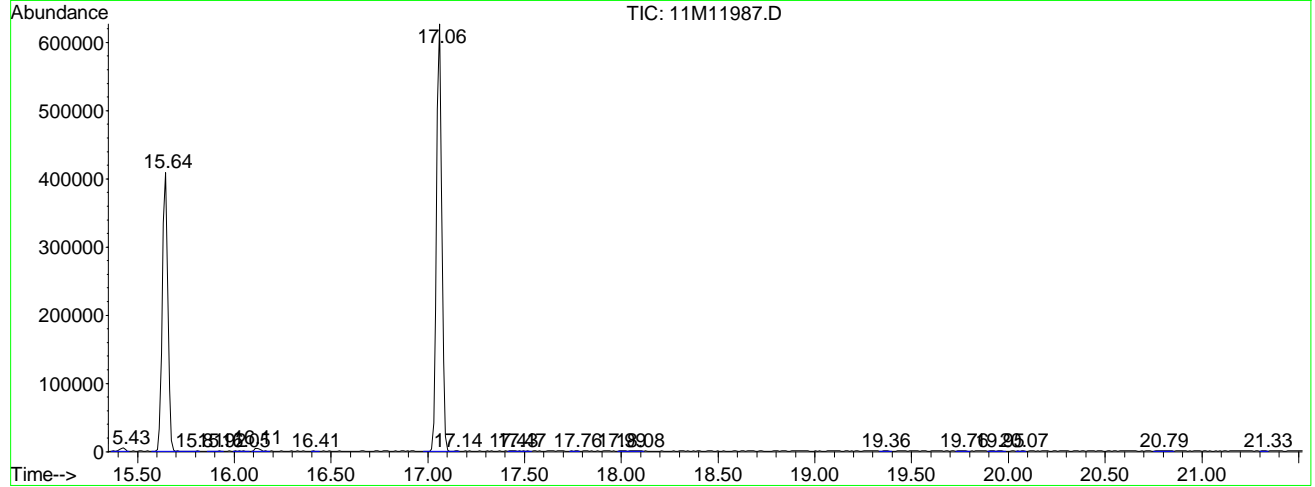
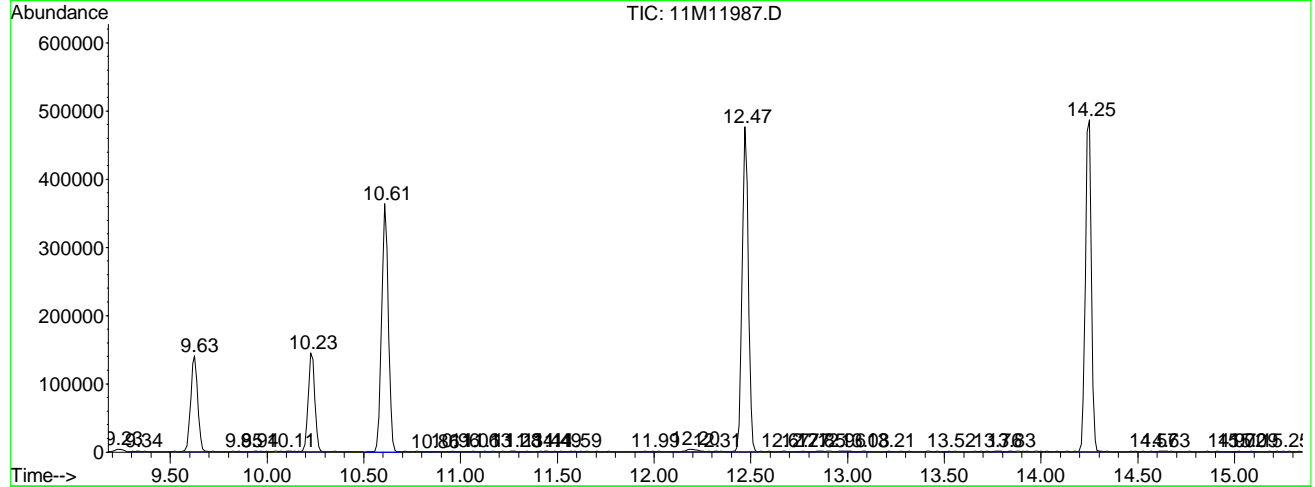
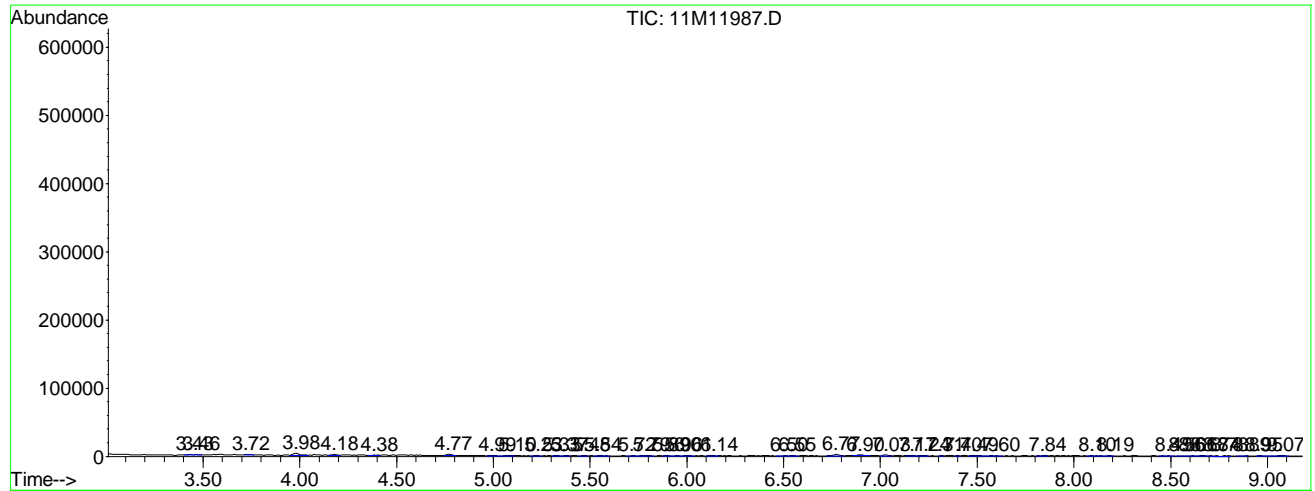
43	9.068	623	628	632	rVB2	1083	3245	0.27%	0.055%
44	9.233	635	644	649	rBV4	3697	12490	1.04%	0.212%
45	9.337	649	654	655	rVB2	596	1383	0.12%	0.023%
46	9.626	674	682	689	rVB	140218	355815	29.61%	6.035%
47	9.854	703	704	709	rVB2	556	1073	0.09%	0.018%
48	9.937	709	712	716	rBV2	585	2001	0.17%	0.034%
49	10.112	726	729	733	rBV	592	1044	0.09%	0.018%
50	10.226	733	740	747	rVB	144915	337491	28.08%	5.724%
51	10.609	767	777	784	rBV	364441	869667	72.36%	14.750%
52	10.857	796	801	804	rVB2	418	1501	0.12%	0.025%
53	10.960	808	811	814	rVB	435	1253	0.10%	0.021%
54	11.064	817	821	824	rVB2	680	2087	0.17%	0.035%
55	11.126	826	827	830	rBV	600	1146	0.10%	0.019%
56	11.281	839	842	844	rVB2	948	1559	0.13%	0.026%
57	11.343	844	848	850	rBV	775	1669	0.14%	0.028%
58	11.436	854	857	859	rBV2	605	1397	0.12%	0.024%
59	11.488	859	862	867	rVB	657	2017	0.17%	0.034%
60	11.591	867	872	877	rBV2	1230	2404	0.20%	0.041%
61	11.994	903	911	912	rBV	622	2515	0.21%	0.043%
62	12.201	919	931	937	rVB	3509	16344	1.36%	0.277%
63	12.315	938	942	944	rVB	577	1433	0.12%	0.024%
64	12.470	947	957	964	rBV	476453	1056678	87.92%	17.922%
65	12.666	974	976	978	rVB	715	1124	0.09%	0.019%
66	12.770	982	986	988	rBV	660	1117	0.09%	0.019%
67	12.852	988	994	997	rBV2	658	2464	0.21%	0.042%
68	12.956	1003	1004	1014	rVB2	778	2935	0.24%	0.050%
69	13.080	1014	1016	1020	rVB2	617	1537	0.13%	0.026%
70	13.214	1027	1029	1031	rBV2	582	1211	0.10%	0.021%
71	13.524	1055	1059	1061	rBV	596	1502	0.12%	0.025%
72	13.762	1079	1082	1086	rBV	554	1872	0.16%	0.032%
73	13.835	1086	1089	1092	rVB	619	1241	0.10%	0.021%
74	14.248	1121	1129	1136	rVB	486837	1054510	87.74%	17.885%
75	14.569	1158	1160	1163	rVB	601	1017	0.08%	0.017%
76	14.631	1163	1166	1169	rVB2	708	1993	0.17%	0.034%
77	14.972	1194	1199	1202	rBV	549	2083	0.17%	0.035%
78	15.024	1202	1204	1208	rBV	480	1343	0.11%	0.023%
79	15.086	1208	1210	1213	rBV2	505	1133	0.09%	0.019%
80	15.251	1224	1226	1227	rBV	669	992	0.08%	0.017%
81	15.427	1237	1243	1246	rVB2	4369	8833	0.73%	0.150%
82	15.644	1257	1264	1274	rVB	409197	810046	67.40%	13.739%
83	15.809	1274	1280	1281	rBV	720	2027	0.17%	0.034%
84	15.923	1285	1291	1293	rBV2	436	1892	0.16%	0.032%
85	16.047	1298	1303	1306	rBV2	397	1554	0.13%	0.026%
86	16.109	1307	1309	1316	rVB4	4312	10007	0.83%	0.170%
87	16.409	1337	1338	1341	rBV2	629	1139	0.09%	0.019%
88	17.061	1393	1401	1407	rVB	627073	1201864	100.00%	20.384%
89	17.143	1407	1409	1411	rBV2	651	1370	0.11%	0.023%
90	17.433	1435	1437	1440	rVB2	634	1399	0.12%	0.024%
91	17.474	1440	1441	1447	rBV2	687	2218	0.18%	0.038%
92	17.764	1466	1469	1471	rBV2	583	1428	0.12%	0.024%
93	17.991	1490	1491	1495	rVB	640	1362	0.11%	0.023%
94	18.084	1495	1500	1503	rBV2	695	2702	0.22%	0.046%
95	19.356	1621	1623	1627	rBV2	599	1855	0.15%	0.031%
96	19.759	1659	1662	1666	rBV2	620	1930	0.16%	0.033%
97	19.945	1675	1680	1684	rBV2	855	3407	0.28%	0.058%
98	20.069	1689	1692	1694	rBV2	641	1589	0.13%	0.027%
99	20.793	1758	1762	1768	rBV2	618	1556	0.13%	0.026%
100	21.331	1811	1814	1815	rBV	718	1127	0.09%	0.019%

Sum of corrected areas: 5896147

11M11987.D 8260WT.M Tue May 24 09:48:40 2016

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File : C:\MSDCHEM\1\DATA\052016\11M11987.D
 Operator : JDS
 Acquired : 20 May 2016 16:51 using AcqMethod 8260WT
 Instrument : hpms11
 Sample Name: WG569736-01 BLANK STD 8260
 Misc Info : 1,1
 Vial Number: 4
 Quant File :8260WT.RES (RTE Integrator)



Operator ID: JDS Date Acquired: 20 May 2016 16:51
Data File: C:\MSDCHEM\1\DATA\052016\11M11987.D
Name: WG569736-01 BLANK STD 8260
Misc: 1,1
Method: C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title: 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Library Searched: C:\DATABASE\NIST02.L

TIC Top Hit name	RT	EstConc	Units	Response	--Internal Standard--			
					#	RT	Resp	Conc

Data File : C:\MSDCHEM\1\DATA\052016\11M12004.D Vial: 21
 Acq On : 21 May 2016 1:52 Operator: JDS
 Sample : WG569736-06 BLANK STD 624 Inst : hpms11
 Misc : 2,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 24 16:50:07 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	334560	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	307287	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	181438	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.63	111	104662	28.5846	ug/L	0.00
Spiked Amount	25.000	Range	86 - 118	Recovery	=	114.32%
43) 1,2-Dichloroethane-d4	10.23	65	126634	30.3322	ug/L	0.00
Spiked Amount	25.000	Range	80 - 120	Recovery	=	121.32%#
57) Toluene-d8	12.47	98	338361	25.3423	ug/L	0.00
Spiked Amount	25.000	Range	88 - 110	Recovery	=	101.36%
78) p-Bromofluorobenzene	15.64	95	137657	24.6123	ug/L	0.00
Spiked Amount	25.000	Range	86 - 115	Recovery	=	98.44%
Target Compounds						
18) Methyl acetate	7.01	43	210	Below Cal	#	71
36) Tetrahydrofuran	9.61	42	943	1.1119	ug/L	# 47

(#) = qualifier out of range (m) = manual integration
 11M12004.D 8260WT.M Tue May 24 16:50:08 2016

Page 1

Data File : C:\MSDCHEM\1\DATA\052016\11M12004.D

Vial: 21

Acq On : 21 May 2016 1:52

Operator: JDS

Sample : WG569736-06 BLANK STD 624

Inst : hpms11

Misc : 2,1

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: May 24 16:50 2016

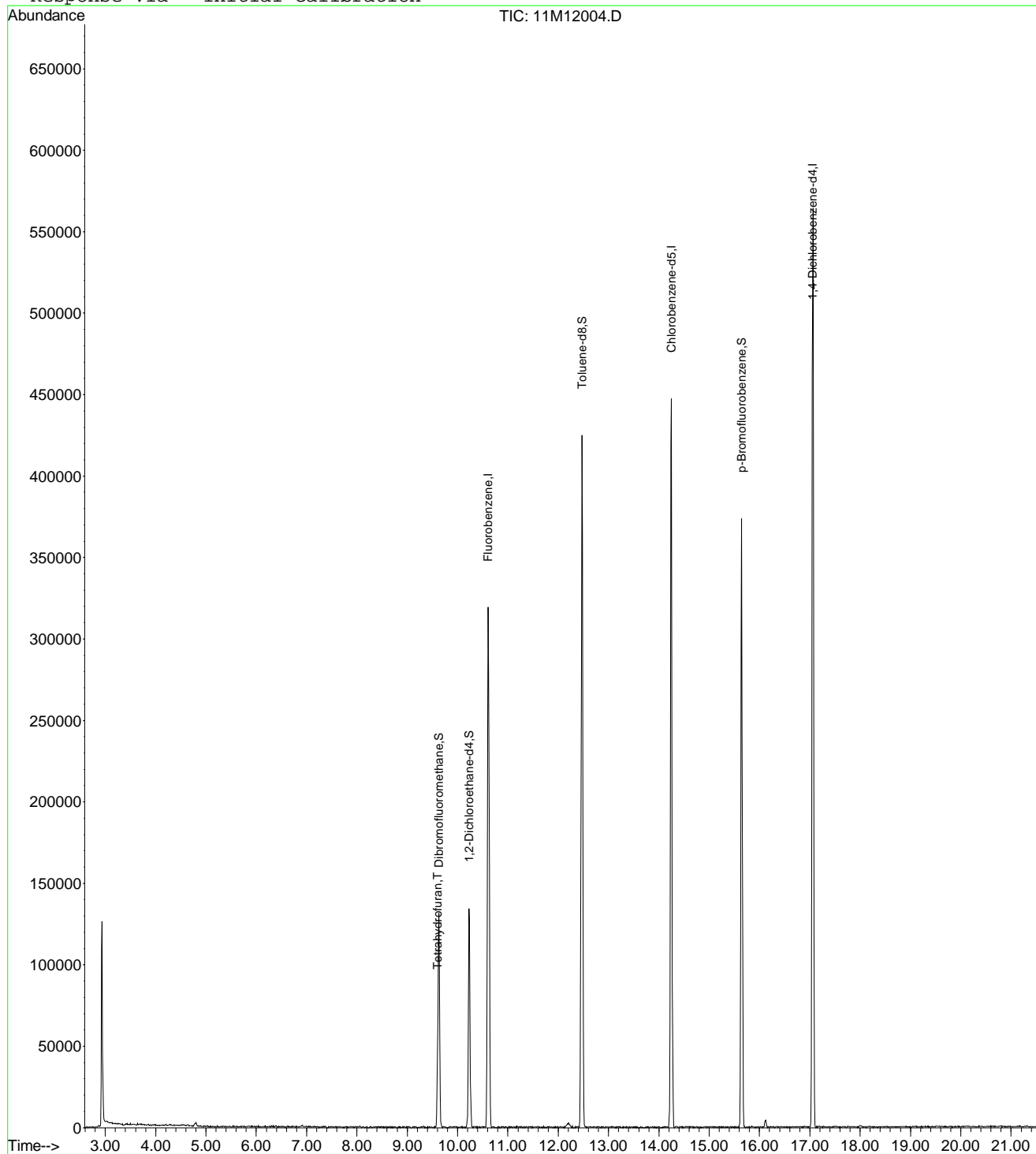
Quant Results File: 8260WT.RES

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

Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11

Last Update : Sat May 14 18:45:57 2016

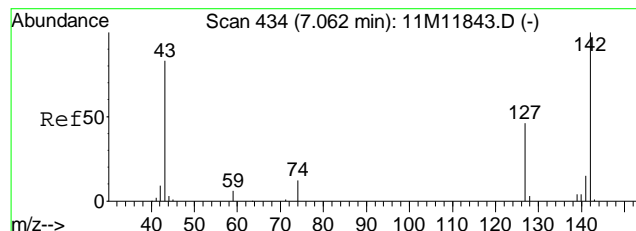
Response via : Initial Calibration



11M12004.D 8260WT.M

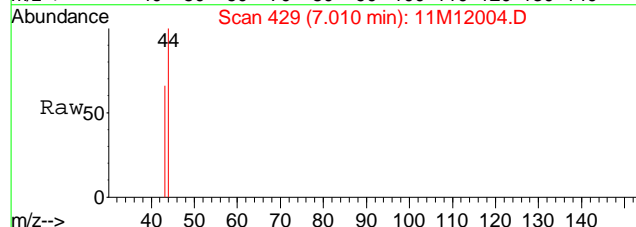
Tue May 24 16:50:08 2016

Page 2

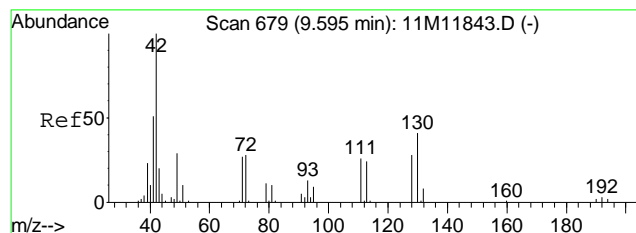
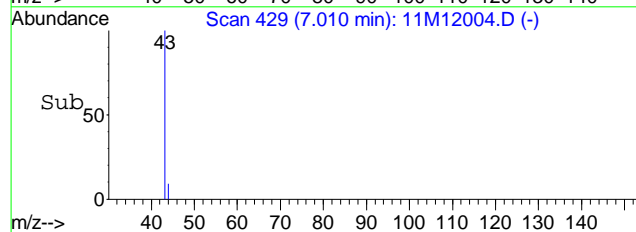
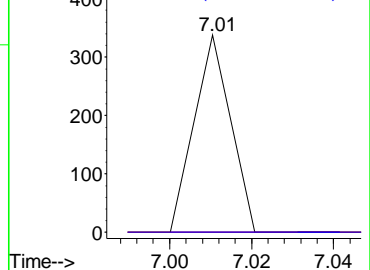


#18
Methyl acetate
Concen: Below Cal
RT: 7.01 min Scan# 429
Delta R.T. -0.05 min
Lab File: 11M12004.D
Acq: 21 May 2016 1:52

Tgt Ion: 43 Resp: 210
Ion Ratio Lower Upper
43 100
74 0.0 8.2 19.0#
59 0.0 3.9 9.1#

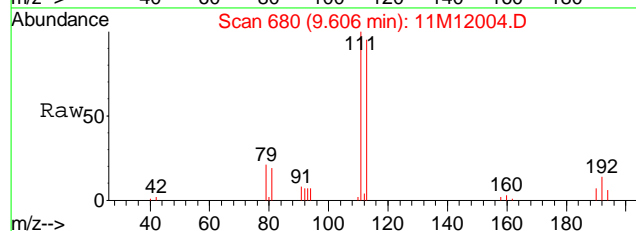


Abundance Ion 43.00 (42.70 to 43.70): 11
Ion 74.00 (73.70 to 74.70): 11
Ion 59.00 (58.70 to 59.70): 11

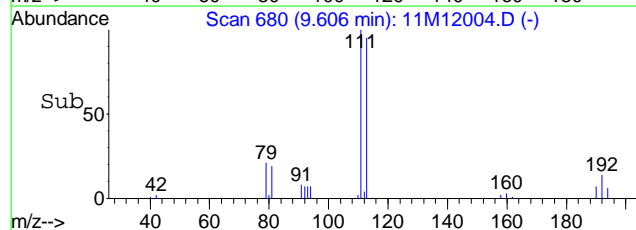
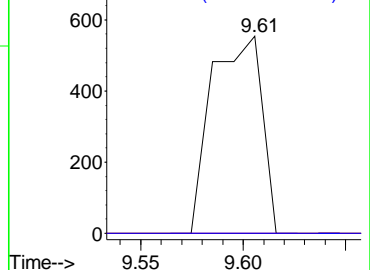


#36
Tetrahydrofuran
Concen: 1.11 ug/L
RT: 9.61 min Scan# 680
Delta R.T. 0.01 min
Lab File: 11M12004.D
Acq: 21 May 2016 1:52

Tgt Ion: 42 Resp: 943
Ion Ratio Lower Upper
42 100
71 0.0 16.4 38.2#
72 0.0 16.6 38.8#



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\051816\11M11936.D Vial: 10
 Acq On : 18 May 2016 19:17 Operator: JDS
 Sample : WG569356-02 20ug/L LCS STD 8260 Inst : hpms11
 Misc : 1,1 STD76207 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 19 09:49:46 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	447415	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	392105	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	232640	25.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.63	111	132555	27.0709	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	108.28%	
43) 1,2-Dichloroethane-d4	10.23	65	147605	26.4373	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	105.76%	
57) Toluene-d8	12.47	98	442044	25.9462	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	103.80%	
78) p-Bromofluorobenzene	15.64	95	178438	24.8820	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	99.52%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.27	85	151405	21.5979	ug/L	98
3) Chloromethane	3.72	50	108478	19.3214	ug/L	99
4) Vinyl Chloride	3.95	62	101962	21.8686	ug/L	98
5) 1,3-Butadiene	3.99	54	80837	17.4363	ug/L	100
6) Bromomethane	4.85	94	69608	21.7137	ug/L	99
7) Chloroethane	5.00	64	67027	22.3742	ug/L	99
8) Trichlorofluoromethane	5.49	101	194190	20.8961	ug/L	100
9) Diethyl ether	6.01	59	358032	104.1722	ug/L	96
10) Isoprene	6.04	67	132873	23.1970	ug/L	99
11) Acrolein	6.23	56	39242	85.7338	ug/L	98
12) 1,1,2-Trichloro-1,2,2-Trif	6.26	101	96062	21.3029	ug/L	100
13) Acetone	6.34	43	21789	20.5090	ug/L	98
14) 1,1-Dichloroethene	6.56	61	160197	19.5583	ug/L	100
15) Tert-Butyl Alcohol	6.66	59	54542	185.6003	ug/L	98
16) Dimethyl Sulfide	6.81	62	125352	38.3217	ug/L	99
17) Iodomethane	7.06	142	110194	30.4060	ug/L	99
18) Methyl acetate	7.06	43	61233	17.6671	ug/L	98
19) Methylene Chloride	7.31	84	85146	20.0864	ug/L	98
20) Carbon Disulfide	7.36	76	283636	20.6847	ug/L	100
21) Acrylonitrile	7.49	53	29445	20.6711	ug/L	97
22) Methyl Tert Butyl Ether	7.52	73	230162	21.7695	ug/L	98
23) trans-1,2-Dichloroethene	7.74	96	91690	20.2266	ug/L	98
24) n-Hexane	7.82	57	149586	19.8122	ug/L	99
25) Diisopropyl ether	8.15	45	1976578	104.9146	ug/L	98
26) Vinyl Acetate	8.31	43	85388	13.5404	ug/L	99
27) 1,1-Dichloroethane	8.34	63	176086	19.3592	ug/L	98
28) Ethyl-Tert-Butyl ether	8.70	59	1569880	102.3788	ug/L	99
29) 2-Butanone	8.87	43	32447	20.2018	ug/L	98
30) Propionitrile	8.97	54	46557	98.9685	ug/L	99
31) 2,2-Dichloropropane	9.09	77	140899	19.7987	ug/L	100
32) cis-1,2-Dichloroethene	9.15	96	103381	20.6835	ug/L	99
33) Chloroform	9.35	83	179269	20.0699	ug/L	99
34) 1-Bromopropane	9.48	122	25852	29.3796	ug/L	94
35) Bromochloromethane	9.57	130	65115	21.9360	ug/L	95
36) Tetrahydrofuran	9.60	42	101048	89.0936	ug/L	97
38) 1,1,1-Trichloroethane	9.85	97	186825	21.2543	ug/L	98
39) Cyclohexane	9.88	56	203911	21.2862	ug/L	98
40) 1,1-Dichloropropene	10.04	75	126166	20.1026	ug/L	99
41) Carbon Tetrachloride	10.17	117	179811	20.9489	ug/L	98
42) Tert-Amyl-Methyl ether	10.13	73	1135982	106.6140	ug/L	99

(#) = qualifier out of range (m) = manual integration
 11M11936.D 8260WT.M Thu May 19 09:49:47 2016

Data File : C:\MSDCHEM\1\DATA\051816\11M11936.D Vial: 10
 Acq On : 18 May 2016 19:17 Operator: JDS
 Sample : WG569356-02 20ug/L LCS STD 8260 Inst : hpms11
 Misc : 1,1 STD76207 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 19 09:49:46 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44) 1,2-Dichloroethane	10.34	62	156846	21.6201	ug/L	98
45) Benzene	10.38	78	343092	19.9691	ug/L	100
46) Trichloroethene	11.08	130	119449	21.3894	ug/L	100
47) Methylcyclohexane	11.17	83	144441	20.9578	ug/L	100
48) 1,2-Dichloropropane	11.29	63	96774	20.3479	ug/L	95
49) 1,4-Dioxane	11.56	88	3613	142.3915	ug/L	96
50) Bromodichloromethane	11.57	83	142194	21.2972	ug/L	99
51) Dibromomethane	11.65	93	50262	20.2803	ug/L	99
52) 2-Chloroethyl Vinyl Ether	11.84	63	45181	19.2750	ug/L	99
53) 4-Methyl-2-Pentanone	11.87	58	25906	19.5950	ug/L	98
54) cis-1,3-Dichloropropene	12.17	75	148563	22.2465	ug/L	99
55) Dimethyl Disulfide	12.42	79	84215	20.9566	ug/L	96
58) Toluene	12.56	91	404081	20.3568	ug/L	99
59) Ethyl Methacrylate	12.65	69	85742	20.2292	ug/L	95
60) trans-1,3-Dichloropropene	12.73	75	125021	19.6221	ug/L	99
61) 1,1,2-Trichloroethane	12.93	97	72272	20.5327	ug/L	97
62) 2-Hexanone	12.86	43	46589	18.0220	ug/L	98
63) 1,3-Dichloropropane	13.21	76	121561	21.5061	ug/L	97
64) Tetrachloroethene	13.34	164	90099	19.5186	ug/L	100
65) Dibromochloromethane	13.59	129	111348	20.7401	ug/L	99
66) 1,2-Dibromoethane	13.82	107	69688	19.7611	ug/L	99
67) 1-Chlorohexane	13.89	91	134366	20.5315	ug/L	97
68) Chlorobenzene	14.29	112	303414	20.8653	ug/L	100
69) 1,1,1,2-Tetrachloroethane	14.32	131	121050	20.5729	ug/L	99
70) Ethylbenzene	14.31	106	148633	19.9330	ug/L	94
71) m-,p-Xylene	14.39	106	376496	41.5325	ug/L	99
72) o-Xylene	14.92	106	184050	20.8622	ug/L	99
73) Styrene	14.95	104	304775	20.9097	ug/L	100
74) Bromoform	15.43	173	60944	18.7294	ug/L	98
75) Isopropylbenzene	15.31	105	487228	20.8835	ug/L	100
77) 1,1,2,2-Tetrachloroethane	15.52	83	66700	18.4113	ug/L	99
79) 1,2,3-Trichloropropane	15.70	110	25826	19.2257	ug/L	87
80) trans-1,4-Dichloro-2-Butene	15.74	53	21652	12.9589	ug/L	61
81) n-Propylbenzene	15.79	91	573079	21.2707	ug/L	99
82) Bromobenzene	15.92	156	138791	19.6317	ug/L	99
83) 1,3,5-Trimethylbenzene	15.95	105	430483	20.9382	ug/L	99
84) 2-Chlorotoluene	16.05	91	394821	20.9223	ug/L	100
85) 4-Chlorotoluene	16.09	91	349230	20.6600	ug/L	100
86) a-Methylstyrene	16.34	118	243911	22.4882	ug/L	99
87) tert-Butylbenzene	16.39	134	93321	21.4245	ug/L	97
88) 1,2,4-Trimethylbenzene	16.44	105	436268	20.8383	ug/L	99
89) sec-Butylbenzene	16.65	105	515197	20.8692	ug/L	100
90) p-Isopropyltoluene	16.79	119	467177	20.6029	ug/L	100
91) 1,3-Dichlorobenzene	16.98	146	279369	20.4602	ug/L	99
92) 1,4-Dichlorobenzene	17.10	146	282903	20.4406	ug/L	99
93) n-Butylbenzene	17.28	91	395607	19.7990	ug/L	99
94) 1,2-Dichlorobenzene	17.57	146	256682	20.6364	ug/L	99
95) 1,2-Dibromo-3-Chloropropane	18.49	75	13825	17.3528	ug/L	96
96) 1,2,4-Trichlorobenzene	19.55	180	174995	19.2268	ug/L	99
97) Hexachlorobutadiene	19.69	225	77324	19.2844	ug/L	99
98) Naphthalene	19.90	128	280583	16.6087	ug/L	100
99) 1,2,3-Trichlorobenzene	20.19	180	150976	18.0742	ug/L	98

(#) = qualifier out of range (m) = manual integration
 11M11936.D 8260WT.M Thu May 19 09:49:47 2016

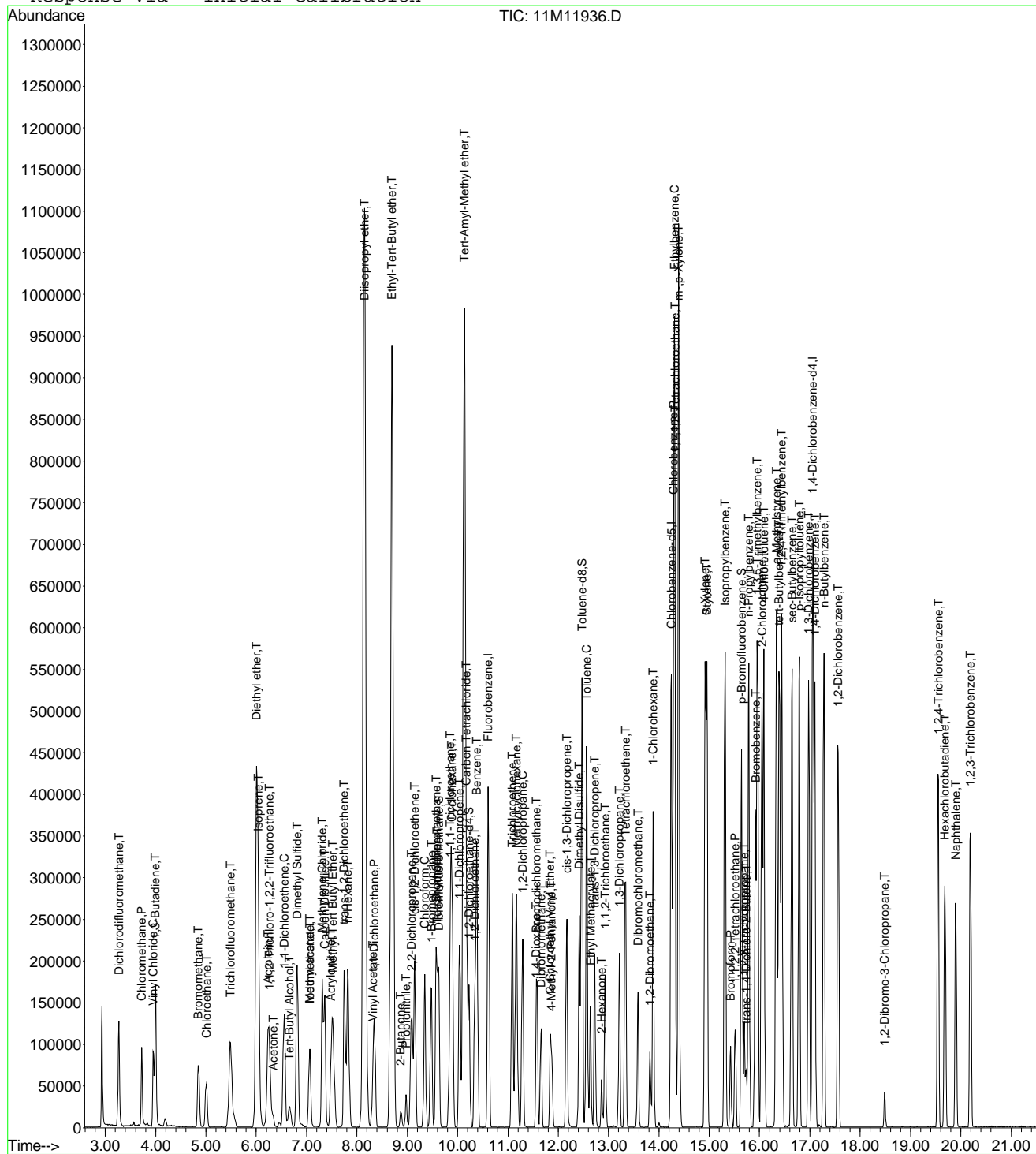
Page 2

Data File : C:\MSDCHEM\1\DATA\051816\11M11936.D
Acq On : 18 May 2016 19:17
Sample : WG569356-02 20ug/L LCS STD 8260
Misc : 1,1 STD76207
MS Integration Params: rteint.p
Quant Time: May 19 9:49 2016

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

Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\051916\11M11962.D Vial: 5
 Acq On : 19 May 2016 17:15 Operator: JDS
 Sample : WG569561-02 20ug/L LCS STD 8260 Inst : hpms11
 Misc : 1,1 STD76207 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 20 09:08:51 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	419033	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	374017	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	227487	25.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.63	111	124431	27.1330	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	108.52%	
43) 1,2-Dichloroethane-d4	10.23	65	144566	27.6468	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	110.60%	
57) Toluene-d8	12.47	98	415361	25.5590	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	102.24%	
78) p-Bromofluorobenzene	15.64	95	171156	24.4072	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	97.64%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.27	85	121597	18.5206	ug/L	99
3) Chloromethane	3.72	50	102178	19.4320	ug/L	98
4) Vinyl Chloride	3.95	62	92483	21.1791	ug/L	100
5) 1,3-Butadiene	3.99	54	78808	18.1500	ug/L	100
6) Bromomethane	4.85	94	63909	21.2862	ug/L	98
7) Chloroethane	5.00	64	58363	20.8016	ug/L	99
8) Trichlorofluoromethane	5.48	101	184954	21.2502	ug/L	98
9) Diethyl ether	6.01	59	344589	107.0518	ug/L	98
10) Isoprene	6.04	67	125082	23.3159	ug/L	97
11) Acrolein	6.23	56	35684	83.2847	ug/L	97
12) 1,1,2-Trichloro-1,2,2-Trif	6.25	101	89936	21.2953	ug/L	98
13) Acetone	6.34	43	22707	22.8207	ug/L	98
14) 1,1-Dichloroethene	6.55	61	149540	19.4938	ug/L	99
15) Tert-Butyl Alcohol	6.66	59	64248	233.4369	ug/L	98
16) Dimethyl Sulfide	6.81	62	118675	38.7378	ug/L	98
17) Iodomethane	7.06	142	102405	30.1876	ug/L	98
18) Methyl acetate	7.06	43	61171	18.9283	ug/L	97
19) Methylene Chloride	7.31	84	79446	20.0111	ug/L	97
20) Carbon Disulfide	7.35	76	264854	20.6233	ug/L	100
21) Acrylonitrile	7.49	53	29868	22.3882	ug/L	99
22) Methyl Tert Butyl Ether	7.53	73	227925	23.0181	ug/L	98
23) trans-1,2-Dichloroethene	7.74	96	87717	20.6608	ug/L	99
24) n-Hexane	7.82	57	134525	19.0243	ug/L	100
25) Diisopropyl ether	8.15	45	1906888	108.0711	ug/L	99
26) Vinyl Acetate	8.31	43	83581	14.0417	ug/L	98
27) 1,1-Dichloroethane	8.34	63	170482	20.0125	ug/L	99
28) Ethyl-Tert-Butyl ether	8.70	59	1512483	105.3165	ug/L	100
29) 2-Butanone	8.87	43	33271	22.1179	ug/L	98
30) Propionitrile	8.97	54	46424	105.3700	ug/L	98
31) 2,2-Dichloropropane	9.09	77	135205	20.2854	ug/L	97
32) cis-1,2-Dichloroethene	9.15	96	97995	20.9339	ug/L	98
33) Chloroform	9.35	83	172452	20.6144	ug/L	99
34) 1-Bromopropane	9.47	122	22870	27.7861	ug/L	97
35) Bromochloromethane	9.57	130	59923	21.5543	ug/L	99
36) Tetrahydrofuran	9.60	42	101335	95.3983	ug/L	99
38) 1,1,1-Trichloroethane	9.85	97	179187	21.7661	ug/L	99
39) Cyclohexane	9.88	56	190134	21.1924	ug/L	98
40) 1,1-Dichloropropene	10.04	75	118023	20.0788	ug/L	99
41) Carbon Tetrachloride	10.17	117	177526	22.0836	ug/L	99
42) Tert-Amyl-Methyl ether	10.13	73	1113762	111.6086	ug/L	100

(#) = qualifier out of range (m) = manual integration
 11M11962.D 8260WT.M Fri May 20 09:08:52 2016

Data File : C:\MSDCHEM\1\DATA\051916\11M11962.D Vial: 5
 Acq On : 19 May 2016 17:15 Operator: JDS
 Sample : WG569561-02 20ug/L LCS STD 8260 Inst : hpms11
 Misc : 1,1 STD76207 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 20 09:08:51 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44) 1,2-Dichloroethane	10.34	62	155086	22.8254	ug/L	97
45) Benzene	10.38	78	325734	20.2429	ug/L	99
46) Trichloroethene	11.08	130	117322	22.4314	ug/L	98
47) Methylcyclohexane	11.17	83	135254	20.9540	ug/L	99
48) 1,2-Dichloropropane	11.29	63	92937	20.8646	ug/L	96
49) 1,4-Dioxane	11.56	88	5521	217.6193	ug/L	99
50) Bromodichloromethane	11.57	83	136158	21.7744	ug/L	100
51) Dibromomethane	11.65	93	48007	20.6824	ug/L	97
52) 2-Chloroethyl Vinyl Ether	11.84	63	47261	21.5280	ug/L	100
53) 4-Methyl-2-Pentanone	11.87	58	25279	20.4158	ug/L	98
54) cis-1,3-Dichloropropene	12.17	75	143298	22.9115	ug/L	99
55) Dimethyl Disulfide	12.42	79	79049	21.0034	ug/L	91
58) Toluene	12.56	91	382535	20.2034	ug/L	100
59) Ethyl Methacrylate	12.64	69	85159	21.0633	ug/L	95
60) trans-1,3-Dichloropropene	12.73	75	128342	21.1175	ug/L	97
61) 1,1,2-Trichloroethane	12.93	97	70412	20.9717	ug/L	99
62) 2-Hexanone	12.86	43	48173	19.5359	ug/L	98
63) 1,3-Dichloropropane	13.21	76	120240	22.3011	ug/L	100
64) Tetrachloroethene	13.34	164	88971	20.2064	ug/L	99
65) Dibromochloromethane	13.59	129	111633	21.7987	ug/L	98
66) 1,2-Dibromoethane	13.82	107	69931	20.7891	ug/L	99
67) 1-Chlorohexane	13.89	91	125560	20.1137	ug/L	99
68) Chlorobenzene	14.29	112	289911	20.9009	ug/L	99
69) 1,1,1,2-Tetrachloroethane	14.32	131	117773	20.9839	ug/L	99
70) Ethylbenzene	14.31	106	143395	20.1605	ug/L	97
71) m-,p-Xylene	14.39	106	357611	41.3571	ug/L	98
72) o-Xylene	14.92	106	177698	21.1163	ug/L	97
73) Styrene	14.95	104	296034	21.2922	ug/L	98
74) Bromoform	15.43	173	63592	20.4883	ug/L	98
75) Isopropylbenzene	15.31	105	479514	21.5468	ug/L	99
77) 1,1,2,2-Tetrachloroethane	15.52	83	68497	19.3356	ug/L	100
79) 1,2,3-Trichloropropane	15.70	110	28027	21.2968	ug/L	88
80) trans-1,4-Dichloro-2-Butene	15.74	53	24408	14.8258	ug/L	81
81) n-Propylbenzene	15.79	91	560224	21.2646	ug/L	100
82) Bromobenzene	15.91	156	137890	19.9460	ug/L	98
83) 1,3,5-Trimethylbenzene	15.95	105	423033	21.0419	ug/L	98
84) 2-Chlorotoluene	16.05	91	387005	20.9727	ug/L	100
85) 4-Chlorotoluene	16.09	91	336142	20.3362	ug/L	99
86) a-Methylstyrene	16.34	118	230221	21.7068	ug/L	97
87) tert-Butylbenzene	16.39	134	91243	21.4219	ug/L	98
88) 1,2,4-Trimethylbenzene	16.44	105	428166	20.9146	ug/L	99
89) sec-Butylbenzene	16.65	105	501459	20.7728	ug/L	100
90) p-Isopropyltoluene	16.79	119	459101	20.7054	ug/L	100
91) 1,3-Dichlorobenzene	16.98	146	272318	20.3956	ug/L	99
92) 1,4-Dichlorobenzene	17.10	146	277760	20.5236	ug/L	100
93) n-Butylbenzene	17.28	91	386276	19.7700	ug/L	100
94) 1,2-Dichlorobenzene	17.57	146	258872	21.2839	ug/L	99
95) 1,2-Dibromo-3-Chloropropane	18.49	75	15753	20.1146	ug/L	94
96) 1,2,4-Trichlorobenzene	19.55	180	182871	20.5473	ug/L	99
97) Hexachlorobutadiene	19.69	225	76364	19.4764	ug/L	99
98) Naphthalene	19.90	128	325532	19.7059	ug/L	100
99) 1,2,3-Trichlorobenzene	20.19	180	166025	20.3261	ug/L	100

(#) = qualifier out of range (m) = manual integration
 11M11962.D 8260WT.M Fri May 20 09:08:52 2016

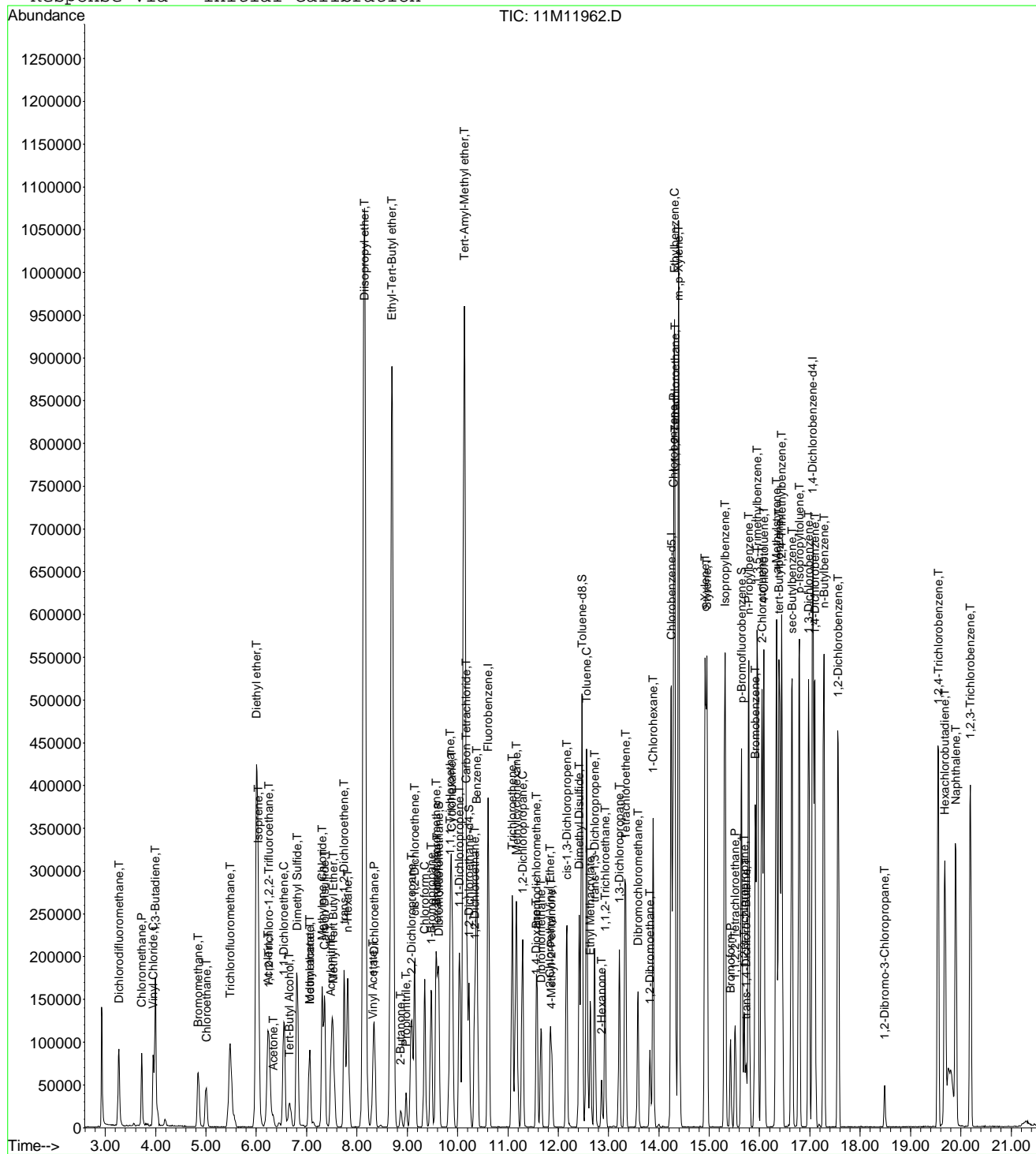
Page 2

Data File : C:\MSDCHEM\1\DATA\051916\11M11962.D
Acq On : 19 May 2016 17:15
Sample : WG569561-02 20ug/L LCS STD 8260
Misc : 1,1 STD76207
MS Integration Params: rteint.p
Quant Time: May 20 9:08 2016

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

Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\052016\11M11988.D Vial: 5
 Acq On : 20 May 2016 17:23 Operator: JDS
 Sample : WG569736-02 20ug/L LCS STD 8260 Inst : hpms11
 Misc : 1,1 STD76207 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 21 08:48:38 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	391095	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	359786	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	219934	25.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.63	111	119569	27.9353	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	111.76%	
43) 1,2-Dichloroethane-d4	10.23	65	142203	29.1376	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	116.56%	
57) Toluene-d8	12.47	98	393192	25.1519	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	100.60%	
78) p-Bromofluorobenzene	15.64	95	165198	24.3666	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	97.48%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.27	85	102171	16.6735	ug/L	99
3) Chloromethane	3.72	50	83132	16.9392	ug/L	98
4) Vinyl Chloride	3.96	62	80368	19.7194	ug/L	99
5) 1,3-Butadiene	3.99	54	77805	19.1991	ug/L	99
6) Bromomethane	4.85	94	55573	19.8320	ug/L	98
7) Chloroethane	5.00	64	53013	20.2446	ug/L	98
8) Trichlorofluoromethane	5.48	101	169657	20.8852	ug/L	100
9) Diethyl ether	6.01	59	299194	99.5890	ug/L	98
10) Isoprene	6.04	67	117384	23.4440	ug/L	97
11) Acrolein	6.23	56	34611	86.4918	ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	6.26	101	83831	21.2677	ug/L	98
13) Acetone	6.34	43	19328	20.8124	ug/L	96
14) 1,1-Dichloroethene	6.56	61	137762	19.2414	ug/L	97
15) Tert-Butyl Alcohol	6.66	59	41354	160.9880	ug/L	99
16) Dimethyl Sulfide	6.81	62	109228	38.2011	ug/L	97
17) Iodomethane	7.06	142	94863	29.9783	ug/L	93
18) Methyl acetate	7.06	43	57330	19.0122	ug/L	98
19) Methylene Chloride	7.31	84	72658	19.6087	ug/L	97
20) Carbon Disulfide	7.36	76	242246	20.2103	ug/L	100
21) Acrylonitrile	7.49	53	27955	22.4512	ug/L	97
22) Methyl Tert Butyl Ether	7.52	73	215054	23.2697	ug/L	97
23) trans-1,2-Dichloroethene	7.75	96	78148	19.7218	ug/L	96
24) n-Hexane	7.82	57	133917	20.2911	ug/L	100
25) Diisopropyl ether	8.15	45	1752411	106.4109	ug/L	98
26) Vinyl Acetate	8.31	43	109286	18.6964	ug/L	99
27) 1,1-Dichloroethane	8.34	63	157323	19.7871	ug/L	100
28) Ethyl-Tert-Butyl ether	8.70	59	1399175	104.3864	ug/L	99
29) 2-Butanone	8.87	43	29587	21.0739	ug/L	99
30) Propionitrile	8.97	54	38706	94.1279	ug/L	100
31) 2,2-Dichloropropane	9.09	77	135848	21.8379	ug/L	100
32) cis-1,2-Dichloroethene	9.15	96	91046	20.8388	ug/L	99
33) Chloroform	9.35	83	161496	20.6838	ug/L	99
34) 1-Bromopropane	9.47	122	21590	28.0975	ug/L	96
35) Bromochloromethane	9.57	130	57236	22.0584	ug/L	97
36) Tetrahydrofuran	9.60	42	89682	90.4592	ug/L	97
38) 1,1,1-Trichloroethane	9.85	97	168860	21.9770	ug/L	98
39) Cyclohexane	9.88	56	178269	21.2893	ug/L	99
40) 1,1-Dichloropropene	10.04	75	109110	19.8885	ug/L	99
41) Carbon Tetrachloride	10.18	117	165517	22.0606	ug/L	98
42) Tert-Amyl-Methyl ether	10.13	73	1040233	111.6868	ug/L	99

(#) = qualifier out of range (m) = manual integration
 11M11988.D 8260WT.M Sat May 21 08:48:39 2016

Page 1

Data File : C:\MSDCHEM\1\DATA\052016\11M11988.D Vial: 5
 Acq On : 20 May 2016 17:23 Operator: JDS
 Sample : WG569736-02 20ug/L LCS STD 8260 Inst : hpms11
 Misc : 1,1 STD76207 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 21 08:48:38 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44) 1,2-Dichloroethane	10.34	62	149267	23.5384	ug/L	97
45) Benzene	10.38	78	297373	19.8005	ug/L	100
46) Trichloroethene	11.09	130	104579	21.4234	ug/L	99
47) Methylcyclohexane	11.17	83	126395	20.9804	ug/L	97
48) 1,2-Dichloropropane	11.29	63	84789	20.3952	ug/L	94
49) 1,4-Dioxane	11.57	88	1806	91.3949	ug/L	98
50) Bromodichloromethane	11.57	83	129670	22.2182	ug/L	98
51) Dibromomethane	11.65	93	47130	21.7551	ug/L	99
52) 2-Chloroethyl Vinyl Ether	11.85	63	43578	21.2684	ug/L	99
53) 4-Methyl-2-Pentanone	11.87	58	23632	20.4490	ug/L	100
54) cis-1,3-Dichloropropene	12.17	75	139121	23.8327	ug/L	99
55) Dimethyl Disulfide	12.42	79	75413	21.4687	ug/L	92
58) Toluene	12.56	91	356882	19.5940	ug/L	99
59) Ethyl Methacrylate	12.65	69	81472	20.9484	ug/L	98
60) trans-1,3-Dichloropropene	12.73	75	119570	20.4524	ug/L	99
61) 1,1,2-Trichloroethane	12.93	97	66912	20.7176	ug/L	98
62) 2-Hexanone	12.86	43	43225	18.2227	ug/L	100
63) 1,3-Dichloropropane	13.21	76	110286	21.2640	ug/L	96
64) Tetrachloroethene	13.34	164	81939	19.3454	ug/L	99
65) Dibromochloromethane	13.59	129	104811	21.2761	ug/L	99
66) 1,2-Dibromoethane	13.82	107	66515	20.5557	ug/L	100
67) 1-Chlorohexane	13.89	91	117024	19.4878	ug/L	97
68) Chlorobenzene	14.29	112	270198	20.2502	ug/L	99
69) 1,1,1,2-Tetrachloroethane	14.32	131	111574	20.6657	ug/L	99
70) Ethylbenzene	14.31	106	134589	19.6709	ug/L	97
71) m-,p-Xylene	14.39	106	327571	39.3814	ug/L	96
72) o-Xylene	14.92	106	166136	20.5233	ug/L	98
73) Styrene	14.95	104	275673	20.6120	ug/L	98
74) Bromoform	15.43	173	62859	21.0532	ug/L	98
75) Isopropylbenzene	15.31	105	444886	20.7815	ug/L	99
77) 1,1,2,2-Tetrachloroethane	15.52	83	66731	19.4840	ug/L	96
79) 1,2,3-Trichloropropane	15.70	110	26296	20.6785	ug/L	87
80) trans-1,4-Dichloro-2-Butene	15.74	53	24091	15.1202	ug/L	81
81) n-Propylbenzene	15.79	91	520115	20.4201	ug/L	100
82) Bromobenzene	15.92	156	129529	19.3801	ug/L	99
83) 1,3,5-Trimethylbenzene	15.95	105	393626	20.2516	ug/L	98
84) 2-Chlorotoluene	16.05	91	356778	19.9986	ug/L	99
85) 4-Chlorotoluene	16.09	91	322400	20.1747	ug/L	99
86) a-Methylstyrene	16.34	118	218003	21.2607	ug/L	98
87) tert-Butylbenzene	16.40	134	84029	20.4057	ug/L	98
88) 1,2,4-Trimethylbenzene	16.44	105	402702	20.3463	ug/L	100
89) sec-Butylbenzene	16.65	105	472948	20.2646	ug/L	100
90) p-Isopropyltoluene	16.79	119	431186	20.1143	ug/L	100
91) 1,3-Dichlorobenzene	16.98	146	255079	19.7605	ug/L	100
92) 1,4-Dichlorobenzene	17.10	146	263427	20.1330	ug/L	100
93) n-Butylbenzene	17.28	91	368200	19.4920	ug/L	99
94) 1,2-Dichlorobenzene	17.57	146	242853	20.6525	ug/L	100
95) 1,2-Dibromo-3-Chloropropane	18.49	75	14353	18.9933	ug/L	92
96) 1,2,4-Trichlorobenzene	19.55	180	166519	19.3525	ug/L	97
97) Hexachlorobutadiene	19.69	225	72175	19.0401	ug/L	98
98) Naphthalene	19.90	128	282541	17.6908	ug/L	100
99) 1,2,3-Trichlorobenzene	20.19	180	147503	18.6786	ug/L	97

(#) = qualifier out of range (m) = manual integration
 11M11988.D 8260WT.M Sat May 21 08:48:39 2016

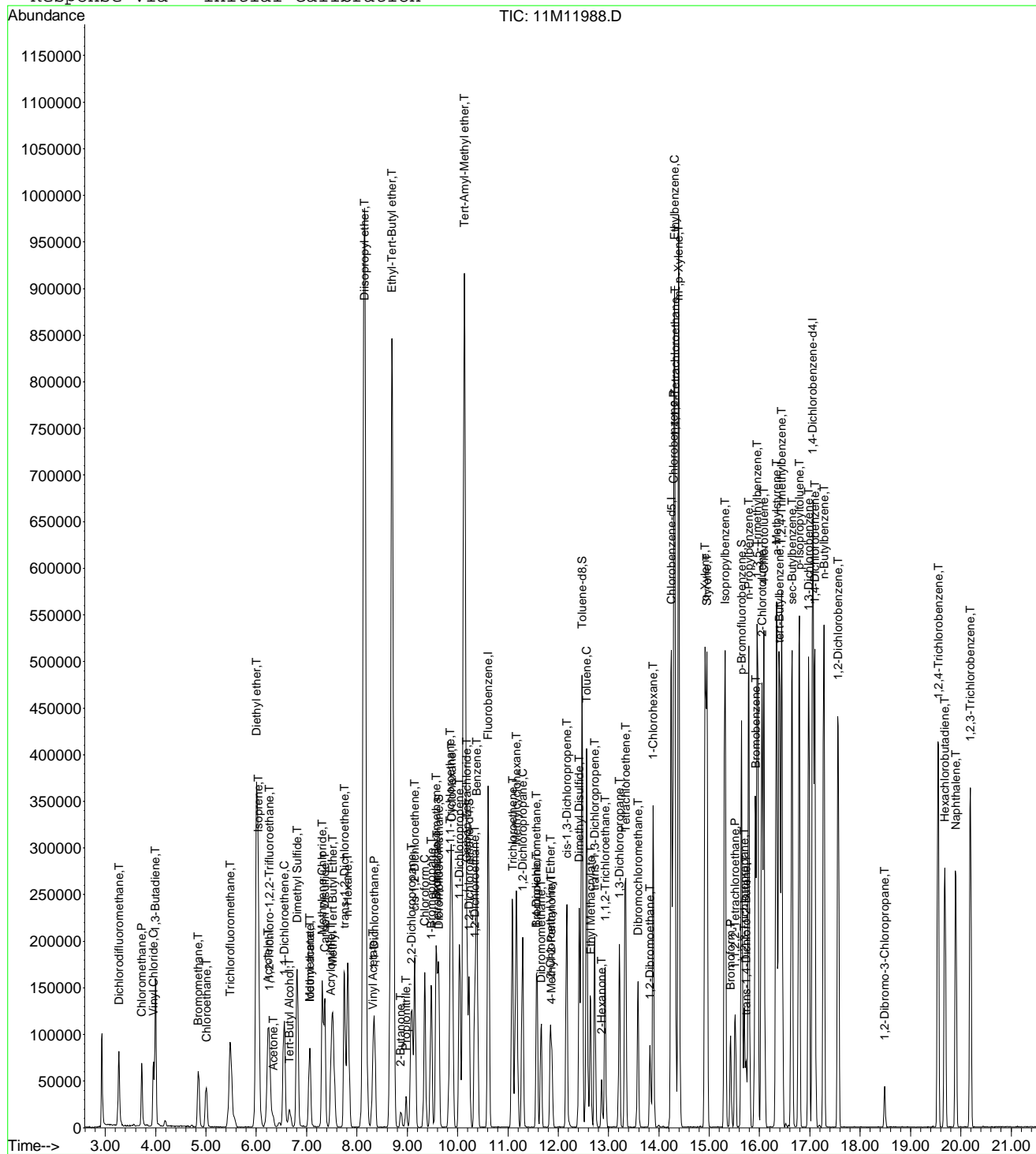
Page 2

Data File : C:\MSDCHEM\1\DATA\052016\11M11988.D
Acq On : 20 May 2016 17:23
Sample : WG569736-02 20ug/L LCS STD 8260
Misc : 1,1 STD76207
MS Integration Params: rteint.p
Quant Time: May 21 8:48 2016

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

Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\051816\11M11937.D Vial: 11
 Acq On : 18 May 2016 19:49 Operator: JDS
 Sample : WG569356-03 20ug/L LCS2 STD 8260 Inst : hpms11
 Misc : 1,1 STD76207 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 19 09:49:48 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	447483	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	397991	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	233216	25.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.63	111	136192	27.8094	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	111.24%	
43) 1,2-Dichloroethane-d4	10.23	65	151117	27.0623	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	108.24%	
57) Toluene-d8	12.47	98	437275	25.2867	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	101.16%	
78) p-Bromofluorobenzene	15.64	95	180101	25.0519	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	3.27	85	149597	21.3367	ug/L	98
3) Chloromethane	3.72	50	111234	19.8093	ug/L	100
4) Vinyl Chloride	3.95	62	100501	21.5520	ug/L	99
5) 1,3-Butadiene	3.99	54	80688	17.4015	ug/L	95
6) Bromomethane	4.85	94	67473	21.0445	ug/L	99
7) Chloroethane	5.00	64	63634	21.2384	ug/L	99
8) Trichlorofluoromethane	5.48	101	187239	20.1450	ug/L	99
9) Diethyl ether	6.01	59	373487	108.6525	ug/L	97
10) Isoprene	6.04	67	130352	22.7534	ug/L	98
11) Acrolein	6.24	56	41100	89.7083	ug/L	97
12) 1,1,2-Trichloro-1,2,2-Trif	6.25	101	89627	19.8729	ug/L	95
13) Acetone	6.34	43	25352	23.8591	ug/L	98
14) 1,1-Dichloroethene	6.56	61	153116	18.6910	ug/L	99
15) Tert-Butyl Alcohol	6.66	59	67497	229.6498	ug/L	99
16) Dimethyl Sulfide	6.81	62	126770	38.7493	ug/L	99
17) Iodomethane	7.06	142	126167	34.4930	ug/L	98
18) Methyl acetate	7.06	43	66983	19.4411	ug/L	100
19) Methylene Chloride	7.31	84	85294	20.1182	ug/L	94
20) Carbon Disulfide	7.36	76	284505	20.7449	ug/L	99
21) Acrylonitrile	7.49	53	32268	22.6494	ug/L	96
22) Methyl Tert Butyl Ether	7.52	73	242524	22.9353	ug/L	99
23) trans-1,2-Dichloroethene	7.74	96	88085	19.4284	ug/L	99
24) n-Hexane	7.82	57	146662	19.4220	ug/L	99
25) Diisopropyl ether	8.15	45	2006208	106.4712	ug/L	99
26) Vinyl Acetate	8.31	43	93078	14.5389	ug/L	100
27) 1,1-Dichloroethane	8.34	63	174562	19.1887	ug/L	99
28) Ethyl-Tert-Butyl ether	8.70	59	1608353	104.8719	ug/L	99
29) 2-Butanone	8.87	43	35186	21.9038	ug/L	98
30) Propionitrile	8.97	54	52451	111.4807	ug/L	97
31) 2,2-Dichloropropane	9.09	77	136190	19.1341	ug/L	99
32) cis-1,2-Dichloroethene	9.15	96	100941	20.1923	ug/L	98
33) Chloroform	9.35	83	174575	19.5414	ug/L	100
34) 1-Bromopropane	9.48	122	25015	28.4446	ug/L	99
35) Bromochloromethane	9.57	130	63362	21.3422	ug/L	95
36) Tetrahydrofuran	9.60	42	111282	98.1020	ug/L	97
38) 1,1,1-Trichloroethane	9.85	97	179779	20.4496	ug/L	99
39) Cyclohexane	9.88	56	203005	21.1884	ug/L	99
40) 1,1-Dichloropropene	10.04	75	121284	19.3218	ug/L	98
41) Carbon Tetrachloride	10.17	117	173146	20.1694	ug/L	100
42) Tert-Amyl-Methyl ether	10.13	73	1193959	112.0382	ug/L	99

(#) = qualifier out of range (m) = manual integration
 11M11937.D 8260WT.M Thu May 19 09:49:49 2016

Data File : C:\MSDCHEM\1\DATA\051816\11M11937.D Vial: 11
 Acq On : 18 May 2016 19:49 Operator: JDS
 Sample : WG569356-03 20ug/L LCS2 STD 8260 Inst : hpms11
 Misc : 1,1 STD76207 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 19 09:49:48 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44) 1,2-Dichloroethane	10.34	62	155837	21.4778	ug/L	99
45) Benzene	10.38	78	335707	19.5363	ug/L	100
46) Trichloroethene	11.08	130	116784	20.9090	ug/L	99
47) Methylcyclohexane	11.17	83	142680	20.6991	ug/L	99
48) 1,2-Dichloropropane	11.29	63	97559	20.5098	ug/L	98
49) 1,4-Dioxane	11.56	88	4620	175.5656	ug/L	85
50) Bromodichloromethane	11.57	83	134678	20.1684	ug/L	98
51) Dibromomethane	11.65	93	49942	20.1481	ug/L	96
52) 2-Chloroethyl Vinyl Ether	11.84	63	49161	20.9698	ug/L	99
53) 4-Methyl-2-Pentanone	11.87	58	28321	21.4184	ug/L	100
54) cis-1,3-Dichloropropene	12.17	75	147507	22.0851	ug/L	100
55) Dimethyl Disulfide	12.42	79	83002	20.6516	ug/L	89
58) Toluene	12.56	91	387789	19.2471	ug/L	100
59) Ethyl Methacrylate	12.64	69	91567	21.2840	ug/L	95
60) trans-1,3-Dichloropropene	12.73	75	131001	20.2566	ug/L	98
61) 1,1,2-Trichloroethane	12.94	97	72387	20.2612	ug/L	100
62) 2-Hexanone	12.86	43	52770	20.1111	ug/L	98
63) 1,3-Dichloropropane	13.21	76	124920	21.7735	ug/L	98
64) Tetrachloroethene	13.34	164	89451	19.0917	ug/L	99
65) Dibromochloromethane	13.59	129	111098	20.3874	ug/L	99
66) 1,2-Dibromoethane	13.82	107	71307	19.9212	ug/L	99
67) 1-Chlorohexane	13.89	91	129831	19.5451	ug/L	100
68) Chlorobenzene	14.29	112	295428	20.0157	ug/L	99
69) 1,1,1,2-Tetrachloroethane	14.32	131	118817	19.8947	ug/L	99
70) Ethylbenzene	14.31	106	144951	19.1517	ug/L	98
71) m-,p-Xylene	14.39	106	358894	39.0053	ug/L	98
72) o-Xylene	14.92	106	179907	20.0910	ug/L	100
73) Styrene	14.95	104	297959	20.1397	ug/L	99
74) Bromoform	15.43	173	64819	19.6257	ug/L	100
75) Isopropylbenzene	15.31	105	478807	20.2190	ug/L	100
77) 1,1,2,2-Tetrachloroethane	15.52	83	70714	19.4710	ug/L	98
79) 1,2,3-Trichloropropane	15.70	110	27284	20.2413	ug/L	85
80) trans-1,4-Dichloro-2-Butene	15.74	53	23425	13.9266	ug/L	64
81) n-Propylbenzene	15.79	91	552431	20.4537	ug/L	100
82) Bromobenzene	15.91	156	138089	19.4841	ug/L	98
83) 1,3,5-Trimethylbenzene	15.95	105	415518	20.1604	ug/L	100
84) 2-Chlorotoluene	16.05	91	382316	20.2096	ug/L	99
85) 4-Chlorotoluene	16.09	91	340220	20.0773	ug/L	100
86) a-Methylstyrene	16.34	118	237291	21.8238	ug/L	98
87) tert-Butylbenzene	16.39	134	90192	20.6550	ug/L	99
88) 1,2,4-Trimethylbenzene	16.44	105	424623	20.2320	ug/L	100
89) sec-Butylbenzene	16.65	105	487267	19.6891	ug/L	100
90) p-Isopropyltoluene	16.79	119	454492	19.9940	ug/L	100
91) 1,3-Dichlorobenzene	16.98	146	271675	19.8476	ug/L	98
92) 1,4-Dichlorobenzene	17.10	146	280340	20.2054	ug/L	99
93) n-Butylbenzene	17.28	91	378008	18.8715	ug/L	99
94) 1,2-Dichlorobenzene	17.57	146	254894	20.4420	ug/L	100
95) 1,2-Dibromo-3-Chloropropane	18.49	75	14814	18.5040	ug/L	99
96) 1,2,4-Trichlorobenzene	19.55	180	177988	19.5074	ug/L	100
97) Hexachlorobutadiene	19.69	225	71892	17.8854	ug/L	97
98) Naphthalene	19.90	128	302100	17.8382	ug/L	99
99) 1,2,3-Trichlorobenzene	20.19	180	158990	18.9866	ug/L	100

(#) = qualifier out of range (m) = manual integration
 11M11937.D 8260WT.M Thu May 19 09:49:49 2016

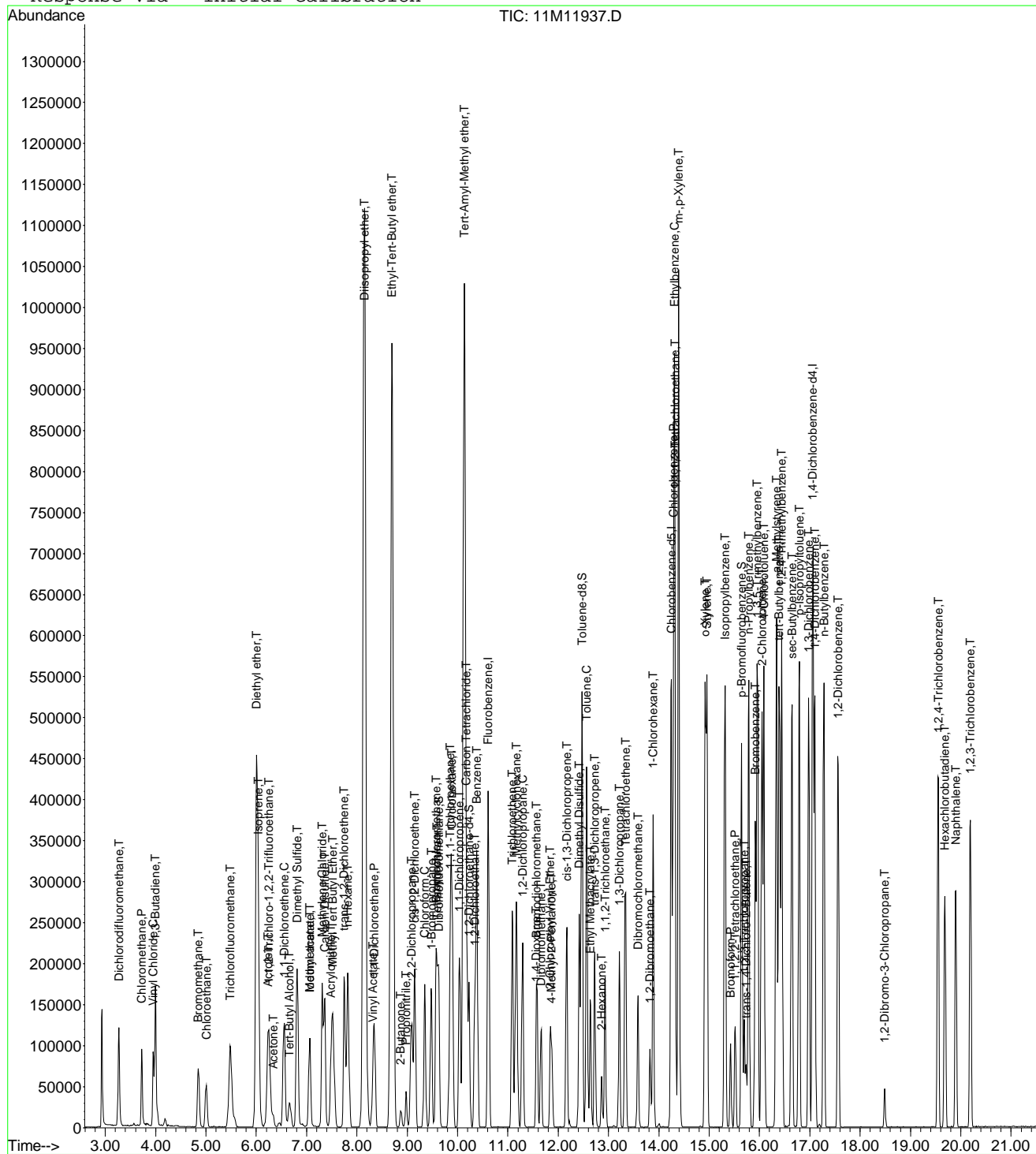
Page 2

Data File : C:\MSDCHEM\1\DATA\051816\11M11937.D
Acq On : 18 May 2016 19:49
Sample : WG569356-03 20ug/L LCS2 STD 8260
Misc : 1,1 STD76207
MS Integration Params: rteint.p
Quant Time: May 19 9:49 2016

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

Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
Last Update : Sat May 14 18:45:57 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\051916\11M11963.D Vial: 6
 Acq On : 19 May 2016 17:47 Operator: JDS
 Sample : WG569561-03 20ug/L LCS2 STD 8260 Inst : hpms11
 Misc : 1,1 STD76207 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 20 09:08:53 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.61	96	438789	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.25	117	391166	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.06	152	237425	25.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.63	111	129684	27.0052	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	108.04%	
43) 1,2-Dichloroethane-d4	10.23	65	147945	27.0192	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	108.08%	
57) Toluene-d8	12.47	98	435897	25.6468	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	102.60%	
78) p-Bromofluorobenzene	15.64	95	179487	24.5239	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	98.08%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.27	85	124269	18.0754	ug/L	98
3) Chloromethane	3.72	50	104320	18.9461	ug/L	100
4) Vinyl Chloride	3.95	62	97730	21.3730	ug/L	100
5) 1,3-Butadiene	3.99	54	4205	0.9248	ug/L #	38
6) Bromomethane	4.85	94	76019	24.1797	ug/L	99
7) Chloroethane	5.00	64	61844	21.0499	ug/L	97
8) Trichlorofluoromethane	5.48	101	187697	20.5944	ug/L	99
9) Diethyl ether	6.01	59	350839	104.0861	ug/L	98
10) Isoprene	6.04	67	260851	46.4346	ug/L	100
11) Acrolein	6.23	56	36142	80.6051	ug/L	100
12) 1,1,2-Trichloro-1,2,2-Trif	6.23	101	90139	20.3824	ug/L	96
13) Acetone	6.34	43	44529	42.7371	ug/L	99
14) 1,1-Dichloroethene	6.56	61	156813	19.5216	ug/L	98
15) Tert-Butyl Alcohol	6.66	59	68522	237.7565	ug/L	97
16) Dimethyl Sulfide	6.80	62	249512	77.7785	ug/L	100
17) Iodomethane	7.06	142	263766	71.2195	ug/L	98
18) Methyl acetate	7.06	43	104138	31.6159	ug/L	98
19) Methylene Chloride	7.31	84	84759	20.3882	ug/L	96
20) Carbon Disulfide	7.36	76	555094	41.2771	ug/L	99
21) Acrylonitrile	7.49	53	62283	44.5836	ug/L	100
22) Methyl Tert Butyl Ether	7.52	73	471452	45.4681	ug/L	97
23) trans-1,2-Dichloroethene	7.74	96	89211	20.0666	ug/L	99
24) n-Hexane	7.82	57	286821	38.7354	ug/L	99
25) Diisopropyl ether	8.15	45	1961021	106.1351	ug/L	98
27) 1,1-Dichloroethane	8.34	63	176072	19.7382	ug/L	99
28) Ethyl-Tert-Butyl ether	8.70	59	1559542	103.7040	ug/L	99
29) 2-Butanone	8.87	43	65584	41.6360	ug/L	100
30) Propionitrile	8.97	54	48417	104.9457	ug/L	100
31) 2,2-Dichloropropane	9.09	77	142289	20.3871	ug/L	100
32) cis-1,2-Dichloroethene	9.15	96	103982	21.2128	ug/L	98
33) Chloroform	9.35	83	178740	20.4041	ug/L	99
34) 1-Bromopropane	9.48	122	50395	57.7751	ug/L	99
35) Bromochloromethane	9.57	130	63106	21.6772	ug/L	96
36) Tetrahydrofuran	9.60	42	101724	91.4529	ug/L	97
38) 1,1,1-Trichloroethane	9.85	97	185920	21.5672	ug/L	98
39) Cyclohexane	9.88	56	400506	42.6306	ug/L	99
40) 1,1-Dichloropropene	10.04	75	125727	20.4265	ug/L	99
41) Carbon Tetrachloride	10.17	117	179528	21.3271	ug/L	100
42) Tert-Amyl-Methyl ether	10.13	73	1146511	109.7175	ug/L	99
44) 1,2-Dichloroethane	10.34	62	157173	22.0911	ug/L	98

(#) = qualifier out of range (m) = manual integration
 11M11963.D 8260WT.M Fri May 20 09:08:54 2016

Data File : C:\MSDCHEM\1\DATA\051916\11M11963.D Vial: 6
 Acq On : 19 May 2016 17:47 Operator: JDS
 Sample : WG569561-03 20ug/L LCS2 STD 8260 Inst : hpms11
 Misc : 1,1 STD76207 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 20 09:08:53 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45) Benzene	10.38	78	339121	20.1260	ug/L	99
46) Trichloroethene	11.08	130	121033	22.0991	ug/L	100
47) Methylcyclohexane	11.17	83	284336	42.0670	ug/L	99
48) 1,2-Dichloropropane	11.29	63	99731	21.3818	ug/L	99
49) 1,4-Dioxane	11.56	88	5502	208.2309	ug/L	85
50) Bromodichloromethane	11.57	83	143752	21.9538	ug/L	99
51) Dibromomethane	11.65	93	50469	20.7642	ug/L	99
52) 2-Chloroethyl Vinyl Ether	11.84	63	100614	43.7675	ug/L	100
53) 4-Methyl-2-Pentanone	11.87	58	53339	41.1381	ug/L	95
54) cis-1,3-Dichloropropene	12.17	75	152626	23.3042	ug/L	100
55) Dimethyl Disulfide	12.42	79	176175	44.7023	ug/L	98
58) Toluene	12.56	91	401873	20.2942	ug/L	100
59) Ethyl Methacrylate	12.64	69	180377	42.6586	ug/L	97
60) trans-1,3-Dichloropropene	12.73	75	131126	20.6297	ug/L	99
61) 1,1,2-Trichloroethane	12.92	97	70755	20.1500	ug/L	99
62) 2-Hexanone	12.86	43	100353	38.9127	ug/L	100
63) 1,3-Dichloropropane	13.21	76	122942	21.8026	ug/L	100
64) Tetrachloroethene	13.33	164	90923	19.7444	ug/L	99
65) Dibromochloromethane	13.59	129	115737	21.6093	ug/L	98
66) 1,2-Dibromoethane	13.82	107	72196	20.5215	ug/L	97
67) 1-Chlorohexane	13.89	91	264882	40.5718	ug/L	98
68) Chlorobenzene	14.29	112	304526	20.9921	ug/L	99
69) 1,1,1,2-Tetrachloroethane	14.32	131	123602	21.0570	ug/L	100
70) Ethylbenzene	14.31	106	151113	20.3142	ug/L	99
71) m-,p-Xylene	14.39	106	376196	41.5990	ug/L	98
72) o-Xylene	14.92	106	186816	21.2266	ug/L	98
73) Styrene	14.95	104	313048	21.5288	ug/L	99
74) Bromoform	15.43	173	66408	20.4576	ug/L	99
75) Isopropylbenzene	15.31	105	499128	21.4449	ug/L	99
77) 1,1,2,2-Tetrachloroethane	15.52	83	70726	19.1291	ug/L	98
79) 1,2,3-Trichloropropane	15.70	110	27811	20.2661	ug/L	84
80) trans-1,4-Dichloro-2-Buten	15.74	53	50939	28.9031	ug/L	75
81) n-Propylbenzene	15.79	91	594927	21.6366	ug/L	99
82) Bromobenzene	15.92	156	144548	20.0339	ug/L	98
83) 1,3,5-Trimethylbenzene	15.95	105	441406	21.0368	ug/L	100
84) 2-Chlorotoluene	16.05	91	406571	21.1108	ug/L	100
85) 4-Chlorotoluene	16.09	91	353709	20.5033	ug/L	98
86) a-Methylstyrene	16.34	118	493784	44.6086	ug/L	98
87) tert-Butylbenzene	16.39	134	92468	20.8008	ug/L	90
88) 1,2,4-Trimethylbenzene	16.44	105	447797	20.9579	ug/L	100
89) sec-Butylbenzene	16.65	105	527950	20.9548	ug/L	100
90) p-Isopropyltoluene	16.79	119	479422	20.7168	ug/L	99
91) 1,3-Dichlorobenzene	16.98	146	288117	20.6756	ug/L	99
92) 1,4-Dichlorobenzene	17.10	146	290478	20.5649	ug/L	99
93) n-Butylbenzene	17.28	91	406097	19.9144	ug/L	99
94) 1,2-Dichlorobenzene	17.57	146	267634	21.0832	ug/L	99
95) 1,2-Dibromo-3-Chloropropan	18.49	75	15985	19.5743	ug/L	96
96) 1,2,4-Trichlorobenzene	19.55	180	187955	20.2346	ug/L	98
97) Hexachlorobutadiene	19.69	225	81855	20.0030	ug/L	97
98) Naphthalene	19.90	128	325404	18.8737	ug/L	99
99) 1,2,3-Trichlorobenzene	20.19	180	172430	20.2266	ug/L	99

(#) = qualifier out of range (m) = manual integration
 11M11963.D 8260WT.M Fri May 20 09:08:54 2016

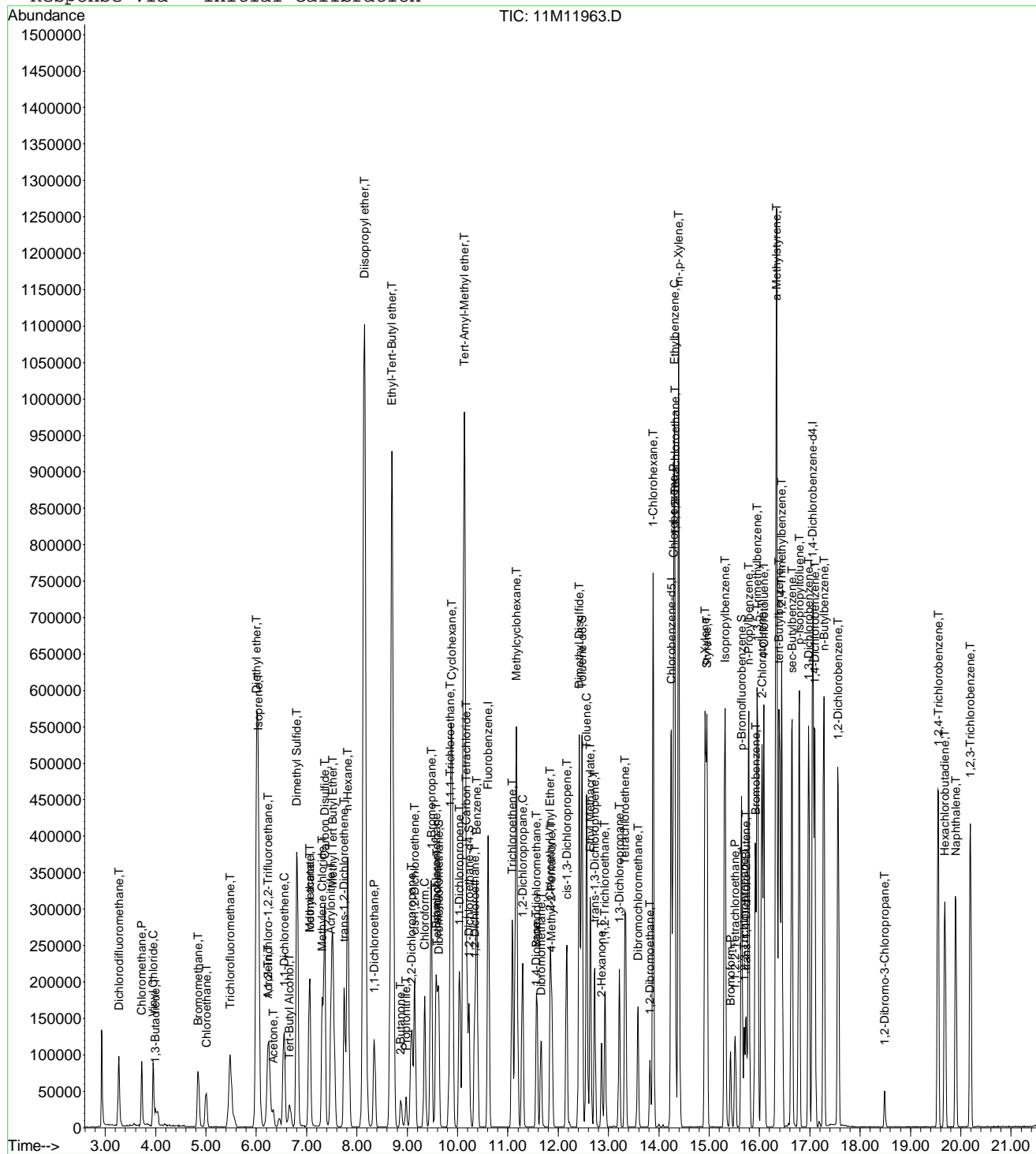
Page 2

Data File : C:\MSDCHEM\1\DATA\051916\11M11963.D
 Acq On : 19 May 2016 17:47
 Sample : WG569561-03 20ug/L LCS2 STD 8260
 Misc : 1,1 STD76207
 MS Integration Params: rteint.p
 Quant Time: May 20 9:08 2016

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

Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 051316 HPMS11
 Last Update : Sat May 14 18:45:57 2016
 Response via : Initial Calibration



2.1.2 RSK 175

2.1.2.1 Summary Data



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

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 #: L16050571-03	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 #: L16050571-05	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 #: L16050571-07

PrePrep Method: N/A

Instrument: HP16

Client ID: 50WW12-051016

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 17:02

Collect Date: 05/10/2016 11:20

Dilution: 1

File ID: 16G49881

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Methane	74-82-8	5.81		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 #: L16050571-07	PrePrep Method: N/A	Instrument: HP16
Client ID: 50WW12-051016	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 17:22
Collect Date: 05/10/2016 11:20	Dilution: 5	File ID: 16G49904
Sample Tag: DL01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Carbon Dioxide	124-38-9	398000		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 #: L16050571-09	PrePrep Method: N/A	Instrument: HP16
Client ID: 50WW24-051016	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 17:13
Collect Date: 05/10/2016 13:20	Dilution: 1	File ID: 16G49882
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 #: L16050571-09	PrePrep Method: N/A	Instrument: HP16
Client ID: 50WW24-051016	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 17:33
Collect Date: 05/10/2016 13:20	Dilution: 10	File ID: 16G49905
Sample Tag: DL01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Carbon Dioxide	124-38-9	729000		100000	50000	25000
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 #: L16050571-11	PrePrep Method: N/A	Instrument: HP16
Client ID: 50WW23-051016	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 17:25
Collect Date: 05/10/2016 14:35	Dilution: 1	File ID: 16G49883
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 #: L16050571-11	PrePrep Method: N/A	Instrument: HP16
Client ID: 50WW23-051016	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 17:45
Collect Date: 05/10/2016 14:35	Dilution: 5	File ID: 16G49906
Sample Tag: DL01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Carbon Dioxide	124-38-9	471000		50000	25000	12500
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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J. J. J.

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: 051216
 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: WG568586

Comments: _____

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
16G49874	WG568584-01 133umol/mol CCV STD RSK	NA	1	1	STD75351	05/12/16 14:52
16G49876	WG568584-01 133umol/mol CCV STD RSK	NA	1	1	STD75351	05/12/16 15:36
16G49877	WG568586-01 BLANK STD RSK175	NA	1	1		05/12/16 16:06
16G49878	WG568586-02 67umol/mol LCS STD RSK17	NA	1	1	STD68250	05/12/16 16:27
16G49879	WG568586-03 67umol/mol LCS2 STD RSK1	NA	1	1	STD68250	05/12/16 16:39
16G49880	L16050571-05 A RSK175	7	1	1		05/12/16 16:50
16G49881	L16050571-07 A RSK175	7	1	1		05/12/16 17:02
16G49882	L16050571-09 A RSK175	7	1	1		05/12/16 17:13
16G49883	L16050571-11 A RSK175	7	1	1		05/12/16 17:25
16G49884	L16050609-01 A RSK175	7	1	1		05/12/16 17:37
16G49885	L16050609-02 A RSK175	<2	1	1		05/12/16 17:48
16G49886	L16050609-03 A RSK175	<2	1	1		05/12/16 18:00
16G49887	WG568584-02 133umol/mol CCV STD RSK	NA	1	1	STD75351	05/12/16 18:12
16G49888	L16050609-04 A RSK175	<2	1	1		05/12/16 18:23
16G49889	L16050624-01 A RSK175	<2	1	1		05/12/16 18:34
16G49890	L16050627-01 A RSK175	<2	1	1		05/12/16 18:46
16G49891	L16050571-01 A RSK175	7	1	1		05/12/16 18:57
16G49892	L16050571-03 A RSK175	7	1	1		05/12/16 19:09
16G49893	L16050610-01 B RSK175	NA	1	1		05/12/16 19:20
16G49894	L16050610-02 B RSK175	NA	1	1		05/12/16 19:32
16G49895	WG568584-03 133umol/mol CCV STD RSK	NA	1	1	STD75351	05/12/16 19:43

Comments

Seq.	Rerun	Dil.	Reason	Analytes
1	X		Check Standard Failure	All
File ID: 16G49874				
CCV failed low for all target cmpds.				
6	X	5	Over Calibration Range	CO2
File ID: 16G49880				
L16050571-05				
7	X	5	Over Calibration Range	CO2
File ID: 16G49881				
L16050571-07				
8	X	10	Over Calibration Range	CO2

Approved: May 16, 2016

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Instrument Run Log

Instrument: HP16 Dataset: 051216
 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: WG568586

Comments: **Comments**

Seq.	Rerun	Dil.	Reason	Analytes
File ID: 16G49882				
L16050571-09				
9	X	5	Over Calibration Range	CO2
File ID: 16G49883				
L16050571-11				
12	X		Carry-over contamination	M
File ID: 16G49886				
L16050609-03				
14	X	5	Over Calibration Range	M
File ID: 16G49888				
L16050609-04				
17	X	5	Over Calibration Range	CO2
File ID: 16G49891				
L16050571-01				
18	X	5	Over Calibration Range	CO2
File ID: 16G49892				
L16050571-03				

Approved: May 16, 2016

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: HP16 Dataset: 051316
 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: WG568761

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
16G49896	WG568758-01 133umol/mol CCV STD RSK	NA	1	1	STD75351	05/13/16 13:51
16G49897	WG568761-01 BLANK STD RSK175	NA	1	1		05/13/16 16:01
16G49898	WG568761-02 67umol/mol LCS STD RSK17	NA	1	1	STD68250	05/13/16 16:12
16G49899	WG568761-03 67umol/mol LCS2 STD RSK1	NA	1	1	STD68250	05/13/16 16:24
16G49900	L16050609-03 B A1 RSK175	<2	1	1		05/13/16 16:35
16G49901	L16050571-01 B D1 5X RSK175	7	1	5		05/13/16 16:47
16G49902	L16050571-03 B D1 5X RSK175	7	1	5		05/13/16 16:58
16G49903	L16050571-05 B D1 5X RSK175	6	1	5		05/13/16 17:10
16G49904	L16050571-07 B D1 5X RSK175	7	1	5		05/13/16 17:22
16G49905	L16050571-09 B D1 10X RSK175	7	1	10		05/13/16 17:33
16G49906	L16050571-11 B D1 5X RSK175	7	1	5		05/13/16 17:45
16G49907	WG568758-02 133umol/mol CCV STD RSK	NA	1	1	STD75351	05/13/16 17:56
16G49908	L16050609-04 B D1 5X RSK175	<2	1	5		05/13/16 18:08
16G49909	L16050734-01 A RSK175	7	1	1		05/13/16 18:19
16G49910	L16050734-02 A RSK175	<2	1	1		05/13/16 18:32
16G49911	L16050735-01 A RSK175	<2	1	1		05/13/16 18:43
16G49912	L16050735-02 A RSK175	<2	1	1		05/13/16 18:55
16G49913	L16050736-01 A RSK175	7	1	1		05/13/16 19:06
16G49914	L16050736-02 A RSK175	<2	1	1		05/13/16 19:18
16G49915	WG568758-03 133umol/mol CCV STD RSK	NA	1	1	STD75351	05/13/16 19:29

Comments

Seq.	Rerun	Dil.	Reason	Analytes
14	X	25	Over Calibration Range	M
File ID: 16G49909				
L16050734-01				
15	X	5	Over Calibration Range	M
File ID: 16G49910				
L16050734-02				
16	X		Carry-over contamination	M
File ID: 16G49911				
L16050735-01				
18	X	20	Over Calibration Range	M
File ID: 16G49913				

Approved: May 18, 2016

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Instrument Run Log

Instrument: HP16 Dataset: 051316
 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: WG568761

Comments:

Comments

Seq.	Rerun	Dil.	Reason	Analytes
L16050736-01				

Approved: May 18, 2016

Sarah Vandenberg



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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 #: B222735

	Initial Amount		Nominal Amount		Spike Amount		Surrogate Spike Amount		Final Amount		Final Nominal Amount		Temp (C)
WG568584-01	15	mL	15	mL					5.47	mL	5.47	mL	40
WG568584-02	15	mL	15	mL					5.47	mL	5.47	mL	40
WG568584-03	15	mL	15	mL					5.47	mL	5.47	mL	40
L16050609-04	15	mL	15	mL					5.47	mL	5.47	mL	40
WG568586-03	15	mL	15	mL	.01	mL			5.47	mL	5.47	mL	40
L16050609-03	15	mL	15	mL					5.47	mL	5.47	mL	40
L16050627-01	15	mL	15	mL					5.47	mL	5.47	mL	40
L16050610-02	15	mL	15	mL					5.47	mL	5.47	mL	40
WG568586-01	15	mL	15	mL					5.47	mL	5.47	mL	40
L16050571-03	15	mL	15	mL					5.47	mL	5.47	mL	40
L16050571-07	15	mL	15	mL					5.47	mL	5.47	mL	40
L16050571-05	15	mL	15	mL					5.47	mL	5.47	mL	40
L16050609-02	15	mL	15	mL					5.47	mL	5.47	mL	40
WG568586-02	15	mL	15	mL	.01	mL			5.47	mL	5.47	mL	40
L16050571-09	15	mL	15	mL					5.47	mL	5.47	mL	40
L16050571-11	15	mL	15	mL					5.47	mL	5.47	mL	40
L16050610-01	15	mL	15	mL					5.47	mL	5.47	mL	40
L16050609-01	15	mL	15	mL					5.47	mL	5.47	mL	40
L16050624-01	15	mL	15	mL					5.47	mL	5.47	mL	40
L16050571-01	15	mL	15	mL					5.47	mL	5.47	mL	40



Batch #: B222736

	Initial Amount		Nominal Amount		Spike Amount		Surrogate Spike Amount		Final Amount		Final Nominal Amount		Temp (C)
WG568586-03	15	mL	15	mL	.1	mL			5.47	mL	5.47	mL	40
WG568586-02	15	mL	15	mL	.1	mL			5.47	mL	5.47	mL	40



Batch #: B222750

	Initial Amount		Nominal Amount		Spike Amount		Surrogate Spike Amount		Final Amount		Final Nominal Amount		Temp (C)
WG568758-01	15	mL	15	mL					5.47	mL	5.47	mL	40
WG568758-02	15	mL	15	mL					5.47	mL	5.47	mL	40
WG568758-03	15	mL	15	mL					5.47	mL	5.47	mL	40
WG568761-01	15	mL	15	mL					5.47	mL	5.47	mL	40
L16050571-05	15	mL	15	mL					5.47	mL	5.47	mL	40
L16050609-04	15	mL	15	mL					5.47	mL	5.47	mL	40
L16050571-01	15	mL	15	mL					5.47	mL	5.47	mL	40
L16050571-11	15	mL	15	mL					5.47	mL	5.47	mL	40
WG568761-03	15	mL	15	mL	.1	mL			5.47	mL	5.47	mL	40
L16050609-03	15	mL	15	mL					5.47	mL	5.47	mL	40
L16050736-01	15	mL	15	mL					5.47	mL	5.47	mL	40
WG568761-02	15	mL	15	mL	.1	mL			5.47	mL	5.47	mL	40
L16050571-09	15	mL	15	mL					5.47	mL	5.47	mL	40
L16050734-02	15	mL	15	mL					5.47	mL	5.47	mL	40
L16050735-02	15	mL	15	mL					5.47	mL	5.47	mL	40
L16050571-03	15	mL	15	mL					5.47	mL	5.47	mL	40
L16050736-02	15	mL	15	mL					5.47	mL	5.47	mL	40
L16050735-01	15	mL	15	mL					5.47	mL	5.47	mL	40
L16050571-07	15	mL	15	mL					5.47	mL	5.47	mL	40
L16050734-01	15	mL	15	mL					5.47	mL	5.47	mL	40



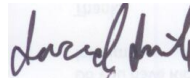
Microbac Laboratories Inc.

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



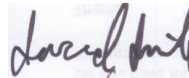

Microbac Laboratories Inc.

Data Checklist

Date: 12-MAY-2016
 Analyst: JDS
 Analyst: NA
 Method: RSK175
 Instrument: HP16
 Curve Workgroup: NA
 Runlog ID: 75084
 Analytical Workgroups: WG568586

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:
15-MAY-2016



Secondary Reviewer:
16-MAY-2016



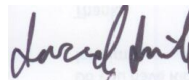

Microbac Laboratories Inc.

Data Checklist

Date: 13-MAY-2016
 Analyst: JDS
 Analyst: NA
 Method: RSK175
 Instrument: HP16
 Curve Workgroup: NA
 Runlog ID: 75089
 Analytical Workgroups: WG568761

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:
18-MAY-2016



Secondary Reviewer:
18-MAY-2016




Analytical Method:RSK175
Login Number:L16050571

AAB#:WG568586

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
50WW22-051016	01	05/10/16					05/12/2016	2.5	7		05/12/16	2.5	7	
50WW11-051016	03	05/10/16					05/12/2016	2.4	7		05/12/16	2.4	7	
50WW06-051016	05	05/10/16					05/12/2016	2.3	7		05/12/16	2.3	7	
50WW12-051016	07	05/10/16					05/12/2016	2.2	7		05/12/16	2.2	7	
50WW24-051016	09	05/10/16					05/12/2016	2.2	7		05/12/16	2.2	7	
50WW23-051016	11	05/10/16					05/12/2016	2.1	7		05/12/16	2.1	7	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4762663
Report generated 05/18/2016 14:11



Analytical Method:RSK175
Login Number:L16050571

AAB#:WG568761

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
50WW22-051016	01	05/10/16					05/13/2016	3.4	7		05/13/16	3.4	7	
50WW11-051016	03	05/10/16					05/13/2016	3.3	7		05/13/16	3.3	7	
50WW06-051016	05	05/10/16					05/13/2016	3.3	7		05/13/16	3.3	7	
50WW12-051016	07	05/10/16					05/13/2016	3.3	7		05/13/16	3.3	7	
50WW24-051016	09	05/10/16					05/13/2016	3.2	7		05/13/16	3.2	7	
50WW23-051016	11	05/10/16					05/13/2016	3.1	7		05/13/16	3.1	7	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4762663
Report generated 05/18/2016 14:11



METHOD BLANK SUMMARY

Login Number: L16050571 Work Group: WG568586
 Blank File ID: 16G49877 Blank Sample ID: WG568586-01
 Prep Date: 05/12/16 16:06 Instrument ID: HP16
 Analyzed Date: 05/12/16 16:06 Method: RSK175
 Analyst: JDS

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG568586-02	16G49878	05/12/16 16:27	01
LCS2	WG568586-03	16G49879	05/12/16 16:39	01
50WW06-051016	L16050571-05	16G49880	05/12/16 16:50	01
50WW12-051016	L16050571-07	16G49881	05/12/16 17:02	01
50WW24-051016	L16050571-09	16G49882	05/12/16 17:13	01
50WW23-051016	L16050571-11	16G49883	05/12/16 17:25	01
50WW22-051016	L16050571-01	16G49891	05/12/16 18:57	01
50WW11-051016	L16050571-03	16G49892	05/12/16 19:09	01

Report Name: BLANK_SUMMARY
 PDF File ID: 4762664
 Report generated 05/18/2016 14:11



METHOD BLANK SUMMARY

Login Number: L16050571 Work Group: WG568761
 Blank File ID: 16G49897 Blank Sample ID: WG568761-01
 Prep Date: 05/13/16 16:01 Instrument ID: HP16
 Analyzed Date: 05/13/16 16:01 Method: RSK175
 Analyst: JDS

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG568761-02	16G49898	05/13/16 16:12	01
LCS2	WG568761-03	16G49899	05/13/16 16:24	01
50WW22-051016	L16050571-01	16G49901	05/13/16 16:47	DL01
50WW11-051016	L16050571-03	16G49902	05/13/16 16:58	DL01
50WW06-051016	L16050571-05	16G49903	05/13/16 17:10	DL01
50WW12-051016	L16050571-07	16G49904	05/13/16 17:22	DL01
50WW24-051016	L16050571-09	16G49905	05/13/16 17:33	DL01
50WW23-051016	L16050571-11	16G49906	05/13/16 17:45	DL01

Report Name: BLANK_SUMMARY
 PDF File ID: 4762664
 Report generated 05/18/2016 14:11



Login Number: L16050571 Prep Date: 05/12/16 16:06 Sample ID: WG568586-01
Instrument ID: HP16 Run Date: 05/12/16 16:06 Prep Method: 5021
File ID: 16G49877 Analyst: JDS Method: RSK175
Workgroup (AAB#): WG568586 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: 4762665
18-MAY-2016 14:11



Login Number: L16050571 Prep Date: 05/13/16 16:01 Sample ID: WG568761-01
Instrument ID: HP16 Run Date: 05/13/16 16:01 Prep Method: 5021
File ID: 16G49897 Analyst: JDS Method: RSK175
Workgroup (AAB#): WG568761 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: 4762665
18-MAY-2016 14:11



Login Number: L16050571 Analyst: JDS Prep Method: 5021
 Instrument ID: HP16 Matrix: Water Method: RSK175
 Workgroup (AAB#): WG568761 Units: ug/L
 QC Key: DOD4 Lot #: STD68250
 Sample ID: WG568761-02 LCS File ID: 16G49898 Run Date: 05/13/2016 16:12
 Sample ID: WG568761-03 LCS2 File ID: 16G49899 Run Date: 05/13/2016 16:24

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Carbon Dioxide	31300	30400	97.1	31300	28300	90.2	7.37	53.1- 130	40	

LCS_LCS2 - Modified 03/06/2008
 PDF File ID: 4762666
 Report generated: 05/18/2016 14:11



Login Number: L16050571 Analyst: JDS Prep Method: 5021
 Instrument ID: HP16 Matrix: Water Method: RSK175
 Workgroup (AAB#): WG568586 Units: ug/L
 QC Key: DOD4 Lot #: STD68250
 Sample ID: WG568586-02 LCS File ID: 16G49878 Run Date: 05/12/2016 16:27
 Sample ID: WG568586-03 LCS2 File ID: 16G49879 Run Date: 05/12/2016 16:39

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Methane	114	116	102	114	117	102	0.867	85 - 115	20	
ethene	200	200	100	200	201	101	0.239	85 - 115	20	
ethane	214	219	102	214	220	103	0.380	85 - 115	20	

LCS_LCS2 - Modified 03/06/2008
 PDF File ID: 4762666
 Report generated: 05/18/2016 14:11



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: L16050571 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: L16050571 Run Date: 05/12/2016 Sample ID: WG568584-01
 Instrument ID: HP16 Run Time: 15:36 Method: RSK175
 File ID: 16G49876 Analyst: JDS QC Key: DOD4
 Workgroup (AAB#): WG568586 Cal ID: HP16 - 25-MAR-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
methane	228	228	ug/L	181000	0.0238	15	
ethene	398	391	ug/L	306000	1.94	15	
ethane	427	418	ug/L	312000	2.08	15	

* Exceeds %D Criteria



Login Number: L16050571 Run Date: 05/12/2016 Sample ID: WG568584-02
 Instrument ID: HP16 Run Time: 18:12 Method: RSK175
 File ID: 16G49887 Analyst: JDS QC Key: DOD4
 Workgroup (AAB#): WG568586 Cal ID: HP16 - 25-MAR-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
methane	228	233	ug/L	185000	2.32	15	
ethene	398	404	ug/L	316000	1.36	15	
ethane	427	435	ug/L	325000	1.81	15	

* Exceeds %D Criteria



Login Number: L16050571 Run Date: 05/12/2016 Sample ID: WG568584-03
 Instrument ID: HP16 Run Time: 19:43 Method: RSK175
 File ID: 16G49895 Analyst: JDS QC Key: DOD4
 Workgroup (AAB#): WG568586 Cal ID: HP16 - 25-MAR-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
methane	228	229	ug/L	182000	0.595	15	
ethene	398	393	ug/L	308000	1.37	15	
ethane	427	424	ug/L	317000	0.566	15	

* Exceeds %D Criteria



Login Number: L16050571 Run Date: 05/13/2016 Sample ID: WG568758-01
Instrument ID: HP16 Run Time: 13:51 Method: RSK175
File ID: 16G49896 Analyst: JDS QC Key: DOD4
Workgroup (AAB#): WG568761 Cal ID: HP16 - 25-MAR-16
Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
carbon dioxide	62500	64000	ug/L	5410	2.43	15	

* Exceeds %D Criteria



Login Number: L16050571 Run Date: 05/13/2016 Sample ID: WG568758-02
 Instrument ID: HP16 Run Time: 17:56 Method: RSK175
 File ID: 16G49907 Analyst: JDS QC Key: DOD4
 Workgroup (AAB#): WG568761 Cal ID: HP16 - 25-MAR-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
carbon dioxide	62500	58000	ug/L	4900	7.21	15	

* Exceeds %D Criteria



2.1.2.3 Sample Data

Signal #1 : C:\MSDchem\1\DATA\051216\16G49891.D\FID1A.CH Vial: 16
 Signal #2 : C:\MSDchem\1\DATA\051216\16G49891.D\TCD2B.CH
 Acq On : 12 May 2016 18:57 Operator: JDS
 Sample : L16050571-01 A RSK175 Inst : HP16
 Misc : 1,1 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 12 19:03:58 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	270447	N.D.	umol/
2) T ethene	0.00	0	N.D.	umol/
3) T acetylene	0.00	0	N.D.	umol/
4) T ethane	1.39	19977	0.063	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	921651072	174603.913	umol/

(f)=RT Delta > 1/2 Window

16G49891.D RSKEXT1.M

Thu May 12 19:03:59 2016

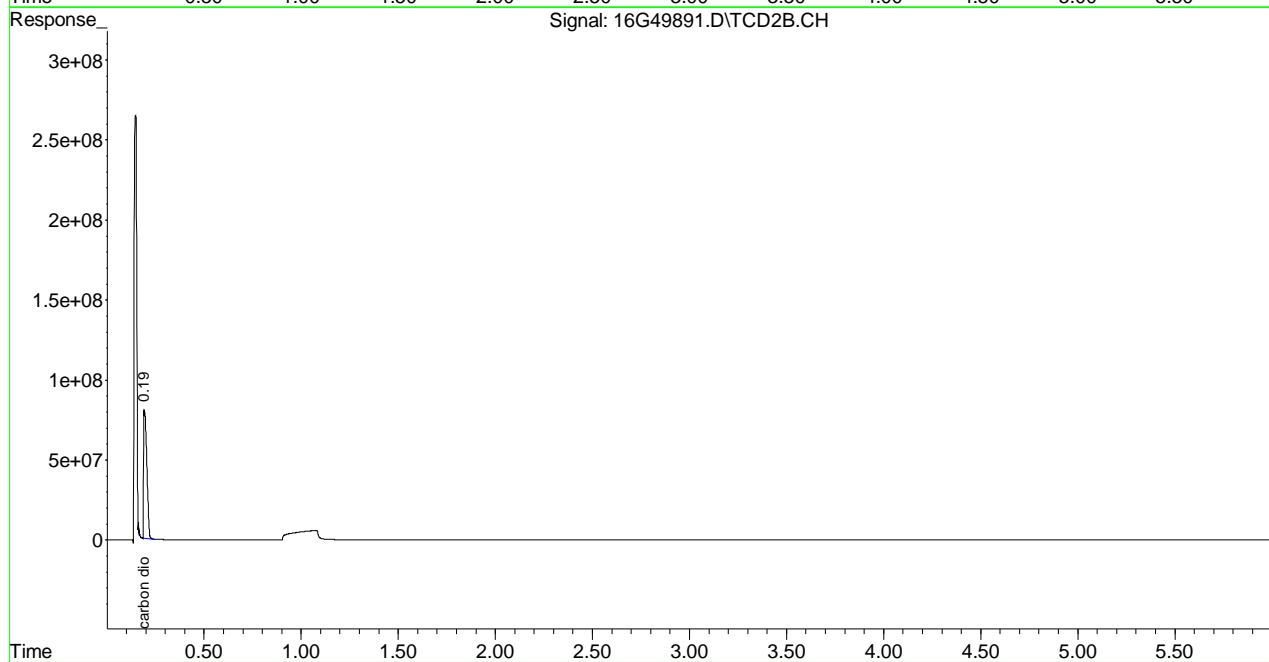
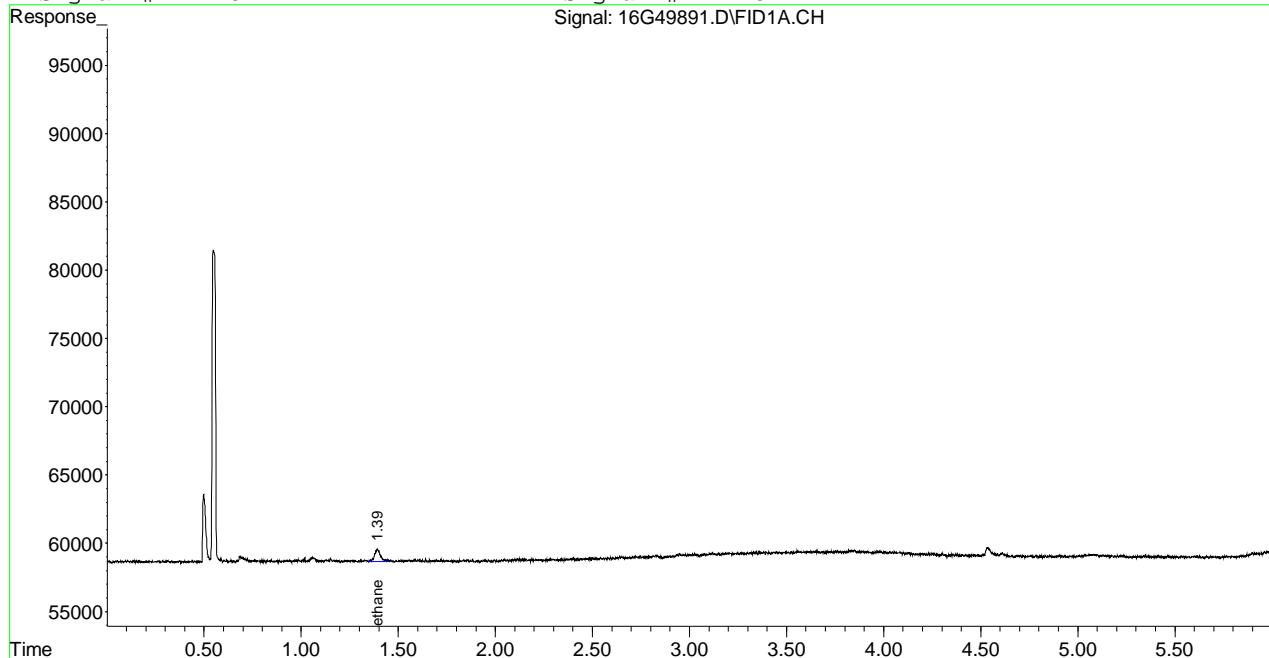
(m)=manual int.

Page 1

Signal #1 : C:\MSDchem\1\DATA\051216\16G49891.D\FID1A.CH Vial: 16
 Signal #2 : C:\MSDchem\1\DATA\051216\16G49891.D\TCD2B.CH
 Acq On : 12 May 2016 18:57 Operator: JDS
 Sample : L16050571-01 A RSK175 Inst : HP16
 Misc : 1,1 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 12 19:03 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\051316\16G49901.D\FID1A.CH Vial: 6
 Signal #2 : C:\MSDCHEM\1\DATA\051316\16G49901.D\TCD2B.CH
 Acq On : 13 May 2016 16:47 Operator: JDS
 Sample : L16050571-01 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 13 16:53:12 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	276829	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	123278714	23354.767	umol/

(f)=RT Delta > 1/2 Window
 16G49901.D RSKEXT1.M Fri May 13 17:16:32 2016

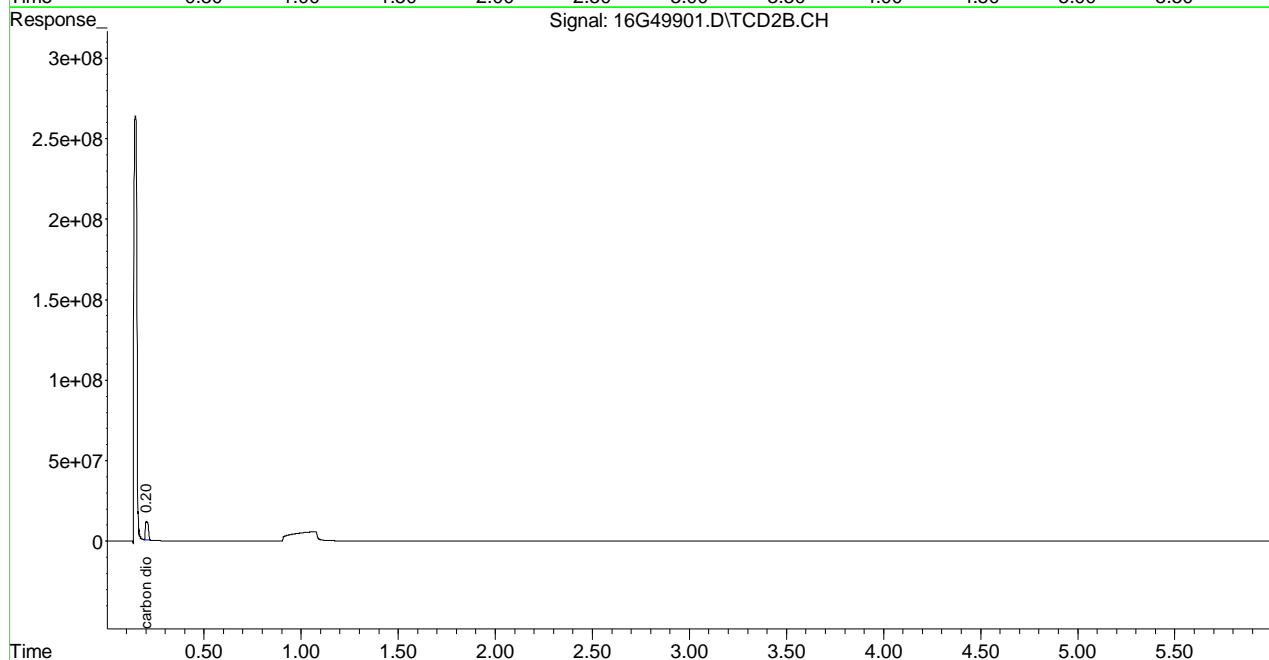
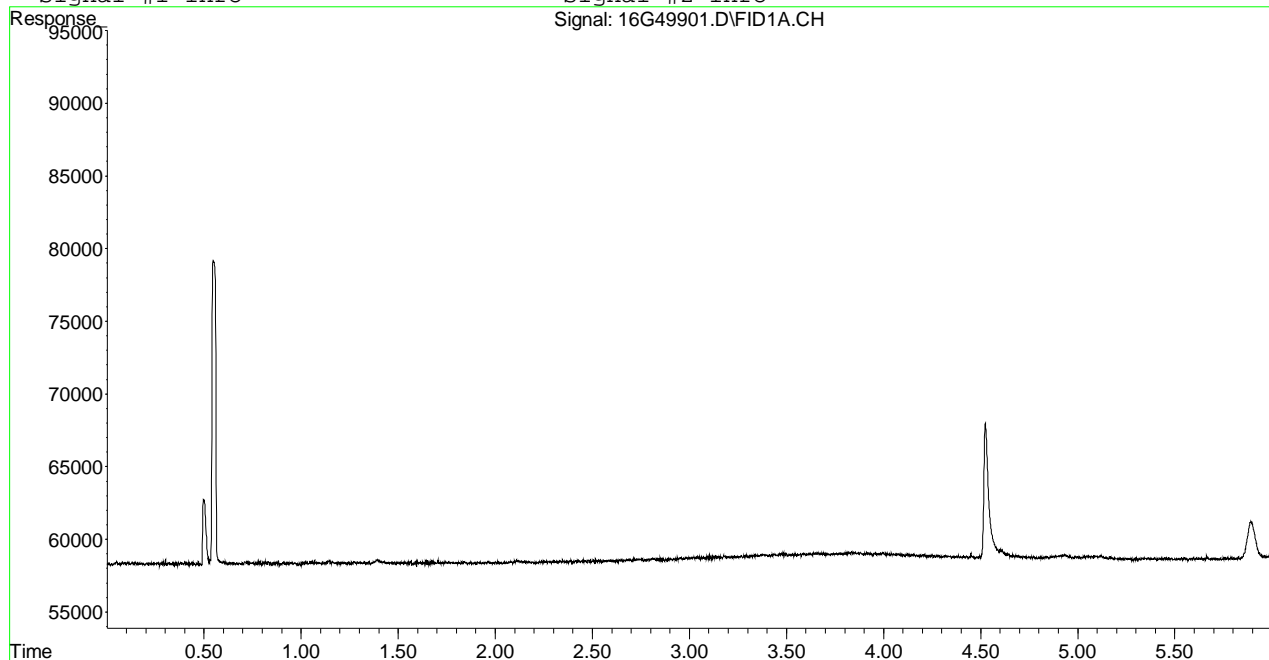
(m)=manual int.

Page 1

Signal #1 : C:\MSDCHEM\1\DATA\051316\16G49901.D\FID1A.CH Vial: 6
 Signal #2 : C:\MSDCHEM\1\DATA\051316\16G49901.D\TCD2B.CH
 Acq On : 13 May 2016 16:47 Operator: JDS
 Sample : L16050571-01 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 13 16:53 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\051216\16G49892.D\FID1A.CH Vial: 17
 Signal #2 : C:\MSDchem\1\DATA\051216\16G49892.D\TCD2B.CH
 Acq On : 12 May 2016 19:09 Operator: JDS
 Sample : L16050571-03 A RSK175 Inst : HP16
 Misc : 1,1 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 12 19:15:25 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 13:38:01 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	812584	2.912 umol/
2) T ethene	0.00	0	N.D. umol/
3) T acetylene	0.00	0	N.D. umol/
4) T ethane	1.40	19949	0.063 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	896826939	169901.059 umol/

(f)=RT Delta > 1/2 Window

16G49892.D RSKEXT1.M Thu May 12 19:15:26 2016

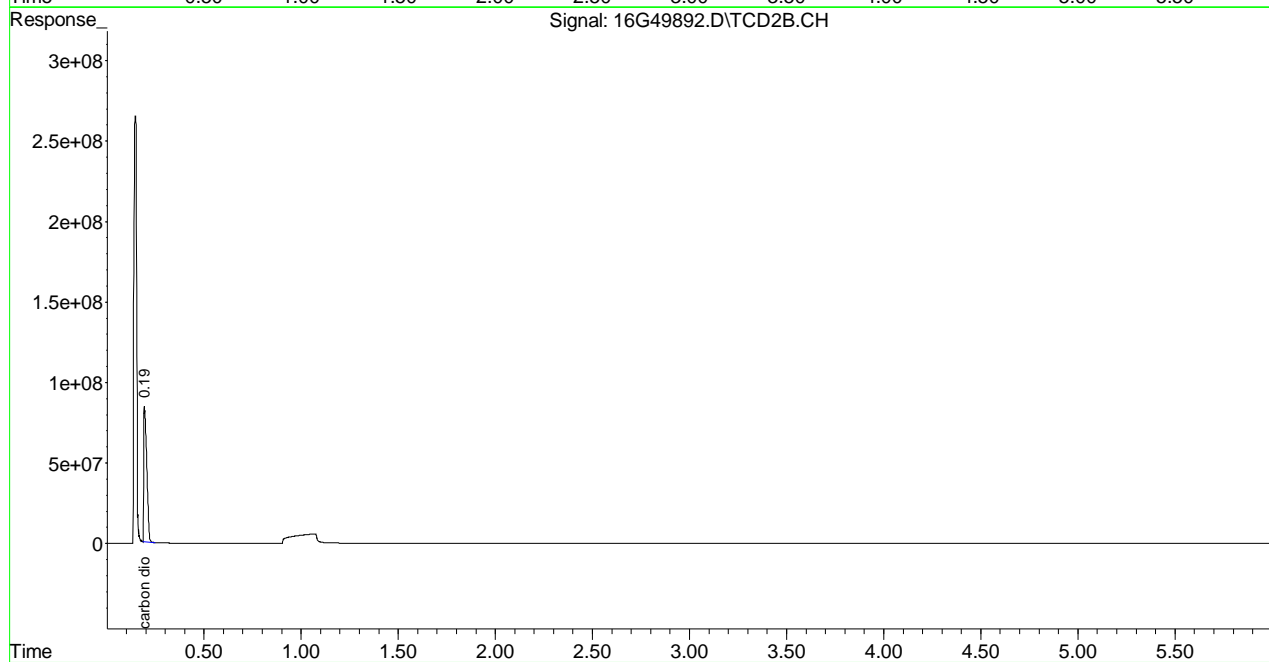
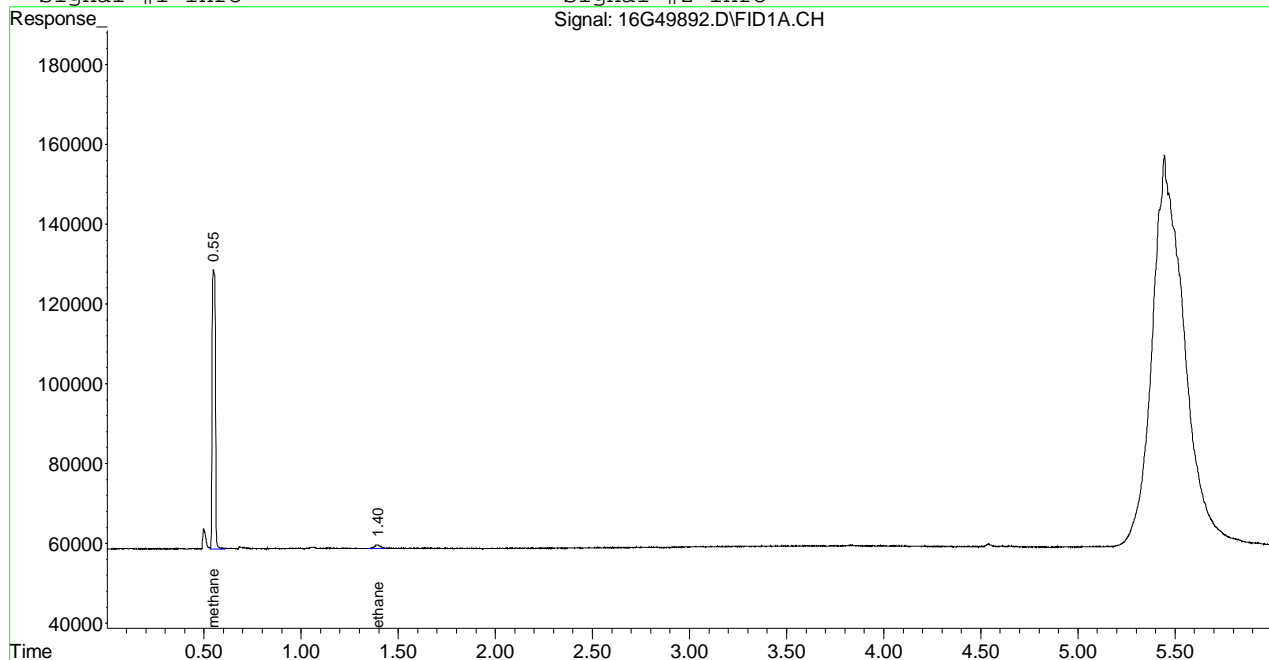
(m)=manual int.

Page 1

Signal #1 : C:\MSDchem\1\DATA\051216\16G49892.D\FID1A.CH Vial: 17
 Signal #2 : C:\MSDchem\1\DATA\051216\16G49892.D\TCD2B.CH
 Acq On : 12 May 2016 19:09 Operator: JDS
 Sample : L16050571-03 A RSK175 Inst : HP16
 Misc : 1,1 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 12 19:15 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 : 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\051316\16G49902.D\FID1A.CH Vial: 7
 Signal #2 : C:\MSDchem\1\DATA\051316\16G49902.D\TCD2B.CH
 Acq On : 13 May 2016 16:58 Operator: JDS
 Sample : L16050571-03 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 13 17:04:38 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	390650	0.556 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	133062518	25208.278 umol/

(f)=RT Delta > 1/2 Window
 16G49902.D RSKEXT1.M Fri May 13 17:04:38 2016

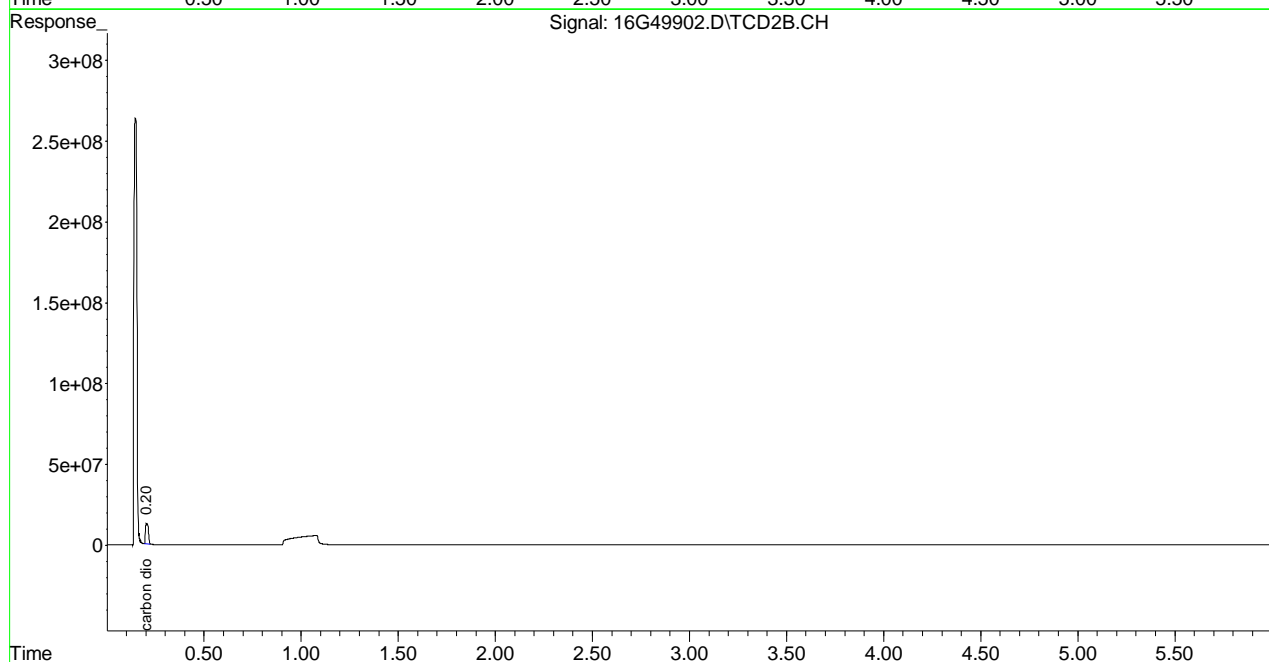
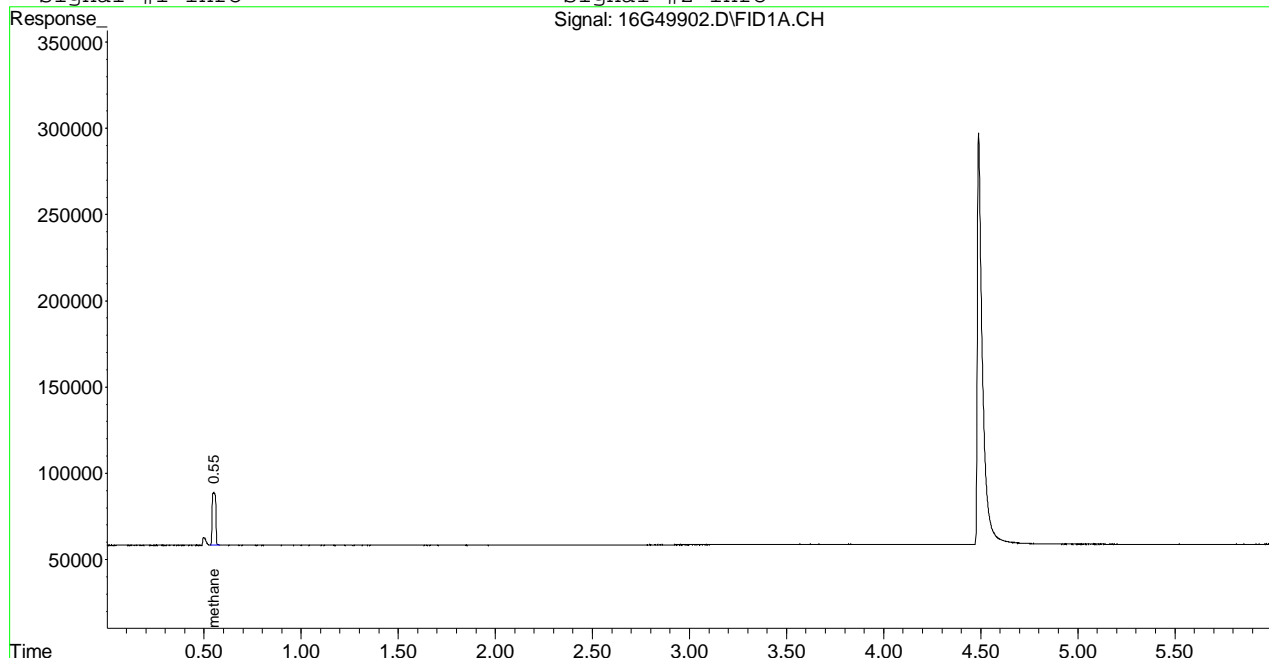
(m)=manual int.

Page 1

Signal #1 : C:\MSDchem\1\DATA\051316\16G49902.D\FID1A.CH Vial: 7
 Signal #2 : C:\MSDchem\1\DATA\051316\16G49902.D\TCD2B.CH
 Acq On : 13 May 2016 16:58 Operator: JDS
 Sample : L16050571-03 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 13 17:04 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\051216\16G49880.D\FID1A.CH Vial: 5
 Signal #2 : C:\MSDchem\1\DATA\051216\16G49880.D\TCD2B.CH
 Acq On : 12 May 2016 16:50 Operator: JDS
 Sample : L16050571-05 A RSK175 Inst : HP16
 Misc : 1,1 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 12 16:56:43 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	427513	0.762 umol/
2) T ethene	1.06	8299	0.027 umol/
3) T acetylene	0.00	0	N.D. umol/
4) T ethane	1.39	43639	0.137 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	971648443	184075.758 umol/

(f)=RT Delta > 1/2 Window

16G49880.D RSKEXT1.M

Thu May 12 16:56:44 2016

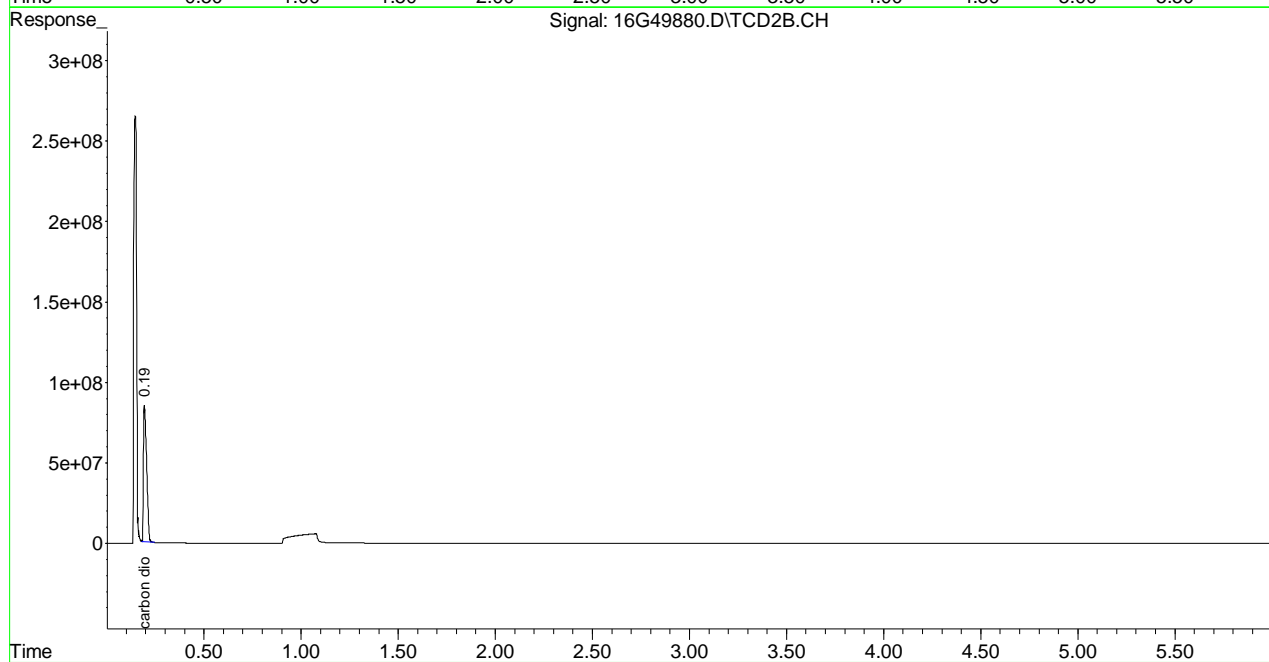
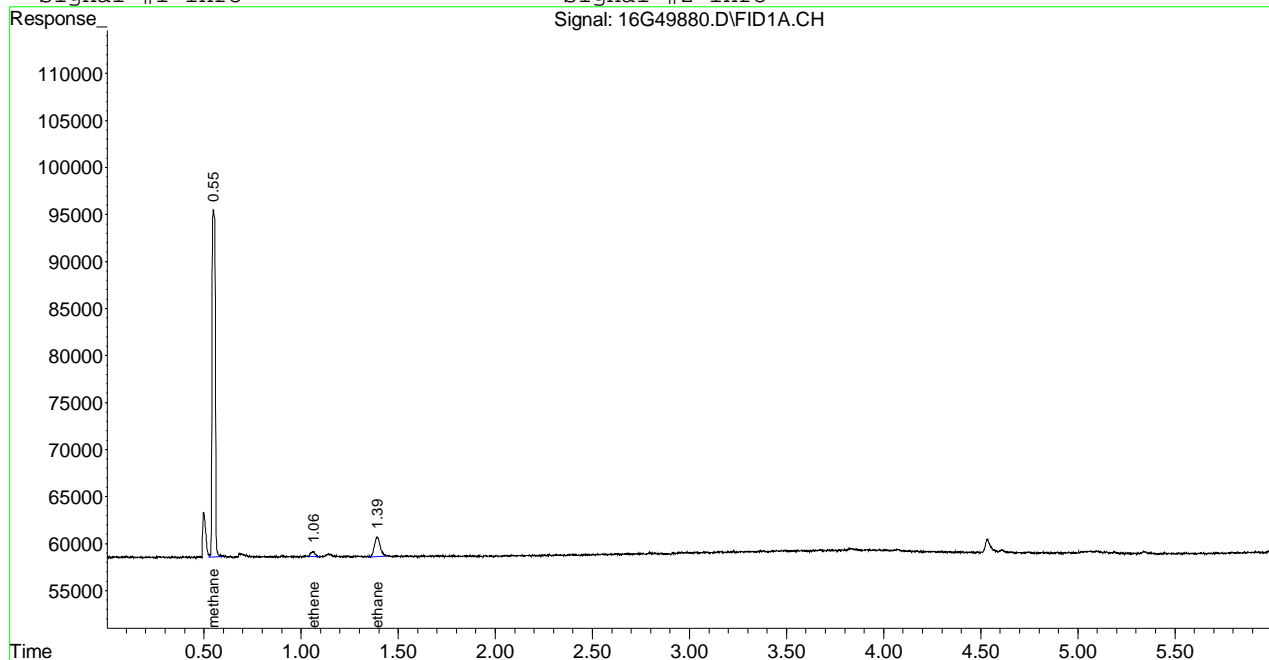
(m)=manual int.

Page 1

Signal #1 : C:\MSDchem\1\DATA\051216\16G49880.D\FID1A.CH Vial: 5
 Signal #2 : C:\MSDchem\1\DATA\051216\16G49880.D\TCD2B.CH
 Acq On : 12 May 2016 16:50 Operator: JDS
 Sample : L16050571-05 A RSK175 Inst : HP16
 Misc : 1,1 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 12 16:56 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\051316\16G49903.D\FID1A.CH Vial: 8
 Signal #2 : C:\MSDchem\1\DATA\051316\16G49903.D\TCD2B.CH
 Acq On : 13 May 2016 17:10 Operator: JDS
 Sample : L16050571-05 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 13 17:16:51 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	292512	0.008 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	150510190	28513.685 umol/

(f)=RT Delta > 1/2 Window
 16G49903.D RSKEXT1.M Fri May 13 17:16:51 2016

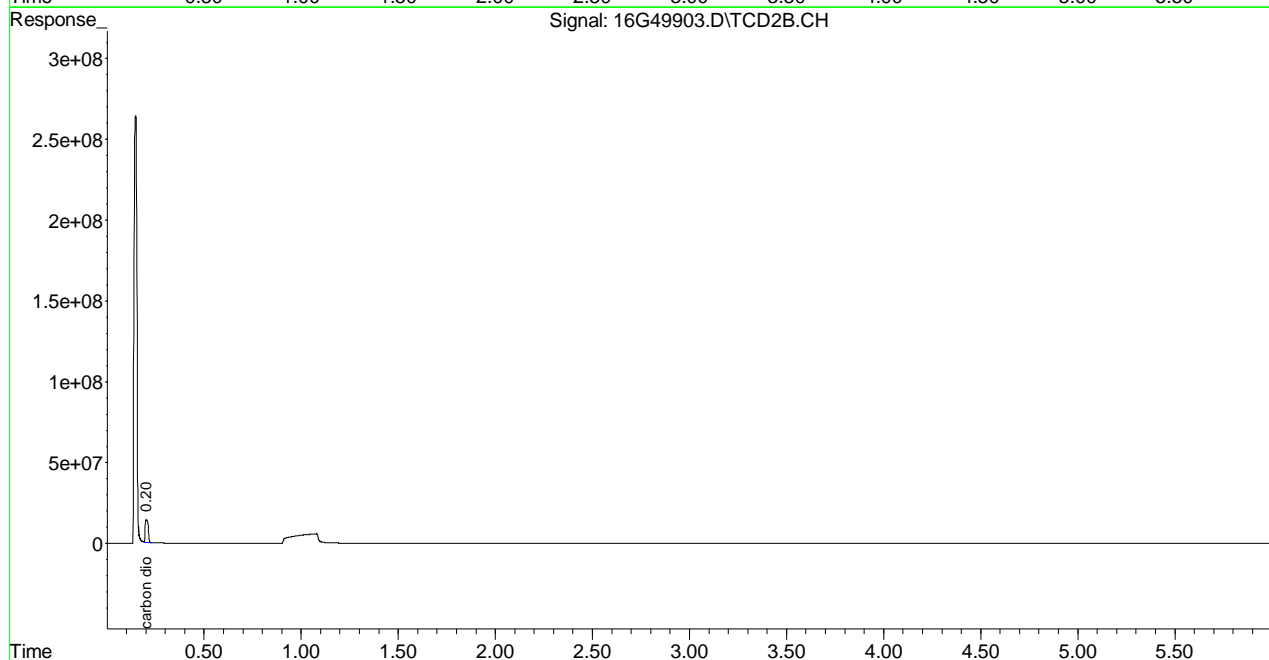
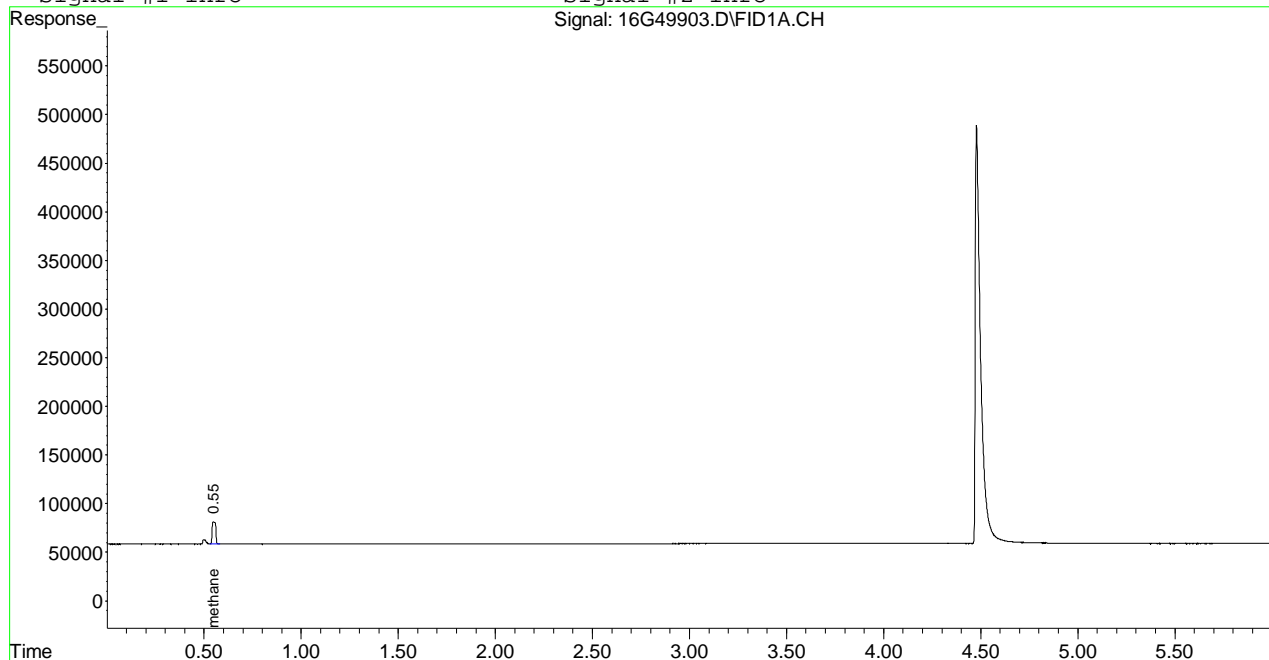
(m)=manual int.

Page 1

Signal #1 : C:\MSDchem\1\DATA\051316\16G49903.D\FID1A.CH Vial: 8
 Signal #2 : C:\MSDchem\1\DATA\051316\16G49903.D\TCD2B.CH
 Acq On : 13 May 2016 17:10 Operator: JDS
 Sample : L16050571-05 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 13 17:16 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\051216\16G49881.D\FID1A.CH Vial: 6
 Signal #2 : C:\MSDchem\1\DATA\051216\16G49881.D\TCD2B.CH
 Acq On : 12 May 2016 17:02 Operator: JDS
 Sample : L16050571-07 A RSK175 Inst : HP16
 Misc : 1,1 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 12 17:08:13 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 : 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	897707	3.387 umol/
2) T ethene	1.06	7979	0.026 umol/
3) T acetylene	0.00	0	N.D. umol/
4) T ethane	1.39	17484	0.055 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	637440133	120761.039 umol/

(f)=RT Delta > 1/2 Window

16G49881.D RSKEXT1.M

Thu May 12 17:08:13 2016

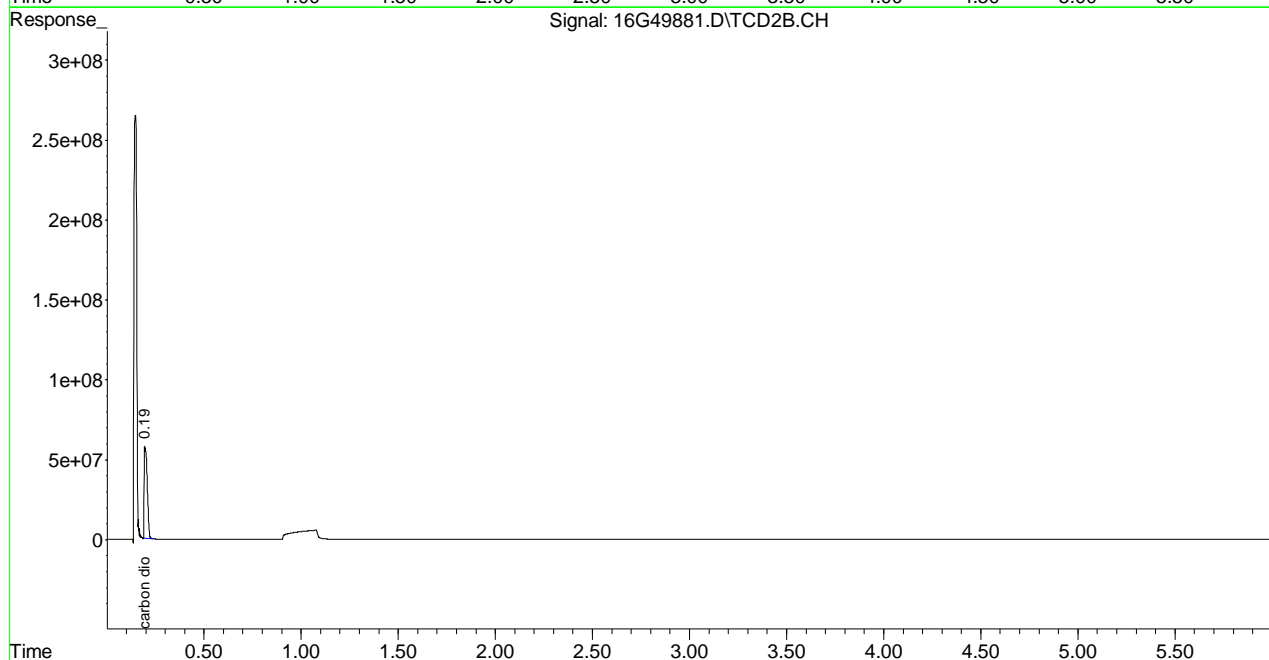
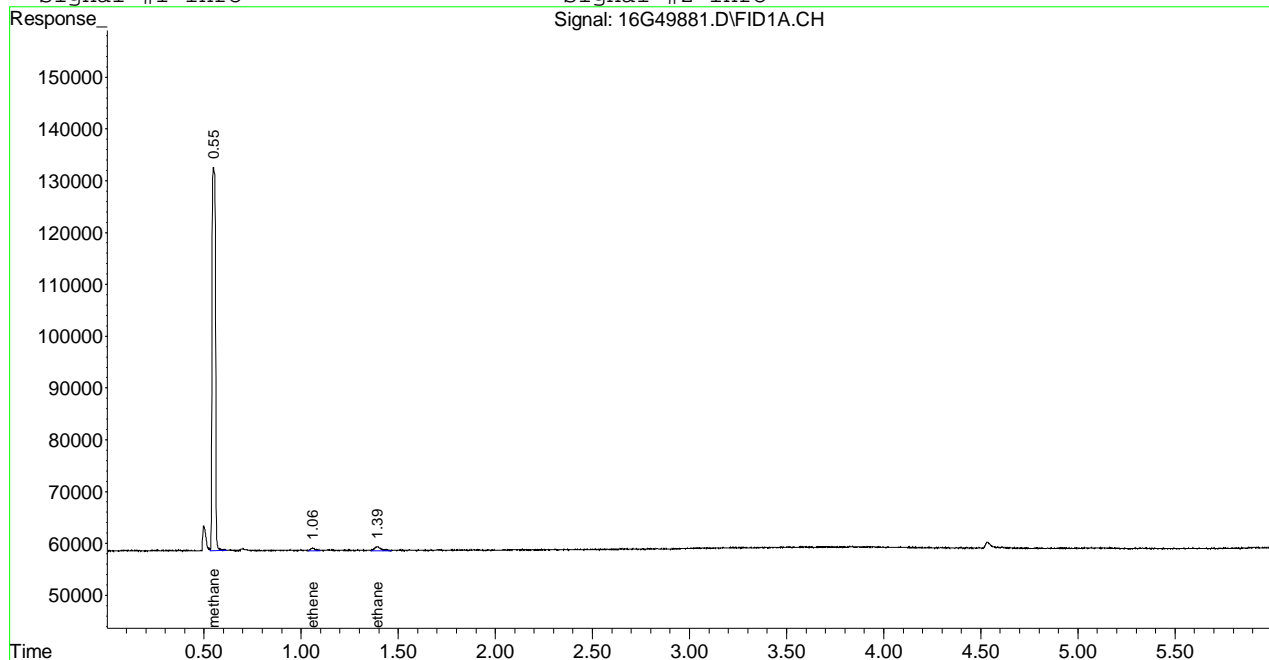
(m)=manual int.

Page 1

Signal #1 : C:\MSDCHEM\1\DATA\051216\16G49881.D\FID1A.CH Vial: 6
 Signal #2 : C:\MSDCHEM\1\DATA\051216\16G49881.D\TCD2B.CH
 Acq On : 12 May 2016 17:02 Operator: JDS
 Sample : L16050571-07 A RSK175 Inst : HP16
 Misc : 1,1 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 12 17:08 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\051316\16G49904.D\FID1A.CH Vial: 9
 Signal #2 : C:\MSDchem\1\DATA\051316\16G49904.D\TCD2B.CH
 Acq On : 13 May 2016 17:22 Operator: JDS
 Sample : L16050571-07 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 13 17:28:20 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	353179	0.346 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	89455934	16947.147 umol/

(f)=RT Delta > 1/2 Window
 16G49904.D RSKEXT1.M Fri May 13 17:28:21 2016

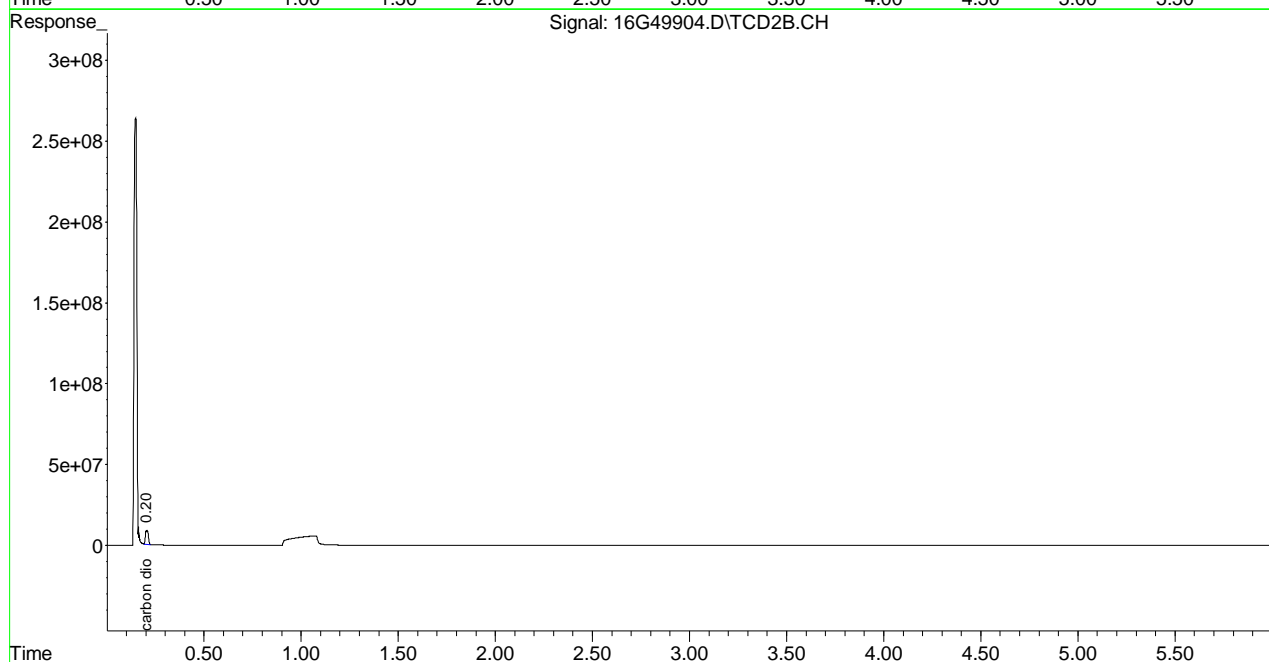
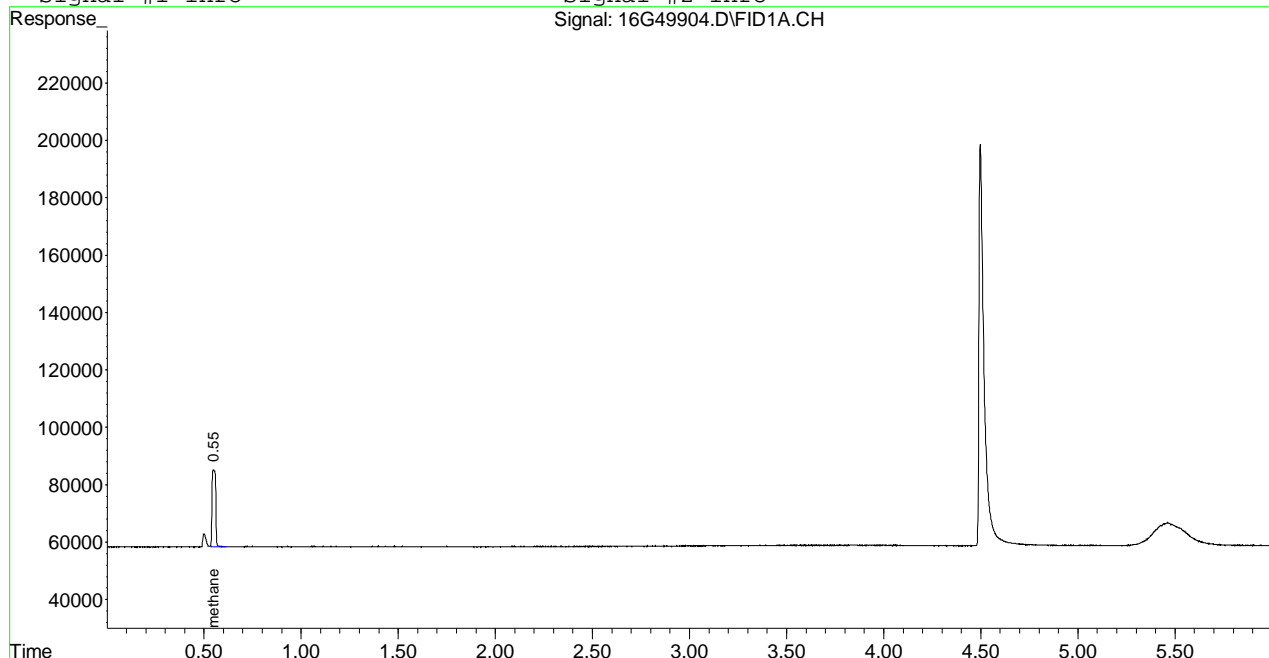
(m)=manual int.

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Signal #1 : C:\MSDchem\1\DATA\051316\16G49904.D\FID1A.CH Vial: 9
 Signal #2 : C:\MSDchem\1\DATA\051316\16G49904.D\TCD2B.CH
 Acq On : 13 May 2016 17:22 Operator: JDS
 Sample : L16050571-07 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 13 17:28 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 : 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\051216\16G49882.D\FID1A.CH Vial: 7
 Signal #2 : C:\MSDchem\1\DATA\051216\16G49882.D\TCD2B.CH
 Acq On : 12 May 2016 17:13 Operator: JDS
 Sample : L16050571-09 A RSK175 Inst : HP16
 Misc : 1,1 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 12 17:19:39 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	262944	N.D.	umol/
2) T ethene	0.00	0	N.D.	umol/
3) T acetylene	0.00	0	N.D.	umol/
4) T ethane	1.39	23102	0.072	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	1328962021	251767.698	umol/

(f)=RT Delta > 1/2 Window

16G49882.D RSKEXT1.M

Thu May 12 17:19:40 2016

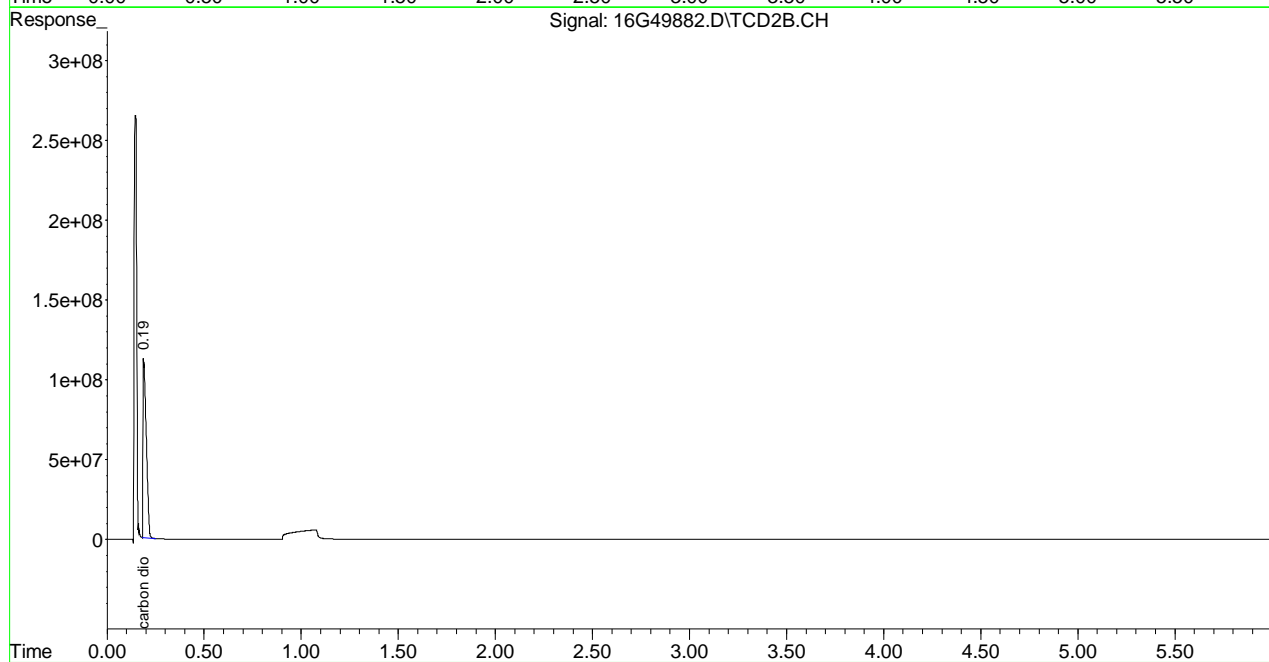
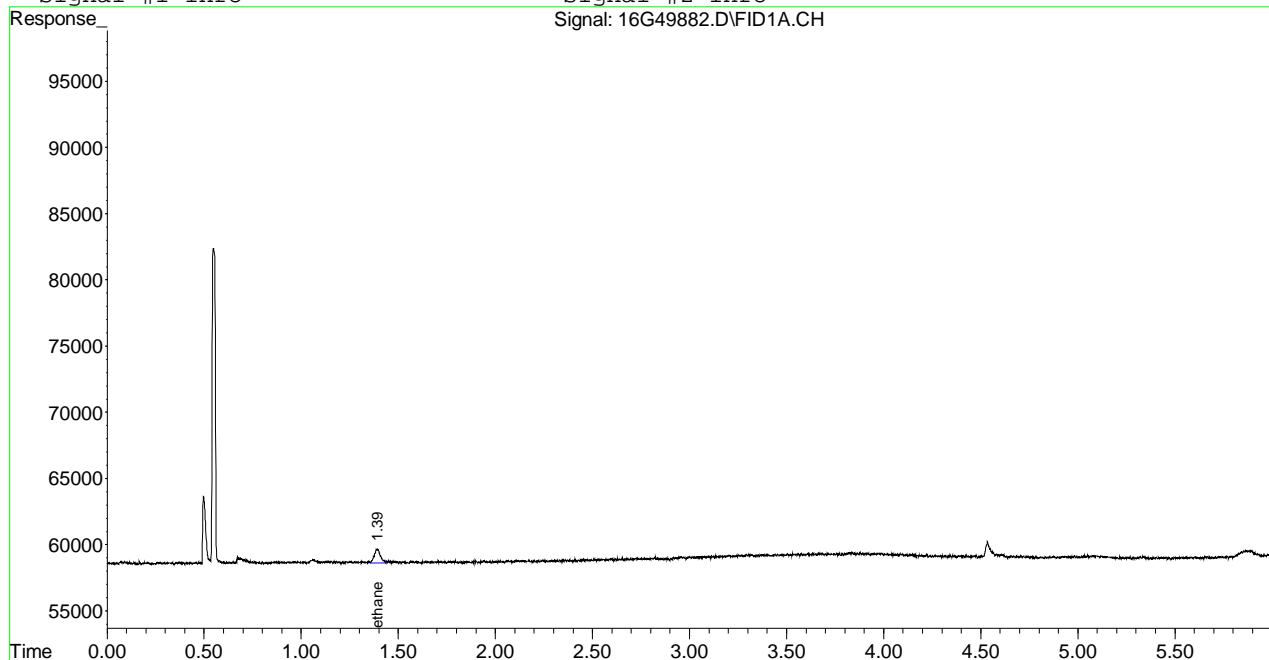
(m)=manual int.

Page 1

Signal #1 : C:\MSDchem\1\DATA\051216\16G49882.D\FID1A.CH Vial: 7
 Signal #2 : C:\MSDchem\1\DATA\051216\16G49882.D\TCD2B.CH
 Acq On : 12 May 2016 17:13 Operator: JDS
 Sample : L16050571-09 A RSK175 Inst : HP16
 Misc : 1,1 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 12 17:19 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\051316\16G49905.D\FID1A.CH Vial: 10
 Signal #2 : C:\MSDCHEM\1\DATA\051316\16G49905.D\TCD2B.CH
 Acq On : 13 May 2016 17:33 Operator: JDS
 Sample : L16050571-09 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 13 17:39:45 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	271621	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	81877274	15511.394	umol/

(f)=RT Delta > 1/2 Window

16G49905.D RSKEXT1.M Sun May 15 14:05:56 2016

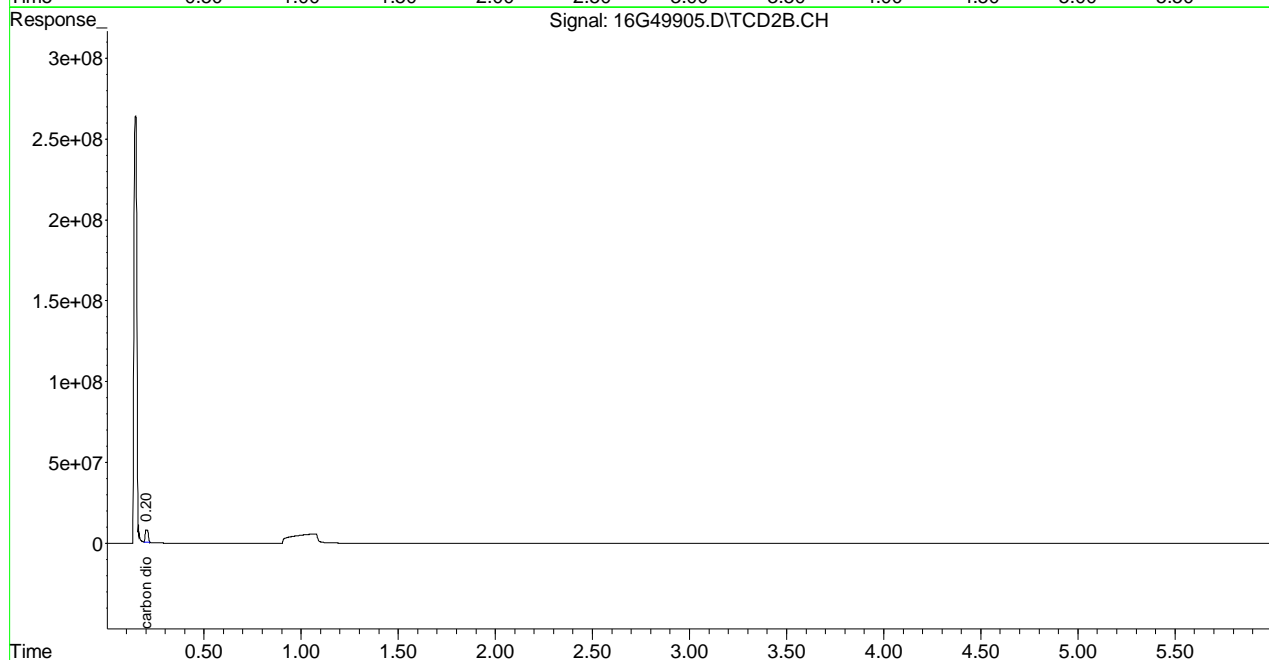
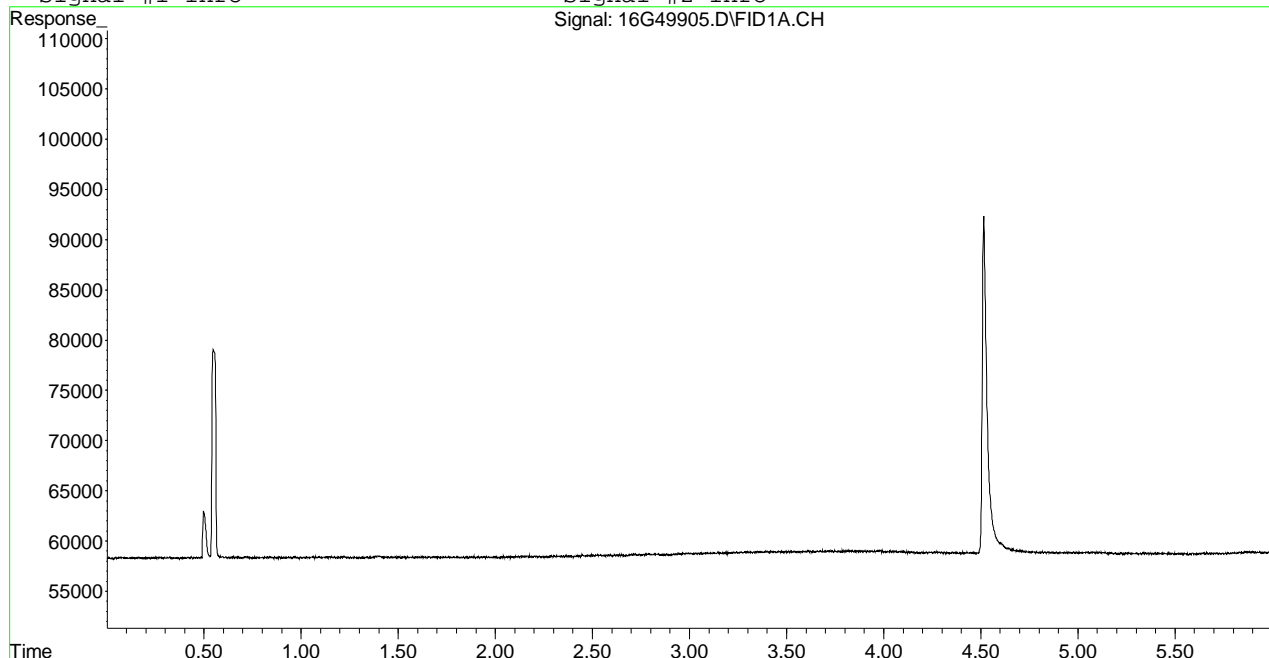
(m)=manual int.

Page 1

Signal #1 : C:\MSDCHEM\1\DATA\051316\16G49905.D\FID1A.CH Vial: 10
 Signal #2 : C:\MSDCHEM\1\DATA\051316\16G49905.D\TCD2B.CH
 Acq On : 13 May 2016 17:33 Operator: JDS
 Sample : L16050571-09 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 13 17:39 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\051216\16G49883.D\FID1A.CH Vial: 8
 Signal #2 : C:\MSDchem\1\DATA\051216\16G49883.D\TCD2B.CH
 Acq On : 12 May 2016 17:25 Operator: JDS
 Sample : L16050571-11 A RSK175 Inst : HP16
 Misc : 1,1 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 12 17:31:23 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	274116	N.D.	umol/
2) T ethene	0.00	0	N.D.	umol/
3) T acetylene	0.00	0	N.D.	umol/
4) T ethane	1.39	12891	0.040	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	875225929	165808.815	umol/

(f)=RT Delta > 1/2 Window

16G49883.D RSKEXT1.M

Thu May 12 17:31:23 2016

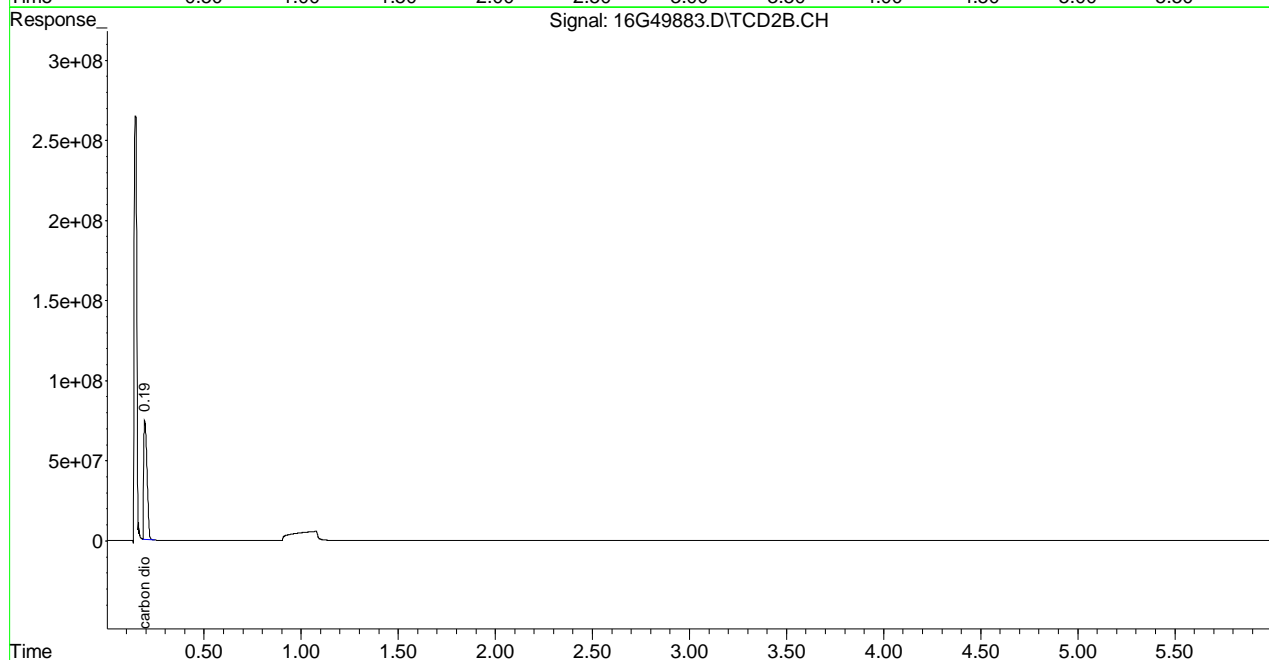
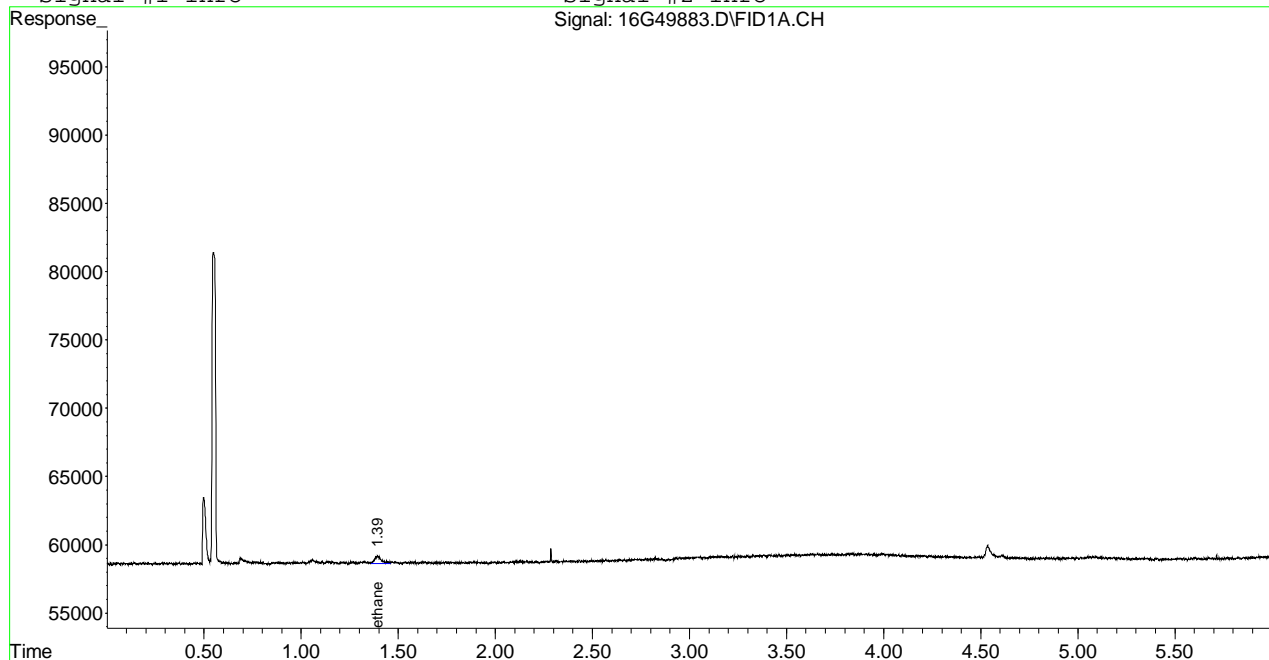
(m)=manual int.

Page 1

Signal #1 : C:\MSDchem\1\DATA\051216\16G49883.D\FID1A.CH Vial: 8
 Signal #2 : C:\MSDchem\1\DATA\051216\16G49883.D\TCD2B.CH
 Acq On : 12 May 2016 17:25 Operator: JDS
 Sample : L16050571-11 A RSK175 Inst : HP16
 Misc : 1,1 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 12 17:31 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\051316\16G49906.D\FID1A.CH Vial: 11
 Signal #2 : C:\MSDCHEM\1\DATA\051316\16G49906.D\TCD2B.CH
 Acq On : 13 May 2016 17:45 Operator: JDS
 Sample : L16050571-11 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 13 17:51:04 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	267302	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	105870187	20056.776	umol/

(f)=RT Delta > 1/2 Window

16G49906.D RSKEXT1.M Sun May 15 14:06:02 2016

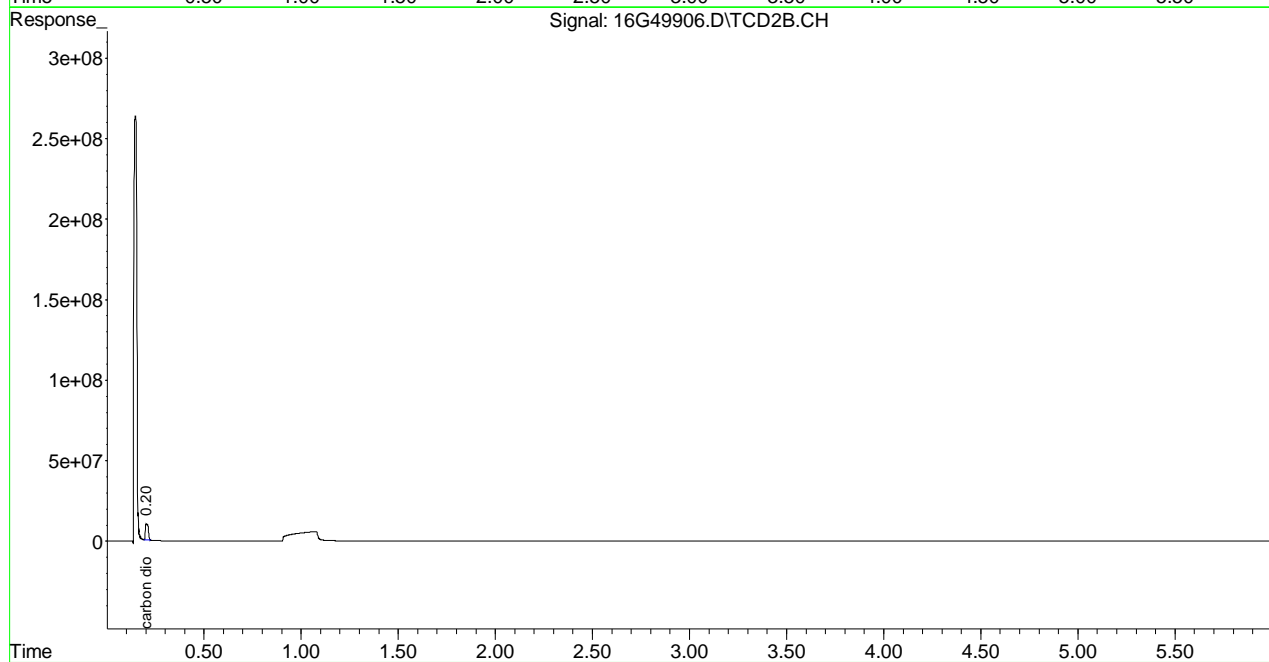
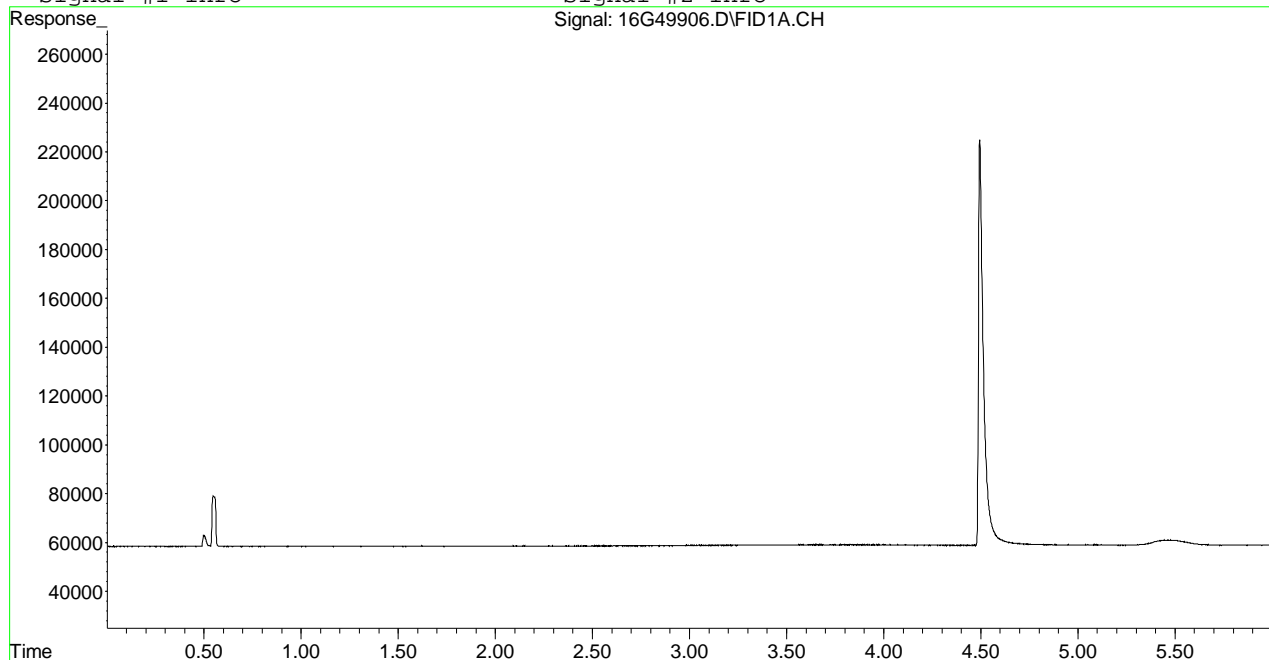
(m)=manual int.

Page 1

Signal #1 : C:\MSDCHEM\1\DATA\051316\16G49906.D\FID1A.CH Vial: 11
 Signal #2 : C:\MSDCHEM\1\DATA\051316\16G49906.D\TCD2B.CH
 Acq On : 13 May 2016 17:45 Operator: JDS
 Sample : L16050571-11 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 13 17:51 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/

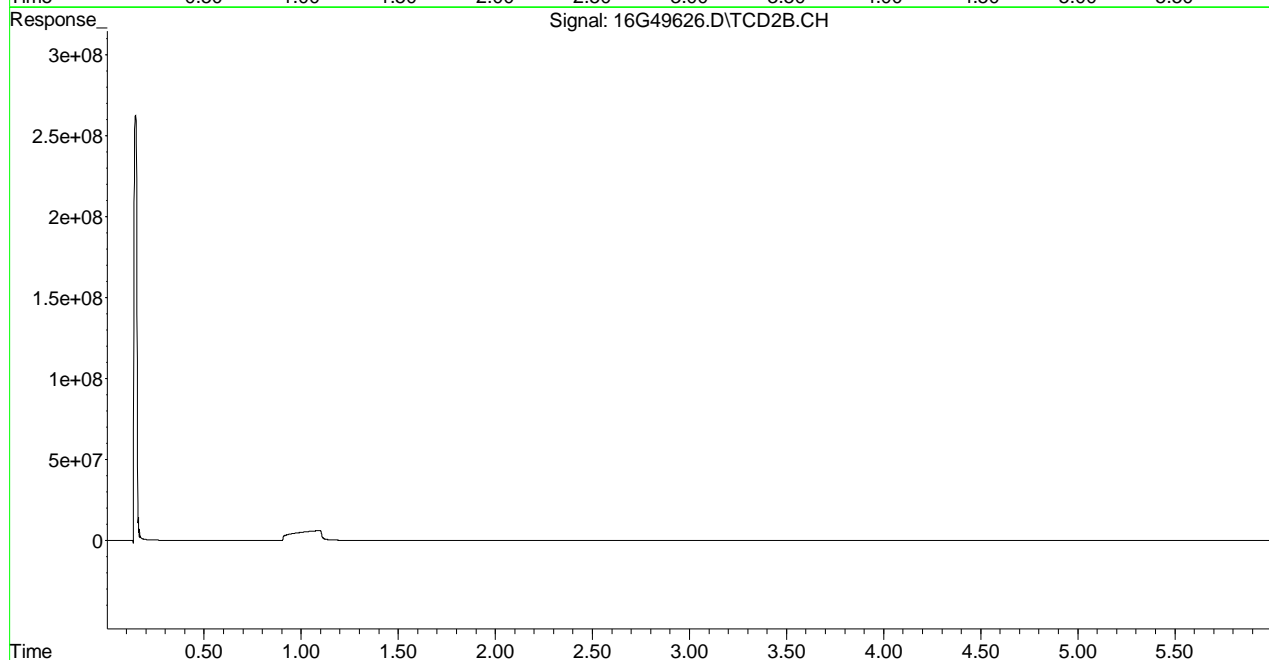
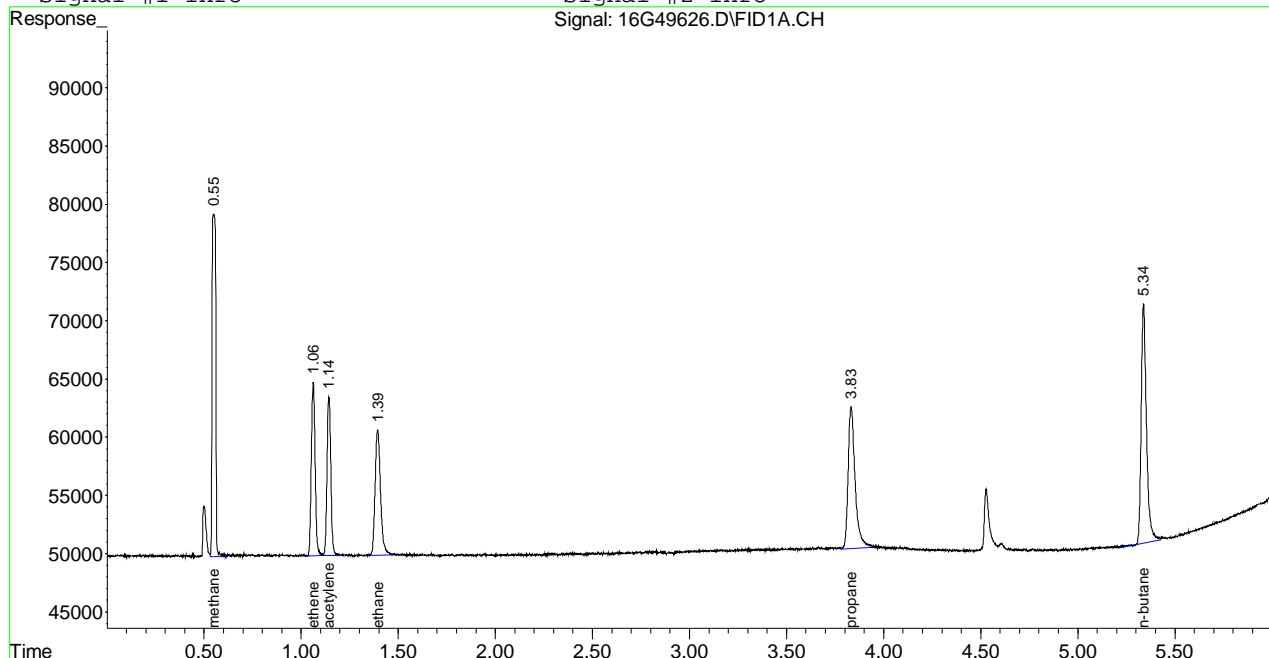
 (f)=RT Delta > 1/2 Window (m)=manual int.
 16G49626.D RSKEXT1.M Fri Mar 25 13:33:07 2016

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/

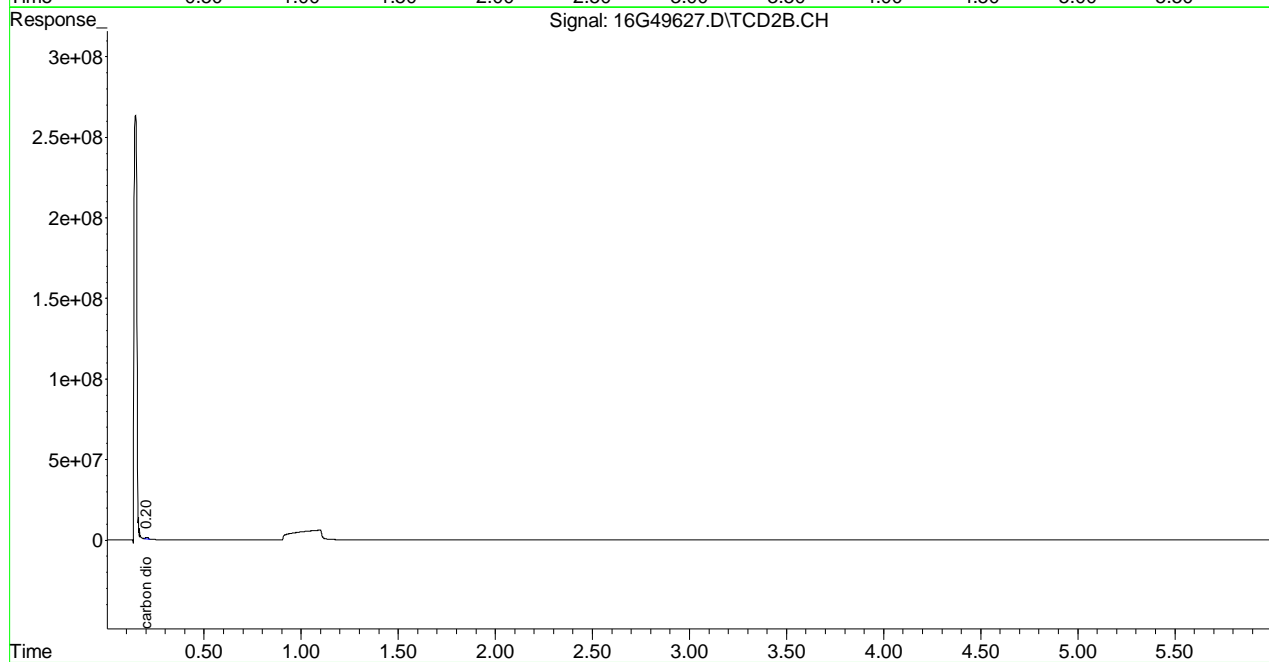
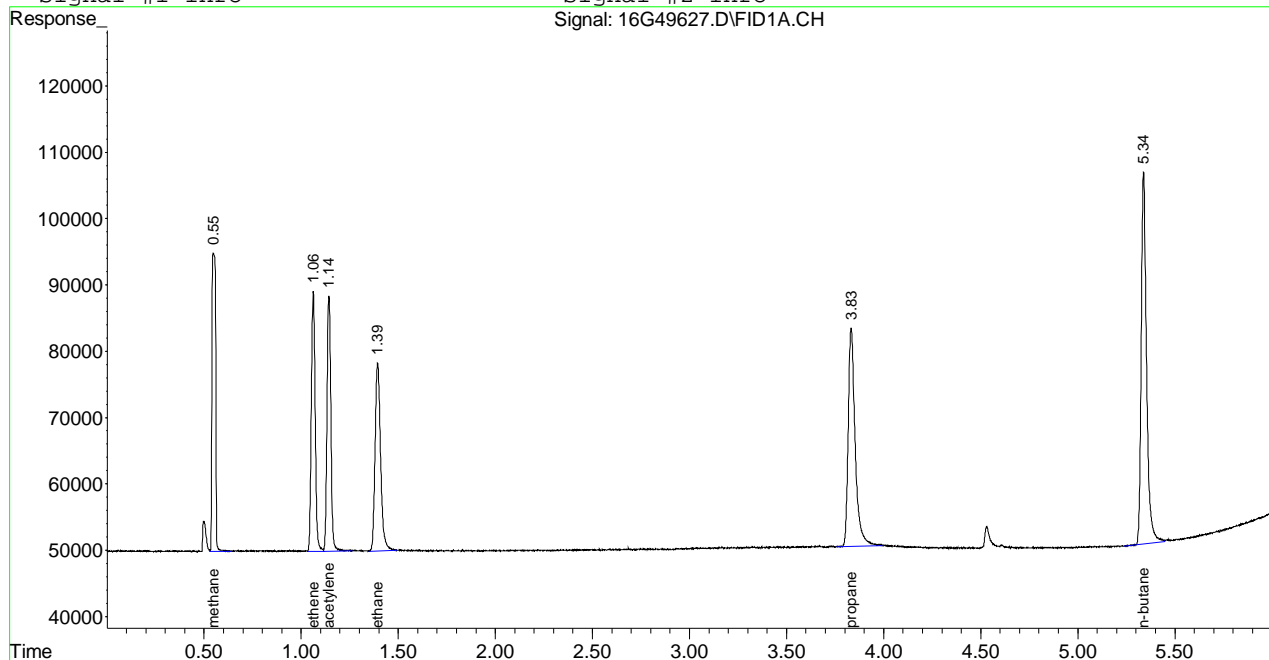
 (f)=RT Delta > 1/2 Window (m)=manual int.
 16G49627.D RSKEXT1.M Fri Mar 25 13:38:12 2016

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

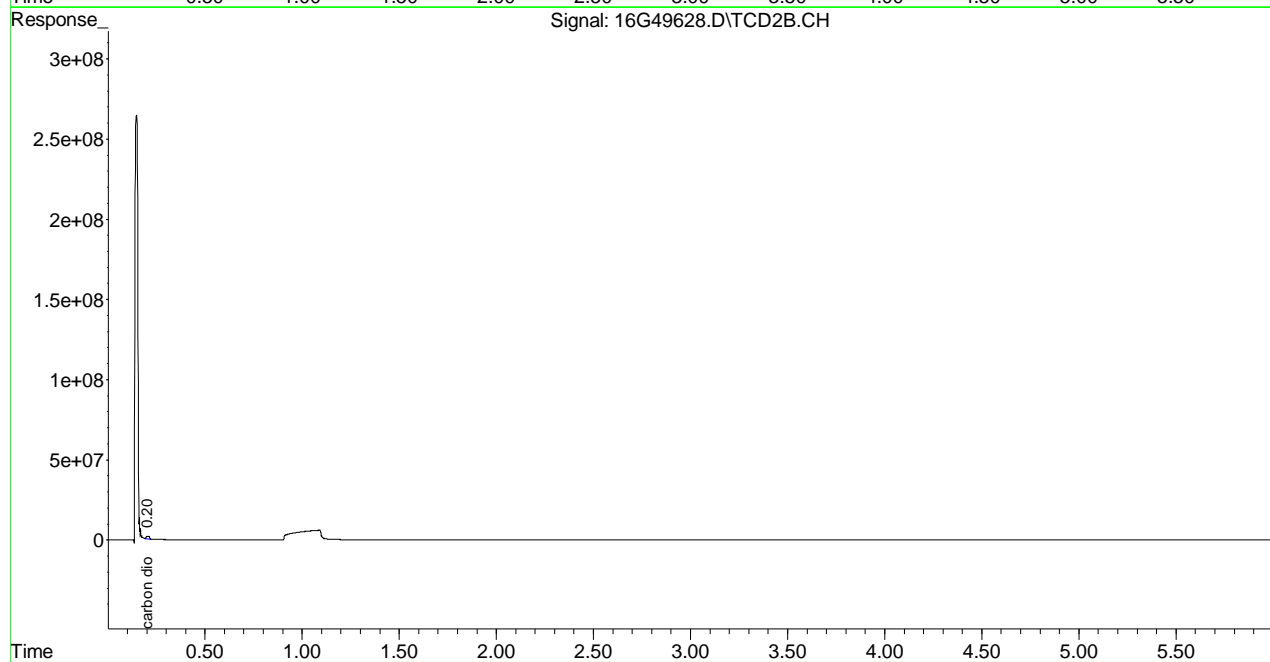
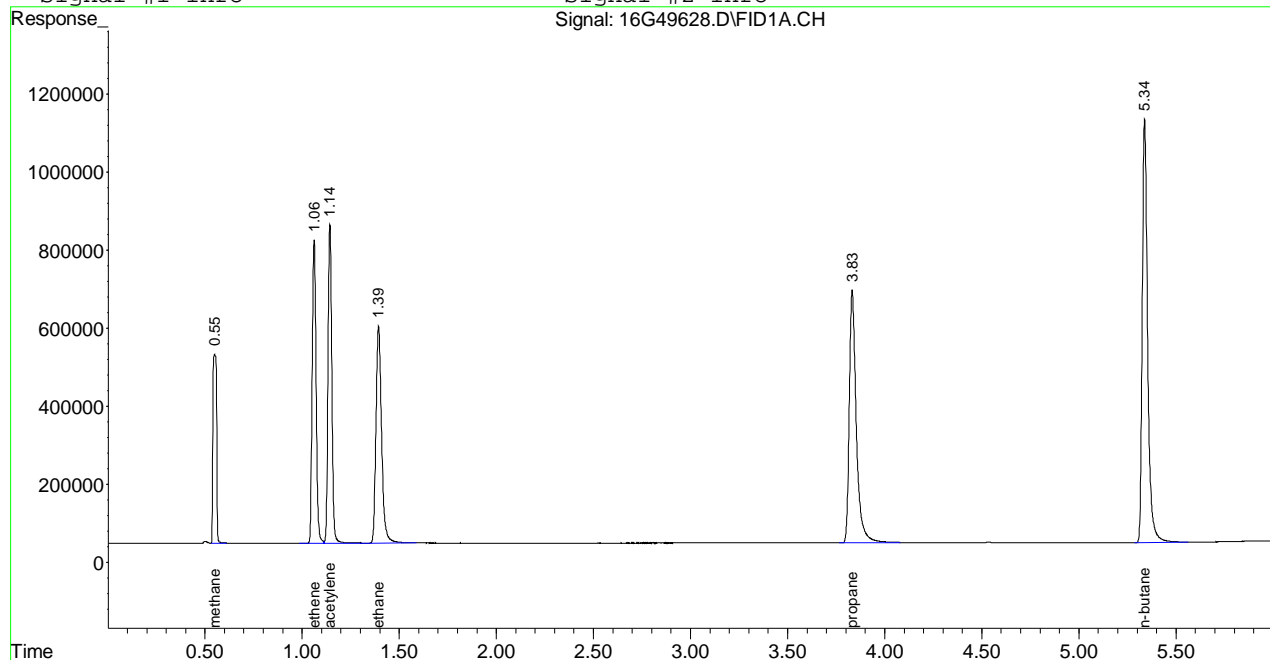
(m)=manual int.

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/

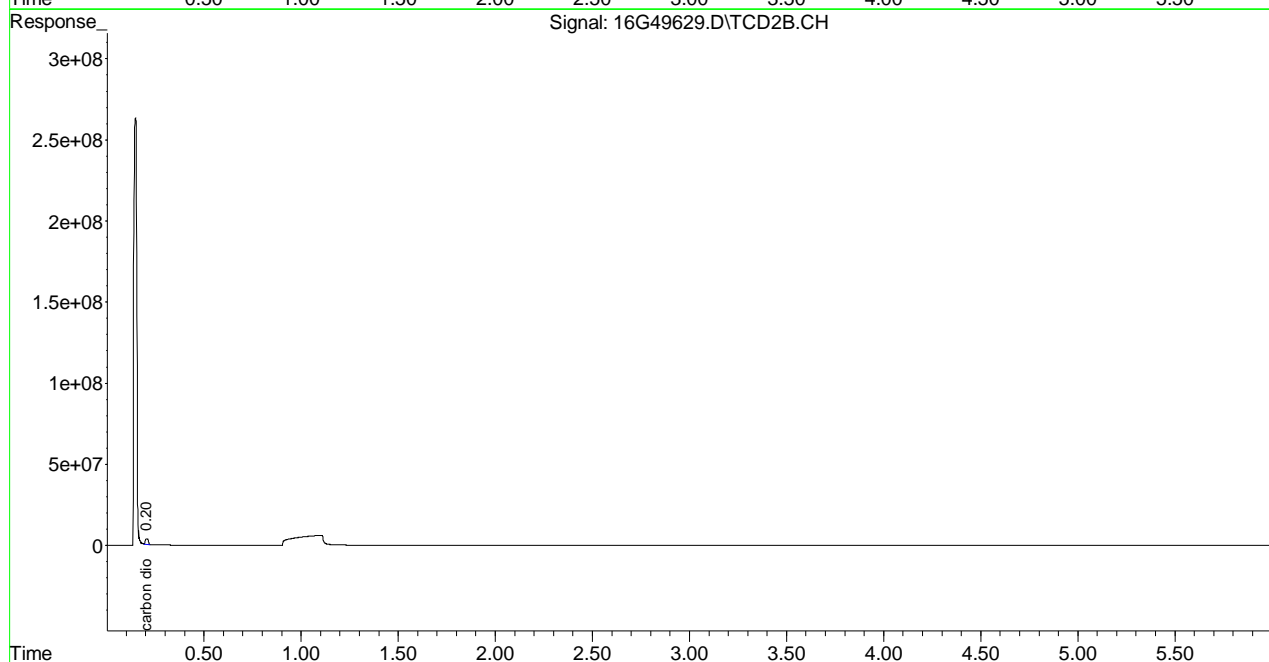
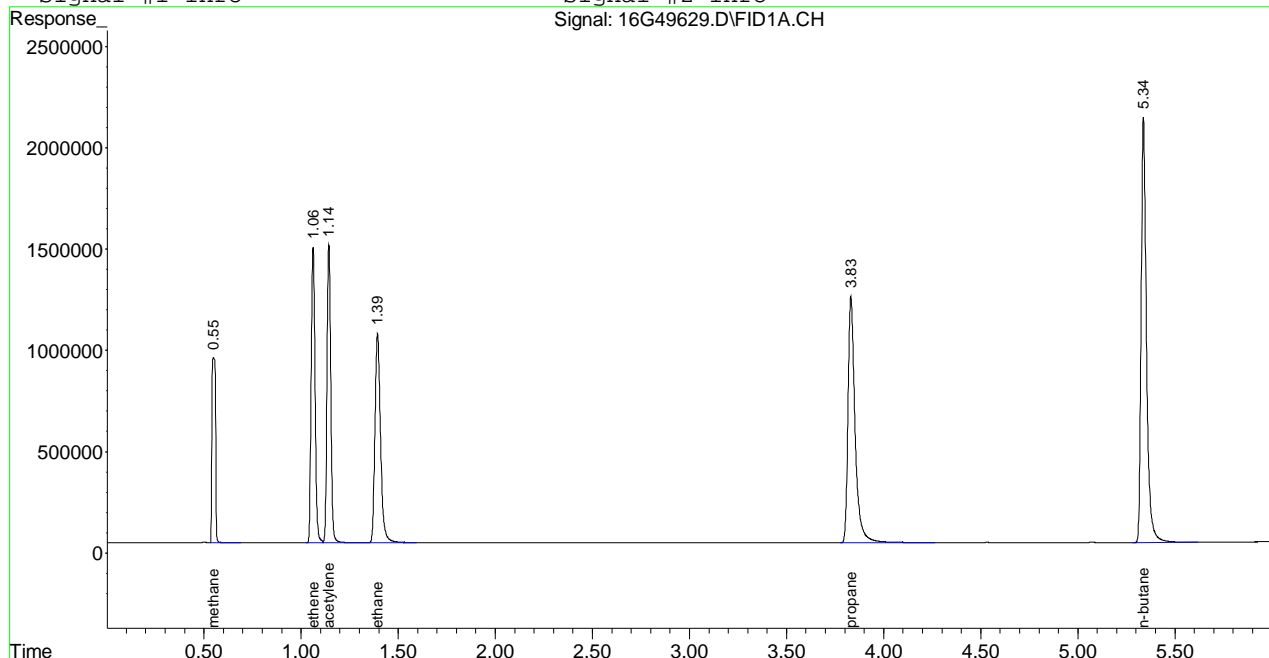
 (f)=RT Delta > 1/2 Window (m)=manual int.
 16G49629.D RSKEXT1.M Fri Mar 25 13:33:27 2016

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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/

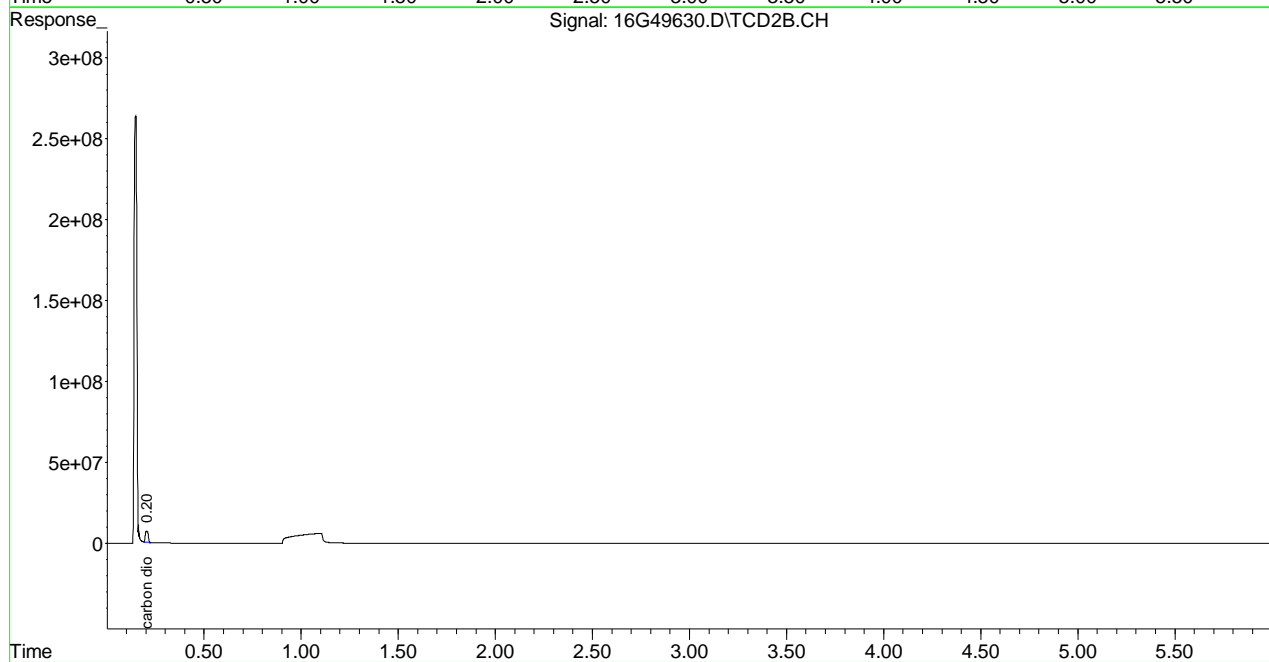
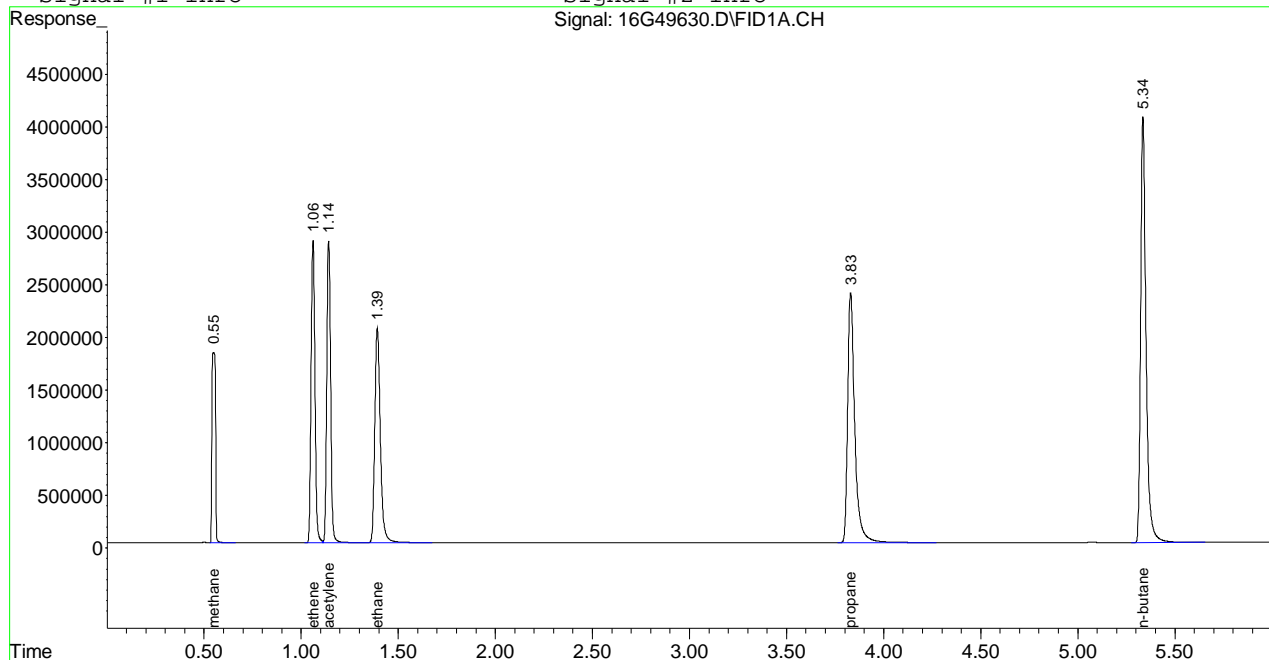
 (f)=RT Delta > 1/2 Window (m)=manual int.
 16G49630.D RSKEXT1.M Fri Mar 25 13:33:27 2016

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

16G49631.D RSKEXT1.M Fri Mar 25 13:33:28 2016

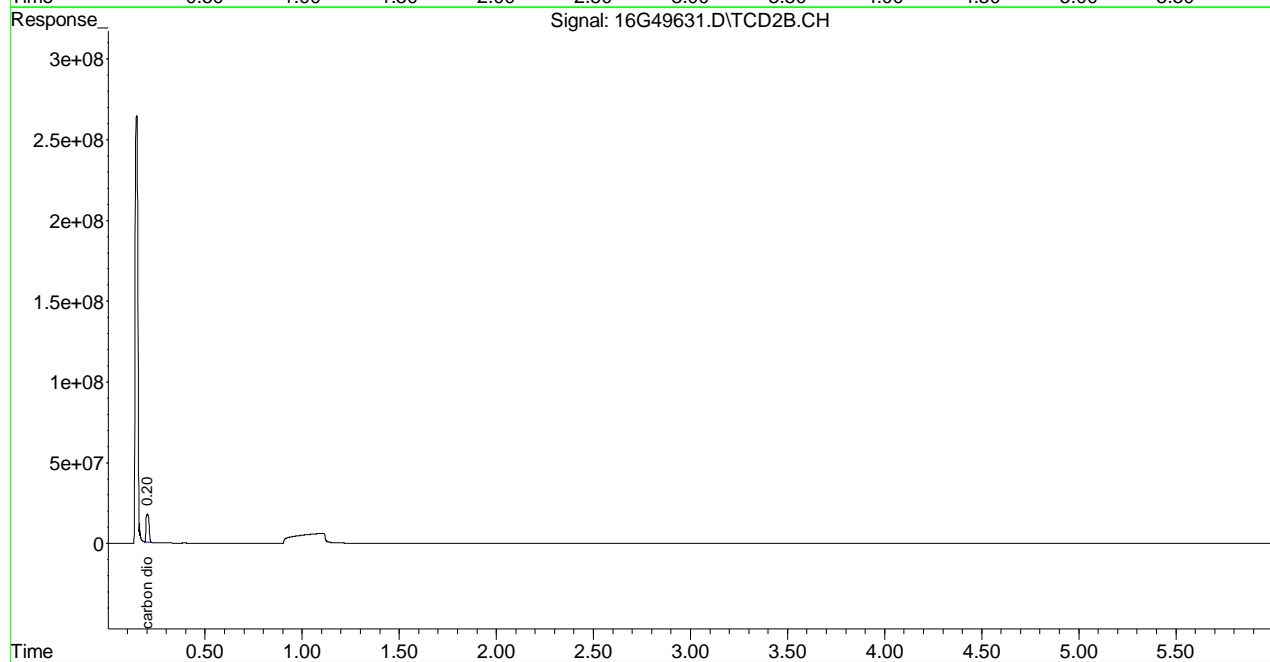
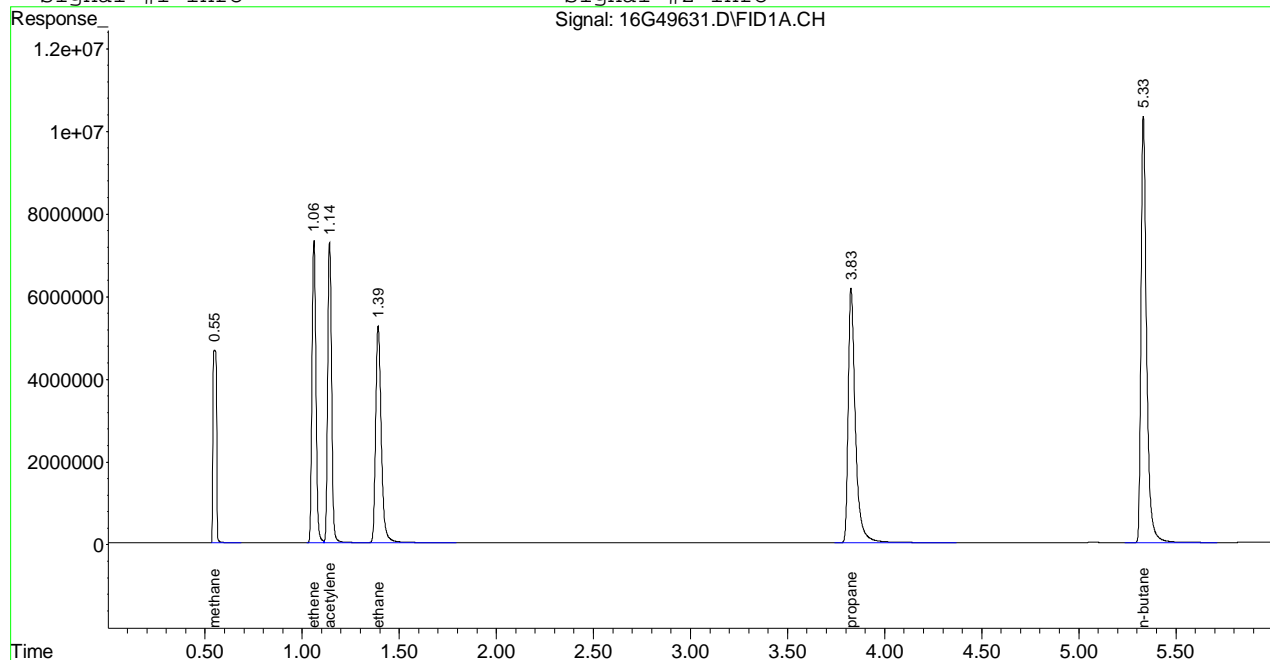
(m)=manual int.

Page 1

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/

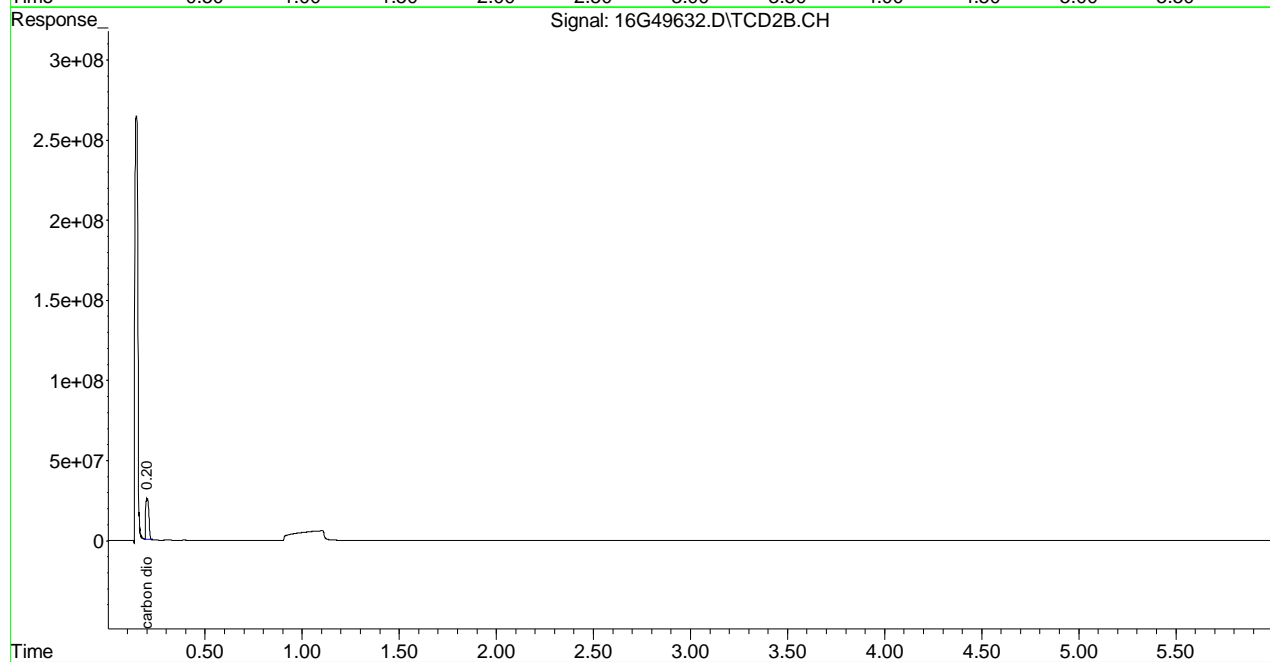
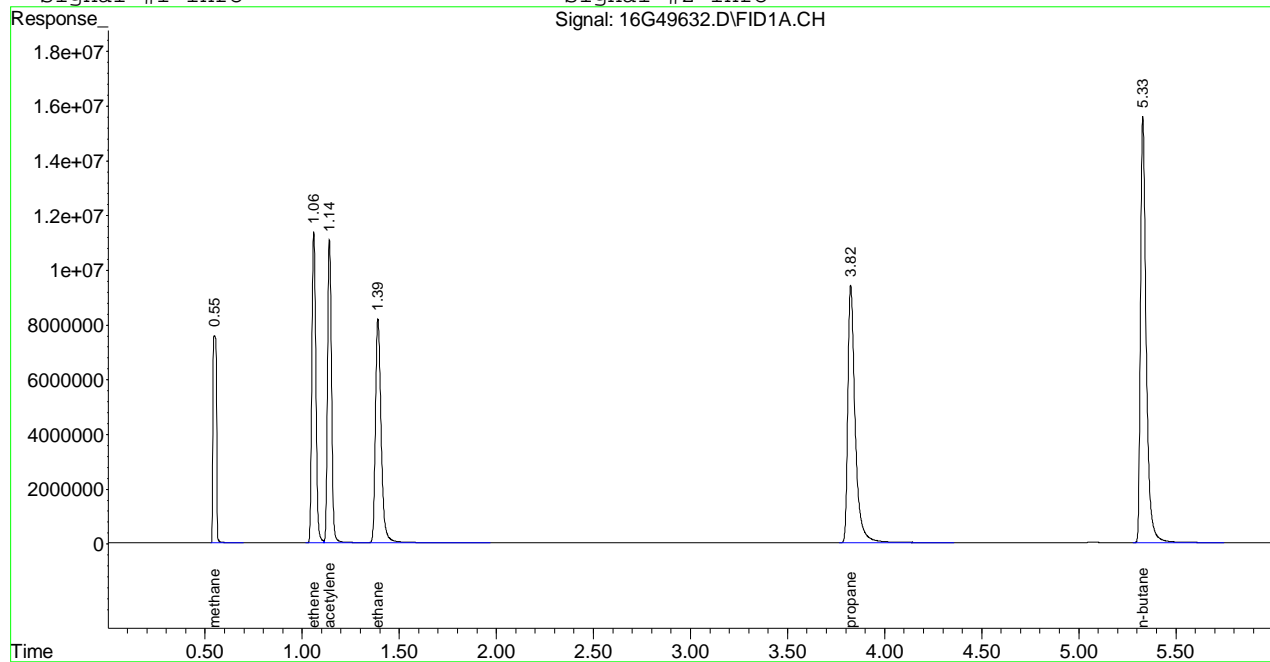
 (f)=RT Delta > 1/2 Window (m)=manual int.
 16G49632.D RSKEXT1.M Fri Mar 25 13:33:29 2016

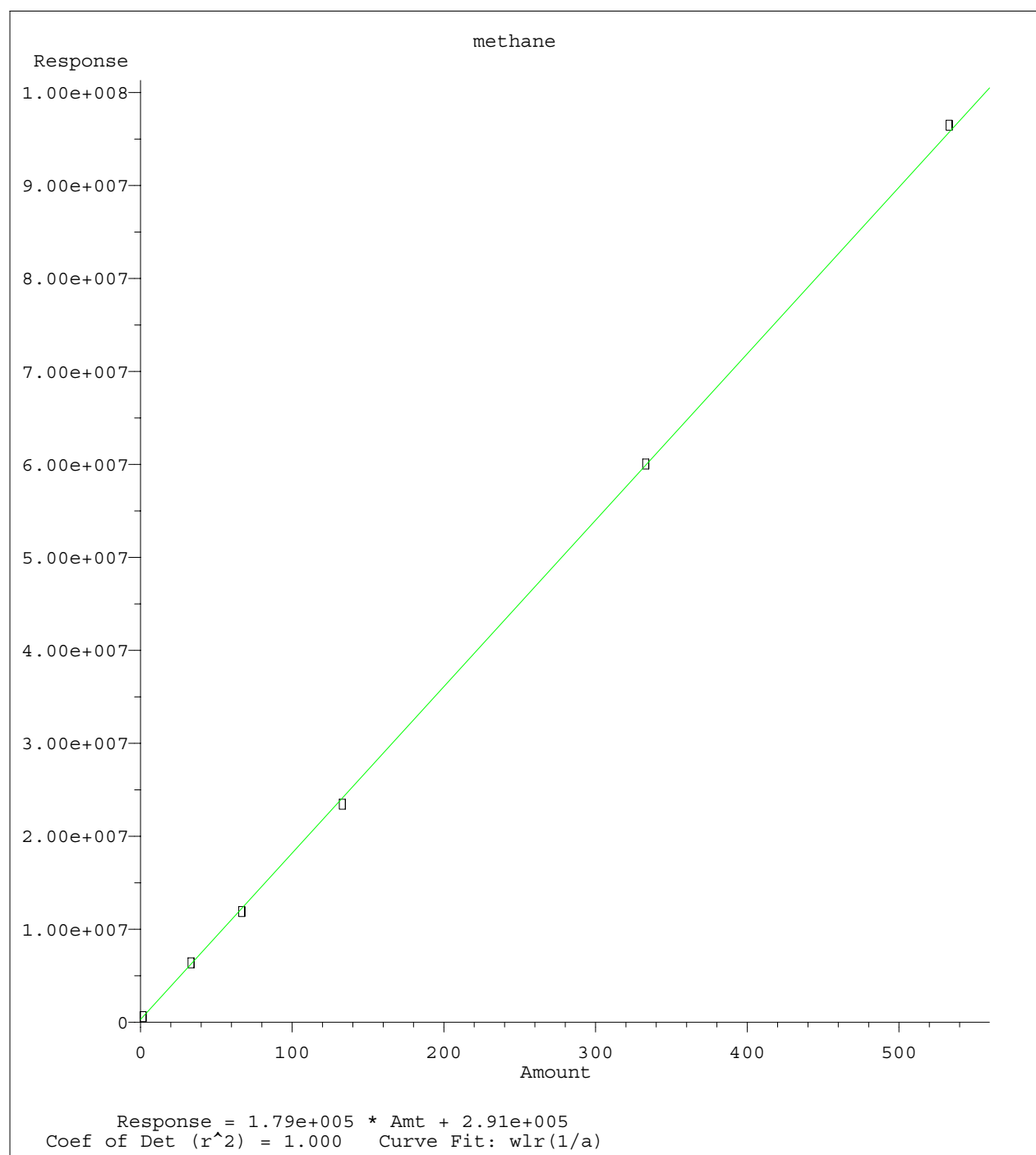
Page 1

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/

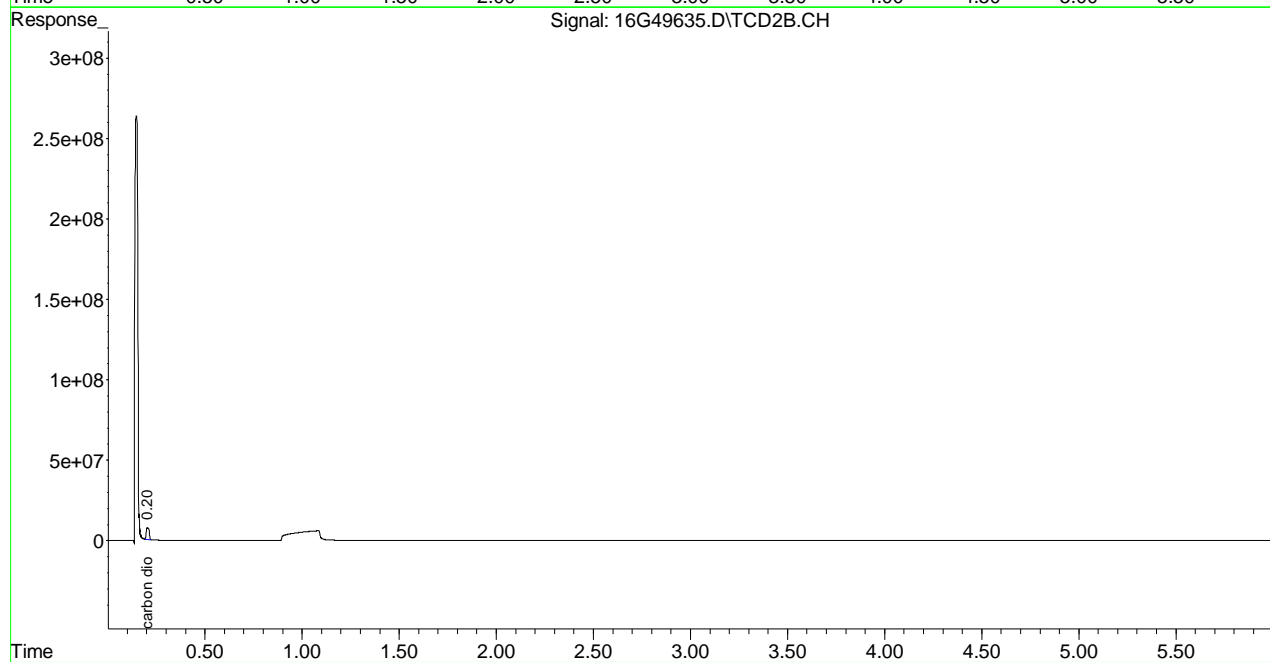
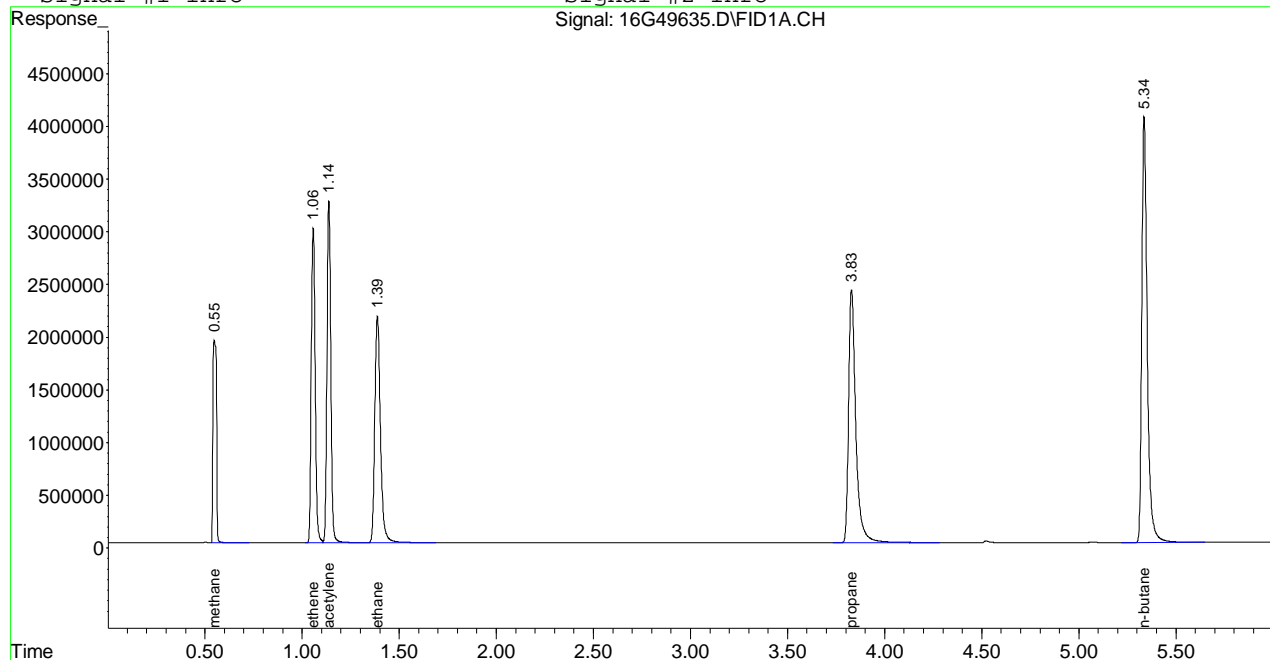
 (f)=RT Delta > 1/2 Window (m)=manual int.
 16G49635.D RSKEXT1.M Fri Mar 25 18:32:35 2016

Page 1

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

Page 1

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

Page 2

Signal #1 : C:\MSDchem\1\DATA\051216\16G49876.D\FID1A.CH Vial: 1
 Signal #2 : C:\MSDchem\1\DATA\051216\16G49876.D\TCD2B.CH
 Acq On : 12 May 2016 15:36 Operator: JDS
 Sample : WG568584-01 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 12 15:42:44 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	24102871	132.968 umol/
2) T ethene	1.06	40697460	130.414 umol/
3) T acetylene	1.14	41940692	134.310 umol/
4) T ethane	1.39	41537118	130.239 umol/
5) T propane	3.83	61908500	131.229 umol/
6) T n-butane	5.34	80248747	131.253 umol/
8) T carbon dioxide	0.20	73503981	13925.099 umol/

(f)=RT Delta > 1/2 Window

16G49876.D RSKEXT1.M Thu May 12 15:42:44 2016

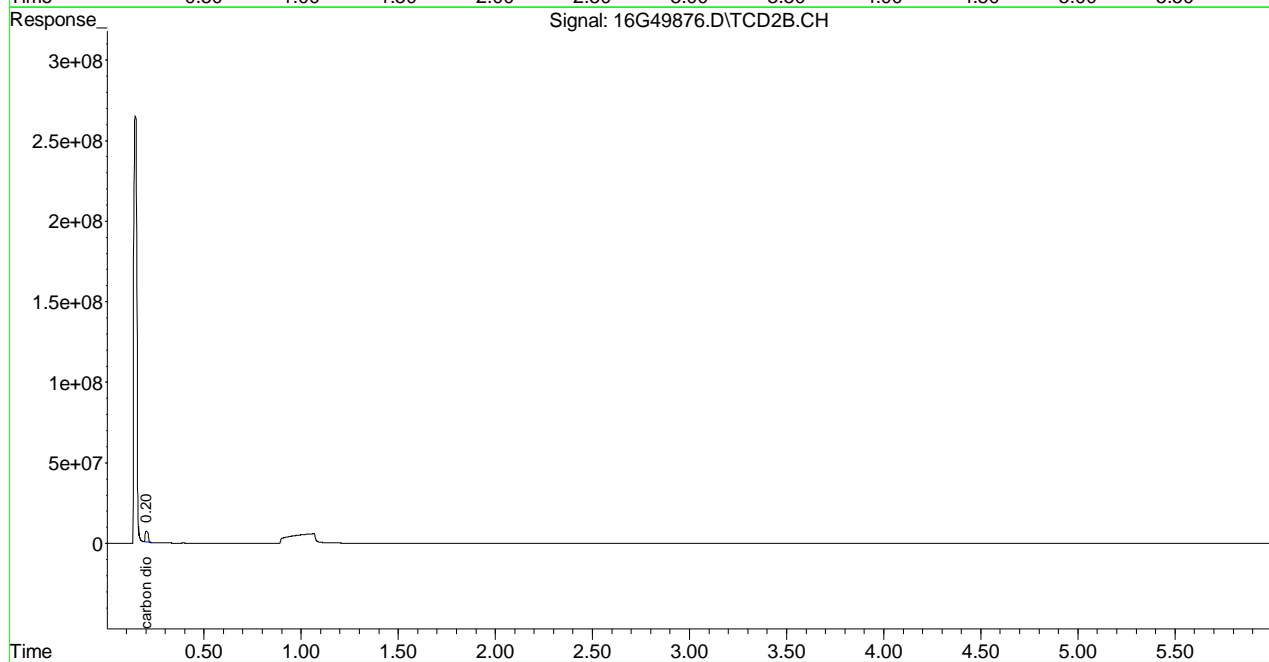
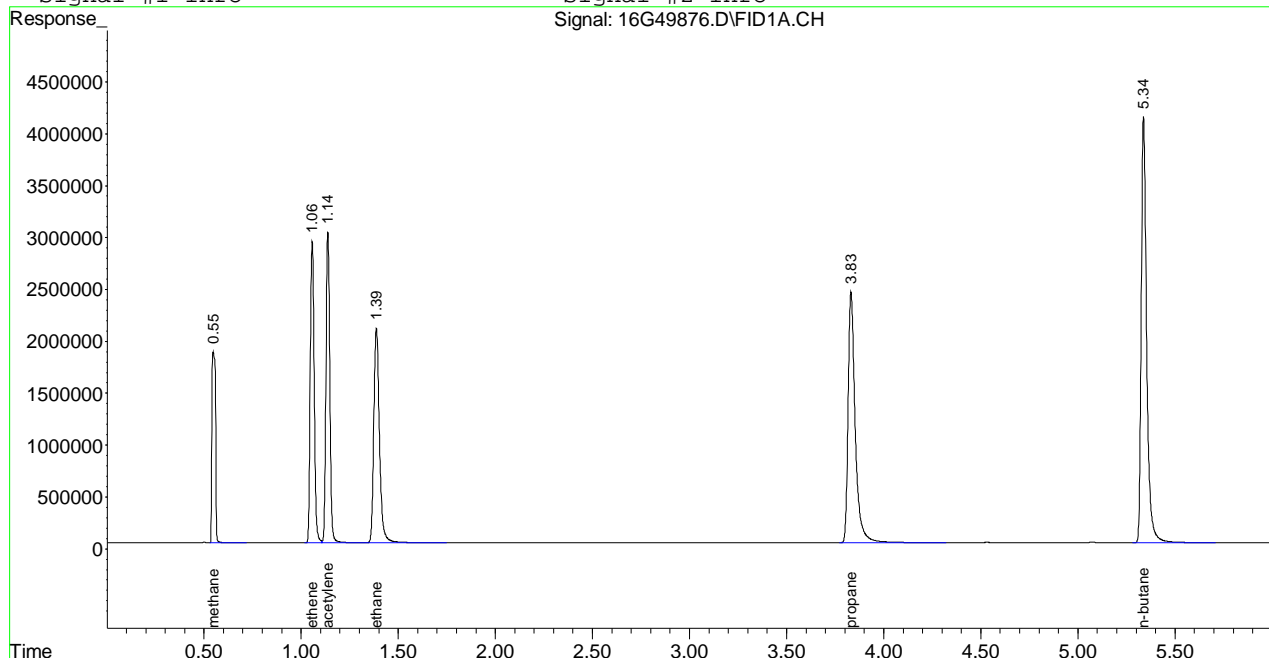
(m)=manual int.

Page 1

Signal #1 : C:\MSDCHEM\1\DATA\051216\16G49876.D\FID1A.CH Vial: 1
 Signal #2 : C:\MSDCHEM\1\DATA\051216\16G49876.D\TCD2B.CH
 Acq On : 12 May 2016 15:36 Operator: JDS
 Sample : WG568584-01 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 12 15:42 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\051216\16G49876.D\FID1A.CH Vial: 1
 Signal #2 : C:\MSDCHEM\1\DATA\051216\16G49876.D\TCD2B.CH
 Acq On : 12 May 2016 15:36 Operator: JDS
 Sample : WG568584-01 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	132.968	0.0	103	0.00
2 T	ethene	133.000	130.414	1.9	102	0.00
3 T	acetylene	133.000	134.310	-1.0	105	0.00
4 T	ethane	133.000	130.239	2.1	102	0.00
5 T	propane	133.000	131.229	1.3	102	0.00
6 T	n-butane	133.000	131.253	1.3	102	0.00
Signal #2						
8 T	carbon dioxide	13300.000	13925.099	-4.7	103	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 16G49876.D RSKEXT1.M Fri May 13 11:46:14 2016

Page 1

Signal #1 : C:\MSDCHEM\1\DATA\051216\16G49876.D\FID1A.CH Vial: 1
Signal #2 : C:\MSDCHEM\1\DATA\051216\16G49876.D\TCD2B.CH
Acq On : 12 May 2016 15:36 Operator: JDS
Sample : WG568584-01 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
16G49876.D RSKEXT1.M Fri May 13 11:46:14 2016

Page 2

Signal #1 : C:\MSDchem\1\DATA\051216\16G49887.D\FID1A.CH Vial: 12
 Signal #2 : C:\MSDchem\1\DATA\051216\16G49887.D\TCD2B.CH
 Acq On : 12 May 2016 18:12 Operator: JDS
 Sample : WG568584-02 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 12 18:18:13 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 : 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	24662252	136.092	umol/
2) T ethene	1.06	42070448	134.814	umol/
3) T acetylene	1.14	40170981	128.643	umol/
4) T ethane	1.39	43183492	135.402	umol/
5) T propane	3.83	64829220	137.420	umol/
6) T n-butane	5.34	83269600	136.194	umol/
8) T carbon dioxide	0.20	67453210	12778.800	umol/

(f)=RT Delta > 1/2 Window

16G49887.D RSKEXT1.M

Thu May 12 18:18:13 2016

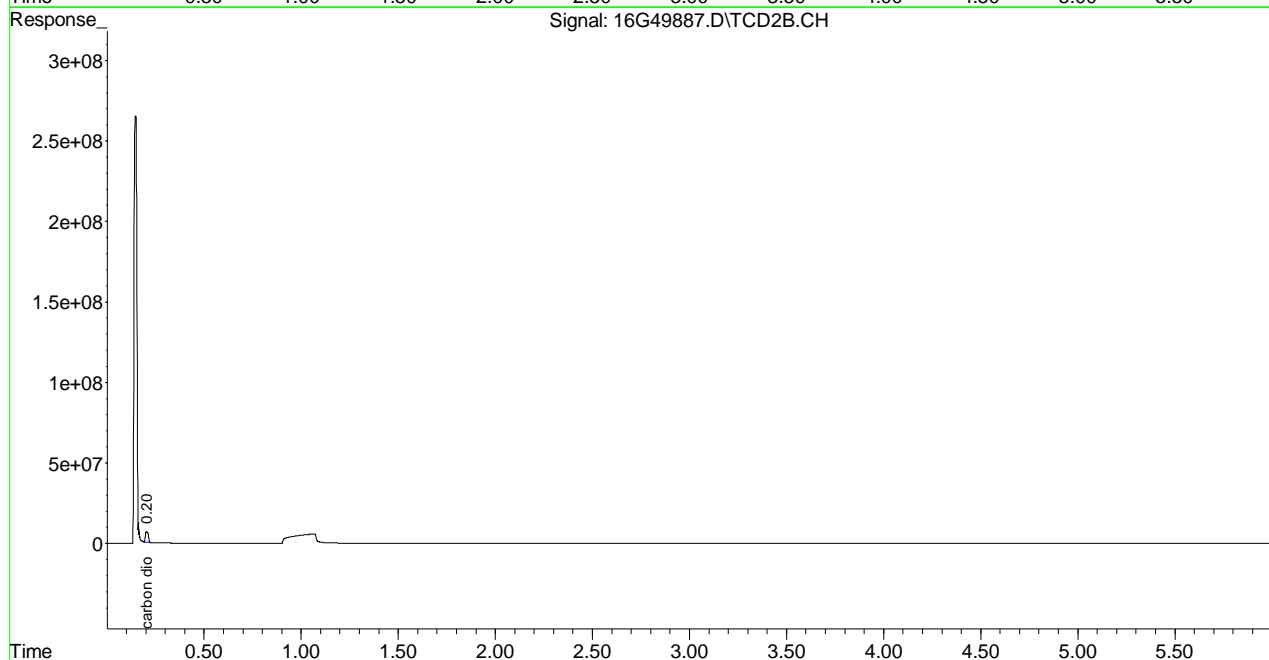
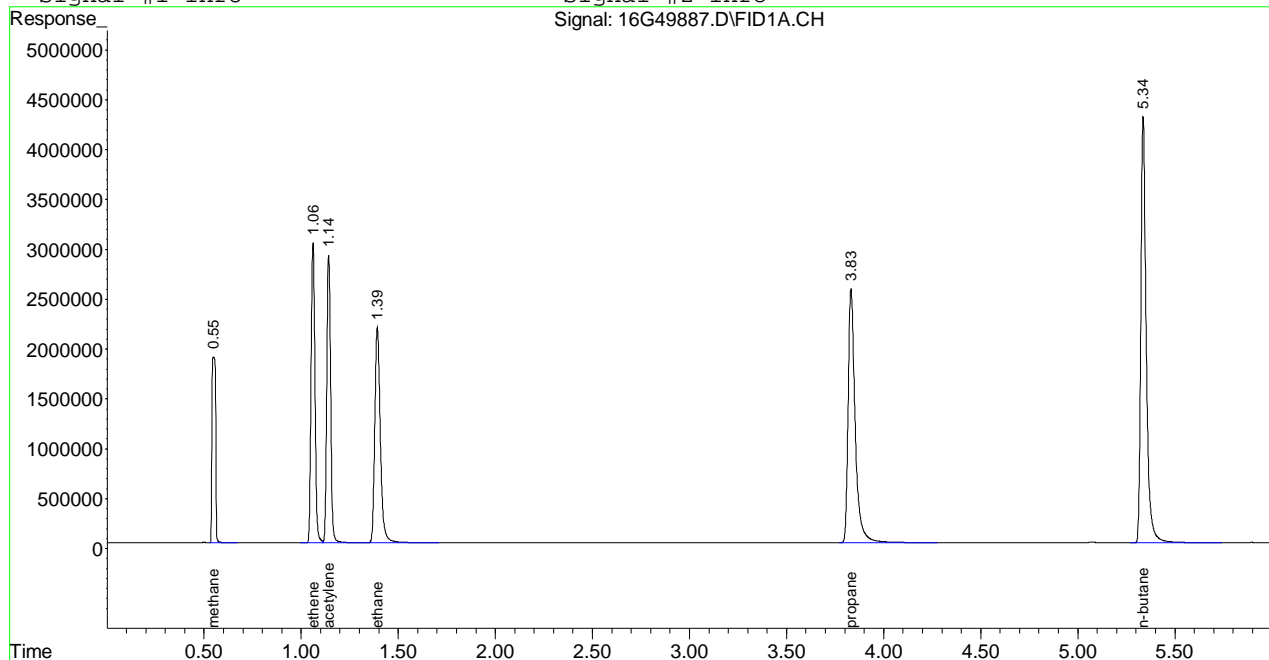
(m)=manual int.

Page 1

Signal #1 : C:\MSDCHEM\1\DATA\051216\16G49887.D\FID1A.CH Vial: 12
 Signal #2 : C:\MSDCHEM\1\DATA\051216\16G49887.D\TCD2B.CH
 Acq On : 12 May 2016 18:12 Operator: JDS
 Sample : WG568584-02 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 12 18:18 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\051216\16G49887.D\FID1A.CH Vial: 12
 Signal #2 : C:\MSDCHEM\1\DATA\051216\16G49887.D\TCD2B.CH
 Acq On : 12 May 2016 18:12 Operator: JDS
 Sample : WG568584-02 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	136.092	-2.3	105	0.00
2 T	ethene	133.000	134.814	-1.4	105	0.00
3 T	acetylene	133.000	128.643	3.3	101	0.00
4 T	ethane	133.000	135.402	-1.8	106	0.00
5 T	propane	133.000	137.420	-3.3	107	0.00
6 T	n-butane	133.000	136.194	-2.4	106	0.00
Signal #2						
8 T	carbon dioxide	13300.000	12778.800	3.9	95	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 16G49887.D RSKEXT1.M Fri May 13 11:46:22 2016

Page 1

Signal #1 : C:\MSDCHEM\1\DATA\051216\16G49887.D\FID1A.CH Vial: 12
Signal #2 : C:\MSDCHEM\1\DATA\051216\16G49887.D\TCD2B.CH
Acq On : 12 May 2016 18:12 Operator: JDS
Sample : WG568584-02 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
16G49887.D RSKEXT1.M Fri May 13 11:46:22 2016

Page 2

Signal #1 : C:\MSDchem\1\DATA\051216\16G49895.D\FID1A.CH Vial: 20
 Signal #2 : C:\MSDchem\1\DATA\051216\16G49895.D\TCD2B.CH
 Acq On : 12 May 2016 19:43 Operator: JDS
 Sample : WG568584-03 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 12 19:49:50 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	24250305	133.792 umol/
2) T ethene	1.06	40934267	131.173 umol/
3) T acetylene	1.14	38093776	121.991 umol/
4) T ethane	1.39	42177660	132.248 umol/
5) T propane	3.83	63211687	133.991 umol/
6) T n-butane	5.34	81464784	133.242 umol/
8) T carbon dioxide	0.20	64276069	12176.900 umol/

(f)=RT Delta > 1/2 Window

16G49895.D RSKEXT1.M

Thu May 12 19:49:51 2016

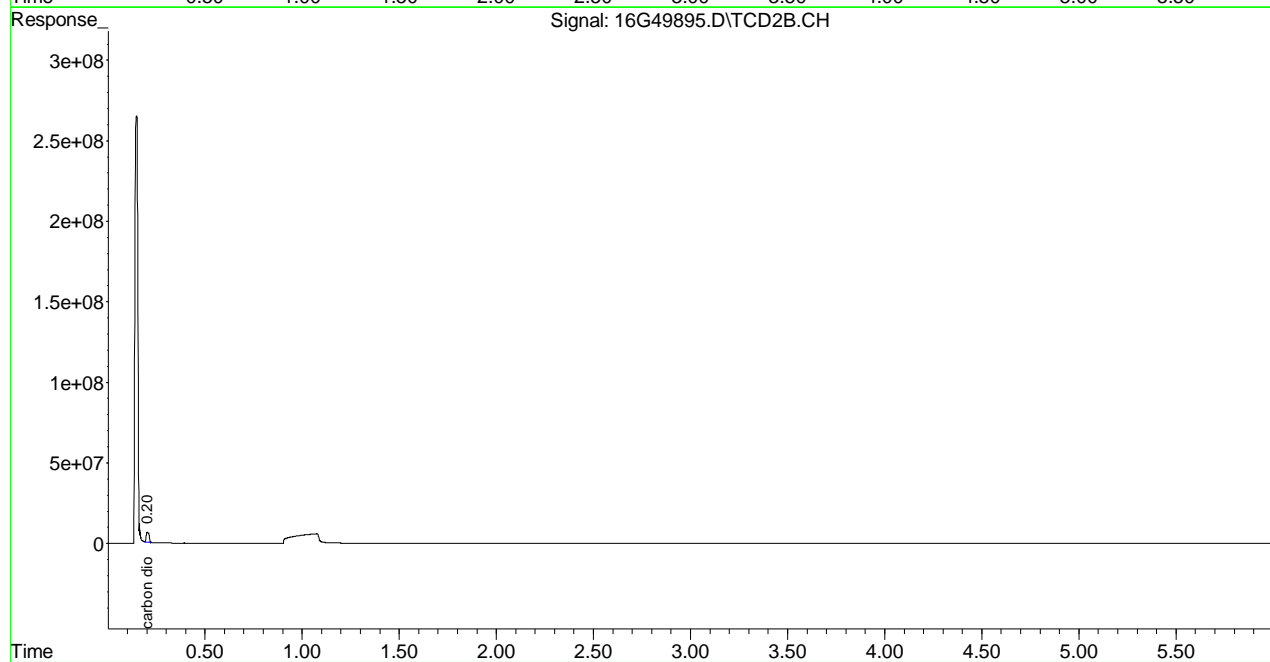
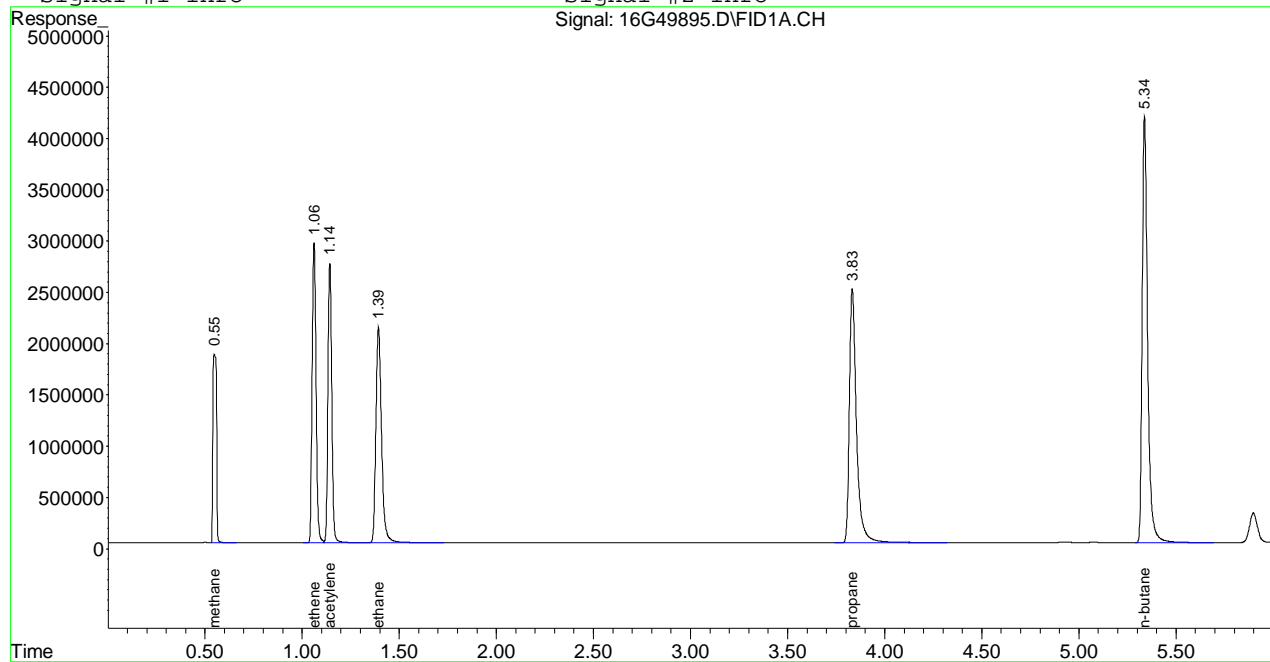
(m)=manual int.

Page 1

Signal #1 : C:\MSDCHEM\1\DATA\051216\16G49895.D\FID1A.CH Vial: 20
Signal #2 : C:\MSDCHEM\1\DATA\051216\16G49895.D\TCD2B.CH
Acq On : 12 May 2016 19:43 Operator: JDS
Sample : WG568584-03 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 12 19:49 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\051216\16G49895.D\FID1A.CH Vial: 20
 Signal #2 : C:\MSDCHEM\1\DATA\051216\16G49895.D\TCD2B.CH
 Acq On : 12 May 2016 19:43 Operator: JDS
 Sample : WG568584-03 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	133.792	-0.6	103	0.00
2 T	ethene	133.000	131.173	1.4	102	0.00
3 T	acetylene	133.000	121.991	8.3	95	0.00
4 T	ethane	133.000	132.248	0.6	103	0.00
5 T	propane	133.000	133.991	-0.7	104	0.00
6 T	n-butane	133.000	133.242	-0.2	104	0.00

Signal #2
 8 T carbon dioxide 13300.000 12176.900 8.4 90 0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 16G49895.D RSKEXT1.M Fri May 13 11:46:30 2016

Page 1

Signal #1 : C:\MSDCHEM\1\DATA\051216\16G49895.D\FID1A.CH Vial: 20
 Signal #2 : C:\MSDCHEM\1\DATA\051216\16G49895.D\TCD2B.CH
 Acq On : 12 May 2016 19:43 Operator: JDS
 Sample : WG568584-03 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
 16G49895.D RSKEXT1.M Fri May 13 11:46:30 2016

Page 2

Signal #1 : C:\MSDCHEM\1\DATA\051316\16G49896.D\FID1A.CH Vial: 1
 Signal #2 : C:\MSDCHEM\1\DATA\051316\16G49896.D\TCD2B.CH
 Acq On : 13 May 2016 13:51 Operator: JDS
 Sample : WG568758-01 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 13 15:50:52 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	23378792	128.925 umol/
2) T ethene	1.06	39716028	127.269 umol/
3) T acetylene	1.14	41673808	133.455 umol/
4) T ethane	1.39	40469029	126.890 umol/
5) T propane	3.83	60038014	127.264 umol/
6) T n-butane	5.34	77534355	126.814 umol/
8) T carbon dioxide	0.20	71912194	13623.540 umol/

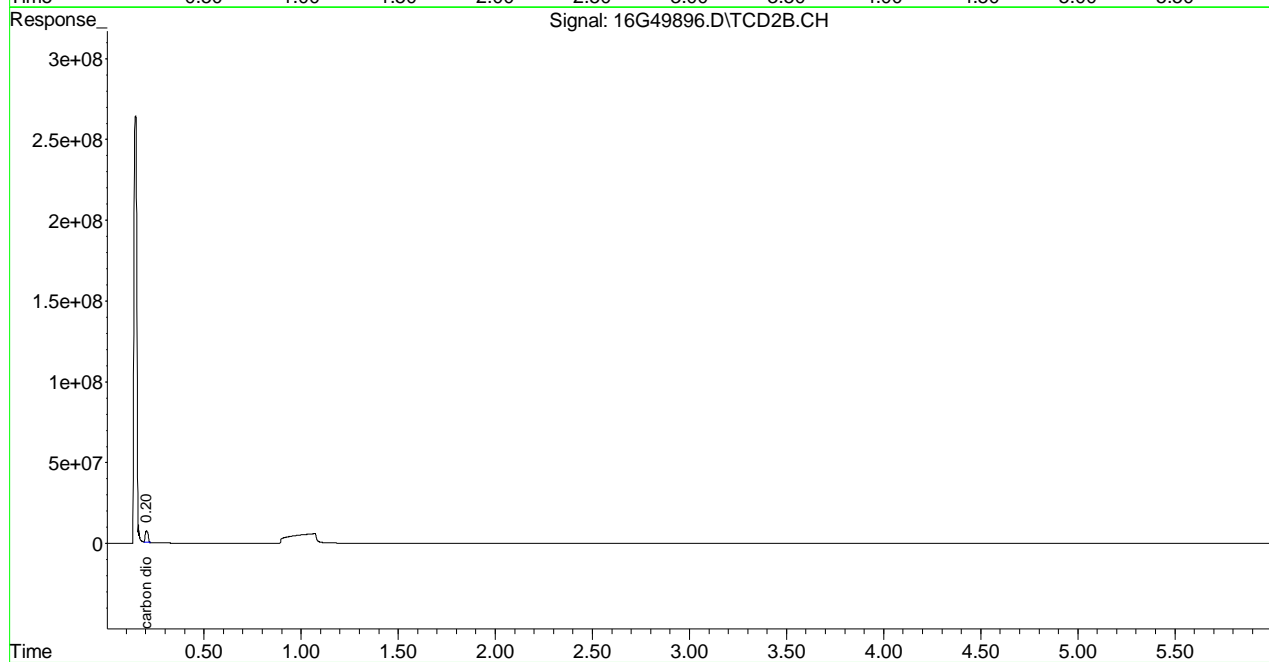
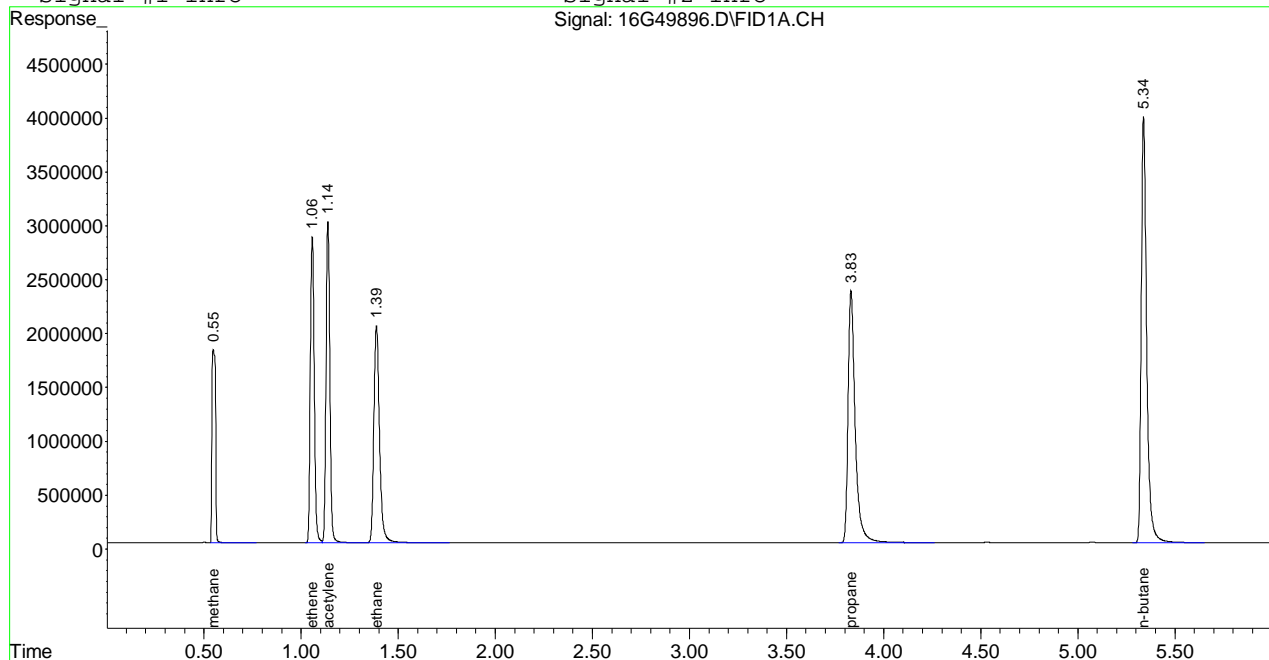
 (f)=RT Delta > 1/2 Window (m)=manual int.
 16G49896.D RSKEXT1.M Fri May 13 15:50:52 2016

Page 1

Signal #1 : C:\MSDCHEM\1\DATA\051316\16G49896.D\FID1A.CH Vial: 1
 Signal #2 : C:\MSDCHEM\1\DATA\051316\16G49896.D\TCD2B.CH
 Acq On : 13 May 2016 13:51 Operator: JDS
 Sample : WG568758-01 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 13 15:50 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\051316\16G49896.D\FID1A.CH Vial: 1
 Signal #2 : C:\MSDCHEM\1\DATA\051316\16G49896.D\TCD2B.CH
 Acq On : 13 May 2016 13:51 Operator: JDS
 Sample : WG568758-01 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	128.925	3.1	100	0.00
2 T	ethene	133.000	127.269	4.3	99	0.00
3 T	acetylene	133.000	133.455	-0.3	104	0.00
4 T	ethane	133.000	126.890	4.6	99	0.00
5 T	propane	133.000	127.264	4.3	99	0.00
6 T	n-butane	133.000	126.814	4.7	99	0.00

Signal #2						
8 T	carbon dioxide	13300.000	13623.540	-2.4	101	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 16G49896.D RSKEXT1.M Sun May 15 14:00:52 2016

Page 1

Signal #1 : C:\MSDCHEM\1\DATA\051316\16G49896.D\FID1A.CH Vial: 1
Signal #2 : C:\MSDCHEM\1\DATA\051316\16G49896.D\TCD2B.CH
Acq On : 13 May 2016 13:51 Operator: JDS
Sample : WG568758-01 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
16G49896.D RSKEXT1.M Sun May 15 14:00:52 2016

Page 2

Signal #1 : C:\MSDchem\1\DATA\051316\16G49907.D\FID1A.CH Vial: 12
 Signal #2 : C:\MSDchem\1\DATA\051316\16G49907.D\TCD2B.CH
 Acq On : 13 May 2016 17:56 Operator: JDS
 Sample : WG568758-02 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 13 18:02:16 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	23529703	129.768	umol/
2) T ethene	1.06	38724992	124.094	umol/
3) T acetylene	1.14	37002674	118.496	umol/
4) T ethane	1.39	39601010	124.169	umol/
5) T propane	3.83	57844700	122.614	umol/
6) T n-butane	5.34	73622697	120.416	umol/
8) T carbon dioxide	0.20	65145305	12341.574	umol/

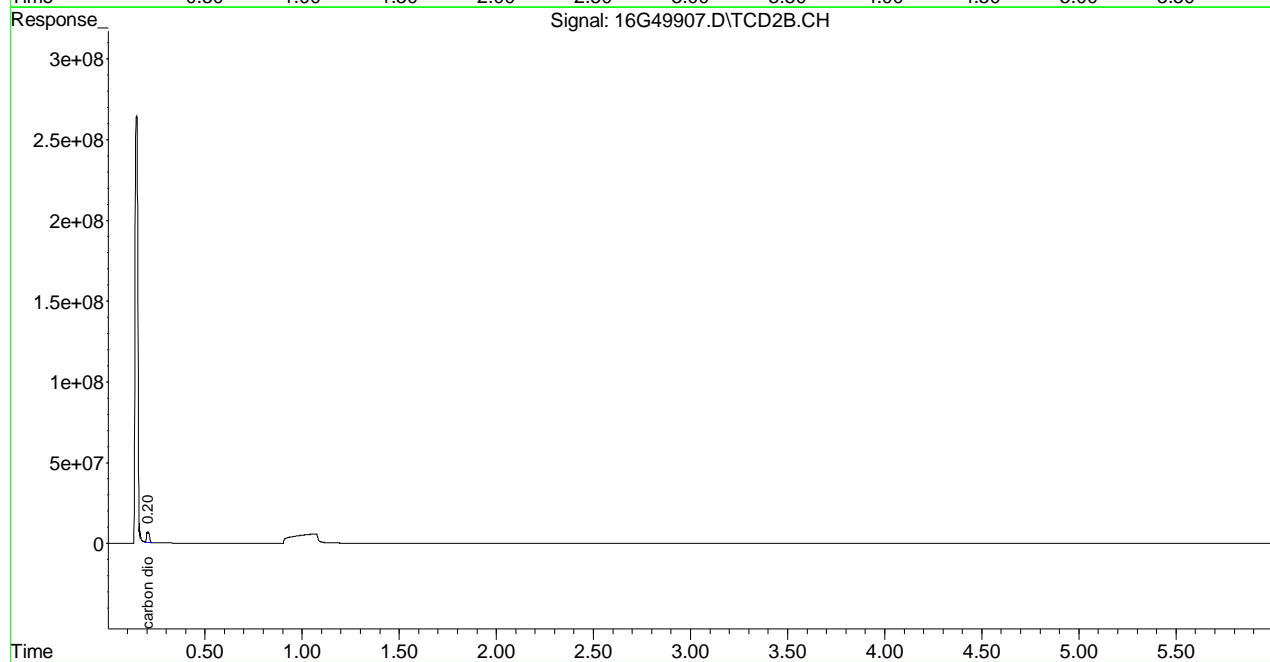
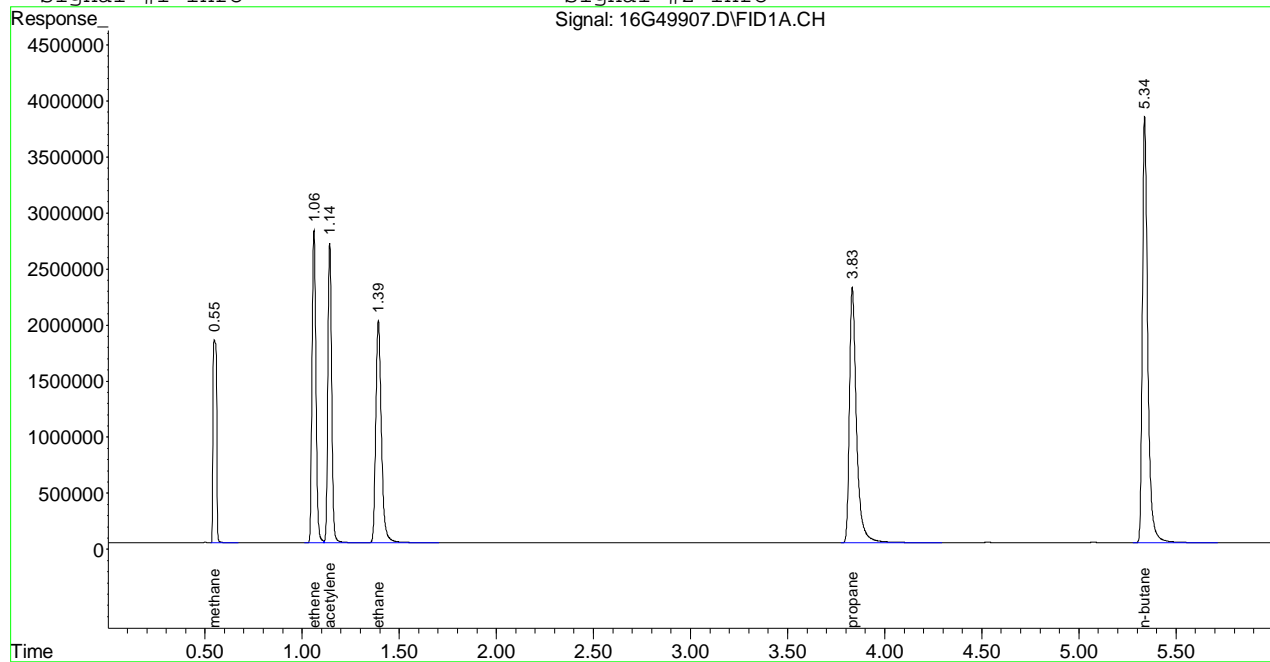
 (f)=RT Delta > 1/2 Window (m)=manual int.
 16G49907.D RSKEXT1.M Fri May 13 18:02:16 2016

Page 1

Signal #1 : C:\MSDCHEM\1\DATA\051316\16G49907.D\FID1A.CH Vial: 12
Signal #2 : C:\MSDCHEM\1\DATA\051316\16G49907.D\TCD2B.CH
Acq On : 13 May 2016 17:56 Operator: JDS
Sample : WG568758-02 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 13 18:02 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\051316\16G49907.D\FID1A.CH Vial: 12
 Signal #2 : C:\MSDCHEM\1\DATA\051316\16G49907.D\TCD2B.CH
 Acq On : 13 May 2016 17:56 Operator: JDS
 Sample : WG568758-02 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	129.768	2.4	100	0.00
2 T	ethene	133.000	124.094	6.7	97	0.00
3 T	acetylene	133.000	118.496	10.9	93	0.00
4 T	ethane	133.000	124.169	6.6	97	0.00
5 T	propane	133.000	122.614	7.8	95	0.00
6 T	n-butane	133.000	120.416	9.5	94	0.00

Signal #2
 8 T carbon dioxide 13300.000 12341.574 7.2 91 0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 16G49907.D RSKEXT1.M Sun May 15 14:01:36 2016

Page 1

Signal #1 : C:\MSDCHEM\1\DATA\051316\16G49907.D\FID1A.CH Vial: 12
Signal #2 : C:\MSDCHEM\1\DATA\051316\16G49907.D\TCD2B.CH
Acq On : 13 May 2016 17:56 Operator: JDS
Sample : WG568758-02 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)
----------	--------	-------	------	-------	----------

Signal #2

(#) = Out of Range SPCC's out = 0 CCC's out = 0
16G49907.D RSKEXT1.M Sun May 15 14:01:36 2016

Page 2

Login #: L16050571 Run Date: 05/12/2016 Sample ID: WG568584-01
 Instrument: HP16 Run Time: 15:36 Method: RSK175
 Workgroup (AAB#): WG568586 File ID: 16G49876

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: 4762669
 Report generated 05/18/2016 14:11



Login #: L16050571 Run Date: 05/13/2016 Sample ID: WG568758-01
 Instrument: HP16 Run Time: 13:51 Method: RSK175
 Workgroup (AAB#): WG568761 File ID: 16G49896

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: 4762669
 Report generated 05/18/2016 14:11



2.1.2.5 Raw QC Data

Signal #1 : C:\MSDCHEM\1\DATA\051216\16G49877.D\FID1A.CH Vial: 2
 Signal #2 : C:\MSDCHEM\1\DATA\051216\16G49877.D\TCD2B.CH
 Acq On : 12 May 2016 16:06 Operator: JDS
 Sample : WG568586-01 BLANK STD RSK175 Inst : HP16
 Misc : 1,1 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 12 16:27:36 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	333103	0.234 umol/
2) T ethene	0.00	0	N.D. umol/
3) T acetylene	0.00	0	N.D. umol/
4) T ethane	1.39	17756	0.056 umol/
5) T propane	3.83	7862	0.017 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

16G49877.D RSKEXT1.M

Thu May 12 16:46:30 2016

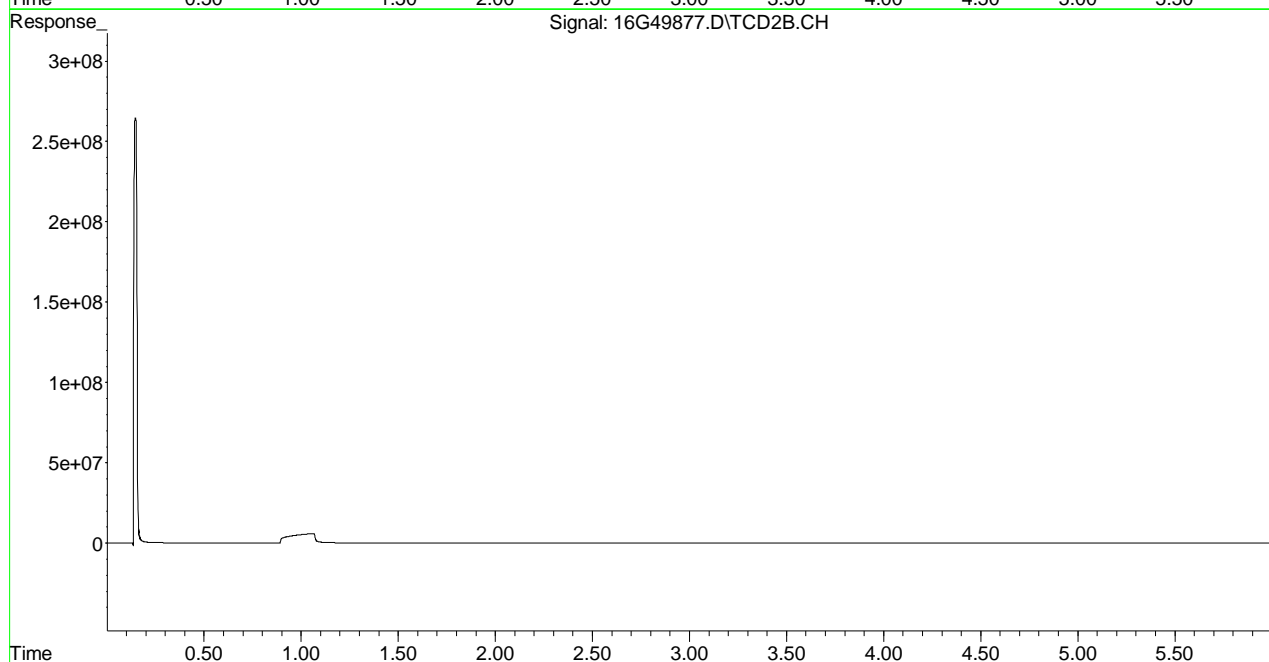
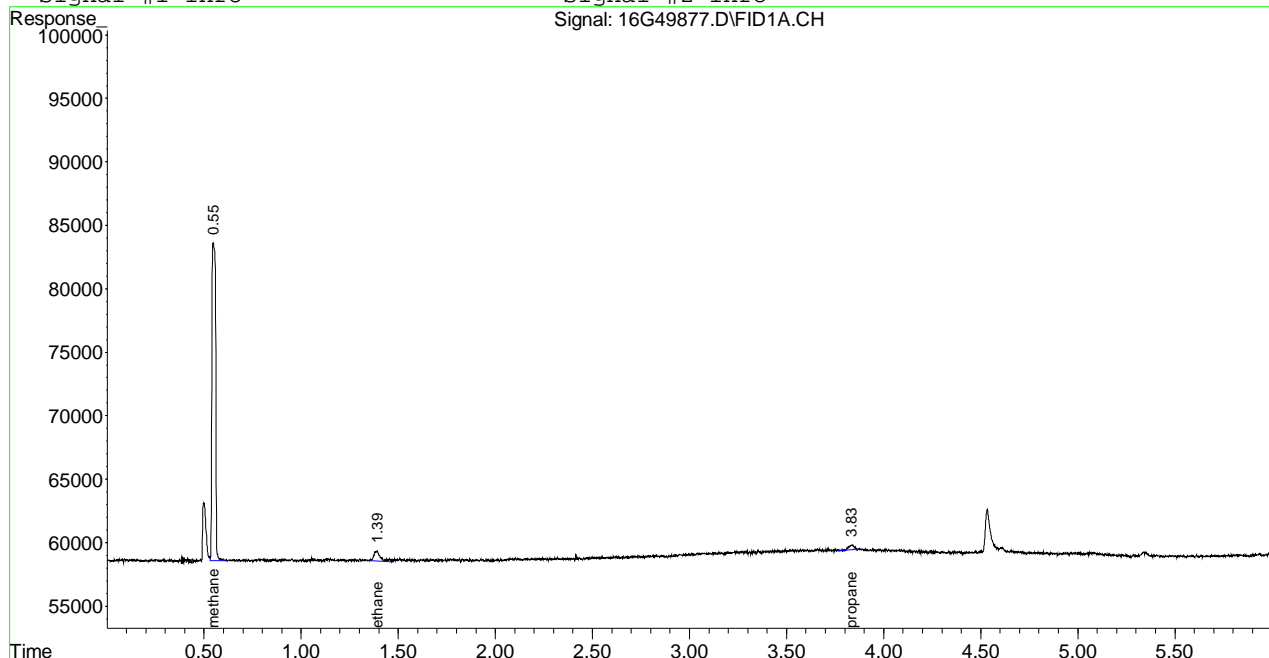
(m)=manual int.

Page 1

Signal #1 : C:\MSDCHEM\1\DATA\051216\16G49877.D\FID1A.CH Vial: 2
 Signal #2 : C:\MSDCHEM\1\DATA\051216\16G49877.D\TCD2B.CH
 Acq On : 12 May 2016 16:06 Operator: JDS
 Sample : WG568586-01 BLANK STD RSK175 Inst : HP16
 Misc : 1,1 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 12 16:27 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 13:38:01 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\051316\16G49897.D\FID1A.CH Vial: 2
 Signal #2 : C:\MSDCHEM\1\DATA\051316\16G49897.D\TCD2B.CH
 Acq On : 13 May 2016 16:01 Operator: JDS
 Sample : WG568761-01 BLANK STD RSK175 Inst : HP16
 Misc : 1,1 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 13 16:07:17 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	299256	0.045 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
 16G49897.D RSKEXT1.M Fri May 13 17:15:41 2016

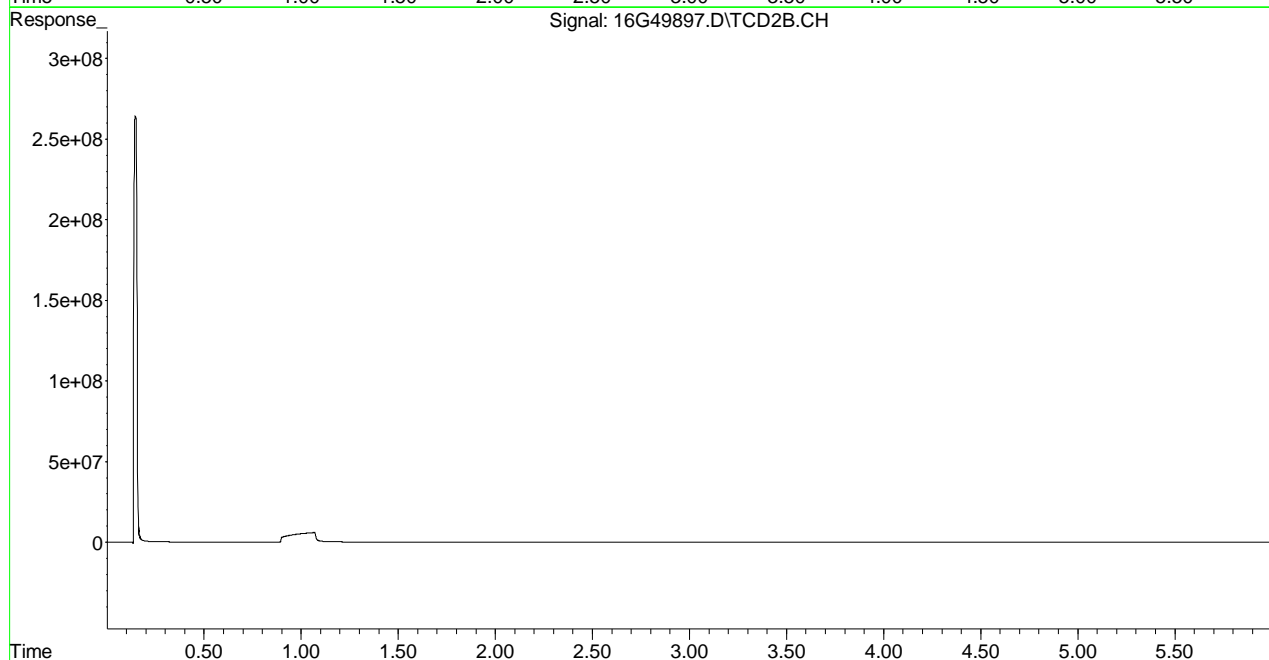
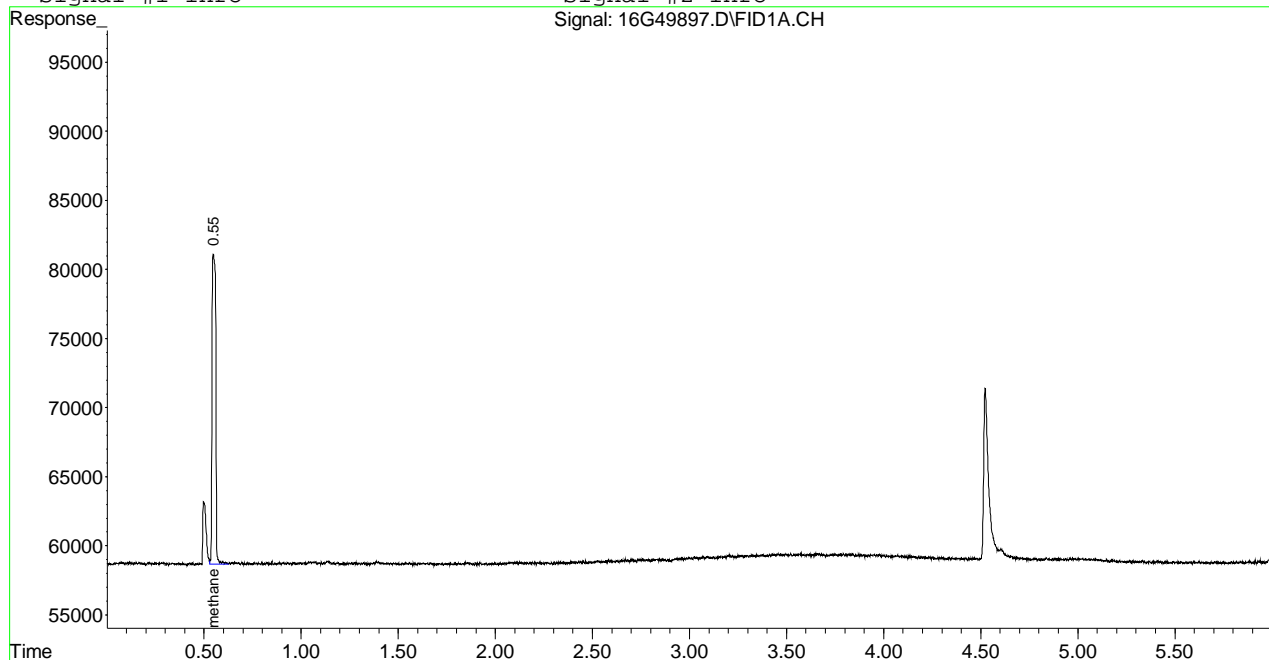
(m)=manual int.

Page 1

Signal #1 : C:\MSDCHEM\1\DATA\051316\16G49897.D\FID1A.CH Vial: 2
 Signal #2 : C:\MSDCHEM\1\DATA\051316\16G49897.D\TCD2B.CH
 Acq On : 13 May 2016 16:01 Operator: JDS
 Sample : WG568761-01 BLANK STD RSK175 Inst : HP16
 Misc : 1,1 Multiplr: 1.00
 IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
 Quant Time: May 13 16:07 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\051216\16G49878.D\FID1A.CH Vial: 3
 Signal #2 : C:\MSDchem\1\DATA\051216\16G49878.D\TCD2B.CH
 Acq On : 12 May 2016 16:27 Operator: JDS
 Sample : WG568586-02 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 12 16:33:54 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	12421789	67.739 umol/
2) T ethene	1.06	20877519	66.902 umol/
3) T acetylene	1.14	21172980	67.804 umol/
4) T ethane	1.39	21772236	68.267 umol/
5) T propane	3.83	31685953	67.165 umol/
6) T n-butane	5.34	39459533	64.539 umol/
8) T carbon dioxide	0.21	31023719	5877.347 umol/

(f)=RT Delta > 1/2 Window

16G49878.D RSKEXT1.M

Thu May 12 16:33:54 2016

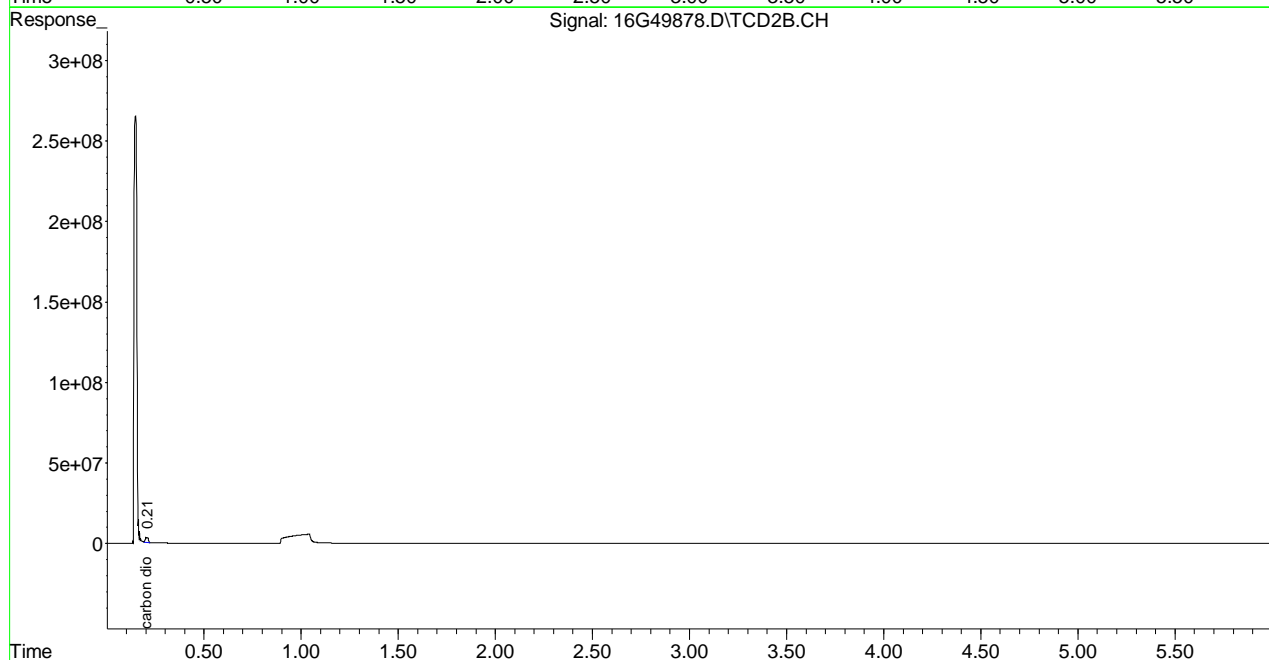
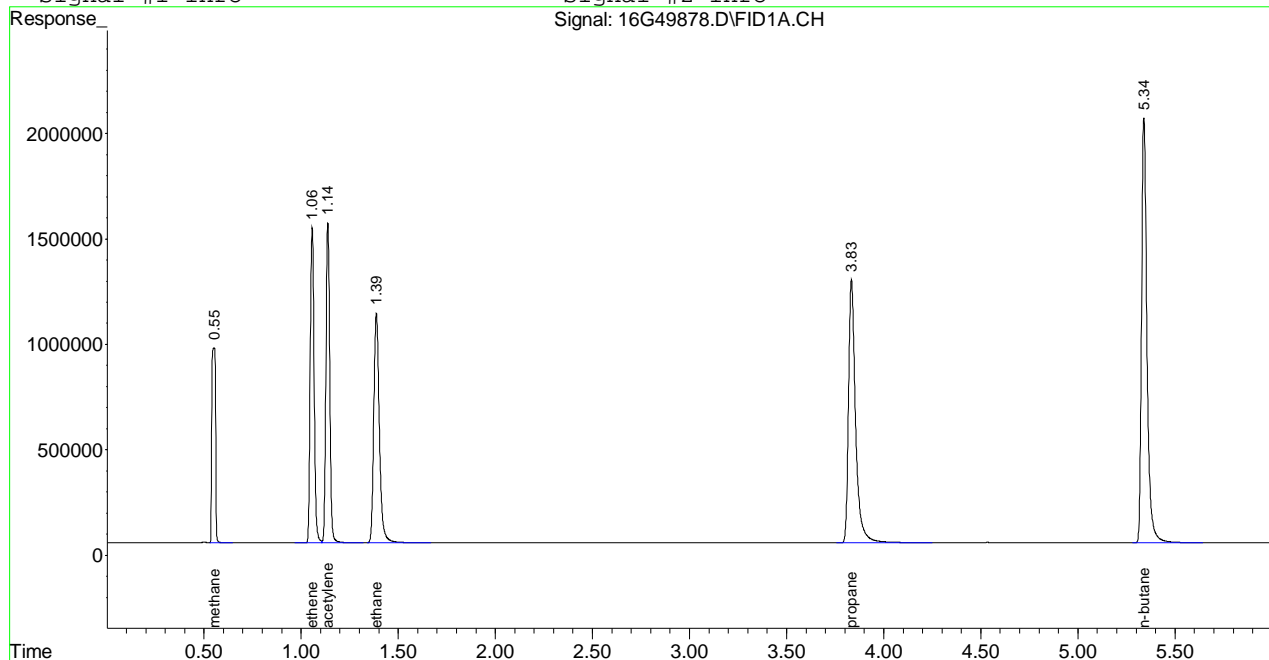
(m)=manual int.

Page 1

Signal #1 : C:\MSDchem\1\DATA\051216\16G49878.D\FID1A.CH Vial: 3
 Signal #2 : C:\MSDchem\1\DATA\051216\16G49878.D\TCD2B.CH
 Acq On : 12 May 2016 16:27 Operator: JDS
 Sample : WG568586-02 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 12 16:33 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 13:38:01 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\051316\16G49898.D\FID1A.CH Vial: 3
 Signal #2 : C:\MSDchem\1\DATA\051316\16G49898.D\TCD2B.CH
 Acq On : 13 May 2016 16:12 Operator: JDS
 Sample : WG568761-02 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 13 16:18:59 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 : 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	12019064	65.491 umol/
2) T ethene	1.06	19662211	63.007 umol/
3) T acetylene	1.14	19879518	63.662 umol/
4) T ethane	1.39	20445392	64.106 umol/
5) T propane	3.83	29214283	61.926 umol/
6) T n-butane	5.34	36500781	59.700 umol/
8) T carbon dioxide	0.20	34171733	6473.728 umol/

(f)=RT Delta > 1/2 Window
 16G49898.D RSKEXT1.M Fri May 13 16:19:00 2016

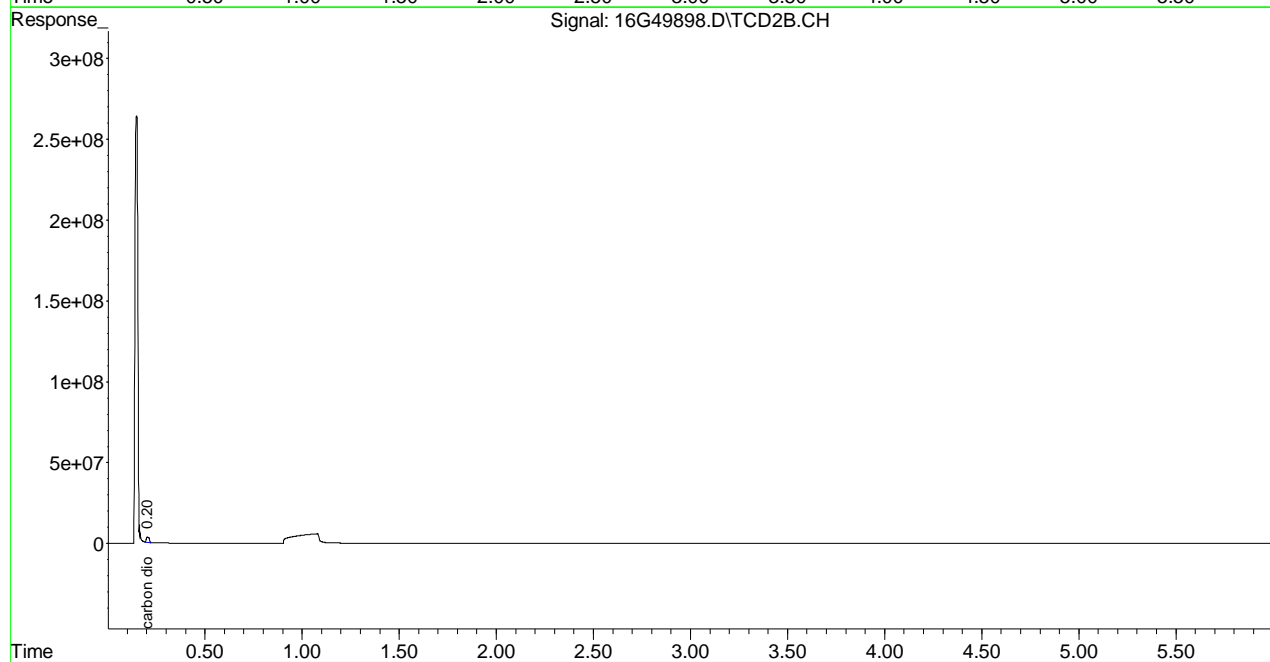
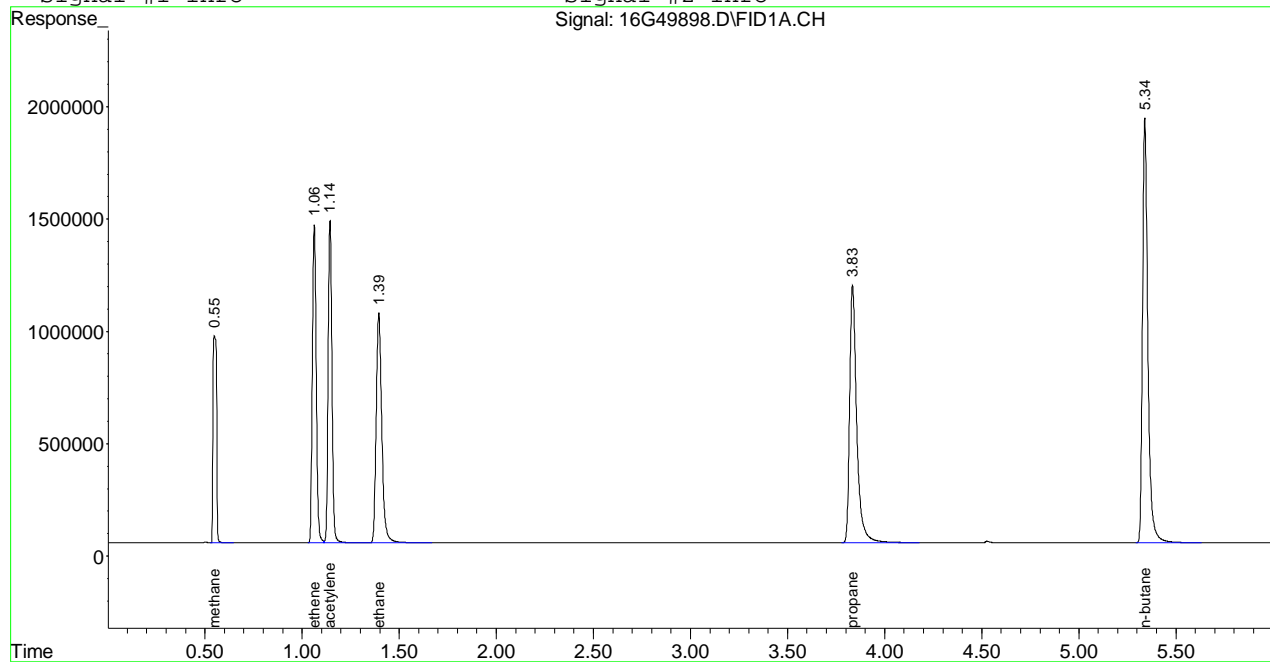
(m)=manual int.

Page 1

Signal #1 : C:\MSDCHEM\1\DATA\051316\16G49898.D\FID1A.CH Vial: 3
 Signal #2 : C:\MSDCHEM\1\DATA\051316\16G49898.D\TCD2B.CH
 Acq On : 13 May 2016 16:12 Operator: JDS
 Sample : WG568761-02 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 13 16:18 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\051216\16G49879.D\FID1A.CH Vial: 4
 Signal #2 : C:\MSDchem\1\DATA\051216\16G49879.D\TCD2B.CH
 Acq On : 12 May 2016 16:39 Operator: JDS
 Sample : WG568586-03 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 12 16:45:17 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	12527738	68.331 umol/
2) T ethene	1.06	20928171	67.064 umol/
3) T acetylene	1.14	20916420	66.982 umol/
4) T ethane	1.39	21857049	68.533 umol/
5) T propane	3.83	32087134	68.016 umol/
6) T n-butane	5.34	41701723	68.206 umol/
8) T carbon dioxide	0.21	34979193	6626.699 umol/

(f)=RT Delta > 1/2 Window

16G49879.D RSKEXT1.M

Thu May 12 16:45:18 2016

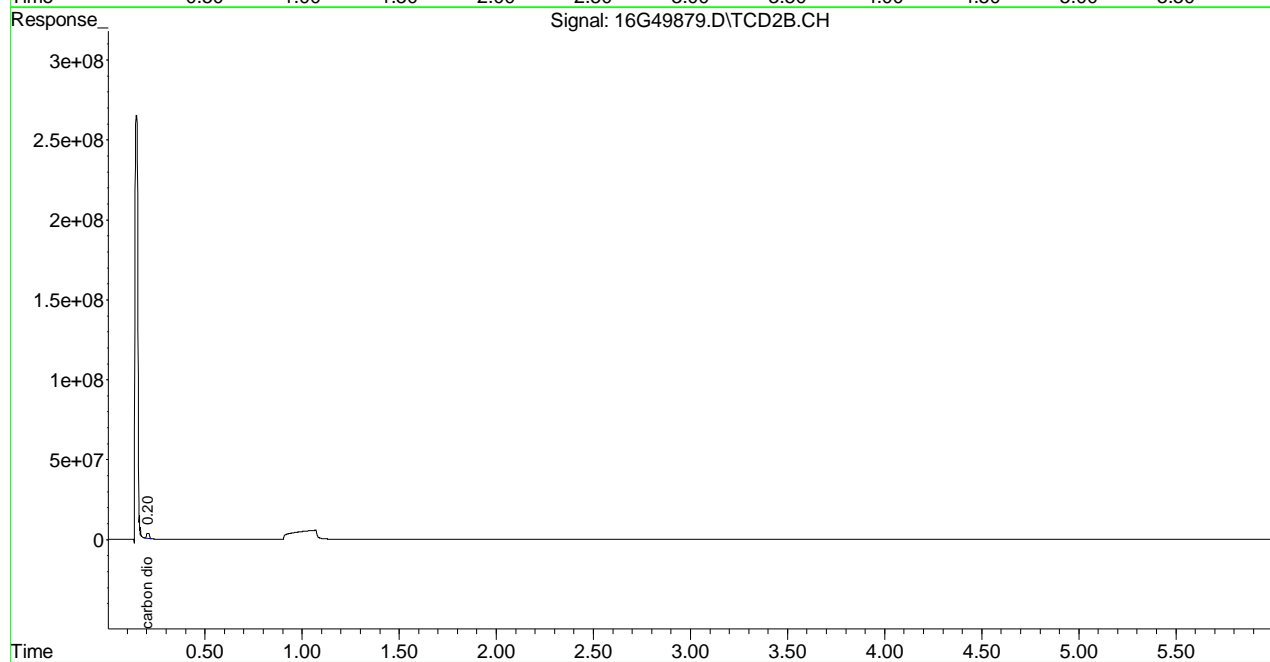
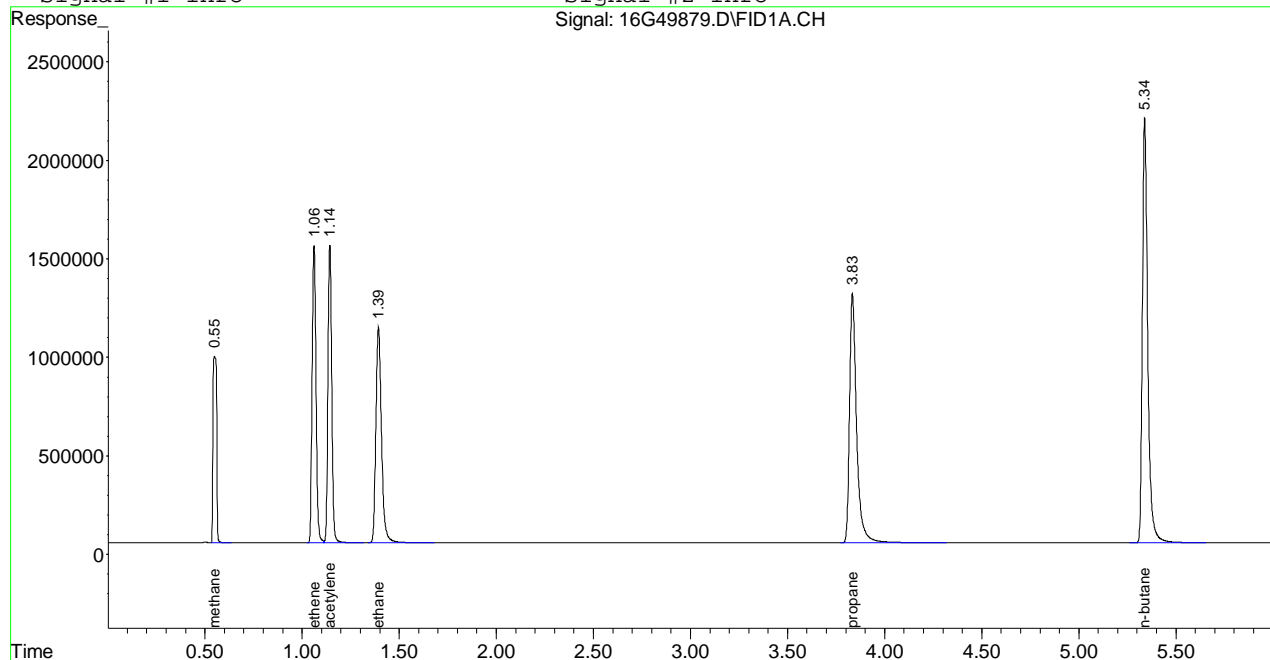
(m)=manual int.

Page 1

Signal #1 : C:\MSDCHEM\1\DATA\051216\16G49879.D\FID1A.CH Vial: 4
 Signal #2 : C:\MSDCHEM\1\DATA\051216\16G49879.D\TCD2B.CH
 Acq On : 12 May 2016 16:39 Operator: JDS
 Sample : WG568586-03 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 12 16:45 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\051316\16G49899.D\FID1A.CH Vial: 4
 Signal #2 : C:\MSDchem\1\DATA\051316\16G49899.D\TCD2B.CH
 Acq On : 13 May 2016 16:24 Operator: JDS
 Sample : WG568761-03 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 13 16:30:35 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	11932676	65.008 umol/
2) T ethene	1.06	19063579	61.089 umol/
3) T acetylene	1.14	18797413	60.196 umol/
4) T ethane	1.39	19868419	62.297 umol/
5) T propane	3.83	28229643	59.839 umol/
6) T n-butane	5.34	35993455	58.870 umol/
8) T carbon dioxide	0.20	31741365	6013.302 umol/

 (f)=RT Delta > 1/2 Window
 16G49899.D RSKEXT1.M Fri May 13 16:30:35 2016

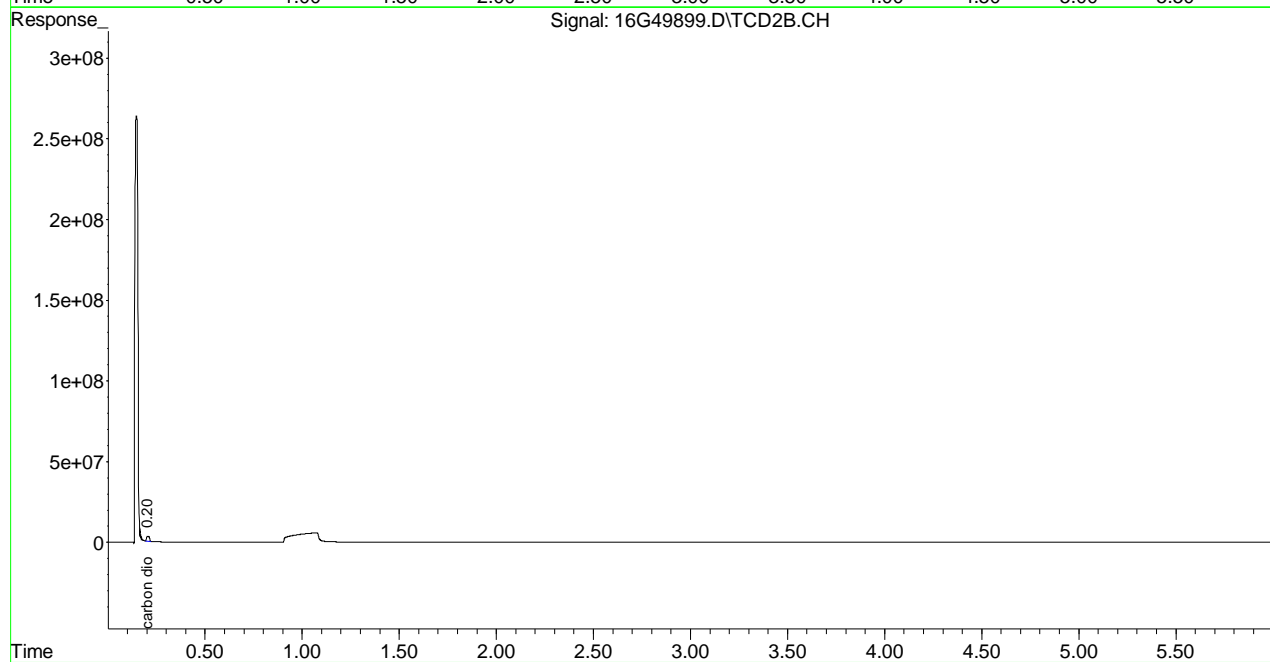
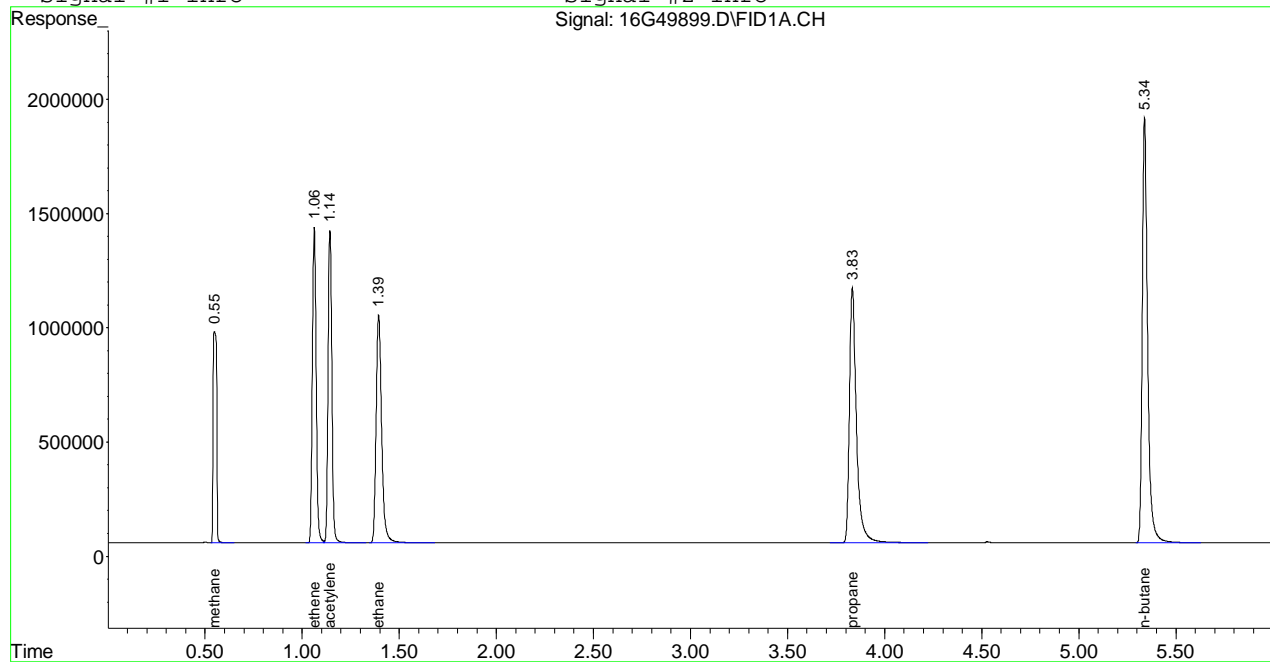
(m)=manual int.

Page 1

Signal #1 : C:\MSDCHEM\1\DATA\051316\16G49899.D\FID1A.CH Vial: 4
 Signal #2 : C:\MSDCHEM\1\DATA\051316\16G49899.D\TCD2B.CH
 Acq On : 13 May 2016 16:24 Operator: JDS
 Sample : WG568761-03 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 13 16:30 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 : 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 #: 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 #: L16050571-03	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 #: L16050571-05	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

Lab Report #: L16050571

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Stephanie Mossburg

Sample #: L16050571-07	PrePrep Method: N/A	Instrument: LCMS1
Client ID: 50WW12-051016	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 17:10
Collect Date: 05/10/2016 11:20	Dilution: 10000	File ID: 1LM.LM34995
Sample Tag: DL01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	87800		4000	2000	1000

Certificate of Analysis

Sample #: L16050571-09	PrePrep Method: N/A	Instrument: LCMS1
Client ID: 50WW24-051016	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 17:29
Collect Date: 05/10/2016 13:20	Dilution: 10	File ID: 1LM.LM34996
Sample Tag: DL01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	36.8		4.00	2.00	1.00

Certificate of Analysis

Sample #: L16050571-11	PrePrep Method: N/A	Instrument: LCMS1
Client ID: 50WW23-051016	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 17:48
Collect Date: 05/10/2016 14:35	Dilution: 1	File ID: 1LM.LM34997
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	2.15		0.400	0.200	0.100

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
Calibration Check: 1432 /1410 $\mu\text{s/cm}$

Working MCT Level: 10,000 $\mu\text{s/cm}$

Sample	Conductivity ($\mu\text{s/cm}$)	Pretreatment or Dilution Needed
WG569661-01 MCT	10,060.	
WG569661-02 Blank	0.46	
WG569661-03 LCS	0.58	
WG569661-04 LCS2	0.55	
L16050571-01	4,790.	
-03	1,799.	
-05	1,503.	
-07	5,000.	
-09	1,763.	
-11	5,870.	

Analyst: John Richards

Date/Time: 05/20/16 15:30

DCN#118612



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

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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%.	

Page: 2

Approved: 05-MAY-16



Microbac Laboratories Inc.
Instrument Run Log

Instrument: LCMS1 Dataset: 052016_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 WG569661 (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 L16050571(-03,-05,-07,-09) were analyzed at dilutions based on their pre-run screen results.

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	1LM.LM34985	WG569664-01 CCB	1	1		05/20/16 14:01
2	1LM.LM34986	WG569664-02 CCV (1.0ug/L)	1	1	STD75510	05/20/16 14:20
3	1LM.LM34987	WG569661-05 MRL (0.2ug/L)	1	1	STD75510	05/20/16 14:39
4	1LM.LM34988	WG569661-01 MCT (0.2ug/L)	1	1	STD75512	05/20/16 14:58
5	1LM.LM34989	WG569661-02 BLANK	1	1		05/20/16 15:17
6	1LM.LM34990	WG569661-03 LCS (0.2ug/L)	1	1	STD75512	05/20/16 15:36
7	1LM.LM34991	WG569661-04 LCS2 (0.2ug/L)	1	1	STD75512	05/20/16 15:54
8	1LM.LM34992	L16050571-01	1	1		05/20/16 16:13
9	1LM.LM34993	L16050571-03 (1,000x)	1	1000		05/20/16 16:32
10	1LM.LM34994	L16050571-05 (1,000x)	1	1000		05/20/16 16:51
11	1LM.LM34995	L16050571-07 (10,000x)	1	10000		05/20/16 17:10
12	1LM.LM34996	L16050571-09 (10x)	1	10		05/20/16 17:29
13	1LM.LM34997	L16050571-11	1	1		05/20/16 17:48
14	1LM.LM34998	WG569664-03 CCV (1.0ug/L)	1	1	STD75510	05/20/16 18:07
15	1LM.LM34999	WG569661-06 MRL (0.2ug/L)	1	1	STD75510	05/20/16 18:26
16	1LM.LM35000	WG569664-04 CCB	1	1		05/20/16 18:45

Comments

Seq.	Rerun	Dil.	Reason	Analytes
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Page: 1

Approved: 23-MAY-16




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. ...



Microbac Laboratories Inc.

Data Checklist

Date: 20-MAY-2016
 Analyst: JWR
 Analyst: NA
 Method: 6850
 Instrument: LCMS1
 Curve Workgroup: NA
 Runlog ID: 75245
 Analytical Workgroups: L16050571 (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	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	MES

Primary Reviewer:
23-MAY-2016

John Richards

Secondary Reviewer:
23-MAY-2016

Mary Sheehy



Analytical Method:6850
Login Number:L16050571

AAB#:WG569661

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
50WW22-051016	01	05/10/16					05/20/2016	10.2	28		05/20/16	.2	28	
50WW11-051016	03	05/10/16					05/20/2016	10.1	28		05/20/16	.2	28	
50WW06-051016	05	05/10/16					05/20/2016	10.1	28		05/20/16	.2	28	
50WW12-051016	07	05/10/16					05/20/2016	10	28		05/20/16	.2	28	
50WW24-051016	09	05/10/16					05/20/2016	9.9	28		05/20/16	.2	28	
50WW23-051016	11	05/10/16					05/20/2016	9.9	28		05/20/16	.3	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4776117
Report generated 05/24/2016 08:19



METHOD BLANK SUMMARY

Login Number: L16050571
 Blank File ID: 1LM.LM34989
 Prep Date: 05/20/16 11:30
 Analyzed Date: 05/20/16 15:17
 Analyst: JWR

Work Group: WG569661
 Blank Sample ID: WG569661-02
 Instrument ID: LCMS1
 Method: 6850

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
QCMRL	WG569661-05	1LM.LM34987	05/20/16 14:39	01
MCT	WG569661-01	1LM.LM34988	05/20/16 14:58	01
LCS	WG569661-03	1LM.LM34990	05/20/16 15:36	01
LCS2	WG569661-04	1LM.LM34991	05/20/16 15:54	01
50WW22-051016	L16050571-01	1LM.LM34992	05/20/16 16:13	01
50WW11-051016	L16050571-03	1LM.LM34993	05/20/16 16:32	DL01
50WW06-051016	L16050571-05	1LM.LM34994	05/20/16 16:51	DL01
50WW12-051016	L16050571-07	1LM.LM34995	05/20/16 17:10	DL01
50WW24-051016	L16050571-09	1LM.LM34996	05/20/16 17:29	DL01
50WW23-051016	L16050571-11	1LM.LM34997	05/20/16 17:48	01
QCMRL	WG569661-06	1LM.LM34999	05/20/16 18:26	01

Report Name: BLANK_SUMMARY
 PDF File ID: 4776118
 Report generated 05/24/2016 08:19



Login Number: L16050571 Prep Date: 05/20/16 11:30 Sample ID: WG569661-02
Instrument ID: LCMS1 Run Date: 05/20/16 15:17 Prep Method: 6850
File ID: 1LM.LM34989 Analyst: JWR Method: 6850
Workgroup (AAB#): WG569661 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: 4776119
24-MAY-2016 08:19



Login Number: L16050571 Analyst: JWR Prep Method: 6850
 Instrument ID: LCMS1 Matrix: Water Method: 6850
 Workgroup (AAB#): WG569661 Units: ug/L
 QC Key: DOD4 Lot #: STD75512
 Sample ID: WG569661-03 LCS File ID: 1LM.LM34990 Run Date: 05/20/2016 15:36
 Sample ID: WG569661-04 LCS2 File ID: 1LM.LM34991 Run Date: 05/20/2016 15:54

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Perchlorate	0.200	0.208	104	0.200	0.205	103	1.45	80 - 120	15	

LCS_LCS2 - Modified 03/06/2008
 PDF File ID: 4776120
 Report generated: 05/24/2016 08:19



Login Number: L16050571
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: 4776204
Report generated 05/24/2016 08:19



Login Number: L16050571
 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: 4776204
 Report generated 05/24/2016 08:19



Login Number: L16050571
 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: 4776204
 Report generated 05/24/2016 08:19



Login Number: L16050571
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: 4776204
Report generated 05/24/2016 08:19



Login Number: L16050571 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: L16050571 Run Date: 05/20/2016 Sample ID: WG569664-01
Instrument ID: LCMS1 Run Time: 14:01 Method: 6850
File ID: LLM.LM34985 Analyst: JWR Units: ug/L
Workgroup (AAB#): WG569661 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: L16050571 Run Date: 05/20/2016 Sample ID: WG569664-04
Instrument ID: LCMS1 Run Time: 18:45 Method: 6850
File ID: LLM.LM35000 Analyst: JWR Units: ug/L
Workgroup (AAB#): WG569661 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: L16050571 Run Date: 05/20/2016 Sample ID: WG569664-02
Instrument ID: LCMS1 Run Time: 14:20 Method: 6850
File ID: 1LM.LM34986 Analyst: JWR QC Key: DOD4
Workgroup (AAB#): WG569661 Cal ID: LCMS1 - 03-MAY-16
Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate	1.00	1.01	ug/L	1.71	1.00	15	

* Exceeds %D Criteria



Login Number: L16050571 Run Date: 05/20/2016 Sample ID: WG569664-03
 Instrument ID: LCMS1 Run Time: 18:07 Method: 6850
 File ID: 1LM.LM34998 Analyst: JWR QC Key: DOD4
 Workgroup (AAB#): WG569661 Cal ID: LCMS1 - 03-MAY-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate	1.00	0.997	ug/L	1.68	0.300	15	

* Exceeds %D Criteria



Login Number: L16050571 Run Date: 05/20/2016 Sample ID: WG569661-05
 Instrument ID: LCMS1 Run Time: 14:39 Prep Method: 6850
 File ID: 1LM.LM34987 Analyst: JWR Method: 6850
 Workgroup (AAB#): WG569661 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: L16050571 Run Date: 05/20/2016 Sample ID: WG569661-06
Instrument ID: LCMS1 Run Time: 18:26 Prep Method: 6850
File ID: 1LM.LM34999 Analyst: JWR Method: 6850
Workgroup (AAB#): WG569661 Matrix: Water Units: ug/L
Contract #: _____ Cal ID: LCMS1-03-MAY-16

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	0.200	0.210	105	70 - 130	



Login Number: L16050571
Instrument ID: LCMS1
Workgroup (AAB#): WG569661

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>L16050571-01</u>	1.00	01	387000
L16050571-03	1000	DL01	487000
L16050571-05	1000	DL01	491000
L16050571-07	10000	DL01	465000
L16050571-09	10.0	DL01	475000
L16050571-11	1.00	01	388000
WG569661-02	1.00	01	452000
WG569661-03	1.00	01	460000
WG569661-04	1.00	01	453000

IS-1 - O18LP

Underline = Response outside limits



Perchlorate Ion Ratios
Microbac Laboratories Inc.



Login #: L16050571
Instrument: LCMS1
Analyst: JWR
Worknum: WG569661

Prep Method: 6850
Prep Date: 05/20/2016 11:30
Anal Method: 6850
Analysis Date: 05/20/2016 16:13

Samplenum: L16050571-01
File ID: 1LM.LM34992
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	191000	65800	2.90	2.3	3.8	

Perchlorate Ion Ratios
Microbac Laboratories Inc.



Login #: L16050571	Prep Method: 6850	Samplenum: L16050571-03
Instrument: LCMS1	Prep Date: 05/20/2016 11:30	File ID: 1LM.LM34993
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG569661	Analysis Date: 05/20/2016 16:32	Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	214000	75700	2.83	2.3	3.8	

Perchlorate Ion Ratios
Microbac Laboratories Inc.



Login #: L16050571
Instrument: LCMS1
Analyst: JWR
Worknum: WG569661

Prep Method: 6850
Prep Date: 05/20/2016 11:30
Anal Method: 6850
Analysis Date: 05/20/2016 16:51

Samplenum: L16050571-05
File ID: 1LM.LM34994
Matrix: Water
Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	354000	122000	2.90	2.3	3.8	

Perchlorate Ion Ratios
Microbac Laboratories Inc.



Login #: L16050571	Prep Method: 6850	Samplenum: L16050571-07
Instrument: LCMS1	Prep Date: 05/20/2016 11:30	File ID: 1LM.LM34995
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG569661	Analysis Date: 05/20/2016 17:10	Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	1370000	462000	2.97	2.3	3.8	

Perchlorate Ion Ratios
Microbac Laboratories Inc.



Login #: L16050571	Prep Method: 6850	Samplenum: L16050571-09
Instrument: LCMS1	Prep Date: 05/20/2016 11:30	File ID: 1LM.LM34996
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG569661	Analysis Date: 05/20/2016 17:29	Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	588000	201000	2.93	2.3	3.8	

Perchlorate Ion Ratios
Microbac Laboratories Inc.



Login #: L16050571	Prep Method: 6850	Samplenum: L16050571-11
Instrument: LCMS1	Prep Date: 05/20/2016 11:30	File ID: 1LM.LM34997
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG569661	Analysis Date: 05/20/2016 17:48	Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	281000	95800	2.93	2.3	3.8	

Perchlorate Ion Ratios
Microbac Laboratories Inc.



Login #: L16050571	Prep Method: _____	Samplenum: WG567320-02
Instrument: LCMS1	Prep Date: _____	File ID: 1LM.LM34687
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG569661	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 #: L16050571
Instrument: LCMS1
Analyst: JWR
Worknum: WG569661

Prep Method: _____
Prep Date: _____
Anal Method: 6850
Analysis Date: 05/03/2016 15:43

Samplenum: WG567320-03
File ID: 1LM.LM34688
Matrix: Water
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 #: L16050571	Prep Method: _____	Samplenum: WG567320-04
Instrument: LCMS1	Prep Date: _____	File ID: 1LM.LM34689
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG569661	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 #: L16050571	Prep Method: _____	Samplenum: WG567320-05
Instrument: LCMS1	Prep Date: _____	File ID: 1LM.LM34690
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG569661	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 #: L16050571	Prep Method: _____	Samplenum: WG567320-06
Instrument: LCMS1	Prep Date: _____	File ID: 1LM.LM34691
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG569661	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 #: L16050571	Prep Method: _____	Samplenum: WG567320-07
Instrument: LCMS1	Prep Date: _____	File ID: 1LM.LM34692
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG569661	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 #: L16050571	Prep Method: _____	Samplenum: WG567320-08
Instrument: LCMS1	Prep Date: _____	File ID: 1LM.LM34693
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG569661	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 #: L16050571	Prep Method: _____	Samplenum: WG567320-09
Instrument: LCMS1	Prep Date: _____	File ID: 1LM.LM34694
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG569661	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 #: L16050571	Prep Method: 6850	Samplenum: WG569661-01
Instrument: LCMS1	Prep Date: 05/20/2016 11:30	File ID: 1LM.LM34988
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG569661	Analysis Date: 05/20/2016 14:58	Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	29300	9800	2.99	2.3	3.8	

Perchlorate Ion Ratios
Microbac Laboratories Inc.



Login #: L16050571	Prep Method: 6850	Samplenum: WG569661-02
Instrument: LCMS1	Prep Date: 05/20/2016 11:30	File ID: 1LM.LM34989
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG569661	Analysis Date: 05/20/2016 15:17	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 #: L16050571	Prep Method: 6850	Samplenum: WG569661-03
Instrument: LCMS1	Prep Date: 05/20/2016 11:30	File ID: 1LM.LM34990
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG569661	Analysis Date: 05/20/2016 15:36	Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	32700	12200	2.68	2.3	3.8	

Perchlorate Ion Ratios
Microbac Laboratories Inc.



Login #: L16050571	Prep Method: 6850	Samplenum: WG569661-04
Instrument: LCMS1	Prep Date: 05/20/2016 11:30	File ID: 1LM.LM34991
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG569661	Analysis Date: 05/20/2016 15:54	Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	31900	10300	3.10	2.3	3.8	

Perchlorate Ion Ratios
Microbac Laboratories Inc.



Login #: L16050571	Prep Method: 6850	Samplenum: WG569661-05
Instrument: LCMS1	Prep Date: 05/20/2016 11:30	File ID: 1LM.LM34987
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG569661	Analysis Date: 05/20/2016 14:39	Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	33500	11800	2.84	2.3	3.8	

Perchlorate Ion Ratios
Microbac Laboratories Inc.



Login #: L16050571	Prep Method: 6850	Samplenum: WG569661-06
Instrument: LCMS1	Prep Date: 05/20/2016 11:30	File ID: 1LM.LM34999
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG569661	Analysis Date: 05/20/2016 18:26	Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	36800	13000	2.83	2.3	3.8	

Perchlorate Ion Ratios
Microbac Laboratories Inc.



Login #: L16050571	Prep Method: _____	Samplenum: WG569664-01
Instrument: LCMS1	Prep Date: _____	File ID: 1LM.LM34985
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG569661	Analysis Date: 05/20/2016 14:01	Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	0.000	880	0.000	2.3	3.8	*

Perchlorate Ion Ratios
Microbac Laboratories Inc.



Login #: L16050571	Prep Method: _____	Samplenum: WG569664-02
Instrument: LCMS1	Prep Date: _____	File ID: 1LM.LM34986
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG569661	Analysis Date: 05/20/2016 14:20	Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	161000	58200	2.77	2.3	3.8	

Perchlorate Ion Ratios
Microbac Laboratories Inc.



Login #: L16050571	Prep Method: _____	Samplenum: WG569664-03
Instrument: LCMS1	Prep Date: _____	File ID: 1LM.LM34998
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG569661	Analysis Date: 05/20/2016 18:07	Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	168000	58500	2.87	2.3	3.8	

Perchlorate Ion Ratios
Microbac Laboratories Inc.



Login #: L16050571	Prep Method: _____	Samplenum: WG569664-04
Instrument: LCMS1	Prep Date: _____	File ID: 1LM.LM35000
Analyst: JWR	Anal Method: 6850	Matrix: Water
Worknum: WG569661	Analysis Date: 05/20/2016 18:45	Units: ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	0.000	0.000	0.000	2.3	3.8	*

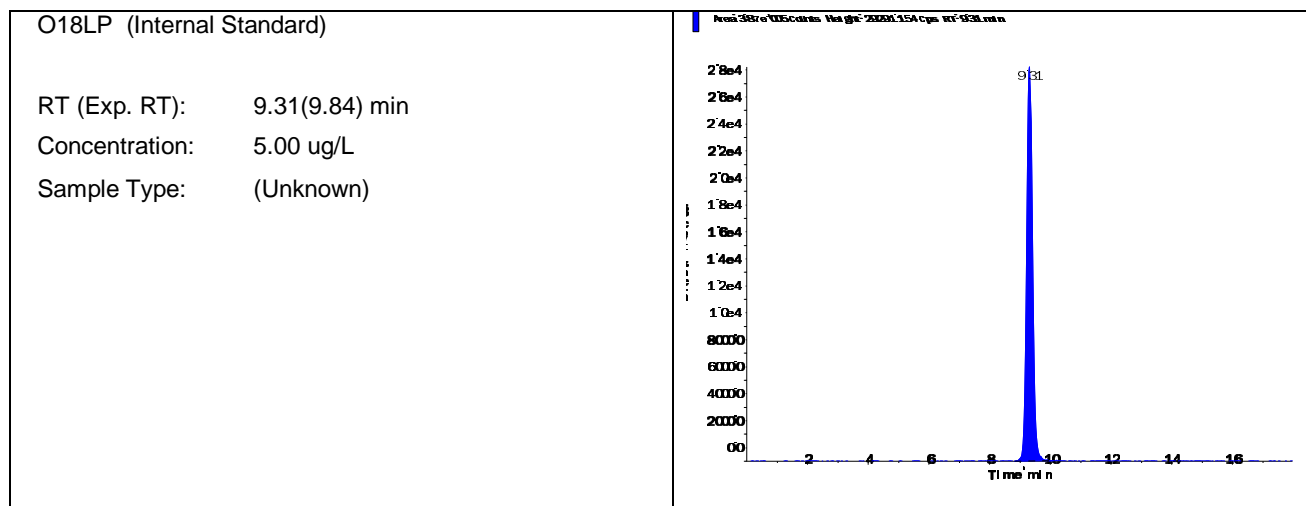
2.2.1.3 Sample Data

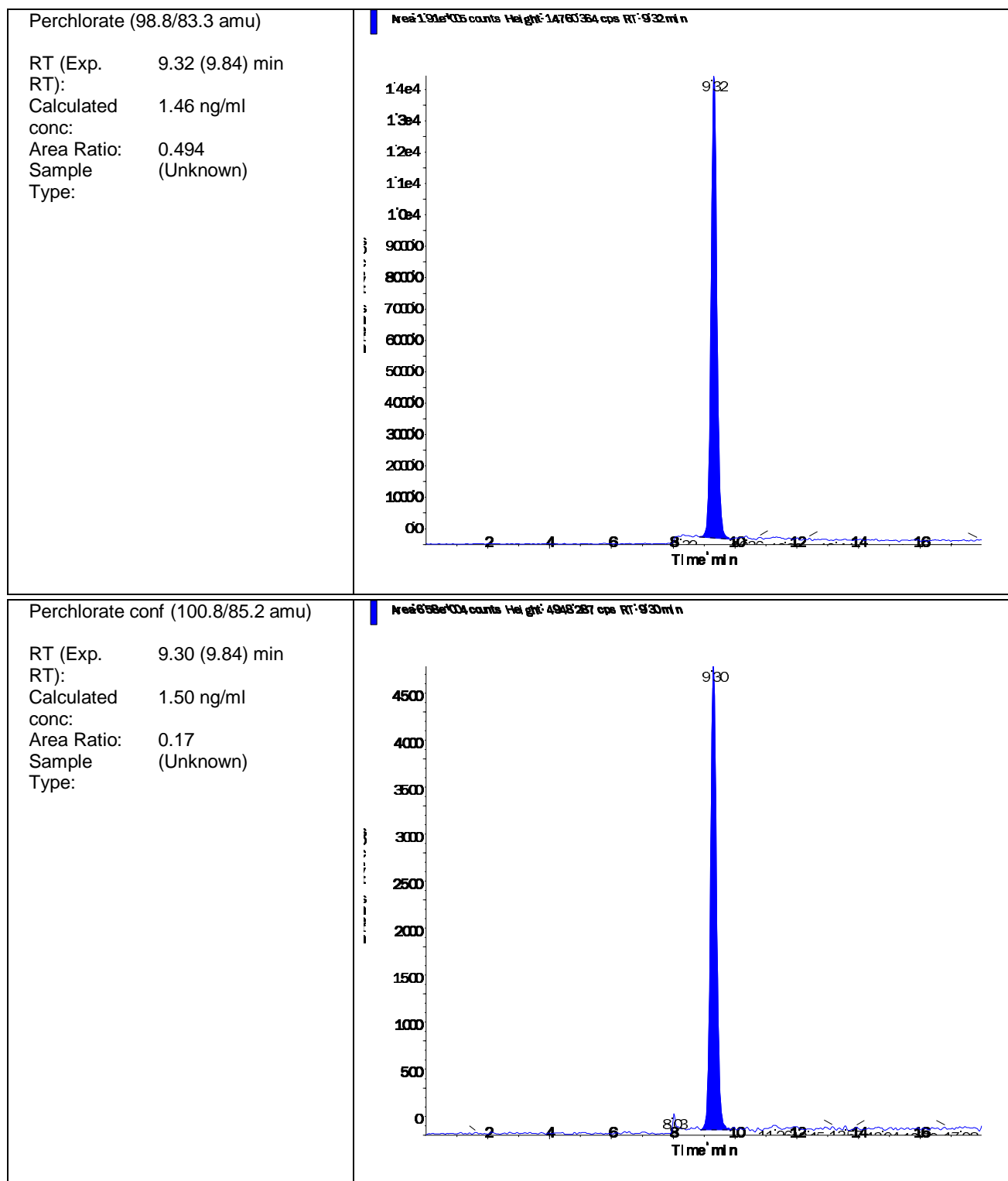
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Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	L16050571-01	Injection Vial	8.00
Data File	LM34992.wiff	Injection Volume	10.00
Acquisition Date	5/20/2016 4:13:53 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	052016_JWR.rdb
Sample ID	L16050571-01	Dilution Factor	1.00
Sample Comment	1,1 (Screened)	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	3.870e+05	9.31	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.910e+05	9.32	N/A	1.46
Perchlorate conf	6.580e+04	9.30	N/A	1.50



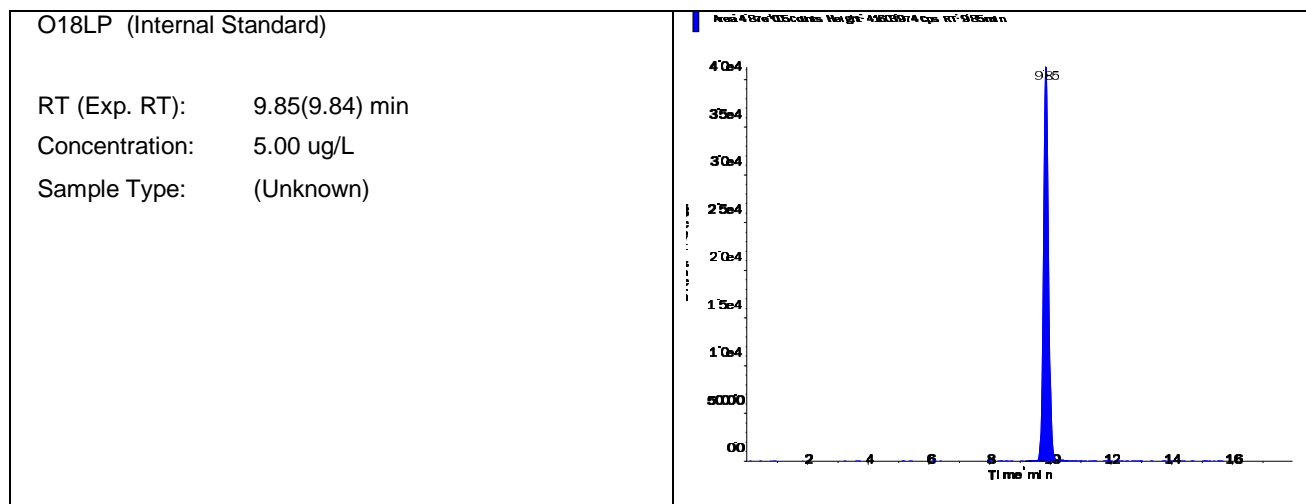


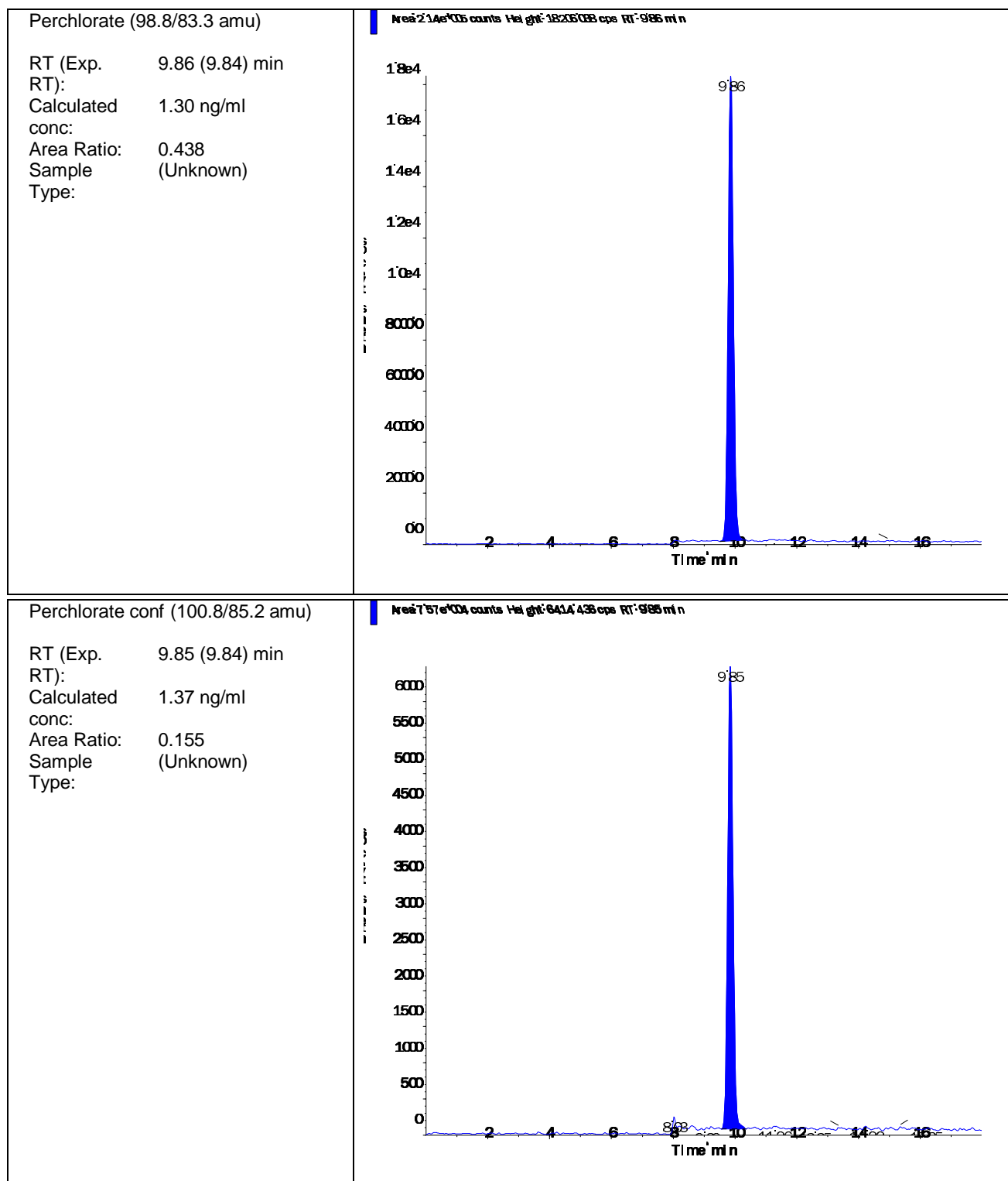
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Acquisition Date	5/20/2016 4:32:52 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	L16050571-03 (1,000x)	Injection Vial	9.00
Data File	LM34993.wiff	Injection Volume	10.00
Acquisition Date	5/20/2016 4:32:52 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	052016_JWR.rdb
Sample ID	L16050571-03	Dilution Factor	1.00
Sample Comment	1,1000 (Screened)	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.870e+05	9.85	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	2.140e+05	9.86	N/A	1.30
Perchlorate conf	7.570e+04	9.85	N/A	1.37





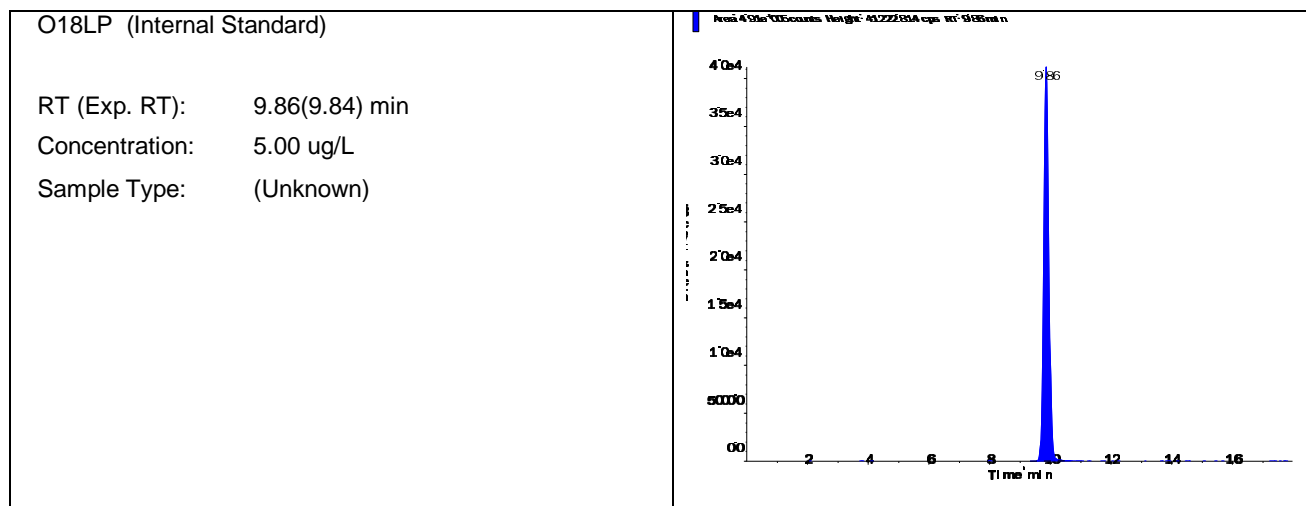
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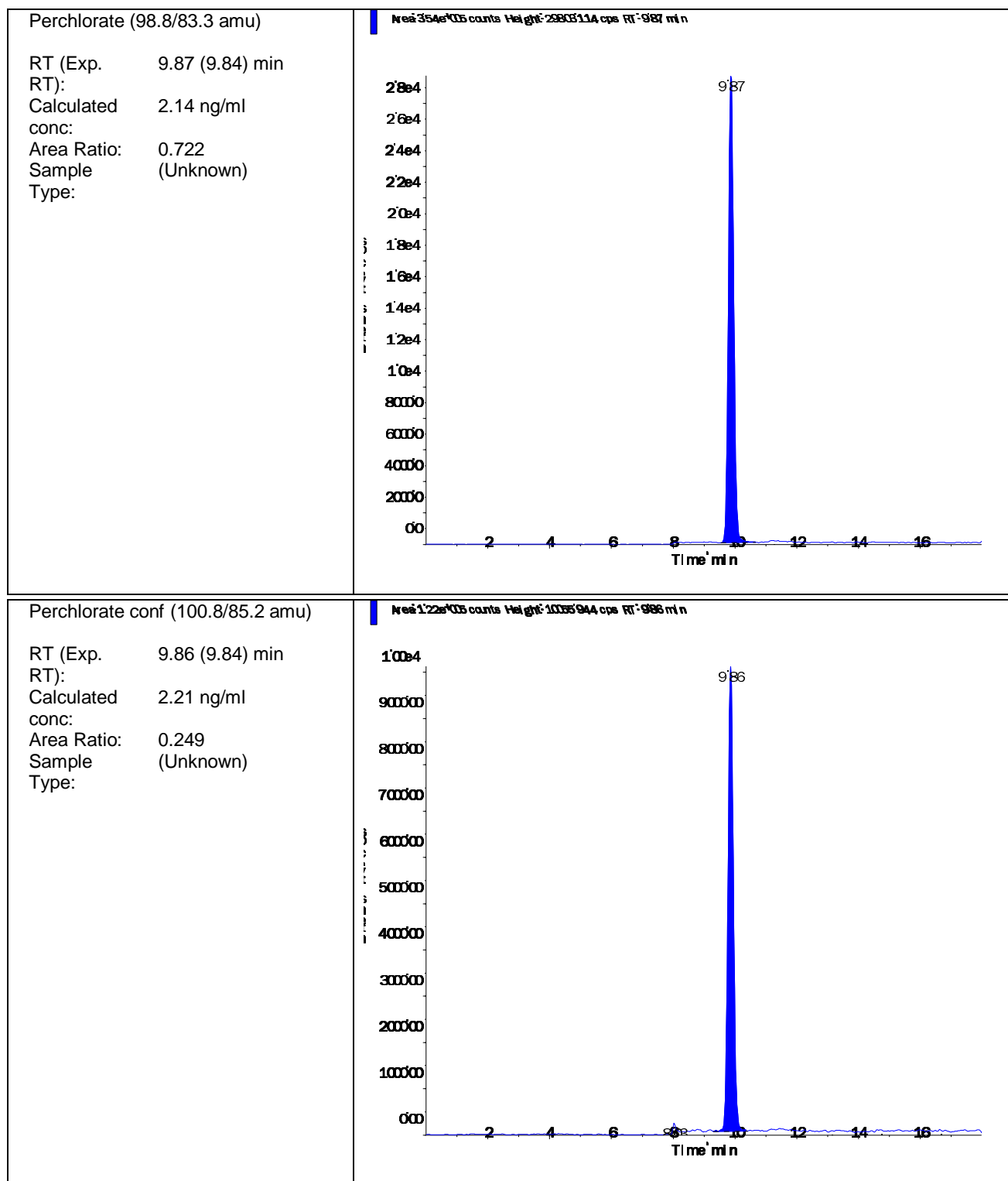
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Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	L16050571-05 (1,000x)	Injection Vial	10.00
Data File	LM34994.wiff	Injection Volume	10.00
Acquisition Date	5/20/2016 4:51:47 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	052016_JWR.rdb
Sample ID	L16050571-05	Dilution Factor	1.00
Sample Comment	1,1000 (Screened)	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.910e+05	9.86	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	3.540e+05	9.87	N/A	2.14
Perchlorate conf	1.220e+05	9.86	N/A	2.21



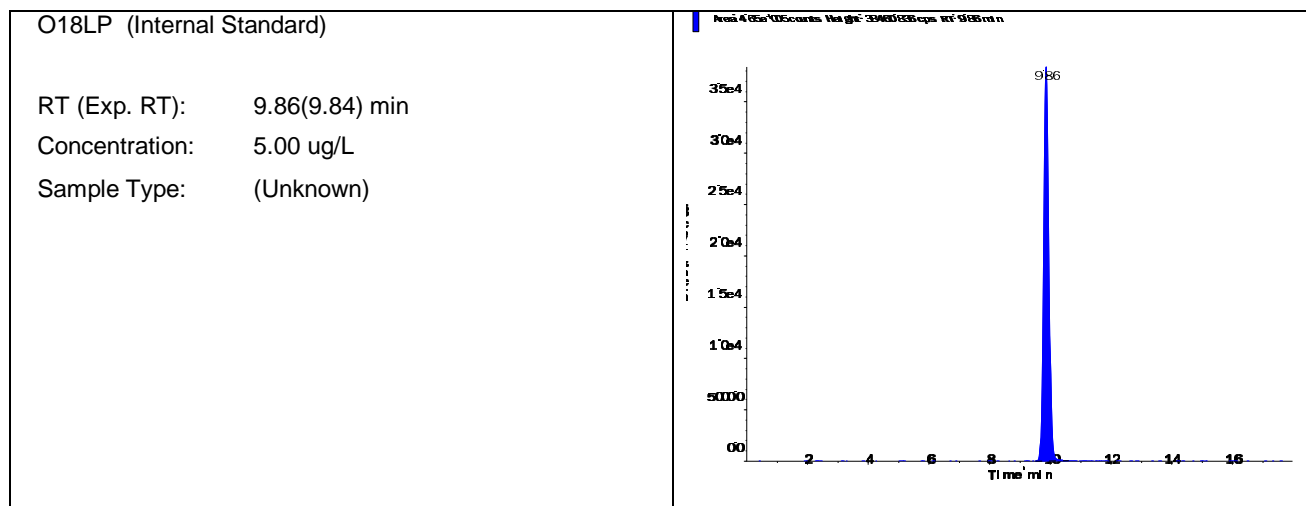


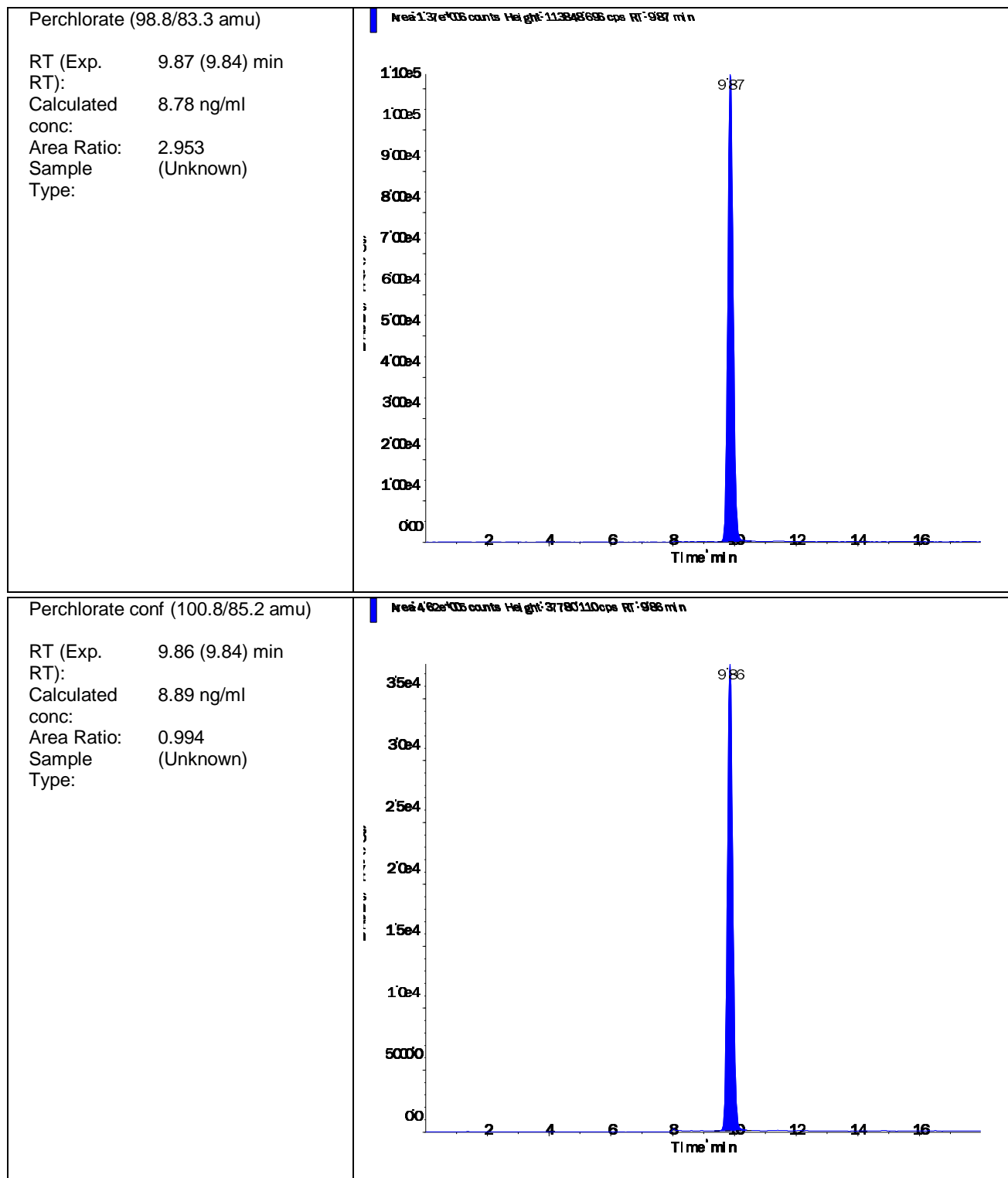
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Acquisition Date	5/20/2016 5:10:46 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	L16050571-07 (10,000x)	Injection Vial	11.00
Data File	LM34995.wiff	Injection Volume	10.00
Acquisition Date	5/20/2016 5:10:46 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	052016_JWR.rdb
Sample ID	L16050571-07	Dilution Factor	1.00
Sample Comment	1,10000 (Screened)	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.650e+05	9.86	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.370e+06	9.87	N/A	8.78
Perchlorate conf	4.620e+05	9.86	N/A	8.89





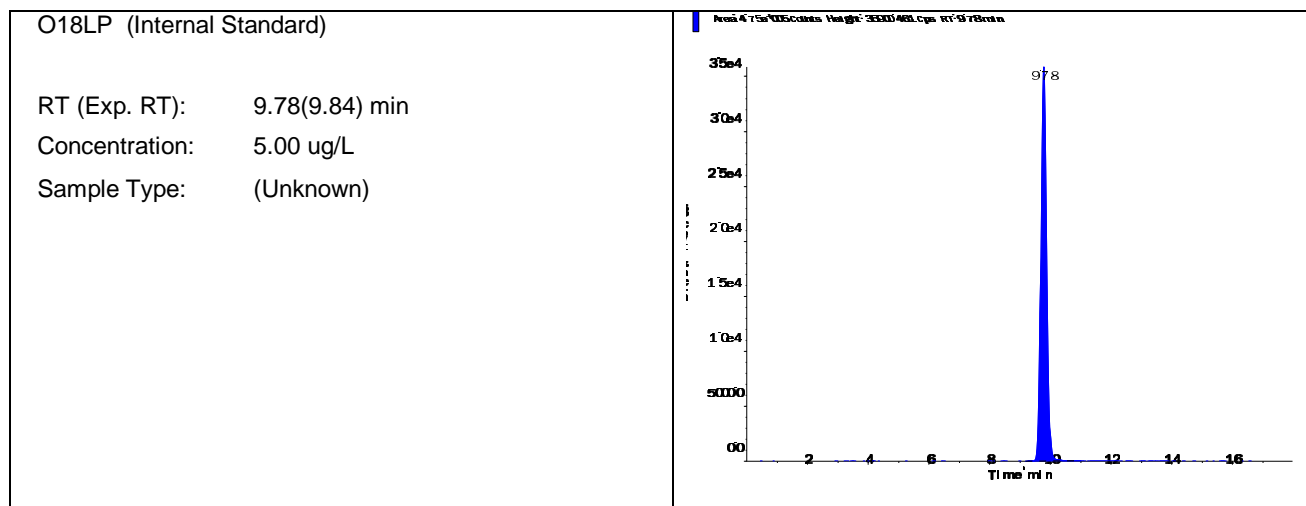
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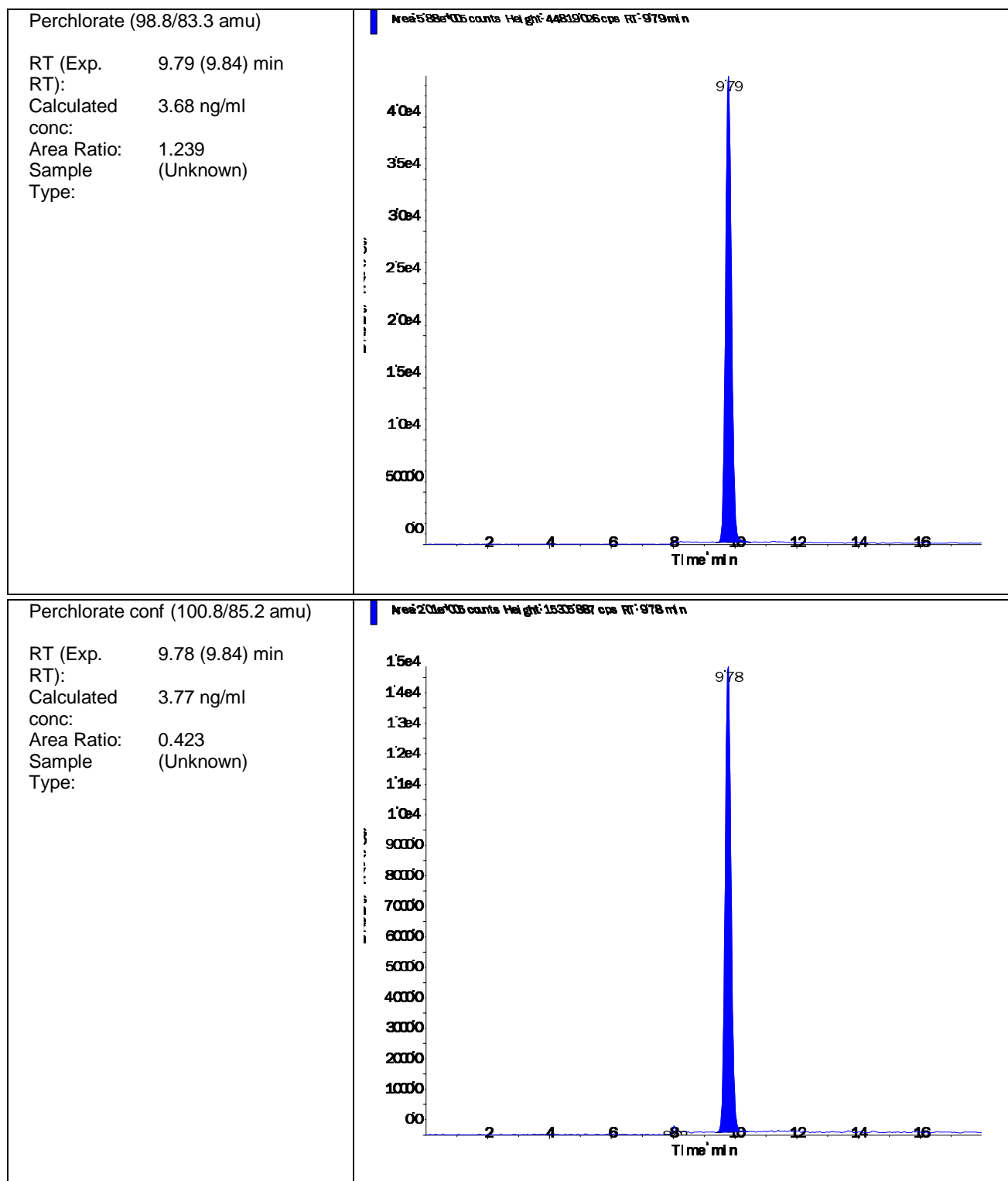
Data File	LM34996.wiff	Result Table	052016_JWR.rdb
Acquisition Date	5/20/2016 5:29:41 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	L16050571-09 (10x)	Injection Vial	12.00
Data File	LM34996.wiff	Injection Volume	10.00
Acquisition Date	5/20/2016 5:29:41 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	052016_JWR.rdb
Sample ID	L16050571-09	Dilution Factor	1.00
Sample Comment	1,10 (Screened)	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.750e+05	9.78	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	5.880e+05	9.79	N/A	3.68
Perchlorate conf	2.010e+05	9.78	N/A	3.77



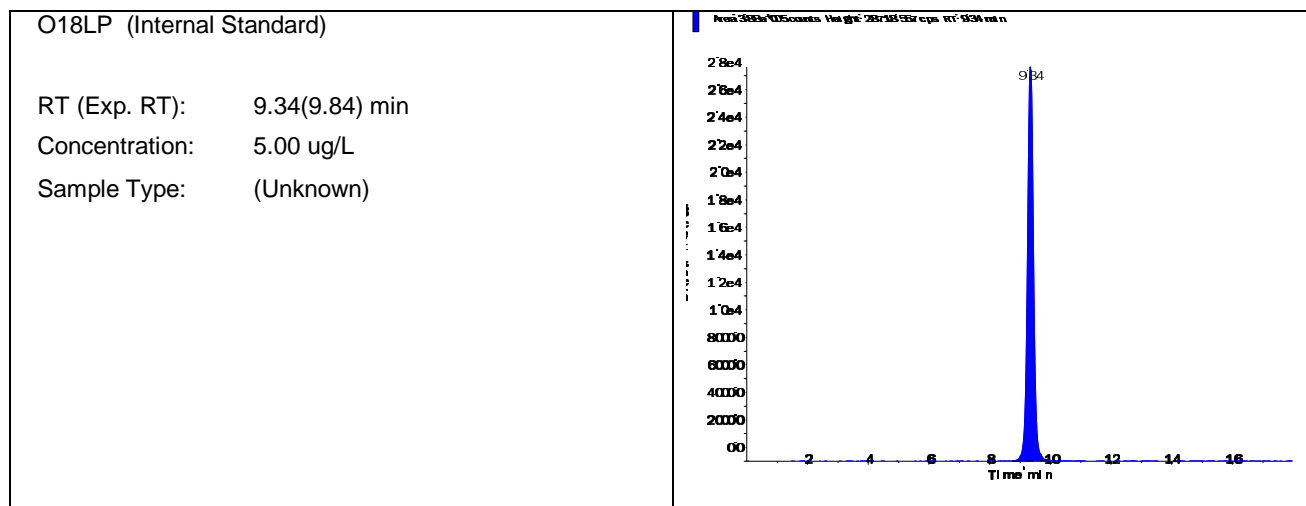


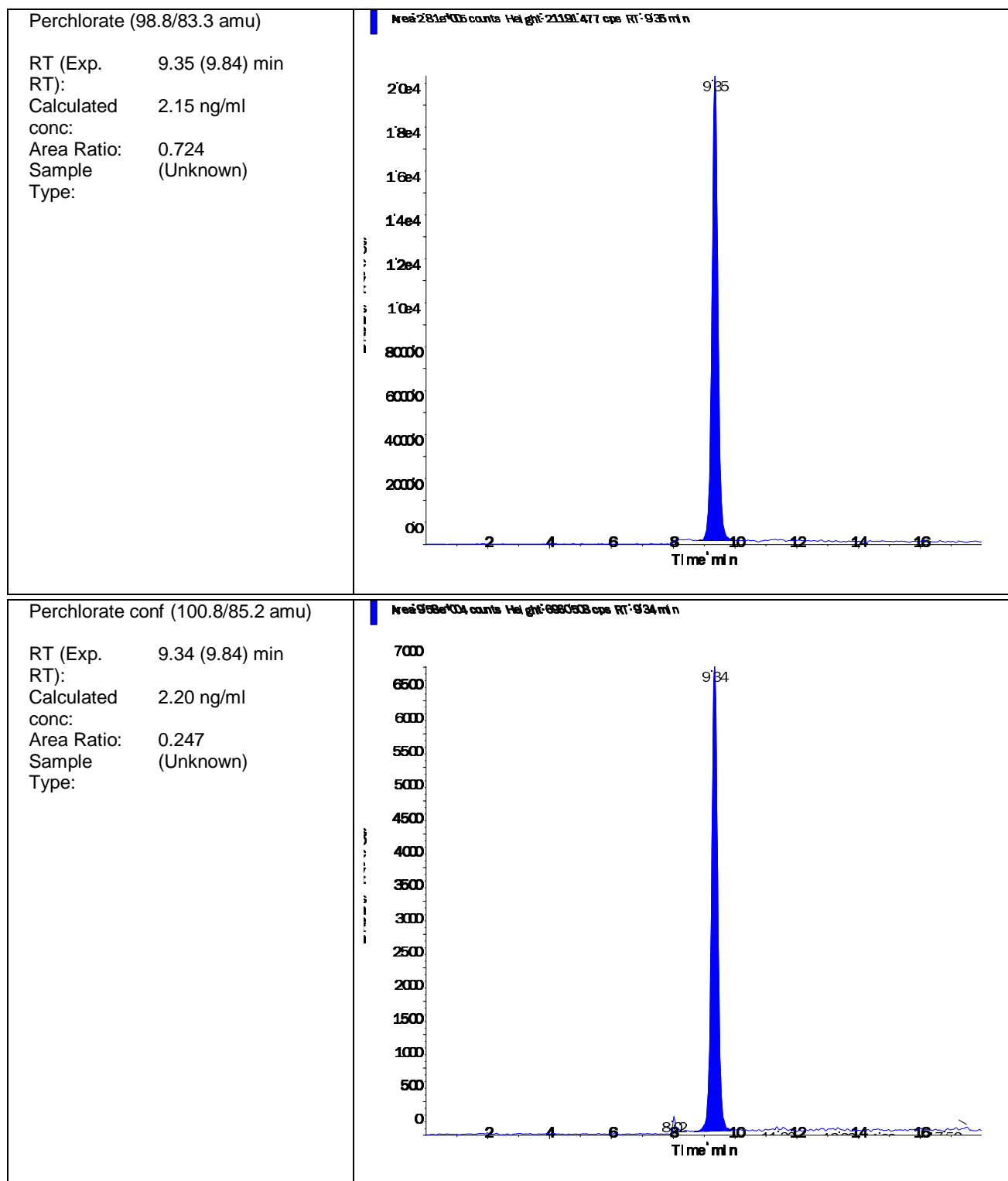
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Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	L16050571-11	Injection Vial	13.00
Data File	LM34997.wiff	Injection Volume	10.00
Acquisition Date	5/20/2016 5:48:37 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	052016_JWR.rdb
Sample ID	L16050571-11	Dilution Factor	1.00
Sample Comment	1,1 (Screened)	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	3.880e+05	9.34	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	2.810e+05	9.35	N/A	2.15
Perchlorate conf	9.580e+04	9.34	N/A	2.20





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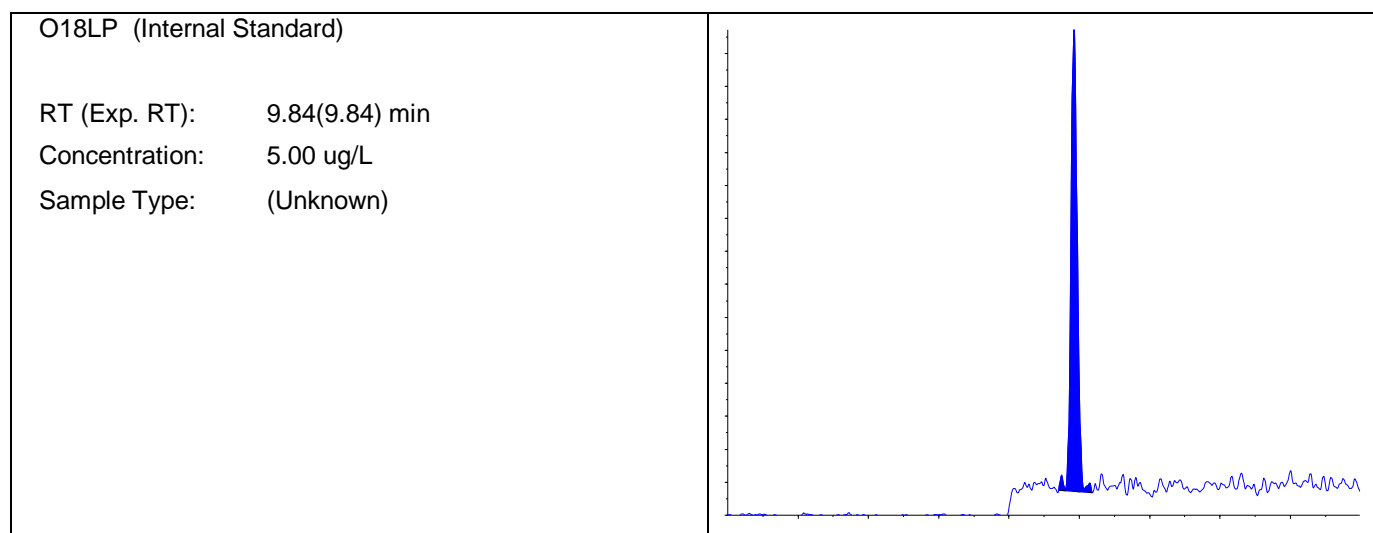
2.2.1.4 Standards Data

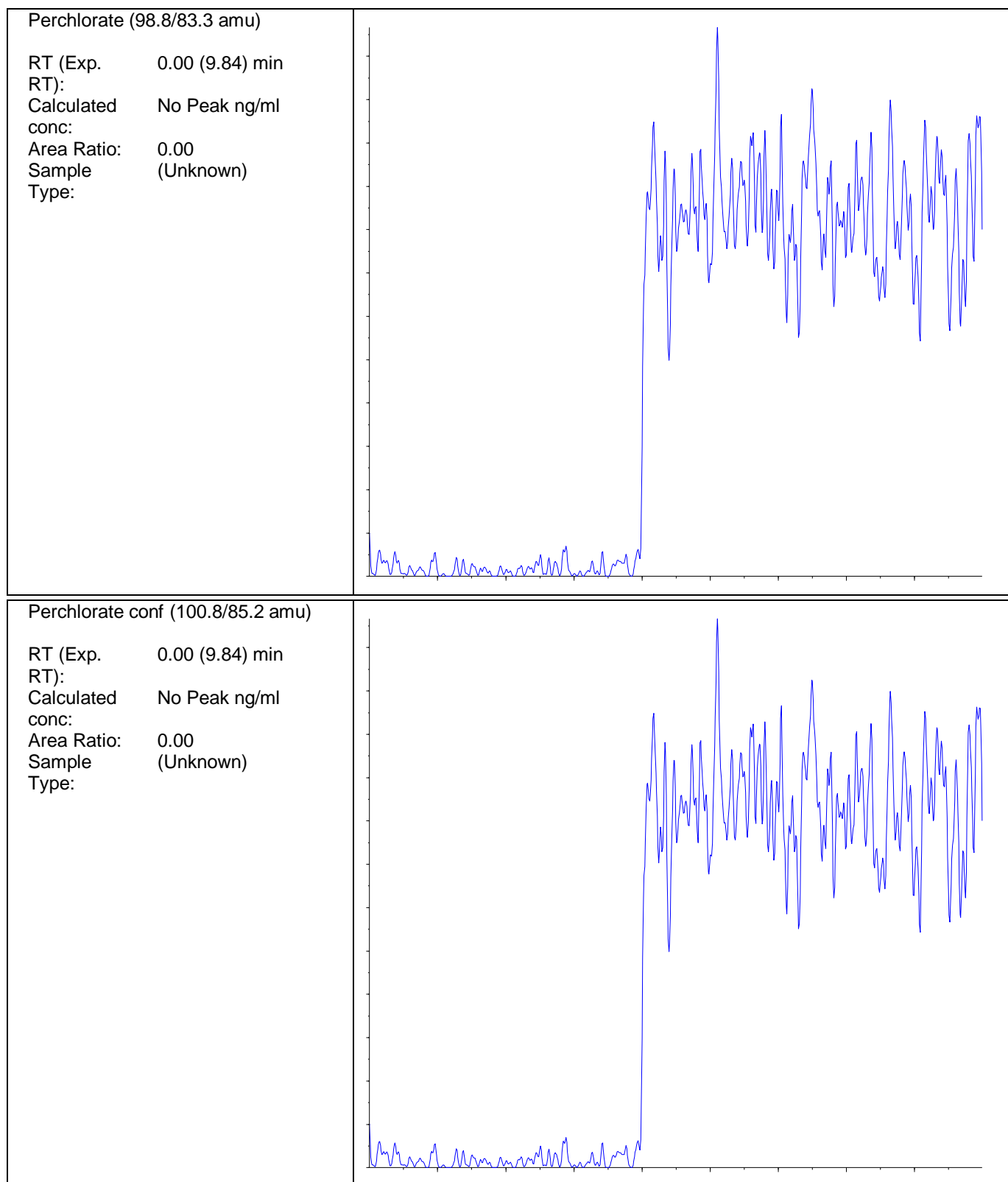
Data File	LM34686.wiff	Result Table	052016B_JWR.rdb
Acquisition Date	5/3/2016 3:06:05 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

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	052016B_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





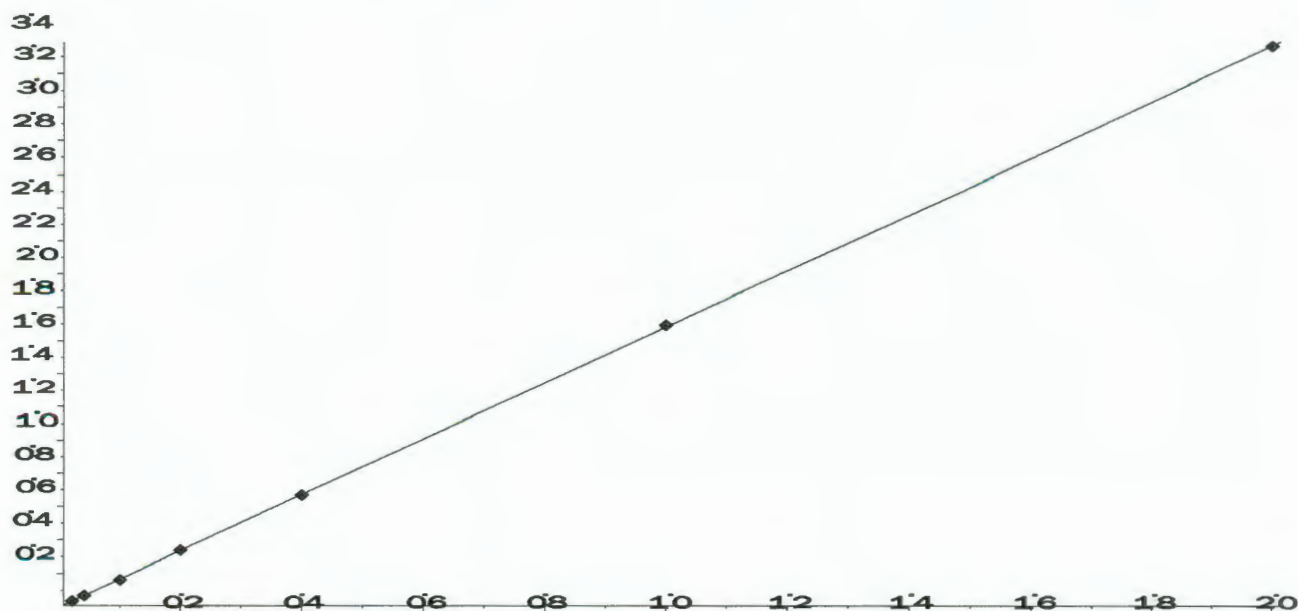
Analyte Name: **Perchlorate**
Internal Standard: **O18LP**

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

$$y = 1.68x + 0.00128 \quad (r = 1.0000)$$



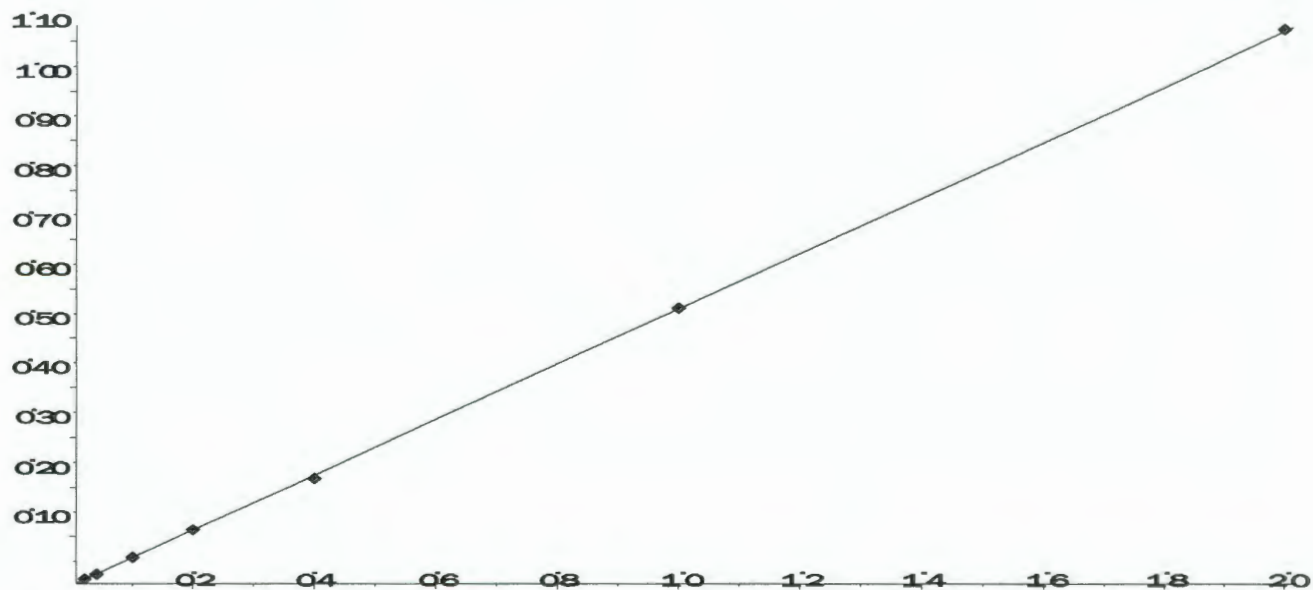
Analyte Name: Perchlorate conf
Internal Standard: O18LP

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

$$y = 0.558x + 0.00228 \quad (r = 0.9999)$$

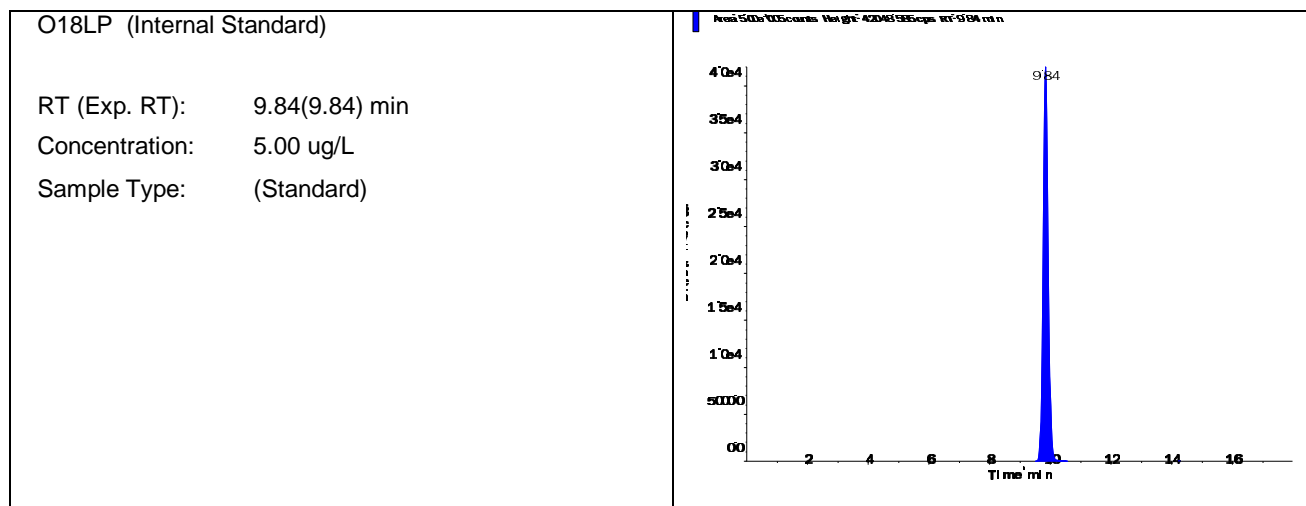


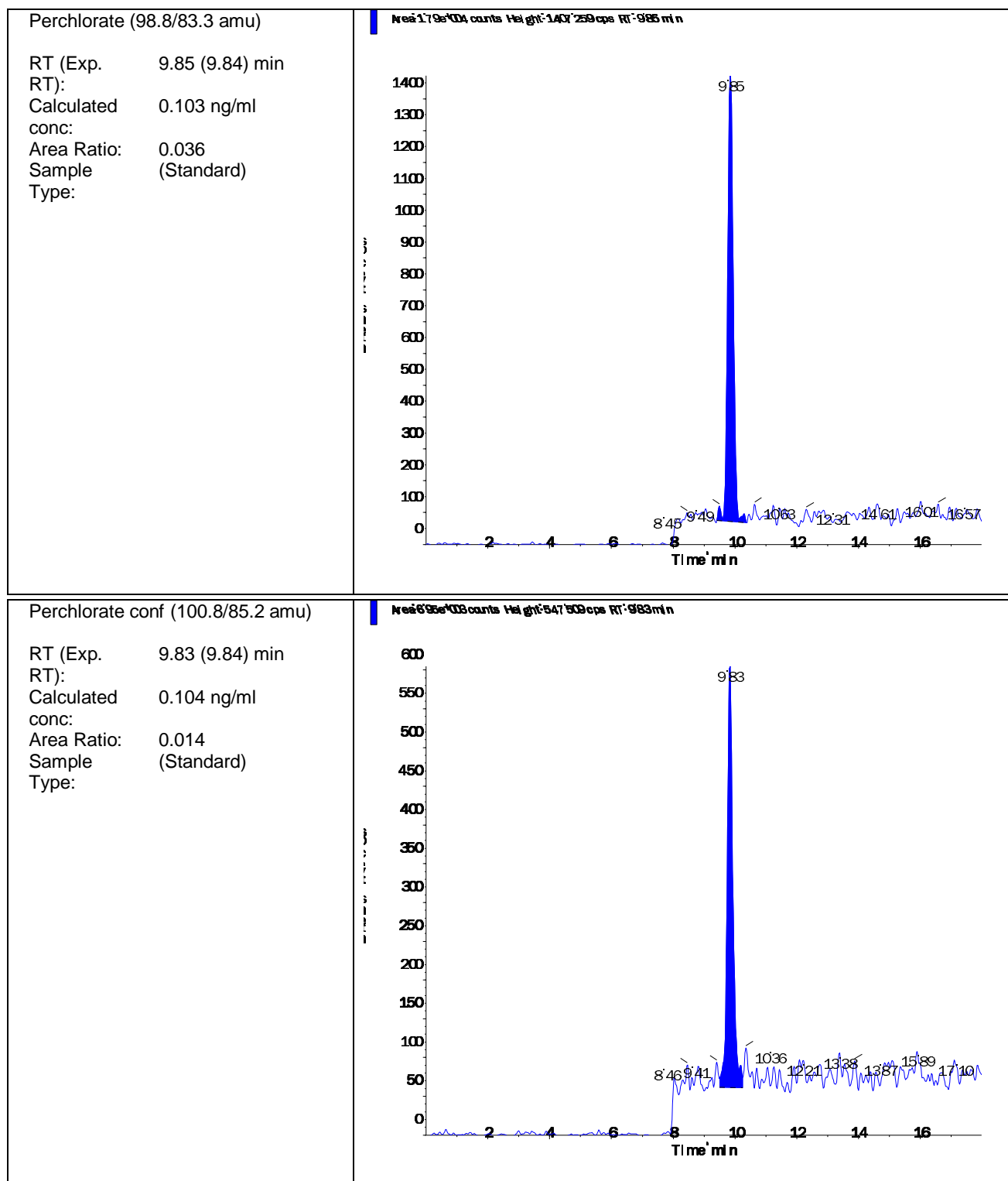
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Acquisition Date	5/3/2016 3:25:04 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

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	052016B_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





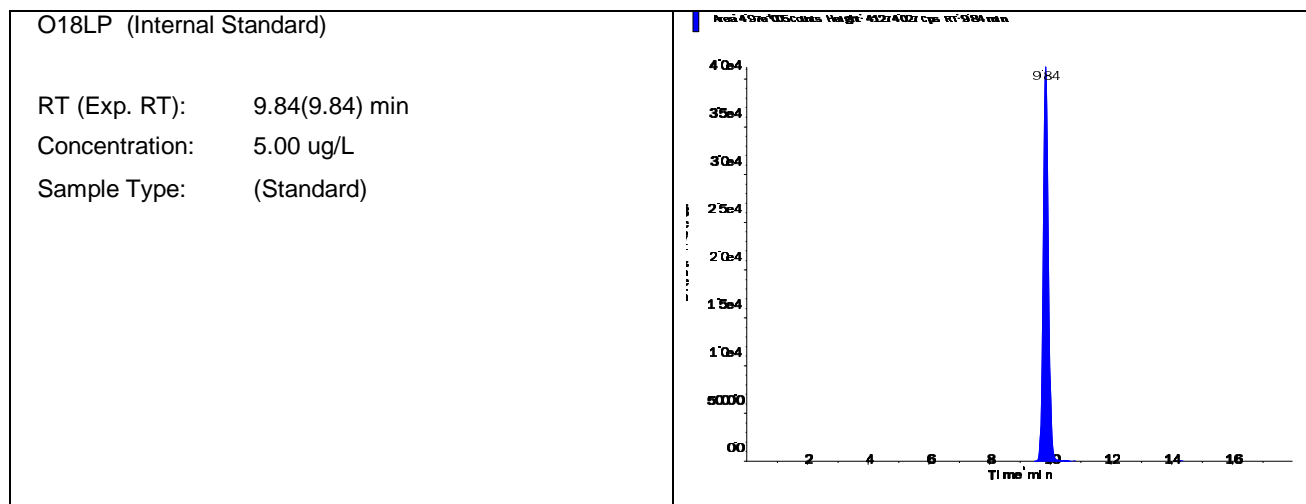
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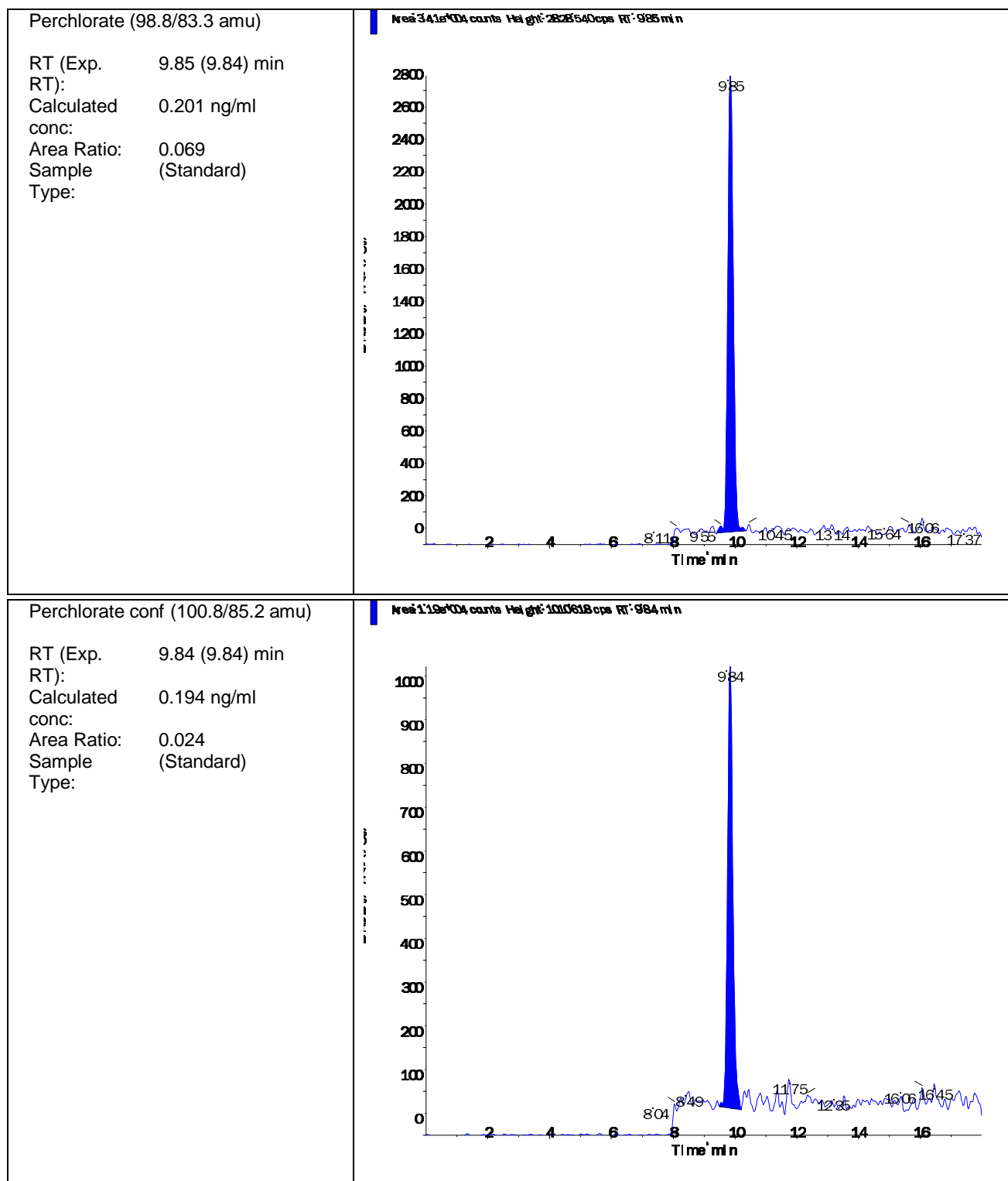
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Acquisition Date	5/3/2016 3:43:59 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

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	052016B_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



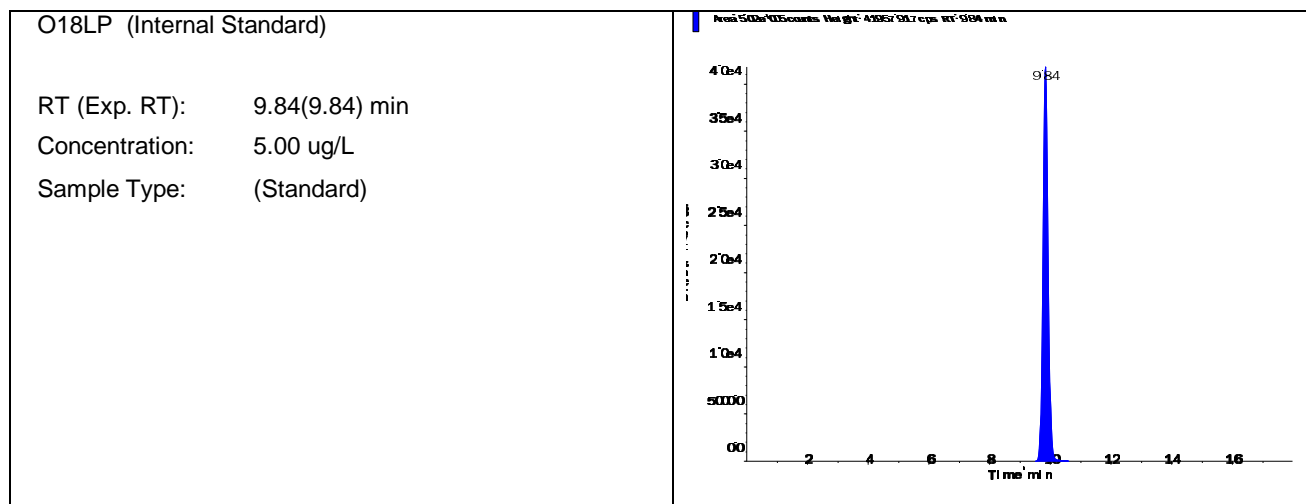


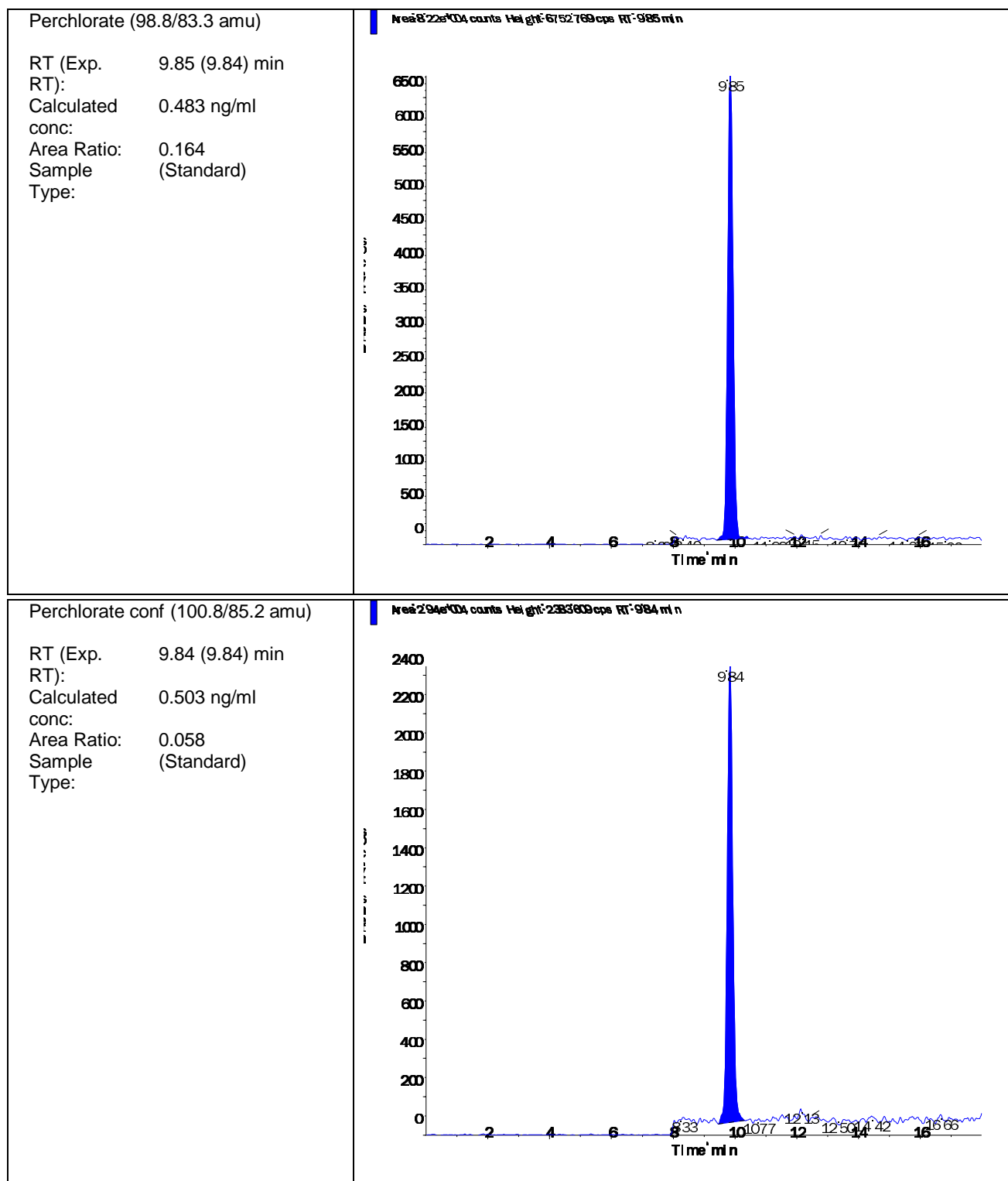
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Acquisition Date	5/3/2016 4:02:52 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

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	052016B_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





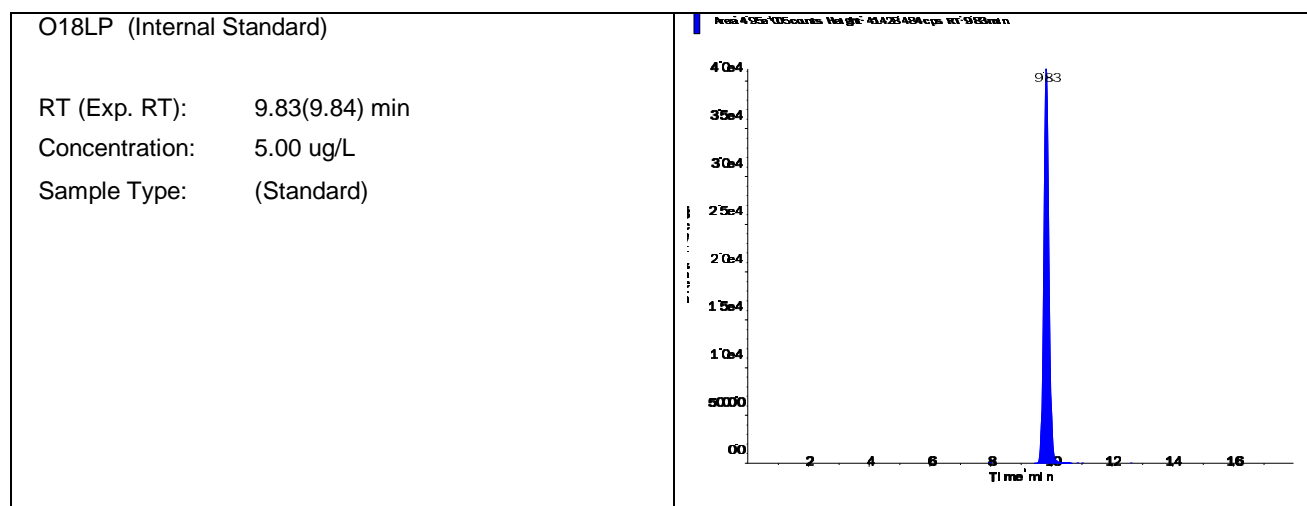
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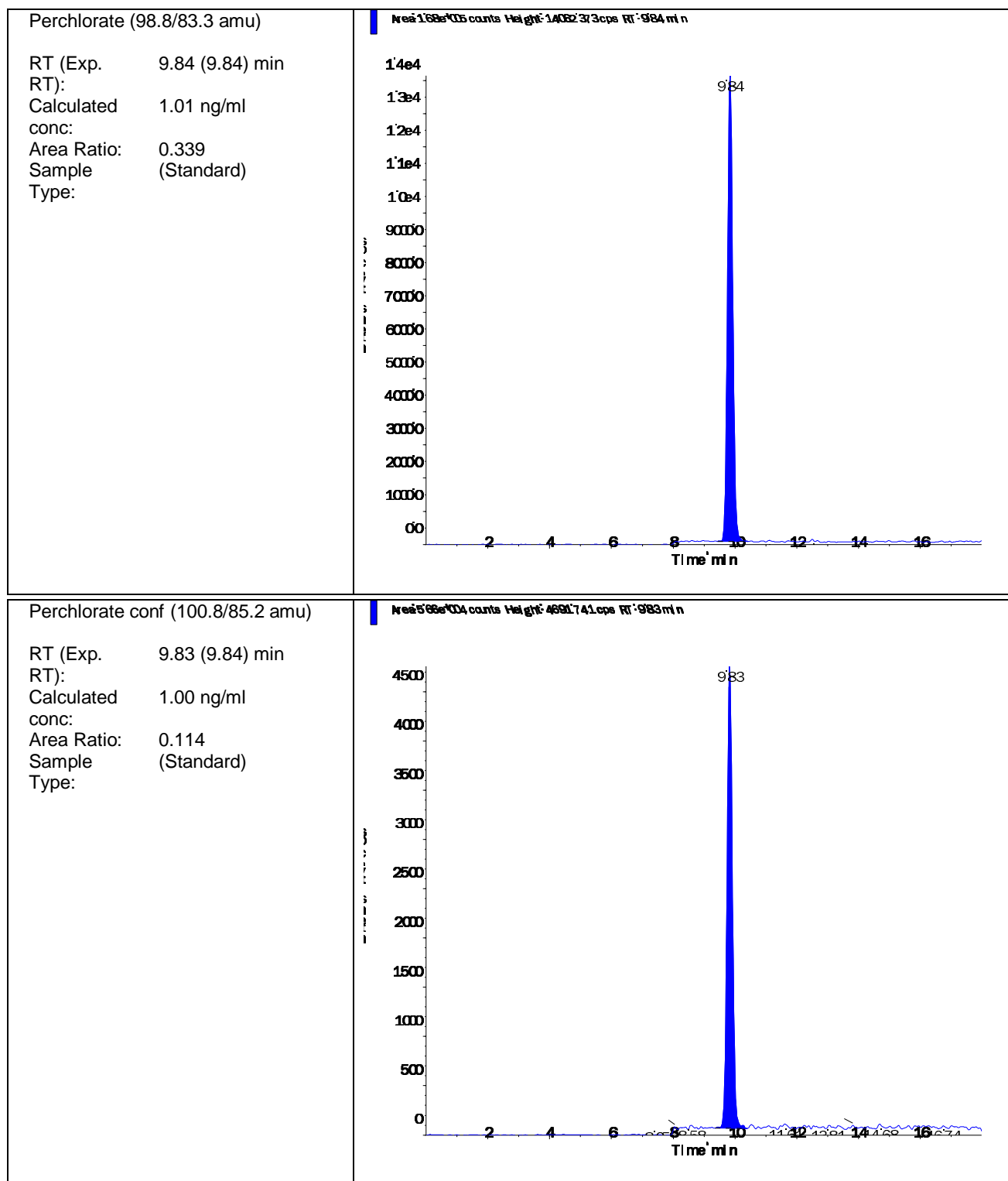
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Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

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	052016B_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



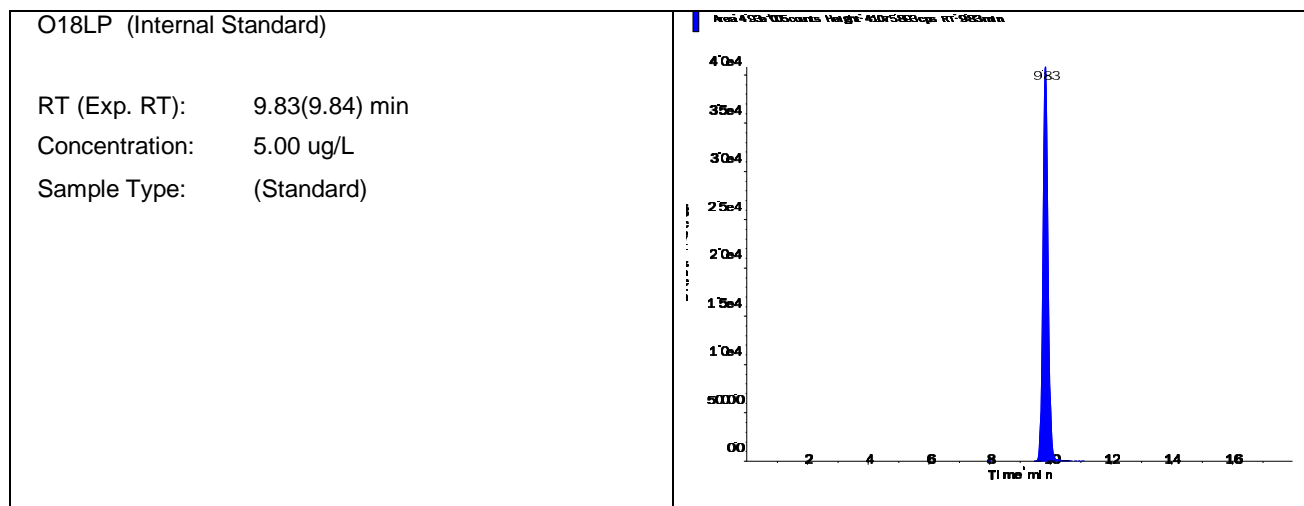


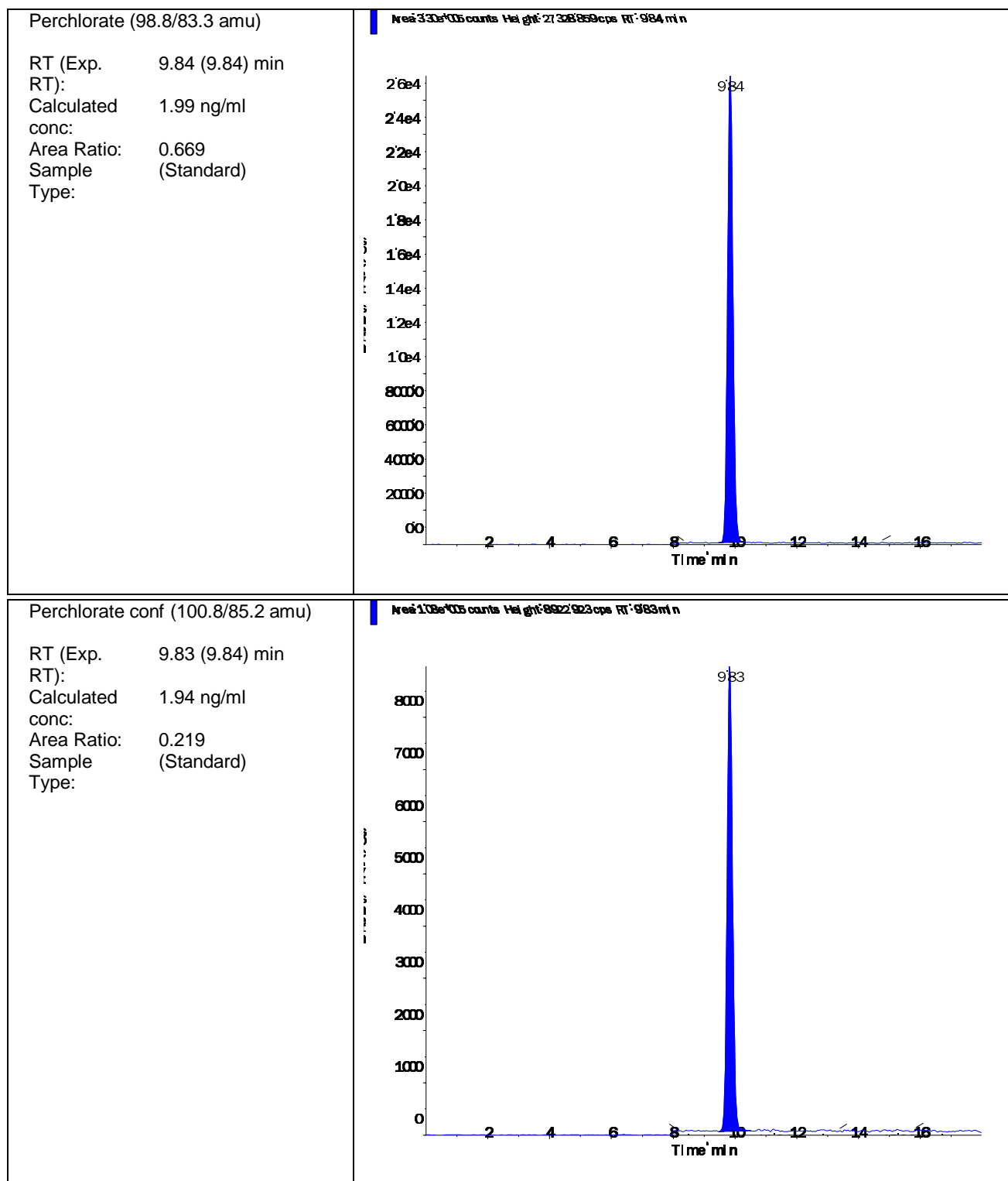
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Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

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	052016B_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



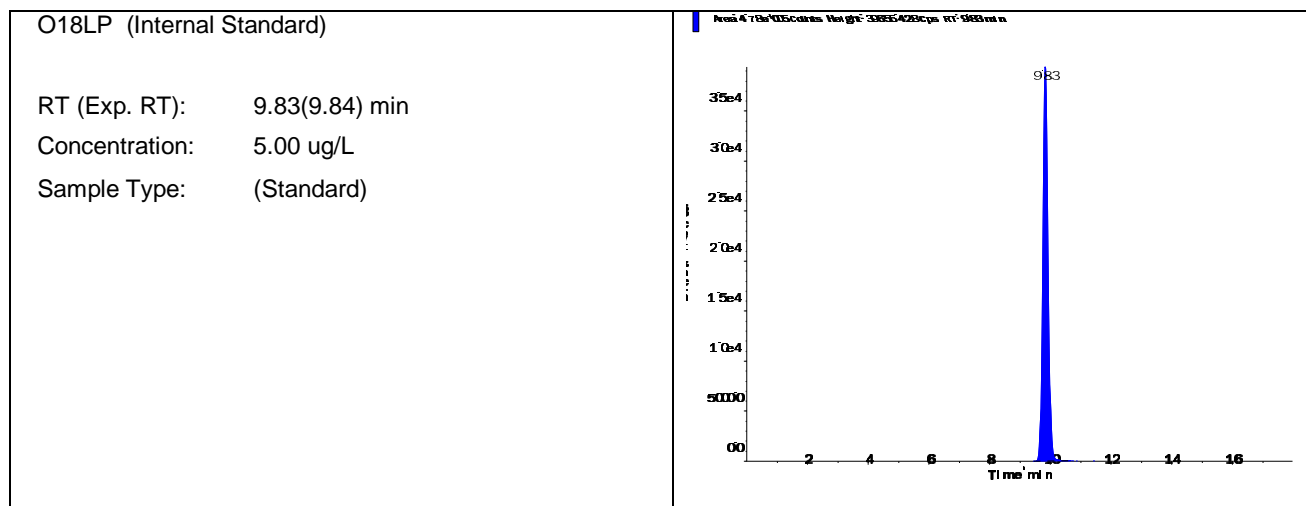


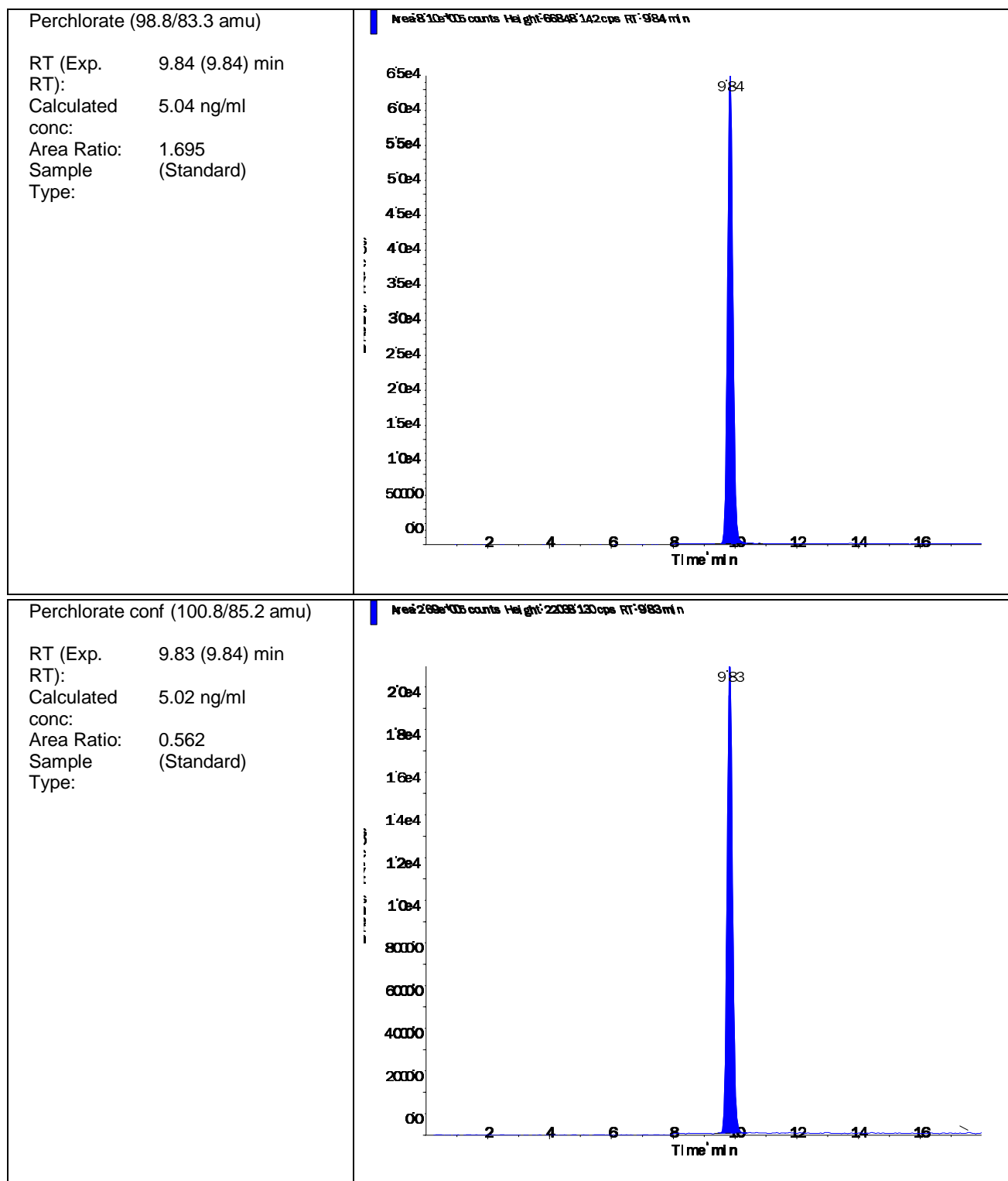
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Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

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	052016B_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



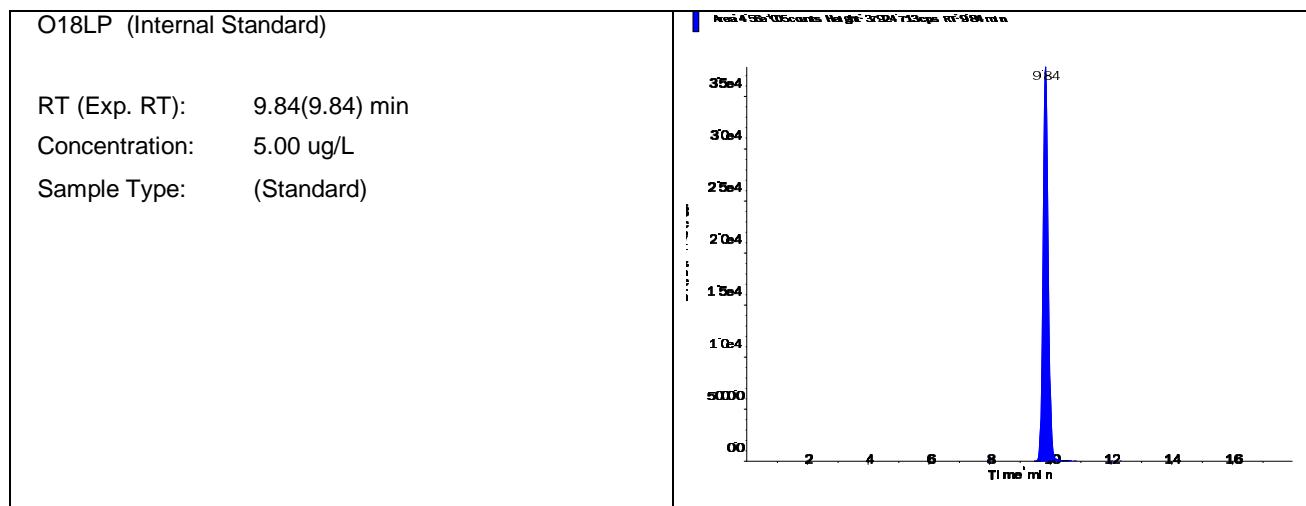


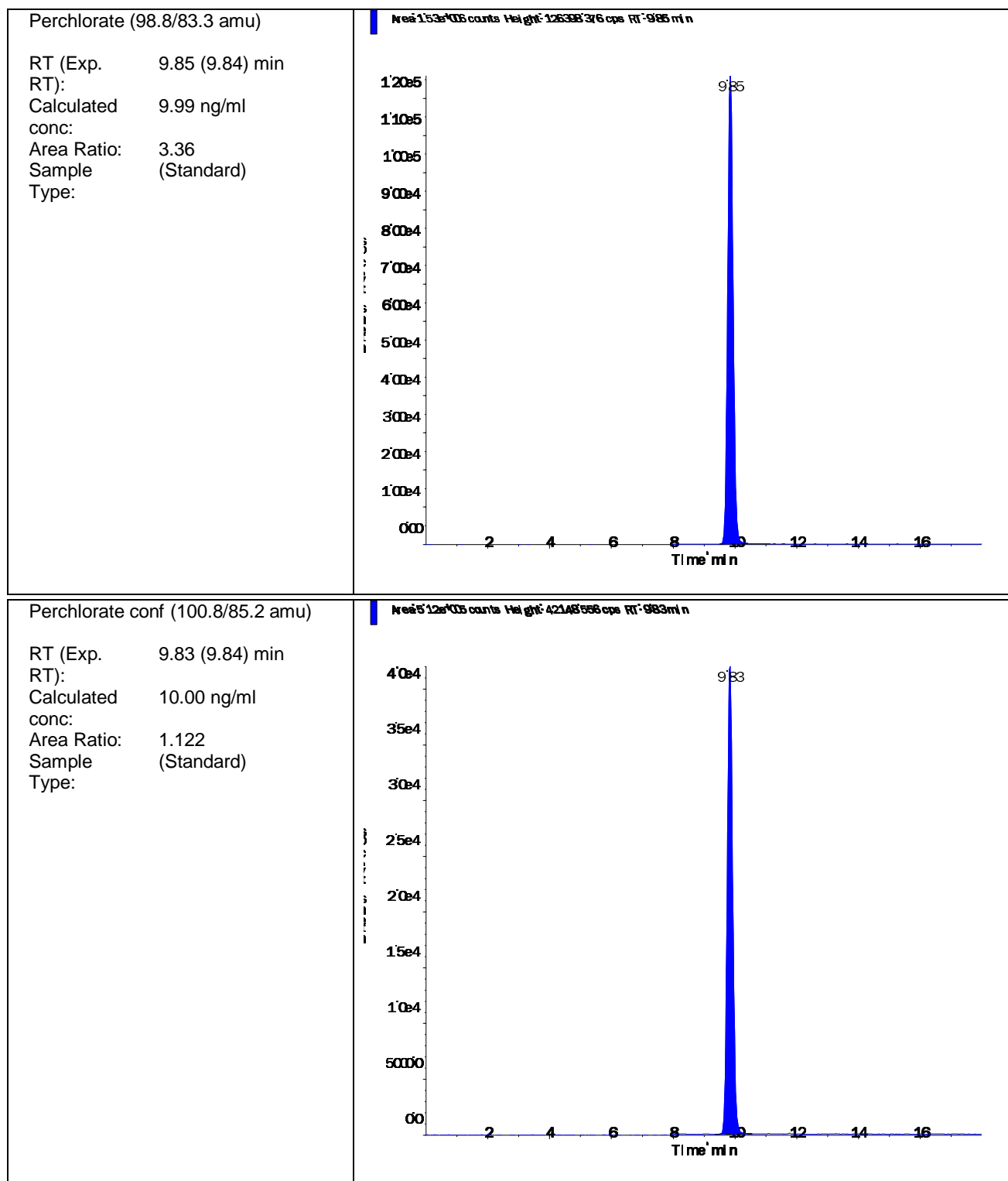
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Acquisition Date	5/3/2016 5:18:37 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

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	052016B_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



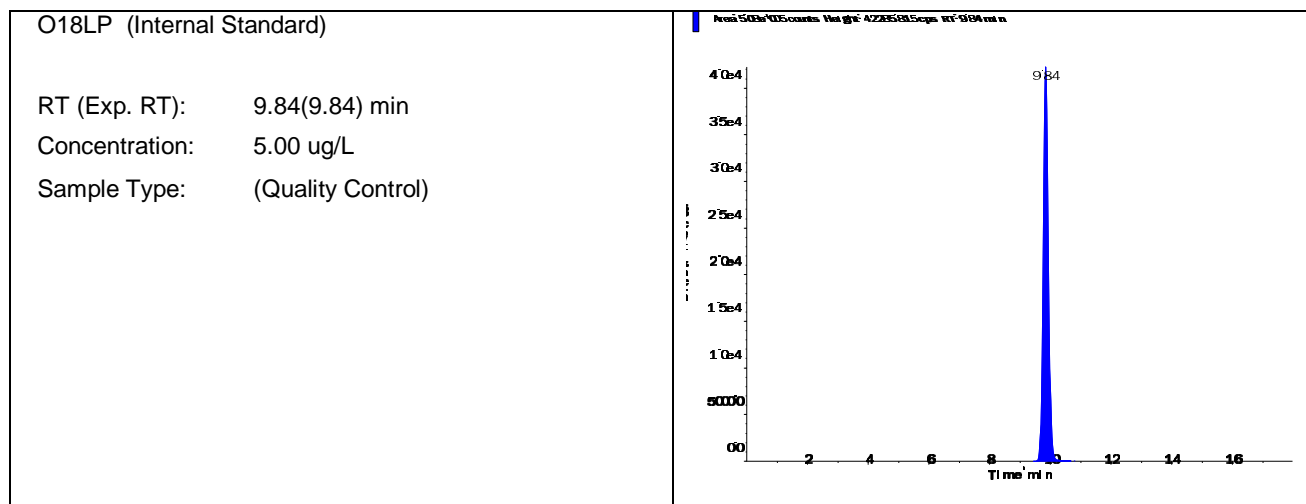


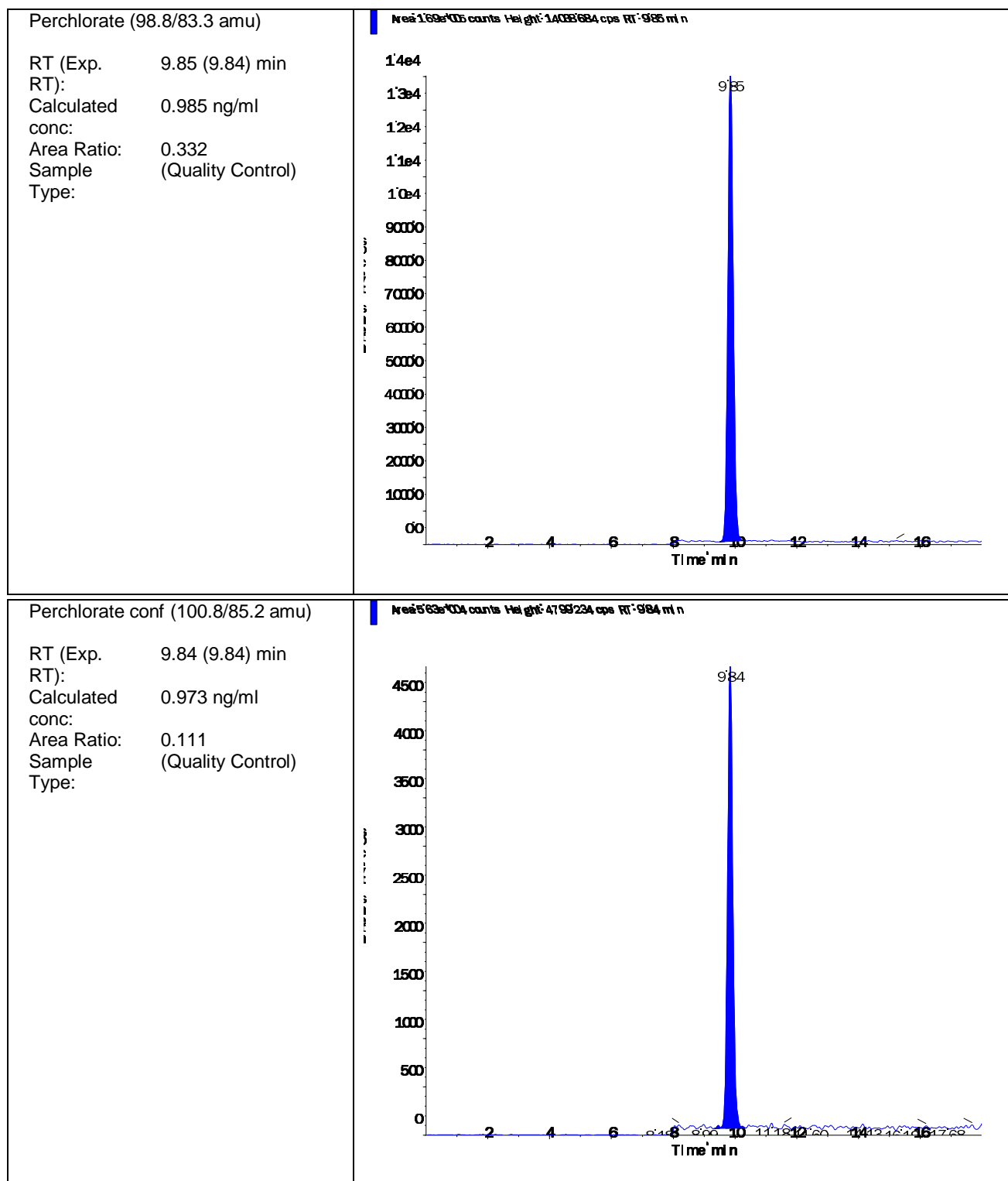
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Acquisition Date	5/3/2016 5:37:34 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

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



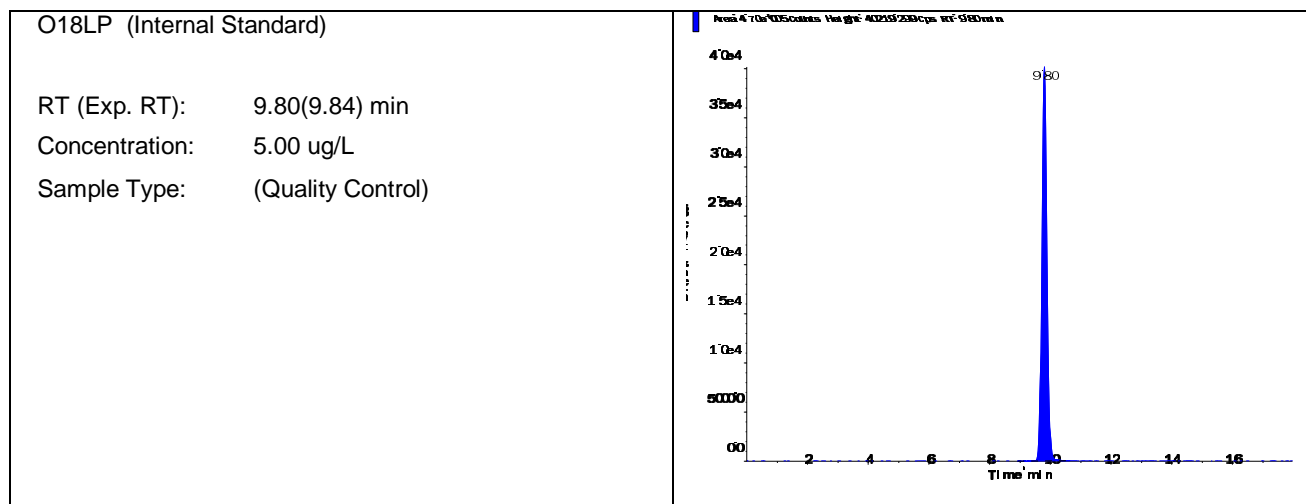


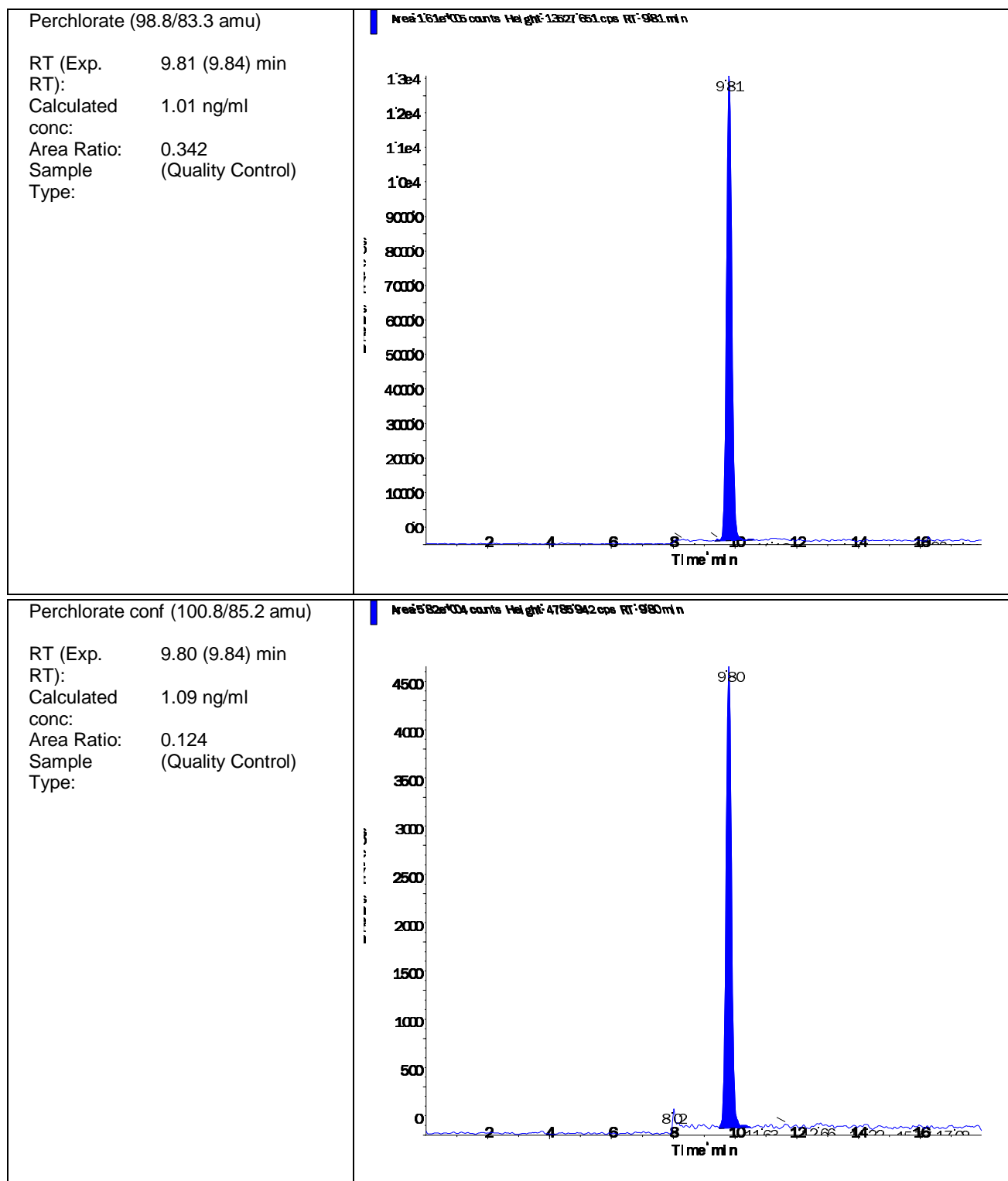
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Acquisition Date	5/20/2016 2:20:15 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG569664-02 CCV (1.0ug/L)	Injection Vial	3.00
Data File	LM34986.wiff	Injection Volume	10.00
Acquisition Date	5/20/2016 2:20:15 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Quality Control
Instrument Name	API 4000	Result Table	052016_JWR.rdb
Sample ID	WG569664-02	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	4.700e+05	9.80	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.610e+05	9.81	1.00	1.01
Perchlorate conf	5.820e+04	9.80	1.00	1.09





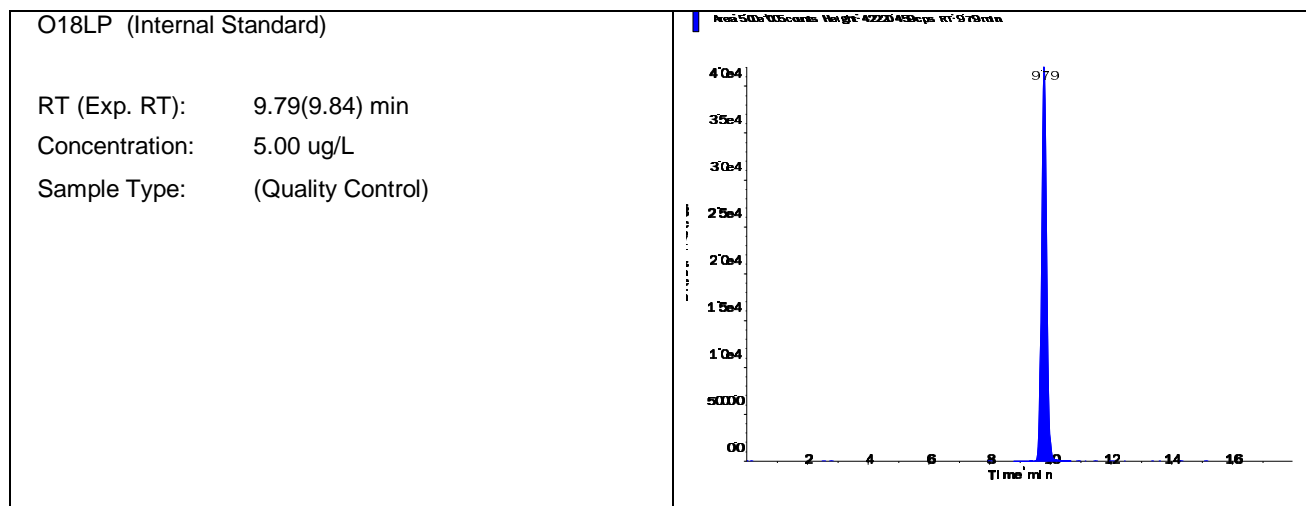
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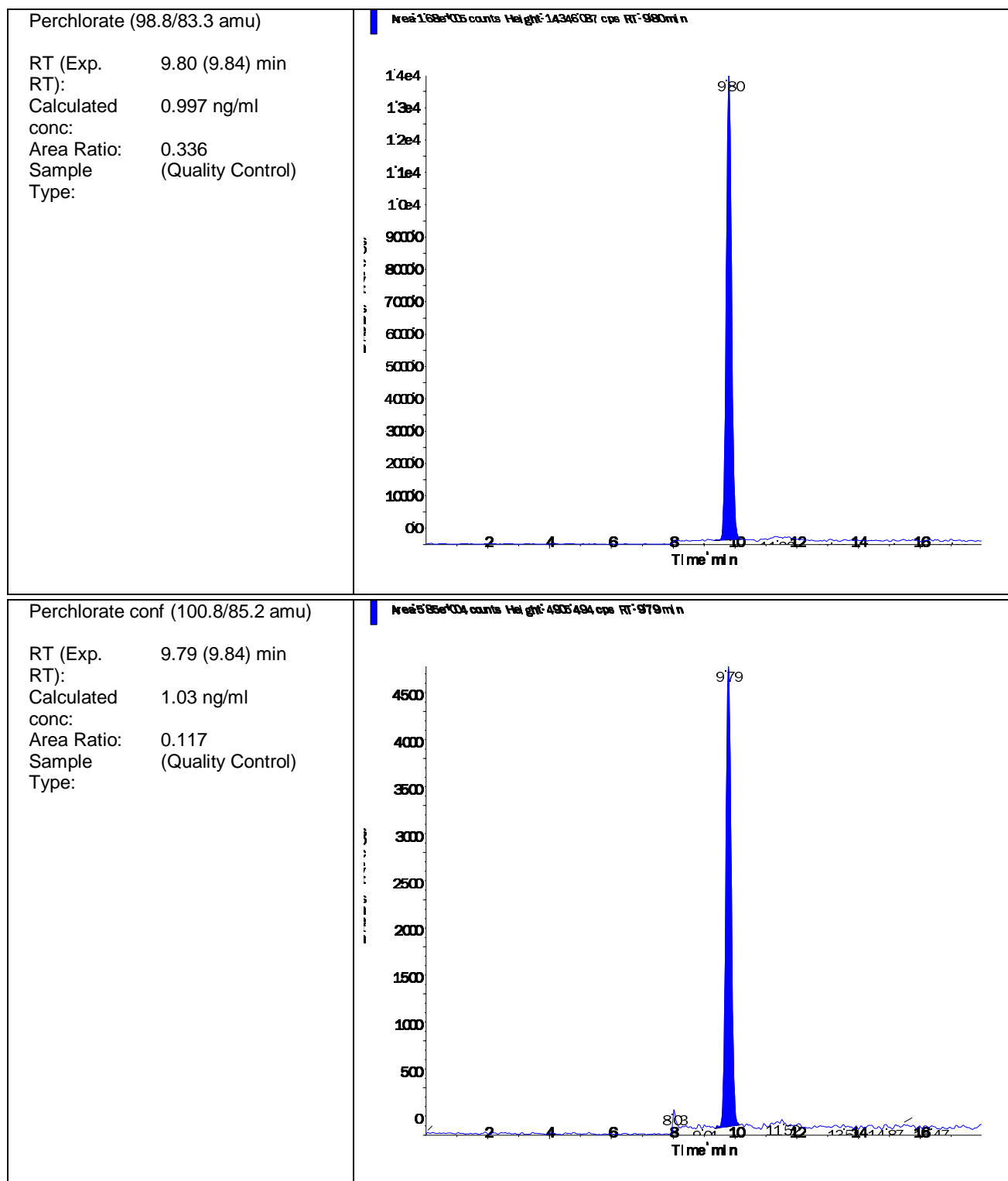
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Acquisition Date	5/20/2016 6:07:33 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG569664-03 CCV (1.0ug/L)	Injection Vial	3.00
Data File	LM34998.wiff	Injection Volume	10.00
Acquisition Date	5/20/2016 6:07:33 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Quality Control
Instrument Name	API 4000	Result Table	052016_JWR.rdb
Sample ID	WG569664-03	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	5.000e+05	9.79	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.680e+05	9.80	1.00	0.997
Perchlorate conf	5.850e+04	9.79	1.00	1.03





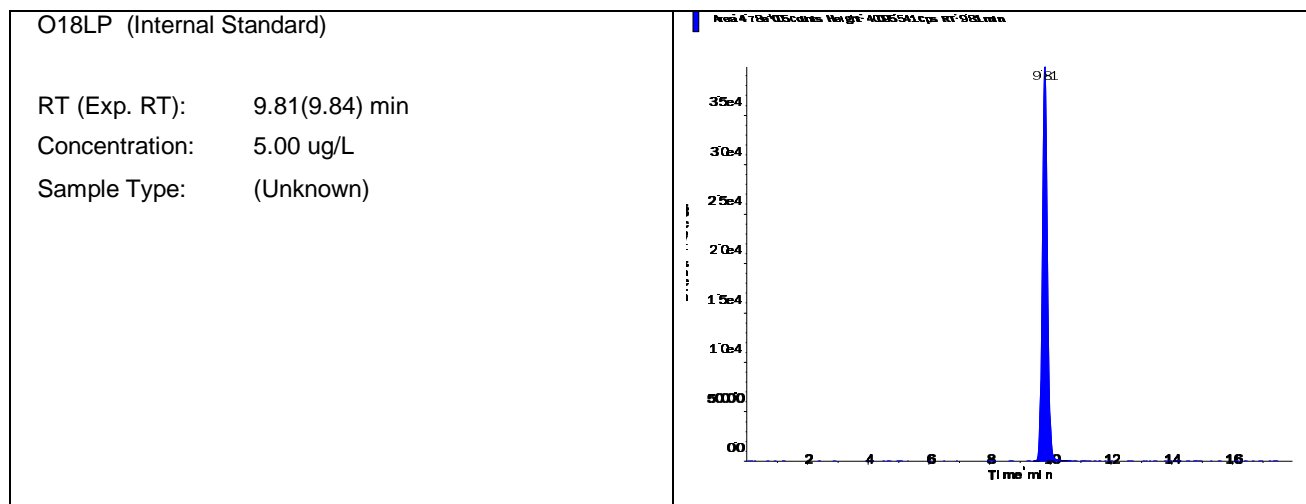
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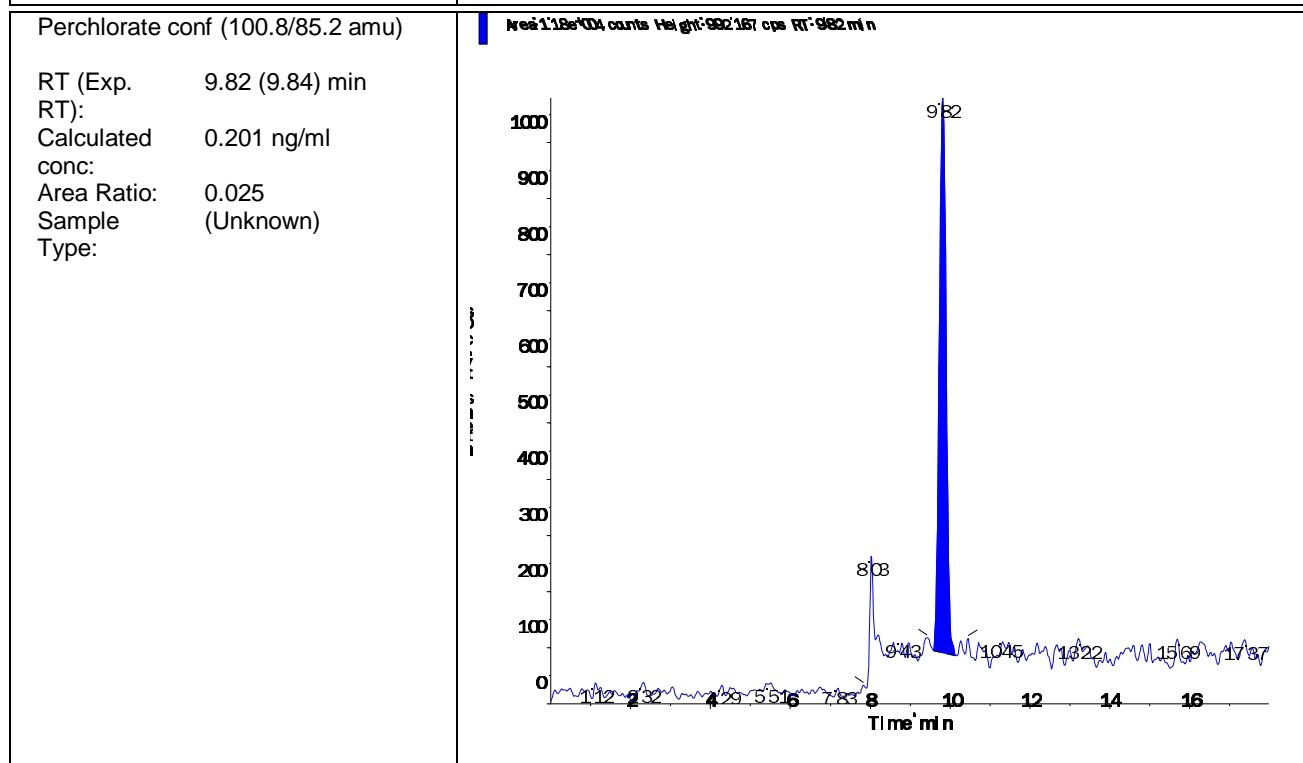
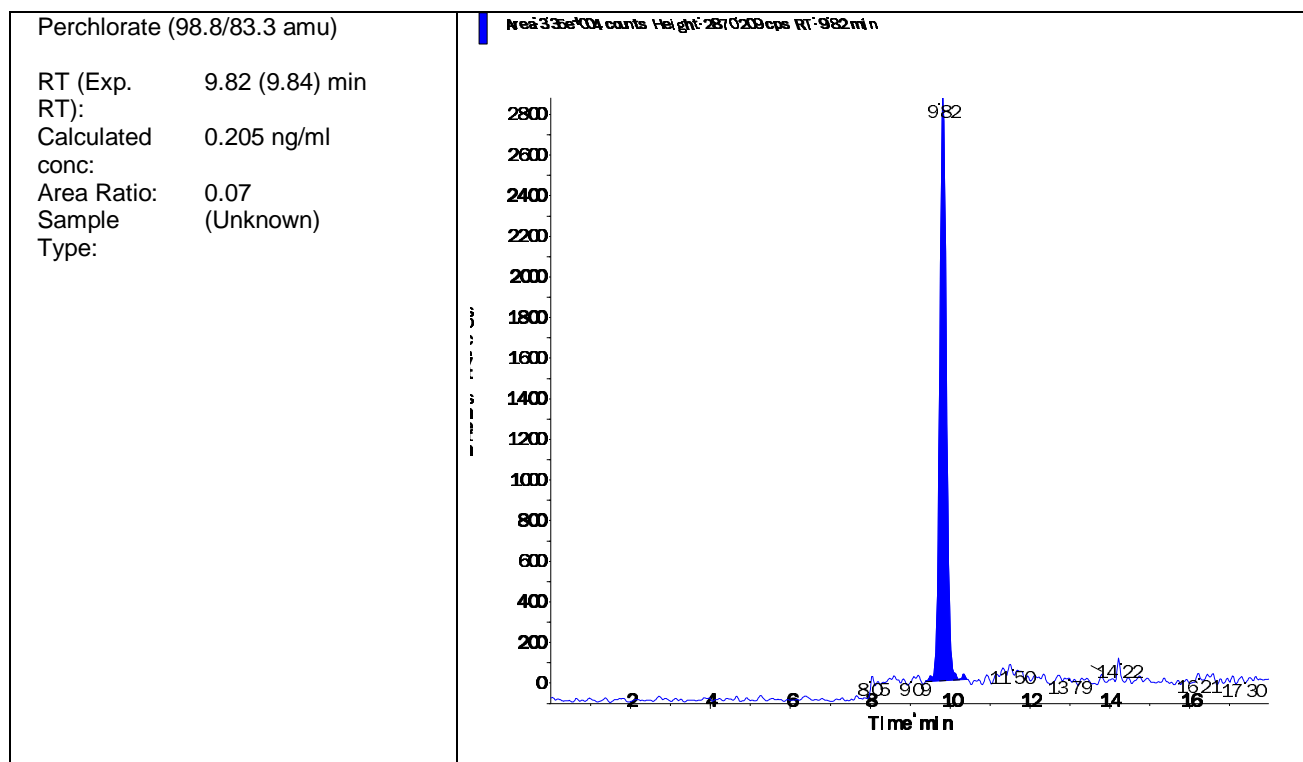
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Acquisition Date	5/20/2016 2:39:11 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG569661-05 MRL (0.2ug/L)	Injection Vial	2.00
Data File	LM34987.wiff	Injection Volume	10.00
Acquisition Date	5/20/2016 2:39:11 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	052016_JWR.rdb
Sample ID	WG569661-05	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	4.780e+05	9.81	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	3.350e+04	9.82	N/A	0.205
Perchlorate conf	1.180e+04	9.82	N/A	0.201



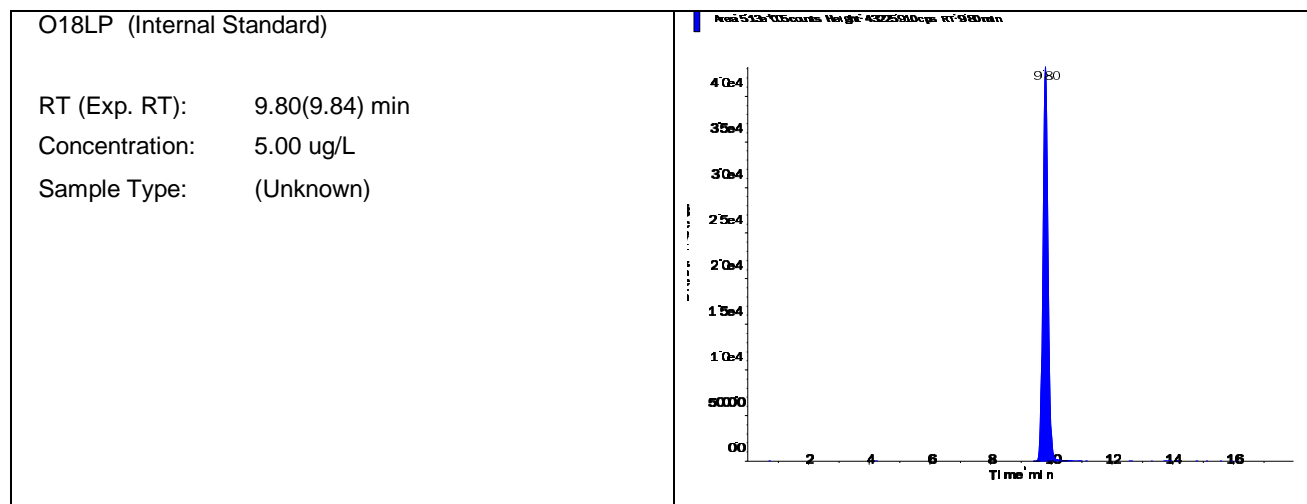


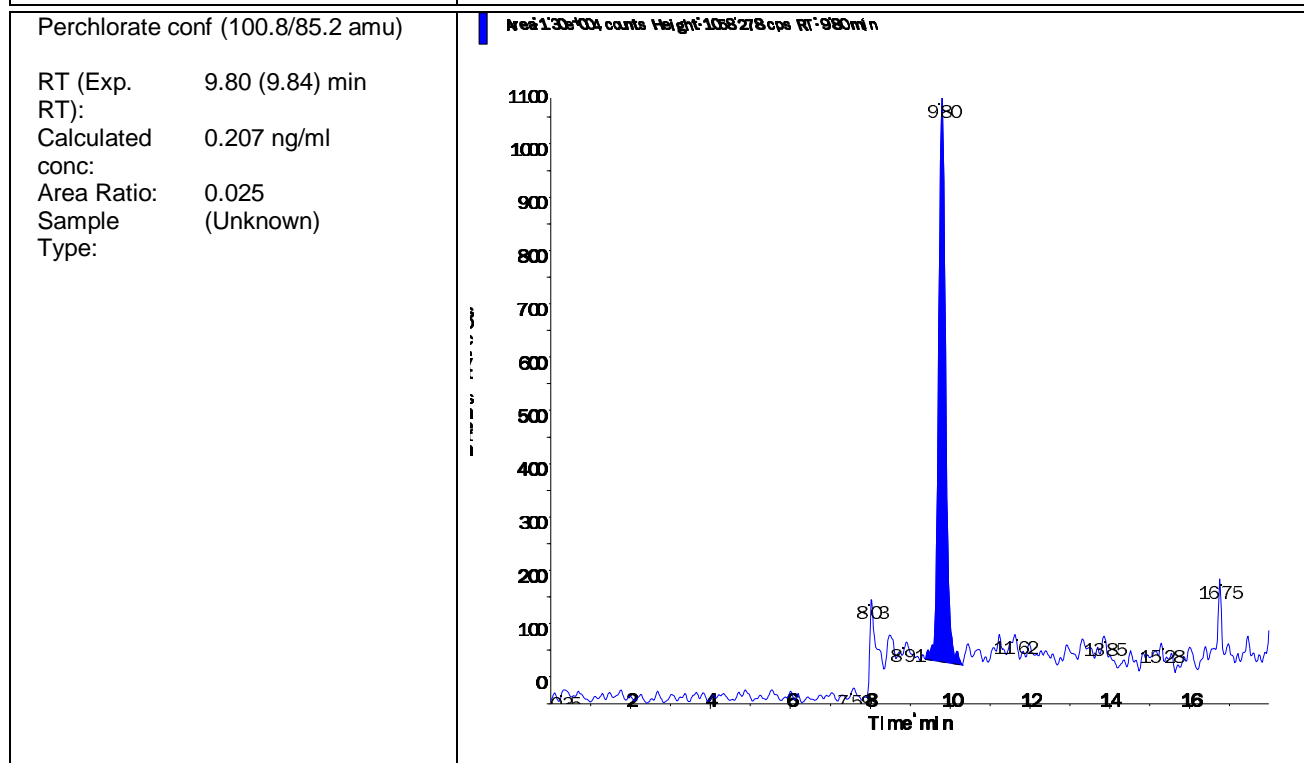
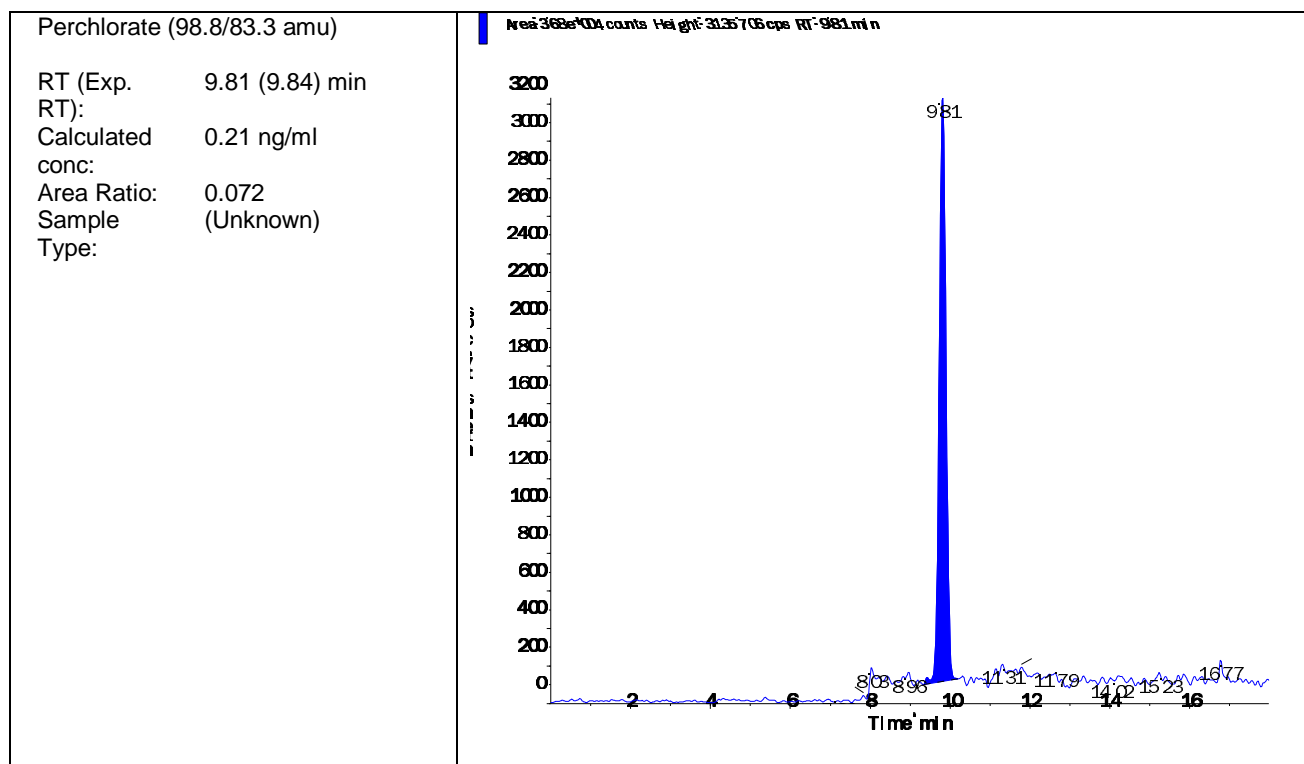
Data File	LM34999.wiff	Result Table	052016_JWR.rdb
Acquisition Date	5/20/2016 6:26:30 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG569661-06 MRL (0.2ug/L)	Injection Vial	2.00
Data File	LM34999.wiff	Injection Volume	10.00
Acquisition Date	5/20/2016 6:26:30 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	052016_JWR.rdb
Sample ID	WG569661-06	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	5.130e+05	9.80	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	3.680e+04	9.81	N/A	0.21
Perchlorate conf	1.300e+04	9.80	N/A	0.207



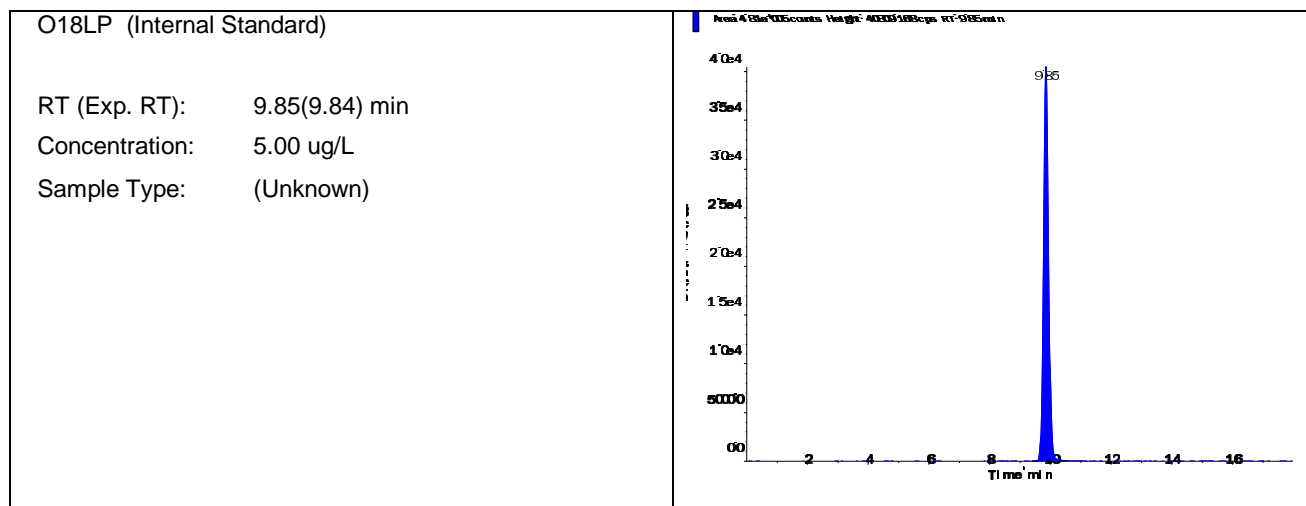


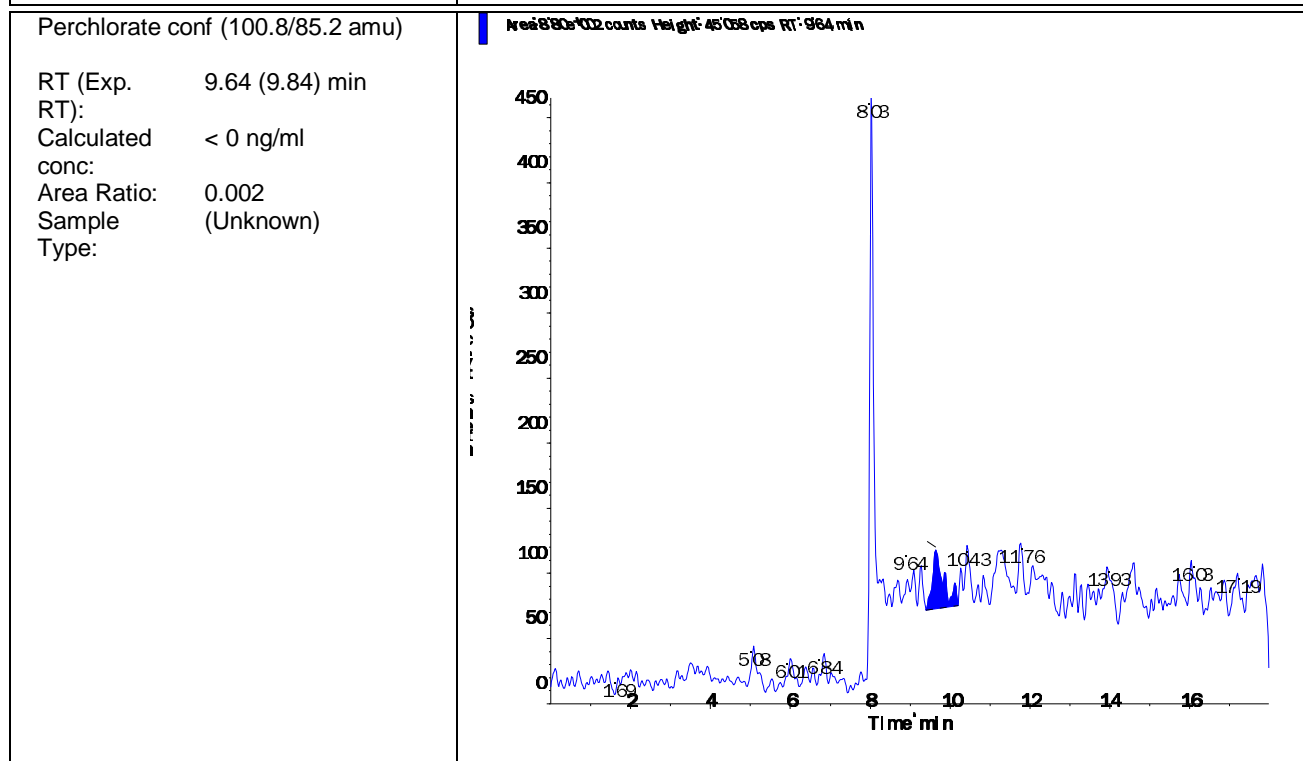
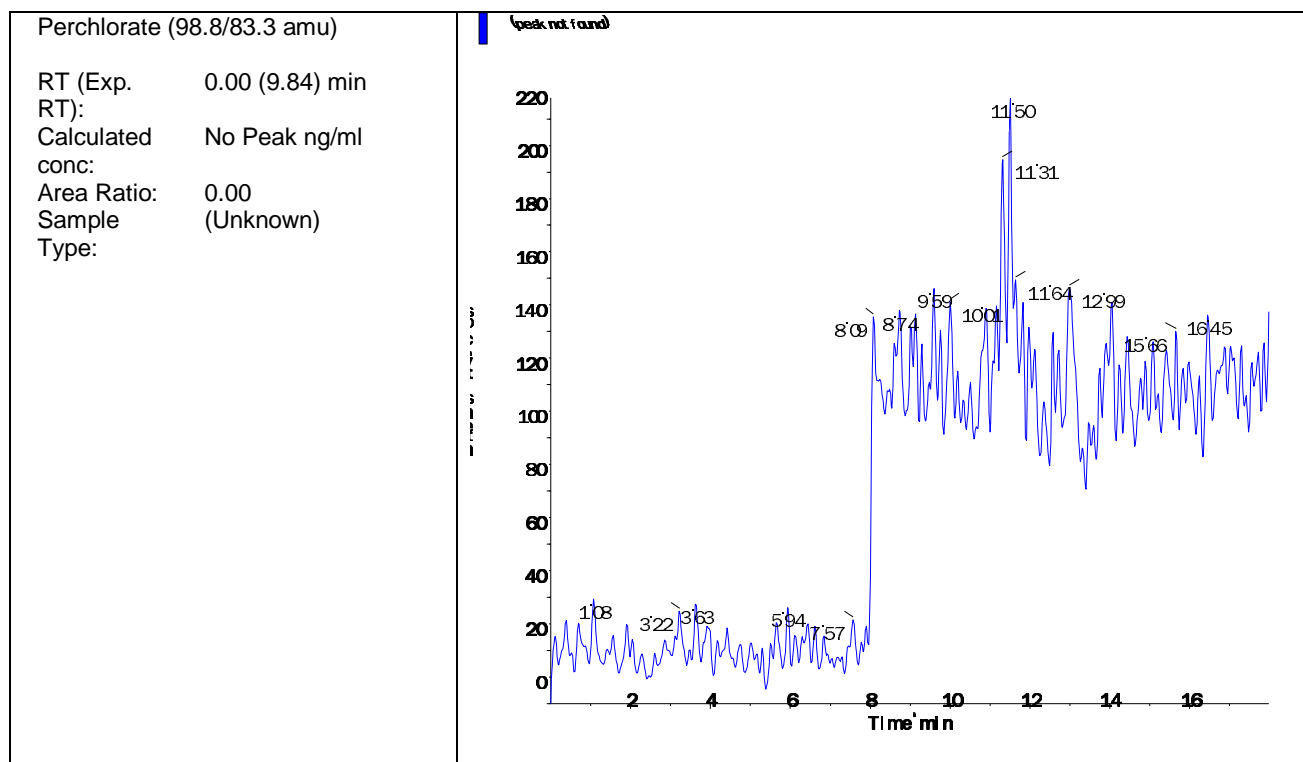
Data File	LM34985.wiff	Result Table	052016_JWR.rdb
Acquisition Date	5/20/2016 2:01:23 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG569664-01 CCB	Injection Vial	1.00
Data File	LM34985.wiff	Injection Volume	10.00
Acquisition Date	5/20/2016 2:01:23 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	052016_JWR.rdb
Sample ID	WG569664-01	Dilution Factor	1.00
Sample Comment	11.00	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.810e+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	8.800e+02	9.64	N/A	< 0



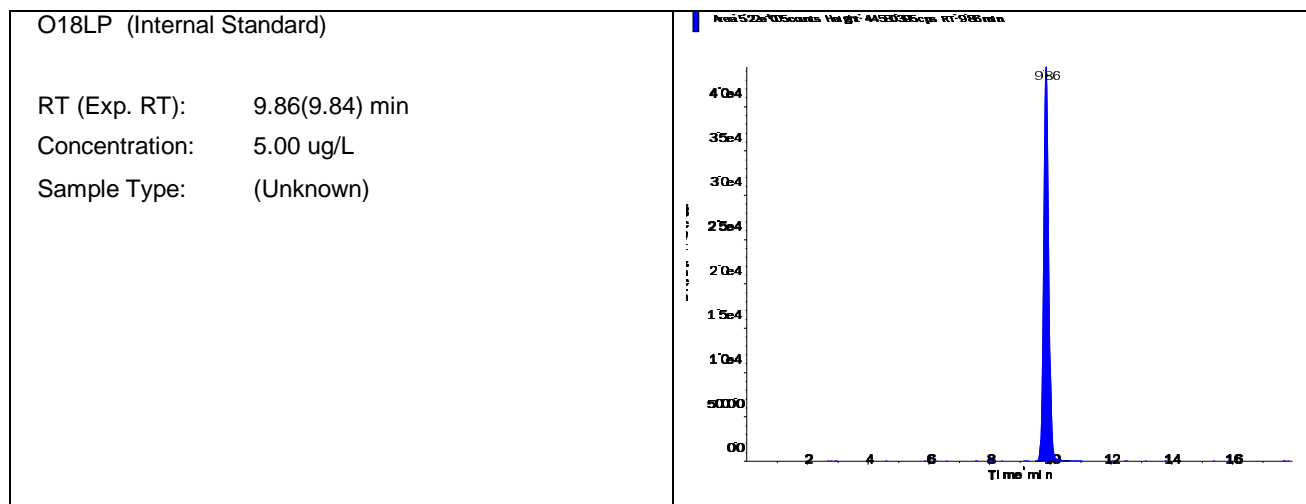


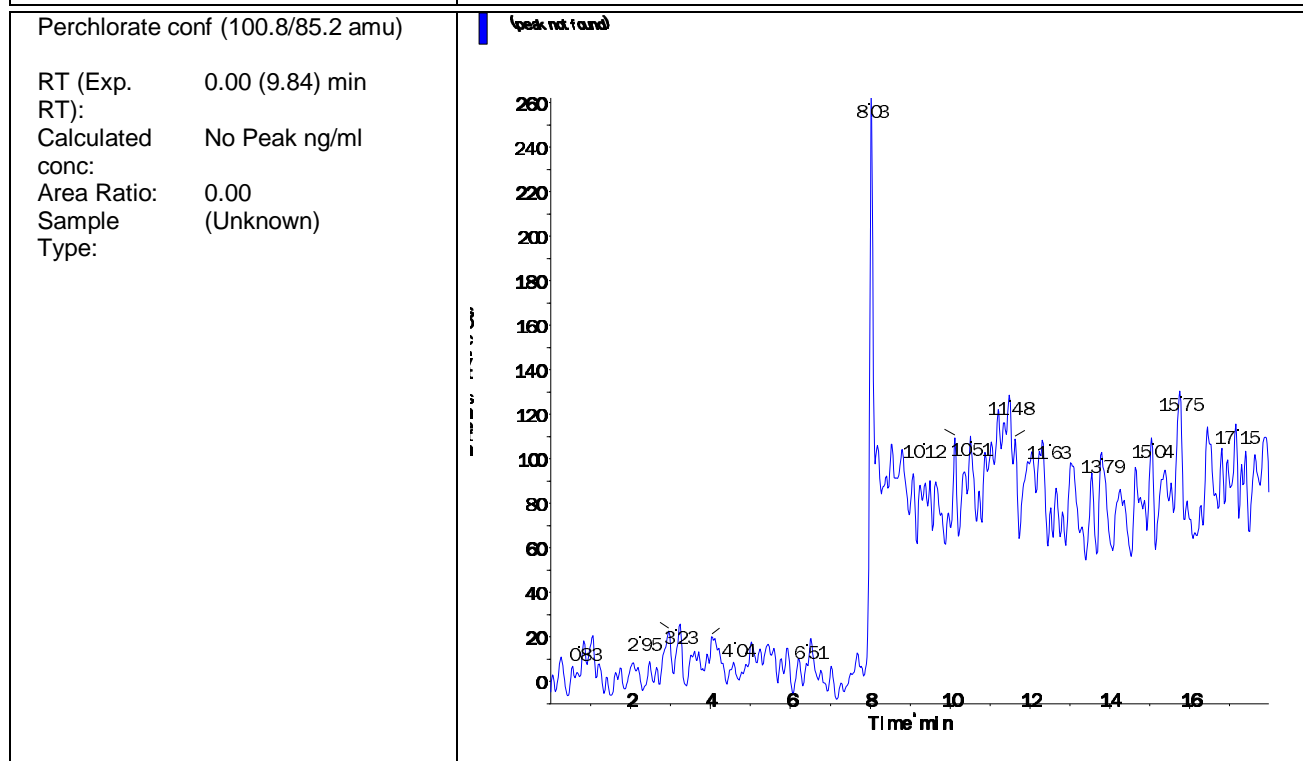
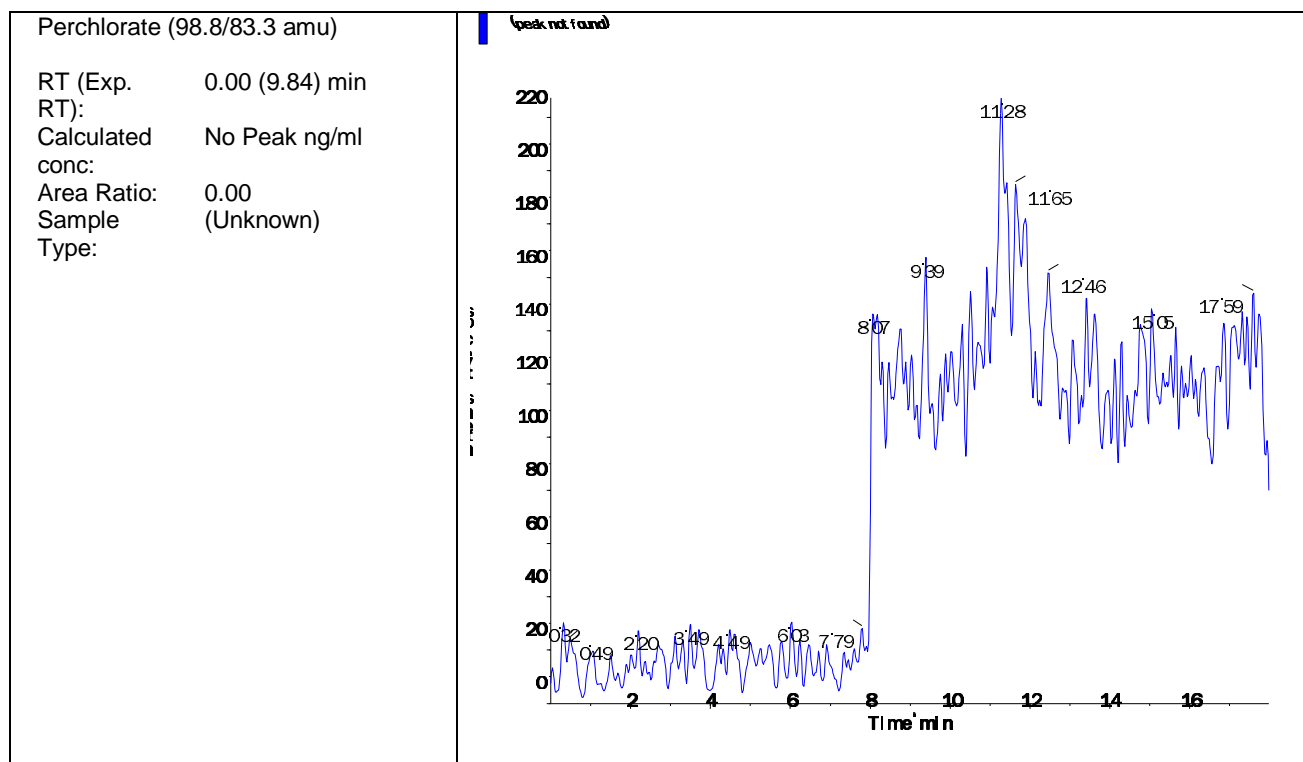
Data File	LM35000.wiff	Result Table	052016_JWR.rdb
Acquisition Date	5/20/2016 6:45:25 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG569664-04 CCB	Injection Vial	1.00
Data File	LM35000.wiff	Injection Volume	10.00
Acquisition Date	5/20/2016 6:45:25 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	052016_JWR.rdb
Sample ID	WG569664-04	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	5.220e+05	9.86	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



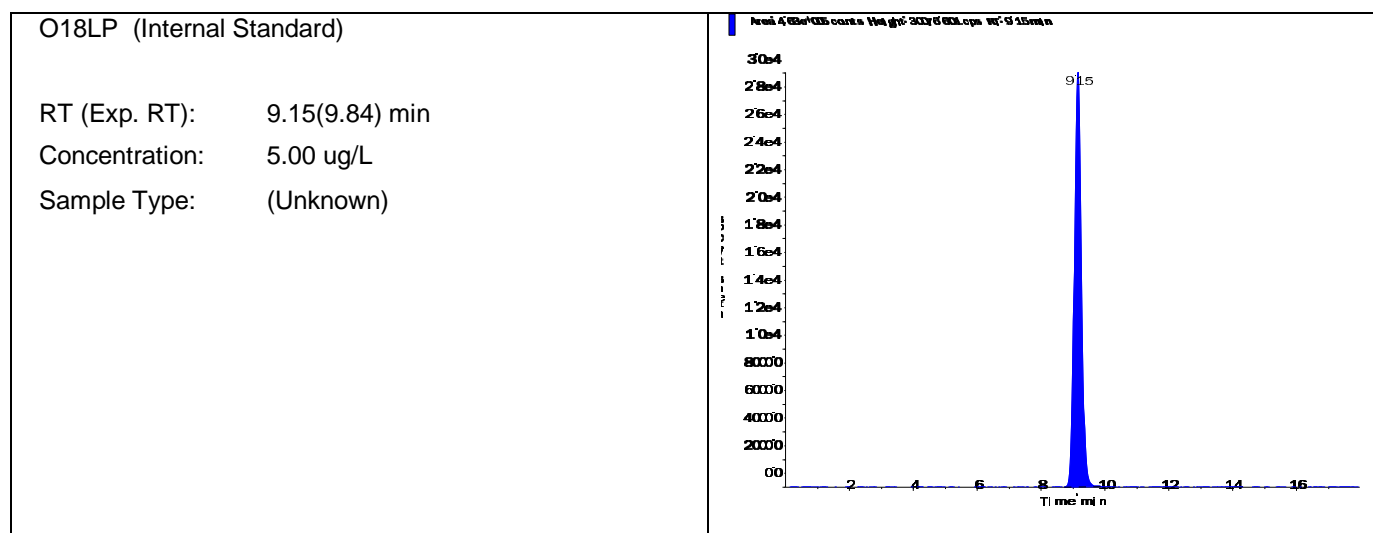


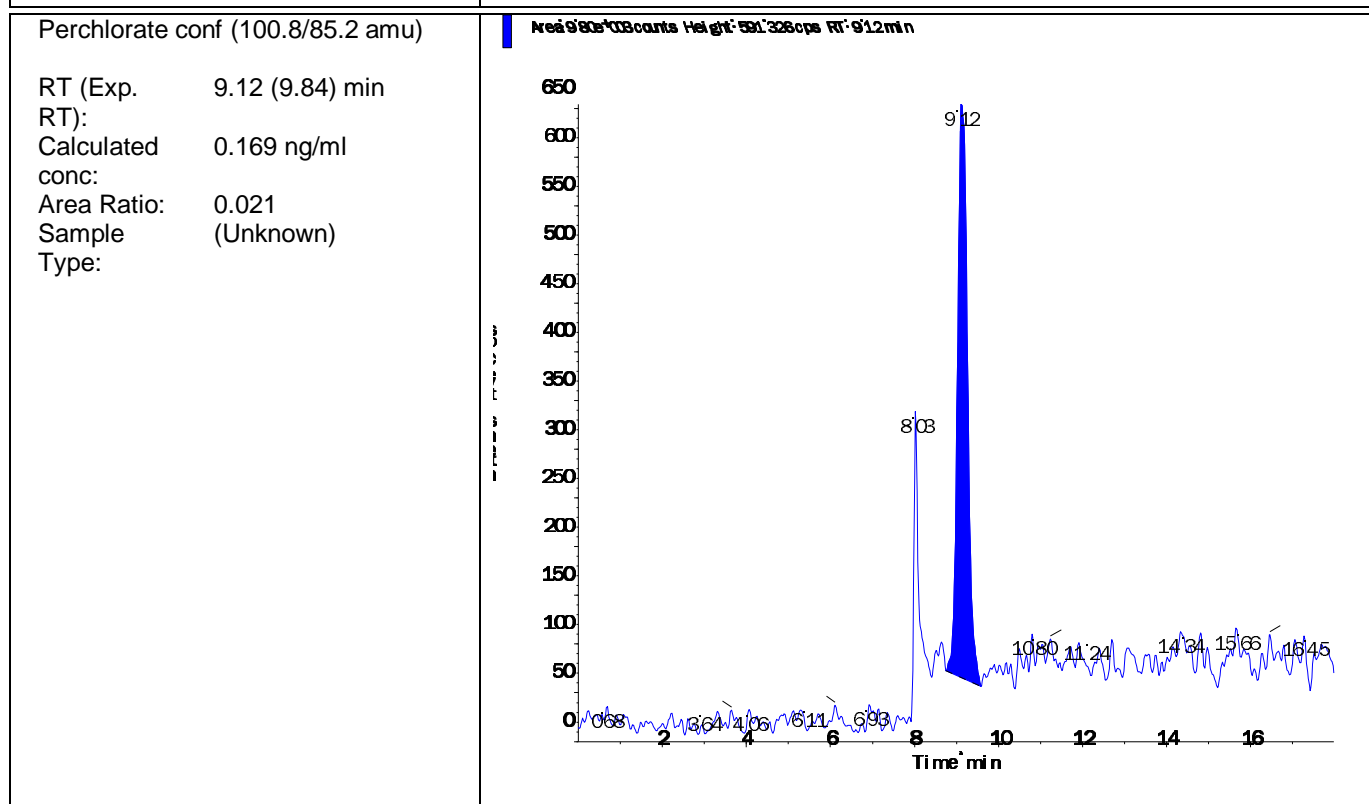
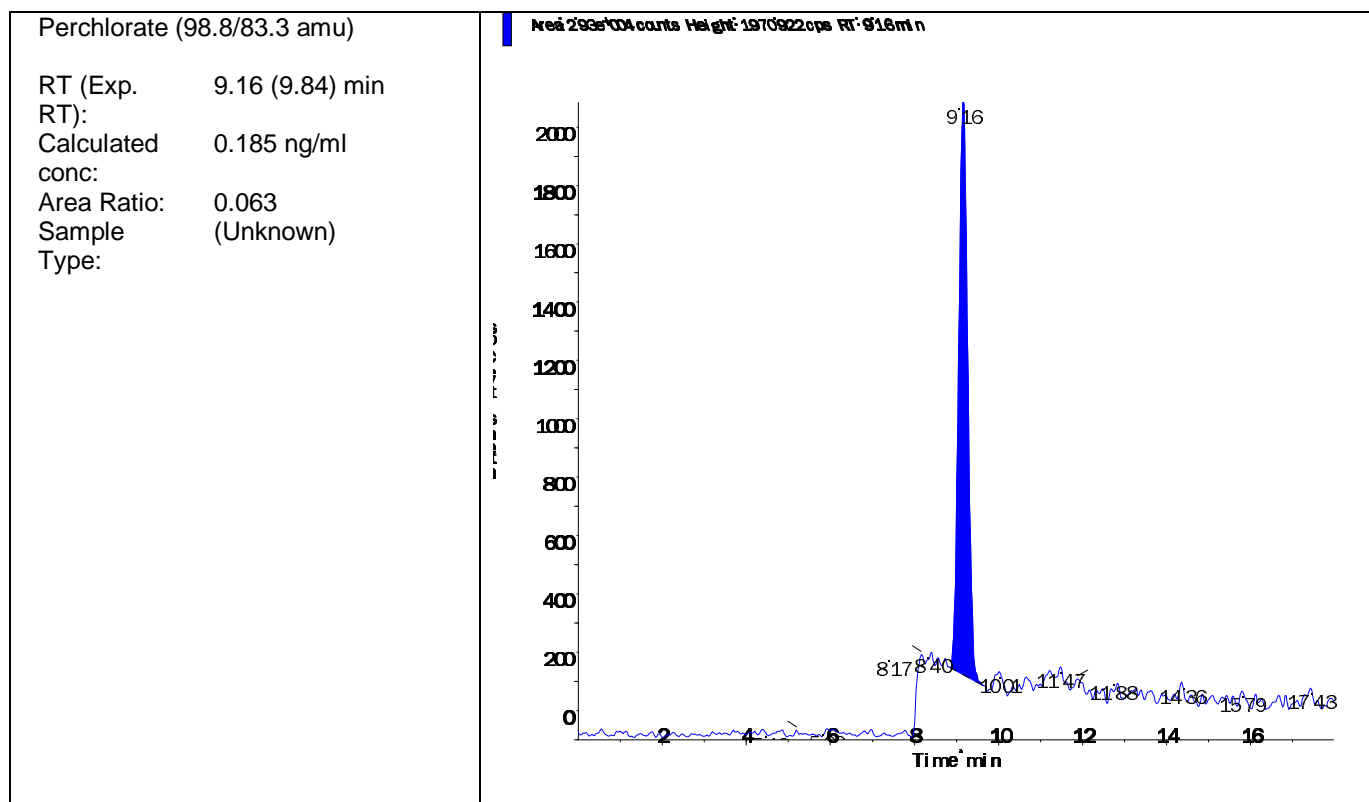
Data File	LM34988.wiff	Result Table	052016_JWR.rdb
Acquisition Date	5/20/2016 2:58:07 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG569661-01 MCT (0.2ug/L)	Injection Vial	4.00
Data File	LM34988.wiff	Injection Volume	10.00
Acquisition Date	5/20/2016 2:58:07 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	052016_JWR.rdb
Sample ID	WG569661-01	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	4.630e+05	9.15	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	2.930e+04	9.16	N/A	0.185
Perchlorate conf	9.800e+03	9.12	N/A	0.169





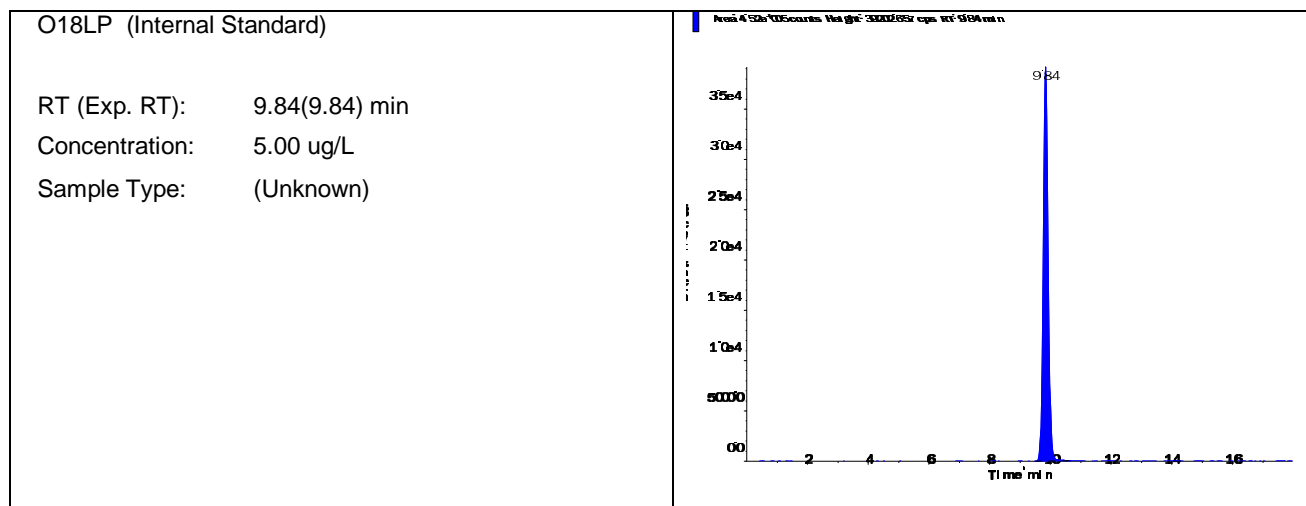
2.2.1.5 Raw QC Data

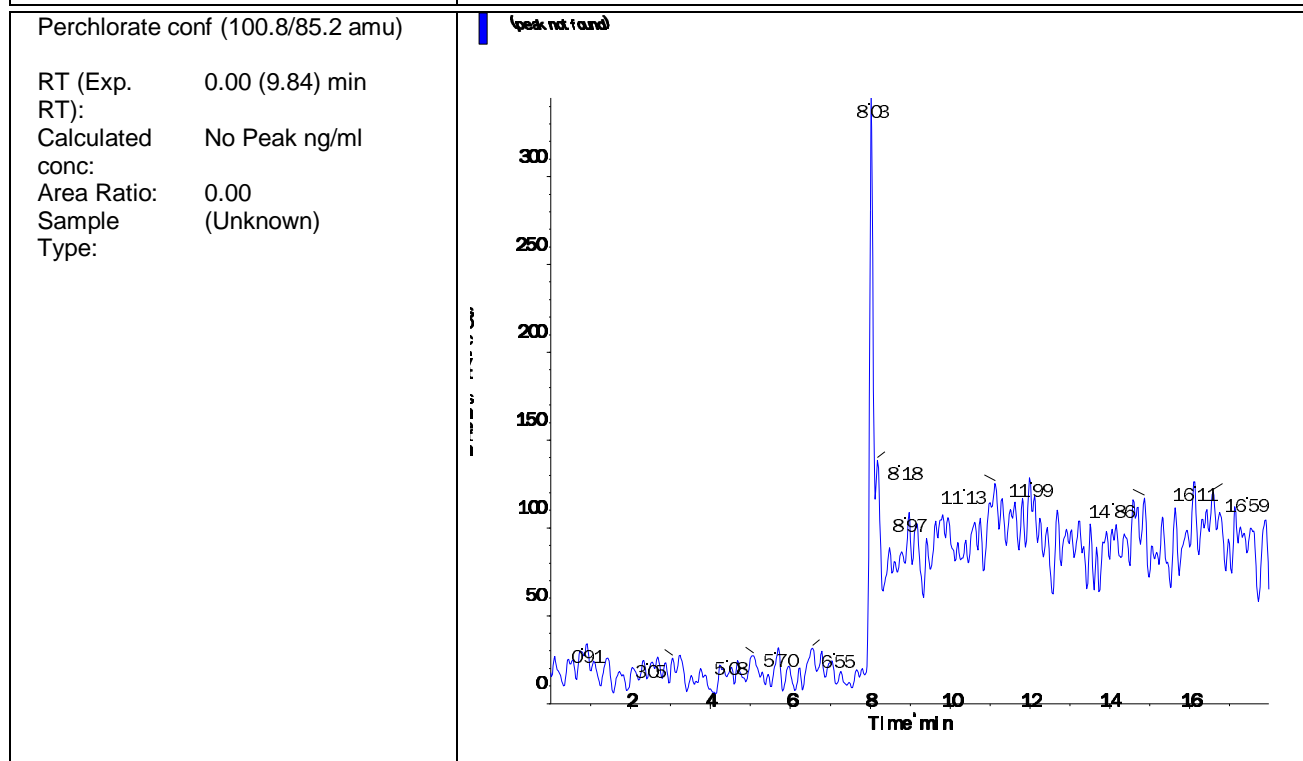
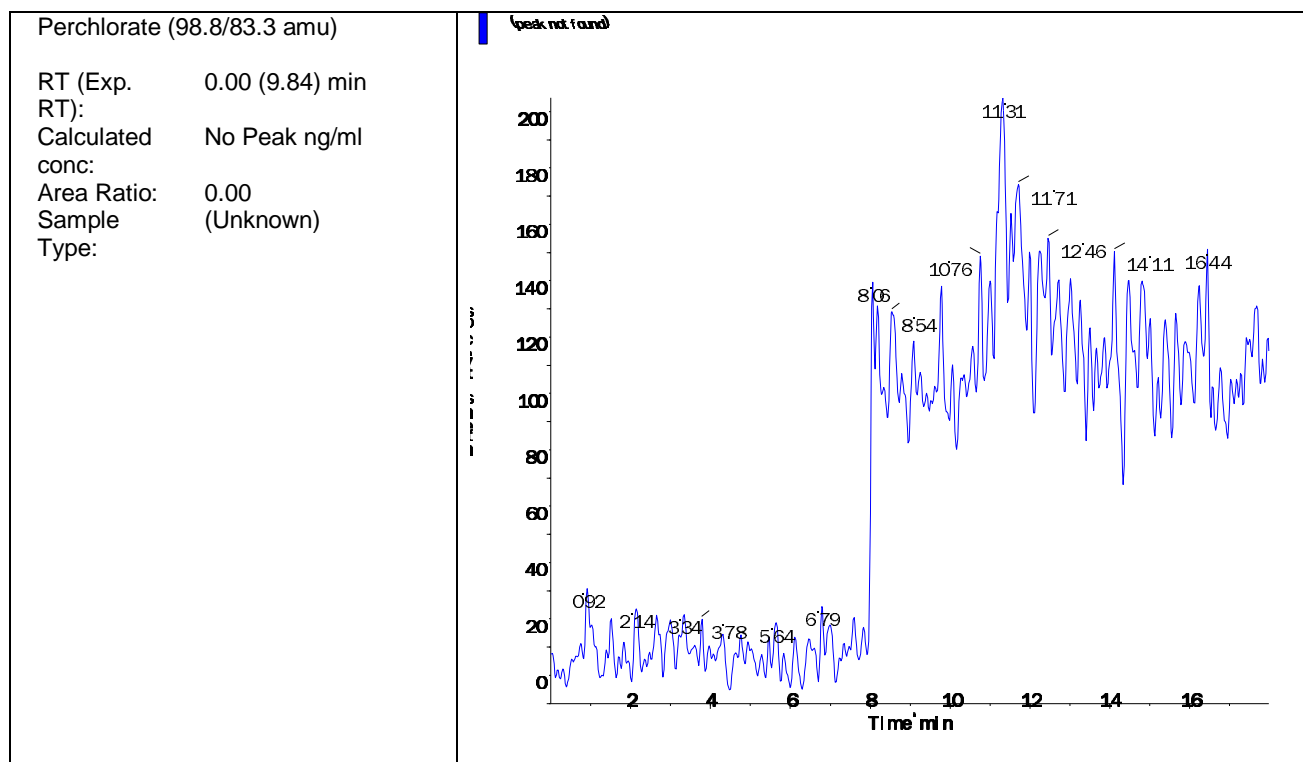
Data File	LM34989.wiff	Result Table	052016_JWR.rdb
Acquisition Date	5/20/2016 3:17:03 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG569661-02 BLANK	Injection Vial	5.00
Data File	LM34989.wiff	Injection Volume	10.00
Acquisition Date	5/20/2016 3:17:03 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	052016_JWR.rdb
Sample ID	WG569661-02	Dilution Factor	1.00
Sample Comment	11.00	Weight to Volume	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.520e+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



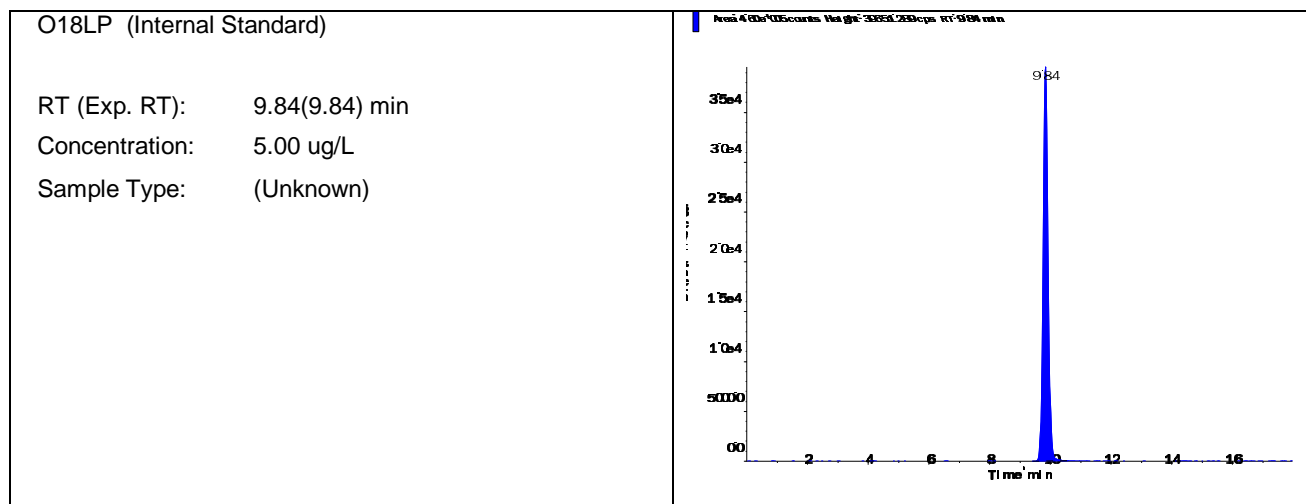


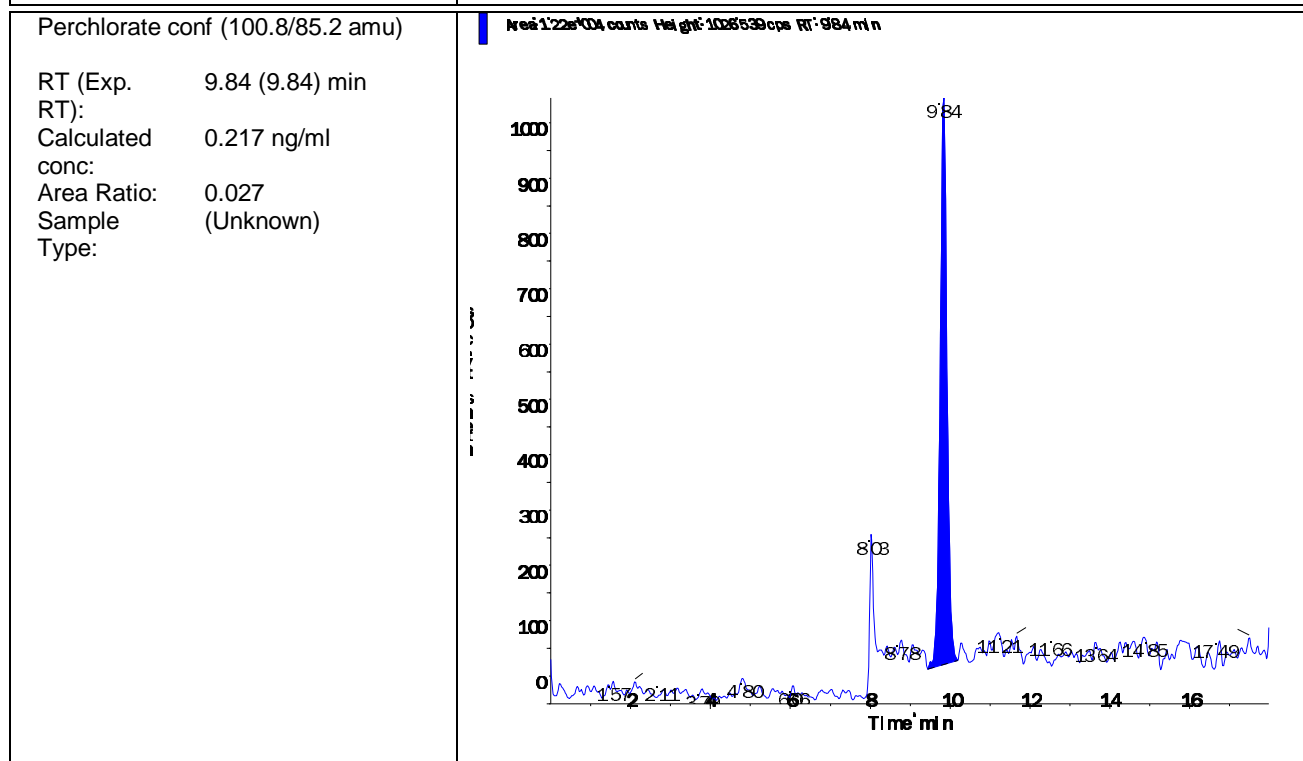
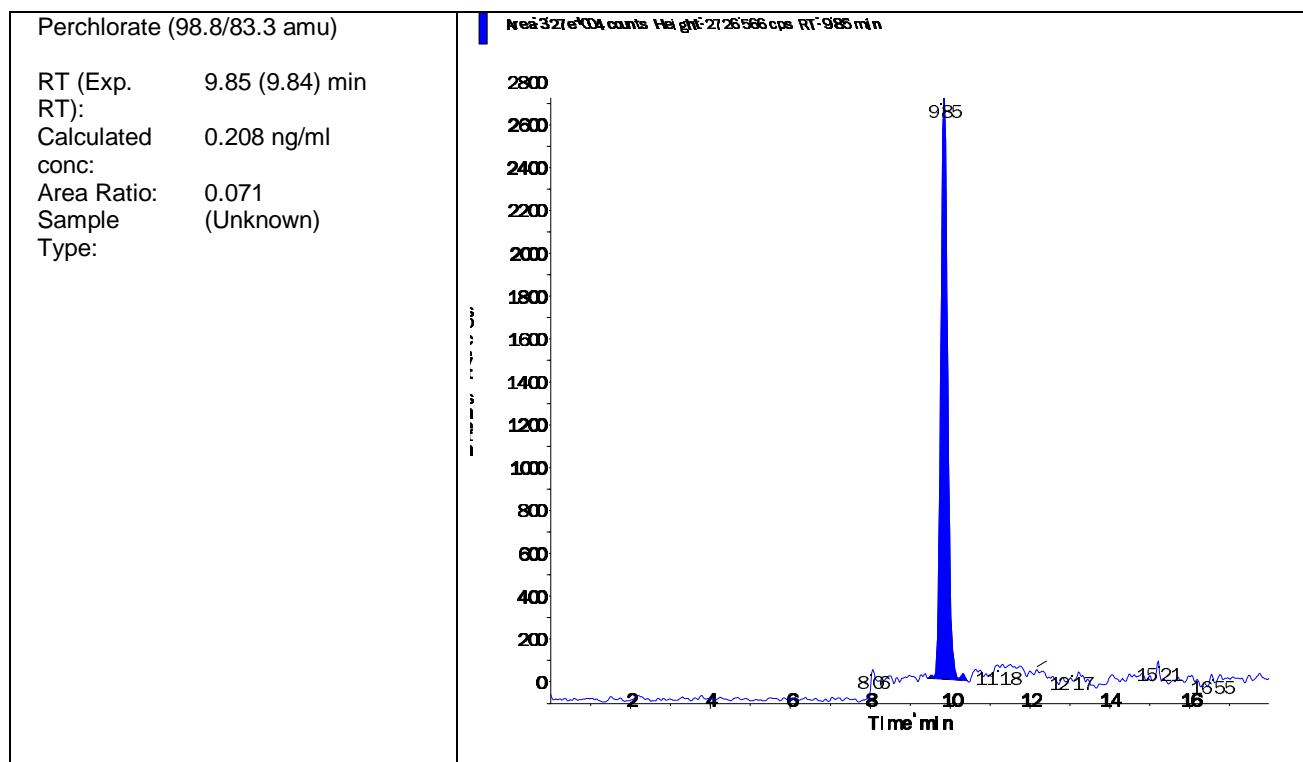
Data File	LM34990.wiff	Result Table	052016_JWR.rdb
Acquisition Date	5/20/2016 3:36:01 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG569661-03 LCS (0.2ug/L)	Injection Vial	6.00
Data File	LM34990.wiff	Injection Volume	10.00
Acquisition Date	5/20/2016 3:36:01 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	052016_JWR.rdb
Sample ID	WG569661-03	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	4.600e+05	9.84	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	3.270e+04	9.85	N/A	0.208
Perchlorate conf	1.220e+04	9.84	N/A	0.217



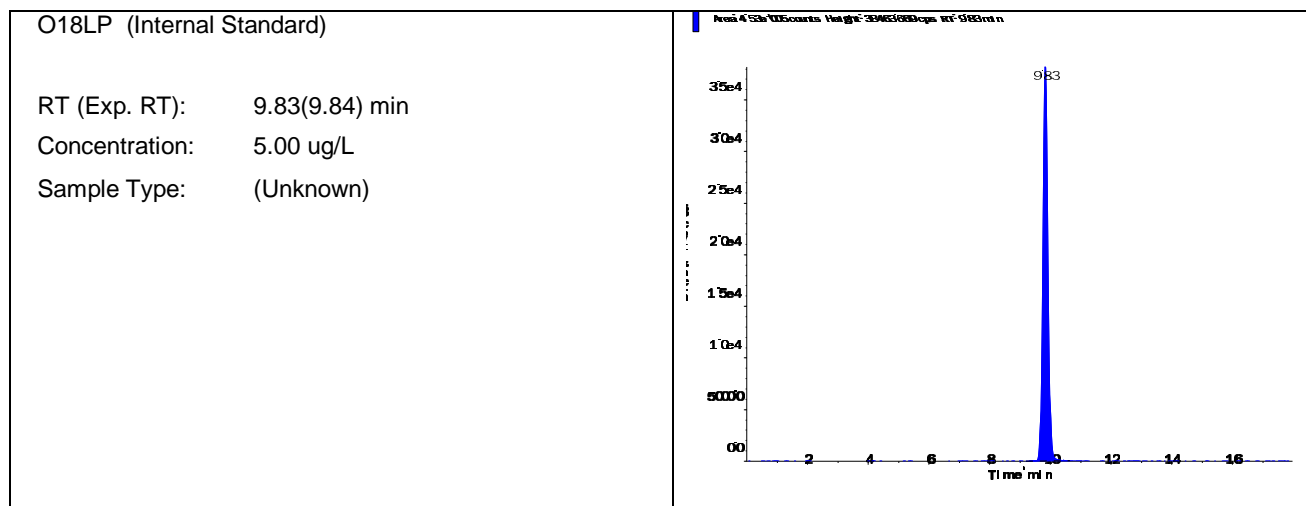


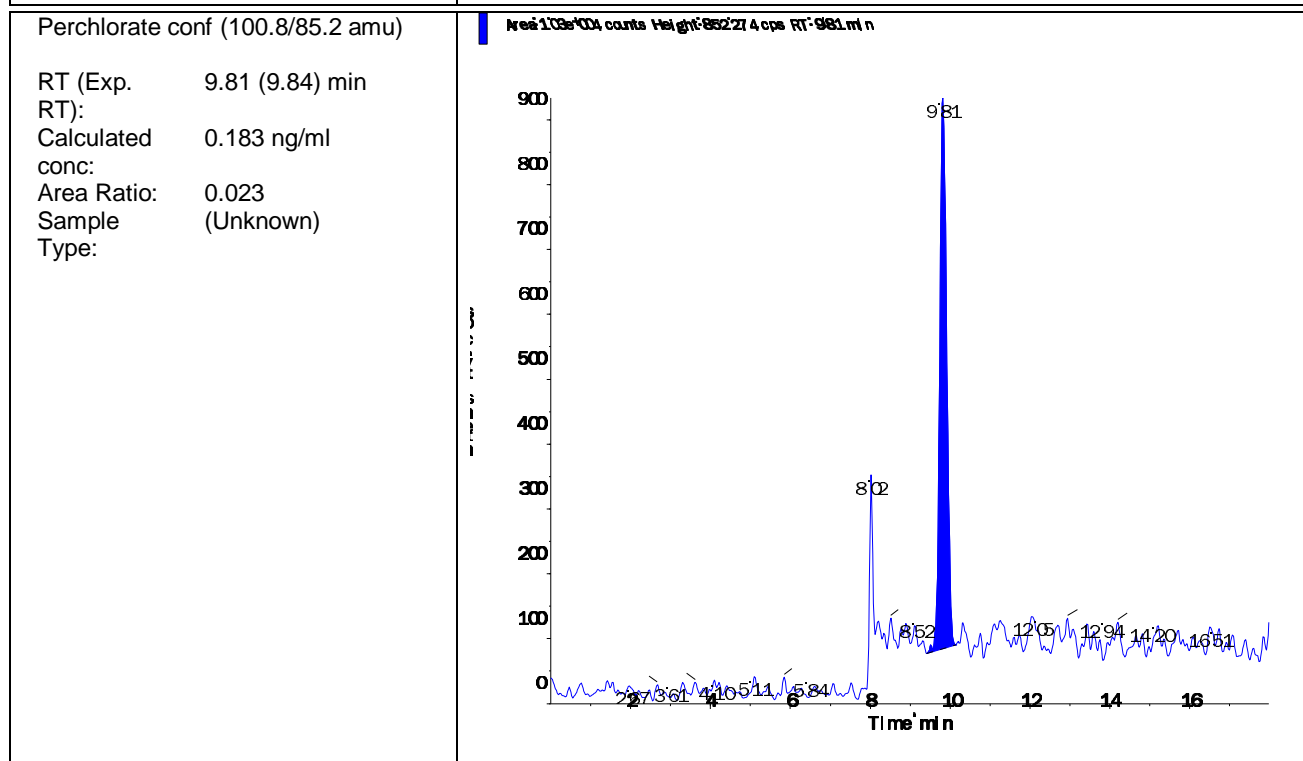
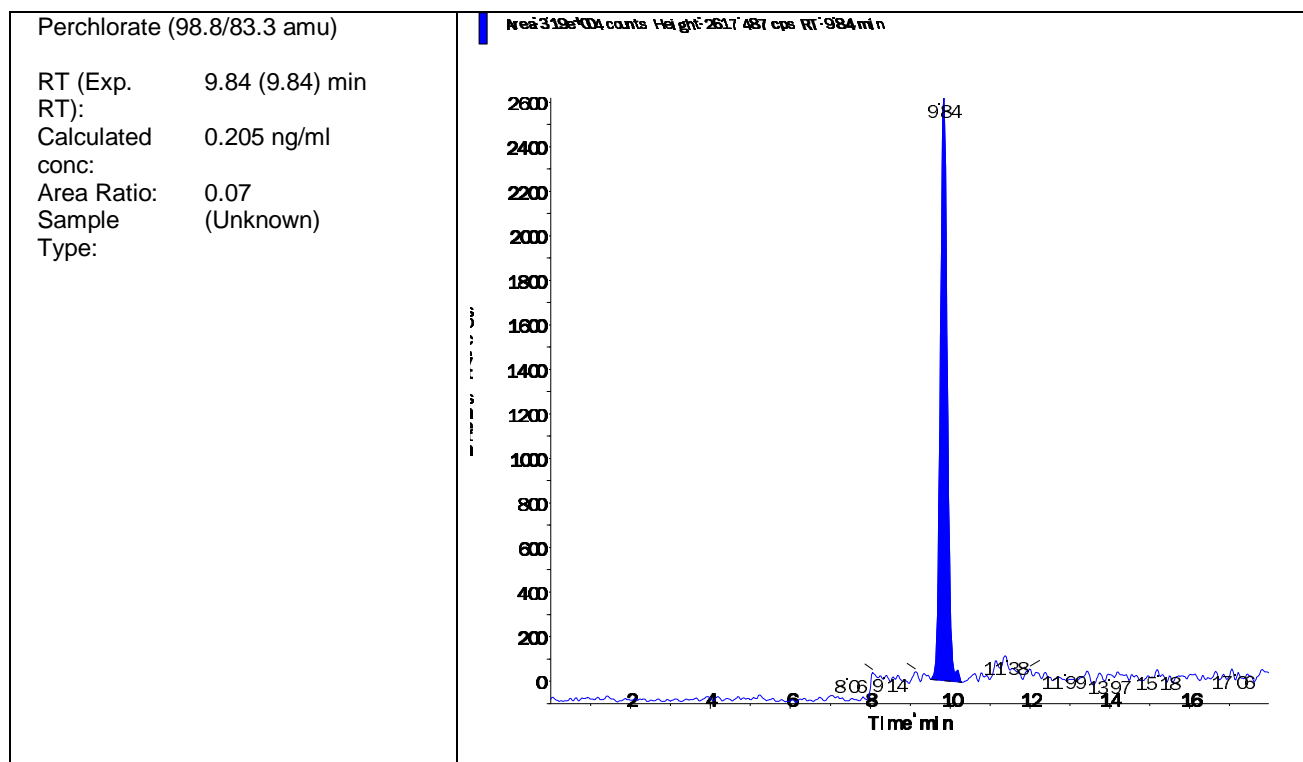
Data File	LM34991.wiff	Result Table	052016_JWR.rdb
Acquisition Date	5/20/2016 3:54:58 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Instrument Name	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG569661-04 LCS2 (0.2ug/L)	Injection Vial	7.00
Data File	LM34991.wiff	Injection Volume	10.00
Acquisition Date	5/20/2016 3:54:58 PM	Algorithm Used	Analyst Classic
Acquisition Method	062911.dam	Sample Type	Unknown
Instrument Name	API 4000	Result Table	052016_JWR.rdb
Sample ID	WG569661-04	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	4.530e+05	9.83	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	3.190e+04	9.84	N/A	0.205
Perchlorate conf	1.030e+04	9.81	N/A	0.183





2.3 Metals Data

2.3.1 Metals I C P Data

2.3.1.1 Summary Data

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-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 #: L16050571-04	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 #: L16050571-06	PrePrep Method: N/A	Instrument: ICP-THERMO3
Client ID: 50WW06FF-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 18:13
Collect Date: 05/10/2016 10:10	Dilution: 1	File ID: T3.051616.181354
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Dissolved	7439-89-6	0.110	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 #: L16050571-08

PrePrep Method: N/A

Instrument: ICP-THERMO3

Client ID: 50WW12FF-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 18:17

Collect Date: 05/10/2016 11:20

Dilution: 1

File ID: T3.051616.181751

Sample Tag: 01

Units: mg/L

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Dissolved	7439-89-6	0.0788	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 #: L16050571-10	PrePrep Method: N/A	Instrument: ICP-THERMO3
Client ID: 50WW24FF-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 18:21
Collect Date: 05/10/2016 13:20	Dilution: 1	File ID: T3.051616.182146
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 #: L16050571

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050571-12	PrePrep Method: N/A	Instrument: ICP-THERMO3
Client ID: 50WW23FF-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 18:25
Collect Date: 05/10/2016 14:35	Dilution: 1	File ID: T3.051616.182543
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Dissolved	7439-89-6	0.157	J	0.200	0.100	0.0500
J	Estimated value ; the analyte concentration was less than the LOQ.					

Certificate of Analysis

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: WG568687
 Analyst: ERP
 Spike Analyst: ERP
 Run Date: 05/13/2016 09:46
 Method: 3015
 Balance: BAL019
 Instrument: MW-1
 Instrument Start: 05/13/2016 10:07

SOP: ME407 Revision 19
 Spike Solution: STD75837
 Spike Witness: VC
 HNO3 Lot #: COA18905
 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	WG568687-02	BLANK	1	40 mL	50 mL	202.239 g	202.228 g	
2	WG568558-01	FBLK1	17	5 mL	50 mL	205.61 g	205.593 g	
3	WG568558-02	FBLK2	17	5 mL	50 mL	204.142 g	204.148 g	
4	WG568687-03	LCS	1	40 mL	50 mL	210.746 g	210.748 g	5 mL
5	L16050459-01	SAMP	17	5 mL	50 mL	206.169 g	206.193 g	05/20/16
6	L16050459-02	SAMP	17	5 mL	50 mL	204.469 g	204.474 g	05/20/16
7	L16050459-03	SAMP	17	5 mL	50 mL	203.412 g	203.417 g	05/20/16
8	L16050459-04	SAMP	17	5 mL	50 mL	203.624 g	203.627 g	05/20/16
9	L16050571-02	SAMP	1	40 mL	50 mL	205.501 g	205.514 g	05/20/16
10	L16050571-04	SAMP	1	40 mL	50 mL	205.532 g	205.521 g	05/20/16
11	L16050571-06	SAMP	1	40 mL	50 mL	205.114 g	205.111 g	05/20/16
12	L16050571-08	SAMP	1	40 mL	50 mL	206.381 g	206.385 g	05/20/16
13	L16050571-10	SAMP	1	40 mL	50 mL	205.041 g	205.042 g	05/20/16
14	L16050571-12	SAMP	1	40 mL	50 mL	207.485 g	207.481 g	05/20/16
15	L16050624-01	SAMP	1	40 mL	50 mL	205.045 g	205.034 g	05/19/16
16	L16050674-01	SAMP	1	40 mL	50 mL	208.094 g	208.089 g	05/26/16
17	L16050674-03	SAMP	1	40 mL	50 mL	206.244 g	206.244 g	05/26/16
18	L16050674-04	SAMP	1	40 mL	50 mL	203.461 g	203.448 g	05/26/16
19	L16050674-05	SAMP	1	40 mL	50 mL	208.775 g	208.771 g	05/26/16
20	L16050674-06	SAMP	1	40 mL	50 mL	206.526 g	206.516 g	05/26/16
21	WG568687-01	REF	1	40 mL	50 mL	207.051 g	207.044 g	
22	L16050674-07	RS01	1	40 mL	50 mL	207.051 g	207.044 g	05/26/16
23	WG568687-04	MS	1	40 mL	50 mL	212.796 g	212.789 g	5 mL
24	L16050674-08	MS01	1	40 mL	50 mL	212.796 g	212.789 g	5 mL 05/26/16
25	WG568687-05	MSD	1	40 mL	50 mL	212.276 g	212.267 g	5 mL
26	L16050674-09	SD01	1	40 mL	50 mL	212.276 g	212.267 g	5 mL 05/26/16
27	L16050674-10	SAMP	1	40 mL	50 mL	207.973 g	207.964 g	05/26/16

Analyst: Evan Pottin

Reviewer: Vicki Collier



TCLP Non-Volatile

Analyst(s): AMA/
 Date: 5/12/16
 Filter Lot #: 9486030
 Microbac SOP: TCLP01 Rev #: 12

Analyst / Date		Analyst / Date	
AMA/CPD	5/12/16	CPD	5/13/16
Time On	Temp On °C	Time Off	Temp Off °C
1518	22.8	0804	22.3

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			
G-14	05-0597-01	Herb.	1311	AMA 5/12/16 S-FI-177	S	100	7.02	1.92	100.02	2000	4.92
G-29	-02	Herb.	|	L	|	|	6.62	1.57	100.41	2000	4.87
D	05-0459-01	ME, wetlab	|	FI-177	|	|	9.68	4.05	100.05	2001	9.07
D	-02	|	|	F2-378	|	|	12.48	11.90	50.14	1003	12.42
D	-03	|	|	|	|	|	8.75	6.61	50.08	1002	5.26
D	-04	|	|	|	|	|	8.80	5.04	50.37	1007	5.28
NA	FBIK1	ME, Herb, wetlab	1311	FI-177	NA	NA	NA	NA	100	100	4.98
L	FBIK2	L L	L	F2-378	L	L	L	L	L	L	2.86
AMA 5/13/16											

*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: N/A

Peer Review By: Allie Alfred 5/13/16

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-THERMO3 Dataset: 051616T3.1R.TXT
 Analyst1: JYH Analyst2: N/A
 Method: 200.7/6010B/6010C SOP: ME600G Rev: 8
 Maintenance Log ID: _____
 Calibration Std: STD76065 ICV Std: STD76066 Post Spike: STD75473
 ICSA: STD75925 ICSAB: STD75702 Int. Std: RGT35157
 CCV: STD76132 LLCCV: STD76067 Tuning Sol : _____
 Stannous : _____ Hydroxylamine : _____

Workgroups: 568672,567345,568830,568394,568955,568110,569026

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	T3.051616.094341	WG568963-01	Calibration Point		1		05/16/16 09:43
2	T3.051616.094742	WG568963-02	Calibration Point		1		05/16/16 09:47
3	T3.051616.095142	WG568963-03	Calibration Point		1		05/16/16 09:51
4	T3.051616.095541	WG568963-04	Calibration Point		1		05/16/16 09:55
5	T3.051616.095920	WG568963-05	Calibration Point		1		05/16/16 09:59
6	T3.051616.100259	WG568963-06	Initial Calibration Verification		1		05/16/16 10:02
7	T3.051616.100626	WG568963-07	Initial Calib Blank		1		05/16/16 10:06
8	T3.051616.101025	WG568963-08	Low Level Initial Calibration V		1		05/16/16 10:10
9	T3.051616.101423	WG568963-09	Low Level Initial Calibration V		1		05/16/16 10:14
10	T3.051616.101822	WG568963-10	Interference Check		1		05/16/16 10:18
11	T3.051616.102217	WG568963-11	Interference Check		1		05/16/16 10:22
12	T3.051616.102603	WG568963-12	CCV		1		05/16/16 10:26
13	T3.051616.102941	WG568963-13	CCB		1		05/16/16 10:29
14	T3.051616.103342	WG568333-02	Method/Prep Blank	40/50	1		05/16/16 10:33
15	T3.051616.103743	WG568333-03	Laboratory Control S	40/50	1		05/16/16 10:37
16	T3.051616.104617	WG568186-01	Fluid Blank 1		1		05/16/16 10:46
17	T3.051616.105016	WG568186-02	Fluid Blank 2		1		05/16/16 10:50
18	T3.051616.105415	WG568333-01	Reference Sample		1	L16050434-05	05/16/16 10:54
19	T3.051616.105813	WG568333-04	Matrix Spike	40/50	1	L16050434-05	05/16/16 10:58
20	T3.051616.110155	WG568333-05	Matrix Spike Duplica	40/50	1	L16050434-05	05/16/16 11:01
21	T3.051616.110544	L15060565-03	L1506056503	40/50	1		05/16/16 11:05
22	T3.051616.110942	WG568672-03	Post Digestion Spike		1	L16050565-03	05/16/16 11:09
23	T3.051616.111325	WG568672-04	Serial Dilution		5	L16050565-03	05/16/16 11:13
24	T3.051616.111724	WG568963-14	CCV		1		05/16/16 11:17
25	T3.051616.112102	WG568963-15	CCB		1		05/16/16 11:21
26	T3.051616.112502	L16050427-05	K6E0168-05	5/50	5		05/16/16 11:25
27	T3.051616.112909	L16050427-01	K6E0168-01	5/50	1		05/16/16 11:29
28	T3.051616.113307	L16050427-02	K6E0168-02	5/50	1		05/16/16 11:33
29	T3.051616.113714	L16050427-03	K6E0168-03	5/50	1		05/16/16 11:37
30	T3.051616.114111	L16050427-04	K6E0168-04	5/50	1		05/16/16 11:41
31	T3.051616.114507	WG568963-16	CCV		1		05/16/16 11:45
32	T3.051616.114845	WG568963-17	CCB		1		05/16/16 11:48
33	T3.051616.115246	WG568963-18	Low Level Continuing Calibra		1		05/16/16 11:52
34	T3.051616.115644	WG568963-19	Low Level Continuing Calibra		1		05/16/16 11:56

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Sam H. Rhodes

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-THERMO3 Dataset: 051616T3.1R.TXT

Analyst1: JYH Analyst2: N/A

Method: 200.7/6010B/6010C SOP: ME600G Rev: 8

Maintenance Log ID: _____

Calibration Std: STD76065 ICV Std: STD76066 Post Spike: STD75473

ICSA: STD75925 IC SAB: STD75702 Int. Std: RGT35157

CCV: STD76132 LLCCV: STD76067 Tuning Sol: _____

Stannous: _____ Hydroxylamine: _____

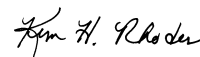
Workgroups: 568672,567345,568830,568394,568955,568110,569026

Comments:

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Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
35	T3.051616.120042	WG567310-02	Method/Prep Blank	40/50	1		05/16/16 12:00
36	T3.051616.120443	WG567310-03	Laboratory Control S	40/50	1		05/16/16 12:04
37	T3.051616.120826	WG567310-01	Reference Sample		10	L16050013-01	05/16/16 12:08
38	T3.051616.121225	L16050013-02	35AWW13FD-042916	40/50	10		05/16/16 12:12
39	T3.051616.121623	WG567310-04	Matrix Spike	40/50	10	L16050013-01	05/16/16 12:16
40	T3.051616.122020	WG567310-05	Matrix Spike Duplica	40/50	10	L16050013-01	05/16/16 12:20
41	T3.051616.122418	L16050013-05	LHAAP02 EQUIPMENT RINS	40/50	1		05/16/16 12:24
42	T3.051616.122817	WG567345-03	Post Digestion Spike		1	L16050013-05	05/16/16 12:28
43	T3.051616.123159	WG567345-04	Serial Dilution		5	L16050013-05	05/16/16 12:31
44	T3.051616.123559	WG568963-20	CCV		1		05/16/16 12:35
45	T3.051616.123938	WG568963-21	CCB		1		05/16/16 12:39
46	T3.051616.124337	WG568963-22	Low Level Continuing Calibra		1		05/16/16 12:43
47	T3.051616.124736	WG568531-02	Method/Prep Blank	40/50	1		05/16/16 12:47
48	T3.051616.125136	WG568531-03	Laboratory Control S	40/50	1		05/16/16 12:51
49	T3.051616.125521	WG568371-01	Fluid Blank 1		1		05/16/16 12:55
50	T3.051616.125920	WG568531-01	Reference Sample		1	L16050579-01	05/16/16 12:59
51	T3.051616.130318	WG568531-04	Matrix Spike	5/50	1	L16050579-01	05/16/16 13:03
52	T3.051616.130701	WG568531-05	Matrix Spike Duplica	5/50	1	L16050579-01	05/16/16 13:07
53	T3.051616.131044	WG568830-01	Post Digestion Spike		1	L16050579-01	05/16/16 13:10
54	T3.051616.131426	WG568830-02	Serial Dilution		5	L16050579-01	05/16/16 13:14
55	T3.051616.131826	WG568963-23	CCV		1		05/16/16 13:18
56	T3.051616.132205	WG568963-24	CCB		1		05/16/16 13:22
57	T3.051616.132606	L16050512-01	AB10166	5/50	1		05/16/16 13:26
58	T3.051616.133005	L16050564-01	59-8-12.02 W1	40/50	1		05/16/16 13:30
59	T3.051616.133403	L16050567-01	2204-120 RW1	40/50	1		05/16/16 13:34
60	T3.051616.133758	L16050567-02	2204-120 RW1	40/50	1		05/16/16 13:37
61	T3.051616.134153	L16050586-01	LF6-7SW10	40/50	1		05/16/16 13:41
62	T3.051616.134549	L16050586-02	LF6-7SW10	40/50	1		05/16/16 13:45
63	T3.051616.134946	L16050589-02	PERMEATE	40/50	1		05/16/16 13:49
64	T3.051616.135345	L16050589-04	BLEED	40/50	1		05/16/16 13:53
65	T3.051616.135741	L16050589-06	N. DOCK FLUME	40/50	1		05/16/16 13:57
66	T3.051616.140141	L16050611-03	W16	40/50	1		05/16/16 14:01
67	T3.051616.140539	WG568963-25	CCV		1		05/16/16 14:05
68	T3.051616.140917	WG568963-26	CCB		1		05/16/16 14:09

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Instrument Run Log

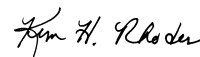
Instrument: ICP-THERMO3 Dataset: 051616T3.1R.TXT
 Analyst1: JYH Analyst2: N/A
 Method: 200.7/6010B/6010C SOP: ME600G Rev: 8
 Maintenance Log ID: _____
 Calibration Std: STD76065 ICV Std: STD76066 Post Spike: STD75473
 ICSA: STD75925 ICSAB: STD75702 Int. Std: RGT35157
 CCV: STD76132 LLCCV: STD76067 Tuning Sol : _____
 Stannous : _____ Hydroxylamine : _____

Workgroups: 568672,567345,568830,568394,568955,568110,569026

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
69	T3.051616.141316	L16050611-05	W6	40/50	1		05/16/16 14:13
70	T3.051616.141713	L16050611-06	W6B	40/50	1		05/16/16 14:17
71	T3.051616.142110	L16050611-07	W51	40/50	1		05/16/16 14:21
72	T3.051616.142646	L16050611-09	W7A	40/50	1		05/16/16 14:26
73	T3.051616.143047	L16050611-11	W7B	40/50	1		05/16/16 14:30
74	T3.051616.143432	L16050611-13	W5	40/50	1		05/16/16 14:34
75	T3.051616.143828	L16050611-15	W17		1		05/16/16 14:38
76	T3.051616.144624	L16050611-15	W17	40/50	1		05/16/16 14:46
77	T3.051616.145021	L16050611-17	W27	40/50	1		05/16/16 14:50
78	T3.051616.145417	WG568963-27	CCV		1		05/16/16 14:54
79	T3.051616.145756	WG568963-28	CCB		1		05/16/16 14:57
80	T3.051616.150155	WG568346-02	Method/Prep Blank	40/50	1		05/16/16 15:01
81	T3.051616.150555	WG568346-03	Laboratory Control S	40/50	1		05/16/16 15:05
82	T3.051616.150939	WG568346-01	Reference Sample		1	L16050507-13	05/16/16 15:09
83	T3.051616.151334	WG568346-04	Matrix Spike	40/50	1	L16050507-13	05/16/16 15:13
84	T3.051616.151718	WG568346-05	Matrix Spike Duplica	40/50	1	L16050507-13	05/16/16 15:17
85	T3.051616.152100	L16050446-01	6-10-8 S1	40/50	1		05/16/16 15:21
86	T3.051616.152457	L16050446-02	6-10-8 S2	40/50	1		05/16/16 15:24
87	T3.051616.152853	WG568394-03	Post Digestion Spike		1	L16050446-02	05/16/16 15:28
88	T3.051616.153236	WG568394-04	Serial Dilution		5	L16050446-02	05/16/16 15:32
89	T3.051616.153635	WG568394-04	Serial Dilution		25	L16050446-02	05/16/16 15:36
90	T3.051616.154034	WG568963-29	CCV		1		05/16/16 15:40
91	T3.051616.154413	WG568963-30	CCB		1		05/16/16 15:44
92	T3.051616.154812	L16050450-01	27-6-9 RS1 (T)	40/50	1		05/16/16 15:48
93	T3.051616.155209	L16050450-02	27-6-9 RS1 (T)	40/50	1		05/16/16 15:52
94	T3.051616.155605	L16050450-03	27-6-9 RW2 (T)	40/50	1		05/16/16 15:56
95	T3.051616.160004	L16050450-04	27-6-9 RW2 (T)	40/50	1		05/16/16 16:00
96	T3.051616.160402	L16050450-05	27-6-9 RS1 (U)	40/50	1		05/16/16 16:04
97	T3.051616.160758	L16050450-06	27-6-9 RW2 (U)	40/50	1		05/16/16 16:07
98	T3.051616.161155	L16050450-07	27-6-9 RW1 (U)	40/50	1		05/16/16 16:11
99	T3.051616.161551	L16050450-08	27-6-9 RS2 (U)	40/50	1		05/16/16 16:15
100	T3.051616.161947	L16050507-02	W37WT	40/50	1		05/16/16 16:19
101	T3.051616.162343	L16050507-03	W1AR	40/50	1		05/16/16 16:23
102	T3.051616.162740	WG568963-31	CCV		1		05/16/16 16:27

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-THERMO3 Dataset: 051616T3.1R.TXT
 Analyst1: JYH Analyst2: N/A
 Method: 200.7/6010B/6010C SOP: ME600G Rev: 8
 Maintenance Log ID: _____
 Calibration Std: STD76065 ICV Std: STD76066 Post Spike: STD75473
 ICSA: STD75925 ICSAB: STD75702 Int. Std: RGT35157
 CCV: STD76132 LLCCV: STD76067 Tuning Sol : _____
 Stannous : _____ Hydroxylamine : _____

Workgroups: 568672,567345,568830,568394,568955,568110,569026

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
103	T3.051616.163117	WG568963-32	CCB		1		05/16/16 16:31
104	T3.051616.163517	L16050507-04	W50	40/50	1		05/16/16 16:35
105	T3.051616.163913	L16050507-05	W18	40/50	1		05/16/16 16:39
106	T3.051616.164310	L16050507-07	W31WB	40/50	1		05/16/16 16:43
107	T3.051616.164706	L16050507-09	W29	40/50	1		05/16/16 16:47
108	T3.051616.165104	L16050507-11	W30WTR	40/50	1		05/16/16 16:51
109	T3.051616.165459	WG568963-33	CCV		1		05/16/16 16:54
110	T3.051616.165837	WG568963-34	CCB		1		05/16/16 16:58
111	T3.051616.170237	WG568687-02	Method/Prep Blank	40/50	1		05/16/16 17:02
112	T3.051616.170637	WG568687-03	Laboratory Control S	40/50	1		05/16/16 17:06
113	T3.051616.171008	WG568558-01	Fluid Blank 1		1		05/16/16 17:10
114	T3.051616.171408	WG568558-02	Fluid Blank 2		1		05/16/16 17:14
115	T3.051616.171808	WG568687-01	Reference Sample		1	L16050674-07	05/16/16 17:18
116	T3.051616.172230	WG568687-04	Matrix Spike	40/50	1	L16050674-07	05/16/16 17:22
117	T3.051616.172643	WG568687-05	Matrix Spike Duplica	40/50	1	L16050674-07	05/16/16 17:26
118	T3.051616.173057	L16050674-10	SW01-051116	40/50	1		05/16/16 17:30
119	T3.051616.173453	WG568955-01	Post Digestion Spike		1	L16050674-10	05/16/16 17:34
120	T3.051616.173834	WG568955-02	Serial Dilution		5	L16050674-10	05/16/16 17:38
121	T3.051616.174231	WG568963-35	CCV		1		05/16/16 17:42
122	T3.051616.174610	WG568963-36	CCB		1		05/16/16 17:46
123	T3.051616.175009	L16050459-01	FRN SALTCAKE	5/50	1		05/16/16 17:50
124	T3.051616.175414	L16050459-02	FRN FURNACE BAGHOUSE	5/50	1		05/16/16 17:54
125	T3.051616.175810	L16050459-03	FRN MILL FINES (SCREW 1	5/50	1		05/16/16 17:58
126	T3.051616.180206	L16050459-04	FRN MILL FINES (SCREW 8	5/50	1		05/16/16 18:02
127	T3.051616.180601	L16050571-02	50WW22FF-051016	40/50	1		05/16/16 18:06
128	T3.051616.180958	L16050571-04	50WW11FF-051016	40/50	1		05/16/16 18:09
129	T3.051616.181354	L16050571-06	50WW06FF-051016	40/50	1		05/16/16 18:13
130	T3.051616.181751	L16050571-08	50WW12FF-051016	40/50	1		05/16/16 18:17
131	T3.051616.182146	L16050571-10	50WW24FF-051016	40/50	1		05/16/16 18:21
132	T3.051616.182543	L16050571-12	50WW23FF-051016	40/50	1		05/16/16 18:25
133	T3.051616.182939	WG568963-37	CCV		1		05/16/16 18:29
134	T3.051616.183317	WG568963-38	CCB		1		05/16/16 18:33
135	T3.051616.183717	L16050624-01	GH46_JACOBS_03-03-012	40/50	1		05/16/16 18:37
136	T3.051616.184113	L16050674-01	MW31-GW-051016	40/50	1		05/16/16 18:41

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Sam H. Rhodes

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-THERMO3 Dataset: 051616T3.1R.TXT
 Analyst1: JYH Analyst2: N/A
 Method: 200.7/6010B/6010C SOP: ME600G Rev: 8
 Maintenance Log ID: _____
 Calibration Std: STD76065 ICV Std: STD76066 Post Spike: STD75473
 ICSA: STD75925 ICSAB: STD75702 Int. Std: RGT35157
 CCV: STD76132 LLCCV: STD76067 Tuning Sol: _____
 Stannous: _____ Hydroxylamine: _____

Workgroups: 568672,567345,568830,568394,568955,568110,569026

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
137	T3.051616.184510	L16050674-03	TCF-EB01-051116	40/50	1		05/16/16 18:45
138	T3.051616.184910	L16050674-04	MW32-GW-051116	40/50	1		05/16/16 18:49
139	T3.051616.185306	L16050674-05	MW26-GW-051116		1		05/16/16 18:53
140	T3.051616.185725	L16050674-06	BW02-GW-051116	40/50	1		05/16/16 18:57
141	T3.051616.190123	WG568963-39	CCV		1		05/16/16 19:01
142	T3.051616.190501	WG568963-40	CCB		1		05/16/16 19:05
143	T3.051616.190901	WG567819-02	Method/Prep Blank	40/50	1		05/16/16 19:09
144	T3.051616.191300	WG567819-03	Laboratory Control S	40/50	1		05/16/16 19:13
145	T3.051616.191644	L16050154-01	POND OUTFALL		1	WG567819-01	05/16/16 19:16
146	T3.051616.192042	L16050154-02	POND OUTFALL MS	40/50	1	WG567819-04	05/16/16 19:20
147	T3.051616.192425	L16050154-03	POND OUTFALL MSD	40/50	1	WG567819-05	05/16/16 19:24
148	T3.051616.192807	L16050224-01	30500-F01-WQ-W0010	40/50	1		05/16/16 19:28
149	T3.051616.193208	WG568110-01	Post Digestion Spike		1	L16050224-01	05/16/16 19:32
150	T3.051616.193551	WG568110-02	Serial Dilution		5	L16050224-01	05/16/16 19:35
151	T3.051616.193950	WG568963-41	CCV		1		05/16/16 19:39
152	T3.051616.194329	WG568963-42	CCB		1		05/16/16 19:43
153	T3.051616.194729	WG568963-43	Low Level Continuing Calibra		1		05/16/16 19:47
154	T3.051616.195128	WG568963-44	Low Level Continuing Calibra		1		05/16/16 19:51
155	T3.051616.195527	WG568874-02	Method/Prep Blank	40/50	1		05/16/16 19:55
156	T3.051616.195926	WG568874-03	Laboratory Control S	40/50	1		05/16/16 19:59
157	T3.051616.200310	WG568782-01	Fluid Blank 1		1		05/16/16 20:03
158	T3.051616.200710	WG568782-02	Fluid Blank 2		1		05/16/16 20:07
159	T3.051616.201110	WG568874-01	Reference Sample		1	L16050764-02	05/16/16 20:11
160	T3.051616.201507	WG568874-04	Matrix Spike	5/50	1	L16050764-02	05/16/16 20:15
161	T3.051616.201850	WG568874-05	Matrix Spike Duplica	5/50	1	L16050764-02	05/16/16 20:18
162	T3.051616.202230	L16050627-01	GH46_BURNS_03-03-0122	40/50	1		05/16/16 20:22
163	T3.051616.202628	WG569026-01	Post Digestion Spike		1	L16050627-01	05/16/16 20:26
164	T3.051616.203011	WG569026-02	Serial Dilution		5	L16050627-01	05/16/16 20:30
165	T3.051616.203400	WG568963-45	CCV		1		05/16/16 20:34
166	T3.051616.203738	WG568963-46	CCB		1		05/16/16 20:37
167	T3.051616.204138	L16050658-02	W22	40/50	1		05/16/16 20:41
168	T3.051616.204535	L16050658-04	W14	40/50	1		05/16/16 20:45
169	T3.051616.204932	L16050658-06	W13	40/50	1		05/16/16 20:49
170	T3.051616.205328	L16050658-07	W30B	40/50	1		05/16/16 20:53

Page: 5 Approved: May 16, 2016

Sam H. Rhodes

Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-THERMO3 Dataset: 051616T3.1R.TXT
 Analyst1: JYH Analyst2: N/A
 Method: 200.7/6010B/6010C SOP: ME600G Rev: 8
 Maintenance Log ID: _____
 Calibration Std: STD76065 ICV Std: STD76066 Post Spike: STD75473
 ICSA: STD75925 ICSAB: STD75702 Int. Std: RGT35157
 CCV: STD76132 LLCCV: STD76067 Tuning Sol: _____
 Stannous: _____ Hydroxylamine: _____

Workgroups: 568672,567345,568830,568394,568955,568110,569026

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
171	T3.051616.205733	L16050658-08	W52	40/50	1		05/16/16 20:57
172	T3.051616.210137	L16050658-10	W24	40/50	1		05/16/16 21:01
173	T3.051616.210542	L16050658-12	W35WB	40/50	1		05/16/16 21:05
174	T3.051616.210940	L16050658-14	W10R1	40/50	1		05/16/16 21:09
175	T3.051616.211342	L16050759-01	30300-B01-WQ-W0002	40/50	1		05/16/16 21:13
176	T3.051616.211742	L16050764-01	FLUME RESIDUE \#2	5/50	1		05/16/16 21:17
177	T3.051616.212138	WG568963-47	CCV		1		05/16/16 21:21
178	T3.051616.212515	WG568963-48	CCB		1		05/16/16 21:25
179	T3.051616.212915	L16050764-03	LIQ FLUME RESIDUE \#2	5/50	1		05/16/16 21:29
180	T3.051616.213314	L16050764-04	LIQ FLUME RESIDUE \#1	5/50	1		05/16/16 21:33
181	T3.051616.213715	L16050765-01	MW23-GW-051216	40/50	1		05/16/16 21:37
182	T3.051616.214134	L16050765-02	MW28-GW-051216	40/50	1		05/16/16 21:41
183	T3.051616.214547	L16050765-03	MW28-GW-051216D	40/50	1		05/16/16 21:45
184	T3.051616.215005	L16050765-04	MW35-GW-051216		1		05/16/16 21:50
185	T3.051616.215425	WG568963-49	CCV		1		05/16/16 21:54
186	T3.051616.215803	WG568963-50	CCB		1		05/16/16 21:58
187	T3.051616.220203	WG568963-51	Interference Check		1		05/16/16 22:02
188	T3.051616.220559	WG568963-52	Interference Check		1		05/16/16 22:05
189	T3.051616.220943	WG568963-53	CCV		1		05/16/16 22:09
190	T3.051616.221321	WG568963-54	CCB		1		05/16/16 22:13

Comments

Seq.	Rerun	Dil.	Reason	Analytes
21			Seq. 21- 23: Wrong sample label. JYH	
49			Wrong QA label. JYH	
148			Seq. 148-150: wrong sample labels. JYH	

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Sam H. Rhodes

Microbac Laboratories Inc.

Data Checklist

Date: 16-MAY-2016
 Analyst: JYH
 Analyst: NA
 Method: 6010B/6010C/200.7
 Instrument: ICP-THERMO3
 Curve Workgroup: 568963
 Runlog ID: 75094
 Analytical Workgroups: 568672,567345,568830,568394,568955,568110,569026

Add'l WGs	
STD ID#s on Runlog	X
Calibration/Linearity	X
ICV/CCV	X
ICV RSD < 3% (EPA 200.7 only)	X
ICB/CCB	X
ICSA/ICSAB	X
CRI	
Blank/LCS	X
MS/MSD	X
Post Spike/Serial Dilution	X
Upload Results	X
Data Qualifiers	
Generate PDF Instrument Data	X
Sign/Annotate PDF Data	X
Upload Curve Data	X
Workgroup Forms	X
Case Narrative	X
Client Forms	X
Level X	
Level 3	674,765
Level 4	013,579,586,571,154,759
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:
19-MAY-2016

Secondary Reviewer:
31-MAY-2016



Analytical Method:6010C
Login Number:L16050571

AAB#:WG568955

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
50WW22FF-051016	02	05/10/16					05/13/2016	3.1	180		05/16/16	6.4	180	
50WW11FF-051016	04	05/10/16					05/13/2016	3	180		05/16/16	6.4	180	
50WW06FF-051016	06	05/10/16					05/13/2016	3	180		05/16/16	6.3	180	
50WW12FF-051016	08	05/10/16					05/13/2016	2.9	180		05/16/16	6.3	180	
50WW24FF-051016	10	05/10/16					05/13/2016	2.9	180		05/16/16	6.2	180	
50WW23FF-051016	12	05/10/16					05/13/2016	2.8	180		05/16/16	6.2	180	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4765693
Report generated 05/17/2016 10:07



METHOD BLANK SUMMARY

Login Number: L16050571 Work Group: WG568955
 Blank File ID: T3.051616.170237 Blank Sample ID: WG568687-02
 Prep Date: 05/13/16 09:46 Instrument ID: ICP-THERMO3
 Analyzed Date: 05/16/16 17:02 Method: 6010C
 Analyst: JYH

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG568687-03	T3.051616.170637	05/16/16 17:06	01
50WW22FF-051016	L16050571-02	T3.051616.180601	05/16/16 18:06	01
50WW11FF-051016	L16050571-04	T3.051616.180958	05/16/16 18:09	01
50WW06FF-051016	L16050571-06	T3.051616.181354	05/16/16 18:13	01
50WW12FF-051016	L16050571-08	T3.051616.181751	05/16/16 18:17	01
50WW24FF-051016	L16050571-10	T3.051616.182146	05/16/16 18:21	01
50WW23FF-051016	L16050571-12	T3.051616.182543	05/16/16 18:25	01

Report Name: BLANK_SUMMARY
 PDF File ID: 4765694
 Report generated 05/17/2016 10:20



Login Number: L16050571 Prep Date: 05/13/16 09:46 Sample ID: WG568687-02
Instrument ID: ICP-THERMO3 Run Date: 05/16/16 17:02 Prep Method: 3015
File ID: T3.051616.170237 Analyst: JYH Method: 6010C
Workgroup (AAB#): WG568955 Matrix: Water Units: mg/L
Contract #: _____ Cal ID: ICP-TH-16-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: 4765695
17-MAY-2016 10:20



Login Number: L16050571 Run Date: 05/16/2016 Sample ID: WG568687-03
Instrument ID: ICP-THERMO3 Run Time: 17:06 Prep Method: 3015
File ID: T3.051616.170637 Analyst: JYH Method: 6010C
Workgroup (AAB#): WG568955 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD75837 Cal ID: ICP-TH-16-MAY-16

Analytes	Expected	Found	% Rec	LCS Limits	Q
Iron, Dissolved	2.50	2.53	101	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 4765696
Report generated: 05/17/2016 10:20



Loginnum: L16050571 Cal ID: ICP-THERMO3- Worknum: WG568955
 Instrument ID: ICP-THERMO3 Contract #: _____ Method: 6010C
 Parent ID: WG568687-01 File ID: T3.051616.171808 Dil: 1 Matrix: WATER
 Sample ID: WG568687-04 MS File ID: T3.051616.172230 Dil: 1 Units: mg/L
 Sample ID: WG568687-05 MSD File ID: T3.051616.172643 Dil: 1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Iron	48.8	2.50	52.5	144	2.50	53.1	171	1.28	80 - 120	20	*

* FAILS %REC LIMIT

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

Microbac Laboratories Inc.
Serial Dilution Report

Login: L16050571 **Worknum:** WG568955
Instrument: ICP-THERMO3 **Method:** 6010C
Serial Dil: WG568955-02 **File ID:** T3.051616.173834 **Dil:** 5 **Units:** ug/L
Sample: L16050674-10 **File ID:** T3.051616.173057 **Dil:** 1

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Iron	3350		3110		7.09	

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: 4765691

05/17/2016 10:19



Sample Login ID: L16050571 Worknum: WG568955
 Instrument ID: ICP-THERMO3 Method: 6010C
 Post Spike ID: WG568955-01 File ID: T3.051616.173453 Dil: 1 Units: ug/L
 Sample ID: L16050674-10 File ID: T3.051616.173057 Dil: 1 Matrix: Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
IRON	4960		3350		2000	97.4	75 - 125	

N = % Recovery exceeds control limits
 F = Result is between MDL and RL
 U = Sample result is below MDL. A value of zero is used in the calculation



Login: L16050571 Workgroup (AAB#): WG568955
 Analytical Method: 6010C Instrument ID: ICP-THERMO3
 ICAL Worknum: WG568963 Initial Calibration Date: 16-MAY-2016 09:59

	WG568963-01		WG568963-02		WG568963-03		WG568963-04		WG568963-05		R	Q
	Conc	INT	Conc	INT	Conc	INT	Conc	INT	Conc	INT		
IRON	0	-0.000240	.04	0.000260	.08	0.000520	4	0.0486	8	0.0975	.999893	

INT = Instrument intensity
 R = Coefficient of correlation
 Q = Data Qualifier
 * = Out of Compliance; R < 0.995



Login Number: L16050571 Run Date: 05/16/2016 Sample ID: WG568963-07
Instrument ID: ICP-THERMO3 Run Time: 10:06 Method: 6010C
File ID: T3.051616.100626 Analyst: JYH Units: mg/L
Workgroup (AAB#): WG568955 Cal ID: ICP-THERM - 16-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: L16050571 Run Date: 05/16/2016 Sample ID: WG568963-13
Instrument ID: ICP-THERMO3 Run Time: 10:29 Method: 6010C
File ID: T3.051616.102941 Analyst: JYH Units: mg/L
Workgroup (AAB#): WG568955 Cal ID: ICP-TH - 16-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: 4765705
Report generated 05/17/2016 10:07



Login Number: L16050571 Run Date: 05/16/2016 Sample ID: WG568963-34
Instrument ID: ICP-THERMO3 Run Time: 16:58 Method: 6010C
File ID: T3.051616.165837 Analyst: JYH Units: mg/L
Workgroup (AAB#): WG568955 Cal ID: ICP-TH - 16-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: 4765705
Report generated 05/17/2016 10:07



Login Number: L16050571 Run Date: 05/16/2016 Sample ID: WG568963-36
 Instrument ID: ICP-THERMO3 Run Time: 17:46 Method: 6010C
 File ID: T3.051616.174610 Analyst: JYH Units: mg/L
 Workgroup (AAB#): WG568955 Cal ID: ICP-TH - 16-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: 4765705
 Report generated 05/17/2016 10:07



Login Number: L16050571 Run Date: 05/16/2016 Sample ID: WG568963-38
Instrument ID: ICP-THERMO3 Run Time: 18:33 Method: 6010C
File ID: T3.051616.183317 Analyst: JYH Units: mg/L
Workgroup (AAB#): WG568955 Cal ID: ICP-TH - 16-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: 4765705
Report generated 05/17/2016 10:07



Login Number: L16050571 Run Date: 05/16/2016 Sample ID: WG568963-50
Instrument ID: ICP-THERMO3 Run Time: 21:58 Method: 6010C
File ID: T3.051616.215803 Analyst: JYH Units: mg/L
Workgroup (AAB#): WG568955 Cal ID: ICP-TH - 16-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: 4765705
Report generated 05/17/2016 10:07



Login Number: L16050571 Run Date: 05/16/2016 Sample ID: WG568963-54
Instrument ID: ICP-THERMO3 Run Time: 22:13 Method: 6010C
File ID: T3.051616.221321 Analyst: JYH Units: mg/L
Workgroup (AAB#): WG568955 Cal ID: ICP-TH - 16-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: 4765705
Report generated 05/17/2016 10:07



Login Number: L16050571 Run Date: 05/16/2016 Sample ID: WG568963-06
Instrument ID: ICP-THERMO3 Run Time: 10:02 Method: 6010C
File ID: T3.051616.100259 Analyst: JYH Units: mg/L
Workgroup (AAB#): WG568955 Cal ID: ICP-TH - 16-MAY-16
QC Key: DOD4

Analyte	Expected	Found	%REC	LIMITS	Q
Iron	4	3.96	99.0	90 - 110	

* Exceeds LIMITS Limit



Login Number: L16050571 Run Date: 05/16/2016 Sample ID: WG568963-12
 Instrument ID: ICP-THERMO3 Run Time: 10:26 Method: 6010C
 File ID: T3.051616.102603 Analyst: JYH QC Key: DOD4
 Workgroup (AAB#): WG568955 Cal ID: ICP-TH - 16-MAY-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Iron	4.00	4.04	mg/L	101	90 - 110	

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
 PDF File ID: 4765704
 Report generated 05/17/2016 10:07



Login Number: L16050571 Run Date: 05/16/2016 Sample ID: WG568963-33
Instrument ID: ICP-THERMO3 Run Time: 16:54 Method: 6010C
File ID: T3.051616.165459 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG568955 Cal ID: ICP-TH - 16-MAY-16
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Iron	4.00	4.15	mg/L	104	90 - 110	

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 4765704
Report generated 05/17/2016 10:07



Login Number: L16050571 Run Date: 05/16/2016 Sample ID: WG568963-35
Instrument ID: ICP-THERMO3 Run Time: 17:42 Method: 6010C
File ID: T3.051616.174231 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG568955 Cal ID: ICP-TH - 16-MAY-16
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Iron	4.00	4.01	mg/L	100	90 - 110	

* Exceeds LIMITS Criteria



Login Number: L16050571 Run Date: 05/16/2016 Sample ID: WG568963-37
 Instrument ID: ICP-THERMO3 Run Time: 18:29 Method: 6010C
 File ID: T3.051616.182939 Analyst: JYH QC Key: DOD4
 Workgroup (AAB#): WG568955 Cal ID: ICP-TH - 16-MAY-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Iron	4.00	3.90	mg/L	97.4	90 - 110	

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
 PDF File ID: 4765704
 Report generated 05/17/2016 10:07



Login Number: L16050571 Run Date: 05/16/2016 Sample ID: WG568963-49
 Instrument ID: ICP-THERMO3 Run Time: 21:54 Method: 6010C
 File ID: T3.051616.215425 Analyst: JYH QC Key: DOD4
 Workgroup (AAB#): WG568955 Cal ID: ICP-TH - 16-MAY-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Iron	4.00	3.81	mg/L	95.2	90 - 110	

* Exceeds LIMITS Criteria



Login Number: L16050571 Run Date: 05/16/2016 Sample ID: WG568963-53
Instrument ID: ICP-THERMO3 Run Time: 22:09 Method: 6010C
File ID: T3.051616.220943 Analyst: JYH QC Key: DOD4
Workgroup (AAB#): WG568955 Cal ID: ICP-TH - 16-MAY-16
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Iron	4.00	3.77	mg/L	94.3	90 - 110	

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
PDF File ID: 4765704
Report generated 05/17/2016 10:07



Login Number: L16050571 Run Date: 05/16/2016 Sample ID: WG568963-09
 Instrument ID: ICP-THERMO3 Run Time: 10:14 Method: 6010C
 File ID: T3.051616.101423 Analyst: JYH QC Key: DOD4
 Workgroup (AAB#): WG568955 Cal ID: ICP-TH - 16-MAY-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Iron	0.100	0.0990	mg/L	99.0	70 - 130	

* Exceeds LIMITS Criteria



Login Number: L16050571 Run Date: 05/16/2016 Sample ID: WG568963-19
 Instrument ID: ICP-THERMO3 Run Time: 11:56 Method: 6010C
 File ID: T3.051616.115644 Analyst: JYH QC Key: DOD4
 Workgroup (AAB#): WG568955 Cal ID: ICP-TH - 16-MAY-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Iron	0.100	0.107	mg/L	107	70 - 130	

* Exceeds LIMITS Criteria



Login Number: L16050571 Run Date: 05/16/2016 Sample ID: WG568963-22
 Instrument ID: ICP-THERMO3 Run Time: 12:43 Method: 6010C
 File ID: T3.051616.124337 Analyst: JYH QC Key: DOD4
 Workgroup (AAB#): WG568955 Cal ID: ICP-TH - 16-MAY-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Iron	0.0800	0.0996	mg/L	125	70 - 130	

* Exceeds LIMITS Criteria



Login Number: L16050571 Run Date: 05/16/2016 Sample ID: WG568963-43
 Instrument ID: ICP-THERMO3 Run Time: 19:47 Method: 6010C
 File ID: T3.051616.194729 Analyst: JYH QC Key: DOD4
 Workgroup (AAB#): WG568955 Cal ID: ICP-TH - 16-MAY-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Iron	0.0800	0.0966	mg/L	121	70 - 130	

* Exceeds LIMITS Criteria



Login number: L16050571
 Instrument ID: ICP-THERMO3
 Sol. A: WG568963-10
 Sol. AB: WG568963-11

File ID: T3.051616.101822
 File ID: T3.051616.102217

Workgroup (AAB#): WG568955
 Method: 6010C
 Units: mg/L
 Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Iron	100	97.9	97.9	100	96.5	96.5	

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: L16050571
 Instrument ID: ICP-THERMO3
 Sol. A: WG568963-51
 Sol. AB: WG568963-52

File ID: T3.051616.220203
 File ID: T3.051616.220559

Workgroup (AAB#): WG568955
 Method: 6010C
 Units: mg/L
 Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Iron	100	100	100	100	97.8	97.8	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.



Login Number: L16050571
 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: 4765699
 Report generated: 05/17/2016 10:07



Login Number: L16050571

Date: 01/04/2016

Instrument ID: ICP-THERMO3

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
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 Report generated: 05/17/2016 10:07



Login Number: L16050571
 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

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Login Number: L16050571

Date: 01/04/2016

Instrument ID: ICP-THERMO3

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

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Login Number: L16050571
 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

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Login Number: L16050571
 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: 4765699
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Login Number: L16050571
 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: 4765699
 Report generated: 05/17/2016 10:07



Login Number: L16050571 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}	5/16/2016 10:02:58	5/16/2016 10:02:58	Linear	1/Conc	-0.000070	0.026608	0.000000	1.000000
Al 308.215 {109}	5/16/2016 10:02:58	5/16/2016 10:02:58	Linear	1/Conc	0.000354	0.004244	0.000000	1.000000
As 189.042 {478}	5/16/2016 10:02:58	5/16/2016 10:02:58	Linear	1/Conc	-0.000019	0.012197	0.000000	1.000000
B 249.678 {135}	5/16/2016 10:02:58	5/16/2016 10:02:58	Linear	1/Conc	0.000088	0.011302	0.000000	1.000000
Ba 455.403 { 74}	5/16/2016 10:02:58	5/16/2016 10:02:58	Linear	1/Conc	0.008611	1.384462	0.000000	1.000000
Be 313.107 {108}	5/16/2016 10:02:58	5/16/2016 10:02:58	Linear	1/Conc	0.000147	0.500268	0.000000	1.000000
Ca 422.673 { 80}	5/16/2016 10:02:58	5/16/2016 10:02:58	Linear	1/Conc	0.000052	0.029807	0.000000	1.000000
Cd 228.802 {447}	5/16/2016 10:02:58	5/16/2016 10:02:58	Linear	1/Conc	0.000060	0.251187	0.000000	1.000000
Co 228.616 {447}	5/16/2016 10:02:58	5/16/2016 10:02:58	Linear	1/Conc	-0.000033	0.199737	0.000000	1.000000
Cr 267.716 {126}	5/16/2016 10:02:58	5/16/2016 10:02:58	Linear	1/Conc	0.000135	0.027169	0.000000	1.000000
Cu 224.700 {450}	5/16/2016 10:02:58	5/16/2016 10:02:58	Linear	1/Conc	-0.000097	0.067304	0.000000	1.000000
Fe 261.187 {129}	5/16/2016 10:02:58	5/16/2016 10:02:58	Linear	1/Conc	-0.000241	0.012217	0.000000	1.000000
K 766.490 { 44}	5/16/2016 10:02:58	5/16/2016 10:02:58	Linear	1/Conc	0.003822	0.036983	0.000000	1.000000
Li 670.784 { 50}	5/16/2016 10:02:58	5/16/2016 10:02:58	Linear	1/Conc	0.003498	0.764693	0.000000	1.000000
Mg 279.079 {121}	5/16/2016 10:02:58	5/16/2016 10:02:58	Linear	1/Conc	-0.000494	0.003076	0.000000	1.000000
Mn 257.610 {131}	5/16/2016 10:02:58	5/16/2016 10:02:58	Linear	1/Conc	0.000276	0.158505	0.000000	1.000000
Mo 202.030 {467}	5/16/2016 10:02:58	5/16/2016 10:02:58	Linear	1/Conc	0.000003	0.098157	0.000000	1.000000
Na 589.592 { 57}	5/16/2016 10:02:58	5/16/2016 10:02:58	Linear	1/Conc	-0.016077	0.105062	0.000000	1.000000
Ni 231.604 {446}	5/16/2016 10:02:58	5/16/2016 10:02:58	Linear	1/Conc	-0.000266	0.073355	0.000000	1.000000
P 214.914 {457}	5/16/2016 10:02:58	5/16/2016 10:02:58	Linear	1/Conc	-0.000135	0.006671	0.000000	1.000000
Pb 220.353 {453}	5/16/2016 10:02:58	5/16/2016 10:02:58	Linear	1/Conc	-0.000248	0.033099	0.000000	1.000000
Sb 206.833 {463}	5/16/2016 10:02:58	5/16/2016 10:02:58	Linear	1/Conc	0.000040	0.017038	0.000000	1.000000
Se 196.090 {472}	5/16/2016 10:02:58	5/16/2016 10:02:58	Linear	1/Conc	-0.000167	0.007654	0.000000	1.000000
Si 212.412 {459}	5/16/2016 10:02:58	5/16/2016 10:02:58	Linear	1/Conc	0.000863	0.022158	0.000000	1.000000
Sn 189.989 {477}	5/16/2016 10:02:58	5/16/2016 10:02:58	Linear	1/Conc	0.000029	0.035412	0.000000	1.000000
Sr 407.771 { 83}	5/16/2016 10:02:58	5/16/2016 10:02:58	Linear	1/Conc	0.000734	2.358557	0.000000	1.000000
Ti 337.280 {100}	5/16/2016 10:02:58	5/16/2016 10:02:58	Linear	1/Conc	-0.000981	0.075402	0.000000	1.000000
Tl 190.856 {477}	5/16/2016 10:02:58	5/16/2016 10:02:58	Linear	1/Conc	-0.000161	0.014511	0.000000	1.000000
V 292.402 {115}	5/16/2016 10:02:58	5/16/2016 10:02:58	Linear	1/Conc	0.000034	0.025576	0.000000	1.000000
Y 224.306 {450}* Y 360.073 { 94}* Y 377.433 { 89}* Zn 206.200 {463} Zr 339.198 { 99}	<not fit> <not fit> <not fit> 5/16/2016 10:02:58 5/16/2016 10:02:58	<Never Calibrated> <Never Calibrated> <Never Calibrated> 5/16/2016 10:02:58 5/16/2016 10:02:58	Linear Linear Linear Linear Linear	1/Conc 1/Conc 1/Conc 1/Conc 1/Conc	0.000000 0.000000 0.000000 0.000052 -0.003141	0.000000 0.000000 0.000000 0.201668 0.002217	0.000000 0.000000 0.000000 0.000000 0.000000	1.000000 1.000000 1.000000 1.000000 1.000000

Approved: May 17, 2016

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}	0.998986	0.000003	0.002088	0.006961	OK.	1.000000	0.000000	1	0
Al 308.215 {109}	0.999995	0.000001	0.008979	0.029931	OK	1.000000	0.000000	1	0
As 189.042 {478}	0.999894	0.000001	0.003689	0.012295	OK.	1.000000	0.000000	1	0
B 249.678 {135}	0.999965	0.000000	0.002841	0.009471	OK.	1.000000	0.000000	1	0
Ba 455.403 { 74}	0.999993	0.000033	0.000921	0.003069	OK.	1.000000	0.000000	1	0
Be 313.107 {108}	0.999977	0.000001	0.000076	0.000253	OK.	1.000000	0.000000	1	0
Ca 422.673 { 80}	0.999980	0.000012	0.032294	0.107645	OK	1.000000	0.000000	1	0
Cd 228.802 {447}	0.999734	0.000002	0.000302	0.001008	OK.	1.000000	0.000000	1	0
Co 228.616 {447}	0.999970	0.000002	0.000435	0.001451	OK	1.000000	0.000000	1	0
Cr 267.716 {126}	0.999928	0.000001	0.001239	0.004131	OK.	1.000000	0.000000	1	0
Cu 224.700 {450}	0.999973	0.000002	0.001484	0.004948	OK.	1.000000	0.000000	1	0
Fe 261.187 {129}	0.999893	0.000005	0.025557	0.085189	OK.	1.000000	0.000000	1	0
K 766.490 { 44}	0.999919	0.000149	0.097216	0.324055	OK.	1.000000	0.000000	1	0
Li 670.784 { 50}	0.999824	0.000141	0.004583	0.015275	OK	1.000000	0.000000	1	0
Mg 279.079 {121}	0.999791	0.000006	0.110589	0.368629	OK.	1.000000	0.000000	1	0
Mn 257.610 {131}	0.999835	0.000009	0.002758	0.009195	OK	1.000000	0.000000	1	0
Mo 202.030 {467}	0.999999	0.000001	0.000463	0.001542	OK.	1.000000	0.000000	1	0
Na 589.592 { 57}	0.999998	0.000069	0.030548	0.101827	OK.	1.000000	0.000000	1	0
Ni 231.604 {446}	0.999936	0.000003	0.001261	0.004203	OK.	1.000000	0.000000	1	0
P 214.914 {457}	0.999969	0.000003	0.008549	0.028497	OK.	1.000000	0.000000	1	0
Pb 220.353 {453}	0.999556	0.000003	0.003999	0.013330	OK	1.000000	0.000000	1	0
Sb 206.833 {463}	0.999319	0.000005	0.004611	0.015372	OK.	1.000000	0.000000	1	0
Se 196.090 {472}	0.997398	0.000002	0.008307	0.027690	OK.	1.000000	0.000000	1	0
Si 212.412 {459}	0.999992	0.000003	0.002443	0.008144	OK.	1.000000	0.000000	1	0
Sn 189.989 {477}	0.999959	0.000002	0.001041	0.003470	OK.	1.000000	0.000000	1	0
Sr 407.771 { 83}	0.999993	0.000054	0.000407	0.001358	OK.	1.000000	0.000000	1	0
Ti 337.280 {100}	0.999912	0.000006	0.006951	0.023169	OK.	1.000000	0.000000	1	0
Tl 190.856 {477}	0.999918	0.000001	0.003609	0.012031	OK	1.000000	0.000000	1	0
V 292.402 {115}	0.999979	0.000001	0.001208	0.004027	OK.	1.000000	0.000000	1	0
Y 224.306 {450}	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
Y 360.073 { 94}	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
Y 377.433 { 89}	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
Zn 206.200 {463}	0.999981	0.000008	0.000245	0.000816	OK	1.000000	0.000000	1	0
Zr 339.198 { 99}	0.393956	0.000033	0.400035	1.333451	OK.	1.000000	0.000000	1	0

Approved: May 17, 2016

Sample Name: S0 Acquired: 5/16/2016 9:43:41 Type: Cal
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: IR Corr. Factor: 1.000000
 User: JYH 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	-.00007	.00035	-.00002	.00009	.00861	.00015	.00005
Stddev	.00002	.00003	.00002	.00001	.00055	.00002	.00063
%RSD	33.102	8.3477	99.470	9.6194	6.3652	15.487	1210.4

#1	-.00010	.00034	-.00003	.00010	.00832	.00016	.00077
#2	-.00006	.00039	.00000	.00008	.00828	.00016	-.00044
#3	-.00005	.00034	-.00003	.00009	.00924	.00012	-.00017

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	.00006	-.00003	.00013	-.00010	-.00024	.00382	.00349
Stddev	.00003	.00005	.00002	.00008	.00024	.00213	.00271
%RSD	44.228	146.87	16.428	83.465	100.39	55.890	77.517

#1	.00008	.00001	.00015	-.00000	-.00028	.00628	.00515
#2	.00007	-.00008	.00015	-.00015	-.00046	.00246	.00037
#3	.00003	-.00002	.00011	-.00013	.00002	.00272	.00497

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	-.00049	.00028	.00000	-.01608	-.00027	-.00013	-.00025
Stddev	.00002	.00065	.00001	.00321	.00004	.00002	.00009
%RSD	3.7659	234.90	551.33	19.948	16.329	15.575	35.108

#1	-.00048	.00078	.00001	-.01559	-.00028	-.00016	-.00034
#2	-.00052	-.00045	-.00001	-.01315	-.00022	-.00012	-.00016
#3	-.00049	.00050	.00001	-.01950	-.00030	-.00012	-.00024

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00004	-.00017	.00086	.00003	.00073	-.00098	-.00016
Stddev	.00003	.00003	.00001	.00002	.00065	.00043	.00001
%RSD	80.596	15.390	.72800	75.770	88.817	44.351	6.1409

#1	.00001	-.00018	.00087	.00001	.00114	-.00052	-.00017
#2	.00007	-.00014	.00087	.00005	.00108	-.00104	-.00017
#3	.00004	-.00018	.00086	.00002	-.00002	-.00138	-.00015

Approved: May 17, 2016

Sample Name: S0 Acquired: 5/16/2016 9:43:41 Type: Cal
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: IR Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	V_2924	Zn2062	Zr3391
Units	Cts/S	Cts/S	Cts/S
Avg	.00003	.00005	-.00314
Stddev	.00004	.00002	.00070
%RSD	102.66	38.434	22.221
#1	.00003	.00008	-.00385
#2	.00007	.00004	-.00245
#3	.00000	.00004	-.00312
Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	14150.	101660.	4611.0
Stddev	13.	176.	28.6
%RSD	.09539	.17294	.62074
#1	14159.	101510.	4580.2
#2	14135.	101620.	4616.1
#3	14157.	101860.	4636.8

Approved: May 17, 2016



Sample Name: S1 Acquired: 5/16/2016 9:47:42 Type: Cal
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: IR Corr. Factor: 1.000000
 User: JYH 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	-0.0005	.00071	.01906	.00034	.00237	.00019	.00025
Stddev	.00002	.00002	.00146	.00003	.00112	.00003	.00005
%RSD	37.701	2.6327	7.6592	8.3064	47.181	13.377	19.873

#1	-0.0007	.00071	.02055	.00037	.00302	.00017	.00022
#2	-0.0006	.00072	.01901	.00033	.00108	.00022	.00023
#3	-0.0003	.00069	.01763	.00032	.00301	.00018	.00031

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	.00022	.00019	.00026	.02183	.00075	.00076	.02702
Stddev	.00001	.00003	.00027	.00276	.00027	.00004	.00376
%RSD	4.6989	17.661	104.40	12.644	35.602	4.6169	13.911

#1	.00022	.00015	-0.0003	.02502	.00091	.00080	.02394
#2	.00024	.00021	.00051	.02026	.00044	.00076	.02592
#3	.00022	.00020	.00029	.02022	.00089	.00073	.03121

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	-0.0001	.00033	-0.0006	.00009	.00172	.00027	.02033
Stddev	.00005	.00001	.00005	.00004	.00004	.00001	.00088
%RSD	922.59	3.5887	98.744	47.045	2.5939	2.4964	4.3413

#1	-0.0004	.00032	-0.0011	.00010	.00173	.00027	.01949
#2	-0.0003	.00033	.00000	.00013	.00175	.00027	.02125
#3	.00005	.00034	-0.0006	.00004	.00167	.00026	.02026

Elem	Ti3372	V_2924	Zn2062	Zr3391
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-0.00051	.00026	.00167	-0.00235
Stddev	.00074	.00001	.00006	.00090
%RSD	144.63	5.5459	3.8484	38.475

#1	-0.0064	.00027	.00174	-0.0131
#2	.00028	.00026	.00161	-0.0287
#3	-0.0119	.00024	.00164	-0.0287

Approved: May 17, 2016

Sample Name: S1 Acquired: 5/16/2016 9:47:42 Type: Cal
Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: IR Corr. Factor: 1.000000
User: JYH Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	14188.	102640.	4622.9
Stddev	20.	255.	6.1
%RSD	.13870	.24836	.13138
#1	14167.	102930.	4618.7
#2	14190.	102550.	4629.8
#3	14207.	102440.	4620.0

Approved: May 17, 2016



Sample Name: S2 Acquired: 5/16/2016 9:51:42 Type: Cal
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: IR Corr. Factor: 1.000000
 User: JYH 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	.00006	.00101	.00005	.00018	.03028	.00054	.00445
Stddev	.00004	.00002	.00003	.00002	.00118	.00002	.00045
%RSD	63.723	1.9555	72.661	8.7569	3.9064	3.3289	10.039

#1	.00003	.00100	.00001	.00018	.03147	.00055	.00394
#2	.00004	.00104	.00005	.00016	.02911	.00052	.00467
#3	.00010	.00100	.00008	.00019	.03027	.00055	.00475

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	.00022	.00057	.00034	.00048	.00052	.03501	.01871
Stddev	.00003	.00003	.00001	.00004	.00031	.00235	.00303
%RSD	11.762	4.6927	2.7034	8.7387	60.010	6.7134	16.184

#1	.00025	.00061	.00035	.00046	.00021	.03667	.01838
#2	.00021	.00056	.00033	.00045	.00083	.03232	.02190
#3	.00020	.00056	.00035	.00053	.00051	.03603	.01587

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	.00012	.00175	.00157	.06828	.00026	.00091	.00008
Stddev	.00039	.00039	.00003	.00061	.00006	.00003	.00000
%RSD	317.83	22.372	1.7151	.88693	24.448	3.7047	3.3889

#1	.00009	.00154	.00156	.06893	.00031	.00091	.00009
#2	.00053	.00220	.00155	.06819	.00028	.00088	.00008
#3	-.00025	.00151	.00160	.06773	.00019	.00095	.00008

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00033	-.00007	.00263	.00057	.03748	.00015	-.00005
Stddev	.00008	.00002	.00002	.00000	.00053	.00062	.00003
%RSD	23.022	29.608	.57180	.56146	1.4086	412.27	62.422

#1	.00041	-.00009	.00265	.00058	.03732	.00076	-.00005
#2	.00032	-.00006	.00262	.00057	.03704	.00015	-.00007
#3	.00026	-.00006	.00262	.00058	.03806	-.00047	-.00001

Approved: May 17, 2016

Sample Name: S2 Acquired: 5/16/2016 9:51:42 Type: Cal
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: IR Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

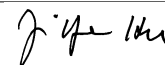
Elem	V_2924	Zn2062	Zr3391
Units	Cts/S	Cts/S	Cts/S
Avg	.00046	.00323	-.00281
Stddev	.00002	.00001	.00007
%RSD	3.6000	.43130	2.5711

#1	.00045	.00321	-.00275
#2	.00045	.00323	-.00280
#3	.00048	.00324	-.00289

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	14155.	102090.	4659.4
Stddev	26.	305.	6.3
%RSD	.18228	.29866	.13486

#1	14125.	102130.	4664.1
#2	14174.	101760.	4652.3
#3	14165.	102360.	4661.9

Approved: May 17, 2016



Sample Name: S3 Acquired: 5/16/2016 9:55:41 Type: Cal
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: IR Corr. Factor: 1.000000
 User: JYH 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	.01052	.04321	.00477	.00566	1.3901	.02546	.29725
Stddev	.00007	.00024	.00005	.00003	.0054	.00009	.00273
%RSD	.63563	.55300	1.0105	.61085	.38713	.36459	.91833

#1	.01060	.04302	.00476	.00567	1.3845	.02555	.29411
#2	.01050	.04348	.00473	.00568	1.3953	.02545	.29904
#3	.01047	.04312	.00483	.00562	1.3904	.02537	.29862

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	.01381	.04007	.01388	.03392	.04857	1.8397	.77355
Stddev	.00006	.00013	.00009	.00011	.00010	.0031	.00496
%RSD	.40668	.31347	.68112	.33802	.19919	.16742	.64098

#1	.01386	.04021	.01391	.03405	.04863	1.8362	.77235
#2	.01375	.04005	.01396	.03388	.04846	1.8419	.77899
#3	.01381	.03996	.01377	.03383	.04862	1.8409	.76930

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	.03047	.07910	.09805	5.2249	.03677	.06509	.01646
Stddev	.00031	.00051	.00051	.0208	.00013	.00006	.00005
%RSD	1.0154	.64702	.52214	.39837	.35790	.09694	.29747

#1	.03082	.07873	.09863	5.2009	.03687	.06516	.01648
#2	.03034	.07968	.09789	5.2363	.03662	.06509	.01641
#3	.03024	.07888	.09765	5.2376	.03684	.06503	.01650

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.01998	.00288	.11264	.03558	2.3517	.07389	.00659
Stddev	.00007	.00004	.00005	.00005	.0062	.00055	.00002
%RSD	.37518	1.5393	.04628	.15035	.26355	.74913	.23167

#1	.02004	.00286	.11266	.03557	2.3452	.07326	.00661
#2	.01989	.00293	.11258	.03553	2.3575	.07432	.00658
#3	.02000	.00285	.11267	.03564	2.3523	.07407	.00658

Approved: May 17, 2016

Sample Name: S3 Acquired: 5/16/2016 9:55:41 Type: Cal
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: IR Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

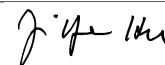
Elem	V_2924	Zn2062	Zr3391
Units	Cts/S	Cts/S	Cts/S
Avg	.02562	.20330	-.00097
Stddev	.00004	.00028	.00034
%RSD	.17212	.13958	35.507

#1	.02567	.20357	-.00076
#2	.02562	.20301	-.00078
#3	.02558	.20332	-.00136

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	14007.	99850.	4634.5
Stddev	42.	485.	32.4
%RSD	.30265	.48577	.69852

#1	13996.	100220.	4648.3
#2	14053.	99301.	4597.6
#3	13971.	100030.	4657.7

Approved: May 17, 2016



Sample Name: S4 Acquired: 5/16/2016 9:59:20 Type: Cal
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: IR Corr. Factor: 1.000000
 User: JYH 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	.02128	.08597	.00975	.01143	2.7816	.05138	.59750	.02751
Stddev	.00012	.00020	.00003	.00002	.0177	.00004	.00451	.00009
%RSD	.54461	.23277	.35018	.17554	.63818	.08650	.75462	.32798

#1	.02123	.08606	.00974	.01144	2.7655	.05142	.59274	.02742
#2	.02141	.08612	.00978	.01141	2.7788	.05138	.59805	.02753
#3	.02120	.08575	.00972	.01143	2.8007	.05133	.60171	.02759

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	.07957	.02721	.06724	.09745	3.7106	1.5245	.06045	.15921
Stddev	.00008	.00004	.00007	.00048	.0220	.0095	.00023	.00106
%RSD	.10329	.13827	.10672	.48888	.59273	.62450	.38054	.66707

#1	.07966	.02721	.06724	.09739	3.6896	1.5144	.06060	.15821
#2	.07957	.02724	.06732	.09796	3.7087	1.5260	.06056	.15909
#3	.07949	.02717	.06717	.09701	3.7334	1.5333	.06018	.16033

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	.19641	10.501	.07282	.13175	.03280	.04048	.00593	.22276
Stddev	.00033	.058	.00009	.00018	.00008	.00004	.00006	.00006
%RSD	.16646	.55450	.11773	.13395	.25475	.09690	1.0469	.02651

#1	.19675	10.442	.07278	.13195	.03276	.04045	.00595	.22282
#2	.19639	10.503	.07276	.13167	.03290	.04052	.00598	.22274
#3	.19610	10.558	.07291	.13162	.03275	.04048	.00586	.22271

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	.07058	4.7261	.15017	.01302	.05095	.40129	.00027
Stddev	.00003	.0281	.00091	.00007	.00017	.00044	.00082
%RSD	.04266	.59437	.60399	.52297	.33145	.11086	309.23


#1	.07055	4.7011	.14950	.01309	.05093	.40179	-.00064
#2	.07061	4.7206	.14981	.01300	.05113	.40114	.00048
#3	.07058	4.7565	.15121	.01296	.05080	.40095	.00096

Approved: May 17, 2016

Sample Name: S4 Acquired: 5/16/2016 9:59:20 Type: Cal
Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: IR Corr. Factor: 1.000000
User: JYH Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	13791.	98209.	4580.2
Stddev	8.	362.	25.1
%RSD	.05611	.36876	.54753
#1	13797.	98413.	4574.3
#2	13783.	97791.	4558.7
#3	13795.	98423.	4607.8

Approved: May 17, 2016



Sample Name: ICV Acquired: 5/16/2016 10:02:59 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH 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	.39840	9.9336	.39479	.49045	.99777	.04916	9.9174	.04983
Stddev	.00162	.0174	.00380	.00134	.00388	.00015	.0245	.00020
%RSD	.40607	.17514	.96329	.27416	.38875	.31282	.24751	.39623

#1	.39655	9.9141	.39611	.48961	.99473	.04922	9.9078	.04967
#2	.39953	9.9474	.39776	.48974	1.0021	.04928	9.9453	.05005
#3	.39913	9.9394	.39050	.49200	.99644	.04899	9.8990	.04977

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20016	.49567	.49941	3.9597	49.825	1.0056	9.9890	.49728
Stddev	.00062	.00093	.00040	.0388	.049	.0010	.0380	.00205
%RSD	.31024	.18820	.08079	.97982	.09903	.10332	.38074	.41191

#1	.20080	.49501	.49985	3.9561	49.768	1.0052	9.9460	.49776
#2	.20013	.49526	.49931	3.9229	49.855	1.0048	10.002	.49905
#3	.19956	.49673	.49907	4.0002	49.851	1.0068	10.018	.49504

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.98625	49.861	.50258	9.8603	.49989	1.1980	.39804	5.0530
Stddev	.00443	.079	.00034	.0015	.00263	.0028	.00836	.0059
%RSD	.44892	.15809	.06844	.01530	.52525	.23659	2.0991	.11627

#1	.99129	49.856	.50231	9.8620	.50033	1.1986	.40766	5.0593
#2	.98299	49.942	.50246	9.8592	.49707	1.1949	.39388	5.0477
#3	.98446	49.785	.50297	9.8598	.50226	1.2005	.39258	5.0520

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Approved: May 17, 2016

Sample Name: ICV Acquired: 5/16/2016 10:02:59 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	1.0093	.99098	.99711	.50433	.98542	.99722	.96990
Stddev	.0027	.00216	.01044	.00165	.00386	.00098	.32651
%RSD	.27179	.21815	1.0473	.32763	.39143	.09832	33.665

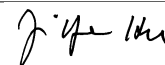
#1	1.0123	.98903	.98651	.50476	.98341	.99770	.59288
#2	1.0068	.99331	.99744	.50250	.98986	.99609	1.1567
#3	1.0088	.99059	1.0074	.50571	.98298	.99786	1.1601

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	14012.	100530.	4603.9
Stddev	15.	213.	31.7
%RSD	.10957	.21139	.68782

#1	14006.	100450.	4580.4
#2	14029.	100360.	4639.9
#3	14000.	100770.	4591.5

Approved: May 17, 2016



Sample Name: ICB Acquired: 5/16/2016 10:06:26 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00169	-0.00772	-0.00026	.00298	-0.00015	.00001	.00829	.00013
Stddev	.00022	.00678	.00093	.00170	.00042	.00004	.00533	.00012
%RSD	12.796	87.813	362.14	57.012	273.22	423.85	64.374	91.911

#1	-0.00184	-0.01522	.00077	.00494	-0.00038	.00001	.00745	.00026
#2	-0.00144	-0.00591	-0.00105	.00195	.00033	-0.00003	.00342	.00007
#3	-0.00179	-0.00203	-0.00049	.00204	-0.00042	.00005	.01399	.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	-0.00030	.00010	-0.00096	.00571	.11679	.00343	.05069	-0.00090
Stddev	.00013	.00020	.00157	.02937	.04356	.00286	.12054	.00433
%RSD	44.486	192.12	163.11	514.45	37.300	83.585	237.81	481.43

#1	-0.00038	.00015	-0.00276	.03698	.15244	.00018	.10819	.00353
#2	-0.00038	-0.00011	.00010	-.02130	.06823	.00453	.13171	-.00512
#3	-0.00015	.00028	-0.00022	.00145	.12970	.00558	-.08784	-.00110


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	.00392	.00948	.00001	-0.00046	.00060	-0.00020	-0.00097	.00388
Stddev	.00032	.01387	.00072	.00592	.00169	.00126	.00364	.00125
%RSD	8.2865	146.39	12812.	1298.7	281.31	643.33	375.56	32.232

#1	.00357	.00131	-0.00029	.00636	.00250	.00068	.00084	.00270
#2	.00422	.00163	-0.00052	-.00339	.00000	.00038	.00141	.00519
#3	.00395	.02550	.00083	-.00434	-.00071	-.00164	-.00515	.00376

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 17, 2016



Sample Name: ICB Acquired: 5/16/2016 10:06:26 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.0038	.00038	-0.0094	-0.0125	.00110	.00082	.03454
Stddev	.00025	.00013	.00383	.00372	.00116	.00007	.14179
%RSD	67.429	33.148	407.40	297.89	105.80	9.0451	410.54

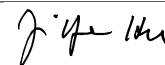
#1	-0.0016	.00051	.00290	.00268	.00101	.00077	.19745
#2	-0.0065	.00036	-0.0095	-0.0470	-0.0002	.00090	-.06107
#3	-0.0031	.00026	-0.0476	-0.0173	.00230	.00078	-.03276

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	14080.	101500.	4605.2
Stddev	45.	408.	13.6
%RSD	.31634	.40194	.29510

#1	14119.	101280.	4593.4
#2	14032.	101240.	4602.0
#3	14090.	101970.	4620.0

Approved: May 17, 2016



Sample Name: LLICV Acquired: 5/16/2016 10:10:25 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	.00776	.15484	.00805	.08137	.00793	.00159	.38047	.00100
Stddev	.00145	.00217	.00048	.00310	.00063	.00004	.02044	.00021
%RSD	18.644	1.4010	6.0002	3.8099	7.9277	2.6499	5.3718	20.964

#1	.00925	.15694	.00818	.08144	.00819	.00163	.40337	.00124
#2	.00636	.15497	.00751	.07823	.00839	.00156	.36408	.00095
#3	.00767	.15261	.00845	.08443	.00722	.00156	.37396	.00083

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	.00387	.00481	.00408	.08841	.90024	.08996	.46668	.00640
Stddev	.00022	.00009	.00131	.01026	.07148	.00098	.04667	.00271
%RSD	5.8020	1.9631	32.036	11.603	7.9400	1.0855	10.000	42.301

#1	.00361	.00492	.00411	.09991	.81924	.08884	.45360	.00432
#2	.00397	.00475	.00275	.08514	.95446	.09063	.42795	.00542
#3	.00403	.00475	.00536	.08019	.92702	.09040	.51849	.00947


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	.00858	.40363	.01651	.78613	.01013	.08301	.01569	.84964
Stddev	.00017	.01400	.00005	.00458	.00343	.00499	.00609	.00168
%RSD	1.9878	3.4688	.31329	.58298	33.800	6.0142	38.805	.19764

#1	.00839	.41845	.01654	.78885	.01402	.08871	.01037	.84959
#2	.00864	.39063	.01654	.78871	.00754	.07943	.02233	.85134
#3	.00871	.40181	.01645	.78084	.00884	.08088	.01436	.84798

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 17, 2016




Sample Name: LLICV Acquired: 5/16/2016 10:10:25 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	.40707	.04084	.02218	.15658	.00860	.01658	35.461
Stddev	.00221	.00023	.00111	.00326	.00042	.00017	.313
%RSD	.54337	.55228	5.0081	2.0845	4.9024	1.0400	.88283
#1	.40766	.04072	.02180	.15337	.00908	.01676	35.802
#2	.40893	.04070	.02131	.15990	.00845	.01654	35.395
#3	.40462	.04110	.02343	.15648	.00828	.01643	35.187

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	14131.	101750.	4613.6
Stddev	27.	642.	2.7
%RSD	.18812	.63061	.05824
#1	14104.	101020.	4612.8
#2	14131.	102190.	4611.4
#3	14157.	102060.	4616.6

Approved: May 17, 2016



Sample Name: LLICV Acquired: 5/16/2016 10:14:23 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000(
 User: JYH 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	.00678	.20524	.01137	.09969	.01000	.00202	.47096
Stddev	.00114	.00302	.00286	.00181	.00063	.00004	.00797
%RSD	16.826	1.4715	25.173	1.8143	6.3148	1.8186	1.6925

#1	.00557	.20356	.01157	.09769	.00993	.00198	.46593
#2	.00695	.20344	.01413	.10120	.01067	.00205	.48015
#3	.00783	.20873	.00841	.10019	.00941	.00202	.46679

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	.00114	.00507	.00472	.00511	.09896	1.0526	.10318
Stddev	.00014	.00015	.00093	.00062	.01635	.0241	.00257
%RSD	12.086	2.9763	19.731	12.090	16.520	2.2932	2.4954

#1	.00104	.00522	.00458	.00578	.08105	1.0652	.10123
#2	.00130	.00506	.00387	.00501	.10275	1.0679	.10610
#3	.00110	.00492	.00571	.00455	.11307	1.0248	.10221

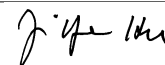
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.60583	.00991	.01004	.48914	.02065	.97481	.01116
Stddev	.07456	.00025	.00032	.02409	.00016	.01037	.00367
%RSD	12.307	2.5420	3.2283	4.9246	.76121	1.0639	32.881

#1	.68892	.01003	.01036	.49034	.02083	.98653	.00858
#2	.58380	.00962	.00971	.51261	.02053	.97106	.00954
#3	.54476	.01008	.01005	.46448	.02059	.96682	.01536

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016



Sample Name: LLICV Acquired: 5/16/2016 10:14:23 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.10079	.01822	1.0572	.50616	.05082	.02952	.19495
Stddev	.00251	.00753	.0050	.00084	.00023	.00573	.00098
%RSD	2.4864	41.320	.47013	.16586	.46161	19.392	.50439

#1	.10223	.02638	1.0626	.50712	.05060	.02451	.19388
#2	.09790	.01155	1.0530	.50580	.05107	.03576	.19518
#3	.10225	.01673	1.0558	.50555	.05078	.02830	.19580

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	.00960	.02049	F 46.403
Stddev	.00059	.00029	.557
%RSD	6.1825	1.4283	1.2008


#1	.00906	.02065	45.799
#2	.00951	.02066	46.515
#3	.01024	.02015	46.896

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	14124.	102080.	4614.9
Stddev	26.	221.	55.7
%RSD	.18519	.21625	1.2080

#1	14115.	101830.	4663.4
#2	14104.	102190.	4627.4
#3	14154.	102230.	4554.0

Approved: May 17, 2016



Sample Name: ICSA Acquired: 5/16/2016 10:18:22 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH 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	.00165	268.23	-0.0077	.02259	-0.00058	-0.00005	245.50
Stddev	.00101	.41	.00336	.00111	.00013	.00004	1.12
%RSD	61.344	.15155	439.64	4.9216	23.217	66.459	.45512

#1	.00235	268.06	-0.0344	.02171	-0.00043	-0.00009	244.22
#2	.00049	268.69	-0.0187	.02384	-0.00061	-0.00005	246.30
#3	.00211	267.93	.00301	.02221	-0.00070	-0.00002	245.97

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	.00073	-0.00145	-0.00105	-0.00332	97.859	.11549	.01861
Stddev	.00016	.00064	.00069	.00091	.658	.04460	.00184
%RSD	22.154	44.406	66.067	27.413	.67210	38.620	9.8936

#1	.00078	-0.00219	-0.00162	-0.00360	97.103	.16673	.01656
#2	.00054	-0.00103	-0.00028	-0.00231	98.301	.08532	.02012
#3	.00085	-0.00113	-0.00125	-0.00407	98.172	.09443	.01915


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	249.80	.00010	-0.00045	.01946	-0.00224	.05581	-0.00049
Stddev	1.66	.00070	.00043	.03468	.00115	.00154	.00133
%RSD	.66400	669.78	96.038	178.24	51.482	2.7585	270.98

#1	247.89	.00056	-0.00064	-.01980	-0.00356	.05670	-.00168
#2	250.61	.00045	-0.00076	.03224	-0.00143	.05403	.00095
#3	250.90	-0.00070	.00004	.04593	-0.00173	.05670	-0.00075

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016



Sample Name: ICSA Acquired: 5/16/2016 10:18:22 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.1098	-0.0535	.21854	-0.0018	.00016	.00595	-0.0240
Stddev	.00397	.00919	.00066	.00040	.00026	.00575	.00395
%RSD	36.120	171.61	.30034	221.76	160.65	96.655	164.31

#1	-0.1526	.00523	.21822	-0.0040	-0.0005	.01031	-0.0155
#2	-0.1024	-0.1132	.21929	.00028	.00045	-0.0057	.00105
#3	-0.00743	-0.00997	.21810	-0.00044	.00008	.00809	-0.00671

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	.00073	.00487	F -2.6844
Stddev	.00057	.00021	.1750
%RSD	77.232	4.3556	6.5184


#1	.00091	.00465	-2.7073
#2	.00118	.00507	-2.4991
#3	.00010	.00488	-2.8468

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	13244.	94674.	4528.2
Stddev	16.	37.	43.2
%RSD	.11922	.03893	.95506

#1	13255.	94716.	4575.8
#2	13226.	94660.	4517.7
#3	13252.	94646.	4491.2

Approved: May 17, 2016



Sample Name: ICSAB Acquired: 5/16/2016 10:22:17 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH 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	.53051	268.56	.24912	-.00003	.25003	.25387	242.68
Stddev	.00180	.19	.00532	.00322	.00128	.00033	.46
%RSD	.34022	.06898	2.1342	12839.	.51042	.12947	.18915

#1	.53216	268.77	.25397	-.00363	.25148	.25425	243.18
#2	.53080	268.43	.24997	.00099	.24907	.25369	242.28
#3	.52858	268.48	.24343	.00257	.24953	.25367	242.59

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	.51325	.23955	.24760	.24831	96.453	5.2995	.01420
Stddev	.00107	.00061	.00159	.00055	.237	.1183	.00336
%RSD	.20793	.25589	.64032	.22307	.24552	2.2331	23.687

#1	.51393	.23989	.24890	.24817	96.624	5.3622	.01540
#2	.51381	.23992	.24806	.24892	96.182	5.1630	.01040
#3	.51202	.23884	.24583	.24784	96.551	5.3732	.01680

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	246.38	.24793	-.00084	5.2291	.47979	.04733	.49534
Stddev	.80	.00347	.00070	.0171	.00141	.00709	.00146
%RSD	.32646	1.3979	83.476	.32664	.29451	14.972	.29559

#1	246.99	.24540	-.00141	5.2244	.47985	.04445	.49515
#2	245.47	.24650	-.00105	5.2150	.48117	.04214	.49689
#3	246.69	.25188	-.00006	5.2481	.47835	.05541	.49398

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016

Sample Name: ICSAB Acquired: 5/16/2016 10:22:17 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.49530	.24351	-.02075	-.00054	.00051	.00210	.45756
Stddev	.00471	.00443	.00250	.00061	.00013	.00149	.00372
%RSD	.95178	1.8189	12.052	112.58	25.451	70.697	.81307

#1	.50075	.24468	-.02112	-.00046	.00063	.00375	.45906
#2	.49268	.24723	-.01809	-.00119	.00053	.00085	.46030
#3	.49249	.23861	-.02305	.00002	.00037	.00170	.45333

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	.25677	.48794	F -3.0469
Stddev	.00128	.00116	.3892
%RSD	.49896	.23778	12.775

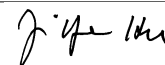
#1	.25679	.48774	-3.3196
#2	.25548	.48919	-3.2201
#3	.25804	.48690	-2.6011

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	13171.	93862.	4564.6
Stddev	12.	342.	30.9
%RSD	.09008	.36435	.67710

#1	13172.	93479.	4535.3
#2	13159.	94137.	4561.6
#3	13183.	93969.	4596.9

Approved: May 17, 2016



Sample Name: CCV Acquired: 5/16/2016 10:26:03 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000(
 User: JYH 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	.39917	10.005	.40022	.49694	1.0040	.05005	10.083
Stddev	.00174	.020	.00278	.00243	.0035	.00030	.012
%RSD	.43713	.20454	.69447	.48838	.34480	.59544	.12042

#1	.40097	10.023	.39792	.49416	1.0071	.05000	10.073
#2	.39906	10.010	.40331	.49800	1.0003	.05037	10.079
#3	.39748	9.9831	.39942	.49865	1.0046	.04978	10.096

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	.05023	.20200	.50110	.50580	4.0440	50.302	1.0070
Stddev	.00024	.00077	.00220	.00213	.0121	.090	.0032
%RSD	.48284	.38185	.43963	.42106	.29821	.17976	.31375

#1	.04995	.20254	.49871	.50391	4.0537	50.397	1.0100
#2	.05035	.20112	.50305	.50539	4.0478	50.217	1.0037
#3	.05038	.20235	.50154	.50811	4.0305	50.292	1.0074

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	10.198	.50392	1.0002	50.558	.50668	9.9743	.50880
Stddev	.069	.00374	.0021	.091	.00148	.0275	.00638
%RSD	.67587	.74179	.20568	.18011	.29172	.27579	1.2539

#1	10.122	.50012	1.0022	50.652	.50519	9.9536	.50500
#2	10.216	.50759	.99811	50.470	.50670	9.9638	.50523
#3	10.256	.50405	1.0002	50.551	.50815	10.006	.51617

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: May 17, 2016

Sample Name: CCV Acquired: 5/16/2016 10:26:03 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.1950	.40108	5.0470	1.0128	1.0066	1.0090	.50844
Stddev	.0055	.00458	.0100	.0023	.0014	.0058	.00245
%RSD	.46255	1.1422	.19898	.22319	.13982	.57076	.48250

#1	1.1899	.40507	5.0410	1.0135	1.0077	1.0037	.50891
#2	1.2009	.39608	5.0413	1.0102	1.0071	1.0082	.51063
#3	1.1944	.40210	5.0586	1.0145	1.0050	1.0152	.50579

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	.99408	1.0125	F 2.0790
Stddev	.00203	.0015	.3002
%RSD	.20378	.14474	14.437

#1	.99276	1.0122	2.4246
#2	.99641	1.0112	1.9292
#3	.99307	1.0141	1.8833

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	13878.	99317.	4552.5
Stddev	12.	338.	6.4
%RSD	.08578	.34067	.14088

#1	13892.	99595.	4545.5
#2	13871.	98941.	4553.9
#3	13871.	99416.	4558.1

Approved: May 17, 2016



Sample Name: CCB Acquired: 5/16/2016 10:29:41 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00170	.00100	.00284	.00061	-0.00046	.00002	-0.00292	.00005
Stddev	.00177	.00627	.00077	.00388	.00028	.00003	.01119	.00017
%RSD	103.54	628.60	27.258	635.37	60.323	125.53	383.52	361.28

#1	-0.00097	.00165	.00340	.00506	-0.00023	.00001	-.01517	-.00001
#2	-0.00043	.00691	.00317	-.00117	-0.00039	.00000	-.00031	-.00008
#3	-.00372	-.00557	.00196	-.00206	-.00077	.00006	.00674	.00024

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	-0.00022	-0.00018	.00006	.00640	.13314	.00243	-.00140	-.00281
Stddev	.00027	.00076	.00111	.00929	.02356	.00286	.05362	.00171
%RSD	124.01	425.08	1961.7	145.12	17.698	117.51	3843.4	60.710

#1	.00004	.00068	.00107	-.00431	.10880	.00436	-.00818	-.00360
#2	-.00020	-.00049	-.00113	.01233	.13477	.00379	-.05130	-.00085
#3	-.00050	-.00073	.00022	.01118	.15584	-.00085	.05530	-.00397


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	.00348	-.02307	-.00002	.00638	.00136	.00253	.00208	.00188
Stddev	.00046	.03493	.00084	.00222	.00396	.00206	.00399	.00077
%RSD	13.291	151.41	3879.4	34.798	290.55	81.465	192.31	41.039

#1	.00342	-.01871	-.00025	.00612	-.00262	.00338	.00617	.00104
#2	.00397	-.05999	-.00073	.00430	.00141	.00402	-.00181	.00203
#3	.00305	.00947	.00091	.00872	.00530	.00018	.00186	.00256

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 17, 2016



Sample Name: CCB Acquired: 5/16/2016 10:29:41 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.0023	-0.0011	-0.0168	.00058	.00109	.00015	-0.02230
Stddev	.00039	.00043	.00018	.00575	.00082	.00006	.31041
%RSD	164.51	400.04	10.845	992.60	75.119	36.748	1391.7

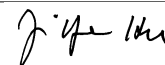
#1	.00003	-0.00057	-0.00153	.00199	.00131	.00021	.30404
#2	-0.00006	-0.00002	-0.00161	.00549	.00178	.00013	-.05710
#3	-0.00068	.00027	-0.00188	-.00574	.00018	.00011	-.31385

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	13993.	100980.	4579.4
Stddev	45.	185.	66.5
%RSD	.32060	.18350	1.4517

#1	13941.	101190.	4620.6
#2	14023.	100840.	4502.7
#3	14015.	100910.	4614.9

Approved: May 17, 2016



Sample Name: PBW 13 Acquired: 5/16/2016 10:33:42 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568333-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00203	-0.00754	-0.00013	-0.00015	-0.00009	.00002	-0.01094	-0.00009
Stddev	.00083	.00424	.00492	.00349	.00020	.00003	.02529	.00047
%RSD	41.025	56.278	3835.7	2256.1	226.92	115.36	231.11	500.25

#1	-0.00282	-0.00277	-0.00307	.00248	.00014	.00000	-0.01553	-0.00002
#2	-0.00116	-0.01089	.00556	.00117	-0.00024	.00001	.01633	-0.00059
#3	-0.00210	-0.00897	-0.00287	-0.00411	-0.00016	.00005	-0.03362	.00034

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	-0.00038	.00025	-0.00014	.01665	.11401	.00461	.01730	.00271
Stddev	.00008	.00051	.00075	.03536	.01701	.00079	.04798	.00049
%RSD	22.199	202.06	550.34	212.31	14.924	17.249	277.29	17.961

#1	-0.00048	-0.00033	.00073	-.02166	.10820	.00445	.05684	.00281
#2	-0.00033	.00055	-.00056	.04803	.10066	.00547	.03113	.00314
#3	-0.00033	.00053	-.00058	.02358	.13317	.00390	-.03607	.00218


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	.00096	.00402	-0.00058	-0.00822	-0.00035	-0.00147	.00100	-0.01247
Stddev	.00016	.00528	.00154	.00781	.00246	.00401	.00637	.00099
%RSD	16.901	131.41	265.31	94.927	700.93	273.55	636.03	7.9638

#1	.00107	.00395	-0.00010	-.01536	-.00231	-.00381	.00824	-.01243
#2	.00078	.00934	-.00230	.00011	.00242	.00317	-.00147	-.01149
#3	.00104	-.00123	.00066	-.00942	-.00116	-.00376	-.00376	-.01348

Check ? **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass**
 High Limit
 Low Limit

Approved: May 17, 2016



Sample Name: PBW 13 Acquired: 5/16/2016 10:33:42 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568333-02

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00107	.00046	-0.00338	-0.00306	.00077	.00093	-0.03417
Stddev	.00028	.00041	.00477	.00028	.00057	.00011	.11027
%RSD	26.116	87.471	141.03	9.1707	74.893	11.761	322.66

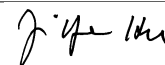
#1	-0.00086	.00000	.00037	-0.00282	.00109	.00099	.06949
#2	-0.00096	.00076	-0.00875	-0.00298	.00111	.00080	-.02198
#3	-0.00139	.00063	-0.00177	-0.00337	.00010	.00100	-.15003

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	13808.	100490.	4474.1
Stddev	6.	444.	16.8
%RSD	.04704	.44164	.37454

#1	13811.	100250.	4480.2
#2	13813.	101000.	4486.9
#3	13801.	100210.	4455.1

Approved: May 17, 2016



Sample Name: LCSW 13 Acquired: 5/16/2016 10:37:43 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568333-03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20395	5.0541	.19942	.98997	.51715	.02504	5.1435	.02547
Stddev	.00304	.0201	.00251	.00180	.00132	.00015	.0522	.00027
%RSD	1.4884	.39759	1.2583	.18213	.25594	.59161	1.0158	1.0481

#1	.20732	5.0675	.19703	.98938	.51868	.02518	5.1446	.02548
#2	.20143	5.0638	.19920	.98853	.51635	.02505	5.1952	.02574
#3	.20309	5.0310	.20203	.99199	.51642	.02488	5.0908	.02520

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	.10341	.25700	.25843	2.0829	26.031	.52337	5.1544	.25831
Stddev	.00058	.00149	.00053	.0198	.086	.00451	.1021	.00151
%RSD	.56395	.57856	.20490	.95213	.32898	.86201	1.9811	.58633

#1	.10409	.25856	.25881	2.0709	26.092	.52722	5.1334	.26002
#2	.10305	.25686	.25783	2.1058	26.067	.51840	5.0645	.25712
#3	.10311	.25559	.25866	2.0719	25.933	.52448	5.2654	.25780

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	.52034	26.048	.26223	4.9780	.26179	.61310	.19562	2.6374
Stddev	.00219	.036	.00027	.0094	.00263	.00482	.00504	.0105
%RSD	.42031	.13875	.10394	.18900	1.0032	.78667	2.5741	.39677

#1	.52193	26.029	.26224	4.9886	.26015	.61797	.19762	2.6448
#2	.51784	26.089	.26249	4.9745	.26482	.60833	.19935	2.6254
#3	.52124	26.024	.26195	4.9708	.26041	.61299	.18989	2.6420

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 17, 2016

Sample Name: LCSW 13 Acquired: 5/16/2016 10:37:43 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568333-03

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.51772	.51887	.51725	.25824	.51396	.51163	.56045
Stddev	.00128	.00097	.00968	.00180	.00085	.00067	.16050
%RSD	.24740	.18720	1.8705	.69877	.16632	.13146	28.637
#1	.51919	.51999	.50898	.25810	.51441	.51224	.72779
#2	.51710	.51837	.52789	.26011	.51450	.51091	.40780
#3	.51686	.51825	.51488	.25651	.51298	.51176	.54576

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	13798.	99072.	4568.5
Stddev	67.	350.	17.2
%RSD	.48247	.35372	.37650
#1	13739.	99151.	4556.6
#2	13870.	98689.	4560.7
#3	13783.	99376.	4588.2

Approved: May 17, 2016

Sample Name: F BLANK Acquired: 5/16/2016 10:46:17 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568186-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00204	.00248	.00100	.00180	.00011	.00006	-0.00576	.00029
Stddev	.00097	.00487	.00279	.00009	.00075	.00001	.04116	.00022
%RSD	47.592	196.39	280.47	4.9044	679.71	9.8625	714.84	76.296

#1	-0.00310	-0.00307	.00095	.00178	-0.00002	.00005	-0.03776	.00041
#2	-0.00182	.00605	-0.00177	.00190	.00091	.00006	.04067	.00042
#3	-0.00120	.00445	.00381	.00172	-0.00056	.00006	-0.02019	.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	-0.00013	.00126	.00017	.00875	.18724	.00380	.15340	-0.00008
Stddev	.00038	.00032	.00117	.00823	.06481	.00190	.04732	.00074
%RSD	279.23	25.535	677.65	94.041	34.615	49.916	30.849	929.52

#1	.00011	.00105	.00095	-0.00044	.20128	.00527	.09888	-0.00076
#2	-0.00057	.00164	-0.00118	.01543	.11656	.00448	.17742	-0.00018
#3	.00005	.00111	.00075	.01125	.24389	.00166	.18389	.00070


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	.00044	130.09	-0.00016	-0.00957	-0.00037	-0.00207	.00221	-0.01027
Stddev	.00040	.32	.00027	.00626	.00170	.00156	.00358	.00193
%RSD	92.452	.24450	170.40	65.369	460.74	75.118	162.32	18.815

#1	.00087	130.14	.00013	-0.01054	.00118	-0.00032	-0.00085	-0.01240
#2	.00038	130.38	-0.00041	-0.01529	-0.00220	-0.00262	.00133	-0.00864
#3	.00006	129.75	-0.00020	-0.00289	-0.00009	-0.00329	.00614	-0.00976

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 17, 2016



Sample Name: F BLANK Acquired: 5/16/2016 10:46:17 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568186-01

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0046	.00018	.00135	-0.0136	.00058	.00335	-0.0009
Stddev	.00082	.00020	.00429	.00048	.00015	.00020	.23823
%RSD	179.20	107.48	316.70	35.734	25.952	5.9730	260370.

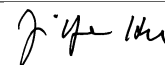
#1	-0.0078	.00028	-0.0062	-0.0191	.00071	.00322	-.13513
#2	.00047	.00031	.00627	-0.0113	.00042	.00326	-.14013
#3	-0.0107	-0.00004	-0.0159	-0.0103	.00062	.00359	.27498

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	13797.	99107.	4570.5
Stddev	30.	181.	58.1
%RSD	.21947	.18244	1.2703

#1	13763.	99065.	4521.0
#2	13820.	98950.	4556.1
#3	13808.	99305.	4634.4

Approved: May 17, 2016



Sample Name: F BLANK Acquired: 5/16/2016 10:50:16 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568186-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00319	-0.00465	-0.00171	.00425	.09279	-0.00003	.40990	.00020
Stddev	.00186	.00774	.00173	.00186	.00105	.00002	.00966	.00010
%RSD	58.439	166.46	100.98	43.787	1.1316	73.854	2.3557	50.367

#1	-0.00510	-0.00277	-0.00183	.00639	.09196	-0.00001	.40912	.00031
#2	-0.00138	-0.01315	-0.00337	.00307	.09397	-0.00002	.40067	.00012
#3	-0.00309	.00198	.00008	.00328	.09244	-0.00005	.41993	.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	-0.00043	.00019	.00003	.01054	.13305	.00688	.16709	-.00201
Stddev	.00030	.00026	.00083	.02562	.07264	.00230	.07657	.00376
%RSD	70.092	135.37	2373.7	242.97	54.601	33.415	45.826	187.40

#1	-0.00054	.00013	.00079	-.01875	.18234	.00601	.13036	-.00616
#2	-0.00065	.00048	.00016	.02873	.04962	.00949	.25510	.00116
#3	-0.00009	-0.00003	-0.00085	.02165	.16718	.00515	.11581	-.00102


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	.00002	1.7821	.00048	-.01121	-.00218	-.00220	.00297	-.00706
Stddev	.00048	.0030	.00007	.00244	.00175	.00200	.00571	.00111
%RSD	2127.7	.17051	14.255	21.753	80.396	91.190	192.39	15.680

#1	.00031	1.7810	.00041	-.01254	-.00021	-.00427	-.00283	-.00600
#2	-0.00053	1.7798	.00054	-.00840	-.00358	-.00204	.00859	-.00821
#3	.00029	1.7855	.00051	-.01269	-.00275	-.00028	.00315	-.00697

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 17, 2016



Sample Name: F BLANK Acquired: 5/16/2016 10:50:16 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568186-02

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00092	.08372	-0.00019	.00004	.00099	.00324	.23621
Stddev	.00064	.00100	.00043	.00314	.00040	.00010	.31679
%RSD	69.668	1.1986	230.43	8626.7	40.713	3.0224	134.11

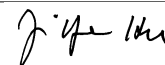
#1	-0.00145	.08256	.00000	-0.00012	.00059	.00324	.36467
#2	-0.00111	.08423	.00012	-0.00302	.00098	.00334	.46860
#3	-0.00021	.08436	-0.00068	.00325	.00140	.00315	-.12464

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	14208.	103600.	4683.1
Stddev	31.	223.	26.5
%RSD	.21851	.21528	.56596

#1	14236.	103430.	4658.5
#2	14175.	103510.	4711.1
#3	14215.	103850.	4679.6

Approved: May 17, 2016



Sample Name: L1605043405 Acquired: 5/16/2016 10:54:15 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568333-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0269	.01249	.00164	.26535	.03096	.00002	4.2344
Stddev	.00096	.00616	.00357	.00142	.00046	.00002	.0219
%RSD	35.761	49.286	217.44	.53339	1.5005	83.568	.51650

#1	-0.0165	.00952	.00154	.26420	.03078	.00000	4.2538
#2	-0.0355	.01956	-.00187	.26693	.03149	.00004	4.2107
#3	-.00286	.00838	.00526	.26492	.03062	.00002	4.2388

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	.00008	.00119	.00085	.00177	.10523	2.0745	.02357
Stddev	.00017	.00032	.00116	.00038	.02658	.0416	.00284
%RSD	219.13	26.536	136.73	21.652	25.263	2.0058	12.030

#1	.00008	.00085	.00165	.00205	.10711	2.1004	.02044
#2	-.00009	.00126	.00138	.00193	.07775	2.0966	.02431
#3	.00025	.00148	-.00048	.00133	.13082	2.0265	.02596


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	1.1016	.02268	.04080	F 462.14	.08284	.00556	.00161
Stddev	.0590	.00185	.00022	1.92	.00039	.00251	.00248
%RSD	5.3564	8.1607	.54775	.41623	.47236	45.166	154.13

#1	1.1386	.02258	.04104	462.87	.08312	.00266	.00271
#2	1.0335	.02088	.04076	463.60	.08239	.00712	-.00123
#3	1.1326	.02457	.04060	459.96	.08301	.00690	.00335

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: May 17, 2016



Sample Name: L1605043405 Acquired: 5/16/2016 10:54:15 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568333-01

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00219	-0.00168	1.9785	-0.00076	.27647	-0.00259	-0.00179
Stddev	.00205	.00576	.0021	.00100	.00100	.00391	.00265
%RSD	93.839	341.87	.10377	130.81	.36339	150.63	147.46

#1	.00018	-0.00219	1.9808	-0.00180	.27531	-0.00707	-0.00399
#2	-0.00347	-0.00717	1.9769	-0.00068	.27702	-0.00082	-0.00254
#3	-0.00327	.00431	1.9778	.00019	.27708	.00011	.00114

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	.00033	.00212	.46790
Stddev	.00095	.00009	.26482
%RSD	289.99	4.0925	56.598

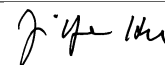
#1	.00077	.00206	.76564
#2	-0.00076	.00222	.25865
#3	.00097	.00209	.37942

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	13410.	94619.	4527.2
Stddev	28.	231.	24.7
%RSD	.20899	.24455	.54502

#1	13381.	94361.	4513.4
#2	13437.	94688.	4512.6
#3	13413.	94808.	4555.7

Approved: May 17, 2016



Sample Name: L1605043407S Acquired: 5/16/2016 10:58:13 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568333-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20246	5.0047	.20325	1.2622	.53403	.02517	9.2008
Stddev	.00343	.0111	.00488	.0022	.00198	.00002	.0263
%RSD	1.6920	.22143	2.4016	.17224	.37071	.08071	.28599

#1	.19920	4.9920	.20879	1.2617	.53175	.02518	9.1858
#2	.20603	5.0123	.20138	1.2603	.53524	.02517	9.1854
#3	.20215	5.0098	.19958	1.2646	.53511	.02515	9.2312

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	.02490	.10050	.24938	.24827	2.1040	27.625	.52470
Stddev	.00026	.00007	.00032	.00068	.0453	.079	.00141
%RSD	1.0475	.06848	.12799	.27192	2.1548	.28525	.26842

#1	.02464	.10057	.24928	.24754	2.1464	27.561	.52342
#2	.02516	.10043	.24912	.24839	2.1094	27.713	.52621
#3	.02491	.10050	.24974	.24888	2.0562	27.602	.52448

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	5.9081	.27155	.54963	F 484.22	.33067	5.0390	.24535
Stddev	.0233	.00260	.00126	.76	.00037	.0149	.00213
%RSD	.39431	.95612	.22972	.15764	.11304	.29567	.86773

#1	5.9188	.27234	.55050	484.47	.33103	5.0435	.24757
#2	5.8814	.26865	.54818	483.36	.33070	5.0224	.24514
#3	5.9241	.27366	.55020	484.82	.33028	5.0511	.24333

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: May 17, 2016

Sample Name: L1605043407S Acquired: 5/16/2016 10:58:13 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568333-04

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.60707	.19571	4.6101	.50064	.77567	.51105	.23786
Stddev	.00250	.01322	.0035	.00108	.00184	.00468	.00361
%RSD	.41143	6.7550	.07610	.21571	.23740	.91502	1.5193

#1	.60904	.19175	4.6083	.50106	.77389	.50570	.24059
#2	.60426	.21046	4.6141	.49942	.77555	.51438	.23376
#3	.60792	.18492	4.6078	.50145	.77756	.51306	.23924

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	.50642	.50653	.82055
Stddev	.00101	.00031	.22673
%RSD	.19958	.06188	27.631

#1	.50693	.50688	1.0080
#2	.50525	.50629	.88507
#3	.50707	.50643	.56856

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	13327.	94401.	4520.6
Stddev	10.	193.	38.2
%RSD	.07603	.20483	.84416

#1	13319.	94621.	4559.6
#2	13323.	94257.	4519.0
#3	13338.	94327.	4483.3

Approved: May 17, 2016



Sample Name: L1605043409SD Acquired: 5/16/2016 11:01:55 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568333-05

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20083	4.9526	.20145	1.2680	.52707	.02482	9.3036
Stddev	.00037	.0088	.00363	.0019	.00256	.00013	.0224
%RSD	.18262	.17796	1.8017	.14655	.48664	.51556	.24121
#1	.20105	4.9605	.20362	1.2682	.52757	.02492	9.2786
#2	.20041	4.9431	.19726	1.2660	.52936	.02488	9.3101
#3	.20104	4.9542	.20347	1.2697	.52430	.02468	9.3220

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	.02492	.09983	.24822	.24866	2.1112	27.422	.52339
Stddev	.00006	.00044	.00035	.00092	.0213	.159	.00102
%RSD	.24039	.43717	.14259	.36839	1.0069	.57841	.19418
#1	.02485	.09934	.24863	.24761	2.0866	27.333	.52431
#2	.02496	.09995	.24800	.24911	2.1237	27.606	.52355
#3	.02495	.10019	.24802	.24927	2.1231	27.328	.52230

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	5.8343	.26836	.54781	F 495.11	.33263	4.9841	.24237
Stddev	.1169	.00108	.00005	6.27	.00143	.0152	.00174
%RSD	2.0043	.40285	.00986	1.2660	.42964	.30425	.71588
#1	5.9384	.26772	.54775	501.15	.33134	4.9694	.24185
#2	5.7077	.26775	.54783	495.56	.33240	4.9997	.24096
#3	5.8567	.26960	.54785	488.64	.33417	4.9833	.24431

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: May 17, 2016

Sample Name: L1605043409SD Acquired: 5/16/2016 11:01:55 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568333-05

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.59998	.19949	4.6707	.49598	.78046	.49505	.23696
Stddev	.00021	.00769	.0069	.00243	.00597	.00576	.00166
%RSD	.03503	3.8523	.14662	.48896	.76470	1.1632	.70225

#1	.59981	.19649	4.6673	.49333	.78620	.49510	.23592
#2	.60021	.20822	4.6786	.49654	.78088	.50079	.23888
#3	.59991	.19376	4.6662	.49808	.77429	.48927	.23609

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	.50397	.50375	.77770
Stddev	.00127	.00114	.09770
%RSD	.25183	.22692	12.562

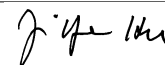
#1	.50321	.50251	.66579
#2	.50544	.50397	.82132
#3	.50327	.50476	.84598

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	13301.	94464.	4574.5
Stddev	18.	286.	42.2
%RSD	.13502	.30322	.92282

#1	13321.	94194.	4546.8
#2	13295.	94435.	4553.5
#3	13287.	94764.	4623.0

Approved: May 17, 2016



Sample Name: ~~L1506056503~~ Acquired: 5/16/2016 11:05:44 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00161	.01892	.00143	.03374	.00131	.00008	.19457	.00039
Stddev	.00147	.01059	.00496	.00274	.00084	.00008	.02901	.00016
%RSD	91.352	55.975	346.93	8.1356	64.178	95.952	14.911	40.024

#1	-0.0047	.01982	-.00275	.03598	.00055	.00016	.20354	.00032
#2	-0.0109	.00791	.00692	.03456	.00222	-.00000	.16213	.00028
#3	-.00328	.02902	.00013	.03068	.00116	.00009	.21803	.00057

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	-0.00002	-0.00035	.09353	.17020	.25514	.00300	.09409	.00681
Stddev	.00012	.00015	.00109	.00717	.02877	.00451	.04954	.00183
%RSD	492.96	42.396	1.1631	4.2154	11.275	150.12	52.655	26.785

#1	-0.0014	-0.00037	.09407	.17833	.28642	.00693	.06834	.00517
#2	-0.00004	-0.00019	.09228	.16750	.24920	-.00192	.15121	.00878
#3	.00010	-0.00049	.09425	.16477	.22981	.00401	.06273	.00649

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	.00094	115.21	-0.00017	.02764	.00648	-0.00114	.00258	5.7830
Stddev	.00035	.24	.00067	.00909	.00038	.00374	.00197	.0127
%RSD	37.332	.20518	399.08	32.897	5.8895	327.74	76.413	.21887

#1	.00109	114.94	-.00042	.02488	.00691	-.00218	.00033	5.7858
#2	.00054	115.36	.00059	.03779	.00633	-.00426	.00400	5.7939
#3	.00119	115.34	-.00068	.02024	.00619	.00301	.00342	5.7691

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: May 17, 2016

L1605056503

Sample Name: ~~L1506056503~~ Acquired: 5/16/2016 11:05:44 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.0030	.00127	.00194	-0.0029	.00036	.41058	1.3001
Stddev	.00059	.00044	.00373	.00113	.00059	.00091	.1368
%RSD	195.72	34.537	191.69	386.87	160.95	.22167	10.522

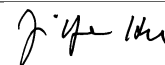
#1	.00017	.00140	-.00232	-.00063	.00093	.41122	1.4570
#2	-.00011	.00163	.00460	-.00121	.00040	.41098	1.2375
#3	-.00096	.00078	.00355	.00097	-.00024	.40954	1.2058

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	13842.	99155.	4583.9
Stddev	6.	287.	47.8
%RSD	.04578	.28926	1.0428

#1	13840.	98825.	4580.1
#2	13849.	99336.	4538.1
#3	13837.	99305.	4633.5

Approved: May 17, 2016



Sample Name: ~~L1506056503PS~~ Acquired: 5/16/2016 11:09:42 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568672-03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19658	4.9476	.20016	1.0152	.50895	.02507	5.2298	.02497
Stddev	.00064	.0216	.00264	.0012	.00200	.00005	.0210	.00027
%RSD	.32604	.43734	1.3185	.12236	.39375	.19879	.40094	1.0873
#1	.19716	4.9306	.20261	1.0145	.50672	.02508	5.2087	.02472
#2	.19589	4.9720	.20050	1.0144	.50950	.02510	5.2506	.02526
#3	.19669	4.9403	.19737	1.0166	.51061	.02501	5.2302	.02494


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	.10061	.24998	.33681	2.1661	25.844	.50671	5.0934	.26119
Stddev	.00046	.00022	.00202	.0124	.188	.00073	.0681	.00337
%RSD	.45460	.08763	.60012	.57041	.72558	.14505	1.3370	1.2895
#1	.10077	.24984	.33573	2.1531	25.628	.50587	5.0254	.25957
#2	.10098	.24987	.33914	2.1673	25.955	.50719	5.0932	.26507
#3	.10010	.25023	.33556	2.1777	25.950	.50708	5.1616	.25894

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	.50628	131.10	.25383	4.9713	.25705	.60828	.19217	7.8705
Stddev	.00162	.46	.00071	.0136	.00457	.00188	.00621	.0147
%RSD	.31931	.34747	.28098	.27389	1.7772	.30855	3.2321	.18733
#1	.50620	130.62	.25460	4.9623	.25712	.60613	.18984	7.8687
#2	.50794	131.53	.25369	4.9648	.26159	.60917	.18746	7.8860
#3	.50471	131.14	.25319	4.9870	.25246	.60955	.19921	7.8567

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Approved: May 17, 2016


L1605056503PS

Sample Name: L1506056503PS Acquired: 5/16/2016 11:09:42 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568672-03

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.50573	.51036	.51417	.24755	.49830	.87521	1.6730
Stddev	.00089	.00246	.00783	.00261	.00193	.00079	.3521
%RSD	.17685	.48224	1.5236	1.0557	.38826	.09029	21.048
#1	.50542	.50754	.51539	.25026	.49819	.87586	2.0690
#2	.50674	.51149	.52132	.24504	.50028	.87544	1.3952
#3	.50504	.51206	.50580	.24734	.49642	.87433	1.5548

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	13753.	98240.	4576.1
Stddev	28.	247.	47.5
%RSD	.20508	.25109	1.0376
#1	13741.	97960.	4599.2
#2	13785.	98423.	4521.5
#3	13733.	98339.	4607.6

Approved: May 17, 2016

Sample Name: ~~L1506056503SDL~~ Acquired: 5/16/2016 11:13:25 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: 5 Custom ID2: Custom ID3:
 Comment: WG568672-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00234	-0.00552	.00032	.00887	-0.00023	.00004	.01688	.00038
Stddev	.00074	.00680	.00339	.00155	.00008	.00001	.02477	.00016
%RSD	31.530	123.17	1049.9	17.491	35.972	35.288	146.79	40.926

#1	-0.00175	-0.00842	-0.00316	.00775	-0.00033	.00002	.03658	.00038
#2	-0.00317	.00225	.00051	.00822	-0.00020	.00005	.02498	.00054
#3	-0.00210	-0.01039	.00362	.01064	-0.00017	.00004	-0.01093	.00022

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	-0.00000	.00062	.01918	.05545	.20165	.00602	.08857	.00125
Stddev	.00066	.00094	.00118	.01336	.09820	.00310	.12766	.00287
%RSD	29394.	150.64	6.1348	24.101	48.695	51.540	144.13	229.70

#1	-0.00028	.00066	.01959	.04427	.11882	.00248	-.04041	.00428
#2	-0.00047	-.00034	.02010	.05184	.31012	.00732	.09126	.00088
#3	.00075	.00154	.01786	.07025	.17601	.00826	.21486	-.00142

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	.00054	23.123	-0.00091	.01017	.00184	-0.00297	.00168	1.1378
Stddev	.00010	.052	.00061	.00502	.00158	.00204	.00328	.0080
%RSD	18.358	.22590	67.325	49.388	85.758	68.771	195.59	.70783

#1	.00059	23.066	-0.00040	.01240	.00133	-.00503	.00537	1.1290
#2	.00059	23.169	-.00158	.01368	.00058	-.00295	-.00090	1.1395
#3	.00042	23.134	-.00074	.00442	.00362	-.00094	.00056	1.1448

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: May 17, 2016

L1605056503SDL

Sample Name: ~~L1506056503SDL~~ Acquired: 5/16/2016 11:13:25 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: 5 Custom ID2: Custom ID3:
 Comment: WG568672-04


Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0125	.00057	-0.00455	.00027	-0.00010	.08356	.32691
Stddev	.00123	.00053	.00296	.00165	.00136	.00075	.13464
%RSD	98.256	91.636	65.088	606.57	1350.7	.89989	41.188

#1	-0.0115	.00117	-0.00604	.00172	.00019	.08286	.17459
#2	-0.00253	.00040	-0.00114	-0.00153	-0.00158	.08345	.37604
#3	-0.00008	.00016	-0.00645	.00063	.00109	.08436	.43009

Check ?
 High Limit Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	14224.	102260.	4587.1
Stddev	28.	86.	41.6
%RSD	.19513	.08370	.90787

#1	14252.	102340.	4633.6
#2	14196.	102290.	4553.1
#3	14225.	102170.	4574.6

Approved: May 17, 2016


Sample Name: CCV Acquired: 5/16/2016 11:17:24 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH 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	.39282	9.8621	.39222	.49133	.98473	.04870	9.7520	.04930
Stddev	.00187	.0345	.00438	.00201	.00204	.00007	.0208	.00025
%RSD	.47573	.34995	1.1155	.40875	.20745	.13563	.21374	.50228

#1	.39460	9.8608	.39725	.49101	.98306	.04863	9.7282	.04921
#2	.39088	9.8283	.39005	.48951	.98701	.04872	9.7608	.04912
#3	.39300	9.8972	.38935	.49348	.98412	.04876	9.7670	.04959

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19961	.50030	.50095	3.9690	49.341	.99890	9.9878	.49477
Stddev	.00029	.00070	.00117	.0407	.086	.00764	.0570	.00465
%RSD	.14488	.14069	.23424	1.0248	.17532	.76468	.57063	.94008

#1	.19930	.49991	.50033	3.9221	49.252	.99081	10.024	.49362
#2	.19965	.49988	.50022	3.9946	49.425	1.0060	9.9221	.49989
#3	.19988	.50112	.50231	3.9904	49.346	.99989	10.017	.49080


Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.98252	49.824	.50299	9.8050	.50123	1.1734	.38050	4.9795
Stddev	.00477	.151	.00160	.0068	.00851	.0044	.00525	.0018
%RSD	.48525	.30388	.31836	.06934	1.6979	.37637	1.3790	.03688

#1	.98663	49.650	.50300	9.7994	.51005	1.1785	.38382	4.9775
#2	.98364	49.931	.50139	9.8031	.50059	1.1714	.37445	4.9798
#3	.97729	49.889	.50459	9.8126	.49306	1.1704	.38322	4.9811

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Approved: May 17, 2016



Sample Name: CCV Acquired: 5/16/2016 11:17:24 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	.99502	.98670	.98648	.50194	.98649	1.0003	.92448
Stddev	.00141	.00245	.00946	.00276	.00107	.0012	.37589
%RSD	.14130	.24833	.95910	.55006	.10831	.11874	40.659

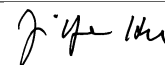
#1	.99543	.98392	.97556	.50048	.98687	1.0006	1.1797
#2	.99618	.98762	.99201	.50512	.98529	1.0013	.49283
#3	.99346	.98856	.99188	.50022	.98732	.99899	1.1009

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	13984.	99939.	4587.2
Stddev	18.	287.	60.2
%RSD	.12786	.28696	1.3132

#1	13978.	99871.	4639.4
#2	13970.	99693.	4521.3
#3	14004.	100250.	4600.8

Approved: May 17, 2016



Sample Name: CCB Acquired: 5/16/2016 11:21:02 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00148	-0.01131	.00218	.00401	.00014	.00007	-0.02541
Stddev	.00097	.01151	.00152	.00064	.00074	.00001	.01703
%RSD	65.472	101.72	69.605	15.926	539.83	14.040	67.022

#1	-0.00057	-0.01785	.00065	.00462	-0.00064	.00007	-.04311
#2	-0.00250	.00197	.00221	.00334	.00084	.00009	-.00915
#3	-0.00136	-0.01806	.00368	.00408	.00021	.00006	-.02395

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	.00000	-0.00001	-0.00039	-0.00073	.01717	.10970	.00442
Stddev	.00027	.00033	.00096	.00017	.00702	.08546	.00348
%RSD	6382.2	3337.9	249.50	23.001	40.878	77.906	78.676

#1	.00031	.00021	.00048	-0.00059	.00917	.20410	.00099
#2	-0.00009	.00015	-0.00142	-0.00091	.02229	.03760	.00795
#3	-0.00021	-0.00038	-0.00021	-0.00068	.02005	.08739	.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	-0.02342	.00117	.00362	.01965	.00003	.00516	-0.00382
Stddev	.12141	.00233	.00053	.01021	.00094	.00495	.00215
%RSD	518.46	199.07	14.641	51.991	3052.0	95.997	56.224

#1	-.12188	-0.00059	.00344	.03118	.00059	.00452	-.00576
#2	-.06060	.00029	.00422	.01173	.00056	.01040	-.00151
#3	.11223	.00381	.00321	.01604	-0.00106	.00056	-.00420

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016

Sample Name: CCB Acquired: 5/16/2016 11:21:02 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00129	.00063	.00095	-0.00010	.00029	.00308	-0.00118
Stddev	.00478	.01037	.00059	.00028	.00017	.00608	.00210
%RSD	371.31	1645.8	61.720	285.44	59.554	197.38	178.47

#1	.00089	-.00858	.00029	.00009	.00037	.00610	-.00352
#2	-.00328	.01186	.00142	-.00042	.00041	.00706	-.00056
#3	.00625	-.00139	.00114	.00004	.00009	-.00392	.00055

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	-0.00014	-0.00008	F .36785
Stddev	.00004	.00008	.12082
%RSD	28.962	107.44	32.843

#1	-0.00016	-0.00018	.50626
#2	-0.00010	-0.00004	.31380
#3	-0.00017	-0.00002	.28350

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	14090.	101880.	4586.8
Stddev	20.	199.	28.5
%RSD	.14128	.19579	.62228

#1	14069.	101660.	4574.9
#2	14091.	102020.	4566.1
#3	14109.	101970.	4619.4

Approved: May 17, 2016



Sample Name: L1605042705 Acquired: 5/16/2016 11:25:02 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00329	.02509	.00101	.01192	.00131	-0.00008	.25520
Stddev	.00079	.00463	.00117	.00122	.00087	.00006	.04261
%RSD	24.116	18.463	115.59	10.238	66.161	75.001	16.697

#1	-0.00291	.01998	.00124	.01252	.00031	-0.00005	.30354
#2	-0.00420	.02901	.00204	.01051	.00173	-0.00004	.22310
#3	-0.00275	.02628	-0.00026	.01272	.00189	-0.00014	.23896

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	F -0.00091	.00052	.01797	F 232.39	3.2215	.39632	-0.00028
Stddev	.00021	.00033	.00111	1.39	.0309	.11453	.00325
%RSD	22.797	63.919	6.1657	.59866	.95812	28.899	1161.7

#1	-0.00080	.00083	.01837	230.84	3.1880	.27141	-0.00251
#2	-0.00078	.00017	.01672	232.80	3.2489	.49641	.00345
#3	-0.00115	.00055	.01882	233.54	3.2276	.42115	-0.00178


Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit	4.5000			180.00			
Low Limit	-0.00050			-0.00500			

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.08679	.03311	.00137	1.7019	.01611	^ *****	.05542
Stddev	.06986	.00299	.00001	.0112	.00124	----	.00793
%RSD	80.500	9.0321	.38224	.65827	7.6774	----	14.310

#1	.08530	.03581	.00137	1.6916	.01482	^ ----	.06456
#2	.01768	.03361	.00138	1.7139	.01623	^ ----	.05135
#3	.15739	.02990	.00137	1.7002	.01728	^ ----	.05036

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016



Sample Name: L1605042705 Acquired: 5/16/2016 11:25:02 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	.00022	-.00625	.14991	-.00003	.00140	.00755	.00198
Stddev	.00310	.00550	.00272	.00027	.00024	.00534	.00431
%RSD	1406.9	88.044	1.8170	943.95	16.803	70.673	217.26

#1	-.00173	-.00715	.15304	.00028	.00165	.01008	-.00294
#2	.00380	-.00036	.14813	-.00023	.00119	.01116	.00386
#3	-.00140	-.01126	.14855	-.00013	.00136	.00142	.00503

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	.00010	.03030	.64004
Stddev	.00160	.00030	.28875
%RSD	1559.5	.98955	45.114

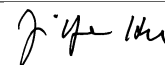
#1	.00191	.03023	.35810
#2	-.00046	.03004	.62687
#3	-.00114	.03063	.93514

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	14003.	101790.	4524.9
Stddev	32.	169.	40.4
%RSD	.22617	.16564	.89356

#1	14032.	101620.	4569.7
#2	14009.	101960.	4491.3
#3	13969.	101780.	4513.6

Approved: May 17, 2016



Sample Name: L1605042701 Acquired: 5/16/2016 11:29:09 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00190	.10065	.00036	.06333	.06586	.00019	.94651	.00077
Stddev	.00143	.00915	.00329	.00099	.00060	.00008	.01630	.00022
%RSD	74.889	9.0951	909.59	1.5644	.91642	43.177	1.7223	28.036

#1	-0.00036	.09048	.00345	.06409	.06655	.00010	.92770	.00074
#2	-0.00217	.10822	-.00310	.06369	.06561	.00024	.95528	.00058
#3	-0.00318	.10326	.00073	.06221	.06542	.00024	.95656	.00101

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	.00070	.00135	.02111	.04785	.25187	.01136	.19765	.03612
Stddev	.00035	.00056	.00445	.01304	.05389	.00334	.12531	.00287
%RSD	50.687	41.909	21.089	27.244	21.395	29.409	63.400	7.9364

#1	.00095	.00196	.02569	.03509	.28219	.00947	.25483	.03916
#2	.00029	.00123	.01680	.04730	.28378	.01522	.05395	.03347
#3	.00086	.00085	.02084	.06115	.18966	.00940	.28418	.03571


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	.00041	134.31	.00100	-.00349	-.00035	-.00261	.00298	.14698
Stddev	.00007	.41	.00016	.00497	.00154	.00570	.00278	.00366
%RSD	18.225	.30641	16.185	142.43	446.45	218.68	93.485	2.4884

#1	.00049	133.83	.00117	-.00363	.00064	.00214	.00032	.14754
#2	.00035	134.55	.00100	.00155	-.00212	-.00892	.00274	.15032
#3	.00039	134.54	.00084	-.00839	.00045	-.00104	.00587	.14307

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 17, 2016



Sample Name: L1605042701 Acquired: 5/16/2016 11:29:09 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	.12330	-0.00140	-0.00153	.00085	.09527	1.7966
Stddev	.00019	.00053	.00119	.00197	.00036	.00120	.5924
%RSD	124.19	.43166	85.388	129.10	42.248	1.2549	32.971


#1	-0.0018	.12279	-0.00056	.00015	.00048	.09632	1.9409
#2	.00005	.12385	-0.00087	-0.00370	.00120	.09552	2.3034
#3	-0.00033	.12325	-0.00276	-0.00104	.00088	.09397	1.1454

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	13792.	98690.	4568.3
Stddev	13.	257.	17.4
%RSD	.09587	.26083	.38152

#1	13801.	98491.	4576.6
#2	13798.	98981.	4580.0
#3	13777.	98597.	4548.2

Approved: May 17, 2016



Sample Name: L1605042702 Acquired: 5/16/2016 11:33:07 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH 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	-0.0117	.02893	-0.0170	.08910	.00949	.00002	.62040
Stddev	.00058	.01322	.00473	.00102	.00081	.00006	.02985
%RSD	49.756	45.705	278.82	1.1493	8.5286	326.98	4.8122

#1	-0.0146	.03953	.00350	.09024	.00909	.00008	.65464
#2	-0.0050	.03315	-0.0285	.08825	.01042	-0.0003	.59979
#3	-0.0154	.01411	-0.0574	.08880	.00895	-0.0000	.60678

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	.00038	.00208	.03003	.01524	.03376	9.0390	.00130
Stddev	.00005	.00045	.00059	.00050	.01237	.0458	.00483
%RSD	14.386	21.690	1.9509	3.2897	36.635	.50668	370.92

#1	.00043	.00181	.02954	.01466	.02169	9.0854	-.00295
#2	.00032	.00261	.02988	.01557	.04640	8.9938	.00654
#3	.00039	.00184	.03068	.01547	.03318	9.0378	.00031

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	.04509	.00823	.00589	F 2339.0	-.00311	.86868	.00253
Stddev	.04456	.00183	.00033	92.6	.00095	.00527	.00412
%RSD	98.832	22.266	5.5786	3.9600	30.536	.60724	162.83

#1	.02259	.00761	.00566	2445.4	-.00303	.87075	-.00124
#2	.01627	.00678	.00574	2295.0	-.00220	.87262	.00190
#3	.09642	.01029	.00626	2276.5	-.00409	.86269	.00692

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: May 17, 2016

Sample Name: L1605042702 Acquired: 5/16/2016 11:33:07 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0015	.00399	F 67.351	.01772	.00087	.61602	-0.00304
Stddev	.00419	.00920	1.181	.00034	.00017	.00216	.00158
%RSD	2760.7	230.63	1.7540	1.9088	19.503	.35063	51.961

#1	.00402	.01431	68.160	.01802	.00085	.61667	-.00124
#2	-.00436	.00099	67.897	.01735	.00071	.61361	-.00372
#3	-.00012	-.00334	65.995	.01778	.00105	.61778	-.00417

Check ?	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit			36.000				
Low Limit			-1.0000				

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.10786	.00709	1.0561
Stddev	.00086	.00017	.0492
%RSD	.79621	2.3329	4.6559

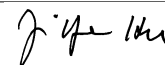
#1	.10695	.00728	1.0905
#2	.10865	.00699	.99976
#3	.10799	.00699	1.0780

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	12723.	88177.	4668.6
Stddev	13.	111.	15.9
%RSD	.10161	.12606	.34034

#1	12737.	88050.	4655.5
#2	12711.	88227.	4664.0
#3	12722.	88254.	4686.2

Approved: May 17, 2016



Sample Name: L1605042703 Acquired: 5/16/2016 11:37:14 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00160	.02093	-0.00106	.08455	.03086	.00004	2.1296
Stddev	.00137	.00473	.00243	.00229	.00027	.00006	.0486
%RSD	85.298	22.577	230.15	2.7042	.88598	159.16	2.2836

#1	-0.00286	.02433	.00083	.08640	.03063	.00004	2.1854
#2	-0.00181	.01554	-0.00380	.08525	.03116	.00010	2.0964
#3	-0.00014	.02293	-0.00020	.08199	.03080	-0.00002	2.1069

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	.00018	.00035	.01270	.17369	2.8167	.39542	.00576
Stddev	.00003	.00062	.00069	.00117	.0413	.07572	.00170
%RSD	19.052	175.48	5.4226	.67442	1.4670	19.148	29.501

#1	.00020	.00050	.01325	.17242	2.7722	.41914	.00489
#2	.00014	-.00032	.01294	.17474	2.8539	.31069	.00468
#3	.00020	.00088	.01193	.17392	2.8242	.45644	.00772

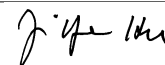
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.30741	.04138	-0.00027	131.45	.02502	-0.01306	.00317
Stddev	.02690	.00242	.00025	.16	.00120	.00256	.00159
%RSD	8.7488	5.8524	92.217	.12277	4.7815	19.579	50.000

#1	.27695	.04310	-0.00000	131.32	.02638	-0.01238	.00470
#2	.31742	.04242	-0.00050	131.40	.02450	-0.01091	.00329
#3	.32787	.03861	-0.00031	131.63	.02417	-0.01589	.00153

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016



Sample Name: L1605042703 Acquired: 5/16/2016 11:37:14 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00119	-.00328	.21790	-.00127	.00521	.00388	-.00149
Stddev	.00320	.00448	.00525	.00099	.00046	.00260	.00231
%RSD	268.15	136.35	2.4088	77.882	8.9006	66.972	154.66

#1	-0.0026	-.00754	.21235	-.00067	.00480	.00607	-.00013
#2	-.00102	.00138	.21858	-.00241	.00571	.00454	-.00416
#3	.00486	-.00368	.22278	-.00073	.00512	.00101	-.00019

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	.00067	.13907	F -.05337
Stddev	.00169	.00059	.47004
%RSD	251.79	.42566	880.79

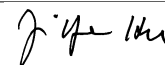
#1	-0.0067	.13910	.48500
#2	.00257	.13965	-.38225
#3	.00012	.13847	-.26284

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	13729.	98661.	4548.0
Stddev	3.	482.	40.3
%RSD	.02327	.48858	.88713

#1	13732.	98323.	4507.1
#2	13726.	99213.	4549.1
#3	13731.	98447.	4587.8

Approved: May 17, 2016



Sample Name: L1605042704 Acquired: 5/16/2016 11:41:11 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	.00008	.00243	.00568	.01246	-0.00009	.22042	.00565
Stddev	.00094	.00251	.00172	.00100	.00015	.00005	.01323	.00012
%RSD	119.89	2975.6	70.809	17.592	1.1866	56.403	6.0017	2.0746

#1	-0.00165	-0.00018	.00407	.00495	.01260	-0.00009	.21160	.00577
#2	.00021	.00272	.00258	.00527	.01230	-0.00013	.21404	.00554
#3	-0.00091	-0.00229	.00064	.00682	.01248	-0.00004	.23563	.00565

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	-0.00019	.00228	.01516	.04563	.10605	-0.00053	.07985	-.00120
Stddev	.00005	.00067	.00052	.00387	.06827	.00087	.03763	.00134
%RSD	26.790	29.474	3.4465	8.4889	64.378	162.92	47.123	111.41

#1	-0.00019	.00167	.01507	.04387	.04058	-0.00123	.03775	-.00185
#2	-0.00013	.00216	.01572	.04295	.17682	.00044	.09158	-.00210
#3	-0.00023	.00300	.01468	.05007	.10076	-0.00080	.11021	.00034


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	.00053	9.1488	.00271	21.511	.38954	.02096	.01642	6.4978
Stddev	.00026	.0147	.00066	.095	.00262	.00222	.00331	.0247
%RSD	49.297	.16066	24.553	.44074	.67192	10.575	20.133	.38072

#1	.00075	9.1547	.00194	21.555	.39255	.01877	.02020	6.5121
#2	.00060	9.1321	.00300	21.577	.38826	.02321	.01408	6.5120
#3	.00024	9.1597	.00317	21.403	.38781	.02090	.01499	6.4692

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: May 17, 2016



Sample Name: L1605042704 Acquired: 5/16/2016 11:41:11 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	2.0717	.00058	.00510	-.00473	-.00034	.06151	1.4122
Stddev	.0127	.00022	.00463	.00124	.00036	.00023	.0929
%RSD	.61179	37.565	90.696	26.321	106.47	.37446	6.5793

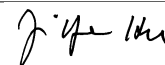
#1	2.0809	.00036	.00679	-.00579	-.00075	.06148	1.3175
#2	2.0771	.00058	-.00013	-.00336	-.00019	.06176	1.4159
#3	2.0573	.00079	.00865	-.00503	-.00008	.06130	1.5032

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	16396.	121830.	5864.6
Stddev	30.	130.	12.4
%RSD	.18404	.10656	.21125

#1	16429.	121690.	5878.1
#2	16390.	121840.	5853.8
#3	16370.	121950.	5861.9

Approved: May 17, 2016



Sample Name: CCV Acquired: 5/16/2016 11:45:07 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000(
 User: JYH 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	.39479	9.8075	.39675	.49334	.98761	.04885	9.7591
Stddev	.00061	.0042	.00445	.00284	.00222	.00008	.0183
%RSD	.15538	.04308	1.1207	.57576	.22432	.16264	.18708

#1	.39534	9.8037	.39167	.49383	.99010	.04894	9.7383
#2	.39413	9.8067	.39869	.49029	.98687	.04884	9.7665
#3	.39491	9.8121	.39990	.49591	.98586	.04878	9.7724

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	.04912	.20075	.49708	.51231	3.9885	49.393	.98846
Stddev	.00005	.00037	.00117	.00179	.0398	.047	.00243
%RSD	.10304	.18429	.23487	.34880	.99913	.09580	.24617

#1	.04917	.20101	.49843	.51420	4.0320	49.447	.98674
#2	.04907	.20033	.49641	.51210	3.9795	49.364	.98739
#3	.04911	.20092	.49640	.51064	3.9538	49.367	.99124

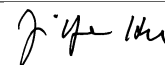
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.8153	.49435	.98363	49.874	.50768	9.9674	.50537
Stddev	.0485	.00493	.00489	.034	.00070	.0168	.00267
%RSD	.49357	.99724	.49677	.06831	.13738	.16885	.52787

#1	9.8697	.48898	.98889	49.905	.50846	9.9780	.50684
#2	9.7768	.49867	.98276	49.837	.50745	9.9763	.50697
#3	9.7995	.49539	.97923	49.880	.50712	9.9480	.50229

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: May 17, 2016



Sample Name: CCV Acquired: 5/16/2016 11:45:07 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.1933	.39149	5.0578	.99770	.99102	.99063	.50125
Stddev	.0041	.00464	.0060	.00070	.00177	.00594	.00317
%RSD	.34593	1.1856	.11952	.07006	.17884	.59945	.63221

#1	1.1887	.38754	5.0619	.99768	.99267	.98709	.50477
#2	1.1968	.39032	5.0508	.99701	.98914	.98732	.50037
#3	1.1943	.39660	5.0606	.99840	.99124	.99749	.49862

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	.98197	1.0001	F 1.1151
Stddev	.00095	.0008	.3160
%RSD	.09654	.08431	28.337

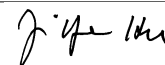
#1	.98283	.99914	1.3895
#2	.98212	1.0008	1.1863
#3	.98095	1.0003	.76961

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	15012.	107860.	5074.1
Stddev	31.	54.	7.4
%RSD	.20727	.05019	.14518

#1	15041.	107830.	5082.0
#2	15016.	107920.	5072.8
#3	14979.	107830.	5067.5

Approved: May 17, 2016



Sample Name: CCB Acquired: 5/16/2016 11:48:45 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00377	-0.00695	.00046	.00064	-0.00038	.00009	-.02261
Stddev	.00128	.00060	.00209	.00071	.00029	.00001	.02166
%RSD	34.047	8.7077	450.28	111.14	77.363	11.737	95.789

#1	-0.00462	-0.00722	.00215	.00058	-0.00043	.00010	.00229
#2	-0.00230	-0.00625	-0.00187	.00137	-0.00007	.00008	-.03305
#3	-0.00440	-0.00737	.00111	-.00004	-0.00065	.00010	-.03707

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	-0.00026	-0.00037	.00226	.01346	.08768	.00066
Stddev	.00016	.00006	.00045	.00024	.01047	.10651	.00076
%RSD	432.76	21.107	121.20	10.534	77.782	121.48	115.19

#1	.00014	-0.00032	.00004	.00208	.01101	.20019	.00121
#2	-0.00008	-0.00024	-0.00086	.00216	.02494	-.01160	-.00021
#3	-0.00017	-0.00022	-0.00031	.00253	.00443	.07446	.00098


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	.05397	-0.00067	.00351	.15460	-0.00055	F .01164	.00020
Stddev	.08861	.00206	.00020	.01518	.00019	.01529	.00109
%RSD	164.19	305.74	5.7529	9.8187	35.171	131.35	541.62

#1	.06999	-0.00292	.00328	.16281	-0.00072	.01166	-.00010
#2	-.04156	.00112	.00363	.16390	-0.00059	.02692	-.00071
#3	.13347	-0.00022	.00363	.13708	-0.00034	-.00366	.00141

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						.01000	
Low Limit						-.01000	

Approved: May 17, 2016



Sample Name: CCB Acquired: 5/16/2016 11:48:45 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00274	.00296	.00375	.00012	.00051	-.00009	.00077
Stddev	.00263	.00429	.00029	.00052	.00030	.00399	.00216
%RSD	96.107	144.87	7.6781	448.03	59.189	4401.5	282.04

#1	-.00030	.00769	.00355	.00010	.00050	.00389	.00030
#2	.00424	-.00069	.00362	-.00040	.00021	-.00008	-.00112
#3	.00427	.00189	.00408	.00065	.00081	-.00408	.00312

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	.00069	.00033	F -.23252
Stddev	.00041	.00001	.40761
%RSD	59.782	2.8505	175.30

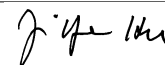
#1	.00052	.00034	.07047
#2	.00038	.00032	-.07211
#3	.00115	.00034	-.69593

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	15018.	109540.	4988.9
Stddev	55.	155.	13.9
%RSD	.36474	.14186	.27822

#1	15080.	109430.	4991.7
#2	15002.	109720.	5001.2
#3	14974.	109470.	4973.8

Approved: May 17, 2016



Sample Name: LLCCV Acquired: 5/16/2016 11:52:46 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH 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	.00686	.14485	.00846	.07786	.00786	.00161	.37232	.00114
Stddev	.00162	.00392	.00209	.00047	.00068	.00009	.01390	.00009
%RSD	23.636	2.7038	24.757	.60857	8.6621	5.3940	3.7335	8.0998

#1	.00552	.14930	.01076	.07830	.00722	.00160	.36232	.00108
#2	.00866	.14334	.00667	.07736	.00777	.00170	.38820	.00110
#3	.00638	.14191	.00795	.07792	.00858	.00153	.36646	.00125

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	.00393	.00405	.00477	.10908	.93626	.08149	.51954	.00786
Stddev	.00042	.00040	.00105	.01701	.01839	.00297	.04637	.00084
%RSD	10.604	9.7588	21.981	15.591	1.9640	3.6451	8.9249	10.734

#1	.00346	.00445	.00596	.12131	.93899	.07919	.50051	.00826
#2	.00427	.00405	.00437	.11627	.91666	.08044	.57239	.00843
#3	.00405	.00366	.00399	.08966	.95313	.08485	.48571	.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	.00853	.45048	.01555	.78529	.00621	.08630	.01955	.84089
Stddev	.00020	.01860	.00018	.00037	.00097	.00044	.00704	.00049
%RSD	2.3619	4.1286	1.1844	.04730	15.562	.50565	36.016	.05854

#1	.00833	.44339	.01568	.78570	.00731	.08596	.01467	.84033
#2	.00874	.43647	.01534	.78500	.00550	.08614	.02762	.84106
#3	.00852	.47158	.01562	.78516	.00581	.08679	.01635	.84127

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 17, 2016




Sample Name: LLCCV Acquired: 5/16/2016 11:52:46 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	.40310	.03956	.02434	.15494	.00766	.01671	35.012
Stddev	.00129	.00053	.00031	.00412	.00089	.00007	.179
%RSD	.31909	1.3500	1.2891	2.6601	11.619	.41379	.51262
#1	.40303	.03894	.02449	.15788	.00843	.01668	35.207
#2	.40442	.03985	.02455	.15023	.00787	.01679	34.974
#3	.40185	.03988	.02398	.15672	.00669	.01667	34.854

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	14387.	105060.	4791.6
Stddev	49.	232.	12.1
%RSD	.34170	.22100	.25332
#1	14443.	105320.	4795.8
#2	14358.	104890.	4777.9
#3	14359.	104960.	4801.1

Approved: May 17, 2016



Sample Name: LLCCV Acquired: 5/16/2016 11:56:44 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH 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	.00751	.19516	.01103	.09909	.01058	.00203	.48547
Stddev	.00103	.00186	.00216	.00136	.00069	.00003	.00814
%RSD	13.659	.95196	19.604	1.3772	6.5453	1.3550	1.6769

#1	.00677	.19318	.01335	.09822	.01130	.00203	.47977
#2	.00707	.19545	.01065	.09838	.00992	.00205	.48184
#3	.00868	.19686	.00908	.10066	.01052	.00200	.49479

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	.00114	.00514	.00530	.00514	.10672	1.1169	.10926
Stddev	.00028	.00028	.00115	.00125	.01885	.0657	.00270
%RSD	24.689	5.4387	21.668	24.343	17.658	5.8864	2.4718

#1	.00132	.00509	.00589	.00410	.11514	1.1492	.10940
#2	.00082	.00543	.00604	.00480	.11990	1.1602	.10649
#3	.00130	.00488	.00398	.00653	.08514	1.0412	.11188

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	.59805	.00988	.00970	.52164	.02125	.98402	.01204
Stddev	.07529	.00202	.00035	.02170	.00076	.00341	.00188
%RSD	12.589	20.489	3.6000	4.1596	3.5875	.34668	15.605

#1	.51894	.01085	.00955	.53074	.02048	.98016	.01085
#2	.66882	.01123	.01010	.49687	.02126	.98528	.01421
#3	.60641	.00755	.00945	.53730	.02201	.98662	.01107

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016

Sample Name: LLCCV Acquired: 5/16/2016 11:56:44 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.10599	.02024	1.0603	.50759	.05002	.03005	.19505
Stddev	.00229	.00681	.0019	.00042	.00037	.00491	.00017
%RSD	2.1634	33.651	.17653	.08301	.73849	16.341	.08640

#1	.10833	.02652	1.0625	.50747	.04991	.02530	.19486
#2	.10375	.01300	1.0592	.50807	.04973	.02974	.19516
#3	.10589	.02119	1.0592	.50725	.05044	.03510	.19513

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	.00980	.02115	F 46.799
Stddev	.00145	.00021	.302
%RSD	14.829	.96938	.64531


#1	.00852	.02098	46.514
#2	.00949	.02138	46.767
#3	.01138	.02109	47.115

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	14056.	102320.	4565.5
Stddev	45.	129.	14.7
%RSD	.32176	.12623	.32306

#1	14106.	102450.	4577.0
#2	14046.	102190.	4570.7
#3	14018.	102320.	4548.9

Approved: May 17, 2016



Sample Name: PBW XT Acquired: 5/16/2016 12:00:42 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567310-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00382	-0.01553	-0.00127	.00002	.00008	.00007	-0.01895
Stddev	.00116	.00180	.00126	.00133	.00098	.00008	.01814
%RSD	30.257	11.564	99.207	6164.3	1267.8	108.77	95.735

#1	-0.00250	-0.01346	-0.00044	.00036	.00035	-0.00002	-0.03391
#2	-0.00465	-0.01663	-0.00065	-0.00145	-0.00101	.00011	.00123
#3	-0.00431	-0.01651	-0.00271	.00116	.00090	.00013	-0.02419

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	.00018	-0.00006	.00068	-0.00144	.01622	.16426	.00732
Stddev	.00029	.00029	.00060	.00077	.01795	.05668	.00200
%RSD	159.40	458.26	87.764	53.087	110.69	34.507	27.359

#1	.00004	-0.00007	.00035	-0.00057	.00760	.20297	.00963
#2	-0.00001	-0.00035	.00137	-0.00198	.03685	.09920	.00635
#3	.00051	.00023	.00032	-0.00179	.00420	.19062	.00599

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	.06555	-0.00010	.00034	-0.01887	-0.00048	-0.00765	-0.00075
Stddev	.16043	.00181	.00013	.01589	.00114	.00657	.00066
%RSD	244.75	1837.5	37.046	84.216	236.90	85.879	87.702

#1	.00764	.00196	.00022	-.03331	-.00140	-.01295	-.00151
#2	.24690	-.00146	.00033	-.02143	.00079	-.00972	-.00029
#3	-.05789	-.00080	.00048	-.00185	-.00082	-.00030	-.00046

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016

Sample Name: PBW XT Acquired: 5/16/2016 12:00:42 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567310-02

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0358	.00046	-0.02017	.00007	.00019	-0.00304	-0.00062
Stddev	.00068	.01050	.00139	.00070	.00027	.00686	.00288
%RSD	19.065	2276.5	6.9051	957.16	138.12	225.98	464.54

#1	-0.0412	.01127	-0.02177	.00082	-0.00005	-0.01072	.00014
#2	-0.00281	-0.00969	-0.01945	-0.00003	.00014	.00249	-0.00381
#3	-0.00381	-0.00020	-0.01928	-0.00057	.00048	-0.00088	.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	.00005	.00100	F -.04916
Stddev	.00161	.00031	.13930
%RSD	3405.6	31.307	283.35

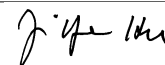
#1	.00011	.00136	.03934
#2	.00162	.00080	.02291
#3	-0.00159	.00083	-0.20973

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	13689.	99706.	4471.7
Stddev	40.	363.	38.6
%RSD	.29240	.36406	.86384

#1	13660.	99470.	4432.9
#2	13735.	100120.	4510.2
#3	13673.	99524.	4472.1

Approved: May 17, 2016



Sample Name: CSW XT Acquired: 5/16/2016 12:04:43 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567310-03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19110	4.7918	.18947	.94453	.48850	.02357	4.8253	.02405
Stddev	.00206	.0071	.00409	.00421	.00235	.00001	.0305	.00013
%RSD	1.0762	.14854	2.1592	.44608	.48100	.03598	.63275	.52145

#1	.19240	4.7905	.19417	.94694	.49094	.02358	4.8582	.02408
#2	.19218	4.7995	.18750	.94698	.48625	.02356	4.7978	.02416
#3	.18873	4.7854	.18673	.93966	.48833	.02357	4.8199	.02391

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	.09913	.24694	.24894	1.9747	24.814	.49846	4.9362	.24645
Stddev	.00014	.00205	.00066	.0046	.136	.00251	.0620	.00386
%RSD	.14009	.83124	.26578	.23344	.54969	.50368	1.2551	1.5674

#1	.09900	.24532	.24970	1.9697	24.954	.50129	5.0062	.24414
#2	.09928	.24925	.24866	1.9788	24.681	.49650	4.9139	.24431
#3	.09912	.24626	.24847	1.9756	24.808	.49760	4.8885	.25091

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	.49389	24.849	.25393	4.7613	.25161	.58531	.18629	2.4646
Stddev	.00123	.083	.00161	.0107	.00231	.00204	.00086	.0033
%RSD	.24933	.33448	.63413	.22447	.91680	.34837	.46100	.13299

#1	.49395	24.930	.25578	4.7711	.25118	.58750	.18612	2.4610
#2	.49509	24.763	.25311	4.7499	.25410	.58496	.18723	2.4657
#3	.49263	24.854	.25289	4.7629	.24955	.58347	.18554	2.4673

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 17, 2016

Sample Name: CSW XT Acquired: 5/16/2016 12:04:43 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567310-03

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.49527	.49017	.48662	.24573	.48929	.49168	1.8491
Stddev	.00152	.00056	.00430	.00120	.00090	.00083	.4053
%RSD	.30597	.11426	.88441	.48768	.18443	.16850	21.916

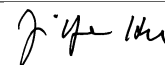
#1	.49600	.48966	.49142	.24694	.48909	.49088	1.7479
#2	.49353	.49009	.48535	.24454	.49027	.49162	1.5041
#3	.49629	.49077	.48310	.24571	.48850	.49253	2.2954

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	13603.	98161.	4439.8
Stddev	14.	186.	37.2
%RSD	.10061	.18961	.83830

#1	13616.	98249.	4398.7
#2	13588.	98287.	4471.2
#3	13604.	97947.	4449.5

Approved: May 17, 2016



Sample Name: L1605001301 Acquired: 5/16/2016 12:08:26 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: 10 Custom ID2: Custom ID3:
 Comment: WG567310-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00138	.00225	-0.00016	.00268	.00296	.00005	3.0685	-0.00012
Stddev	.00270	.00178	.00177	.00221	.00110	.00005	.0421	.00008
%RSD	195.33	79.017	1126.5	82.451	37.110	98.260	1.3721	63.086

#1	.00110	.00031	-.00199	.00465	.00201	.00008	3.0359	-.00006
#2	-.00100	.00266	-.00001	.00310	.00271	-.00001	3.0535	-.00021
#3	-.00426	.00380	.00153	.00029	.00416	.00008	3.1160	-.00010

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	.00003	.00007	.00026	.03961	.15999	.01305	2.5007	.02495
Stddev	.00026	.00077	.00200	.00627	.13960	.00108	.1520	.00173
%RSD	892.66	1166.3	761.42	15.829	87.254	8.2399	6.0793	6.9502

#1	.00018	.00051	-.00107	.03239	.16793	.01427	2.4118	.02691
#2	-.00027	.00050	-.00071	.04369	.29546	.01261	2.4141	.02361
#3	.00017	-.00082	.00256	.04275	.01659	.01226	2.6763	.02433


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	.00058	15.918	-0.00154	.01757	-0.00050	-0.00177	-0.00228	2.7739
Stddev	.00027	.246	.00036	.01090	.00449	.00225	.00438	.0754
%RSD	47.314	1.5450	23.668	62.027	906.41	127.04	192.53	2.7185

#1	.00065	15.641	-.00113	.00873	.00361	-.00420	-.00527	2.6983
#2	.00028	16.003	-.00182	.02975	-.00529	.00024	-.00431	2.7741
#3	.00081	16.109	-.00168	.01424	.00020	-.00135	.00275	2.8491

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 17, 2016



Sample Name: L1605001301 Acquired: 5/16/2016 12:08:26 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: 10 Custom ID2: Custom ID3:
 Comment: WG567310-01

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0118	.07635	-0.0149	.00043	.00137	.00142	.24659
Stddev	.00135	.00177	.00610	.00066	.00047	.00007	.62410
%RSD	114.28	2.3175	409.83	153.22	34.725	5.2371	253.09

#1	.00008	.07446	-.00056	.00098	.00191	.00136	.92216
#2	-.00102	.07664	-.00800	-.00030	.00117	.00150	-.30845
#3	-.00261	.07796	.00410	.00061	.00102	.00139	.12605

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	13834.	98880.	4403.6
Stddev	14.	148.	16.8
%RSD	.10118	.14987	.38078

#1	13842.	98951.	4421.4
#2	13843.	98979.	4388.0
#3	13818.	98709.	4401.4

Approved: May 17, 2016

Sample Name: L1605001302 Acquired: 5/16/2016 12:12:25 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: 10 Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00318	-0.00318	.00306	.00207	.00331	.00006	3.3211
Stddev	.00068	.00143	.00482	.00260	.00026	.00003	.0463
%RSD	21.516	44.781	157.46	125.56	7.8937	56.224	1.3937

#1	-0.00394	-0.00312	.00314	.00321	.00306	.00005	3.2717
#2	-0.00261	-0.00464	-0.00180	-0.00090	.00329	.00009	3.3279
#3	-0.00299	-0.00179	.00783	.00392	.00358	.00003	3.3635

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	.00029	.00019	-.00004	.01899	.13871	.01399
Stddev	.00009	.00033	.00054	.00037	.00582	.07075	.00222
%RSD	250.38	114.15	282.14	880.00	30.647	51.008	15.899

#1	.00010	-0.00009	-0.00039	.00034	.01296	.05712	.01183
#2	-0.00007	.00048	.00028	-0.00039	.01945	.17578	.01627
#3	.00008	.00046	.00068	-0.00007	.02457	.18323	.01388

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	2.7050	.02457	-.00002	17.212	-.00032	.01350	.00053
Stddev	.0311	.00364	.00013	.120	.00052	.00174	.00281
%RSD	1.1503	14.824	827.04	.69560	164.46	12.851	535.77

#1	2.6705	.02669	-0.00003	17.098	-0.00088	.01505	.00232
#2	2.7136	.02037	-0.00013	17.200	.00014	.01162	-.00272
#3	2.7310	.02666	.00012	17.337	-0.00021	.01384	.00198

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016

Sample Name: L1605001302 Acquired: 5/16/2016 12:12:25 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: 10 Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00238	.00237	2.7201	-.00109	.08256	-.00456	-.00036
Stddev	.00190	.00130	.0228	.00060	.00026	.00194	.00077
%RSD	79.916	54.650	.83757	54.726	.30997	42.562	213.98

#1	-0.00152	.00354	2.6966	-.00146	.08244	-.00493	.00045
#2	-0.00106	.00259	2.7215	-.00141	.08239	-.00246	-.00045
#3	-0.00456	.00098	2.7421	-.00040	.08286	-.00629	-.00109

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	.00029	.00225	F -.13882
Stddev	.00073	.00007	.24254
%RSD	252.82	3.0953	174.72


#1	-0.00021	.00231	-.03686
#2	.00112	.00217	.03610
#3	-0.00005	.00226	-.41569

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	13807.	98322.	4402.6
Stddev	54.	432.	21.0
%RSD	.38956	.43947	.47777

#1	13831.	98155.	4401.8
#2	13745.	98812.	4424.1
#3	13844.	97998.	4382.0

Approved: May 17, 2016



Sample Name: L1605001303S Acquired: 5/16/2016 12:16:23 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000(
 User: JYH Custom ID1: 10 Custom ID2: Custom ID3:
 Comment: WG567310-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01776	.54162	.02352	.10329	.05356	.00263	3.7704	.00279
Stddev	.00135	.00998	.00143	.00055	.00032	.00012	.0326	.00020
%RSD	7.6051	1.8424	6.0639	.53722	.59662	4.4106	.86425	7.0059

#1	.01925	.53386	.02340	.10390	.05352	.00268	3.7550	.00296
#2	.01662	.55288	.02500	.10282	.05390	.00250	3.7484	.00258
#3	.01740	.53813	.02216	.10315	.05327	.00271	3.8078	.00284

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	.01120	.02541	.02720	.22646	2.8016	.06715	3.1651	.04812
Stddev	.00038	.00029	.00076	.02182	.0725	.00310	.0887	.00344
%RSD	3.4314	1.1295	2.7850	9.6360	2.5885	4.6194	2.8039	7.1401

#1	.01082	.02547	.02769	.21569	2.8590	.06811	3.1101	.04482
#2	.01159	.02510	.02759	.21212	2.8256	.06368	3.2674	.05168
#3	.01121	.02566	.02633	.25158	2.7201	.06966	3.1176	.04786

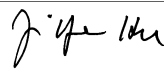
Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04982	19.531	.02752	.54691	.02647	.06312	.02577	2.9962
Stddev	.00036	.105	.00063	.00159	.00275	.00320	.00296	.0436
%RSD	.72531	.53593	2.2829	.29033	10.391	5.0760	11.472	1.4541

#1	.04941	19.430	.02716	.54551	.02769	.05944	.02841	2.9546
#2	.05001	19.526	.02716	.54864	.02841	.06466	.02257	2.9925
#3	.05006	19.639	.02825	.54657	.02333	.06527	.02632	3.0414

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 17, 2016



Sample Name: L1605001303S Acquired: 5/16/2016 12:16:23 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: 10 Custom ID2: Custom ID3:
 Comment: WG567310-04

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05150	.13114	.04782	.02583	.05184	.05713	.04980
Stddev	.00110	.00106	.00722	.00100	.00112	.00066	.33263
%RSD	2.1381	.81177	15.107	3.8659	2.1665	1.1624	667.87


#1	.05136	.12997	.04510	.02505	.05218	.05673	.01077
#2	.05047	.13138	.04236	.02549	.05058	.05675	.40023
#3	.05266	.13206	.05601	.02695	.05274	.05789	-.26158

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	13807.	98662.	4402.2
Stddev	46.	378.	18.4
%RSD	.33036	.38335	.41870

#1	13757.	98496.	4420.9
#2	13846.	99095.	4401.8
#3	13817.	98395.	4384.0

Approved: May 17, 2016



Sample Name: L1605001304SD Acquired: 5/16/2016 12:20:20 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH Custom ID1: 10 Custom ID2: Custom ID3:
 Comment: WG567310-05

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01767	.53835	.02223	.10620	.05289	.00268	3.6734	.00279
Stddev	.00107	.00189	.00139	.00131	.00070	.00007	.0386	.00018
%RSD	6.0412	.35062	6.2492	1.2292	1.3161	2.6136	1.0521	6.4226

#1	.01683	.53753	.02356	.10477	.05211	.00261	3.6301	.00272
#2	.01887	.53702	.02234	.10650	.05309	.00271	3.7045	.00265
#3	.01732	.54051	.02079	.10733	.05346	.00274	3.6855	.00299

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	.01143	.02707	.02859	.23964	2.6910	.06356	3.1252	.05051
Stddev	.00025	.00083	.00183	.01996	.0250	.00479	.0524	.00124
%RSD	2.1986	3.0834	6.4082	8.3309	.93033	7.5374	1.6765	2.4470

#1	.01115	.02630	.02884	.24901	2.6625	.06639	3.0966	.05185
#2	.01162	.02695	.02664	.21671	2.7095	.06626	3.0933	.05025
#3	.01154	.02795	.03027	.25318	2.7010	.05803	3.1856	.04942

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	.05236	18.937	.02833	.56881	.02516	.06600	.01840	3.0413
Stddev	.00097	.212	.00059	.01069	.00229	.00529	.00337	.0686
%RSD	1.8511	1.1185	2.0865	1.8790	9.1057	8.0114	18.304	2.2563

#1	.05135	18.716	.02765	.55691	.02289	.06105	.02164	2.9712
#2	.05244	19.138	.02863	.57195	.02748	.07157	.01492	3.0446
#3	.05329	18.956	.02871	.57758	.02511	.06539	.01865	3.1083

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 17, 2016

Sample Name: L1605001304SD Acquired: 5/16/2016 12:20:20 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: 10 Custom ID2: Custom ID3:
 Comment: WG567310-05

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05396	.12738	.04515	.02786	.05370	.05900	-.02539
Stddev	.00167	.00200	.00749	.00322	.00168	.00107	.27004
%RSD	3.0941	1.5663	16.591	11.572	3.1299	1.8144	1063.4


#1	.05384	.12514	.03751	.02697	.05176	.05790	-.21719
#2	.05235	.12897	.04544	.03143	.05470	.05907	.28342
#3	.05568	.12802	.05248	.02517	.05465	.06004	-.14241

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	13802.	98491.	4400.7
Stddev	30.	548.	30.9
%RSD	.21535	.55639	.70155

#1	13804.	99011.	4417.3
#2	13830.	98543.	4365.1
#3	13771.	97919.	4419.8

Approved: May 17, 2016



Sample Name: L1605001305 Acquired: 5/16/2016 12:24:18 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00385	-0.01142	.00067	.00010	.00084	.00014	-0.03258	.00033
Stddev	.00031	.01009	.00361	.00128	.00059	.00006	.03342	.00022
%RSD	8.0692	88.334	539.59	1238.3	70.049	46.579	102.59	67.379

#1	-0.00421	-0.01924	-0.00309	.00158	.00016	.00014	-0.06949	.00055
#2	-0.00372	-0.00004	.00098	-0.00064	.00120	.00007	-0.02387	.00010
#3	-0.00363	-0.01498	.00411	-0.00063	.00117	.00020	-0.00437	.00034

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	-0.00010	.00018	-0.00020	-0.01680	.11065	.00124	-0.01252	.00030
Stddev	.00032	.00104	.00023	.00884	.05200	.00402	.02465	.00038
%RSD	312.52	588.67	111.44	52.659	46.993	322.93	196.99	128.86

#1	-0.00047	.00135	-0.00040	-0.00895	.14268	-0.00339	-0.02031	.00065
#2	.00004	-0.00064	-0.00025	-0.01506	.05065	.00347	-0.03233	.00035
#3	.00012	-0.00018	.00004	-0.02638	.13861	.00366	.01509	-0.00011


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	.00038	-0.00033	-0.00224	.00163	.00043	-0.00232	-0.00041	-0.02514
Stddev	.00050	.03654	.00063	.00383	.00103	.00271	.00557	.00088
%RSD	130.66	11048.	28.256	235.16	237.79	116.79	1363.3	3.4927

#1	-0.00019	.04186	-0.00294	.00049	-0.00048	-0.00318	.00587	-.02413
#2	.00062	-.02144	-.00169	-.00150	.00024	.00071	-.00234	-.02556
#3	.00072	-.02141	-.00210	.00590	.00154	-.00451	-.00476	-.02572

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 17, 2016



Sample Name: L1605001305 Acquired: 5/16/2016 12:24:18 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	.00048	-0.00327	-0.00341	.00038	.00093	.07203
Stddev	.00050	.00036	.00248	.00127	.00145	.00020	.05212
%RSD	127.08	74.605	75.906	37.145	384.39	21.236	72.351

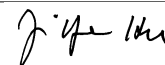
#1	-0.0049	.00037	-0.00254	-0.00478	.00187	.00078	.07269
#2	-0.00083	.00019	-0.00123	-0.00229	.00028	.00086	.01959
#3	.00015	.00088	-0.00603	-0.00315	-0.00102	.00115	.12382

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	13072.	94567.	4239.8
Stddev	67.	663.	15.8
%RSD	.51457	.70159	.37155

#1	13082.	93917.	4229.7
#2	13134.	94541.	4231.8
#3	13000.	95243.	4258.0

Approved: May 17, 2016



Sample Name: L1605001305PS Acquired: 5/16/2016 12:28:17 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567345-03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19991	4.9862	.19723	.98483	.50435	.02446	5.0423	.02477
Stddev	.00317	.0093	.00282	.00382	.00265	.00012	.0159	.00038
%RSD	1.5859	.18577	1.4315	.38740	.52508	.48251	.31432	1.5426

#1	.20355	4.9960	.20000	.98688	.50533	.02458	5.0567	.02494
#2	.19840	4.9776	.19436	.98719	.50636	.02434	5.0449	.02504
#3	.19777	4.9851	.19734	.98043	.50135	.02447	5.0253	.02434

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	.10297	.25873	.25906	2.0462	25.523	.51216	4.9992	.24978
Stddev	.00035	.00173	.00159	.0228	.056	.00770	.0691	.00070
%RSD	.34387	.66783	.61330	1.1140	.22070	1.5028	1.3829	.27994

#1	.10322	.25888	.25938	2.0315	25.484	.50723	5.0744	.25012
#2	.10313	.26038	.26046	2.0724	25.588	.52103	4.9847	.25024
#3	.10257	.25693	.25733	2.0346	25.497	.50822	4.9384	.24898


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	.51045	25.696	.26247	4.9544	.26401	.61173	.19150	2.5398
Stddev	.00098	.092	.00121	.0085	.00305	.00086	.00162	.0072
%RSD	.19116	.35714	.45944	.17107	1.1565	.14070	.84344	.28449

#1	.51102	25.665	.26368	4.9454	.26059	.61244	.18971	2.5373
#2	.51101	25.800	.26247	4.9558	.26646	.61077	.19285	2.5480
#3	.50932	25.624	.26126	4.9622	.26498	.61199	.19194	2.5342

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 17, 2016




Sample Name: L1605001305PS Acquired: 5/16/2016 12:28:17 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567345-03

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.51599	.50497	.50133	.25832	.50983	.51547	.67385
Stddev	.00055	.00268	.00792	.00201	.00057	.00080	.15690
%RSD	.10658	.52991	1.5797	.77625	.11184	.15541	23.284
#1	.51574	.50269	.49223	.25892	.51042	.51584	.54586
#2	.51561	.50792	.50667	.25996	.50928	.51601	.62680
#3	.51662	.50430	.50509	.25609	.50980	.51455	.84889

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	13489.	96987.	4421.9
Stddev	38.	373.	7.3
%RSD	.28451	.38454	.16538
#1	13450.	96565.	4423.7
#2	13488.	97124.	4413.8
#3	13527.	97273.	4428.1

Approved: May 17, 2016



Sample Name: L1605001305SDL Acquired: 5/16/2016 12:31:59 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: 5 Custom ID2: Custom ID3:
 Comment: WG567345-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00234	-0.01982	-0.00006	.00325	.00133	.00008	-0.02641	.00007
Stddev	.00123	.00393	.00289	.00224	.00070	.00004	.01945	.00017
%RSD	52.464	19.825	4459.2	68.994	52.549	49.921	73.631	245.82

#1	-0.00376	-0.02010	.00128	.00314	.00183	.00013	-0.03284	.00001
#2	-0.00170	-0.01575	.00191	.00107	.00164	.00005	-0.04184	-0.00006
#3	-0.00156	-0.02360	-0.00338	.00554	.00053	.00007	-0.00457	.00026

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	-0.00007	.00026	.00006	.00384	.20910	.00554	.03957	.00094
Stddev	.00005	.00033	.00177	.01946	.01317	.00029	.11194	.00181
%RSD	64.724	124.30	2756.8	506.27	6.2981	5.1945	282.89	193.91

#1	-0.00008	.00018	-0.00153	.02240	.19450	.00528	.02012	.00234
#2	-0.00011	-0.00002	.00197	.00553	.21271	.00549	.15996	.00157
#3	-0.00002	.00063	-0.00024	-.01641	.22009	.00585	-.06137	-.00111


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	.00067	-.04234	-0.00101	-0.00035	-0.00379	-0.00010	.00215	-.02762
Stddev	.00031	.02827	.00039	.00641	.00149	.00295	.00285	.00108
%RSD	46.480	66.765	39.049	1848.2	39.311	3023.8	132.42	3.9065

#1	.00052	-.06818	-0.00055	-0.00690	-.00236	-0.00098	.00518	-.02766
#2	.00047	-.01214	-0.00122	-0.00007	-0.00533	-0.00251	.00175	-.02867
#3	.00103	-.04671	-0.00126	.00592	-0.00368	.00320	-.00047	-.02651

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 17, 2016



Sample Name: L1605001305SDL Acquired: 5/16/2016 12:31:59 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: 5 Custom ID2: Custom ID3:
 Comment: WG567345-04

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0054	.00019	.00111	-0.00118	.00134	.00095	.23123
Stddev	.00015	.00018	.00246	.00217	.00143	.00021	.18534
%RSD	28.207	97.649	221.56	183.96	106.11	21.677	80.153

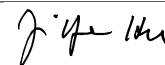
#1	-0.0052	.00014	.00383	-0.00360	.00285	.00097	.25314
#2	-0.0039	.00003	-0.00097	-0.00049	.00001	.00115	.03591
#3	-0.0069	.00039	.00047	.00057	.00118	.00074	.40465

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	13662.	98460.	4350.8
Stddev	33.	794.	31.8
%RSD	.24517	.80658	.73145

#1	13698.	99346.	4379.0
#2	13631.	97812.	4316.3
#3	13657.	98223.	4357.2

Approved: May 17, 2016



Sample Name: CCV Acquired: 5/16/2016 12:35:59 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000(
 User: JYH 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	.42188	10.644	.42295	.53169	1.0479	.05238	10.320
Stddev	.00209	.040	.00191	.00318	.0074	.00007	.067
%RSD	.49485	.37569	.45154	.59723	.70508	.13808	.64582

#1	.41950	10.598	.42310	.53257	1.0394	.05231	10.243
#2	.42339	10.674	.42477	.53433	1.0529	.05245	10.365
#3	.42275	10.658	.42096	.52817	1.0513	.05239	10.351

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	.05195	.21458	.54327	.53696	4.3035	52.430	1.0479
Stddev	.00038	.00050	.00280	.00221	.0603	.402	.0080
%RSD	.72502	.23420	.51485	.41181	1.4016	.76702	.75843

#1	.05206	.21415	.54079	.53903	4.2372	52.039	1.0397
#2	.05153	.21513	.54273	.53463	4.3551	52.843	1.0556
#3	.05226	.21445	.54630	.53722	4.3183	52.408	1.0482

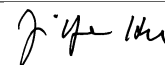
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.678	.52582	1.0407	53.107	.54313	10.651	.54503
Stddev	.063	.00200	.0041	.365	.00162	.009	.00252
%RSD	.58865	.38064	.39185	.68646	.29800	.08105	.46145

#1	10.711	.52447	1.0454	52.707	.54277	10.661	.54610
#2	10.717	.52812	1.0383	53.421	.54171	10.645	.54216
#3	10.605	.52487	1.0385	53.194	.54489	10.648	.54683

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: May 17, 2016



Sample Name: CCV Acquired: 5/16/2016 12:35:59 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.2657	.40604	5.3211	1.0742	1.0442	1.0524	.53148
Stddev	.0030	.00523	.0103	.0047	.0097	.0113	.00079
%RSD	.23450	1.2872	.19296	.43810	.92783	1.0733	.14874

#1	1.2653	.40202	5.3236	1.0794	1.0350	1.0419	.53200
#2	1.2630	.41195	5.3098	1.0701	1.0543	1.0644	.53057
#3	1.2689	.40416	5.3299	1.0733	1.0433	1.0511	.53187

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	1.0671	1.0887	F .82347
Stddev	.0011	.0015	.16375
%RSD	.10223	.14233	19.886


#1	1.0679	1.0899	1.0118
#2	1.0674	1.0870	.74424
#3	1.0658	1.0894	.71440

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	13130.	92596.	4235.8
Stddev	48.	59.	4.9
%RSD	.36937	.06327	.11619

#1	13074.	92660.	4233.9
#2	13164.	92583.	4232.0
#3	13151.	92545.	4241.3

Approved: May 17, 2016



Sample Name: CCB Acquired: 5/16/2016 12:39:38 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00230	-0.00533	-0.00125	.00060	.00144	.00011	-.03499
Stddev	.00179	.00482	.00172	.00167	.00058	.00005	.00843
%RSD	77.943	90.458	136.95	279.05	40.468	45.359	24.103

#1	-0.00390	-0.00215	-0.00315	.00014	.00132	.00010	-.04403
#2	-0.00036	-0.01087	.00020	.00246	.00093	.00007	-.03361
#3	-0.00264	-0.00296	-0.00081	-0.00080	.00207	.00017	-.02733

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	.00012	-.00013	.00014	-.00213	.01007	.06917	.00309
Stddev	.00024	.00006	.00087	.00124	.00356	.15562	.00114
%RSD	205.36	47.431	618.78	58.126	35.402	224.98	37.004

#1	.00038	-.00014	-.00001	-.00329	.01394	-.04712	.00347
#2	.00009	-.00018	.00108	-.00083	.00693	.24596	.00400
#3	-.00011	-.00006	-.00065	-.00227	.00932	.00867	.00181


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	.09198	.00098	.00378	.01596	-.00034	.00016	.00474
Stddev	.10457	.00158	.00066	.00497	.00081	.00603	.00460
%RSD	113.68	161.03	17.401	31.122	242.22	3796.9	96.942

#1	.04591	-.00084	.00350	.02006	.00023	-.00675	.00581
#2	.21168	.00181	.00331	.01738	.00003	.00434	.00871
#3	.01836	.00198	.00453	.01044	-.00127	.00289	-.00029

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016



Sample Name: CCB Acquired: 5/16/2016 12:39:38 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00626	.00055	.00551	-0.00039	.00062	-0.00484	-0.00208
Stddev	.00303	.00590	.00151	.00080	.00004	.00205	.00432
%RSD	48.356	1073.5	27.333	206.72	6.3044	42.331	207.88

#1	.00600	-.00404	.00401	.00018	.00058	-.00271	-.00261
#2	.00337	.00721	.00551	-.00003	.00062	-.00503	-.00612
#3	.00941	-.00152	.00702	-.00130	.00066	-.00680	.00248

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	.00107	.00019	F .08905
Stddev	.00120	.00004	.23886
%RSD	112.88	19.555	268.23

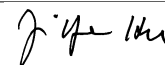
#1	.00227	.00022	.32823
#2	.00107	.00015	-.14949
#3	-.00014	.00018	.08842

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	13110.	94423.	4203.7
Stddev	46.	122.	20.2
%RSD	.35294	.12972	.48049

#1	13113.	94329.	4224.6
#2	13155.	94379.	4202.2
#3	13063.	94561.	4184.3

Approved: May 17, 2016



Sample Name: LLCCV Acquired: 5/16/2016 12:43:37 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	.00569	.15660	.00929	.08218	.00981	.00176	.38147
Stddev	.00111	.00690	.00217	.00149	.00029	.00003	.01924
%RSD	19.461	4.4084	23.299	1.8151	2.9215	1.8342	5.0424

#1	.00661	.16424	.00792	.08093	.01009	.00177	.36687
#2	.00446	.15474	.01179	.08383	.00981	.00173	.37428
#3	.00600	.15081	.00817	.08178	.00952	.00179	.40327

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	.00075	.00391	.00530	.00269	.09960	.97475	.09077
Stddev	.00027	.00017	.00107	.00137	.01498	.12472	.00299
%RSD	35.865	4.3592	20.190	50.913	15.038	12.796	3.2894

#1	.00062	.00390	.00647	.00200	.09250	.99940	.09418
#2	.00057	.00408	.00437	.00426	.08948	.83955	.08859
#3	.00106	.00374	.00507	.00180	.11680	1.0853	.08956

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	.54180	.00758	.00858	.39319	.01684	.82123	.00671
Stddev	.03394	.00179	.00046	.02876	.00047	.00201	.00448
%RSD	6.2635	23.655	5.4112	7.3147	2.7736	.24426	66.767

#1	.50442	.00637	.00815	.37230	.01632	.82182	.00428
#2	.55030	.00672	.00907	.42599	.01696	.81899	.00397
#3	.57068	.00964	.00851	.38128	.01723	.82287	.01189

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016

Sample Name: LLCCV Acquired: 5/16/2016 12:43:37 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.08496	.02075	.88679	.42920	.04242	.02230	.16271
Stddev	.00346	.00500	.00169	.00139	.00054	.00299	.00383
%RSD	4.0779	24.101	.19081	.32375	1.2621	13.419	2.3534

#1	.08785	.01624	.88488	.42939	.04212	.02184	.16391
#2	.08590	.02613	.88811	.43049	.04210	.02549	.15843
#3	.08112	.01988	.88739	.42773	.04304	.01956	.16580

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	.00905	.01812	F 37.851
Stddev	.00107	.00026	.520
%RSD	11.809	1.4298	1.3749


#1	.00973	.01783	38.379
#2	.00961	.01834	37.834
#3	.00782	.01817	37.339

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	13178.	94531.	4198.5
Stddev	54.	710.	26.6
%RSD	.41288	.75158	.63462

#1	13176.	94341.	4173.0
#2	13233.	93935.	4226.1
#3	13124.	95317.	4196.3

Approved: May 17, 2016



Sample Name: PBW 50 Acquired: 5/16/2016 12:47:36 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568531-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00216	-0.01425	-0.00145	-0.00002	.00069	.00008	-0.01076	.00026
Stddev	.00164	.01232	.00090	.00306	.00051	.00002	.03379	.00008
%RSD	75.990	86.475	61.789	18846.	74.655	19.937	314.01	29.056

#1	-0.00350	-0.00605	-0.00059	-0.00272	.00088	.00007	-0.02946	.00034
#2	-0.00033	-0.00828	-0.00238	.00330	.00107	.00007	-0.03106	.00025
#3	-0.00266	-0.02842	-0.00138	-0.00062	.00011	.00010	.02824	.00019

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	-0.00002	-0.00027	-0.00051	-0.00830	.10163	.00650	.11430	-0.00068
Stddev	.00034	.00047	.00093	.02053	.11101	.00312	.06449	.00140
%RSD	1714.1	174.61	182.36	247.22	109.23	48.027	56.422	204.79

#1	-0.00040	.00015	.00015	-0.01531	.14201	.00526	.18213	.00090
#2	.00008	-0.00018	-0.00158	.01481	-.02392	.01005	.05377	-.00174
#3	.00026	-0.00078	-0.00010	-.02442	.18679	.00419	.10699	-.00121

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	.00035	-0.02322	-0.00003	-0.00061	-0.00241	.00033	.00084	-0.02285
Stddev	.00044	.03091	.00026	.00461	.00097	.00211	.00543	.00274
%RSD	127.18	133.13	762.34	758.31	40.230	640.01	646.29	11.988

#1	-0.00015	-.04210	-0.00001	.00120	-0.00322	.00174	.00541	-.02179
#2	.00049	.01246	.00021	-0.00585	-0.00134	-.00210	.00228	-.02080
#3	.00070	-.04002	-0.00030	.00283	-0.00266	.00135	-.00517	-.02597

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 17, 2016

Sample Name: PBW 50 Acquired: 5/16/2016 12:47:36 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568531-02

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00066	.00031	.00176	-0.00235	.00070	.00213	.31435
Stddev	.00075	.00028	.00506	.00274	.00165	.00015	.42082
%RSD	113.85	89.442	287.18	116.69	235.73	7.2160	133.87

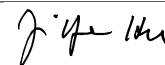
#1	-0.00054	.00060	.00245	-0.00543	.00257	.00198	.65960
#2	-0.00145	.00028	-0.00361	-0.00142	-0.00055	.00229	-1.15440
#3	.00003	.00005	.00644	-0.00020	.00008	.00213	.43787

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	13561.	98606.	4397.6
Stddev	17.	157.	19.0
%RSD	.12317	.15887	.43242

#1	13554.	98599.	4377.2
#2	13581.	98453.	4414.9
#3	13550.	98766.	4400.6

Approved: May 17, 2016



Sample Name: LCSW 50 Acquired: 5/16/2016 12:51:36 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568531-03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20371	5.0704	.19916	.99991	.51153	.02481	5.0574	.02534
Stddev	.00088	.0064	.00204	.00205	.00096	.00003	.0446	.00006
%RSD	.43020	.12701	1.0226	.20547	.18815	.10311	.88250	.25429

#1	.20276	5.0721	.19700	1.0004	.51062	.02481	5.0913	.02528
#2	.20387	5.0633	.20104	.99766	.51143	.02484	5.0068	.02532
#3	.20449	5.0758	.19945	1.0017	.51254	.02478	5.0740	.02541

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	.10544	.26333	.26590	2.1046	25.988	.52196	5.1275	.25621
Stddev	.00056	.00205	.00071	.0184	.079	.00241	.1299	.00055
%RSD	.53323	.77789	.26722	.87488	.30408	.46159	2.5337	.21540

#1	.10481	.26100	.26509	2.1178	25.931	.51925	4.9876	.25675
#2	.10588	.26418	.26617	2.0835	25.956	.52280	5.1506	.25565
#3	.10564	.26482	.26643	2.1124	26.078	.52385	5.2444	.25624


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	.52164	26.078	.26929	5.0758	.26382	.62082	.19486	2.6116
Stddev	.00228	.057	.00190	.0095	.00232	.00291	.00219	.0193
%RSD	.43760	.21909	.70545	.18792	.87757	.46925	1.1225	.73786

#1	.51905	26.116	.26711	5.0705	.26463	.62414	.19717	2.5895
#2	.52335	26.012	.27063	5.0868	.26563	.61871	.19459	2.6246
#3	.52253	26.106	.27012	5.0701	.26121	.61961	.19282	2.6207

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 17, 2016




Sample Name: LCSW 50 Acquired: 5/16/2016 12:51:36 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568531-03

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.52761	.51369	.51247	.25997	.51824	.52714	1.6793
Stddev	.00128	.00069	.00530	.00211	.00155	.00223	.5847
%RSD	.24213	.13443	1.0334	.81197	.29872	.42305	34.822
#1	.52623	.51376	.50700	.25939	.51810	.52457	1.1677
#2	.52875	.51297	.51284	.25822	.51677	.52856	1.5534
#3	.52785	.51435	.51757	.26232	.51986	.52828	2.3167

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	13473.	97261.	4426.2
Stddev	60.	113.	32.3
%RSD	.44627	.11640	.72916
#1	13533.	97159.	4461.9
#2	13473.	97382.	4417.5
#3	13413.	97241.	4399.1

Approved: May 17, 2016


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Sample Name: ~~LC5W-50~~ Acquired: 5/16/2016 12:55:21 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568371-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00225	-0.00916	.00019	.00210	.00148	.00010	-0.00825	.00045
Stddev	.00058	.00329	.00427	.00270	.00078	.00008	.02151	.00011
%RSD	25.845	35.953	2307.9	128.96	52.901	84.127	260.72	23.499

#1	-0.00224	-0.01291	.00388	-0.00045	.00058	.00001	-0.03225	.00034
#2	-0.00283	-0.00672	-0.00449	.00493	.00188	.00011	.00930	.00045
#3	-0.00167	-0.00787	.00117	.00181	.00198	.00017	-0.00181	.00055

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	.00006	.00001	-0.00007	-0.00992	.24030	.00574	.02300	.00023
Stddev	.00015	.00032	.00207	.01049	.06565	.00259	.05089	.00103
%RSD	258.43	2312.7	2802.9	105.74	27.320	45.053	221.29	448.45

#1	.00023	.00039	.00213	-.02019	.28200	.00871	.02051	-.00054
#2	-0.00001	-0.00019	-0.00039	-0.01036	.27426	.00401	-.02660	-.00018
#3	-0.00005	-0.00016	-0.00197	.00078	.16462	.00449	.07509	.00140


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	.00098	133.95	-0.00065	-0.00195	-0.00477	-0.00151	.00305	-0.01984
Stddev	.00040	2.18	.00065	.00442	.00289	.00380	.00314	.00238
%RSD	40.838	1.6273	100.54	226.80	60.577	251.04	102.97	11.993

#1	.00086	134.41	-0.00086	-0.00268	-0.00152	-0.00584	.00630	-.01844
#2	.00066	135.86	-0.00116	-0.00595	-0.00706	.00126	.00004	-.01850
#3	.00143	131.58	.00008	.00279	-0.00572	.00004	.00280	-.02259

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: May 17, 2016



Sample Name: ~~LC5W-50~~ Acquired: 5/16/2016 12:55:21 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568371-01


Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0052	.00012	-0.00171	-0.00143	-0.00016	.00331	-0.01489
Stddev	.00049	.00034	.00590	.00069	.00064	.00016	.05910
%RSD	95.463	290.38	344.37	48.354	398.46	4.7870	396.91

#1	-0.00086	.00019	-0.00282	-0.00064	-0.00023	.00321	-0.01088
#2	.00005	-0.00026	-0.00697	-0.00195	-0.00077	.00323	-0.07589
#3	-0.00073	.00041	.00466	-0.00169	.00051	.00350	.04210

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	13257.	94748.	4358.3
Stddev	52.	33.	50.7
%RSD	.39383	.03493	1.1632

#1	13202.	94776.	4367.3
#2	13305.	94712.	4303.7
#3	13264.	94756.	4403.9

Approved: May 17, 2016


Sample Name: L1605057901 Acquired: 5/16/2016 12:59:20 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568531-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00370	.00403	.00035	.02408	.07006	.00011	67.910
Stddev	.00186	.00226	.00130	.00059	.00077	.00006	.499
%RSD	50.170	56.089	374.27	2.4474	1.1013	52.129	.73506

#1	-0.00179	.00164	-0.00105	.02341	.07065	.00011	67.988
#2	-0.00382	.00614	.00151	.02431	.06919	.00017	67.377
#3	-0.00550	.00431	.00059	.02451	.07035	.00005	68.366

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	.00246	.00032	.00160	.07317	-.01243	1.9600	.01000
Stddev	.00010	.00026	.00079	.00090	.01362	.0249	.00175
%RSD	4.1528	81.988	49.460	1.2283	109.60	1.2687	17.542

#1	.00235	.00040	.00210	.07418	-.00192	1.9326	.01169
#2	.00255	.00054	.00069	.07288	-.00755	1.9663	.00819
#3	.00248	.00003	.00202	.07246	-.02783	1.9811	.01011

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	1.5951	.02445	.00044	131.69	-.00095	.03077	.00116
Stddev	.1331	.00332	.00036	.41	.00082	.00935	.00093
%RSD	8.3459	13.564	81.344	.31283	86.401	30.403	79.965

#1	1.7451	.02170	.00055	131.25	-.00076	.02387	.00038
#2	1.4909	.02351	.00004	131.75	-.00184	.04141	.00091
#3	1.5492	.02813	.00073	132.07	-.00024	.02702	.00219

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016

Sample Name: L1605057901 Acquired: 5/16/2016 12:59:20 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568531-01

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0168	.00215	.58653	-.00037	.26820	-.00647	-.00214
Stddev	.00197	.00589	.00207	.00085	.00082	.00417	.00160
%RSD	117.17	273.59	.35215	226.04	.30478	64.509	74.494

#1	-0.0088	-.00362	.58886	.00054	.26815	-.01078	-.00386
#2	-.00024	.00815	.58581	-.00113	.26740	-.00618	-.00187
#3	-.00393	.00193	.58492	-.00054	.26904	-.00245	-.00070

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	.00177	.01527	F -.25115
Stddev	.00112	.00014	.57881
%RSD	63.333	.93350	230.46


#1	.00263	.01510	.39363
#2	.00050	.01533	-.72589
#3	.00219	.01536	-.42120

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	13246.	94314.	4362.8
Stddev	19.	111.	26.0
%RSD	.14608	.11732	.59607

#1	13227.	94438.	4391.5
#2	13265.	94282.	4356.0
#3	13247.	94224.	4340.9

Approved: May 17, 2016



Sample Name: L1605057901S Acquired: 5/16/2016 13:03:18 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568531-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20493	5.1126	.20624	1.0428	.58261	.02559	73.076	.02734
Stddev	.00202	.0136	.00410	.0004	.00184	.00003	.403	.00027
%RSD	.98662	.26663	1.9857	.03954	.31602	.12070	.55170	.97382

#1	.20661	5.1001	.21069	1.0425	.58431	.02559	73.324	.02711
#2	.20549	5.1272	.20541	1.0427	.58066	.02562	72.611	.02728
#3	.20269	5.1106	.20262	1.0433	.58286	.02556	73.294	.02763

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	.10349	.26225	.33179	2.0852	28.029	.51841	6.6295	.28029
Stddev	.00041	.00052	.00019	.0094	.039	.00474	.0508	.00102
%RSD	.39227	.19932	.05869	.44833	.14053	.91408	.76591	.36327

#1	.10394	.26285	.33191	2.0747	28.041	.52208	6.6490	.28125
#2	.10337	.26203	.33189	2.0881	27.985	.52009	6.5719	.27922
#3	.10315	.26188	.33156	2.0927	28.061	.51306	6.6677	.28040


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	.52326	158.82	.26202	5.2826	.26269	.62632	.20264	3.2869
Stddev	.00017	.62	.00167	.0087	.00292	.00398	.00566	.0062
%RSD	.03334	.39050	.63564	.16484	1.1115	.63507	2.7954	.18881

#1	.52338	159.36	.26328	5.2748	.26584	.62349	.20687	3.2806
#2	.52334	158.14	.26263	5.2809	.26217	.62460	.19620	3.2870
#3	.52306	158.95	.26013	5.2920	.26007	.63087	.20485	3.2930

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 17, 2016



Sample Name: L1605057901S Acquired: 5/16/2016 13:03:18 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568531-04

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.52200	.78763	.50592	.24821	.52347	.53855	.56137
Stddev	.00129	.00219	.00530	.00089	.00223	.00058	.03601
%RSD	.24757	.27766	1.0467	.35832	.42683	.10753	6.4152

#1	.52347	.78799	.50105	.24910	.52124	.53790	.57306
#2	.52152	.78528	.50516	.24732	.52570	.53902	.59009
#3	.52102	.78961	.51156	.24821	.52348	.53872	.52097

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	13094.	93479.	4343.4
Stddev	24.	203.	9.6
%RSD	.18459	.21739	.22138

#1	13068.	93252.	4332.5
#2	13098.	93541.	4350.5
#3	13116.	93644.	4347.3

Approved: May 17, 2016

Sample Name: L1605057901SD Acquired: 5/16/2016 13:07:01 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568531-05

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20306	5.1275	.20730	1.0426	.57914	.02544	73.584	.02714
Stddev	.00137	.0078	.00339	.0018	.00055	.00004	.330	.00065
%RSD	.67658	.15303	1.6354	.17277	.09520	.14639	.44809	2.3932

#1	.20160	5.1319	.20575	1.0419	.57974	.02546	73.920	.02704
#2	.20433	5.1322	.20496	1.0447	.57865	.02546	73.261	.02784
#3	.20324	5.1185	.21119	1.0413	.57905	.02539	73.570	.02655

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	.10316	.26366	.33283	2.0710	27.835	.51489	6.6356	.27538
Stddev	.00010	.00344	.00038	.0168	.075	.00267	.0876	.00182
%RSD	.09591	1.3036	.11496	.81149	.26887	.51795	1.3205	.65975

#1	.10308	.26443	.33301	2.0521	27.905	.51303	6.6726	.27428
#2	.10313	.26665	.33310	2.0843	27.844	.51370	6.6987	.27748
#3	.10327	.25991	.33240	2.0767	27.756	.51795	6.5356	.27439

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	.52274	159.76	.26155	5.2586	.26239	.62807	.19808	3.2921
Stddev	.00131	.42	.00117	.0097	.00177	.00366	.00499	.0015
%RSD	.25029	.26153	.44587	.18449	.67271	.58279	2.5192	.04561

#1	.52420	160.22	.26035	5.2560	.26426	.63114	.19935	3.2934
#2	.52235	159.40	.26164	5.2694	.26215	.62402	.19258	3.2924
#3	.52168	159.67	.26267	5.2505	.26076	.62904	.20231	3.2904

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Approved: May 17, 2016

Sample Name: L1605057901SD Acquired: 5/16/2016 13:07:01 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568531-05

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.52094	.78333	.50599	.25038	.52580	.53695	1.0983
Stddev	.00169	.00402	.00731	.00386	.00156	.00045	.1354
%RSD	.32536	.51344	1.4437	1.5408	.29718	.08444	12.324
#1	.52263	.78629	.51419	.25424	.52420	.53748	.96975
#2	.51924	.78497	.50019	.25035	.52733	.53671	1.2396
#3	.52094	.77875	.50359	.24653	.52587	.53667	1.0856

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	13122.	93370.	4366.9
Stddev	18.	513.	46.1
%RSD	.13639	.54906	1.0553
#1	13107.	92861.	4313.9
#2	13142.	93364.	4397.4
#3	13118.	93886.	4389.3

Approved: May 17, 2016



Sample Name: L1605057901PS Acquired: 5/16/2016 13:10:44 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568830-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20596	5.1928	.20993	1.0617	.57890	.02570	65.707	.02744
Stddev	.00109	.0109	.00079	.0049	.00179	.00006	.213	.00030
%RSD	.52750	.21064	.37794	.46558	.30896	.23653	.32344	1.0997

#1	.20693	5.1808	.20929	1.0570	.57824	.02570	65.732	.02750
#2	.20616	5.2021	.21082	1.0669	.57755	.02576	65.483	.02711
#3	.20478	5.1955	.20968	1.0612	.58093	.02564	65.906	.02770

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	.10462	.26692	.32883	2.0990	27.840	.52218	6.4844	.27714
Stddev	.00020	.00081	.00175	.0525	.055	.00520	.0262	.00360
%RSD	.19530	.30242	.53360	2.5015	.19896	.99643	.40446	1.2987

#1	.10439	.26702	.33054	2.1200	27.829	.52319	6.5050	.27391
#2	.10468	.26768	.32891	2.0392	27.791	.51654	6.4549	.27651
#3	.10479	.26607	.32703	2.1377	27.900	.52680	6.4934	.28102

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	.52958	144.10	.26498	5.3489	.26749	.63452	.19565	3.2245
Stddev	.00064	.51	.00190	.0073	.00221	.00214	.00857	.0031
%RSD	.12130	.35235	.71633	.13653	.82637	.33795	4.3810	.09662

#1	.53023	144.35	.26606	5.3564	.26921	.63219	.18629	3.2214
#2	.52958	143.52	.26279	5.3486	.26828	.63640	.19755	3.2243
#3	.52894	144.44	.26609	5.3418	.26500	.63499	.20311	3.2277

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit


Approved: May 17, 2016

Sample Name: L1605057901PS Acquired: 5/16/2016 13:10:44 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568830-01

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.52809	.75604	.51202	.25576	.53367	.54354	.27302
Stddev	.00072	.00643	.00403	.00475	.00168	.00079	.29875
%RSD	.13666	.85046	.78745	1.8556	.31499	.14536	109.42
#1	.52792	.76111	.50770	.25314	.53404	.54386	-.06872
#2	.52746	.75820	.51267	.25289	.53513	.54412	.48466
#3	.52888	.74881	.51568	.26123	.53183	.54264	.40312

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	13121.	93724.	4374.9
Stddev	24.	138.	11.5
%RSD	.18084	.14690	.26398
#1	13128.	93565.	4386.0
#2	13094.	93798.	4375.9
#3	13140.	93809.	4363.0

Approved: May 17, 2016


Sample Name: L1605057901SDL Acquired: 5/16/2016 13:14:26 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: 5 Custom ID2: Custom ID3:
 Comment: WG568830-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00322	-0.01157	-0.00166	.00525	.01355	.00007	12.612	.00048
Stddev	.00038	.00243	.00226	.00195	.00079	.00004	.091	.00025
%RSD	11.938	20.969	135.59	37.195	5.8541	53.899	.71865	52.720

#1	-0.00351	-0.01379	-0.00424	.00337	.01280	.00005	12.539	.00046
#2	-0.00336	-0.00898	-0.00073	.00512	.01347	.00012	12.584	.00024
#3	-0.00278	-0.01194	-0.00003	.00727	.01438	.00005	12.714	.00074

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	-0.00010	-0.00062	.01403	.01988	.50244	.00668	.35167	.00368
Stddev	.00039	.00062	.00121	.00452	.07220	.00349	.09735	.00293
%RSD	379.46	98.750	8.6189	22.730	14.371	52.299	27.683	79.514

#1	-0.00025	-0.00073	.01322	.02507	.43731	.01071	.42415	.00054
#2	-0.00040	-0.00118	.01542	.01680	.58008	.00456	.38983	.00418
#3	.00034	.00004	.01345	.01778	.48993	.00477	.24101	.00633


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	.00062	24.733	-0.00103	.00134	-0.00258	-0.00201	.00233	.08681
Stddev	.00044	.186	.00119	.00750	.00203	.00178	.00563	.00226
%RSD	70.491	.75126	115.73	560.07	78.745	88.781	241.52	2.6061

#1	.00023	24.705	.00007	-.00724	-.00023	-.00255	-.00011	.08502
#2	.00110	24.562	-.00229	.00461	-.00374	-.00002	-.00167	.08935
#3	.00053	24.931	-.00087	.00665	-.00377	-.00346	.00877	.08605

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 17, 2016



Sample Name: L1605057901SDL Acquired: 5/16/2016 13:14:26 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: 5 Custom ID2: Custom ID3:
 Comment: WG568830-02

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0176	.04968	-0.00865	.00135	.00102	.00359	.07247
Stddev	.00026	.00017	.00656	.00125	.00058	.00028	.35211
%RSD	14.630	.33721	75.774	92.635	56.927	7.8816	485.88

#1	-0.00191	.04981	-0.01616	.00280	.00133	.00350	.03604
#2	-0.00146	.04974	-0.00576	.00064	.00138	.00390	.44138
#3	-0.00191	.04949	-0.00404	.00061	.00035	.00336	-.26001

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	14175.	101950.	4570.7
Stddev	69.	216.	76.4
%RSD	.48549	.21147	1.6717

#1	14252.	102000.	4615.8
#2	14153.	102140.	4613.7
#3	14120.	101710.	4482.4

Approved: May 17, 2016

Sample Name: CCV Acquired: 5/16/2016 13:18:26 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000(
 User: JYH 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	.38940	9.7022	.38919	.48878	.95264	.04758	9.3727
Stddev	.00267	.0166	.00105	.00353	.00415	.00025	.0328
%RSD	.68511	.17112	.27065	.72129	.43610	.52300	.35011

#1	.38663	9.6947	.38892	.49278	.94893	.04755	9.3932
#2	.38963	9.6907	.39035	.48615	.95186	.04784	9.3349
#3	.39195	9.7213	.38830	.48740	.95713	.04734	9.3900

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	.04822	.19805	.50017	.49631	3.8812	47.922	.96972
Stddev	.00017	.00026	.00169	.00153	.0613	.361	.00246
%RSD	.34487	.13259	.33880	.30894	1.5785	.75420	.25349

#1	.04804	.19779	.49948	.49457	3.8163	47.848	.97252
#2	.04837	.19804	.50210	.49747	3.8892	47.603	.96791
#3	.04824	.19831	.49893	.49689	3.9380	48.314	.96874

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	9.7079	.47795	.96263	48.464	.50553	9.7846	.50367
Stddev	.0643	.00758	.00365	.128	.00044	.0131	.00307
%RSD	.66198	1.5857	.37935	.26493	.08643	.13366	.60862

#1	9.6366	.47787	.96650	48.346	.50506	9.7700	.50092
#2	9.7256	.47040	.96215	48.445	.50593	9.7886	.50312
#3	9.7615	.48556	.95924	48.601	.50560	9.7951	.50698

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: May 17, 2016



Sample Name: CCV Acquired: 5/16/2016 13:18:26 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.1739	.36995	4.9218	.98713	.95025	.94485	.49281
Stddev	.0015	.00768	.0078	.00332	.00505	.01007	.00401
%RSD	.12784	2.0762	.15925	.33610	.53147	1.0658	.81311

#1	1.1739	.36177	4.9140	.98369	.94601	.93584	.49566
#2	1.1754	.37701	4.9217	.98740	.94891	.94299	.48823
#3	1.1724	.37107	4.9296	.99031	.95584	.95572	.49455

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	.98226	1.0032	F .43713
Stddev	.00253	.0021	.51427
%RSD	.25793	.20524	117.65


#1	.98002	1.0014	.25786
#2	.98501	1.0027	.03649
#3	.98175	1.0055	1.0171

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	13866.	98928.	4539.1
Stddev	43.	244.	30.2
%RSD	.31101	.24627	.66437

#1	13905.	99027.	4545.1
#2	13873.	98651.	4565.8
#3	13820.	99107.	4506.4

Approved: May 17, 2016



Sample Name: CCB Acquired: 5/16/2016 13:22:05 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00266	-0.00668	.00126	.00277	.00128	.00008	-0.00576	.00027
Stddev	.00139	.00725	.00096	.00185	.00038	.00002	.01378	.00006
%RSD	52.273	108.66	76.774	66.648	29.832	27.615	239.34	22.096

#1	-0.00427	-0.01045	.00018	.00334	.00085	.00006	.00208	.00034
#2	-0.00181	.00169	.00155	.00071	.00143	.00008	-.02167	.00023
#3	-0.00191	-.01126	.00204	.00428	.00157	.00011	.00231	.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	-0.00021	.00029	-0.00025	.01817	.19016	.00553	.08722	.00116
Stddev	.00014	.00126	.00164	.00995	.05094	.00113	.04343	.00146
%RSD	65.379	439.30	656.74	54.729	26.786	20.421	49.794	125.31

#1	-0.00023	-0.00069	.00053	.01425	.14434	.00513	.12234	-.00042
#2	-0.00034	.00171	.00086	.02948	.24501	.00681	.10067	.00245
#3	-0.00006	-0.00016	-.00214	.01079	.18114	.00466	.03866	.00145

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	.00377	.00432	-0.00112	.00309	.00051	.00353	.00301	-.02545
Stddev	.00012	.03438	.00049	.00293	.00349	.00195	.00275	.00046
%RSD	3.2645	796.53	43.873	94.681	678.42	55.378	91.434	1.8089

#1	.00372	.01107	-.00169	.00150	.00321	.00143	.00064	-.02572
#2	.00368	.03482	-.00081	.00130	.00176	.00529	.00602	-.02571
#3	.00391	-.03294	-.00087	.00647	-.00343	.00387	.00235	-.02492

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: May 17, 2016

Sample Name: CCB Acquired: 5/16/2016 13:22:05 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.0013	.00080	.00380	-0.00163	.00058	.00029	.00864
Stddev	.00078	.00055	.00394	.00257	.00081	.00015	.24689
%RSD	607.22	69.038	103.75	157.87	139.26	53.010	2858.9

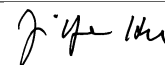
#1	-0.00103	.00072	.00550	.00124	.00003	.00041	-.24250
#2	.00024	.00139	-.00071	-.00241	.00150	.00012	.01735
#3	.00040	.00029	.00660	-.00373	.00020	.00033	.25105

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	13760.	98263.	4429.7
Stddev	25.	389.	24.7
%RSD	.18271	.39572	.55653

#1	13764.	97930.	4457.9
#2	13783.	98170.	4419.3
#3	13733.	98690.	4412.0

Approved: May 17, 2016



Sample Name: L1605051201 Acquired: 5/16/2016 13:26:06 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00269	1.7329	-0.00145	.01633	.00320	.00017	.37433
Stddev	.00134	.0089	.00369	.00120	.00043	.00007	.03992
%RSD	49.838	.51173	255.31	7.3566	13.421	41.502	10.664

#1	-0.00201	1.7314	.00081	.01548	.00270	.00022	.38253
#2	-0.00423	1.7425	-0.00571	.01580	.00343	.00009	.40952
#3	-0.00182	1.7249	.00056	.01770	.00345	.00019	.33095

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	.00052	-0.00006	.00069	.00029	.24035	.19707	.00369
Stddev	.00007	.00021	.00064	.00096	.02026	.04270	.00511
%RSD	13.456	387.37	92.802	331.13	8.4299	21.666	138.62

#1	.00060	-0.00023	.00057	-0.00075	.25946	.24103	.00484
#2	.00051	.00018	.00139	.00048	.24249	.15576	.00812
#3	.00046	-0.00011	.00012	.00115	.21911	.19441	-0.00190


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	.18823	.02481	.00055	126.01	-0.00099	-0.00200	-0.00416
Stddev	.09616	.00137	.00023	.47	.00139	.00500	.00165
%RSD	51.089	5.5062	42.240	.37474	140.78	249.63	39.568

#1	.13159	.02334	.00077	125.66	-0.00256	.00194	-0.00242
#2	.13383	.02603	.00031	125.83	.00007	-0.00032	-0.00436
#3	.29926	.02507	.00057	126.55	-0.00047	-0.00763	-0.00570

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016



Sample Name: L1605051201 Acquired: 5/16/2016 13:26:06 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0541	.00130	.13561	-.00096	.00159	.00329	.00085
Stddev	.00091	.00446	.00148	.00085	.00012	.00274	.00040
%RSD	16.909	344.18	1.0900	87.895	7.4660	83.144	46.989

#1	-0.0467	-.00338	.13703	-.00028	.00173	.00033	.00090
#2	-0.0643	.00176	.13408	-.00070	.00151	.00573	.00123
#3	-0.0512	.00550	.13572	-.00191	.00153	.00381	.00043

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	.00105	.00531	F -.09119
Stddev	.00088	.00025	.61760
%RSD	84.289	4.6707	677.27


#1	.00204	.00518	-.21705
#2	.00076	.00560	.57965
#3	.00034	.00515	-.63617

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	13242.	94621.	4404.0
Stddev	28.	358.	65.7
%RSD	.21094	.37850	1.4927

#1	13261.	94798.	4440.0
#2	13210.	94209.	4443.8
#3	13255.	94857.	4328.1

Approved: May 17, 2016



Sample Name: L1605056401 Acquired: 5/16/2016 13:30:05 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00281	.13741	.00140	.08181	.37768	.00009	57.517	.00017
Stddev	.00046	.00741	.00427	.00237	.00155	.00011	.217	.00001
%RSD	16.340	5.3908	305.14	2.8919	.41140	124.18	.37733	3.8161

#1	-0.00286	.14158	.00266	.08296	.37711	.00011	57.610	.00018
#2	-0.00324	.14179	.00490	.08337	.37944	-.00003	57.672	.00017
#3	-0.00233	.12886	-.00336	.07909	.37649	.00018	57.269	.00017

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	.00299	.00159	.00927	1.1417	2.2376	.01941	10.067	.23644
Stddev	.00019	.00154	.00054	.0256	.0384	.00168	.226	.00069
%RSD	6.3363	97.068	5.7749	2.2430	1.7163	8.6719	2.2471	.29379

#1	.00297	.00059	.00950	1.1225	2.1956	.01881	10.116	.23596
#2	.00318	.00337	.00865	1.1708	2.2709	.02132	10.265	.23724
#3	.00281	.00081	.00965	1.1318	2.2464	.01812	9.8204	.23613

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	.00124	31.944	.00549	.03043	-.00218	.00075	-.00444	6.2169
Stddev	.00021	.108	.00078	.00346	.00392	.00181	.00831	.0060
%RSD	16.889	.33762	14.265	11.382	180.03	239.87	187.20	.09602

#1	.00115	31.996	.00520	.02651	-.00584	.00259	.00073	6.2234
#2	.00148	32.016	.00638	.03171	-.00265	-.00103	-.01402	6.2116
#3	.00109	31.820	.00489	.03307	.00196	.00070	-.00002	6.2158

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 17, 2016

Sample Name: L1605056401 Acquired: 5/16/2016 13:30:05 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.0029	1.4251	-0.00819	-0.00490	.00089	.01961	.12948
Stddev	.00156	.0046	.00211	.00229	.00104	.00017	.46121
%RSD	548.14	.31917	25.821	46.781	117.57	.87443	356.19


#1	-0.00198	1.4289	-0.00913	-0.00226	-0.00029	.01946	.52668
#2	.00111	1.4262	-0.00577	-0.00638	.00127	.01980	-3.7634
#3	.00002	1.4201	-0.00967	-0.00607	.00169	.01957	.23811

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	13274.	94828.	4344.2
Stddev	64.	90.	25.2
%RSD	.48367	.09452	.57946

#1	13321.	94774.	4320.5
#2	13300.	94778.	4341.5
#3	13200.	94931.	4370.7

Approved: May 17, 2016



Sample Name: L1605056701 Acquired: 5/16/2016 13:34:03 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00249	-0.00707	-0.00343	.02641	.02845	.00003	56.023	.00042
Stddev	.00044	.00101	.00191	.00305	.00116	.00006	.194	.00009
%RSD	17.593	14.237	55.548	11.541	4.0674	209.59	.34669	22.355

#1	-0.00298	-0.00775	-0.00562	.02960	.02978	-.00003	56.001	.00039
#2	-0.00215	-0.00754	-0.00212	.02354	.02766	.00003	56.227	.00035
#3	-0.00233	-0.00591	-0.00255	.02608	.02792	.00009	55.840	.00053

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	-0.00037	.00180	.01088	.02539	12.559	.01719	10.787	.00148
Stddev	.00042	.00076	.00084	.02608	.013	.00684	.151	.00202
%RSD	113.07	42.063	7.7107	102.74	.10682	39.798	1.3964	137.05

#1	-0.00081	.00202	.01174	.00321	12.544	.01115	10.643	.00021
#2	.00003	.00242	.01006	.01882	12.560	.01580	10.944	.00381
#3	-0.00033	.00096	.01084	.05412	12.571	.02461	10.775	.00041

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	.00268	16.560	-0.00045	.00659	-0.00235	-0.00209	-0.00067	5.2419
Stddev	.00013	.073	.00050	.00435	.00109	.00416	.00249	.0058
%RSD	4.7158	.44071	111.54	66.041	46.314	199.06	371.49	.11011

#1	.00260	16.543	-0.00045	.00717	-0.00312	-0.00664	-0.00175	5.2365
#2	.00283	16.640	.00005	.00198	-0.00282	-0.00115	.00217	5.2410
#3	.00261	16.498	-0.00096	.01062	-0.00111	.00152	-0.00244	5.2480

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 17, 2016

Sample Name: L1605056701 Acquired: 5/16/2016 13:34:03 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	.00016	.34869	-.01269	-.00077	.00161	.10241	.09985
Stddev	.00106	.00173	.00323	.00394	.00068	.00025	.15320
%RSD	676.79	.49525	25.488	513.21	42.234	.24745	153.42

#1	.00132	.34774	-.01524	-.00339	.00104	.10247	.26648
#2	-.00011	.35068	-.00905	.00376	.00237	.10213	.06799
#3	-.00075	.34765	-.01377	-.00267	.00144	.10263	-.03490

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	13298.	95560.	4361.2
Stddev	24.	583.	10.9
%RSD	.18136	.60991	.24908

#1	13286.	94933.	4355.2
#2	13281.	96085.	4373.8
#3	13325.	95663.	4354.6

Approved: May 17, 2016

Sample Name: L1605056702 Acquired: 5/16/2016 13:37:58 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH 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	-0.00723	-0.00085	.02415	.03606	.00006	54.428
Stddev	.00044	.00456	.00051	.00202	.00142	.00004	.048
%RSD	28.303	63.117	60.356	8.3489	3.9330	66.366	.08780

#1	-0.0173	-0.1101	-0.00095	.02580	.03618	.00003	54.389
#2	-0.0106	-0.0216	-0.00029	.02475	.03741	.00004	54.481
#3	-0.0189	-0.00851	-0.0130	.02190	.03459	.00010	54.414

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	.00063	-0.00016	.00158	.01291	.01004	12.119	.01415
Stddev	.00029	.00023	.00124	.00040	.00925	.055	.00169
%RSD	45.506	143.62	78.852	3.1305	92.161	.45087	11.916

#1	.00095	.00010	.00302	.01336	.00213	12.175	.01365
#2	.00051	-0.00035	.00086	.01278	.00777	12.116	.01602
#3	.00042	-0.00024	.00086	.01258	.02022	12.066	.01276

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	10.417	.00395	.00197	16.087	.00087	-0.00169	.00166
Stddev	.119	.00135	.00066	.081	.00022	.00843	.00232
%RSD	1.1390	34.158	33.504	.50138	24.916	498.02	140.00

#1	10.283	.00547	.00156	16.151	.00068	-0.00692	.00007
#2	10.456	.00347	.00162	16.112	.00111	-0.00619	.00058
#3	10.511	.00290	.00274	15.996	.00083	.00804	.00431

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016

Sample Name: L1605056702 Acquired: 5/16/2016 13:37:58 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0384	.00527	5.1058	-.00049	.33960	-.00648	-.00149
Stddev	.00138	.00838	.0039	.00073	.00037	.00297	.00292
%RSD	35.980	158.93	.07572	147.96	.10885	45.798	196.32

#1	-0.0526	.00931	5.1100	-.00121	.34000	-.00810	-.00418
#2	-.00251	-.00436	5.1052	.00024	.33953	-.00305	.00161
#3	-.00374	.01087	5.1023	-.00050	.33928	-.00828	-.00189

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	.00114	.09992	F -.32664
Stddev	.00035	.00017	.33114
%RSD	30.654	.17509	101.38


#1	.00074	.09972	-.36408
#2	.00129	.10005	.02164
#3	.00138	.09998	-.63746

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	13323.	95532.	4369.0
Stddev	45.	391.	48.8
%RSD	.33548	.40886	1.1171

#1	13277.	95969.	4319.9
#2	13367.	95217.	4369.5
#3	13326.	95409.	4417.5

Approved: May 17, 2016



Sample Name: L1605058601 Acquired: 5/16/2016 13:41:53 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00162	1.5028	-0.00023	.02059	.02009	.00013	16.252	.00040
Stddev	.00230	.0078	.00026	.00098	.00015	.00001	.124	.00028
%RSD	142.21	.52211	112.26	4.7655	.73971	6.2089	.76450	69.436

#1	.00071	1.5050	-.00019	.02113	.01994	.00014	16.316	.00072
#2	-.00166	1.4941	-.00050	.01946	.02024	.00014	16.331	.00018
#3	-.00389	1.5093	.00001	.02119	.02011	.00012	16.109	.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	.00059	.00184	.00426	1.8086	2.2362	.00610	6.7966	.01439
Stddev	.00029	.00064	.00051	.0309	.0654	.00487	.0714	.00187
%RSD	48.788	34.712	12.076	1.7061	2.9239	79.837	1.0502	13.019

#1	.00090	.00226	.00467	1.7915	2.1628	.01066	6.8790	.01654
#2	.00053	.00215	.00369	1.8442	2.2881	.00097	6.7590	.01342
#3	.00033	.00111	.00443	1.7901	2.2578	.00668	6.7520	.01319


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	.00154	2.7473	.00122	.11524	.00155	-.00438	.00254	5.4351
Stddev	.00036	.0373	.00101	.00952	.00150	.00081	.00436	.0121
%RSD	23.547	1.3571	82.401	8.2611	96.394	18.490	171.72	.22264

#1	.00112	2.7748	.00105	.10586	.00072	-.00526	.00757	5.4359
#2	.00176	2.7623	.00031	.12489	.00066	-.00367	.00026	5.4468
#3	.00173	2.7049	.00231	.11497	.00328	-.00421	-.00021	5.4226

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: May 17, 2016



Sample Name: L1605058601 Acquired: 5/16/2016 13:41:53 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	.00050	.02647	.02502	.00004	.00411	.00978	1.0357
Stddev	.00120	.00014	.00616	.00184	.00070	.00011	.2198
%RSD	239.14	.53199	24.618	4477.4	16.894	1.1200	21.224

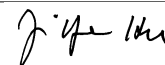
#1	-.00013	.02637	.02099	-.00175	.00477	.00984	1.2094
#2	-.00025	.02664	.02195	-.00005	.00418	.00965	1.1092
#3	.00189	.02641	.03210	.00192	.00339	.00984	.78855

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	13532.	97550.	4411.1
Stddev	24.	319.	28.5
%RSD	.17410	.32670	.64653

#1	13520.	97615.	4379.3
#2	13516.	97203.	4434.4
#3	13559.	97830.	4419.6

Approved: May 17, 2016



Sample Name: L1605058602 Acquired: 5/16/2016 13:45:49 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	F -.00409	1.7623	-.00012	.02199	.02159	.00013	19.513
Stddev	.00175	.0075	.00394	.00165	.00017	.00008	.059
%RSD	42.786	.42347	3236.7	7.4819	.77380	61.775	.30351

#1	-.00241	1.7537	.00380	.02206	.02155	.00016	19.579
#2	-.00395	1.7671	-.00008	.02031	.02178	.00018	19.494
#3	-.00590	1.7661	-.00409	.02359	.02145	.00004	19.465

Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	9.0000						
Low Limit	-.00400						

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00050	.00039	.00196	.00347	1.7538	2.5754	.00891
Stddev	.00027	.00037	.00140	.00073	.0088	.0142	.00100
%RSD	54.558	94.910	71.409	21.099	.50104	.55175	11.179

#1	.00044	.00072	.00153	.00412	1.7588	2.5697	.00990
#2	.00026	-.00001	.00083	.00360	1.7588	2.5916	.00791
#3	.00080	.00047	.00352	.00268	1.7436	2.5650	.00891


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	6.5828	.02558	.00146	3.2205	.00207	.16161	-.00115
Stddev	.0711	.00145	.00013	.0096	.00035	.00873	.00165
%RSD	1.0806	5.6795	8.9478	.29925	17.151	5.4048	143.82

#1	6.6413	.02407	.00131	3.2155	.00242	.17116	.00004
#2	6.6035	.02571	.00155	3.2144	.00171	.15404	-.00304
#3	6.5036	.02697	.00152	3.2316	.00207	.15962	-.00045

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016



Sample Name: L1605058602 Acquired: 5/16/2016 13:45:49 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00160	.00362	5.9653	-.00036	.03023	.02572	-.00221
Stddev	.00191	.00170	.0095	.00066	.00011	.00198	.00253
%RSD	119.55	47.006	.15851	183.49	.34867	7.6882	114.46

#1	-0.00094	.00173	5.9762	.00020	.03012	.02409	-.00285
#2	-0.00010	.00412	5.9599	-.00109	.03033	.02792	.00058
#3	-0.00375	.00502	5.9598	-.00019	.03024	.02515	-.00436

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	.00484	.01010	.84063
Stddev	.00005	.00017	.19325
%RSD	1.0534	1.7185	22.988

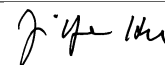
#1	.00488	.01023	.89665
#2	.00478	.01016	.99967
#3	.00486	.00990	.62556

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	13514.	97272.	4412.0
Stddev	12.	371.	42.8
%RSD	.09089	.38110	.96944

#1	13528.	97531.	4365.0
#2	13510.	97438.	4448.6
#3	13505.	96847.	4422.5

Approved: May 17, 2016



Sample Name: L1605058902 Acquired: 5/16/2016 13:49:46 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00324	-0.00850	-0.00027	.00623	.00092	.00009	2.1453	.00042
Stddev	.00064	.00515	.00191	.00125	.00092	.00004	.0141	.00006
%RSD	19.737	60.583	718.02	20.123	99.863	41.429	.65849	14.276

#1	-0.00383	-0.00389	-0.00144	.00510	.00143	.00005	2.1595	.00047
#2	-0.00334	-0.01406	.00194	.00758	-0.00014	.00013	2.1312	.00035
#3	-0.00256	-0.00755	-0.00130	.00602	.00146	.00010	2.1451	.00044

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	.00003	-0.00002	.00330	.04548	15.283	.00470	.54603	.01362
Stddev	.00016	.00037	.00160	.02752	.099	.00376	.09818	.00082
%RSD	501.91	1500.9	48.373	60.513	.64554	79.993	17.980	5.9923

#1	.00016	-0.00045	.00320	.01744	15.245	.00544	.65937	.01443
#2	.00008	.00016	.00495	.04655	15.395	.00063	.48745	.01280
#3	-0.00015	.00021	.00176	.07246	15.208	.00804	.49125	.01361


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	.00092	41.706	.00193	2.2232	.00070	-0.00189	-0.00667	.18583
Stddev	.00030	.037	.00170	.0050	.00251	.00176	.00248	.00152
%RSD	32.320	.08856	87.866	.22294	358.13	93.437	37.118	.81664

#1	.00080	41.678	.00055	2.2210	-0.00219	-0.00230	-0.00570	.18616
#2	.00070	41.747	.00142	2.2289	.00199	.00005	-0.00483	.18715
#3	.00126	41.691	.00383	2.2197	.00230	-0.00340	-0.00948	.18417

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: May 17, 2016



Sample Name: L1605058902 Acquired: 5/16/2016 13:49:46 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.0115	.00229	-0.00516	-0.00178	.00050	.02002	.15407
Stddev	.00052	.00037	.00776	.00198	.00039	.00015	.13716
%RSD	45.225	16.142	150.32	111.34	76.760	.74615	89.025

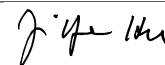
#1	-0.00167	.00271	-.01011	.00050	.00094	.01991	.29095
#2	-0.00114	.00214	-.00915	-.00276	.00037	.02019	.15462
#3	-0.00063	.00202	.00378	-.00309	.00020	.01996	.01663

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	13580.	97244.	4432.3
Stddev	16.	170.	23.4
%RSD	.11710	.17481	.52735

#1	13591.	97048.	4406.0
#2	13562.	97350.	4450.8
#3	13587.	97334.	4439.9

Approved: May 17, 2016



Sample Name: L1605058904 Acquired: 5/16/2016 13:53:45 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH 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	-0.00263	.07857	-0.00096	.00823	.01512	.00004	76.570	.00035
Stddev	.00061	.00178	.00121	.00094	.00084	.00007	.870	.00008
%RSD	23.056	2.2698	126.29	11.407	5.5633	165.80	1.1359	22.862

#1	-0.00321	.07660	-0.00044	.00716	.01443	.00012	77.574	.00037
#2	-0.00268	.08007	-0.00234	.00859	.01606	.00002	76.095	.00026
#3	-0.00200	.07905	-0.00009	.00893	.01486	-0.00001	76.042	.00042

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	-0.00000	.00338	.01567	.34997	15.222	.00511	3.9300	.15830
Stddev	.00027	.00010	.00056	.02547	.104	.00136	.0865	.00288
%RSD	17209.	3.0174	3.5811	7.2783	.68176	26.566	2.2021	1.8184

#1	.00029	.00333	.01611	.34942	15.332	.00370	4.0061	.16084
#2	-0.00005	.00349	.01586	.37571	15.208	.00641	3.8359	.15517
#3	-0.00024	.00330	.01504	.32477	15.126	.00522	3.9479	.15888


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	.00218	41.772	.00274	46.026	.00158	-0.00136	.00242	.27191
Stddev	.00032	.483	.00011	.079	.00059	.00256	.00936	.00156
%RSD	14.867	1.1556	4.1327	.17251	37.482	188.32	386.59	.57478

#1	.00252	42.320	.00286	46.115	.00208	-0.00429	.00542	.27132
#2	.00216	41.585	.00263	45.965	.00093	.00042	-0.00807	.27368
#3	.00187	41.411	.00273	45.996	.00172	-0.00020	.00992	.27072

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: May 17, 2016



Sample Name: L1605058904 Acquired: 5/16/2016 13:53:45 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.0110	.05329	-0.01021	-0.00124	.00221	.13835	.07649
Stddev	.00031	.00112	.00417	.00096	.00081	.00065	.17753
%RSD	27.838	2.0941	40.897	77.653	36.478	.46674	232.11

#1	-0.00108	.05443	-0.00546	-0.00230	.00294	.13908	-.11116
#2	-0.00081	.05322	-0.01330	-0.00043	.00135	.13785	.09884
#3	-0.00142	.05220	-0.01187	-0.00098	.00234	.13811	.24178

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	14376.	103350.	4825.3
Stddev	20.	102.	47.6
%RSD	.13942	.09890	.98561

#1	14358.	103390.	4771.6
#2	14398.	103230.	4842.3
#3	14372.	103420.	4862.1

Approved: May 17, 2016

Sample Name: L1605058906 Acquired: 5/16/2016 13:57:41 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00268	-0.01037	-0.00012	.00085	.00209	.00011	5.9281
Stddev	.00122	.00922	.00370	.00168	.00058	.00004	.0341
%RSD	45.674	88.908	3011.1	198.03	27.853	34.719	.57517

#1	-0.00130	-0.00990	-0.00201	.00046	.00261	.00015	5.9637
#2	-0.00365	-0.01981	.00414	-0.00060	.00220	.00008	5.9250
#3	-0.00309	-0.00139	-0.00250	.00269	.00146	.00009	5.8957

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	-0.00001	-0.00029	-0.00032	.01024	2.0012	.00215
Stddev	.00015	.00029	.00088	.00091	.01251	.0682	.00080
%RSD	146.82	2205.2	301.86	284.34	122.13	3.4096	37.092

#1	.00027	.00026	-0.00112	-0.00107	-0.00341	2.0629	.00144
#2	-0.00003	.00002	.00064	.00069	.02115	1.9279	.00201
#3	.00007	-0.00032	-0.00040	-0.00057	.01299	2.0126	.00301

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	.35898	.03195	.00023	.73524	-0.00047	.13581	-0.00220
Stddev	.06921	.00100	.00021	.02953	.00065	.00628	.00197
%RSD	19.281	3.1301	90.721	4.0168	138.50	4.6244	89.204

#1	.38704	.03095	.00016	.72121	.00006	.13349	-0.00076
#2	.40975	.03197	.00007	.71534	-0.00027	.14292	-0.00141
#3	.28014	.03295	.00047	.76917	-0.00119	.13102	-0.00444

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016

Sample Name: L1605058906 Acquired: 5/16/2016 13:57:41 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0173	-0.0163	.06668	-0.0036	.01040	-0.00240	-0.00261
Stddev	.00342	.00599	.00013	.00042	.00039	.00263	.00382
%RSD	197.51	367.95	.19930	114.80	3.7443	109.74	146.50

#1	-0.0506	.00413	.06655	.00012	.01060	-0.00541	-0.00685
#2	-0.0189	-0.0120	.06682	-0.0055	.01065	-0.00119	-0.0155
#3	.00177	-0.00782	.06668	-0.0065	.00995	-0.00058	.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	.00114	.00446	F -.16195
Stddev	.00107	.00004	.42074
%RSD	93.822	.81973	259.80

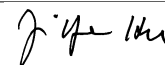
#1	.00021	.00443	-.64322
#2	.00091	.00450	.02119
#3	.00230	.00445	.13619

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	13656.	99063.	4433.6
Stddev	20.	115.	14.8
%RSD	.14879	.11597	.33406

#1	13678.	99164.	4445.7
#2	13638.	98938.	4417.1
#3	13650.	99088.	4437.9

Approved: May 17, 2016



Sample Name: L1605061103 Acquired: 5/16/2016 14:01:41 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-.00185	-.00957	.00143	.04286	.03893	.00001	114.56	.00052
Stddev	.00119	.00347	.00265	.00179	.00064	.00001	.33	.00017
%RSD	64.411	36.302	185.15	4.1780	1.6534	186.89	.28842	32.302

#1	-.00113	-.01357	-.00058	.04272	.03857	.00000	114.74	.00072
#2	-.00322	-.00778	.00443	.04115	.03967	-.00000	114.75	.00045
#3	-.00119	-.00735	.00044	.04472	.03854	.00002	114.18	.00040

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	.00079	.00100	.00334	.25303	.83526	.02007	33.641	.53600
Stddev	.00026	.00034	.00065	.00262	.06550	.00747	.135	.00101
%RSD	33.252	33.567	19.603	1.0349	7.8420	37.219	.40043	.18757

#1	.00095	.00071	.00393	.25115	.80879	.01220	33.681	.53526
#2	.00049	.00094	.00345	.25191	.78713	.02706	33.490	.53560
#3	.00094	.00137	.00264	.25602	.90985	.02097	33.751	.53714

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	69.616	.00119	.01278	-.00356	-.00027	.00018	5.4538
Stddev	.00018	.200	.00070	.00272	.00351	.00251	.00452	.0224
%RSD	27.198	.28674	59.169	21.277	98.486	932.32	2476.5	.41152

#1	.00048	69.823	.00070	.01104	.00048	.00248	.00273	5.4691
#2	.00066	69.600	.00087	.01591	-.00584	-.00242	-.00504	5.4643
#3	.00084	69.425	.00199	.01138	-.00533	-.00086	.00285	5.4281

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 17, 2016

Sample Name: L1605061103 Acquired: 5/16/2016 14:01:41 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.0040	.24527	-0.02039	-0.00276	.00032	.05149	.17630
Stddev	.00037	.00068	.00373	.00119	.00122	.00032	.16895
%RSD	94.334	.27552	18.298	42.999	378.08	.61567	95.830

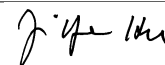
#1	-0.0047	.24574	-0.01618	-0.00381	.00115	.05178	.28260
#2	.00001	.24558	-0.02168	-0.00148	-0.00108	.05154	-0.01852
#3	-0.00073	.24450	-0.02330	-0.00298	.00089	.05115	.26483

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	13052.	93249.	4329.4
Stddev	51.	236.	42.5
%RSD	.39319	.25302	.98142

#1	13005.	92980.	4281.0
#2	13043.	93347.	4346.6
#3	13107.	93421.	4360.5

Approved: May 17, 2016



Sample Name: CCV Acquired: 5/16/2016 14:05:39 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000(
 User: JYH 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	.38613	9.6207	.38649	.48284	.95429	.04711	9.3555	.04723
Stddev	.00052	.0170	.00430	.00453	.00299	.00012	.0316	.00009
%RSD	.13573	.17691	1.1138	.93823	.31339	.25068	.33835	.19637

#1	.38624	9.6019	.39012	.48805	.95396	.04723	9.3606	.04726
#2	.38659	9.6252	.38762	.48060	.95148	.04699	9.3216	.04729
#3	.38556	9.6351	.38173	.47986	.95744	.04712	9.3843	.04712

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19664	.49436	.49355	3.8995	48.307	.96392	9.7300	.48050
Stddev	.00038	.00212	.00124	.0197	.236	.00374	.0438	.00123
%RSD	.19149	.42965	.25086	.50595	.48767	.38827	.45060	.25650

#1	.19668	.49326	.49446	3.8966	48.223	.96096	9.6804	.47921
#2	.19624	.49301	.49214	3.8814	48.124	.96268	9.7635	.48062
#3	.19700	.49680	.49404	3.9206	48.573	.96813	9.7462	.48167


Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.94896	48.730	.50084	9.6944	.49964	1.1593	.36910	4.8802
Stddev	.00320	.106	.00106	.0065	.00287	.0026	.00776	.0089
%RSD	.33755	.21710	.21245	.06722	.57395	.22039	2.1031	.18199

#1	.95251	48.741	.50179	9.6875	.50207	1.1622	.36648	4.8815
#2	.94811	48.619	.49969	9.7005	.49647	1.1582	.37783	4.8708
#3	.94628	48.830	.50103	9.6953	.50037	1.1575	.36299	4.8884

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Approved: May 17, 2016



Sample Name: CCV Acquired: 5/16/2016 14:05:39 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	.97709	.95108	.94890	.48636	.97043	.99511	1.0892
Stddev	.00082	.00254	.00571	.00213	.00135	.00080	.3109
%RSD	.08373	.26730	.60172	.43892	.13910	.08047	28.543

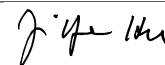
#1	.97694	.95152	.95355	.48864	.97199	.99556	.73146
#2	.97797	.94834	.94253	.48604	.96957	.99418	1.2941
#3	.97636	.95337	.95062	.48441	.96973	.99558	1.2420

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	13937.	99903.	4510.9
Stddev	17.	269.	8.6
%RSD	.12233	.26971	.18973

#1	13945.	100160.	4516.1
#2	13918.	99925.	4501.1
#3	13949.	99623.	4515.7

Approved: May 17, 2016



Sample Name: CCB Acquired: 5/16/2016 14:09:17 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.0256	-0.1476	-0.0253	.00077	.00158	.00015	-.03926
Stddev	.00016	.00435	.00217	.00074	.00053	.00007	.02926
%RSD	6.2047	29.508	85.977	96.216	33.493	49.683	74.540

#1	-0.0273	-0.01096	-0.0447	.00140	.00117	.00016	-.00641
#2	-0.0241	-0.01380	-0.0293	.00097	.00218	.00007	-.04882
#3	-0.0255	-0.01951	-0.0018	-0.0005	.00138	.00022	-.06254

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	.00030	-.00027	.00050	.00011	.01190	.17651	.00480
Stddev	.00034	.00006	.00017	.00047	.01256	.12861	.00152
%RSD	114.15	23.872	33.382	422.60	105.54	72.864	31.769

#1	.00043	-.00020	.00067	.00012	.00129	.27759	.00656
#2	.00056	-.00031	.00034	-.00036	.00864	.22020	.00393
#3	-.00009	-.00030	.00048	.00058	.02577	.03175	.00390

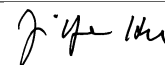
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.09003	.00039	.00387	.01539	-.00025	.00219	-.00101
Stddev	.07545	.00219	.00038	.01293	.00090	.00576	.00279
%RSD	83.807	567.16	9.8864	83.989	368.26	262.78	275.96

#1	.00317	-.00183	.00426	.03024	.00028	-.00379	.00041
#2	.13936	.00254	.00350	.00934	.00027	.00771	.00078
#3	.12757	.00045	.00385	.00661	-.00129	.00265	-.00423

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016



Sample Name: CCB Acquired: 5/16/2016 14:09:17 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00179	.00070	-.02827	-.00049	.00091	-.00169	-.00205
Stddev	.00161	.00434	.00132	.00125	.00047	.00226	.00190
%RSD	89.989	622.70	4.6550	254.65	51.835	134.31	93.003

#1	.00084	.00108	-.02692	.00003	.00128	-.00409	.00013
#2	.00088	.00483	-.02834	-.00191	.00108	-.00137	-.00341
#3	.00365	-.00382	-.02955	.00042	.00038	.00040	-.00286

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	.00088	.00013	F .17901
Stddev	.00015	.00016	.24341
%RSD	17.112	116.31	135.98

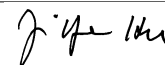
#1	.00088	.00004	.45758
#2	.00104	.00032	.00737
#3	.00074	.00004	.07207

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	13804.	99441.	4425.0
Stddev	14.	505.	7.4
%RSD	.09998	.50743	.16638

#1	13807.	99961.	4432.9
#2	13816.	98953.	4418.3
#3	13789.	99408.	4423.8

Approved: May 17, 2016



Sample Name: L1605061105 Acquired: 5/16/2016 14:13:16 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00263	-0.00404	.00078	.04814	.05508	.00005	131.64	.00035
Stddev	.00194	.00967	.00379	.00146	.00025	.00002	.21	.00037
%RSD	73.765	239.61	485.87	3.0348	.46258	39.251	.15906	105.40

#1	-0.00228	.00262	-0.00322	.04833	.05523	.00003	131.61	.00042
#2	-0.00472	-0.01513	.00123	.04660	.05524	.00007	131.86	.00067
#3	-0.00089	.00040	.00433	.04950	.05479	.00005	131.45	-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	.00297	.00234	.00040	.12234	.99675	.01710	54.944	1.1242
Stddev	.00040	.00131	.00170	.01305	.08571	.00121	.119	.0051
%RSD	13.367	56.045	429.83	10.666	8.5993	7.1020	.21712	.45573

#1	.00258	.00199	-0.00156	.13710	.93078	.01755	54.887	1.1185
#2	.00337	.00123	.00152	.11232	.96584	.01803	54.863	1.1283
#3	.00296	.00378	.00123	.11760	1.0936	.01573	55.081	1.1259


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	.00130	128.93	.00389	.01612	-0.00267	-0.00124	.00273	4.6853
Stddev	.00010	.18	.00035	.00553	.00443	.00621	.00660	.0319
%RSD	7.8354	.13722	9.0169	34.326	165.90	500.66	241.63	.68158

#1	.00127	129.06	.00383	.01669	-0.00693	.00195	-0.00469	4.7036
#2	.00122	129.00	.00357	.02135	-0.00300	.00272	.00795	4.7039
#3	.00141	128.73	.00426	.01033	.00191	-0.00839	.00494	4.6485

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 17, 2016



Sample Name: L1605061105 Acquired: 5/16/2016 14:13:16 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.0026	.20060	-0.02466	-0.00430	.00035	.00483	.18961
Stddev	.00072	.00029	.00475	.00087	.00133	.00008	.05527
%RSD	274.95	.14519	19.276	20.184	380.59	1.6369	29.146

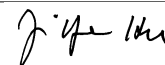
#1	.00057	.20028	-.01977	-.00330	.00120	.00480	.14604
#2	-.00062	.20085	-.02497	-.00482	.00103	.00478	.25178
#3	-.00073	.20067	-.02926	-.00478	-.00118	.00492	.17103

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	12887.	92119.	4310.9
Stddev	36.	622.	23.8
%RSD	.28119	.67557	.55147

#1	12867.	91646.	4314.0
#2	12865.	92824.	4285.7
#3	12929.	91887.	4332.9

Approved: May 17, 2016



Sample Name: L1605061106 Acquired: 5/16/2016 14:17:13 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH 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	-0.00207	.00343	.04245	.07265	.03180	.00007	F 309.18
Stddev	.00347	.00456	.00213	.00124	.00040	.00004	1.61
%RSD	167.40	133.09	5.0198	1.7075	1.2482	55.393	.52225

#1	-0.00437	.00864	.04050	.07124	.03216	.00006	311.02
#2	-0.00378	.00150	.04473	.07312	.03137	.00004	308.51
#3	.00192	.00015	.04214	.07358	.03186	.00012	308.01

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	.00080	.00187	.00194	.00245	11.597	3.2678	.04684
Stddev	.00024	.00033	.00094	.00120	.079	.0958	.00179
%RSD	29.993	17.553	48.318	48.996	.68460	2.9314	3.8164

#1	.00085	.00188	.00096	.00160	11.642	3.1613	.04878
#2	.00102	.00220	.00282	.00382	11.506	3.2949	.04648
#3	.00054	.00154	.00203	.00193	11.645	3.3471	.04526

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	84.241	1.4144	.00145	F 325.88	.01128	.18449	-.00037
Stddev	.160	.0058	.00026	2.44	.00103	.00541	.00343
%RSD	.18971	.41196	17.706	.74833	9.1693	2.9315	920.73

#1	84.421	1.4167	.00122	328.62	.01202	.18621	-.00432
#2	84.115	1.4188	.00142	325.08	.01173	.18883	.00187
#3	84.186	1.4078	.00173	323.94	.01010	.17843	.00133

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: May 17, 2016

Sample Name: L1605061106 Acquired: 5/16/2016 14:17:13 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0041	-0.0026	7.0733	-0.0178	3.3343	F -0.03945	-0.00247
Stddev	.00243	.00554	.0103	.00107	.0170	.00337	.00308
%RSD	597.59	2109.5	.14514	59.926	.50874	8.5332	125.13

#1	.00226	.00609	7.0657	-.00296	3.3539	-.04165	-.00469
#2	-.00099	-.00275	7.0850	-.00151	3.3256	-.04113	-.00376
#3	-.00249	-.00412	7.0692	-.00087	3.3236	-.03558	.00106

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	.00179	.00210	.08531
Stddev	.00069	.00014	.59762
%RSD	38.327	6.5722	700.55

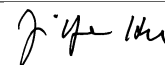
#1	.00235	.00212	.14774
#2	.00102	.00223	-.54108
#3	.00200	.00195	.64927

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	12486.	88966.	4232.6
Stddev	29.	170.	34.3
%RSD	.22934	.19061	.81112

#1	12518.	89104.	4193.0
#2	12462.	88777.	4251.7
#3	12478.	89017.	4253.1

Approved: May 17, 2016



Sample Name: L1605061107 Acquired: 5/16/2016 14:21:10 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH 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	-0.0137	-0.0164	.04157	.07266	.03105	.00009	F 296.24
Stddev	.00137	.00626	.00275	.00257	.00059	.00007	1.45
%RSD	99.931	380.64	6.6220	3.5378	1.8927	78.475	.48984

#1	-0.0025	-0.00599	.04181	.06969	.03052	.00006	296.94
#2	-0.0097	.00553	.03870	.07405	.03096	.00017	297.22
#3	-0.00291	-0.00447	.04419	.07423	.03169	.00004	294.58

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	.00067	.00177	.00216	.00322	11.151	3.1074	.04161
Stddev	.00012	.00020	.00058	.00096	.104	.0285	.00239
%RSD	18.430	11.381	26.764	29.891	.93195	.91888	5.7519

#1	.00054	.00161	.00201	.00213	11.149	3.1174	.04124
#2	.00078	.00171	.00280	.00393	11.257	3.0752	.03942
#3	.00070	.00200	.00168	.00360	11.049	3.1297	.04417

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	81.066	1.3557	.00160	F 311.46	.01103	.18672	.00110
Stddev	.321	.0093	.00024	2.12	.00030	.00289	.00130
%RSD	.39603	.68801	15.336	.68044	2.7384	1.5486	117.90

#1	80.933	1.3581	.00170	312.44	.01078	.18456	.00234
#2	81.433	1.3636	.00132	312.91	.01095	.18559	.00122
#3	80.834	1.3454	.00177	309.03	.01137	.19000	-.00025

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: May 17, 2016

Sample Name: L1605061107 Acquired: 5/16/2016 14:21:10 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-.00324	6.7906	-.00150	3.1935	F -.03274	-.00241
Stddev	.00349	.00541	.0104	.00047	.0210	.00705	.00088
%RSD	132.53	167.23	.15250	31.597	.65617	21.540	36.566

#1	.00263	.00282	6.7898	-.00165	3.1987	-.04044	-.00232
#2	.00612	-.00492	6.8014	-.00189	3.2113	-.03117	-.00158
#3	-.00086	-.00760	6.7807	-.00097	3.1704	-.02660	-.00333

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	.00088	.00211	.15884
Stddev	.00112	.00016	.50655
%RSD	126.91	7.6419	318.91


#1	.00040	.00209	.69702
#2	.00009	.00196	.08817
#3	.00217	.00228	-.30867

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	12555.	88817.	4275.1
Stddev	17.	283.	23.5
%RSD	.13405	.31862	.54939

#1	12537.	88861.	4249.5
#2	12557.	88515.	4280.3
#3	12571.	89076.	4295.6

Approved: May 17, 2016



Sample Name: L1605061109 Acquired: 5/16/2016 14:26:46 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00300	-0.00526	-0.00186	.10041	.02986	.00006	95.220	.00039
Stddev	.00058	.00283	.00238	.00341	.00081	.00005	.065	.00028
%RSD	19.225	53.679	128.34	3.4006	2.7197	84.065	.06829	70.931

#1	-0.00265	-0.00678	-0.00119	.10432	.02922	.00001	95.283	.00008
#2	-0.00366	-0.00700	-0.00450	.09894	.03077	.00006	95.224	.00050
#3	-0.00269	-0.00200	.00012	.09798	.02958	.00011	95.153	.00060

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	.00113	.00143	.24160	1.1115	.01284	29.570	1.0804
Stddev	.00024	.00087	.00087	.01917	.0250	.00543	.245	.0053
%RSD	68.296	76.583	60.906	7.9328	2.2497	42.314	.82793	.49435

#1	.00041	.00087	.00237	.24184	1.1351	.00737	29.792	1.0752
#2	.00054	.00210	.00125	.22232	1.0853	.01292	29.610	1.0859
#3	.00008	.00043	.00066	.26064	1.1142	.01823	29.307	1.0801

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	.00003	50.173	.00042	.00644	-.00118	-.00388	.00212	2.7755
Stddev	.00016	.102	.00067	.00328	.00083	.00243	.00116	.0032
%RSD	559.33	.20383	160.22	50.869	70.241	62.722	54.502	.11395

#1	.00016	50.290	.00118	.00323	-.00148	-.00581	.00101	2.7773
#2	-.00015	50.128	.00015	.00631	-.00024	-.00468	.00204	2.7718
#3	.00007	50.101	-.00008	.00978	-.00182	-.00115	.00332	2.7773

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: May 17, 2016

Sample Name: L1605061109 Acquired: 5/16/2016 14:26:46 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00078	.47047	-0.01262	.00053	.00071	.00276	.00793
Stddev	.00042	.00124	.00156	.00115	.00165	.00009	.41154
%RSD	54.027	.26448	12.384	217.43	232.47	3.1888	5188.5

#1	-0.00098	.47086	-0.01240	.00113	.00078	.00266	.48236
#2	-0.00106	.47148	-0.01118	.00125	-0.00097	.00283	-.25271
#3	-0.00029	.46908	-0.01428	-0.00080	.00233	.00279	-.20586

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	13140.	93839.	4350.9
Stddev	23.	191.	37.0
%RSD	.17843	.20334	.85029

#1	13113.	93628.	4309.0
#2	13157.	94000.	4379.1
#3	13151.	93889.	4364.5

Approved: May 17, 2016

Sample Name: L1605061111 Acquired: 5/16/2016 14:30:47 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00330	-0.00140	.00390	.10362	.10452	.00015	159.58	.00052
Stddev	.00116	.00181	.00099	.00094	.00062	.00002	.68	.00028
%RSD	35.321	129.54	25.482	.90398	.59638	11.907	.42816	53.201

#1	-0.00307	.00007	.00423	.10469	.10508	.00013	159.21	.00063
#2	-0.00226	-0.00084	.00278	.10319	.10462	.00016	160.37	.00020
#3	-0.00456	-0.00342	.00468	.10297	.10385	.00015	159.16	.00072

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	.00009	.00179	.00058	1.0255	3.0948	.04639	44.214	.36374
Stddev	.00018	.00016	.00073	.0116	.0537	.00108	.137	.00315
%RSD	200.33	9.0289	125.30	1.1350	1.7362	2.3263	.30946	.86480

#1	.00005	.00187	.00140	1.0146	3.0355	.04754	44.194	.36363
#2	-0.00007	.00160	-0.00000	1.0242	3.1403	.04624	44.360	.36695
#3	.00029	.00189	.00035	1.0377	3.1086	.04540	44.088	.36066


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	.00069	203.30	.00243	.01444	-0.00135	-0.00419	-0.00344	3.8993
Stddev	.00031	.50	.00117	.00101	.00292	.00408	.00161	.0183
%RSD	44.969	.24576	48.071	7.0120	216.53	97.555	46.658	.46944

#1	.00080	203.18	.00284	.01433	-0.00339	-0.00525	-0.00432	3.9155
#2	.00034	203.85	.00334	.01348	-0.00266	.00032	-0.00442	3.9030
#3	.00094	202.88	.00111	.01550	.00200	-0.00763	-0.00159	3.8795

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: May 17, 2016



Sample Name: L1605061111 Acquired: 5/16/2016 14:30:47 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.0107	4.2027	-0.02396	-0.00428	.00113	.00438	.21302
Stddev	.00076	.0119	.00676	.00135	.00057	.00007	.21933
%RSD	70.421	.28417	28.222	31.530	50.507	1.6805	102.96

#1	-0.0073	4.1957	-0.02689	-0.00402	.00104	.00429	.05607
#2	-0.00194	4.2165	-0.02876	-0.00575	.00173	.00440	.11937
#3	-0.00055	4.1959	-0.01623	-0.00308	.00060	.00444	.46363

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	12870.	91160.	4295.0
Stddev	52.	424.	33.3
%RSD	.40588	.46493	.77588

#1	12888.	90672.	4285.3
#2	12910.	91366.	4267.6
#3	12811.	91441.	4332.1

Approved: May 17, 2016



Sample Name: L1605061113 Acquired: 5/16/2016 14:34:32 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00196	.00305	.00097	.06195	.06939	.00006	106.90
Stddev	.00083	.00705	.00063	.00353	.00134	.00004	.44
%RSD	42.423	231.18	64.528	5.6924	1.9250	65.675	.41229

#1	-0.00232	.00914	.00055	.06380	.06959	.00002	106.59
#2	-0.00255	.00469	.00170	.05788	.07062	.00006	107.40
#3	-0.00101	-0.00468	.00068	.06416	.06797	.00010	106.69

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	.00080	.00215	.00189	.00119	3.4384	1.1266	.01293
Stddev	.00024	.00045	.00066	.00174	.0244	.0723	.00132
%RSD	30.351	21.056	34.694	146.80	.70839	6.4137	10.181

#1	.00107	.00226	.00129	.00282	3.4646	1.1224	.01429
#2	.00069	.00255	.00259	-.00065	3.4165	1.0565	.01284
#3	.00062	.00166	.00179	.00139	3.4342	1.2009	.01166


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	34.703	4.1422	.00013	22.419	.00660	.03916	.00200
Stddev	.147	.0097	.00018	.031	.00062	.00785	.00189
%RSD	.42496	.23522	140.56	.13976	9.4665	20.049	94.068

#1	34.559	4.1533	.00024	22.401	.00611	.03010	.00020
#2	34.695	4.1355	-.00008	22.400	.00730	.04394	.00396
#3	34.854	4.1376	.00023	22.455	.00639	.04344	.00185

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016



Sample Name: L1605061113 Acquired: 5/16/2016 14:34:32 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00076	.00159	3.7361	-.00057	.23848	-.01897	.00037
Stddev	.00184	.00536	.0026	.00081	.00104	.00320	.00216
%RSD	242.06	337.97	.06843	141.00	.43656	16.839	579.88

#1	.00108	.00773	3.7389	-.00084	.23732	-.01874	.00073
#2	-.00122	-.00211	3.7354	-.00121	.23881	-.02228	-.00195
#3	.00242	-.00086	3.7339	.00033	.23932	-.01590	.00233

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	.00149	.00252	F -.09249
Stddev	.00157	.00015	.49574
%RSD	105.41	5.8281	535.99

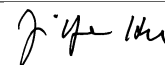
#1	.00030	.00254	.35801
#2	.00327	.00265	-.01189
#3	.00089	.00236	-.62359

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	13171.	94353.	4332.1
Stddev	8.	346.	14.9
%RSD	.06225	.36690	.34386

#1	13168.	94322.	4318.2
#2	13180.	94713.	4330.3
#3	13165.	94023.	4347.8

Approved: May 17, 2016



Sample Name: L1605061115 Acquired: 5/16/2016 14:38:28 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	sF -.00436	s -.01625	s -.00554	s .00073	F -1.4054	s .00028
Stddev	.00596	.05387	.00773	.00554	2.5089	.00034
%RSD	136.53	331.44	139.55	756.33	178.52	124.01

#1	s -.00393	s -.03060	s .00034	s .00025	-4.3021	s .00029
#2	s .00136	s -.06150	s -.01429	s -.00455	.08102	s -.00007
#3	s -.01053	s .04334	s -.00266	s .00649	.00493	s .00061

Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit	9.0000				45.000	
Low Limit	-.00400				-.00500	

Elem	Ca4226	Cd2288	Co2286	Cr2677	Cu2247	Fe2611
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.87216	s .00016	s -.00016	s .00213	s -.00155	k 1.4594
Stddev	.89569	.00014	.00035	.00554	.00163	2.6389
%RSD	102.70	86.102	214.97	259.59	104.67	180.82

#1	-1.8401	s .00002	s .00011	s .00124	s -.00093	k 4.5050
#2	-.70368	s .00016	s -.00056	s -.00290	s -.00033	k -.14636
#3	-.07267	s .00029	s -.00004	s .00806	s -.00340	k .01953


Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	270.00					
Low Limit	-.10000					

Elem	K_7664	Li6707	Mg2790	Mn2576	Mo2020	Na5895
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -41.100	F -2.1476	k 7.4325	kF -.70136	s .00018	36.357
Stddev	72.997	3.7465	13.603	1.2318	.00041	64.848
%RSD	177.61	174.45	183.02	175.63	229.39	178.37

#1	-125.38	-6.4736	k 23.129	k -2.1237	s .00003	111.23
#2	1.971	.03127	k -.93229	k .01780	s -.00014	-2.0201
#3	.111	-.00050	k .10094	k .00180	s .00064	-.1393

Check ?	Chk Fail	Chk Fail	Chk Pass	Chk Fail	Chk Pass	Chk Pass
High Limit	450.00	36.000		36.000		
Low Limit	-.50000	-.10000		-.00300		

Approved: May 17, 2016



Sample Name: L1605061115 Acquired: 5/16/2016 14:38:28 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	s -.00142	s -.01558	s -.00249	s -.00451	sF -.01226	s -.00051
Stddev	.00186	.02264	.00282	.00432	.00804	.00664
%RSD	131.26	145.37	113.30	95.889	65.590	1315.2

#1	s .00019	s .00433	s .00052	s -.00509	s -.00861	s -.00767
#2	s -.00346	s -.04021	s -.00291	s .00008	s -.00669	s .00544
#3	s -.00098	s -.01085	s -.00508	s -.00851	s -.02148	s .00072

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit					90.000	
Low Limit					-.01000	

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	s .00066	.00883	k 2.3586	s -.00591	s .00098	s .00022
Stddev	.00049	.00968	4.2634	.00640	.00098	.00027
%RSD	74.044	109.56	180.75	108.35	99.361	125.38

#1	s .00041	.01973	k 7.2803	s -.00088	s .00177	s -.00006
#2	s .00035	.00553	k -.20010	s -.01311	s -.00011	s .00023
#3	s .00123	.00124	k -.00422	s -.00373	s .00129	s .00049


Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Elem	Zr3391
Units	ppm
Avg	kF 222.86
Stddev	399.22
%RSD	179.13

#1	k 683.79
#2	k -13.432
#3	k -1.7750

Check ?	Chk Fail
High Limit	36.000
Low Limit	-.04000

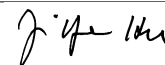
Approved: May 17, 2016



Sample Name: L1605061115 Acquired: 5/16/2016 14:38:28 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	^ *****	^ *****	1138.9
Stddev	----	----	1648.0
%RSD	----	----	144.70
#1	^ ----	^ ----	-8.820
#2	^ ----	^ ----	398.29
#3	^ ----	^ ----	3027.2

Approved: May 17, 2016



Sample Name: L1605061115 Acquired: 5/16/2016 14:46:24 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	F -.00457	-.00608	-.00077	.01489	.12528	.00008	109.33
Stddev	.00199	.00279	.00266	.00166	.00100	.00003	.15
%RSD	43.548	45.967	347.19	11.159	.79736	32.466	.14133

#1	-.00480	-.00649	-.00247	.01300	.12414	.00009	109.19
#2	-.00643	-.00310	-.00213	.01555	.12601	.00005	109.29
#3	-.00247	-.00865	.00230	.01611	.12569	.00011	109.50

Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	9.0000						
Low Limit	-.00400						

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00062	.00016	.00083	.00102	1.8333	.88165	.01553
Stddev	.00023	.00053	.00116	.00086	.0186	.02862	.00377
%RSD	36.580	333.59	140.29	84.618	1.0154	3.2456	24.308

#1	.00078	.00076	.00149	.00053	1.8541	.85135	.01118
#2	.00072	-.00023	.00151	.00052	1.8277	.90821	.01799
#3	.00036	-.00005	-.00051	.00201	1.8182	.88540	.01742


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	34.201	1.0161	.00048	26.767	.00009	.00548	.00086
Stddev	.111	.0052	.00058	.061	.00080	.00385	.00347
%RSD	.32574	.50991	121.09	.22764	922.19	70.177	402.65

#1	34.157	1.0121	.00014	26.836	.00101	.00370	.00486
#2	34.118	1.0220	.00115	26.721	-.00041	.00285	-.00138
#3	34.327	1.0143	.00015	26.744	-.00033	.00990	-.00089

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016



Sample Name: L1605061115 Acquired: 5/16/2016 14:46:24 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00191	-.00266	3.7245	.00009	.43206	-.01931	.00082
Stddev	.00276	.00186	.0072	.00047	.00072	.00586	.00139
%RSD	144.20	69.895	.19434	536.71	.16745	30.363	170.19

#1	.00118	-.00479	3.7207	-.00045	.43126	-.02486	.00181
#2	-.00412	-.00139	3.7199	.00027	.43225	-.01990	.00143
#3	-.00279	-.00180	3.7328	.00044	.43267	-.01317	-.00078

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	.00126	.00202	F -.11638
Stddev	.00119	.00018	.08764
%RSD	94.425	8.8724	75.306


#1	.00230	.00205	-.01965
#2	.00151	.00218	-.13897
#3	-.00004	.00183	-.19051

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	13137.	94296.	4345.1
Stddev	60.	664.	22.4
%RSD	.45390	.70380	.51568

#1	13173.	93813.	4346.8
#2	13068.	94022.	4321.9
#3	13171.	95053.	4366.6

Approved: May 17, 2016



Sample Name: L1605061117 Acquired: 5/16/2016 14:50:21 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH 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	F -.00503	.00790	.00037	.06114	.49589	.00009	163.82
Stddev	.00168	.00421	.00028	.00150	.00076	.00001	.38
%RSD	33.307	53.316	75.463	2.4509	.15357	14.667	.23277

#1	-.00319	.00611	.00014	.06191	.49502	.00009	163.59
#2	-.00647	.00488	.00029	.06209	.49622	.00009	164.26
#3	-.00543	.01271	.00067	.05941	.49643	.00007	163.60

Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	9.0000						
Low Limit	-.00400						

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00038	.00078	.00323	.00160	.00305	7.0190	.05829
Stddev	.00019	.00017	.00088	.00124	.02999	.1166	.00091
%RSD	48.598	21.377	27.211	77.781	982.09	1.6616	1.5623

#1	.00019	.00061	.00289	.00263	-.02469	6.9058	.05779
#2	.00041	.00094	.00423	.00195	.03487	7.0124	.05934
#3	.00055	.00080	.00258	.00022	-.00102	7.1388	.05773

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	.12845	.00052	.01836	F 406.53	-.00063	.00297	.00029
Stddev	.06737	.00044	.00030	.65	.00130	.00839	.00298
%RSD	52.447	85.213	1.6591	.15945	205.25	282.13	1044.1

#1	.16942	.00046	.01818	407.17	.00074	.00743	.00365
#2	.16522	.00098	.01871	406.56	-.00078	-.00670	-.00077
#3	.05070	.00010	.01819	405.87	-.00185	.00819	-.00202

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: May 17, 2016

Sample Name: L1605061117 Acquired: 5/16/2016 14:50:21 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0151	.00007	1.2893	-.00059	.81041	-.01814	-.00374
Stddev	.00167	.00446	.0026	.00026	.00302	.00494	.00108
%RSD	110.23	5966.2	.19775	43.640	.37326	27.243	28.931

#1	-0.00343	-.00300	1.2902	-.00071	.80713	-.01298	-.00394
#2	-0.00073	.00519	1.2912	-.00029	.81101	-.01862	-.00258
#3	-0.00038	-.00197	1.2864	-.00077	.81309	-.02282	-.00471

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	.00112	.00159	.15946
Stddev	.00031	.00013	.43309
%RSD	27.270	8.1163	271.60

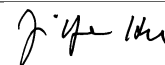
#1	.00081	.00158	.60547
#2	.00112	.00172	-.25944
#3	.00142	.00146	.13234

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	12772.	89877.	4316.2
Stddev	15.	380.	20.8
%RSD	.11422	.42305	.48251

#1	12789.	89849.	4292.6
#2	12769.	89511.	4323.8
#3	12760.	90270.	4332.1

Approved: May 17, 2016



Sample Name: CCV Acquired: 5/16/2016 14:54:17 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000(
 User: JYH 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	.40758	10.270	.41083	.51242	1.0115	.05032	9.9021
Stddev	.00232	.016	.00282	.00496	.0032	.00033	.0379
%RSD	.56847	.15900	.68598	.96820	.31781	.64831	.38288

#1	.40942	10.266	.41389	.51648	1.0129	.05009	9.9274
#2	.40497	10.287	.40834	.51390	1.0138	.05069	9.9203
#3	.40834	10.255	.41026	.50689	1.0078	.05017	9.8585

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	.05020	.20882	.52928	.52607	4.1615	50.725	1.0170
Stddev	.00005	.00010	.00095	.00103	.0153	.234	.0072
%RSD	.10771	.04788	.17960	.19623	.36870	.46047	.70552

#1	.05024	.20873	.52924	.52525	4.1584	50.847	1.0093
#2	.05014	.20893	.53026	.52574	4.1479	50.873	1.0184
#3	.05023	.20881	.52836	.52723	4.1782	50.456	1.0234

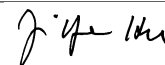
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.235	.50756	1.0080	51.270	.53204	10.276	.53275
Stddev	.057	.00353	.0065	.115	.00213	.007	.00325
%RSD	.55629	.69624	.64486	.22440	.40014	.06902	.61043

#1	10.172	.50351	1.0146	51.349	.52992	10.279	.53372
#2	10.282	.50915	1.0078	51.323	.53417	10.281	.53541
#3	10.252	.51002	1.0016	51.138	.53202	10.268	.52912

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: May 17, 2016



Sample Name: CCV Acquired: 5/16/2016 14:54:17 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	.38486	5.1540	1.0400	1.0034	1.0047	.51964
Stddev	.0065	.00187	.0054	.0034	.0039	.0133	.00123
%RSD	.53074	.48579	.10504	.32239	.39214	1.3213	.23723

#1	1.2377	.38385	5.1584	1.0424	1.0068	.98947	.51901
#2	1.2355	.38702	5.1557	1.0414	1.0043	1.0140	.51885
#3	1.2255	.38371	5.1480	1.0362	.99912	1.0105	.52106

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	1.0358	1.0576	F .71205
Stddev	.0046	.0009	.30345
%RSD	.44683	.08745	42.616

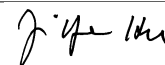
#1	1.0408	1.0571	1.0545
#2	1.0316	1.0586	.47659
#3	1.0351	1.0570	.60506

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	13196.	93667.	4266.8
Stddev	4.	582.	29.7
%RSD	.03333	.62118	.69515

#1	13194.	93460.	4233.4
#2	13192.	93218.	4276.9
#3	13201.	94325.	4290.1

Approved: May 17, 2016



Sample Name: CCB Acquired: 5/16/2016 14:57:56 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00176	-0.01199	.00058	.00056	.00094	.00010	-.02120
Stddev	.00059	.01029	.00170	.00124	.00056	.00006	.01306
%RSD	33.376	85.863	291.66	221.45	59.867	62.744	61.626

#1	-0.00243	-0.02248	.00230	-0.00037	.00034	.00017	-.03116
#2	-0.00133	-0.00191	-0.00111	.00197	.00103	.00005	-.00641
#3	-0.00151	-0.01158	.00057	.00009	.00144	.00007	-.02602

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	-0.00019	.00020	-.00025	-.00578	.16534	.00535
Stddev	.00005	.00022	.00094	.00057	.01815	.04346	.00311
%RSD	46.318	116.51	474.34	228.04	314.14	26.288	58.086

#1	.00009	-0.00006	.00064	-0.00050	.01485	.11596	.00387
#2	.00015	-0.00007	.00084	-0.00067	-.01927	.18227	.00325
#3	.00006	-0.00044	-.00088	.00040	-.01290	.19780	.00892


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	.04364	-0.00029	.00386	-.02483	.00023	-.00588	-.00046
Stddev	.04115	.00325	.00030	.00891	.00045	.00260	.00223
%RSD	94.281	1130.4	7.6541	35.904	197.45	44.306	484.69

#1	.08953	.00023	.00394	-.01612	.00007	-.00364	.00029
#2	.01003	.00267	.00411	-.03394	.00074	-.00874	-.00296
#3	.03136	-.00376	.00353	-.02443	-.00013	-.00526	.00130

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016



Sample Name: CCB Acquired: 5/16/2016 14:57:56 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00404	-.00595	-.02596	.00022	.00041	-.00835	-.00356
Stddev	.00227	.00497	.00058	.00074	.00039	.00496	.00097
%RSD	56.128	83.623	2.2289	343.40	94.218	59.401	27.279

#1	.00214	-.00610	-.02540	-.00064	.00086	-.00285	-.00346
#2	.00656	-.01085	-.02593	.00075	.00017	-.00971	-.00457
#3	.00343	-.00090	-.02656	.00054	.00021	-.01249	-.00264

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	.00109	.00007	F -.05109
Stddev	.00044	.00024	.40577
%RSD	40.641	323.87	794.22

#1	.00092	-.00002	-.08671
#2	.00160	.00035	.37132
#3	.00077	-.00011	-.43788

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	13233.	94838.	4208.8
Stddev	39.	443.	46.3
%RSD	.29197	.46664	1.0989

#1	13188.	95047.	4171.7
#2	13258.	95138.	4194.1
#3	13253.	94330.	4260.6

Approved: May 17, 2016

Sample Name: PBW ZB Acquired: 5/16/2016 15:01:55 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568346-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00343	-0.01362	.00076	-0.00018	.00114	.00010	-0.02938
Stddev	.00008	.00212	.00105	.00199	.00095	.00006	.03217
%RSD	2.3804	15.557	139.31	1104.3	82.879	61.988	109.48

#1	-0.00351	-0.01136	-0.00001	-0.00213	.00168	.00010	.00652
#2	-0.00342	-0.01394	.00196	-0.00026	.00170	.00015	-0.03909
#3	-0.00335	-0.01557	.00031	.00185	.00005	.00003	-0.05558

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	.00046	-0.00028	.00113	.00063	.01333	.20902	.00852
Stddev	.00020	.00041	.00065	.00097	.01026	.16916	.00234
%RSD	43.264	145.61	57.606	154.78	76.926	80.931	27.463

#1	.00065	-0.00072	.00187	.00174	.01606	.17634	.01005
#2	.00025	-0.00023	.00067	.00023	.02194	.39213	.00583
#3	.00047	.00010	.00084	-0.00008	.00199	.05858	.00969


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	.10276	.00264	.00056	-0.02430	-0.00057	-0.00502	-0.00209
Stddev	.05483	.00231	.00035	.00926	.00071	.00766	.00100
%RSD	53.358	87.329	63.462	38.117	125.17	152.42	47.616

#1	.15602	.00353	.00015	-0.01803	-0.00138	-0.01000	-0.00147
#2	.04649	.00438	.00072	-0.03494	-0.00014	-0.00886	-0.00157
#3	.10576	.00002	.00080	-0.01994	-0.00018	.00379	-0.00324

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016



Sample Name: PBW ZB Acquired: 5/16/2016 15:01:55 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568346-02

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0089	-0.0133	-0.02207	-0.0037	.00005	-0.00640	-0.00258
Stddev	.00323	.00281	.00210	.00025	.00011	.00450	.00236
%RSD	363.43	210.68	9.5333	67.054	206.38	70.342	91.202

#1	-0.00461	-0.00457	-0.02025	-0.00010	-0.00006	-0.00711	-0.00009
#2	.00065	.00051	-.02159	-0.00059	.00006	-.01051	-.00477
#3	.00129	.00005	-.02437	-0.00044	.00016	-0.00159	-0.00290

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	-0.00053	.00169	F -.09132
Stddev	.00050	.00021	.18627
%RSD	93.765	12.573	203.98


#1	-0.00001	.00148	.03959
#2	-0.00058	.00168	-.00898
#3	-0.00101	.00190	-.30457

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	13641.	98425.	4403.3
Stddev	38.	346.	34.9
%RSD	.27592	.35197	.79248

#1	13597.	98587.	4431.2
#2	13660.	98660.	4364.2
#3	13665.	98027.	4414.4

Approved: May 17, 2016



Sample Name: LCSW ZB Acquired: 5/16/2016 15:05:55 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568346-03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19418	4.8420	.19488	.96385	.48698	.02359	4.7744	.02415
Stddev	.00304	.0137	.00233	.00096	.00249	.00007	.0101	.00035
%RSD	1.5675	.28385	1.1951	.09917	.51031	.30220	.21175	1.4608

#1	.19071	4.8269	.19535	.96301	.48826	.02351	4.7816	.02403
#2	.19639	4.8538	.19694	.96364	.48856	.02363	4.7786	.02387
#3	.19544	4.8452	.19236	.96489	.48411	.02363	4.7628	.02455

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	.10059	.25253	.25242	1.9803	24.890	.49243	4.8678	.24345
Stddev	.00044	.00148	.00129	.0224	.077	.00217	.0823	.00130
%RSD	.43414	.58506	.51298	1.1328	.30975	.44073	1.6909	.53582

#1	.10019	.25280	.25126	1.9774	24.866	.49012	4.9113	.24454
#2	.10053	.25385	.25382	1.9594	24.976	.49273	4.9192	.24379
#3	.10106	.25093	.25219	2.0040	24.828	.49443	4.7728	.24200


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	.49413	24.867	.25584	4.8133	.25859	.59137	.17938	2.5066
Stddev	.00068	.034	.00035	.0110	.00274	.00152	.01023	.0062
%RSD	.13789	.13549	.13634	.22871	1.0593	.25731	5.7045	.24796

#1	.49335	24.880	.25602	4.8070	.25744	.59074	.17055	2.5069
#2	.49440	24.893	.25606	4.8260	.26171	.59027	.17700	2.5003
#3	.49463	24.829	.25544	4.8069	.25660	.59311	.19059	2.5127

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 17, 2016



Sample Name: LCSW ZB Acquired: 5/16/2016 15:05:55 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568346-03

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.50225	.48745	.48231	.24824	.49597	.50314	.31224
Stddev	.00068	.00139	.00507	.00439	.00283	.00021	.05703
%RSD	.13444	.28486	1.0514	1.7683	.57143	.04126	18.263


#1	.50156	.48612	.47677	.25278	.49400	.50292	.27594
#2	.50229	.48889	.48673	.24402	.49922	.50334	.37797
#3	.50291	.48736	.48341	.24791	.49469	.50316	.28282

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	13471.	97215.	4414.8
Stddev	2.	324.	24.5
%RSD	.01776	.33292	.55507

#1	13473.	97235.	4394.9
#2	13468.	97529.	4407.3
#3	13472.	96883.	4442.2

Approved: May 17, 2016



Sample Name: L1605050713 Acquired: 5/16/2016 15:09:39 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568346-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00290	-0.00958	.00716	.03401	.47166	.00004	113.59
Stddev	.00329	.00665	.00329	.00079	.00123	.00005	.32
%RSD	113.54	69.395	46.035	2.3370	.26144	106.16	.28283

#1	.00088	-.00782	.00643	.03341	.47300	.00007	113.63
#2	-.00515	-.00399	.01075	.03491	.47141	.00008	113.89
#3	-.00441	-.01693	.00429	.03371	.47057	-.00001	113.25

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	.00038	-0.00012	.00164	-0.00024	6.7153	.97573	.01386
Stddev	.00015	.00021	.00004	.00096	.0374	.02741	.00234
%RSD	40.686	178.67	2.3491	407.87	.55736	2.8090	16.849

#1	.00029	-.00036	.00163	-.00105	6.7513	.94408	.01585
#2	.00029	-.00003	.00169	-.00049	6.6766	.99170	.01445
#3	.00056	.00004	.00161	.00083	6.7181	.99142	.01129


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	39.836	.35968	.00114	52.141	-0.00145	.27102	-0.00189
Stddev	.272	.00283	.00035	.126	.00077	.00737	.00181
%RSD	.68378	.78622	30.386	.24231	53.196	2.7210	95.900

#1	39.588	.35762	.00095	52.197	-.00234	.27953	-.00207
#2	40.127	.35852	.00154	52.230	-.00107	.26663	.00000
#3	39.793	.36290	.00093	51.996	-.00094	.26689	-.00361

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016



Sample Name: L1605050713 Acquired: 5/16/2016 15:09:39 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568346-01

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0065	.00226	5.8298	-0.0003	.49946	-0.01518	-0.00018
Stddev	.00323	.00656	.0114	.00124	.00161	.00293	.00240
%RSD	497.89	290.30	.19542	3662.8	.32329	19.324	1319.4

#1	-0.0416	.00140	5.8392	-0.0058	.49764	-0.01301	.00209
#2	.00220	-0.00382	5.8329	-0.0091	.50071	-0.01852	.00006
#3	.00001	.00921	5.8171	.00139	.50003	-0.01402	-0.00269

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	.00987	F -.06223
Stddev	.00110	.00025	.26081
%RSD	540.23	2.4954	419.10

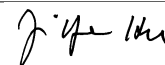
#1	-0.0093	.01000	.16731
#2	.00028	.01003	-.34584
#3	.00126	.00959	-.00817

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	13186.	94471.	4401.8
Stddev	11.	186.	30.0
%RSD	.08207	.19716	.68245

#1	13185.	94310.	4384.6
#2	13196.	94427.	4384.4
#3	13175.	94675.	4436.5

Approved: May 17, 2016



Sample Name: L1605050713S Acquired: 5/16/2016 15:13:34 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568346-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20093	5.0377	.21430	1.0428	.95767	.02445	115.05	.02506
Stddev	.00074	.0077	.00080	.0007	.00523	.00014	.57	.00025
%RSD	.36761	.15367	.37375	.06583	.54639	.57996	.49507	1.0153

#1	.20178	5.0442	.21449	1.0435	.95187	.02429	114.44	.02534
#2	.20047	5.0398	.21499	1.0427	.96203	.02454	115.57	.02496
#3	.20054	5.0292	.21342	1.0422	.95912	.02452	115.13	.02486

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	.10006	.25912	.25517	8.5383	26.430	.51611	43.633	.59130
Stddev	.00053	.00040	.00093	.0595	.078	.00703	.326	.00317
%RSD	.53427	.15262	.36389	.69661	.29374	1.3624	.74810	.53660

#1	.09956	.25866	.25619	8.4844	26.350	.51660	43.269	.58929
#2	.10063	.25934	.25496	8.6021	26.505	.52289	43.901	.58964
#3	.10000	.25935	.25437	8.5284	26.436	.50885	43.729	.59495


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	.51069	75.846	.25385	5.4019	.25691	.61969	.18798	8.2099
Stddev	.00184	.235	.00081	.0094	.00196	.00525	.00567	.0048
%RSD	.36070	.31031	.31880	.17322	.76213	.84679	3.0166	.05813

#1	.51280	75.627	.25311	5.3979	.25770	.61758	.19395	8.2044
#2	.50986	76.095	.25372	5.4126	.25836	.61583	.18267	8.2130
#3	.50940	75.817	.25471	5.3952	.25469	.62567	.18732	8.2123

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 17, 2016



Sample Name: L1605050713S Acquired: 5/16/2016 15:13:34 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568346-04

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.51194	.97198	.48513	.24816	.51339	.51250	.16631
Stddev	.00048	.00747	.00431	.00390	.00034	.00051	.16753
%RSD	.09449	.76847	.88825	1.5718	.06580	.09884	100.73


#1	.51217	.96489	.48038	.24608	.51377	.51292	.01149
#2	.51138	.97978	.48621	.25266	.51329	.51264	.14326
#3	.51226	.97128	.48879	.24574	.51312	.51194	.34416

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	13115.	93516.	4354.6
Stddev	10.	483.	16.1
%RSD	.07328	.51643	.37028

#1	13106.	93154.	4366.7
#2	13125.	94064.	4360.9
#3	13113.	93329.	4336.3

Approved: May 17, 2016



Sample Name: L1605050713SD Acquired: 5/16/2016 15:17:18 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568346-05

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19710	4.9859	.21140	1.0287	.95972	.02420	117.30	.02456
Stddev	.00275	.0266	.00327	.0022	.00272	.00004	.31	.00012
%RSD	1.3965	.53392	1.5455	.21043	.28341	.15592	.26551	.48600

#1	.19586	4.9906	.20918	1.0309	.96232	.02423	117.51	.02470
#2	.19518	5.0098	.21515	1.0265	.95689	.02421	116.94	.02449
#3	.20025	4.9572	.20987	1.0288	.95995	.02415	117.45	.02449

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	.09852	.25742	.24992	8.6699	26.164	.50491	44.113	.60197
Stddev	.00045	.00206	.00203	.0146	.037	.00185	.261	.00609
%RSD	.45737	.80120	.81201	.16810	.14254	.36688	.59155	1.0109

#1	.09892	.25555	.24951	8.6649	26.202	.50367	43.993	.60449
#2	.09803	.25708	.24813	8.6864	26.128	.50704	43.934	.59503
#3	.09862	.25963	.25213	8.6586	26.163	.50402	44.413	.60639

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	.50337	76.614	.25019	5.3350	.25634	.61173	.18510	8.2723
Stddev	.00033	.198	.00176	.0181	.00111	.00239	.00698	.0125
%RSD	.06627	.25836	.70471	.33843	.43430	.38993	3.7721	.15068

#1	.50311	76.830	.25137	5.3510	.25575	.60984	.18879	8.2850
#2	.50326	76.441	.24817	5.3154	.25763	.61094	.18946	8.2719
#3	.50374	76.571	.25105	5.3385	.25565	.61441	.17704	8.2601

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit


Approved: May 17, 2016

Sample Name: L1605050713SD Acquired: 5/16/2016 15:17:18 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568346-05

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.50518	.97387	.47906	.24334	.50748	.50489	.41058
Stddev	.00274	.00201	.00611	.00217	.00212	.00104	.16529
%RSD	.54174	.20647	1.2762	.88992	.41808	.20643	40.258
#1	.50680	.97619	.47229	.24551	.50732	.50609	.22128
#2	.50202	.97264	.48073	.24118	.50544	.50442	.48415
#3	.50672	.97277	.48417	.24332	.50967	.50417	.52633

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	13104.	94018.	4350.8
Stddev	56.	367.	46.6
%RSD	.42911	.38982	1.0715
#1	13075.	94012.	4297.1
#2	13169.	93654.	4374.2
#3	13069.	94387.	4381.1

Approved: May 17, 2016


Sample Name: L1605044601 Acquired: 5/16/2016 15:21:00 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00257	.03600	.00111	.01318	.07608	.00007	50.552	.00043
Stddev	.00155	.00583	.00080	.00090	.00102	.00005	.482	.00026
%RSD	60.150	16.202	72.700	6.8496	1.3347	71.742	.95398	60.806

#1	-0.00309	.03004	.00132	.01398	.07694	.00010	50.592	.00014
#2	-0.00083	.04170	.00178	.01220	.07633	.00001	51.013	.00064
#3	-0.00379	.03626	.00022	.01335	.07496	.00010	50.051	.00052

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	-0.00045	.00135	.00025	.06564	.88790	.01421	5.9078	.00306
Stddev	.00036	.00059	.00107	.02179	.11722	.00175	.0966	.00076
%RSD	80.828	43.789	436.98	33.199	13.201	12.326	1.6359	24.734

#1	-0.00054	.00139	-0.00089	.07940	.89847	.01589	5.9934	.00234
#2	-0.00005	.00074	.00125	.07701	.99948	.01240	5.8030	.00385
#3	-0.00076	.00191	.00038	.04052	.76576	.01434	5.9270	.00298


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	.00068	2.6491	-0.00095	.00201	-0.00188	-0.00258	-0.00361	3.8875
Stddev	.00052	.0362	.00095	.00483	.00216	.00358	.00641	.0056
%RSD	75.563	1.3662	99.726	239.90	115.11	138.44	177.78	.14484

#1	.00019	2.6879	-0.00201	.00272	-0.00233	-0.00069	-0.00992	3.8817
#2	.00064	2.6430	-0.00067	.00645	.00047	-0.00035	.00290	3.8930
#3	.00122	2.6163	-0.00017	-0.00313	-0.00378	-0.00671	-0.00380	3.8879

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 17, 2016



Sample Name: L1605044601 Acquired: 5/16/2016 15:21:00 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	.00013	.14187	-.01249	-.00220	.00119	.00591	.28450
Stddev	.00029	.00021	.01133	.00113	.00130	.00018	.21151
%RSD	219.99	.14616	90.706	51.234	109.49	2.9683	74.344

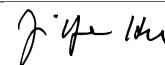
#1	.00044	.14209	-.01340	-.00170	.00020	.00588	.33406
#2	.00010	.14184	-.00074	-.00141	.00267	.00575	.46684
#3	-.00014	.14168	-.02335	-.00350	.00071	.00610	.05262

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	13502.	97162.	4389.2
Stddev	17.	331.	18.3
%RSD	.12562	.34019	.41580

#1	13492.	96788.	4368.5
#2	13521.	97414.	4396.2
#3	13492.	97286.	4402.9

Approved: May 17, 2016



Sample Name: L1605044602 Acquired: 5/16/2016 15:24:57 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00194	.59626	-0.00017	.00876	.07870	.00010	37.190	.00023
Stddev	.00087	.01204	.00465	.00419	.00054	.00007	.338	.00017
%RSD	44.828	2.0200	2766.2	47.775	.68686	62.600	.90874	71.664

#1	-0.00220	.60265	.00428	.00396	.07931	.00012	37.579	.00012
#2	-0.00097	.60376	-0.00499	.01166	.07853	.00016	37.019	.00043
#3	-0.00265	.58236	.00020	.01065	.07827	.00003	36.972	.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	.00026	.00072	.00032	.80468	1.0827	.00997	2.6457	.05551
Stddev	.00058	.00070	.00064	.03110	.0273	.00393	.0866	.00395
%RSD	221.25	97.311	203.48	3.8650	2.5262	39.449	3.2741	7.1144

#1	.00093	.00093	-0.00024	.84048	1.1132	.00714	2.7366	.05912
#2	-0.00002	.00128	.00102	.78916	1.0604	.00831	2.5641	.05129
#3	-0.00012	-0.00006	.00017	.78438	1.0745	.01446	2.6365	.05612


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	.00041	2.0251	.00038	.04457	.00449	-0.00260	.00307	4.5058
Stddev	.00005	.0188	.00048	.00435	.00048	.00203	.00340	.0098
%RSD	12.786	.92684	127.51	9.7704	10.761	77.813	110.92	.21744

#1	.00046	2.0280	.00057	.04674	.00395	-0.00478	.00088	4.5100
#2	.00038	2.0050	.00074	.03955	.00466	-0.00225	.00133	4.5128
#3	.00037	2.0422	-0.00017	.04741	.00488	-0.00078	.00698	4.4946

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 17, 2016



Sample Name: L1605044602 Acquired: 5/16/2016 15:24:57 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	.08540	.00760	-.00315	.00256	.00419	-.00366
Stddev	.00078	.00049	.00260	.00134	.00092	.00006	.34766
%RSD	627.87	.56976	34.227	42.723	35.852	1.4077	9495.2

#1	.00102	.08590	.00672	-.00331	.00159	.00413	-.10345
#2	-.00022	.08493	.00555	-.00440	.00269	.00424	.38299
#3	-.00043	.08535	.01053	-.00173	.00341	.00421	-.29052

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	13631.	97998.	4418.4
Stddev	30.	345.	26.4
%RSD	.21674	.35243	.59812

#1	13604.	97617.	4388.1
#2	13626.	98292.	4437.0
#3	13662.	98085.	4430.0

Approved: May 17, 2016

Sample Name: L1605044602PS Acquired: 5/16/2016 15:28:53 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568394-03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19511	5.4212	.19195	.98214	.55748	.02390	38.112	.02415
Stddev	.00209	.0109	.00183	.00283	.00187	.00003	.178	.00021
%RSD	1.0726	.20054	.95548	.28862	.33495	.12709	.46688	.88727

#1	.19607	5.4164	.19253	.98493	.55730	.02393	38.168	.02392
#2	.19271	5.4136	.19342	.97927	.55944	.02387	38.256	.02434
#3	.19655	5.4337	.18990	.98221	.55572	.02389	37.914	.02421

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	.09994	.25243	.25236	2.7289	25.907	.49768	7.2972	.29373
Stddev	.00060	.00117	.00067	.0061	.206	.00209	.0485	.00044
%RSD	.60143	.46384	.26718	.22228	.79523	.42095	.66458	.14956

#1	.10063	.25281	.25217	2.7230	25.703	.49993	7.2624	.29363
#2	.09952	.25337	.25181	2.7351	26.115	.49579	7.2765	.29421
#3	.09968	.25112	.25311	2.7287	25.905	.49731	7.3526	.29335

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	.49366	26.786	.25515	4.9711	.25581	.60242	.17609	6.6131
Stddev	.00180	.133	.00045	.0012	.00259	.00204	.00593	.0074
%RSD	.36438	.49486	.17731	.02456	1.0109	.33782	3.3700	.11236

#1	.49567	26.706	.25567	4.9698	.25598	.60026	.17874	6.6206
#2	.49312	26.939	.25488	4.9723	.25314	.60431	.18024	6.6058
#3	.49219	26.712	.25490	4.9712	.25831	.60270	.16929	6.6128

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 17, 2016


Sample Name: L1605044602PS Acquired: 5/16/2016 15:28:53 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568394-03

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.50345	.56692	.49405	.24812	.49937	.50538	.71677
Stddev	.00162	.00250	.00470	.00535	.00071	.00047	.23354
%RSD	.32083	.44049	.95073	2.1543	.14231	.09363	32.582
#1	.50164	.56453	.48981	.25125	.49855	.50591	.74019
#2	.50473	.56951	.49325	.24195	.49972	.50502	.93771
#3	.50399	.56672	.49910	.25116	.49984	.50521	.47241

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	13500.	96689.	4389.6
Stddev	12.	184.	33.0
%RSD	.08738	.19007	.75221
#1	13499.	96504.	4351.7
#2	13512.	96693.	4405.5
#3	13488.	96871.	4411.7

Approved: May 17, 2016



Sample Name: L1605044602SDL Acquired: 5/16/2016 15:32:36 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: 5 Custom ID2: Custom ID3:
 Comment: WG568394-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00365	.10541	.00060	.00522	.01784	.00009	7.6741	.00015
Stddev	.00051	.00538	.00293	.00157	.00055	.00006	.0477	.00011
%RSD	13.911	5.1027	489.33	30.085	3.0620	67.783	.62188	71.248

#1	-0.00321	.10110	-.00193	.00643	.01733	.00002	7.6202	.00028
#2	-0.00421	.11144	-.00008	.00578	.01778	.00012	7.7109	.00010
#3	-0.00354	.10369	.00381	.00344	.01841	.00012	7.6912	.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	-0.00029	.00129	-0.00006	.18382	.32968	.00701	.57845	.01154
Stddev	.00015	.00077	.00074	.00363	.08629	.00222	.06485	.00110
%RSD	51.504	59.698	1166.2	1.9720	26.173	31.717	11.212	9.5066

#1	-0.00017	.00073	-.00091	.18146	.23107	.00459	.64056	.01079
#2	-0.00046	.00097	.00048	.18800	.39134	.00896	.58362	.01279
#3	-0.00025	.00217	.00024	.18202	.36663	.00748	.51116	.01103


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	.00077	.34576	-0.00057	.00962	.00101	-0.00157	-0.00127	.90188
Stddev	.00018	.02805	.00097	.00672	.00459	.00292	.00946	.00182
%RSD	23.891	8.1136	171.04	69.858	454.39	186.44	745.18	.20138

#1	.00059	.35476	-.00001	.00519	.00630	.00180	.00411	.90305
#2	.00096	.36821	-.00001	.00632	-.00139	-.00302	-.01219	.90280
#3	.00077	.31431	-.00169	.01736	-.00188	-.00348	.00427	.89978

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 17, 2016



Sample Name: L1605044602SDL Acquired: 5/16/2016 15:32:36 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: 5 Custom ID2: Custom ID3:
 Comment: WG568394-04

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0120	.01738	.00085	-0.00237	.00105	.00151	.10323
Stddev	.00043	.00038	.00680	.00264	.00027	.00031	.45812
%RSD	36.193	2.1634	803.35	111.36	25.358	20.564	443.81

#1	-0.00099	.01697	-0.00086	-0.00043	.00086	.00187	.60351
#2	-0.00170	.01770	.00834	-0.00131	.00136	.00135	-.29577
#3	-0.00091	.01748	-0.00494	-0.00538	.00094	.00131	.00193

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	13399.	96755.	4231.3
Stddev	38.	186.	30.4
%RSD	.28442	.19193	.71945

#1	13411.	96751.	4247.8
#2	13430.	96571.	4196.2
#3	13356.	96943.	4250.0

Approved: May 17, 2016

Sample Name: L1605044602SDL Acquired: 5/16/2016 15:36:35 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH Custom ID1: 25 Custom ID2: Custom ID3:
 Comment: WG568394-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00270	-0.00264	.00178	-0.00186	.00422	.00012	1.4549
Stddev	.00109	.00397	.00139	.00205	.00093	.00007	.0460
%RSD	40.327	150.66	77.823	109.87	22.065	55.734	3.1611

#1	-0.00195	.00142	.00090	-0.00377	.00425	.00015	1.4165
#2	-0.00220	-0.00282	.00107	.00030	.00327	.00017	1.5059
#3	-0.00395	-0.00651	.00338	-0.00212	.00513	.00005	1.4423

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	-0.00018	.00033	.00057	.00062	.03620	.27975	.00695
Stddev	.00025	.00059	.00167	.00136	.03222	.12674	.00244
%RSD	141.94	180.80	295.59	220.00	88.983	45.305	35.089

#1	-0.00011	.00035	-0.00137	-0.00009	.01833	.14007	.00975
#2	-0.00045	-0.00027	.00155	.00219	.01689	.38742	.00535
#3	.00003	.00090	.00151	-0.00024	.07339	.31175	.00573


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	.24442	.00144	-0.00008	.01409	-0.00129	.01096	.00025
Stddev	.01206	.00093	.00039	.04899	.00094	.00697	.00342
%RSD	4.9325	64.356	478.86	347.58	73.279	63.620	1355.5

#1	.24513	.00114	.00023	-.04195	-0.00025	.01042	.00127
#2	.25610	.00249	.00005	.04876	-0.00153	.00427	.00305
#3	.23202	.00071	-0.00053	.03548	-0.00208	.01818	-.00357

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016



Sample Name: L1605044602SDL Acquired: 5/16/2016 15:36:35 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH Custom ID1: 25 Custom ID2: Custom ID3:
 Comment: WG568394-04

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0641	-0.00388	.15035	-0.00024	.00361	-0.00277	-0.00020
Stddev	.00533	.01211	.00093	.00041	.00015	.00904	.00179
%RSD	83.217	311.96	.62089	170.11	4.1334	326.25	874.79

#1	-0.00392	-0.00204	.14976	-0.00049	.00344	-0.00374	.00110
#2	-0.00277	.00720	.15143	.00023	.00368	.00671	.00052
#3	-0.01252	-0.01681	.14986	-0.00047	.00372	-0.01129	-0.00224

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	.00014	.00091	F -.16712
Stddev	.00047	.00015	.10361
%RSD	332.43	16.553	61.998

#1	-0.00011	.00077	-28003
#2	.00069	.00089	-07640
#3	-0.00015	.00107	-14495

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	13694.	97340.	4296.8
Stddev	51.	767.	17.8
%RSD	.37217	.78808	.41464

#1	13703.	97446.	4313.9
#2	13741.	96525.	4278.3
#3	13640.	98048.	4298.3

Approved: May 17, 2016

Sample Name: CCV Acquired: 5/16/2016 15:40:34 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000(
 User: JYH 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	.40552	10.216	.40367	.51241	1.0099	.04999	9.8439
Stddev	.00289	.007	.00024	.00514	.0022	.00035	.0366
%RSD	.71163	.06961	.06064	1.0032	.21309	.69254	.37220

#1	.40660	10.223	.40363	.51459	1.0119	.04997	9.8828
#2	.40225	10.216	.40393	.51610	1.0076	.05035	9.8389
#3	.40771	10.209	.40345	.50654	1.0102	.04966	9.8100

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	.04990	.20785	.52310	.52096	4.1341	50.726	1.0109
Stddev	.00063	.00054	.00216	.00060	.0281	.068	.0062
%RSD	1.2591	.25970	.41213	.11578	.67982	.13414	.60819

#1	.05063	.20837	.52176	.52129	4.1047	50.738	1.0114
#2	.04953	.20730	.52558	.52132	4.1607	50.654	1.0045
#3	.04955	.20789	.52194	.52026	4.1368	50.788	1.0168

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	10.193	.50705	.99828	51.459	.52940	10.263	.53077
Stddev	.094	.00055	.00457	.118	.00150	.006	.00209
%RSD	.92128	.10779	.45807	.22981	.28394	.05771	.39434

#1	10.095	.50722	1.0023	51.582	.53111	10.267	.52874
#2	10.282	.50749	.99917	51.346	.52882	10.266	.53067
#3	10.202	.50644	.99332	51.448	.52829	10.257	.53292

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: May 17, 2016

Sample Name: CCV Acquired: 5/16/2016 15:40:34 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.2245	.38008	5.1416	1.0330	1.0046	1.0005	.51329
Stddev	.0032	.00965	.0038	.0018	.0004	.0050	.00065
%RSD	.25855	2.5384	.07351	.17617	.04232	.50121	.12717

#1	1.2253	.37588	5.1458	1.0351	1.0050	.99495	.51288
#2	1.2211	.37324	5.1402	1.0320	1.0047	1.0047	.51405
#3	1.2273	.39111	5.1387	1.0320	1.0041	1.0018	.51295

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	1.0255	1.0534	F .86714
Stddev	.0038	.0018	.30648
%RSD	.37019	.17013	35.343


#1	1.0275	1.0545	1.1226
#2	1.0211	1.0544	.52733
#3	1.0279	1.0514	.95147

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	13160.	93252.	4261.4
Stddev	33.	229.	19.0
%RSD	.24943	.24608	.44499

#1	13139.	93107.	4275.0
#2	13144.	93516.	4269.5
#3	13198.	93132.	4239.8

Approved: May 17, 2016



Sample Name: CCB Acquired: 5/16/2016 15:44:13 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00298	-0.01675	.00256	-0.00030	.00109	.00012	-.02052
Stddev	.00079	.00528	.00320	.00180	.00064	.00005	.02422
%RSD	26.502	31.498	125.01	605.12	59.134	36.750	118.04

#1	-0.00283	-0.01941	.00083	-0.00208	.00154	.00011	-.04276
#2	-0.00384	-0.02016	.00625	.00151	.00035	.00017	-.02409
#3	-0.00229	-0.01067	.00060	-0.00033	.00138	.00009	.00529

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	.00026	.00010	.00092	.00043	-.01521	.21808	.00506
Stddev	.00049	.00014	.00072	.00159	.02085	.06012	.00183
%RSD	192.69	140.21	78.147	365.18	137.05	27.568	36.139

#1	.00056	-0.00006	.00010	.00226	-.02109	.19222	.00715
#2	-0.00031	.00021	.00143	-0.00053	-.03250	.17521	.00425
#3	.00053	.00016	.00123	-0.00043	.00794	.28680	.00377


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	.04336	-.00058	.00359	-.04738	-.00118	.00170	-.00254
Stddev	.09596	.00396	.00027	.01548	.00060	.00415	.00053
%RSD	221.31	688.15	7.4050	32.673	51.038	244.28	20.749

#1	.13593	-0.00284	.00389	-.04366	-.00186	.00267	-.00313
#2	-.05566	-0.00288	.00349	-.06438	-.00095	.00528	-.00212
#3	.04980	.00400	.00339	-.03410	-.00072	-.00285	-.00236

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016



Sample Name: CCB Acquired: 5/16/2016 15:44:13 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00452	.00543	-.02610	-.00030	.00027	-.00122	-.00186
Stddev	.00283	.00185	.00231	.00078	.00015	.00593	.00235
%RSD	62.522	34.084	8.8514	261.38	56.810	487.26	126.70

#1	.00660	.00470	-.02435	-.00046	.00010	-.00561	.00081
#2	.00567	.00753	-.02872	.00055	.00040	.00552	-.00276
#3	.00130	.00405	-.02523	-.00098	.00032	-.00356	-.00362

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	.00060	.00032	F -.20226
Stddev	.00036	.00018	.14886
%RSD	59.409	55.420	73.601


#1	.00099	.00027	-.32422
#2	.00029	.00053	-.03638
#3	.00053	.00018	-.24617

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	13179.	94385.	4212.0
Stddev	15.	250.	19.0
%RSD	.11184	.26443	.45100

#1	13175.	94294.	4191.6
#2	13166.	94193.	4229.2
#3	13195.	94667.	4215.1

Approved: May 17, 2016



Sample Name: L1605045001 Acquired: 5/16/2016 15:48:12 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00353	-0.01006	-0.00107	.06016	.15887	.00013	54.715	.00012
Stddev	.00203	.00510	.00304	.00107	.00046	.00006	.113	.00017
%RSD	57.604	50.674	282.76	1.7735	.28824	41.541	.20734	133.62

#1	-0.00389	-0.00449	-0.00198	.05894	.15864	.00016	54.844	.00015
#2	-0.00134	-0.01449	-0.00355	.06059	.15939	.00017	54.666	-0.00005
#3	-0.00535	-0.01118	.00231	.06095	.15857	.00007	54.634	.00027

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	-0.00039	.00061	.06035	.01585	1.2102	.01259	13.122	.02031
Stddev	.00040	.00035	.00104	.00710	.0800	.00329	.151	.00196
%RSD	102.17	57.274	1.7166	44.798	6.6124	26.114	1.1514	9.6391

#1	-0.00028	.00045	.06146	.02193	1.2091	.01465	13.100	.01834
#2	-0.00084	.00101	.05941	.01758	1.1308	.01433	12.983	.02034
#3	-0.00006	.00037	.06018	.00805	1.2908	.00880	13.282	.02226


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	.00154	32.384	-0.00064	-0.00000	.00177	-0.00030	.00144	4.9248
Stddev	.00002	.040	.00035	.00788	.00197	.00183	.00157	.0049
%RSD	1.0432	.12416	54.087	310540.	110.99	601.56	109.21	.09909

#1	.00152	32.378	-0.00037	.00277	.00331	.00172	.00297	4.9293
#2	.00156	32.427	-0.00103	-0.00889	-0.00044	-0.00079	-0.00017	4.9196
#3	.00155	32.347	-0.00052	.00612	.00245	-0.00184	.00152	4.9254

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 17, 2016



Sample Name: L1605045001 Acquired: 5/16/2016 15:48:12 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.0029	.37430	-0.1252	-0.0081	.00033	.01721	.17337
Stddev	.00018	.00074	.00312	.00124	.00152	.00018	.23038
%RSD	62.569	.19713	24.886	154.09	460.03	1.0416	132.88

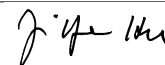
#1	-0.0049	.37515	-0.1269	.00012	-0.00138	.01707	.43234
#2	-0.0027	.37397	-0.1555	-0.00222	.00083	.01715	-0.00881
#3	-0.0012	.37379	-0.0933	-0.00032	.00154	.01741	.09659

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	13359.	96046.	4375.9
Stddev	42.	126.	14.7
%RSD	.31453	.13112	.33541

#1	13311.	95944.	4382.7
#2	13392.	96007.	4386.0
#3	13373.	96187.	4359.1

Approved: May 17, 2016



Sample Name: L1605045002 Acquired: 5/16/2016 15:52:09 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.0267	-0.1868	.00222	.05872	.16059	.00003	54.760
Stddev	.00095	.00735	.00129	.00095	.00137	.00003	.248
%RSD	35.677	39.367	58.018	1.6164	.85200	84.633	.45295

#1	-0.0350	-0.1020	.00262	.05933	.16143	.00002	55.046
#2	-0.0288	-0.2321	.00077	.05919	.15901	.00001	54.618
#3	-0.0163	-0.2264	.00325	.05762	.16132	.00006	54.615

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	.00042	-0.00010	.00070	.05830	-0.00634	1.2093	.01512
Stddev	.00015	.00037	.00050	.00042	.01257	.0983	.00209
%RSD	34.350	378.13	71.402	.71700	198.29	8.1304	13.791

#1	.00056	.00029	.00022	.05839	-0.1635	1.2470	.01355
#2	.00043	-0.0043	.00066	.05866	-0.1044	1.0977	.01749
#3	.00027	-0.0015	.00122	.05784	.00777	1.2832	.01434


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	12.979	.02251	.00161	32.999	-0.00047	-0.00313	.00178
Stddev	.130	.00064	.00015	.103	.00026	.00137	.00134
%RSD	1.0044	2.8398	9.3313	.31202	55.524	43.698	75.422

#1	12.987	.02250	.00178	33.105	-0.00069	-0.00469	.00057
#2	12.845	.02316	.00156	32.899	-0.00018	-0.00263	.00155
#3	13.105	.02188	.00149	32.993	-0.00054	-0.00209	.00322

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016



Sample Name: L1605045002 Acquired: 5/16/2016 15:52:09 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0394	-0.0157	4.9256	-0.0042	.37584	-0.01179	-0.00130
Stddev	.00065	.00718	.0146	.00080	.00155	.00053	.00221
%RSD	16.386	457.23	.29663	188.82	.41292	4.4810	169.90

#1	-0.0443	-0.00981	4.9372	.00029	.37751	-0.01138	-0.00385
#2	-0.0419	.00178	4.9092	-0.00128	.37445	-0.01239	-0.00018
#3	-0.00321	.00332	4.9305	-0.00028	.37556	-0.01161	.00012

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	.01869	F -.21991
Stddev	.00110	.00028	.09414
%RSD	184.92	1.4877	42.807


#1	-0.00122	.01897	-.17551
#2	.00068	.01842	-.15617
#3	-0.00124	.01867	-.32803

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	13499.	96443.	4405.3
Stddev	11.	292.	13.3
%RSD	.08317	.30297	.30108

#1	13508.	96200.	4398.5
#2	13502.	96767.	4396.9
#3	13486.	96361.	4420.6

Approved: May 17, 2016



Sample Name: L1605045003 Acquired: 5/16/2016 15:56:05 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000(
 User: JYH 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	-.00315	-.02007	-.00026	.04677	.00192	.00008	.05150
Stddev	.00066	.00773	.00239	.00121	.00057	.00004	.00287
%RSD	20.876	38.533	903.88	2.5954	29.782	43.814	5.5745

#1	-.00391	-.02294	-.00047	.04787	.00229	.00007	.05482
#2	-.00281	-.01131	.00222	.04696	.00126	.00005	.04981
#3	-.00273	-.02596	-.00254	.04547	.00222	.00012	.04988

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	.00044	.00005	.00084	.00424	.00494	.22614	.00517
Stddev	.00021	.00037	.00021	.00122	.03482	.01797	.00081
%RSD	46.934	793.39	24.821	28.727	704.55	7.9467	15.679

#1	.00042	-.00033	.00061	.00288	.01387	.24683	.00592
#2	.00025	.00006	.00090	.00461	.03443	.21443	.00431
#3	.00066	.00042	.00101	.00523	-.03347	.21716	.00527


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	.04328	.00238	.00058	123.29	-.00093	.00235	.00026
Stddev	.06287	.00078	.00033	.55	.00063	.00636	.00054
%RSD	145.28	32.971	56.937	.44906	68.235	271.38	206.51

#1	.09160	.00327	.00069	123.89	-.00146	.00957	-.00023
#2	-.02781	.00201	.00021	123.21	-.00109	-.00009	.00017
#3	.06604	.00184	.00085	122.79	-.00023	-.00244	.00084

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016



Sample Name: L1605045003 Acquired: 5/16/2016 15:56:05 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00237	.00781	5.2159	.00011	.00071	-0.00378	-0.00273
Stddev	.00290	.00329	.0113	.00121	.00004	.00582	.00149
%RSD	122.32	42.178	.21569	1075.5	5.3436	153.82	54.528

#1	-0.00208	.01132	5.2266	.00150	.00074	-.01040	-.00325
#2	.00037	.00732	5.2041	-.00077	.00067	-.00152	-.00389
#3	-.00540	.00479	5.2171	-.00038	.00073	.00056	-.00105

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	.00001	.00333	F -.13564
Stddev	.00081	.00014	.18755
%RSD	10483.	4.3345	138.27

#1	.00090	.00346	.07477
#2	-.00021	.00335	-.19645
#3	-.00067	.00318	-.28525

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	13454.	95458.	4381.3
Stddev	10.	304.	16.5
%RSD	.07693	.31843	.37670

#1	13460.	95809.	4390.9
#2	13442.	95281.	4362.2
#3	13460.	95284.	4390.7

Approved: May 17, 2016

Sample Name: L1605045004 Acquired: 5/16/2016 16:00:04 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00328	-0.00770	-0.00100	.04582	.00267	.00015	.13687	.00020
Stddev	.00067	.00771	.00210	.00030	.00076	.00005	.02732	.00023
%RSD	20.500	100.18	209.96	.65263	28.480	30.817	19.962	116.89

#1	-0.00259	-0.01060	-0.00250	.04617	.00194	.00010	.10590	.00040
#2	-0.00393	-0.01353	.00140	.04567	.00346	.00015	.15756	-0.00005
#3	-0.00331	.00104	-0.00189	.04563	.00261	.00020	.14714	.00024

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	.00010	.00035	.00306	.00711	.14155	.00922	.16058	.00132
Stddev	.00045	.00033	.00058	.02223	.05249	.00101	.01595	.00126
%RSD	454.06	95.091	18.885	312.76	37.079	10.970	9.9326	95.399

#1	-0.00033	.00042	.00355	.03271	.18543	.01030	.16030	.00144
#2	.00057	-0.00001	.00321	-0.00399	.08341	.00904	.17667	.00001
#3	.00006	.00064	.00242	-0.00739	.15582	.00831	.14478	.00252

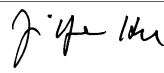
Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00098	124.19	-0.00145	-0.00590	.00144	-0.00347	.00136	5.2836
Stddev	.00020	.51	.00099	.00665	.00213	.00392	.00405	.0240
%RSD	20.234	.41187	68.443	112.78	148.32	113.03	298.22	.45510

#1	.00103	124.01	-0.00041	.00059	-0.00092	-0.00334	-0.00209	5.2584
#2	.00076	124.77	-0.00155	-0.01270	.00200	-0.00744	.00035	5.3063
#3	.00115	123.80	-0.00239	-0.00559	.00324	.00039	.00581	5.2863

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 17, 2016



Sample Name: L1605045004 Acquired: 5/16/2016 16:00:04 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.0064	.00205	-0.00335	-0.00337	.00012	.00492	.14883
Stddev	.00073	.00022	.00400	.00150	.00105	.00013	.24691
%RSD	113.70	10.574	119.55	44.370	853.91	2.6427	165.90

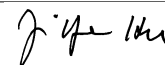
#1	-0.0004	.00228	-0.00093	-0.00483	.00046	.00505	.15540
#2	-0.0043	.00199	-0.00797	-0.00345	.00096	.00491	-.10129
#3	-0.00144	.00186	-0.00114	-0.00184	-.00105	.00480	.39239

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	13356.	95430.	4358.5
Stddev	26.	412.	35.7
%RSD	.19371	.43143	.81798

#1	13386.	95408.	4367.0
#2	13341.	95029.	4319.3
#3	13341.	95852.	4389.1

Approved: May 17, 2016



Sample Name: L1605045005 Acquired: 5/16/2016 16:04:02 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.0288	-0.1587	-0.0020	.05855	.16603	.00008	56.304
Stddev	.00026	.00915	.00400	.00429	.00063	.00003	.105
%RSD	8.8933	57.663	1956.8	7.3192	.38137	38.285	.18579

#1	-0.0259	-0.2446	-0.0239	.05374	.16535	.00009	56.307
#2	-0.0303	-0.0624	-0.0263	.06197	.16614	.00005	56.406
#3	-0.0303	-0.1691	.00441	.05995	.16660	.00011	56.197

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	-0.0024	.00137	-0.00056	.04620	1.1900	.01430
Stddev	.00022	.00021	.00023	.00064	.00445	.0588	.00074
%RSD	81.384	86.278	17.136	113.64	9.6325	4.9384	5.1549

#1	.00035	-0.0000	.00151	-0.00123	.04331	1.2570	.01359
#2	.00002	-0.00039	.00110	.00004	.04397	1.1656	.01506
#3	.00045	-0.00033	.00151	-0.00050	.05133	1.1473	.01424


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	13.557	.05751	.00097	33.078	-0.00123	-0.00237	-0.00237
Stddev	.080	.00072	.00010	.054	.00054	.00692	.00297
%RSD	.59124	1.2461	10.006	.16316	44.164	291.61	125.28

#1	13.617	.05802	.00108	33.127	-0.00080	-0.00845	-0.00364
#2	13.589	.05669	.00090	33.088	-0.00104	-0.00383	.00102
#3	13.466	.05783	.00094	33.020	-0.00184	.00516	-0.00450

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016



Sample Name: L1605045005 Acquired: 5/16/2016 16:04:02 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0421	-0.0283	5.0071	-0.0061	.38385	-0.0677	-0.0278
Stddev	.00408	.00300	.0182	.00075	.00165	.00426	.00128
%RSD	96.859	105.90	.36353	122.02	.43018	62.950	45.942

#1	-0.00006	-0.00629	5.0245	-0.00147	.38572	-0.00285	-0.00133
#2	-0.00435	-0.00093	5.0086	-0.00027	.38328	-0.01130	-0.00375
#3	-0.00821	-0.00127	4.9882	-0.00010	.38257	-0.00615	-0.00327

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	-0.00044	.00507	F -.18976
Stddev	.00100	.00006	.53733
%RSD	227.43	1.0883	283.16

#1	-0.00025	.00501	.15133
#2	.00045	.00506	.08854
#3	-0.00152	.00512	-0.80915

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	13350.	95729.	4356.8
Stddev	9.	172.	44.6
%RSD	.06851	.17997	1.0242

#1	13359.	95533.	4342.4
#2	13351.	95858.	4321.2
#3	13341.	95795.	4406.9

Approved: May 17, 2016

Sample Name: L1605045006 Acquired: 5/16/2016 16:07:58 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH 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	-0.00396	-0.00141	.00202	.04610	.22353	.00011	51.283
Stddev	.00038	.00428	.00263	.00279	.00014	.00003	.077
%RSD	9.5948	304.13	130.02	6.0597	.06249	27.883	.14984

#1	-0.00436	-0.00367	.00492	.04288	.22367	.00014	51.367
#2	-0.00361	.00353	.00137	.04745	.22352	.00009	51.216
#3	-0.00392	-0.00409	-0.00022	.04796	.22339	.00009	51.266

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	-0.00011	.00103	.00021	.70898	1.2620	.01366
Stddev	.00007	.00023	.00043	.00069	.00386	.0514	.00175
%RSD	49.989	216.08	41.706	331.43	.54452	4.0700	12.810

#1	.00021	-0.00015	.00122	-0.00048	.71122	1.2774	.01339
#2	.00007	-0.00032	.00132	.00090	.71120	1.3039	.01206
#3	.00013	.00014	.00054	.00021	.70452	1.2047	.01552


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	10.820	.17491	.00038	34.680	-0.00136	.00187	.00521
Stddev	.021	.00464	.00056	.031	.00041	.00554	.00204
%RSD	.19839	2.6520	149.12	.08824	29.865	296.37	39.198

#1	10.821	.17197	-0.00027	34.714	-0.00101	-0.00151	.00330
#2	10.841	.17251	.00076	34.655	-0.00128	-0.00115	.00737
#3	10.798	.18026	.00064	34.671	-0.00181	.00827	.00496

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016



Sample Name: L1605045006 Acquired: 5/16/2016 16:07:58 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0116	.00238	5.1360	-.00068	.66615	-.00932	.00005
Stddev	.00386	.00230	.0113	.00074	.00054	.00325	.00173
%RSD	334.03	96.258	.22078	110.21	.08067	34.900	3171.1

#1	-0.0525	.00493	5.1392	.00008	.66610	-.00967	.00157
#2	-.00062	.00048	5.1455	-.00141	.66671	-.00591	-.00183
#3	.00241	.00175	5.1235	-.00070	.66564	-.01238	.00042

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	.00113	.00997	F -.05747
Stddev	.00117	.00041	.22632
%RSD	103.28	4.1439	393.82

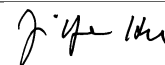
#1	.00007	.01044	.15440
#2	.00238	.00970	-.03091
#3	.00095	.00976	-.29589

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	13455.	96197.	4379.5
Stddev	25.	232.	38.0
%RSD	.18906	.24118	.86770

#1	13472.	96037.	4358.1
#2	13468.	96463.	4423.4
#3	13426.	96091.	4357.1

Approved: May 17, 2016



Sample Name: L1605045007 Acquired: 5/16/2016 16:11:55 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	F -.00481	-.00211	-.00055	.04685	.14457	.00007	53.267
Stddev	.00199	.01034	.00037	.00043	.00069	.00003	.077
%RSD	41.332	489.87	67.855	.91313	.47462	40.723	.14385

#1	-.00254	.00318	-.00044	.04704	.14514	.00004	53.347
#2	-.00625	.00451	-.00096	.04636	.14477	.00010	53.261
#3	-.00563	-.01403	-.00024	.04714	.14381	.00008	53.194

Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	9.0000						
Low Limit	-.00400						

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00023	-.00030	.00147	.00187	1.7712	1.2505	.01323
Stddev	.00020	.00032	.00025	.00090	.0174	.0725	.00468
%RSD	85.379	106.93	16.801	48.365	.98375	5.7947	35.376

#1	.00000	-.00029	.00146	.00092	1.7722	1.3204	.00799
#2	.00032	.00001	.00172	.00273	1.7880	1.2554	.01470
#3	.00036	-.00062	.00123	.00196	1.7532	1.1757	.01701


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	11.366	.12390	.00116	35.050	-.00026	.00676	.00069
Stddev	.049	.00173	.00008	.141	.00061	.00959	.00151
%RSD	.42932	1.3947	7.0402	.40331	233.01	141.95	221.03

#1	11.331	.12196	.00107	35.211	-.00082	.01732	-.00036
#2	11.422	.12527	.00118	34.992	-.00035	.00437	-.00001
#3	11.345	.12447	.00123	34.947	.00039	-.00141	.00242

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016



Sample Name: L1605045007 Acquired: 5/16/2016 16:11:55 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0002	-0.00338	5.5406	-0.00108	.63364	-0.00782	.00015
Stddev	.00252	.00141	.0022	.00052	.00149	.00298	.00085
%RSD	11495.	41.838	.03966	48.354	.23573	38.105	578.88

#1	.00119	-.00455	5.5429	-.00129	.63535	-.00510	.00092
#2	.00166	-.00181	5.5386	-.00048	.63303	-.00735	.00029
#3	-.00292	-.00379	5.5404	-.00146	.63256	-.01100	-.00076

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	.00116	.00173	F -.09343
Stddev	.00041	.00018	.08962
%RSD	35.487	10.560	95.914


#1	.00100	.00171	-.15430
#2	.00085	.00155	-.13547
#3	.00162	.00191	.00947

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	13506.	96318.	4385.1
Stddev	23.	288.	34.4
%RSD	.16695	.29947	.78454

#1	13524.	96063.	4380.1
#2	13481.	96260.	4353.5
#3	13514.	96631.	4421.7

Approved: May 17, 2016



Sample Name: L1605045008 Acquired: 5/16/2016 16:15:51 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00276	.00700	.00289	.06738	.18113	.00009	38.461	.00039
Stddev	.00037	.01169	.00144	.00302	.00091	.00006	.173	.00015
%RSD	13.441	167.06	49.696	4.4755	.50414	63.343	.44983	38.013

#1	-0.00235	.01669	.00304	.06913	.18189	.00003	38.499	.00022
#2	-0.00284	.01027	.00425	.06911	.18139	.00015	38.612	.00048
#3	-0.00308	-.00598	.00139	.06390	.18012	.00008	38.272	.00046

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	-0.00011	.00088	-0.00037	.06231	1.1037	.01103	9.2222	.05295
Stddev	.00033	.00064	.00132	.01675	.0164	.00489	.1021	.00116
%RSD	297.66	73.216	353.84	26.877	1.4857	44.367	1.1071	2.1904

#1	-0.00045	.00108	-.00115	.04347	1.0964	.00618	9.3398	.05313
#2	-0.00008	.00016	-.00112	.06793	1.1225	.01095	9.1559	.05401
#3	.00020	.00140	.00115	.07552	1.0922	.01597	9.1710	.05171


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	.00140	61.403	-0.00175	.00267	-0.00294	-0.00068	-0.00367	3.9714
Stddev	.00042	.250	.00067	.00106	.00015	.00178	.00131	.0098
%RSD	30.289	.40795	38.398	39.893	5.1479	259.53	35.773	.24784

#1	.00182	61.571	-.00248	.00217	-.00288	.00012	-.00492	3.9742
#2	.00098	61.522	-.00117	.00389	-.00282	.00054	-.00378	3.9794
#3	.00139	61.115	-.00160	.00195	-.00311	-.00272	-.00230	3.9604

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: May 17, 2016



Sample Name: L1605045008 Acquired: 5/16/2016 16:15:51 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.0115	.29768	-0.00091	-0.00090	-0.00047	.00424	.01548
Stddev	.00078	.00031	.00418	.00274	.00040	.00014	.08044
%RSD	67.677	.10523	456.46	306.18	84.240	3.2340	519.46

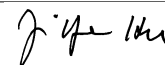
#1	-0.00047	.29793	.00290	-0.00346	-0.00073	.00408	-.07666
#2	-0.00200	.29778	-.00026	.00200	-0.00068	.00430	.07165
#3	-0.00098	.29733	-.00538	-.00123	-0.00001	.00433	.05147

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	13560.	96968.	4435.2
Stddev	29.	230.	14.5
%RSD	.21049	.23732	.32747

#1	13528.	97140.	4418.4
#2	13584.	96707.	4444.4
#3	13567.	97059.	4442.7

Approved: May 17, 2016



Sample Name: L1605050702 Acquired: 5/16/2016 16:19:47 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00284	-0.00416	.00119	.03325	.00997	.00009	178.46	.00075
Stddev	.00032	.00684	.00220	.00265	.00067	.00001	.13	.00008
%RSD	11.304	164.38	184.27	7.9769	6.7111	7.3277	.07132	10.178

#1	-0.00277	.00166	.00046	.03282	.01042	.00009	178.35	.00069
#2	-0.00256	-.01169	-.00054	.03609	.00920	.00009	178.60	.00083
#3	-0.00319	-.00245	.00367	.03084	.01029	.00010	178.44	.00072

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	-0.00023	.00405	.00173	.01496	3.4726	.03911	152.33	.02450
Stddev	.00053	.00064	.00112	.02213	.0546	.00222	.27	.00188
%RSD	235.19	15.906	64.542	147.86	1.5717	5.6832	.17576	7.6579

#1	.00017	.00372	.00285	.03121	3.5237	.04166	152.12	.02667
#2	-0.00002	.00365	.00062	.02393	3.4151	.03814	152.24	.02332
#3	-0.00083	.00480	.00171	-.01024	3.4791	.03755	152.63	.02352


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	.00035	164.49	-0.00050	.00132	-0.00078	.00240	-0.00900	3.6003
Stddev	.00054	.31	.00134	.00435	.00289	.00075	.01131	.0086
%RSD	153.82	.19031	265.21	330.29	370.63	31.417	125.72	.23889

#1	.00080	164.84	.00007	.00433	-.00060	.00192	-.01564	3.5976
#2	.00049	164.23	.00045	-.00367	.00202	.00201	.00406	3.6099
#3	-.00025	164.41	-.00203	.00328	-.00376	.00327	-.01541	3.5933

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 17, 2016



Sample Name: L1605050702 Acquired: 5/16/2016 16:19:47 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.0142	.46806	-0.02969	-0.00309	-0.00035	.00264	.14565
Stddev	.00121	.00092	.00290	.00232	.00150	.00011	.17955
%RSD	85.712	.19554	9.7687	74.900	433.67	4.0914	123.28

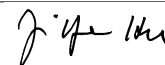
#1	-0.00106	.46700	-0.02753	-0.00274	.00138	.00255	.19640
#2	-0.00277	.46854	-0.02855	-0.00097	-0.00133	.00276	-.05381
#3	-0.00042	.46863	-0.03298	-0.00557	-0.00108	.00260	.29437

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	12936.	92241.	4410.4
Stddev	11.	362.	15.7
%RSD	.08329	.39257	.35501

#1	12924.	92562.	4394.0
#2	12942.	91849.	4412.2
#3	12943.	92313.	4425.2

Approved: May 17, 2016



Sample Name: L1605050703 Acquired: 5/16/2016 16:23:43 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00221	.03470	.00094	.06529	.19828	.00012	84.908	.00037
Stddev	.00186	.00690	.00346	.00179	.00051	.00005	.362	.00004
%RSD	84.255	19.876	366.88	2.7457	.25497	39.364	.42600	10.694

#1	-0.00435	.02854	.00323	.06731	.19870	.00017	85.000	.00033
#2	-0.00131	.03342	.00264	.06387	.19843	.00009	85.214	.00041
#3	-0.00097	.04215	-.00304	.06469	.19772	.00010	84.509	.00037

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	.00143	.00082	.46033	4.4448	.05186	34.518	.25694
Stddev	.00010	.00027	.00155	.01443	.0020	.00331	.115	.00517
%RSD	13.056	18.623	188.88	3.1339	.04550	6.3813	.33366	2.0123

#1	.00063	.00168	-.00006	.47669	4.4470	.05515	34.394	.26290
#2	.00075	.00115	.00262	.45485	4.4444	.05192	34.537	.25372
#3	.00083	.00145	-.00008	.44944	4.4430	.04853	34.622	.25419


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	.00105	52.687	-.00023	-.00168	.00157	.00057	-.00398	4.2464
Stddev	.00021	.218	.00065	.00239	.00038	.00417	.00473	.0020
%RSD	20.125	.41458	286.57	142.57	24.378	738.46	118.74	.04700

#1	.00082	52.736	-.00077	-.00010	.00199	.00382	.00118	4.2463
#2	.00108	52.877	.00050	-.00051	.00124	-.00414	-.00502	4.2485
#3	.00124	52.449	-.00042	-.00443	.00149	.00201	-.00811	4.2445

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 17, 2016



Sample Name: L1605050703 Acquired: 5/16/2016 16:23:43 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.0038	2.3688	-0.01488	-0.00484	-0.00010	.00356	.28616
Stddev	.00078	.0102	.00360	.00299	.00095	.00014	.43165
%RSD	209.23	.43207	24.193	61.868	971.12	4.0643	150.84

#1	-0.00096	2.3745	-0.01083	-0.00741	-0.00114	.00342	.10023
#2	.00052	2.3750	-0.01772	-0.00556	.00073	.00354	.77962
#3	-0.00068	2.3570	-0.01610	-0.00155	.00012	.00371	-.02136

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	13421.	96021.	4384.2
Stddev	23.	171.	6.2
%RSD	.17267	.17786	.14183

#1	13448.	95957.	4389.1
#2	13407.	95891.	4377.2
#3	13408.	96214.	4386.3

Approved: May 17, 2016

Sample Name: CCV Acquired: 5/16/2016 16:27:40 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000(
 User: JYH 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	.40185	10.161	.40427	.50191	1.0000	.04968	9.7702
Stddev	.00073	.019	.00282	.00229	.0036	.00003	.0270
%RSD	.18064	.18737	.69768	.45575	.36312	.05253	.27649

#1	.40210	10.155	.40712	.50013	.99698	.04965	9.7428
#2	.40103	10.146	.40148	.50449	1.0040	.04970	9.7710
#3	.40242	10.182	.40421	.50111	.99908	.04969	9.7968

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	.04998	.20745	.52135	.51927	4.1038	50.185	1.0041
Stddev	.00015	.00082	.00250	.00059	.0097	.193	.0051
%RSD	.30247	.39691	.48014	.11294	.23703	.38527	.50437

#1	.05015	.20710	.51928	.51882	4.0927	50.003	.99832
#2	.04987	.20686	.52065	.51906	4.1080	50.388	1.0078
#3	.04991	.20839	.52413	.51993	4.1107	50.164	1.0061

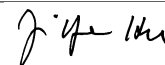
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.186	.50267	.99950	50.963	.52722	10.219	.52662
Stddev	.062	.00542	.00296	.097	.00130	.026	.00238
%RSD	.60618	1.0791	.29565	.19102	.24648	.25115	.45139

#1	10.179	.49687	1.0028	50.894	.52808	10.224	.52571
#2	10.129	.50352	.99843	51.074	.52572	10.191	.52932
#3	10.251	.50762	.99723	50.921	.52785	10.242	.52484

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: May 17, 2016



Sample Name: CCV Acquired: 5/16/2016 16:27:40 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.2118	.38489	5.1118	1.0332	.99495	.99741	.51012
Stddev	.0032	.00489	.0075	.0004	.00293	.00545	.00256
%RSD	.26379	1.2696	.14724	.03534	.29431	.54670	.50184

#1	1.2151	.38131	5.1169	1.0329	.99202	.99584	.51089
#2	1.2115	.39046	5.1031	1.0336	.99788	.99291	.50727
#3	1.2087	.38291	5.1154	1.0330	.99496	1.0035	.51221

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	1.0187	1.0518	F .68764
Stddev	.0047	.0013	.39142
%RSD	.45832	.11930	56.922


#1	1.0138	1.0514	.29954
#2	1.0194	1.0509	.68109
#3	1.0230	1.0533	1.0823

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	13278.	94606.	4307.4
Stddev	30.	662.	40.5
%RSD	.22278	.70002	.94118

#1	13250.	94973.	4319.9
#2	13275.	95002.	4340.3
#3	13309.	93841.	4262.1

Approved: May 17, 2016



Sample Name: CCB Acquired: 5/16/2016 16:31:17 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH 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	-0.0317	-0.1543	-0.0103	.00088	.00105	.00007	-0.2852
Stddev	.00229	.00720	.00131	.00093	.00068	.00002	.01419
%RSD	72.019	46.643	127.33	105.47	64.369	34.236	49.756

#1	-0.0313	-0.1290	-0.0080	.00090	.00061	.00004	-.03249
#2	-0.0548	-0.0984	-0.0244	.00180	.00071	.00009	-.04031
#3	-0.0091	-0.2355	.00015	-0.0006	.00183	.00008	-0.1277

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	.00012	-0.0015	.00102	-0.0103	.01231	.26432	.00626
Stddev	.00004	.00039	.00005	.00084	.00620	.07959	.00354
%RSD	37.099	255.12	5.2786	81.731	50.389	30.112	56.440

#1	.00016	-0.0059	.00102	-0.0075	.01751	.29839	.00382
#2	.00012	.00015	.00097	-0.0036	.00544	.17336	.01032
#3	.00008	-0.0002	.00108	-0.0197	.01399	.32121	.00465

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	.03378	.00011	.00435	-0.1783	-0.0125	.00261	.00075
Stddev	.04413	.00242	.00023	.01234	.00094	.00554	.00164
%RSD	130.63	2305.7	5.2176	69.255	75.280	212.30	218.15

#1	.04847	-0.0119	.00412	-0.1693	-0.0095	-0.00331	.00259
#2	.06871	-0.0139	.00457	-0.03059	-0.0230	.00766	.00023
#3	-0.1582	.00290	.00438	-0.00595	-0.0050	.00347	-0.0057

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016

Sample Name: CCB Acquired: 5/16/2016 16:31:17 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00389	-.00336	-.02829	-.00029	.00064	-.00722	.00180
Stddev	.00405	.00386	.00115	.00037	.00031	.00633	.00336
%RSD	104.29	114.73	4.0821	128.97	48.745	87.772	186.54

#1	.00138	-.00572	-.02696	-.00048	.00057	-.01452	.00566
#2	.00171	-.00546	-.02887	-.00014	.00037	-.00385	-.00041
#3	.00856	.00109	-.02904	-.00052	.00098	-.00328	.00014

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	.00136	.00016	F .42641
Stddev	.00047	.00023	.27511
%RSD	34.776	146.51	64.519

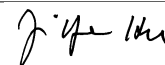
#1	.00164	.00036	.52708
#2	.00081	-.00009	.63701
#3	.00162	.00020	.11514

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	13268.	95003.	4249.0
Stddev	12.	456.	9.7
%RSD	.09022	.47956	.22838

#1	13280.	94757.	4246.1
#2	13256.	94723.	4241.1
#3	13269.	95528.	4259.9

Approved: May 17, 2016



Sample Name: L1605050704 Acquired: 5/16/2016 16:35:17 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00151	.02548	.00156	.06781	.19943	.00006	83.271	.00048
Stddev	.00087	.00471	.00070	.00036	.00127	.00002	.298	.00005
%RSD	57.730	18.505	45.295	.53585	.63471	30.398	.35760	10.913

#1	-0.00175	.02010	.00079	.06745	.19799	.00005	83.013	.00051
#2	-0.00224	.02888	.00169	.06818	.20037	.00008	83.203	.00050
#3	-0.00054	.02746	.00218	.06781	.19993	.00005	83.597	.00042

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	.00038	.00137	.00125	.41978	4.3750	.05518	33.603	.23007
Stddev	.00040	.00080	.00053	.02714	.0804	.00279	.299	.00101
%RSD	104.70	58.514	42.280	6.4648	1.8374	5.0540	.89041	.43820

#1	.00006	.00046	.00068	.40974	4.2983	.05229	33.684	.23046
#2	.00083	.00171	.00135	.45050	4.4586	.05786	33.271	.23083
#3	.00026	.00195	.00173	.39909	4.3680	.05538	33.853	.22893

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	.00184	54.876	.00053	.02688	.00284	-.00296	-.00360	4.1988
Stddev	.00033	.233	.00055	.00487	.00273	.00214	.01014	.0112
%RSD	17.832	.42406	104.22	18.121	95.957	72.249	281.26	.26754

#1	.00149	54.631	.00002	.02222	.00436	-.00255	.00758	4.2096
#2	.00189	54.903	.00045	.02648	.00448	-.00528	-.01219	4.1872
#3	.00214	55.095	.00111	.03193	-.00031	-.00106	-.00620	4.1995

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: May 17, 2016

Sample Name: L1605050704 Acquired: 5/16/2016 16:35:17 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.0009	2.3442	-0.01311	-0.00283	.00091	.00539	.20185
Stddev	.00092	.0102	.00182	.00336	.00036	.00019	.36829
%RSD	1032.9	.43561	13.857	118.57	39.284	3.6074	182.45

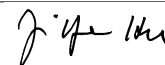
#1	.00013	2.3339	-.01481	-.00494	.00118	.00536	.26137
#2	.00070	2.3444	-.01120	-.00459	.00103	.00560	.53676
#3	-.00110	2.3543	-.01334	.00104	.00050	.00521	-.19257

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	13287.	95159.	4361.1
Stddev	40.	327.	44.7
%RSD	.30473	.34411	1.0246

#1	13303.	95474.	4404.9
#2	13241.	94820.	4362.8
#3	13316.	95185.	4315.6

Approved: May 17, 2016



Sample Name: L1605050705 Acquired: 5/16/2016 16:39:13 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00268	.10631	.00089	.02272	.03580	.00006	56.649	.00057
Stddev	.00046	.00609	.00185	.00199	.00118	.00002	.089	.00003
%RSD	17.287	5.7250	208.25	8.7680	3.3036	33.936	.15762	4.4793

#1	-0.00242	.11011	-0.00124	.02287	.03543	.00004	56.635	.00054
#2	-0.00241	.09929	.00177	.02066	.03712	.00006	56.745	.00058
#3	-0.00322	.10953	.00214	.02464	.03484	.00008	56.568	.00059

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	.00087	.00460	.00262	.17264	.86025	.01249	23.653	.06864
Stddev	.00013	.00076	.00204	.01910	.07870	.00460	.181	.00386
%RSD	14.938	16.533	77.850	11.065	9.1489	36.831	.76704	5.6227

#1	.00072	.00505	.00178	.19461	.85478	.01460	23.446	.07259
#2	.00093	.00502	.00495	.15994	.94155	.01566	23.781	.06487
#3	.00096	.00372	.00113	.16337	.78443	.00721	23.733	.06848


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	.00127	146.85	.00117	.02130	.00045	-0.00161	.00831	4.4775
Stddev	.00029	.62	.00118	.00388	.00559	.00201	.00839	.0033
%RSD	22.924	.42204	101.32	18.236	1241.2	124.90	100.97	.07291

#1	.00114	146.77	.00091	.02493	-.00555	-.00393	.00160	4.4776
#2	.00107	147.51	.00014	.01721	.00549	-.00047	.01771	4.4742
#3	.00161	146.28	.00246	.02175	.00141	-.00042	.00561	4.4807

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 17, 2016



Sample Name: L1605050705 Acquired: 5/16/2016 16:39:13 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	.20880	-0.00749	-0.00207	.00195	.00386	.20991
Stddev	.00029	.00070	.00087	.00160	.00028	.00022	.42542
%RSD	74.005	.33384	11.667	77.430	14.474	5.7574	202.67

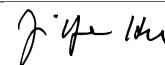
#1	-0.00007	.20824	-0.00840	-0.00389	.00163	.00361	.67977
#2	-0.00064	.20958	-0.00744	-0.00085	.00204	.00396	.09910
#3	-0.00047	.20856	-0.00665	-0.00147	.00218	.00402	-.14914

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	13194.	94165.	4374.3
Stddev	40.	553.	30.3
%RSD	.30048	.58694	.69189

#1	13226.	94796.	4353.1
#2	13206.	93935.	4360.8
#3	13149.	93765.	4408.9

Approved: May 17, 2016



Sample Name: L1605050707 Acquired: 5/16/2016 16:43:10 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00336	-0.00416	.00952	.03917	.40224	.00009	107.53
Stddev	.00015	.00357	.00156	.00077	.00150	.00004	.27
%RSD	4.4543	85.804	16.440	1.9618	.37233	45.280	.25465

#1	-0.00345	-0.00011	.00772	.03830	.40051	.00005	107.22
#2	-0.00344	-0.00552	.01027	.03976	.40310	.00014	107.66
#3	-0.00319	-0.00684	.01057	.03944	.40311	.00010	107.72

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	.00057	-0.00015	.00081	.00126	8.0391	.94378	.01164
Stddev	.00031	.00018	.00117	.00064	.0100	.02378	.00114
%RSD	54.838	123.74	143.19	50.613	.12379	2.5193	9.8232

#1	.00021	-0.00000	.00165	.00196	8.0276	.92194	.01134
#2	.00076	-0.00009	-0.00052	.00071	8.0444	.96911	.01290
#3	.00073	-0.00036	.00131	.00112	8.0452	.94028	.01067


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	46.686	.52841	.00104	35.412	-0.00131	.75525	-0.00046
Stddev	.350	.00666	.00037	.093	.00095	.00462	.00221
%RSD	.74915	1.2598	35.961	.26302	72.667	.61207	478.22

#1	46.866	.52253	.00084	35.304	-0.00241	.75955	-0.00079
#2	46.282	.52706	.00080	35.461	-0.00072	.75582	-0.00249
#3	46.908	.53564	.00147	35.470	-0.00080	.75036	.00189

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016



Sample Name: L1605050707 Acquired: 5/16/2016 16:43:10 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00038	-.00387	6.6514	-.00027	.45688	-.01678	-.00096
Stddev	.00128	.00521	.0072	.00167	.00222	.00860	.00503
%RSD	339.77	134.56	.10798	608.46	.48628	51.278	524.82

#1	.00064	-.00780	6.6501	.00076	.45483	-.01497	-.00660
#2	.00150	.00204	6.6592	.00062	.45657	-.02614	.00066
#3	-.00101	-.00585	6.6450	-.00220	.45924	-.00922	.00307

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	.00189	F -.10390
Stddev	.00078	.00025	.58270
%RSD	418.98	13.138	560.84

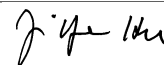
#1	.00064	.00199	-.76418
#2	.00064	.00208	.11412
#3	-.00072	.00161	.33836

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	13287.	95106.	4398.9
Stddev	25.	441.	29.6
%RSD	.18476	.46351	.67266

#1	13310.	94804.	4365.2
#2	13261.	94902.	4420.6
#3	13291.	95612.	4410.9

Approved: May 17, 2016



Sample Name: L1605050709 Acquired: 5/16/2016 16:47:06 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00323	-0.01456	.01432	.03809	.50088	.00005	118.87	.00064
Stddev	.00075	.00528	.00072	.00179	.00273	.00001	.36	.00017
%RSD	23.273	36.290	4.9996	4.6917	.54481	19.176	.30297	26.492

#1	-0.00302	-0.01153	.01474	.03654	.50182	.00004	119.27	.00083
#2	-0.00261	-0.01149	.01473	.03768	.50301	.00006	118.78	.00055
#3	-0.00407	-0.02066	.01350	.04004	.49780	.00006	118.57	.00053

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	-0.00034	.00195	.00159	10.461	.90958	.01096	46.189	.22501
Stddev	.00023	.00052	.00148	.042	.11876	.00182	.120	.00266
%RSD	69.129	26.614	93.127	.40197	13.056	16.632	.26070	1.1814

#1	-0.00060	.00226	.00092	10.444	.88655	.00907	46.267	.22803
#2	-0.00017	.00135	.00056	10.509	.80402	.01270	46.250	.22304
#3	-0.00024	.00224	.00328	10.430	1.0382	.01111	46.050	.22396

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	.00058	37.110	-0.00135	.61211	.00221	-0.00206	-0.00633	6.7308
Stddev	.00020	.149	.00099	.00934	.00104	.00186	.00801	.0090
%RSD	34.469	.40081	73.226	1.5256	47.042	90.609	126.52	.13412

#1	.00079	37.244	-0.00132	.60141	.00260	-0.00337	.00237	6.7302
#2	.00054	37.137	-0.00236	.61631	.00103	-0.00288	-0.00796	6.7221
#3	.00040	36.950	-0.00038	.61862	.00298	.00008	-0.01339	6.7401

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 17, 2016

Sample Name: L1605050709 Acquired: 5/16/2016 16:47:06 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	.00024	.49067	-.00983	-.00430	.00064	.00236	-.02274
Stddev	.00108	.00056	.00513	.00152	.00159	.00006	.11637
%RSD	455.19	.11390	52.150	35.383	248.96	2.5921	511.72

#1	.00023	.49005	-.01425	-.00601	-.00004	.00230	.09153
#2	-.00084	.49082	-.00421	-.00310	-.00050	.00242	-.01865
#3	.00132	.49113	-.01102	-.00378	.00246	.00235	-.14110

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	13300.	95354.	4424.8
Stddev	37.	57.	17.3
%RSD	.27582	.05963	.39001

#1	13274.	95369.	4406.1
#2	13283.	95291.	4428.0
#3	13342.	95402.	4440.2

Approved: May 17, 2016

Sample Name: L1605050711 Acquired: 5/16/2016 16:51:04 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00263	.00013	-0.00115	.01169	.07142	.00008	83.053	.00042
Stddev	.00083	.00397	.00152	.00220	.00032	.00006	.323	.00027
%RSD	31.560	3006.7	131.70	18.774	.45132	79.573	.38885	64.439

#1	-0.00354	.00433	-0.00038	.01379	.07130	.00001	83.206	.00017
#2	-0.00190	-0.00037	-0.00290	.01188	.07178	.00014	83.271	.00071
#3	-0.00246	-0.00356	-0.00018	.00941	.07116	.00008	82.682	.00039

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	.00070	.00167	.00469	.04316	.31219	.01026	54.200	.21529
Stddev	.00040	.00115	.00077	.01268	.06297	.00134	.167	.00312
%RSD	56.487	68.833	16.481	29.385	20.171	13.072	.30731	1.4500

#1	.00053	.00165	.00405	.03751	.26692	.00890	54.015	.21889
#2	.00116	.00283	.00555	.05768	.38410	.01031	54.338	.21334
#3	.00042	.00053	.00448	.03429	.28555	.01158	54.248	.21365


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	.00094	58.334	.25503	.00897	.00063	-0.00162	.00226	3.4991
Stddev	.00034	.344	.00033	.00281	.00232	.00259	.01001	.0012
%RSD	36.659	.59048	.12983	31.305	370.66	160.12	443.57	.03448

#1	.00124	58.306	.25531	.00792	.00264	-0.00258	.00378	3.4994
#2	.00101	58.691	.25466	.01215	-0.00191	.00132	.01142	3.4978
#3	.00056	58.004	.25511	.00684	.00115	-0.00358	-0.00843	3.5002

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: May 17, 2016



Sample Name: L1605050711 Acquired: 5/16/2016 16:51:04 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.0049	.32034	-0.01323	-0.00269	.00032	.00460	1.8974
Stddev	.00011	.00148	.00365	.00174	.00037	.00017	.4706
%RSD	21.510	.46191	27.544	64.524	115.68	3.7784	24.803

#1	-0.0061	.31953	-.01638	-.00070	.00075	.00473	2.4376
#2	-0.0045	.32204	-.01408	-.00347	.00007	.00440	1.6784
#3	-0.0041	.31944	-.00924	-.00390	.00015	.00467	1.5763

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	13216.	94758.	4389.2
Stddev	29.	779.	25.5
%RSD	.22044	.82179	.58023

#1	13233.	95522.	4405.4
#2	13183.	93965.	4359.9
#3	13233.	94787.	4402.4

Approved: May 17, 2016

Sample Name: CCV Acquired: 5/16/2016 16:54:59 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000(
 User: JYH 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	.40462	10.178	.40884	.50795	1.0054	.04996	9.7639
Stddev	.00062	.025	.00133	.00341	.0022	.00015	.0304
%RSD	.15270	.24964	.32533	.67053	.21838	.30043	.31155

#1	.40529	10.203	.40731	.50814	1.0046	.05012	9.7946
#2	.40407	10.179	.40945	.51125	1.0037	.04995	9.7633
#3	.40450	10.152	.40975	.50445	1.0079	.04982	9.7338

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	.04967	.20667	.52119	.51813	4.1469	50.371	.99764
Stddev	.00028	.00016	.00174	.00209	.0059	.288	.00392
%RSD	.55561	.07558	.33305	.40305	.14100	.57271	.39265

#1	.04943	.20678	.52049	.52035	4.1502	50.116	.99513
#2	.04962	.20649	.52317	.51785	4.1505	50.314	.99563
#3	.04997	.20673	.51992	.51620	4.1402	50.684	1.0022

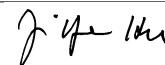
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.214	.50422	.99512	51.204	.52801	10.271	.52950
Stddev	.070	.00268	.00558	.174	.00174	.008	.00411
%RSD	.68525	.53190	.56114	.34024	.32981	.07986	.77560

#1	10.158	.50389	1.0005	51.126	.53002	10.279	.53292
#2	10.292	.50171	.99558	51.082	.52709	10.263	.53063
#3	10.190	.50705	.98933	51.404	.52692	10.270	.52494

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: May 17, 2016



Sample Name: CCV Acquired: 5/16/2016 16:54:59 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.2212	.37762	5.1154	1.0333	.99699	1.0092	.51329
Stddev	.0042	.00363	.0061	.0033	.00440	.0085	.00085
%RSD	.34074	.96044	.11859	.31975	.44176	.84073	.16593

#1	1.2237	.37637	5.1210	1.0353	.99444	.99946	.51279
#2	1.2235	.37478	5.1163	1.0295	.99445	1.0129	.51280
#3	1.2164	.38170	5.1089	1.0351	1.0021	1.0151	.51427

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	1.0223	1.0553	F .89191
Stddev	.0046	.0023	.39044
%RSD	.44832	.22009	43.776


#1	1.0270	1.0577	.54699
#2	1.0219	1.0552	1.3158
#3	1.0179	1.0530	.81294

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	13392.	94785.	4283.0
Stddev	18.	655.	48.9
%RSD	.13734	.69107	1.1425

#1	13413.	94725.	4316.6
#2	13381.	94162.	4305.6
#3	13381.	95468.	4226.9

Approved: May 17, 2016



Sample Name: CCB Acquired: 5/16/2016 16:58:37 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00371	-0.02094	.00059	-0.00004	.00186	.00014	-0.04634	.00030
Stddev	.00043	.00565	.00375	.00324	.00077	.00012	.01955	.00009
%RSD	11.571	26.988	630.69	7822.4	41.552	83.938	42.182	29.604

#1	-0.00418	-0.02711	.00482	.00340	.00237	.00020	-0.05981	.00021
#2	-0.00363	-0.01601	-0.00236	-0.00049	.00097	.00022	-0.05528	.00031
#3	-0.00333	-0.01969	-0.00067	-0.00303	.00222	.00000	-0.02392	.00039

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	-0.00030	.00048	-0.00139	-0.00094	.11341	.00629	.01693	-0.00016
Stddev	.00034	.00062	.00078	.01326	.03309	.00438	.08852	.00206
%RSD	112.49	127.46	56.287	1409.4	29.176	69.535	522.98	1298.4

#1	-0.00051	.00058	-0.00053	.00239	.10480	.00383	.00188	-0.00015
#2	.00009	-0.00018	-0.00207	-0.01555	.08548	.01135	.11200	-0.00223
#3	-0.00048	.00104	-0.00157	.01034	.14996	.00370	-0.06310	.00190

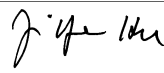
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00421	-0.02867	-0.00111	.00523	-0.00045	.00484	-0.00215	-0.02620
Stddev	.00041	.01008	.00121	.00861	.00075	.00607	.00335	.00169
%RSD	9.7268	35.143	109.21	164.70	163.92	125.38	156.00	6.4365

#1	.00374	-0.03910	-0.00233	-0.00236	.00013	-0.00194	-0.00129	-0.02527
#2	.00446	-0.02792	-0.00110	.01458	-0.00130	.00977	-0.00584	-0.02814
#3	.00444	-0.01899	.00010	.00347	-0.00019	.00669	.00069	-0.02518

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: May 17, 2016



Sample Name: CCB Acquired: 5/16/2016 16:58:37 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	.00067	.00016	-.00165	-.00350	.00083	.00026	.01352
Stddev	.00034	.00027	.00998	.00109	.00033	.00015	.63091
%RSD	50.401	167.62	605.74	31.244	39.251	57.586	4668.2

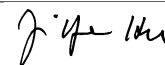
#1	.00095	.00039	.00981	-.00357	.00114	.00023	-.58657
#2	.00029	.00023	-.00844	-.00456	.00049	.00013	.67129
#3	.00075	-.00014	-.00630	-.00237	.00086	.00042	-.04418

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	13372.	95808.	4274.5
Stddev	25.	232.	33.2
%RSD	.18821	.24163	.77685

#1	13388.	95591.	4241.7
#2	13343.	96052.	4308.1
#3	13385.	95780.	4273.7

Approved: May 17, 2016



Sample Name: PBW B3 Acquired: 5/16/2016 17:02:37 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568687-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.00425	-.01028	.00001	-.00034	.00061	.00015	-.02654
Stddev	.00219	.00980	.00212	.00245	.00071	.00010	.02377
%RSD	51.575	95.322	41978.	721.93	114.89	65.303	89.586

#1	-.00663	-.01552	.00245	-.00218	.00076	.00007	-.00016
#2	-.00230	.00102	-.00127	.00244	-.00015	.00026	-.03315
#3	-.00383	-.01635	-.00116	-.00127	.00124	.00012	-.04630

Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	9.0000						
Low Limit	-.00400						

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00017	-.00014	.00055	.00065	.01753	.16081	.00270
Stddev	.00014	.00029	.00023	.00084	.02466	.01119	.00191
%RSD	82.473	202.73	40.912	129.62	140.65	6.9612	70.635

#1	.00017	-.00045	.00080	.00063	.00613	.14869	.00061
#2	.00030	.00012	.00035	.00150	.04582	.17077	.00436
#3	.00003	-.00009	.00051	-.00018	.00064	.16298	.00313


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	.14869	-.00147	.00082	-.05223	-.00057	-.00312	.00093
Stddev	.05788	.00115	.00053	.04675	.00071	.00835	.00400
%RSD	38.928	78.375	64.312	89.500	125.96	267.93	427.41

#1	.11313	-.00069	.00023	-.01537	-.00129	-.00132	.00551
#2	.21548	-.00280	.00124	-.10482	.00013	-.01222	-.00086
#3	.11746	-.00093	.00100	-.03651	-.00054	.00419	-.00185

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016



Sample Name: PBW B3 Acquired: 5/16/2016 17:02:37 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568687-02

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00068	-.00446	-.02499	-.00033	.00015	-.00290	-.00082
Stddev	.00255	.00334	.00051	.00036	.00025	.00543	.00210
%RSD	376.67	74.862	2.0249	108.99	164.93	187.16	257.55

#1	.00153	-.00062	-.02462	.00007	-.00007	.00278	-.00103
#2	-.00347	-.00672	-.02478	-.00044	.00010	-.00344	-.00280
#3	-.00009	-.00605	-.02557	-.00062	.00041	-.00805	.00138

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	.00059	.00140	F -.29995
Stddev	.00056	.00014	.25354
%RSD	95.218	10.222	84.528

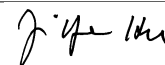
#1	.00098	.00127	-.18037
#2	.00082	.00138	-.59117
#3	-.00005	.00156	-.12831

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	13631.	98147.	4399.8
Stddev	52.	272.	27.2
%RSD	.38400	.27760	.61742

#1	13585.	98129.	4405.9
#2	13688.	98429.	4370.1
#3	13621.	97885.	4423.4

Approved: May 17, 2016



Sample Name: LCSW B3 Acquired: 5/16/2016 17:06:37 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000(
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568687-03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19690	4.9253	.19515	.98012	.49506	.02405	4.8678	.02436
Stddev	.00099	.0190	.00475	.00067	.00066	.00014	.0276	.00009
%RSD	.50468	.38653	2.4315	.06811	.13396	.56159	.56765	.35743

#1	.19646	4.9432	.18979	.97963	.49504	.02415	4.8656	.02445
#2	.19620	4.9053	.19882	.97985	.49574	.02390	4.8965	.02434
#3	.19803	4.9274	.19683	.98088	.49441	.02410	4.8414	.02428

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	.10217	.25552	.25806	2.0220	25.148	.50078	4.9503	.24854
Stddev	.00023	.00185	.00121	.0227	.086	.00544	.0776	.00103
%RSD	.22897	.72321	.46973	1.1237	.34031	1.0855	1.5677	.41360

#1	.10242	.25418	.25736	2.0263	25.226	.50123	4.8639	.24754
#2	.10195	.25763	.25946	2.0422	25.163	.50598	4.9728	.24850
#3	.10214	.25474	.25735	1.9974	25.056	.49514	5.0142	.24959

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	.50112	25.246	.26217	4.9363	.26217	.60731	.18622	2.5334
Stddev	.00078	.074	.00161	.0112	.00249	.00237	.00257	.0057
%RSD	.15508	.29315	.61383	.22609	.94945	.39025	1.3798	.22425

#1	.50182	25.304	.26036	4.9410	.26351	.60615	.18419	2.5307
#2	.50125	25.271	.26343	4.9443	.25930	.61004	.18537	2.5400
#3	.50029	25.162	.26274	4.9236	.26370	.60575	.18911	2.5296

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 17, 2016


Sample Name: LCSW B3 Acquired: 5/16/2016 17:06:37 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568687-03

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.51088	.49504	.49086	.25300	.50474	.51377	.69474
Stddev	.00138	.00088	.00967	.00288	.00302	.00119	.27347
%RSD	.27063	.17684	1.9697	1.1367	.59827	.23143	39.363
#1	.50928	.49595	.47976	.24976	.50457	.51326	.39429
#2	.51174	.49421	.49544	.25526	.50181	.51513	.92914
#3	.51162	.49495	.49739	.25396	.50784	.51292	.76079

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	13482.	96302.	4401.0
Stddev	24.	155.	12.3
%RSD	.18152	.16095	.28035
#1	13510.	96126.	4395.2
#2	13473.	96418.	4415.2
#3	13464.	96362.	4392.6

Approved: May 17, 2016



Sample Name: F BLANK Acquired: 5/16/2016 17:10:08 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568558-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00308	-0.00484	-0.00020	.00374	.00078	.00011	.00034	.00022
Stddev	.00140	.00918	.00422	.00151	.00010	.00005	.02291	.00026
%RSD	45.538	189.49	2142.1	40.467	12.748	46.443	6652.9	114.61

#1	-0.00248	.00266	.00442	.00376	.00085	.00009	-.02566	.00013
#2	-0.00469	-.01507	-.00384	.00222	.00067	.00017	.00910	.00051
#3	-0.00208	-.00212	-.00116	.00524	.00083	.00007	.01759	.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	.00001	.00035	-0.00193	.02223	.16472	.00384	.07721	-.00006
Stddev	.00019	.00016	.00045	.01828	.04284	.00416	.02463	.00078
%RSD	1711.8	46.180	23.575	82.230	26.006	108.44	31.904	1256.1

#1	.00011	.00033	-.00143	.01305	.14606	-.00096	.10244	-.00066
#2	-.00021	.00052	-.00203	.04328	.13437	.00596	.05322	-.00036
#3	.00013	.00020	-.00232	.01036	.21372	.00651	.07597	.00083


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	.00097	124.68	-0.00106	-0.01050	.00069	-0.00169	-0.00037	-.02303
Stddev	.00014	.35	.00074	.00823	.00109	.00292	.01078	.00167
%RSD	14.842	.27831	69.785	78.367	157.15	172.55	2895.1	7.2358

#1	.00112	124.37	-.00093	-.01794	.00173	-.00506	.00697	-.02265
#2	.00095	125.05	-.00039	-.00166	.00080	-.00008	.00466	-.02485
#3	.00083	124.63	-.00185	-.01189	-.00045	.00006	-.01275	-.02158

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 17, 2016



Sample Name: F BLANK Acquired: 5/16/2016 17:10:08 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568558-01

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0045	.00023	-0.00153	.00048	-0.00021	.00856	.15564
Stddev	.00086	.00041	.00999	.00299	.00036	.00003	.12577
%RSD	193.14	180.62	653.00	620.98	171.94	.38172	80.810


#1	-0.00066	.00031	.00028	-0.00065	-0.00013	.00856	.29012
#2	-0.00118	.00059	.00744	-0.00177	-0.00060	.00853	.13589
#3	.00050	-0.00022	-0.01231	.00387	.00010	.00860	.04091

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	13477.	95770.	4424.0
Stddev	40.	292.	37.4
%RSD	.29622	.30440	.84638

#1	13436.	95439.	4464.3
#2	13516.	95989.	4390.3
#3	13481.	95881.	4417.4

Approved: May 17, 2016



Sample Name: F BLANK Acquired: 5/16/2016 17:14:08 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568558-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00221	-0.02220	-0.00106	-0.00249	.00029	.00007	.03173	.00029
Stddev	.00115	.00713	.00306	.00266	.00033	.00002	.01151	.00009
%RSD	51.987	32.106	288.39	106.84	112.68	21.955	36.256	29.911

#1	-0.00240	-.02633	.00197	-.00254	.00027	.00007	.02887	.00019
#2	-.00098	-.02630	-.00100	-.00513	.00063	.00006	.04440	.00035
#3	-.00326	-.01397	-.00416	.00019	-.00003	.00009	.02193	.00032

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	-0.00060	.00041	.00024	.00783	.08098	.00642	.10968	-.00186
Stddev	.00037	.00035	.00082	.00322	.02467	.00466	.10178	.00283
%RSD	62.537	84.590	339.76	41.148	30.466	72.571	92.802	151.87

#1	-.00046	.00074	.00110	.01026	.07802	.01164	.03539	.00023
#2	-.00102	.00046	.00017	.00906	.05792	.00269	.06795	-.00073
#3	-.00032	.00004	-.00054	.00418	.10699	.00492	.22570	-.00509


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	.00007	.00671	-.00114	-.00113	-.00074	-.00084	.00607	-.02390
Stddev	.00010	.00278	.00130	.00477	.00239	.00154	.00471	.00140
%RSD	146.95	41.369	114.28	421.75	324.15	183.98	77.581	5.8692

#1	.00001	.00982	-.00225	.00120	.00143	.00061	.00538	-.02453
#2	.00018	.00448	-.00146	.00203	-.00034	-.00247	.00175	-.02488
#3	.00001	.00583	.00029	-.00662	-.00330	-.00066	.01109	-.02229

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 17, 2016



Sample Name: F BLANK Acquired: 5/16/2016 17:14:08 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568558-02

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0024	.00129	-0.00004	-0.00187	.00048	.00296	.29862
Stddev	.00001	.00029	.00362	.00316	.00029	.00003	.16319
%RSD	4.1047	22.167	8276.0	168.55	60.244	1.0463	54.646


#1	-0.0025	.00121	.00225	-0.00377	.00018	.00300	.48489
#2	-0.0024	.00105	-0.00422	-0.00362	.00076	.00295	.23013
#3	-0.0023	.00160	.00184	.00177	.00050	.00294	.18085

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	13691.	98800.	4372.3
Stddev	104.	651.	33.6
%RSD	.75742	.65932	.76752

#1	13799.	99227.	4383.5
#2	13683.	99123.	4398.9
#3	13592.	98050.	4334.6

Approved: May 17, 2016



Sample Name: L1605067407 Acquired: 5/16/2016 17:18:08 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568687-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00166	-0.00030	.00015	.10651	42.985	-0.00006	F 2260.5
Stddev	.00213	.00902	.00068	.00208	1.008	.00006	15.6
%RSD	127.98	2960.1	447.30	1.9555	2.3457	101.31	.69086

#1	.00004	.00907	.00092	.10481	41.825	-0.00013	2242.6
#2	-0.00405	-0.00105	-0.00038	.10589	43.649	-0.00001	2267.0
#3	-0.00098	-0.00893	-0.00009	.10884	43.481	-0.00005	2271.7

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	.00556	.00403	.00088	.01552	39.077	105.70	1.2187
Stddev	.00034	.00052	.00099	.00137	.272	.49	.0039
%RSD	6.0470	12.831	112.97	8.8072	.69503	.46327	.32240

#1	.00523	.00443	.00196	.01635	38.765	105.16	1.2176
#2	.00553	.00421	.00067	.01627	39.264	106.10	1.2230
#3	.00590	.00344	.00001	.01394	39.202	105.86	1.2154


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	185.42	17.010	-0.00169	F 499.53	-0.00839	.08698	.00439
Stddev	1.66	.062	.00013	1.69	.00081	.02728	.00362
%RSD	.89546	.36416	7.7846	.33742	9.6416	31.361	82.535

#1	183.84	16.939	-0.00169	498.37	-0.00797	.11797	.00359
#2	187.15	17.055	-0.00181	501.47	-0.00788	.07637	.00834
#3	185.27	17.035	-0.00155	498.77	-0.00933	.06660	.00123

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-50000			

Approved: May 17, 2016



Sample Name: L1605067407 Acquired: 5/16/2016 17:18:08 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568687-01

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.1596	F -0.04942	4.8698	-0.0189	F 49.258	F -0.17943	-0.0599
Stddev	.00298	.00240	.0916	.00056	.396	.00720	.00892
%RSD	18.665	4.8519	1.8803	29.833	.80312	4.0135	149.00

#1	-0.1416	-.04744	4.9244	-.00205	49.082	-.17437	.00272
#2	-0.1432	-.04874	4.9209	-.00126	49.711	-.17625	-.00557
#3	-0.1940	-.05209	4.7641	-.00236	48.982	-.18768	-.01512

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	.00419	.00158	F -1.3727
Stddev	.00158	.00029	.2821
%RSD	37.674	18.321	20.546

#1	.00488	.00136	-1.6786
#2	.00530	.00191	-1.1228
#3	.00238	.00148	-1.3168

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	10815.	76607.	4022.8
Stddev	85.	213.	19.4
%RSD	.78428	.27771	.48343

#1	10748.	76445.	4035.9
#2	10786.	76848.	4000.4
#3	10910.	76529.	4031.9

Approved: May 17, 2016

Sample Name: L1605067408S Acquired: 5/16/2016 17:22:30 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568687-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.23376	5.5582	.22497	1.2120	44.409	.02387	F 2235.2
Stddev	.00174	.0214	.00486	.0017	1.724	.00014	58.5
%RSD	.74542	.38522	2.1587	.13959	3.8829	.59916	2.6149

#1	.23462	5.5633	.21938	1.2106	43.125	.02390	2171.8
#2	.23490	5.5766	.22737	1.2139	43.734	.02399	2286.9
#3	.23175	5.5347	.22817	1.2115	46.369	.02371	2247.0

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	.03299	.10015	.25646	.26506	41.962	134.63	1.7721
Stddev	.00067	.00041	.00181	.00351	.316	1.55	.0253
%RSD	2.0193	.40931	.70702	1.3226	.75247	1.1514	1.4297

#1	.03374	.10006	.25535	.26776	41.602	132.84	1.7431
#2	.03247	.10059	.25855	.26632	42.094	135.59	1.7832
#3	.03276	.09978	.25547	.26110	42.191	135.46	1.7900

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	193.90	17.593	.50213	F 520.10	.23146	5.6660	.25135
Stddev	2.12	.207	.00388	6.79	.00305	.0308	.00291
%RSD	1.0916	1.1773	.77238	1.3059	1.3164	.54328	1.1587

#1	191.46	17.354	.50369	512.27	.23345	5.6760	.25401
#2	195.05	17.714	.50498	524.38	.23298	5.6906	.24824
#3	195.19	17.712	.49771	523.66	.22795	5.6315	.25179

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: May 17, 2016

Sample Name: L1605067408S Acquired: 5/16/2016 17:22:30 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568687-04

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.67538	.17257	8.2147	.49243	F 50.546	.33634	.21805
Stddev	.00631	.00261	.0342	.00559	.304	.00499	.00102
%RSD	.93368	1.5103	.41671	1.1357	.60120	1.4833	.47003

#1	.67527	.17188	8.2289	.49458	50.888	.33316	.21768
#2	.68174	.17037	8.2396	.49663	50.307	.34209	.21920
#3	.66913	.17545	8.1757	.48608	50.443	.33376	.21726

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	.52747	.47903	F -1.3305
Stddev	.00376	.00344	.2877
%RSD	.71194	.71889	21.621

#1	.52881	.48129	-1.6445
#2	.53037	.48073	-1.0798
#3	.52323	.47507	-1.2671

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	10784.	76194.	4079.6
Stddev	28.	828.	50.6
%RSD	.25822	1.0867	1.2408

#1	10761.	75561.	4138.0
#2	10776.	75889.	4048.5
#3	10815.	77131.	4052.3

Approved: May 17, 2016

Sample Name: L1605067409SD Acquired: 5/16/2016 17:26:43 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568687-05

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.23420	5.4761	.22103	1.2008	F 45.603	.02358	F 2234.0
Stddev	.00146	.0208	.00525	.0051	.933	.00003	28.8
%RSD	.62235	.38065	2.3734	.42325	2.0465	.12337	1.2893

#1	.23372	5.4872	.22227	1.1983	45.004	.02359	2200.7
#2	.23583	5.4890	.21527	1.2066	46.678	.02360	2249.1
#3	.23304	5.4520	.22554	1.1974	45.125	.02355	2252.0

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	.03216	.09886	.25157	.25940	42.503	137.18	1.8080
Stddev	.00028	.00065	.00182	.00184	.346	.82	.0154
%RSD	.86013	.65656	.72187	.71055	.81454	.60034	.85314

#1	.03186	.09959	.24948	.26127	42.372	137.10	1.8009
#2	.03241	.09864	.25244	.25759	42.895	138.04	1.8257
#3	.03220	.09835	.25278	.25934	42.240	136.40	1.7973

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	196.35	17.890	.49584	F 540.38	.22938	5.5692	.25168
Stddev	1.05	.114	.00411	17.60	.00028	.0325	.00689
%RSD	.53732	.63708	.82932	3.2576	.12286	.58277	2.7395

#1	196.88	17.888	.49905	522.65	.22931	5.5962	.24680
#2	197.03	18.005	.49727	557.86	.22969	5.5781	.25957
#3	195.13	17.777	.49121	540.64	.22914	5.5332	.24866

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: May 17, 2016

Sample Name: L1605067409SD Acquired: 5/16/2016 17:26:43 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568687-05

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.66731	.16908	8.2324	.48494	F 51.479	.32421	.21718
Stddev	.00286	.00157	.0328	.00320	1.085	.01141	.00538
%RSD	.42912	.92845	.39907	.66007	2.1080	3.5181	2.4753

#1	.66526	.16899	8.2601	.48718	50.481	.32027	.21633
#2	.67058	.17069	8.2410	.48637	52.634	.33706	.21227
#3	.66610	.16756	8.1961	.48127	51.321	.31529	.22292

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	.51767	.47062	F -1.3839
Stddev	.00178	.00308	.1077
%RSD	.34391	.65398	7.7830


#1	.51957	.47358	-1.2681
#2	.51740	.47083	-1.4812
#3	.51604	.46744	-1.4023

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	10715.	76149.	4043.3
Stddev	44.	63.	42.0
%RSD	.40626	.08246	1.0397

#1	10679.	76133.	4071.1
#2	10763.	76096.	3995.0
#3	10703.	76218.	4063.9

Approved: May 17, 2016



Sample Name: L1605067410 Acquired: 5/16/2016 17:30:57 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00214	-0.00652	.01573	.10656	3.4940	-0.00016	F 1668.6
Stddev	.00194	.00549	.00077	.00212	.0293	.00004	15.1
%RSD	90.814	84.171	4.9006	1.9882	.83861	26.762	.90729

#1	.00006	-.00033	.01641	.10756	3.4727	-.00016	1661.7
#2	-.00362	-.00846	.01590	.10412	3.4818	-.00012	1658.2
#3	-.00286	-.01079	.01489	.10798	3.5274	-.00020	1686.0

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	.00264	.00070	.00245	.00945	3.3490	274.62	1.5893
Stddev	.00024	.00054	.00049	.00128	.0558	2.08	.0166
%RSD	8.9022	77.004	20.043	13.551	1.6656	.75596	1.0459

#1	.00239	.00131	.00297	.01020	3.2986	273.59	1.5760
#2	.00285	.00045	.00240	.00798	3.3394	273.26	1.5840
#3	.00268	.00032	.00199	.01019	3.4090	277.01	1.6079

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	12.663	2.4254	.00489	74.175	.07787	.06328	.00567
Stddev	.091	.0281	.00044	.643	.00125	.01177	.00196
%RSD	.72034	1.1569	9.0542	.86739	1.6091	18.601	34.492

#1	12.580	2.3997	.00445	73.763	.07924	.07685	.00697
#2	12.761	2.4211	.00490	73.845	.07679	.05590	.00342
#3	12.649	2.4553	.00534	74.916	.07757	.05709	.00662

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016

Sample Name: L1605067410 Acquired: 5/16/2016 17:30:57 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-00687	F -02975	3.0567	-00118	6.8905	F -15379	-00531
Stddev	.00378	.00827	.0068	.00027	.0505	.00837	.00547
%RSD	55.005	27.785	.22325	22.727	.73234	5.4425	102.98

#1	-01110	-03160	3.0626	-00114	6.8563	-16297	-01006
#2	-00382	-03694	3.0492	-00093	6.8669	-14658	-00654
#3	-00569	-02072	3.0581	-00147	6.9485	-15181	.00067

Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit		90.000				36.000	
Low Limit		-01000				-03000	

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00137	.00280	F -.21365
Stddev	.00059	.00028	.34005
%RSD	42.841	9.8417	159.16


#1	.00076	.00263	.16136
#2	.00142	.00266	-.30036
#3	.00193	.00312	-.50196

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	12340.	87124.	4458.4
Stddev	34.	373.	20.4
%RSD	.27433	.42827	.45852

#1	12301.	86899.	4463.3
#2	12363.	86918.	4476.0
#3	12356.	87554.	4436.0

Approved: May 17, 2016



Sample Name: L1605067410PS Acquired: 5/16/2016 17:34:53 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568955-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.22079	5.4017	.23192	1.1620	3.6211	.02407	F 1567.1
Stddev	.00106	.0295	.00564	.0048	.0161	.00011	6.6
%RSD	.48155	.54650	2.4329	.41581	.44386	.47677	.42405

#1	.22107	5.4208	.22559	1.1658	3.6363	.02420	1574.2
#2	.22169	5.3677	.23642	1.1566	3.6043	.02400	1561.1
#3	.21962	5.4165	.23376	1.1636	3.6229	.02399	1566.1

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	.02850	.09971	.25747	.26256	4.9625	268.83	1.9231
Stddev	.00042	.00042	.00252	.00118	.0512	1.63	.0043
%RSD	1.4665	.42083	.98069	.44873	1.0316	.60723	.22589

#1	.02817	.09978	.25892	.26210	5.0095	270.60	1.9279
#2	.02837	.10008	.25455	.26390	4.9079	267.38	1.9195
#3	.02897	.09925	.25894	.26168	4.9701	268.51	1.9221


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	16.120	2.4084	.51496	92.349	.32058	5.5291	.25254
Stddev	.277	.0182	.00151	.593	.00032	.0253	.00659
%RSD	1.7183	.75501	.29340	.64239	.09884	.45778	2.6084

#1	16.421	2.4294	.51466	92.934	.32077	5.5017	.24615
#2	16.065	2.3977	.51660	91.748	.32021	5.5517	.25931
#3	15.875	2.3982	.51363	92.365	.32075	5.5339	.25215

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016



Sample Name: L1605067410PS Acquired: 5/16/2016 17:34:53 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568955-01

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.66379	.18288	5.8429	.50234	6.6426	.36358	.23094
Stddev	.00437	.01075	.0139	.00054	.0402	.00430	.00782
%RSD	.65884	5.8784	.23775	.10711	.60482	1.1830	3.3874

#1	.66251	.19237	5.8272	.50192	6.6827	.36706	.23259
#2	.66020	.18506	5.8537	.50214	6.6024	.36491	.23780
#3	.66866	.17120	5.8477	.50294	6.6428	.35877	.22242

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	.52210	.49426	.05982
Stddev	.00209	.00051	.27896
%RSD	.40105	.10406	466.31

#1	.52447	.49413	-.22588
#2	.52049	.49383	.33150
#3	.52135	.49483	.07385

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	12337.	87716.	4426.1
Stddev	9.	470.	15.0
%RSD	.07041	.53629	.33870

#1	12347.	87175.	4410.5
#2	12332.	87940.	4427.6
#3	12333.	88033.	4440.3

Approved: May 17, 2016



Sample Name: L1605067410SDL Acquired: 5/16/2016 17:38:34 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH Custom ID1: 5 Custom ID2: Custom ID3:
 Comment: WG568955-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00177	-0.01243	.00475	.02209	.62655	.00005	F 418.43
Stddev	.00114	.00470	.00191	.00214	.00592	.00004	4.08
%RSD	64.254	37.813	40.178	9.6814	.94517	77.865	.97440

#1	-0.00303	-0.00805	.00256	.02035	.63240	.00001	422.77
#2	-0.00082	-0.01739	.00559	.02448	.62670	.00008	417.84
#3	-0.00146	-0.01184	.00609	.02145	.62056	.00005	414.69

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	.00067	-0.00011	.00255	.00241	.62229	49.308	.28433
Stddev	.00042	.00027	.00025	.00097	.05723	.397	.00632
%RSD	62.909	248.91	9.8415	40.396	9.1972	.80498	2.2234

#1	.00095	.00010	.00229	.00285	.68714	49.688	.29109
#2	.00088	-0.00041	.00256	.00130	.60088	49.339	.28335
#3	.00019	-0.00002	.00280	.00309	.57885	48.896	.27856


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	2.4710	.45043	.00116	13.310	.01453	.02842	.00218
Stddev	.0694	.00549	.00023	.155	.00070	.00069	.00401
%RSD	2.8071	1.2191	20.140	1.1629	4.8042	2.4292	183.86

#1	2.4990	.45620	.00133	13.460	.01477	.02919	.00670
#2	2.3920	.44981	.00089	13.321	.01507	.02785	.00079
#3	2.5220	.44527	.00124	13.151	.01374	.02822	-.00095

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016



Sample Name: L1605067410SDL Acquired: 5/16/2016 17:38:34 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH Custom ID1: 5 Custom ID2: Custom ID3:
 Comment: WG568955-02

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0294	-0.0580	.53140	-0.0135	1.2412	F -0.05541	-0.0286
Stddev	.00252	.00238	.00670	.00043	.0123	.00255	.00393
%RSD	85.673	41.101	1.2602	31.796	.98673	4.6074	137.17
#1	-0.0574	-0.0572	.52417	-0.0124	1.2541	-0.05835	.00050
#2	-0.0224	-0.0821	.53263	-0.0099	1.2399	-0.05412	-0.0718
#3	-0.0085	-0.0345	.53739	-0.0183	1.2297	-0.05376	-0.0191
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						36.000	
Low Limit						-0.03000	

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00065	.00137	F -.17376
Stddev	.00071	.00007	.17478
%RSD	109.08	4.9193	100.58
#1	.00120	.00133	-.09795
#2	.00090	.00145	-.37365
#3	-.00015	.00133	-.04969

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	13605.	96745.	4568.3
Stddev	63.	361.	38.1
%RSD	.46198	.37291	.83313
#1	13669.	97132.	4524.4
#2	13601.	96418.	4591.6
#3	13544.	96684.	4589.0

Approved: May 17, 2016

Sample Name: CCV Acquired: 5/16/2016 17:42:31 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000(
 User: JYH 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	.38721	9.7772	.39070	.48800	.97398	.04769	9.5797
Stddev	.00413	.0397	.00510	.00385	.01590	.00008	.2190
%RSD	1.0656	.40631	1.3053	.78953	1.6322	.15868	2.2864

#1	.38289	9.7341	.39641	.48819	.98797	.04761	9.7859
#2	.39111	9.8122	.38660	.49175	.97729	.04770	9.6032
#3	.38763	9.7855	.38908	.48405	.95669	.04777	9.3498

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	.04782	.20018	.50352	.50193	4.0134	48.995	.98315
Stddev	.00054	.00222	.00048	.00536	.0637	.966	.01433
%RSD	1.1226	1.1100	.09476	1.0679	1.5873	1.9723	1.4580

#1	.04844	.20267	.50312	.50764	4.0793	49.722	.99621
#2	.04752	.19838	.50404	.49701	4.0086	49.364	.98543
#3	.04751	.19950	.50339	.50114	3.9522	47.898	.96781

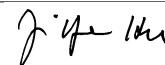
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.9132	.48809	.96179	49.623	.51029	9.8349	.50829
Stddev	.2214	.00774	.01165	.890	.00469	.1010	.00985
%RSD	2.2338	1.5849	1.2111	1.7928	.91836	1.0271	1.9378

#1	9.9669	.49572	.97497	50.342	.51540	9.9358	.51716
#2	10.103	.48829	.95287	49.899	.50619	9.7337	.49769
#3	9.6698	.48025	.95753	48.628	.50928	9.8352	.51002

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: May 17, 2016



Sample Name: CCV Acquired: 5/16/2016 17:42:31 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.1760	.36727	4.9352	.99698	.96866	.96409	.49703
Stddev	.0123	.00583	.0434	.00665	.01642	.01149	.00415
%RSD	1.0456	1.5883	.87945	.66684	1.6951	1.1921	.83442

#1	1.1902	.37053	4.9729	1.0034	.98093	.97684	.50061
#2	1.1678	.36053	4.8877	.99012	.97505	.96092	.49249
#3	1.1701	.37074	4.9449	.99744	.95001	.95452	.49798

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	.98590	1.0110	F .84677
Stddev	.00787	.0111	.09297
%RSD	.79809	1.0958	10.979

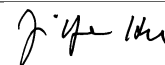
#1	.97729	1.0220	.85734
#2	.99273	.99980	.74896
#3	.98767	1.0112	.93400

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	13572.	96723.	4374.3
Stddev	98.	304.	65.3
%RSD	.72530	.31404	1.4927

#1	13481.	96983.	4311.8
#2	13677.	96389.	4369.2
#3	13559.	96797.	4442.0

Approved: May 17, 2016



Sample Name: CCB Acquired: 5/16/2016 17:46:10 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00202	-0.02526	.00092	.00251	.00190	.00015	-.04034
Stddev	.00175	.00694	.00248	.00196	.00011	.00006	.02650
%RSD	86.740	27.473	269.63	78.119	5.7681	42.493	65.692

#1	-0.00397	-.02604	.00150	.00180	.00181	.00011	-.06031
#2	-0.00058	-.03178	-.00180	.00100	.00187	.00012	-.05044
#3	-0.00151	-.01796	.00305	.00473	.00202	.00023	-.01028

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	-.00006	.00070	-.00032	.01163	.24241	.00193
Stddev	.00018	.00017	.00095	.00156	.01671	.06947	.00323
%RSD	189.97	285.97	136.15	488.10	143.71	28.656	167.52

#1	-0.00010	-0.00017	.00172	-.00192	-.00560	.17193	.00201
#2	.00024	-.00014	-.00016	.00119	.02777	.24450	-.00134
#3	.00014	.00013	.00054	-.00023	.01271	.31081	.00511


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	.11075	.00129	.00450	-.02670	-.00108	.00273	.00256
Stddev	.05153	.00215	.00019	.00398	.00195	.00429	.00279
%RSD	46.530	166.93	4.2460	14.892	180.61	156.98	109.28

#1	.10014	.00367	.00429	-.03098	.00028	.00713	.00053
#2	.16676	-.00053	.00455	-.02311	-.00331	-.00144	.00575
#3	.06535	.00073	.00467	-.02602	-.00021	.00250	.00140

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016



Sample Name: CCB Acquired: 5/16/2016 17:46:10 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00154	-.00680	.00089	-.00038	.00028	-.00577	-.00115
Stddev	.00140	.00295	.00220	.00039	.00053	.00489	.00213
%RSD	91.164	43.304	245.57	101.70	186.51	84.746	186.44

#1	-.00007	-.00819	-.00155	-.00067	-.00029	-.01047	-.00360
#2	.00249	-.00880	.00154	.00006	.00076	-.00613	-.00015
#3	.00220	-.00342	.00270	-.00054	.00039	-.00071	.00031

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	.00045	.00009	F -.12320
Stddev	.00071	.00023	.45894
%RSD	158.79	257.51	372.51

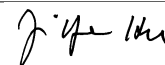
#1	-.00036	.00035	-.38903
#2	.00073	.00001	.40674
#3	.00098	-.00009	-.38732

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	13411.	95741.	4319.2
Stddev	31.	640.	52.8
%RSD	.22965	.66838	1.2229

#1	13377.	95703.	4358.2
#2	13418.	96399.	4340.3
#3	13438.	95121.	4259.1

Approved: May 17, 2016



Sample Name: L1605045901 Acquired: 5/16/2016 17:50:09 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH 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	-0.0396	.31302	-0.0169	.27427	.43917	.00014	10.328
Stddev	.00155	.00404	.00089	.00018	.00421	.00009	.100
%RSD	39.134	1.2912	52.624	.06388	.95928	62.307	.96740

#1	-0.0243	.31704	-0.0255	.27447	.44201	.00022	10.393
#2	-0.0390	.31306	-0.0077	.27414	.44116	.00015	10.378
#3	-0.0553	.30895	-0.0176	.27421	.43433	.00005	10.213

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	.00026	.00142	.00090	.00394	.01499	295.98	.67072
Stddev	.00023	.00024	.00063	.00040	.02157	2.99	.00350
%RSD	87.175	16.795	69.424	10.202	143.90	1.0087	.52195

#1	.00022	.00145	.00092	.00349	.02483	297.83	.67476
#2	.00051	.00117	.00027	.00407	.02988	297.57	.66884
#3	.00006	.00165	.00152	.00427	-.00975	292.54	.66857

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	14.249	.00907	.00118	F 558.98	.00164	.76236	.00195
Stddev	.077	.00115	.00026	6.38	.00034	.01142	.00147
%RSD	.53850	12.702	22.385	1.1408	21.062	1.4981	75.214

#1	14.167	.00933	.00099	557.37	.00203	.75276	.00285
#2	14.318	.01008	.00107	553.55	.00148	.75934	.00275
#3	14.263	.00782	.00148	566.00	.00140	.77499	.00026

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: May 17, 2016

Sample Name: L1605045901 Acquired: 5/16/2016 17:50:09 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00102	.00235	1.9212	-0.00017	.11503	-0.00828	-0.00266
Stddev	.00449	.00307	.0039	.00049	.00125	.00781	.00041
%RSD	439.15	130.59	.20111	290.51	1.0837	94.282	15.505

#1	.00081	-.00081	1.9250	.00028	.11537	-.00299	-.00239
#2	.00226	.00533	1.9172	-.00069	.11608	-.01724	-.00246
#3	-.00614	.00253	1.9213	-.00010	.11365	-.00461	-.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	.00013	.00310	.12504
Stddev	.00054	.00017	.18939
%RSD	416.20	5.5345	151.46

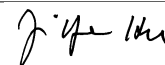
#1	.00042	.00305	.06020
#2	.00045	.00296	.33833
#3	-.00049	.00329	-.02341

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	12580.	87600.	4275.0
Stddev	19.	270.	41.3
%RSD	.15121	.30858	.96592

#1	12559.	87310.	4287.3
#2	12589.	87647.	4228.9
#3	12594.	87844.	4308.7

Approved: May 17, 2016



Sample Name: L1605045902 Acquired: 5/16/2016 17:54:14 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-.00382	-.00065	.00053	.02025	.32355	.00006	F 465.46
Stddev	.00106	.00636	.00335	.00084	.00203	.00003	.55
%RSD	27.847	975.92	636.86	4.1234	.62700	46.407	.11903

#1	-.00501	-.00268	-.00286	.02112	.32219	.00005	465.68
#2	-.00351	-.00576	.00060	.02020	.32258	.00004	464.82
#3	-.00295	.00648	.00383	.01945	.32589	.00009	465.86

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	.00058	.00078	.00182	.01292	.01117	213.41	.48785
Stddev	.00010	.00041	.00212	.00068	.01381	.35	.00565
%RSD	17.754	52.905	116.37	5.2931	123.67	.16233	1.1581

#1	.00065	.00120	.00311	.01269	.02007	213.50	.49285
#2	.00062	.00075	.00297	.01369	-.00474	213.02	.48172
#3	.00046	.00038	-.00062	.01238	.01818	213.70	.48898

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	.03530	-.00178	.00885	251.37	-.00225	.04319	.07527
Stddev	.08710	.00135	.00041	.52	.00157	.00488	.00175
%RSD	246.76	76.026	4.6895	.20613	69.704	11.299	2.3307

#1	.13038	-.00145	.00920	251.85	-.00406	.04478	.07426
#2	-.04061	-.00326	.00839	250.82	-.00134	.03771	.07426
#3	.01612	-.00062	.00896	251.43	-.00135	.04708	.07730

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016

Sample Name: L1605045902 Acquired: 5/16/2016 17:54:14 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0190	.00617	.30441	-.00065	.50634	F -.06408	-.00339
Stddev	.00335	.00706	.00567	.00077	.00188	.00486	.00404
%RSD	176.88	114.33	1.8618	118.15	.37226	7.5817	119.20

#1	-0.0189	.00978	.31015	-.00109	.50689	-.06220	-.00087
#2	-0.0526	.01070	.30425	-.00110	.50424	-.06044	-.00804
#3	.00145	-.00196	.29882	.00024	.50789	-.06959	-.00125

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	.00062	.57832	.18093
Stddev	.00117	.00156	.65145
%RSD	188.38	.27060	360.06

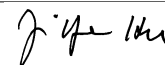
#1	.00155	.57929	-.18218
#2	-.00069	.57915	.93301
#3	.00100	.57651	-.20805

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	12520.	89026.	4304.5
Stddev	15.	252.	18.4
%RSD	.11944	.28315	.42833

#1	12536.	88769.	4302.4
#2	12507.	89037.	4287.1
#3	12516.	89272.	4323.8

Approved: May 17, 2016



Sample Name: L1605045903 Acquired: 5/16/2016 17:58:10 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	F -.00451	28.788	.00260	.30205	1.5541	.00056	48.346
Stddev	.00204	.208	.00148	.00204	.0123	.00004	.246
%RSD	45.360	.72092	56.788	.67630	.79084	6.9576	.50976

#1	-.00611	28.636	.00325	.30184	1.5412	.00060	48.127
#2	-.00520	28.704	.00364	.30011	1.5657	.00052	48.613
#3	-.00221	29.025	.00091	.30418	1.5554	.00055	48.298

Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	9.0000						
Low Limit	-.00400						

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00059	.02269	.01034	.00198	4.2844	361.37	.04929
Stddev	.00029	.00063	.00054	.00056	.0609	1.86	.00450
%RSD	49.241	2.7833	5.2649	28.301	1.4203	.51443	9.1206

#1	.00036	.02315	.00972	.00198	4.2197	360.46	.05262
#2	.00092	.02296	.01055	.00254	4.2932	363.51	.04418
#3	.00050	.02197	.01075	.00142	4.3405	360.15	.05108

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	91.403	.61601	.00043	F 499.32	.07154	.08004	.19880
Stddev	.850	.00995	.00047	5.13	.00114	.00859	.00102
%RSD	.92971	1.6154	107.77	1.0267	1.5922	10.730	.51395

#1	90.438	.60602	.00048	501.98	.07122	.08995	.19779
#2	92.036	.62593	.00088	493.41	.07281	.07491	.19878
#3	91.736	.61609	-.00006	502.57	.07060	.07525	.19983

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: May 17, 2016

Sample Name: L1605045903 Acquired: 5/16/2016 17:58:10 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00310	.00136	4.6980	.00392	.77098	-0.00638	-0.00133
Stddev	.00297	.00463	.0222	.00128	.00629	.00144	.00284
%RSD	95.833	339.95	.47161	32.720	.81535	22.571	212.77

#1	-0.00492	.00669	4.7162	.00365	.76389	-0.00768	-0.00153
#2	.00033	-.00164	4.7045	.00279	.77587	-0.00662	-0.00407
#3	-0.00471	-0.00096	4.6734	.00531	.77318	-0.00483	.00160

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	.00053	1.4943	.41278
Stddev	.00074	.0148	.38061
%RSD	140.97	.99093	92.205

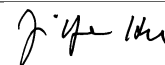
#1	.00115	1.5093	.85071
#2	-.00029	1.4939	.16181
#3	.00072	1.4797	.22582

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	12543.	88037.	4265.2
Stddev	79.	489.	7.1
%RSD	.62759	.55542	.16673

#1	12471.	88555.	4257.4
#2	12530.	87972.	4271.4
#3	12627.	87583.	4266.7

Approved: May 17, 2016



Sample Name: L1605045904 Acquired: 5/16/2016 18:02:06 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00357	25.519	.00032	.30917	1.7118	.00047	51.909
Stddev	.00286	.076	.00190	.00181	.0114	.00007	.376
%RSD	80.120	.29904	598.99	.58462	.66800	15.664	.72430

#1	-0.00275	25.560	.00220	.30722	1.7019	.00039	51.553
#2	-0.00675	25.566	.00034	.31079	1.7243	.00050	52.303
#3	-0.00121	25.431	-.00159	.30950	1.7091	.00052	51.871

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	.00053	.01711	.01206	.00527	7.0652	440.19	.27197
Stddev	.00021	.00048	.00071	.00045	.0729	2.30	.00470
%RSD	39.368	2.8136	5.8747	8.5389	1.0317	.52193	1.7273

#1	.00034	.01759	.01281	.00577	7.0032	437.97	.26696
#2	.00050	.01711	.01141	.00490	7.1455	442.56	.27628
#3	.00076	.01663	.01197	.00513	7.0470	440.04	.27268

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	95.757	.49225	.00013	F 472.82	.03514	.13025	.09624
Stddev	.339	.00210	.00053	2.73	.00112	.00351	.00133
%RSD	.35410	.42651	399.52	.57820	3.1876	2.6923	1.3780

#1	95.441	.49018	-.00013	470.01	.03524	.12857	.09776
#2	96.116	.49438	-.00021	475.47	.03398	.13428	.09557
#3	95.715	.49218	.00074	472.98	.03621	.12790	.09538

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: May 17, 2016

Sample Name: L1605045904 Acquired: 5/16/2016 18:02:06 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0017	-0.0036	6.5078	.00661	.58538	.00262	-.00439
Stddev	.00435	.00635	.0130	.00063	.00374	.00351	.00191
%RSD	2617.8	1775.4	.19959	9.4948	.63882	133.82	43.424

#1	-0.00228	.00494	6.5183	.00607	.58493	.00611	-.00622
#2	.00484	.00139	6.5117	.00730	.58933	-.00091	-.00242
#3	-.00306	-.00740	6.4933	.00645	.58189	.00267	-.00453

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	.00265	.09251	.01624
Stddev	.00053	.00059	.23014
%RSD	19.934	.63592	1417.6


#1	.00204	.09318	-.24950
#2	.00301	.09227	.15130
#3	.00290	.09208	.14691

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	12551.	87830.	4265.1
Stddev	27.	184.	52.5
%RSD	.21403	.20922	1.2318

#1	12521.	87623.	4323.3
#2	12563.	87972.	4221.1
#3	12571.	87895.	4251.0

Approved: May 17, 2016



Sample Name: L1605057102 Acquired: 5/16/2016 18:06:01 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00395	.01803	.00096	.11141	.03052	.00008	209.14
Stddev	.00159	.00403	.00416	.00221	.00036	.00003	1.32
%RSD	40.187	22.373	435.16	1.9808	1.1807	31.073	.63056

#1	-0.00363	.01935	-0.00370	.11124	.03094	.00008	208.09
#2	-0.00568	.01350	.00226	.11370	.03027	.00011	210.62
#3	-0.00255	.02124	.00431	.10930	.03036	.00006	208.71

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	.00065	.00074	.00291	.00087	.09770	3.3260	.09542
Stddev	.00034	.00036	.00080	.00157	.02052	.0652	.00449
%RSD	52.360	48.532	27.384	181.88	21.006	1.9599	4.7003

#1	.00104	.00033	.00346	-.00053	.10088	3.3877	.09842
#2	.00046	.00089	.00200	.00257	.11645	3.2578	.09758
#3	.00044	.00100	.00328	.00056	.07578	3.3325	.09027


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	85.684	.01983	-.00015	F 380.88	-.00087	.06727	-.00074
Stddev	.875	.00122	.00078	1.88	.00017	.00168	.00405
%RSD	1.0214	6.1607	535.83	.49369	19.339	2.5034	544.67

#1	84.749	.02006	-.00003	379.63	-.00104	.06555	.00184
#2	86.484	.01851	-.00098	383.05	-.00070	.06891	.00135
#3	85.821	.02092	.00057	379.97	-.00087	.06734	-.00542

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: May 17, 2016



Sample Name: L1605057102 Acquired: 5/16/2016 18:06:01 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00080	.00637	16.070	-.00090	2.4571	-.02876	-.00362
Stddev	.00377	.00578	.009	.00042	.0176	.00351	.00468
%RSD	471.57	90.865	.05341	46.947	.71670	12.199	129.32

#1	-.00235	.00234	16.071	-.00065	2.4440	-.02509	-.00227
#2	.00497	.01299	16.061	-.00067	2.4771	-.02909	-.00883
#3	-.00022	.00376	16.078	-.00139	2.4502	-.03208	.00024

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	.00098	.00457	F -.09948
Stddev	.00087	.00013	.22979
%RSD	88.950	2.8590	230.99

#1	-.00000	.00458	-.03004
#2	.00165	.00444	.08758
#3	.00129	.00470	-.35598

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	12402.	87876.	4257.8
Stddev	36.	233.	28.1
%RSD	.29147	.26547	.65984

#1	12385.	87975.	4280.7
#2	12443.	87610.	4226.5
#3	12377.	88044.	4266.3

Approved: May 17, 2016

Sample Name: L1605057104 Acquired: 5/16/2016 18:09:58 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00368	.00174	-0.00124	.03015	.02450	.00018	71.420	.00095
Stddev	.00099	.00433	.00193	.00124	.00067	.00005	.340	.00011
%RSD	26.839	248.73	155.15	4.1227	2.7481	26.692	.47659	11.331

#1	-0.00481	.00609	.00046	.03084	.02428	.00024	71.050	.00088
#2	-0.00296	.00170	-0.00085	.02871	.02526	.00014	71.491	.00089
#3	-0.00328	-.00257	-0.00334	.03088	.02397	.00016	71.720	.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	.00138	.00099	.00026	.04501	1.6577	.07133	35.293	.09303
Stddev	.00039	.00058	.00098	.02231	.1036	.00046	.047	.00243
%RSD	28.583	59.216	379.26	49.567	6.2491	.64048	.13328	2.6128

#1	.00123	.00080	.00139	.05673	1.5455	.07138	35.308	.09515
#2	.00182	.00164	-.00032	.01928	1.6780	.07084	35.330	.09038
#3	.00108	.00052	-.00030	.05901	1.7497	.07175	35.240	.09357


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	.00019	201.44	-0.00021	.05713	.00102	-0.00245	-0.00036	18.423
Stddev	.00037	.74	.00079	.00209	.00174	.00065	.00672	.039
%RSD	193.15	.36518	382.75	3.6660	169.58	26.708	1891.2	.21279

#1	-0.00024	200.94	-0.00107	.05880	.00183	-.00198	.00521	18.444
#2	.00042	201.10	-0.00005	.05478	-.00097	-.00320	-.00782	18.378
#3	.00039	202.28	.00050	.05780	.00221	-.00217	.00155	18.448

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: May 17, 2016



Sample Name: L1605057104 Acquired: 5/16/2016 18:09:58 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00151	.91753	-0.01087	-0.00234	.00113	.00405	.13764
Stddev	.00050	.00240	.00797	.00244	.00097	.00021	.30877
%RSD	33.253	.26127	73.319	104.23	85.835	5.1660	224.33


#1	-0.00175	.91564	-0.01068	-0.00286	.00126	.00385	-0.00859
#2	-0.00184	.91672	-0.00299	.00032	.00010	.00427	.49236
#3	-0.00093	.92023	-0.01892	-0.00447	.00204	.00403	-0.07085

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	12854.	91394.	4276.6
Stddev	47.	341.	44.9
%RSD	.36731	.37335	1.0502

#1	12802.	91485.	4309.5
#2	12894.	91016.	4295.0
#3	12866.	91679.	4225.5

Approved: May 17, 2016



Sample Name: L1605057106 Acquired: 5/16/2016 18:13:54 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00254	.03463	-0.00249	.02361	.16929	.00007	133.59	.00084
Stddev	.00210	.00601	.00187	.00149	.00117	.00004	1.16	.00009
%RSD	82.869	17.344	74.824	6.3078	.68849	56.756	.86641	10.378

#1	-0.00051	.02948	-0.00465	.02526	.16884	.00003	132.72	.00084
#2	-0.00471	.04123	-0.00146	.02319	.17061	.00008	134.90	.00074
#3	-0.00240	.03317	-0.00138	.02238	.16841	.00010	133.14	.00092

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	.00420	.00119	.08783	2.0544	.04167	13.589	.04609
Stddev	.00024	.00050	.00098	.02626	.0627	.00216	.108	.00160
%RSD	70.690	11.906	82.870	29.897	3.0507	5.1866	.79360	3.4683

#1	.00045	.00426	.00026	.09739	2.0206	.03991	13.591	.04784
#2	.00051	.00367	.00222	.05813	2.1267	.04103	13.480	.04570
#3	.00007	.00466	.00108	.10797	2.0159	.04409	13.696	.04472


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	.00456	102.33	.00103	.02300	-0.00061	.00023	-0.00439	10.227
Stddev	.00080	.66	.00144	.00654	.00345	.00391	.00783	.021
%RSD	17.426	.64011	139.03	28.446	569.87	1702.0	178.53	.20753

#1	.00546	102.04	.00150	.01882	.00269	-.00347	-.00290	10.244
#2	.00394	103.08	-.00058	.01963	-.00032	.00431	.00259	10.234
#3	.00428	101.87	.00218	.03053	-.00419	-.00015	-.01285	10.203

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 17, 2016



Sample Name: L1605057106 Acquired: 5/16/2016 18:13:54 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.0144	2.5319	-0.02398	-0.00354	.00276	.00716	.37325
Stddev	.00063	.0171	.00182	.00545	.00036	.00022	.17842
%RSD	43.838	.67440	7.5960	154.05	12.878	3.1085	47.802

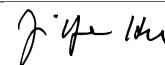
#1	-0.0103	2.5217	-0.02563	.00272	.00236	.00742	.42635
#2	-0.0113	2.5517	-0.02430	-0.00724	.00305	.00706	.51909
#3	-0.0217	2.5224	-0.02202	-0.00610	.00287	.00701	.17430

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	12840.	91833.	4291.3
Stddev	13.	424.	54.2
%RSD	.09900	.46135	1.2639

#1	12834.	91706.	4344.1
#2	12855.	92306.	4235.7
#3	12832.	91488.	4294.2

Approved: May 17, 2016



Sample Name: L1605057108 Acquired: 5/16/2016 18:17:51 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.0325	.00100	-0.00251	.04747	.02978	.00009	263.14
Stddev	.00202	.00427	.00269	.00195	.00080	.00002	.29
%RSD	62.220	426.35	107.02	4.1115	2.6796	25.929	.11002

#1	-0.0552	-0.00081	-0.00002	.04720	.02959	.00009	263.46
#2	-0.00261	.00588	-0.00536	.04566	.03065	.00011	262.88
#3	-0.00162	-0.00206	-0.00216	.04954	.02909	.00006	263.09

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	.00162	.00144	.00347	.00028	.06304	2.5145	.09844
Stddev	.00009	.00061	.00021	.00064	.02854	.0532	.00329
%RSD	5.5766	42.250	6.1782	231.32	45.276	2.1168	3.3404

#1	.00163	.00076	.00322	.00077	.08697	2.5441	.10047
#2	.00152	.00164	.00354	-.00044	.03145	2.4531	.09465
#3	.00170	.00193	.00363	.00050	.07069	2.5465	.10020

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	120.86	.06036	-0.00019	F 292.36	.00601	.05300	.00002
Stddev	.10	.00277	.00017	.64	.00054	.00146	.00317
%RSD	.07924	4.5961	94.094	.21909	8.9248	2.7612	17288.

#1	120.78	.06135	-0.00001	292.85	.00567	.05321	.00358
#2	120.96	.06250	-0.00036	291.64	.00663	.05144	-.00249
#3	120.83	.05723	-0.00019	292.61	.00573	.05434	-.00103

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: May 17, 2016

Sample Name: L1605057108 Acquired: 5/16/2016 18:17:51 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0120	-0.0193	19.461	-0.0069	2.8103	F -0.04154	-0.0297
Stddev	.00297	.01615	.028	.00052	.0049	.00687	.00340
%RSD	246.77	838.39	.14357	75.422	.17447	16.537	114.57

#1	.00081	-.01347	19.433	-.00121	2.8107	-.03587	-.00686
#2	.00019	.01653	19.462	-.00017	2.8053	-.04918	-.00153
#3	-.00461	-.00884	19.489	-.00069	2.8151	-.03957	-.00052

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	-0.0042	.00483	.08197
Stddev	.00018	.00009	.21936
%RSD	42.109	1.9553	267.62

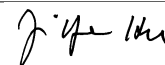
#1	-.00027	.00475	.30852
#2	-.00038	.00481	-.12942
#3	-.00062	.00494	.06680

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	12340.	87762.	4205.2
Stddev	37.	384.	48.7
%RSD	.30102	.43760	1.1590

#1	12377.	88167.	4163.3
#2	12342.	87403.	4193.6
#3	12303.	87716.	4258.7

Approved: May 17, 2016



Sample Name: L1605057110 Acquired: 5/16/2016 18:21:46 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00313	-0.00147	-0.00029	.01556	.04803	.00010	70.561
Stddev	.00078	.00291	.00317	.00098	.00018	.00003	.621
%RSD	25.022	197.58	1085.0	6.2699	.37284	27.731	.88033

#1	-0.00403	.00185	-0.00158	.01612	.04820	.00011	70.514
#2	-0.00258	-0.00354	.00332	.01443	.04784	.00007	71.204
#3	-0.00279	-0.00273	-0.00261	.01612	.04805	.00011	69.965

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	.00065	-0.00004	.00313	.00085	.02943	1.4632	.03594
Stddev	.00023	.00004	.00021	.00118	.02877	.1204	.00230
%RSD	35.700	93.229	6.5668	139.61	97.739	8.2316	6.4085

#1	.00038	-0.00002	.00317	.00093	.05340	1.5485	.03390
#2	.00078	-0.00002	.00291	.00198	-0.00247	1.5156	.03547
#3	.00079	-0.00008	.00332	-0.00037	.03736	1.3254	.03844

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	28.603	.00863	.00032	176.11	-0.00037	.17570	F -.00506
Stddev	.220	.00134	.00049	2.00	.00081	.00188	.00307
%RSD	.76794	15.557	153.75	1.1339	216.18	1.0711	60.661

#1	28.357	.00843	.00011	176.95	.00041	.17398	-.00278
#2	28.779	.01006	-0.00003	177.56	-0.00032	.17771	-.00384
#3	28.674	.00740	.00089	173.83	-0.00120	.17542	-.00855

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
High Limit							225.00
Low Limit							-.00500

Approved: May 17, 2016

Sample Name: L1605057110 Acquired: 5/16/2016 18:21:46 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00043	-.00107	16.120	-.00164	.65554	-.01225	-.00245
Stddev	.00208	.00071	.022	.00103	.00551	.00148	.00389
%RSD	480.56	66.381	.13461	63.178	.84036	12.052	158.92

#1	.00245	-.00186	16.145	-.00155	.65583	-.01269	-.00209
#2	-.00171	-.00082	16.108	-.00065	.66091	-.01060	-.00650
#3	.00057	-.00051	16.107	-.00271	.64990	-.01345	.00125

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	.00053	.00260	.02210
Stddev	.00023	.00023	.50754
%RSD	44.045	8.7348	2296.9

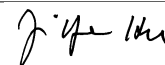
#1	.00077	.00248	-.16105
#2	.00052	.00246	.59579
#3	.00030	.00286	-.36845

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	12768.	90786.	4224.2
Stddev	26.	401.	63.3
%RSD	.20564	.44184	1.4976

#1	12756.	90336.	4183.1
#2	12798.	91106.	4192.5
#3	12751.	90917.	4297.1

Approved: May 17, 2016



Sample Name: L1605057112 Acquired: 5/16/2016 18:25:43 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH 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	-0.00261	.00611	-0.00062	.01756	.29989	.00013	F 306.55
Stddev	.00108	.00433	.00289	.00067	.00211	.00002	1.20
%RSD	41.143	70.856	467.36	3.8185	.70379	18.948	.39061

#1	-0.00261	.00892	-0.00304	.01722	.29794	.00014	305.26
#2	-0.00369	.00830	.00258	.01833	.29959	.00010	306.79
#3	-0.00154	.00112	-0.00140	.01712	.30213	.00015	307.61

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	.00135	.00046	.00433	.00259	.12555	4.2452	.11213
Stddev	.00026	.00006	.00087	.00100	.02128	.0405	.00317
%RSD	19.122	12.202	20.047	38.545	16.947	.95472	2.8282

#1	.00125	.00042	.00527	.00216	.13651	4.2768	.11535
#2	.00116	.00052	.00356	.00373	.13911	4.2593	.10902
#3	.00164	.00043	.00417	.00188	.10103	4.1995	.11201

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	129.40	.06825	.00009	F 296.42	.00794	.06814	-.00021
Stddev	.48	.00319	.00009	.66	.00082	.00208	.00403
%RSD	.36710	4.6805	103.60	.22198	10.272	3.0464	1949.0

#1	128.86	.07059	.00019	295.99	.00741	.07027	-.00002
#2	129.61	.06461	.00002	296.08	.00754	.06612	.00373
#3	129.73	.06955	.00005	297.18	.00888	.06804	-.00433

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: May 17, 2016

Sample Name: L1605057112 Acquired: 5/16/2016 18:25:43 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0737	-0.00570	19.032	-0.0172	3.3960	F -0.04752	-0.00442
Stddev	.00100	.00384	.025	.00085	.0059	.00314	.00266
%RSD	13.563	67.423	.13116	49.155	.17284	6.6171	60.254

#1	-0.0817	-0.00156	19.029	-0.00118	3.3897	-0.04503	-0.00577
#2	-0.00769	-0.00639	19.059	-0.00269	3.3970	-0.05105	-0.00614
#3	-0.00625	-0.00915	19.009	-0.00128	3.4014	-0.04649	-0.00135

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						36.000	
Low Limit						-0.03000	

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00156	.00369	.27367
Stddev	.00156	.00013	.10919
%RSD	99.491	3.4893	39.899

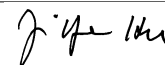
#1	.00165	.00372	.17570
#2	-0.00003	.00380	.25393
#3	.00308	.00355	.39139

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	12166.	87063.	4158.4
Stddev	29.	458.	47.5
%RSD	.24049	.52627	1.1422

#1	12140.	87570.	4200.8
#2	12160.	86678.	4167.4
#3	12198.	86942.	4107.1

Approved: May 17, 2016



Sample Name: CCV Acquired: 5/16/2016 18:29:39 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	.38803	9.7592	.38825	.48562	.95107	.04792	9.3698
Stddev	.00102	.0526	.00219	.00070	.00946	.00038	.1090
%RSD	.26327	.53867	.56478	.14517	.99465	.79018	1.1631

#1	.38900	9.7075	.38700	.48642	.94068	.04749	9.2506
#2	.38696	9.7574	.38696	.48511	.95335	.04806	9.3946
#3	.38814	9.8126	.39078	.48531	.95919	.04820	9.4643

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	.04767	.19923	.50644	.49902	3.8960	47.951	.96338
Stddev	.00017	.00060	.00410	.00177	.0448	.427	.01117
%RSD	.35943	.29958	.80905	.35564	1.1490	.89119	1.1595

#1	.04784	.19970	.50254	.49758	3.8588	47.468	.95048
#2	.04768	.19856	.50606	.50101	3.8836	48.102	.96969
#3	.04750	.19943	.51071	.49848	3.9457	48.282	.96996

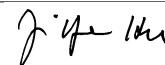
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.7691	.48015	.96001	48.432	.50786	9.8213	.51132
Stddev	.1399	.00407	.00496	.462	.00134	.0120	.00044
%RSD	1.4324	.84829	.51679	.95467	.26440	.12170	.08619

#1	9.6098	.47625	.96560	47.947	.50773	9.8235	.51158
#2	9.8250	.47984	.95830	48.482	.50926	9.8085	.51157
#3	9.8724	.48438	.95613	48.867	.50658	9.8321	.51081

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: May 17, 2016



Sample Name: CCV Acquired: 5/16/2016 18:29:39 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.1744	.36527	4.9109	.99290	.94734	.95027	.49416
Stddev	.0014	.00334	.0085	.00177	.00954	.00623	.00196
%RSD	.11826	.91424	.17314	.17845	1.0074	.65577	.39702
#1	1.1735	.36645	4.9119	.99297	.93714	.94317	.49484
#2	1.1737	.36785	4.9019	.99109	.94881	.95483	.49195
#3	1.1760	.36150	4.9188	.99463	.95606	.95282	.49570


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	.98843	1.0103	F .75625
Stddev	.00599	.0018	.46531
%RSD	.60640	.17864	61.529
#1	.98359	1.0114	1.1831
#2	.98657	1.0082	.26024
#3	.99514	1.0113	.82538

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	13566.	96398.	4395.7
Stddev	48.	1005.	86.9
%RSD	.35214	1.0423	1.9765
#1	13519.	96908.	4496.0
#2	13614.	97046.	4344.0
#3	13565.	95241.	4347.0

Approved: May 17, 2016



Sample Name: CCB Acquired: 5/16/2016 18:33:17 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00292	-0.00934	-0.00031	-0.00022	.00142	.00009	-.03137
Stddev	.00182	.00638	.00159	.00259	.00106	.00003	.02053
%RSD	62.431	68.344	517.48	1202.0	74.656	29.347	65.451

#1	-0.00320	-0.00237	.00085	.00277	.00264	.00008	-.02522
#2	-0.00458	-0.01074	.00035	-0.00152	.00089	.00007	-.01461
#3	-0.00097	-0.01490	-0.00212	-0.00190	.00073	.00012	-.05427

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	.00007	-0.00014	.00009	.00048	.01610	.23760	.00362
Stddev	.00031	.00017	.00104	.00127	.03331	.07725	.00106
%RSD	427.71	114.09	1098.4	266.23	206.91	32.511	29.377

#1	-0.00012	-0.00034	-0.00024	-0.00085	.00061	.25536	.00248
#2	.00043	-0.00006	.00126	.00169	.05433	.30441	.00379
#3	-0.00010	-0.00004	-0.00074	.00060	-0.00665	.15302	.00459

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	.03514	-0.00028	.00416	.00334	-0.00075	-0.00178	-0.00261
Stddev	.04981	.00206	.00041	.01054	.00070	.00787	.00064
%RSD	141.75	747.19	9.8045	315.75	93.728	441.51	24.529

#1	.09260	.00055	.00371	.01414	-0.00155	.00726	-.00267
#2	.00864	.00124	.00452	-0.00692	-0.00030	-.00557	-.00195
#3	.00418	-0.00263	.00423	.00280	-0.00039	-0.00704	-.00322

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016

Sample Name: CCB Acquired: 5/16/2016 18:33:17 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00280	-.00239	-.00256	-.00003	.00020	-.00129	-.00313
Stddev	.00360	.00390	.00208	.00061	.00030	.00464	.00219
%RSD	128.50	162.94	81.230	2083.1	149.07	359.19	69.921

#1	.00654	-.00686	-.00137	.00062	.00022	.00383	-.00350
#2	-.00065	.00026	-.00134	-.00013	.00049	-.00249	-.00511
#3	.00252	-.00057	-.00495	-.00058	-.00011	-.00522	-.00078

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	.00134	.00022	F -.21016
Stddev	.00055	.00017	.10129
%RSD	40.900	78.318	48.197

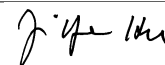
#1	.00131	.00028	-.31665
#2	.00191	.00034	-.19879
#3	.00081	.00002	-.11503

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	13481.	96195.	4291.4
Stddev	69.	317.	25.0
%RSD	.51110	.32928	.58348

#1	13532.	96250.	4310.6
#2	13403.	95854.	4300.5
#3	13509.	96480.	4263.1

Approved: May 17, 2016



Sample Name: L1605062401 Acquired: 5/16/2016 18:37:17 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00366	-0.00365	.00414	.04489	.49349	.00013	37.233	.00018
Stddev	.00280	.00937	.00299	.00070	.00342	.00004	.217	.00009
%RSD	76.516	256.66	72.113	1.5626	.69393	33.162	.58162	51.000

#1	-0.00044	-0.00989	.00672	.04481	.48955	.00011	37.018	.00008
#2	-0.00504	-0.00818	.00483	.04423	.49513	.00009	37.229	.00026
#3	-0.00550	.00712	.00087	.04562	.49578	.00017	37.451	.00019

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	-0.00003	.00236	.00060	1.9053	1.2107	.01563	8.7138	.55230
Stddev	.00027	.00150	.00116	.0284	.1003	.00768	.1238	.00258
%RSD	813.80	63.727	193.10	1.4928	8.2814	49.125	1.4210	.46685

#1	.00027	.00376	.00194	1.9351	1.1621	.02348	8.8461	.55054
#2	-0.00026	.00077	-0.00007	1.9022	1.1440	.00814	8.6946	.55109
#3	-0.00010	.00256	-0.00007	1.8785	1.3260	.01527	8.6008	.55525

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	.00165	19.802	-0.00051	.15513	-0.00197	.00185	.00310	5.4537
Stddev	.00040	.081	.00064	.00595	.00042	.00108	.00992	.0183
%RSD	24.270	.41126	125.63	3.8382	21.296	58.456	320.19	.33487

#1	.00174	19.722	-0.00064	.16192	-0.00149	.00268	.00127	5.4658
#2	.00121	19.798	.00019	.15076	-0.00227	.00225	-0.00578	5.4626
#3	.00199	19.885	-0.00107	.15273	-0.00214	.00063	.01381	5.4327

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 17, 2016



Sample Name: L1605062401 Acquired: 5/16/2016 18:37:17 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.0059	.48997	-0.00606	-0.00053	.00022	.00337	.25302
Stddev	.00071	.00127	.00601	.00203	.00052	.00007	.18231
%RSD	119.54	.25922	99.168	382.33	240.22	2.2246	72.054

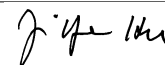
#1	-0.00140	.48957	-0.01016	-0.00003	-0.00002	.00331	.04515
#2	-0.00030	.48895	.00084	-0.00276	-0.00015	.00334	.32817
#3	-0.00007	.49139	-0.00887	.00120	.00081	.00345	.38575

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	13057.	93615.	4260.7
Stddev	34.	220.	34.4
%RSD	.26344	.23487	.80711

#1	13044.	93449.	4228.0
#2	13095.	93865.	4296.6
#3	13030.	93533.	4257.5

Approved: May 17, 2016



Sample Name: L1605067401 Acquired: 5/16/2016 18:41:13 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00338	-0.00691	-0.00155	.05073	.80054	.00011	53.096	.00058
Stddev	.00215	.00033	.00033	.00125	.00184	.00007	.101	.00008
%RSD	63.442	4.7529	21.268	2.4575	.23043	59.725	.19023	13.508

#1	-0.00124	-0.00664	-0.00119	.04954	.79932	.00019	52.980	.00063
#2	-0.00338	-0.00728	-0.00163	.05062	.80266	.00008	53.162	.00049
#3	-0.00553	-0.00682	-0.00183	.05202	.79965	.00007	53.146	.00061

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	-0.00007	.00155	-0.00015	.01352	2.3252	.01388	9.8216	.30122
Stddev	.00027	.00092	.00122	.00059	.0853	.00206	.1165	.00338
%RSD	393.64	58.953	808.61	4.3686	3.6674	14.869	1.1858	1.1210

#1	-0.00021	.00261	-0.00081	.01418	2.3966	.01365	9.8976	.30383
#2	-0.00024	.00097	-0.00090	.01333	2.2308	.01605	9.6875	.29741
#3	.00024	.00108	.00126	.01305	2.3483	.01195	9.8797	.30241

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	.00083	107.51	.00259	-0.00656	.00048	.00322	.00284	4.1504
Stddev	.00029	.14	.00028	.00628	.00414	.00238	.00317	.0092
%RSD	34.691	.12662	10.666	95.742	871.05	73.841	111.59	.22142

#1	.00099	107.66	.00242	-0.00083	-.00416	.00436	.00621	4.1598
#2	.00050	107.47	.00291	-0.00557	.00179	.00481	.00239	4.1500
#3	.00102	107.40	.00245	-0.01326	.00380	.00049	-.00008	4.1414

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: May 17, 2016

Sample Name: L1605067401 Acquired: 5/16/2016 18:41:13 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	.53291	-0.00575	-0.00018	.00198	.00280	.12045
Stddev	.00086	.00117	.00363	.00124	.00120	.00014	.14661
%RSD	191.18	.22035	63.217	685.74	60.735	4.9726	121.72

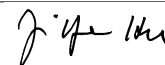
#1	-0.00085	.53207	-0.00498	.00109	.00059	.00282	.22897
#2	.00054	.53241	-0.00256	-0.00140	.00263	.00265	.17871
#3	-0.00103	.53425	-0.00971	-0.00023	.00270	.00292	-.04633

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	12869.	91743.	4257.3
Stddev	12.	241.	21.9
%RSD	.09391	.26288	.51532

#1	12873.	91575.	4271.7
#2	12855.	91635.	4232.0
#3	12878.	92019.	4268.1

Approved: May 17, 2016



Sample Name: L1605067403 Acquired: 5/16/2016 18:45:10 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00221	-0.01551	-0.00414	.00024	.00116	.00011	.00837
Stddev	.00081	.00561	.00057	.00134	.00072	.00003	.02069
%RSD	36.739	36.190	13.755	565.80	62.014	29.240	247.36

#1	-0.00304	-0.02198	-0.00473	-0.00027	.00035	.00013	.01334
#2	-0.00141	-0.01242	-0.00411	.00175	.00141	.00007	.02612
#3	-0.00219	-0.01211	-0.00359	-0.00077	.00173	.00012	-0.01436

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	-0.00026	.00028	.00008	.02566	.12798	.00509
Stddev	.00021	.00043	.00012	.00155	.01025	.04215	.00242
%RSD	40.959	165.44	43.870	1930.2	39.930	32.930	47.445

#1	.00031	-0.00075	.00021	.00183	.02779	.15364	.00344
#2	.00072	-0.00005	.00021	-0.00047	.01451	.07934	.00397
#3	.00050	.00002	.00043	-0.00112	.03467	.15096	.00787


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	.10252	.00005	.00009	.01883	-0.00028	-0.00442	.00025
Stddev	.14738	.00195	.00056	.01599	.00026	.00917	.00199
%RSD	143.76	4176.8	601.63	84.949	92.182	207.51	796.79

#1	.04721	-0.00218	-0.00055	.01285	.00000	-0.00142	.00225
#2	.26956	.00144	.00043	.00669	-0.00050	.00287	.00022
#3	-0.00920	.00088	.00040	.03695	-0.00033	-0.01471	-0.00173

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016



Sample Name: L1605067403 Acquired: 5/16/2016 18:45:10 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0004	-0.00274	-0.01989	-0.00003	.00016	.00021	-0.00284
Stddev	.00191	.00427	.00047	.00066	.00022	.00749	.00032
%RSD	5056.1	155.97	2.3742	2421.9	134.71	3530.3	11.342

#1	-0.00174	.00211	-.02030	.00022	.00004	-.00747	-.00269
#2	.00203	-.00438	-.01938	-.00077	.00003	.00748	-.00321
#3	-0.00040	-.00595	-.02000	.00047	.00041	.00063	-.00263

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	.00070	.00260	F -.28347
Stddev	.00088	.00028	.23243
%RSD	126.52	10.586	81.993

#1	.00164	.00261	-.27834
#2	.00057	.00232	-.05366
#3	-.00012	.00287	-.51842

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	13123.	95228.	4264.0
Stddev	7.	125.	27.2
%RSD	.05606	.13097	.63787

#1	13115.	95210.	4243.9
#2	13129.	95113.	4295.0
#3	13125.	95360.	4253.2

Approved: May 17, 2016

Sample Name: L1605067404 Acquired: 5/16/2016 18:49:10 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00377	.01186	.00074	.06071	.16878	.00013	10.318	.00019
Stddev	.00164	.00118	.00264	.00142	.00088	.00004	.022	.00014
%RSD	43.402	9.9196	358.10	2.3392	.52106	27.517	.21221	72.636

#1	-0.00556	.01312	.00274	.05947	.16808	.00009	10.344	.00014
#2	-0.00235	.01167	-.00225	.06040	.16977	.00015	10.306	.00035
#3	-0.00340	.01079	.00172	.06226	.16850	.00015	10.305	.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	-0.00008	.00092	.00138	.04196	1.6366	.00775	1.4062	.00372
Stddev	.00029	.00089	.00195	.00729	.0784	.00389	.0664	.00188
%RSD	354.21	97.421	141.10	17.371	4.7896	50.136	4.7234	50.682

#1	.00016	.00070	.00068	.04964	1.7234	.00548	1.4376	.00156
#2	-0.00041	.00015	-.00012	.04111	1.5708	.00553	1.4511	.00504
#3	-0.00000	.00190	.00359	.03514	1.6158	.01224	1.3299	.00455


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	.00390	118.61	.00015	.00301	-.00045	.00242	-.00706	4.4219
Stddev	.00030	.24	.00184	.00623	.00280	.00078	.00922	.0085
%RSD	7.5854	.20048	1249.8	206.85	626.93	32.094	130.56	.19270

#1	.00363	118.66	-.00140	-.00350	-.00015	.00307	.00355	4.4237
#2	.00385	118.82	-.00034	.00361	.00219	.00156	-.01163	4.4293
#3	.00422	118.35	.00218	.00892	-.00338	.00263	-.01311	4.4126

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 17, 2016



Sample Name: L1605067404 Acquired: 5/16/2016 18:49:10 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.0150	.10398	-0.00328	-0.00347	.00314	.00338	.12105
Stddev	.00085	.00010	.00288	.00397	.00119	.00016	.50767
%RSD	56.508	.09159	87.732	114.37	37.916	4.6724	419.39

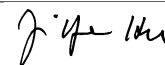
#1	-0.0112	.10397	-0.00657	-0.00241	.00432	.00356	.59864
#2	-0.00248	.10408	-0.00203	-0.00786	.00194	.00325	.17664
#3	-0.00091	.10389	-0.00124	-0.00014	.00315	.00333	-4.1213

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	12966.	92377.	4287.3
Stddev	49.	319.	37.9
%RSD	.37707	.34576	.88483

#1	12925.	92022.	4258.7
#2	12952.	92466.	4272.9
#3	13020.	92642.	4330.3

Approved: May 17, 2016



Sample Name: L1605067405 Acquired: 5/16/2016 18:53:06 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.0043	.00660	.00031	.11436	F 48.505	-0.0001	F 2223.7
Stddev	.00199	.01235	.00722	.00073	.134	.00008	12.2
%RSD	460.33	187.30	2312.7	.63657	.27694	1103.4	.55036

#1	-0.0263	.01983	-0.00572	.11389	48.376	.00008	2226.2
#2	.00008	.00460	.00831	.11520	48.496	-0.00009	2210.4
#3	.00125	-0.00464	-0.0165	.11399	48.644	-0.00001	2234.5

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	.00592	.00506	.00356	.01210	35.663	86.778	1.1964
Stddev	.00039	.00034	.00047	.00217	.101	.383	.0032
%RSD	6.6528	6.6548	13.285	17.912	.28284	.44088	.26479

#1	.00634	.00469	.00306	.01154	35.771	87.065	1.1958
#2	.00555	.00535	.00362	.01449	35.645	86.926	1.1998
#3	.00588	.00513	.00400	.01027	35.571	86.344	1.1936

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	206.87	16.627	-0.0129	F 524.87	-0.00895	.09222	.00645
Stddev	.74	.118	.00055	3.06	.00116	.00854	.00656
%RSD	.35845	.70840	42.468	.58362	13.014	9.2646	101.79

#1	207.68	16.708	-0.00081	527.58	-0.00774	.08704	.00254
#2	206.71	16.681	-0.00188	525.48	-0.01006	.10208	.00277
#3	206.22	16.492	-0.00117	521.54	-0.00904	.08755	.01402

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 17, 2016

Sample Name: L1605067405 Acquired: 5/16/2016 18:53:06 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.1205	F -0.04137	4.9039	-0.00219	F 56.938	F -0.19518	-0.00438
Stddev	.00661	.00046	.0602	.00053	.700	.00402	.00224
%RSD	54.899	1.1132	1.2284	24.170	1.2294	2.0614	51.138

#1	-0.1677	-0.04188	4.9282	-0.00225	56.597	-0.19066	-0.00314
#2	-0.00449	-0.04099	4.9483	-0.00164	56.474	-0.19838	-0.00304
#3	-0.01488	-0.04122	4.8353	-0.00269	57.743	-0.19649	-0.00696

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		-0.01000			-0.01000	-0.03000	

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00446	.00365	F -1.2585
Stddev	.00088	.00015	.4982
%RSD	19.841	4.2174	39.589

#1	.00357	.00348	-1.3519
#2	.00533	.00375	-1.7034
#3	.00447	.00373	-.72018

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	10520.	74800.	3978.1
Stddev	31.	167.	36.0
%RSD	.29874	.22357	.90467

#1	10503.	74697.	3952.3
#2	10557.	74993.	4019.2
#3	10502.	74710.	3962.7

Approved: May 17, 2016

Sample Name: L1605067406 Acquired: 5/16/2016 18:57:25 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	F -.00410	-.00704	.00934	.11723	.05917	.00013	1.5180
Stddev	.00188	.00155	.00280	.00199	.00067	.00004	.0262
%RSD	45.783	22.047	30.016	1.6952	1.1380	30.157	1.7264

#1	-.00627	-.00595	.00835	.11504	.05892	.00011	1.4966
#2	-.00301	-.00882	.01250	.11891	.05866	.00011	1.5473
#3	-.00302	-.00636	.00716	.11775	.05993	.00018	1.5102

Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	9.0000						
Low Limit	-.00400						

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00022	-.00003	.00090	-.00038	.02307	1.6824	.01461
Stddev	.00041	.00051	.00144	.00208	.01243	.0757	.00320
%RSD	188.69	1609.8	159.90	546.56	53.890	4.4980	21.867

#1	.00026	.00055	.00149	.00073	.03721	1.6774	.01811
#2	-.00021	-.00026	-.00074	.00091	.01383	1.6093	.01185
#3	.00061	-.00039	.00196	-.00279	.01817	1.7604	.01387


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	.36940	.00576	.00319	143.73	.00132	.05271	-.00175
Stddev	.17566	.00293	.00052	.41	.00040	.00859	.00283
%RSD	47.553	50.835	16.401	.28692	30.235	16.286	161.46

#1	.45457	.00240	.00301	143.66	.00086	.04903	-.00009
#2	.48625	.00773	.00278	143.36	.00159	.06253	-.00502
#3	.16739	.00715	.00378	144.17	.00150	.04659	-.00014

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016



Sample Name: L1605067406 Acquired: 5/16/2016 18:57:25 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00016	-.00302	2.7982	.13242	.07971	-.00031	-.00120
Stddev	.00347	.00276	.0042	.00099	.00069	.00594	.00341
%RSD	2154.1	91.324	.14820	.75037	.86394	1887.9	283.47

#1	.00069	-.00617	2.7950	.13130	.07907	.00179	.00244
#2	.00280	-.00187	2.8029	.13319	.07961	-.00703	-.00431
#3	-.00397	-.00103	2.7968	.13277	.08044	.00429	-.00174

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	.00140	.00250	.00568
Stddev	.00066	.00018	.34852
%RSD	47.346	7.3931	6132.8

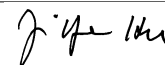
#1	.00070	.00234	-.38175
#2	.00202	.00246	.29369
#3	.00149	.00270	.10511

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	12959.	92583.	4256.5
Stddev	23.	150.	39.5
%RSD	.17614	.16228	.92733

#1	12975.	92411.	4216.8
#2	12970.	92689.	4257.0
#3	12933.	92650.	4295.7

Approved: May 17, 2016



Sample Name: CCV Acquired: 5/16/2016 19:01:23 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000(
 User: JYH 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	.38922	9.7922	.38956	.48768	.95351	.04780	9.3293
Stddev	.00115	.0421	.00315	.00123	.00124	.00014	.0072
%RSD	.29500	.43011	.80899	.25299	.13047	.30075	.07723

#1	.39014	9.7770	.38945	.48777	.95244	.04796	9.3230
#2	.38794	9.8398	.38647	.48641	.95488	.04772	9.3372
#3	.38959	9.7598	.39277	.48887	.95321	.04770	9.3277

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	.04742	.19810	.50317	.49786	3.9163	48.118	.96885
Stddev	.00003	.00091	.00128	.00100	.0157	.059	.00242
%RSD	.05976	.45728	.25407	.20061	.40077	.12262	.24950

#1	.04738	.19758	.50455	.49807	3.9294	48.055	.97164
#2	.04744	.19758	.50291	.49678	3.9207	48.172	.96727
#3	.04743	.19915	.50204	.49874	3.8989	48.126	.96765

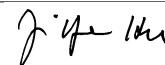
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.6369	.47897	.95538	48.668	.50480	9.7331	.50260
Stddev	.0278	.00058	.00181	.080	.00236	.0257	.00265
%RSD	.28814	.12121	.18940	.16428	.46770	.26369	.52719

#1	9.6276	.47830	.95747	48.620	.50331	9.7355	.50495
#2	9.6681	.47922	.95440	48.760	.50357	9.7063	.50312
#3	9.6150	.47937	.95428	48.625	.50752	9.7574	.49973

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: May 17, 2016



Sample Name: CCV Acquired: 5/16/2016 19:01:23 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.1669	.36742	4.8791	.98852	.94932	.95985	.49045
Stddev	.0069	.00560	.0053	.00248	.00033	.01105	.00336
%RSD	.59050	1.5254	.10906	.25099	.03430	1.1511	.68538

#1	1.1746	.36808	4.8772	.98991	.94967	.94768	.48978
#2	1.1646	.36151	4.8749	.98565	.94903	.96924	.48748
#3	1.1614	.37266	4.8851	.98999	.94927	.96264	.49410

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	.98488	1.0017	F .85076
Stddev	.00281	.0022	.37237
%RSD	.28564	.21816	43.769


#1	.98768	1.0018	.51112
#2	.98493	.99952	.79224
#3	.98205	1.0039	1.2489

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	13604.	96314.	4406.9
Stddev	81.	322.	34.8
%RSD	.59267	.33414	.78929

#1	13664.	95942.	4423.4
#2	13635.	96505.	4430.3
#3	13512.	96494.	4366.9

Approved: May 17, 2016



Sample Name: CCB Acquired: 5/16/2016 19:05:01 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH 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	-0.00273	-0.00943	.00316	.00092	.00143	.00012	-.02610
Stddev	.00150	.00544	.00134	.00209	.00008	.00003	.02000
%RSD	54.963	57.662	42.258	226.23	5.8494	24.040	76.633

#1	-0.00132	-0.00491	.00441	.00303	.00145	.00009	-.02975
#2	-0.00258	-0.01546	.00176	.00089	.00133	.00014	-.00453
#3	-0.00431	-0.00791	.00331	-.00115	.00149	.00013	-.04402

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	.00026	-0.00020	.00108	-.00105	-.00831	.23191	.00924
Stddev	.00022	.00025	.00112	.00147	.00871	.16071	.00426
%RSD	84.320	129.12	103.97	139.88	104.81	69.299	46.125

#1	.00003	-0.00047	-.00012	-.00270	-.00211	.08986	.00578
#2	.00046	.00003	.00210	.00009	-.00456	.40635	.01400
#3	.00029	-0.00014	.00125	-.00054	-.01827	.19952	.00793

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	.13406	.00025	.00465	-.02493	-.00089	.00221	-.00297
Stddev	.03849	.00141	.00027	.02741	.00027	.00306	.00300
%RSD	28.710	557.60	5.9094	109.95	30.299	138.62	101.11

#1	.17502	.00034	.00445	-.05638	-.00099	-.00080	-.00561
#2	.12854	.00162	.00454	-.00612	-.00058	.00531	.00030
#3	.09863	-.00120	.00496	-.01229	-.00109	.00211	-.00360

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016

Sample Name: CCB Acquired: 5/16/2016 19:05:01 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00517	-.00057	-.00458	.00087	.00032	-.00287	-.00011
Stddev	.00217	.00532	.00368	.00058	.00013	.00425	.00409
%RSD	41.900	931.58	80.468	65.936	42.768	148.18	3706.3

#1	.00269	.00498	-.00419	.00106	.00034	-.00265	.00431
#2	.00671	-.00107	-.00844	.00133	.00044	.00127	-.00375
#3	.00612	-.00562	-.00110	.00023	.00017	-.00723	-.00089

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	-.00001	F -.05039
Stddev	.00091	.00018	.17523
%RSD	125.33	2142.5	347.71

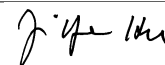
#1	.00045	.00015	.09645
#2	-.00001	-.00021	-.24437
#3	.00174	.00003	-.00326

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	13523.	96698.	4289.4
Stddev	5.	28.	40.8
%RSD	.03478	.02878	.95120

#1	13525.	96680.	4243.1
#2	13526.	96730.	4320.2
#3	13518.	96684.	4304.8

Approved: May 17, 2016



Sample Name: PBW 81 Acquired: 5/16/2016 19:09:01 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567819-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.00403	-.01601	.00203	-.00214	.00079	.00011	-.04587
Stddev	.00176	.00510	.00198	.00103	.00061	.00002	.02053
%RSD	43.716	31.835	97.599	48.386	77.279	18.378	44.759

#1	-.00607	-.01102	.00432	-.00112	.00145	.00009	-.06932
#2	-.00289	-.02121	.00086	-.00319	.00025	.00012	-.03109
#3	-.00315	-.01580	.00091	-.00209	.00067	.00012	-.03721

Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	9.0000						
Low Limit	-.00400						

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00007	-.00004	.00099	-.00031	-.01915	.08945	.00366
Stddev	.00011	.00010	.00114	.00114	.01545	.07150	.00469
%RSD	170.39	296.69	114.59	369.14	80.694	79.935	128.05

#1	.00017	-.00005	.00036	-.00081	-.00560	.17197	-.00028
#2	-.00005	-.00013	.00230	-.00112	-.03598	.04611	.00242
#3	.00008	.00007	.00031	.00100	-.01588	.05026	.00885


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	.03607	.00113	.00043	-.05808	-.00061	-.00098	-.00128
Stddev	.14633	.00257	.00022	.01669	.00089	.00398	.00174
%RSD	405.66	228.06	50.227	28.738	145.78	406.95	136.28

#1	.14489	.00248	.00048	-.03983	-.00162	.00131	-.00289
#2	.09361	-.00183	.00062	-.07258	-.00028	-.00558	-.00150
#3	-.13028	.00273	.00019	-.06181	.00006	.00134	.00057

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016



Sample Name: PBW 81 Acquired: 5/16/2016 19:09:01 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567819-02

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0118	-0.00322	-0.02574	.00039	.00013	-0.00304	-0.00308
Stddev	.00318	.00328	.00186	.00028	.00025	.00390	.00073
%RSD	269.67	101.76	7.2354	72.156	196.13	128.07	23.861

#1	.00235	-.00331	-.02472	.00047	.00015	-.00753	-.00355
#2	-.00384	.00010	-.02789	.00008	.00037	-.00053	-.00223
#3	-.00205	-.00646	-.02462	.00063	-.00014	-.00107	-.00346

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	-0.00001	-0.00008	F -0.06543
Stddev	.00115	.00017	.33136
%RSD	7993.0	210.19	506.43

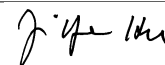
#1	-.00112	-.00009	.12030
#2	-.00010	-.00024	-.44799
#3	.00118	.00009	.13141

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	14051.	99439.	4430.3
Stddev	7.	678.	8.9
%RSD	.05274	.68211	.20047

#1	14043.	99486.	4439.3
#2	14056.	100090.	4429.9
#3	14055.	98739.	4421.6

Approved: May 17, 2016



Sample Name: LCSW 81 Acquired: 5/16/2016 19:13:00 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567819-03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19844	4.9990	.19748	.98976	.50533	.02461	4.9726	.02508
Stddev	.00067	.0132	.00404	.00639	.00273	.00012	.0342	.00011
%RSD	.33615	.26373	2.0483	.64511	.53935	.49772	.68828	.45170

#1	.19919	5.0034	.20016	.98424	.50662	.02455	4.9953	.02521
#2	.19821	5.0094	.19944	.98830	.50220	.02453	4.9332	.02505
#3	.19792	4.9842	.19282	.99676	.50718	.02475	4.9891	.02499

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	.10429	.25889	.26323	2.0952	25.928	.51222	5.0418	.25397
Stddev	.00026	.00079	.00119	.0088	.112	.00101	.0835	.00266
%RSD	.25230	.30413	.45370	.42004	.43208	.19725	1.6566	1.0475

#1	.10407	.25975	.26196	2.0912	26.056	.51250	4.9502	.25383
#2	.10458	.25821	.26340	2.0892	25.849	.51110	5.1137	.25138
#3	.10423	.25870	.26433	2.1053	25.879	.51306	5.0615	.25669

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	.51124	25.828	.26660	5.0261	.26632	.61659	.18937	2.5819
Stddev	.00077	.135	.00138	.0110	.00170	.00411	.00465	.0046
%RSD	.15159	.52119	.51595	.21819	.63826	.66717	2.4556	.17763

#1	.51115	25.971	.26758	5.0386	.26749	.61530	.19469	2.5838
#2	.51206	25.704	.26502	5.0217	.26437	.62119	.18737	2.5852
#3	.51052	25.808	.26719	5.0179	.26709	.61327	.18605	2.5767

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit


Approved: May 17, 2016

Sample Name: LCSW 81 Acquired: 5/16/2016 19:13:00 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567819-03

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.52128	.50961	.50357	.25540	.50998	.52200	.64186
Stddev	.00218	.00207	.01153	.00204	.00091	.00138	.56280
%RSD	.41857	.40550	2.2890	.80048	.17753	.26461	87.682
#1	.52369	.51190	.51661	.25729	.50895	.52295	.05191
#2	.52074	.50788	.49938	.25569	.51064	.52263	.70080
#3	.51943	.50906	.49473	.25323	.51036	.52042	1.1729

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	13002.	92774.	4223.4
Stddev	24.	247.	23.6
%RSD	.18161	.26574	.55991
#1	12998.	92507.	4242.6
#2	12981.	92821.	4230.7
#3	13027.	92993.	4197.0

Approved: May 17, 2016


Sample Name: L1605015401 Acquired: 5/16/2016 19:16:44 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567819-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00290	.01696	-0.00167	.01373	.02107	.00011	32.140	.00044
Stddev	.00102	.00856	.00270	.00065	.00062	.00005	.107	.00017
%RSD	35.235	50.466	161.38	4.7687	2.9635	46.369	.33263	39.775

#1	-0.00189	.01918	-0.00478	.01393	.02054	.00009	32.081	.00057
#2	-0.00288	.00751	.00009	.01299	.02092	.00008	32.263	.00024
#3	-0.00393	.02419	-0.00033	.01425	.02176	.00017	32.075	.00050

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	-0.00025	.00029	.00102	.55911	2.4939	.00961	4.6068	.10011
Stddev	.00034	.00102	.00177	.01452	.0371	.00353	.1403	.00030
%RSD	135.12	352.47	174.69	2.5969	1.4883	36.710	3.0454	.29720

#1	-0.00029	.00117	.00298	.57588	2.4723	.01250	4.4452	.09977
#2	.00011	-.00083	.00053	.55044	2.5367	.00568	4.6780	.10034
#3	-0.00058	.00052	-0.00047	.55102	2.4726	.01064	4.6972	.10021


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	.00115	5.7473	-0.00098	.00680	.00000	-0.00471	-0.00009	2.1215
Stddev	.00035	.0277	.00033	.00462	.00201	.00268	.00642	.0057
%RSD	30.481	.48148	34.137	67.966	43096.	56.801	6862.1	.26925

#1	.00075	5.7356	-0.00119	.01065	-0.00230	-0.00276	.00130	2.1281
#2	.00131	5.7789	-0.00059	.00168	.00100	-0.00777	.00551	2.1181
#3	.00140	5.7274	-0.00114	.00806	.00132	-0.00362	-0.00710	2.1183

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 17, 2016



Sample Name: L1605015401 Acquired: 5/16/2016 19:16:44 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567819-01

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0003	.12152	-0.00188	-0.00159	.00113	.00535	.14577
Stddev	.00098	.00027	.00487	.00279	.00187	.00013	.21500
%RSD	3121.8	.22390	258.92	175.39	165.26	2.4232	147.50

#1	.00105	.12139	-.00097	-.00052	.00316	.00548	-.10149
#2	-.00086	.12133	.00247	.00051	.00075	.00535	.25004
#3	-.00029	.12183	-.00714	-.00476	-.00052	.00522	.28875

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	13067.	94227.	4308.2
Stddev	18.	229.	50.9
%RSD	.13573	.24314	1.1825

#1	13081.	94002.	4254.8
#2	13047.	94460.	4313.5
#3	13072.	94220.	4356.3

Approved: May 17, 2016

Sample Name: L1605015402S Acquired: 5/16/2016 19:20:42 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567819-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20027	5.0859	.19867	1.0137	.52398	.02486	36.277	.02498
Stddev	.00271	.0204	.00155	.0028	.00356	.00007	.044	.00024
%RSD	1.3546	.40089	.77929	.28005	.68033	.27233	.12226	.96908

#1	.20074	5.0804	.20016	1.0105	.52057	.02479	36.226	.02471
#2	.19736	5.1085	.19707	1.0149	.52768	.02490	36.294	.02517
#3	.20273	5.0688	.19877	1.0158	.52368	.02490	36.310	.02506

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	.10331	.26342	.26081	2.6241	28.231	.51792	9.6416	.34880
Stddev	.00019	.00254	.00190	.0459	.095	.00406	.1750	.00142
%RSD	.18004	.96247	.72850	1.7474	.33637	.78348	1.8152	.40598

#1	.10320	.26537	.26102	2.6158	28.202	.51342	9.5932	.34717
#2	.10322	.26435	.26259	2.5830	28.153	.51902	9.8357	.34948
#3	.10353	.26056	.25881	2.6735	28.337	.52131	9.4958	.34975


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	.51915	31.380	.26367	5.1247	.26382	.61996	.18632	4.7566
Stddev	.00141	.083	.00190	.0067	.00111	.00232	.00619	.0120
%RSD	.27097	.26290	.71917	.13094	.42153	.37399	3.3211	.25206

#1	.52064	31.329	.26501	5.1293	.26254	.62024	.18177	4.7698
#2	.51898	31.475	.26450	5.1170	.26451	.61752	.18383	4.7536
#3	.51784	31.336	.26150	5.1277	.26442	.62213	.19337	4.7464

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 17, 2016



Sample Name: L1605015402S Acquired: 5/16/2016 19:20:42 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567819-04

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.52480	.62938	.49786	.25679	.52182	.52349	.47589
Stddev	.00132	.00065	.00289	.00107	.00189	.00017	.39236
%RSD	.25166	.10292	.58042	.41789	.36262	.03181	82.447
#1	.52538	.62968	.50013	.25719	.51980	.52330	.84452
#2	.52328	.62864	.49461	.25558	.52209	.52360	.51969
#3	.52573	.62982	.49884	.25762	.52356	.52356	.06348

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	12868.	92358.	4259.2
Stddev	10.	266.	37.3
%RSD	.08155	.28777	.87499
#1	12856.	92053.	4222.7
#2	12876.	92488.	4257.6
#3	12872.	92535.	4297.2

Approved: May 17, 2016

Sample Name: L1605015403SD Acquired: 5/16/2016 19:24:25 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567819-05

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20010	5.0583	.20128	1.0151	.52590	.02499	36.184	.02516
Stddev	.00134	.0162	.00240	.0037	.00322	.00003	.136	.00004
%RSD	.66918	.31924	1.1930	.36239	.61236	.13295	.37480	.14486

#1	.19868	5.0507	.20269	1.0191	.52316	.02503	36.063	.02520
#2	.20028	5.0473	.20265	1.0143	.52509	.02498	36.159	.02515
#3	.20135	5.0768	.19851	1.0119	.52945	.02497	36.330	.02513

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	.10354	.26143	.26111	2.6168	28.232	.51378	9.7704	.35299
Stddev	.00039	.00037	.00059	.0219	.026	.00101	.1463	.00166
%RSD	.37422	.14254	.22652	.83529	.09114	.19689	1.4975	.46966

#1	.10353	.26145	.26179	2.6034	28.259	.51429	9.6015	.35490
#2	.10393	.26179	.26076	2.6050	28.227	.51262	9.8491	.35195
#3	.10316	.26105	.26078	2.6420	28.208	.51443	9.8604	.35211


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	.51537	31.311	.26435	5.1496	.26216	.62326	.19115	4.7396
Stddev	.00184	.043	.00127	.0024	.00239	.00160	.00331	.0026
%RSD	.35645	.13764	.47935	.04632	.91349	.25667	1.7341	.05577

#1	.51636	31.312	.26559	5.1469	.26001	.62288	.18790	4.7425
#2	.51650	31.268	.26439	5.1515	.26474	.62189	.19101	4.7373
#3	.51325	31.354	.26306	5.1504	.26173	.62502	.19453	4.7391

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Approved: May 17, 2016




Sample Name: L1605015403SD Acquired: 5/16/2016 19:24:25 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG567819-05

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.52428	.62867	.49719	.25215	.51915	.52569	.44216
Stddev	.00216	.00094	.01016	.00406	.00006	.00128	.25141
%RSD	.41192	.14947	2.0431	1.6089	.01154	.24332	56.859
#1	.52670	.62972	.49018	.25683	.51914	.52702	.36546
#2	.52355	.62790	.50884	.24978	.51910	.52559	.23803
#3	.52257	.62839	.49254	.24983	.51922	.52447	.72298

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	13057.	93455.	4282.0
Stddev	50.	240.	35.1
%RSD	.38586	.25634	.81991
#1	13024.	93183.	4320.3
#2	13031.	93549.	4274.5
#3	13115.	93633.	4251.3

Approved: May 17, 2016


Sample Name: ~~L1505022401~~ Acquired: 5/16/2016 19:28:07 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00357	.07111	-0.00281	.00353	.00257	.00007	.23320	.00034
Stddev	.00233	.01014	.00151	.00103	.00040	.00004	.01920	.00001
%RSD	65.101	14.258	53.558	29.220	15.501	58.541	8.2317	2.2864

#1	-0.00090	.07410	-0.00109	.00374	.00211	.00002	.21801	.00034
#2	-0.00515	.05981	-0.00346	.00445	.00285	.00010	.22681	.00034
#3	-0.00468	.07942	-0.00388	.00241	.00273	.00009	.25477	.00035

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	-0.00016	.00052	.01994	.10549	.25709	.00139	.10810	.00149
Stddev	.00033	.00090	.00104	.01142	.03686	.00478	.08360	.00210
%RSD	211.78	172.91	5.2022	10.826	14.336	344.73	77.337	141.52

#1	.00008	-0.00007	.01884	.10027	.24952	-0.00005	.18078	.00042
#2	-0.00002	.00008	.02008	.11858	.29714	.00673	.12677	.00391
#3	-0.00054	.00155	.02091	.09761	.22460	-0.00251	.01674	.00013

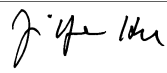
Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00095	.07392	-0.00025	.00938	-0.00059	-0.00308	.00549	.14619
Stddev	.00014	.02218	.00046	.00515	.00044	.00114	.00374	.00103
%RSD	14.387	30.003	181.17	54.948	74.043	37.092	68.103	.70739

#1	.00084	.09696	-0.00077	.00809	-0.00013	-0.00193	.00338	.14629
#2	.00091	.07207	-0.00008	.00499	-0.00065	-0.00421	.00328	.14510
#3	.00110	.05272	.00010	.01505	-0.00100	-0.00310	.00981	.14716

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 17, 2016



L1605022401

Sample Name: ~~L1505022401~~ Acquired: 5/16/2016 19:28:07 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.0011	.00104	-0.00431	.00208	.00107	.00943	.06964
Stddev	.00010	.00006	.00375	.00275	.00086	.00017	.29775
%RSD	88.824	5.8605	87.035	132.69	80.654	1.8192	427.58

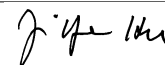
#1	-0.0004	.00097	-0.00777	.00069	.00114	.00943	.40671
#2	-0.0008	.00109	-0.00033	.00029	.00018	.00926	-.15758
#3	-0.00023	.00105	-0.00482	.00525	.00190	.00960	-.04022

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	13234.	95838.	4268.9
Stddev	40.	238.	25.3
%RSD	.30225	.24880	.59209

#1	13280.	95817.	4295.1
#2	13205.	96086.	4244.7
#3	13217.	95610.	4267.0

Approved: May 17, 2016



L1605022401PS

Sample Name: ~~L1505022401PS~~ Acquired: 5/16/2016 19:32:08 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568110-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20421	5.1704	.20439	1.0096	.51702	.02511	5.3359	.02524
Stddev	.00034	.0089	.00372	.0011	.00138	.00003	.0704	.00017
%RSD	.16604	.17308	1.8192	.11099	.26630	.10190	1.3201	.66108

#1	.20456	5.1603	.20010	1.0098	.51823	.02514	5.4108	.02525
#2	.20418	5.1735	.20666	1.0084	.51552	.02509	5.3257	.02540
#3	.20388	5.1774	.20641	1.0106	.51731	.02510	5.2711	.02507

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	.10641	.26420	.28583	2.2172	26.353	.52040	5.2729	.26133
Stddev	.00081	.00116	.00274	.0083	.113	.00034	.0665	.00133
%RSD	.76127	.43894	.95863	.37632	.42950	.06608	1.2618	.50900

#1	.10548	.26543	.28385	2.2166	26.460	.52045	5.3436	.26045
#2	.10687	.26313	.28468	2.2258	26.363	.52071	5.2114	.26069
#3	.10689	.26403	.28896	2.2091	26.234	.52003	5.2638	.26286

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	.52364	26.359	.27313	5.1221	.27388	.62954	.19004	2.7549
Stddev	.00121	.071	.00107	.0195	.00418	.00187	.00459	.0084
%RSD	.23029	.26810	.39147	.38144	1.5256	.29756	2.4152	.30525

#1	.52237	26.425	.27201	5.1039	.27496	.63089	.18562	2.7456
#2	.52376	26.285	.27326	5.1197	.26926	.63032	.18973	2.7572
#3	.52478	26.368	.27413	5.1427	.27740	.62740	.19478	2.7620

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Approved: May 17, 2016

L1605022401PS

Sample Name: ~~L1505022401PS~~ Acquired: 5/16/2016 19:32:08 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568110-01

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.53082	.51775	.51597	.26262	.52283	.55008	.91484
Stddev	.00199	.00091	.00301	.00533	.00097	.00070	.45044
%RSD	.37545	.17512	.58379	2.0305	.18604	.12738	49.237

#1	.52935	.51879	.51811	.25748	.52305	.54927	.72411
#2	.53003	.51730	.51727	.26813	.52176	.55044	1.4293
#3	.53309	.51715	.51253	.26226	.52367	.55052	.59114

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	13033.	93959.	4234.3
Stddev	18.	300.	63.0
%RSD	.13809	.31888	1.4879

#1	13049.	93955.	4171.5
#2	13014.	94260.	4297.5
#3	13037.	93661.	4233.7

Approved: May 17, 2016

Sample Name: ~~L1605022401~~SDL Acquired: 5/16/2016 19:35:51 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: 5 Custom ID2: Custom ID3:
 Comment: WG568110-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00273	.00142	.00054	.00284	.00084	.00013	.02210	.00002
Stddev	.00077	.00820	.00267	.00025	.00012	.00007	.01847	.00033
%RSD	28.397	577.07	497.19	8.9681	14.429	55.586	83.573	1551.4

#1	-0.00256	.00909	-0.00224	.00271	.00081	.00015	.01703	-0.00036
#2	-0.00357	.00240	.00309	.00314	.00097	.00019	.04258	.00022
#3	-0.00205	-.00722	.00076	.00269	.00073	.00005	.00670	.00020

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	-0.00010	.00215	.03129	.15456	.00637	.03687	.00139
Stddev	.00056	.00025	.00090	.02404	.07926	.00258	.05083	.00126
%RSD	754.82	253.22	41.690	76.842	51.282	40.410	137.87	90.055

#1	.00046	.00016	.00115	.04481	.06482	.00559	-.00669	.00215
#2	-.00057	-.00012	.00289	.04553	.18389	.00428	.09273	.00209
#3	.00034	-.00034	.00243	.00353	.21498	.00925	.02458	-.00006

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	.00083	-0.00771	-0.00124	.00786	-0.00144	-0.00170	-0.00115	.00102
Stddev	.00010	.00887	.00033	.00390	.00612	.00032	.00378	.00254
%RSD	12.451	115.05	26.807	49.608	425.45	18.980	329.33	249.27

#1	.00094	-.00721	-.00161	.01052	-.00428	-.00183	-.00500	.00246
#2	.00078	.00090	-.00115	.00968	.00559	-.00133	-.00100	.00252
#3	.00075	-.01683	-.00096	.00338	-.00562	-.00193	.00255	-.00192

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: May 17, 2016

L1605022401SDL

Sample Name: ~~L1505022401SDL~~ Acquired: 5/16/2016 19:35:51 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: 5 Custom ID2: Custom ID3:
 Comment: WG568110-02

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0078	.00046	-0.00454	-0.00046	.00097	.00254	.78606
Stddev	.00007	.00009	.01051	.00191	.00027	.00004	.15056
%RSD	9.5925	19.874	231.42	413.46	27.483	1.3885	19.154


#1	-0.0074	.00041	-0.00580	-0.00048	.00090	.00252	.61614
#2	-0.0073	.00056	.00654	.00145	.00127	.00258	.90285
#3	-0.0087	.00040	-0.01437	-0.00236	.00075	.00252	.83919

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	14014.	100740.	4418.9
Stddev	27.	264.	40.9
%RSD	.19531	.26220	.92588

#1	14017.	100970.	4438.2
#2	14040.	100450.	4446.5
#3	13985.	100790.	4371.9

Approved: May 17, 2016



Sample Name: CCV Acquired: 5/16/2016 19:39:50 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000(
 User: JYH 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	.38490	9.6747	.38607	.48472	.94789	.04738	9.2637	.04705
Stddev	.00025	.0187	.00476	.00592	.00527	.00026	.0794	.00026
%RSD	.06366	.19339	1.2340	1.2211	.55559	.54218	.85689	.55552

#1	.38478	9.6909	.39045	.47885	.94181	.04717	9.1720	.04688
#2	.38473	9.6542	.38100	.49068	.95117	.04767	9.3086	.04692
#3	.38518	9.6791	.38676	.48462	.95069	.04730	9.3104	.04735

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19615	.49743	.49407	3.8814	47.705	.95038	9.6075	.47468
Stddev	.00025	.00307	.00069	.0407	.196	.00204	.3188	.00473
%RSD	.12698	.61796	.13992	1.0490	.41065	.21432	3.3184	.99582

#1	.19643	.49827	.49485	3.8687	47.480	.95174	9.2782	.46922
#2	.19604	.50000	.49352	3.8485	47.836	.95135	9.9147	.47735
#3	.19597	.49403	.49385	3.9269	47.799	.94803	9.6297	.47746


Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.94844	48.419	.50105	9.7341	.50057	1.1591	.36788	4.8546
Stddev	.00391	.202	.00045	.0086	.00490	.0080	.00407	.0116
%RSD	.41239	.41728	.09070	.08855	.97856	.69072	1.1053	.23964

#1	.95259	48.187	.50157	9.7368	.50131	1.1503	.36613	4.8532
#2	.94790	48.510	.50085	9.7245	.50505	1.1658	.37252	4.8437
#3	.94483	48.559	.50073	9.7411	.49534	1.1613	.36497	4.8668

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Value
 Range

Approved: May 17, 2016



Sample Name: CCV Acquired: 5/16/2016 19:39:50 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	.98065	.94160	.94674	.48754	.97302	.99891	.91717
Stddev	.00157	.00320	.00995	.00641	.00259	.00188	.08820
%RSD	.15979	.33970	1.0509	1.3148	.26654	.18842	9.6171

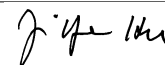
#1	.97903	.93795	.94199	.48164	.97348	.99752	.82279
#2	.98076	.94391	.95817	.48662	.97536	1.0011	.93119
#3	.98216	.94293	.94004	.49436	.97023	.99816	.99752

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	13762.	96997.	4424.7
Stddev	35.	281.	53.4
%RSD	.25563	.28951	1.2068

#1	13745.	97247.	4463.7
#2	13739.	96693.	4363.9
#3	13803.	97051.	4446.6

Approved: May 17, 2016



Sample Name: CCB Acquired: 5/16/2016 19:43:29 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.0402	-0.1492	-0.0059	.00511	.00126	.00013	-.02850
Stddev	.00041	.00877	.00390	.00078	.00040	.00003	.01947
%RSD	10.173	58.785	665.92	15.313	31.997	23.129	68.318

#1	-0.0369	-0.1614	-0.0456	.00434	.00125	.00014	-.04796
#2	-0.0390	-0.0560	-0.0042	.00508	.00166	.00016	-.00902
#3	-0.0448	-0.2302	.00323	.00590	.00086	.00010	-.02852

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	.00005	-.00022	.00029	-.00070	.00162	.14563	.00219
Stddev	.00020	.00021	.00079	.00057	.01823	.10229	.00317
%RSD	410.54	92.803	276.84	80.771	1123.8	70.239	144.56

#1	.00021	-.00014	.00013	-.00006	-.00180	.23736	-.00131
#2	-.00018	-.00007	-.00042	-.00093	-.01465	.03532	.00485
#3	.00011	-.00046	.00115	-.00112	.02132	.16422	.00304


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	.03306	.00072	.00480	.00177	-.00096	.00034	.00027
Stddev	.12145	.00116	.00037	.01015	.00052	.00322	.00256
%RSD	367.40	160.64	7.6828	572.79	54.228	934.26	959.18

#1	.17207	.00175	.00464	.01326	-.00142	-.00151	-.00218
#2	-.05246	-.00054	.00454	-.00601	-.00105	.00406	.00006
#3	-.02044	.00096	.00522	-.00193	-.00040	-.00152	.00292

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016



Sample Name: CCB Acquired: 5/16/2016 19:43:29 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00244	-.00074	-.00312	.00053	.00050	-.00445	-.00085
Stddev	.00359	.00604	.00152	.00015	.00027	.00401	.00216
%RSD	147.03	813.32	48.677	27.400	53.544	90.015	252.23

#1	-.00046	.00138	-.00207	.00055	.00057	.00009	.00159
#2	.00132	.00395	-.00487	.00038	.00020	-.00748	-.00167
#3	.00645	-.00756	-.00243	.00066	.00071	-.00597	-.00248

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	.00005	F .05433
Stddev	.00049	.00009	.15707
%RSD	124.45	168.59	289.10

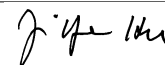
#1	.00091	.00010	.21321
#2	.00034	.00010	-.10087
#3	-.00007	-.00005	.05065

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	13606.	97463.	4381.2
Stddev	10.	889.	17.0
%RSD	.07174	.91180	.38774

#1	13598.	98128.	4398.2
#2	13602.	97808.	4381.1
#3	13617.	96454.	4364.2

Approved: May 17, 2016



Sample Name: LLCCV Acquired: 5/16/2016 19:47:29 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	.00466	.13843	.00526	.07423	.00877	.00156	.34658	.00086
Stddev	.00024	.00585	.00126	.00207	.00028	.00005	.01960	.00031
%RSD	5.2523	4.2277	23.911	2.7837	3.1529	3.3920	5.6540	36.305

#1	.00478	.14127	.00507	.07557	.00897	.00159	.32718	.00122
#2	.00481	.13170	.00410	.07185	.00845	.00159	.36637	.00063
#3	.00437	.14231	.00659	.07527	.00888	.00150	.34620	.00074

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	.00377	.00389	.00356	.09657	.91479	.07939	.30633	.00619
Stddev	.00042	.00055	.00085	.01484	.08443	.00061	.07508	.00183
%RSD	11.104	14.041	23.852	15.365	9.2295	.76385	24.508	29.555

#1	.00350	.00445	.00320	.09797	.81777	.07872	.38565	.00449
#2	.00425	.00336	.00296	.11066	.95495	.07956	.23638	.00595
#3	.00356	.00386	.00453	.08108	.97163	.07989	.29695	.00813


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	.00776	.37468	.01470	.73118	.00600	.07822	.01028	.78870
Stddev	.00004	.01283	.00132	.00407	.00327	.00159	.00824	.00163
%RSD	.53481	3.4241	9.0011	.55627	54.576	2.0372	80.112	.20718

#1	.00777	.38852	.01609	.73389	.00573	.07960	.00080	.78714
#2	.00772	.36318	.01345	.73314	.00939	.07648	.01562	.79040
#3	.00780	.37234	.01457	.72650	.00286	.07859	.01443	.78856

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 17, 2016



Sample Name: LLCCV Acquired: 5/16/2016 19:47:29 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	.38150	.03734	.01794	.14459	.00863	.01654	33.636
Stddev	.00168	.00025	.00539	.00243	.00041	.00004	.585
%RSD	.44066	.66451	30.028	1.6800	4.7730	.23723	1.7396
#1	.38260	.03751	.02378	.14208	.00840	.01659	34.156
#2	.38234	.03746	.01686	.14476	.00838	.01652	33.748
#3	.37957	.03705	.01317	.14693	.00910	.01651	33.002

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	13679.	97774.	4345.3
Stddev	48.	469.	35.9
%RSD	.35281	.47926	.82718
#1	13691.	97335.	4386.7
#2	13625.	97720.	4322.3
#3	13719.	98268.	4326.9

Approved: May 17, 2016

Sample Name: LLCCV Acquired: 5/16/2016 19:51:28 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH 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	.00719	.17470	.00827	.09222	.01044	.00196	.45636
Stddev	.00082	.00308	.00168	.00116	.00021	.00003	.00733
%RSD	11.340	1.7642	20.343	1.2572	2.0023	1.6824	1.6070

#1	.00651	.17411	.00729	.09153	.01029	.00200	.46480
#2	.00810	.17804	.01021	.09355	.01035	.00195	.45154
#3	.00697	.17196	.00730	.09156	.01068	.00193	.45275

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	.00134	.00461	.00572	.00427	.09710	1.1151	.09866
Stddev	.00021	.00008	.00062	.00145	.01754	.1158	.00056
%RSD	15.426	1.7168	10.881	33.860	18.061	10.382	.56948

#1	.00138	.00468	.00544	.00482	.11717	1.0638	.09804
#2	.00112	.00463	.00529	.00263	.08473	1.0338	.09879
#3	.00152	.00452	.00644	.00537	.08940	1.2476	.09914

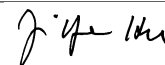
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.60938	.01010	.00911	.46118	.02029	.91659	.01152
Stddev	.06068	.00028	.00030	.02202	.00016	.00193	.00219
%RSD	9.9577	2.8077	3.3070	4.7742	.79356	.21057	19.003

#1	.55717	.00977	.00946	.47714	.02030	.91767	.01247
#2	.59502	.01021	.00891	.43606	.02012	.91774	.00901
#3	.67595	.01030	.00896	.47035	.02045	.91436	.01307

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016



Sample Name: LLCCV Acquired: 5/16/2016 19:51:28 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.09365	.01377	.98405	.47683	.04667	.02634	.18156
Stddev	.00159	.00726	.00380	.00163	.00024	.00464	.00177
%RSD	1.6954	52.674	.38584	.34170	.51398	17.626	.97485

#1	.09270	.01356	.98388	.47735	.04685	.03149	.17965
#2	.09277	.02114	.98033	.47501	.04677	.02248	.18189
#3	.09548	.00663	.98792	.47814	.04640	.02506	.18315

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	.01046	.02106	F 44.044
Stddev	.00074	.00025	1.109
%RSD	7.0319	1.1656	2.5188


#1	.01103	.02079	44.558
#2	.01073	.02128	44.803
#3	.00963	.02110	42.771

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	13669.	98514.	4352.1
Stddev	48.	595.	62.6
%RSD	.35144	.60375	1.4394

#1	13714.	98374.	4292.4
#2	13674.	99166.	4346.5
#3	13619.	98001.	4417.3

Approved: May 17, 2016



Sample Name: PBW A1 Acquired: 5/16/2016 19:55:27 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568874-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -0.00424	-0.00362	.00028	.00204	.00052	.00013	-0.00076
Stddev	.00263	.01043	.00138	.00433	.00086	.00004	.02101
%RSD	61.987	288.19	486.63	211.76	166.32	31.715	2763.7

#1	-0.00644	-0.01412	-0.00060	.00598	.00036	.00010	-0.00576
#2	-0.00133	-0.00347	-0.00043	.00275	.00144	.00012	.02229
#3	-0.00496	.00673	.00188	-.00259	-.00026	.00018	-0.01881

Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	9.0000						
Low Limit	-.00400						

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00020	-0.00024	.00069	-.00054	-.01288	.19062	.00699
Stddev	.00037	.00011	.00119	.00092	.02520	.14329	.00090
%RSD	187.93	45.128	172.26	170.08	195.70	75.168	12.915

#1	-0.00019	-0.00013	-0.00010	-.00081	.01477	.06338	.00792
#2	.00054	-0.00026	.00206	-.00130	-.01885	.16265	.00611
#3	.00024	-0.00034	.00011	.00048	-.03455	.34583	.00695


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	.09436	-0.00033	.00038	-.01570	-.00087	-.00780	-0.00156
Stddev	.01222	.00101	.00042	.01776	.00082	.00498	.00229
%RSD	12.950	303.88	109.17	113.17	93.519	63.845	147.01

#1	.09808	.00034	-0.00009	-.01272	-.00053	-.01341	-.00283
#2	.08071	.00015	.00054	-.03476	-.00028	-.00388	.00109
#3	.10429	-.00149	.00070	.00039	-.00181	-.00612	-.00293

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016



Sample Name: PBW A1 Acquired: 5/16/2016 19:55:27 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568874-02

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0078	.00200	-0.02071	-0.00081	.00056	-0.00120	-0.00521
Stddev	.00275	.00805	.00080	.00015	.00042	.00302	.00326
%RSD	352.00	402.59	3.8752	18.385	76.415	250.65	62.473

#1	.00051	.01119	-.02152	-.00070	.00101	-.00467	-.00338
#2	.00109	-.00137	-.01991	-.00075	.00017	.00086	-.00329
#3	-.00394	-.00382	-.02069	-.00098	.00049	.00020	-.00897

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	.00056	.00158	F -.10800
Stddev	.00066	.00017	.24388
%RSD	116.59	10.457	225.81


#1	.00131	.00151	-.15476
#2	.00008	.00146	-.32512
#3	.00031	.00177	.15587

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	13198.	94637.	4241.4
Stddev	14.	462.	18.1
%RSD	.10746	.48802	.42713

#1	13204.	94106.	4243.9
#2	13182.	94862.	4222.1
#3	13208.	94943.	4258.1

Approved: May 17, 2016



Sample Name: LCSW A1 Acquired: 5/16/2016 19:59:26 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568874-03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20382	5.1568	.20421	1.0652	.51227	.02511	5.0988	.02518
Stddev	.00145	.0131	.00257	.0044	.00119	.00005	.0419	.00026
%RSD	.71079	.25366	1.2602	.41729	.23207	.20890	.82194	1.0201

#1	.20333	5.1711	.20401	1.0648	.51160	.02508	5.0703	.02516
#2	.20546	5.1539	.20688	1.0610	.51364	.02509	5.1469	.02493
#3	.20269	5.1454	.20174	1.0698	.51156	.02517	5.0791	.02544

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	.10516	.26304	.26398	2.1049	26.125	.51500	5.2250	.25754
Stddev	.00047	.00217	.00174	.0363	.042	.00407	.0490	.00162
%RSD	.44801	.82566	.65755	1.7259	.16034	.79087	.93749	.62810

#1	.10534	.26406	.26317	2.1073	26.172	.51633	5.2089	.25571
#2	.10463	.26451	.26597	2.0674	26.109	.51043	5.2800	.25811
#3	.10551	.26054	.26280	2.1399	26.092	.51825	5.1860	.25879


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	.51555	26.141	.26784	5.0990	.26731	.62209	.19179	2.5963
Stddev	.00082	.066	.00134	.0159	.00120	.00277	.00354	.0040
%RSD	.15889	.25432	.49868	.31080	.44709	.44501	1.8452	.15606

#1	.51557	26.145	.26644	5.1019	.26609	.62471	.19458	2.5938
#2	.51636	26.206	.26797	5.1131	.26737	.62238	.19298	2.6010
#3	.51472	26.073	.26910	5.0819	.26848	.61919	.18781	2.5941

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 17, 2016



Sample Name: LCSW A1 Acquired: 5/16/2016 19:59:26 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568874-03

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.52665	.51529	.51359	.25961	.51766	.53019	1.8378
Stddev	.00052	.00053	.00124	.00266	.00201	.00074	.2046
%RSD	.09926	.10202	.24062	1.0241	.38798	.14043	11.133


#1	.52606	.51588	.51490	.26116	.51998	.52966	1.9697
#2	.52682	.51514	.51343	.26113	.51648	.53104	1.6021
#3	.52706	.51486	.51244	.25654	.51653	.52988	1.9415

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	13155.	93910.	4260.6
Stddev	40.	378.	30.9
%RSD	.30661	.40268	.72497

#1	13120.	93474.	4226.3
#2	13199.	94127.	4269.2
#3	13146.	94131.	4286.3

Approved: May 17, 2016



Sample Name: F BLANK Acquired: 5/16/2016 20:03:10 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568782-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00280	.00090	-0.00238	.00437	.00039	.00012	-0.02876	.00038
Stddev	.00123	.00433	.00050	.00140	.00050	.00006	.03723	.00020
%RSD	43.837	482.88	20.942	32.124	125.87	51.283	129.47	51.292

#1	-0.00420	.00113	-0.00245	.00275	.00006	.00018	-0.04686	.00050
#2	-0.00229	-0.00355	-0.00185	.00512	.00015	.00010	.01406	.00049
#3	-0.00191	.00511	-0.00284	.00524	.00096	.00007	-0.05348	.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	.00005	.00090	-0.00042	.04087	.19030	.00354	.00250	-0.00000
Stddev	.00015	.00061	.00155	.01293	.04431	.00285	.08160	.00157
%RSD	313.63	68.207	368.97	31.634	23.283	80.514	3260.3	59682.

#1	-0.00010	.00126	-0.00079	.04174	.23720	.00608	-0.06599	.00180
#2	.00005	.00125	.00128	.05334	.18456	.00046	.09278	-.00110
#3	.00020	.00019	-0.00175	.02753	.14915	.00408	-0.01928	-.00071


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	.00056	129.58	-0.00149	-0.00361	-0.00260	-0.00103	.00560	-0.01145
Stddev	.00053	.47	.00088	.00252	.00097	.00246	.00585	.00247
%RSD	93.831	.36465	58.836	69.725	37.417	238.24	104.45	21.582

#1	.00032	130.08	-0.00085	-0.00616	-0.00364	.00175	.00823	-.00872
#2	.00116	129.53	-0.00114	-0.00354	-0.00171	-0.00194	-0.00110	-.01354
#3	.00020	129.14	-0.00249	-0.00113	-0.00246	-0.00291	.00968	-.01208

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 17, 2016



Sample Name: F BLANK Acquired: 5/16/2016 20:03:10 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568782-01

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0036	.00051	-0.00574	-0.00055	.00026	.00348	.00194
Stddev	.00031	.00021	.01282	.00220	.00089	.00033	.32440
%RSD	86.593	40.893	223.34	396.81	337.24	9.4473	16702.

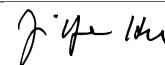
#1	-0.0064	.00072	.00884	.00172	.00097	.00317	.09324
#2	-0.0041	.00050	-0.1079	-0.0071	.00055	.00346	-0.35833
#3	-0.0002	.00030	-0.1527	-0.0267	-0.0074	.00382	.27091

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	13103.	93290.	4248.7
Stddev	59.	106.	46.3
%RSD	.45225	.11371	1.0893

#1	13132.	93399.	4216.0
#2	13143.	93187.	4228.4
#3	13035.	93282.	4301.6

Approved: May 17, 2016



Sample Name: F BLANK Acquired: 5/16/2016 20:07:10 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568782-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00274	-0.00984	-0.00237	.00115	.00144	.00006	-0.00763	.00004
Stddev	.00086	.00475	.00256	.00124	.00072	.00004	.03864	.00008
%RSD	31.159	48.336	108.07	107.94	49.618	61.621	506.52	181.56

#1	-0.00360	-0.00688	-0.00529	.00029	.00069	.00008	-0.03034	.00013
#2	-0.00275	-0.01532	-0.00054	.00258	.00153	.00002	-0.02954	.00002
#3	-0.00189	-0.00730	-0.00127	.00059	.00212	.00008	.03699	-0.00002

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	-0.00035	.00040	-0.00127	-0.01727	.17219	.00196	.03626	.00124
Stddev	.00008	.00049	.00020	.00731	.08184	.00519	.07730	.00267
%RSD	21.388	122.09	15.491	42.337	47.526	265.25	213.20	215.39

#1	-0.00029	-0.00010	-0.00135	-0.00883	.15497	.00436	.08848	.00405
#2	-0.00033	.00087	-0.00141	-0.02122	.10034	-0.00400	.07284	-0.00125
#3	-0.00044	.00043	-0.00104	-0.02176	.26127	.00552	-0.05255	.00091

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	-0.00013	-0.01524	-0.00170	-0.00451	.00038	-0.00170	.00669	-0.02075
Stddev	.00030	.02369	.00053	.00796	.00167	.00049	.00733	.00148
%RSD	239.82	155.41	31.160	176.32	437.48	28.739	109.60	7.1109

#1	-0.00031	-0.00690	-0.00226	-0.00128	.00156	-0.00152	-0.00114	-0.02131
#2	.00022	-0.04197	-0.00161	.00132	-0.00153	-0.00133	.00780	-0.01907
#3	-0.00030	.00315	-0.00122	-0.01358	.00111	-0.00225	.01339	-0.02185

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: May 17, 2016

Sample Name: F BLANK Acquired: 5/16/2016 20:07:10 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568782-02

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0118	.00047	.00230	-0.0192	.00002	.00300	-0.03616
Stddev	.00024	.00022	.00628	.00351	.00040	.00015	.10775
%RSD	20.544	45.799	273.28	182.43	2174.3	4.9364	297.99

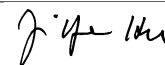
#1	-0.0134	.00033	-0.00322	-0.00074	.00041	.00314	-.10523
#2	-0.0131	.00072	.00098	.00084	.00003	.00301	.08800
#3	-0.00090	.00036	.00913	-0.00588	-0.00039	.00285	-.09124

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	13265.	95966.	4252.5
Stddev	26.	333.	67.1
%RSD	.19371	.34647	1.5783

#1	13277.	95981.	4175.1
#2	13282.	96291.	4294.6
#3	13236.	95626.	4287.7

Approved: May 17, 2016



Sample Name: L1605076402 Acquired: 5/16/2016 20:11:10 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568874-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.00408	.00422	-.00046	.01989	.02206	.00005	41.864
Stddev	.00070	.00211	.00159	.00293	.00010	.00004	.065
%RSD	17.236	50.099	345.19	14.718	.47046	75.451	.15497

#1	-.00486	.00182	-.00096	.02226	.02210	.00001	41.807
#2	-.00349	.00580	.00132	.01662	.02213	.00005	41.849
#3	-.00391	.00505	-.00173	.02078	.02194	.00008	41.934

Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	9.0000						
Low Limit	-.00400						

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00048	.00083	.00157	.00053	.02986	.64869	.00913
Stddev	.00016	.00014	.00212	.00036	.03239	.05168	.00132
%RSD	32.772	16.422	135.17	68.446	108.48	7.9666	14.441

#1	.00032	.00090	-.00031	.00034	.01768	.61424	.00777
#2	.00048	.00092	.00115	.00030	.00532	.62372	.01040
#3	.00064	.00068	.00386	.00095	.06656	.70811	.00922


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	19.131	.71588	.00120	127.98	.01025	.00303	.00174
Stddev	.092	.00232	.00010	.40	.00040	.01006	.00154
%RSD	.48120	.32350	8.5634	.30998	3.9126	332.31	88.602

#1	19.237	.71459	.00113	128.43	.01067	.00070	.00293
#2	19.070	.71855	.00116	127.74	.01022	-.00566	.00000
#3	19.087	.71449	.00132	127.75	.00987	.01405	.00228

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016



Sample Name: L1605076402 Acquired: 5/16/2016 20:11:10 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568874-01

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00004	-.00412	.18190	-.00016	.07197	-.00818	-.00447
Stddev	.00600	.00097	.00388	.00018	.00014	.00524	.00158
%RSD	15733.	23.573	2.1336	107.83	.19227	64.074	35.287

#1	.00145	-.00310	.17759	.00004	.07194	-.01071	-.00495
#2	.00521	-.00421	.18299	-.00023	.07213	-.00216	-.00575
#3	-.00654	-.00503	.18512	-.00030	.07186	-.01169	-.00271

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	.00060	.22620	.06990
Stddev	.00089	.00043	.37783
%RSD	148.19	.18835	540.54

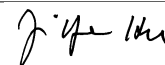
#1	.00044	.22645	-.35388
#2	.00155	.22571	.19197
#3	-.00020	.22644	.37161

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	12884.	91562.	4286.4
Stddev	38.	501.	18.3
%RSD	.29353	.54742	.42769

#1	12920.	91129.	4266.9
#2	12844.	91447.	4288.9
#3	12889.	92111.	4303.3

Approved: May 17, 2016



Sample Name: L1605076402S Acquired: 5/16/2016 20:15:07 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568874-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20397	5.1527	.20593	1.0463	.53208	.02563	47.404	.02545
Stddev	.00201	.0099	.00222	.0012	.00214	.00011	.092	.00002
%RSD	.98359	.19234	1.0776	.11139	.40131	.41852	.19475	.09104

#1	.20172	5.1636	.20429	1.0454	.53005	.02575	47.322	.02544
#2	.20464	5.1443	.20504	1.0459	.53431	.02554	47.504	.02543
#3	.20556	5.1502	.20845	1.0476	.53187	.02560	47.385	.02547

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	.10468	.26415	.26012	2.1126	26.594	.51346	24.787	.99147
Stddev	.00021	.00266	.00074	.0244	.111	.00328	.145	.00561
%RSD	.20216	1.0086	.28522	1.1567	.41908	.63805	.58575	.56595

#1	.10492	.26270	.26039	2.1292	26.723	.51037	24.744	.98540
#2	.10458	.26253	.25929	2.0845	26.528	.51312	24.668	.99648
#3	.10454	.26723	.26070	2.1240	26.531	.51690	24.948	.99253


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	.52294	157.52	.27453	5.2790	.26422	.62969	.19386	2.8653
Stddev	.00089	.43	.00116	.0032	.00519	.00136	.00685	.0049
%RSD	.17019	.27213	.42181	.05989	1.9653	.21624	3.5324	.17097

#1	.52343	157.17	.27557	5.2771	.25826	.62861	.20165	2.8644
#2	.52347	158.00	.27328	5.2773	.26667	.63122	.19118	2.8609
#3	.52191	157.38	.27473	5.2826	.26774	.62924	.18877	2.8706

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 17, 2016




Sample Name: L1605076402S Acquired: 5/16/2016 20:15:07 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568874-04

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.52507	.58682	.50789	.24570	.52662	.75427	.78821
Stddev	.00058	.00218	.00353	.00268	.00154	.00345	.42778
%RSD	.11068	.37074	.69437	1.0918	.29167	.45729	54.272
#1	.52461	.58521	.51102	.24730	.52487	.75275	.29535
#2	.52487	.58930	.50859	.24260	.52726	.75185	1.0632
#3	.52572	.58596	.50407	.24719	.52774	.75822	1.0061

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	12880.	91049.	4273.7
Stddev	18.	203.	19.2
%RSD	.13857	.22342	.45011
#1	12860.	90815.	4267.4
#2	12894.	91156.	4295.3
#3	12885.	91177.	4258.4

Approved: May 17, 2016



Sample Name: L1605076402SD Acquired: 5/16/2016 20:18:50 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568874-05

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20573	5.1487	.20796	1.0463	.53511	.02563	47.010	.02568
Stddev	.00082	.0142	.00142	.0057	.00101	.00004	.123	.00011
%RSD	.39668	.27580	.68484	.54506	.18861	.15991	.26135	.41218

#1	.20565	5.1363	.20692	1.0426	.53536	.02559	47.142	.02575
#2	.20658	5.1456	.20738	1.0433	.53597	.02564	46.989	.02572
#3	.20496	5.1642	.20959	1.0528	.53400	.02567	46.899	.02556

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	.10534	.26210	.26040	2.0994	26.816	.51167	24.398	.98320
Stddev	.00023	.00091	.00044	.0231	.059	.00691	.136	.00392
%RSD	.21987	.34870	.17011	1.1009	.21915	1.3510	.55865	.39820

#1	.10520	.26208	.26045	2.0734	26.800	.50453	24.554	.98684
#2	.10522	.26120	.25993	2.1075	26.881	.51833	24.302	.98371
#3	.10561	.26303	.26081	2.1174	26.767	.51215	24.338	.97906

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	.52734	156.37	.27611	5.2830	.26684	.63782	.19732	2.8855
Stddev	.00090	.65	.00181	.0121	.00077	.00210	.00344	.0042
%RSD	.17097	.41810	.65503	.22846	.28908	.32856	1.7439	.14401

#1	.52729	157.11	.27542	5.2694	.26596	.63916	.20071	2.8857
#2	.52647	156.14	.27475	5.2869	.26741	.63540	.19383	2.8813
#3	.52827	155.87	.27817	5.2926	.26715	.63889	.19743	2.8896

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit


Approved: May 17, 2016

Sample Name: L1605076402SD Acquired: 5/16/2016 20:18:50 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG568874-05

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.52675	.59007	.51736	.25432	.52662	.75580	.76128
Stddev	.00254	.00205	.00334	.00327	.00313	.00079	.23757
%RSD	.48227	.34763	.64533	1.2848	.59473	.10417	31.207
#1	.52778	.58813	.51377	.25280	.53023	.75613	.91890
#2	.52861	.59222	.51795	.25807	.52466	.75637	.87691
#3	.52385	.58986	.52037	.25210	.52497	.75490	.48802

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	12809.	91408.	4269.6
Stddev	20.	94.	43.5
%RSD	.15466	.10261	1.0180
#1	12791.	91367.	4220.8
#2	12830.	91515.	4304.2
#3	12806.	91342.	4283.9

Approved: May 17, 2016


Sample Name: L1605062701 Acquired: 5/16/2016 20:22:30 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00245	.13213	-0.00089	.01555	.04270	.00008	28.941	.00058
Stddev	.00078	.00186	.00082	.00188	.00099	.00004	.073	.00017
%RSD	31.728	1.4085	92.783	12.088	2.3209	52.852	.25348	29.721

#1	-0.00311	.13096	.00002	.01403	.04158	.00011	28.857	.00070
#2	-0.00159	.13427	-0.00110	.01497	.04302	.00003	28.984	.00038
#3	-0.00264	.13114	-0.00158	.01765	.04348	.00010	28.984	.00065

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	-0.00018	.00163	.00086	.12602	.88001	.01120	5.7669	.00316
Stddev	.00036	.00086	.00119	.01556	.08171	.00311	.0860	.00057
%RSD	196.37	52.712	138.27	12.343	9.2853	27.793	1.4913	17.944

#1	-0.00026	.00107	-0.00020	.13833	.93854	.01393	5.8634	.00366
#2	-0.00050	.00262	.00064	.10854	.78666	.01186	5.7386	.00327
#3	.00021	.00120	.00215	.13120	.91483	.00781	5.6986	.00254


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	.00119	4.7415	-0.00204	.01021	-0.00046	-0.00564	-0.00176	3.6516
Stddev	.00017	.0348	.00010	.00233	.00355	.00240	.00192	.0102
%RSD	13.843	.73454	4.8593	22.813	765.80	42.541	109.30	.27872

#1	.00113	4.7345	-0.00198	.00767	.00356	-0.00317	-0.00322	3.6526
#2	.00107	4.7793	-0.00200	.01224	-0.00314	-0.00580	-0.00246	3.6613
#3	.00138	4.7107	-0.00216	.01072	-0.00181	-0.00796	.00042	3.6410

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: May 17, 2016



Sample Name: L1605062701 Acquired: 5/16/2016 20:22:30 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.0010	.13249	-0.00061	-0.00296	.00157	.00261	.07038
Stddev	.00110	.00087	.00422	.00398	.00074	.00021	.41849
%RSD	1098.3	.65843	689.21	134.51	47.473	8.0780	594.57

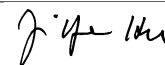
#1	-0.00104	.13264	.00425	-0.00227	.00088	.00248	-4.0055
#2	.00111	.13327	-0.00274	.00063	.00146	.00286	.39965
#3	-0.00037	.13155	-0.00334	-0.00723	.00236	.00251	.21206

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	13084.	94832.	4239.4
Stddev	40.	393.	31.9
%RSD	.30912	.41393	.75258

#1	13054.	95116.	4274.0
#2	13130.	94384.	4233.2
#3	13068.	94995.	4211.1

Approved: May 17, 2016



Sample Name: L1605062701PS Acquired: 5/16/2016 20:26:28 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG569026-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.20394	5.2501	.19898	1.0275	.54519	.02501	30.647	.02547
Stddev	.00084	.0159	.00115	.0013	.00233	.00003	.135	.00010
%RSD	.41340	.30348	.57662	.12879	.42778	.13095	.44043	.39885

#1	.20322	5.2323	.19766	1.0271	.54256	.02500	30.509	.02547
#2	.20487	5.2551	.19968	1.0264	.54703	.02504	30.779	.02558
#3	.20374	5.2629	.19961	1.0289	.54597	.02498	30.654	.02537

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	.10423	.26538	.26368	2.1679	26.648	.52052	10.307	.25654
Stddev	.00092	.00189	.00145	.0568	.057	.00273	.090	.00431
%RSD	.88288	.71209	.54901	2.6209	.21234	.52504	.87608	1.6799

#1	.10526	.26756	.26501	2.2197	26.703	.52290	10.378	.25173
#2	.10397	.26439	.26214	2.1769	26.651	.51754	10.338	.26006
#3	.10347	.26420	.26388	2.1072	26.590	.52113	10.206	.25781


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	.51915	29.923	.26567	5.1301	.26636	.62577	.19159	5.9762
Stddev	.00196	.197	.00092	.0105	.00438	.00427	.00450	.0225
%RSD	.37799	.65787	.34601	.20536	1.6434	.68309	2.3506	.37629

#1	.52128	29.742	.26575	5.1248	.26407	.62966	.19621	6.0002
#2	.51741	30.133	.26471	5.1232	.26360	.62120	.19135	5.9556
#3	.51877	29.895	.26654	5.1422	.27140	.62647	.18722	5.9728

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 17, 2016




Sample Name: L1605062701PS Acquired: 5/16/2016 20:26:28 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment: WG569026-01

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.52581	.63016	.50785	.25764	.52396	.52533	.67165
Stddev	.00167	.00183	.00604	.00659	.00244	.00157	.12794
%RSD	.31711	.28988	1.1887	2.5566	.46570	.29894	19.049
#1	.52727	.62856	.51388	.26420	.52483	.52688	.58440
#2	.52399	.63215	.50786	.25102	.52584	.52374	.61204
#3	.52617	.62977	.50181	.25769	.52120	.52537	.81852

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	12954.	92409.	4252.6
Stddev	24.	140.	19.2
%RSD	.18171	.15171	.45211
#1	12968.	92555.	4230.4
#2	12927.	92396.	4262.6
#3	12968.	92275.	4264.8

Approved: May 17, 2016



Sample Name: L1605062701SDL Acquired: 5/16/2016 20:30:11 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: 5 Custom ID2: Custom ID3:
 Comment: WG569026-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00199	.01456	-0.00261	.00729	.00831	.00008	5.1817	.00032
Stddev	.00089	.00315	.00380	.00085	.00046	.00003	.0400	.00016
%RSD	44.590	21.660	145.57	11.641	5.5747	33.282	.77221	50.002

#1	-0.00114	.01093	-0.00249	.00637	.00884	.00005	5.1919	.00014
#2	-0.00291	.01613	.00113	.00805	.00797	.00010	5.1376	.00045
#3	-0.00193	.01662	-0.00646	.00745	.00813	.00009	5.2157	.00038

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	-0.00022	-0.00086	-0.00077	.00198	.30250	.00057	1.0710	.00020
Stddev	.00018	.00063	.00061	.01673	.05527	.00300	.1035	.00056
%RSD	79.394	73.413	79.206	844.17	18.270	521.45	9.6653	279.09

#1	-0.00015	-0.00144	-0.00135	-0.00977	.36151	-0.00239	.96366	.00078
#2	-0.00010	-0.00096	-0.00014	.02114	.29405	.00360	1.1702	.00016
#3	-0.00042	-0.00019	-0.00081	-0.00543	.25195	.00052	1.0791	-0.00034


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	.00034	.83446	-0.00091	.00109	-0.00006	-0.00106	.00091	.64265
Stddev	.00036	.03972	.00028	.00716	.00255	.00154	.00018	.00185
%RSD	105.77	4.7602	30.966	658.86	4271.4	144.97	19.788	.28765

#1	.00076	.86403	-0.00077	.00901	.00286	-0.00036	.00088	.64072
#2	.00011	.78931	-0.00123	-0.00080	-0.00117	.00001	.00075	.64281
#3	.00016	.85004	-0.00072	-0.00494	-0.00187	-0.00282	.00111	.64441

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 17, 2016



Sample Name: L1605062701SDL Acquired: 5/16/2016 20:30:11 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: 5 Custom ID2: Custom ID3:
 Comment: WG569026-02

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0032	.02388	-0.00464	-0.00209	.00066	.00163	-0.00199
Stddev	.00077	.00008	.00415	.00176	.00198	.00012	.09368
%RSD	243.69	.31958	89.499	84.100	300.73	7.5984	4716.8

#1	-0.00070	.02386	-0.00223	-0.00022	.00290	.00173	.03746
#2	.00057	.02397	-0.00943	-0.00235	-0.00086	.00167	.06552
#3	-0.00082	.02382	-0.00226	-0.00371	-0.00007	.00149	-1.0893

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	14078.	100900.	4475.6
Stddev	20.	156.	43.9
%RSD	.14403	.15481	.98172

#1	14097.	101070.	4505.2
#2	14081.	100820.	4425.1
#3	14057.	100790.	4496.6

Approved: May 17, 2016

Sample Name: CCV Acquired: 5/16/2016 20:34:00 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000(
 User: JYH 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	.37201	9.3862	.37235	.47043	.92810	.04634	9.1229
Stddev	.00212	.0202	.00344	.00272	.00301	.00004	.0592
%RSD	.56969	.21537	.92387	.57777	.32463	.09007	.64861

#1	.37443	9.4075	.37277	.46801	.92505	.04639	9.1331
#2	.37049	9.3673	.37556	.46993	.92818	.04632	9.0593
#3	.37110	9.3839	.36872	.47337	.93107	.04631	9.1763

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	.04616	.19094	.47399	.47825	3.7865	46.947	.93226
Stddev	.00010	.00055	.00173	.00102	.0356	.171	.00441
%RSD	.21618	.28868	.36510	.21284	.94082	.36383	.47322

#1	.04621	.19050	.47438	.47792	3.7953	46.858	.92750
#2	.04605	.19075	.47210	.47744	3.8169	46.838	.93307
#3	.04622	.19155	.47550	.47940	3.7473	47.144	.93621

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	9.3098	.47113	.92683	47.394	.48432	9.4319	.48675
Stddev	.1208	.00318	.00416	.192	.00049	.0124	.00434
%RSD	1.2978	.67459	.44877	.40449	.10214	.13197	.89211

#1	9.1994	.46750	.93093	47.254	.48420	9.4412	.48633
#2	9.4389	.47339	.92695	47.315	.48486	9.4367	.49129
#3	9.2909	.47251	.92262	47.613	.48389	9.4177	.48264

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: May 17, 2016



Sample Name: CCV Acquired: 5/16/2016 20:34:00 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.1293	.36028	4.7203	.95409	.92423	.93215	.47926
Stddev	.0029	.00448	.0053	.00225	.00366	.00528	.00518
%RSD	.25700	1.2432	.11317	.23626	.39568	.56668	1.0800

#1	1.1311	.35917	4.7249	.95472	.92196	.92630	.48110
#2	1.1309	.36521	4.7216	.95596	.92228	.93656	.47342
#3	1.1260	.35646	4.7145	.95159	.92845	.93360	.48327

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	.93360	.96969	F .54548
Stddev	.00328	.00138	.20830
%RSD	.35152	.14183	38.187

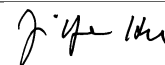
#1	.93652	.96816	.31206
#2	.93005	.97081	.61194
#3	.93424	.97010	.71245

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	13754.	97794.	4449.9
Stddev	76.	561.	17.6
%RSD	.55552	.57406	.39621

#1	13842.	97771.	4453.7
#2	13713.	97243.	4465.3
#3	13706.	98366.	4430.6

Approved: May 17, 2016



Sample Name: CCB Acquired: 5/16/2016 20:37:38 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH 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	-0.0251	-0.1236	.00031	.00168	.00077	.00008	-0.05050
Stddev	.00197	.00491	.00285	.00145	.00109	.00005	.01496
%RSD	78.311	39.689	931.02	86.305	140.48	61.601	29.625

#1	-0.0065	-0.00790	-0.00080	.00272	-0.00043	.00006	-.06458
#2	-0.0457	-0.1158	.00354	.00002	.00169	.00004	-.05213
#3	-0.0231	-0.1762	-0.0182	.00229	.00106	.00013	-.03479

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	-0.00003	-0.00062	-0.00023	.00748	.13088	.00306
Stddev	.00027	.00008	.00087	.00101	.01261	.01065	.00131
%RSD	160.43	241.33	139.55	445.92	168.61	8.1354	42.651

#1	-0.0014	-0.00011	-0.00149	.00046	.01355	.14239	.00199
#2	.00030	-0.00003	-0.00064	.00025	-0.00702	.12139	.00451
#3	.00035	.00005	.00026	-0.00139	.01591	.12886	.00268

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	.07793	-0.00091	.00398	-0.03461	-0.00047	.00437	.00006
Stddev	.06430	.00371	.00049	.02729	.00043	.00307	.00206
%RSD	82.503	408.12	12.336	78.841	91.224	70.247	3557.7

#1	.02980	-0.00136	.00384	-0.06169	.00000	.00610	.00061
#2	.15095	-0.00438	.00453	-0.03503	-0.00083	.00083	-.00222
#3	.05304	.00300	.00358	-0.00712	-0.00058	.00619	.00179

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016

Sample Name: CCB Acquired: 5/16/2016 20:37:38 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00127	.00374	-.02667	-.00054	.00032	-.00142	.00022
Stddev	.00127	.00268	.00316	.00079	.00031	.00566	.00341
%RSD	100.33	71.776	11.841	146.33	97.836	399.68	1529.1

#1	-.00011	.00679	-.02787	.00036	-.00004	-.00780	.00350
#2	.00152	.00176	-.02309	-.00089	.00045	.00056	.00047
#3	.00240	.00266	-.02906	-.00110	.00055	.00299	-.00331

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	.00042	.00002	F .21324
Stddev	.00011	.00013	.38666
%RSD	25.637	550.96	181.33


#1	.00039	.00017	.07619
#2	.00033	-.00005	.64977
#3	.00054	-.00005	-.08623

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	13728.	98489.	4378.2
Stddev	31.	356.	65.5
%RSD	.22803	.36154	1.4969

#1	13752.	98899.	4396.0
#2	13693.	98308.	4305.6
#3	13739.	98260.	4433.0

Approved: May 17, 2016



Sample Name: L1605065802 Acquired: 5/16/2016 20:41:38 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH 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	-0.0129	.11981	.01401	.23418	.17034	.00010	5.6697
Stddev	.00064	.01678	.00154	.00422	.00062	.00001	.0306
%RSD	49.403	14.005	10.994	1.8014	.36290	13.840	.53920

#1	-0.0088	.10903	.01240	.23308	.17074	.00010	5.6370
#2	-0.0202	.11126	.01415	.23062	.16963	.00011	5.6975
#3	-0.0096	.13914	.01547	.23884	.17066	.00009	5.6747

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	.00035	.00093	.00165	.00182	.15684	2.2544	.02512
Stddev	.00043	.00030	.00144	.00059	.04070	.1048	.00333
%RSD	123.55	31.862	87.158	32.656	25.950	4.6472	13.270

#1	.00080	.00064	.00200	.00122	.11954	2.2072	.02130
#2	-.00006	.00124	.00007	.00241	.20025	2.1816	.02740
#3	.00031	.00092	.00288	.00182	.15073	2.3745	.02666

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	.85842	.00303	.00693	F 326.69	.00078	.01942	.00115
Stddev	.06384	.00276	.00008	.97	.00108	.00883	.00259
%RSD	7.4371	91.086	1.2136	.29761	139.49	45.486	225.88

#1	.78599	.00441	.00701	327.71	.00085	.02939	.00305
#2	.88278	-.00015	.00693	325.77	.00182	.01258	-.00181
#3	.90650	.00482	.00684	326.60	-.00034	.01628	.00220

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: May 17, 2016

Sample Name: L1605065802 Acquired: 5/16/2016 20:41:38 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0566	-0.0118	4.1494	-0.0049	.23434	.00018	-0.0465
Stddev	.00354	.00800	.0095	.00034	.00109	.00177	.00243
%RSD	62.611	677.06	.22767	68.237	.46437	961.14	52.350

#1	-0.0891	-0.0968	4.1589	-0.0012	.23309	.00139	-0.0556
#2	-0.0188	.00621	4.1493	-0.0077	.23483	-0.0185	-0.0649
#3	-0.0618	-0.0007	4.1400	-0.0058	.23509	.00101	-0.0189

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	.00135	.00265	.40379
Stddev	.00107	.00013	.09743
%RSD	79.420	5.0549	24.128

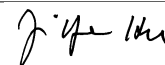
#1	.00017	.00256	.42287
#2	.00161	.00259	.29823
#3	.00227	.00281	.49026

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	12728.	89477.	4202.7
Stddev	20.	245.	7.7
%RSD	.16059	.27392	.18305

#1	12752.	89358.	4199.1
#2	12718.	89759.	4211.6
#3	12715.	89315.	4197.5

Approved: May 17, 2016



Sample Name: L1605065804 Acquired: 5/16/2016 20:45:35 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	F -.00412	.00695	.00089	.02455	.08243	.00004	132.21
Stddev	.00092	.00381	.00204	.00229	.00022	.00004	.50
%RSD	22.303	54.779	228.20	9.3450	.26668	93.486	.37528

#1	-.00468	.00665	.00210	.02720	.08263	.00002	132.78
#2	-.00463	.00330	.00205	.02308	.08220	.00009	131.94
#3	-.00306	.01090	-.00146	.02338	.08247	.00002	131.90

Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	9.0000						
Low Limit	-.00400						

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00055	.00044	.00115	.00219	.17391	1.1320	.01880
Stddev	.00030	.00039	.00097	.00112	.03633	.0757	.00195
%RSD	53.410	89.289	83.892	51.384	20.892	6.6901	10.387

#1	.00026	-.00001	.00226	.00197	.13458	1.0700	.02099
#2	.00056	.00064	.00069	.00119	.20622	1.1096	.01815
#3	.00085	.00070	.00050	.00341	.18092	1.2164	.01725


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	28.778	.33213	.00098	28.452	.00037	-.00345	.00363
Stddev	.340	.00472	.00022	.118	.00064	.00197	.00316
%RSD	1.1832	1.4216	22.816	.41301	174.29	57.192	86.952

#1	29.143	.33697	.00121	28.585	.00028	-.00459	.00156
#2	28.722	.32753	.00097	28.405	.00105	-.00117	.00727
#3	28.469	.33188	.00076	28.364	-.00023	-.00459	.00207

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016



Sample Name: L1605065804 Acquired: 5/16/2016 20:45:35 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0090	-0.0461	5.0205	.00023	.26778	-0.02379	-0.00371
Stddev	.00302	.00648	.0077	.00121	.00036	.00330	.00257
%RSD	335.80	140.43	.15261	526.73	.13448	13.876	69.172

#1	-0.0197	.00112	5.0278	-0.0099	.26816	-.02103	-.00097
#2	-0.0324	-.01165	5.0212	.00024	.26745	-.02289	-.00605
#3	.00251	-.00331	5.0125	.00144	.26774	-.02745	-.00411

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	.00021	.00173	.09919
Stddev	.00130	.00023	.08540
%RSD	619.87	13.102	86.097

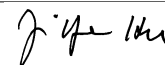
#1	-0.0047	.00199	.13226
#2	.00170	.00157	.00220
#3	-0.0061	.00163	.16311

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	12936.	92330.	4261.5
Stddev	25.	317.	36.4
%RSD	.19277	.34291	.85385

#1	12908.	92683.	4221.2
#2	12944.	92234.	4271.1
#3	12956.	92072.	4292.1

Approved: May 17, 2016



Sample Name: L1605065806 Acquired: 5/16/2016 20:49:32 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00278	.00395	-0.00126	.03290	.10169	.00004	120.78	.00051
Stddev	.00233	.00679	.00165	.00265	.00137	.00010	.43	.00015
%RSD	83.872	171.75	130.78	8.0494	1.3470	261.58	.35619	29.121

#1	-0.00381	.00296	-0.00102	.03072	.10240	-0.00008	120.63	.00040
#2	-0.00011	-0.00229	.00026	.03213	.10011	.00010	120.45	.00044
#3	-0.00442	.01119	-0.00303	.03584	.10256	.00009	121.27	.00068

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	.00238	.00152	.01538	1.2898	.01262	53.041	.00490
Stddev	.00012	.00078	.00114	.02703	.0368	.00108	.459	.00490
%RSD	320.18	33.006	74.710	175.73	2.8508	8.5665	.86534	100.08

#1	.00016	.00321	.00056	.04315	1.3243	.01145	53.207	.00860
#2	-0.00007	.00227	.00124	-0.01084	1.2511	.01282	52.522	.00676
#3	.00002	.00165	.00278	.01384	1.2941	.01358	53.394	-0.00066


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	28.089	-0.00175	.00748	-0.00115	-0.00262	-0.00087	4.6839
Stddev	.00031	.124	.00077	.00304	.00494	.00471	.00480	.0062
%RSD	120.50	.44243	44.046	40.633	429.70	179.73	550.97	.13241

#1	-0.00009	28.008	-0.00166	.01034	.00453	.00280	.00441	4.6900
#2	.00035	28.027	-0.00256	.00429	-0.00360	-0.00569	-0.00495	4.6841
#3	.00051	28.232	-0.00103	.00781	-0.00438	-0.00496	-0.00207	4.6776

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 17, 2016



Sample Name: L1605065806 Acquired: 5/16/2016 20:49:32 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	.00308	.35220	-.02112	-.00268	.00014	.00229	.03554
Stddev	.00102	.00109	.00689	.00165	.00069	.00015	.03844
%RSD	32.942	.31010	32.619	61.553	482.46	6.4798	108.14

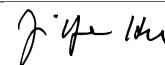
#1	.00406	.35127	-.02267	-.00379	-.00055	.00222	.01804
#2	.00316	.35194	-.01358	-.00078	.00014	.00245	.07962
#3	.00203	.35340	-.02709	-.00346	.00083	.00218	.00898

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	12790.	91549.	4253.0
Stddev	39.	226.	33.9
%RSD	.30700	.24663	.79783

#1	12812.	91405.	4218.1
#2	12814.	91809.	4285.9
#3	12745.	91433.	4255.1

Approved: May 17, 2016



Sample Name: L1605065807 Acquired: 5/16/2016 20:53:28 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH 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	-0.00276	.10872	.00762	.21028	3.2839	.00004	105.73
Stddev	.00051	.01002	.00178	.00177	.0085	.00004	.31
%RSD	18.376	9.2155	23.425	.84388	.25821	92.571	.29312

#1	-0.00220	.11671	.00961	.20827	3.2748	.00001	105.49
#2	-0.00318	.09748	.00618	.21095	3.2851	.00008	105.62
#3	-0.00289	.11197	.00706	.21163	3.2917	.00003	106.08

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	.00062	.00144	.00880	.00097	.69249	3.2516	.04934
Stddev	.00031	.00029	.00026	.00077	.02096	.0802	.00384
%RSD	49.889	20.237	2.9647	78.892	3.0266	2.4674	7.7857

#1	.00037	.00158	.00864	.00022	.71098	3.2980	.04720
#2	.00097	.00110	.00866	.00175	.69677	3.1589	.04705
#3	.00052	.00163	.00910	.00095	.66972	3.2978	.05378

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	29.570	.18760	.00164	F 634.25	.00019	.00644	-.00290
Stddev	.227	.00213	.00066	9.85	.00090	.00660	.00428
%RSD	.76739	1.1355	40.201	1.5531	474.58	102.53	147.95

#1	29.766	.18550	.00138	642.23	-0.0001	.01321	.00042
#2	29.321	.18755	.00239	637.28	-0.00059	.00608	-.00137
#3	29.622	.18976	.00115	623.24	.00117	.00002	-.00773

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: May 17, 2016

Sample Name: L1605065807 Acquired: 5/16/2016 20:53:28 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0227	-0.0560	4.3246	-0.0123	3.9283	-0.01495	-0.00421
Stddev	.00353	.00532	.0204	.00124	.0120	.00458	.00258
%RSD	155.45	95.044	.47110	100.40	.30657	30.671	61.298

#1	-0.0450	-0.0598	4.3315	-0.0214	3.9165	-0.01293	-0.00716
#2	-0.0412	-0.0010	4.3406	.00018	3.9277	-0.01171	-0.00309
#3	.00180	-0.01072	4.3017	-0.00173	3.9406	-0.02019	-0.00238

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	.00066	.00261	.03711
Stddev	.00113	.00011	.16328
%RSD	172.08	4.2829	440.02

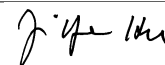
#1	.00141	.00274	-.00819
#2	-.00064	.00252	-.09874
#3	.00121	.00257	.21825

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	12272.	86071.	4196.0
Stddev	30.	380.	45.0
%RSD	.24120	.44096	1.0735

#1	12306.	86497.	4155.0
#2	12252.	85768.	4244.2
#3	12257.	85950.	4188.8

Approved: May 17, 2016



Sample Name: L1605065808 Acquired: 5/16/2016 20:57:33 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	F -.00566	.09494	.00673	.21338	3.3668	.00008	108.62
Stddev	.00207	.00355	.00367	.00419	.0020	.00006	.03
%RSD	36.514	3.7358	54.558	1.9637	.06061	80.043	.02999
#1	-.00636	.09559	.00999	.20936	3.3676	.00006	108.58
#2	-.00334	.09811	.00746	.21307	3.3644	.00014	108.64
#3	-.00729	.09111	.00275	.21772	3.3682	.00002	108.63
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	9.0000						
Low Limit	-.00400						
Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00050	.00163	.01302	.00005	.66466	3.3253	.05678
Stddev	.00023	.00055	.00066	.00042	.03116	.0120	.00353
%RSD	45.113	33.834	5.0370	830.44	4.6878	.35979	6.2226
#1	.00025	.00099	.01282	-.00036	.64897	3.3311	.05320
#2	.00059	.00193	.01248	.00048	.64447	3.3115	.05687
#3	.00068	.00196	.01375	.00003	.70055	3.3332	.06027
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	30.253	.19055	.00150	F 641.59	.00070	.00359	.00146
Stddev	.205	.00238	.00009	13.79	.00125	.00449	.00161
%RSD	.67655	1.2504	5.7103	2.1499	179.13	125.01	110.62
#1	30.435	.18782	.00146	643.31	.00174	.00490	.00067
#2	30.292	.19215	.00159	627.01	-.00068	.00729	.00332
#3	30.031	.19169	.00143	654.44	.00103	-.00141	.00039
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: May 17, 2016

Sample Name: L1605065808 Acquired: 5/16/2016 20:57:33 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00443	.00044	4.3884	-.00056	4.0367	-.01269	-.00449
Stddev	.00110	.00125	.0165	.00073	.0036	.00216	.00131
%RSD	24.755	286.20	.37646	129.78	.08969	17.045	29.218

#1	-0.00446	.00069	4.3928	-.00139	4.0350	-.01516	-.00394
#2	-0.00332	.00154	4.4023	-.00029	4.0342	-.01173	-.00599
#3	-0.00551	-.00092	4.3701	-.00001	4.0408	-.01117	-.00354

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	.00251	.10700
Stddev	.00094	.00023	.42160
%RSD	5310.4	9.0782	394.02

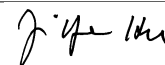
#1	.00100	.00230	-.22982
#2	-.00019	.00275	-.02899
#3	-.00086	.00247	.57982

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	12321.	85855.	4180.6
Stddev	19.	160.	7.9
%RSD	.15272	.18652	.18863

#1	12305.	85966.	4174.0
#2	12317.	85927.	4189.3
#3	12342.	85671.	4178.4

Approved: May 17, 2016



Sample Name: L1605065810 Acquired: 5/16/2016 21:01:37 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH 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	-0.0161	.00936	-0.0090	.05947	.05365	.00005	217.34
Stddev	.00137	.00466	.00059	.00238	.00061	.00003	.41
%RSD	85.007	49.821	66.083	3.9940	1.1369	70.683	.18980

#1	-0.0111	.01099	-0.0076	.05686	.05296	.00006	216.88
#2	-0.0056	.00410	-0.0155	.06006	.05385	.00007	217.68
#3	-0.0315	.01299	-0.0039	.06150	.05413	.00001	217.46

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	.00070	.00227	.00241	.00324	7.1875	2.1110	.01382
Stddev	.00045	.00077	.00125	.00102	.0675	.1334	.00389
%RSD	64.568	33.729	51.866	31.513	.93932	6.3196	28.165

#1	.00023	.00145	.00210	.00344	7.1260	2.1129	.01256
#2	.00112	.00241	.00135	.00214	7.2597	1.9767	.01071
#3	.00074	.00296	.00379	.00415	7.1767	2.2435	.01818


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	126.65	1.3876	.00043	F 558.40	.05798	.34944	.00053
Stddev	.44	.0140	.00054	7.00	.00091	.01230	.00495
%RSD	.34605	1.0067	123.33	1.2539	1.5723	3.5203	940.05

#1	126.15	1.3726	-0.0012	562.80	.05696	.35505	-0.00032
#2	126.86	1.4002	.00095	562.07	.05829	.33533	-0.00395
#3	126.95	1.3902	.00047	550.32	.05870	.35794	.00585

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 17, 2016



Sample Name: L1605065810 Acquired: 5/16/2016 21:01:37 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0061	-0.0282	4.1344	-0.0088	1.3149	-0.02505	-0.00551
Stddev	.00402	.01106	.0158	.00062	.0030	.00566	.00605
%RSD	662.57	391.71	.38279	70.414	.22606	22.577	109.69

#1	-0.0243	.00726	4.1520	-0.0017	1.3117	-.02026	-.00767
#2	-0.0339	-.01466	4.1301	-0.0132	1.3176	-.03129	-.01018
#3	.00400	-.00107	4.1212	-0.0116	1.3153	-.02360	.00132

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	.00106	.00236	.22134
Stddev	.00077	.00021	.41773
%RSD	72.734	8.7638	188.73

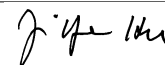
#1	.00074	.00226	.18400
#2	.00195	.00222	.65650
#3	.00051	.00260	-.17646

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	12193.	85701.	4191.9
Stddev	3.	164.	6.9
%RSD	.02655	.19103	.16391

#1	12189.	85886.	4194.4
#2	12194.	85574.	4197.2
#3	12195.	85644.	4184.1

Approved: May 17, 2016



Sample Name: L1605065812 Acquired: 5/16/2016 21:05:42 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00341	.00726	.00506	.01456	.06995	.00008	49.178	.00055
Stddev	.00211	.00437	.00221	.00184	.00044	.00008	.098	.00014
%RSD	61.938	60.187	43.700	12.636	.62875	107.44	.19852	26.082

#1	-0.00150	.00938	.00349	.01462	.07043	.00013	49.089	.00040
#2	-0.00568	.00224	.00409	.01269	.06987	.00012	49.282	.00069
#3	-0.00305	.01017	.00758	.01636	.06956	-.00002	49.163	.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	.00008	.00146	.00139	.79753	1.1818	.00854	19.469	.84627
Stddev	.00018	.00121	.00100	.00894	.0559	.00247	.144	.00330
%RSD	237.69	83.090	72.014	1.1204	4.7296	28.979	.74221	.39036

#1	-0.00013	.00012	.00131	.78932	1.1436	.01105	19.444	.84401
#2	.00023	.00248	.00043	.80705	1.2460	.00610	19.625	.84473
#3	.00014	.00179	.00242	.79624	1.1558	.00846	19.339	.85006


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	.00054	32.728	.00051	.05903	.00145	-.00015	-.00248	1.4996
Stddev	.00020	.129	.00078	.00344	.00560	.00332	.00095	.0005
%RSD	36.217	.39393	150.90	5.8236	385.22	2269.9	38.113	.03612

#1	.00049	32.823	.00035	.06278	.00283	-.00293	-.00189	1.4992
#2	.00076	32.780	-.00017	.05602	-.00471	.00353	-.00357	1.4995
#3	.00038	32.581	.00136	.05829	.00624	-.00104	-.00199	1.5002

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: May 17, 2016



Sample Name: L1605065812 Acquired: 5/16/2016 21:05:42 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.0135	.31177	-0.00751	.00017	.00048	.01642	.17353
Stddev	.00098	.00105	.00408	.00189	.00027	.00019	.14449
%RSD	72.574	.33524	54.285	1100.1	56.046	1.1609	83.265

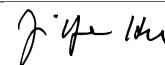
#1	-0.00248	.31233	-0.00366	.00210	.00073	.01629	.06324
#2	-0.00081	.31056	-0.01179	.00009	.00051	.01664	.12025
#3	-0.00077	.31241	-0.00709	-0.00168	.00020	.01633	.33709

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	12948.	92811.	4259.7
Stddev	3.	259.	47.3
%RSD	.02616	.27888	1.1112

#1	12947.	92528.	4205.0
#2	12951.	92868.	4285.1
#3	12944.	93037.	4288.8

Approved: May 17, 2016



Sample Name: L1605065814 Acquired: 5/16/2016 21:09:40 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	F -0.00412	-0.00713	.00028	.14373	.14756	.00009	80.382
Stddev	.00117	.00503	.00091	.00127	.00058	.00005	.108
%RSD	28.342	70.606	324.48	.88472	.39011	56.324	.13455

#1	-0.00493	-0.00860	.00132	.14321	.14800	.00003	80.504
#2	-0.00466	-0.00152	-0.00034	.14518	.14777	.00011	80.298
#3	-0.00278	-0.01126	-0.00015	.14280	.14691	.00014	80.345

Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	9.0000						
Low Limit	-0.00400						

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00065	.00043	.00216	.00102	1.3253	1.8146	.02978
Stddev	.00011	.00009	.00097	.00134	.0113	.0677	.00170
%RSD	17.405	20.948	45.068	131.37	.85535	3.7332	5.7153

#1	.00052	.00039	.00106	.00256	1.3264	1.7998	.03110
#2	.00074	.00053	.00253	.00021	1.3134	1.7555	.03040
#3	.00069	.00037	.00290	.00028	1.3360	1.8886	.02786


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	25.169	.09677	.00085	74.846	-0.00007	.00079	.00278
Stddev	.086	.00161	.00042	.075	.00034	.00293	.00296
%RSD	.34028	1.6651	49.810	.10049	462.06	368.93	106.73

#1	25.118	.09492	.00134	74.913	-0.00046	-0.00141	.00511
#2	25.268	.09786	.00060	74.765	.00007	-0.00032	-0.00056
#3	25.121	.09753	.00061	74.860	.00017	.00411	.00378

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016



Sample Name: L1605065814 Acquired: 5/16/2016 21:09:40 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00349	-0.00313	6.5740	-0.00087	.97344	-0.01642	-0.00565
Stddev	.00540	.00391	.0051	.00050	.00103	.00566	.00409
%RSD	154.82	125.09	.07765	57.916	.10606	34.507	72.391

#1	-0.00858	.00044	6.5799	-0.00114	.97261	-0.01376	-0.01021
#2	-0.00407	-0.00731	6.5710	-0.00029	.97312	-0.01257	-0.00232
#3	.00218	-0.00252	6.5711	-0.00117	.97460	-0.02292	-0.00441

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	.00077	.00296	-.01776
Stddev	.00047	.00017	.17817
%RSD	60.852	5.8003	1003.2

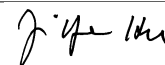
#1	.00069	.00315	.18352
#2	.00035	.00284	-.15529
#3	.00128	.00287	-.08151

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	12667.	91233.	4210.6
Stddev	36.	143.	49.2
%RSD	.28426	.15667	1.1677

#1	12645.	91240.	4157.2
#2	12647.	91087.	4220.8
#3	12708.	91372.	4253.9

Approved: May 17, 2016



Sample Name: L1605075901 Acquired: 5/16/2016 21:13:42 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00337	.22671	.00009	.00270	.00369	.00014	.51596
Stddev	.00174	.00638	.00226	.00453	.00073	.00003	.03437
%RSD	51.530	2.8153	2419.5	167.96	19.749	21.625	6.6607

#1	-0.0165	.22171	.00145	-.00243	.00285	.00017	.47659
#2	-0.00333	.22451	.00135	.00436	.00402	.00012	.53135
#3	-0.00512	.23390	-.00252	.00616	.00420	.00012	.53995

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	.00001	.00336	.02241	.52887	.43159	.00409
Stddev	.00012	.00037	.00061	.00191	.03072	.09998	.00757
%RSD	93.846	4003.9	18.063	8.5229	5.8083	23.167	185.07

#1	-0.00001	-.00041	.00406	.02133	.55723	.40690	.00218
#2	.00019	.00014	.00303	.02461	.49624	.34626	.01243
#3	.00020	.00029	.00299	.02129	.53313	.54160	-.00234


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	.31859	.00638	.00041	.37382	.00037	.00409	-.00165
Stddev	.11978	.00261	.00034	.01458	.00158	.01128	.00171
%RSD	37.598	40.904	84.116	3.9006	427.06	275.74	103.89

#1	.32777	.00766	.00053	.36222	.00066	-.00803	.00030
#2	.19448	.00810	.00002	.36905	.00178	.00603	-.00289
#3	.43351	.00338	.00067	.39019	-.00133	.01427	-.00235

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016



Sample Name: L1605075901 Acquired: 5/16/2016 21:13:42 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00218	-0.00461	.50548	.00025	.00254	.00859	-.00228
Stddev	.00299	.00146	.01062	.00056	.00009	.01115	.00359
%RSD	136.76	31.754	2.1002	224.04	3.4209	129.72	157.71

#1	-0.00304	-0.00305	.51521	.00006	.00250	.02146	-.00258
#2	.00114	-0.00595	.50706	-.00019	.00263	.00203	.00145
#3	-0.00465	-0.00482	.49416	.00089	.00247	.00228	-.00571

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	.00150	.02387	F -.05858
Stddev	.00074	.00018	.08489
%RSD	49.150	.76698	144.91


#1	.00235	.02398	-.12864
#2	.00103	.02396	-.08294
#3	.00112	.02366	.03582

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	13179.	94854.	4231.6
Stddev	25.	220.	40.6
%RSD	.19194	.23156	.96018

#1	13198.	94705.	4229.9
#2	13150.	95107.	4273.1
#3	13188.	94752.	4191.9

Approved: May 17, 2016



Sample Name: L1605076401 Acquired: 5/16/2016 21:17:42 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00273	.08237	-0.00084	.02430	.04710	.00012	139.25	.00069
Stddev	.00205	.01414	.00219	.00392	.00114	.00003	.50	.00032
%RSD	74.866	17.165	261.88	16.129	2.4210	21.693	.35752	45.931

#1	-0.00508	.07278	-0.00310	.02326	.04581	.00014	138.69	.00033
#2	-0.00179	.07573	-0.00069	.02101	.04798	.00010	139.64	.00080
#3	-0.00133	.09861	.00128	.02864	.04751	.00010	139.43	.00094

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	.00217	.00244	.00121	1.7741	.56122	.00860	21.778	1.8867
Stddev	.00021	.00043	.00104	.0289	.09266	.00192	.119	.0016
%RSD	9.5347	17.738	85.648	1.6310	16.511	22.337	.54662	.08249

#1	.00193	.00202	.00005	1.8075	.66788	.00961	21.896	1.8864
#2	.00232	.00243	.00205	1.7588	.50051	.00639	21.781	1.8854
#3	.00225	.00289	.00153	1.7561	.51527	.00981	21.658	1.8884


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	.00018	4.3497	.03060	.00665	.00361	.00256	.00034	.42137
Stddev	.00022	.0381	.00129	.00411	.00233	.00232	.00462	.00191
%RSD	126.26	.87573	4.2106	61.914	64.484	90.684	1360.3	.45318

#1	.00035	4.3147	.03040	.01115	.00163	.00379	-.00191	.42301
#2	.00024	4.3443	.02942	.00309	.00302	-.00012	-.00273	.41927
#3	-.00007	4.3903	.03197	.00569	.00618	.00402	.00565	.42184

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 17, 2016



Sample Name: L1605076401 Acquired: 5/16/2016 21:17:42 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00116	.17578	-0.02010	.00095	.00133	.76127	.09211
Stddev	.00058	.00053	.00653	.00368	.00093	.00098	.05074
%RSD	49.917	.30028	32.471	387.62	70.014	.12902	55.080

#1	-0.00053	.17541	-0.01732	-0.00000	.00207	.76081	.07403
#2	-0.00168	.17639	-0.02755	.00501	.00028	.76240	.14941
#3	-0.00128	.17555	-0.01542	-0.00216	.00165	.76061	.05290

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	12925.	92445.	4273.4
Stddev	21.	141.	7.8
%RSD	.16284	.15253	.18314

#1	12942.	92606.	4269.7
#2	12902.	92384.	4268.1
#3	12932.	92344.	4282.4

Approved: May 17, 2016



Sample Name: CCV Acquired: 5/16/2016 21:21:38 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000(
 User: JYH 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	.37147	9.3752	.37212	.46331	.92960	.04631	9.1612
Stddev	.00197	.0137	.00195	.00367	.00134	.00036	.0335
%RSD	.52929	.14639	.52363	.79179	.14378	.77994	.36580

#1	.37187	9.3612	.37066	.45932	.92832	.04612	9.1611
#2	.37320	9.3887	.37136	.46654	.93099	.04672	9.1947
#3	.36933	9.3758	.37433	.46406	.92950	.04608	9.1277

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	.04639	.19100	.47775	.47794	3.7663	46.890	.93757
Stddev	.00038	.00027	.00323	.00119	.0146	.142	.00421
%RSD	.81604	.14123	.67675	.24832	.38706	.30180	.44943

#1	.04682	.19096	.47558	.47779	3.7585	46.727	.93513
#2	.04617	.19075	.48146	.47920	3.7831	46.968	.93515
#3	.04616	.19129	.47620	.47684	3.7572	46.976	.94244

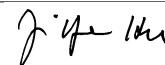
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.5650	.46849	.92824	47.389	.48220	9.3473	.48774
Stddev	.0702	.00914	.00451	.137	.00136	.0023	.00374
%RSD	.73406	1.9517	.48630	.28869	.28202	.02448	.76612

#1	9.5392	.46895	.93309	47.299	.48201	9.3476	.48453
#2	9.6445	.45912	.92746	47.547	.48094	9.3449	.49184
#3	9.5113	.47739	.92417	47.322	.48364	9.3495	.48685

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: May 17, 2016



Sample Name: CCV Acquired: 5/16/2016 21:21:38 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.1238	F .35588	4.6963	.95144	.92614	.92598	.48063
Stddev	.0022	.00231	.0090	.00065	.00276	.00416	.00360
%RSD	.19990	.64877	.19219	.06798	.29767	.44930	.74821

#1	1.1238	.35844	4.6947	.95217	.92375	.92165	.47655
#2	1.1216	.35524	4.7060	.95093	.92915	.92635	.48334
#3	1.1261	.35395	4.6881	.95122	.92551	.92995	.48200

Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		.40000					
Range		-10.000%					

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.93872	.96594	F .89536
Stddev	.00223	.00078	.22918
%RSD	.23788	.08049	25.597

#1	.93712	.96524	1.1534
#2	.94127	.96678	.81735
#3	.93776	.96582	.71536

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	13781.	97901.	4393.5
Stddev	38.	690.	12.2
%RSD	.27277	.70488	.27653

#1	13760.	97428.	4405.7
#2	13824.	97582.	4381.4
#3	13758.	98693.	4393.4

Approved: May 17, 2016



Sample Name: CCB Acquired: 5/16/2016 21:25:15 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00310	-0.00819	.00134	.00240	.00074	.00012	-0.02907	.00008
Stddev	.00098	.00047	.00370	.00061	.00044	.00002	.01176	.00021
%RSD	31.671	5.7420	276.72	25.392	59.907	20.417	40.463	251.71

#1	-0.00411	-0.00872	.00297	.00281	.00080	.00011	-0.03788	-0.00011
#2	-0.00215	-0.00782	-0.00290	.00268	.00027	.00014	-0.01571	.00031
#3	-0.00303	-0.00802	.00393	.00170	.00114	.00010	-0.03360	.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	-0.00007	.00057	-0.00041	.01422	.15506	.00526	.14308	.00058
Stddev	.00048	.00126	.00146	.01624	.04444	.00188	.08370	.00067
%RSD	676.00	223.18	359.57	114.18	28.658	35.809	58.500	115.95

#1	.00040	-0.00063	-0.00102	-0.00433	.20395	.00450	.07825	.00020
#2	-0.00004	.00189	.00126	.02583	.11711	.00741	.11341	.00018
#3	-0.00057	.00044	-0.00146	.02117	.14414	.00388	.23757	.00135


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	.00424	-0.00569	-0.00099	-0.00010	.00003	.00373	-0.00413	-0.02964
Stddev	.00016	.01170	.00033	.00266	.00197	.00059	.01119	.00103
%RSD	3.7189	205.76	33.255	2763.8	7741.5	15.744	271.20	3.4673

#1	.00418	-0.01724	-0.00061	.00093	-0.00224	.00376	-0.00980	-0.03082
#2	.00412	.00615	-0.00118	.00189	.00134	.00431	.00876	-0.02891
#3	.00442	-0.00597	-0.00118	-0.00311	.00098	.00314	-0.01134	-0.02919

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 17, 2016



Sample Name: CCB Acquired: 5/16/2016 21:25:15 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	.00018	.00128	-0.00079	.00045	.00021	.01053
Stddev	.00072	.00026	.00484	.00179	.00091	.00025	.12934
%RSD	3533.5	145.64	378.75	227.78	199.61	119.91	1228.7

#1	-0.00009	.00047	-.00424	-.00161	.00132	.00049	-.08205
#2	.00073	.00011	.00480	.00127	.00052	.00010	-.04469
#3	-.00070	-.00004	.00327	-.00202	-.00048	.00003	.15831

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	13667.	97994.	4355.9
Stddev	31.	279.	25.6
%RSD	.22374	.28521	.58662

#1	13694.	97676.	4332.3
#2	13634.	98103.	4383.1
#3	13674.	98202.	4352.3

Approved: May 17, 2016



Sample Name: L1605076403 Acquired: 5/16/2016 21:29:15 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00332	.05110	-0.00344	.13421	.04914	.00017	2.8931	.00096
Stddev	.00186	.00411	.00321	.00175	.00074	.00009	.0116	.00013
%RSD	55.977	8.0414	93.305	1.3011	1.4999	53.277	.40101	13.601

#1	-0.00454	.04666	-0.00039	.13516	.04829	.00023	2.8908	.00088
#2	-0.00425	.05477	-0.00314	.13219	.04953	.00007	2.9056	.00089
#3	-0.00118	.05186	-0.00678	.13527	.04961	.00021	2.8828	.00111

Check ? High Limit Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00077	.01062	.00260	1.0442	11.453	.00359	162.68	.06417
Stddev	.00044	.00071	.00183	.0086	.130	.00566	1.10	.00309
%RSD	56.927	6.6594	70.442	.82679	1.1326	157.87	.67786	4.8220

#1	.00049	.01028	.00147	1.0457	11.360	.00648	161.47	.06221
#2	.00128	.01014	.00471	1.0520	11.601	-.00294	163.63	.06255
#3	.00055	.01143	.00161	1.0349	11.399	.00721	162.94	.06774


Check ? High Limit Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02677	189.97	.00352	.25657	-.00191	.00501	-.00315	.48827
Stddev	.00060	.73	.00088	.00707	.00218	.00275	.00979	.00223
%RSD	2.2337	.38466	25.018	2.7544	114.04	54.850	311.13	.45593

#1	.02647	189.66	.00443	.25979	-.00096	.00196	.00753	.49083
#2	.02746	190.81	.00268	.24847	-.00037	.00580	-.00526	.48678
#3	.02638	189.45	.00345	.26145	-.00440	.00728	-.01171	.48720

Check ? High Limit Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 Low Limit

Approved: May 17, 2016



Sample Name: L1605076403 Acquired: 5/16/2016 21:29:15 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	.00054	.01298	.00317	-.00458	.01015	.01577	2.1107
Stddev	.00042	.00023	.00573	.00334	.00044	.00016	.6917
%RSD	76.898	1.8012	180.71	72.818	4.3294	.99939	32.770

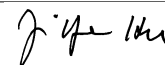
#1	.00073	.01301	.00564	-.00156	.01016	.01559	2.6912
#2	.00083	.01319	-.00338	-.00817	.00971	.01584	2.2955
#3	.00006	.01273	.00724	-.00403	.01059	.01589	1.3454

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	12816.	90625.	4298.4
Stddev	32.	50.	12.6
%RSD	.24867	.05492	.29238

#1	12780.	90673.	4302.6
#2	12826.	90574.	4284.3
#3	12841.	90629.	4308.3

Approved: May 17, 2016



Sample Name: L1605076404 Acquired: 5/16/2016 21:33:14 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00127	.00043	.00060	.08883	.00929	.00010	4.2319	.00031
Stddev	.00224	.01212	.00123	.00109	.00104	.00007	.0211	.00013
%RSD	176.20	2812.2	204.08	1.2280	11.146	71.268	.49826	42.466

#1	-0.00385	-0.00276	.00103	.08989	.00874	.00008	4.2376	.00040
#2	.00026	.01382	.00157	.08891	.00865	.00017	4.2495	.00016
#3	-0.00023	-0.00977	-0.00079	.08771	.01049	.00004	4.2085	.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	.00004	.00398	.00118	.11274	10.888	.00518	42.091	.03070
Stddev	.00036	.00049	.00063	.01610	.106	.00276	.236	.00156
%RSD	971.64	12.400	53.567	14.281	.97659	53.338	.56163	5.0870

#1	.00017	.00396	.00060	.12685	11.003	.00687	42.354	.03250
#2	.00031	.00448	.00185	.11617	10.792	.00668	41.895	.02996
#3	-0.00037	.00349	.00110	.09520	10.870	.00199	42.025	.02965


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	.00462	119.83	.00018	.17336	.00110	-.00256	-.00427	.43765
Stddev	.00048	.16	.00032	.00800	.00402	.00717	.00075	.00214
%RSD	10.344	.13186	178.38	4.6160	366.26	280.37	17.553	.48937

#1	.00500	119.75	-0.00018	.16443	.00247	-.00859	-.00513	.43803
#2	.00478	120.01	.00030	.17989	.00426	.00537	-.00375	.43957
#3	.00408	119.72	.00042	.17576	-.00343	-.00446	-.00393	.43534

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: May 17, 2016



Sample Name: L1605076404 Acquired: 5/16/2016 21:33:14 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	.00005	.01815	-.00114	-.00274	.00630	.00381	.64982
Stddev	.00079	.00047	.00285	.00213	.00044	.00029	.24842
%RSD	1683.1	2.5741	251.04	77.628	7.0413	7.5895	38.230

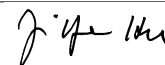
#1	-.00036	.01847	-.00345	-.00251	.00652	.00360	.36410
#2	-.00046	.01761	-.00200	-.00074	.00579	.00368	.77061
#3	.00095	.01836	.00205	-.00498	.00660	.00414	.81474

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	12934.	92258.	4290.1
Stddev	14.	277.	48.4
%RSD	.10694	.29983	1.1277

#1	12933.	92043.	4341.8
#2	12921.	92570.	4282.6
#3	12948.	92162.	4246.0

Approved: May 17, 2016



Sample Name: L1605076501 Acquired: 5/16/2016 21:37:15 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00261	.33045	-0.00706	.09883	41.357	-0.00008	F 2307.6
Stddev	.00168	.01046	.00319	.00215	.454	.00005	37.0
%RSD	64.534	3.1662	45.124	2.1805	1.0968	70.071	1.6036

#1	-0.00225	.33073	-0.01061	.09782	40.842	-0.00005	2305.6
#2	-0.00113	.34076	-0.00611	.09736	41.697	-0.00014	2271.7
#3	-0.00444	.31984	-0.00446	.10130	41.532	-0.00004	2345.6

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	.00606	.00749	.00631	.01262	4.1654	76.470	1.1195
Stddev	.00032	.00076	.00152	.00223	.0432	.153	.0035
%RSD	5.3219	10.156	24.167	17.668	1.0378	.19997	.30988

#1	.00631	.00661	.00774	.01477	4.1792	76.646	1.1155
#2	.00617	.00791	.00647	.01277	4.1170	76.390	1.1217
#3	.00569	.00796	.00471	.01032	4.2001	76.374	1.1213

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	217.54	15.991	-0.00080	F 521.34	-0.00338	.09859	.00669
Stddev	.57	.070	.00002	2.48	.00165	.01123	.00748
%RSD	.26327	.43516	2.1532	.47544	48.796	11.391	111.83

#1	216.88	16.070	-0.00078	524.16	-0.00525	.11148	-.00170
#2	217.86	15.962	-0.00079	519.50	-0.00212	.09092	.01266
#3	217.88	15.940	-0.00081	520.35	-0.00278	.09338	.00909

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: May 17, 2016

Sample Name: L1605076501 Acquired: 5/16/2016 21:37:15 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.1834	F -0.04115	3.9285	-0.0358	F 53.746	F -0.19636	-0.00305
Stddev	.00418	.00983	.0399	.00165	.994	.00206	.00521
%RSD	22.778	23.899	1.0162	45.998	1.8501	1.0500	170.56

#1	-0.02007	-0.02997	3.9572	-0.00463	52.768	-0.19758	-0.00104
#2	-0.01358	-0.04845	3.9454	-0.00443	54.756	-0.19752	.00085
#3	-0.02137	-0.04502	3.8829	-0.00168	53.715	-0.19398	-0.00897

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		-0.01000			-0.01000	-0.03000	

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00271	.00941	F -0.54340
Stddev	.00015	.00035	.40048
%RSD	5.4504	3.7312	73.699

#1	.00254	.00943	-.72457
#2	.00278	.00975	-.08435
#3	.00281	.00904	-.82129

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	10407.	74399.	3904.1
Stddev	21.	310.	38.6
%RSD	.20287	.41699	.98762

#1	10408.	74049.	3867.0
#2	10386.	74640.	3944.0
#3	10428.	74508.	3901.4

Approved: May 17, 2016

Sample Name: L1605076502 Acquired: 5/16/2016 21:41:34 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH 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	-0.00171	.01315	-0.00488	.09886	29.074	-0.00014	F 2145.2
Stddev	.00105	.00200	.00388	.00167	.387	.00011	21.1
%RSD	61.831	15.175	79.511	1.6932	1.3295	78.155	.98329

#1	-0.00117	.01385	-0.00046	.10066	29.377	-0.00003	2168.6
#2	-0.00292	.01471	-0.00771	.09856	28.639	-0.00024	2139.5
#3	-0.00103	.01090	-0.00648	.09735	29.208	-0.00015	2127.6

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	.00459	.00290	.00400	.01010	24.670	34.683	.65790
Stddev	.00035	.00044	.00161	.00160	.269	.109	.00756
%RSD	7.7016	15.148	40.204	15.855	1.0912	.31297	1.1495

#1	.00498	.00341	.00215	.01141	24.929	34.732	.66158
#2	.00447	.00262	.00485	.00832	24.392	34.559	.64920
#3	.00431	.00267	.00501	.01056	24.688	34.758	.66292


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	312.36	10.254	-0.00094	F 493.33	-0.00918	.06067	.00573
Stddev	3.94	.122	.00038	3.16	.00106	.00749	.00534
%RSD	1.2601	1.1875	40.730	.64109	11.537	12.346	93.226

#1	315.68	10.364	-0.00062	496.98	-0.00842	.06031	.00674
#2	308.01	10.124	-0.00137	491.45	-0.01039	.06833	-0.00005
#3	313.39	10.275	-0.00084	491.56	-0.00873	.05336	.01049

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: May 17, 2016



Sample Name: L1605076502 Acquired: 5/16/2016 21:41:34 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.1299	F -0.4209	5.1533	-0.0299	F 65.612	F -1.18636	-0.0594
Stddev	.00249	.00554	.0160	.00048	1.240	.00828	.00425
%RSD	19.181	13.167	.30978	15.976	1.8897	4.4430	71.545

#1	-0.1524	-.04743	5.1717	-.00354	67.025	-.18594	-.00730
#2	-0.1341	-.03637	5.1448	-.00281	64.704	-.17829	-.00118
#3	-0.1031	-.04248	5.1435	-.00263	65.108	-.19484	-.00934

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	.00140	.00814	F -1.5006
Stddev	.00141	.00021	.2705
%RSD	101.07	2.5813	18.029

#1	.00147	.00838	-1.2596
#2	.00277	.00798	-1.4490
#3	-.00005	.00805	-1.7932

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	10625.	75401.	3962.5
Stddev	31.	116.	15.7
%RSD	.29296	.15383	.39702

#1	10625.	75354.	3950.3
#2	10594.	75533.	3956.9
#3	10656.	75315.	3980.2

Approved: May 17, 2016

Sample Name: L1605076503 Acquired: 5/16/2016 21:45:47 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	.02044	-0.00292	.10508	30.239	-0.00004	F 2101.9
Stddev	.00313	.00884	.00209	.00090	.269	.00004	14.3
%RSD	763.58	43.259	71.552	.85882	.88794	90.569	.68087

#1	-0.00336	.02860	-0.00450	.10404	30.544	-0.00004	2092.3
#2	.00286	.02169	-0.00372	.10565	30.040	-0.00001	2095.0
#3	-0.00073	.01104	-0.00055	.10555	30.132	-0.00009	2118.3

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	.00510	.00279	.00338	.01013	25.414	36.579	.69229
Stddev	.00028	.00059	.00169	.00129	.077	.228	.00859
%RSD	5.5400	21.143	49.923	12.712	.30381	.62330	1.2401

#1	.00533	.00211	.00468	.01064	25.340	36.438	.69172
#2	.00479	.00315	.00399	.01108	25.494	36.842	.70115
#3	.00519	.00311	.00147	.00867	25.409	36.456	.68400

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	322.12	10.631	-0.00073	F 516.38	-0.00936	.05467	.00506
Stddev	1.39	.035	.00023	1.53	.00050	.00398	.00307
%RSD	.43137	.32490	30.887	.29686	5.3036	7.2894	60.712

#1	320.65	10.615	-0.00072	515.34	-0.00977	.05925	.00705
#2	323.41	10.671	-0.00051	518.14	-0.00951	.05275	.00660
#3	322.31	10.608	-0.00097	515.67	-0.00881	.05200	.00152

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit				270.00			
Low Limit				-.50000			

Approved: May 17, 2016

Sample Name: L1605076503 Acquired: 5/16/2016 21:45:47 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0838	F -0.03393	5.3479	-0.0278	F 68.453	F -0.18862	-0.0201
Stddev	.00221	.00840	.0483	.00053	.440	.00445	.00510
%RSD	26.375	24.753	.90220	19.127	.64247	2.3572	254.35

#1	-0.01013	-0.04361	5.3720	-0.00339	68.945	-0.19199	.00228
#2	-0.00910	-0.02846	5.3794	-0.00237	68.317	-0.18358	-0.00765
#3	-0.00590	-0.02974	5.2924	-0.00260	68.097	-0.19029	-0.00065

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		-0.01000			-0.01000	-0.03000	

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00167	.00832	F -1.4200
Stddev	.00049	.00009	.1801
%RSD	29.206	1.0858	12.684

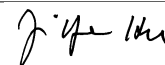
#1	.00218	.00841	-1.6277
#2	.00161	.00823	-1.3256
#3	.00121	.00832	-1.3067

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	10547.	75279.	3950.0
Stddev	21.	119.	12.6
%RSD	.19631	.15799	.31886

#1	10523.	75386.	3963.8
#2	10558.	75151.	3939.2
#3	10560.	75298.	3946.9

Approved: May 17, 2016



Sample Name: L1605076504 Acquired: 5/16/2016 21:50:05 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00223	.01853	-0.00369	.12120	F 48.882	-0.00014	F 2259.9
Stddev	.00266	.00678	.00494	.00240	.936	.00010	26.1
%RSD	119.40	36.590	133.79	1.9840	1.9150	73.701	1.1530

#1	.00076	.02324	.00189	.12057	49.621	-0.00006	2278.9
#2	-0.00433	.01076	-0.00547	.12386	49.196	-0.00011	2270.6
#3	-0.00312	.02160	-0.00749	.11918	47.830	-0.00026	2230.2

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Fail
High Limit					45.000		270.00
Low Limit					-0.00500		-1.0000

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00581	.00378	.00167	.01023	37.829	128.15	1.3834
Stddev	.00019	.00061	.00082	.00113	.137	.65	.0029
%RSD	3.3332	16.145	49.225	11.080	.36181	.50591	.21245

#1	.00603	.00371	.00073	.01050	37.845	128.29	1.3803
#2	.00569	.00443	.00226	.01120	37.957	128.72	1.3862
#3	.00571	.00321	.00202	.00899	37.685	127.45	1.3838


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	189.37	17.533	-0.00090	F 540.21	-0.00895	.08652	.00924
Stddev	.67	.059	.00050	3.54	.00118	.00348	.00153
%RSD	.35300	.33588	55.216	.65509	13.210	4.0235	16.568

#1	189.06	17.535	-0.00088	543.98	-0.00963	.08902	.00963
#2	190.13	17.591	-0.00041	536.96	-0.00758	.08254	.01054
#3	188.91	17.473	-0.00141	539.68	-0.00963	.08799	.00755

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 17, 2016



Sample Name: L1605076504 Acquired: 5/16/2016 21:50:05 Type: Unk
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.1144	F -0.05361	5.4918	-0.00259	F 53.828	F -0.19451	-0.00538
Stddev	.00684	.00526	.0276	.00207	.631	.00097	.00241
%RSD	59.789	9.8104	.50285	80.202	1.1716	.49999	44.729

#1	-0.00731	-0.05388	5.5008	-0.00254	54.493	-0.19352	-0.00321
#2	-0.00768	-0.04822	5.5138	-0.00054	53.754	-0.19546	-0.00797
#3	-0.01934	-0.05872	5.4608	-0.00468	53.239	-0.19456	-0.00495

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		-0.1000			-0.1000	-0.03000	

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00357	.00355	F -1.5422
Stddev	.00158	.00028	.2946
%RSD	44.348	7.9567	19.105

#1	.00510	.00367	-1.2069
#2	.00367	.00323	-1.6599
#3	.00194	.00375	-1.7598

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	10431.	74663.	3950.6
Stddev	15.	204.	29.4
%RSD	.14639	.27280	.74483

#1	10441.	74428.	3953.2
#2	10414.	74771.	3920.0
#3	10439.	74790.	3978.7

Approved: May 17, 2016

Sample Name: CCV Acquired: 5/16/2016 21:54:25 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000(
 User: JYH 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	.37547	9.4568	.37277	.46498	.92569	.04653	9.3667
Stddev	.00065	.0069	.00449	.00183	.00710	.00035	.1112
%RSD	.17405	.07280	1.2053	.39397	.76702	.74451	1.1872

#1	.37557	9.4575	.37421	.46628	.92264	.04693	9.3939
#2	.37478	9.4495	.36774	.46289	.92061	.04631	9.2445
#3	.37608	9.4632	.37637	.46577	.93380	.04635	9.4618

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	.04687	.19224	.48330	.48110	3.8088	46.508	.94056
Stddev	.00062	.00026	.00494	.00074	.0422	.388	.00714
%RSD	1.3310	.13770	1.0230	.15308	1.1077	.83323	.75914

#1	.04681	.19208	.48899	.48112	3.7732	46.347	.93639
#2	.04753	.19255	.48003	.48035	3.7977	46.226	.93649
#3	.04628	.19209	.48089	.48183	3.8554	46.950	.94881

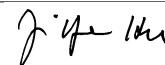
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.5121	.46933	.93941	46.764	.48628	9.4615	.48531
Stddev	.0859	.00284	.00446	.409	.00210	.0102	.00160
%RSD	.90325	.60506	.47516	.87366	.43258	.10742	.33024

#1	9.5487	.46625	.94381	46.620	.48714	9.4647	.48365
#2	9.5736	.46991	.93954	46.448	.48782	9.4501	.48685
#3	9.4139	.47184	.93489	47.225	.48388	9.4696	.48542

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: May 17, 2016



Sample Name: CCV Acquired: 5/16/2016 21:54:25 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.1275	.36471	4.7398	.95861	.92229	.92015	.48371
Stddev	.0050	.00199	.0002	.00129	.00675	.01225	.00199
%RSD	.44770	.54431	.00392	.13431	.73154	1.3313	.41225

#1	1.1300	.36544	4.7396	.95739	.91720	.90837	.48345
#2	1.1309	.36623	4.7398	.95995	.91973	.91926	.48582
#3	1.1217	.36247	4.7400	.95848	.92994	.93282	.48186

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	.95212	.96910	F 1.1747
Stddev	.00279	.00062	.4280
%RSD	.29285	.06438	36.435

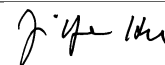
#1	.95534	.96981	1.0459
#2	.95068	.96881	.82594
#3	.95035	.96867	1.6523

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	13825.	98210.	4507.7
Stddev	30.	361.	22.0
%RSD	.21473	.36711	.48907

#1	13851.	97950.	4517.2
#2	13832.	98060.	4523.4
#3	13793.	98622.	4482.5

Approved: May 17, 2016



Sample Name: CCB Acquired: 5/16/2016 21:58:03 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00276	-0.00893	-0.00100	.00196	.00032	.00010	-0.00710	.00024
Stddev	.00027	.01175	.00376	.00133	.00030	.00003	.03298	.00020
%RSD	9.8284	131.70	376.34	67.852	94.477	32.499	464.24	84.653

#1	-0.00245	-0.00001	-0.00451	.00298	.00038	.00014	-0.00786	.00041
#2	-0.00295	-0.00452	-0.00144	.00046	-0.00001	.00007	.02624	.00001
#3	-0.00288	-0.02225	.00296	.00243	.00057	.00009	-0.03970	.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	-0.00039	.00019	-0.00048	.02649	.17306	.00430	.04367	.00050
Stddev	.00025	.00034	.00066	.01305	.09726	.00401	.13427	.00128
%RSD	65.622	176.43	137.74	49.267	56.202	93.234	307.50	254.83

#1	-0.00057	.00005	-0.00010	.03142	.23891	.00561	-0.07869	.00037
#2	-0.00050	.00058	-0.00125	.01170	.06134	.00749	.02237	-0.00071
#3	-0.00010	-0.00006	-0.00010	.03637	.21892	-0.00020	.18731	.00185

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	.00417	.01242	-0.00164	-0.00738	-0.00206	.00164	-0.00006	-0.02623
Stddev	.00026	.00979	.00085	.00627	.00284	.00345	.01241	.00201
%RSD	6.2119	78.790	51.743	84.995	137.61	210.83	20845.	7.6792

#1	.00389	.00225	-0.00068	-0.00509	.00121	-0.00231	-0.01437	-0.02846
#2	.00423	.01325	-0.00227	-0.01447	-0.00389	.00406	.00778	-0.02565
#3	.00439	.02178	-0.00198	-0.00257	-0.00351	.00316	.00641	-0.02456

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: May 17, 2016

Sample Name: CCB Acquired: 5/16/2016 21:58:03 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.0005	.00053	-0.00120	-0.00194	-0.00007	.00022	.01420
Stddev	.00111	.00032	.00709	.00179	.00032	.00018	.12496
%RSD	2103.5	60.092	591.19	92.646	446.83	81.323	879.72

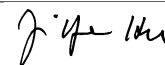
#1	-0.0034	.00088	-0.00846	-0.00395	.00015	.00012	-.10253
#2	-0.00099	.00043	.00570	-0.00052	.00007	.00043	.14602
#3	.00117	.00027	-0.00083	-0.00134	-0.00044	.00012	-0.00088

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	13763.	98536.	4462.8
Stddev	36.	407.	67.0
%RSD	.26289	.41266	1.5006

#1	13781.	98332.	4387.4
#2	13721.	98272.	4485.2
#3	13786.	99004.	4515.6

Approved: May 17, 2016



Sample Name: ICSA Acquired: 5/16/2016 22:02:03 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.0151	271.58	-0.0153	.02248	.00051	.00001	245.00
Stddev	.00074	.46	.00154	.00372	.00076	.00012	1.86
%RSD	48.951	.16761	100.67	16.550	149.40	1176.6	.76097

#1	-0.0076	271.47	-0.00328	.01818	.00033	.00006	243.00
#2	-0.0223	271.18	-0.0093	.02467	.00135	-.00012	245.31
#3	-0.0154	272.07	-0.0038	.02458	-.00014	.00009	246.69

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	.00060	-.00149	-.00141	.00186	99.992	.15679	.02027
Stddev	.00038	.00006	.00052	.00133	.619	.10614	.00287
%RSD	63.714	4.0547	36.810	71.585	.61902	67.693	14.181

#1	.00033	-.00154	-.00133	.00051	99.464	.11859	.01729
#2	.00043	-.00142	-.00093	.00318	99.839	.07504	.02049
#3	.00104	-.00151	-.00196	.00190	100.67	.27674	.02303


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	254.09	.00011	-.00045	.00649	-.00125	.04975	.00068
Stddev	1.92	.00295	.00033	.02474	.00149	.01426	.00596
%RSD	.75735	2647.7	73.740	381.40	119.27	28.664	881.66

#1	252.72	-.00319	-.00023	-.02080	-.00246	.04833	.00159
#2	253.26	.00103	-.00029	.01281	.00041	.03625	.00612
#3	256.29	.00250	-.00083	.02745	-.00170	.06466	-.00569

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016



Sample Name: ICSA Acquired: 5/16/2016 22:02:03 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0285	.00260	.22038	-.00125	.00050	-.00176	-.00547
Stddev	.00275	.00472	.00106	.00098	.00029	.00646	.00377
%RSD	96.487	181.14	.47911	78.696	56.760	367.32	68.819

#1	-.00448	.00596	.22058	-.00040	.00079	-.00768	-.00948
#2	.00032	-.00279	.22132	-.00102	.00051	-.00274	-.00200
#3	-.00438	.00464	.21924	-.00232	.00022	.00514	-.00494

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	.00207	.00443	F -3.1999
Stddev	.00074	.00016	.2476
%RSD	35.904	3.6985	7.7373

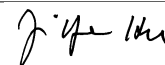
#1	.00157	.00428	-3.1027
#2	.00293	.00460	-3.4814
#3	.00173	.00441	-3.0157

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	12474.	88237.	4210.4
Stddev	62.	503.	15.9
%RSD	.49490	.56955	.37778

#1	12532.	88348.	4214.2
#2	12480.	87688.	4224.2
#3	12409.	88675.	4193.0

Approved: May 17, 2016



Sample Name: ICSAB Acquired: 5/16/2016 22:05:59 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000
 User: JYH 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	.53351	272.12	.25343	.00194	.25057	.25650	243.61
Stddev	.00401	.54	.00705	.00131	.00018	.00046	.73
%RSD	.75149	.20006	2.7803	67.481	.07268	.17777	.30093

#1	.52942	271.93	.24551	.00320	.25039	.25650	243.06
#2	.53743	272.74	.25901	.00201	.25057	.25696	244.44
#3	.53367	271.70	.25578	.00059	.25076	.25605	243.32

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	.51833	.24488	.25632	.25924	97.787	5.3799	.01716
Stddev	.00008	.00053	.00160	.00158	.301	.0126	.00278
%RSD	.01459	.21769	.62430	.60765	.30828	.23383	16.190

#1	.51825	.24442	.25768	.25930	97.531	5.3677	.01977
#2	.51841	.24476	.25672	.25763	98.119	5.3928	.01747
#3	.51833	.24547	.25456	.26078	97.712	5.3792	.01424


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	248.78	.24902	-.00018	5.3437	.49437	.06213	.50777
Stddev	.75	.00234	.00052	.0252	.00178	.01020	.00214
%RSD	.29954	.93881	292.23	.47154	.35989	16.423	.42115

#1	247.96	.24728	-.00011	5.3186	.49231	.05073	.50698
#2	249.41	.25168	-.00073	5.3436	.49541	.07041	.51019
#3	248.97	.24811	.00031	5.3690	.49538	.06524	.50614

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016



Sample Name: ICSAB Acquired: 5/16/2016 22:05:59 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.50526	.24442	-.02198	-.00114	.00032	.00310	.45991
Stddev	.00360	.00582	.00129	.00075	.00012	.00416	.00346
%RSD	.71151	2.3810	5.8883	65.717	38.374	134.02	.75299
#1	.50225	.24544	-.02150	-.00072	.00046	.00437	.45706
#2	.50924	.23815	-.02100	-.00200	.00026	.00648	.46376
#3	.50430	.24966	-.02345	-.00069	.00023	-.00154	.45890

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	.26288	.50214	F -3.5724
Stddev	.00157	.00074	.1684
%RSD	.59692	.14817	4.7144
#1	.26312	.50195	-3.7570
#2	.26431	.50150	-3.4271
#3	.26120	.50296	-3.5332

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	12416.	87940.	4189.6
Stddev	15.	308.	44.5
%RSD	.12362	.35012	1.0616
#1	12416.	87613.	4240.9
#2	12400.	88224.	4166.5
#3	12431.	87985.	4161.4

Approved: May 17, 2016

Sample Name: CCV Acquired: 5/16/2016 22:09:43 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.00000(
 User: JYH 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	.37521	9.4143	.37469	.46685	.92471	.04629	9.1197
Stddev	.00224	.0224	.00454	.00224	.00103	.00015	.0246
%RSD	.59805	.23800	1.2122	.48031	.11180	.31974	.26966

#1	.37328	9.3965	.37355	.46944	.92402	.04612	9.0923
#2	.37470	9.4068	.37969	.46554	.92422	.04638	9.1398
#3	.37767	9.4394	.37082	.46557	.92590	.04637	9.1270

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	.04630	.19028	.47836	.47778	3.7731	46.600	.94025
Stddev	.00014	.00043	.00074	.00171	.0168	.105	.00142
%RSD	.30350	.22836	.15395	.35878	.44449	.22627	.15140

#1	.04644	.18978	.47753	.47634	3.7773	46.610	.94182
#2	.04630	.19058	.47892	.47968	3.7874	46.700	.93903
#3	.04616	.19048	.47864	.47733	3.7547	46.490	.93990

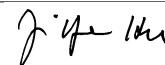
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.4922	.46692	.93182	46.967	.48257	9.3868	.48212
Stddev	.0738	.00398	.00240	.071	.00034	.0148	.00190
%RSD	.77792	.85204	.25708	.15200	.07071	.15808	.39350

#1	9.4186	.46335	.93425	46.959	.48218	9.3892	.48378
#2	9.5663	.47121	.93174	47.043	.48274	9.3709	.48254
#3	9.4917	.46621	.92946	46.901	.48280	9.4002	.48005

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: May 17, 2016



Sample Name: CCV Acquired: 5/16/2016 22:09:43 Type: QC
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.1178	.36377	4.7067	.95108	.92093	.92137	.48395
Stddev	.0033	.00379	.0123	.00308	.00314	.00565	.00519
%RSD	.29429	1.0422	.26062	.32422	.34117	.61335	1.0715

#1	1.1212	.36079	4.6987	.95011	.91798	.92554	.48124
#2	1.1147	.36249	4.7006	.94861	.92424	.91494	.48068
#3	1.1174	.36804	4.7208	.95454	.92058	.92364	.48993

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	.94681	.96284	F 1.1532
Stddev	.00464	.00224	.5396
%RSD	.49051	.23304	46.795

#1	.94163	.96288	1.7753
#2	.95061	.96506	.81135
#3	.94819	.96057	.87289

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	13860.	97657.	4460.7
Stddev	52.	359.	32.0
%RSD	.37851	.36771	.71630

#1	13862.	98053.	4423.8
#2	13807.	97565.	4481.0
#3	13912.	97352.	4477.2

Approved: May 17, 2016



Sample Name: CCB Acquired: 5/16/2016 22:13:21 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH 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	-0.00338	-0.00839	.00086	.00138	-0.00032	.00012	-.05998
Stddev	.00117	.00703	.00021	.00064	.00031	.00005	.01798
%RSD	34.509	83.810	24.464	46.760	98.059	40.904	29.980

#1	-0.00462	-0.00807	.00107	.00206	-0.00065	.00016	-.05505
#2	-0.00231	-0.01558	.00065	.00131	-0.00003	.00006	-.07991
#3	-0.00320	-0.00153	.00085	.00077	-0.00028	.00014	-.04498

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	-.00033	.00002	-.00003	.00888	.12712	.00360
Stddev	.00010	.00036	.00108	.00097	.02849	.02782	.00362
%RSD	107.42	108.79	5030.0	3379.1	320.88	21.882	100.65

#1	.00020	.00008	-.00062	.00109	.02098	.12394	.00729
#2	-.00001	-.00054	.00127	-.00058	-.02366	.10103	.00005
#3	.00010	-.00053	-.00058	-.00059	.02932	.15639	.00345


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	.03510	-.00043	.00404	-.02117	-.00081	-.00025	.00008
Stddev	.08221	.00162	.00039	.02567	.00214	.00587	.00169
%RSD	234.21	373.97	9.7652	121.23	264.56	2389.0	2032.9

#1	.07329	-.00146	.00358	-.02621	.00151	.00030	.00141
#2	.09127	.00143	.00426	-.04395	-.00123	.00533	.00065
#3	-.05926	-.00127	.00427	.00664	-.00271	-.00637	-.00181

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: May 17, 2016



Sample Name: CCB Acquired: 5/16/2016 22:13:21 Type: Blank
 Method: ICP-THERMO3_6010_200.7WATER_3YLINES(v873) Mode: CONC Corr. Factor: 1.000000
 User: JYH Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Ti1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00443	-.00176	-.02879	.00014	.00028	-.00314	-.00116
Stddev	.00216	.00409	.00140	.00020	.00014	.00268	.00234
%RSD	48.810	233.06	4.8776	143.43	48.681	85.329	201.09

#1	.00301	.00097	-.02787	-.00008	.00031	-.00008	-.00182
#2	.00336	-.00646	-.02810	.00020	.00013	-.00505	.00143
#3	.00692	.00023	-.03040	.00030	.00041	-.00429	-.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	.00086	.00032	F -.12810
Stddev	.00074	.00005	.29046
%RSD	86.253	16.643	226.75

#1	.00165	.00033	.05366
#2	.00018	.00037	-.46309
#3	.00076	.00027	.02514

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	13795.	98923.	4462.5
Stddev	15.	411.	27.4
%RSD	.10771	.41538	.61416

#1	13809.	98701.	4447.7
#2	13779.	99397.	4445.6
#3	13796.	98670.	4494.1

Approved: May 17, 2016



2.3.2 Metals ICP-MS Data

2.3.2.1 Summary Data

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 #: L16050571-04	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 #: L16050571-06	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 50WW06FF-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 12:52
Collect Date: 05/10/2016 10:10	Dilution: 1	File ID: NI.051216.125217
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Manganese, Dissolved	7439-96-5	0.0557		0.00400	0.00200	0.00100

Certificate of Analysis

Lab Report #: L16050571
 Lab Project #: 2551.096
 Project Name: Longhorn Army Ammunition
 Lab Contact: Stephanie Mossburg

Sample #: L16050571-08	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 50WW12FF-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 12:55
Collect Date: 05/10/2016 11:20	Dilution: 1	File ID: NI.051216.125529
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Manganese, Dissolved	7439-96-5	0.0743		0.00400	0.00200	0.00100

Certificate of Analysis

Sample #: L16050571-10	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 50WW24FF-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 12:58
Collect Date: 05/10/2016 13:20	Dilution: 1	File ID: NI.051216.125840
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Manganese, Dissolved	7439-96-5	0.0116		0.00400	0.00200	0.00100

Certificate of Analysis

Sample #: L16050571-12	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 50WW23FF-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 13:01
Collect Date: 05/10/2016 14:35	Dilution: 1	File ID: NI.051216.130152
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Manganese, Dissolved	7439-96-5	0.0872		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

TCLP Non-Volatile

Analyst(s): AMA/CPD
 Date: 5/11/16
 Filter Lot #: 9486030
 Microbac SOP: TCLP 01 Rev #: 12

Analyst / Date		Analyst / Date	
AMA/CPD	5/11/16	CPD	5/12/16
Time On	Temp On °C	Time Off	Temp Off °C
1536	22.8	0810	21.8

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			
G-3	L160505120	ME, SV, Rest, Herb, VOA	1311	F1-176	S	100	6.88	1.59	100.00	2000	4.93
G-31	L16050515-02	Herb.	L	L	L	L	8.07	1.70	100.00	2000	5.33
G-8	L1605051501	Herb.	L	L	L	L	6.39	2.57	100.02	2000	6.21
D	05-0579-01	ME	pH-L (131)	F1-176	S	100	8.51	4.88	100.25	2005	6.49
L	-02	L	L (1312)	SPLD P2-325	L	L	NA	NA	100.49	2010	9.58
NA	FBIK1	ME, SV, Rest, Herb, pH-L	1311	F1-176	NA	NA	NA	NA	100	100	4.89
L	SPLDF2-	L	L (1312)	SPLD F2-325	L	L	L	L	L	L	5.01
CPD 5/11/16											

*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: NIA

Peer Review By: Allie Alford 5/12/16

Workgroup: WG568493
 Analyst: VC
 Spike Analyst: VC
 Run Date: 05/12/2016 08:34
 Method: 3015
 Balance: BAL016
 Instrument: MW-3
 Instrument Start: 05/12/2016 09:43

SOP: ME407 Revision 19
 Spike Solution: STD73427
 Spike Witness: ERP
 40 & 50 ML. DIGESTION TUCOA18772
 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	WG568493-03	BLANK	1	20 mL	50 mL	179.387 g	179.372 g	
2	WG568397-01	FBLK2	18	20 mL	50 mL	183.015 g	182.991 g	
3	WG568493-04	LCS	1	20 mL	50 mL	181.597 g	181.582 g	.25 mL
4	L16050571-02	SAMP	1	20 mL	50 mL	181.968 g	181.957 g	05/20/16
5	L16050571-04	SAMP	1	20 mL	50 mL	181.312 g	181.031 g	05/20/16
6	L16050571-06	SAMP	1	20 mL	50 mL	182.542 g	182.494 g	05/20/16
7	L16050571-08	SAMP	1	20 mL	50 mL	183.445 g	183.437 g	05/20/16
8	L16050571-10	SAMP	1	20 mL	50 mL	183.657 g	183.65 g	05/20/16
9	L16050571-12	SAMP	1	20 mL	50 mL	183.066 g	183.056 g	05/20/16
10	L16050579-02	SAMP	18	20 mL	50 mL	185.133 g	185.098 g	05/16/16
11	L16050611-03	SAMP	1	20 mL	50 mL	182.603 g	182.584 g	05/20/16
12	L16050611-05	SAMP	1	20 mL	50 mL	182.85 g	182.831 g	05/20/16
13	L16050611-06	SAMP	1	20 mL	50 mL	182.678 g	182.661 g	05/20/16
14	L16050611-07	SAMP	1	20 mL	50 mL	184.498 g	184.456 g	05/20/16
15	L16050611-09	SAMP	1	20 mL	50 mL	181.263 g	181.253 g	05/20/16
16	L16050611-11	SAMP	1	20 mL	50 mL	185.031 g	185.012 g	05/20/16
17	L16050611-13	SAMP	1	20 mL	50 mL	182.417 g	182.405 g	05/20/16
18	L16050611-15	SAMP	1	20 mL	50 mL	181.412 g	181.404 g	05/20/16
19	WG568493-01	REF	1	20 mL	50 mL	181.678 g	181.657 g	
20	L16050611-17	SAMP	1	20 mL	50 mL	181.678 g	181.657 g	05/20/16
21	WG568493-02	REF	2	20 mL	50 mL	180.377 g	180.371 g	
22	L16050615-03	SAMP	2	20 mL	50 mL	180.377 g	180.371 g	05/16/16
23	L16050616-03	SAMP	2	20 mL	50 mL	184.726 g	184.708 g	05/16/16
24	WG568493-05	MS	1	20 mL	50 mL	184.09 g	184.081 g	.25 mL
25	WG568493-06	MSD	1	20 mL	50 mL	182.513 g	182.496 g	.25 mL
26	WG568493-07	DUP	1	20 mL	50 mL	185.045 g	185.026 g	

Analyst: Vicki Collier

Reviewer: Erin Patten



Microbac Laboratories Inc.

Instrument Run Log

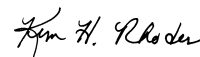
Instrument: ICP-MS2 Dataset: 051216B.REP
 Analyst1: JYH Analyst2: N/A
 Method: 6020/6020A/200.8 SOP: ME700A Rev: 2
 Maintenance Log ID: _____
 Calibration Std: STD75706 ICV Std: STD76035 Post Spike: STD73705
 ICSA: STD75856 ICSAB: STD75709 Int. Std: RGT36607
 CCV: STD75971 LLCCV: STD75708 Tuning Sol : STD75857
 Stannous : _____ Hydroxylamine : _____

Workgroups: 568537,568335,568373

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	NI.051216.113218	Blank	Blank		1		05/12/16 11:32
2	NI.051216.113530	WG568616-01	Calibration Point		1		05/12/16 11:35
3	NI.051216.113842	WG568616-02	Calibration Point		1		05/12/16 11:38
4	NI.051216.114153	WG568616-03	Calibration Point		1		05/12/16 11:41
5	NI.051216.114505	WG568616-04	Calibration Point		1		05/12/16 11:45
6	NI.051216.114818	WG568616-05	Initial Calibration Verification		1		05/12/16 11:48
7	NI.051216.115131	WG568616-06	Initial Calib Blank		1		05/12/16 11:51
8	NI.051216.115444	WG568616-07	Low Level Initial Calibration V		1		05/12/16 11:54
9	NI.051216.115755	WG568616-08	Interference Check		1		05/12/16 11:57
10	NI.051216.120107	WG568616-09	Interference Check		1		05/12/16 12:01
11	NI.051216.120420	WG568616-10	CCV		1		05/12/16 12:04
12	NI.051216.120732	WG568616-11	CCB		1		05/12/16 12:07
13	NI.051216.121044	WG568493-03	Method/Prep Blank	20/50	1		05/12/16 12:10
14	NI.051216.121355	WG568493-04	Laboratory Control S	20/50	1		05/12/16 12:13
15	NI.051216.121707	WG568397-01	Fluid Blank 2		1		05/12/16 12:17
16	NI.051216.122018	WG568493-01	Reference Sample		1	L16050611-17	05/12/16 12:20
17	NI.051216.122330	WG568493-05	Matrix Spike	20/50	1	L16050611-17	05/12/16 12:23
18	NI.051216.122641	WG568493-06	Matrix Spike Duplica	20/50	1	L16050611-17	05/12/16 12:26
19	NI.051216.122953	L16050571-02	50WW22FF-051016	20/50	1		05/12/16 12:29
20	NI.051216.123304	WG568537-01	Post Digestion Spike		1	L16050571-02	05/12/16 12:33
21	NI.051216.123616	WG568537-02	Serial Dilution		5	L16050571-02	05/12/16 12:36
22	NI.051216.123928	WG568537-02	Serial Dilution		25	L16050571-02	05/12/16 12:39
23	NI.051216.124241	WG568616-12	CCV		1		05/12/16 12:42
24	NI.051216.124552	WG568616-13	CCB		1		05/12/16 12:45
25	NI.051216.124906	L16050571-04	50WW11FF-051016	20/50	1		05/12/16 12:49
26	NI.051216.125217	L16050571-06	50WW06FF-051016	20/50	1		05/12/16 12:52
27	NI.051216.125529	L16050571-08	50WW12FF-051016	20/50	1		05/12/16 12:55
28	NI.051216.125840	L16050571-10	50WW24FF-051016	20/50	1		05/12/16 12:58
29	NI.051216.130152	L16050571-12	50WW23FF-051016	20/50	1		05/12/16 13:01
30	NI.051216.130503	L16050579-02	60500-SSP0037-SSP0037	20/50	1		05/12/16 13:05
31	NI.051216.130815	L16050611-03	W16	20/50	1		05/12/16 13:08
32	NI.051216.131126	L16050611-05	W6	20/50	1		05/12/16 13:11
33	NI.051216.131438	L16050611-06	W6B	20/50	1		05/12/16 13:14
34	NI.051216.131750	L16050611-07	W51	20/50	1		05/12/16 13:17

Page: 1 Approved: May 13, 2016




Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-MS2 Dataset: 051216B.REP
 Analyst1: JYH Analyst2: N/A
 Method: 6020/6020A/200.8 SOP: ME700A Rev: 2

Maintenance Log ID: _____

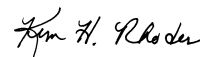
Calibration Std: STD75706 ICV Std: STD76035 Post Spike: STD73705
 ICSA: STD75856 ICSAB: STD75709 Int. Std: RGT36607
 CCV: STD75971 LLCCV: STD75708 Tuning Sol : STD75857
 Stannous : _____ Hydroxylamine : _____

Workgroups: 568537,568335,568373

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
35	NI.051216.132103	WG568616-14	CCV		1		05/12/16 13:21
36	NI.051216.132414	WG568616-15	CCB		1		05/12/16 13:24
37	NI.051216.132727	L16050611-09	W7A	20/50	1		05/12/16 13:27
38	NI.051216.133038	L16050611-11	W7B	20/50	1		05/12/16 13:30
39	NI.051216.133350	L16050611-13	W5	20/50	1		05/12/16 13:33
40	NI.051216.133701	L16050611-15	W17	20/50	1		05/12/16 13:37
41	NI.051216.134013	WG568493-02	Reference Sample		1000	L16050615-03	05/12/16 13:40
42	NI.051216.134324	WG568493-07	Duplicate		1000	L16050615-03	05/12/16 13:43
43	NI.051216.134636	L16050616-03	OUTFALL 203	20/50	1000		05/12/16 13:46
44	NI.051216.134947	L16050507-11	W30WTR	20/50	50		05/12/16 13:49
45	NI.051216.135545	WG568493-02	Reference Sample		10	L16050615-03	05/12/16 13:55
46	NI.051216.135920	WG568493-07	Duplicate	20/50	10	L16050615-03	05/12/16 13:59
47	NI.051216.140233	WG568616-16	CCV		1		05/12/16 14:02
48	NI.051216.140545	WG568616-17	CCB		1		05/12/16 14:05
49	NI.051216.140857	WG568616-18	Low Level Continuing Calibra		1		05/12/16 14:08
50	NI.051216.141302	WG568333-02	Method/Prep Blank	40/50	50		05/12/16 14:13
51	NI.051216.141613	WG568333-03	Laboratory Control S	40/50	50		05/12/16 14:16
52	NI.051216.141925	WG568186-02	Fluid Blank 2		50		05/12/16 14:19
53	NI.051216.142236	WG568333-01	Reference Sample		50	L16050434-05	05/12/16 14:22
54	NI.051216.142548	WG568333-04	Matrix Spike	40/50	50	L16050434-05	05/12/16 14:25
55	NI.051216.142859	WG568333-05	Matrix Spike Duplica	40/50	50	L16050434-05	05/12/16 14:28
56	NI.051216.143211	L16050449-01	KAISER 12 BAGS	5/50	50		05/12/16 14:32
57	NI.051216.143522	L16050451-01	ALAN 14 BAGS	5/50	50		05/12/16 14:35
58	NI.051216.143833	WG568373-01	Post Digestion Spike		50	L16050451-01	05/12/16 14:38
59	NI.051216.144145	WG568373-02	Serial Dilution		250	L16050451-01	05/12/16 14:41
60	NI.051216.144458	WG568616-19	CCV		1		05/12/16 14:44
61	NI.051216.144809	WG568616-20	CCB		1		05/12/16 14:48

Page: 2 Approved: May 13, 2016




Microbac Laboratories Inc.

Data Checklist

Date: 12-MAY-2016
 Analyst: JYH
 Analyst: NA
 Method: 6020/6020A/200.8
 Instrument: ICP-MS2
 Curve Workgroup: 568616
 Runlog ID: 75046
 Analytical Workgroups: 568537,568335.568373

STD ID#s on Runlog	X
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	571,579
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	KHR
Comments	

Primary Reviewer:

Secondary Reviewer:
13-MAY-2016



Analytical Method:6020A
 Login Number:L16050571

AAB#:WG568537

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
50WW22FF-051016	02	05/10/16					05/12/2016	2	180		05/12/16	2.2	180	
50WW11FF-051016	04	05/10/16					05/12/2016	2	180		05/12/16	2.2	180	
50WW06FF-051016	06	05/10/16					05/12/2016	1.9	180		05/12/16	2.1	180	
50WW12FF-051016	08	05/10/16					05/12/2016	1.9	180		05/12/16	2.1	180	
50WW24FF-051016	10	05/10/16					05/12/2016	1.8	180		05/12/16	2	180	
50WW23FF-051016	12	05/10/16					05/12/2016	1.7	180		05/12/16	1.9	180	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
 PDF File ID: 4759540
 Report generated 05/12/2016 16:04



METHOD BLANK SUMMARY

Login Number: L16050571 Work Group: WG568537
 Blank File ID: NI.051216.121044 Blank Sample ID: WG568493-03
 Prep Date: 05/12/16 08:34 Instrument ID: ICP-MS2
 Analyzed Date: 05/12/16 12:10 Method: 6020A
 Analyst: JYH

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG568493-04	NI.051216.121355	05/12/16 12:13	01
50WW22FF-051016	L16050571-02	NI.051216.122953	05/12/16 12:29	01
50WW11FF-051016	L16050571-04	NI.051216.124906	05/12/16 12:49	01
50WW06FF-051016	L16050571-06	NI.051216.125217	05/12/16 12:52	01
50WW12FF-051016	L16050571-08	NI.051216.125529	05/12/16 12:55	01
50WW24FF-051016	L16050571-10	NI.051216.125840	05/12/16 12:58	01
50WW23FF-051016	L16050571-12	NI.051216.130152	05/12/16 13:01	01
DUP	WG568493-07	NI.051216.135920	05/12/16 13:59	DL01

Report Name: BLANK_SUMMARY
 PDF File ID: 4759541
 Report generated 05/12/2016 16:04



Login Number: L16050571 Prep Date: 05/12/16 08:34 Sample ID: WG568493-03
Instrument ID: ICP-MS2 Run Date: 05/12/16 12:10 Prep Method: 3015
File ID: NI.051216.121044 Analyst: JYH Method: 6020A
Workgroup (AAB#): WG568537 Matrix: Water Units: mg/L
Contract #: _____ Cal ID: ICP-MS - 12-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: 4759542
12-MAY-2016 16:04



Login Number: L16050571 Run Date: 05/12/2016 Sample ID: WG568493-04
Instrument ID: ICP-MS2 Run Time: 12:13 Prep Method: 3015
File ID: NI.051216.121355 Analyst: JYH Method: 6020A
Workgroup (AAB#): WG568537 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD73427 Cal ID: ICP-MS - 12-MAY-16

Analytes	Expected	Found	% Rec	LCS Limits	Q
Manganese, Dissolved	0.125	0.121	97.1	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 4759543
Report generated: 05/12/2016 16:04



Loginnum: L16050571 Cal ID: ICP-MS2- Worknum: WG568537
 Instrument ID: ICP-MS2 Contract #: _____ Method: 6020A
 Parent ID: WG568493-01 File ID: NI.051216.122018 Dil: 1 Matrix: WATER
 Sample ID: WG568493-05 MS File ID: NI.051216.122330 Dil: 1 Units: mg/L
 Sample ID: WG568493-06 MSD File ID: NI.051216.122641 Dil: 1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Manganese	0.00141	0.125	0.125	98.5	0.125	0.131	104	5.21	80 - 120	20	

* FAILS %REC LIMIT

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

Microbac Laboratories Inc.
Serial Dilution Report

Login: L16050571 **Worknum:** WG568537
Instrument: ICP-MS2 **Method:** 6020A
Serial Dil: WG568537-02 **File ID:** NI.051216.123616 **Dil:** 5 **Units:** ug/L
Sample: L16050571-02 **File ID:** NI.051216.122953 **Dil:** 1

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Manganese	10.4	X	9.58	X	7.68	

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: 4759538

05/12/2016 16:03



Sample Login ID: L16050571 Worknum: WG568537
 Instrument ID: ICP-MS2 Method: 6020A
 Post Spike ID: WG568537-01 File ID: NI.051216.123304 Dil: 1 Units: ug/L
 Sample ID: L16050571-02 File ID: NI.051216.122953 Dil: 1 Matrix: Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
MANGANESE	59.4		10.4		50	98.0	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: L16050571 Workgroup (AAB#): WG568537
 Analytical Method: 6020A Instrument ID: ICP-MS2
 ICAL Worknum: WG568616 Initial Calibration Date: 12-MAY-2016 11:45

	WG568616-01		WG568616-02		WG568616-03		WG568616-04		R	Q
	Conc	INT	Conc	INT	Conc	INT	Conc	INT		
MANGANESE	0	707	.4	1370	50	504000	100	997000	1	

INT = Instrument intensity
 R = Coefficient of correlation
 Q = Data Qualifier
 * = Out of Compliance; R < 0.995



Login Number: L16050571 Run Date: 05/12/2016 Sample ID: WG568616-06
Instrument ID: ICP-MS2 Run Time: 11:51 Method: 6020A
File ID: NI.051216.115131 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG568537 Cal ID: ICP-MS2 - 12-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: L16050571 Run Date: 05/12/2016 Sample ID: WG568616-11
 Instrument ID: ICP-MS2 Run Time: 12:07 Method: 6020A
 File ID: NI.051216.120732 Analyst: JYH Units: ug/L
 Workgroup (AAB#): WG568537 Cal ID: ICP-MS - 12-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: 4759552
 Report generated 05/12/2016 16:04



Login Number: L16050571 Run Date: 05/12/2016 Sample ID: WG568616-13
Instrument ID: ICP-MS2 Run Time: 12:45 Method: 6020A
File ID: NI.051216.124552 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG568537 Cal ID: ICP-MS - 12-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: 4759552
Report generated 05/12/2016 16:04



Login Number: L16050571 Run Date: 05/12/2016 Sample ID: WG568616-15
 Instrument ID: ICP-MS2 Run Time: 13:24 Method: 6020A
 File ID: NI.051216.132414 Analyst: JYH Units: ug/L
 Workgroup (AAB#): WG568537 Cal ID: ICP-MS - 12-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: 4759552
 Report generated 05/12/2016 16:04



Login Number: L16050571 Run Date: 05/12/2016 Sample ID: WG568616-05
Instrument ID: ICP-MS2 Run Time: 11:48 Method: 6020A
File ID: NI.051216.114818 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG568537 Cal ID: ICP-MS - 12-MAY-16
QC Key: DOD4

Analyte	Expected	Found	%REC	LIMITS	Q
Manganese	50	50.1	100	90 - 110	

* Exceeds LIMITS Limit



Login Number: L16050571 Run Date: 05/12/2016 Sample ID: WG568616-10
 Instrument ID: ICP-MS2 Run Time: 12:04 Method: 6020A
 File ID: NI.051216.120420 Analyst: JYH QC Key: DOD4
 Workgroup (AAB#): WG568537 Cal ID: ICP-MS - 12-MAY-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Manganese	0.0500	0.0502	mg/L	100	90 - 110	

* Exceeds LIMITS Criteria



Login Number: L16050571 Run Date: 05/12/2016 Sample ID: WG568616-12
 Instrument ID: ICP-MS2 Run Time: 12:42 Method: 6020A
 File ID: NI.051216.124241 Analyst: JYH QC Key: DOD4
 Workgroup (AAB#): WG568537 Cal ID: ICP-MS - 12-MAY-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Manganese	0.0500	0.0512	mg/L	102	90 - 110	

* Exceeds LIMITS Criteria

CCV - Modified 03/05/2008
 PDF File ID: 4759551
 Report generated 05/12/2016 16:04



Login Number: L16050571 Run Date: 05/12/2016 Sample ID: WG568616-14
 Instrument ID: ICP-MS2 Run Time: 13:21 Method: 6020A
 File ID: NI.051216.132103 Analyst: JYH QC Key: DOD4
 Workgroup (AAB#): WG568537 Cal ID: ICP-MS - 12-MAY-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Manganese	0.0500	0.0508	mg/L	102	90 - 110	

* Exceeds LIMITS Criteria



Login Number: L16050571 Run Date: 05/12/2016 Sample ID: WG568616-07
 Instrument ID: ICP-MS2 Run Time: 11:54 Method: 6020A
 File ID: NI.051216.115444 Analyst: JYH QC Key: DOD4
 Workgroup (AAB#): WG568537 Cal ID: ICP-MS - 12-MAY-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Manganese	0.500	0.438	ug/L	87.5	70 - 130	

* Exceeds LIMITS Criteria



Login Number: L16050571 Run Date: 05/12/2016 Sample ID: WG568616-18
 Instrument ID: ICP-MS2 Run Time: 14:08 Method: 6020A
 File ID: NI.051216.140857 Analyst: JYH QC Key: DOD4
 Workgroup (AAB#): WG568537 Cal ID: ICP-MS - 12-MAY-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Manganese	0.500	0.516	ug/L	103	70 - 130	

* Exceeds LIMITS Criteria



Login number: L16050571
Instrument ID: ICP-MS2
Sol. A: WG568616-08
Sol. AB: WG568616-09

File ID: NI.051216.115755
File ID: NI.051216.120107

Workgroup (AAB#): WG568537
Method: 6020A
Units: ug/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Manganese	NS	0.0143	NS	100	105	105	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.



INTERNAL STANDARD REPORT

Login: L16050571 Analytical Method: 6020
 Analytical Workgroup: WG568537 Matrix: 1
 Instrument: ICP-MS2 Analyst: JYH
 ICAL Date: 12-MAY-2016 11:35

Sample	Type	Run Date	BISMUTH	GERMANIUM	INDIUM
			% Rec	% Rec	% Rec
L16050571-02	SAMP	12-MAY-2016 12:29	83.33	94.91	90.324
L16050571-04	SAMP	12-MAY-2016 12:49	92.387	99.555	92.21
L16050571-06	SAMP	12-MAY-2016 12:52	98.148	98.548	96.06
L16050571-08	SAMP	12-MAY-2016 12:55	88.857	89.988	92.804
L16050571-10	SAMP	12-MAY-2016 12:58	93.852	97.39	91.9
L16050571-12	SAMP	12-MAY-2016 13:01	89.902	92.779	92.163
WG568493-03	BLANK	12-MAY-2016 12:10	98.544	100.495	98.662
WG568493-04	LCS	12-MAY-2016 12:13	102.324	103.286	99.471
WG568537-01	PSPK	12-MAY-2016 12:33	89.25	96.78	90.407
WG568537-02	SERIAL	12-MAY-2016 12:36	92.546	94.085	92.137
WG568616-05	ICV	12-MAY-2016 11:48	97.677	99.608	96.673
WG568616-06	ICB	12-MAY-2016 11:51	98.335	94.535	99.257
WG568616-07	LLICV	12-MAY-2016 11:54	97.313	98.448	93.453
WG568616-08	ICS	12-MAY-2016 11:57	95.503	91.877	94.169
WG568616-09	ICS	12-MAY-2016 12:01	96.578	95.326	98.663
WG568616-10	CCV	12-MAY-2016 12:04	98.487	98.237	98.66
WG568616-11	CCB	12-MAY-2016 12:07	96.681	98.977	94.862
WG568616-12	CCV	12-MAY-2016 12:42	96.26	103.459	98.171
WG568616-13	CCB	12-MAY-2016 12:45	101.198	104.376	100.284
WG568616-14	CCV	12-MAY-2016 13:21	95.208	104.526	98.144
WG568616-15	CCB	12-MAY-2016 13:24	101.806	105.772	100.387
WG568616-18	LLCCV	12-MAY-2016 14:08	96.264	99.504	96.25

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: 4759546
 Report generated: 05/12/2016 16:04



INTERNAL STANDARD REPORT

Login: L16050571 Analytical Method: 6020
 Analytical Workgroup: WG568537 Matrix: 18
 Instrument: ICP-MS2 Analyst: JYH
 ICAL Date: 12-MAY-2016 11:35

Sample	Type	Run Date	BISMUTH	GERMANIUM	INDIUM
			% Rec	% Rec	% Rec
WG568397-01	FBLK2	12-MAY-2016 12:17	102.791	97.763	103.484

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: 4759546
 Report generated: 05/12/2016 16:04



Login Number: L16050571 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 12, 2016 10:45:52

Mass Calibration and Resolution

Analyte	E Mass	Meas Mass	Mass C DAC Val	Res DAC Value	Meas Peak WCustom Res
Li	7.016	7.025	1328	2024	0.698
Mg	23.985	23.975	4507	2020	0.695
Co	58.933	58.925	11694	2022	0.693
In	114.904	114.925	22865	2028	0.683
U	238.050	238.075	47459	2043	0.682

Relative Std. Dev.

Mass	Meas. Intens. RSD
5.525	10.347
5.575	2.497
5.625	2.471
5.675	3.334
5.725	2.435
5.775	1.759
5.825	2.456
5.875	3.041
5.925	2.211
5.975	1.680
6.025	1.627
6.075	2.377
6.125	0.650
6.175	2.500
6.225	5.268
6.275	21.523
6.325	68.698
6.375	100.000
6.425	98.543
6.475	51.875
6.525	21.517
6.575	5.582
6.625	4.529
6.675	1.874
6.725	2.206
6.775	1.676
6.825	3.709

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6.875	2.080
6.925	0.867
6.975	2.643
7.025	1.288
7.075	1.668
7.125	1.841
7.175	1.774
7.225	2.357
7.275	4.074
7.325	11.490
7.375	37.268
7.425	72.436
7.475	100.000
7.525	82.402
7.575	81.441
7.625	21.066
7.675	74.689
7.725	69.722
7.775	47.507
7.825	50.000
7.875	35.355
7.925	83.853
7.975	121.967
8.025	83.853
8.075	81.441
8.125	70.711
8.175	63.888
8.225	113.537
8.275	22.822
8.325	63.888
8.375	63.888
8.425	87.434
8.475	60.858
22.525	149.071
22.575	44.605
22.625	25.913
22.675	22.822
22.725	31.599
22.775	46.147
22.825	37.318
22.875	39.123
22.925	29.186
22.975	26.336
23.025	24.776
23.075	32.341
23.125	30.459
23.175	33.333

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23.225	16.928
23.275	26.504
23.325	17.388
23.375	22.978
23.425	47.128
23.475	7.453
23.525	2.866
23.575	2.205
23.625	2.711
23.675	2.097
23.725	2.282
23.775	2.455
23.825	2.082
23.875	2.418
23.925	1.647
23.975	1.295
24.025	1.268
24.075	1.737
24.125	1.884
24.175	2.321
24.225	1.975
24.275	4.446
24.325	41.691
24.375	27.524
24.425	21.549
24.475	8.968
24.525	2.198
24.575	2.071
24.625	2.368
24.675	0.954
24.725	2.135
24.775	1.624
24.825	1.456
24.875	1.130
24.925	0.935
24.975	0.995
25.025	1.738
25.075	1.159
25.125	1.899
25.175	1.506
25.225	4.273
25.275	38.537
25.325	66.563
25.375	57.601
25.425	25.097
25.475	9.977
57.525	5.753

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57.575	1.849
57.625	2.849
57.675	1.186
57.725	2.492
57.775	2.537
57.825	3.166
57.875	1.411
57.925	0.945
57.975	1.608
58.025	2.557
58.075	1.282
58.125	1.839
58.175	2.379
58.225	2.845
58.275	16.325
58.325	7.213
58.375	30.609
58.425	20.492
58.475	3.778
58.525	2.442
58.575	1.472
58.625	1.673
58.675	1.636
58.725	2.131
58.775	1.389
58.825	1.453
58.875	2.026
58.925	2.357
58.975	2.238
59.025	1.117
59.075	0.549
59.125	1.695
59.175	3.253
59.225	4.291
59.275	38.207
59.325	21.066
59.375	52.705
59.425	35.046
59.475	14.991
59.525	6.893
59.575	6.122
59.625	4.336
59.675	1.341
59.725	2.836
59.775	3.568
59.825	0.836
59.875	1.490

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59.925	4.799
59.975	1.407
60.025	2.836
60.075	3.475
60.125	1.758
60.175	5.017
60.225	9.640
60.275	44.821
60.325	95.831
60.375	58.330
60.425	39.033
60.475	42.592
113.525	6.268
113.575	6.165
113.625	3.521
113.675	1.049
113.725	2.230
113.775	2.354
113.825	1.593
113.875	0.787
113.925	0.905
113.975	0.998
114.025	1.608
114.075	1.577
114.125	1.988
114.175	2.687
114.225	3.362
114.275	9.417
114.325	15.987
114.375	45.426
114.425	10.806
114.475	6.350
114.525	6.317
114.575	3.337
114.625	2.500
114.675	1.169
114.725	0.991
114.775	1.268
114.825	1.088
114.875	1.125
114.925	1.152
114.975	1.492
115.025	1.090
115.075	1.866
115.125	1.251
115.175	1.510
115.225	3.204

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115.275	3.602
115.325	17.613
115.375	59.699
115.425	17.678
115.475	19.921
115.525	10.232
115.575	7.244
115.625	6.836
115.675	3.830
115.725	1.416
115.775	2.770
115.825	4.305
115.875	4.646
115.925	2.649
115.975	1.496
116.025	2.865
116.075	2.529
116.125	1.678
116.175	4.143
116.225	5.497
116.275	15.526
116.325	26.146
116.375	34.312
116.425	69.722
116.475	24.845
236.525	
236.575	32.394
236.625	45.079
236.675	25.074
236.725	21.815
236.775	32.165
236.825	36.485
236.875	17.635
236.925	31.181
236.975	31.566
237.025	32.439
237.075	17.861
237.125	27.311
237.175	28.328
237.225	19.457
237.275	40.088
237.325	27.809
237.375	32.394
237.425	15.972
237.475	17.568
237.525	7.325
237.575	15.419

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237.625	2.812
237.675	4.470
237.725	1.824
237.775	2.668
237.825	1.105
237.875	0.537
237.925	0.681
237.975	0.828
238.025	1.080
238.075	0.625
238.125	0.831
238.175	1.109
238.225	0.789
238.275	0.664
238.325	1.241
238.375	2.708
238.425	1.570
238.475	4.998
238.525	5.666
238.575	8.110
238.625	30.318
238.675	23.207
238.725	27.082
238.775	28.675
238.825	35.951
238.875	32.303
238.925	8.578
238.975	26.753
239.025	24.556
239.075	15.309
239.125	38.861
239.175	19.733
239.225	24.926
239.275	21.030
239.325	21.360
239.375	27.904
239.425	28.828
239.475	18.271

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SmartTune Wizard - Summary

Optimization Summary

SmartTune file: C:\NexIONData\Wizard\SmartTune\ESI SmartTune Fullmicrobac.swz

Start Time: 5/12/2016 10:50:28 AM

End Time: 5/12/2016 10:52:40 AM

Daily Performance Check - [Passed] Optimum value(s): N/A

Obtained Intensity (Be 9.0122): 7939.68

Obtained Intensity (Mg 23.985): 266616.79

Obtained Intensity (In 114.904): 91844.18

Obtained Intensity (U 238.05): 179540.00

Obtained Intensity (Bkgd 220): 0.13

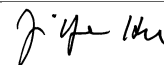
Obtained Formula (CeO 155.9 / Ce 139.905): 0.015 (=4432.65 / 290702.81)

Obtained Formula (Ce++ 69.9527 / Ce 139.905): 0.005 (=1489.01 / 290702.81)

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SmartTune Wizard - Details

Optimization Details

SmartTune file: C:\NexIONData\Wizard\SmartTune\ESI SmartTune Fullmicrobac.swz

Optimization Status

Start Time: 5/12/2016 10:50:28 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): 7939.68
Obtained Intensity (Mg 23.985): 266616.79
Obtained Intensity (In 114.904): 91844.18
Obtained Intensity (U 238.05): 179540.00
Obtained Intensity (Bkgd 220): 0.13
Obtained Formula (CeO 155.9 / Ce 139.905): 0.015 (=4432.65 / 290702.81)
Obtained Formula (Ce++ 69.9527 / Ce 139.905): 0.005 (=1489.01 / 290702.81)

[Passed] Optimum value(s): N/A

End Time: 5/12/2016 10:52:40 AM

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Method 6020 - Summary Report

Sample ID: Blank

Sample Date/Time: Thursday, May 12, 2016 11:00:40

Number of Replicates: 3

Autosampler Position: 1

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH 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	136076.9	2.3				ug/L		Standard
|	Be	9	3.3	173.2				ug/L		Standard
|	Al	27	405.0	4.9				ug/L		Standard
|	Sc	45	58159.8	1.0				ug/L		Standard
|	Ti	47	58.3	2.6				ug/L		Standard
|	V	51	2250.7	2.9				ug/L		Standard
|	Cr	52	10597.4	0.2				ug/L		Standard
|	Cr	53	575.0	1.5				ug/L		Standard
|	Mn	55	682.0	6.4				ug/L		Standard
|	Co	59	177.0	18.1				ug/L		Standard
|	Ni	60	44.3	18.1				ug/L		Standard
|	Cu	65	547.7	6.7				ug/L		Standard
|	Zn	66	365.3	3.6				ug/L		Standard
>	Ge	72	639847.3	2.9				ug/L		Standard
|	As	75	-101.6	28.6				ug/L		Standard
|	Se	82	23.8	9.0				ug/L		Standard
|	Se-1	77	86.0	5.3				ug/L		Standard
>	Ga	71	26.7	57.3				mg/L		Standard
|	Rb	85	36.7	28.4				ug/L		Standard
|	Y	89	521248.1	0.8				ug/L		Standard
>	Rh	103	10.0	50.0				ug/L		Standard
|	Mo	98	13.6	18.3				ug/L		Standard
|	Ag	107	95.7	9.7				ug/L		Standard
|	Cd	111	4.3	13.6				mg/L		Standard
|	Cd	114	18.8	36.4				ug/L		Standard
>	In	115	750743.5	0.4				ug/L		Standard
|	Sn	118	851.7	4.7				ug/L		Standard
|	Sb	123	163.3	12.4				ug/L		Standard
|	Ba	135	67.0	10.4				ug/L		Standard
|	Ce	140	80.0	33.1				ug/L		Standard
>	Tb	159	1241115.5	0.1				ug/L		Standard
|	Ho	165	15.0	100.0				ug/L		Standard
|	Tl	203	19.7	11.7				ug/L		Standard
|	Tl	205	13.3	57.3				ug/L		Standard
|	Pb	206	341.3	2.3				ug/L		Standard
|	Pb	207	283.3	1.9				ug/L		Standard
|	Pb	208	1061.7	2.3				ug/L		Standard
	U	238	18.3	130.7				ug/L		Standard
>	Bi	209	656078.4	0.6				ug/L		Standard

Sample ID: Blank

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Na	23	0.0		mg/L	Standard
Mg	24	30.0	33.3	mg/L	Standard
K	39	28.3	40.8	mg/L	Standard
Ca	43	21.7	13.3	mg/L	Standard
Fe	54	205.6	22.0	mg/L	Standard
Fe	57	118.3	31.7	mg/L	Standard
Sc-1	45	58159.8	1.0	mg/L	Standard
Cl	35	8970.7	1.4	ug/L	Standard
Kr	83	2.0	50.0	ug/L	Standard
Br	81	3140.3	2.6	ug/L	Standard
P	31	14572.0	3.5	ug/L	Standard
S	34	881.7	7.9	ug/L	Standard
Sr	88	60.0	8.3	ug/L	Standard
C	12	283.3	26.7	mg/L	Standard
N	14	0.0		mg/L	Standard
Hg	202	3.3	173.2	mg/L	Standard
Dy	164	12.9	44.9	mg/L	Standard
Ho-1	165	15.0	100.0	mg/L	Standard
Er	166	10.0		mg/L	Standard
I	127	5399.3	1.1	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			

Sample ID: Blank

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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: Blank

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Method 6020 - Summary Report

Sample ID: Standard 1

Sample Date/Time: Thursday, May 12, 2016 11:03:51

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	137874.7	2.1				ug/L	136077	Standard
|	Be	9	8.3	124.9				ug/L	3	Standard
|	Al	27	496.7	5.5				ug/L	405	Standard
|	Sc	45	57681.3	1.4				ug/L	58160	Standard
|	Ti	47	50.3	26.2				ug/L	58	Standard
|	V	51	2222.9	5.1				ug/L	2251	Standard
|	Cr	52	10506.6	0.3				ug/L	10597	Standard
|	Cr	53	521.7	13.8				ug/L	575	Standard
|	Mn	55	707.3	3.5				ug/L	682	Standard
|	Co	59	144.3	9.5				ug/L	177	Standard
|	Ni	60	39.0	30.2				ug/L	44	Standard
|	Cu	65	524.0	1.7				ug/L	548	Standard
|	Zn	66	414.0	10.1				ug/L	365	Standard
>	Ge	72	625059.1	2.9				ug/L	639847	Standard
|	As	75	-113.9	42.4				ug/L	-102	Standard
|	Se	82	28.1	22.7				ug/L	24	Standard
|	Se-1	77	81.3	11.2				ug/L	86	Standard
>	Ga	71	36.7	20.8				mg/L	27	Standard
|	Rb	85	36.7	34.3				ug/L	37	Standard
|	Y	89	525485.4	1.7				ug/L	521248	Standard
>	Rh	103	11.7	24.7				ug/L	10	Standard
|	Mo	98	7.4	7.4				ug/L	14	Standard
|	Ag	107	102.0	8.8				ug/L	96	Standard
|	Cd	111	7.3	15.8				mg/L	4	Standard
|	Cd	114	21.4	72.3				ug/L	19	Standard
>	In	115	764734.6	1.0				ug/L	750744	Standard
|	Sn	118	818.4	8.0				ug/L	852	Standard
|	Sb	123	79.4	15.1				ug/L	163	Standard
|	Ba	135	68.0	12.8				ug/L	67	Standard
|	Ce	140	75.0	24.0				ug/L	80	Standard
>	Tb	159	1249177.7	0.1				ug/L	1241116	Standard
|	Ho	165	5.0	100.0				ug/L	15	Standard
|	Tl	203	22.3	23.0				ug/L	20	Standard
|	Tl	205	11.7	24.7				ug/L	13	Standard
|	Pb	206	321.7	5.3				ug/L	341	Standard
|	Pb	207	271.7	3.3				ug/L	283	Standard
	Pb	208	1033.3	1.3				ug/L	1062	Standard
	U	238	6.0	44.1				ug/L	18	Standard
>	Bi	209	654348.7	0.6				ug/L	656078	Standard

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Na	23	0.0		mg/L	0	Standard
Mg	24	40.0	12.5	mg/L	30	Standard
K	39	36.7	15.7	mg/L	28	Standard
Ca	43	33.3	70.9	mg/L	22	Standard
Fe	54	210.5	11.6	mg/L	206	Standard
Fe	57	131.7	11.6	mg/L	118	Standard
Sc-1	45	57681.3	1.4	mg/L	58160	Standard
Cl	35	9188.8	0.9	ug/L	8971	Standard
Kr	83	1.3	114.6	ug/L	2	Standard
Br	81	3213.7	2.7	ug/L	3140	Standard
P	31	15422.8	1.7	ug/L	14572	Standard
S	34	820.0	4.9	ug/L	882	Standard
Sr	88	45.0	40.1	ug/L	60	Standard
C	12	263.3	28.5	mg/L	283	Standard
N	14	0.0		mg/L	0	Standard
Hg	202	0.0		mg/L	3	Standard
Dy	164	15.9	95.7	mg/L	13	Standard
Ho-1	165	5.0	100.0	mg/L	15	Standard
Er	166	16.7	91.7	mg/L	10	Standard
I	127	5302.6	1.1	mg/L	5399	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 12, 2016 11:07:02

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	134275.7	0.9				ug/L	136077	Standard
|	Be	9	85.0	5.9				ug/L	3	Standard
|	Al	27	12348.4	1.7				ug/L	405	Standard
|	Sc	45	58298.6	1.1				ug/L	58160	Standard
|	Ti	47	100.0	5.3				ug/L	58	Standard
|	V	51	2701.8	3.8				ug/L	2251	Standard
|	Cr	52	10905.9	2.0				ug/L	10597	Standard
|	Cr	53	636.7	15.4				ug/L	575	Standard
|	Mn	55	1259.4	3.3				ug/L	682	Standard
|	Co	59	705.3	2.6				ug/L	177	Standard
|	Ni	60	184.7	13.0				ug/L	44	Standard
|	Cu	65	545.0	7.2				ug/L	548	Standard
|	Zn	66	534.0	8.3				ug/L	365	Standard
>	Ge	72	604123.1	1.3				ug/L	639847	Standard
|	As	75	-31.3	109.0				ug/L	-102	Standard
|	Se	82	34.0	25.2				ug/L	24	Standard
|	Se-1	77	85.0	4.2				ug/L	86	Standard
>	Ga	71	21.7	70.5				mg/L	27	Standard
|	Rb	85	23.3	32.7				ug/L	37	Standard
|	Y	89	545244.5	3.8				ug/L	521248	Standard
>	Rh	103	6.7	43.3				ug/L	10	Standard
|	Mo	98	386.6	4.0				ug/L	14	Standard
|	Ag	107	597.7	2.7				ug/L	96	Standard
|	Cd	111	165.3	8.4				mg/L	4	Standard
|	Cd	114	361.2	11.6				ug/L	19	Standard
>	In	115	765233.2	2.0				ug/L	750744	Standard
|	Sn	118	1198.4	8.8				ug/L	852	Standard
|	Sb	123	373.2	5.5				ug/L	163	Standard
|	Ba	135	231.0	13.3				ug/L	67	Standard
|	Ce	140	51.7	58.3				ug/L	80	Standard
>	Tb	159	1213421.2	1.0				ug/L	1241116	Standard
|	Ho	165	3.3	86.6				ug/L	15	Standard
|	Tl	203	598.0	5.7				ug/L	20	Standard
|	Tl	205	526.7	4.0				ug/L	13	Standard
|	Pb	206	1982.8	1.3				ug/L	341	Standard
|	Pb	207	1770.8	0.9				ug/L	283	Standard
|	Pb	208	6772.9	1.0				ug/L	1062	Standard
	U	238	504.3	6.7				ug/L	18	Standard
>	Bi	209	626958.2	1.8				ug/L	656078	Standard

Sample ID: Standard 2

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Na	23	3.3	86.6	mg/L	0	Standard
Mg	24	51.7	11.2	mg/L	30	Standard
K	39	21.7	26.6	mg/L	28	Standard
Ca	43	31.7	63.8	mg/L	22	Standard
Fe	54	169.2	23.2	mg/L	206	Standard
Fe	57	133.3	13.2	mg/L	118	Standard
Sc-1	45	58298.6	1.1	mg/L	58160	Standard
Cl	35	9366.9	4.1	ug/L	8971	Standard
Kr	83	1.7	34.6	ug/L	2	Standard
Br	81	3323.7	13.5	ug/L	3140	Standard
P	31	15142.6	2.7	ug/L	14572	Standard
S	34	810.0	11.5	ug/L	882	Standard
Sr	88	50.0	20.0	ug/L	60	Standard
C	12	323.3	17.0	mg/L	283	Standard
N	14	0.0		mg/L	0	Standard
Hg	202	3.3	173.2	mg/L	3	Standard
Dy	164	12.9	45.1	mg/L	13	Standard
Ho-1	165	3.3	86.6	mg/L	15	Standard
Er	166	10.0	100.0	mg/L	10	Standard
I	127	4519.0	4.9	mg/L	5399	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 2

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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

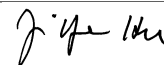
Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: Standard 2

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Method 6020 - Summary Report

Sample ID: Standard 3

Sample Date/Time: Thursday, May 12, 2016 11:10:14

Number of Replicates: 3

Autosampler Position: 3

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH 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	129128.0	1.1				ug/L	136077	Standard
|	Be	9	77826.2	3.1	50.0000	1.332	2.7	ug/L	3	Standard
|	Al	27	10724696.5	1.6	50.0000	0.894	1.8	ug/L	405	Standard
|	Sc	45	57156.0	2.9				ug/L	58160	Standard
|	Ti	47	43992.4	0.2	100.0000	1.162	1.2	ug/L	58	Standard
|	V	51	517529.4	0.7	50.0000	0.312	0.6	ug/L	2251	Standard
|	Cr	52	482416.7	1.3	50.0000	0.416	0.8	ug/L	10597	Standard
|	Cr	53	60453.7	1.3	50.0000	1.097	2.2	ug/L	575	Standard
|	Mn	55	495129.3	1.6	50.0000	1.226	2.5	ug/L	682	Standard
|	Co	59	518245.1	0.9	50.0000	0.873	1.7	ug/L	177	Standard
|	Ni	60	127497.2	0.2	50.0000	0.404	0.8	ug/L	44	Standard
|	Cu	65	127722.8	0.9	50.0000	0.923	1.8	ug/L	548	Standard
|	Zn	66	71372.7	0.6	50.0000	0.514	1.0	ug/L	365	Standard
>	Ge	72	624486.6	0.9				ug/L	639847	Standard
|	As	75	75346.1	1.1	50.0000	0.926	1.9	ug/L	-102	Standard
|	Se	82	7770.3	2.3	50.0000	1.445	2.9	ug/L	24	Standard
|	Se-1	77	5121.5	1.1	50.0000	0.076	0.2	ug/L	86	Standard
>	Ga	71	40.0	75.0				mg/L	27	Standard
|	Rb	85	1168.4	11.7				ug/L	37	Standard
|	Y	89	523576.9	4.0				ug/L	521248	Standard
>	Rh	103	40.0					ug/L	10	Standard
|	Mo	98	377543.9	0.9	100.0000	1.835	1.8	ug/L	14	Standard
|	Ag	107	469129.2	1.1	50.0000	0.658	1.3	ug/L	96	Standard
|	Cd	111	143679.5	1.1	50.0000	0.475	1.0	mg/L	4	Standard
|	Cd	114	349106.6	0.6	50.0000	0.966	1.9	ug/L	19	Standard
>	In	115	729232.8	1.8				ug/L	750744	Standard
|	Sn	118	387184.6	2.2	50.0000	0.532	1.1	ug/L	852	Standard
|	Sb	123	302372.2	1.0	50.0000	0.450	0.9	ug/L	163	Standard
|	Ba	135	142179.3	0.4	50.0000	0.738	1.5	ug/L	67	Standard
|	Ce	140	126.7	23.1				ug/L	80	Standard
>	Tb	159	1180994.6	0.6				ug/L	1241116	Standard
|	Ho	165	13.3	43.3				ug/L	15	Standard
|	Tl	203	549852.8	0.5	50.0000	0.816	1.6	ug/L	20	Standard
|	Tl	205	482658.3	1.5	50.0000	1.341	2.7	ug/L	13	Standard
|	Pb	206	354638.0	0.3	50.0000	0.501	1.0	ug/L	341	Standard
|	Pb	207	318923.0	0.8	50.0000	0.279	0.6	ug/L	283	Standard
|	Pb	208	1188789.8	1.2	50.0000	1.228	2.5	ug/L	1062	Standard
	U	238	435877.5	0.5	50.0000	0.864	1.7	ug/L	18	Standard
>	Bi	209	621446.6	1.2				ug/L	656078	Standard

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Na	23	0.0		5.0000	0.000	0.0	mg/L	0	Standard
Mg	24	5105.9	6.2	5.0000	0.168	3.4	mg/L	30	Standard
K	39	1900.1	6.2	5.0000	0.382	7.6	mg/L	28	Standard
Ca	43	125.0	8.0	5.0000	0.535	10.7	mg/L	22	Standard
Fe	54	8022.1	2.5	5.0000	0.228	4.6	mg/L	206	Standard
Fe	57	2093.5	1.6	5.0000	0.202	4.0	mg/L	118	Standard
Sc-1	45	57156.0	2.9				mg/L	58160	Standard
Cl	35	9835.9	0.8				ug/L	8971	Standard
Kr	83	2.3	65.5				ug/L	2	Standard
Br	81	3240.3	0.8				ug/L	3140	Standard
P	31	17359.9	3.0				ug/L	14572	Standard
S	34	1201.7	11.5				ug/L	882	Standard
Sr	88	58.3	26.2				ug/L	60	Standard
C	12	310.0	28.1				mg/L	283	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	12.7	114.6				mg/L	13	Standard
Ho-1	165	13.3	43.3				mg/L	15	Standard
Er	166	13.3	114.6				mg/L	10	Standard
I	127	3480.4	1.9				mg/L	5399	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 4

Sample Date/Time: Thursday, May 12, 2016 11:13:25

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	128316.1	1.1				ug/L	136077	Standard
|	Be	9	157034.6	0.3	100.7644	1.010	1.0	ug/L	3	Standard
|	Al	27	21836835.7	0.8	101.2156	1.771	1.8	ug/L	405	Standard
|	Sc	45	57580.9	1.7				ug/L	58160	Standard
|	Ti	47	87716.2	1.5	199.8589	8.961	4.5	ug/L	58	Standard
|	V	51	1041726.9	3.1	100.4378	0.387	0.4	ug/L	2251	Standard
|	Cr	52	972828.3	0.6	101.0246	3.110	3.1	ug/L	10597	Standard
|	Cr	53	121196.4	2.9	100.3844	2.823	2.8	ug/L	575	Standard
|	Mn	55	978266.0	0.5	99.4659	3.406	3.4	ug/L	682	Standard
|	Co	59	1004727.3	1.1	98.4765	1.958	2.0	ug/L	177	Standard
|	Ni	60	257259.7	0.7	100.4873	2.823	2.8	ug/L	44	Standard
|	Cu	65	257039.0	0.7	100.4226	2.391	2.4	ug/L	548	Standard
|	Zn	66	143966.9	2.0	100.6122	1.166	1.2	ug/L	365	Standard
>	Ge	72	624396.6	3.1				ug/L	639847	Standard
|	As	75	150143.5	2.1	99.7939	0.975	1.0	ug/L	-102	Standard
|	Se	82	15180.4	0.8	98.9389	2.330	2.4	ug/L	24	Standard
|	Se-1	77	10004.6	3.1	99.2342	1.573	1.6	ug/L	86	Standard
>	Ga	71	61.7	32.8				mg/L	27	Standard
|	Rb	85	2105.1	6.0				ug/L	37	Standard
|	Y	89	509762.5	1.1				ug/L	521248	Standard
>	Rh	103	61.7	24.8				ug/L	10	Standard
|	Mo	98	743150.5	2.9	197.7699	11.205	5.7	ug/L	14	Standard
|	Ag	107	942875.6	1.0	99.9002	1.854	1.9	ug/L	96	Standard
|	Cd	111	283733.1	0.7	99.0212	2.091	2.1	mg/L	4	Standard
|	Cd	114	698068.9	1.1	99.6507	3.667	3.7	ug/L	19	Standard
>	In	115	734520.3	2.8				ug/L	750744	Standard
|	Sn	118	792584.4	1.4	100.8799	3.396	3.4	ug/L	852	Standard
|	Sb	123	614701.4	1.0	100.4768	2.632	2.6	ug/L	163	Standard
|	Ba	135	289114.5	0.9	100.4902	1.890	1.9	ug/L	67	Standard
|	Ce	140	218.3	3.5				ug/L	80	Standard
>	Tb	159	1209738.7	1.1				ug/L	1241116	Standard
|	Ho	165	13.3	78.1				ug/L	15	Standard
|	Tl	203	1131403.0	0.4	100.0848	1.233	1.2	ug/L	20	Standard
|	Tl	205	975618.7	0.8	99.1926	1.693	1.7	ug/L	13	Standard
|	Pb	206	711570.9	1.1	98.9394	1.845	1.9	ug/L	341	Standard
|	Pb	207	645298.3	1.4	99.3643	2.514	2.5	ug/L	283	Standard
|	Pb	208	2365579.9	0.2	98.5192	1.157	1.2	ug/L	1062	Standard
	U	238	875949.5	0.2	98.9074	1.540	1.6	ug/L	18	Standard
>	Bi	209	638286.4	1.4				ug/L	656078	Standard

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Na	23	3.3	173.2	-0.2039	17.855	8758.2	mg/L	0	Standard
Mg	24	10393.6	2.7	10.0790	0.401	4.0	mg/L	30	Standard
K	39	3895.5	1.0	10.1089	0.157	1.6	mg/L	28	Standard
Ca	43	226.7	3.4	10.1570	0.593	5.8	mg/L	22	Standard
Fe	54	15962.7	2.3	9.9852	0.394	3.9	mg/L	206	Standard
Fe	57	4253.9	5.5	10.2039	0.708	6.9	mg/L	118	Standard
Sc-1	45	57580.9	1.7				mg/L	58160	Standard
Cl	35	9715.1	1.7				ug/L	8971	Standard
Kr	83	3.3	62.4				ug/L	2	Standard
Br	81	3160.3	6.8				ug/L	3140	Standard
P	31	18282.7	3.9				ug/L	14572	Standard
S	34	1115.0	9.3				ug/L	882	Standard
Sr	88	50.0	50.0				ug/L	60	Standard
C	12	276.7	19.9				mg/L	283	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	3	Standard
Dy	164	32.9	69.0				mg/L	13	Standard
Ho-1	165	13.3	78.1				mg/L	15	Standard
Er	166	10.0	100.0				mg/L	10	Standard
I	127	6884.9	1.3				mg/L	5399	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 4

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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

Sample ID: Standard 4

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Method 6020 - Summary Report

Sample ID: QC Std 1

Sample Date/Time: Thursday, May 12, 2016 11:16:39

Number of Replicates: 3

Autosampler Position: 201

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH 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	125953.1	1.9				ug/L	136077	Standard
|	Be	9	73698.8	1.5	48.1794	0.784	1.6	ug/L	3	Standard
|	Al	27	10723028.1	2.7	50.6214	0.535	1.1	ug/L	405	Standard
|	Sc	45	56970.2	0.4				ug/L	58160	Standard
|	Ti	47	45636.3	0.7	104.4916	0.767	0.7	ug/L	58	Standard
|	V	51	519910.4	0.6	50.3413	0.454	0.9	ug/L	2251	Standard
|	Cr	52	476780.6	0.7	49.2250	0.221	0.4	ug/L	10597	Standard
|	Cr	53	57211.1	0.9	47.4157	0.325	0.7	ug/L	575	Standard
|	Mn	55	484655.3	1.1	49.5212	0.772	1.6	ug/L	682	Standard
|	Co	59	499735.6	2.0	49.2690	1.215	2.5	ug/L	177	Standard
|	Ni	60	124400.3	1.0	48.8644	0.507	1.0	ug/L	44	Standard
|	Cu	65	126146.3	0.7	49.4906	0.175	0.4	ug/L	548	Standard
|	Zn	66	71591.7	0.5	50.1748	0.232	0.5	ug/L	365	Standard
>	Ge	72	620408.3	0.5				ug/L	639847	Standard
|	As	75	75178.7	0.3	50.3161	0.385	0.8	ug/L	-102	Standard
|	Se	82	7654.8	1.8	50.1011	1.034	2.1	ug/L	24	Standard
|	Se-1	77	5076.5	2.5	50.2638	1.028	2.0	ug/L	86	Standard
>	Ga	71	88.3	25.5				mg/L	27	Standard
|	Rb	85	853.4	9.3				ug/L	37	Standard
|	Y	89	510953.3	1.2				ug/L	521248	Standard
>	Rh	103	60.0	22.0				ug/L	10	Standard
|	Mo	98	396887.1	1.1	106.9256	2.454	2.3	ug/L	14	Standard
|	Ag	107	467010.4	0.9	50.1142	0.229	0.5	ug/L	96	Standard
|	Cd	111	139084.7	1.5	49.1588	0.217	0.4	mg/L	4	Standard
|	Cd	114	338375.0	1.0	48.9109	0.183	0.4	ug/L	19	Standard
>	In	115	724939.7	1.3				ug/L	750744	Standard
|	Sn	118	433407.5	1.7	55.8306	1.552	2.8	ug/L	852	Standard
|	Sb	123	287192.2	0.1	47.5434	0.651	1.4	ug/L	163	Standard
|	Ba	135	138988.6	0.9	48.9195	0.345	0.7	ug/L	67	Standard
|	Ce	140	221.7	10.2				ug/L	80	Standard
>	Tb	159	1202779.2	1.0				ug/L	1241116	Standard
|	Ho	165	18.3	15.7				ug/L	15	Standard
|	Tl	203	552021.9	1.1	49.2610	0.199	0.4	ug/L	20	Standard
|	Tl	205	477756.5	1.5	49.0041	1.030	2.1	ug/L	13	Standard
|	Pb	206	358627.3	0.4	50.1915	0.262	0.5	ug/L	341	Standard
|	Pb	207	313795.5	0.3	48.6262	0.370	0.8	ug/L	283	Standard
|	Pb	208	1169948.9	1.0	49.0413	0.920	1.9	ug/L	1062	Standard
	U	238	427196.0	0.4	48.6601	0.575	1.2	ug/L	18	Standard
>	Bi	209	632630.5	0.9				ug/L	656078	Standard

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Na	23	0.0		10.1045	0.000	0.0	mg/L	0	Standard
Mg	24	5114.2	7.1	4.9876	0.346	6.9	mg/L	30	Standard
K	39	1976.8	8.3	5.1593	0.435	8.4	mg/L	28	Standard
Ca	43	146.7	21.7	6.0770	1.663	27.4	mg/L	22	Standard
Fe	54	7952.9	5.3	4.9758	0.265	5.3	mg/L	206	Standard
Fe	57	2118.5	7.6	4.9743	0.408	8.2	mg/L	118	Standard
Sc-1	45	56970.2	0.4				mg/L	58160	Standard
Cl	35	9159.4	3.0				ug/L	8971	Standard
Kr	83	1.0	100.0				ug/L	2	Standard
Br	81	2980.3	6.4				ug/L	3140	Standard
P	31	17395.0	1.5				ug/L	14572	Standard
S	34	1150.0	2.3				ug/L	882	Standard
Sr	88	51.7	31.1				ug/L	60	Standard
C	12	280.0	6.2				mg/L	283	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	6.7	86.6				mg/L	3	Standard
Dy	164	22.4	51.7				mg/L	13	Standard
Ho-1	165	18.3	15.7				mg/L	15	Standard
Er	166	20.0	50.0				mg/L	10	Standard
I	127	4172.2	3.3				mg/L	5399	Standard

QC Calculated Values


Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	96.359		
Al	27	101.243		
Sc	45			
Ti	47	104.492		
V	51	100.683		
Cr	52	98.450		
Cr	53			
Mn	55	99.042		
Co	59	98.538		
Ni	60	97.729		
Cu	65	98.981		
Zn	66	100.350		
Ge	72		96.962	
As	75	100.632		
Se	82	100.202		
Se-1	77			
Ga	71			

Sample ID: QC Std 1

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[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	106.926	
[Ag	107	100.228	
[Cd	111	98.318	
[Cd	114		
>	In	115		96.563
[Sn	118	111.661	
[	Sb	123	95.087	
[	Ba	135	97.839	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	98.522	
[	Tl	205		
[	Pb	206	100.383	
[	Pb	207	97.252	
[	Pb	208	98.083	
[	U	238	97.320	
>	Bi	209		96.426
[	Na	23	202.090	
[	Mg	24	99.753	
[	K	39	103.186	
[	Ca	43	121.539	
[	Fe	54	99.516	
[	Fe	57	99.486	
>	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

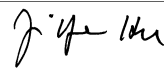
Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 1	Na	23	
QC Std 1	Ca	43	

Sample ID: QC Std 1

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Method 6020 - Summary Report

Sample ID: QC Std 2

Sample Date/Time: Thursday, May 12, 2016 11:19:52

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	125314.2	6.5				ug/L	136077	Standard
|	Be	9	83.3	106.0	0.0530	0.059	111.9	ug/L	3	Standard
|	Al	27	11793.0	105.3	0.0516	0.060	116.8	ug/L	405	Standard
|	Sc	45	55836.3	5.8				ug/L	58160	Standard
|	Ti	47	92.3	41.6	0.0834	0.095	113.9	ug/L	58	Standard
|	V	51	2069.3	6.5	-0.0126	0.014	110.4	ug/L	2251	Standard
|	Cr	52	8668.2	10.9	-0.1909	0.088	46.2	ug/L	10597	Standard
|	Cr	53	435.0	20.3	-0.1227	0.067	54.8	ug/L	575	Standard
|	Mn	55	931.4	18.9	0.0157	0.018	115.7	ug/L	682	Standard
|	Co	59	441.0	29.9	0.0234	0.014	59.4	ug/L	177	Standard
|	Ni	60	155.3	59.0	0.0385	0.038	99.4	ug/L	44	Standard
|	Cu	65	517.0	21.0	0.0394	0.044	112.3	ug/L	548	Standard
|	Zn	66	422.0	19.6	-0.0299	0.065	217.3	ug/L	365	Standard
>	Ge	72	602340.4	2.7				ug/L	639847	Standard
|	As	75	-7.7	841.3	0.0665	0.045	68.1	ug/L	-102	Standard
|	Se	82	35.1	2.8	0.0585	0.012	21.3	ug/L	24	Standard
|	Se-1	77	81.7	9.2	0.0178	0.077	431.4	ug/L	86	Standard
>	Ga	71	16.7	45.8				mg/L	27	Standard
|	Rb	85	18.3	15.7				ug/L	37	Standard
|	Y	89	519068.9	2.7				ug/L	521248	Standard
>	Rh	103	10.0	100.0				ug/L	10	Standard
|	Mo	98	309.2	43.5	0.0818	0.034	41.1	ug/L	14	Standard
|	Ag	107	400.0	40.8	0.0310	0.017	55.8	ug/L	96	Standard
|	Cd	111	107.4	66.0	0.0316	0.025	78.6	mg/L	4	Standard
|	Cd	114	231.1	54.8	0.0330	0.018	54.2	ug/L	19	Standard
>	In	115	745876.0	3.6				ug/L	750744	Standard
|	Sn	118	1200.1	30.3	0.0535	0.042	79.1	ug/L	852	Standard
|	Sb	123	1180.6	79.1	0.1782	0.143	80.1	ug/L	163	Standard
|	Ba	135	148.7	40.1	0.0239	0.021	86.7	ug/L	67	Standard
|	Ce	140	46.7	83.2				ug/L	80	Standard
>	Tb	159	1187295.1	3.1				ug/L	1241116	Standard
|	Ho	165	3.3	86.6				ug/L	15	Standard
|	Tl	203	411.3	50.5	0.0334	0.019	57.3	ug/L	20	Standard
|	Tl	205	541.7	91.6	0.0525	0.053	101.8	ug/L	13	Standard
|	Pb	206	585.0	21.2	-0.1477	0.018	12.3	ug/L	341	Standard
|	Pb	207	502.7	20.6	-0.1486	0.017	11.5	ug/L	283	Standard
|	Pb	208	2164.4	39.1	-0.1448	0.038	26.3	ug/L	1062	Standard
	U	238	428.3	98.2	0.0422	0.050	119.1	ug/L	18	Standard
>	Bi	209	622463.3	3.4				ug/L	656078	Standard

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Na	23	0.0		10.1045	0.000	0.0	mg/L	0	Standard
Mg	24	51.7	14.8	0.0076	0.010	135.6	mg/L	30	Standard
K	39	35.0	49.5	0.0440	0.049	111.8	mg/L	28	Standard
Ca	43	30.0	16.7	-0.0183	0.203	1111.3	mg/L	22	Standard
Fe	54	167.5	33.4	0.0073	0.030	403.8	mg/L	206	Standard
Fe	57	116.7	10.8	-0.0232	0.020	84.9	mg/L	118	Standard
Sc-1	45	55836.3	5.8				mg/L	58160	Standard
Cl	35	9082.1	4.2				ug/L	8971	Standard
Kr	83	1.0	100.0				ug/L	2	Standard
Br	81	3133.7	6.8				ug/L	3140	Standard
P	31	12914.1	25.1				ug/L	14572	Standard
S	34	1040.0	7.9				ug/L	882	Standard
Sr	88	48.3	15.8				ug/L	60	Standard
C	12	216.7	28.2				mg/L	283	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	8.7	111.9				mg/L	13	Standard
Ho-1	165	3.3	86.6				mg/L	15	Standard
Er	166	26.7	21.7				mg/L	10	Standard
I	127	13731.2	63.7				mg/L	5399	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		94.138	
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	99.352
[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	94.876
[	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 2	Na	23	

Sample ID: QC Std 2

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Method 6020 - Summary Report

Sample ID: QC Std 3

Sample Date/Time: Thursday, May 12, 2016 11:23:04

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	121223.6	4.4				ug/L	136077	Standard
|	Be	9	231.7	6.6	0.1556	0.016	10.2	ug/L	3	Standard
|	Al	27	1553.4	48.3	0.0029	0.003	117.3	ug/L	405	Standard
|	Sc	45	55703.9	1.4				ug/L	58160	Standard
|	Ti	47	54.7	21.7	-0.0092	0.027	299.3	ug/L	58	Standard
|	V	51	5843.9	0.7	0.3532	0.003	0.9	ug/L	2251	Standard
|	Cr	52	16276.1	0.8	0.6003	0.009	1.6	ug/L	10597	Standard
|	Cr	53	1350.1	0.7	0.6433	0.023	3.6	ug/L	575	Standard
|	Mn	55	5297.9	2.9	0.4643	0.013	2.8	ug/L	682	Standard
|	Co	59	4045.9	3.6	0.3809	0.012	3.1	ug/L	177	Standard
|	Ni	60	3852.5	3.2	1.5018	0.033	2.2	ug/L	44	Standard
|	Cu	65	2315.2	1.9	0.7488	0.007	0.9	ug/L	548	Standard
|	Zn	66	9146.1	1.2	6.1699	0.009	0.1	ug/L	365	Standard
>	Ge	72	615270.8	1.3				ug/L	639847	Standard
|	As	75	485.4	10.7	0.3985	0.031	7.8	ug/L	-102	Standard
|	Se	82	82.5	5.9	0.3671	0.026	7.1	ug/L	24	Standard
|	Se-1	77	120.0	6.7	0.3894	0.090	23.0	ug/L	86	Standard
>	Ga	71	11.7	65.5				mg/L	27	Standard
|	Rb	85	20.0	75.0				ug/L	37	Standard
|	Y	89	504829.0	2.5				ug/L	521248	Standard
>	Rh	103	3.3	86.6				ug/L	10	Standard
|	Mo	98	95.0	15.0	0.0273	0.004	14.4	ug/L	14	Standard
|	Ag	107	3699.5	1.4	0.3917	0.002	0.6	ug/L	96	Standard
|	Cd	111	685.8	4.2	0.2405	0.013	5.4	mg/L	4	Standard
|	Cd	114	1639.6	8.2	0.2409	0.022	9.0	ug/L	19	Standard
>	In	115	715266.6	1.4				ug/L	750744	Standard
|	Sn	118	886.7	7.4	0.0196	0.008	43.0	ug/L	852	Standard
|	Sb	123	2669.1	6.6	0.4394	0.032	7.3	ug/L	163	Standard
|	Ba	135	2066.5	1.2	0.7108	0.019	2.7	ug/L	67	Standard
|	Ce	140	20.0	90.1				ug/L	80	Standard
>	Tb	159	1172685.9	1.6				ug/L	1241116	Standard
|	Ho	165	11.7	65.5				ug/L	15	Standard
|	Tl	203	929.4	6.3	0.0797	0.005	6.3	ug/L	20	Standard
|	Tl	205	755.0	3.5	0.0735	0.002	3.3	ug/L	13	Standard
|	Pb	206	1757.4	5.2	0.0175	0.012	66.3	ug/L	341	Standard
|	Pb	207	1495.7	1.4	0.0064	0.002	30.5	ug/L	283	Standard
|	Pb	208	5689.1	2.8	0.0035	0.006	166.6	ug/L	1062	Standard
	U	238	3292.0	4.7	0.3698	0.016	4.3	ug/L	18	Standard
>	Bi	209	627984.7	0.6				ug/L	656078	Standard

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Na	23	0.0		10.1045	0.000	0.0	mg/L	0	Standard
Mg	24	40.0	21.7	-0.0045	0.008	183.7	mg/L	30	Standard
K	39	30.0	44.1	0.0302	0.036	120.5	mg/L	28	Standard
Ca	43	18.3	31.5	-0.6334	0.326	51.5	mg/L	22	Standard
Fe	54	146.8	5.5	-0.0048	0.006	115.2	mg/L	206	Standard
Fe	57	140.0	6.2	0.0374	0.020	54.0	mg/L	118	Standard
Sc-1	45	55703.9	1.4				mg/L	58160	Standard
Cl	35	8816.6	2.3				ug/L	8971	Standard
Kr	83	1.3	114.6				ug/L	2	Standard
Br	81	2863.6	6.7				ug/L	3140	Standard
P	31	11292.5	3.0				ug/L	14572	Standard
S	34	985.0	6.6				ug/L	882	Standard
Sr	88	45.0	48.4				ug/L	60	Standard
C	12	200.0	32.8				mg/L	283	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	3	Standard
Dy	164	21.6	50.4				mg/L	13	Standard
Ho-1	165	11.7	65.5				mg/L	15	Standard
Er	166	36.7	56.8				mg/L	10	Standard
I	127	3988.9	5.3				mg/L	5399	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	77.815		
Al	27	0.285		
Sc	45			
Ti	47			
V	51	88.292		
Cr	52	75.042		
Cr	53			
Mn	55	92.861		
Co	59	95.221		
Ni	60	93.865		
Cu	65	93.596		
Zn	66	98.718		
Ge	72		96.159	
As	75	99.631		
Se	82	91.777		
Se-1	77			
Ga	71			

Sample ID: QC Std 3

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[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98		
[Ag	107	97.916	
[Cd	111	100.202	
[Cd	114		
>	In	115		95.274
[Sn	118		
[Sb	123	109.861	
[	Ba	135	94.768	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	99.585	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	1.750	
[	U	238	92.439	
>	Bi	209		95.718
[	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

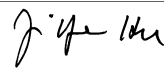
Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 3	Al	27	
QC Std 3	Pb	208	

Sample ID: QC Std 3

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Method 6020 - Summary Report

Sample ID: Blank

Sample Date/Time: Thursday, May 12, 2016 11:32:18

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	132520.8	3.5				ug/L		Standard
|	Be	9	18.3	128.9				ug/L		Standard
|	Al	27	1493.5	112.6				ug/L		Standard
|	Sc	45	58452.5	0.9				ug/L		Standard
|	Ti	47	46.0	4.3				ug/L		Standard
|	V	51	2029.5	1.6				ug/L		Standard
|	Cr	52	9770.1	1.3				ug/L		Standard
|	Cr	53	498.3	12.6				ug/L		Standard
|	Mn	55	721.4	2.8				ug/L		Standard
|	Co	59	166.7	3.9				ug/L		Standard
|	Ni	60	49.0	39.1				ug/L		Standard
|	Cu	65	418.3	9.4				ug/L		Standard
|	Zn	66	282.3	9.2				ug/L		Standard
>	Ge	72	632144.1	1.6				ug/L		Standard
|	As	75	-105.4	28.5				ug/L		Standard
|	Se	82	25.9	3.7				ug/L		Standard
|	Se-1	77	74.7	2.8				ug/L		Standard
>	Ga	71	26.7	28.6				mg/L		Standard
|	Rb	85	15.0	88.2				ug/L		Standard
|	Y	89	538177.4	1.4				ug/L		Standard
>	Rh	103	1.7	173.2				ug/L		Standard
|	Mo	98	50.2	22.5				ug/L		Standard
|	Ag	107	109.7	2.3				ug/L		Standard
|	Cd	111	4.2	35.6				mg/L		Standard
|	Cd	114	24.6	44.1				ug/L		Standard
>	In	115	768401.6	2.0				ug/L		Standard
|	Sn	118	948.4	3.8				ug/L		Standard
|	Sb	123	228.9	34.0				ug/L		Standard
|	Ba	135	57.3	7.3				ug/L		Standard
|	Ce	140	20.0	50.0				ug/L		Standard
>	Tb	159	1214723.1	2.8				ug/L		Standard
|	Ho	165	10.0	86.6				ug/L		Standard
|	Tl	203	29.3	23.9				ug/L		Standard
|	Tl	205	61.7	113.6				ug/L		Standard
|	Pb	206	322.0	4.6				ug/L		Standard
|	Pb	207	278.0	9.9				ug/L		Standard
	Pb	208	1167.0	12.8				ug/L		Standard
	U	238	52.7	130.5				ug/L		Standard
>	Bi	209	650932.9	1.2				ug/L		Standard

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Na	23	1.7	173.2	mg/L	Standard
Mg	24	38.3	15.1	mg/L	Standard
K	39	21.7	13.3	mg/L	Standard
Ca	43	26.7	39.0	mg/L	Standard
Fe	54	177.3	10.7	mg/L	Standard
Fe	57	126.7	30.7	mg/L	Standard
Sc-1	45	58452.5	0.9	mg/L	Standard
Cl	35	9755.8	3.0	ug/L	Standard
Kr	83	2.0	100.0	ug/L	Standard
Br	81	3130.3	10.9	ug/L	Standard
P	31	16620.8	6.1	ug/L	Standard
S	34	883.4	3.8	ug/L	Standard
Sr	88	38.3	27.2	ug/L	Standard
C	12	333.3	15.1	mg/L	Standard
N	14	0.0		mg/L	Standard
Hg	202	0.0		mg/L	Standard
Dy	164	12.7	43.5	mg/L	Standard
Ho-1	165	10.0	86.6	mg/L	Standard
Er	166	13.3	86.6	mg/L	Standard
I	127	3532.1	6.7	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

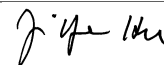
Measurement Type	Analyte	Mass	Out of Limits Message
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Method 6020 - Summary Report

Sample ID: Standard 1

Sample Date/Time: Thursday, May 12, 2016 11:35:30

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	133474.2	3.6				ug/L	132521	Standard
|	Be	9	5.0	100.0				ug/L	18	Standard
|	Al	27	468.3	5.9				ug/L	1493	Standard
|	Sc	45	60191.0	2.6				ug/L	58453	Standard
|	Ti	47	48.7	8.3				ug/L	46	Standard
|	V	51	2087.0	2.4				ug/L	2030	Standard
|	Cr	52	10079.4	1.1				ug/L	9770	Standard
|	Cr	53	476.7	9.0				ug/L	498	Standard
|	Mn	55	707.3	4.3				ug/L	721	Standard
|	Co	59	160.0	9.7				ug/L	167	Standard
|	Ni	60	44.7	18.6				ug/L	49	Standard
|	Cu	65	402.0	8.3				ug/L	418	Standard
|	Zn	66	282.3	3.8				ug/L	282	Standard
>	Ge	72	628331.0	2.0				ug/L	632144	Standard
|	As	75	-100.1	14.4				ug/L	-105	Standard
|	Se	82	28.5	12.6				ug/L	26	Standard
|	Se-1	77	79.7	15.5				ug/L	75	Standard
>	Ga	71	16.7	45.8				mg/L	27	Standard
|	Rb	85	13.3	43.3				ug/L	15	Standard
|	Y	89	540481.6	1.9				ug/L	538177	Standard
>	Rh	103	5.0	100.0				ug/L	2	Standard
|	Mo	98	34.4	17.6				ug/L	50	Standard
|	Ag	107	103.7	3.7				ug/L	110	Standard
|	Cd	111	3.0	34.0				mg/L	4	Standard
|	Cd	114	22.2	56.9				ug/L	25	Standard
>	In	115	774747.0	2.1				ug/L	768402	Standard
|	Sn	118	913.4	7.9				ug/L	948	Standard
|	Sb	123	144.2	37.3				ug/L	229	Standard
|	Ba	135	39.7	22.0				ug/L	57	Standard
|	Ce	140	21.7	35.3				ug/L	20	Standard
>	Tb	159	1257024.2	2.6				ug/L	1214723	Standard
|	Ho	165	16.7	17.3				ug/L	10	Standard
|	Tl	203	14.3	10.7				ug/L	29	Standard
|	Tl	205	18.3	15.7				ug/L	62	Standard
|	Pb	206	337.7	10.3				ug/L	322	Standard
|	Pb	207	294.7	3.7				ug/L	278	Standard
	Pb	208	1095.7	1.7				ug/L	1167	Standard
	U	238	6.3	24.1				ug/L	53	Standard
>	Bi	209	653718.7	1.7				ug/L	650933	Standard

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Na	23	0.0		mg/L	2	Standard
Mg	24	40.0	21.7	mg/L	38	Standard
K	39	23.3	65.5	mg/L	22	Standard
Ca	43	16.7	45.8	mg/L	27	Standard
Fe	54	215.8	7.1	mg/L	177	Standard
Fe	57	106.7	25.8	mg/L	127	Standard
Sc-1	45	60191.0	2.6	mg/L	58453	Standard
Cl	35	9357.6	1.8	ug/L	9756	Standard
Kr	83	2.0	86.6	ug/L	2	Standard
Br	81	3170.3	5.5	ug/L	3130	Standard
P	31	16692.5	3.7	ug/L	16621	Standard
S	34	945.0	5.5	ug/L	883	Standard
Sr	88	51.7	31.1	ug/L	38	Standard
C	12	293.3	15.4	mg/L	333	Standard
N	14	0.0		mg/L	0	Standard
Hg	202	3.3	173.2	mg/L	0	Standard
Dy	164	15.5	33.7	mg/L	13	Standard
Ho-1	165	16.7	17.3	mg/L	10	Standard
Er	166	23.3	65.5	mg/L	13	Standard
I	127	3380.4	1.9	mg/L	3532	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 2

Sample Date/Time: Thursday, May 12, 2016 11:38:42

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	132194.5	2.7				ug/L	132521	Standard
|	Be	9	73.3	27.6				ug/L	18	Standard
|	Al	27	12880.5	4.7				ug/L	1493	Standard
|	Sc	45	58156.5	4.4				ug/L	58453	Standard
|	Ti	47	100.3	14.0				ug/L	46	Standard
|	V	51	2572.4	3.2				ug/L	2030	Standard
|	Cr	52	10483.3	1.6				ug/L	9770	Standard
|	Cr	53	541.7	16.5				ug/L	498	Standard
|	Mn	55	1369.7	2.7				ug/L	721	Standard
|	Co	59	711.4	1.3				ug/L	167	Standard
|	Ni	60	200.0	13.0				ug/L	49	Standard
|	Cu	65	567.7	7.2				ug/L	418	Standard
|	Zn	66	491.0	0.4				ug/L	282	Standard
>	Ge	72	623601.1	1.1				ug/L	632144	Standard
|	As	75	-36.1	56.9				ug/L	-105	Standard
|	Se	82	36.4	20.9				ug/L	26	Standard
|	Se-1	77	82.0	14.1				ug/L	75	Standard
>	Ga	71	20.0	25.0				mg/L	27	Standard
|	Rb	85	26.7	28.6				ug/L	15	Standard
|	Y	89	544149.1	1.8				ug/L	538177	Standard
>	Rh	103	5.0	100.0				ug/L	2	Standard
|	Mo	98	439.2	8.1				ug/L	50	Standard
|	Ag	107	615.3	4.6				ug/L	110	Standard
|	Cd	111	145.6	6.5				mg/L	4	Standard
|	Cd	114	439.2	3.6				ug/L	25	Standard
>	In	115	768316.6	2.4				ug/L	768402	Standard
|	Sn	118	1335.1	6.9				ug/L	948	Standard
|	Sb	123	400.4	12.9				ug/L	229	Standard
|	Ba	135	218.0	1.8				ug/L	57	Standard
|	Ce	140	26.7	39.0				ug/L	20	Standard
>	Tb	159	1225424.4	2.8				ug/L	1214723	Standard
|	Ho	165	15.0	57.7				ug/L	10	Standard
|	Tl	203	630.3	4.5				ug/L	29	Standard
|	Tl	205	550.0	10.3				ug/L	62	Standard
|	Pb	206	726.0	3.4				ug/L	322	Standard
|	Pb	207	657.3	4.7				ug/L	278	Standard
	Pb	208	2437.7	0.8				ug/L	1167	Standard
	U	238	458.0	2.3				ug/L	53	Standard
>	Bi	209	644927.9	1.5				ug/L	650933	Standard

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Na	23	0.0		mg/L	2	Standard
Mg	24	63.3	36.5	mg/L	38	Standard
K	39	23.3	32.7	mg/L	22	Standard
Ca	43	26.7	60.3	mg/L	27	Standard
Fe	54	238.9	11.6	mg/L	177	Standard
Fe	57	115.0	24.2	mg/L	127	Standard
Sc-1	45	58156.5	4.4	mg/L	58453	Standard
Cl	35	9601.0	0.5	ug/L	9756	Standard
Kr	83	1.7	34.6	ug/L	2	Standard
Br	81	3390.4	8.8	ug/L	3130	Standard
P	31	16680.8	3.1	ug/L	16621	Standard
S	34	935.0	8.9	ug/L	883	Standard
Sr	88	56.7	10.2	ug/L	38	Standard
C	12	223.3	11.3	mg/L	333	Standard
N	14	3.3	173.2	mg/L	0	Standard
Hg	202	0.0		mg/L	0	Standard
Dy	164	12.7	46.6	mg/L	13	Standard
Ho-1	165	15.0	57.7	mg/L	10	Standard
Er	166	13.3	43.3	mg/L	13	Standard
I	127	3235.3	1.7	mg/L	3532	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 3

Sample Date/Time: Thursday, May 12, 2016 11:41:53

Number of Replicates: 3

Autosampler Position: 3

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH 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	130686.6	3.4				ug/L	132521	Standard
|	Be	9	77816.0	2.0	50.0000	0.800	1.6	ug/L	18	Standard
|	Al	27	10791736.1	0.7	50.0000	1.561	3.1	ug/L	1493	Standard
|	Sc	45	59441.4	2.1				ug/L	58453	Standard
|	Ti	47	43919.9	1.4	100.0000	1.112	1.1	ug/L	46	Standard
|	V	51	517707.8	0.9	50.0000	0.167	0.3	ug/L	2030	Standard
|	Cr	52	477075.6	1.0	50.0000	0.794	1.6	ug/L	9770	Standard
|	Cr	53	59182.0	0.6	50.0000	0.502	1.0	ug/L	498	Standard
|	Mn	55	503970.8	0.8	50.0000	0.583	1.2	ug/L	721	Standard
|	Co	59	528169.8	0.8	50.0000	0.637	1.3	ug/L	167	Standard
|	Ni	60	125510.7	0.6	50.0000	0.539	1.1	ug/L	49	Standard
|	Cu	65	126532.8	0.6	50.0000	0.269	0.5	ug/L	418	Standard
|	Zn	66	71277.3	0.6	50.0000	0.117	0.2	ug/L	282	Standard
>	Ge	72	628535.2	0.5				ug/L	632144	Standard
|	As	75	75544.2	1.3	50.0000	0.388	0.8	ug/L	-105	Standard
|	Se	82	7907.8	0.7	50.0000	0.190	0.4	ug/L	26	Standard
|	Se-1	77	5143.5	3.3	50.0000	1.424	2.8	ug/L	75	Standard
>	Ga	71	38.3	32.8				mg/L	27	Standard
|	Rb	85	1141.7	2.5				ug/L	15	Standard
|	Y	89	519677.0	1.8				ug/L	538177	Standard
>	Rh	103	30.0	44.1				ug/L	2	Standard
|	Mo	98	381605.8	1.0	100.0000	3.129	3.1	ug/L	50	Standard
|	Ag	107	467844.8	1.1	50.0000	1.114	2.2	ug/L	110	Standard
|	Cd	111	145839.8	2.6	50.0000	0.646	1.3	mg/L	4	Standard
|	Cd	114	354482.0	3.7	50.0000	0.765	1.5	ug/L	25	Standard
>	In	115	740065.4	2.2				ug/L	768402	Standard
|	Sn	118	395505.1	2.0	50.0000	0.364	0.7	ug/L	948	Standard
|	Sb	123	300179.9	0.4	50.0000	0.984	2.0	ug/L	229	Standard
|	Ba	135	143672.7	1.1	50.0000	0.823	1.6	ug/L	57	Standard
|	Ce	140	216.7	81.6				ug/L	20	Standard
>	Tb	159	1200459.2	0.1				ug/L	1214723	Standard
|	Ho	165	8.3	124.9				ug/L	10	Standard
|	Tl	203	559618.9	1.2	50.0000	0.809	1.6	ug/L	29	Standard
|	Tl	205	495370.6	1.5	50.0000	1.000	2.0	ug/L	62	Standard
|	Pb	206	354142.7	0.6	50.0000	0.062	0.1	ug/L	322	Standard
|	Pb	207	321193.5	0.7	50.0000	0.319	0.6	ug/L	278	Standard
|	Pb	208	1232387.1	0.4	50.0000	0.389	0.8	ug/L	1167	Standard
	U	238	445962.6	0.3	50.0000	0.363	0.7	ug/L	53	Standard
>	Bi	209	643578.0	0.5				ug/L	650933	Standard

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Na	23	3.3	173.2	5.0000	8.652	173.0	mg/L	2	Standard
Mg	24	5262.6	1.8	5.0000	0.182	3.6	mg/L	38	Standard
K	39	1915.1	1.0	5.0000	0.061	1.2	mg/L	22	Standard
Ca	43	126.7	9.9	5.0000	0.598	12.0	mg/L	27	Standard
Fe	54	8048.5	5.1	5.0000	0.153	3.1	mg/L	177	Standard
Fe	57	2053.5	4.0	5.0000	0.253	5.1	mg/L	127	Standard
Sc-1	45	59441.4	2.1				mg/L	58453	Standard
Cl	35	10050.0	0.9				ug/L	9756	Standard
Kr	83	1.0	0.0				ug/L	2	Standard
Br	81	3217.0	8.5				ug/L	3130	Standard
P	31	16939.5	2.1				ug/L	16621	Standard
S	34	1196.7	2.4				ug/L	883	Standard
Sr	88	45.0	19.2				ug/L	38	Standard
C	12	266.7	66.1				mg/L	333	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	0	Standard
Dy	164	19.0	50.0				mg/L	13	Standard
Ho-1	165	8.3	124.9				mg/L	10	Standard
Er	166	20.0	50.0				mg/L	13	Standard
I	127	2925.3	6.1				mg/L	3532	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

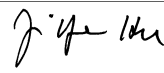
Measurement Type	Analyte	Mass	Out of Limits Message
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Method 6020 - Summary Report

Sample ID: Standard 4

Sample Date/Time: Thursday, May 12, 2016 11:45:05

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	128272.7	3.2				ug/L	132521	Standard
|	Be	9	155490.7	2.3	100.8809	1.660	1.6	ug/L	18	Standard
|	Al	27	22247139.6	1.3	102.4430	2.967	2.9	ug/L	1493	Standard
|	Sc	45	58850.7	1.3				ug/L	58453	Standard
|	Ti	47	90216.9	1.9	203.9571	6.720	3.3	ug/L	46	Standard
|	V	51	1066674.6	0.6	102.1896	0.867	0.8	ug/L	2030	Standard
|	Cr	52	983836.6	1.4	102.6941	2.816	2.7	ug/L	9770	Standard
|	Cr	53	121548.9	0.4	102.1424	1.826	1.8	ug/L	498	Standard
|	Mn	55	996745.2	0.7	100.0817	0.806	0.8	ug/L	721	Standard
|	Co	59	1040134.6	1.1	99.8300	0.313	0.3	ug/L	167	Standard
|	Ni	60	258382.2	0.3	102.0586	1.381	1.4	ug/L	49	Standard
|	Cu	65	260986.7	0.8	102.2287	0.632	0.6	ug/L	418	Standard
|	Zn	66	145925.7	1.1	101.9226	1.737	1.7	ug/L	282	Standard
>	Ge	72	621102.9	1.4				ug/L	632144	Standard
|	As	75	153401.1	0.8	101.3200	0.790	0.8	ug/L	-105	Standard
|	Se	82	15496.3	2.2	99.6623	0.832	0.8	ug/L	26	Standard
|	Se-1	77	10215.1	1.8	100.6290	0.434	0.4	ug/L	75	Standard
>	Ga	71	45.0	48.4				mg/L	27	Standard
|	Rb	85	2310.2	5.6				ug/L	15	Standard
|	Y	89	523656.8	2.3				ug/L	538177	Standard
>	Rh	103	60.0	30.0				ug/L	2	Standard
|	Mo	98	764936.8	1.9	199.1612	5.603	2.8	ug/L	50	Standard
|	Ag	107	957448.8	0.9	100.6225	0.969	1.0	ug/L	110	Standard
|	Cd	111	287430.2	1.2	98.7495	1.667	1.7	mg/L	4	Standard
|	Cd	114	699195.4	1.3	98.8121	2.564	2.6	ug/L	25	Standard
>	In	115	747858.9	1.7				ug/L	768402	Standard
|	Sn	118	817611.1	1.3	101.2011	2.965	2.9	ug/L	948	Standard
|	Sb	123	625856.3	0.9	101.5530	1.057	1.0	ug/L	229	Standard
|	Ba	135	291284.3	0.6	100.1653	1.446	1.4	ug/L	57	Standard
|	Ce	140	216.7	16.2				ug/L	20	Standard
>	Tb	159	1232018.8	0.9				ug/L	1214723	Standard
|	Ho	165	18.3	15.7				ug/L	10	Standard
|	Tl	203	1136354.9	0.9	101.3608	1.331	1.3	ug/L	29	Standard
|	Tl	205	982533.5	0.2	100.1843	0.552	0.6	ug/L	62	Standard
|	Pb	206	725868.1	0.5	101.8546	1.293	1.3	ug/L	322	Standard
|	Pb	207	657796.5	0.5	101.8117	0.842	0.8	ug/L	278	Standard
|	Pb	208	2392431.6	0.6	99.1359	1.200	1.2	ug/L	1167	Standard
	U	238	888189.5	0.2	100.3902	0.583	0.6	ug/L	53	Standard
>	Bi	209	635908.0	0.7				ug/L	650933	Standard

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Na	23	3.3	173.2	6.8518	11.859	173.1	mg/L	2	Standard
Mg	24	10472.0	3.9	10.0496	0.267	2.7	mg/L	38	Standard
K	39	3835.5	3.1	10.0863	0.383	3.8	mg/L	22	Standard
Ca	43	260.0	6.9	10.8514	0.701	6.5	mg/L	27	Standard
Fe	54	16129.3	1.5	10.1388	0.210	2.1	mg/L	177	Standard
Fe	57	4118.9	3.1	10.2138	0.431	4.2	mg/L	127	Standard
Sc-1	45	58850.7	1.3				mg/L	58453	Standard
Cl	35	9797.2	0.4				ug/L	9756	Standard
Kr	83	2.0	100.0				ug/L	2	Standard
Br	81	3127.0	2.1				ug/L	3130	Standard
P	31	18599.8	3.3				ug/L	16621	Standard
S	34	1191.7	6.7				ug/L	883	Standard
Sr	88	61.7	9.4				ug/L	38	Standard
C	12	266.7	11.5				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	0	Standard
Dy	164	12.7	43.5				mg/L	13	Standard
Ho-1	165	18.3	15.7				mg/L	10	Standard
Er	166	13.3	86.6				mg/L	13	Standard
I	127	5657.7	4.0				mg/L	3532	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 4

Report Date/Time: Thursday, May 12, 2016 11:47:22

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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

Report Date/Time: Thursday, May 12, 2016 11:47:22

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Method 6020 - Summary Report

Sample ID: QC Std 1

Sample Date/Time: Thursday, May 12, 2016 11:48:18

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	127707.6	0.8				ug/L	132521	Standard
|	Be	9	73938.5	3.9	48.1768	2.010	4.2	ug/L	18	Standard
|	Al	27	10824800.9	1.8	50.0405	1.270	2.5	ug/L	1493	Standard
|	Sc	45	58194.9	1.4				ug/L	58453	Standard
|	Ti	47	46044.5	0.8	102.5848	0.236	0.2	ug/L	46	Standard
|	V	51	519279.9	0.9	48.9669	0.472	1.0	ug/L	2030	Standard
|	Cr	52	487173.8	0.7	49.6106	0.160	0.3	ug/L	9770	Standard
|	Cr	53	59407.9	1.2	49.0259	0.457	0.9	ug/L	498	Standard
|	Mn	55	505895.7	0.8	50.0586	0.226	0.5	ug/L	721	Standard
|	Co	59	520130.8	0.4	49.2336	0.451	0.9	ug/L	167	Standard
|	Ni	60	126026.0	0.6	49.0834	0.533	1.1	ug/L	49	Standard
|	Cu	65	127325.1	0.1	49.1045	0.273	0.6	ug/L	418	Standard
|	Zn	66	72531.9	0.6	49.8174	0.385	0.8	ug/L	282	Standard
>	Ge	72	629664.1	0.6				ug/L	632144	Standard
|	As	75	75869.5	0.8	49.4641	0.126	0.3	ug/L	-105	Standard
|	Se	82	7760.0	2.6	49.1352	0.994	2.0	ug/L	26	Standard
|	Se-1	77	5160.5	2.0	49.7646	0.864	1.7	ug/L	75	Standard
>	Ga	71	86.7	16.7				mg/L	27	Standard
|	Rb	85	890.0	5.4				ug/L	15	Standard
|	Y	89	525443.1	2.7				ug/L	538177	Standard
>	Rh	103	30.0	16.7				ug/L	2	Standard
|	Mo	98	406553.5	1.2	106.5389	0.322	0.3	ug/L	50	Standard
|	Ag	107	469814.3	1.1	49.7035	0.876	1.8	ug/L	110	Standard
|	Cd	111	143465.5	1.4	49.6162	0.358	0.7	mg/L	4	Standard
|	Cd	114	346921.4	1.8	49.3420	0.712	1.4	ug/L	25	Standard
>	In	115	742836.8	1.3				ug/L	768402	Standard
|	Sn	118	435788.5	2.2	54.2347	0.841	1.6	ug/L	948	Standard
|	Sb	123	290027.9	1.2	47.3691	0.480	1.0	ug/L	229	Standard
|	Ba	135	141700.2	0.8	49.0407	0.452	0.9	ug/L	57	Standard
|	Ce	140	253.3	23.7				ug/L	20	Standard
>	Tb	159	1202026.2	1.1				ug/L	1214723	Standard
|	Ho	165	18.3	78.7				ug/L	10	Standard
|	Tl	203	556014.9	1.0	49.5994	0.667	1.3	ug/L	29	Standard
|	Tl	205	483566.6	1.6	49.3126	0.937	1.9	ug/L	62	Standard
|	Pb	206	360273.0	0.5	50.5332	0.207	0.4	ug/L	322	Standard
|	Pb	207	314580.3	0.7	48.6693	0.231	0.5	ug/L	278	Standard
|	Pb	208	1204611.5	2.2	49.8988	1.246	2.5	ug/L	1167	Standard
	U	238	434404.9	1.5	49.1067	0.807	1.6	ug/L	53	Standard
>	Bi	209	635809.3	0.4				ug/L	650933	Standard

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Na	23	1.7	173.2	3.3610	5.813	172.9	mg/L	2	Standard
Mg	24	5285.9	1.6	5.1043	0.127	2.5	mg/L	38	Standard
K	39	1910.1	4.8	5.0501	0.240	4.8	mg/L	22	Standard
Ca	43	113.3	40.8	4.0604	2.150	52.9	mg/L	27	Standard
Fe	54	7970.7	3.6	4.9909	0.146	2.9	mg/L	177	Standard
Fe	57	2198.5	0.9	5.3774	0.133	2.5	mg/L	127	Standard
Sc-1	45	58194.9	1.4				mg/L	58453	Standard
Cl	35	9761.8	1.5				ug/L	9756	Standard
Kr	83	2.3	49.5				ug/L	2	Standard
Br	81	3153.7	4.2				ug/L	3130	Standard
P	31	21205.6	28.3				ug/L	16621	Standard
S	34	1166.7	6.6				ug/L	883	Standard
Sr	88	63.3	32.9				ug/L	38	Standard
C	12	283.3	37.1				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	32.2	19.7				mg/L	13	Standard
Ho-1	165	18.3	78.7				mg/L	10	Standard
Er	166	23.3	65.5				mg/L	13	Standard
I	127	3628.8	3.9				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	96.354		
Al	27	100.081		
Sc	45			
Ti	47	102.585		
V	51	97.934		
Cr	52	99.221		
Cr	53			
Mn	55	100.117		
Co	59	98.467		
Ni	60	98.167		
Cu	65	98.209		
Zn	66	99.635		
Ge	72		99.608	
As	75	98.928		
Se	82	98.270		
Se-1	77			
Ga	71			

Sample ID: QC Std 1

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[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	106.539	
[Ag	107	99.407	
[Cd	111	99.232	
[Cd	114		
>	In	115		96.673
[Sn	118	108.469	
[	Sb	123	94.738	
[	Ba	135	98.081	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	99.199	
[	Tl	205		
[	Pb	206	101.066	
[	Pb	207	97.339	
[	Pb	208	99.798	
[	U	238	98.213	
>	Bi	209		97.677
[	Na	23	67.220	
[	Mg	24	102.086	
[	K	39	101.003	
[	Ca	43	81.207	
[	Fe	54	99.817	
[	Fe	57	107.548	
>	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

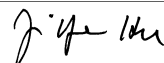
Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 1	Na	23	
QC Std 1	Ca	43	

Sample ID: QC Std 1

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Method 6020 - Summary Report

Sample ID: QC Std 2

Sample Date/Time: Thursday, May 12, 2016 11:51:31

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	123412.5	7.6				ug/L	132521	Standard
|	Be	9	53.3	32.9	0.0395	0.009	24.0	ug/L	18	Standard
|	Al	27	3697.2	40.5	0.0099	0.006	56.9	ug/L	1493	Standard
|	Sc	45	58991.6	6.0				ug/L	58453	Standard
|	Ti	47	64.0	8.1	0.0242	0.007	28.4	ug/L	46	Standard
|	V	51	1971.5	5.8	0.0006	0.006	871.2	ug/L	2030	Standard
|	Cr	52	8382.7	12.4	-0.1341	0.080	59.9	ug/L	9770	Standard
|	Cr	53	348.3	32.0	-0.1012	0.086	84.5	ug/L	498	Standard
|	Mn	55	822.4	12.0	-0.0014	0.008	554.2	ug/L	721	Standard
|	Co	59	330.7	19.8	0.0149	0.006	40.0	ug/L	167	Standard
|	Ni	60	76.3	10.2	0.0028	0.004	138.1	ug/L	49	Standard
|	Cu	65	461.7	8.7	0.0164	0.012	71.7	ug/L	418	Standard
|	Zn	66	409.7	17.8	0.0061	0.057	931.9	ug/L	282	Standard
>	Ge	72	597599.7	3.5				ug/L	632144	Standard
|	As	75	0.9	15946.1	0.0755	0.099	131.7	ug/L	-105	Standard
|	Se	82	30.4	21.6	0.0200	0.044	221.8	ug/L	26	Standard
|	Se-1	77	78.7	14.0	0.0527	0.125	236.3	ug/L	75	Standard
>	Ga	71	21.7	58.1				mg/L	27	Standard
|	Rb	85	10.0	50.0				ug/L	15	Standard
|	Y	89	521654.9	0.5				ug/L	538177	Standard
>	Rh	103	5.0	100.0				ug/L	2	Standard
|	Mo	98	251.1	47.3	0.0524	0.028	53.5	ug/L	50	Standard
|	Ag	107	331.0	37.2	0.0212	0.013	61.8	ug/L	110	Standard
|	Cd	111	119.3	74.5	0.0416	0.031	74.0	mg/L	4	Standard
|	Cd	114	239.3	70.9	0.0228	0.024	105.4	ug/L	25	Standard
>	In	115	762689.1	2.9				ug/L	768402	Standard
|	Sn	118	1331.7	16.4	0.0503	0.024	47.2	ug/L	948	Standard
|	Sb	123	1140.4	75.7	0.1656	0.130	78.8	ug/L	229	Standard
|	Ba	135	133.3	36.7	0.0220	0.017	76.8	ug/L	57	Standard
|	Ce	140	35.0	79.5				ug/L	20	Standard
>	Tb	159	1214923.8	3.3				ug/L	1214723	Standard
|	Ho	165	21.7	26.6				ug/L	10	Standard
|	Tl	203	357.3	51.8	0.0265	0.017	65.8	ug/L	29	Standard
|	Tl	205	203.3	52.2	0.0151	0.010	65.1	ug/L	62	Standard
|	Pb	206	495.3	13.4	0.0186	0.009	47.5	ug/L	322	Standard
|	Pb	207	439.3	14.4	0.0172	0.008	48.9	ug/L	278	Standard
|	Pb	208	1579.7	14.0	0.0153	0.007	43.4	ug/L	1167	Standard
	U	238	135.7	36.5	0.0141	0.005	35.8	ug/L	53	Standard
>	Bi	209	640095.5	4.1				ug/L	650933	Standard

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Na	23	1.7	173.2	3.4771	6.014	173.0	mg/L	2	Standard
Mg	24	38.3	19.9	-0.0193	0.009	48.2	mg/L	38	Standard
K	39	21.7	74.2	-0.0019	0.038	1960.8	mg/L	22	Standard
Ca	43	30.0	60.1	0.1471	0.906	615.6	mg/L	27	Standard
Fe	54	148.9	32.4	-0.0558	0.024	43.8	mg/L	177	Standard
Fe	57	100.0	18.0	-0.0379	0.057	149.2	mg/L	127	Standard
Sc-1	45	58991.6	6.0				mg/L	58453	Standard
Cl	35	9745.8	4.7				ug/L	9756	Standard
Kr	83	1.3	86.6				ug/L	2	Standard
Br	81	3380.4	2.3				ug/L	3130	Standard
P	31	14926.0	26.5				ug/L	16621	Standard
S	34	1096.7	10.3				ug/L	883	Standard
Sr	88	48.3	76.3				ug/L	38	Standard
C	12	310.0	30.8				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	12.5	121.5				mg/L	13	Standard
Ho-1	165	21.7	26.6				mg/L	10	Standard
Er	166	16.7	34.6				mg/L	13	Standard
I	127	14158.6	67.6				mg/L	3532	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		94.535	
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	99.257
[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	98.335
[	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

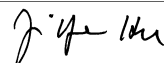
Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 2	Na	23	
QC Std 2	Ca	43	

Sample ID: QC Std 2

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Method 6020 - Summary Report

Sample ID: QC Std 3

Sample Date/Time: Thursday, May 12, 2016 11:54:44

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	119669.1	1.5				ug/L	132521	Standard
|	Be	9	381.7	10.9	0.2694	0.030	11.2	ug/L	18	Standard
|	Al	27	6289.0	110.2	0.0233	0.034	145.3	ug/L	1493	Standard
|	Sc	45	56214.2	4.8				ug/L	58453	Standard
|	Ti	47	66.0	34.4	0.0226	0.050	218.9	ug/L	46	Standard
|	V	51	5771.3	1.2	0.3571	0.016	4.5	ug/L	2030	Standard
|	Cr	52	16783.0	4.3	0.7160	0.095	13.2	ug/L	9770	Standard
|	Cr	53	1346.7	8.3	0.7304	0.111	15.2	ug/L	498	Standard
|	Mn	55	5229.2	0.9	0.4375	0.015	3.4	ug/L	721	Standard
|	Co	59	4038.2	1.4	0.3690	0.010	2.7	ug/L	167	Standard
|	Ni	60	4054.9	1.8	1.5705	0.038	2.4	ug/L	49	Standard
|	Cu	65	2352.5	4.2	0.7496	0.040	5.4	ug/L	418	Standard
|	Zn	66	9211.1	1.0	6.1471	0.077	1.3	ug/L	282	Standard
>	Ge	72	622335.9	2.2				ug/L	632144	Standard
|	As	75	497.5	3.5	0.4015	0.008	1.9	ug/L	-105	Standard
|	Se	82	85.3	6.7	0.3653	0.033	9.1	ug/L	26	Standard
|	Se-1	77	111.3	8.2	0.3441	0.107	31.0	ug/L	75	Standard
>	Ga	71	13.3	114.6				mg/L	27	Standard
|	Rb	85	10.0	50.0				ug/L	15	Standard
|	Y	89	496715.7	2.6				ug/L	538177	Standard
>	Rh	103	3.3	86.6				ug/L	2	Standard
|	Mo	98	159.5	36.4	0.0322	0.016	50.4	ug/L	50	Standard
|	Ag	107	3894.8	4.1	0.4135	0.022	5.3	ug/L	110	Standard
|	Cd	111	728.7	11.8	0.2622	0.034	12.8	mg/L	4	Standard
|	Cd	114	1674.9	7.0	0.2361	0.019	8.2	ug/L	25	Standard
>	In	115	718093.7	1.2				ug/L	768402	Standard
|	Sn	118	1063.4	28.8	0.0263	0.041	155.5	ug/L	948	Standard
|	Sb	123	2751.7	7.8	0.4520	0.041	9.1	ug/L	229	Standard
|	Ba	135	2106.8	4.8	0.7318	0.041	5.6	ug/L	57	Standard
|	Ce	140	36.7	55.1				ug/L	20	Standard
>	Tb	159	1174227.8	1.9				ug/L	1214723	Standard
|	Ho	165	6.7	86.6				ug/L	10	Standard
|	Tl	203	1040.0	13.2	0.0877	0.013	14.5	ug/L	29	Standard
|	Tl	205	786.7	2.6	0.0753	0.003	3.5	ug/L	62	Standard
|	Pb	206	1787.8	3.7	0.2015	0.009	4.6	ug/L	322	Standard
|	Pb	207	1513.4	6.3	0.1850	0.017	8.9	ug/L	278	Standard
|	Pb	208	5869.5	0.8	0.1946	0.003	1.4	ug/L	1167	Standard
	U	238	3373.4	0.8	0.3817	0.001	0.3	ug/L	53	Standard
>	Bi	209	633440.3	1.1				ug/L	650933	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	48.3	31.6	-0.0074	0.017	226.7	mg/L	38	Standard
K	39	31.7	18.2	0.0299	0.014	46.3	mg/L	22	Standard
Ca	43	33.3	43.3	0.3316	0.614	185.2	mg/L	27	Standard
Fe	54	141.5	18.5	-0.0543	0.022	39.7	mg/L	177	Standard
Fe	57	111.7	26.2	0.0055	0.085	1533.4	mg/L	127	Standard
Sc-1	45	56214.2	4.8				mg/L	58453	Standard
Cl	35	9420.3	1.4				ug/L	9756	Standard
Kr	83	1.7	34.6				ug/L	2	Standard
Br	81	2937.0	4.6				ug/L	3130	Standard
P	31	12049.8	1.4				ug/L	16621	Standard
S	34	1086.7	7.8				ug/L	883	Standard
Sr	88	53.3	37.9				ug/L	38	Standard
C	12	256.7	19.6				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	6.0	93.6				mg/L	13	Standard
Ho-1	165	6.7	86.6				mg/L	10	Standard
Er	166	13.3	43.3				mg/L	13	Standard
I	127	3660.4	8.0				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	134.719		
Al	27	2.331		
Sc	45			
Ti	47			
V	51	89.274		
Cr	52	89.499		
Cr	53			
Mn	55	87.506		
Co	59	92.243		
Ni	60	98.154		
Cu	65	93.699		
Zn	66	98.353		
Ge	72		98.448	
As	75	100.372		
Se	82	91.326		
Se-1	77			
Ga	71			

Sample ID: QC Std 3

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[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98		
	Ag	107	103.383	
	Cd	111	109.236	
	Cd	114		
>	In	115		93.453
	Sn	118		
	Sb	123	112.997	
[	Ba	135	97.568	
[	Ce	140		
>	Tb	159		
[	Ho	165		
	Tl	203	109.687	
	Tl	205		
	Pb	206		
	Pb	207		
	Pb	208	97.317	
	U	238	95.430	
>	Bi	209		97.313
[	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

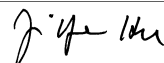
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QC Std 3	Be	9	
QC Std 3	Al	27	

Sample ID: QC Std 3

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Method 6020 - Summary Report

Sample ID: QC Std 4

Sample Date/Time: Thursday, May 12, 2016 11:57:55

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	118271.5	0.4				ug/L	132521	Standard
|	Be	9	25.0	124.9	0.0216	0.022	102.1	ug/L	18	Standard
|	Al	27	4025740.9	0.8	20.0883	0.226	1.1	ug/L	1493	Standard
|	Sc	45	54342.3	3.2				ug/L	58453	Standard
|	Ti	47	18017.4	1.8	43.4639	1.024	2.4	ug/L	46	Standard
|	V	51	1932.8	4.7	0.0024	0.005	209.8	ug/L	2030	Standard
|	Cr	52	7652.6	2.1	-0.1876	0.024	12.9	ug/L	9770	Standard
|	Cr	53	948.4	6.7	0.4503	0.031	6.9	ug/L	498	Standard
|	Mn	55	945.0	11.7	0.0143	0.009	60.8	ug/L	721	Standard
|	Co	59	349.0	24.4	0.0177	0.008	43.3	ug/L	167	Standard
|	Ni	60	377.7	4.0	0.1309	0.002	1.2	ug/L	49	Standard
|	Cu	65	556.7	3.6	0.0618	0.004	6.9	ug/L	418	Standard
|	Zn	66	713.7	2.7	0.2425	0.027	11.3	ug/L	282	Standard
>	Ge	72	580797.3	3.1				ug/L	632144	Standard
|	As	75	-74.1	24.4	0.0215	0.013	59.7	ug/L	-105	Standard
|	Se	82	27.9	34.8	0.0097	0.070	728.0	ug/L	26	Standard
|	Se-1	77	142.0	6.8	0.7470	0.084	11.3	ug/L	75	Standard
>	Ga	71	70.0	7.1				mg/L	27	Standard
|	Rb	85	481.7	7.9				ug/L	15	Standard
|	Y	89	481969.7	2.9				ug/L	538177	Standard
>	Rh	103	5.0	100.0				ug/L	2	Standard
|	Mo	98	135871.6	1.7	36.5553	0.534	1.5	ug/L	50	Standard
|	Ag	107	231.0	21.7	0.0123	0.006	50.8	ug/L	110	Standard
|	Cd	111	-97.5	39.9	-0.0331	0.013	39.2	mg/L	4	Standard
|	Cd	114	297.4	14.0	0.0331	0.007	22.5	ug/L	25	Standard
>	In	115	723593.1	3.1				ug/L	768402	Standard
|	Sn	118	781.7	7.3	-0.0112	0.005	44.2	ug/L	948	Standard
|	Sb	123	237.4	2.0	0.0265	0.001	4.8	ug/L	229	Standard
|	Ba	135	130.7	12.7	0.0236	0.007	30.3	ug/L	57	Standard
|	Ce	140	133.3	7.8				ug/L	20	Standard
>	Tb	159	1181639.6	0.3				ug/L	1214723	Standard
|	Ho	165	11.7	24.7				ug/L	10	Standard
|	Tl	203	306.3	35.1	0.0224	0.009	41.8	ug/L	29	Standard
|	Tl	205	246.7	41.6	0.0204	0.010	50.6	ug/L	62	Standard
|	Pb	206	547.7	11.2	0.0281	0.008	26.8	ug/L	322	Standard
|	Pb	207	492.7	6.8	0.0277	0.004	13.7	ug/L	278	Standard
|	Pb	208	1932.0	6.1	0.0323	0.004	12.2	ug/L	1167	Standard
	U	238	92.0	78.7	0.0095	0.008	86.4	ug/L	53	Standard
>	Bi	209	621658.4	2.0				ug/L	650933	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	4755.7	4.8	4.9172	0.254	5.2	mg/L	38	Standard
K	39	731.7	8.9	2.0371	0.164	8.1	mg/L	22	Standard
Ca	43	143.3	13.2	5.9594	0.823	13.8	mg/L	27	Standard
Fe	54	7369.6	1.9	4.9441	0.188	3.8	mg/L	177	Standard
Fe	57	2025.1	3.3	5.3001	0.126	2.4	mg/L	127	Standard
Sc-1	45	54342.3	3.2				mg/L	58453	Standard
Cl	35	8835.9	1.6				ug/L	9756	Standard
Kr	83	1.3	86.6				ug/L	2	Standard
Br	81	2836.9	10.2				ug/L	3130	Standard
P	31	7461.8	4.7				ug/L	16621	Standard
S	34	1041.7	6.6				ug/L	883	Standard
Sr	88	48.3	6.0				ug/L	38	Standard
C	12	306.7	23.1				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	13.3	114.6				mg/L	0	Standard
Dy	164	29.0	100.0				mg/L	13	Standard
Ho-1	165	11.7	24.7				mg/L	10	Standard
Er	166	20.0	132.3				mg/L	13	Standard
I	127	2788.6	4.6				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9			
Al	27	0.402		
Sc	45			
Ti	47	43.464		
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		91.877	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	36.555	
[Ag	107		
[Cd	111		
[Cd	114		
>	In	115		94.169
[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		95.503
[	Na	23	0.040	
[	Mg	24	98.344	
[	K	39	40.742	
[	Ca	43	39.729	
[	Fe	54	39.553	
[	Fe	57	42.401	
>	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	Ti	47	
QC Std 4	Mo	98	

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QC Std 4	Na	23
QC Std 4	K	39
QC Std 4	Ca	43
QC Std 4	Fe	54
QC Std 4	Fe	57

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Method 6020 - Summary Report

Sample ID: QC Std 5

Sample Date/Time: Thursday, May 12, 2016 12:01:07

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	131609.4	2.5				ug/L	132521	Standard
|	Be	9	163780.7	2.1	103.5458	0.694	0.7	ug/L	18	Standard
|	Al	27	10312489.8	2.6	46.2521	0.191	0.4	ug/L	1493	Standard
|	Sc	45	57266.4	1.2				ug/L	58453	Standard
|	Ti	47	44556.1	1.3	103.7438	2.292	2.2	ug/L	46	Standard
|	V	51	1055025.8	1.0	104.1827	1.704	1.6	ug/L	2030	Standard
|	Cr	52	974582.9	0.6	104.8575	1.515	1.4	ug/L	9770	Standard
|	Cr	53	121298.7	1.8	105.0750	2.887	2.7	ug/L	498	Standard
|	Mn	55	1010095.3	0.7	104.5397	1.238	1.2	ug/L	721	Standard
|	Co	59	1026169.4	0.5	101.5154	0.582	0.6	ug/L	167	Standard
|	Ni	60	252883.3	0.8	102.9482	1.293	1.3	ug/L	49	Standard
|	Cu	65	257750.0	0.8	104.0660	1.426	1.4	ug/L	418	Standard
|	Zn	66	150289.0	0.3	108.2079	1.373	1.3	ug/L	282	Standard
>	Ge	72	602597.9	1.0				ug/L	632144	Standard
|	As	75	156106.0	0.1	106.2699	1.123	1.1	ug/L	-105	Standard
|	Se	82	16075.7	0.7	106.5867	0.663	0.6	ug/L	26	Standard
|	Se-1	77	10588.7	1.4	107.5665	0.596	0.6	ug/L	75	Standard
>	Ga	71	153.3	11.5				mg/L	27	Standard
|	Rb	85	1088.4	4.4				ug/L	15	Standard
|	Y	89	538283.3	1.7				ug/L	538177	Standard
>	Rh	103	56.7	58.8				ug/L	2	Standard
|	Mo	98	351779.6	0.9	90.3437	1.423	1.6	ug/L	50	Standard
|	Ag	107	805977.4	4.8	83.5265	2.671	3.2	ug/L	110	Standard
|	Cd	111	293880.9	1.3	99.6001	1.166	1.2	mg/L	4	Standard
|	Cd	114	710280.2	1.6	99.0072	1.280	1.3	ug/L	25	Standard
>	In	115	758124.8	2.3				ug/L	768402	Standard
|	Sn	118	1678.4	3.0	0.0939	0.007	7.2	ug/L	948	Standard
|	Sb	123	610795.3	1.3	97.7732	1.204	1.2	ug/L	229	Standard
|	Ba	135	290477.7	1.3	98.5355	1.125	1.1	ug/L	57	Standard
|	Ce	140	113.3	16.7				ug/L	20	Standard
>	Tb	159	1218635.1	1.6				ug/L	1214723	Standard
|	Ho	165	10.0	50.0				ug/L	10	Standard
|	Tl	203	1141168.5	0.8	103.0099	2.564	2.5	ug/L	29	Standard
|	Tl	205	1012329.0	0.3	104.4796	3.417	3.3	ug/L	62	Standard
|	Pb	206	739911.2	0.1	105.0818	3.152	3.0	ug/L	322	Standard
|	Pb	207	644419.2	0.7	100.9654	3.799	3.8	ug/L	278	Standard
|	Pb	208	2490743.2	0.4	104.4558	2.907	2.8	ug/L	1167	Standard
	U	238	910425.2	1.1	104.1310	2.172	2.1	ug/L	53	Standard
>	Bi	209	628660.1	3.1				ug/L	650933	Standard

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Na	23	1.7	173.2	3.4945	6.044	173.0	mg/L	2	Standard
Mg	24	11817.9	1.2	11.6673	0.144	1.2	mg/L	38	Standard
K	39	1615.1	2.0	4.3315	0.101	2.3	mg/L	22	Standard
Ca	43	303.3	28.2	13.2601	4.056	30.6	mg/L	27	Standard
Fe	54	18103.8	2.1	11.7186	0.342	2.9	mg/L	177	Standard
Fe	57	4919.1	2.0	12.5987	0.188	1.5	mg/L	127	Standard
Sc-1	45	57266.4	1.2				mg/L	58453	Standard
Cl	35	9398.2	2.7				ug/L	9756	Standard
Kr	83	2.7	78.1				ug/L	2	Standard
Br	81	3220.3	5.7				ug/L	3130	Standard
P	31	16322.1	2.7				ug/L	16621	Standard
S	34	1023.4	4.8				ug/L	883	Standard
Sr	88	46.7	16.4				ug/L	38	Standard
C	12	540.0	4.9				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	10.0					mg/L	0	Standard
Dy	164	25.4	81.2				mg/L	13	Standard
Ho-1	165	10.0	50.0				mg/L	10	Standard
Er	166	26.7	21.7				mg/L	13	Standard
I	127	2868.6	7.2				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	103.546		
Al	27	0.925		
Sc	45			
Ti	47	103.744		
V	51	104.183		
Cr	52	104.858		
Cr	53			
Mn	55	104.540		
Co	59	101.515		
Ni	60	102.948		
Cu	65	104.066		
Zn	66	108.208		
Ge	72		95.326	
As	75	106.270		
Se	82	106.587		
Se-1	77			
Ga	71			

Sample ID: QC Std 5

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[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	90.344	
[Ag	107	83.526	
[Cd	111	99.600	
[Cd	114		
>	In	115		98.663
[Sn	118		
[	Sb	123	97.773	
[	Ba	135	98.536	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	103.010	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	104.456	
[	U	238	104.131	
>	Bi	209		96.578
[	Na	23	27.956	
[	Mg	24	233.346	
[	K	39	86.630	
[	Ca	43	88.401	
[	Fe	54	93.749	
[	Fe	57	100.789	
>	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	

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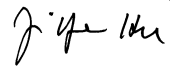


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Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Thursday, May 12, 2016 12:04:20

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	127410.2	1.1				ug/L	132521	Standard
|	Be	9	77355.6	4.8	50.5264	2.688	5.3	ug/L	18	Standard
|	Al	27	10918824.6	3.8	50.6053	2.502	4.9	ug/L	1493	Standard
|	Sc	45	57661.2	3.1				ug/L	58453	Standard
|	Ti	47	44598.2	1.6	100.7433	0.996	1.0	ug/L	46	Standard
|	V	51	518010.4	0.2	49.5320	0.413	0.8	ug/L	2030	Standard
|	Cr	52	486253.7	1.2	50.2197	0.333	0.7	ug/L	9770	Standard
|	Cr	53	60421.9	2.4	50.5756	1.392	2.8	ug/L	498	Standard
|	Mn	55	500627.8	1.0	50.2306	0.629	1.3	ug/L	721	Standard
|	Co	59	520038.5	1.0	49.9129	0.726	1.5	ug/L	167	Standard
|	Ni	60	127434.7	0.6	50.3239	0.284	0.6	ug/L	49	Standard
|	Cu	65	127046.8	0.5	49.6834	0.445	0.9	ug/L	418	Standard
|	Zn	66	71464.1	0.5	49.7688	0.325	0.7	ug/L	282	Standard
>	Ge	72	620998.2	0.7				ug/L	632144	Standard
|	As	75	74616.8	0.5	49.3286	0.457	0.9	ug/L	-105	Standard
|	Se	82	7888.4	0.9	50.6579	0.741	1.5	ug/L	26	Standard
|	Se-1	77	5118.9	1.8	50.0595	1.015	2.0	ug/L	75	Standard
>	Ga	71	35.0	51.5				mg/L	27	Standard
|	Rb	85	1130.0	7.5				ug/L	15	Standard
|	Y	89	525242.3	0.4				ug/L	538177	Standard
>	Rh	103	40.0	78.1				ug/L	2	Standard
|	Mo	98	378283.2	0.7	97.1640	2.509	2.6	ug/L	50	Standard
|	Ag	107	477405.2	2.0	49.4838	0.433	0.9	ug/L	110	Standard
|	Cd	111	148761.2	0.5	50.4244	1.061	2.1	mg/L	4	Standard
|	Cd	114	359732.1	1.0	50.1417	0.793	1.6	ug/L	25	Standard
>	In	115	758103.2	1.9				ug/L	768402	Standard
|	Sn	118	412748.0	2.1	50.3248	0.169	0.3	ug/L	948	Standard
|	Sb	123	309192.8	1.8	49.4846	0.668	1.4	ug/L	229	Standard
|	Ba	135	146905.7	2.5	49.8174	0.968	1.9	ug/L	57	Standard
|	Ce	140	106.7	21.7				ug/L	20	Standard
>	Tb	159	1216925.6	1.6				ug/L	1214723	Standard
|	Ho	165	13.3	114.6				ug/L	10	Standard
|	Tl	203	568520.5	1.9	50.2944	0.251	0.5	ug/L	29	Standard
|	Tl	205	509704.3	1.4	51.5495	0.265	0.5	ug/L	62	Standard
|	Pb	206	355577.0	0.4	49.4688	0.565	1.1	ug/L	322	Standard
|	Pb	207	320436.4	0.7	49.1731	0.523	1.1	ug/L	278	Standard
|	Pb	208	1240198.1	0.4	50.9586	0.988	1.9	ug/L	1167	Standard
	U	238	459390.2	1.4	51.5038	0.299	0.6	ug/L	53	Standard
>	Bi	209	641082.1	1.5				ug/L	650933	Standard

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Na	23	1.7	173.2	3.4037	5.887	173.0	mg/L	2	Standard
Mg	24	5324.3	2.4	5.1897	0.052	1.0	mg/L	38	Standard
K	39	1860.1	4.7	4.9681	0.342	6.9	mg/L	22	Standard
Ca	43	136.7	24.9	5.2215	1.516	29.0	mg/L	27	Standard
Fe	54	8244.9	4.7	5.2264	0.429	8.2	mg/L	177	Standard
Fe	57	2243.5	6.4	5.5428	0.238	4.3	mg/L	127	Standard
Sc-1	45	57661.2	3.1				mg/L	58453	Standard
Cl	35	9953.9	1.0				ug/L	9756	Standard
Kr	83	3.3	45.8				ug/L	2	Standard
Br	81	3360.4	7.3				ug/L	3130	Standard
P	31	17363.3	4.1				ug/L	16621	Standard
S	34	1090.0	5.7				ug/L	883	Standard
Sr	88	48.3	57.0				ug/L	38	Standard
C	12	266.7	12.1				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	22.1	49.2				mg/L	13	Standard
Ho-1	165	13.3	114.6				mg/L	10	Standard
Er	166	26.7	57.3				mg/L	13	Standard
I	127	2808.6	9.2				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	101.053		
Al	27	101.211		
Sc	45			
Ti	47	100.743		
V	51	99.064		
Cr	52	100.439		
Cr	53			
Mn	55	100.461		
Co	59	99.826		
Ni	60	100.648		
Cu	65	99.367		
Zn	66	99.538		
Ge	72		98.237	
As	75	98.657		
Se	82	101.316		
Se-1	77			
Ga	71			

Sample ID: QC Std 6

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[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	97.164	
[Ag	107	98.968	
[Cd	111	100.849	
[Cd	114		
>	In	115		98.660
[Sn	118	100.650	
[	Sb	123	98.969	
[	Ba	135	99.635	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	100.589	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	101.917	
[	U	238	103.008	
>	Bi	209		98.487
[	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 12, 2016 12:06:37

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Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Thursday, May 12, 2016 12:07:32

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	122468.9	5.2				ug/L	132521	Standard
|	Be	9	58.3	34.6	0.0439	0.015	33.8	ug/L	18	Standard
|	Al	27	7117.7	94.3	0.0273	0.033	121.4	ug/L	1493	Standard
|	Sc	45	57003.8	4.4				ug/L	58453	Standard
|	Ti	47	69.0	41.4	0.0288	0.064	221.9	ug/L	46	Standard
|	V	51	2145.5	2.5	0.0085	0.004	41.9	ug/L	2030	Standard
|	Cr	52	9023.7	9.6	-0.1068	0.084	78.8	ug/L	9770	Standard
|	Cr	53	433.3	30.0	-0.0423	0.106	251.7	ug/L	498	Standard
|	Mn	55	1056.0	38.2	0.0182	0.040	220.2	ug/L	721	Standard
|	Co	59	513.3	77.1	0.0309	0.038	121.7	ug/L	167	Standard
|	Ni	60	136.7	60.8	0.0249	0.032	130.1	ug/L	49	Standard
|	Cu	65	487.7	17.2	0.0181	0.032	177.0	ug/L	418	Standard
|	Zn	66	403.0	9.6	-0.0124	0.025	204.1	ug/L	282	Standard
>	Ge	72	625674.9	0.8				ug/L	632144	Standard
|	As	75	-52.3	28.3	0.0396	0.009	24.0	ug/L	-105	Standard
|	Se	82	25.7	20.0	-0.0191	0.032	166.1	ug/L	26	Standard
|	Se-1	77	84.3	16.4	0.0704	0.132	187.3	ug/L	75	Standard
>	Ga	71	23.3	24.7				mg/L	27	Standard
|	Rb	85	15.0	57.7				ug/L	15	Standard
|	Y	89	509088.3	3.6				ug/L	538177	Standard
>	Rh	103	8.3	91.7				ug/L	2	Standard
|	Mo	98	250.8	51.0	0.0557	0.034	61.7	ug/L	50	Standard
|	Ag	107	336.0	39.3	0.0234	0.015	62.5	ug/L	110	Standard
|	Cd	111	76.5	72.4	0.0285	0.020	69.6	mg/L	4	Standard
|	Cd	114	187.2	68.1	0.0170	0.019	111.0	ug/L	25	Standard
>	In	115	728923.1	3.6				ug/L	768402	Standard
|	Sn	118	973.4	36.7	0.0117	0.042	361.1	ug/L	948	Standard
|	Sb	123	790.6	56.9	0.1168	0.071	61.1	ug/L	229	Standard
|	Ba	135	125.0	32.3	0.0213	0.015	70.2	ug/L	57	Standard
|	Ce	140	21.7	58.1				ug/L	20	Standard
>	Tb	159	1183555.8	4.9				ug/L	1214723	Standard
|	Ho	165	16.7	124.9				ug/L	10	Standard
|	Tl	203	298.7	61.0	0.0216	0.017	77.2	ug/L	29	Standard
|	Tl	205	466.7	117.6	0.0431	0.057	132.5	ug/L	62	Standard
|	Pb	206	525.0	16.0	0.0241	0.013	52.8	ug/L	322	Standard
|	Pb	207	470.3	19.6	0.0233	0.015	64.4	ug/L	278	Standard
|	Pb	208	2201.7	55.3	0.0428	0.052	120.9	ug/L	1167	Standard
	U	238	355.7	106.6	0.0398	0.044	109.9	ug/L	53	Standard
>	Bi	209	629328.1	1.8				ug/L	650933	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	41.7	6.9	-0.0150	0.001	9.5	mg/L	38	Standard
K	39	26.7	39.0	0.0151	0.027	182.2	mg/L	22	Standard
Ca	43	30.0	33.3	0.1834	0.546	297.6	mg/L	27	Standard
Fe	54	177.3	25.4	-0.0335	0.024	72.7	mg/L	177	Standard
Fe	57	136.7	14.8	0.0663	0.056	84.6	mg/L	127	Standard
Sc-1	45	57003.8	4.4				mg/L	58453	Standard
Cl	35	9310.2	2.7				ug/L	9756	Standard
Kr	83	1.0	100.0				ug/L	2	Standard
Br	81	3273.7	6.4				ug/L	3130	Standard
P	31	12910.7	23.2				ug/L	16621	Standard
S	34	1038.4	7.0				ug/L	883	Standard
Sr	88	41.7	61.6				ug/L	38	Standard
C	12	223.3	29.8				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	0	Standard
Dy	164	19.2	137.3				mg/L	13	Standard
Ho-1	165	16.7	124.9				mg/L	10	Standard
Er	166	16.7	34.6				mg/L	13	Standard
I	127	14688.0	73.0				mg/L	3532	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		98.977	
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	94.862
[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	96.681
[	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

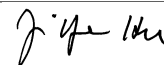
Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 7

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Method 6020 - Summary Report

Sample ID: PBW 02 WG568493-03

Sample Date/Time: Thursday, May 12, 2016 12:10:44

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	129136.4	1.9				ug/L	132521	Standard
|	Be	9	28.3	44.4	0.0222	0.008	35.9	ug/L	18	Standard
|	Al	27	38134.6	2.5	0.1668	0.003	1.6	ug/L	1493	Standard
|	Sc	45	57764.9	0.2				ug/L	58453	Standard
|	Ti	47	68.7	8.9	0.0257	0.013	49.5	ug/L	46	Standard
|	V	51	2327.9	1.3	0.0225	0.001	6.0	ug/L	2030	Standard
|	Cr	52	12180.2	1.6	0.2047	0.020	9.8	ug/L	9770	Standard
|	Cr	53	813.4	11.4	0.2665	0.081	30.4	ug/L	498	Standard
|	Mn	55	2187.5	3.5	0.1278	0.009	6.7	ug/L	721	Standard
|	Co	59	279.0	11.5	0.0082	0.003	34.6	ug/L	167	Standard
|	Ni	60	348.0	4.3	0.1058	0.005	4.7	ug/L	49	Standard
|	Cu	65	588.3	7.0	0.0539	0.016	29.6	ug/L	418	Standard
|	Zn	66	2124.1	0.2	1.1620	0.014	1.2	ug/L	282	Standard
>	Ge	72	635272.8	0.7				ug/L	632144	Standard
|	As	75	-99.0	34.5	0.0100	0.022	216.2	ug/L	-105	Standard
|	Se	82	33.0	31.3	0.0246	0.066	269.4	ug/L	26	Standard
|	Se-1	77	96.3	17.9	0.1742	0.161	92.3	ug/L	75	Standard
>	Ga	71	33.3	62.5				mg/L	27	Standard
|	Rb	85	166.7	4.6				ug/L	15	Standard
|	Y	89	539628.1	1.7				ug/L	538177	Standard
>	Rh	103	0.0					ug/L	2	Standard
|	Mo	98	108.6	33.4	0.0168	0.010	57.7	ug/L	50	Standard
|	Ag	107	175.3	9.1	0.0052	0.002	33.7	ug/L	110	Standard
|	Cd	111	25.5	39.3	0.0099	0.004	35.6	mg/L	4	Standard
|	Cd	114	70.0	28.5	-0.0007	0.003	432.3	ug/L	25	Standard
>	In	115	758119.7	2.4				ug/L	768402	Standard
|	Sn	118	1368.4	5.2	0.0562	0.012	22.0	ug/L	948	Standard
|	Sb	123	853.1	35.9	0.1239	0.051	41.4	ug/L	229	Standard
|	Ba	135	300.0	1.8	0.0788	0.004	5.1	ug/L	57	Standard
|	Ce	140	163.3	7.1				ug/L	20	Standard
>	Tb	159	1224849.2	0.5				ug/L	1214723	Standard
|	Ho	165	15.0	57.7				ug/L	10	Standard
|	Tl	203	219.0	19.6	0.0139	0.004	26.9	ug/L	29	Standard
|	Tl	205	205.0	37.9	0.0155	0.008	50.4	ug/L	62	Standard
|	Pb	206	434.7	2.9	0.0100	0.002	15.6	ug/L	322	Standard
|	Pb	207	386.3	6.0	0.0090	0.003	37.9	ug/L	278	Standard
|	Pb	208	1488.4	4.5	0.0115	0.003	22.8	ug/L	1167	Standard
	U	238	57.7	59.9	0.0054	0.004	71.3	ug/L	53	Standard
>	Bi	209	641454.3	0.3				ug/L	650933	Standard

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Na	23	1.7	173.2	3.4382	5.946	173.0	mg/L	2	Standard
Mg	24	58.3	30.1	0.0008	0.017	2100.0	mg/L	38	Standard
K	39	20.0	50.0	-0.0037	0.027	729.5	mg/L	22	Standard
Ca	43	33.3	60.6	0.3081	0.965	313.2	mg/L	27	Standard
Fe	54	202.1	22.5	-0.0182	0.030	163.5	mg/L	177	Standard
Fe	57	113.3	35.9	0.0003	0.106	33914.2	mg/L	127	Standard
Sc-1	45	57764.9	0.2				mg/L	58453	Standard
Cl	35	9761.8	5.6				ug/L	9756	Standard
Kr	83	2.3	49.5				ug/L	2	Standard
Br	81	4564.0	4.5				ug/L	3130	Standard
P	31	17046.3	1.5				ug/L	16621	Standard
S	34	966.7	7.1				ug/L	883	Standard
Sr	88	71.7	28.2				ug/L	38	Standard
C	12	256.7	18.4				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	10.0	100.0				mg/L	0	Standard
Dy	164	19.5	90.9				mg/L	13	Standard
Ho-1	165	15.0	57.7				mg/L	10	Standard
Er	166	10.0	100.0				mg/L	13	Standard
I	127	14875.6	3.4				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		97.446	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		100.495	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: PBW 02 WG568493-03

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	98.662
[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	98.544
[	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 02 WG568493-03

Report Date/Time: Thursday, May 12, 2016 12:13:01

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Method 6020 - Summary Report

Sample ID: LCSW 02 WG568493-04

Sample Date/Time: Thursday, May 12, 2016 12:13:55

Number of Replicates: 3

Autosampler Position: 302

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	133985.3	3.5				ug/L	132521	Standard
|	Be	9	82081.7	1.0	51.0149	1.900	3.7	ug/L	18	Standard
|	Al	27	19008.6	0.8	0.0763	0.002	3.2	ug/L	1493	Standard
|	Sc	45	60365.1	3.4				ug/L	58453	Standard
|	Ti	47	60.0	14.2	0.0031	0.019	614.1	ug/L	46	Standard
|	V	51	535781.2	0.7	48.7266	0.547	1.1	ug/L	2030	Standard
|	Cr	52	516464.1	0.3	50.7518	0.841	1.7	ug/L	9770	Standard
|	Cr	53	62585.7	1.7	49.8149	0.116	0.2	ug/L	498	Standard
|	Mn	55	508845.7	0.8	48.5606	0.713	1.5	ug/L	721	Standard
|	Co	59	531449.5	1.7	48.5130	0.621	1.3	ug/L	167	Standard
|	Ni	60	135635.1	0.4	50.9499	0.678	1.3	ug/L	49	Standard
|	Cu	65	137996.9	0.0	51.3387	0.752	1.5	ug/L	418	Standard
|	Zn	66	77481.6	0.6	51.3355	0.649	1.3	ug/L	282	Standard
>	Ge	72	652917.8	1.5				ug/L	632144	Standard
|	As	75	79200.8	0.8	49.8010	0.502	1.0	ug/L	-105	Standard
|	Se	82	8002.4	1.8	48.8671	0.219	0.4	ug/L	26	Standard
|	Se-1	77	5300.6	3.2	49.2963	1.781	3.6	ug/L	75	Standard
>	Ga	71	63.3	50.8				mg/L	27	Standard
|	Rb	85	70.0	7.1				ug/L	15	Standard
|	Y	89	525488.8	1.6				ug/L	538177	Standard
>	Rh	103	51.7	5.6				ug/L	2	Standard
|	Mo	98	162.4	9.1	0.0302	0.004	12.2	ug/L	50	Standard
|	Ag	107	500308.0	0.2	51.4362	0.277	0.5	ug/L	110	Standard
|	Cd	111	151219.3	1.4	50.8297	0.945	1.9	mg/L	4	Standard
|	Cd	114	366032.7	2.6	50.5991	1.471	2.9	ug/L	25	Standard
>	In	115	764334.4	0.7				ug/L	768402	Standard
|	Sn	118	1123.4	7.9	0.0249	0.010	41.9	ug/L	948	Standard
|	Sb	123	317011.2	0.9	50.3180	0.119	0.2	ug/L	229	Standard
|	Ba	135	151284.2	0.1	50.8841	0.363	0.7	ug/L	57	Standard
|	Ce	140	86.7	8.8				ug/L	20	Standard
>	Tb	159	1251672.8	1.0				ug/L	1214723	Standard
|	Ho	165	10.0	50.0				ug/L	10	Standard
|	Tl	203	586802.9	0.6	49.9745	0.826	1.7	ug/L	29	Standard
|	Tl	205	512347.4	1.1	49.8750	0.264	0.5	ug/L	62	Standard
|	Pb	206	379770.0	0.6	50.8549	0.663	1.3	ug/L	322	Standard
|	Pb	207	331782.0	0.4	49.0090	0.928	1.9	ug/L	278	Standard
|	Pb	208	1254830.1	0.4	49.6249	0.958	1.9	ug/L	1167	Standard
	U	238	445492.1	0.2	48.0781	0.646	1.3	ug/L	53	Standard
>	Bi	209	666061.2	1.5				ug/L	650933	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	55.0	24.1	-0.0045	0.014	307.9	mg/L	38	Standard
K	39	21.7	35.3	-0.0017	0.020	1198.3	mg/L	22	Standard
Ca	43	33.3	60.6	0.2532	0.946	373.8	mg/L	27	Standard
Fe	54	182.8	21.1	-0.0353	0.027	76.4	mg/L	177	Standard
Fe	57	111.7	24.7	-0.0175	0.061	346.5	mg/L	127	Standard
Sc-1	45	60365.1	3.4				mg/L	58453	Standard
Cl	35	9647.1	0.4				ug/L	9756	Standard
Kr	83	2.7	43.3				ug/L	2	Standard
Br	81	21665.5	2.2				ug/L	3130	Standard
P	31	17014.6	1.8				ug/L	16621	Standard
S	34	931.7	10.5				ug/L	883	Standard
Sr	88	43.3	17.6				ug/L	38	Standard
C	12	263.3	5.8				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	6.7	173.2				mg/L	0	Standard
Dy	164	19.0	103.8				mg/L	13	Standard
Ho-1	165	10.0	50.0				mg/L	10	Standard
Er	166	20.0	50.0				mg/L	13	Standard
I	127	12998.9	3.7				mg/L	3532	Standard

QC Calculated Values


Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		101.105	
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		103.286	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: LCSW 02 WG568493-04

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	99.471
[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	102.324
[Na	23	
[Mg	24	
[K	39	
[Ca	43	
[Fe	54	
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>	Sc-1	45	
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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: LCSW 02 WG568493-04

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Method 6020 - Summary Report

Sample ID: F BLANK WG568397-01

Sample Date/Time: Thursday, May 12, 2016 12:17:07

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	137070.8	2.6				ug/L	132521	Standard
|	Be	9	51.7	40.3	0.0352	0.012	34.6	ug/L	18	Standard
|	Al	27	22021.0	5.7	0.0873	0.003	3.5	ug/L	1493	Standard
|	Sc	45	58989.6	2.1				ug/L	58453	Standard
|	Ti	47	63.7	17.3	0.0188	0.026	138.1	ug/L	46	Standard
|	V	51	2235.7	3.1	0.0198	0.010	49.4	ug/L	2030	Standard
|	Cr	52	12320.7	0.5	0.2550	0.028	10.8	ug/L	9770	Standard
|	Cr	53	726.7	12.6	0.2110	0.070	33.3	ug/L	498	Standard
|	Mn	55	2079.1	10.8	0.1227	0.019	15.8	ug/L	721	Standard
|	Co	59	514.0	46.0	0.0313	0.022	70.2	ug/L	167	Standard
|	Ni	60	443.7	10.1	0.1474	0.015	10.2	ug/L	49	Standard
|	Cu	65	4347.0	2.1	1.5422	0.009	0.6	ug/L	418	Standard
|	Zn	66	5896.8	0.9	3.8584	0.028	0.7	ug/L	282	Standard
>	Ge	72	618005.1	1.6				ug/L	632144	Standard
|	As	75	-60.2	34.9	0.0337	0.015	43.4	ug/L	-105	Standard
|	Se	82	34.4	6.3	0.0397	0.015	38.0	ug/L	26	Standard
|	Se-1	77	80.3	7.1	0.0417	0.062	148.6	ug/L	75	Standard
>	Ga	71	31.7	9.1				mg/L	27	Standard
|	Rb	85	88.3	23.6				ug/L	15	Standard
|	Y	89	546765.2	1.4				ug/L	538177	Standard
>	Rh	103	3.3	86.6				ug/L	2	Standard
|	Mo	98	90.0	17.9	0.0108	0.004	35.3	ug/L	50	Standard
|	Ag	107	300.7	27.4	0.0168	0.008	50.1	ug/L	110	Standard
|	Cd	111	69.8	41.6	0.0239	0.010	40.1	mg/L	4	Standard
|	Cd	114	188.4	27.3	0.0146	0.007	47.2	ug/L	25	Standard
>	In	115	795170.3	1.4				ug/L	768402	Standard
|	Sn	118	1238.4	6.3	0.0331	0.009	27.3	ug/L	948	Standard
|	Sb	123	998.4	21.0	0.1388	0.030	21.8	ug/L	229	Standard
|	Ba	135	336.0	13.0	0.0857	0.014	16.9	ug/L	57	Standard
|	Ce	140	76.7	24.7				ug/L	20	Standard
>	Tb	159	1273441.2	1.8				ug/L	1214723	Standard
|	Ho	165	6.7	114.6				ug/L	10	Standard
|	Tl	203	315.3	27.2	0.0212	0.007	32.2	ug/L	29	Standard
|	Tl	205	373.3	60.2	0.0307	0.021	69.3	ug/L	62	Standard
|	Pb	206	1267.7	1.0	0.1187	0.001	1.2	ug/L	322	Standard
|	Pb	207	1062.4	9.5	0.1059	0.012	11.5	ug/L	278	Standard
|	Pb	208	4440.9	15.3	0.1251	0.025	19.6	ug/L	1167	Standard
	U	238	287.0	64.2	0.0296	0.019	65.5	ug/L	53	Standard
>	Bi	209	669100.9	1.8				ug/L	650933	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	1665.1	0.8	1.5474	0.033	2.1	mg/L	38	Standard
K	39	25.0	20.0	0.0083	0.013	150.5	mg/L	22	Standard
Ca	43	36.7	34.3	0.4350	0.617	141.9	mg/L	27	Standard
Fe	54	232.3	23.9	-0.0021	0.033	1567.0	mg/L	177	Standard
Fe	57	105.0	19.0	-0.0266	0.053	199.6	mg/L	127	Standard
Sc-1	45	58989.6	2.1				mg/L	58453	Standard
Cl	35	9639.1	0.9				ug/L	9756	Standard
Kr	83	1.0	100.0				ug/L	2	Standard
Br	81	3807.1	2.9				ug/L	3130	Standard
P	31	17545.2	1.0				ug/L	16621	Standard
S	34	986.7	2.0				ug/L	883	Standard
Sr	88	48.3	26.0				ug/L	38	Standard
C	12	260.0	20.4				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	0	Standard
Dy	164	5.2	228.8				mg/L	13	Standard
Ho-1	165	6.7	114.6				mg/L	10	Standard
Er	166	30.0	33.3				mg/L	13	Standard
I	127	18135.8	1.0				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		103.433	
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		97.763	
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	103.484
[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	102.791
[	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: L1605061117 WG568493-01

Sample Date/Time: Thursday, May 12, 2016 12:20:18

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	121776.7	5.5				ug/L	132521	Standard
|	Be	9	20.0	25.0	0.0176	0.003	19.3	ug/L	18	Standard
|	Al	27	55729.0	3.4	0.2629	0.007	2.8	ug/L	1493	Standard
|	Sc	45	56834.7	1.3				ug/L	58453	Standard
|	Ti	47	123.3	4.1	0.1671	0.011	6.8	ug/L	46	Standard
|	V	51	3270.9	7.7	0.1339	0.019	14.4	ug/L	2030	Standard
|	Cr	52	15540.3	1.7	0.6720	0.049	7.3	ug/L	9770	Standard
|	Cr	53	3585.4	6.5	2.7762	0.232	8.4	ug/L	498	Standard
|	Mn	55	6173.3	1.8	0.5651	0.015	2.7	ug/L	721	Standard
|	Co	59	2841.9	1.3	0.2688	0.007	2.5	ug/L	167	Standard
|	Ni	60	5604.7	1.7	2.2992	0.041	1.8	ug/L	49	Standard
|	Cu	65	1793.8	4.5	0.5679	0.026	4.6	ug/L	418	Standard
|	Zn	66	1787.8	1.4	1.0238	0.008	0.8	ug/L	282	Standard
>	Ge	72	590843.2	1.8				ug/L	632144	Standard
|	As	75	3709.6	3.1	2.6479	0.088	3.3	ug/L	-105	Standard
|	Se	82	1346.5	2.8	8.9395	0.305	3.4	ug/L	26	Standard
|	Se-1	77	551.7	4.1	5.0002	0.334	6.7	ug/L	75	Standard
>	Ga	71	1918.5	3.0				mg/L	27	Standard
|	Rb	85	87753.5	2.0				ug/L	15	Standard
|	Y	89	511157.8	0.5				ug/L	538177	Standard
>	Rh	103	245.0	20.7				ug/L	2	Standard
|	Mo	98	32738.2	0.1	9.2192	0.194	2.1	ug/L	50	Standard
|	Ag	107	183.3	9.8	0.0079	0.002	30.1	ug/L	110	Standard
|	Cd	111	-0.9	314.3	0.0009	0.001	110.9	mg/L	4	Standard
|	Cd	114	125.7	15.2	0.0088	0.003	36.3	ug/L	25	Standard
>	In	115	690702.3	2.1				ug/L	768402	Standard
|	Sn	118	1463.4	8.5	0.0854	0.021	24.3	ug/L	948	Standard
|	Sb	123	1025.6	14.5	0.1672	0.030	17.7	ug/L	229	Standard
|	Ba	135	655850.7	0.4	244.2517	4.320	1.8	ug/L	57	Standard
|	Ce	140	100.0	10.0				ug/L	20	Standard
>	Tb	159	1134638.4	2.1				ug/L	1214723	Standard
|	Ho	165	18.3	56.8				ug/L	10	Standard
|	Tl	203	229.0	15.7	0.0183	0.003	18.3	ug/L	29	Standard
|	Tl	205	250.0	20.3	0.0243	0.006	23.0	ug/L	62	Standard
|	Pb	206	683.0	4.9	0.0609	0.006	10.4	ug/L	322	Standard
|	Pb	207	589.3	10.2	0.0555	0.010	18.3	ug/L	278	Standard
|	Pb	208	2306.4	0.4	0.0613	0.002	3.6	ug/L	1167	Standard
	U	238	65.7	23.6	0.0076	0.002	26.6	ug/L	53	Standard
>	Bi	209	547891.9	1.7				ug/L	650933	Standard

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Na	23	13.3	57.3	27.9882	16.189	57.8	mg/L	2	Standard
Mg	24	195199.4	0.7	195.0773	3.485	1.8	mg/L	38	Standard
K	39	1281.7	4.6	3.4508	0.119	3.4	mg/L	22	Standard
Ca	43	1573.4	2.6	74.7760	2.399	3.2	mg/L	27	Standard
Fe	54	183.7	14.4	-0.0281	0.019	66.9	mg/L	177	Standard
Fe	57	703.3	11.1	1.5630	0.200	12.8	mg/L	127	Standard
Sc-1	45	56834.7	1.3				mg/L	58453	Standard
Cl	35	11150.1	1.2				ug/L	9756	Standard
Kr	83	1.7	34.6				ug/L	2	Standard
Br	81	353995.0	1.7				ug/L	3130	Standard
P	31	17588.6	4.7				ug/L	16621	Standard
S	34	1180.0	3.0				ug/L	883	Standard
Sr	88	958.4	4.2				ug/L	38	Standard
C	12	376.7	15.3				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	0	Standard
Dy	164	9.0	105.3				mg/L	13	Standard
Ho-1	165	18.3	56.8				mg/L	10	Standard
Er	166	20.0	50.0				mg/L	13	Standard
I	127	628352.2	3.4				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		91.893	
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		93.467	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1605061117 WG568493-01

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	89.888
[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	84.170
[	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

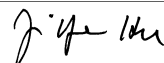
Measurement Type	Analyte	Mass	Out of Limits Message
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1605061117 WG568493-01

Report Date/Time: Thursday, May 12, 2016 12:22:35

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Method 6020 - Summary Report

Sample ID: L1605061117S WG568493-05

Sample Date/Time: Thursday, May 12, 2016 12:23:30

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	114684.1	1.5				ug/L	132521	Standard
|	Be	9	63205.1	4.9	45.8401	1.555	3.4	ug/L	18	Standard
|	Al	27	53987.7	3.3	0.2704	0.007	2.5	ug/L	1493	Standard
|	Sc	45	59344.4	3.2				ug/L	58453	Standard
|	Ti	47	115.7	24.7	0.1371	0.065	47.1	ug/L	46	Standard
|	V	51	520646.8	1.8	50.1006	0.209	0.4	ug/L	2030	Standard
|	Cr	52	493440.1	2.4	51.3226	1.709	3.3	ug/L	9770	Standard
|	Cr	53	61444.4	1.4	51.7793	1.487	2.9	ug/L	498	Standard
|	Mn	55	493251.6	0.9	49.8124	0.985	2.0	ug/L	721	Standard
|	Co	59	487729.6	2.3	47.1193	1.555	3.3	ug/L	167	Standard
|	Ni	60	129308.4	0.6	51.3980	0.914	1.8	ug/L	49	Standard
|	Cu	65	123532.7	2.0	48.6204	1.284	2.6	ug/L	418	Standard
|	Zn	66	70907.6	1.6	49.7057	1.311	2.6	ug/L	282	Standard
>	Ge	72	617062.5	1.5				ug/L	632144	Standard
|	As	75	79084.4	0.6	52.6137	0.553	1.1	ug/L	-105	Standard
|	Se	82	8599.9	0.3	55.6008	0.688	1.2	ug/L	26	Standard
|	Se-1	77	5437.0	2.9	53.5735	2.024	3.8	ug/L	75	Standard
>	Ga	71	1961.8	0.8				mg/L	27	Standard
|	Rb	85	86679.0	2.8				ug/L	15	Standard
|	Y	89	498828.6	0.5				ug/L	538177	Standard
>	Rh	103	246.7	7.7				ug/L	2	Standard
|	Mo	98	32920.6	1.9	9.4030	0.323	3.4	ug/L	50	Standard
|	Ag	107	419785.6	0.6	48.4407	0.512	1.1	ug/L	110	Standard
|	Cd	111	135871.0	1.0	51.2678	1.297	2.5	mg/L	4	Standard
|	Cd	114	324458.9	0.3	50.3419	0.653	1.3	ug/L	25	Standard
>	In	115	681024.6	1.6				ug/L	768402	Standard
|	Sn	118	1015.0	3.2	0.0269	0.005	20.3	ug/L	948	Standard
|	Sb	123	292295.0	1.3	52.0744	0.479	0.9	ug/L	229	Standard
|	Ba	135	786191.5	0.3	296.9297	4.382	1.5	ug/L	57	Standard
|	Ce	140	68.3	16.9				ug/L	20	Standard
>	Tb	159	1121876.1	0.8				ug/L	1214723	Standard
|	Ho	165	18.3	83.3				ug/L	10	Standard
|	Tl	203	492907.0	0.9	50.6969	1.108	2.2	ug/L	29	Standard
|	Tl	205	422812.7	1.7	49.7168	1.514	3.0	ug/L	62	Standard
|	Pb	206	322093.3	0.4	52.0903	0.864	1.7	ug/L	322	Standard
|	Pb	207	281448.3	1.4	50.2030	0.816	1.6	ug/L	278	Standard
|	Pb	208	1071891.1	0.9	51.1945	1.144	2.2	ug/L	1167	Standard
	U	238	388785.8	0.9	50.6740	1.111	2.2	ug/L	53	Standard
>	Bi	209	551533.2	1.3				ug/L	650933	Standard

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Na	23	15.0	33.3	30.2529	10.434	34.5	mg/L	2	Standard
Mg	24	195957.5	1.3	187.7019	8.293	4.4	mg/L	38	Standard
K	39	1383.4	3.1	3.5719	0.144	4.0	mg/L	22	Standard
Ca	43	1663.4	1.7	75.7658	2.726	3.6	mg/L	27	Standard
Fe	54	196.7	17.4	-0.0249	0.023	92.6	mg/L	177	Standard
Fe	57	703.3	12.0	1.4822	0.165	11.1	mg/L	127	Standard
Sc-1	45	59344.4	3.2				mg/L	58453	Standard
Cl	35	11258.8	0.6				ug/L	9756	Standard
Kr	83	2.3	65.5				ug/L	2	Standard
Br	81	351582.8	1.3				ug/L	3130	Standard
P	31	17109.7	2.6				ug/L	16621	Standard
S	34	1230.1	7.2				ug/L	883	Standard
Sr	88	890.0	6.5				ug/L	38	Standard
C	12	333.3	14.2				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	10.0	100.0				mg/L	0	Standard
Dy	164	22.5	110.7				mg/L	13	Standard
Ho-1	165	18.3	83.3				mg/L	10	Standard
Er	166	16.7	34.6				mg/L	13	Standard
I	127	698912.5	5.4				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		86.540	
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		97.614	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1605061117S WG568493-05

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	88.629
[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	84.730
[	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

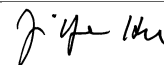
Measurement Type	Analyte	Mass	Out of Limits Message
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1605061117S WG568493-05

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Method 6020 - Summary Report

Sample ID: L1605061117SD WG568493-06

Sample Date/Time: Thursday, May 12, 2016 12:26:41

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	112949.7	3.2				ug/L	132521	Standard
|	Be	9	62206.0	5.2	45.8058	1.061	2.3	ug/L	18	Standard
|	Al	27	55591.8	1.4	0.2832	0.008	2.8	ug/L	1493	Standard
|	Sc	45	62962.2	0.9				ug/L	58453	Standard
|	Ti	47	120.0	8.5	0.1560	0.032	20.2	ug/L	46	Standard
|	V	51	514037.3	0.8	51.0130	1.326	2.6	ug/L	2030	Standard
|	Cr	52	507404.2	1.4	54.4610	0.809	1.5	ug/L	9770	Standard
|	Cr	53	65071.1	0.8	56.5730	1.738	3.1	ug/L	498	Standard
|	Mn	55	503940.4	0.7	52.4794	1.573	3.0	ug/L	721	Standard
|	Co	59	481925.4	0.2	48.0028	1.401	2.9	ug/L	167	Standard
|	Ni	60	132248.5	2.5	54.1774	0.124	0.2	ug/L	49	Standard
|	Cu	65	127048.2	1.5	51.5554	0.796	1.5	ug/L	418	Standard
|	Zn	66	71432.0	1.6	51.6234	0.652	1.3	ug/L	282	Standard
>	Ge	72	598656.7	2.7				ug/L	632144	Standard
|	As	75	78663.5	1.0	53.9537	1.053	2.0	ug/L	-105	Standard
|	Se	82	8605.5	2.1	57.3567	0.975	1.7	ug/L	26	Standard
|	Se-1	77	5385.6	1.0	54.7357	1.974	3.6	ug/L	75	Standard
>	Ga	71	1886.8	7.4				mg/L	27	Standard
|	Rb	85	87081.2	1.2				ug/L	15	Standard
|	Y	89	511683.9	1.1				ug/L	538177	Standard
>	Rh	103	261.7	17.2				ug/L	2	Standard
|	Mo	98	32488.1	1.4	9.0524	0.123	1.4	ug/L	50	Standard
|	Ag	107	426685.3	1.0	48.0522	1.038	2.2	ug/L	110	Standard
|	Cd	111	136312.0	0.8	50.1823	0.322	0.6	mg/L	4	Standard
|	Cd	114	332048.6	1.0	50.2714	0.372	0.7	ug/L	25	Standard
>	In	115	697855.7	1.2				ug/L	768402	Standard
|	Sn	118	1041.7	9.5	0.0270	0.012	43.3	ug/L	948	Standard
|	Sb	123	295706.3	1.1	51.4169	1.124	2.2	ug/L	229	Standard
|	Ba	135	805806.0	1.2	296.9754	4.697	1.6	ug/L	57	Standard
|	Ce	140	63.3	4.6				ug/L	20	Standard
>	Tb	159	1152873.6	2.8				ug/L	1214723	Standard
|	Ho	165	13.3	43.3				ug/L	10	Standard
|	Tl	203	497217.2	1.3	50.8920	0.640	1.3	ug/L	29	Standard
|	Tl	205	422688.2	0.4	49.4612	0.784	1.6	ug/L	62	Standard
|	Pb	206	318719.7	0.2	51.3035	1.048	2.0	ug/L	322	Standard
|	Pb	207	277217.6	1.1	49.2126	0.513	1.0	ug/L	278	Standard
|	Pb	208	1062360.4	0.7	50.4980	1.001	2.0	ug/L	1167	Standard
	U	238	389833.4	1.1	50.5632	0.443	0.9	ug/L	53	Standard
>	Bi	209	554188.3	2.0				ug/L	650933	Standard

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Na	23	11.7	99.0	22.0433	21.762	98.7	mg/L	2	Standard
Mg	24	202082.2	1.4	182.2928	4.005	2.2	mg/L	38	Standard
K	39	1473.4	6.8	3.5851	0.271	7.6	mg/L	22	Standard
Ca	43	1710.1	3.4	73.3163	2.047	2.8	mg/L	27	Standard
Fe	54	223.5	3.9	-0.0163	0.006	35.2	mg/L	177	Standard
Fe	57	768.4	4.9	1.5379	0.100	6.5	mg/L	127	Standard
Sc-1	45	62962.2	0.9				mg/L	58453	Standard
Cl	35	11432.3	1.3				ug/L	9756	Standard
Kr	83	1.3	86.6				ug/L	2	Standard
Br	81	348944.1	2.5				ug/L	3130	Standard
P	31	17284.9	2.6				ug/L	16621	Standard
S	34	1308.4	5.2				ug/L	883	Standard
Sr	88	873.4	5.8				ug/L	38	Standard
C	12	230.0	11.5				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	6.0	200.9				mg/L	13	Standard
Ho-1	165	13.3	43.3				mg/L	10	Standard
Er	166	13.3	114.6				mg/L	13	Standard
I	127	685458.9	3.9				mg/L	3532	Standard

QC Calculated Values


Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		85.232	
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		94.703	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1605061117SD WG568493-06

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	90.819
[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	85.138
[	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: L1605061117SD WG568493-06

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Method 6020 - Summary Report

Sample ID: L1605057102

Sample Date/Time: Thursday, May 12, 2016 12:29:53

Number of Replicates: 3

Autosampler Position: 307

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	127746.3	1.2				ug/L	132521	Standard
|	Be	9	28.3	71.3	0.0225	0.013	58.7	ug/L	18	Standard
|	Al	27	81445623.3	2.0	376.3810	5.034	1.3	ug/L	1493	Standard
|	Sc	45	60202.7	1.0				ug/L	58453	Standard
|	Ti	47	549.3	4.2	1.1603	0.061	5.2	ug/L	46	Standard
|	V	51	5695.2	3.7	0.3701	0.025	6.7	ug/L	2030	Standard
|	Cr	52	18303.0	1.3	0.9473	0.051	5.4	ug/L	9770	Standard
|	Cr	53	9343.0	22.8	7.7375	1.752	22.6	ug/L	498	Standard
|	Mn	55	100562.0	1.4	10.3765	0.264	2.5	ug/L	721	Standard
|	Co	59	2322.5	1.9	0.2128	0.003	1.6	ug/L	167	Standard
|	Ni	60	12574.9	1.2	5.1146	0.077	1.5	ug/L	49	Standard
|	Cu	65	2891.3	1.1	1.0027	0.022	2.2	ug/L	418	Standard
|	Zn	66	4925.8	1.5	3.2795	0.083	2.5	ug/L	282	Standard
>	Ge	72	599969.4	1.5				ug/L	632144	Standard
|	As	75	4316.9	1.1	3.0235	0.041	1.4	ug/L	-105	Standard
|	Se	82	1760.6	1.3	11.5608	0.019	0.2	ug/L	26	Standard
|	Se-1	77	871.4	13.3	8.1843	1.077	13.2	ug/L	75	Standard
>	Ga	71	63.3	40.5				mg/L	27	Standard
|	Rb	85	7433.5	1.8				ug/L	15	Standard
|	Y	89	515247.1	1.4				ug/L	538177	Standard
>	Rh	103	628.3	6.9				ug/L	2	Standard
|	Mo	98	372.3	8.4	0.0932	0.009	9.3	ug/L	50	Standard
|	Ag	107	178.3	3.6	0.0073	0.001	10.3	ug/L	110	Standard
|	Cd	111	156.3	7.1	0.0591	0.004	7.0	mg/L	4	Standard
|	Cd	114	311.1	18.3	0.0369	0.009	23.4	ug/L	25	Standard
>	In	115	694050.1	0.1				ug/L	768402	Standard
|	Sn	118	1016.7	10.9	0.0245	0.015	60.2	ug/L	948	Standard
|	Sb	123	648.9	15.3	0.1001	0.017	17.2	ug/L	229	Standard
|	Ba	135	37301.9	1.6	13.7996	0.197	1.4	ug/L	57	Standard
|	Ce	140	1505.1	1.0				ug/L	20	Standard
>	Tb	159	1126609.1	1.7				ug/L	1214723	Standard
|	Ho	165	65.0	7.7				ug/L	10	Standard
|	Tl	203	290.7	5.8	0.0250	0.001	6.0	ug/L	29	Standard
|	Tl	205	253.3	4.6	0.0250	0.002	6.6	ug/L	62	Standard
|	Pb	206	551.0	4.8	0.0402	0.005	13.2	ug/L	322	Standard
|	Pb	207	478.7	4.9	0.0366	0.005	12.4	ug/L	278	Standard
|	Pb	208	1814.4	3.6	0.0386	0.004	10.9	ug/L	1167	Standard
	U	238	24183.0	0.6	3.2035	0.023	0.7	ug/L	53	Standard
>	Bi	209	542420.2	1.3				ug/L	650933	Standard

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Na	23	11.7	65.5	23.1958	15.413	66.4	mg/L	2	Standard
Mg	24	181451.8	1.2	171.1593	0.406	0.2	mg/L	38	Standard
K	39	453.3	17.2	1.1129	0.191	17.1	mg/L	22	Standard
Ca	43	2108.5	2.5	94.9134	1.600	1.7	mg/L	27	Standard
Fe	54	264.9	13.7	0.0155	0.021	136.7	mg/L	177	Standard
Fe	57	796.7	7.9	1.6922	0.156	9.2	mg/L	127	Standard
Sc-1	45	60202.7	1.0				mg/L	58453	Standard
Cl	35	14443.5	2.0				ug/L	9756	Standard
Kr	83	3.0	33.3				ug/L	2	Standard
Br	81	397257.4	0.8				ug/L	3130	Standard
P	31	25329.5	4.5				ug/L	16621	Standard
S	34	1063.4	3.9				ug/L	883	Standard
Sr	88	2550.2	2.5				ug/L	38	Standard
C	12	720.0	5.0				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	10.0	100.0				mg/L	0	Standard
Dy	164	86.5	1.3				mg/L	13	Standard
Ho-1	165	65.0	7.7				mg/L	10	Standard
Er	166	73.3	31.5				mg/L	13	Standard
I	127	516494.5	5.5				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		96.397	
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		94.910	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1605057102

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	90.324
[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	83.330
[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

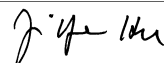
Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	

Sample ID: L1605057102

Report Date/Time: Thursday, May 12, 2016 12:32:10

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Method 6020 - Summary Report

Sample ID: L1605057102PS WG568537-01

Sample Date/Time: Thursday, May 12, 2016 12:33:04

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	141281.0	3.0				ug/L	132521	Standard
|	Be	9	77449.1	1.1	45.6294	0.884	1.9	ug/L	18	Standard
|	Al	27	83285958.5	2.8	348.1625	11.369	3.3	ug/L	1493	Standard
|	Sc	45	63743.8	1.8				ug/L	58453	Standard
|	Ti	47	569.0	10.6	1.1791	0.120	10.2	ug/L	46	Standard
|	V	51	543259.0	1.9	52.7455	1.203	2.3	ug/L	2030	Standard
|	Cr	52	492281.8	1.4	51.6472	1.220	2.4	ug/L	9770	Standard
|	Cr	53	72107.9	1.3	61.3614	1.599	2.6	ug/L	498	Standard
|	Mn	55	582841.8	2.0	59.3714	0.408	0.7	ug/L	721	Standard
|	Co	59	485470.3	2.2	47.2910	0.551	1.2	ug/L	167	Standard
|	Ni	60	128723.2	0.5	51.6036	0.562	1.1	ug/L	49	Standard
|	Cu	65	122947.5	0.9	48.8085	0.983	2.0	ug/L	418	Standard
|	Zn	66	73884.0	0.3	52.2485	0.650	1.2	ug/L	282	Standard
>	Ge	72	611786.2	1.5				ug/L	632144	Standard
|	As	75	81162.9	1.6	54.4547	0.357	0.7	ug/L	-105	Standard
|	Se	82	9292.3	0.8	60.6108	0.748	1.2	ug/L	26	Standard
|	Se-1	77	6237.3	1.6	62.0919	0.227	0.4	ug/L	75	Standard
>	Ga	71	73.3	10.4				mg/L	27	Standard
|	Rb	85	7508.5	2.4				ug/L	15	Standard
|	Y	89	502069.9	0.8				ug/L	538177	Standard
>	Rh	103	561.7	10.3				ug/L	2	Standard
|	Mo	98	451.6	23.5	0.1155	0.031	26.5	ug/L	50	Standard
|	Ag	107	412578.9	2.0	46.6708	1.138	2.4	ug/L	110	Standard
|	Cd	111	135131.7	1.2	49.9738	0.674	1.3	mg/L	4	Standard
|	Cd	114	328076.4	0.9	49.8973	0.685	1.4	ug/L	25	Standard
>	In	115	694691.0	0.7				ug/L	768402	Standard
|	Sn	118	1306.7	7.9	0.0631	0.015	23.1	ug/L	948	Standard
|	Sb	123	297417.8	1.0	51.9440	0.735	1.4	ug/L	229	Standard
|	Ba	135	176317.7	0.6	65.2574	0.803	1.2	ug/L	57	Standard
|	Ce	140	1458.4	7.2				ug/L	20	Standard
>	Tb	159	1191364.3	1.8				ug/L	1214723	Standard
|	Ho	165	55.0	9.1				ug/L	10	Standard
|	Tl	203	522618.9	1.4	51.0234	0.237	0.5	ug/L	29	Standard
|	Tl	205	459553.8	0.9	51.3035	1.391	2.7	ug/L	62	Standard
|	Pb	206	345424.2	1.3	53.0310	0.304	0.6	ug/L	322	Standard
|	Pb	207	300581.9	1.2	50.9010	0.383	0.8	ug/L	278	Standard
|	Pb	208	1105393.1	0.7	50.1164	0.559	1.1	ug/L	1167	Standard
|	U	238	447282.4	0.5	55.3445	0.773	1.4	ug/L	53	Standard
>	Bi	209	580958.1	1.8				ug/L	650933	Standard

Sample ID: L1605057102PS WG568537-01

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Na	23	18.3	31.5	34.2270	10.537	30.8	mg/L	2	Standard
Mg	24	189933.3	1.9	169.2842	6.347	3.7	mg/L	38	Standard
K	39	480.0	15.3	1.1145	0.180	16.2	mg/L	22	Standard
Ca	43	1976.8	5.0	83.9310	4.758	5.7	mg/L	27	Standard
Fe	54	266.4	9.5	0.0074	0.016	213.4	mg/L	177	Standard
Fe	57	831.7	5.0	1.6658	0.135	8.1	mg/L	127	Standard
Sc-1	45	63743.8	1.8				mg/L	58453	Standard
Cl	35	14454.9	3.1				ug/L	9756	Standard
Kr	83	2.7	86.6				ug/L	2	Standard
Br	81	339262.9	0.2				ug/L	3130	Standard
P	31	25299.4	0.1				ug/L	16621	Standard
S	34	1068.4	7.5				ug/L	883	Standard
Sr	88	2608.6	3.3				ug/L	38	Standard
C	12	820.0	18.5				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	10.0	100.0				mg/L	0	Standard
Dy	164	87.6	29.1				mg/L	13	Standard
Ho-1	165	55.0	9.1				mg/L	10	Standard
Er	166	50.0	52.9				mg/L	13	Standard
I	127	777268.5	10.9				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		106.610	
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		96.780	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1605057102PS WG568537-01

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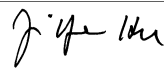
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[Sr	88	
[C	12	
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[Hg	202	
[Dy	164	
[Ho-1	165	
[Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	

Sample ID: L1605057102PS WG568537-01
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Method 6020 - Summary Report

Sample ID: L1605057102SDL WG568537-02

Sample Date/Time: Thursday, May 12, 2016 12:36:16

Number of Replicates: 3

Autosampler Position: 309

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	124669.1	0.1				ug/L	132521	Standard
|	Be	9	28.3	10.2	0.0229	0.002	8.4	ug/L	18	Standard
|	Al	27	16470895.5	2.3	77.9923	1.895	2.4	ug/L	1493	Standard
|	Sc	45	57204.6	4.8				ug/L	58453	Standard
|	Ti	47	157.7	7.4	0.2463	0.029	11.6	ug/L	46	Standard
|	V	51	3553.5	11.4	0.1600	0.037	23.2	ug/L	2030	Standard
|	Cr	52	11472.0	1.8	0.2124	0.022	10.2	ug/L	9770	Standard
|	Cr	53	4440.7	6.6	3.5092	0.299	8.5	ug/L	498	Standard
|	Mn	55	19084.7	0.3	1.9159	0.031	1.6	ug/L	721	Standard
|	Co	59	631.3	8.7	0.0452	0.005	10.9	ug/L	167	Standard
|	Ni	60	1668.1	4.2	0.6597	0.032	4.8	ug/L	49	Standard
|	Cu	65	999.7	4.7	0.2378	0.019	7.8	ug/L	418	Standard
|	Zn	66	2333.8	1.6	1.4144	0.010	0.7	ug/L	282	Standard
>	Ge	72	594750.0	1.4				ug/L	632144	Standard
|	As	75	1498.9	3.7	1.1073	0.052	4.7	ug/L	-105	Standard
|	Se	82	674.8	3.7	4.3596	0.225	5.2	ug/L	26	Standard
|	Se-1	77	355.7	5.1	2.9269	0.186	6.3	ug/L	75	Standard
>	Ga	71	53.3	32.9				mg/L	27	Standard
|	Rb	85	1465.1	1.9				ug/L	15	Standard
|	Y	89	498386.4	1.0				ug/L	538177	Standard
>	Rh	103	103.3	34.0				ug/L	2	Standard
|	Mo	98	98.3	14.9	0.0159	0.005	29.2	ug/L	50	Standard
|	Ag	107	3516.1	4.5	0.3778	0.026	6.8	ug/L	110	Standard
|	Cd	111	58.2	42.3	0.0225	0.009	42.1	mg/L	4	Standard
|	Cd	114	127.4	18.3	0.0086	0.004	45.4	ug/L	25	Standard
>	In	115	707980.1	2.3				ug/L	768402	Standard
|	Sn	118	718.4	23.0	-0.0169	0.024	142.3	ug/L	948	Standard
|	Sb	123	895.6	20.6	0.1397	0.028	20.3	ug/L	229	Standard
|	Ba	135	7514.9	1.5	2.7073	0.022	0.8	ug/L	57	Standard
|	Ce	140	283.3	4.1				ug/L	20	Standard
>	Tb	159	1183697.0	2.0				ug/L	1214723	Standard
|	Ho	165	20.0	66.1				ug/L	10	Standard
|	Tl	203	288.7	32.6	0.0217	0.009	40.4	ug/L	29	Standard
|	Tl	205	255.0	16.0	0.0222	0.004	19.4	ug/L	62	Standard
|	Pb	206	518.7	5.0	0.0264	0.004	14.8	ug/L	322	Standard
|	Pb	207	425.7	5.8	0.0192	0.004	19.4	ug/L	278	Standard
|	Pb	208	1661.7	7.6	0.0231	0.005	23.2	ug/L	1167	Standard
	U	238	4901.8	1.1	0.5838	0.010	1.7	ug/L	53	Standard
>	Bi	209	602409.1	0.6				ug/L	650933	Standard

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Na	23	8.3	91.7	17.7228	16.649	93.9	mg/L	2	Standard
Mg	24	36495.6	1.3	36.2321	1.504	4.2	mg/L	38	Standard
K	39	126.7	17.8	0.2877	0.063	22.0	mg/L	22	Standard
Ca	43	455.0	7.7	20.6308	2.415	11.7	mg/L	27	Standard
Fe	54	97.2	30.2	-0.0855	0.020	23.2	mg/L	177	Standard
Fe	57	290.0	6.0	0.4670	0.035	7.5	mg/L	127	Standard
Sc-1	45	57204.6	4.8				mg/L	58453	Standard
Cl	35	12439.1	1.5				ug/L	9756	Standard
Kr	83	0.7	173.2				ug/L	2	Standard
Br	81	155648.9	1.9				ug/L	3130	Standard
P	31	10426.9	3.1				ug/L	16621	Standard
S	34	1146.7	3.5				ug/L	883	Standard
Sr	88	528.3	6.1				ug/L	38	Standard
C	12	280.0	32.7				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	0	Standard
Dy	164	42.1	58.5				mg/L	13	Standard
Ho-1	165	20.0	66.1				mg/L	10	Standard
Er	166	26.7	94.4				mg/L	13	Standard
I	127	274528.8	2.1				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		94.075	
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		94.085	
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	92.137
[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	92.546
[	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: L1605057102SDL WG568537-02

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Method 6020 - Summary Report

Sample ID: L1605057102SDL WG568537-02

Sample Date/Time: Thursday, May 12, 2016 12:39:28

Number of Replicates: 3

Autosampler Position: 310

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	112148.6	2.0				ug/L	132521	Standard
|	Be	9	15.0	33.3	0.0151	0.004	23.4	ug/L	18	Standard
|	Al	27	3609949.2	2.9	19.0078	0.915	4.8	ug/L	1493	Standard
|	Sc	45	55377.7	1.0				ug/L	58453	Standard
|	Ti	47	63.3	12.3	0.0215	0.019	87.9	ug/L	46	Standard
|	V	51	2934.7	5.1	0.0942	0.015	16.3	ug/L	2030	Standard
|	Cr	52	10293.8	2.2	0.0671	0.028	42.3	ug/L	9770	Standard
|	Cr	53	1623.4	6.3	1.0063	0.100	9.9	ug/L	498	Standard
|	Mn	55	4921.5	1.8	0.4222	0.006	1.5	ug/L	721	Standard
|	Co	59	263.7	7.6	0.0081	0.002	28.0	ug/L	167	Standard
|	Ni	60	422.3	3.8	0.1432	0.006	4.4	ug/L	49	Standard
|	Cu	65	505.3	5.0	0.0325	0.012	38.0	ug/L	418	Standard
|	Zn	66	1296.1	3.5	0.6426	0.041	6.3	ug/L	282	Standard
>	Ge	72	603047.8	1.1				ug/L	632144	Standard
|	As	75	893.3	2.1	0.6810	0.006	0.9	ug/L	-105	Standard
|	Se	82	428.2	4.6	2.6576	0.103	3.9	ug/L	26	Standard
|	Se-1	77	161.7	1.8	0.8929	0.039	4.3	ug/L	75	Standard
>	Ga	71	21.7	13.3				mg/L	27	Standard
|	Rb	85	405.0	6.2				ug/L	15	Standard
|	Y	89	503476.8	4.3				ug/L	538177	Standard
>	Rh	103	26.7	103.3				ug/L	2	Standard
|	Mo	98	34.3	26.2	-0.0014	0.003	188.2	ug/L	50	Standard
|	Ag	107	1452.4	34.5	0.1543	0.060	38.7	ug/L	110	Standard
|	Cd	111	18.3	30.2	0.0081	0.002	25.7	mg/L	4	Standard
|	Cd	114	42.2	57.5	-0.0040	0.004	92.3	ug/L	25	Standard
>	In	115	684680.0	1.2				ug/L	768402	Standard
|	Sn	118	416.7	12.8	-0.0549	0.007	12.7	ug/L	948	Standard
|	Sb	123	218.5	20.4	0.0254	0.008	33.1	ug/L	229	Standard
|	Ba	135	1722.1	1.4	0.6239	0.009	1.5	ug/L	57	Standard
|	Ce	140	75.0	50.3				ug/L	20	Standard
>	Tb	159	1107504.3	1.4				ug/L	1214723	Standard
|	Ho	165	10.0					ug/L	10	Standard
|	Tl	203	278.3	19.8	0.0214	0.006	26.7	ug/L	29	Standard
|	Tl	205	236.7	10.6	0.0208	0.003	12.7	ug/L	62	Standard
|	Pb	206	437.7	8.3	0.0158	0.005	30.5	ug/L	322	Standard
|	Pb	207	363.7	3.7	0.0105	0.003	28.2	ug/L	278	Standard
|	Pb	208	1410.4	6.5	0.0135	0.005	35.5	ug/L	1167	Standard
	U	238	1094.0	4.6	0.1324	0.004	3.0	ug/L	53	Standard
>	Bi	209	589159.5	1.7				ug/L	650933	Standard

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Na	23	3.3	173.2	7.2018	12.465	173.1	mg/L	2	Standard
Mg	24	8070.5	2.3	8.2230	0.214	2.6	mg/L	38	Standard
K	39	48.3	39.2	0.0784	0.054	68.6	mg/L	22	Standard
Ca	43	113.3	16.7	4.3484	0.985	22.7	mg/L	27	Standard
Fe	54	79.2	49.6	-0.0957	0.027	28.3	mg/L	177	Standard
Fe	57	183.3	8.8	0.2028	0.043	21.3	mg/L	127	Standard
Sc-1	45	55377.7	1.0				mg/L	58453	Standard
Cl	35	12362.4	1.8				ug/L	9756	Standard
Kr	83	1.7	91.7				ug/L	2	Standard
Br	81	92773.3	2.9				ug/L	3130	Standard
P	31	6833.2	4.8				ug/L	16621	Standard
S	34	1225.0	9.5				ug/L	883	Standard
Sr	88	170.0	10.2				ug/L	38	Standard
C	12	276.7	30.7				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	29.2	67.7				mg/L	13	Standard
Ho-1	165	10.0					mg/L	10	Standard
Er	166	16.7	91.7				mg/L	13	Standard
I	127	137351.6	1.8				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		84.627	
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		95.397	
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	89.104
[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	90.510
[	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: L1605057102SDL WG568537-02

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Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Thursday, May 12, 2016 12:42:41

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	124733.4	3.4				ug/L	132521	Standard
|	Be	9	74847.8	2.6	49.9379	0.583	1.2	ug/L	18	Standard
|	Al	27	11341524.3	1.4	53.7214	2.255	4.2	ug/L	1493	Standard
|	Sc	45	60924.0	3.4				ug/L	58453	Standard
|	Ti	47	48100.2	0.5	103.1832	0.835	0.8	ug/L	46	Standard
|	V	51	541886.6	1.1	49.1968	0.128	0.3	ug/L	2030	Standard
|	Cr	52	513597.2	0.5	50.3746	0.626	1.2	ug/L	9770	Standard
|	Cr	53	63310.3	1.0	50.3148	0.535	1.1	ug/L	498	Standard
|	Mn	55	537395.8	0.7	51.2049	0.915	1.8	ug/L	721	Standard
|	Co	59	543957.4	1.0	49.5785	1.032	2.1	ug/L	167	Standard
|	Ni	60	133899.1	0.7	50.2135	0.864	1.7	ug/L	49	Standard
|	Cu	65	134122.4	1.5	49.8090	1.142	2.3	ug/L	418	Standard
|	Zn	66	75041.7	0.3	49.6247	0.549	1.1	ug/L	282	Standard
>	Ge	72	654008.6	1.1				ug/L	632144	Standard
|	As	75	78062.1	0.8	49.0049	0.740	1.5	ug/L	-105	Standard
|	Se	82	8192.0	0.0	49.9511	0.572	1.1	ug/L	26	Standard
|	Se-1	77	5410.0	1.5	50.2350	0.242	0.5	ug/L	75	Standard
>	Ga	71	46.7	43.3				mg/L	27	Standard
|	Rb	85	1130.0	3.1				ug/L	15	Standard
|	Y	89	549880.2	2.8				ug/L	538177	Standard
>	Rh	103	43.3	46.6				ug/L	2	Standard
|	Mo	98	388139.7	0.5	100.2491	3.801	3.8	ug/L	50	Standard
|	Ag	107	484286.2	0.8	50.4900	1.870	3.7	ug/L	110	Standard
|	Cd	111	150339.0	1.7	51.2225	0.992	1.9	mg/L	4	Standard
|	Cd	114	368788.9	4.4	51.6417	0.460	0.9	ug/L	25	Standard
>	In	115	754351.1	3.6				ug/L	768402	Standard
|	Sn	118	407088.6	1.3	49.9330	2.214	4.4	ug/L	948	Standard
|	Sb	123	313730.8	0.3	50.5023	1.907	3.8	ug/L	229	Standard
|	Ba	135	150178.4	1.6	51.2048	1.141	2.2	ug/L	57	Standard
|	Ce	140	106.7	37.9				ug/L	20	Standard
>	Tb	159	1209418.6	2.8				ug/L	1214723	Standard
|	Ho	165	13.3	43.3				ug/L	10	Standard
|	Tl	203	563807.6	0.6	51.0353	0.516	1.0	ug/L	29	Standard
|	Tl	205	508163.4	1.2	52.5829	0.655	1.2	ug/L	62	Standard
|	Pb	206	356939.6	0.6	50.8050	0.577	1.1	ug/L	322	Standard
|	Pb	207	325524.8	0.5	51.1070	0.194	0.4	ug/L	278	Standard
|	Pb	208	1252011.9	0.9	52.6280	0.704	1.3	ug/L	1167	Standard
	U	238	454327.2	0.7	52.1170	0.735	1.4	ug/L	53	Standard
>	Bi	209	626589.9	0.7				ug/L	650933	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	5499.3	2.3	5.0772	0.273	5.4	mg/L	38	Standard
K	39	2106.8	9.4	5.3175	0.348	6.6	mg/L	22	Standard
Ca	43	136.7	26.0	4.8532	1.380	28.4	mg/L	27	Standard
Fe	54	8356.6	6.4	5.0102	0.495	9.9	mg/L	177	Standard
Fe	57	2306.8	1.2	5.3950	0.260	4.8	mg/L	127	Standard
Sc-1	45	60924.0	3.4				mg/L	58453	Standard
Cl	35	12726.7	3.3				ug/L	9756	Standard
Kr	83	2.0	0.0				ug/L	2	Standard
Br	81	7215.1	3.0				ug/L	3130	Standard
P	31	18549.7	3.9				ug/L	16621	Standard
S	34	1403.4	4.0				ug/L	883	Standard
Sr	88	75.0	6.7				ug/L	38	Standard
C	12	223.3	29.8				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	15.9	32.1				mg/L	13	Standard
Ho-1	165	13.3	43.3				mg/L	10	Standard
Er	166	16.7	91.7				mg/L	13	Standard
I	127	23561.7	6.0				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	99.876		
Al	27	107.443		
Sc	45			
Ti	47	103.183		
V	51	98.394		
Cr	52	100.749		
Cr	53			
Mn	55	102.410		
Co	59	99.157		
Ni	60	100.427		
Cu	65	99.618		
Zn	66	99.249		
Ge	72		103.459	
As	75	98.010		
Se	82	99.902		
Se-1	77			
Ga	71			

Sample ID: QC Std 6

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[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	100.249	
[Ag	107	100.980	
[Cd	111	102.445	
[Cd	114		
>	In	115		98.171
[Sn	118	99.866	
[	Sb	123	101.005	
[	Ba	135	102.410	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	102.071	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	105.256	
[	U	238	104.234	
>	Bi	209		96.260
[	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 12, 2016 12:45:52

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	128785.2	2.3				ug/L	132521	Standard
|	Be	9	28.3	87.1	0.0221	0.016	71.6	ug/L	18	Standard
|	Al	27	6421.5	38.9	0.0220	0.012	52.5	ug/L	1493	Standard
|	Sc	45	63755.6	2.2				ug/L	58453	Standard
|	Ti	47	46.3	25.7	-0.0275	0.025	90.6	ug/L	46	Standard
|	V	51	2426.8	3.2	0.0234	0.007	30.8	ug/L	2030	Standard
|	Cr	52	10719.1	0.7	0.0132	0.014	106.0	ug/L	9770	Standard
|	Cr	53	755.0	1.3	0.1951	0.016	8.2	ug/L	498	Standard
|	Mn	55	977.0	5.5	0.0053	0.004	73.6	ug/L	721	Standard
|	Co	59	292.7	16.3	0.0084	0.004	48.8	ug/L	167	Standard
|	Ni	60	124.3	60.0	0.0173	0.027	155.2	ug/L	49	Standard
|	Cu	65	542.0	6.7	0.0283	0.010	36.5	ug/L	418	Standard
|	Zn	66	467.0	20.6	0.0147	0.058	393.3	ug/L	282	Standard
>	Ge	72	659807.6	1.9				ug/L	632144	Standard
|	As	75	-59.8	65.3	0.0363	0.025	68.8	ug/L	-105	Standard
|	Se	82	45.0	20.1	0.0891	0.050	56.1	ug/L	26	Standard
|	Se-1	77	89.7	1.3	0.0780	0.018	22.7	ug/L	75	Standard
>	Ga	71	30.0	16.7				mg/L	27	Standard
|	Rb	85	28.3	40.8				ug/L	15	Standard
|	Y	89	539890.2	1.5				ug/L	538177	Standard
>	Rh	103	5.0	100.0				ug/L	2	Standard
|	Mo	98	211.9	11.0	0.0424	0.007	15.5	ug/L	50	Standard
|	Ag	107	1425.7	48.0	0.1321	0.068	51.6	ug/L	110	Standard
|	Cd	111	35.6	28.5	0.0132	0.004	26.8	mg/L	4	Standard
|	Cd	114	124.1	18.8	0.0066	0.003	51.9	ug/L	25	Standard
>	In	115	770581.4	1.4				ug/L	768402	Standard
|	Sn	118	1585.1	10.3	0.0792	0.018	22.4	ug/L	948	Standard
|	Sb	123	1006.0	20.2	0.1449	0.031	21.2	ug/L	229	Standard
|	Ba	135	99.7	15.2	0.0103	0.005	52.4	ug/L	57	Standard
|	Ce	140	33.3	52.7				ug/L	20	Standard
>	Tb	159	1248237.2	0.9				ug/L	1214723	Standard
|	Ho	165	11.7	65.5				ug/L	10	Standard
|	Tl	203	182.3	12.1	0.0103	0.002	19.1	ug/L	29	Standard
|	Tl	205	196.7	6.4	0.0141	0.001	9.4	ug/L	62	Standard
|	Pb	206	466.3	5.4	0.0127	0.004	30.1	ug/L	322	Standard
|	Pb	207	395.0	5.7	0.0087	0.004	43.9	ug/L	278	Standard
|	Pb	208	1481.4	4.1	0.0096	0.003	27.8	ug/L	1167	Standard
	U	238	110.0	24.7	0.0110	0.003	27.4	ug/L	53	Standard
>	Bi	209	658733.1	0.9				ug/L	650933	Standard

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Na	23	1.7	173.2	3.0406	5.258	172.9	mg/L	2	Standard
Mg	24	65.0	15.4	0.0015	0.010	665.9	mg/L	38	Standard
K	39	35.0	74.2	0.0274	0.063	229.7	mg/L	22	Standard
Ca	43	40.0	66.1	0.4408	1.141	258.9	mg/L	27	Standard
Fe	54	217.6	17.4	-0.0211	0.025	117.5	mg/L	177	Standard
Fe	57	141.7	19.4	0.0403	0.071	175.3	mg/L	127	Standard
Sc-1	45	63755.6	2.2				mg/L	58453	Standard
Cl	35	12398.4	1.0				ug/L	9756	Standard
Kr	83	2.7	21.7				ug/L	2	Standard
Br	81	6031.2	3.0				ug/L	3130	Standard
P	31	17598.6	3.4				ug/L	16621	Standard
S	34	1446.7	12.1				ug/L	883	Standard
Sr	88	50.0	55.7				ug/L	38	Standard
C	12	260.0	16.8				mg/L	333	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	0	Standard
Dy	164	23.2	49.2				mg/L	13	Standard
Ho-1	165	11.7	65.5				mg/L	10	Standard
Er	166	3.3	173.2				mg/L	13	Standard
I	127	35077.3	5.8				mg/L	3532	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		104.376	
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	100.284
[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	101.198
[	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 7

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Method 6020 - Summary Report

Sample ID: L1605057104

Sample Date/Time: Thursday, May 12, 2016 12:49:06

Number of Replicates: 3

Autosampler Position: 311

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	143331.5	0.9				ug/L	132521	Standard
|	Be	9	43.3	48.0	0.0292	0.012	41.9	ug/L	18	Standard
|	Al	27	34386051.9	1.3	141.6302	1.778	1.3	ug/L	1493	Standard
|	Sc	45	61632.2	7.0				ug/L	58453	Standard
|	Ti	47	479.7	2.1	0.9445	0.025	2.6	ug/L	46	Standard
|	V	51	5145.0	6.4	0.2914	0.031	10.5	ug/L	2030	Standard
|	Cr	52	13334.2	1.0	0.3367	0.019	5.5	ug/L	9770	Standard
|	Cr	53	5954.5	7.0	4.5519	0.333	7.3	ug/L	498	Standard
|	Mn	55	414767.2	1.8	41.0491	0.855	2.1	ug/L	721	Standard
|	Co	59	6166.3	2.7	0.5662	0.018	3.2	ug/L	167	Standard
|	Ni	60	4529.3	4.2	1.7375	0.080	4.6	ug/L	49	Standard
|	Cu	65	1630.1	4.8	0.4595	0.033	7.1	ug/L	418	Standard
|	Zn	66	3602.8	2.5	2.1976	0.055	2.5	ug/L	282	Standard
>	Ge	72	629333.5	0.4				ug/L	632144	Standard
|	As	75	1545.8	5.3	1.0807	0.055	5.1	ug/L	-105	Standard
|	Se	82	633.7	5.7	3.8472	0.242	6.3	ug/L	26	Standard
|	Se-1	77	389.0	4.6	3.0504	0.166	5.4	ug/L	75	Standard
>	Ga	71	41.7	36.7				mg/L	27	Standard
|	Rb	85	3025.3	1.5				ug/L	15	Standard
|	Y	89	513434.7	2.6				ug/L	538177	Standard
>	Rh	103	195.0	20.5				ug/L	2	Standard
|	Mo	98	382.3	3.2	0.0938	0.003	2.9	ug/L	50	Standard
|	Ag	107	1509.4	51.2	0.1551	0.087	56.2	ug/L	110	Standard
|	Cd	111	236.0	9.8	0.0868	0.008	9.1	mg/L	4	Standard
|	Cd	114	558.6	6.4	0.0729	0.006	8.4	ug/L	25	Standard
>	In	115	708542.5	1.3				ug/L	768402	Standard
|	Sn	118	1171.7	2.0	0.0420	0.002	5.0	ug/L	948	Standard
|	Sb	123	550.5	25.9	0.0811	0.025	31.0	ug/L	229	Standard
|	Ba	135	29088.2	0.7	10.5363	0.097	0.9	ug/L	57	Standard
|	Ce	140	888.4	1.7				ug/L	20	Standard
>	Tb	159	1181041.4	3.3				ug/L	1214723	Standard
|	Ho	165	51.7	43.6				ug/L	10	Standard
|	Tl	203	304.3	8.3	0.0233	0.003	12.9	ug/L	29	Standard
|	Tl	205	230.0	11.5	0.0196	0.003	14.3	ug/L	62	Standard
|	Pb	206	549.3	5.8	0.0312	0.007	21.3	ug/L	322	Standard
|	Pb	207	481.7	0.4	0.0286	0.002	8.6	ug/L	278	Standard
|	Pb	208	1767.7	4.2	0.0279	0.005	19.3	ug/L	1167	Standard
	U	238	10011.0	1.2	1.1960	0.029	2.5	ug/L	53	Standard
>	Bi	209	601374.6	3.0				ug/L	650933	Standard

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Na	23	11.7	173.2	21.2571	36.810	173.2	mg/L	2	Standard
Mg	24	95407.8	1.1	88.2176	7.234	8.2	mg/L	38	Standard
K	39	236.7	10.8	0.5404	0.057	10.5	mg/L	22	Standard
Ca	43	685.0	7.0	29.3249	2.537	8.7	mg/L	27	Standard
Fe	54	211.8	7.1	-0.0201	0.013	66.3	mg/L	177	Standard
Fe	57	360.0	7.7	0.5825	0.022	3.8	mg/L	127	Standard
Sc-1	45	61632.2	7.0				mg/L	58453	Standard
Cl	35	12498.5	0.5				ug/L	9756	Standard
Kr	83	1.0	100.0				ug/L	2	Standard
Br	81	133250.2	1.7				ug/L	3130	Standard
P	31	27762.1	0.4				ug/L	16621	Standard
S	34	1090.0	8.0				ug/L	883	Standard
Sr	88	1013.4	8.5				ug/L	38	Standard
C	12	323.3	42.9				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	55.7	70.6				mg/L	13	Standard
Ho-1	165	51.7	43.6				mg/L	10	Standard
Er	166	20.0	132.3				mg/L	13	Standard
I	127	676460.1	0.9				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		108.158	
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		99.555	
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	92.210
[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	92.387
[	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

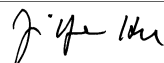
Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	

Sample ID: L1605057104

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Method 6020 - Summary Report

Sample ID: L1605057106

Sample Date/Time: Thursday, May 12, 2016 12:52:17

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	148426.9	1.5				ug/L	132521	Standard
|	Be	9	50.0	26.5	0.0320	0.007	23.4	ug/L	18	Standard
|	Al	27	14287861.4	1.0	56.8274	0.602	1.1	ug/L	1493	Standard
|	Sc	45	63650.1	0.4				ug/L	58453	Standard
|	Ti	47	871.7	11.7	1.8367	0.189	10.3	ug/L	46	Standard
|	V	51	17051.6	3.8	1.4355	0.038	2.6	ug/L	2030	Standard
|	Cr	52	23980.0	1.7	1.4700	0.024	1.6	ug/L	9770	Standard
|	Cr	53	7590.2	3.2	5.9831	0.322	5.4	ug/L	498	Standard
|	Mn	55	223304.3	1.0	22.2896	0.338	1.5	ug/L	721	Standard
|	Co	59	2663.9	9.9	0.2367	0.021	8.8	ug/L	167	Standard
|	Ni	60	7273.4	4.9	2.8355	0.102	3.6	ug/L	49	Standard
|	Cu	65	2409.2	1.0	0.7708	0.013	1.7	ug/L	418	Standard
|	Zn	66	5253.9	1.4	3.3773	0.096	2.8	ug/L	282	Standard
>	Ge	72	622967.2	2.1				ug/L	632144	Standard
|	As	75	2212.9	2.7	1.5302	0.043	2.8	ug/L	-105	Standard
|	Se	82	826.6	1.4	5.1286	0.146	2.8	ug/L	26	Standard
|	Se-1	77	412.7	5.9	3.3284	0.324	9.7	ug/L	75	Standard
>	Ga	71	166.7	4.6				mg/L	27	Standard
|	Rb	85	23433.1	1.6				ug/L	15	Standard
|	Y	89	513406.2	1.4				ug/L	538177	Standard
>	Rh	103	586.7	9.4				ug/L	2	Standard
|	Mo	98	8175.0	0.9	2.1457	0.060	2.8	ug/L	50	Standard
|	Ag	107	1231.7	49.0	0.1175	0.062	53.1	ug/L	110	Standard
|	Cd	111	382.6	1.9	0.1345	0.005	3.6	mg/L	4	Standard
|	Cd	114	1010.6	7.9	0.1344	0.014	10.6	ug/L	25	Standard
>	In	115	738123.3	1.9				ug/L	768402	Standard
|	Sn	118	1033.4	9.4	0.0184	0.010	55.7	ug/L	948	Standard
|	Sb	123	632.0	11.1	0.0905	0.010	11.2	ug/L	229	Standard
|	Ba	135	226964.0	0.9	79.0747	1.303	1.6	ug/L	57	Standard
|	Ce	140	5419.3	0.7				ug/L	20	Standard
>	Tb	159	1237649.2	1.4				ug/L	1214723	Standard
|	Ho	165	285.0	4.6				ug/L	10	Standard
|	Tl	203	367.7	24.9	0.0273	0.008	31.1	ug/L	29	Standard
|	Tl	205	385.0	41.0	0.0339	0.017	48.7	ug/L	62	Standard
|	Pb	206	731.7	6.8	0.0518	0.008	15.4	ug/L	322	Standard
|	Pb	207	603.3	10.0	0.0427	0.010	24.0	ug/L	278	Standard
|	Pb	208	2396.1	17.1	0.0493	0.018	36.1	ug/L	1167	Standard
	U	238	2669.9	4.8	0.2994	0.017	5.8	ug/L	53	Standard
>	Bi	209	638878.8	1.3				ug/L	650933	Standard

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Na	23	13.3	78.1	24.9149	19.345	77.6	mg/L	2	Standard
Mg	24	52612.9	1.1	46.9001	0.482	1.0	mg/L	38	Standard
K	39	355.0	8.6	0.8105	0.078	9.6	mg/L	22	Standard
Ca	43	1325.1	3.6	55.9055	2.156	3.9	mg/L	27	Standard
Fe	54	286.0	11.2	0.0191	0.019	98.5	mg/L	177	Standard
Fe	57	578.3	3.0	1.0697	0.044	4.1	mg/L	127	Standard
Sc-1	45	63650.1	0.4				mg/L	58453	Standard
Cl	35	12680.6	1.2				ug/L	9756	Standard
Kr	83	2.7	43.3				ug/L	2	Standard
Br	81	179038.3	0.8				ug/L	3130	Standard
P	31	24763.6	3.6				ug/L	16621	Standard
S	34	1178.4	13.4				ug/L	883	Standard
Sr	88	2893.6	2.4				ug/L	38	Standard
C	12	880.0	7.1				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	0	Standard
Dy	164	380.1	16.8				mg/L	13	Standard
Ho-1	165	285.0	4.6				mg/L	10	Standard
Er	166	276.7	12.7				mg/L	13	Standard
I	127	272889.9	2.5				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		112.003	
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		98.548	
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	96.060
[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	98.148
[	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

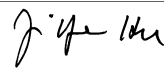
Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1605057106

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Method 6020 - Summary Report

Sample ID: L1605057108

Sample Date/Time: Thursday, May 12, 2016 12:55:29

Number of Replicates: 3

Autosampler Position: 313

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	161353.5	3.3				ug/L	132521	Standard
|	Be	9	48.3	51.0	0.0292	0.013	45.6	ug/L	18	Standard
|	Al	27	126962704.6	2.1	464.7542	13.135	2.8	ug/L	1493	Standard
|	Sc	45	59234.1	4.7				ug/L	58453	Standard
|	Ti	47	450.0	8.6	0.9861	0.110	11.2	ug/L	46	Standard
|	V	51	6231.9	9.5	0.4571	0.060	13.2	ug/L	2030	Standard
|	Cr	52	15082.8	2.1	0.6858	0.051	7.5	ug/L	9770	Standard
|	Cr	53	18222.6	3.5	16.3819	0.667	4.1	ug/L	498	Standard
|	Mn	55	271796.6	0.9	29.7357	0.176	0.6	ug/L	721	Standard
|	Co	59	7524.5	1.5	0.7708	0.022	2.9	ug/L	167	Standard
|	Ni	60	16453.3	4.2	7.0699	0.332	4.7	ug/L	49	Standard
|	Cu	65	2803.6	3.9	1.0294	0.049	4.7	ug/L	418	Standard
|	Zn	66	3839.8	2.4	2.6448	0.108	4.1	ug/L	282	Standard
>	Ge	72	568852.1	1.4				ug/L	632144	Standard
|	As	75	4363.0	4.5	3.2174	0.122	3.8	ug/L	-105	Standard
|	Se	82	1809.6	3.0	12.5478	0.294	2.3	ug/L	26	Standard
|	Se-1	77	1570.1	1.1	16.2572	0.224	1.4	ug/L	75	Standard
>	Ga	71	43.3	35.3				mg/L	27	Standard
|	Rb	85	5322.6	2.3				ug/L	15	Standard
|	Y	89	527370.6	1.5				ug/L	538177	Standard
>	Rh	103	633.3	8.7				ug/L	2	Standard
|	Mo	98	130.8	10.6	0.0245	0.004	14.7	ug/L	50	Standard
|	Ag	107	1569.1	57.1	0.1613	0.103	63.5	ug/L	110	Standard
|	Cd	111	538.1	0.9	0.1952	0.005	2.5	mg/L	4	Standard
|	Cd	114	1445.0	6.2	0.2038	0.016	7.8	ug/L	25	Standard
>	In	115	713103.7	2.0				ug/L	768402	Standard
|	Sn	118	998.4	15.5	0.0188	0.023	121.1	ug/L	948	Standard
|	Sb	123	296.9	16.7	0.0373	0.009	24.8	ug/L	229	Standard
|	Ba	135	38062.4	0.9	13.7070	0.183	1.3	ug/L	57	Standard
|	Ce	140	1461.7	5.3				ug/L	20	Standard
>	Tb	159	1187235.5	1.7				ug/L	1214723	Standard
|	Ho	165	61.7	12.4				ug/L	10	Standard
|	Tl	203	149.7	12.0	0.0092	0.002	16.8	ug/L	29	Standard
|	Tl	205	150.0	20.0	0.0115	0.003	27.2	ug/L	62	Standard
|	Pb	206	446.0	9.6	0.0183	0.006	30.6	ug/L	322	Standard
|	Pb	207	399.7	7.0	0.0177	0.005	29.8	ug/L	278	Standard
|	Pb	208	1581.7	2.6	0.0224	0.002	6.8	ug/L	1167	Standard
	U	238	5509.7	2.7	0.6838	0.026	3.7	ug/L	53	Standard
>	Bi	209	578396.5	1.4				ug/L	650933	Standard

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Na	23	30.0	44.1	60.2356	25.983	43.1	mg/L	2	Standard
Mg	24	144709.6	1.7	138.8531	4.155	3.0	mg/L	38	Standard
K	39	413.3	21.5	1.0227	0.181	17.7	mg/L	22	Standard
Ca	43	2436.9	4.2	111.7411	0.984	0.9	mg/L	27	Standard
Fe	54	273.5	6.6	0.0243	0.018	74.0	mg/L	177	Standard
Fe	57	983.4	3.9	2.2015	0.160	7.3	mg/L	127	Standard
Sc-1	45	59234.1	4.7				mg/L	58453	Standard
Cl	35	15281.7	1.2				ug/L	9756	Standard
Kr	83	3.0	120.2				ug/L	2	Standard
Br	81	399214.8	3.4				ug/L	3130	Standard
P	31	29699.1	1.3				ug/L	16621	Standard
S	34	1131.7	4.1				ug/L	883	Standard
Sr	88	3438.7	5.5				ug/L	38	Standard
C	12	800.0	16.4				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	10.0					mg/L	0	Standard
Dy	164	80.1	6.5				mg/L	13	Standard
Ho-1	165	61.7	12.4				mg/L	10	Standard
Er	166	66.7	17.3				mg/L	13	Standard
I	127	211876.4	6.1				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		121.757	
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		89.988	
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	92.804
[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	88.857
[	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

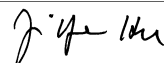
Measurement Type	Analyte	Mass	Out of Limits Message
Li 6 Int Std for sample	Li	6	Rerun sample
Al 27 Upper, S, EEE	Al	27	

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Method 6020 - Summary Report

Sample ID: L1605057110

Sample Date/Time: Thursday, May 12, 2016 12:58:40

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	144159.3	1.1				ug/L	132521	Standard
|	Be	9	43.3	17.6	0.0289	0.004	14.4	ug/L	18	Standard
|	Al	27	29843739.3	1.1	122.2150	1.255	1.0	ug/L	1493	Standard
|	Sc	45	59757.7	3.4				ug/L	58453	Standard
|	Ti	47	531.3	25.0	1.0862	0.303	27.9	ug/L	46	Standard
|	V	51	6963.2	3.4	0.4783	0.023	4.8	ug/L	2030	Standard
|	Cr	52	20431.1	1.5	1.1223	0.033	2.9	ug/L	9770	Standard
|	Cr	53	11000.7	4.6	8.9571	0.432	4.8	ug/L	498	Standard
|	Mn	55	46659.7	1.8	4.6432	0.084	1.8	ug/L	721	Standard
|	Co	59	1065.7	6.1	0.0852	0.006	7.4	ug/L	167	Standard
|	Ni	60	3784.1	1.7	1.4795	0.025	1.7	ug/L	49	Standard
|	Cu	65	1699.4	4.0	0.5009	0.027	5.3	ug/L	418	Standard
|	Zn	66	3118.3	1.9	1.9108	0.042	2.2	ug/L	282	Standard
>	Ge	72	615646.3	0.0				ug/L	632144	Standard
|	As	75	2602.7	1.4	1.8067	0.024	1.3	ug/L	-105	Standard
|	Se	82	1081.1	2.0	6.8447	0.144	2.1	ug/L	26	Standard
|	Se-1	77	684.3	4.2	6.0929	0.288	4.7	ug/L	75	Standard
>	Ga	71	36.7	39.4				mg/L	27	Standard
|	Rb	85	2043.5	8.9				ug/L	15	Standard
|	Y	89	510282.9	3.2				ug/L	538177	Standard
>	Rh	103	148.3	10.8				ug/L	2	Standard
|	Mo	98	169.9	3.3	0.0356	0.001	3.6	ug/L	50	Standard
|	Ag	107	613.0	56.3	0.0556	0.039	69.9	ug/L	110	Standard
|	Cd	111	64.3	20.3	0.0247	0.005	20.3	mg/L	4	Standard
|	Cd	114	153.5	35.7	0.0126	0.008	67.0	ug/L	25	Standard
>	In	115	706161.1	2.2				ug/L	768402	Standard
|	Sn	118	1360.1	36.7	0.0676	0.067	98.6	ug/L	948	Standard
|	Sb	123	238.0	15.4	0.0277	0.007	25.5	ug/L	229	Standard
|	Ba	135	62272.7	0.5	22.6660	0.603	2.7	ug/L	57	Standard
|	Ce	140	695.0	5.0				ug/L	20	Standard
>	Tb	159	1185028.8	1.0				ug/L	1214723	Standard
|	Ho	165	33.3	31.2				ug/L	10	Standard
|	Tl	203	256.0	4.3	0.0184	0.002	8.3	ug/L	29	Standard
|	Tl	205	248.3	1.2	0.0211	0.001	2.7	ug/L	62	Standard
|	Pb	206	555.3	7.9	0.0306	0.004	14.2	ug/L	322	Standard
|	Pb	207	473.3	6.2	0.0260	0.006	22.1	ug/L	278	Standard
|	Pb	208	1788.0	3.3	0.0276	0.004	15.8	ug/L	1167	Standard
	U	238	8434.0	1.1	0.9918	0.035	3.6	ug/L	53	Standard
>	Bi	209	610910.7	2.5				ug/L	650933	Standard

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Na	23	5.0	100.0	9.7808	9.602	98.2	mg/L	2	Standard
Mg	24	89376.2	1.1	84.9653	2.750	3.2	mg/L	38	Standard
K	39	235.0	13.3	0.5545	0.081	14.7	mg/L	22	Standard
Ca	43	676.7	11.1	29.8119	3.139	10.5	mg/L	27	Standard
Fe	54	228.4	6.5	-0.0061	0.006	100.9	mg/L	177	Standard
Fe	57	371.7	5.6	0.6390	0.022	3.4	mg/L	127	Standard
Sc-1	45	59757.7	3.4				mg/L	58453	Standard
Cl	35	12166.2	2.7				ug/L	9756	Standard
Kr	83	2.0	50.0				ug/L	2	Standard
Br	81	219288.9	1.1				ug/L	3130	Standard
P	31	27431.5	5.4				ug/L	16621	Standard
S	34	1216.7	8.3				ug/L	883	Standard
Sr	88	730.0	10.1				ug/L	38	Standard
C	12	943.4	8.0				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	15.1	40.3				mg/L	13	Standard
Ho-1	165	33.3	31.2				mg/L	10	Standard
Er	166	33.3	34.6				mg/L	13	Standard
I	127	92385.9	1.8				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		108.782	
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		97.390	
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	91.900
[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	93.852
[	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	

Sample ID: L1605057110

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Method 6020 - Summary Report

Sample ID: L1605057112

Sample Date/Time: Thursday, May 12, 2016 13:01:52

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	159189.3	3.6				ug/L	132521	Standard
|	Be	9	63.3	45.6	0.0369	0.015	39.9	ug/L	18	Standard
|	Al	27	138236279.3	3.1	513.4813	33.883	6.6	ug/L	1493	Standard
|	Sc	45	64210.8	0.9				ug/L	58453	Standard
|	Ti	47	557.0	7.0	1.2074	0.071	5.8	ug/L	46	Standard
|	V	51	9672.0	2.7	0.7882	0.054	6.9	ug/L	2030	Standard
|	Cr	52	22546.4	1.4	1.4685	0.107	7.3	ug/L	9770	Standard
|	Cr	53	24453.1	3.3	21.4433	0.605	2.8	ug/L	498	Standard
|	Mn	55	328212.2	0.7	34.8648	1.267	3.6	ug/L	721	Standard
|	Co	59	4420.6	1.2	0.4315	0.010	2.2	ug/L	167	Standard
|	Ni	60	22796.8	0.8	9.5151	0.338	3.6	ug/L	49	Standard
|	Cu	65	2659.9	5.7	0.9352	0.094	10.1	ug/L	418	Standard
|	Zn	66	3916.5	1.5	2.6131	0.043	1.6	ug/L	282	Standard
>	Ge	72	586497.7	2.9				ug/L	632144	Standard
|	As	75	6258.4	1.9	4.4495	0.113	2.5	ug/L	-105	Standard
|	Se	82	2522.4	0.9	17.0363	0.369	2.2	ug/L	26	Standard
|	Se-1	77	2610.2	4.2	26.7134	1.922	7.2	ug/L	75	Standard
>	Ga	71	80.0	47.2				mg/L	27	Standard
|	Rb	85	28456.7	1.3				ug/L	15	Standard
|	Y	89	504592.1	1.2				ug/L	538177	Standard
>	Rh	103	830.0	9.9				ug/L	2	Standard
|	Mo	98	178.3	14.4	0.0378	0.007	18.5	ug/L	50	Standard
|	Ag	107	907.7	55.6	0.0873	0.055	62.4	ug/L	110	Standard
|	Cd	111	420.7	3.1	0.1539	0.007	4.5	mg/L	4	Standard
|	Cd	114	1044.1	3.2	0.1454	0.007	4.9	ug/L	25	Standard
>	In	115	708183.4	1.5				ug/L	768402	Standard
|	Sn	118	1030.0	2.7	0.0235	0.004	15.0	ug/L	948	Standard
|	Sb	123	270.0	18.7	0.0328	0.008	24.3	ug/L	229	Standard
|	Ba	135	399785.1	0.6	145.1795	1.361	0.9	ug/L	57	Standard
|	Ce	140	1058.4	18.1				ug/L	20	Standard
>	Tb	159	1209139.3	0.5				ug/L	1214723	Standard
|	Ho	165	56.7	20.4				ug/L	10	Standard
|	Tl	203	113.0	10.7	0.0055	0.001	23.9	ug/L	29	Standard
|	Tl	205	101.7	23.2	0.0060	0.003	42.4	ug/L	62	Standard
|	Pb	206	445.0	4.9	0.0174	0.003	18.5	ug/L	322	Standard
|	Pb	207	368.0	9.2	0.0116	0.006	51.3	ug/L	278	Standard
|	Pb	208	1351.0	1.5	0.0112	0.001	12.3	ug/L	1167	Standard
	U	238	6107.9	1.6	0.7493	0.022	3.0	ug/L	53	Standard
>	Bi	209	585202.9	1.4				ug/L	650933	Standard

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Na	23	33.3	8.7	61.8798	5.858	9.5	mg/L	2	Standard
Mg	24	155283.4	1.4	137.3195	0.954	0.7	mg/L	38	Standard
K	39	741.7	8.5	1.7397	0.150	8.6	mg/L	22	Standard
Ca	43	2830.3	4.1	119.8152	5.625	4.7	mg/L	27	Standard
Fe	54	290.9	22.9	0.0203	0.037	184.1	mg/L	177	Standard
Fe	57	1221.7	4.7	2.5626	0.159	6.2	mg/L	127	Standard
Sc-1	45	64210.8	0.9				mg/L	58453	Standard
Cl	35	14039.8	2.8				ug/L	9756	Standard
Kr	83	0.7	86.6				ug/L	2	Standard
Br	81	543230.9	2.6				ug/L	3130	Standard
P	31	31516.1	4.7				ug/L	16621	Standard
S	34	1291.7	3.0				ug/L	883	Standard
Sr	88	3893.8	1.5				ug/L	38	Standard
C	12	816.7	9.8				mg/L	333	Standard
N	14	6.7	86.6				mg/L	0	Standard
Hg	202	13.3	114.6				mg/L	0	Standard
Dy	164	63.6	56.0				mg/L	13	Standard
Ho-1	165	56.7	20.4				mg/L	10	Standard
Er	166	63.3	24.1				mg/L	13	Standard
I	127	209749.2	5.0				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		120.124	
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		92.779	
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	92.163
[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	89.902
[	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	
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1605057112

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Method 6020 - Summary Report

Sample ID: L1605057902

Sample Date/Time: Thursday, May 12, 2016 13:05:03

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	130738.6	3.0				ug/L	132521	Standard
|	Be	9	93.3	22.3	0.0631	0.012	18.5	ug/L	18	Standard
|	Al	27	1559329.4	2.9	7.0341	0.010	0.1	ug/L	1493	Standard
|	Sc	45	64959.2	5.1				ug/L	58453	Standard
|	Ti	47	15370.5	3.0	34.5018	0.704	2.0	ug/L	46	Standard
|	V	51	50620.0	1.5	4.6445	0.023	0.5	ug/L	2030	Standard
|	Cr	52	22587.5	4.9	1.3212	0.093	7.1	ug/L	9770	Standard
|	Cr	53	3657.1	16.8	2.6662	0.488	18.3	ug/L	498	Standard
|	Mn	55	83637.9	1.6	8.2864	0.056	0.7	ug/L	721	Standard
|	Co	59	1914.1	3.5	0.1651	0.006	3.9	ug/L	167	Standard
|	Ni	60	1812.1	1.9	0.6846	0.009	1.4	ug/L	49	Standard
|	Cu	65	114705.3	1.8	44.6664	0.674	1.5	ug/L	418	Standard
|	Zn	66	9498.3	1.5	6.3353	0.046	0.7	ug/L	282	Standard
>	Ge	72	623391.8	1.1				ug/L	632144	Standard
|	As	75	9752.3	2.9	6.4856	0.123	1.9	ug/L	-105	Standard
|	Se	82	317.4	21.6	1.8513	0.416	22.5	ug/L	26	Standard
|	Se-1	77	302.0	4.9	2.2275	0.167	7.5	ug/L	75	Standard
>	Ga	71	1975.1	5.1				mg/L	27	Standard
|	Rb	85	38168.0	1.3				ug/L	15	Standard
|	Y	89	572545.0	1.4				ug/L	538177	Standard
>	Rh	103	66.7	34.6				ug/L	2	Standard
|	Mo	98	12913.7	2.1	3.2055	0.059	1.8	ug/L	50	Standard
|	Ag	107	636.7	15.9	0.0512	0.011	21.9	ug/L	110	Standard
|	Cd	111	231.2	2.2	0.0772	0.001	0.7	mg/L	4	Standard
|	Cd	114	580.1	8.7	0.0680	0.008	11.6	ug/L	25	Standard
>	In	115	781604.5	1.7				ug/L	768402	Standard
|	Sn	118	2108.5	1.6	0.1387	0.000	0.2	ug/L	948	Standard
|	Sb	123	2493.4	3.1	0.3739	0.014	3.8	ug/L	229	Standard
|	Ba	135	27741.7	1.8	9.1066	0.182	2.0	ug/L	57	Standard
|	Ce	140	42874.1	6.5				ug/L	20	Standard
>	Tb	159	1251504.2	2.3				ug/L	1214723	Standard
|	Ho	165	936.7	25.9				ug/L	10	Standard
|	Tl	203	360.0	13.5	0.0263	0.004	14.2	ug/L	29	Standard
|	Tl	205	313.3	22.7	0.0263	0.007	25.0	ug/L	62	Standard
|	Pb	206	21595.0	0.3	2.9526	0.049	1.6	ug/L	322	Standard
|	Pb	207	18797.7	1.3	2.8336	0.092	3.2	ug/L	278	Standard
|	Pb	208	72315.1	0.9	2.9204	0.080	2.7	ug/L	1167	Standard
	U	238	547.0	13.7	0.0601	0.007	12.0	ug/L	53	Standard
>	Bi	209	642082.6	2.0				ug/L	650933	Standard

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Na	23	1.7	173.2	2.9043	5.022	172.9	mg/L	2	Standard
Mg	24	16202.0	0.8	14.1347	0.672	4.8	mg/L	38	Standard
K	39	931.7	9.0	2.1779	0.231	10.6	mg/L	22	Standard
Ca	43	165.0	12.1	5.6988	0.787	13.8	mg/L	27	Standard
Fe	54	1056.3	6.4	0.4606	0.013	2.8	mg/L	177	Standard
Fe	57	378.3	14.1	0.5791	0.108	18.6	mg/L	127	Standard
Sc-1	45	64959.2	5.1				mg/L	58453	Standard
Cl	35	13313.2	3.9				ug/L	9756	Standard
Kr	83	1.0	0.0				ug/L	2	Standard
Br	81	19004.4	56.3				ug/L	3130	Standard
P	31	24483.1	2.1				ug/L	16621	Standard
S	34	1413.4	8.8				ug/L	883	Standard
Sr	88	195.0	9.2				ug/L	38	Standard
C	12	500.0	12.0				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	36.7	56.8				mg/L	0	Standard
Dy	164	1358.9	21.3				mg/L	13	Standard
Ho-1	165	936.7	25.9				mg/L	10	Standard
Er	166	790.0	15.4				mg/L	13	Standard
I	127	44789.6	6.3				mg/L	3532	Standard

QC Calculated Values


Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		98.655	
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		98.615	
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	101.718
[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	98.640
[	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

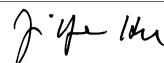
Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1605057902

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Method 6020 - Summary Report

Sample ID: L1605061103

Sample Date/Time: Thursday, May 12, 2016 13:08:15

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	129301.2	2.0				ug/L	132521	Standard
|	Be	9	5.0	100.0	0.0072	0.003	44.2	ug/L	18	Standard
|	Al	27	35405338.0	0.7	161.7006	3.974	2.5	ug/L	1493	Standard
|	Sc	45	60726.5	0.9				ug/L	58453	Standard
|	Ti	47	181.3	7.5	0.2757	0.028	10.2	ug/L	46	Standard
|	V	51	3385.1	2.9	0.1226	0.015	11.9	ug/L	2030	Standard
|	Cr	52	14109.6	0.8	0.4075	0.048	11.8	ug/L	9770	Standard
|	Cr	53	3505.4	5.8	2.4955	0.223	8.9	ug/L	498	Standard
|	Mn	55	2633567.4	0.8	259.3130	6.472	2.5	ug/L	721	Standard
|	Co	59	6175.9	0.3	0.5631	0.017	3.1	ug/L	167	Standard
|	Ni	60	7267.1	0.7	2.7853	0.068	2.4	ug/L	49	Standard
|	Cu	65	4151.9	1.2	1.4247	0.031	2.2	ug/L	418	Standard
|	Zn	66	35128.7	1.2	23.8305	0.974	4.1	ug/L	282	Standard
>	Ge	72	633949.7	2.8				ug/L	632144	Standard
|	As	75	936.1	9.2	0.6784	0.042	6.2	ug/L	-105	Standard
|	Se	82	393.2	5.5	2.2986	0.099	4.3	ug/L	26	Standard
|	Se-1	77	240.7	11.1	1.5768	0.193	12.2	ug/L	75	Standard
>	Ga	71	53.3	14.3				mg/L	27	Standard
|	Rb	85	16497.3	1.2				ug/L	15	Standard
|	Y	89	528204.9	3.9				ug/L	538177	Standard
>	Rh	103	48.3	48.9				ug/L	2	Standard
|	Mo	98	801.8	1.3	0.2032	0.008	4.1	ug/L	50	Standard
|	Ag	107	188.0	35.3	0.0075	0.008	103.3	ug/L	110	Standard
|	Cd	111	225.6	2.3	0.0808	0.001	0.7	mg/L	4	Standard
|	Cd	114	575.6	1.6	0.0731	0.001	1.7	ug/L	25	Standard
>	In	115	728471.3	2.8				ug/L	768402	Standard
|	Sn	118	3083.6	3.1	0.2811	0.016	5.8	ug/L	948	Standard
|	Sb	123	355.5	7.4	0.0460	0.006	13.0	ug/L	229	Standard
|	Ba	135	52971.4	1.3	18.6860	0.431	2.3	ug/L	57	Standard
|	Ce	140	1266.7	5.3				ug/L	20	Standard
>	Tb	159	1204859.6	1.4				ug/L	1214723	Standard
|	Ho	165	103.3	17.0				ug/L	10	Standard
|	Tl	203	322.7	3.6	0.0248	0.001	5.5	ug/L	29	Standard
|	Tl	205	320.0	9.5	0.0290	0.004	12.1	ug/L	62	Standard
|	Pb	206	927.7	5.7	0.0862	0.006	6.6	ug/L	322	Standard
|	Pb	207	738.7	7.0	0.0697	0.006	8.1	ug/L	278	Standard
|	Pb	208	2928.1	0.2	0.0778	0.003	3.8	ug/L	1167	Standard
	U	238	8846.2	1.4	1.0489	0.027	2.5	ug/L	53	Standard
>	Bi	209	605767.1	2.3				ug/L	650933	Standard

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Na	23	5.0	100.0	9.7737	9.712	99.4	mg/L	2	Standard
Mg	24	34871.8	3.7	32.5702	1.397	4.3	mg/L	38	Standard
K	39	121.7	6.3	0.2541	0.017	6.6	mg/L	22	Standard
Ca	43	1196.7	7.8	52.8604	4.395	8.3	mg/L	27	Standard
Fe	54	409.0	9.2	0.1032	0.021	20.5	mg/L	177	Standard
Fe	57	555.0	12.5	1.0768	0.159	14.7	mg/L	127	Standard
Sc-1	45	60726.5	0.9				mg/L	58453	Standard
Cl	35	14437.5	2.4				ug/L	9756	Standard
Kr	83	3.0	66.7				ug/L	2	Standard
Br	81	78439.2	0.5				ug/L	3130	Standard
P	31	20884.4	4.1				ug/L	16621	Standard
S	34	1230.0	0.8				ug/L	883	Standard
Sr	88	281.7	8.0				ug/L	38	Standard
C	12	453.3	26.1				mg/L	333	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	0	Standard
Dy	164	80.8	25.9				mg/L	13	Standard
Ho-1	165	103.3	17.0				mg/L	10	Standard
Er	166	123.3	4.7				mg/L	13	Standard
I	127	48888.8	2.4				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		97.570	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		100.286	
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	94.803
[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	93.061
[	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

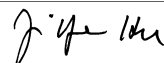
Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1605061103

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Method 6020 - Summary Report

Sample ID: L1605061105

Sample Date/Time: Thursday, May 12, 2016 13:11:26

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	136305.4	1.0				ug/L	132521	Standard
|	Be	9	16.7	62.4	0.0141	0.006	44.8	ug/L	18	Standard
|	Al	27	58410706.3	1.1	252.9981	3.460	1.4	ug/L	1493	Standard
|	Sc	45	61405.9	1.0				ug/L	58453	Standard
|	Ti	47	188.0	6.0	0.2932	0.019	6.6	ug/L	46	Standard
|	V	51	4141.0	1.1	0.1962	0.001	0.6	ug/L	2030	Standard
|	Cr	52	14722.5	1.4	0.4807	0.013	2.7	ug/L	9770	Standard
|	Cr	53	4374.0	6.6	3.2339	0.189	5.8	ug/L	498	Standard
|	Mn	55	5330252.9	0.5	528.4306	5.889	1.1	ug/L	721	Standard
|	Co	59	15326.4	1.8	1.4335	0.009	0.7	ug/L	167	Standard
|	Ni	60	10625.4	1.2	4.1129	0.008	0.2	ug/L	49	Standard
|	Cu	65	1797.1	1.3	0.5239	0.010	1.9	ug/L	418	Standard
|	Zn	66	3874.5	1.9	2.3856	0.086	3.6	ug/L	282	Standard
>	Ge	72	629523.0	1.4				ug/L	632144	Standard
|	As	75	1775.1	2.4	1.2298	0.034	2.8	ug/L	-105	Standard
|	Se	82	663.1	2.5	4.0334	0.160	4.0	ug/L	26	Standard
|	Se-1	77	322.7	4.1	2.4010	0.158	6.6	ug/L	75	Standard
>	Ga	71	81.7	23.2				mg/L	27	Standard
|	Rb	85	7690.3	3.4				ug/L	15	Standard
|	Y	89	513236.9	2.1				ug/L	538177	Standard
>	Rh	103	40.0	54.5				ug/L	2	Standard
|	Mo	98	909.5	10.0	0.2322	0.030	12.9	ug/L	50	Standard
|	Ag	107	244.3	46.8	0.0135	0.013	95.0	ug/L	110	Standard
|	Cd	111	35.5	10.2	0.0138	0.001	8.3	mg/L	4	Standard
|	Cd	114	109.4	44.1	0.0054	0.007	133.4	ug/L	25	Standard
>	In	115	728964.2	2.7				ug/L	768402	Standard
|	Sn	118	1080.0	10.8	0.0260	0.014	53.1	ug/L	948	Standard
|	Sb	123	453.3	28.1	0.0623	0.023	36.3	ug/L	229	Standard
|	Ba	135	73165.6	0.5	25.8037	0.708	2.7	ug/L	57	Standard
|	Ce	140	1491.7	14.8				ug/L	20	Standard
>	Tb	159	1241249.2	3.4				ug/L	1214723	Standard
|	Ho	165	201.7	18.3				ug/L	10	Standard
|	Tl	203	359.7	7.9	0.0268	0.003	10.3	ug/L	29	Standard
|	Tl	205	348.3	23.7	0.0305	0.009	29.7	ug/L	62	Standard
|	Pb	206	619.0	30.2	0.0371	0.028	75.6	ug/L	322	Standard
|	Pb	207	531.7	22.3	0.0326	0.020	61.3	ug/L	278	Standard
|	Pb	208	1833.7	13.8	0.0268	0.012	44.4	ug/L	1167	Standard
	U	238	33538.4	0.5	3.8067	0.045	1.2	ug/L	53	Standard
>	Bi	209	633149.0	1.7				ug/L	650933	Standard

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Na	23	10.0	50.0	19.4650	9.853	50.6	mg/L	2	Standard
Mg	24	65514.7	1.0	60.5597	1.184	2.0	mg/L	38	Standard
K	39	195.0	9.2	0.4367	0.048	10.9	mg/L	22	Standard
Ca	43	1383.4	0.8	60.6092	1.020	1.7	mg/L	27	Standard
Fe	54	290.7	9.8	0.0281	0.016	57.0	mg/L	177	Standard
Fe	57	590.0	7.6	1.1488	0.123	10.7	mg/L	127	Standard
Sc-1	45	61405.9	1.0				mg/L	58453	Standard
Cl	35	15228.3	1.6				ug/L	9756	Standard
Kr	83	2.3	89.2				ug/L	2	Standard
Br	81	146532.3	3.1				ug/L	3130	Standard
P	31	20537.3	4.8				ug/L	16621	Standard
S	34	1305.1	9.0				ug/L	883	Standard
Sr	88	326.7	7.6				ug/L	38	Standard
C	12	563.3	26.4				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	0	Standard
Dy	164	191.8	3.9				mg/L	13	Standard
Ho-1	165	201.7	18.3				mg/L	10	Standard
Er	166	240.0	16.7				mg/L	13	Standard
I	127	58330.4	1.9				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		102.856	
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		99.585	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1605061105

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	94.868
[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	97.268
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[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	
[C	12	
[N	14	
[Hg	202	
[Dy	164	
[Ho-1	165	
[Er	166	
[I	127	

QC Out of Limits

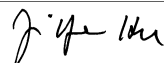
Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1605061105

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Method 6020 - Summary Report

Sample ID: L1605061106

Sample Date/Time: Thursday, May 12, 2016 13:14:38

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	138290.7	4.4				ug/L	132521	Standard
|	Be	9	18.3	41.7	0.0149	0.004	28.1	ug/L	18	Standard
|	Al	27	90896346.7	0.9	388.4829	15.245	3.9	ug/L	1493	Standard
|	Sc	45	58763.8	1.7				ug/L	58453	Standard
|	Ti	47	339.7	5.4	0.6939	0.052	7.4	ug/L	46	Standard
|	V	51	5200.0	2.8	0.3365	0.006	1.8	ug/L	2030	Standard
|	Cr	52	14896.7	1.1	0.6252	0.027	4.3	ug/L	9770	Standard
|	Cr	53	16143.6	8.6	14.1356	1.391	9.8	ug/L	498	Standard
|	Mn	55	6620605.2	1.5	709.7983	3.861	0.5	ug/L	721	Standard
|	Co	59	8514.7	0.2	0.8542	0.014	1.7	ug/L	167	Standard
|	Ni	60	23880.1	1.1	10.0385	0.154	1.5	ug/L	49	Standard
|	Cu	65	2165.5	2.6	0.7347	0.015	2.0	ug/L	418	Standard
|	Zn	66	2995.6	1.3	1.9467	0.063	3.2	ug/L	282	Standard
>	Ge	72	582113.6	1.7				ug/L	632144	Standard
|	As	75	37900.0	0.6	26.7662	0.394	1.5	ug/L	-105	Standard
|	Se	82	3050.0	1.9	20.7882	0.399	1.9	ug/L	26	Standard
|	Se-1	77	1406.1	8.2	14.1275	1.140	8.1	ug/L	75	Standard
>	Ga	71	111.7	29.8				mg/L	27	Standard
|	Rb	85	34054.9	1.5				ug/L	15	Standard
|	Y	89	539411.4	3.1				ug/L	538177	Standard
>	Rh	103	840.0	5.3				ug/L	2	Standard
|	Mo	98	2801.5	1.9	0.7368	0.047	6.4	ug/L	50	Standard
|	Ag	107	198.3	30.0	0.0086	0.008	87.6	ug/L	110	Standard
|	Cd	111	5.0	20.6	0.0030	0.000	14.6	mg/L	4	Standard
|	Cd	114	27.3	56.4	-0.0064	0.002	37.1	ug/L	25	Standard
>	In	115	730446.4	4.4				ug/L	768402	Standard
|	Sn	118	1466.7	1.2	0.0750	0.007	9.0	ug/L	948	Standard
|	Sb	123	122.7	31.8	0.0072	0.007	100.3	ug/L	229	Standard
|	Ba	135	41341.3	1.2	14.5477	0.486	3.3	ug/L	57	Standard
|	Ce	140	605.0	6.2				ug/L	20	Standard
>	Tb	159	1172170.5	4.8				ug/L	1214723	Standard
|	Ho	165	190.0	11.5				ug/L	10	Standard
|	Tl	203	94.3	16.2	0.0041	0.002	42.1	ug/L	29	Standard
|	Tl	205	91.7	25.8	0.0053	0.003	49.4	ug/L	62	Standard
|	Pb	206	402.3	3.3	0.0136	0.002	13.8	ug/L	322	Standard
|	Pb	207	327.7	4.6	0.0072	0.002	21.6	ug/L	278	Standard
|	Pb	208	1401.4	3.0	0.0162	0.001	7.6	ug/L	1167	Standard
	U	238	5211.2	2.6	0.6670	0.026	3.9	ug/L	53	Standard
>	Bi	209	560890.6	2.2				ug/L	650933	Standard

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Na	23	33.3	22.9	67.7555	16.539	24.4	mg/L	2	Standard
Mg	24	169878.7	0.4	164.2043	3.365	2.0	mg/L	38	Standard
K	39	580.0	2.6	1.4782	0.015	1.0	mg/L	22	Standard
Ca	43	3062.0	2.5	141.9087	5.825	4.1	mg/L	27	Standard
Fe	54	8425.4	3.1	5.2322	0.143	2.7	mg/L	177	Standard
Fe	57	3400.4	4.3	8.3892	0.260	3.1	mg/L	127	Standard
Sc-1	45	58763.8	1.7				mg/L	58453	Standard
Cl	35	15580.7	2.0				ug/L	9756	Standard
Kr	83	3.3	62.4				ug/L	2	Standard
Br	81	691166.6	3.2				ug/L	3130	Standard
P	31	22685.3	1.2				ug/L	16621	Standard
S	34	1268.4	10.9				ug/L	883	Standard
Sr	88	3982.2	4.2				ug/L	38	Standard
C	12	900.0	7.3				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	125.0	6.1				mg/L	13	Standard
Ho-1	165	190.0	11.5				mg/L	10	Standard
Er	166	243.3	22.6				mg/L	13	Standard
I	127	1350321.1	7.9				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		104.354	
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		92.086	
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	95.060
[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	86.167
[	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	
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1605061106

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Method 6020 - Summary Report

Sample ID: L1605061107

Sample Date/Time: Thursday, May 12, 2016 13:17:50

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	132032.8	1.1				ug/L	132521	Standard
|	Be	9	21.7	58.1	0.0177	0.008	45.4	ug/L	18	Standard
|	Al	27	85340621.8	4.1	381.6695	17.872	4.7	ug/L	1493	Standard
|	Sc	45	60631.1	2.6				ug/L	58453	Standard
|	Ti	47	353.7	14.9	0.6703	0.117	17.4	ug/L	46	Standard
|	V	51	5787.5	4.8	0.3572	0.024	6.6	ug/L	2030	Standard
|	Cr	52	15310.1	1.8	0.5568	0.025	4.5	ug/L	9770	Standard
|	Cr	53	14682.1	2.9	11.9291	0.282	2.4	ug/L	498	Standard
|	Mn	55	6496928.8	1.7	650.1484	10.236	1.6	ug/L	721	Standard
|	Co	59	8357.6	2.7	0.7810	0.022	2.8	ug/L	167	Standard
|	Ni	60	23660.5	1.0	9.2808	0.062	0.7	ug/L	49	Standard
|	Cu	65	2403.2	4.0	0.7674	0.040	5.2	ug/L	418	Standard
|	Zn	66	2995.6	0.5	1.7972	0.023	1.3	ug/L	282	Standard
>	Ge	72	623615.1	0.6				ug/L	632144	Standard
|	As	75	38376.5	0.3	25.2993	0.074	0.3	ug/L	-105	Standard
|	Se	82	3492.0	2.5	22.2259	0.457	2.1	ug/L	26	Standard
|	Se-1	77	1317.1	2.1	12.2600	0.256	2.1	ug/L	75	Standard
>	Ga	71	110.0	16.4				mg/L	27	Standard
|	Rb	85	33151.2	2.5				ug/L	15	Standard
|	Y	89	490795.6	1.8				ug/L	538177	Standard
>	Rh	103	795.0	2.9				ug/L	2	Standard
|	Mo	98	2785.2	2.6	0.7770	0.030	3.8	ug/L	50	Standard
|	Ag	107	224.3	24.2	0.0126	0.006	46.5	ug/L	110	Standard
|	Cd	111	8.5	24.8	0.0044	0.001	17.9	mg/L	4	Standard
|	Cd	114	23.1	26.6	-0.0069	0.001	14.1	ug/L	25	Standard
>	In	115	688189.6	1.2				ug/L	768402	Standard
|	Sn	118	940.0	12.9	0.0152	0.015	98.0	ug/L	948	Standard
|	Sb	123	138.2	14.3	0.0110	0.003	29.3	ug/L	229	Standard
|	Ba	135	39833.6	1.3	14.8665	0.363	2.4	ug/L	57	Standard
|	Ce	140	795.0	3.3				ug/L	20	Standard
>	Tb	159	1161529.9	2.7				ug/L	1214723	Standard
|	Ho	165	161.7	38.7				ug/L	10	Standard
|	Tl	203	105.3	9.1	0.0049	0.001	19.4	ug/L	29	Standard
|	Tl	205	78.3	16.1	0.0035	0.001	41.5	ug/L	62	Standard
|	Pb	206	434.3	6.9	0.0164	0.004	25.2	ug/L	322	Standard
|	Pb	207	397.0	4.0	0.0171	0.001	7.4	ug/L	278	Standard
|	Pb	208	1307.0	3.1	0.0098	0.003	27.0	ug/L	1167	Standard
	U	238	4966.5	1.0	0.6149	0.018	3.0	ug/L	53	Standard
>	Bi	209	579795.9	2.1				ug/L	650933	Standard

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Na	23	31.7	45.6	62.4885	29.005	46.4	mg/L	2	Standard
Mg	24	159692.3	1.7	149.6789	6.596	4.4	mg/L	38	Standard
K	39	551.7	12.7	1.3621	0.219	16.1	mg/L	22	Standard
Ca	43	2908.6	1.8	130.5629	4.758	3.6	mg/L	27	Standard
Fe	54	8417.6	4.5	5.0669	0.351	6.9	mg/L	177	Standard
Fe	57	3272.0	3.5	7.8098	0.362	4.6	mg/L	127	Standard
Sc-1	45	60631.1	2.6				mg/L	58453	Standard
Cl	35	15264.4	2.2				ug/L	9756	Standard
Kr	83	1.7	91.7				ug/L	2	Standard
Br	81	791873.1	1.7				ug/L	3130	Standard
P	31	22975.8	3.3				ug/L	16621	Standard
S	34	1361.7	7.3				ug/L	883	Standard
Sr	88	3542.1	6.2				ug/L	38	Standard
C	12	733.4	7.0				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	6.7	86.6				mg/L	0	Standard
Dy	164	139.0	19.6				mg/L	13	Standard
Ho-1	165	161.7	38.7				mg/L	10	Standard
Er	166	230.0	8.7				mg/L	13	Standard
I	127	960797.2	4.7				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		99.632	
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		98.651	
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	89.561
[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	89.072
[	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

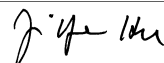
Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1605061107

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Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Thursday, May 12, 2016 13:21:03

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	121425.4	4.9				ug/L	132521	Standard
|	Be	9	73295.5	4.8	50.2634	2.415	4.8	ug/L	18	Standard
|	Al	27	11072331.8	1.0	53.9048	2.429	4.5	ug/L	1493	Standard
|	Sc	45	60842.0	2.4				ug/L	58453	Standard
|	Ti	47	48274.8	1.5	102.5217	2.753	2.7	ug/L	46	Standard
|	V	51	547333.7	0.7	49.1944	0.938	1.9	ug/L	2030	Standard
|	Cr	52	517055.9	1.2	50.1979	1.017	2.0	ug/L	9770	Standard
|	Cr	53	65148.1	1.8	51.2723	1.775	3.5	ug/L	498	Standard
|	Mn	55	538878.3	0.6	50.8279	1.127	2.2	ug/L	721	Standard
|	Co	59	539061.7	1.8	48.6421	1.665	3.4	ug/L	167	Standard
|	Ni	60	134798.7	1.0	50.0390	1.027	2.1	ug/L	49	Standard
|	Cu	65	135590.7	1.0	49.8467	1.217	2.4	ug/L	418	Standard
|	Zn	66	75782.1	0.9	49.6126	1.226	2.5	ug/L	282	Standard
>	Ge	72	660752.0	1.8				ug/L	632144	Standard
|	As	75	79233.2	0.3	49.2364	0.774	1.6	ug/L	-105	Standard
|	Se	82	8178.3	0.9	49.3630	1.014	2.1	ug/L	26	Standard
|	Se-1	77	5439.6	0.8	50.0000	0.668	1.3	ug/L	75	Standard
>	Ga	71	55.0	50.6				mg/L	27	Standard
|	Rb	85	1213.4	8.7				ug/L	15	Standard
|	Y	89	545697.7	3.9				ug/L	538177	Standard
>	Rh	103	31.7	18.2				ug/L	2	Standard
|	Mo	98	391985.4	0.3	101.2065	2.075	2.1	ug/L	50	Standard
|	Ag	107	494303.8	0.5	51.5168	0.958	1.9	ug/L	110	Standard
|	Cd	111	150809.6	1.6	51.3763	0.208	0.4	mg/L	4	Standard
|	Cd	114	364749.0	1.7	51.1017	0.345	0.7	ug/L	25	Standard
>	In	115	754142.9	2.0				ug/L	768402	Standard
|	Sn	118	410520.0	1.9	50.3263	1.149	2.3	ug/L	948	Standard
|	Sb	123	314424.5	0.6	50.5973	1.161	2.3	ug/L	229	Standard
|	Ba	135	150693.1	1.0	51.3756	0.519	1.0	ug/L	57	Standard
|	Ce	140	106.7	9.8				ug/L	20	Standard
>	Tb	159	1218287.3	0.9				ug/L	1214723	Standard
|	Ho	165	13.3	21.7				ug/L	10	Standard
|	Tl	203	563636.2	0.7	51.5907	0.728	1.4	ug/L	29	Standard
|	Tl	205	501590.2	3.4	52.5111	2.784	5.3	ug/L	62	Standard
|	Pb	206	359082.6	0.6	51.6827	0.723	1.4	ug/L	322	Standard
|	Pb	207	325151.6	0.7	51.6212	0.684	1.3	ug/L	278	Standard
|	Pb	208	1229587.7	0.6	52.2699	1.267	2.4	ug/L	1167	Standard
	U	238	447991.2	0.4	51.9699	1.188	2.3	ug/L	53	Standard
>	Bi	209	619738.1	1.9				ug/L	650933	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	5594.4	2.6	5.1699	0.226	4.4	mg/L	38	Standard
K	39	2261.8	3.0	5.7300	0.242	4.2	mg/L	22	Standard
Ca	43	141.7	11.3	5.1243	0.804	15.7	mg/L	27	Standard
Fe	54	8759.4	4.1	5.2583	0.313	6.0	mg/L	177	Standard
Fe	57	2430.2	3.0	5.7004	0.047	0.8	mg/L	127	Standard
Sc-1	45	60842.0	2.4				mg/L	58453	Standard
Cl	35	12748.0	3.7				ug/L	9756	Standard
Kr	83	2.0	86.6				ug/L	2	Standard
Br	81	12748.9	26.6				ug/L	3130	Standard
P	31	19292.3	1.0				ug/L	16621	Standard
S	34	1413.4	6.1				ug/L	883	Standard
Sr	88	75.0	6.7				ug/L	38	Standard
C	12	316.7	30.7				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	11.6	97.4				mg/L	13	Standard
Ho-1	165	13.3	21.7				mg/L	10	Standard
Er	166	36.7	31.5				mg/L	13	Standard
I	127	21588.7	40.6				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	100.527		
Al	27	107.810		
Sc	45			
Ti	47	102.522		
V	51	98.389		
Cr	52	100.396		
Cr	53			
Mn	55	101.656		
Co	59	97.284		
Ni	60	100.078		
Cu	65	99.693		
Zn	66	99.225		
Ge	72		104.526	
As	75	98.473		
Se	82	98.726		
Se-1	77			
Ga	71			

Sample ID: QC Std 6

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[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	101.206	
[Ag	107	103.034	
[Cd	111	102.753	
[Cd	114		
>	In	115		98.144
[Sn	118	100.653	
[	Sb	123	101.195	
[	Ba	135	102.751	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	103.181	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[Pb	208	104.540	
[U	238	103.940	
>	Bi	209		95.208
[Na	23		
[Mg	24		
[K	39		
[Ca	43		
[Fe	54		
[Fe	57		
>	Sc-1	45		
[Cl	35		
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[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

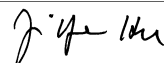
Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 6

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Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Thursday, May 12, 2016 13:24:14

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	125027.1	0.1				ug/L	132521	Standard
|	Be	9	31.7	59.8	0.0250	0.013	50.3	ug/L	18	Standard
|	Al	27	16375.9	59.6	0.0698	0.046	65.8	ug/L	1493	Standard
|	Sc	45	65253.6	2.1				ug/L	58453	Standard
|	Ti	47	51.0	9.8	-0.0189	0.010	54.9	ug/L	46	Standard
|	V	51	2462.2	2.8	0.0237	0.008	31.8	ug/L	2030	Standard
|	Cr	52	11186.5	1.6	0.0454	0.036	78.9	ug/L	9770	Standard
|	Cr	53	978.4	8.8	0.3614	0.050	13.8	ug/L	498	Standard
|	Mn	55	1695.4	19.9	0.0708	0.028	39.9	ug/L	721	Standard
|	Co	59	265.3	23.7	0.0056	0.005	89.8	ug/L	167	Standard
|	Ni	60	84.3	30.6	0.0022	0.009	400.5	ug/L	49	Standard
|	Cu	65	644.0	6.1	0.0628	0.008	13.5	ug/L	418	Standard
|	Zn	66	401.3	8.6	-0.0317	0.016	49.4	ug/L	282	Standard
>	Ge	72	668631.9	3.1				ug/L	632144	Standard
|	As	75	-93.2	35.8	0.0162	0.022	138.5	ug/L	-105	Standard
|	Se	82	35.9	47.4	0.0294	0.097	330.7	ug/L	26	Standard
|	Se-1	77	109.0	6.4	0.2470	0.097	39.2	ug/L	75	Standard
>	Ga	71	31.7	24.1				mg/L	27	Standard
|	Rb	85	25.0	87.2				ug/L	15	Standard
|	Y	89	529024.5	2.0				ug/L	538177	Standard
>	Rh	103	15.0	88.2				ug/L	2	Standard
|	Mo	98	220.3	7.0	0.0444	0.004	9.3	ug/L	50	Standard
|	Ag	107	222.0	20.5	0.0097	0.005	51.5	ug/L	110	Standard
|	Cd	111	33.6	37.9	0.0125	0.004	35.4	mg/L	4	Standard
|	Cd	114	77.4	52.3	0.0002	0.006	2931.7	ug/L	25	Standard
>	In	115	771378.8	1.5				ug/L	768402	Standard
|	Sn	118	1465.1	17.1	0.0645	0.028	42.8	ug/L	948	Standard
|	Sb	123	758.8	16.7	0.1058	0.018	17.3	ug/L	229	Standard
|	Ba	135	114.7	44.8	0.0154	0.018	115.2	ug/L	57	Standard
|	Ce	140	26.7	28.6				ug/L	20	Standard
>	Tb	159	1257391.5	2.3				ug/L	1214723	Standard
|	Ho	165	15.0	66.7				ug/L	10	Standard
|	Tl	203	197.3	36.9	0.0115	0.006	55.9	ug/L	29	Standard
|	Tl	205	176.7	27.5	0.0121	0.005	40.9	ug/L	62	Standard
|	Pb	206	488.0	9.7	0.0153	0.007	46.6	ug/L	322	Standard
|	Pb	207	407.7	11.5	0.0103	0.007	70.6	ug/L	278	Standard
|	Pb	208	1458.4	10.3	0.0084	0.007	77.9	ug/L	1167	Standard
	U	238	110.3	48.0	0.0109	0.006	53.7	ug/L	53	Standard
>	Bi	209	662688.8	1.1				ug/L	650933	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	101.7	2.8	0.0320	0.002	4.7	mg/L	38	Standard
K	39	28.3	27.0	0.0101	0.019	188.0	mg/L	22	Standard
Ca	43	25.0	34.6	-0.2249	0.368	163.7	mg/L	27	Standard
Fe	54	209.1	10.4	-0.0294	0.011	36.2	mg/L	177	Standard
Fe	57	156.7	29.0	0.0656	0.100	151.7	mg/L	127	Standard
Sc-1	45	65253.6	2.1				mg/L	58453	Standard
Cl	35	12179.6	0.6				ug/L	9756	Standard
Kr	83	2.3	49.5				ug/L	2	Standard
Br	81	7035.0	6.1				ug/L	3130	Standard
P	31	19138.8	2.8				ug/L	16621	Standard
S	34	1420.1	3.7				ug/L	883	Standard
Sr	88	71.7	10.7				ug/L	38	Standard
C	12	230.0	27.2				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	6.7	86.6				mg/L	0	Standard
Dy	164	2.7	219.6				mg/L	13	Standard
Ho-1	165	15.0	66.7				mg/L	10	Standard
Er	166	13.3	43.3				mg/L	13	Standard
I	127	9713.1	7.8				mg/L	3532	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		105.772	
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	100.387
[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	101.806
[	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: L1605061109

Sample Date/Time: Thursday, May 12, 2016 13:27:27

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	121970.7	0.9				ug/L	132521	Standard
|	Be	9	25.0	87.2	0.0209	0.015	70.0	ug/L	18	Standard
|	Al	27	30138192.4	1.4	145.8666	0.877	0.6	ug/L	1493	Standard
|	Sc	45	60975.8	1.7				ug/L	58453	Standard
|	Ti	47	138.0	6.9	0.1760	0.016	8.8	ug/L	46	Standard
|	V	51	3588.0	3.2	0.1378	0.016	11.4	ug/L	2030	Standard
|	Cr	52	14764.2	1.3	0.4575	0.043	9.5	ug/L	9770	Standard
|	Cr	53	3053.6	8.5	2.0890	0.181	8.7	ug/L	498	Standard
|	Mn	55	5091352.1	0.6	495.5753	7.228	1.5	ug/L	721	Standard
|	Co	59	3982.2	1.7	0.3524	0.011	3.1	ug/L	167	Standard
|	Ni	60	6060.9	1.3	2.2914	0.064	2.8	ug/L	49	Standard
|	Cu	65	1357.7	2.9	0.3445	0.023	6.6	ug/L	418	Standard
|	Zn	66	2920.9	3.9	1.6905	0.115	6.8	ug/L	282	Standard
>	Ge	72	641222.8	1.9				ug/L	632144	Standard
|	As	75	620.4	8.8	0.4701	0.029	6.2	ug/L	-105	Standard
|	Se	82	248.0	3.9	1.3640	0.038	2.8	ug/L	26	Standard
|	Se-1	77	209.7	8.1	1.2543	0.126	10.1	ug/L	75	Standard
>	Ga	71	78.3	14.7				mg/L	27	Standard
|	Rb	85	2937.0	2.5				ug/L	15	Standard
|	Y	89	550916.3	3.8				ug/L	538177	Standard
>	Rh	103	120.0	16.7				ug/L	2	Standard
|	Mo	98	275.1	20.1	0.0604	0.013	22.0	ug/L	50	Standard
|	Ag	107	226.7	63.2	0.0108	0.015	135.2	ug/L	110	Standard
|	Cd	111	105.9	25.1	0.0376	0.008	22.6	mg/L	4	Standard
|	Cd	114	248.9	30.6	0.0246	0.010	40.7	ug/L	25	Standard
>	In	115	747188.5	2.7				ug/L	768402	Standard
|	Sn	118	2278.5	6.3	0.1713	0.017	10.1	ug/L	948	Standard
|	Sb	123	851.1	5.4	0.1249	0.008	6.4	ug/L	229	Standard
|	Ba	135	38950.0	1.2	13.3881	0.243	1.8	ug/L	57	Standard
|	Ce	140	1841.8	2.3				ug/L	20	Standard
>	Tb	159	1190888.3	1.6				ug/L	1214723	Standard
|	Ho	165	73.3	10.4				ug/L	10	Standard
|	Tl	203	438.0	50.0	0.0362	0.021	58.0	ug/L	29	Standard
|	Tl	205	268.3	23.6	0.0238	0.007	29.2	ug/L	62	Standard
|	Pb	206	503.3	18.7	0.0247	0.014	58.2	ug/L	322	Standard
|	Pb	207	441.7	17.4	0.0224	0.013	57.9	ug/L	278	Standard
|	Pb	208	1663.0	9.5	0.0237	0.007	30.7	ug/L	1167	Standard
	U	238	5079.5	1.4	0.6092	0.008	1.4	ug/L	53	Standard
>	Bi	209	598223.0	0.6				ug/L	650933	Standard

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Na	23	5.0	0.0	9.7751	0.166	1.7	mg/L	2	Standard
Mg	24	24534.9	1.8	22.8007	0.080	0.4	mg/L	38	Standard
K	39	223.3	5.6	0.5128	0.041	7.9	mg/L	22	Standard
Ca	43	978.4	6.0	42.7848	2.277	5.3	mg/L	27	Standard
Fe	54	432.0	4.6	0.1163	0.008	6.6	mg/L	177	Standard
Fe	57	566.7	5.7	1.1018	0.102	9.2	mg/L	127	Standard
Sc-1	45	60975.8	1.7				mg/L	58453	Standard
Cl	35	14982.7	1.0				ug/L	9756	Standard
Kr	83	3.3	124.9				ug/L	2	Standard
Br	81	47678.3	3.5				ug/L	3130	Standard
P	31	21457.0	11.9				ug/L	16621	Standard
S	34	1331.7	10.0				ug/L	883	Standard
Sr	88	528.3	6.2				ug/L	38	Standard
C	12	336.7	11.2				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	101.4	27.2				mg/L	13	Standard
Ho-1	165	73.3	10.4				mg/L	10	Standard
Er	166	110.0	24.1				mg/L	13	Standard
I	127	127269.2	2.6				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		92.039	
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		101.436	
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	97.239
[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	91.902
[	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

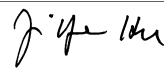
Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1605061109

Report Date/Time: Thursday, May 12, 2016 13:29:44

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Method 6020 - Summary Report

Sample ID: L1605061111

Sample Date/Time: Thursday, May 12, 2016 13:30:38

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	132665.2	2.7				ug/L	132521	Standard
|	Be	9	13.3	43.3	0.0123	0.003	28.3	ug/L	18	Standard
|	Al	27	46784091.3	1.4	208.3376	8.581	4.1	ug/L	1493	Standard
|	Sc	45	59540.1	2.0				ug/L	58453	Standard
|	Ti	47	155.7	4.6	0.2244	0.018	8.2	ug/L	46	Standard
|	V	51	4650.3	2.1	0.2484	0.009	3.8	ug/L	2030	Standard
|	Cr	52	15588.3	1.4	0.5852	0.023	3.9	ug/L	9770	Standard
|	Cr	53	12433.4	2.2	10.0368	0.293	2.9	ug/L	498	Standard
|	Mn	55	1799345.0	0.4	179.9069	0.698	0.4	ug/L	721	Standard
|	Co	59	3989.2	2.2	0.3632	0.011	2.9	ug/L	167	Standard
|	Ni	60	11141.1	1.8	4.3525	0.058	1.3	ug/L	49	Standard
|	Cu	65	1864.8	1.5	0.5565	0.010	1.8	ug/L	418	Standard
|	Zn	66	2357.9	2.5	1.3513	0.035	2.6	ug/L	282	Standard
>	Ge	72	623940.0	0.6				ug/L	632144	Standard
|	As	75	4924.0	0.9	3.3087	0.019	0.6	ug/L	-105	Standard
|	Se	82	1400.3	1.6	8.7983	0.103	1.2	ug/L	26	Standard
|	Se-1	77	861.4	4.5	7.7510	0.384	5.0	ug/L	75	Standard
>	Ga	71	90.0	5.6				mg/L	27	Standard
|	Rb	85	14827.3	0.4				ug/L	15	Standard
|	Y	89	536277.5	2.5				ug/L	538177	Standard
>	Rh	103	1140.0	1.6				ug/L	2	Standard
|	Mo	98	1833.5	2.6	0.4875	0.020	4.1	ug/L	50	Standard
|	Ag	107	133.3	3.5	0.0017	0.001	42.0	ug/L	110	Standard
|	Cd	111	13.2	33.9	0.0060	0.002	27.7	mg/L	4	Standard
|	Cd	114	45.1	22.3	-0.0038	0.002	39.7	ug/L	25	Standard
>	In	115	716046.4	1.6				ug/L	768402	Standard
|	Sn	118	1175.0	12.1	0.0410	0.021	50.7	ug/L	948	Standard
|	Sb	123	594.3	9.3	0.0875	0.011	12.5	ug/L	229	Standard
|	Ba	135	141572.4	1.1	50.8300	0.379	0.7	ug/L	57	Standard
|	Ce	140	2256.8	6.7				ug/L	20	Standard
>	Tb	159	1194202.4	1.7				ug/L	1214723	Standard
|	Ho	165	85.0	51.3				ug/L	10	Standard
|	Tl	203	143.0	1.2	0.0086	0.000	0.9	ug/L	29	Standard
|	Tl	205	125.0	28.8	0.0087	0.004	45.5	ug/L	62	Standard
|	Pb	206	517.3	2.8	0.0291	0.003	9.2	ug/L	322	Standard
|	Pb	207	485.7	4.2	0.0321	0.004	12.4	ug/L	278	Standard
|	Pb	208	1833.4	4.2	0.0336	0.004	12.0	ug/L	1167	Standard
	U	238	5135.5	0.6	0.6350	0.007	1.2	ug/L	53	Standard
>	Bi	209	580333.1	0.7				ug/L	650933	Standard

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Na	23	18.3	15.7	36.7458	6.243	17.0	mg/L	2	Standard
Mg	24	106090.2	1.8	101.1673	0.591	0.6	mg/L	38	Standard
K	39	595.0	3.9	1.4979	0.067	4.5	mg/L	22	Standard
Ca	43	1663.4	3.2	75.4926	3.332	4.4	mg/L	27	Standard
Fe	54	953.9	9.6	0.4512	0.046	10.3	mg/L	177	Standard
Fe	57	943.4	2.7	2.0840	0.047	2.3	mg/L	127	Standard
Sc-1	45	59540.1	2.0				mg/L	58453	Standard
Cl	35	15285.0	0.4				ug/L	9756	Standard
Kr	83	2.3	24.7				ug/L	2	Standard
Br	81	309818.3	3.7				ug/L	3130	Standard
P	31	21692.2	4.9				ug/L	16621	Standard
S	34	1401.7	6.2				ug/L	883	Standard
Sr	88	4759.1	0.8				ug/L	38	Standard
C	12	480.0	25.3				mg/L	333	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	105.4	32.6				mg/L	13	Standard
Ho-1	165	85.0	51.3				mg/L	10	Standard
Er	166	96.7	36.3				mg/L	13	Standard
I	127	327631.5	1.3				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		100.109	
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		98.702	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1605061111

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	93.186
[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	89.154
[	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

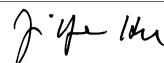
Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1605061111

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Method 6020 - Summary Report

Sample ID: L1605061113

Sample Date/Time: Thursday, May 12, 2016 13:33:50

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	119971.6	2.1				ug/L	132521	Standard
|	Be	9	15.0	33.3	0.0143	0.003	22.7	ug/L	18	Standard
|	Al	27	37242102.0	1.0	183.2884	2.099	1.1	ug/L	1493	Standard
|	Sc	45	62306.2	1.0				ug/L	58453	Standard
|	Ti	47	214.7	21.3	0.3355	0.094	28.1	ug/L	46	Standard
|	V	51	3160.9	7.7	0.0928	0.022	23.3	ug/L	2030	Standard
|	Cr	52	14516.3	1.6	0.4061	0.041	10.0	ug/L	9770	Standard
|	Cr	53	2605.2	4.2	1.6867	0.076	4.5	ug/L	498	Standard
|	Mn	55	20130603.0	2.6	1925.1562	45.043	2.3	ug/L	721	Standard
|	Co	59	12521.2	2.2	1.1261	0.032	2.9	ug/L	167	Standard
|	Ni	60	13452.0	1.6	5.0291	0.066	1.3	ug/L	49	Standard
|	Cu	65	1293.4	0.5	0.3113	0.009	2.8	ug/L	418	Standard
|	Zn	66	2545.2	2.2	1.4043	0.048	3.4	ug/L	282	Standard
>	Ge	72	652618.9	1.3				ug/L	632144	Standard
|	As	75	2100.7	1.5	1.3932	0.007	0.5	ug/L	-105	Standard
|	Se	82	272.9	6.6	1.4906	0.114	7.7	ug/L	26	Standard
|	Se-1	77	194.7	15.2	1.0785	0.271	25.2	ug/L	75	Standard
>	Ga	71	208.3	13.6				mg/L	27	Standard
|	Rb	85	5489.3	3.1				ug/L	15	Standard
|	Y	89	530746.3	4.2				ug/L	538177	Standard
>	Rh	103	81.7	25.5				ug/L	2	Standard
|	Mo	98	911.8	6.5	0.2259	0.019	8.2	ug/L	50	Standard
|	Ag	107	102.0	16.2	-0.0022	0.002	79.0	ug/L	110	Standard
|	Cd	111	11.7	9.7	0.0053	0.000	8.1	mg/L	4	Standard
|	Cd	114	50.8	46.0	-0.0032	0.003	107.3	ug/L	25	Standard
>	In	115	749282.2	2.1				ug/L	768402	Standard
|	Sn	118	1150.0	19.3	0.0314	0.031	98.0	ug/L	948	Standard
|	Sb	123	600.7	6.7	0.0841	0.009	10.2	ug/L	229	Standard
|	Ba	135	94728.5	0.4	32.5001	0.547	1.7	ug/L	57	Standard
|	Ce	140	1651.8	0.9				ug/L	20	Standard
>	Tb	159	1230869.2	1.8				ug/L	1214723	Standard
|	Ho	165	68.3	16.9				ug/L	10	Standard
|	Tl	203	326.3	7.5	0.0242	0.002	8.4	ug/L	29	Standard
|	Tl	205	261.7	5.8	0.0219	0.001	6.0	ug/L	62	Standard
|	Pb	206	433.7	2.7	0.0115	0.001	7.4	ug/L	322	Standard
|	Pb	207	375.0	2.4	0.0088	0.002	25.2	ug/L	278	Standard
|	Pb	208	1431.0	2.3	0.0107	0.002	16.2	ug/L	1167	Standard
	U	238	8268.6	1.3	0.9502	0.001	0.1	ug/L	53	Standard
>	Bi	209	624734.7	1.4				ug/L	650933	Standard

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Na	23	8.3	34.6	15.9385	5.522	34.6	mg/L	2	Standard
Mg	24	11267.5	2.9	10.2170	0.299	2.9	mg/L	38	Standard
K	39	268.3	21.6	0.6136	0.152	24.7	mg/L	22	Standard
Ca	43	1246.7	6.7	53.6620	3.100	5.8	mg/L	27	Standard
Fe	54	2774.0	10.8	1.5220	0.187	12.3	mg/L	177	Standard
Fe	57	1210.0	0.8	2.6209	0.006	0.2	mg/L	127	Standard
Sc-1	45	62306.2	1.0				mg/L	58453	Standard
Cl	35	14665.8	2.3				ug/L	9756	Standard
Kr	83	3.0	33.3				ug/L	2	Standard
Br	81	51855.3	2.5				ug/L	3130	Standard
P	31	21214.9	4.2				ug/L	16621	Standard
S	34	1355.1	1.7				ug/L	883	Standard
Sr	88	340.0	3.9				ug/L	38	Standard
C	12	473.3	39.7				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	0	Standard
Dy	164	110.6	51.7				mg/L	13	Standard
Ho-1	165	68.3	16.9				mg/L	10	Standard
Er	166	56.7	27.0				mg/L	13	Standard
I	127	145010.8	2.0				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		90.530	
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		103.239	
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	97.512
[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	95.975
[	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	
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1605061113

Report Date/Time: Thursday, May 12, 2016 13:36:07

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Method 6020 - Summary Report

Sample ID: L1605061115

Sample Date/Time: Thursday, May 12, 2016 13:37:01

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	124405.5	2.2				ug/L	132521	Standard
|	Be	9	11.7	107.9	0.0118	0.009	72.5	ug/L	18	Standard
|	Al	27	34745765.9	0.7	164.9369	3.944	2.4	ug/L	1493	Standard
|	Sc	45	64197.4	1.2				ug/L	58453	Standard
|	Ti	47	158.3	3.6	0.2265	0.013	5.6	ug/L	46	Standard
|	V	51	3440.5	9.8	0.1293	0.035	26.7	ug/L	2030	Standard
|	Cr	52	15388.8	1.1	0.5465	0.014	2.5	ug/L	9770	Standard
|	Cr	53	3473.7	7.7	2.4817	0.248	10.0	ug/L	498	Standard
|	Mn	55	4733689.8	0.5	468.2655	6.524	1.4	ug/L	721	Standard
|	Co	59	3855.2	2.3	0.3463	0.009	2.7	ug/L	167	Standard
|	Ni	60	5293.9	1.1	2.0304	0.023	1.1	ug/L	49	Standard
|	Cu	65	1105.4	4.9	0.2552	0.022	8.4	ug/L	418	Standard
|	Zn	66	3509.4	2.7	2.1270	0.037	1.7	ug/L	282	Standard
>	Ge	72	630888.2	1.2				ug/L	632144	Standard
|	As	75	860.6	5.0	0.6329	0.025	3.9	ug/L	-105	Standard
|	Se	82	177.4	5.0	0.9414	0.043	4.6	ug/L	26	Standard
|	Se-1	77	241.0	6.0	1.5946	0.125	7.8	ug/L	75	Standard
>	Ga	71	71.7	28.2				mg/L	27	Standard
|	Rb	85	15012.4	1.9				ug/L	15	Standard
|	Y	89	552157.7	0.4				ug/L	538177	Standard
>	Rh	103	108.3	31.4				ug/L	2	Standard
|	Mo	98	564.5	4.1	0.1353	0.006	4.4	ug/L	50	Standard
|	Ag	107	124.0	17.8	0.0001	0.002	4168.6	ug/L	110	Standard
|	Cd	111	8.0	75.8	0.0040	0.002	52.3	mg/L	4	Standard
|	Cd	114	37.1	17.3	-0.0052	0.001	17.9	ug/L	25	Standard
>	In	115	750178.0	0.6				ug/L	768402	Standard
|	Sn	118	1476.7	8.9	0.0711	0.015	21.4	ug/L	948	Standard
|	Sb	123	458.8	7.9	0.0609	0.006	10.3	ug/L	229	Standard
|	Ba	135	121095.4	1.2	41.4951	0.667	1.6	ug/L	57	Standard
|	Ce	140	386.7	9.9				ug/L	20	Standard
>	Tb	159	1222908.5	1.2				ug/L	1214723	Standard
|	Ho	165	26.7	28.6				ug/L	10	Standard
|	Tl	203	297.0	6.2	0.0223	0.002	7.9	ug/L	29	Standard
|	Tl	205	228.3	9.1	0.0191	0.002	10.9	ug/L	62	Standard
|	Pb	206	426.0	6.5	0.0122	0.004	29.5	ug/L	322	Standard
|	Pb	207	382.0	5.7	0.0116	0.003	28.5	ug/L	278	Standard
|	Pb	208	1410.0	2.6	0.0116	0.002	17.2	ug/L	1167	Standard
	U	238	15928.0	0.9	1.8855	0.024	1.2	ug/L	53	Standard
>	Bi	209	606858.0	0.8				ug/L	650933	Standard

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Na	23	11.7	89.2	21.7883	19.408	89.1	mg/L	2	Standard
Mg	24	13219.1	3.0	11.6421	0.382	3.3	mg/L	38	Standard
K	39	193.3	9.1	0.4114	0.048	11.7	mg/L	22	Standard
Ca	43	1178.4	7.5	49.1543	4.010	8.2	mg/L	27	Standard
Fe	54	1588.7	9.6	0.7789	0.081	10.4	mg/L	177	Standard
Fe	57	895.0	7.4	1.7994	0.171	9.5	mg/L	127	Standard
Sc-1	45	64197.4	1.2				mg/L	58453	Standard
Cl	35	14500.9	3.5				ug/L	9756	Standard
Kr	83	3.0	57.7				ug/L	2	Standard
Br	81	36477.2	3.6				ug/L	3130	Standard
P	31	21408.4	0.1				ug/L	16621	Standard
S	34	1358.4	2.5				ug/L	883	Standard
Sr	88	498.3	12.0				ug/L	38	Standard
C	12	536.7	28.0				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	34.8	57.9				mg/L	13	Standard
Ho-1	165	26.7	28.6				mg/L	10	Standard
Er	166	40.0	50.0				mg/L	13	Standard
I	127	68141.3	3.6				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		93.876	
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		99.801	
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	97.628
[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	93.229
[	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

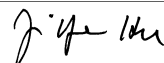
Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1605061115

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Method 6020 - Summary Report

Sample ID: L1605061503 WG568493-02

Sample Date/Time: Thursday, May 12, 2016 13:40:13

Number of Replicates: 3

Autosampler Position: 325

Sample Description: 1000

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	118901.7	3.1				ug/L	132521	Standard
|	Be	9	11.7	49.5	0.0121	0.004	32.2	ug/L	18	Standard
|	Al	27	13858.1	13.2	0.0612	0.007	11.5	ug/L	1493	Standard
|	Sc	45	62388.2	1.7				ug/L	58453	Standard
|	Ti	47	40.3	17.9	-0.0399	0.014	36.0	ug/L	46	Standard
|	V	51	2976.4	2.0	0.0743	0.003	4.3	ug/L	2030	Standard
|	Cr	52	13495.0	1.3	0.2953	0.035	12.0	ug/L	9770	Standard
|	Cr	53	916.7	9.9	0.3275	0.082	25.2	ug/L	498	Standard
|	Mn	55	2203.8	7.7	0.1225	0.019	15.1	ug/L	721	Standard
|	Co	59	185.3	1.6	-0.0012	0.000	25.6	ug/L	167	Standard
|	Ni	60	71.3	2.9	-0.0020	0.001	66.9	ug/L	49	Standard
|	Cu	65	603.7	3.1	0.0523	0.009	17.0	ug/L	418	Standard
|	Zn	66	1472.4	1.6	0.6829	0.007	1.0	ug/L	282	Standard
>	Ge	72	656686.1	2.1				ug/L	632144	Standard
|	As	75	-94.6	38.2	0.0144	0.024	163.7	ug/L	-105	Standard
|	Se	82	38.5	19.7	0.0505	0.041	81.7	ug/L	26	Standard
|	Se-1	77	104.3	6.2	0.2195	0.058	26.4	ug/L	75	Standard
>	Ga	71	31.7	36.5				mg/L	27	Standard
|	Rb	85	43.3	33.3				ug/L	15	Standard
|	Y	89	554096.1	1.4				ug/L	538177	Standard
>	Rh	103	5.0	0.0				ug/L	2	Standard
|	Mo	98	25.8	34.0	-0.0045	0.002	53.3	ug/L	50	Standard
|	Ag	107	108.0	6.5	-0.0018	0.001	52.9	ug/L	110	Standard
|	Cd	111	4.3	53.4	0.0027	0.001	30.0	mg/L	4	Standard
|	Cd	114	35.3	78.4	-0.0056	0.004	67.6	ug/L	25	Standard
>	In	115	759648.6	2.4				ug/L	768402	Standard
|	Sn	118	1356.7	3.5	0.0544	0.009	15.8	ug/L	948	Standard
|	Sb	123	95.1	25.7	0.0019	0.004	225.8	ug/L	229	Standard
|	Ba	135	104.0	13.4	0.0123	0.006	45.4	ug/L	57	Standard
|	Ce	140	35.0	28.6				ug/L	20	Standard
>	Tb	159	1191916.6	1.6				ug/L	1214723	Standard
|	Ho	165	10.0	50.0				ug/L	10	Standard
|	Tl	203	61.0	18.6	0.0002	0.001	548.2	ug/L	29	Standard
|	Tl	205	58.3	69.8	0.0009	0.004	491.1	ug/L	62	Standard
|	Pb	206	346.0	3.8	-0.0004	0.002	612.9	ug/L	322	Standard
|	Pb	207	299.7	6.6	-0.0025	0.003	119.4	ug/L	278	Standard
|	Pb	208	1192.7	3.5	0.0013	0.002	138.1	ug/L	1167	Standard
	U	238	7.0	14.3	-0.0002	0.000	50.0	ug/L	53	Standard
>	Bi	209	616756.7	0.9				ug/L	650933	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	113.3	14.2	0.0468	0.016	34.1	mg/L	38	Standard
K	39	28.3	79.6	0.0137	0.057	417.1	mg/L	22	Standard
Ca	43	33.3	17.3	0.1870	0.230	122.9	mg/L	27	Standard
Fe	54	214.2	12.2	-0.0207	0.016	75.8	mg/L	177	Standard
Fe	57	205.0	19.4	0.1993	0.097	48.7	mg/L	127	Standard
Sc-1	45	62388.2	1.7				mg/L	58453	Standard
Cl	35	15089.5	1.5				ug/L	9756	Standard
Kr	83	1.7	34.6				ug/L	2	Standard
Br	81	5284.3	11.2				ug/L	3130	Standard
P	31	18731.6	4.0				ug/L	16621	Standard
S	34	1430.1	3.7				ug/L	883	Standard
Sr	88	68.3	23.5				ug/L	38	Standard
C	12	243.3	27.4				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	5.4	109.8				mg/L	13	Standard
Ho-1	165	10.0	50.0				mg/L	10	Standard
Er	166	26.7	21.7				mg/L	13	Standard
I	127	22386.5	3.8				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		89.723	
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		103.882	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1605061503 WG568493-02

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	98.861
[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	94.750
[	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: L1605061503 WG568493-02

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Method 6020 - Summary Report

Sample ID: L1605061503DP WG568493-07

Sample Date/Time: Thursday, May 12, 2016 13:43:24

Number of Replicates: 3

Autosampler Position: 326

Sample Description: 1000

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	123313.4	3.0				ug/L	132521	Standard
|	Be	9	3.3	86.6	0.0063	0.002	31.7	ug/L	18	Standard
|	Al	27	12700.4	13.2	0.0535	0.010	18.1	ug/L	1493	Standard
|	Sc	45	65497.9	0.8				ug/L	58453	Standard
|	Ti	47	41.3	20.6	-0.0390	0.019	48.1	ug/L	46	Standard
|	V	51	2987.1	6.3	0.0708	0.012	17.0	ug/L	2030	Standard
|	Cr	52	13599.4	1.8	0.2837	0.009	3.3	ug/L	9770	Standard
|	Cr	53	795.0	4.7	0.2200	0.039	17.8	ug/L	498	Standard
|	Mn	55	2069.5	13.9	0.1063	0.026	24.1	ug/L	721	Standard
|	Co	59	200.0	2.5	-0.0001	0.000	329.1	ug/L	167	Standard
|	Ni	60	75.3	11.3	-0.0009	0.003	367.8	ug/L	49	Standard
|	Cu	65	516.7	3.5	0.0170	0.009	55.7	ug/L	418	Standard
|	Zn	66	1524.1	2.0	0.7011	0.023	3.3	ug/L	282	Standard
>	Ge	72	667340.5	2.0				ug/L	632144	Standard
|	As	75	-114.3	26.1	0.0035	0.019	544.8	ug/L	-105	Standard
|	Se	82	34.0	16.3	0.0207	0.033	159.7	ug/L	26	Standard
|	Se-1	77	86.0	7.0	0.0340	0.040	118.9	ug/L	75	Standard
>	Ga	71	28.3	62.0				mg/L	27	Standard
|	Rb	85	30.0	28.9				ug/L	15	Standard
|	Y	89	528896.8	1.1				ug/L	538177	Standard
>	Rh	103	6.7	86.6				ug/L	2	Standard
|	Mo	98	23.4	6.8	-0.0051	0.000	9.5	ug/L	50	Standard
|	Ag	107	106.3	12.3	-0.0018	0.002	84.2	ug/L	110	Standard
|	Cd	111	5.6	27.1	0.0032	0.001	16.4	mg/L	4	Standard
|	Cd	114	21.3	192.9	-0.0075	0.006	76.3	ug/L	25	Standard
>	In	115	752883.5	1.6				ug/L	768402	Standard
|	Sn	118	1381.7	9.4	0.0587	0.014	23.6	ug/L	948	Standard
|	Sb	123	81.5	22.1	-0.0002	0.003	1132.7	ug/L	229	Standard
|	Ba	135	113.7	9.2	0.0158	0.004	23.1	ug/L	57	Standard
|	Ce	140	33.3	37.7				ug/L	20	Standard
>	Tb	159	1221928.0	2.6				ug/L	1214723	Standard
|	Ho	165	11.7	24.7				ug/L	10	Standard
|	Tl	203	34.7	27.4	-0.0024	0.001	37.1	ug/L	29	Standard
|	Tl	205	40.0	25.0	-0.0012	0.001	81.7	ug/L	62	Standard
|	Pb	206	358.0	5.4	-0.0007	0.003	366.3	ug/L	322	Standard
|	Pb	207	307.3	5.7	-0.0032	0.003	81.9	ug/L	278	Standard
|	Pb	208	1153.4	3.3	-0.0023	0.002	91.7	ug/L	1167	Standard
	U	238	8.3	6.9	-0.0001	0.000	55.9	ug/L	53	Standard
>	Bi	209	642375.9	1.2				ug/L	650933	Standard

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Na	23	1.7	173.2	3.0378	5.253	172.9	mg/L	2	Standard
Mg	24	125.0	27.7	0.0517	0.029	56.9	mg/L	38	Standard
K	39	28.3	36.7	0.0099	0.025	256.2	mg/L	22	Standard
Ca	43	38.3	65.7	0.3319	1.058	318.7	mg/L	27	Standard
Fe	54	205.6	7.3	-0.0318	0.008	24.3	mg/L	177	Standard
Fe	57	148.3	14.0	0.0461	0.050	109.0	mg/L	127	Standard
Sc-1	45	65497.9	0.8				mg/L	58453	Standard
Cl	35	14972.1	0.6				ug/L	9756	Standard
Kr	83	3.7	83.3				ug/L	2	Standard
Br	81	4467.3	3.2				ug/L	3130	Standard
P	31	19152.1	1.0				ug/L	16621	Standard
S	34	1485.1	1.8				ug/L	883	Standard
Sr	88	45.0	22.2				ug/L	38	Standard
C	12	193.3	28.5				mg/L	333	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	8.6	119.7				mg/L	13	Standard
Ho-1	165	11.7	24.7				mg/L	10	Standard
Er	166	30.0	33.3				mg/L	13	Standard
I	127	21587.0	3.3				mg/L	3532	Standard

QC Calculated Values


Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		93.052	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		105.568	
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	97.980
[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	98.685
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	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: L1605061603

Sample Date/Time: Thursday, May 12, 2016 13:46:36

Number of Replicates: 3

Autosampler Position: 327

Sample Description: 1000

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	124201.5	5.8				ug/L	132521	Standard
|	Be	9	6.7	114.6	0.0083	0.005	57.6	ug/L	18	Standard
|	Al	27	124420.9	8.0	0.5869	0.081	13.7	ug/L	1493	Standard
|	Sc	45	65993.5	2.2				ug/L	58453	Standard
|	Ti	47	46.7	23.1	-0.0234	0.024	104.5	ug/L	46	Standard
|	V	51	2711.4	22.7	0.0565	0.055	96.7	ug/L	2030	Standard
|	Cr	52	313070.5	2.6	31.0093	0.295	1.0	ug/L	9770	Standard
|	Cr	53	38535.6	1.4	31.1760	0.329	1.1	ug/L	498	Standard
|	Mn	55	3909.7	73.2	0.2960	0.284	95.8	ug/L	721	Standard
|	Co	59	279.7	63.0	0.0082	0.017	204.8	ug/L	167	Standard
|	Ni	60	123.3	23.3	0.0188	0.012	61.5	ug/L	49	Standard
|	Cu	65	1012.7	5.3	0.2142	0.020	9.4	ug/L	418	Standard
|	Zn	66	1326.4	2.8	0.6098	0.011	1.8	ug/L	282	Standard
>	Ge	72	639353.7	1.9				ug/L	632144	Standard
|	As	75	-83.9	45.9	0.0199	0.025	126.4	ug/L	-105	Standard
|	Se	82	30.9	20.5	0.0094	0.036	381.9	ug/L	26	Standard
|	Se-1	77	104.0	7.5	0.2440	0.093	38.1	ug/L	75	Standard
>	Ga	71	31.7	18.2				mg/L	27	Standard
|	Rb	85	30.0	28.9				ug/L	15	Standard
|	Y	89	553671.1	1.5				ug/L	538177	Standard
>	Rh	103	8.3	34.6				ug/L	2	Standard
|	Mo	98	84.3	109.8	0.0098	0.023	235.6	ug/L	50	Standard
|	Ag	107	372.0	118.7	0.0244	0.044	181.6	ug/L	110	Standard
|	Cd	111	6.6	83.1	0.0034	0.002	52.4	mg/L	4	Standard
|	Cd	114	29.6	11.7	-0.0065	0.000	7.3	ug/L	25	Standard
>	In	115	782844.6	0.7				ug/L	768402	Standard
|	Sn	118	1320.1	4.5	0.0450	0.008	16.8	ug/L	948	Standard
|	Sb	123	234.4	126.5	0.0229	0.046	200.0	ug/L	229	Standard
|	Ba	135	207.0	79.5	0.0450	0.054	120.0	ug/L	57	Standard
|	Ce	140	61.7	96.1				ug/L	20	Standard
>	Tb	159	1251230.8	1.1				ug/L	1214723	Standard
|	Ho	165	20.0	25.0				ug/L	10	Standard
|	Tl	203	277.0	157.3	0.0194	0.039	201.9	ug/L	29	Standard
|	Tl	205	58.3	129.8	0.0007	0.008	1122.9	ug/L	62	Standard
|	Pb	206	525.0	50.8	0.0225	0.039	171.0	ug/L	322	Standard
|	Pb	207	422.7	46.9	0.0145	0.032	218.6	ug/L	278	Standard
|	Pb	208	1427.4	21.0	0.0088	0.013	152.8	ug/L	1167	Standard
	U	238	61.3	112.5	0.0059	0.008	134.3	ug/L	53	Standard
>	Bi	209	645946.4	1.7				ug/L	650933	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	286.7	17.6	0.1908	0.048	25.1	mg/L	38	Standard
K	39	38.3	32.8	0.0327	0.029	88.4	mg/L	22	Standard
Ca	43	26.7	28.6	-0.1724	0.294	170.6	mg/L	27	Standard
Fe	54	193.9	14.2	-0.0394	0.014	34.3	mg/L	177	Standard
Fe	57	156.7	17.6	0.0614	0.056	90.9	mg/L	127	Standard
Sc-1	45	65993.5	2.2				mg/L	58453	Standard
Cl	35	15014.1	1.8				ug/L	9756	Standard
Kr	83	2.3	65.5				ug/L	2	Standard
Br	81	4330.6	3.1				ug/L	3130	Standard
P	31	19622.7	3.9				ug/L	16621	Standard
S	34	1486.7	2.4				ug/L	883	Standard
Sr	88	66.7	15.6				ug/L	38	Standard
C	12	203.3	25.2				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	6.7	86.6				mg/L	0	Standard
Dy	164	8.6	111.2				mg/L	13	Standard
Ho-1	165	20.0	25.0				mg/L	10	Standard
Er	166	30.0	33.3				mg/L	13	Standard
I	127	20345.3	2.0				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		93.722	
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		101.141	
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	101.880
[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	99.234
[	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: L1605061603

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Method 6020 - Summary Report

Sample ID: L1605050711

Sample Date/Time: Thursday, May 12, 2016 13:49:47

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	103138.2	1.0				ug/L	132521	Standard
|	Be	9	1.7	173.2	0.0053	0.002	43.7	ug/L	18	Standard
|	Al	27	1031802.9	1.1	5.8986	0.018	0.3	ug/L	1493	Standard
|	Sc	45	57438.7	0.3				ug/L	58453	Standard
|	Ti	47	43.3	19.6	-0.0234	0.022	93.4	ug/L	46	Standard
|	V	51	2525.5	9.2	0.0575	0.025	43.8	ug/L	2030	Standard
|	Cr	52	9737.1	0.9	0.0220	0.014	64.4	ug/L	9770	Standard
|	Cr	53	550.0	9.5	0.0800	0.043	53.4	ug/L	498	Standard
|	Mn	55	21732.9	2.9	2.1961	0.110	5.0	ug/L	721	Standard
|	Co	59	232.3	7.0	0.0053	0.002	39.6	ug/L	167	Standard
|	Ni	60	6036.9	1.4	2.4635	0.034	1.4	ug/L	49	Standard
|	Cu	65	476.3	3.2	0.0236	0.010	41.9	ug/L	418	Standard
|	Zn	66	1603.4	3.2	0.8809	0.037	4.2	ug/L	282	Standard
>	Ge	72	594447.3	2.0				ug/L	632144	Standard
|	As	75	12.7	234.4	0.0826	0.020	24.7	ug/L	-105	Standard
|	Se	82	71.0	11.3	0.2945	0.046	15.7	ug/L	26	Standard
|	Se-1	77	85.7	10.2	0.1292	0.098	76.1	ug/L	75	Standard
>	Ga	71	33.3	8.7				mg/L	27	Standard
|	Rb	85	35.0	28.6				ug/L	15	Standard
|	Y	89	500208.9	1.4				ug/L	538177	Standard
>	Rh	103	13.3	43.3				ug/L	2	Standard
|	Mo	98	47.3	5.6	0.0021	0.001	41.5	ug/L	50	Standard
|	Ag	107	95.3	1.2	-0.0022	0.000	5.7	ug/L	110	Standard
|	Cd	111	7.9	33.4	0.0042	0.001	22.6	mg/L	4	Standard
|	Cd	114	20.7	16.0	-0.0073	0.001	7.2	ug/L	25	Standard
>	In	115	695064.0	0.9				ug/L	768402	Standard
|	Sn	118	408.3	13.5	-0.0568	0.007	12.1	ug/L	948	Standard
|	Sb	123	62.7	16.8	-0.0024	0.002	81.0	ug/L	229	Standard
|	Ba	135	1882.1	5.3	0.6736	0.041	6.1	ug/L	57	Standard
|	Ce	140	38.3	27.2				ug/L	20	Standard
>	Tb	159	1105289.2	0.7				ug/L	1214723	Standard
|	Ho	165	5.0	100.0				ug/L	10	Standard
|	Tl	203	91.0	11.4	0.0034	0.001	33.2	ug/L	29	Standard
|	Tl	205	78.3	25.8	0.0034	0.002	62.5	ug/L	62	Standard
|	Pb	206	324.3	9.1	-0.0011	0.005	446.0	ug/L	322	Standard
|	Pb	207	278.0	9.4	-0.0037	0.004	119.6	ug/L	278	Standard
|	Pb	208	1090.7	4.3	-0.0006	0.003	430.8	ug/L	1167	Standard
	U	238	495.7	3.7	0.0597	0.003	4.9	ug/L	53	Standard
>	Bi	209	587025.3	1.4				ug/L	650933	Standard

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Na	23	3.3	86.6	6.9300	5.997	86.5	mg/L	2	Standard
Mg	24	555.0	10.2	0.4923	0.056	11.3	mg/L	38	Standard
K	39	43.3	59.2	0.0598	0.069	116.2	mg/L	22	Standard
Ca	43	46.7	44.6	0.9544	0.998	104.6	mg/L	27	Standard
Fe	54	75.4	27.2	-0.1003	0.013	13.5	mg/L	177	Standard
Fe	57	206.7	19.7	0.2458	0.106	42.9	mg/L	127	Standard
Sc-1	45	57438.7	0.3				mg/L	58453	Standard
Cl	35	13536.7	4.1				ug/L	9756	Standard
Kr	83	3.3	17.3				ug/L	2	Standard
Br	81	12228.3	5.0				ug/L	3130	Standard
P	31	7215.1	2.9				ug/L	16621	Standard
S	34	1510.1	3.8				ug/L	883	Standard
Sr	88	81.7	38.9				ug/L	38	Standard
C	12	156.7	32.1				mg/L	333	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	0	Standard
Dy	164	9.2	108.8				mg/L	13	Standard
Ho-1	165	5.0	100.0				mg/L	10	Standard
Er	166	16.7	69.3				mg/L	13	Standard
I	127	30861.4	2.5				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		77.828	
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		94.037	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1605050711

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	90.456
[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	90.182
[	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

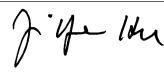
Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1605050711

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Method 6020 - Summary Report

Sample ID: L1605061503 WG568493-02

Sample Date/Time: Thursday, May 12, 2016 13:55:45

Number of Replicates: 3

Autosampler Position: 325

Sample Description: 10

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	106937.8	1.9				ug/L	132521	Standard
|	Be	9	8.3	69.3	0.0104	0.004	41.8	ug/L	18	Standard
|	Al	27	762869.4	1.5	4.2043	0.020	0.5	ug/L	1493	Standard
|	Sc	45	59356.1	2.8				ug/L	58453	Standard
|	Ti	47	79.0	17.9	0.0583	0.032	54.5	ug/L	46	Standard
|	V	51	2487.5	6.2	0.0507	0.016	31.8	ug/L	2030	Standard
|	Cr	52	25586.3	1.4	1.7352	0.024	1.4	ug/L	9770	Standard
|	Cr	53	2556.9	0.9	1.8231	0.015	0.8	ug/L	498	Standard
|	Mn	55	12093.2	1.3	1.1681	0.024	2.0	ug/L	721	Standard
|	Co	59	239.7	10.3	0.0058	0.003	44.5	ug/L	167	Standard
|	Ni	60	325.7	2.4	0.1042	0.002	2.3	ug/L	49	Standard
|	Cu	65	676.7	2.6	0.1025	0.008	8.2	ug/L	418	Standard
|	Zn	66	1256.4	2.9	0.6164	0.030	4.9	ug/L	282	Standard
>	Ge	72	601343.3	0.6				ug/L	632144	Standard
|	As	75	-81.0	15.2	0.0186	0.008	45.3	ug/L	-105	Standard
|	Se	82	26.8	8.4	-0.0051	0.016	308.9	ug/L	26	Standard
|	Se-1	77	96.7	8.4	0.2313	0.088	38.0	ug/L	75	Standard
>	Ga	71	31.7	45.6				mg/L	27	Standard
|	Rb	85	1030.0	12.4				ug/L	15	Standard
|	Y	89	503686.2	2.8				ug/L	538177	Standard
>	Rh	103	5.0	100.0				ug/L	2	Standard
|	Mo	98	266.1	2.1	0.0625	0.001	2.4	ug/L	50	Standard
|	Ag	107	99.3	9.7	-0.0018	0.001	60.0	ug/L	110	Standard
|	Cd	111	3.5	73.8	0.0026	0.001	37.4	mg/L	4	Standard
|	Cd	114	157.9	21.6	0.0133	0.005	38.8	ug/L	25	Standard
>	In	115	702713.3	0.2				ug/L	768402	Standard
|	Sn	118	51214.8	1.9	6.6404	0.116	1.7	ug/L	948	Standard
|	Sb	123	219.3	10.8	0.0245	0.004	16.9	ug/L	229	Standard
|	Ba	135	1408.7	1.7	0.4926	0.009	1.8	ug/L	57	Standard
|	Ce	140	65.0	13.3				ug/L	20	Standard
>	Tb	159	1135448.6	1.6				ug/L	1214723	Standard
|	Ho	165	11.7	24.7				ug/L	10	Standard
|	Tl	203	154.3	9.7	0.0095	0.002	16.0	ug/L	29	Standard
|	Tl	205	116.7	40.7	0.0076	0.005	69.4	ug/L	62	Standard
|	Pb	206	343.3	4.9	0.0016	0.002	143.3	ug/L	322	Standard
|	Pb	207	281.7	10.5	-0.0031	0.005	164.5	ug/L	278	Standard
|	Pb	208	1135.0	2.6	0.0012	0.002	126.8	ug/L	1167	Standard
	U	238	38.0	9.1	0.0036	0.000	12.3	ug/L	53	Standard
>	Bi	209	587986.0	0.5				ug/L	650933	Standard

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Na	23	1.7	173.2	3.4358	5.942	173.0	mg/L	2	Standard
Mg	24	5260.9	3.3	4.9810	0.221	4.4	mg/L	38	Standard
K	39	66.7	31.2	0.1165	0.050	42.9	mg/L	22	Standard
Ca	43	61.7	16.9	1.5856	0.555	35.0	mg/L	27	Standard
Fe	54	119.0	23.5	-0.0745	0.016	21.7	mg/L	177	Standard
Fe	57	186.7	8.6	0.1775	0.030	16.7	mg/L	127	Standard
Sc-1	45	59356.1	2.8				mg/L	58453	Standard
Cl	35	13420.6	1.3				ug/L	9756	Standard
Kr	83	1.3	43.3				ug/L	2	Standard
Br	81	4060.5	3.8				ug/L	3130	Standard
P	31	8359.0	2.9				ug/L	16621	Standard
S	34	1458.4	11.1				ug/L	883	Standard
Sr	88	45.0	0.0				ug/L	38	Standard
C	12	160.0	16.5				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	6.7	173.2				mg/L	0	Standard
Dy	164	15.4	109.9				mg/L	13	Standard
Ho-1	165	11.7	24.7				mg/L	10	Standard
Er	166	26.7	142.0				mg/L	13	Standard
I	127	47203.4	2.5				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		80.695	
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		95.128	
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	91.451
[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	90.330
[	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: L1605061503 WG568493-02

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Method 6020 - Summary Report

Sample ID: L1605061503DP WG568493-07

Sample Date/Time: Thursday, May 12, 2016 13:59:20

Number of Replicates: 3

Autosampler Position: 326

Sample Description: 10

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	108361.2	1.6				ug/L	132521	Standard
|	Be	9	8.3	124.9	0.0104	0.008	77.9	ug/L	18	Standard
|	Al	27	758789.4	1.2	4.1271	0.073	1.8	ug/L	1493	Standard
|	Sc	45	58966.2	2.2				ug/L	58453	Standard
|	Ti	47	66.7	16.0	0.0241	0.023	95.0	ug/L	46	Standard
|	V	51	2527.7	0.8	0.0460	0.000	1.1	ug/L	2030	Standard
|	Cr	52	25776.9	1.0	1.6588	0.005	0.3	ug/L	9770	Standard
|	Cr	53	2718.6	5.0	1.8818	0.110	5.9	ug/L	498	Standard
|	Mn	55	11585.4	1.6	1.0737	0.021	1.9	ug/L	721	Standard
|	Co	59	252.0	13.4	0.0061	0.003	51.0	ug/L	167	Standard
|	Ni	60	310.3	6.5	0.0936	0.007	7.7	ug/L	49	Standard
|	Cu	65	586.7	1.8	0.0578	0.006	10.2	ug/L	418	Standard
|	Zn	66	1143.4	2.2	0.5060	0.019	3.8	ug/L	282	Standard
>	Ge	72	622924.4	0.8				ug/L	632144	Standard
|	As	75	-105.4	9.6	0.0044	0.007	163.0	ug/L	-105	Standard
|	Se	82	29.3	21.8	0.0049	0.041	845.1	ug/L	26	Standard
|	Se-1	77	96.3	16.6	0.1940	0.163	83.8	ug/L	75	Standard
>	Ga	71	50.0	30.0				mg/L	27	Standard
|	Rb	85	1023.4	4.2				ug/L	15	Standard
|	Y	89	486315.5	1.3				ug/L	538177	Standard
>	Rh	103	8.3	69.3				ug/L	2	Standard
|	Mo	98	257.0	6.6	0.0611	0.005	7.9	ug/L	50	Standard
|	Ag	107	80.3	12.3	-0.0038	0.001	28.4	ug/L	110	Standard
|	Cd	111	5.6	64.8	0.0033	0.001	40.3	mg/L	4	Standard
|	Cd	114	157.6	30.7	0.0136	0.007	55.0	ug/L	25	Standard
>	In	115	692573.4	0.4				ug/L	768402	Standard
|	Sn	118	49298.4	0.8	6.4830	0.056	0.9	ug/L	948	Standard
|	Sb	123	207.1	2.4	0.0229	0.001	3.1	ug/L	229	Standard
|	Ba	135	1367.4	3.8	0.4847	0.017	3.6	ug/L	57	Standard
|	Ce	140	53.3	14.3				ug/L	20	Standard
>	Tb	159	1134772.9	1.9				ug/L	1214723	Standard
|	Ho	165	11.7	24.7				ug/L	10	Standard
|	Tl	203	153.0	19.3	0.0088	0.002	27.3	ug/L	29	Standard
|	Tl	205	140.0	10.7	0.0097	0.002	20.5	ug/L	62	Standard
|	Pb	206	361.7	2.3	0.0027	0.001	31.6	ug/L	322	Standard
|	Pb	207	295.3	13.5	-0.0025	0.006	240.7	ug/L	278	Standard
|	Pb	208	1139.0	3.0	-0.0003	0.001	292.1	ug/L	1167	Standard
	U	238	40.0	17.3	0.0037	0.001	18.9	ug/L	53	Standard
>	Bi	209	607828.8	2.7				ug/L	650933	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	5157.5	2.6	4.9126	0.108	2.2	mg/L	38	Standard
K	39	70.0	31.1	0.1264	0.053	41.9	mg/L	22	Standard
Ca	43	75.0	24.0	2.2275	0.912	40.9	mg/L	27	Standard
Fe	54	92.7	14.3	-0.0904	0.010	10.6	mg/L	177	Standard
Fe	57	203.3	12.1	0.2229	0.055	24.5	mg/L	127	Standard
Sc-1	45	58966.2	2.2				mg/L	58453	Standard
Cl	35	13425.3	1.0				ug/L	9756	Standard
Kr	83	2.7	108.3				ug/L	2	Standard
Br	81	3993.9	2.9				ug/L	3130	Standard
P	31	8680.8	3.0				ug/L	16621	Standard
S	34	1483.4	2.5				ug/L	883	Standard
Sr	88	66.7	24.1				ug/L	38	Standard
C	12	213.3	9.8				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	0	Standard
Dy	164	19.5	135.5				mg/L	13	Standard
Ho-1	165	11.7	24.7				mg/L	10	Standard
Er	166	10.0					mg/L	13	Standard
I	127	47623.1	1.5				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		81.769	
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		98.542	
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	90.132
[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	93.378
[	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: L1605061503DP WG568493-07
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Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Thursday, May 12, 2016 14:02:33

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	118833.3	4.9				ug/L	132521	Standard
|	Be	9	71049.6	2.8	49.7821	1.146	2.3	ug/L	18	Standard
|	Al	27	10965264.2	5.1	54.4691	0.821	1.5	ug/L	1493	Standard
|	Sc	45	64165.6	1.0				ug/L	58453	Standard
|	Ti	47	48358.1	3.3	105.7568	2.181	2.1	ug/L	46	Standard
|	V	51	534043.4	0.6	49.4461	0.799	1.6	ug/L	2030	Standard
|	Cr	52	514227.1	2.4	51.4431	0.793	1.5	ug/L	9770	Standard
|	Cr	53	63039.2	1.4	51.0907	0.541	1.1	ug/L	498	Standard
|	Mn	55	528448.7	1.7	51.3483	1.470	2.9	ug/L	721	Standard
|	Co	59	522305.5	1.5	48.5413	1.103	2.3	ug/L	167	Standard
|	Ni	60	133402.9	2.2	51.0025	0.560	1.1	ug/L	49	Standard
|	Cu	65	132924.9	0.3	50.3348	0.551	1.1	ug/L	418	Standard
|	Zn	66	74506.4	0.4	50.2436	0.443	0.9	ug/L	282	Standard
>	Ge	72	641385.3	1.3				ug/L	632144	Standard
|	As	75	77230.4	1.2	49.4317	0.045	0.1	ug/L	-105	Standard
|	Se	82	8027.0	1.3	49.9038	0.068	0.1	ug/L	26	Standard
|	Se-1	77	5437.6	0.7	51.5144	1.002	1.9	ug/L	75	Standard
>	Ga	71	45.0	22.2				mg/L	27	Standard
|	Rb	85	1188.4	1.7				ug/L	15	Standard
|	Y	89	554546.2	1.8				ug/L	538177	Standard
>	Rh	103	43.3	24.0				ug/L	2	Standard
|	Mo	98	372822.0	0.1	92.6125	1.615	1.7	ug/L	50	Standard
|	Ag	107	475739.7	1.1	47.7009	0.642	1.3	ug/L	110	Standard
|	Cd	111	151472.2	2.1	49.6468	0.154	0.3	mg/L	4	Standard
|	Cd	114	372830.2	1.9	50.2558	0.259	0.5	ug/L	25	Standard
>	In	115	783782.9	1.8				ug/L	768402	Standard
|	Sn	118	417321.1	0.9	49.2197	0.470	1.0	ug/L	948	Standard
|	Sb	123	307831.4	1.0	47.6552	0.660	1.4	ug/L	229	Standard
|	Ba	135	149397.4	1.4	49.0030	0.254	0.5	ug/L	57	Standard
|	Ce	140	118.3	9.8				ug/L	20	Standard
>	Tb	159	1236712.1	2.6				ug/L	1214723	Standard
|	Ho	165	10.0	86.6				ug/L	10	Standard
|	Tl	203	554960.1	1.2	49.5172	0.278	0.6	ug/L	29	Standard
|	Tl	205	506414.6	3.7	51.6484	1.541	3.0	ug/L	62	Standard
|	Pb	206	348402.6	0.7	48.8822	0.475	1.0	ug/L	322	Standard
|	Pb	207	313392.4	0.9	48.5013	0.589	1.2	ug/L	278	Standard
|	Pb	208	1233739.5	0.6	51.1191	0.203	0.4	ug/L	1167	Standard
	U	238	446191.0	1.7	50.4539	0.887	1.8	ug/L	53	Standard
>	Bi	209	635632.4	0.9				ug/L	650933	Standard

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Na	23	1.7	173.2	3.0629	5.296	172.9	mg/L	2	Standard
Mg	24	5666.1	2.1	4.9608	0.158	3.2	mg/L	38	Standard
K	39	2221.8	2.4	5.3320	0.184	3.5	mg/L	22	Standard
Ca	43	151.7	7.6	5.2165	0.535	10.3	mg/L	27	Standard
Fe	54	8378.2	4.6	4.7507	0.199	4.2	mg/L	177	Standard
Fe	57	2301.8	2.8	5.0911	0.181	3.5	mg/L	127	Standard
Sc-1	45	64165.6	1.0				mg/L	58453	Standard
Cl	35	14693.8	4.0				ug/L	9756	Standard
Kr	83	2.0	0.0				ug/L	2	Standard
Br	81	4090.6	6.2				ug/L	3130	Standard
P	31	22702.0	2.0				ug/L	16621	Standard
S	34	1698.4	6.2				ug/L	883	Standard
Sr	88	61.7	18.7				ug/L	38	Standard
C	12	236.7	8.8				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	10.0	100.0				mg/L	0	Standard
Dy	164	22.2	28.6				mg/L	13	Standard
Ho-1	165	10.0	86.6				mg/L	10	Standard
Er	166	23.3	65.5				mg/L	13	Standard
I	127	2715.2	8.3				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	99.564		
Al	27	108.938		
Sc	45			
Ti	47	105.757		
V	51	98.892		
Cr	52	102.886		
Cr	53			
Mn	55	102.697		
Co	59	97.083		
Ni	60	102.005		
Cu	65	100.670		
Zn	66	100.487		
Ge	72		101.462	
As	75	98.863		
Se	82	99.808		
Se-1	77			
Ga	71			

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[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	92.613	
[Ag	107	95.402	
[Cd	111	99.294	
[Cd	114		
>	In	115		102.002
[Sn	118	98.439	
[	Sb	123	95.310	
[	Ba	135	98.006	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	99.034	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	102.238	
[	U	238	100.908	
>	Bi	209		97.649
[	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 12, 2016 14:05:45

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	112182.2	2.1				ug/L	132521	Standard
|	Be	9	16.7	62.4	0.0162	0.008	46.6	ug/L	18	Standard
|	Al	27	2041.8	52.1	0.0032	0.005	170.9	ug/L	1493	Standard
|	Sc	45	63424.2	3.0				ug/L	58453	Standard
|	Ti	47	55.3	46.6	-0.0081	0.055	675.5	ug/L	46	Standard
|	V	51	2237.6	5.7	0.0067	0.011	172.1	ug/L	2030	Standard
|	Cr	52	10714.5	1.6	0.0149	0.016	104.0	ug/L	9770	Standard
|	Cr	53	615.0	5.1	0.0848	0.025	29.2	ug/L	498	Standard
|	Mn	55	1028.0	0.7	0.0103	0.001	6.5	ug/L	721	Standard
|	Co	59	221.0	5.8	0.0020	0.001	55.4	ug/L	167	Standard
|	Ni	60	60.3	40.7	-0.0062	0.009	147.6	ug/L	49	Standard
|	Cu	65	477.7	6.6	0.0050	0.011	223.5	ug/L	418	Standard
|	Zn	66	366.7	5.3	-0.0503	0.013	25.6	ug/L	282	Standard
>	Ge	72	658347.5	0.3				ug/L	632144	Standard
|	As	75	-116.0	10.3	0.0016	0.008	482.7	ug/L	-105	Standard
|	Se	82	30.0	35.5	-0.0011	0.064	5979.9	ug/L	26	Standard
|	Se-1	77	100.0	8.9	0.1765	0.083	47.2	ug/L	75	Standard
>	Ga	71	20.0	25.0				mg/L	27	Standard
|	Rb	85	13.3	57.3				ug/L	15	Standard
|	Y	89	557823.7	1.1				ug/L	538177	Standard
>	Rh	103	8.3	69.3				ug/L	2	Standard
|	Mo	98	191.0	6.6	0.0376	0.003	8.5	ug/L	50	Standard
|	Ag	107	156.7	20.0	0.0032	0.003	100.0	ug/L	110	Standard
|	Cd	111	18.3	51.7	0.0074	0.003	42.8	mg/L	4	Standard
|	Cd	114	39.5	45.0	-0.0050	0.002	49.8	ug/L	25	Standard
>	In	115	762208.3	1.2				ug/L	768402	Standard
|	Sn	118	3808.8	9.9	0.3516	0.044	12.4	ug/L	948	Standard
|	Sb	123	737.6	26.1	0.1040	0.030	28.7	ug/L	229	Standard
|	Ba	135	67.7	18.4	-0.0002	0.004	2569.4	ug/L	57	Standard
|	Ce	140	21.7	35.3				ug/L	20	Standard
>	Tb	159	1227877.4	1.0				ug/L	1214723	Standard
|	Ho	165	18.3	56.8				ug/L	10	Standard
|	Tl	203	90.7	39.5	0.0027	0.003	120.0	ug/L	29	Standard
|	Tl	205	93.3	57.3	0.0043	0.005	127.8	ug/L	62	Standard
|	Pb	206	431.0	5.0	0.0101	0.003	31.9	ug/L	322	Standard
|	Pb	207	346.3	7.1	0.0033	0.004	112.3	ug/L	278	Standard
|	Pb	208	1407.7	7.2	0.0088	0.004	49.3	ug/L	1167	Standard
	U	238	71.3	27.8	0.0070	0.002	32.1	ug/L	53	Standard
>	Bi	209	635295.7	0.3				ug/L	650933	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	38.3	19.9	-0.0222	0.007	29.8	mg/L	38	Standard
K	39	50.0	34.6	0.0654	0.044	67.1	mg/L	22	Standard
Ca	43	45.0	29.4	0.6730	0.588	87.4	mg/L	27	Standard
Fe	54	230.8	11.9	-0.0129	0.016	127.0	mg/L	177	Standard
Fe	57	173.3	20.5	0.1179	0.095	80.6	mg/L	127	Standard
Sc-1	45	63424.2	3.0				mg/L	58453	Standard
Cl	35	13679.5	1.4				ug/L	9756	Standard
Kr	83	0.7	173.2				ug/L	2	Standard
Br	81	3953.9	12.8				ug/L	3130	Standard
P	31	20557.3	4.8				ug/L	16621	Standard
S	34	1635.1	5.1				ug/L	883	Standard
Sr	88	58.3	32.5				ug/L	38	Standard
C	12	196.7	48.9				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	9.0	113.3				mg/L	13	Standard
Ho-1	165	18.3	56.8				mg/L	10	Standard
Er	166	20.0	50.0				mg/L	13	Standard
I	127	2895.3	7.2				mg/L	3532	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		104.145	
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	99.194
[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	97.598
[	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

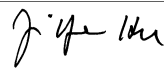
Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 7

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Method 6020 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Thursday, May 12, 2016 14:08:57

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	109325.0	3.4				ug/L	132521	Standard
|	Be	9	260.0	13.5	0.2014	0.021	10.6	ug/L	18	Standard
|	Al	27	2265.3	113.8	0.0044	0.013	298.8	ug/L	1493	Standard
|	Sc	45	61116.3	0.4				ug/L	58453	Standard
|	Ti	47	48.0	7.5	-0.0189	0.007	39.0	ug/L	46	Standard
|	V	51	5956.7	2.3	0.3686	0.011	3.0	ug/L	2030	Standard
|	Cr	52	18444.9	0.7	0.8694	0.018	2.1	ug/L	9770	Standard
|	Cr	53	1660.1	5.4	0.9780	0.072	7.3	ug/L	498	Standard
|	Mn	55	6078.9	12.6	0.5158	0.072	14.0	ug/L	721	Standard
|	Co	59	3942.5	1.8	0.3557	0.007	2.0	ug/L	167	Standard
|	Ni	60	3995.2	1.3	1.5298	0.017	1.1	ug/L	49	Standard
|	Cu	65	2454.2	2.3	0.7790	0.018	2.3	ug/L	418	Standard
|	Zn	66	9308.5	2.4	6.1446	0.117	1.9	ug/L	282	Standard
>	Ge	72	629010.0	0.6				ug/L	632144	Standard
|	As	75	448.2	3.1	0.3659	0.011	2.9	ug/L	-105	Standard
|	Se	82	76.8	11.5	0.3055	0.056	18.2	ug/L	26	Standard
|	Se-1	77	117.0	7.0	0.3867	0.080	20.7	ug/L	75	Standard
>	Ga	71	36.7	39.4				mg/L	27	Standard
|	Rb	85	25.0	69.3				ug/L	15	Standard
|	Y	89	525161.7	1.0				ug/L	538177	Standard
>	Rh	103	8.3	69.3				ug/L	2	Standard
|	Mo	98	63.7	41.9	0.0056	0.007	127.6	ug/L	50	Standard
|	Ag	107	3796.5	4.7	0.3906	0.022	5.5	ug/L	110	Standard
|	Cd	111	753.8	5.7	0.2631	0.016	6.0	mg/L	4	Standard
|	Cd	114	1802.1	7.1	0.2471	0.020	8.1	ug/L	25	Standard
>	In	115	739583.5	0.7				ug/L	768402	Standard
|	Sn	118	983.4	11.8	0.0120	0.015	124.7	ug/L	948	Standard
|	Sb	123	2411.4	0.6	0.3823	0.003	0.8	ug/L	229	Standard
|	Ba	135	2188.2	6.8	0.7382	0.056	7.6	ug/L	57	Standard
|	Ce	140	18.3	68.6				ug/L	20	Standard
>	Tb	159	1196763.5	0.2				ug/L	1214723	Standard
|	Ho	165	6.7	86.6				ug/L	10	Standard
|	Tl	203	901.0	17.9	0.0760	0.014	17.8	ug/L	29	Standard
|	Tl	205	771.7	6.5	0.0746	0.005	6.4	ug/L	62	Standard
|	Pb	206	1736.1	3.8	0.1968	0.007	3.6	ug/L	322	Standard
|	Pb	207	1443.1	3.1	0.1764	0.004	2.5	ug/L	278	Standard
|	Pb	208	5709.1	0.2	0.1906	0.003	1.8	ug/L	1167	Standard
	U	238	3285.7	1.0	0.3759	0.008	2.2	ug/L	53	Standard
>	Bi	209	626615.8	1.3				ug/L	650933	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	45.0	29.4	-0.0147	0.012	83.8	mg/L	38	Standard
K	39	38.3	27.2	0.0401	0.027	66.8	mg/L	22	Standard
Ca	43	28.3	27.0	-0.0048	0.344	7144.3	mg/L	27	Standard
Fe	54	143.6	16.1	-0.0613	0.014	22.8	mg/L	177	Standard
Fe	57	161.7	11.7	0.1028	0.046	44.4	mg/L	127	Standard
Sc-1	45	61116.3	0.4				mg/L	58453	Standard
Cl	35	12855.5	2.6				ug/L	9756	Standard
Kr	83	1.7	69.3				ug/L	2	Standard
Br	81	3547.1	6.5				ug/L	3130	Standard
P	31	14663.8	6.0				ug/L	16621	Standard
S	34	1591.8	8.2				ug/L	883	Standard
Sr	88	73.3	28.4				ug/L	38	Standard
C	12	193.3	13.0				mg/L	333	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	11.6	97.7				mg/L	13	Standard
Ho-1	165	6.7	86.6				mg/L	10	Standard
Er	166	36.7	56.8				mg/L	13	Standard
I	127	2921.9	8.7				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	100.725		
Al	27			
Sc	45			
Ti	47			
V	51	92.143		
Cr	52	108.676		
Cr	53			
Mn	55	103.158		
Co	59	88.922		
Ni	60	95.614		
Cu	65	97.371		
Zn	66	98.313		
Ge	72		99.504	
As	75	91.487		
Se	82	76.369		
Se-1	77			
Ga	71			

Sample ID: QC Std 8

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[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98		
[Ag	107	97.657	
[Cd	111	109.634	
[Cd	114		
>	In	115		96.250
[Sn	118		
[Sb	123	95.580	
[	Ba	135	98.420	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	95.032	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	95.280	
[	U	238	93.974	
>	Bi	209		96.264
[	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: PBW 13 WG568333-02

Sample Date/Time: Thursday, May 12, 2016 14:13:02

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	122532.2	3.3				ug/L	132521	Standard
|	Be	9	15.0	145.3	0.0139	0.014	103.5	ug/L	18	Standard
|	Al	27	10420.2	144.0	0.0416	0.070	168.8	ug/L	1493	Standard
|	Sc	45	63556.4	1.4				ug/L	58453	Standard
|	Ti	47	44.0	30.7	-0.0333	0.030	88.7	ug/L	46	Standard
|	V	51	4131.6	18.9	0.1724	0.066	38.5	ug/L	2030	Standard
|	Cr	52	11607.8	3.0	0.0873	0.036	41.8	ug/L	9770	Standard
|	Cr	53	11506.0	6.2	8.6170	0.444	5.1	ug/L	498	Standard
|	Mn	55	3568.2	119.6	0.2486	0.404	162.4	ug/L	721	Standard
|	Co	59	321.3	79.5	0.0108	0.023	214.6	ug/L	167	Standard
|	Ni	60	76.3	41.6	-0.0005	0.012	2278.3	ug/L	49	Standard
|	Cu	65	591.3	3.4	0.0440	0.006	13.9	ug/L	418	Standard
|	Zn	66	1464.1	1.0	0.6612	0.022	3.3	ug/L	282	Standard
>	Ge	72	667931.3	1.4				ug/L	632144	Standard
|	As	75	-148.3	91.2	-0.0179	0.084	466.5	ug/L	-105	Standard
|	Se	82	28.6	34.5	-0.0119	0.060	503.9	ug/L	26	Standard
|	Se-1	77	546.0	0.3	4.2804	0.085	2.0	ug/L	75	Standard
>	Ga	71	31.7	63.8				mg/L	27	Standard
|	Rb	85	23.3	44.6				ug/L	15	Standard
|	Y	89	550652.0	1.3				ug/L	538177	Standard
>	Rh	103	5.0	173.2				ug/L	2	Standard
|	Mo	98	124.3	130.0	0.0208	0.042	201.1	ug/L	50	Standard
|	Ag	107	103.0	17.6	-0.0023	0.002	81.2	ug/L	110	Standard
|	Cd	111	12.3	61.6	0.0054	0.003	47.9	mg/L	4	Standard
|	Cd	114	41.2	69.6	-0.0048	0.004	83.4	ug/L	25	Standard
>	In	115	762192.7	2.7				ug/L	768402	Standard
|	Sn	118	948.4	3.4	0.0041	0.003	68.8	ug/L	948	Standard
|	Sb	123	144.9	25.9	0.0097	0.006	57.2	ug/L	229	Standard
|	Ba	135	70.3	11.6	0.0007	0.002	345.2	ug/L	57	Standard
|	Ce	140	28.3	36.7				ug/L	20	Standard
>	Tb	159	1233862.1	3.0				ug/L	1214723	Standard
|	Ho	165	11.7	65.5				ug/L	10	Standard
|	Tl	203	177.0	22.7	0.0101	0.004	38.4	ug/L	29	Standard
|	Tl	205	256.7	75.6	0.0207	0.020	97.3	ug/L	62	Standard
|	Pb	206	507.0	1.9	0.0194	0.003	15.1	ug/L	322	Standard
|	Pb	207	435.0	1.8	0.0158	0.001	3.3	ug/L	278	Standard
|	Pb	208	1992.4	26.5	0.0317	0.023	73.7	ug/L	1167	Standard
	U	238	87.0	160.3	0.0088	0.016	179.8	ug/L	53	Standard
>	Bi	209	648026.3	2.5				ug/L	650933	Standard

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Na	23	3.3	86.6	6.2037	5.368	86.5	mg/L	2	Standard
Mg	24	71.7	56.0	0.0072	0.035	488.2	mg/L	38	Standard
K	39	50.0	36.1	0.0645	0.043	66.3	mg/L	22	Standard
Ca	43	21.7	93.3	-0.3464	0.862	248.8	mg/L	27	Standard
Fe	54	233.2	20.7	-0.0116	0.030	261.2	mg/L	177	Standard
Fe	57	175.0	21.6	0.1190	0.087	73.5	mg/L	127	Standard
Sc-1	45	63556.4	1.4				mg/L	58453	Standard
Cl	35	13891.7	2.9				ug/L	9756	Standard
Kr	83	2.3	65.5				ug/L	2	Standard
Br	81	4177.2	5.8				ug/L	3130	Standard
P	31	20091.7	4.2				ug/L	16621	Standard
S	34	1565.1	6.7				ug/L	883	Standard
Sr	88	66.7	22.9				ug/L	38	Standard
C	12	116.7	17.8				mg/L	333	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	9.5	102.6				mg/L	13	Standard
Ho-1	165	11.7	65.5				mg/L	10	Standard
Er	166	10.0	100.0				mg/L	13	Standard
I	127	44968.3	1.6				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		92.463	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		105.661	
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	99.192
[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	99.553
[Na	23	
[Mg	24	
[K	39	
[Ca	43	
[Fe	54	
[Fe	57	
>	Sc-1	45	
[Cl	35	
[Kr	83	
[Br	81	
[P	31	
[S	34	
[Sr	88	
[	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 13 WG568333-02

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Method 6020 - Summary Report

Sample ID: LCSW 13 WG568333-03

Sample Date/Time: Thursday, May 12, 2016 14:16:13

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	137960.7	3.3				ug/L	132521	Standard
|	Be	9	735.0	4.7	0.4472	0.017	3.8	ug/L	18	Standard
|	Al	27	228386.5	3.6	0.9702	0.038	3.9	ug/L	1493	Standard
|	Sc	45	66411.9	0.9				ug/L	58453	Standard
|	Ti	47	4982.2	2.1	10.5672	0.133	1.3	ug/L	46	Standard
|	V	51	109818.5	1.8	9.8091	0.216	2.2	ug/L	2030	Standard
|	Cr	52	61941.4	2.9	5.1458	0.044	0.9	ug/L	9770	Standard
|	Cr	53	30687.7	1.4	24.1768	0.964	4.0	ug/L	498	Standard
|	Mn	55	51457.9	0.4	4.8218	0.110	2.3	ug/L	721	Standard
|	Co	59	20415.7	1.6	1.8425	0.055	3.0	ug/L	167	Standard
|	Ni	60	13061.0	4.0	4.8667	0.073	1.5	ug/L	49	Standard
|	Cu	65	14092.6	3.2	5.0747	0.060	1.2	ug/L	418	Standard
|	Zn	66	16543.7	3.6	10.7011	0.111	1.0	ug/L	282	Standard
>	Ge	72	654502.3	2.6				ug/L	632144	Standard
|	As	75	5807.8	4.0	3.7103	0.061	1.6	ug/L	-105	Standard
|	Se	82	635.7	1.2	3.7059	0.140	3.8	ug/L	26	Standard
|	Se-1	77	1491.7	1.6	13.2998	0.529	4.0	ug/L	75	Standard
>	Ga	71	50.0	34.6				mg/L	27	Standard
|	Rb	85	151.7	14.9				ug/L	15	Standard
|	Y	89	552805.6	2.8				ug/L	538177	Standard
>	Rh	103	15.0	33.3				ug/L	2	Standard
|	Mo	98	36477.5	0.8	9.0110	0.195	2.2	ug/L	50	Standard
|	Ag	107	38310.4	1.8	3.8132	0.132	3.5	ug/L	110	Standard
|	Cd	111	1399.5	3.7	0.4582	0.024	5.3	mg/L	4	Standard
|	Cd	114	3800.9	2.4	0.4999	0.018	3.7	ug/L	25	Standard
>	In	115	787311.7	1.9				ug/L	768402	Standard
|	Sn	118	80218.5	1.3	9.3287	0.118	1.3	ug/L	948	Standard
|	Sb	123	74364.9	2.4	11.4533	0.421	3.7	ug/L	229	Standard
|	Ba	135	29713.4	1.6	9.6867	0.292	3.0	ug/L	57	Standard
|	Ce	140	31.7	45.6				ug/L	20	Standard
>	Tb	159	1292218.7	0.7				ug/L	1214723	Standard
|	Ho	165	15.0	0.0				ug/L	10	Standard
|	Tl	203	56375.0	2.1	4.8359	0.081	1.7	ug/L	29	Standard
|	Tl	205	49833.5	1.7	4.8876	0.111	2.3	ug/L	62	Standard
|	Pb	206	35633.9	1.8	4.7656	0.059	1.2	ug/L	322	Standard
|	Pb	207	31965.0	1.7	4.7151	0.053	1.1	ug/L	278	Standard
|	Pb	208	121886.9	0.3	4.8155	0.028	0.6	ug/L	1167	Standard
	U	238	14.0	43.4	0.0005	0.001	138.3	ug/L	53	Standard
>	Bi	209	660467.4	0.6				ug/L	650933	Standard

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Na	23	1.7	173.2	3.0236	5.228	172.9	mg/L	2	Standard
Mg	24	581.7	10.4	0.4413	0.056	12.8	mg/L	38	Standard
K	39	253.3	12.8	0.5363	0.078	14.6	mg/L	22	Standard
Ca	43	38.3	32.8	0.3089	0.530	171.5	mg/L	27	Standard
Fe	54	305.0	10.5	0.0229	0.018	80.4	mg/L	177	Standard
Fe	57	178.3	13.3	0.1093	0.057	52.4	mg/L	127	Standard
Sc-1	45	66411.9	0.9				mg/L	58453	Standard
Cl	35	14197.3	2.6				ug/L	9756	Standard
Kr	83	1.3	86.6				ug/L	2	Standard
Br	81	3853.8	6.2				ug/L	3130	Standard
P	31	20639.1	2.0				ug/L	16621	Standard
S	34	1550.1	8.2				ug/L	883	Standard
Sr	88	88.3	23.6				ug/L	38	Standard
C	12	220.0	40.4				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	9.0	118.6				mg/L	13	Standard
Ho-1	165	15.0	0.0				mg/L	10	Standard
Er	166	20.0	86.6				mg/L	13	Standard
I	127	42822.1	1.7				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		104.105	
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		103.537	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: LCSW 13 WG568333-03

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	102.461
[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	101.465
[	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: LCSW 13 WG568333-03

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Method 6020 - Summary Report

Sample ID: F BLANK WG568186-02

Sample Date/Time: Thursday, May 12, 2016 14:19:25

Number of Replicates: 3

Autosampler Position: 331

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	121247.0	3.7				ug/L	132521	Standard
|	Be	9	8.3	34.6	0.0096	0.002	19.1	ug/L	18	Standard
|	Al	27	2728.6	6.5	0.0058	0.001	9.4	ug/L	1493	Standard
|	Sc	45	64935.7	4.5				ug/L	58453	Standard
|	Ti	47	32.7	12.4	-0.0545	0.008	15.3	ug/L	46	Standard
|	V	51	4468.8	16.3	0.2193	0.062	28.1	ug/L	2030	Standard
|	Cr	52	12058.5	1.2	0.1820	0.019	10.7	ug/L	9770	Standard
|	Cr	53	13329.2	3.6	10.5038	0.596	5.7	ug/L	498	Standard
|	Mn	55	1184.7	2.4	0.0283	0.003	11.5	ug/L	721	Standard
|	Co	59	169.0	8.7	-0.0023	0.002	68.9	ug/L	167	Standard
|	Ni	60	92.7	7.2	0.0069	0.003	44.7	ug/L	49	Standard
|	Cu	65	670.7	4.2	0.0835	0.014	16.6	ug/L	418	Standard
|	Zn	66	1634.1	2.7	0.8172	0.029	3.5	ug/L	282	Standard
>	Ge	72	640621.3	1.9				ug/L	632144	Standard
|	As	75	-152.0	46.7	-0.0232	0.045	192.9	ug/L	-105	Standard
|	Se	82	29.2	33.5	-0.0015	0.058	3941.3	ug/L	26	Standard
|	Se-1	77	614.7	8.0	5.1510	0.372	7.2	ug/L	75	Standard
>	Ga	71	33.3	45.8				mg/L	27	Standard
|	Rb	85	41.7	60.4				ug/L	15	Standard
|	Y	89	560624.7	1.4				ug/L	538177	Standard
>	Rh	103	5.0	100.0				ug/L	2	Standard
|	Mo	98	38.7	4.5	-0.0014	0.000	26.2	ug/L	50	Standard
|	Ag	107	118.0	7.2	-0.0009	0.000	53.5	ug/L	110	Standard
|	Cd	111	5.6	20.5	0.0031	0.000	13.1	mg/L	4	Standard
|	Cd	114	12.9	141.3	-0.0086	0.003	29.2	ug/L	25	Standard
>	In	115	768980.6	3.5				ug/L	768402	Standard
|	Sn	118	885.0	8.2	-0.0043	0.012	270.2	ug/L	948	Standard
|	Sb	123	106.8	28.8	0.0036	0.005	147.6	ug/L	229	Standard
|	Ba	135	5343.9	2.3	1.7650	0.042	2.4	ug/L	57	Standard
|	Ce	140	36.7	20.8				ug/L	20	Standard
>	Tb	159	1228290.8	1.7				ug/L	1214723	Standard
|	Ho	165	15.0	33.3				ug/L	10	Standard
|	Tl	203	168.0	10.9	0.0096	0.002	18.3	ug/L	29	Standard
|	Tl	205	116.7	8.9	0.0067	0.001	14.7	ug/L	62	Standard
|	Pb	206	520.0	3.3	0.0227	0.002	10.6	ug/L	322	Standard
|	Pb	207	439.0	5.7	0.0178	0.005	25.7	ug/L	278	Standard
|	Pb	208	1722.0	5.4	0.0219	0.004	19.2	ug/L	1167	Standard
	U	238	3.0	57.7	-0.0007	0.000	27.9	ug/L	53	Standard
>	Bi	209	634639.9	1.6				ug/L	650933	Standard

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Na	23	1.7	173.2	3.2155	5.561	172.9	mg/L	2	Standard
Mg	24	81.7	33.7	0.0146	0.023	156.7	mg/L	38	Standard
K	39	36.7	20.8	0.0299	0.014	48.3	mg/L	22	Standard
Ca	43	26.7	21.7	-0.1556	0.204	131.2	mg/L	27	Standard
Fe	54	227.2	19.1	-0.0188	0.020	104.3	mg/L	177	Standard
Fe	57	165.0	26.9	0.0875	0.102	116.2	mg/L	127	Standard
Sc-1	45	64935.7	4.5				mg/L	58453	Standard
Cl	35	14005.8	1.6				ug/L	9756	Standard
Kr	83	1.3	173.2				ug/L	2	Standard
Br	81	4113.9	7.5				ug/L	3130	Standard
P	31	19881.4	4.6				ug/L	16621	Standard
S	34	1455.1	5.2				ug/L	883	Standard
Sr	88	61.7	23.4				ug/L	38	Standard
C	12	390.0	14.3				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	10.0					mg/L	0	Standard
Dy	164	5.7	195.1				mg/L	13	Standard
Ho-1	165	15.0	33.3				mg/L	10	Standard
Er	166	20.0	50.0				mg/L	13	Standard
I	127	41926.3	1.0				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		91.493	
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		101.341	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: F BLANK WG568186-02

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	100.075
[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	97.497
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	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 WG568186-02

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Method 6020 - Summary Report

Sample ID: L1605043405 WG568333-01

Sample Date/Time: Thursday, May 12, 2016 14:22:36

Number of Replicates: 3

Autosampler Position: 332

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	120468.7	0.7				ug/L	132521	Standard
|	Be	9	10.0	50.0	0.0109	0.003	31.7	ug/L	18	Standard
|	Al	27	43612.7	0.8	0.2062	0.003	1.3	ug/L	1493	Standard
|	Sc	45	62115.4	1.3				ug/L	58453	Standard
|	Ti	47	39.0	4.4	-0.0434	0.003	7.4	ug/L	46	Standard
|	V	51	4463.1	8.9	0.2058	0.034	16.3	ug/L	2030	Standard
|	Cr	52	11694.5	0.1	0.1057	0.009	8.2	ug/L	9770	Standard
|	Cr	53	11606.1	3.1	8.7776	0.235	2.7	ug/L	498	Standard
|	Mn	55	5577.0	2.1	0.4386	0.015	3.3	ug/L	721	Standard
|	Co	59	262.7	11.1	0.0056	0.003	47.1	ug/L	167	Standard
|	Ni	60	4460.3	1.2	1.6242	0.026	1.6	ug/L	49	Standard
|	Cu	65	676.7	3.2	0.0773	0.007	9.3	ug/L	418	Standard
|	Zn	66	1540.1	1.1	0.7193	0.017	2.4	ug/L	282	Standard
>	Ge	72	662164.9	0.6				ug/L	632144	Standard
|	As	75	337.3	9.7	0.2826	0.019	6.8	ug/L	-105	Standard
|	Se	82	199.5	2.1	1.0224	0.033	3.2	ug/L	26	Standard
|	Se-1	77	647.7	2.6	5.2701	0.153	2.9	ug/L	75	Standard
>	Ga	71	38.3	7.5				mg/L	27	Standard
|	Rb	85	1461.7	5.8				ug/L	15	Standard
|	Y	89	541295.1	2.0				ug/L	538177	Standard
>	Rh	103	11.7	49.5				ug/L	2	Standard
|	Mo	98	3087.4	4.4	0.7925	0.037	4.7	ug/L	50	Standard
|	Ag	107	116.0	7.9	-0.0008	0.001	112.9	ug/L	110	Standard
|	Cd	111	1.2	418.8	0.0017	0.002	102.6	mg/L	4	Standard
|	Cd	114	17.5	7.6	-0.0080	0.000	2.5	ug/L	25	Standard
>	In	115	747975.3	0.9				ug/L	768402	Standard
|	Sn	118	901.7	11.7	0.0005	0.014	2637.6	ug/L	948	Standard
|	Sb	123	102.0	23.5	0.0032	0.004	122.6	ug/L	229	Standard
|	Ba	135	1812.1	2.3	0.6002	0.018	3.0	ug/L	57	Standard
|	Ce	140	30.0	16.7				ug/L	20	Standard
>	Tb	159	1218251.3	0.6				ug/L	1214723	Standard
|	Ho	165	13.3	43.3				ug/L	10	Standard
|	Tl	203	144.3	6.0	0.0074	0.001	9.7	ug/L	29	Standard
|	Tl	205	140.0	7.1	0.0090	0.001	13.0	ug/L	62	Standard
|	Pb	206	519.3	0.3	0.0222	0.001	4.5	ug/L	322	Standard
|	Pb	207	465.0	3.2	0.0214	0.003	14.0	ug/L	278	Standard
|	Pb	208	1719.7	1.9	0.0214	0.002	9.5	ug/L	1167	Standard
	U	238	14.3	10.7	0.0006	0.000	32.6	ug/L	53	Standard
>	Bi	209	638371.7	1.1				ug/L	650933	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	9783.2	5.1	8.8889	0.395	4.4	mg/L	38	Standard
K	39	46.7	22.3	0.0596	0.027	46.1	mg/L	22	Standard
Ca	43	28.3	20.4	-0.0250	0.257	1029.1	mg/L	27	Standard
Fe	54	206.8	20.7	-0.0247	0.025	99.6	mg/L	177	Standard
Fe	57	200.0	6.6	0.1892	0.033	17.7	mg/L	127	Standard
Sc-1	45	62115.4	1.3				mg/L	58453	Standard
Cl	35	13273.1	2.7				ug/L	9756	Standard
Kr	83	2.7	78.1				ug/L	2	Standard
Br	81	39468.0	2.0				ug/L	3130	Standard
P	31	19509.2	1.2				ug/L	16621	Standard
S	34	1433.4	5.7				ug/L	883	Standard
Sr	88	63.3	45.6				ug/L	38	Standard
C	12	186.7	25.3				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	0	Standard
Dy	164	12.2	51.9				mg/L	13	Standard
Ho-1	165	13.3	43.3				mg/L	10	Standard
Er	166	23.3	65.5				mg/L	13	Standard
I	127	76956.7	2.8				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		90.906	
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		104.749	
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	97.342
[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	98.070
[	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: L1605043405 WG568333-01

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Method 6020 - Summary Report

Sample ID: L1605043407S WG568333-04

Sample Date/Time: Thursday, May 12, 2016 14:25:48

Number of Replicates: 3

Autosampler Position: 333

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	134423.7	1.2				ug/L	132521	Standard
|	Be	9	786.7	9.9	0.4912	0.054	10.9	ug/L	18	Standard
|	Al	27	267441.8	1.8	1.1671	0.014	1.2	ug/L	1493	Standard
|	Sc	45	66129.0	1.6				ug/L	58453	Standard
|	Ti	47	4846.4	0.9	10.1694	0.322	3.2	ug/L	46	Standard
|	V	51	111816.3	2.4	9.8805	0.042	0.4	ug/L	2030	Standard
|	Cr	52	62004.0	1.1	5.0883	0.110	2.2	ug/L	9770	Standard
|	Cr	53	29632.3	1.4	23.0808	0.991	4.3	ug/L	498	Standard
|	Mn	55	55042.5	1.4	5.1073	0.082	1.6	ug/L	721	Standard
|	Co	59	20376.4	1.6	1.8193	0.057	3.2	ug/L	167	Standard
|	Ni	60	17524.1	2.1	6.4720	0.065	1.0	ug/L	49	Standard
|	Cu	65	14133.6	0.8	5.0376	0.182	3.6	ug/L	418	Standard
|	Zn	66	16055.2	1.9	10.2663	0.110	1.1	ug/L	282	Standard
>	Ge	72	661551.6	2.7				ug/L	632144	Standard
|	As	75	6156.0	2.6	3.8884	0.032	0.8	ug/L	-105	Standard
|	Se	82	778.6	3.4	4.5268	0.080	1.8	ug/L	26	Standard
|	Se-1	77	1590.4	2.4	14.0733	0.715	5.1	ug/L	75	Standard
>	Ga	71	46.7	22.3				mg/L	27	Standard
|	Rb	85	1570.1	3.4				ug/L	15	Standard
|	Y	89	529287.4	2.2				ug/L	538177	Standard
>	Rh	103	23.3	12.4				ug/L	2	Standard
|	Mo	98	39353.7	1.3	10.0634	0.173	1.7	ug/L	50	Standard
|	Ag	107	37780.4	0.4	3.8917	0.006	0.1	ug/L	110	Standard
|	Cd	111	1417.5	1.6	0.4801	0.009	1.9	mg/L	4	Standard
|	Cd	114	3792.8	2.7	0.5165	0.013	2.5	ug/L	25	Standard
>	In	115	760505.2	0.4				ug/L	768402	Standard
|	Sn	118	77224.7	1.4	9.2955	0.097	1.0	ug/L	948	Standard
|	Sb	123	74288.8	0.7	11.8412	0.133	1.1	ug/L	229	Standard
|	Ba	135	30714.4	0.7	10.3640	0.037	0.4	ug/L	57	Standard
|	Ce	140	50.0	10.0				ug/L	20	Standard
>	Tb	159	1255553.8	1.1				ug/L	1214723	Standard
|	Ho	165	15.0	57.7				ug/L	10	Standard
|	Tl	203	54808.6	1.2	4.7426	0.027	0.6	ug/L	29	Standard
|	Tl	205	48843.6	0.9	4.8318	0.018	0.4	ug/L	62	Standard
|	Pb	206	35785.5	1.3	4.8293	0.117	2.4	ug/L	322	Standard
|	Pb	207	32133.7	1.3	4.7826	0.084	1.8	ug/L	278	Standard
|	Pb	208	119834.0	0.5	4.7753	0.040	0.8	ug/L	1167	Standard
	U	238	13.3	37.0	0.0004	0.001	129.1	ug/L	53	Standard
>	Bi	209	654776.5	1.2				ug/L	650933	Standard

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Na	23	1.7	173.2	3.0520	5.278	172.9	mg/L	2	Standard
Mg	24	10822.2	1.1	9.2418	0.188	2.0	mg/L	38	Standard
K	39	266.7	10.3	0.5696	0.059	10.3	mg/L	22	Standard
Ca	43	18.3	31.5	-0.5146	0.251	48.9	mg/L	27	Standard
Fe	54	278.3	6.0	0.0085	0.012	139.3	mg/L	177	Standard
Fe	57	195.0	9.2	0.1484	0.039	26.1	mg/L	127	Standard
Sc-1	45	66129.0	1.6				mg/L	58453	Standard
Cl	35	13827.6	0.7				ug/L	9756	Standard
Kr	83	2.7	57.3				ug/L	2	Standard
Br	81	37402.8	2.6				ug/L	3130	Standard
P	31	20961.2	3.9				ug/L	16621	Standard
S	34	1403.4	1.6				ug/L	883	Standard
Sr	88	105.0	8.2				ug/L	38	Standard
C	12	183.3	40.9				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	0	Standard
Dy	164	16.2	35.7				mg/L	13	Standard
Ho-1	165	15.0	57.7				mg/L	10	Standard
Er	166	10.0					mg/L	13	Standard
I	127	67973.8	1.8				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		101.436	
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		104.652	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1605043407S WG568333-04

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	98.972
[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	100.590
[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: L1605043407S WG568333-04

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Method 6020 - Summary Report

Sample ID: L1605043409SD WG568333-05

Sample Date/Time: Thursday, May 12, 2016 14:28:59

Number of Replicates: 3

Autosampler Position: 334

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	132732.3	1.3				ug/L	132521	Standard
|	Be	9	775.0	11.8	0.4900	0.060	12.3	ug/L	18	Standard
|	Al	27	266416.1	2.4	1.1774	0.015	1.3	ug/L	1493	Standard
|	Sc	45	64202.5	2.8				ug/L	58453	Standard
|	Ti	47	4838.1	3.3	10.5232	0.293	2.8	ug/L	46	Standard
|	V	51	106930.7	0.3	9.7943	0.039	0.4	ug/L	2030	Standard
|	Cr	52	60076.9	1.6	5.1142	0.076	1.5	ug/L	9770	Standard
|	Cr	53	29057.8	2.2	23.4557	0.571	2.4	ug/L	498	Standard
|	Mn	55	55836.7	0.7	5.3750	0.073	1.4	ug/L	721	Standard
|	Co	59	20270.2	0.9	1.8761	0.027	1.4	ug/L	167	Standard
|	Ni	60	17240.1	1.5	6.6008	0.064	1.0	ug/L	49	Standard
|	Cu	65	13555.1	2.1	5.0051	0.112	2.2	ug/L	418	Standard
|	Zn	66	15755.9	1.6	10.4490	0.148	1.4	ug/L	282	Standard
>	Ge	72	638069.3	0.6				ug/L	632144	Standard
|	As	75	6100.5	2.7	3.9931	0.118	3.0	ug/L	-105	Standard
|	Se	82	761.6	1.8	4.5934	0.057	1.2	ug/L	26	Standard
|	Se-1	77	1638.4	2.2	15.0703	0.342	2.3	ug/L	75	Standard
>	Ga	71	31.7	65.7				mg/L	27	Standard
|	Rb	85	1656.8	3.0				ug/L	15	Standard
|	Y	89	553371.5	1.1				ug/L	538177	Standard
>	Rh	103	21.7	26.6				ug/L	2	Standard
|	Mo	98	39048.0	1.3	9.8984	0.128	1.3	ug/L	50	Standard
|	Ag	107	36485.2	2.0	3.7254	0.086	2.3	ug/L	110	Standard
|	Cd	111	1401.3	3.2	0.4705	0.015	3.1	mg/L	4	Standard
|	Cd	114	3845.4	3.2	0.5192	0.013	2.6	ug/L	25	Standard
>	In	115	767136.8	0.7				ug/L	768402	Standard
|	Sn	118	77067.2	0.7	9.1954	0.006	0.1	ug/L	948	Standard
|	Sb	123	71648.8	1.3	11.3213	0.190	1.7	ug/L	229	Standard
|	Ba	135	30488.0	1.7	10.1984	0.161	1.6	ug/L	57	Standard
|	Ce	140	51.7	20.1				ug/L	20	Standard
>	Tb	159	1267642.4	0.7				ug/L	1214723	Standard
|	Ho	165	10.0	50.0				ug/L	10	Standard
|	Tl	203	53541.4	1.0	4.7319	0.060	1.3	ug/L	29	Standard
|	Tl	205	48487.5	0.1	4.8997	0.104	2.1	ug/L	62	Standard
|	Pb	206	34231.0	0.3	4.7167	0.089	1.9	ug/L	322	Standard
|	Pb	207	31248.5	0.7	4.7504	0.122	2.6	ug/L	278	Standard
|	Pb	208	119844.6	0.3	4.8792	0.104	2.1	ug/L	1167	Standard
	U	238	16.0	34.8	0.0007	0.001	85.7	ug/L	53	Standard
>	Bi	209	641184.4	2.2				ug/L	650933	Standard

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Na	23	1.7	173.2	3.0003	5.188	172.9	mg/L	2	Standard
Mg	24	11105.7	3.4	9.7710	0.258	2.6	mg/L	38	Standard
K	39	298.3	8.6	0.6650	0.049	7.3	mg/L	22	Standard
Ca	43	35.0	51.5	0.2338	0.802	343.0	mg/L	27	Standard
Fe	54	289.6	3.4	0.0199	0.007	37.3	mg/L	177	Standard
Fe	57	181.7	20.7	0.1317	0.095	72.4	mg/L	127	Standard
Sc-1	45	64202.5	2.8				mg/L	58453	Standard
Cl	35	14087.9	2.9				ug/L	9756	Standard
Kr	83	3.3	69.3				ug/L	2	Standard
Br	81	39722.1	4.7				ug/L	3130	Standard
P	31	20690.8	5.9				ug/L	16621	Standard
S	34	1468.4	2.2				ug/L	883	Standard
Sr	88	105.0	12.6				ug/L	38	Standard
C	12	200.0	5.0				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	12.5	48.3				mg/L	13	Standard
Ho-1	165	10.0	50.0				mg/L	10	Standard
Er	166	16.7	34.6				mg/L	13	Standard
I	127	70793.4	1.9				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		100.160	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		100.937	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1605043409SD WG568333-05

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	99.835
[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	98.502
[	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: L1605043409SD WG568333-05

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Method 6020 - Summary Report

Sample ID: L1605044901

Sample Date/Time: Thursday, May 12, 2016 14:32:11

Number of Replicates: 3

Autosampler Position: 335

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	123936.7	2.5				ug/L	132521	Standard
|	Be	9	6.7	173.2	0.0085	0.008	92.7	ug/L	18	Standard
|	Al	27	1510.1	6.6	-0.0003	0.001	188.1	ug/L	1493	Standard
|	Sc	45	63009.1	0.9				ug/L	58453	Standard
|	Ti	47	47.7	15.5	-0.0222	0.016	71.5	ug/L	46	Standard
|	V	51	4137.3	4.7	0.1868	0.019	10.3	ug/L	2030	Standard
|	Cr	52	12583.6	4.7	0.2278	0.056	24.4	ug/L	9770	Standard
|	Cr	53	8212.2	7.2	6.2713	0.454	7.2	ug/L	498	Standard
|	Mn	55	1184.0	6.1	0.0276	0.007	26.9	ug/L	721	Standard
|	Co	59	313.3	2.3	0.0110	0.001	6.2	ug/L	167	Standard
|	Ni	60	680.3	5.9	0.2304	0.014	6.2	ug/L	49	Standard
|	Cu	65	903.0	2.5	0.1698	0.010	5.7	ug/L	418	Standard
|	Zn	66	7560.9	1.0	4.8115	0.030	0.6	ug/L	282	Standard
>	Ge	72	644385.9	0.4				ug/L	632144	Standard
|	As	75	-96.4	104.5	0.0123	0.064	524.3	ug/L	-105	Standard
|	Se	82	93.3	9.5	0.3957	0.053	13.3	ug/L	26	Standard
|	Se-1	77	670.0	1.6	5.6500	0.081	1.4	ug/L	75	Standard
>	Ga	71	65.0	7.7				mg/L	27	Standard
|	Rb	85	19547.6	4.7				ug/L	15	Standard
|	Y	89	551975.8	1.4				ug/L	538177	Standard
>	Rh	103	16.7	45.8				ug/L	2	Standard
|	Mo	98	589.7	3.7	0.1416	0.005	3.7	ug/L	50	Standard
|	Ag	107	115.7	10.3	-0.0008	0.001	157.1	ug/L	110	Standard
|	Cd	111	3.7	30.8	0.0025	0.000	15.4	mg/L	4	Standard
|	Cd	114	11.1	142.8	-0.0089	0.002	24.8	ug/L	25	Standard
>	In	115	751194.5	0.6				ug/L	768402	Standard
|	Sn	118	1078.4	9.6	0.0218	0.013	57.9	ug/L	948	Standard
|	Sb	123	165.5	29.2	0.0134	0.008	58.5	ug/L	229	Standard
|	Ba	135	16970.5	1.5	5.7873	0.078	1.3	ug/L	57	Standard
|	Ce	140	26.7	39.0				ug/L	20	Standard
>	Tb	159	1215020.4	1.3				ug/L	1214723	Standard
|	Ho	165	11.7	65.5				ug/L	10	Standard
|	Tl	203	200.0	20.8	0.0121	0.004	29.8	ug/L	29	Standard
|	Tl	205	161.7	25.0	0.0109	0.004	36.8	ug/L	62	Standard
|	Pb	206	13205.8	0.9	1.7688	0.018	1.0	ug/L	322	Standard
|	Pb	207	11476.0	0.7	1.6936	0.015	0.9	ug/L	278	Standard
|	Pb	208	44551.0	1.3	1.7628	0.023	1.3	ug/L	1167	Standard
	U	238	5.3	47.2	-0.0005	0.000	61.1	ug/L	53	Standard
>	Bi	209	648002.2	0.2				ug/L	650933	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	6559.8	1.4	5.8584	0.133	2.3	mg/L	38	Standard
K	39	1978.5	5.9	4.8303	0.326	6.8	mg/L	22	Standard
Ca	43	223.3	5.6	8.4614	0.635	7.5	mg/L	27	Standard
Fe	54	220.4	3.4	-0.0183	0.005	28.4	mg/L	177	Standard
Fe	57	241.7	14.1	0.2812	0.076	27.0	mg/L	127	Standard
Sc-1	45	63009.1	0.9				mg/L	58453	Standard
Cl	35	14749.2	1.2				ug/L	9756	Standard
Kr	83	0.7	86.6				ug/L	2	Standard
Br	81	5614.4	5.1				ug/L	3130	Standard
P	31	20734.2	1.2				ug/L	16621	Standard
S	34	1578.4	2.8				ug/L	883	Standard
Sr	88	73.3	51.6				ug/L	38	Standard
C	12	276.7	32.6				mg/L	333	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	15.2	102.4				mg/L	13	Standard
Ho-1	165	11.7	65.5				mg/L	10	Standard
Er	166	30.0	33.3				mg/L	13	Standard
I	127	52173.0	0.6				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		93.522	
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		101.937	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1605044901

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	97.761
[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	99.550
[	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

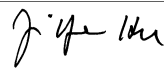
Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1605044901

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Method 6020 - Summary Report

Sample ID: L1605045101

Sample Date/Time: Thursday, May 12, 2016 14:35:22

Number of Replicates: 3

Autosampler Position: 336

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	121441.8	3.6				ug/L	132521	Standard
|	Be	9	3.3	86.6	0.0063	0.002	32.0	ug/L	18	Standard
|	Al	27	4307.3	1.8	0.0134	0.000	2.8	ug/L	1493	Standard
|	Sc	45	63437.6	3.3				ug/L	58453	Standard
|	Ti	47	43.0	12.1	-0.0352	0.012	35.3	ug/L	46	Standard
|	V	51	4767.5	9.0	0.2309	0.032	13.9	ug/L	2030	Standard
|	Cr	52	13672.8	2.7	0.2952	0.047	16.0	ug/L	9770	Standard
|	Cr	53	9498.0	3.6	7.0724	0.124	1.8	ug/L	498	Standard
|	Mn	55	1515.1	2.2	0.0550	0.003	5.5	ug/L	721	Standard
|	Co	59	356.3	2.1	0.0139	0.001	8.7	ug/L	167	Standard
|	Ni	60	913.7	5.6	0.3082	0.013	4.3	ug/L	49	Standard
|	Cu	65	850.7	3.2	0.1397	0.004	2.7	ug/L	418	Standard
|	Zn	66	1501.1	4.4	0.6895	0.060	8.7	ug/L	282	Standard
>	Ge	72	665398.5	2.0				ug/L	632144	Standard
|	As	75	-59.6	59.4	0.0374	0.021	56.3	ug/L	-105	Standard
|	Se	82	224.4	4.0	1.1662	0.028	2.4	ug/L	26	Standard
|	Se-1	77	776.0	1.2	6.4314	0.146	2.3	ug/L	75	Standard
>	Ga	71	270.0	21.4				mg/L	27	Standard
|	Rb	85	23580.0	1.5				ug/L	15	Standard
|	Y	89	515554.6	0.4				ug/L	538177	Standard
>	Rh	103	13.3	78.1				ug/L	2	Standard
|	Mo	98	525.1	2.4	0.1305	0.003	2.2	ug/L	50	Standard
|	Ag	107	107.3	10.5	-0.0012	0.001	96.2	ug/L	110	Standard
|	Cd	111	3.1	33.7	0.0024	0.000	16.0	mg/L	4	Standard
|	Cd	114	12.0	107.8	-0.0087	0.002	21.9	ug/L	25	Standard
>	In	115	721543.1	0.8				ug/L	768402	Standard
|	Sn	118	795.0	5.0	-0.0091	0.005	55.4	ug/L	948	Standard
|	Sb	123	165.1	1.7	0.0144	0.000	2.1	ug/L	229	Standard
|	Ba	135	13247.1	1.5	4.6987	0.035	0.7	ug/L	57	Standard
|	Ce	140	43.3	13.3				ug/L	20	Standard
>	Tb	159	1178290.3	2.0				ug/L	1214723	Standard
|	Ho	165	10.0	100.0				ug/L	10	Standard
|	Tl	203	196.3	2.4	0.0122	0.000	2.9	ug/L	29	Standard
|	Tl	205	148.3	11.8	0.0100	0.002	18.0	ug/L	62	Standard
|	Pb	206	584.3	5.8	0.0322	0.004	11.2	ug/L	322	Standard
|	Pb	207	517.0	3.0	0.0304	0.002	5.3	ug/L	278	Standard
|	Pb	208	1917.4	0.8	0.0305	0.001	4.1	ug/L	1167	Standard
	U	238	4.7	24.7	-0.0005	0.000	26.4	ug/L	53	Standard
>	Bi	209	630584.4	1.5				ug/L	650933	Standard

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Na	23	1.7	173.2	3.0241	5.229	172.9	mg/L	2	Standard
Mg	24	7375.1	2.9	6.5527	0.298	4.5	mg/L	38	Standard
K	39	2220.2	2.2	5.3937	0.264	4.9	mg/L	22	Standard
Ca	43	255.0	12.2	9.7456	1.035	10.6	mg/L	27	Standard
Fe	54	200.8	5.2	-0.0305	0.010	31.2	mg/L	177	Standard
Fe	57	265.0	15.0	0.3316	0.078	23.7	mg/L	127	Standard
Sc-1	45	63437.6	3.3				mg/L	58453	Standard
Cl	35	15012.1	0.5				ug/L	9756	Standard
Kr	83	1.7	91.7				ug/L	2	Standard
Br	81	6087.9	6.2				ug/L	3130	Standard
P	31	20535.6	5.5				ug/L	16621	Standard
S	34	1461.7	3.5				ug/L	883	Standard
Sr	88	90.0	25.5				ug/L	38	Standard
C	12	403.3	20.8				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	12.2	90.3				mg/L	13	Standard
Ho-1	165	10.0	100.0				mg/L	10	Standard
Er	166	23.3	99.0				mg/L	13	Standard
I	127	86028.6	2.2				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		91.640	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		105.261	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1605045101

Report Date/Time: Thursday, May 12, 2016 14:37:39

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	93.902
[Sn	118	
[Sb	123	
[Ba	135	
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>	Tb	159	
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[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

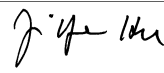
Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1605045101

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Method 6020 - Summary Report

Sample ID: L1605045101PS WG568373-01

Sample Date/Time: Thursday, May 12, 2016 14:38:33

Number of Replicates: 3

Autosampler Position: 337

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	125381.7	1.3				ug/L	132521	Standard
|	Be	9	74601.6	1.3	49.5163	1.254	2.5	ug/L	18	Standard
|	Al	27	3335.4	9.2	0.0082	0.001	17.1	ug/L	1493	Standard
|	Sc	45	64679.5	2.9				ug/L	58453	Standard
|	Ti	47	44.7	9.3	-0.0282	0.008	28.0	ug/L	46	Standard
|	V	51	542902.0	2.4	50.3145	0.545	1.1	ug/L	2030	Standard
|	Cr	52	534994.6	1.4	53.6270	0.169	0.3	ug/L	9770	Standard
|	Cr	53	74417.4	2.9	60.4464	1.264	2.1	ug/L	498	Standard
|	Mn	55	524604.1	0.3	51.0267	0.825	1.6	ug/L	721	Standard
|	Co	59	510032.2	0.7	47.4545	0.982	2.1	ug/L	167	Standard
|	Ni	60	136222.7	1.2	52.1440	0.349	0.7	ug/L	49	Standard
|	Cu	65	137287.8	2.6	52.0397	0.596	1.1	ug/L	418	Standard
|	Zn	66	76537.2	1.8	51.6733	0.410	0.8	ug/L	282	Standard
>	Ge	72	640681.9	1.4				ug/L	632144	Standard
|	As	75	77012.1	1.8	49.3444	0.230	0.5	ug/L	-105	Standard
|	Se	82	7837.9	0.8	48.7853	0.884	1.8	ug/L	26	Standard
|	Se-1	77	5890.1	1.6	55.9194	0.683	1.2	ug/L	75	Standard
>	Ga	71	293.3	14.9				mg/L	27	Standard
|	Rb	85	24269.4	0.5				ug/L	15	Standard
|	Y	89	552227.5	1.1				ug/L	538177	Standard
>	Rh	103	20.0	50.0				ug/L	2	Standard
|	Mo	98	568.3	2.9	0.1339	0.003	2.2	ug/L	50	Standard
|	Ag	107	452924.3	2.4	46.7029	1.574	3.4	ug/L	110	Standard
|	Cd	111	148574.3	1.2	50.0766	0.277	0.6	mg/L	4	Standard
|	Cd	114	357547.5	2.5	49.5579	0.986	2.0	ug/L	25	Standard
>	In	115	762206.7	1.0				ug/L	768402	Standard
|	Sn	118	1033.4	9.5	0.0143	0.011	75.4	ug/L	948	Standard
|	Sb	123	306649.7	1.4	48.8171	1.166	2.4	ug/L	229	Standard
|	Ba	135	160672.5	1.0	54.1925	0.117	0.2	ug/L	57	Standard
|	Ce	140	31.7	81.0				ug/L	20	Standard
>	Tb	159	1230264.2	0.5				ug/L	1214723	Standard
|	Ho	165	18.3	41.7				ug/L	10	Standard
|	Tl	203	564187.0	1.3	49.8835	0.859	1.7	ug/L	29	Standard
|	Tl	205	502869.5	1.2	50.8286	0.922	1.8	ug/L	62	Standard
|	Pb	206	362152.4	0.4	50.3472	0.220	0.4	ug/L	322	Standard
|	Pb	207	313378.3	0.4	48.0538	0.178	0.4	ug/L	278	Standard
|	Pb	208	1202253.5	0.6	49.3592	0.606	1.2	ug/L	1167	Standard
	U	238	440643.7	1.3	49.3727	0.890	1.8	ug/L	53	Standard
>	Bi	209	641493.4	0.6				ug/L	650933	Standard

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Na	23	5.0	100.0	9.3283	9.505	101.9	mg/L	2	Standard
Mg	24	7700.3	2.7	6.7091	0.216	3.2	mg/L	38	Standard
K	39	2281.8	4.1	5.4396	0.382	7.0	mg/L	22	Standard
Ca	43	296.7	14.3	11.3570	2.155	19.0	mg/L	27	Standard
Fe	54	169.7	12.5	-0.0509	0.013	26.4	mg/L	177	Standard
Fe	57	245.0	18.7	0.2768	0.124	44.7	mg/L	127	Standard
Sc-1	45	64679.5	2.9				mg/L	58453	Standard
Cl	35	15427.9	2.9				ug/L	9756	Standard
Kr	83	3.0	66.7				ug/L	2	Standard
Br	81	5280.9	4.1				ug/L	3130	Standard
P	31	20739.2	4.5				ug/L	16621	Standard
S	34	1533.4	4.3				ug/L	883	Standard
Sr	88	95.0	29.3				ug/L	38	Standard
C	12	416.7	7.3				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	15.7	79.0				mg/L	13	Standard
Ho-1	165	18.3	41.7				mg/L	10	Standard
Er	166	20.0	132.3				mg/L	13	Standard
I	127	106102.8	6.1				mg/L	3532	Standard

QC Calculated Values


Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		94.613	
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		101.351	
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	99.194
[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	98.550
[	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: L1605045101SDL WG568373-02

Sample Date/Time: Thursday, May 12, 2016 14:41:45

Number of Replicates: 3

Autosampler Position: 338

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	101121.4	2.3				ug/L	132521	Standard
|	Be	9	21.7	48.0	0.0218	0.008	38.7	ug/L	18	Standard
|	Al	27	1496.7	7.0	0.0012	0.000	33.8	ug/L	1493	Standard
|	Sc	45	59090.0	2.2				ug/L	58453	Standard
|	Ti	47	30.7	6.8	-0.0546	0.005	8.3	ug/L	46	Standard
|	V	51	3191.8	12.4	0.1200	0.040	33.7	ug/L	2030	Standard
|	Cr	52	10481.6	0.7	0.0886	0.003	3.9	ug/L	9770	Standard
|	Cr	53	3737.1	3.1	2.8455	0.093	3.3	ug/L	498	Standard
|	Mn	55	1135.4	4.9	0.0305	0.006	19.7	ug/L	721	Standard
|	Co	59	299.7	13.2	0.0116	0.004	33.4	ug/L	167	Standard
|	Ni	60	211.0	5.7	0.0573	0.005	7.9	ug/L	49	Standard
|	Cu	65	829.7	3.1	0.1639	0.012	7.3	ug/L	418	Standard
|	Zn	66	1844.4	3.4	1.0393	0.042	4.1	ug/L	282	Standard
>	Ge	72	602400.3	0.5				ug/L	632144	Standard
|	As	75	-89.1	82.9	0.0132	0.050	377.3	ug/L	-105	Standard
|	Se	82	68.1	28.8	0.2687	0.129	48.1	ug/L	26	Standard
|	Se-1	77	258.0	3.9	1.8803	0.098	5.2	ug/L	75	Standard
>	Ga	71	163.3	26.0				mg/L	27	Standard
|	Rb	85	4564.0	2.4				ug/L	15	Standard
|	Y	89	491512.6	2.9				ug/L	538177	Standard
>	Rh	103	8.3	69.3				ug/L	2	Standard
|	Mo	98	111.8	17.1	0.0209	0.006	28.8	ug/L	50	Standard
|	Ag	107	559.0	5.8	0.0517	0.005	9.9	ug/L	110	Standard
|	Cd	111	37.1	32.2	0.0153	0.004	28.5	mg/L	4	Standard
|	Cd	114	67.6	25.5	0.0000	0.003	15680.3	ug/L	25	Standard
>	In	115	680099.5	2.0				ug/L	768402	Standard
|	Sn	118	525.0	2.5	-0.0397	0.001	3.7	ug/L	948	Standard
|	Sb	123	1127.6	23.1	0.1884	0.050	26.7	ug/L	229	Standard
|	Ba	135	2494.9	2.3	0.9205	0.007	0.7	ug/L	57	Standard
|	Ce	140	28.3	71.3				ug/L	20	Standard
>	Tb	159	1110574.1	1.2				ug/L	1214723	Standard
|	Ho	165	11.7	49.5				ug/L	10	Standard
|	Tl	203	310.3	18.7	0.0246	0.006	24.1	ug/L	29	Standard
|	Tl	205	228.3	50.4	0.0201	0.013	65.0	ug/L	62	Standard
|	Pb	206	534.3	6.6	0.0309	0.006	20.4	ug/L	322	Standard
|	Pb	207	461.0	4.0	0.0271	0.004	14.7	ug/L	278	Standard
|	Pb	208	1773.0	2.3	0.0301	0.003	8.9	ug/L	1167	Standard
	U	238	87.0	20.7	0.0096	0.002	24.2	ug/L	53	Standard
>	Bi	209	586175.6	1.1				ug/L	650933	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	1296.7	6.6	1.1897	0.068	5.7	mg/L	38	Standard
K	39	545.0	3.2	1.3785	0.067	4.8	mg/L	22	Standard
Ca	43	91.7	36.3	3.0053	1.619	53.9	mg/L	27	Standard
Fe	54	103.9	4.5	-0.0835	0.004	5.1	mg/L	177	Standard
Fe	57	188.3	16.0	0.1834	0.067	36.4	mg/L	127	Standard
Sc-1	45	59090.0	2.2				mg/L	58453	Standard
Cl	35	14240.0	0.9				ug/L	9756	Standard
Kr	83	1.3	114.6				ug/L	2	Standard
Br	81	3453.7	6.5				ug/L	3130	Standard
P	31	9483.0	4.2				ug/L	16621	Standard
S	34	1575.1	4.9				ug/L	883	Standard
Sr	88	68.3	29.6				ug/L	38	Standard
C	12	176.7	42.9				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	0	Standard
Dy	164	18.9	55.8				mg/L	13	Standard
Ho-1	165	11.7	49.5				mg/L	10	Standard
Er	166	23.3	107.9				mg/L	13	Standard
I	127	53256.8	3.3				mg/L	3532	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		76.306	
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		95.295	
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	88.508
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[Ho	165	
[Tl	203	
[Tl	205	
[Pb	206	
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[Na	23	
[Mg	24	
[K	39	
[Ca	43	
[Fe	54	
[Fe	57	
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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: L1605045101SDL WG568373-02

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Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Thursday, May 12, 2016 14:44:58

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	112827.1	3.0				ug/L	132521	Standard
|	Be	9	69767.0	2.6	51.5051	2.869	5.6	ug/L	18	Standard
|	Al	27	10453242.6	4.8	54.7097	2.698	4.9	ug/L	1493	Standard
|	Sc	45	64560.6	2.2				ug/L	58453	Standard
|	Ti	47	48123.0	0.5	102.5814	0.450	0.4	ug/L	46	Standard
|	V	51	541196.6	1.1	48.8249	0.331	0.7	ug/L	2030	Standard
|	Cr	52	510726.2	0.4	49.7638	0.212	0.4	ug/L	9770	Standard
|	Cr	53	63635.0	1.2	50.2537	0.469	0.9	ug/L	498	Standard
|	Mn	55	530907.7	2.3	50.2662	1.346	2.7	ug/L	721	Standard
|	Co	59	527993.4	1.3	47.8172	0.819	1.7	ug/L	167	Standard
|	Ni	60	134338.7	1.6	50.0588	0.910	1.8	ug/L	49	Standard
|	Cu	65	133258.9	1.4	49.1708	0.733	1.5	ug/L	418	Standard
|	Zn	66	75063.5	1.2	49.3241	0.660	1.3	ug/L	282	Standard
>	Ge	72	658118.7	0.5				ug/L	632144	Standard
|	As	75	78234.1	0.8	48.8013	0.229	0.5	ug/L	-105	Standard
|	Se	82	7978.8	2.5	48.3391	1.314	2.7	ug/L	26	Standard
|	Se-1	77	5404.3	1.5	49.8656	0.812	1.6	ug/L	75	Standard
>	Ga	71	45.0	44.4				mg/L	27	Standard
|	Rb	85	1096.7	8.2				ug/L	15	Standard
|	Y	89	535240.1	0.7				ug/L	538177	Standard
>	Rh	103	38.3	52.7				ug/L	2	Standard
|	Mo	98	382312.1	0.5	100.7241	1.162	1.2	ug/L	50	Standard
|	Ag	107	470925.6	1.1	50.0860	0.970	1.9	ug/L	110	Standard
|	Cd	111	144947.9	1.5	50.4064	1.417	2.8	mg/L	4	Standard
|	Cd	114	354816.5	3.1	50.7488	2.172	4.3	ug/L	25	Standard
>	In	115	738946.9	1.6				ug/L	768402	Standard
|	Sn	118	392976.5	1.3	49.1577	0.466	0.9	ug/L	948	Standard
|	Sb	123	305819.1	1.5	50.2239	1.419	2.8	ug/L	229	Standard
|	Ba	135	144277.7	0.7	50.2045	1.104	2.2	ug/L	57	Standard
|	Ce	140	110.0	24.1				ug/L	20	Standard
>	Tb	159	1202456.5	1.0				ug/L	1214723	Standard
|	Ho	165	21.7	48.0				ug/L	10	Standard
|	Tl	203	544621.0	0.7	49.0553	1.142	2.3	ug/L	29	Standard
|	Tl	205	484322.4	2.6	49.8651	1.512	3.0	ug/L	62	Standard
|	Pb	206	345834.8	0.7	48.9792	1.108	2.3	ug/L	322	Standard
|	Pb	207	314210.6	0.2	49.0836	0.835	1.7	ug/L	278	Standard
|	Pb	208	1209363.0	1.6	50.5744	0.835	1.7	ug/L	1167	Standard
	U	238	438130.8	1.0	50.0085	1.124	2.2	ug/L	53	Standard
>	Bi	209	629824.7	1.6				ug/L	650933	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	5492.7	0.2	4.7781	0.110	2.3	mg/L	38	Standard
K	39	2340.2	7.0	5.5861	0.432	7.7	mg/L	22	Standard
Ca	43	141.7	18.1	4.7521	1.098	23.1	mg/L	27	Standard
Fe	54	8084.6	3.0	4.5543	0.244	5.4	mg/L	177	Standard
Fe	57	2225.2	5.8	4.8828	0.372	7.6	mg/L	127	Standard
Sc-1	45	64560.6	2.2				mg/L	58453	Standard
Cl	35	14504.3	3.1				ug/L	9756	Standard
Kr	83	2.3	89.2				ug/L	2	Standard
Br	81	3663.8	4.2				ug/L	3130	Standard
P	31	23166.1	8.9				ug/L	16621	Standard
S	34	1718.4	7.1				ug/L	883	Standard
Sr	88	68.3	16.9				ug/L	38	Standard
C	12	160.0	16.5				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	6.7	86.6				mg/L	0	Standard
Dy	164	12.7	86.7				mg/L	13	Standard
Ho-1	165	21.7	48.0				mg/L	10	Standard
Er	166	13.3	114.6				mg/L	13	Standard
I	127	3333.7	10.7				mg/L	3532	Standard

QC Calculated Values


Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	103.010		
Al	27	109.419		
Sc	45			
Ti	47	102.581		
V	51	97.650		
Cr	52	99.528		
Cr	53			
Mn	55	100.532		
Co	59	95.634		
Ni	60	100.118		
Cu	65	98.342		
Zn	66	98.648		
Ge	72		104.109	
As	75	97.603		
Se	82	96.678		
Se-1	77			
Ga	71			

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[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	100.724	
[Ag	107	100.172	
[Cd	111	100.813	
[Cd	114		
>	In	115		96.167
[Sn	118	98.315	
[	Sb	123	100.448	
[	Ba	135	100.409	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	98.111	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	101.149	
[	U	238	100.017	
>	Bi	209		96.757
[	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 12, 2016 14:48:09

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	115360.9	0.7				ug/L	132521	Standard
|	Be	9	46.7	80.4	0.0376	0.027	71.5	ug/L	18	Standard
|	Al	27	3398.8	54.3	0.0099	0.009	94.8	ug/L	1493	Standard
|	Sc	45	65082.8	0.8				ug/L	58453	Standard
|	Ti	47	52.0	24.6	-0.0135	0.025	186.5	ug/L	46	Standard
|	V	51	2380.2	10.0	0.0232	0.017	74.7	ug/L	2030	Standard
|	Cr	52	10719.5	1.5	0.0351	0.042	120.4	ug/L	9770	Standard
|	Cr	53	815.0	1.6	0.2557	0.007	2.6	ug/L	498	Standard
|	Mn	55	1241.4	14.8	0.0326	0.017	52.3	ug/L	721	Standard
|	Co	59	433.0	45.5	0.0218	0.018	82.6	ug/L	167	Standard
|	Ni	60	100.0	35.4	0.0092	0.013	142.2	ug/L	49	Standard
|	Cu	65	553.0	10.4	0.0364	0.018	50.7	ug/L	418	Standard
|	Zn	66	372.7	3.4	-0.0419	0.008	19.4	ug/L	282	Standard
>	Ge	72	646794.8	2.4				ug/L	632144	Standard
|	As	75	-61.1	50.5	0.0349	0.020	58.5	ug/L	-105	Standard
|	Se	82	37.4	5.6	0.0481	0.014	28.4	ug/L	26	Standard
|	Se-1	77	96.3	4.3	0.1580	0.019	12.2	ug/L	75	Standard
>	Ga	71	35.0	14.3				mg/L	27	Standard
|	Rb	85	18.3	56.8				ug/L	15	Standard
|	Y	89	539832.9	1.3				ug/L	538177	Standard
>	Rh	103	13.3	108.3				ug/L	2	Standard
|	Mo	98	274.9	41.0	0.0586	0.028	48.0	ug/L	50	Standard
|	Ag	107	290.0	20.3	0.0169	0.006	38.1	ug/L	110	Standard
|	Cd	111	53.6	58.0	0.0193	0.011	55.3	mg/L	4	Standard
|	Cd	114	160.5	32.8	0.0117	0.007	63.7	ug/L	25	Standard
>	In	115	766180.4	1.8				ug/L	768402	Standard
|	Sn	118	3645.4	7.0	0.3293	0.025	7.5	ug/L	948	Standard
|	Sb	123	1116.7	18.3	0.1632	0.030	18.1	ug/L	229	Standard
|	Ba	135	93.7	20.9	0.0085	0.007	78.5	ug/L	57	Standard
|	Ce	140	18.3	56.8				ug/L	20	Standard
>	Tb	159	1210705.4	0.4				ug/L	1214723	Standard
|	Ho	165	6.7	86.6				ug/L	10	Standard
|	Tl	203	219.3	31.4	0.0141	0.006	42.8	ug/L	29	Standard
|	Tl	205	273.3	74.6	0.0224	0.020	90.8	ug/L	62	Standard
|	Pb	206	500.3	8.2	0.0196	0.006	28.2	ug/L	322	Standard
|	Pb	207	404.7	14.9	0.0122	0.009	74.3	ug/L	278	Standard
|	Pb	208	1860.4	27.5	0.0272	0.020	74.5	ug/L	1167	Standard
	U	238	216.3	71.8	0.0232	0.017	74.0	ug/L	53	Standard
>	Bi	209	637159.5	1.1				ug/L	650933	Standard

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Na	23	0.0		0.0050	0.000	0.0	mg/L	2	Standard
Mg	24	55.0	24.1	-0.0085	0.012	140.2	mg/L	38	Standard
K	39	58.3	17.8	0.0818	0.024	29.0	mg/L	22	Standard
Ca	43	30.0	50.0	-0.0114	0.638	5588.4	mg/L	27	Standard
Fe	54	184.0	29.0	-0.0433	0.031	72.1	mg/L	177	Standard
Fe	57	161.7	6.4	0.0786	0.022	27.6	mg/L	127	Standard
Sc-1	45	65082.8	0.8				mg/L	58453	Standard
Cl	35	13895.0	2.0				ug/L	9756	Standard
Kr	83	2.7	78.1				ug/L	2	Standard
Br	81	3613.8	6.5				ug/L	3130	Standard
P	31	20605.7	5.3				ug/L	16621	Standard
S	34	1690.1	3.4				ug/L	883	Standard
Sr	88	48.3	57.0				ug/L	38	Standard
C	12	190.0	27.3				mg/L	333	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	6.7	173.2				mg/L	0	Standard
Dy	164	15.1	100.0				mg/L	13	Standard
Ho-1	165	6.7	86.6				mg/L	10	Standard
Er	166	33.3	17.3				mg/L	13	Standard
I	127	2990.3	1.7				mg/L	3532	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		102.318	
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	99.711
[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	97.884
[	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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2.4 General Chemistry Data

2.4.1 Method 9056

2.4.1.1 Summary Data

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 22:52
Collect Date: 05/10/2016 07:50	Dilution: 3	File ID: I1_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 #: L16050571-03	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 #: L16050571-05	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: I1_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.					

Lab Report #: L16050571

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050571-07	PrePrep Method: N/A	Instrument: IC1
Client ID: 50WW12-051016	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 00:38
Collect Date: 05/10/2016 11:20	Dilution: 10	File ID: I1_051116-24
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Nitrate	14797-55-8	2.00	U	4.00	2.00	1.00
Nitrite	14797-65-0	1.02	J	4.00	2.00	1.00
Sulfate	14808-79-8	592		20.0	10.0	5.00
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 #: L16050571-07	PrePrep Method: N/A	Instrument: IC1
Client ID: 50WW12-051016	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 00:56
Collect Date: 05/10/2016 11:20	Dilution: 50	File ID: I1_051116-25
Sample Tag: DL02	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chloride	16887-00-6	1160		20.0	10.0	5.00
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 #: L16050571-09	PrePrep Method: N/A	Instrument: IC1
Client ID: 50WW24-051016	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 01:13
Collect Date: 05/10/2016 13:20	Dilution: 2	File ID: I1_051116-26
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	103		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 #: L16050571-09	PrePrep Method: N/A	Instrument: IC1
Client ID: 50WW24-051016	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 02:06
Collect Date: 05/10/2016 13:20	Dilution: 20	File ID: I1_051116-29
Sample Tag: DL02	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chloride	16887-00-6	392		8.00	4.00	2.00
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 #: L16050571-11	PrePrep Method: N/A	Instrument: IC1
Client ID: 50WW23-051016	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 02:24
Collect Date: 05/10/2016 14:35	Dilution: 10	File ID: I1_051116-30
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Nitrate	14797-55-8	2.00	U	4.00	2.00	1.00
Nitrite	14797-65-0	1.44	J	4.00	2.00	1.00
Sulfate	14808-79-8	126		20.0	10.0	5.00
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 #: L16050571-11	PrePrep Method: N/A	Instrument: IC1
Client ID: 50WW23-051016	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 02:42
Collect Date: 05/10/2016 14:35	Dilution: 100	File ID: I1_051116-31
Sample Tag: DL02	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chloride	16887-00-6	1670		40.0	20.0	10.0
J	Estimated value ; the analyte concentration was less than the LOQ.					
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: 051116 IC1.SEQ
 Analyst1: ALS Analyst2: NA
 Method: 300/9056 SOP: IC01 Rev: 19

Maintenance Log ID: _____ Syringe Filter Lot#: 151125254
 Eluent ID#: RGT36709

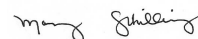
Workgroups: _____ Column 1 ID: AG14A-4MM Column 2 ID: AS14A-4MM
WG568497
 Internal STD: NA Surrogate STD: NA Calibration STD WG566125 29-APR-2016
 CCV STD: STD74524 LCS STD: STD74525 MS/MSD STD: STD74525

Comments:

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	I1_051116-01	ELUENT	1	1		05/11/16 17:51
2	I1_051116-02	DI WATER	1	1		05/11/16 18:08
3	I1_051116-03	WG568540-01 ANION CCV	1	1		05/11/16 18:26
4	I1_051116-04	WG568540-02 ANION CCB	1	1		05/11/16 18:44
5	I1_051116-05	WG568497-01 ANION BLANK	1	1		05/11/16 19:01
6	I1_051116-06	WG568497-02 ANION LCS	1	1		05/11/16 19:19
7	I1_051116-07	L16050508-03 SO4	2	1		05/11/16 19:37
8	I1_051116-08	L16050508-05 SO4	2	1		05/11/16 19:55
9	I1_051116-09	WG568497-03 ANION LCS2	1	1		05/11/16 20:12
10	I1_051116-10	L16050544-01 BR CL SO4 20X	2	20		05/11/16 20:30
11	I1_051116-11	L16050544-02 BR CL SO4 20X	2	20		05/11/16 20:48
12	I1_051116-12	L16050544-03 BR CL SO4 10X	2	10		05/11/16 21:05
13	I1_051116-13	L16050545-01 BR CL SO4 20X	2	20		05/11/16 21:23
14	I1_051116-14	L16050545-02 BR CL SO4 20X	2	20		05/11/16 21:41
15	I1_051116-15	WG568540-03 ANION CCV	1	1		05/11/16 21:58
16	I1_051116-16	WG568540-04 ANION CCB	1	1		05/11/16 22:16
17	I1_051116-17	L16050545-03 BR CL SO4 20X	2	20		05/11/16 22:34
18	I1_051116-18	L16050571-01 CL SO4 NO2 NO3 3X	1	3		05/11/16 22:52
19	I1_051116-19	L16050571-01 CL SO4 NO2 NO3 50X	1	50		05/11/16 23:09
20	I1_051116-20	L16050571-03 CL SO4 NO2 NO3 3X	1	3		05/11/16 23:27
21	I1_051116-21	L16050571-03 CL SO4 NO2 NO3 20X	1	20		05/11/16 23:45
22	I1_051116-22	L16050571-05 CL SO4 NO2 NO3 2X	1	2		05/12/16 00:02
23	I1_051116-23	L16050571-05 CL SO4 NO2 NO3 20X	1	20		05/12/16 00:20
24	I1_051116-24	L16050571-07 CL SO4 NO2 NO3 10X	1	10		05/12/16 00:38
25	I1_051116-25	L16050571-07 CL SO4 NO2 NO3 50X	1	50		05/12/16 00:56
26	I1_051116-26	L16050571-09 CL SO4 NO2 NO3 2X	1	2		05/12/16 01:13
27	I1_051116-27	WG568540-05 ANION CCV	1	1		05/12/16 01:31
28	I1_051116-28	WG568540-06 ANION CCB	1	1		05/12/16 01:49
29	I1_051116-29	L16050571-09 CL SO4 NO2 NO3 20X	1	20		05/12/16 02:06
30	I1_051116-30	L16050571-11 CL SO4 NO2 NO3 10X	1	10		05/12/16 02:24
31	I1_051116-31	L16050571-11 CL SO4 NO2 NO3 100X	1	100		05/12/16 02:42
32	I1_051116-32	L16050552-01 SO4	2	1		05/12/16 03:00
33	I1_051116-33	L16050575-01 SO4 NO3 5X	1	5		05/12/16 03:17

Page: 1

Approved: 13-MAY-16




Microbac Laboratories Inc.
Instrument Run Log

Instrument: IC1 _____ Dataset: 051116 IC1.SEQ _____
 Analyst1: ALS _____ 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 _____
 WG568497 _____
 Internal STD: NA _____ Surrogate STD: NA _____ WG566125 29-APR-2016 _____
 CCV STD: STD74524 _____ LCS STD: STD74525 _____ STD74525 _____

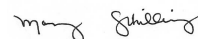
Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
34	I1_051116-34	WG568540-07 ANION CCV	1	1		05/12/16 03:35
35	I1_051116-35	WG568540-08 ANION CCB	1	1		05/12/16 03:53
36	I1_051116-36	L16050575-01 SO4 NO3 20X	1	20		05/12/16 04:10
37	I1_051116-37	L16050575-02 SO4 NO3 5X	1	5		05/12/16 04:28
38	I1_051116-38	L16050575-02 SO4 NO3 100X	1	100		05/12/16 04:46
39	I1_051116-39	L16050576-05 SO4 NO3 5X	1	5		05/12/16 05:04
40	I1_051116-40	L16050576-05 SO4 NO3 100X	1	100		05/12/16 05:21
41	I1_051116-41	L16050576-06 SO4 NO3 5X	1	5		05/12/16 05:39
42	I1_051116-42	L16050576-06 SO4 NO3 20X	1	20		05/12/16 05:57
43	I1_051116-43	L16050576-07 SO4 NO3 5X	1	5		05/12/16 06:14
44	I1_051116-44	L16050576-07 SO4 NO3 50X	1	50		05/12/16 06:32
45	I1_051116-45	WG568540-09 ANION CCV	1	1		05/12/16 06:50
46	I1_051116-46	WG568540-10 ANION CCB	1	1		05/12/16 07:07

Comments

Seq.	Rerun	Dil.	Reason	Analytes
10				
			L16050544-01 BR CL SO4 20X was analyzed at a dilution due to CL and SO4 existing in concentrations greater than 200ppm.	
11				
			L16050544-02 BR CL SO4 20X was analyzed at a dilution due to SO4 existing in concentrations greater than 200ppm.	
12				
			L16050544-03 BR CL SO4 10X was analyzed at a dilution due to CL and SO4 exceeding the ICAL,	
13				
			L16050545-01 BR CL SO4 20X was analyzed at a dilution due to SO4 exceeding 200ppm.	
14				
			L16050545-02 BR CL SO4 20X was analyzed at a dilution due to SO4 concentration exceeding 200ppm.	
17				
			L16050545-03 BR CL SO4 20X was analyzed at a dilution due to SO4 existing in concentrations greater than 200ppm.	
18				
			L16050571-01 CL SO4 NO2 NO3 3X was analyzed at a dilution due to CL and SO4 exceeding 200ppm.	
19				
			L16050571-01 CL SO4 NO2 NO3 50X was analyzed at a dilution due to CL and SO4 exceeding the ICAL.	
20				
			L16050571-03 CL SO4 NO2 NO3 3X was analyzed at a dilution due to CL and SO4 exceeding 200ppm.	
21				
			L16050571-03 CL SO4 NO2 NO3 20X was analyzed at a dilution due to CL and SO4 exceeding the ICAL.	

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Approved: 13-MAY-16




Microbac Laboratories Inc.
Instrument Run Log

Instrument: IC1 _____ Dataset: 051116 IC1.SEQ _____
 Analyst1: ALS _____ Analyst2: NA _____
 Method: 300/9056 _____ SOP: IC01 _____ Rev: 19 _____

Maintenance Log ID: _____ Syringe Filter Lot#: 151125254 _____
 Eluent ID#: RGT36709 _____

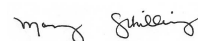
Workgroups: _____ Column 1 ID: AG14A-4MM _____ Column 2 ID: AS14A-4MM _____
 WG568497 _____
 Internal STD: NA _____ Surrogate STD: NA _____ WG566125 29-APR-2016 _____
 CCV STD: STD74524 _____ LCS STD: STD74525 _____ STD74525 _____

Comments

Seq.	Rerun	Dil.	Reason	Analytes
22				
			L16050571-05 CL SO4 NO2 NO3 2X was analyzed at a dilution due to CL concentrations exceeding 200ppm.	
23				
			L16050571-05 CL SO4 NO2 NO3 20X was analyzed at a dilution due to CL exceeding the ICAL.	
24				
			L16050571-07 CL SO4 NO2 NO3 10X was analyzed at a dilution due to CL and SO4 concentrations exceeding 200ppm.	
25				
			L16050571-07 CL SO4 NO2 NO3 50X was analyzed at a dilution due to CL and SO4 exceeding the ICAL.	
26				
			L16050571-09 CL SO4 NO2 NO3 2X was analyzed at a dilution due to CL exceeding 200ppm.	
29				
			L16050571-09 CL SO4 NO2 NO3 20X was analyzed at a dilution due to CL exceeding the ICAL.	
30				
			L16050571-11 CL SO4 NO2 NO3 10X was analyzed at a dilution due to CL exceeding 200ppm.	
31				
			L16050571-11 CL SO4 NO2 NO3 100X was analyzed at a dilution due to CL exceeding the ICAL.	
33				
			L16050575-01 SO4 NO3 5X was analyzed at a dilution due to SO4 exceeding 200ppm.	
36	X	50	Over Calibration Range	SO4
			L16050575-01 SO4 NO3 20X was not reported because SO4 is over calibration range.	
37				
			L16050575-02 SO4 NO3 5X was analyzed at a dilution due to CL and SO4 exceeding 200ppm.	
38				
			L16050575-02 SO4 NO3 100X was analyzed at a dilution due to SO4 exceeding the ICAL.	
39				
			L16050576-05 SO4 NO3 5X was analyzed at a dilution due to CL and SO4 exceeding 200ppm.	
40				
			L16050576-05 SO4 NO3 100X was analyzed at a dilution due to SO4 exceeding the ICAL.	
41				
			L16050576-06 SO4 NO3 5X was analyzed at a dilution due to CL and SO4 exceeding 200ppm.	
42				
			L16050576-06 SO4 NO3 20X was analyzed at a dilution due to SO4 exceeding the ICAL.	
43				
			L16050576-07 SO4 NO3 5X was analyzed at a dilution due to CL and SO4 existing in concentrations greater than 200ppm.	

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Approved: 13-MAY-16




Microbac Laboratories Inc.
Instrument Run Log

Instrument: IC1 Dataset: 051116 IC1.SEQ
 Analyst1: ALS Analyst2: NA
 Method: 300/9056 SOP: IC01 Rev: 19

Maintenance Log ID: _____ Syringe Filter Lot#: 151125254
 Eluent ID#: RGT36709

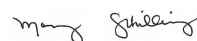
Workgroups: _____ Column 1 ID: AG14A-4MM Column 2 ID: AS14A-4MM
WG568497
 Internal STD: NA Surrogate STD: NA WG566125 29-APR-2016
 CCV STD: STD74524 LCS STD: STD74525 STD74525

Comments

Seq.	Rerun	Dil.	Reason	Analytes
44				
			L16050576-07 SO4 NO3 50X was an unnecessary dilution and not reported.	

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Approved: 13-MAY-16




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: 11-MAY-2016
 Analyst: AED
 Analyst: ALS
 Method: 300
 Instrument: IC1
 Curve Workgroup: NA
 Runlog ID: 75057
 Analytical Workgroups: 06-0508,0544,0545,0552,0571,0575,0576

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)	NA
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	NA
Recoveries	NA
%RPD	NA
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	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	ALS
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	MES

Primary Reviewer:
13-MAY-2016



Secondary Reviewer:
13-MAY-2016




Analytical Method:9056
Login Number:L16050571

AAB#:WG568497

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
50WW22-051016	01	05/10/16					05/11/2016	1.3	2		05/11/16	1.6	2	
50WW22-051016	01	05/10/16					05/11/2016	1.3	2		05/11/16	1.6	2	
50WW11-051016	03	05/10/16					05/11/2016	1.3	2		05/11/16	1.6	2	
50WW11-051016	03	05/10/16					05/11/2016	1.3	2		05/11/16	1.6	2	
50WW06-051016	05	05/10/16					05/11/2016	1.2	2		05/12/16	1.6	2	
50WW06-051016	05	05/10/16					05/11/2016	1.2	2		05/12/16	1.6	2	
50WW12-051016	07	05/10/16					05/11/2016	1.2	2		05/12/16	1.6	2	
50WW12-051016	07	05/10/16					05/11/2016	1.2	2		05/12/16	1.6	2	
50WW24-051016	09	05/10/16					05/11/2016	1.1	2		05/12/16	1.5	2	
50WW24-051016	09	05/10/16					05/11/2016	1.1	2		05/12/16	1.5	2	
50WW23-051016	11	05/10/16					05/11/2016	1	2		05/12/16	1.5	2	
50WW23-051016	11	05/10/16					05/11/2016	1	2		05/12/16	1.5	2	

* = SEE PROJECT QAPP REQUIREMENTS



METHOD BLANK SUMMARY

Login Number: L16050571 Work Group: WG568497
 Blank File ID: I1_051116-05 Blank Sample ID: WG568497-01
 Prep Date: 05/11/16 15:00 Instrument ID: IC1
 Analyzed Date: 05/11/16 19:01 Method: 9056
 Analyst: AED

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG568497-02	I1_051116-06	05/11/16 19:19	01
LCS2	WG568497-03	I1_051116-09	05/11/16 20:12	01
50WW22-051016	L16050571-01	I1_051116-18	05/11/16 22:52	DL01
50WW22-051016	L16050571-01	I1_051116-19	05/11/16 23:09	DL02
50WW11-051016	L16050571-03	I1_051116-20	05/11/16 23:27	DL01
50WW11-051016	L16050571-03	I1_051116-21	05/11/16 23:45	DL02
50WW06-051016	L16050571-05	I1_051116-22	05/12/16 00:02	DL01
50WW06-051016	L16050571-05	I1_051116-23	05/12/16 00:20	DL02
50WW12-051016	L16050571-07	I1_051116-24	05/12/16 00:38	DL01
50WW12-051016	L16050571-07	I1_051116-25	05/12/16 00:56	DL02
50WW24-051016	L16050571-09	I1_051116-26	05/12/16 01:13	DL01
50WW24-051016	L16050571-09	I1_051116-29	05/12/16 02:06	DL02
50WW23-051016	L16050571-11	I1_051116-30	05/12/16 02:24	DL01
50WW23-051016	L16050571-11	I1_051116-31	05/12/16 02:42	DL02

Report Name: BLANK_SUMMARY
 PDF File ID: 4760045
 Report generated 05/13/2016 10:40



Login Number: L16050571 Prep Date: 05/11/16 15:00 Sample ID: WG568497-01
 Instrument ID: IC1 Run Date: 05/11/16 19:01 Prep Method: 9056
 File ID: I1 051116-05 Analyst: AED Method: 9056
 Workgroup (AAB#): WG568497 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: 4760046
 13-MAY-2016 10:40



Login Number: L16050571 Analyst: AED Prep Method: 9056
 Instrument ID: IC1 Matrix: Water Method: 9056
 Workgroup (AAB#): WG568497 Units: mg/L
 QC Key: DOD4 Lot #: STD74525
 Sample ID: WG568497-02 LCS File ID: I1_051116-06 Run Date: 05/11/2016 19:19
 Sample ID: WG568497-03 LCS2 File ID: I1_051116-09 Run Date: 05/11/2016 20:12

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Chloride	8.00	7.90	98.8	8.00	7.95	99.3	0.568	90 - 110	20	
Nitrate	5.42	5.25	96.9	5.42	5.29	97.7	0.816	90 - 110	20	
Nitrite	4.87	4.77	97.8	4.87	4.80	98.5	0.732	90 - 110	20	
Sulfate	40.0	39.3	98.3	40.0	39.7	99.3	1.04	90 - 110	20	

LCS_LCS2 - Modified 03/06/2008
 PDF File ID: 4760047
 Report generated: 05/13/2016 10:41



Login Number: L16050571
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: 4760048
Report generated 05/13/2016 10:41



Login Number: L16050571
 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: 4760048
 Report generated 05/13/2016 10:41



Login Number: L16050571
 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	1.073000000	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	2.513000000	7.959	5.00	0.588000000	8.503	1.00	0.103000000	9.709

INT_CAL - Modified 03/06/2008
 PDF File ID: 4760048
 Report generated 05/13/2016 10:41



Login Number: L16050571 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: L16050571 Run Date: 05/11/2016 Sample ID: WG568540-02
 Instrument ID: IC1 Run Time: 18:44 Method: 9056
 File ID: I1 051116-04 Analyst: AED Units: mg/L
 Workgroup (AAB#): WG568497 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: 4760051
 Report generated 05/13/2016 10:41



Login Number: L16050571 Run Date: 05/11/2016 Sample ID: WG568540-04
 Instrument ID: IC1 Run Time: 22:16 Method: 9056
 File ID: I1 051116-16 Analyst: AED Units: mg/L
 Workgroup (AAB#): WG568497 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: 4760051
 Report generated 05/13/2016 10:41



Login Number: L16050571 Run Date: 05/12/2016 Sample ID: WG568540-06
Instrument ID: IC1 Run Time: 01:49 Method: 9056
File ID: I1 051116-28 Analyst: AED Units: mg/L
Workgroup (AAB#): WG568497 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: 4760051
Report generated 05/13/2016 10:41



Login Number: L16050571 Run Date: 05/12/2016 Sample ID: WG568540-08
 Instrument ID: IC1 Run Time: 03:53 Method: 9056
 File ID: I1 051116-35 Analyst: AED Units: mg/L
 Workgroup (AAB#): WG568497 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: 4760051
 Report generated 05/13/2016 10:41



Login Number: L16050571 Run Date: 05/11/2016 Sample ID: WG568540-01
 Instrument ID: IC1 Run Time: 18:26 Method: 9056
 File ID: I1 051116-03 Analyst: AED QC Key: DOD4
 Workgroup (AAB#): WG568497 Cal ID: IC1 - 29-APR-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Chloride	8.00	7.91	mg/L	6.10	1.08	10	
Nitrate	5.42	5.23	mg/L	2.46	3.48	10	
Nitrite	4.87	4.72	mg/L	3.03	3.13	10	
Sulfate	40.0	39.1	mg/L	7.63	2.17	10	

* Exceeds %D Criteria



Login Number: L16050571 Run Date: 05/11/2016 Sample ID: WG568540-03
 Instrument ID: IC1 Run Time: 21:58 Method: 9056
 File ID: I1 051116-15 Analyst: AED QC Key: DOD4
 Workgroup (AAB#): WG568497 Cal ID: IC1 - 29-APR-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Chloride	8.00	8.03	mg/L	6.01	0.350	10	
Nitrate	5.42	5.32	mg/L	2.42	1.86	10	
Nitrite	4.87	4.81	mg/L	2.97	1.20	10	
Sulfate	40.0	40.1	mg/L	7.44	0.228	10	

* Exceeds %D Criteria



Login Number: L16050571 Run Date: 05/12/2016 Sample ID: WG568540-05
 Instrument ID: IC1 Run Time: 01:31 Method: 9056
 File ID: I1 051116-27 Analyst: AED QC Key: DOD4
 Workgroup (AAB#): WG568497 Cal ID: IC1 - 29-APR-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Chloride	8.00	8.08	mg/L	5.97	0.975	10	
Nitrate	5.42	5.35	mg/L	2.41	1.39	10	
Nitrite	4.87	4.83	mg/L	2.96	0.788	10	
Sulfate	40.0	40.3	mg/L	7.41	0.643	10	

* Exceeds %D Criteria



Login Number: L16050571 Run Date: 05/12/2016 Sample ID: WG568540-07
 Instrument ID: IC1 Run Time: 03:35 Method: 9056
 File ID: I1 051116-34 Analyst: AED QC Key: DOD4
 Workgroup (AAB#): WG568497 Cal ID: IC1 - 29-APR-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Chloride	8.00	8.11	mg/L	5.95	1.34	10	
Nitrate	5.42	5.38	mg/L	2.40	0.860	10	
Nitrite	4.87	4.90	mg/L	2.92	0.484	10	
Sulfate	40.0	40.2	mg/L	7.42	0.483	10	

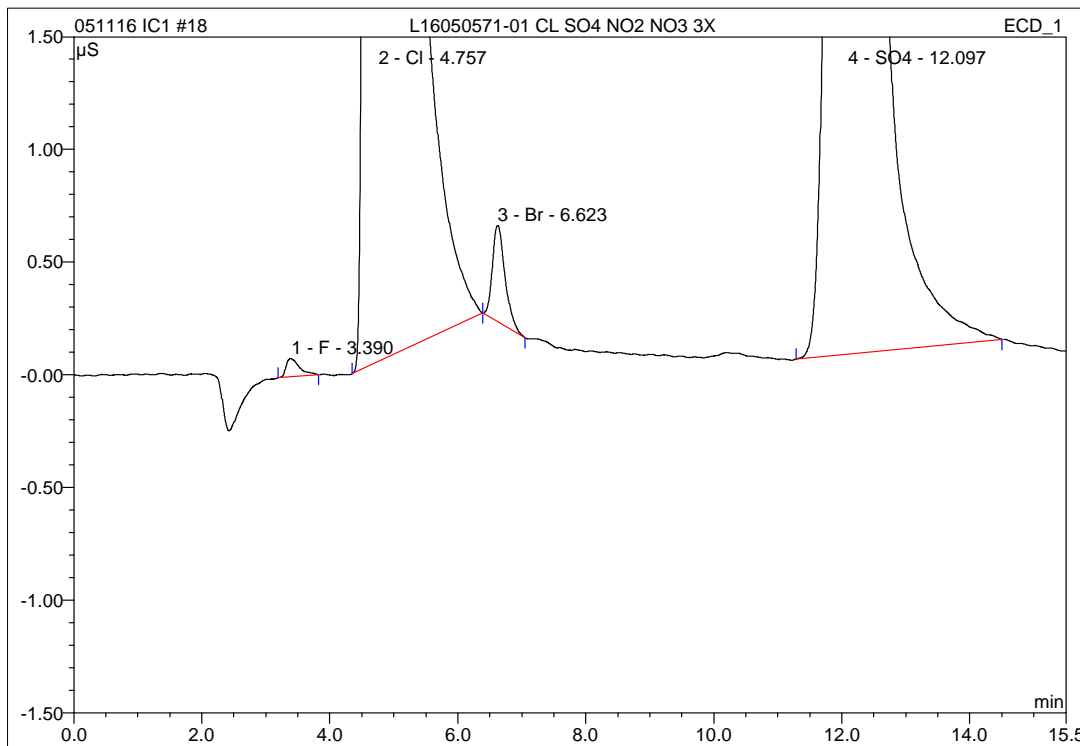
* Exceeds %D Criteria



2.4.1.3 Sample Data

18 L16050571-01 CL SO4 NO2 NO3 3X**1,3 AED**

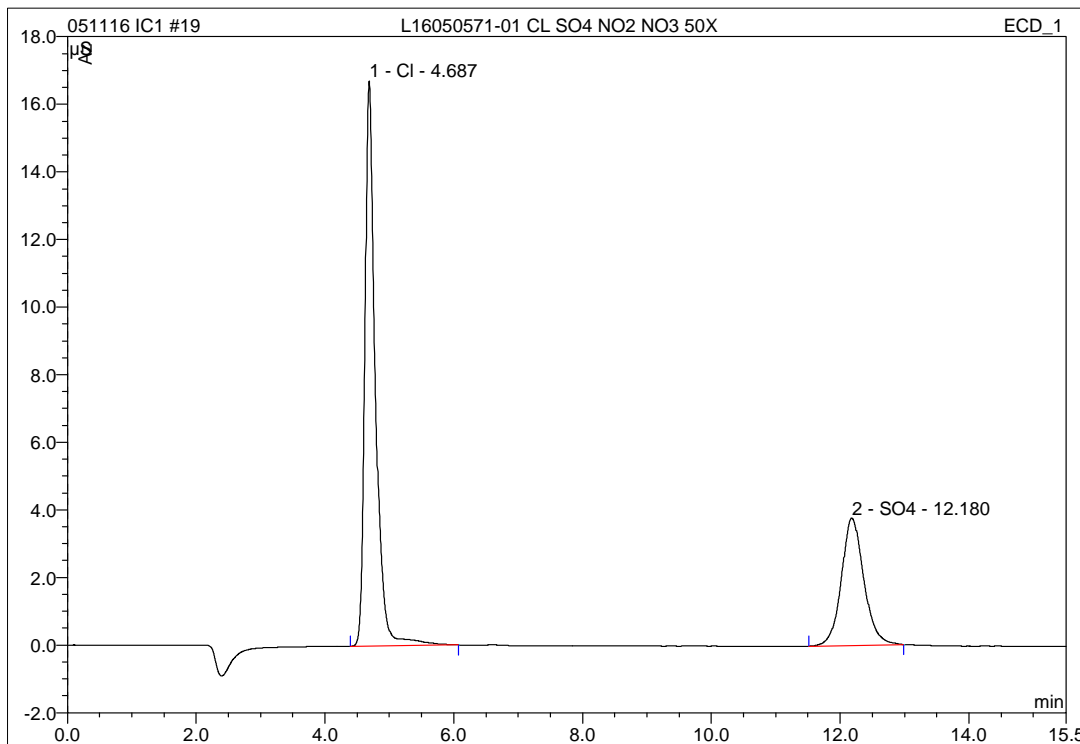
Sample Name:	L16050571-01 CL SO4 NO2 NO3 3X	Injection Volume:	20.0
Vial Number:	18	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	042916_9056	Dilution Factor:	1.0000
Recording Time:	5/11/2016 22:52	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount mg/L	Type
1	3.39	F	0.081	0.020	0.02	0.143	BMB
2	4.76	Cl	333.870	74.468	68.05	448.576	BMb
3	6.62	Br	0.428	0.098	0.09	1.533	bMB
4	12.10	SO4	89.960	34.847	31.84	258.563	BMB
Total:			424.339	109.432	100.00	708.814	

19 L16050571-01 CL SO4 NO2 NO3 50X**1,50 AED**

Sample Name:	L16050571-01 CL SO4 NO2 NO3 50X	Injection Volume:	20.0
Vial Number:	19	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:	5/11/2016 23:09	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000



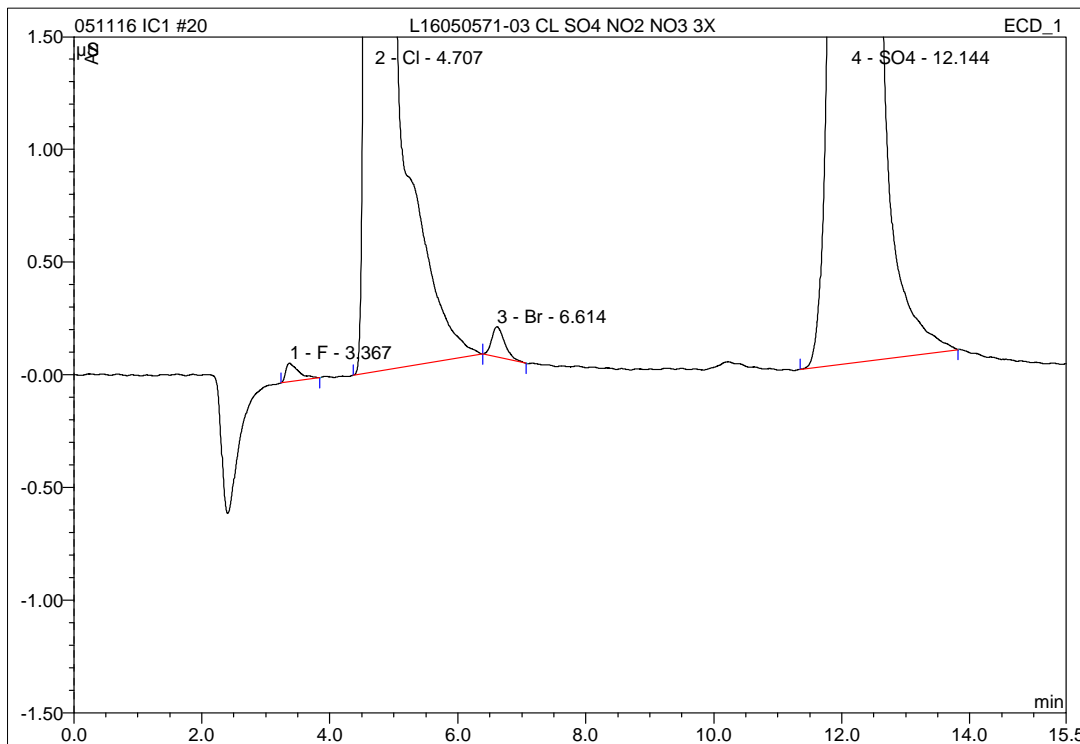
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount mg/L	Type
1	4.69	Cl	16.729	3.173	67.58	19.127	BMB
2	12.18	SO4	3.768	1.523	32.42	11.536	BMB
Total:			20.497	4.696	100.00	30.663	

IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

20 L16050571-03 CL SO4 NO2 NO3 3X**1,3 AED**

Sample Name:	L16050571-03 CL SO4 NO2 NO3 3X	Injection Volume:	20.0
Vial Number:	20	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:	5/11/2016 23:27	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000



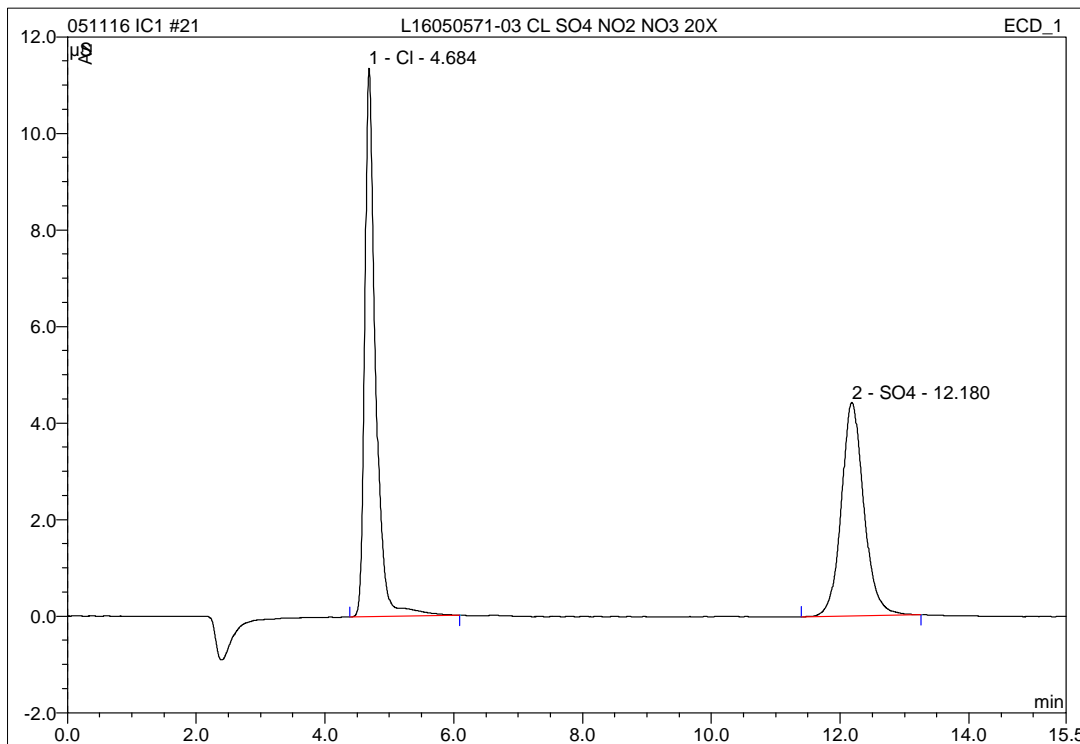
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount mg/L	Type
1	3.37	F	0.083	0.019	0.06	0.142	BMB
2	4.71	Cl	99.990	19.388	56.39	116.797	BMb
3	6.61	Br	0.135	0.032	0.09	0.509	bMB
4	12.14	SO4	38.993	14.941	43.46	111.001	BMB
Total:			139.200	34.380	100.00	228.448	

IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

21 L16050571-03 CL SO4 NO2 NO3 20X**1,20 AED**

Sample Name:	L16050571-03 CL SO4 NO2 NO3 20X	Injection Volume:	20.0
Vial Number:	21	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:	5/11/2016 23:45	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000



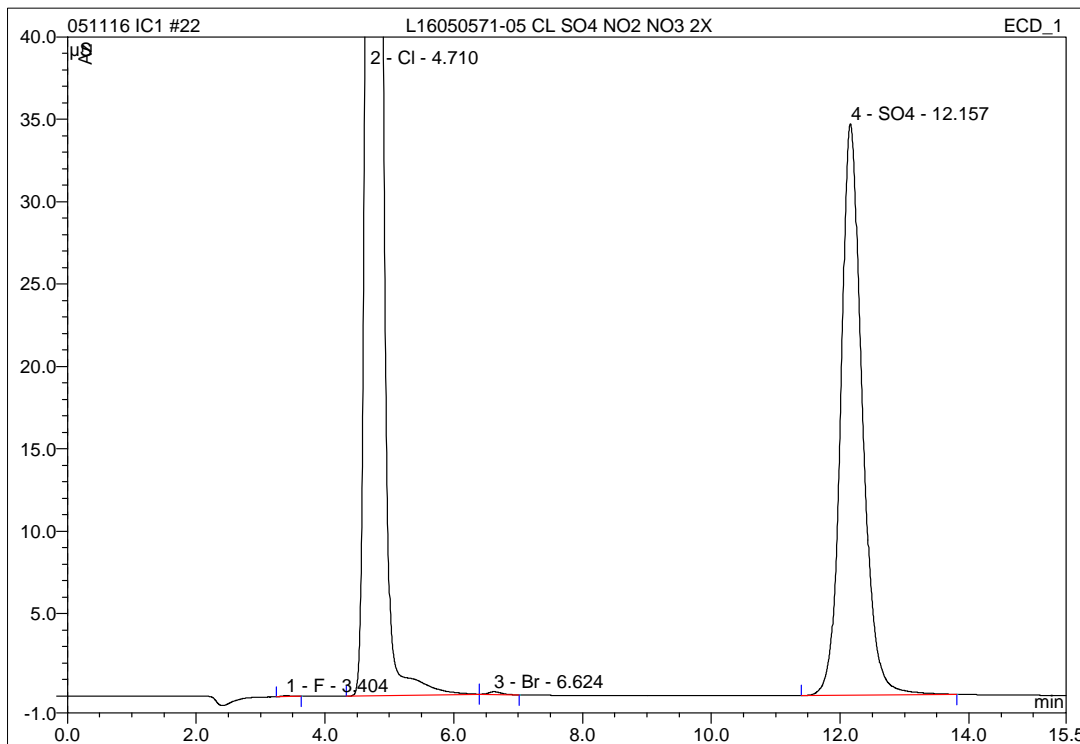
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount mg/L	Type
1	4.68	Cl	11.358	2.213	55.12	13.341	BMB
2	12.18	SO4	4.424	1.802	44.88	13.604	BMB
Total:			15.781	4.014	100.00	26.945	

IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

22 L16050571-05 CL SO4 NO2 NO3 2X**1,2 AED**

Sample Name:	L16050571-05 CL SO4 NO2 NO3 2X	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:	5/12/2016 0:02	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000



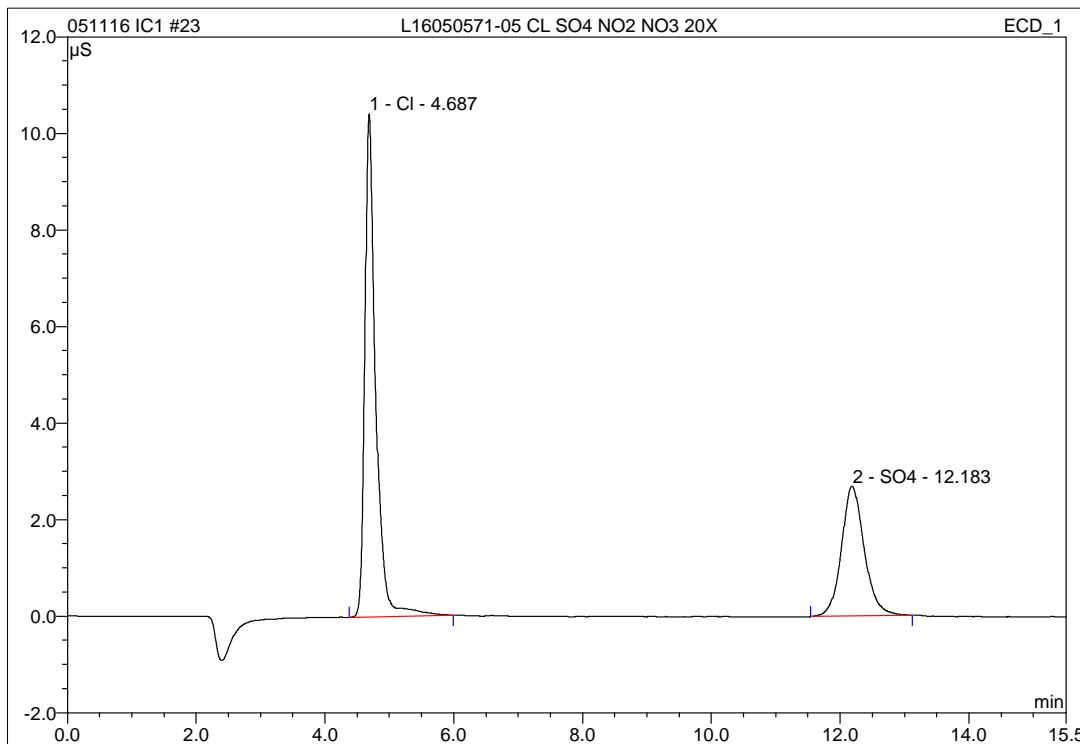
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.40	F	0.052	0.010	0.03	0.104	BMB
2	4.71	Cl	105.872	26.631	66.47	160.426	BMb
3	6.62	Br	0.172	0.040	0.10	0.633	bMB
4	12.16	SO4	34.679	13.381	33.40	99.437	BMB
Total:			140.776	40.062	100.00	260.600	

IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

23 L16050571-05 CL SO4 NO2 NO3 20X**1,20 AED**

Sample Name:	L16050571-05 CL SO4 NO2 NO3 20X	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:	5/12/2016 0:20	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000



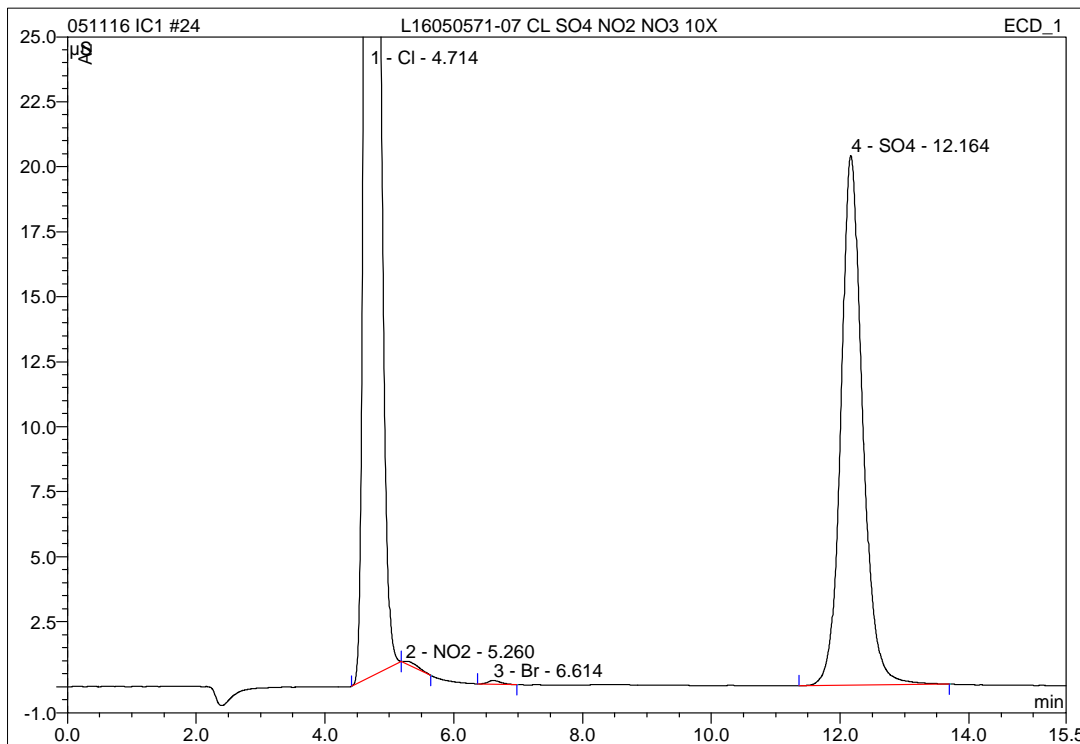
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount mg/L	Type
1	4.69	Cl	10.418	2.038	64.75	12.286	BMB
2	12.18	SO4	2.694	1.109	35.25	8.473	BMB
Total:			13.112	3.147	100.00	20.759	

IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

24 L16050571-07 CL SO4 NO2 NO3 10X**1,10 AED**

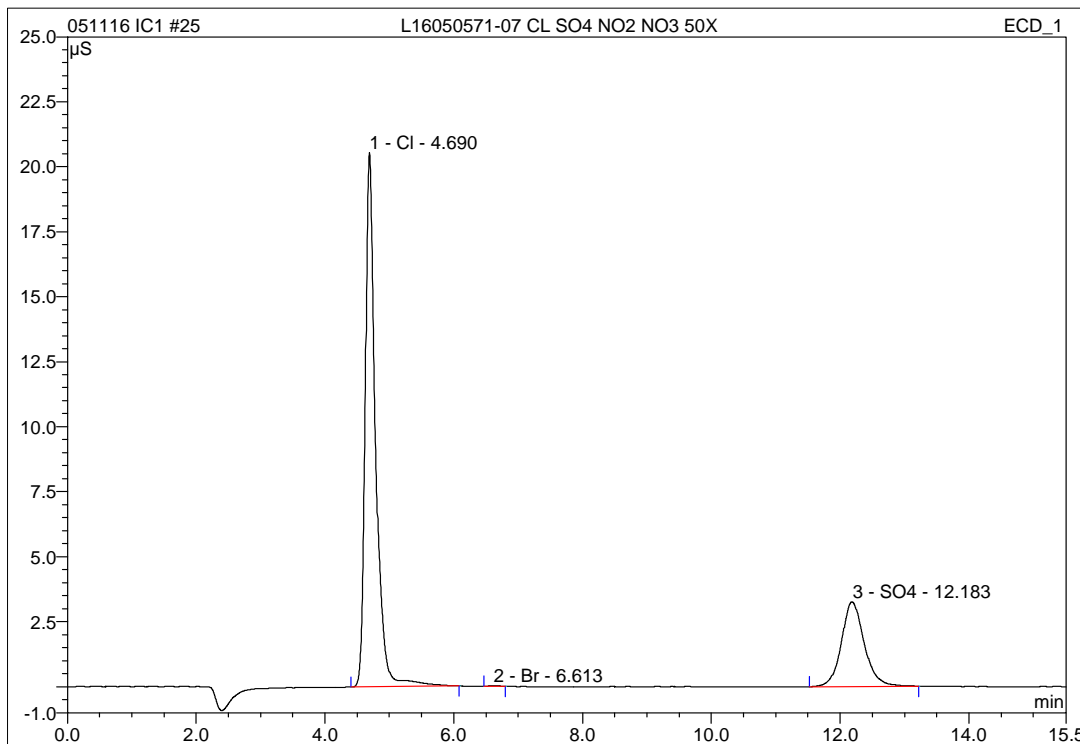
Sample Name:	L16050571-07 CL SO4 NO2 NO3 10X	Injection Volume:	20.0
Vial Number:	24	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	042916_9056	Dilution Factor:	1.0000
Recording Time:	5/12/2016 0:38	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	4.71	Cl	138.248	24.335	75.21	146.595	BMb
2	5.26	NO2	0.090	0.033	0.10	0.102	bMB
3	6.61	Br	0.147	0.034	0.10	0.538	BMB
4	12.16	SO4	20.380	7.953	24.58	59.204	BMB
Total:			158.865	32.355	100.00	206.438	

25 L16050571-07 CL SO4 NO2 NO3 50X**1,50 AED**

Sample Name:	L16050571-07 CL SO4 NO2 NO3 50X	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:	5/12/2016 0:56	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000



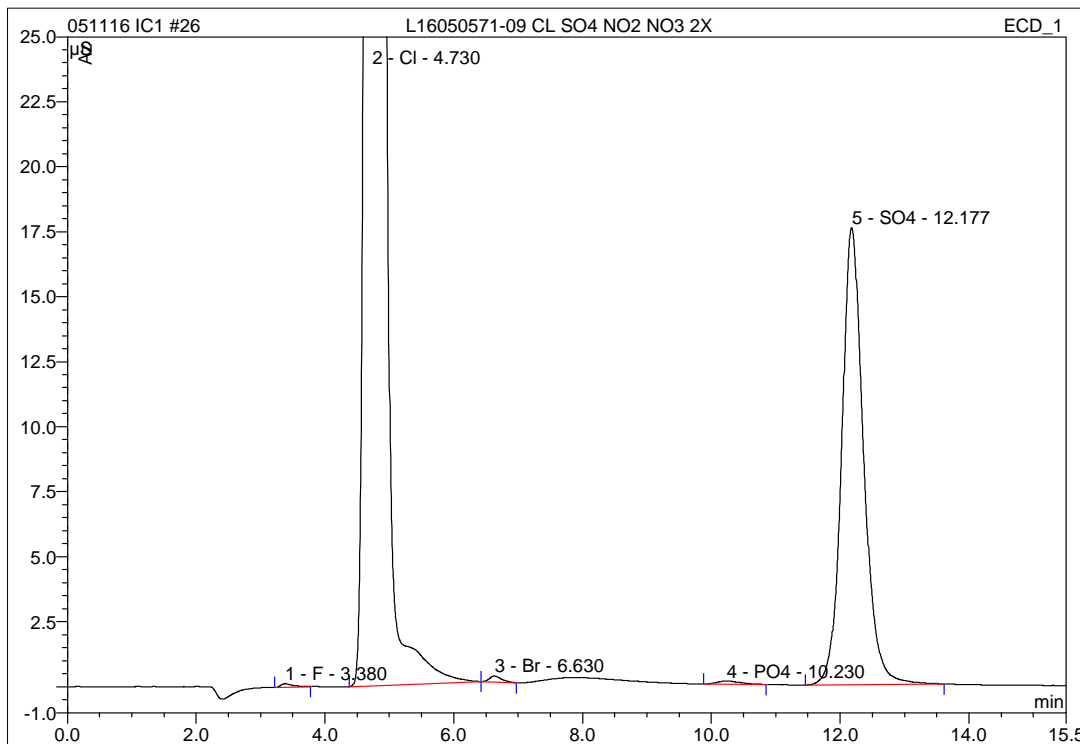
No.	Ret.Time min	Peak Name	Height μS	Area $\mu\text{S}\cdot\text{min}$	Rel.Area %	Amount mg/L	Type
1	4.69	Cl	20.551	3.858	74.20	23.251	BMB
2	6.61	Br	0.027	0.004	0.08	0.075	BMB
3	12.18	SO4	3.263	1.337	25.72	10.161	BMB
Total:			23.841	5.199	100.00	33.488	

IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

26 L16050571-09 CL SO4 NO2 NO3 2X**1,2 AED**

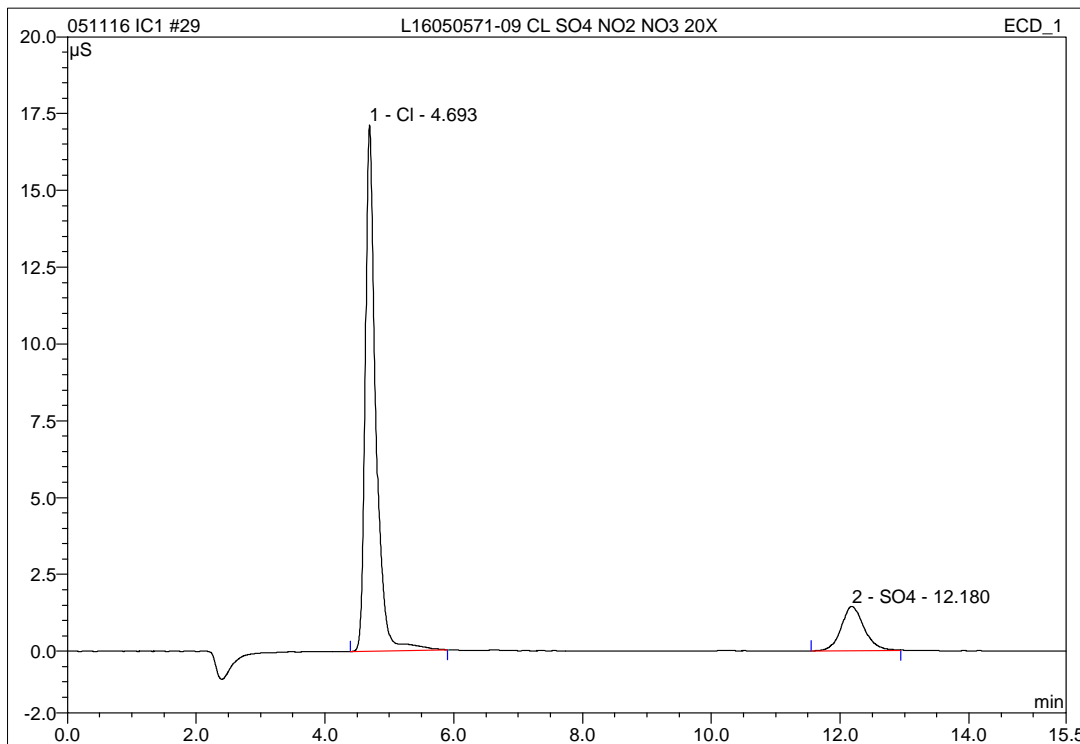
Sample Name:	L16050571-09 CL SO4 NO2 NO3 2X	Injection Volume:	20.0
Vial Number:	26	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	042916_9056	Dilution Factor:	1.0000
Recording Time:	5/12/2016 1:13	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.38	F	0.136	0.029	0.06	0.183	BMB
2	4.73	Cl	189.051	44.030	86.20	265.231	BMb
3	6.63	Br	0.230	0.050	0.10	0.796	bMB
4	10.23	PO4	0.127	0.054	0.10	n.a.	BMB
5	12.18	SO4	17.579	6.915	13.54	51.509	BMB
Total:			207.124	51.078	100.00	317.719	

29 L16050571-09 CL SO4 NO2 NO3 20X**1,20 AED**

Sample Name:	L16050571-09 CL SO4 NO2 NO3 20X	Injection Volume:	20.0
Vial Number:	19	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:	5/12/2016 2:06	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000



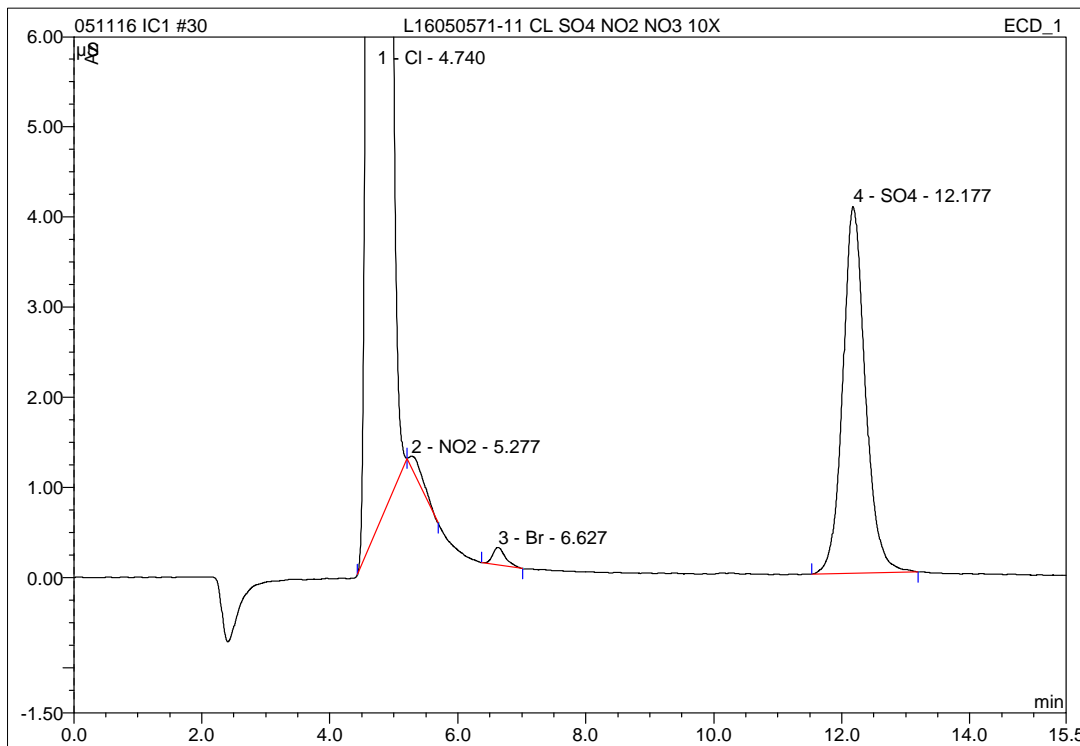
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount mg/L	Type
1	4.69	Cl	17.122	3.250	84.57	19.588	BMB
2	12.18	SO4	1.443	0.593	15.43	4.646	BMB
Total:			18.565	3.843	100.00	24.233	

IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

30 L16050571-11 CL SO4 NO2 NO3 10X**1,10 AED**

Sample Name:	L16050571-11 CL SO4 NO2 NO3 10X	Injection Volume:	20.0
Vial Number:	20	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:	5/12/2016 2:24	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000



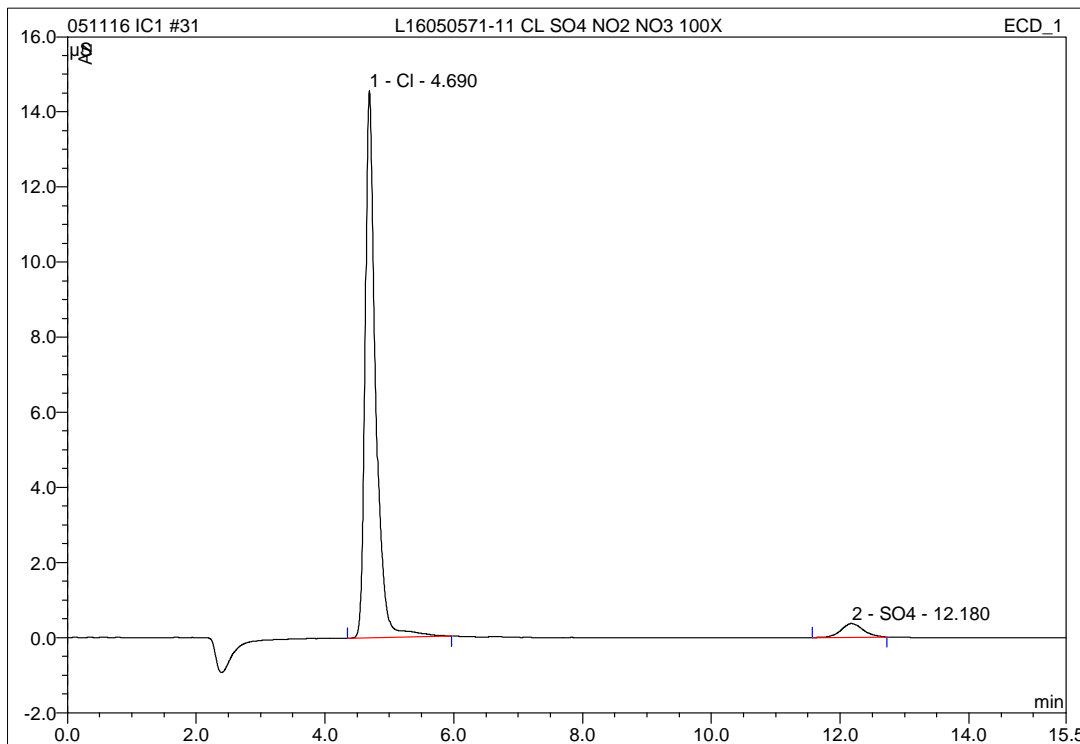
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	4.74	Cl	209.272	36.906	95.46	222.320	BMB
2	5.28	NO2	0.132	0.047	0.12	0.144	bMB
3	6.63	Br	0.194	0.045	0.12	0.711	BMB
4	12.18	SO4	4.068	1.662	4.30	12.566	BMB
Total:			213.666	38.660	100.00	235.741	

IC/Integration

Chromleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

31 L16050571-11 CL SO4 NO2 NO3 100X**1,100 AED**

Sample Name:	L16050571-11 CL SO4 NO2 NO3 100X	Injection Volume:	20.0
Vial Number:	21	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:	5/12/2016 2:42	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	14.571	2.769	94.94	16.693	BMB
2	12.18	SO4	0.369	0.148	5.06	1.344	BMB
Total:			14.940	2.917	100.00	18.037	

IC/Integration

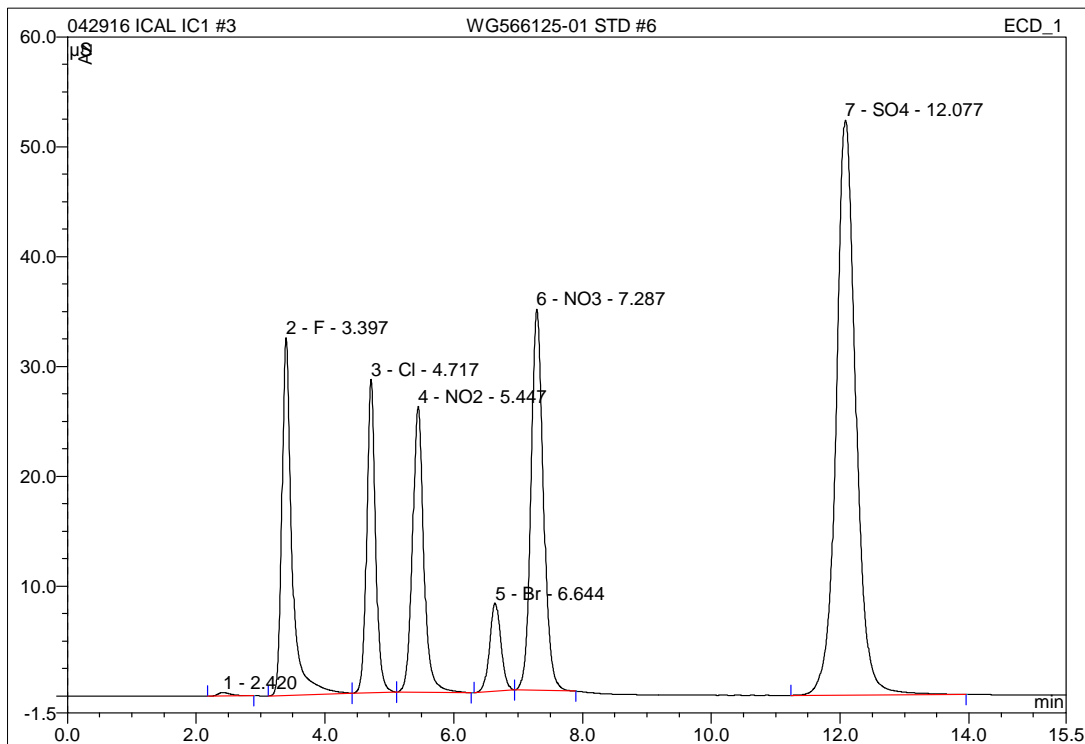
Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

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



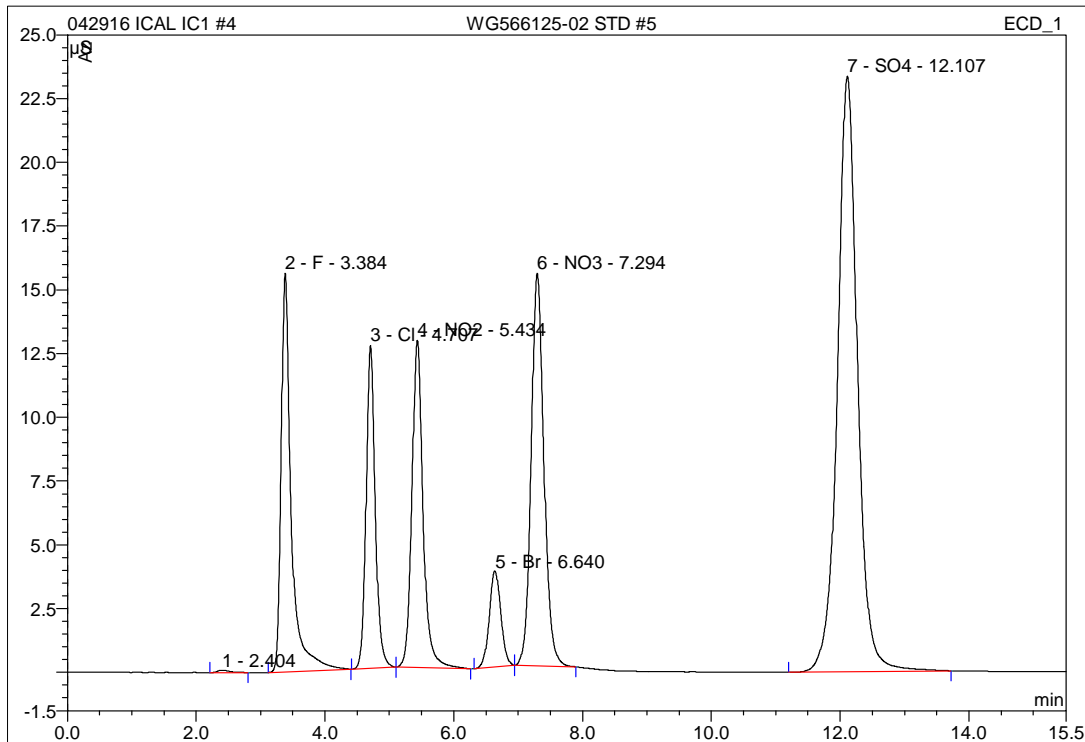
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	2.42	n.a.	0.310	0.075	0.17	n.a.	BMB
2	3.40	F	32.557	5.876	13.48	25.460	BMB
3	4.72	Cl	28.514	4.503	10.33	27.139	BMB
4	5.45	NO2	25.992	5.305	12.17	15.546	BMB
5	6.64	Br	8.014	1.633	3.75	25.377	BMB
6	7.29	NO3	34.689	7.727	17.73	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

Chromeleon (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



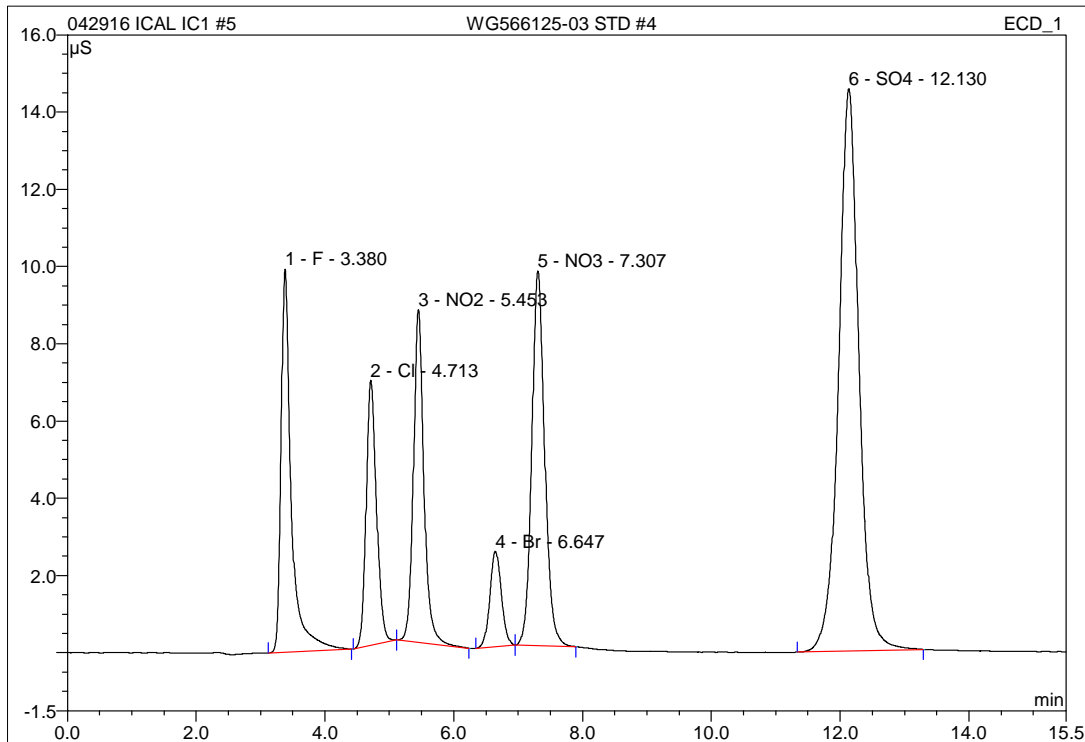
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	2.40	n.a.	0.095	0.021	0.10	n.a.	BMB
2	3.38	F	15.633	2.819	13.92	12.246	BMB
3	4.71	Cl	12.654	2.076	10.25	12.517	BMB
4	5.43	NO2	12.825	2.578	12.73	7.556	bMB
5	6.64	Br	3.769	0.782	3.86	12.163	BMB
6	7.29	NO3	15.394	3.532	17.44	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



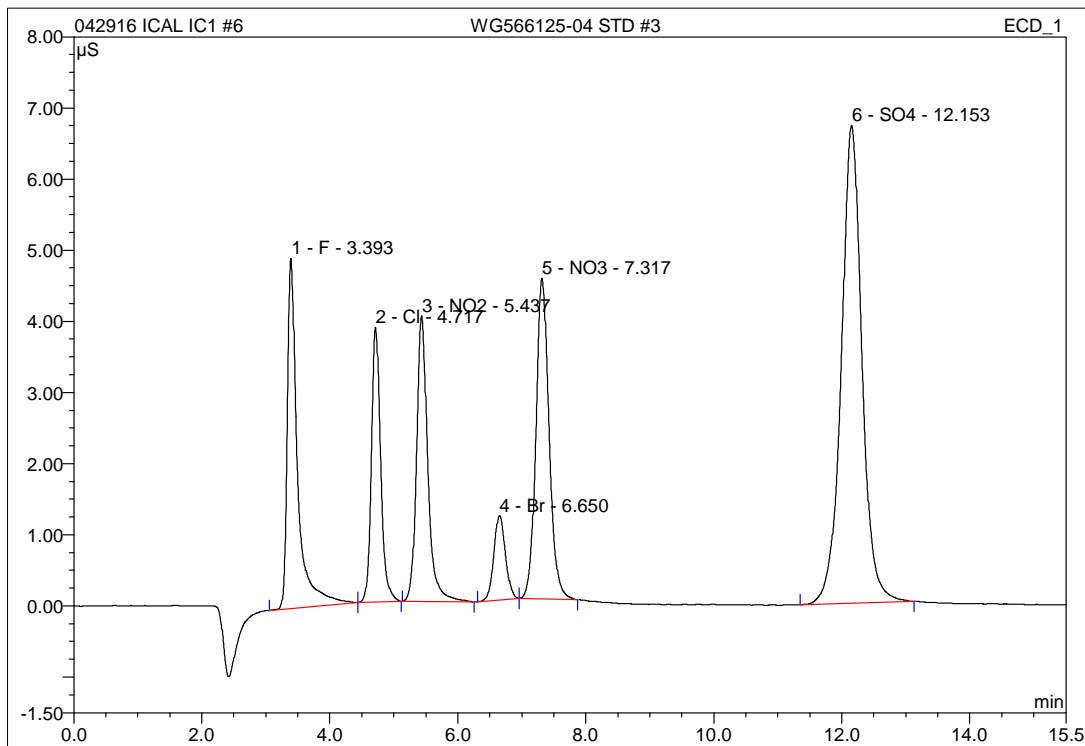
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.38	F	9.920	1.826	14.25	7.953	BMB
2	4.71	Cl	6.863	1.275	9.95	7.695	BMb
3	5.45	NO2	8.623	1.632	12.73	4.785	bMB
4	6.65	Br	2.469	0.513	4.00	7.974	BMB
5	7.31	NO3	9.699	2.255	17.59	5.358	bMB
6	12.13	SO4	14.564	5.319	41.49	39.676	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



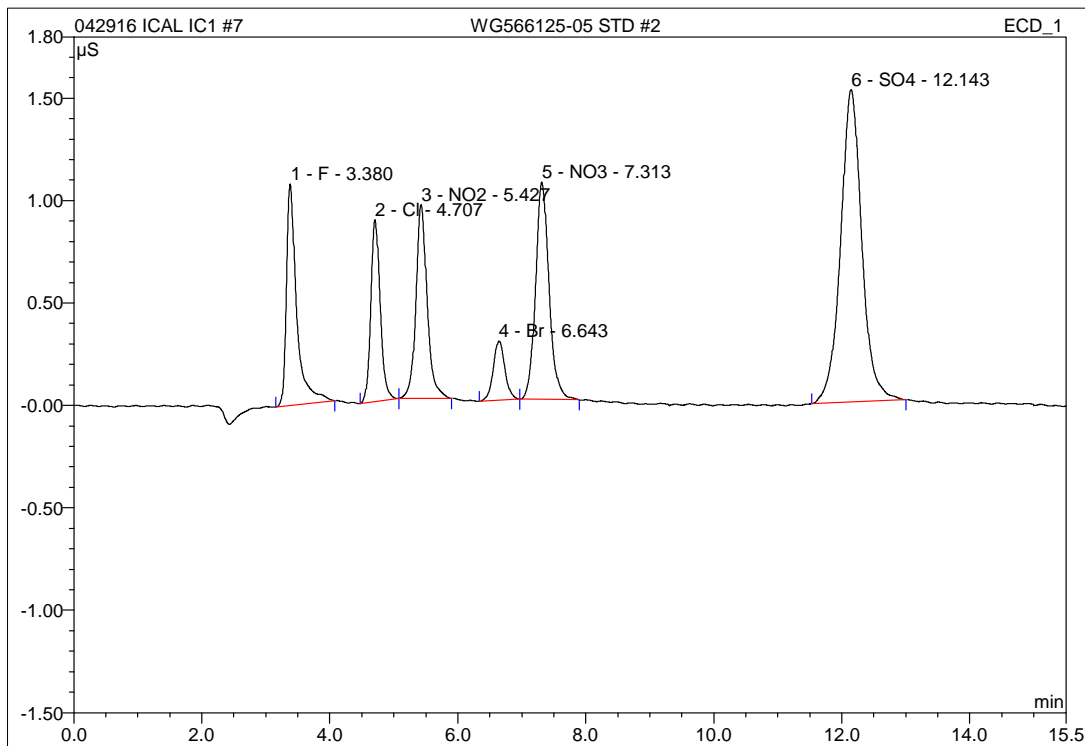
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.39	F	4.918	0.916	14.74	4.017	BMB
2	4.72	Cl	3.858	0.644	10.37	3.892	bMB
3	5.44	NO2	4.013	0.817	13.15	2.398	BMB
4	6.65	Br	1.186	0.249	4.00	3.875	BMB
5	7.32	NO3	4.506	1.073	17.28	2.563	bMB
6	12.15	SO4	6.714	2.513	40.45	18.874	BMB
Total:			25.194	6.211	100.00	35.619	

IC/Integration

Chromeleon (c) Dionex 1996-2001
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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



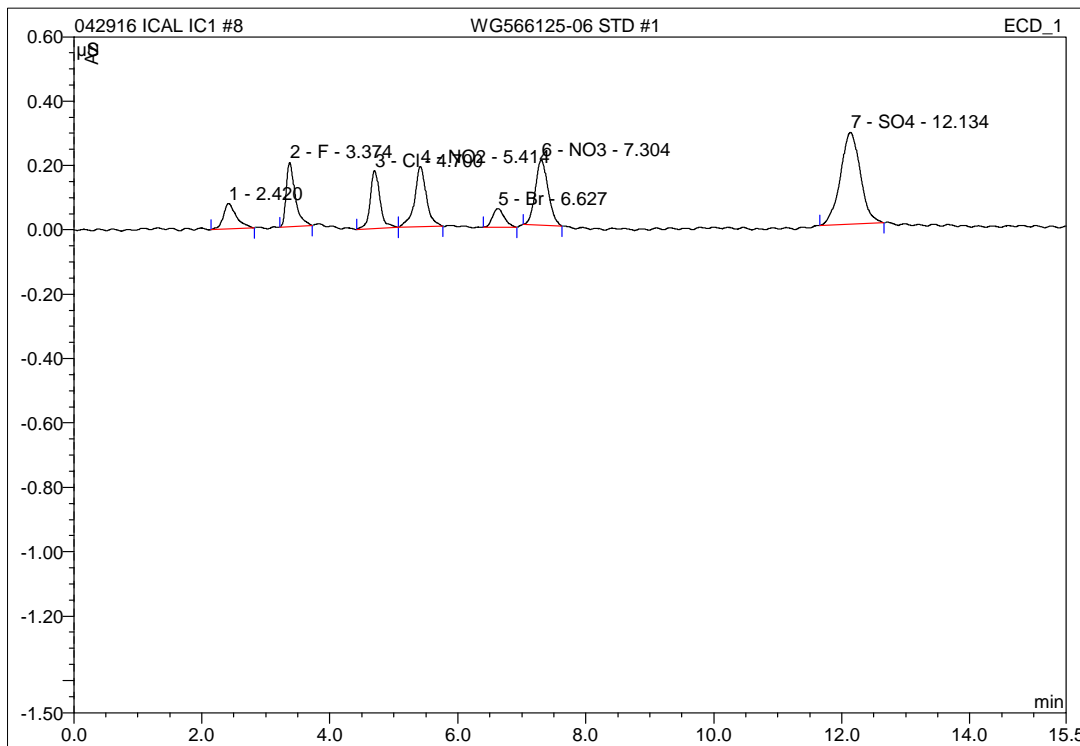
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.38	F	1.083	0.202	13.87	0.932	BMB
2	4.71	Cl	0.887	0.151	10.39	0.924	BMB
3	5.43	NO2	0.947	0.194	13.32	0.573	BMB
4	6.64	Br	0.290	0.061	4.22	0.967	BMB
5	7.31	NO3	1.059	0.260	17.83	0.639	BMB
6	12.14	SO4	1.525	0.588	40.38	4.609	BMB
Total:			5.793	1.457	100.00	8.644	

IC/Integration

Chromleon (c) Dionex 1996-2001
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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



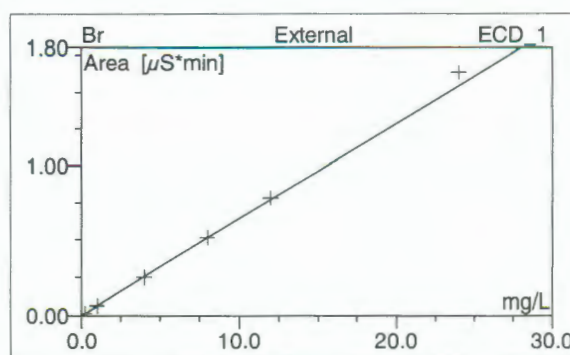
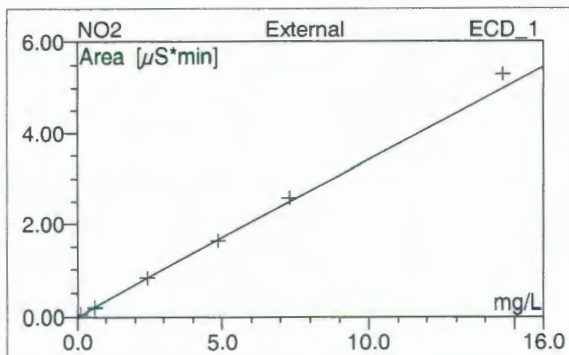
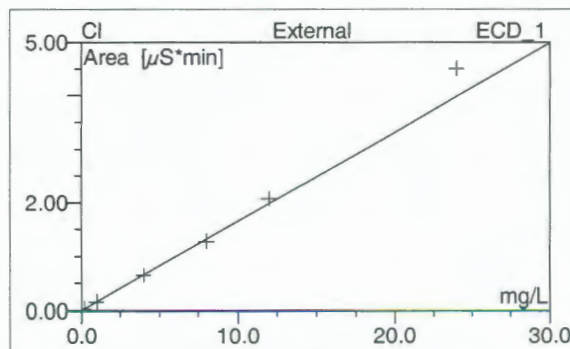
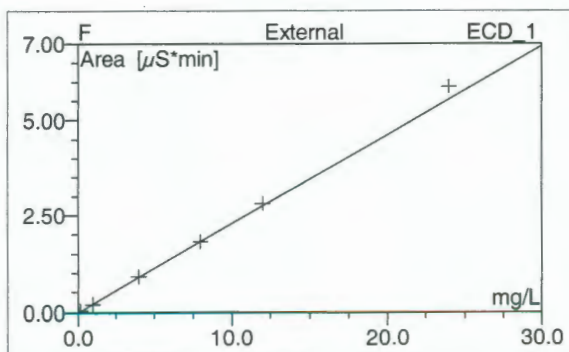
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	2.42	n.a.	0.080	0.019	6.56	n.a.	BMB
2	3.37	F	0.199	0.033	11.57	0.202	BMB
3	4.70	Cl	0.180	0.032	11.03	0.203	BMB
4	5.41	NO2	0.188	0.040	14.12	0.123	BMB
5	6.63	Br	0.058	0.012	4.25	0.201	BMB
6	7.30	NO3	0.203	0.047	16.53	0.137	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

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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

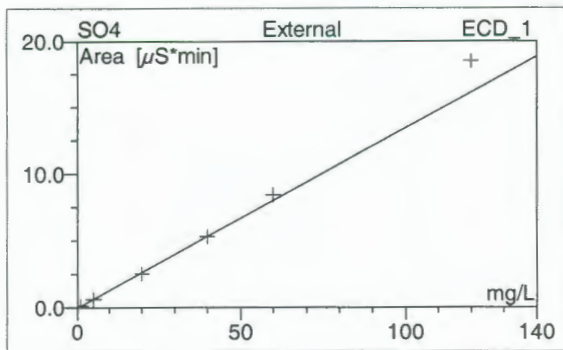
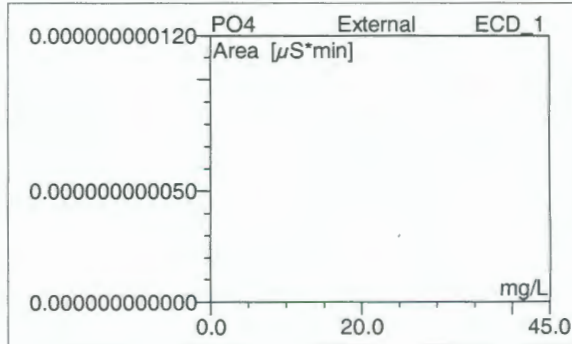
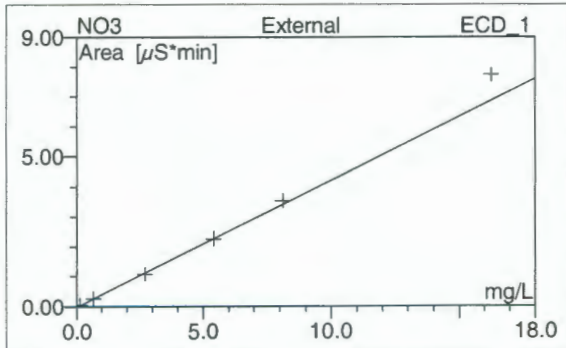


No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	2.42	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2	3.37	F	YYLOff	6	99.8889	-0.0135	0.2313	0.0000
3	4.70	Cl	YYLOff	6	99.7171	-0.0022	0.1660	0.0000
4	5.41	NO2	YYLOff	6	99.8923	-0.0017	0.3414	0.0000
5	6.63	Br	YYLOff	6	99.9382	-0.0008	0.0644	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
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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



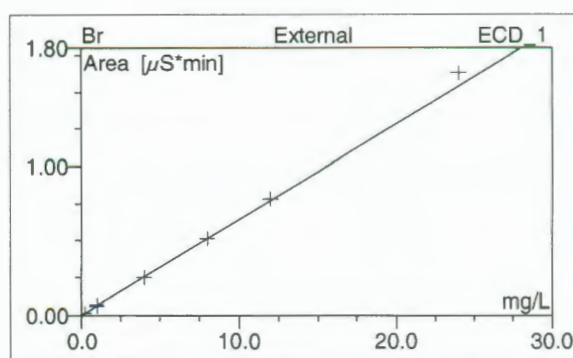
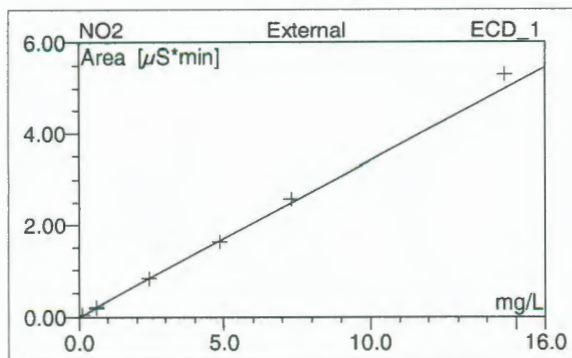
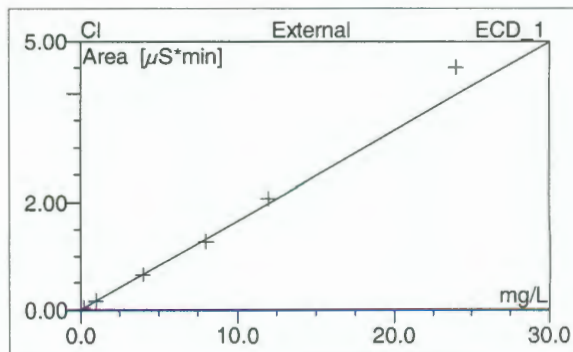
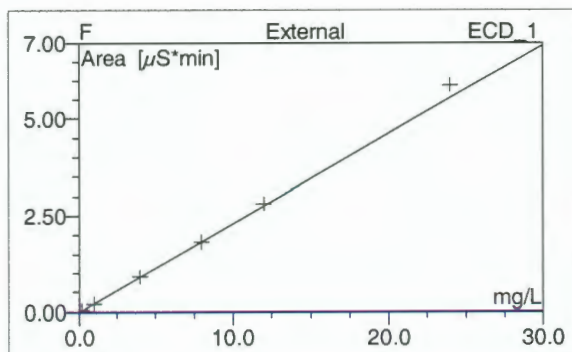
No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	2.42	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2	3.37	F	YYLOff	6	99.8889	-0.0135	0.2313	0.0000
3	4.70	Cl	YYLOff	6	99.7171	-0.0022	0.1660	0.0000
4	5.41	NO2	YYLOff	6	99.8923	-0.0017	0.3414	0.0000
5	6.63	Br	YYLOff	6	99.9382	-0.0008	0.0644	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

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

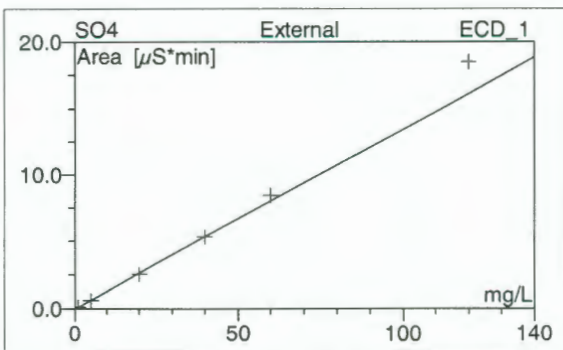
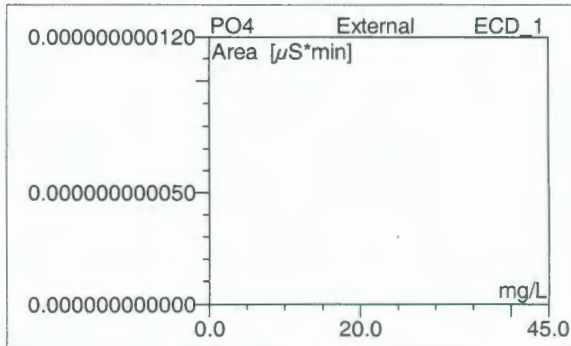
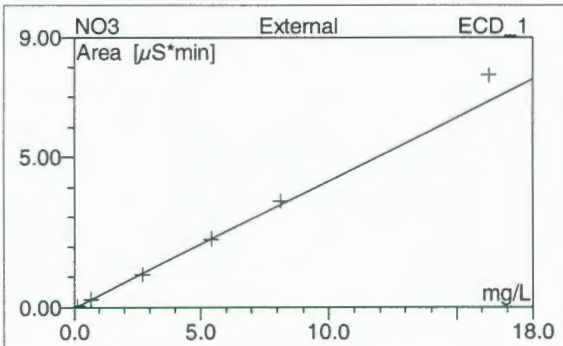


No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	2.42	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2	3.37	F	YYLOff	6	99.8889	-0.0135	0.2313	0.0000
3	4.70	Cl	YYLOff	6	99.7171	-0.0022	0.1660	0.0000
4	5.41	NO2	YYLOff	6	99.8923	-0.0017	0.3414	0.0000
5	6.63	Br	YYLOff	6	99.9382	-0.0008	0.0644	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
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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

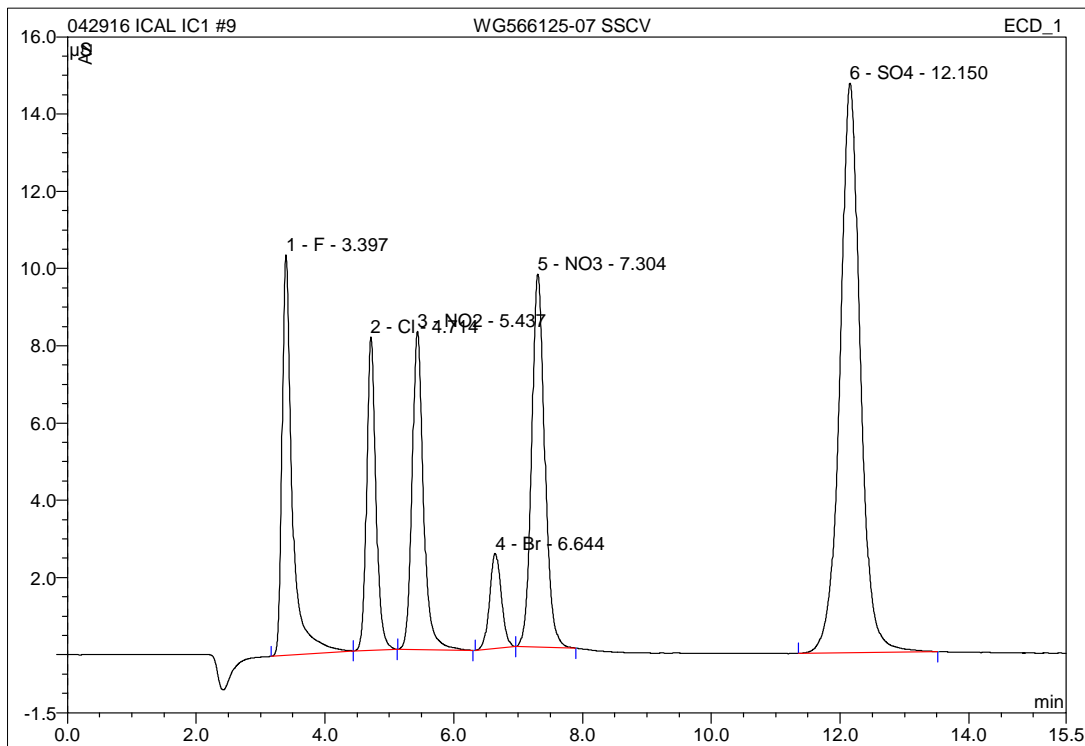
IC/Calibration(Batch)(2)

Chromleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

9 WG566125-07 SSCV**1,1 AED STD74524**

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

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 Version 6.80 SP1 Build 2238

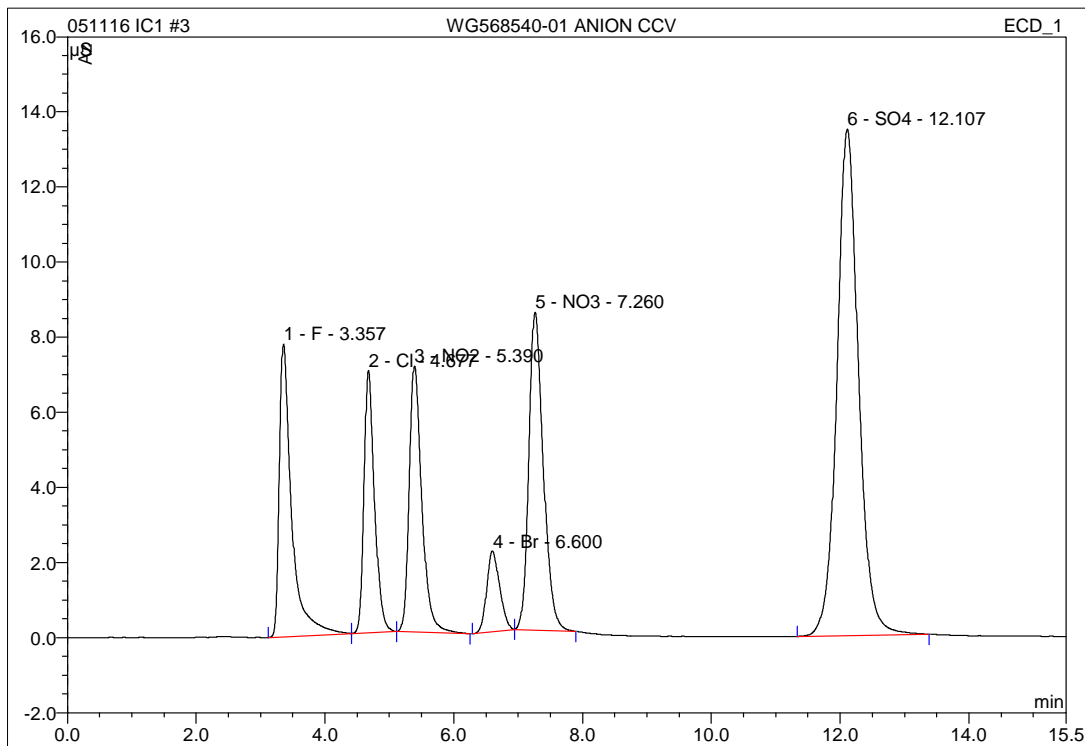
9 WG566125-07 SSCV**1,1 AED STD74524**

<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

3 WG568540-01 ANION CCV**1,1 AED STD74524**

Sample Name:	WG568540-01 ANION CCV	Injection Volume:	20.0
Vial Number:	3	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:	5/11/2016 18:26	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	3.36	F	7.790	1.721	13.67	7.498	BMB
2	4.68	Cl	6.988	1.312	10.42	7.914	BMB
3	5.39	NO2	7.083	1.609	12.78	4.719	bMB
4	6.60	Br	2.154	0.501	3.98	7.800	BMB
5	7.26	NO3	8.465	2.202	17.49	5.233	bMB
6	12.11	SO4	13.491	5.245	41.66	39.131	BMB
Total:			45.971	12.591	100.00	72.295	

IC/Integration

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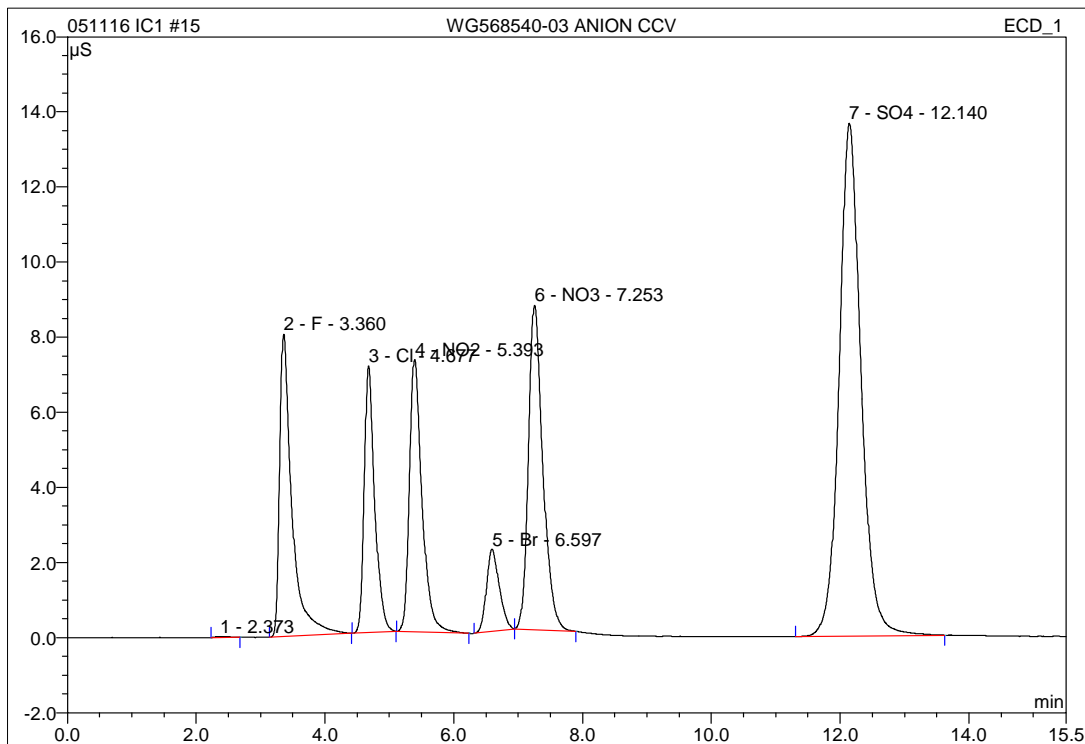
3 WG568540-01 ANION CCV**1,1 AED STD74524**

<i>Sample Name:</i>	WG568540-01 ANION CCV	<i>Injection Volume:</i>	20.0
<i>Vial Number:</i>	3	<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>	5/11/2016 18:26	<i>Sample Weight:</i>	1.0000
<i>Run Time (min):</i>	15.50	<i>Sample Amount:</i>	1.0000

	WG568540-01 ANION Actual mg/L	Recoverd mg/L	%Difference	
F	8.00	7.4976	-6.28	PASS
Cl	8.00	7.9144	-1.07	PASS
NO2-N	4.8714	4.7193	-3.12	PASS
Br	8.00	7.7997	-2.50	PASS
NO3-N	5.4216	5.2327	-3.48	PASS
PO4-P	13.0456	n.a.	#VALUE!	#VALUE!
SO4	40	39.1310	-2.17	PASS

15 WG568540-03 ANION CCV**1,1 AED STD74524**

Sample Name:	WG568540-03 ANION CCV	Injection Volume:	20.0
Vial Number:	15	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:	5/11/2016 21:58	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	2.37	n.a.	0.026	0.006	0.05	n.a.	BMB
2	3.36	F	8.061	1.777	13.80	7.740	BMB
3	4.68	Cl	7.103	1.331	10.34	8.028	BMB
4	5.39	NO2	7.250	1.641	12.75	4.813	BMB
5	6.60	Br	2.185	0.504	3.92	7.844	BMB
6	7.25	NO3	8.635	2.240	17.40	5.321	bMB
7	12.14	SO4	13.660	5.375	41.75	40.091	BMB
Total:			46.919	12.874	100.00	73.838	

IC/Integration

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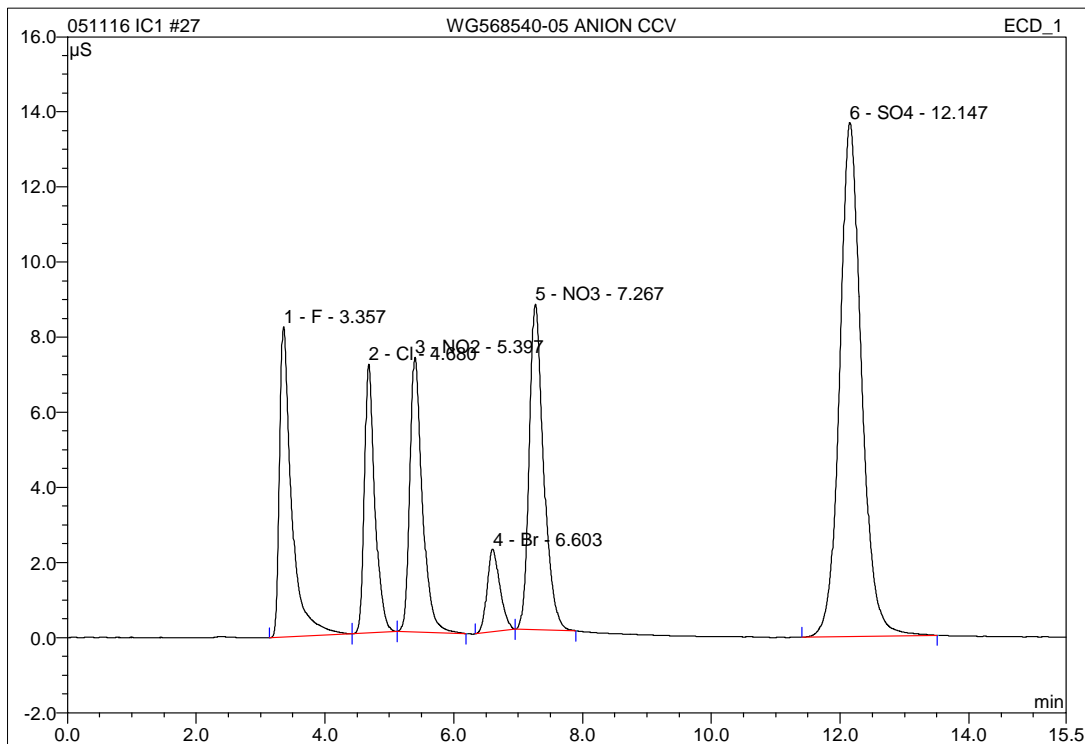
15 WG568540-03 ANION CCV**1,1 AED STD74524**

<i>Sample Name:</i>	WG568540-03 ANION CCV	<i>Injection Volume:</i>	20.0
<i>Vial Number:</i>	15	<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>	5/11/2016 21:58	<i>Sample Weight:</i>	1.0000
<i>Run Time (min):</i>	15.50	<i>Sample Amount:</i>	1.0000

	WG568540-03 ANIOI Actual mg/L	Recoverd mg/L	%Difference	
F	8.00	7.7399	-3.25	PASS
Cl	8.00	8.0280	0.35	PASS
NO2-N	4.8714	4.8133	-1.19	PASS
Br	8.00	7.8443	-1.95	PASS
NO3-N	5.4216	5.3214	-1.85	PASS
PO4-P	13.0456	n.a.	#VALUE!	#VALUE!
SO4	40	40.0914	0.23	PASS

27 WG568540-05 ANION CCV**1,1 AED STD74524**

Sample Name:	WG568540-05 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:	5/12/2016 1:31	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	3.36	F	8.265	1.800	13.91	7.841	BMB
2	4.68	Cl	7.150	1.339	10.35	8.078	BMb
3	5.40	NO2	7.310	1.648	12.73	4.833	bMB
4	6.60	Br	2.201	0.507	3.92	7.895	BMB
5	7.27	NO3	8.668	2.250	17.39	5.346	BMB
6	12.15	SO4	13.691	5.397	41.70	40.257	BMB
Total:			47.284	12.942	100.00	74.251	

IC/Integration

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Version 6.80 SP1 Build 2238

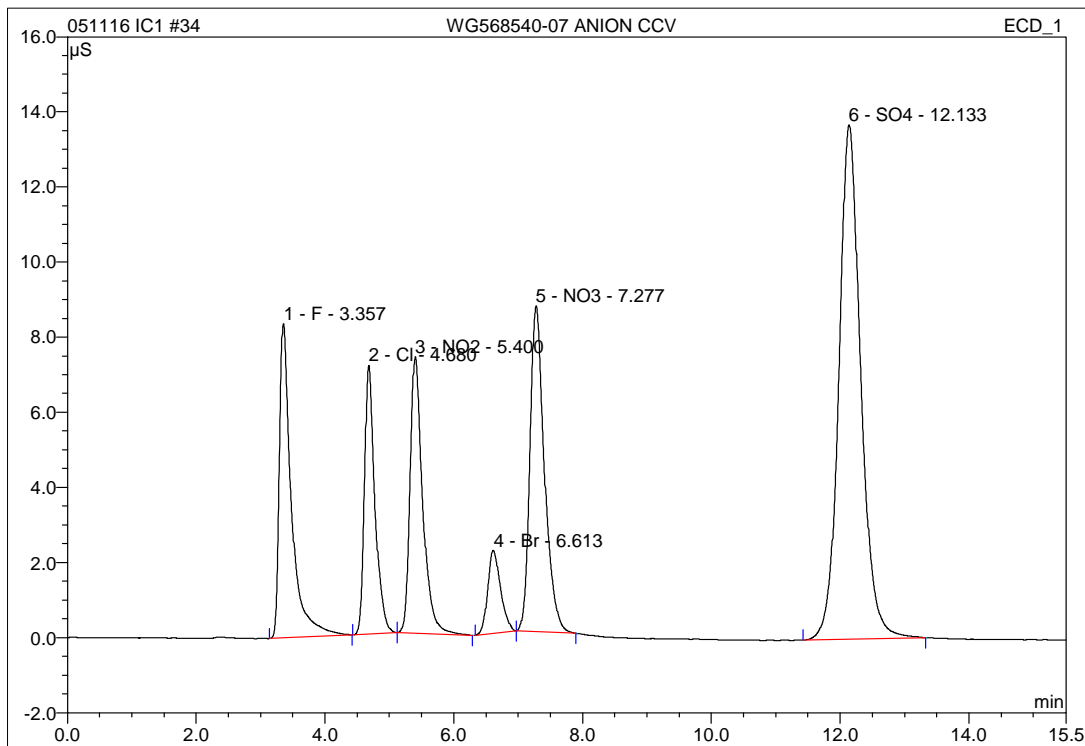
27 WG568540-05 ANION CCV**1,1 AED STD74524**

<i>Sample Name:</i>	WG568540-05 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>	5/12/2016 1:31	<i>Sample Weight:</i>	1.0000
<i>Run Time (min):</i>	15.50	<i>Sample Amount:</i>	1.0000

WG568540-05 ANION Actual mg/L	Recovered mg/L	%Difference	
F 8.00	7.8414	-1.98	PASS
Cl 8.00	8.0785	0.98	PASS
NO2-N 4.8714	4.8327	-0.79	PASS
Br 8.00	7.8948	-1.32	PASS
NO3-N 5.4216	5.3458	-1.40	PASS
PO4-P 13.0456	n.a.	#VALUE!	#VALUE!
SO4 40	40.2574	0.64	PASS

34 WG568540-07 ANION CCV**1,1 AED STD74524**

Sample Name:	WG568540-07 ANION CCV	Injection Volume:	20.0
Vial Number:	21	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:	5/12/2016 3:35	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	8.371	1.818	13.99	7.918	BMB
2	4.68	Cl	7.148	1.344	10.34	8.107	BMb
3	5.40	NO2	7.360	1.669	12.85	4.895	bMB
4	6.61	Br	2.218	0.513	3.95	7.982	BMb
5	7.28	NO3	8.682	2.263	17.41	5.375	bMB
6	12.13	SO4	13.693	5.388	41.46	40.193	BMB
Total:			47.473	12.996	100.00	74.471	

IC/Integration

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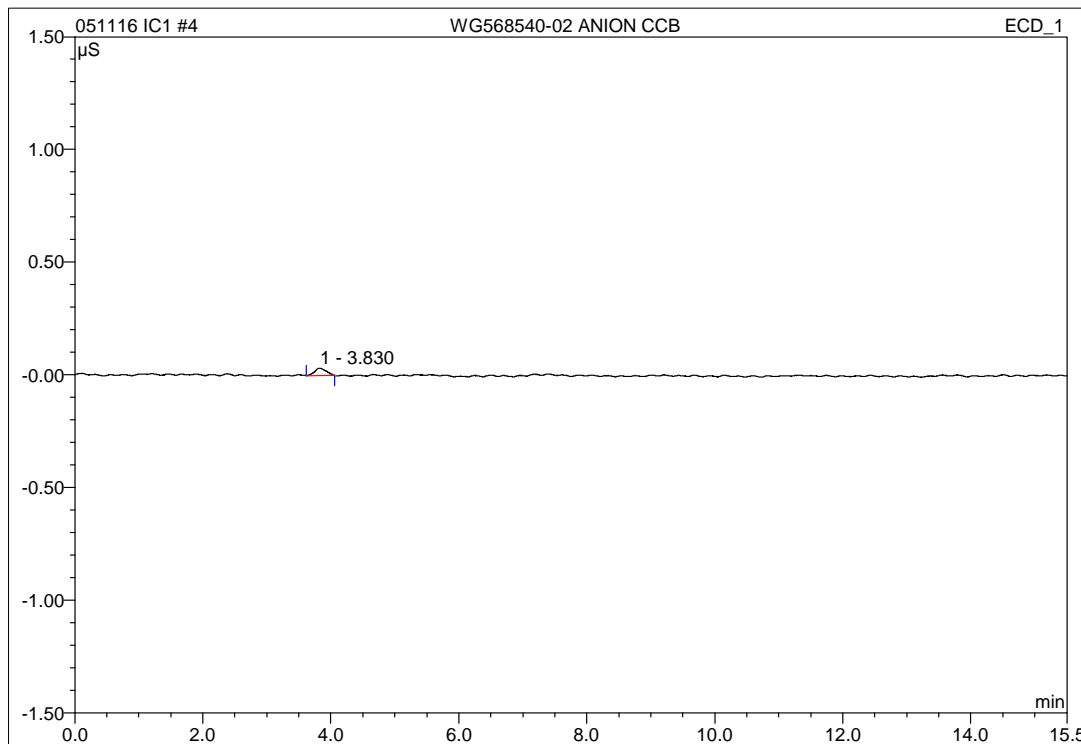
34 WG568540-07 ANION CCV**1,1 AED STD74524**

<i>Sample Name:</i>	WG568540-07 ANION CCV	<i>Injection Volume:</i>	20.0
<i>Vial Number:</i>	21	<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>	5/12/2016 3:35	<i>Sample Weight:</i>	1.0000
<i>Run Time (min):</i>	15.50	<i>Sample Amount:</i>	1.0000

WG568540-07 ANION Actual mg/L	Recoverd mg/L	%Difference	
F 8.00	7.9180	-1.02	PASS
Cl 8.00	8.1071	1.34	PASS
NO2-N 4.8714	4.8954	0.49	PASS
Br 8.00	7.9822	-0.22	PASS
NO3-N 5.4216	5.3754	-0.85	PASS
PO4-P 13.0456	n.a.	#VALUE!	#VALUE!
SO4 40	40.1928	0.48	PASS

4 WG568540-02 ANION CCB**1,1 AED**

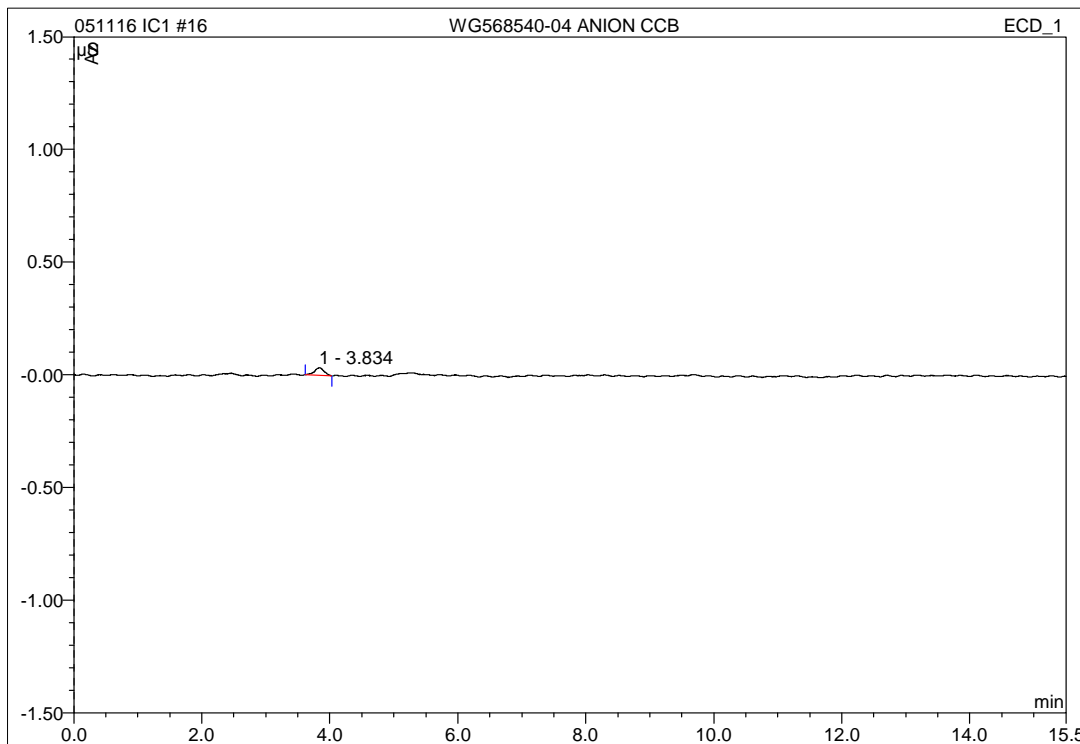
Sample Name:	WG568540-02 ANION CCB	Injection Volume:	20.0
Vial Number:	4	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	042916_9056	Dilution Factor:	1.0000
Recording Time:	5/11/2016 18:44	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area $\mu\text{S}\cdot\text{min}$	Rel.Area %	Amount mg/L	Type
1	3.83	n.a.	0.033	0.007	100.00	n.a.	BMB
Total:			0.033	0.007	100.00	0.000	

16 WG568540-04 ANION CCB**1,1 AED**

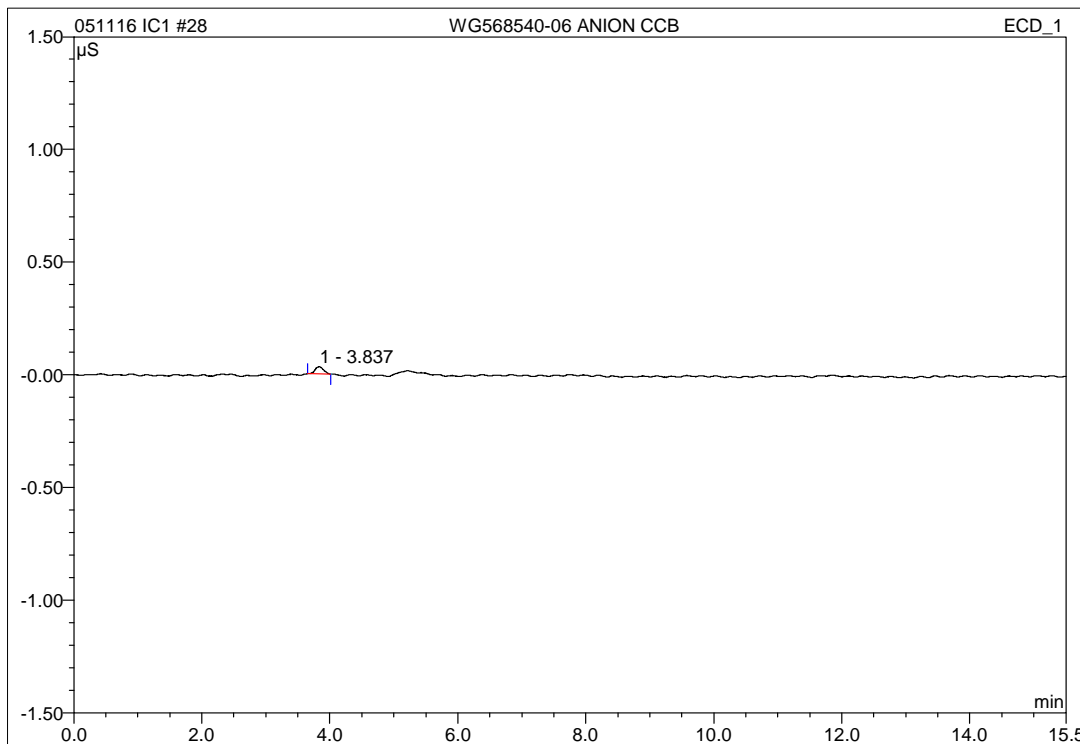
Sample Name:	WG568540-04 ANION CCB	Injection Volume:	20.0
Vial Number:	16	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	042916_9056	Dilution Factor:	1.0000
Recording Time:	5/11/2016 22:16	Sample Weight:	1.0000
Run Time (min):	15.50	Sample 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	3.83	n.a.	0.034	0.006	100.00	n.a.	BMB
Total:			0.034	0.006	100.00	0.000	

28 WG568540-06 ANION CCB**1,1 AED**

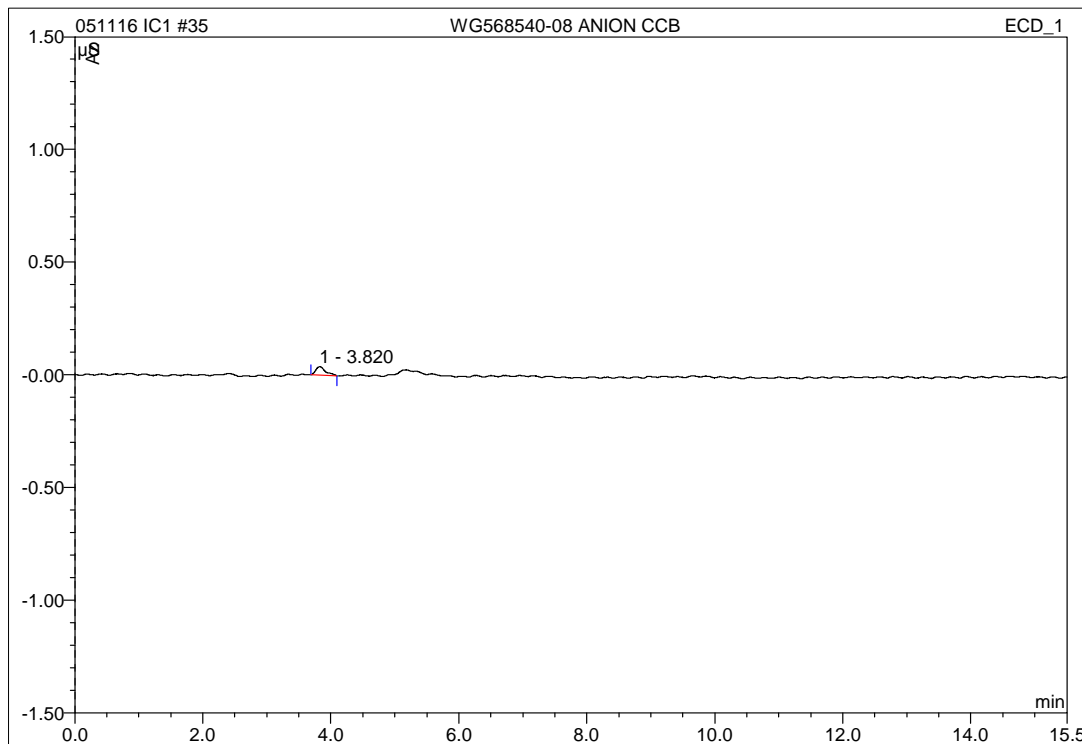
Sample Name:	WG568540-06 ANION CCB	Injection Volume:	20.0
Vial Number:	18	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	042916_9056	Dilution Factor:	1.0000
Recording Time:	5/12/2016 1:49	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area $\mu\text{S}\cdot\text{min}$	Rel.Area %	Amount mg/L	Type
1	3.84	n.a.	0.032	0.005	100.00	n.a.	BMB
Total:			0.032	0.005	100.00	0.000	

35 WG568540-08 ANION CCB**1,1 AED**

Sample Name:	WG568540-08 ANION CCB	Injection Volume:	20.0
Vial Number:	21	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:	5/12/2016 3:53	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	3.82	n.a.	0.037	0.007	100.00	n.a.	BMB
Total:			0.037	0.007	100.00	0.000	

IC/Integration

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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

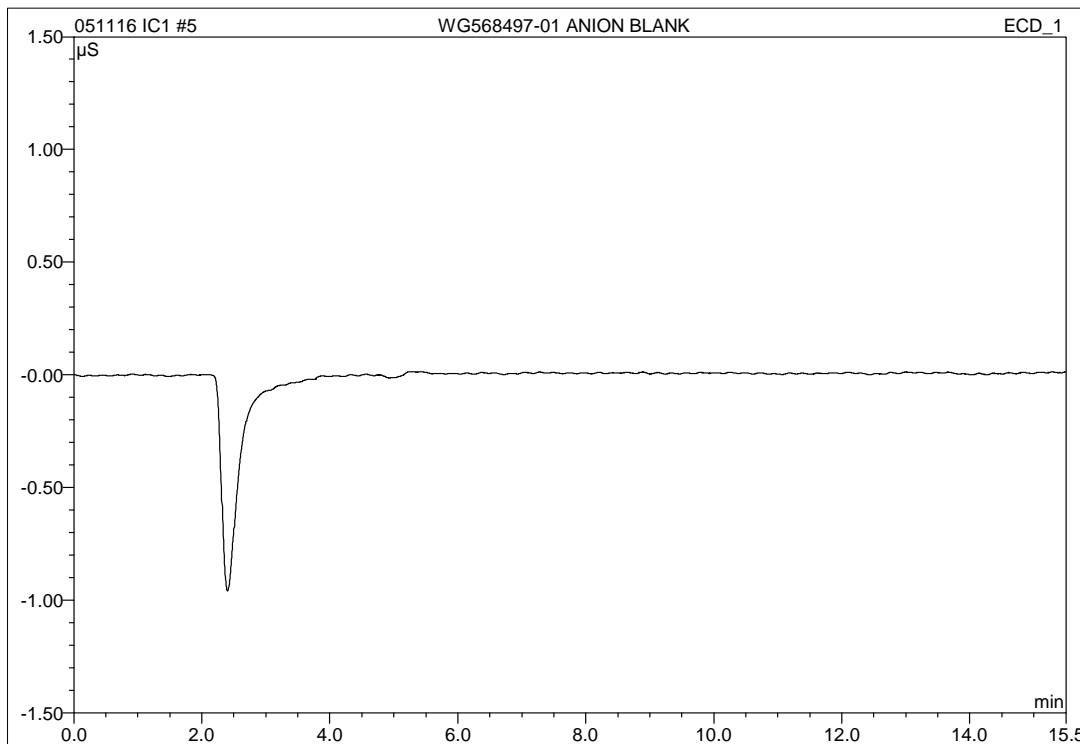
COMPOUND	STD #1 RT	STD #2 RT	STD #3 RT	RT WIN
F	3.41	3.41	3.41	0.000
Cl	5.11	5.09	5.07	0.050
NO2-N	6.14	6.11	6.07	0.101
Br	7.90	7.84	7.75	0.220
NO3-N	8.94	8.86	8.76	0.271
SO4	13.35	13.39	13.42	0.101

Page 1

2.4.1.5 Raw QC Data

5 WG568497-01 ANION BLANK**1,1 AED**

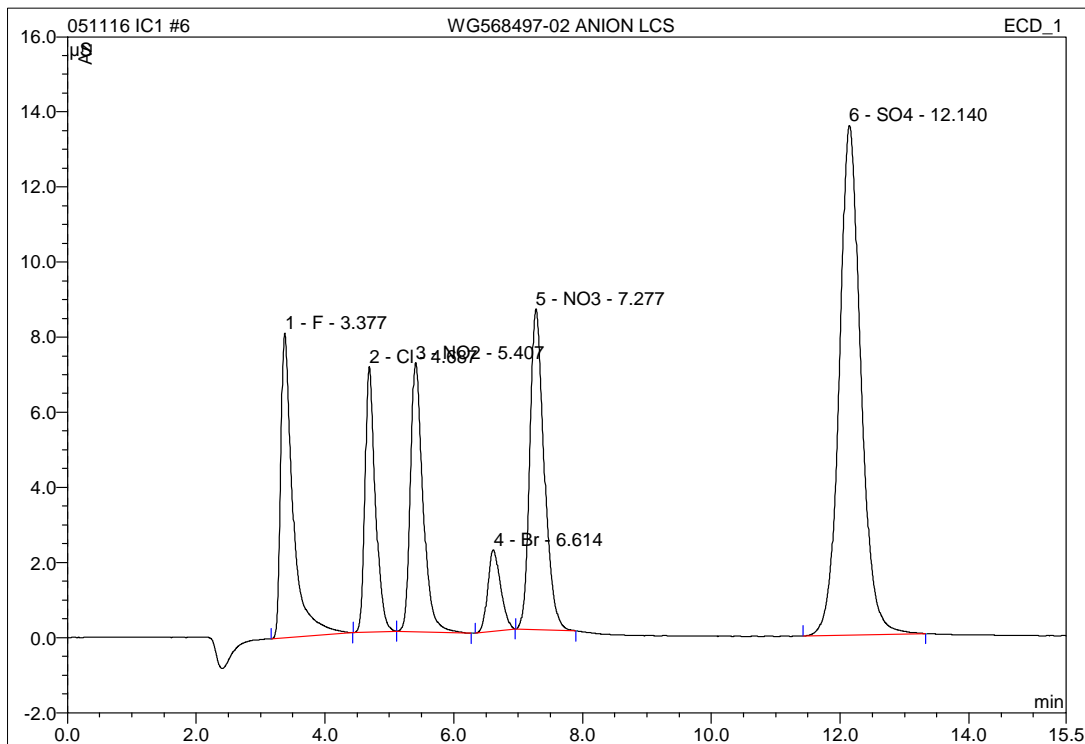
Sample Name:	WG568497-01 ANION BLANK	Injection Volume:	20.0
Vial Number:	5	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	042916_9056	Dilution Factor:	1.0000
Recording Time:	5/11/2016 19:01	Sample Weight:	1.0000
Run Time (min):	15.50	Sample 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	

6 WG568497-02 ANION LCS**1,1 AED**

Sample Name:	WG568497-02 ANION LCS	Injection Volume:	20.0
Vial Number:	6	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:	5/11/2016 19:19	Sample Weight:	1.0000
Run Time (min):	15.50	Sample Amount:	1.0000



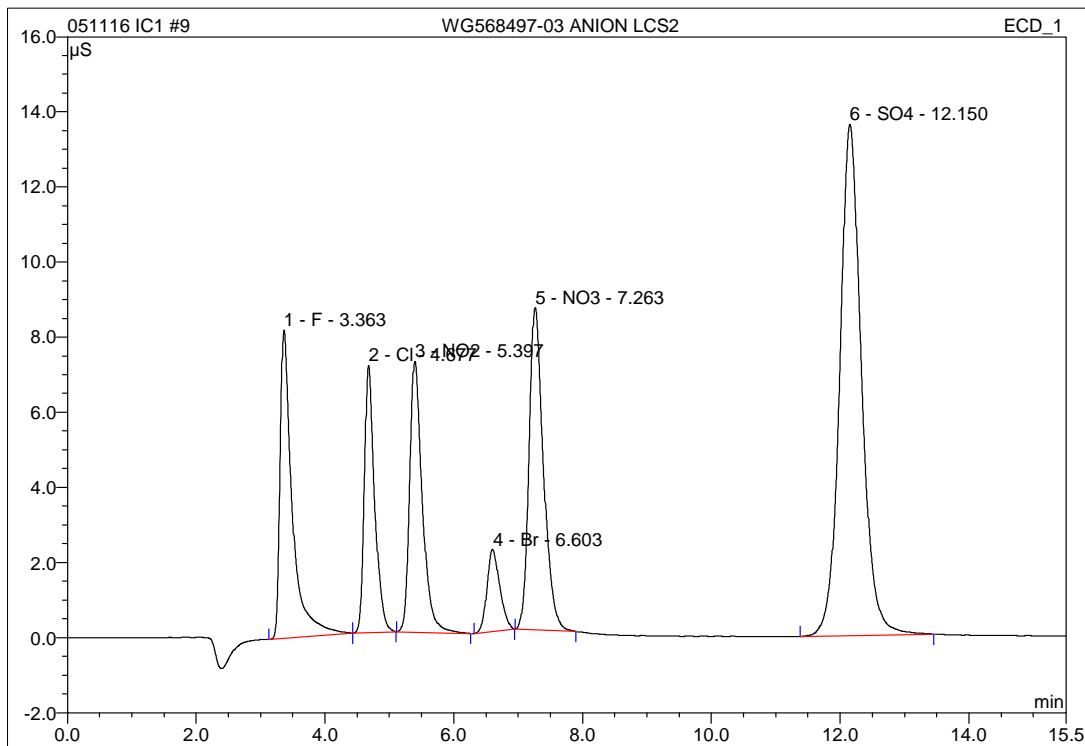
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.38	F	8.112	1.788	14.08	7.786	BMB
2	4.69	Cl	7.073	1.309	10.31	7.900	BMb
3	5.41	NO2	7.174	1.625	12.80	4.765	bMB
4	6.61	Br	2.170	0.500	3.94	7.777	BMB
5	7.28	NO3	8.541	2.208	17.39	5.246	BMB
6	12.14	SO4	13.572	5.270	41.50	39.316	BMB
Total:			46.642	12.700	100.00	72.791	

IC/Integration

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9 WG568497-03 ANION LCS2**1,1 AED**

Sample Name:	WG568497-03 ANION LCS2	Injection Volume:	20.0
Vial Number:	9	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:	5/11/2016 20:12	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	3.36	F	8.207	1.801	14.05	7.842	BMB
2	4.68	Cl	7.112	1.317	10.28	7.945	bMB
3	5.40	NO2	7.218	1.637	12.78	4.800	BMB
4	6.60	Br	2.188	0.505	3.95	7.864	BMB
5	7.26	NO3	8.588	2.226	17.38	5.289	BMB
6	12.15	SO4	13.609	5.326	41.57	39.728	BMB
Total:			46.924	12.811	100.00	73.467	

IC/Integration

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Version 6.80 SP1 Build 2238

2.4.2 Alkalinity Data

2.4.2.1 Summary Data

Certificate of Analysis

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 #: L16050571-03	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 #: L16050571-05	PrePrep Method: N/A	Instrument: SMARTCHEM
Client ID: 50WW06-051016	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 10:35
Collect Date: 05/10/2016 10:10	Dilution: 1	File ID: SC160513001.025
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Alkalinity, Total (as CaCO3)	11-43-8	246		40.0	20.0	10.0

Certificate of Analysis

Lab Report #: L16050571

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Stephanie Mossburg

Sample #: L16050571-07	PrePrep Method: N/A	Instrument: SMARTCHEM
Client ID: 50WW12-051016	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 10:36
Collect Date: 05/10/2016 11:20	Dilution: 1	File ID: SC160513001.026
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Alkalinity, Total (as CaCO3)	11-43-8	202		40.0	20.0	10.0

Certificate of Analysis

Sample #: L16050571-09	PrePrep Method: N/A	Instrument: SMARTCHEM
Client ID: 50WW24-051016	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 10:36
Collect Date: 05/10/2016 13:20	Dilution: 1	File ID: SC160513001.027
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Alkalinity, Total (as CaCO3)	11-43-8	263		40.0	20.0	10.0

Certificate of Analysis

Sample #: L16050571-11	PrePrep Method: N/A	Instrument: SMARTCHEM
Client ID: 50WW23-051016	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 10:37
Collect Date: 05/10/2016 14:35	Dilution: 1	File ID: SC160513001.028
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Alkalinity, Total (as CaCO3)	11-43-8	219		40.0	20.0	10.0

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

$$Cx = (x) (D)$$

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: TB
 Analyst: NA
 Method: ALK
 Instrument: SC
 Curve Workgroup: NA
 Runlog ID: _____
 Analytical Workgroups: WG568705 WG568685

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	TB
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
13-MAY-2016

Todd Boyle

Secondary Reviewer:
17-MAY-2016

Denna Johnson



Analytical Method: 310.2
Login Number: L16050571

AAB#: WG568685

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
50WW22-051016	01	05/10/16					05/13/2016	3.1	14		05/13/16	3.1	14	
50WW11-051016	03	05/10/16					05/13/2016	3.1	14		05/13/16	3.1	14	
50WW06-051016	05	05/10/16					05/13/2016	3	14		05/13/16	3	14	
50WW12-051016	07	05/10/16					05/13/2016	3	14		05/13/16	3	14	
50WW24-051016	09	05/10/16					05/13/2016	2.9	14		05/13/16	2.9	14	
50WW23-051016	11	05/10/16					05/13/2016	2.8	14		05/13/16	2.8	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4763820
Report generated 05/16/2016 13:54



METHOD BLANK SUMMARY

Login Number: L16050571 Work Group: WG568685
 Blank File ID: SC160513001.012 Blank Sample ID: WG568685-01
 Prep Date: 05/13/16 10:27 Instrument ID: SMARTCHEM
 Analyzed Date: 05/13/16 10:27 Method: 310.2
 Analyst: TB

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG568685-02	SC160513001.013	05/13/16 10:28	01
LCS2	WG568685-03	SC160513001.014	05/13/16 10:28	01
50WW22-051016	L16050571-01	SC160513001.023	05/13/16 10:34	DL01
50WW11-051016	L16050571-03	SC160513001.024	05/13/16 10:34	01
50WW06-051016	L16050571-05	SC160513001.025	05/13/16 10:35	01
50WW12-051016	L16050571-07	SC160513001.026	05/13/16 10:36	01
50WW24-051016	L16050571-09	SC160513001.027	05/13/16 10:36	01
50WW23-051016	L16050571-11	SC160513001.028	05/13/16 10:37	01
DUP	WG568685-05	SC160513001.040	05/13/16 10:44	DL01

Report Name: BLANK_SUMMARY
 PDF File ID: 4763821
 Report generated 05/16/2016 13:54



Login Number: L16050571 Prep Date: 05/13/16 10:27 Sample ID: WG568685-01
 Instrument ID: SMARTCHEM Run Date: 05/13/16 10:27 Prep Method: 310.2
 File ID: SC160513001.012 Analyst: TB Method: 310.2
 Workgroup (AAB#): WG568685 Matrix: Water Units: mg/L
 Contract #: _____ Cal ID: SMARTC-13-MAY-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Alkalinity, Total (as CaCO3)	10.0	40.0	-28.9	1	*

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: 4763822
 16-MAY-2016 13:54



Login Number: L16050571 Analyst: TB Prep Method: 310.2
 Instrument ID: SMARTCHEM Matrix: Water Method: 310.2
 Workgroup (AAB#): WG568685 Units: mg/L
 QC Key: DOD4 Lot #: STD76093
 Sample ID: WG568685-02 LCS File ID: SC160513001.013 Run Date: 05/13/2016 10:28
 Sample ID: WG568685-03 LCS2 File ID: SC160513001.014 Run Date: 05/13/2016 10:28

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Alkalinity, Total (as CaCO3)	200	201	100	200	200	99.8	0.513	85 - 115	20	

LCS_LCS2 - Modified 03/06/2008
 PDF File ID: 4763823
 Report generated: 05/16/2016 13:54



2.4.2.3 Raw Data

SMARTCHEM RUN LOG
(smartchem2, smartchem3)

WORKGROUP: WG568685

705

Daily Check

- | | |
|--|--|
| <input checked="" type="checkbox"/> Lamp On | <input checked="" type="checkbox"/> WBL Run |
| <input checked="" type="checkbox"/> Probe Rinse Full | <input checked="" type="checkbox"/> Reagents Full |
| <input checked="" type="checkbox"/> DI Water > 1/2 Full | <input checked="" type="checkbox"/> Dilution H ₂ O Full |
| <input checked="" type="checkbox"/> Wash Solution > 1/2 Full | <input checked="" type="checkbox"/> Waste Container Check |
| <input type="checkbox"/> NO3 Reagent bottle connected / purged | |
| <input type="checkbox"/> NO3 pH adj to pH 5-9 | |
| Syringe filter lot # _____ | |

- 1) Workgroup _____
Plan # 20160513001
- 2) Workgroup _____
Plan # _____
- 3) Workgroup _____
Plan # _____
- Instrument: SC1 SC2

Analyte	1	2	3
	Alk		
	Dilution		
SC Prepared Curve			
Position			
1-1	ICU		
1-2	Blk		
1-3	LLS		
1-4	LCSDMP		
1-5	FBK 1	1/10	
1-6	FBK 2		
1-7	5-459-01	1/25	
1-8	02	1/25	
1-9	03	1/25	
1-10	04	1/25	
1-11	571-01	1/2	
1-12	03		
1-13	05		
1-14	07		
1-15	09		
1-16	11		
1-17	611-02	1/2	
1-18	04	1/2	
1-19	06	1/2	
1-20	07	1/2	
1-21	08	1/2	
1-22	10	1/2	
2-1	12	1/2	
2-2	14	1/2	
2-3	16	1/2	

Position	Analyte	1	2	3
2-4	DUP 611-16	1/2		
2-5				
2-6				
2-7	ICU			
2-8	Blk			
2-9	LLS			
2-10	LCSDMP			
2-11	5-658-02	1/2		
2-12	03	1/2		
2-13	05	1/2		
2-14	07	1/2		
2-15	08	1/2		
2-16	09	1/4		
2-17	11	1/2		
2-18	13	1/2		
2-19	DUP ↓	1/2		
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#118463



SMARTCHEM RUN LOG
(smartchem2, smartchem3)

WORKGROUP: WG568685

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
<input checked="" type="checkbox"/> 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	
Curve Stock (SC made)	std 73515	
NO2 STD		36795
ICV	sl 75701	
CCV	std 76094	
LCS	sl 76093	
MS	Dilution	

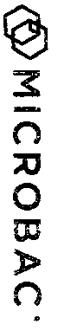
Comments: _____

Analyst: Paul Boyl

Date: 5/13/16

DCN#118463





TCLP/SPLP/D3987 Work Group Daily Log

Document Control No: 1731 Page 81 of 100

Date: 5/12/16 AMK

#	Microbac Sample #	Due Date	Me	SV	Pest	Herb	Voa	PAH	pH-L	8082	Wet Lab	Comments
1	05-0597-01	5/18										
2	-02	L										
3	05-0459-01	5/20	✓							✓		
4	-02		✓							✓		FR
5	-03		✓							✓		FR
6	04		✓							✓		FR
7	FB1K1	NA	✓							✓		
8	FB1K2	L	✓							✓		
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												

* = Perform analysis
 * = Perform analysis and spike sample

Comments: N/A

Peer Reviewed by: AMK Date: 5/13/16

Agitated	TCLP Work Group	TCLP Run ID	SPLP Work Group	SPLP Run ID
Me	568558	4582398		
SV				
Pest				
Herb	568557	4582397		
Voa				
PAH				
pH-L				
8082				
Filtered	Work Group		Run ID	
Me				
SV				
Pest				
Herb				
Voa				
pH-L				
8082				

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	0.6780	0.00		10:19:20 AM
DIL-1	RBL	0.0	0.6732	0.00		10:19:38 AM
DIL-1	RBL	0.0	0.6721	0.00		10:20:32 AM
DIL-1	Std-1	0.0	-0.0016	0.00		10:20:50 AM
SR5-1	Std-2	10.0	-0.0189	0.00		10:21:45 AM
SR5-2	Std-3	20.0	-0.0317	0.00		10:22:03 AM
SR5-3	Std-4	50.0	-0.0651	0.00		10:22:57 AM
SR5-4	Std-5	100.0	-0.1286	0.00		10:23:16 AM
SR5-5	Std-6	200.0	-0.2788	0.00	EPL	10:24:09 AM
SR5-6	Std-7	250.0	-0.3503	0.00		10:24:27 AM
SR5-7	Std-8	300.0	-0.4248	0.00		10:25:21 AM
ST-3	1CCV (150 mg/L)	151.1	-0.2043	100.74		10:25:39 AM
ST-2	2CCB (0 mg/L)	-30.4	0.0348	0.00	INV,><,LL	10:26:33 AM
1	ICV	238.0	-0.3307	0.00		10:26:51 AM
2	WG568685-01 BLK	-28.9	0.0329	0.00	INV,><,LL	10:27:45 AM
3	WG568685-02 LCS	200.5	-0.2751	0.00		10:28:03 AM
4	WG568685-03 LCSDUP	199.5	-0.2736	0.00		10:28:57 AM
5	WG568556-01 (10)	241.4	-0.3359	0.00		10:29:15 AM
6	WG568556-02	-92.1	0.1099	0.00	INV,><,LL	10:30:09 AM
7	L16050459-01 (25)	169.1	-0.2298	0.00		10:30:27 AM
8	L16050459-02 (25)	254.7	-0.3562	0.00		10:31:21 AM
9	L16050459-03 (25)	142.3	-0.1920	0.00		10:31:39 AM
10	L16050459-04 (25)	146.8	-0.1983	0.00		10:32:33 AM
ST-3	1CCV (150 mg/L)	160.8	-0.2179	107.17		10:32:51 AM
ST-2	2CCB (0 mg/L)	-22.1	0.0245	0.00	INV,><,LL	10:33:45 AM
11	L16050571-01 (2)	179.4	-0.2445	0.00		10:34:03 AM
12	L16050571-03	274.5	-0.3868	0.00		10:34:57 AM
13	L16050571-05	246.3	-0.3434	0.00		10:35:15 AM
14	L16050571-07	202.4	-0.2778	0.00		10:36:09 AM
15	L16050571-09	263.2	-0.3693	0.00		10:36:27 AM
16	L16050571-11	218.6	-0.3017	0.00		10:37:21 AM
17	L16050611-02 (2)	207.2	-0.2848	0.00		10:37:39 AM

Report Date :05/13/2016 Run Date :5/13/2016 Operator : SMARTCHEM1 Plan # :20160513001

Plan Description : ALK-A1-TB/05/13/2016

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	L16050611-04 (2)	255.0	-0.3566	0.00		10:38:33 AM
19	L16050611-06 (2)	267.3	-0.3757	0.00		10:38:51 AM
20	L16050611-07 (2)	265.9	-0.3735	0.00		10:39:45 AM
ST-3	1CCV (150 mg/L)	152.5	-0.2062	101.64		10:40:03 AM
ST-2	2CCB (0 mg/L)	-13.2	0.0134	0.00	INV,><,LL	10:40:57 AM
21	L16050611-08 (2)	141.0	-0.1901	0.00		10:41:15 AM
22	L16050611-10 (2)	172.2	-0.2341	0.00		10:42:09 AM
23	L16050611-12 (2)	195.3	-0.2674	0.00		10:42:27 AM
24	L16050611-14 (2)	214.0	-0.2949	0.00		10:43:21 AM
25	L16050611-16 (2)	287.7	-0.4077	0.00		10:43:39 AM
26	WG568685-05 (2) DUP	292.5	-0.4153	0.00		10:44:33 AM
ST-3	1CCV (150 mg/L)	165.9	-0.2252	110.61		10:44:51 AM

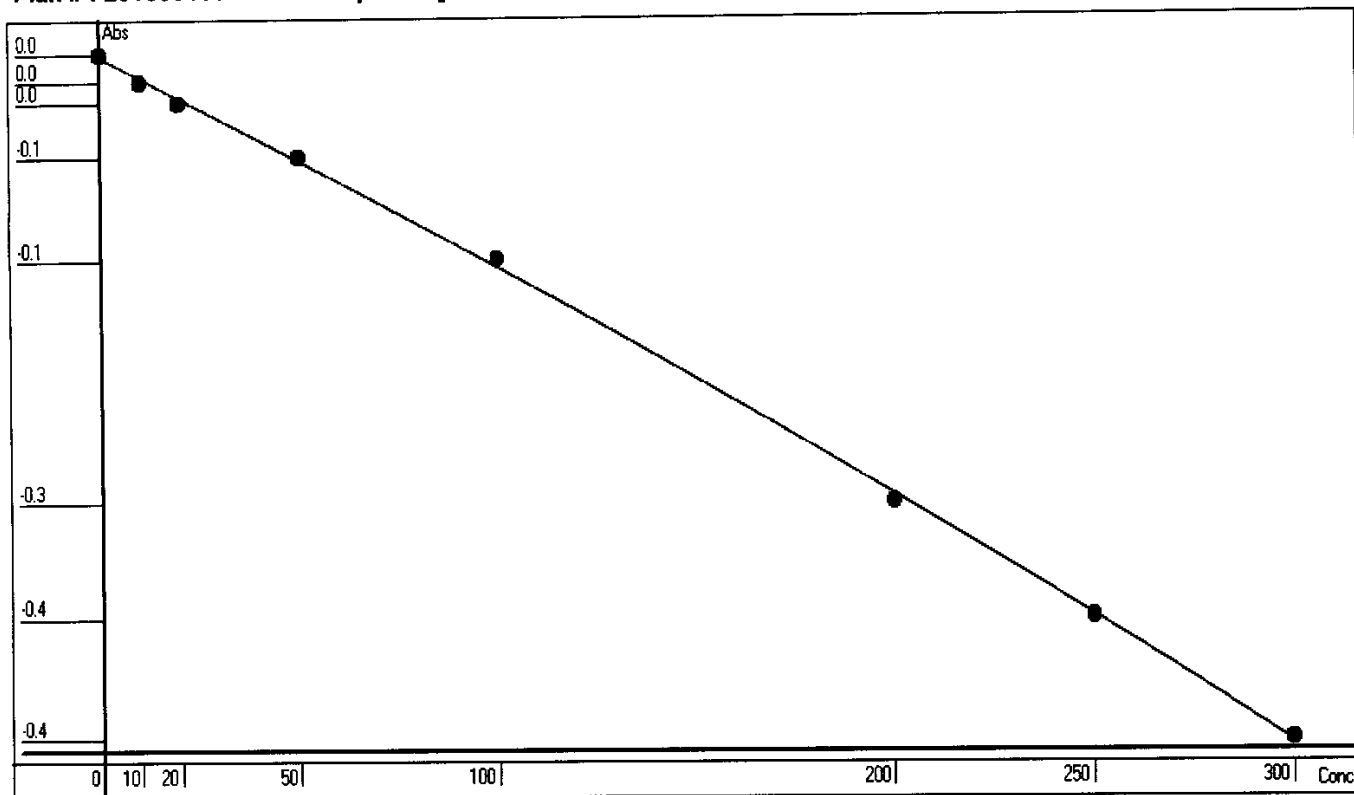
Report Date :05/13/2016 Run Date :5/13/2016 Operator : SMARTCHEM1 Plan # :20160513001

Plan Description : ALK-A1-TB/05/13/2016

Calibrant Report - WALK -

Calib Lot #:010104 Exp Date:6/21/2020 User:MICROBAC

Plan #: 20160513001 Description : [ALK-A1-TB/05/13/2016] Unit



Point	OD	Conc	Recalc Conc	% Error
1	-0.0016	0	-1.3294	-132.94
2	-0.0189	10	12.3201	23.20
3	-0.0317	20	22.3428	11.71
4	-0.0651	50	48.1899	-3.62
5	-0.1285	100	96.0363	-3.96
6	-0.2788	200	203.0970	1.55
7	-0.3503	250	250.8836	0.35
8	-0.4248	300	298.5190	-0.49

Conc= -198.235*Abso^2 -793.054*Abso -2.5978 R²=0.9996

RBL
0.6726
0

Report Date 5/13/2016 Run Date 5/13/2016

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	0.6211	0.00		11:12:57 AM
DIL-1	RBL	0.0	0.6184	0.00		11:13:15 AM
DIL-1	RBL	0.0	0.6177	0.00		11:14:09 AM
DIL-1	Std-1	0.0	-0.0069	0.00		11:14:27 AM
SR5-1	Std-2	10.0	-0.0082	0.00		11:15:21 AM
SR5-2	Std-3	20.0	-0.0231	0.00		11:15:39 AM
SR5-3	Std-4	50.0	-0.0569	0.00		11:16:33 AM
SR5-4	Std-5	100.0	-0.1278	0.00		11:16:51 AM
SR5-5	Std-6	200.0	-0.2585	0.00		11:17:45 AM
SR5-6	Std-7	250.0	-0.3297	0.00		11:18:04 AM
SR5-7	Std-8	300.0	-0.3972	0.00		11:18:58 AM
ST-3	1CCV (150 mg/L)	147.6	-0.1883	98.41		11:19:15 AM
ST-2	2CCB (0 mg/L)	-24.2	0.0304	0.00	INV,><,LL	11:20:09 AM
1	ICV	239.1	-0.3125	0.00		11:20:27 AM
2	WG568705-01 BLK	-21.8	0.0274	0.00	INV,><,LL	11:21:21 AM
3	WG568705-02 LCS	199.7	-0.2583	0.00		11:21:39 AM
4	WG568705-03 LCSDUP	197.6	-0.2554	0.00		11:22:33 AM
5	L16050658-02 (2)	216.5	-0.2812	0.00		11:22:51 AM
6	L16050658-03 (2)	209.6	-0.2717	0.00		11:23:45 AM
7	L16050658-05 (2)	273.4	-0.3607	0.00		11:24:03 AM
8	L16050658-07 (2)	160.6	-0.2056	0.00		11:24:57 AM
9	L16050658-08 (2)	97.0	-0.1220	0.00		11:25:14 AM
10	L16050658-09 (4)	✕ 322.6	-0.4315	0.00	><,LH	11:26:09 AM
ST-3	1CCV (150 mg/L)	158.8	-0.2031	105.84		11:26:27 AM
ST-2	2CCB (0 mg/L)	-5.3	0.0071	0.00	INV,><,LL	11:27:21 AM
11	L16050658-11 (2)	103.5	-0.1305	0.00		11:27:39 AM
12	L16050658-13 (2)	225.6	-0.2938	0.00		11:28:33 AM
13	WG568705-05 (2) DUP	219.0	-0.2846	0.00		11:28:51 AM
ST-3	1CCV (150 mg/L)	152.5	-0.1948	101.68		11:29:45 AM
ST-2	2CCB (0 mg/L)	-9.7	0.0126	0.00	INV,><,LL	11:30:03 AM
ST-3	1CCV (150 mg/L)	159.9	-0.2046	106.59		11:37:33 AM
10-[1/2]	L16050658-09 (4)	376.1	-0.2424	0.00	LH	11:37:33 AM

Report Date :05/13/2016 Run Date :5/13/2016 Operator : SMARTCHEM1 Plan # :20160513002

Plan Description : ALK-B1-TB/05/13/2016

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

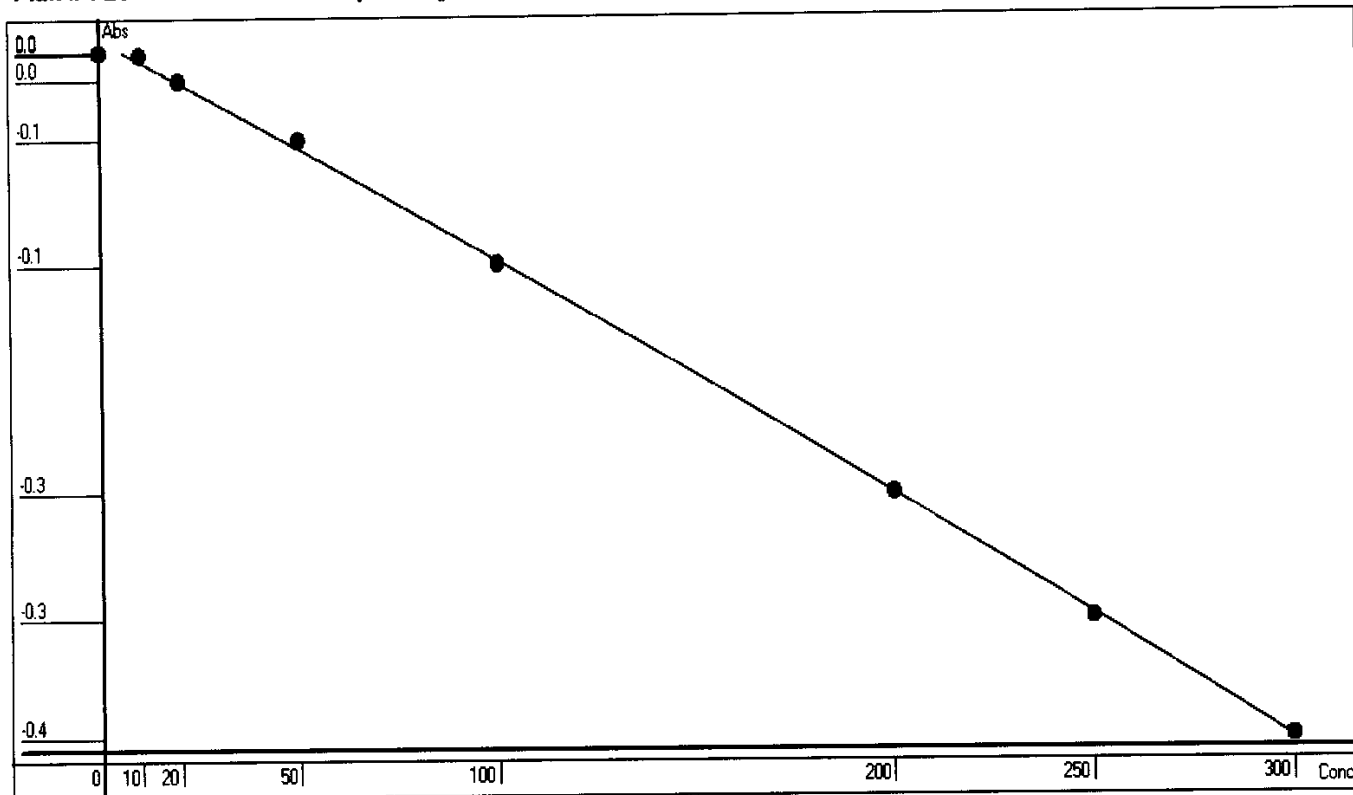
Smp#[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Flag	Analysis Time
ST-2	2CCB (0 mg/L)	-4.0	0.0055	0.00	INV,><,LL	11:38:27 AM

Report Date :05/13/2016 Run Date :5/13/2016 Operator : SMARTCHEM1 Plan # :20160513002
Plan Description : ALK-B1-TB/05/13/2016

Calibrant Report - WALK -

Calib Lot #:010104 Exp Date:6/21/2020 User:MICROBAC

Plan #: 20160513002 Description : [ALK-B1-TB/05/13/2016] Unit



Point	OD	Conc	Recalc Conc	% Error
1	-0.0069	0	6.0238	602.38
2	-0.0082	10	7.0726	-29.27
3	-0.0231	20	19.0580	-4.71
4	-0.0569	50	46.0092	-7.98
5	-0.1277	100	101.3966	1.40
6	-0.2585	200	199.9243	-0.04
7	-0.3297	250	251.4855	0.59
8	-0.3972	300	299.0187	-0.33

Conc= -144.0384*Abso^2 -808.8973*Abso +0.4493 R²=0.9993

RBL
0.618
0

Report Date 5/13/2016 Run Date 5/13/2016

2.4.3 Phosphorus Data

2.4.3.1 Summary Data

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: 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.					

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 #: L16050571-05	PrePrep Method: N/A	Instrument: SMARTCHEM2
Client ID: 50WW06-051016	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 10:59
Collect Date: 05/10/2016 10:10	Dilution: 1	File ID: S2160513002.027
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Phosphorus, Total	7723-14-0	0.450		0.400	0.200	0.100

Certificate of Analysis

Sample #: L16050571-07	PrePrep Method: N/A	Instrument: SMARTCHEM2
Client ID: 50WW12-051016	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 10:59
Collect Date: 05/10/2016 11:20	Dilution: 1	File ID: S2160513002.028
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 #: L16050571

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L16050571-09	PrePrep Method: N/A	Instrument: SMARTCHEM2
Client ID: 50WW24-051016	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 11:00
Collect Date: 05/10/2016 13:20	Dilution: 1	File ID: S2160513002.029
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Phosphorus, Total	7723-14-0	0.270	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 #: L16050571-11	PrePrep Method: N/A	Instrument: SMARTCHEM2
Client ID: 50WW23-051016	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 11:01
Collect Date: 05/10/2016 14:35	Dilution: 1	File ID: S2160513002.030
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

$$C_x = (x) (D)$$

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: 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: L16050571

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
50WW22-051016	01	05/10/16					05/13/2016	3.1	28		05/13/16	3.1	28	
50WW11-051016	03	05/10/16					05/13/2016	3.1	28		05/13/16	3.1	28	
50WW06-051016	05	05/10/16					05/13/2016	3	28		05/13/16	3	28	
50WW12-051016	07	05/10/16					05/13/2016	3	28		05/13/16	3	28	
50WW24-051016	09	05/10/16					05/13/2016	2.9	28		05/13/16	2.9	28	
50WW23-051016	11	05/10/16					05/13/2016	2.9	28		05/13/16	2.9	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4762071
Report generated 05/13/2016 14:20



METHOD BLANK SUMMARY

Login Number: L16050571 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
50WW22-051016	L16050571-01	S2160513002.025	05/13/16 10:57	01
50WW11-051016	L16050571-03	S2160513002.026	05/13/16 10:58	01
50WW06-051016	L16050571-05	S2160513002.027	05/13/16 10:59	01
50WW12-051016	L16050571-07	S2160513002.028	05/13/16 10:59	01
50WW24-051016	L16050571-09	S2160513002.029	05/13/16 11:00	01
50WW23-051016	L16050571-11	S2160513002.030	05/13/16 11:01	01
DUP	WG568658-04	S2160513002.034	05/13/16 11:03	01
LCS	WG568658-02	S2160513002.037	05/13/16 11:06	01

Report Name: BLANK_SUMMARY
 PDF File ID: 4762072
 Report generated 05/13/2016 14:20



Login Number: L16050571 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: 4762073
 13-MAY-2016 14:20



Login Number: L16050571 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: 4762074
Report generated: 05/13/2016 14:20



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		

Position	Analyte	1	2	3
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	RLG 36799
Curve Stock (SC made)		RLG 36837
NO2 STD		RLG 36522
ICV	see Digest Log	
CCV		
LCS		
MS	Dilution	

Comments: _____

Analyst: David Herckels

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 Merdahl 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

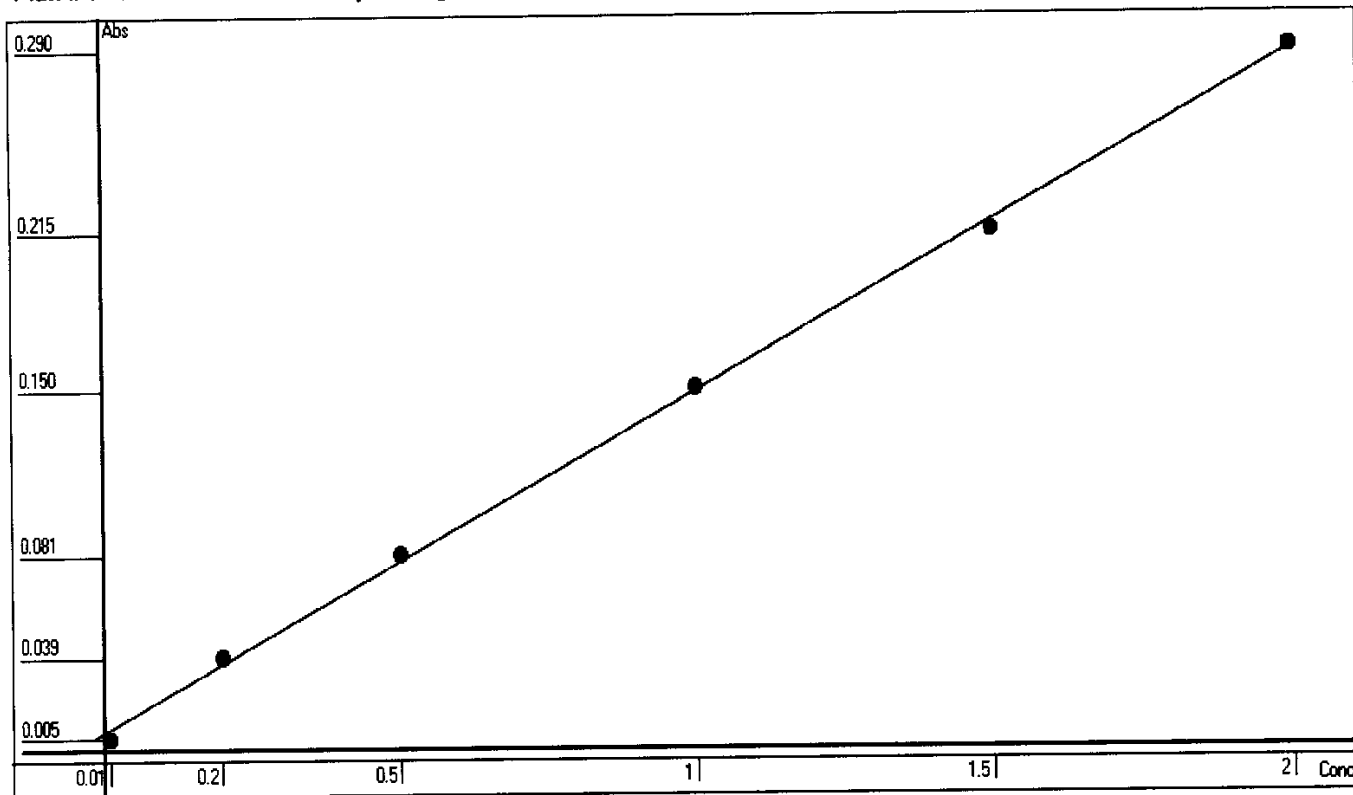
Smp#[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Flag	Analysis Time
20	L16050571-11	0.049	0.0148	0.00		11:01:13 AM
ST-3	1CCV (1 mg/L)	0.966	0.1438	96.64		11:02:07 AM
ST-2	2CCB (0 mg/L)	-0.049	0.0011	0.00	><,LL	11:02:25 AM
21	L16050589-03 (250)	1.041	0.1543	0.00		11:03:37 AM
22	WG568658-04 DUP	-0.047	0.0013	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 #: 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 #: L16050571-03	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.					