LONGHORN ARMY AMMUNITION PLANT KARNACK, TEXAS

ADMINISTRATIVE RECORD

Volume 37

2018

Bate Stamp Numbers
00892290 – 00893761

Prepared for

Department of the Army
Longhorn Army Ammunition Plant

1976 – 2018

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

VOLUME 37

2018

A. Title: Report (cont'd) – Draft Final, Third Annual Remedial Action Operation Report, LHAAP-50, Former Sump Water Tank (LAB DATA)
Author(s): Department of the Army
Recipient: Environmental Protection Agency
Date: August 14, 2018
Bate Stamp: 00892290 – 00893761

⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	94.492
|	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	96.765
⌈	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

Sample ID: QC Std 7
Report Date/Time: Friday, November 11, 2016 09:08:17
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Method 6020 - Summary Report

Sample ID: QC Std 3
Sample Date/Time: Friday, November 11, 2016 09:11:40
Number of Replicates: 3
Autosampler Position: 202
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	216694.8	16.6				ug/L	206101	Standard
	Be	9	485.0	14.5	**0.1791**	0.004	2.4	ug/L	25	Standard
	Al	27	933.4	11.9	**0.0103**	0.000	3.3	ug/L	1120	Standard
	Sc	45	61778.3	10.6				ug/L	61425	Standard
	Ti	47	64.3	18.1	**-0.0105**	0.020	194.9	ug/L	70	Standard
	V	51	7390.5	11.9	**0.3483**	0.015	4.4	ug/L	3309	Standard
	Cr	52	21149.9	10.7	**0.6222**	0.078	12.5	ug/L	13497	Standard
	Cr	53	3627.1	8.3	**0.3127**	0.154	49.3	ug/L	3162	Standard
	Mn	55	9933.0	15.1	**0.4702**	0.022	4.7	ug/L	2226	Standard
	Co	59	5622.7	14.0	**0.3739**	0.016	4.4	ug/L	1003	Standard
	Ni	60	4624.1	16.0	**1.5480**	0.071	4.6	ug/L	355	Standard
	Cu	65	2487.2	15.8	**0.7924**	0.026	3.2	ug/L	473	Standard
	Zn	66	8163.6	14.9	**6.0609**	0.138	2.3	ug/L	341	Standard
>	**Ge**	72	594739.3	13.5				ug/L	566981	Standard
	As	75	401.4	16.1	**0.4126**	0.020	4.9	ug/L	-156	Standard
	Se	82	60.9	16.6	**0.2436**	0.052	21.3	ug/L	35	Standard
	Se-1	77	354.3	3.4	**-0.6023**	0.434	72.1	ug/L	354	Standard
>	**Ga**	71	43.3	46.6				mg/L	43	Standard
	Rb	85	58.3	32.5				ug/L	48	Standard
	Y	89	456378.2	13.1				ug/L	447702	Standard
>	**Rh**	103	28.3	44.4				ug/L	20	Standard
	Mo	98	60.3	31.2	**0.0032**	0.006	185.0	ug/L	158	Standard
	Ag	107	4092.2	12.4	**0.3669**	0.013	3.5	ug/L	133	Standard
	Cd	111	830.9	17.4	**0.2357**	0.007	2.9	mg/L	7	Standard
	Cd	114	2276.7	15.5	**0.2439**	0.002	1.0	ug/L	72	Standard
>	**In**	115	1026641.0	14.8				ug/L	1004638	Standard
	Sn	118	191.0	10.2	**0.0128**	0.024	185.6	ug/L	364	Standard
	Sb	123	4600.3	6.5	**0.4473**	0.045	10.1	ug/L	2464	Standard
	Ba	135	2831.3	15.8	**0.7245**	0.007	1.0	ug/L	39	Standard
	Ce	140	41.7	6.9				ug/L	195	Standard
>	**Tb**	159	1632899.8	14.0				ug/L	1640193	Standard
	Ho	165	18.3	83.3				ug/L	25	Standard
	Tl	203	1242.1	13.8	**0.0702**	0.001	0.8	ug/L	324	Standard
	Tl	205	2905.3	11.6	**0.0683**	0.002	3.0	ug/L	698	Standard
	Pb	206	3006.3	16.1	**0.2058**	0.011	5.2	ug/L	600	Standard
	Pb	207	2454.2	15.2	**0.1859**	0.006	3.3	ug/L	541	Standard
	Pb	208	8312.2	14.1	**0.1933**	0.001	0.4	ug/L	1750	Standard
	U	238	5059.2	7.9	**0.3749**	0.025	6.7	ug/L	10	Standard
>	**Bi**	209	830127.4	14.3				ug/L	811518	Standard

Sample ID: QC Std 3
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	Na	23	1.7	173.2	**0.2925**	0.498	170.2	mg/L	0	Standard
	Mg	24	65.0	55.5	**0.5769**	0.750	129.9	mg/L	77	Standard
	K	39	13.3	78.1	**-0.0415**	0.050	120.1	mg/L	18	Standard
	Ca	43	131.7	23.2	**12.7441**	5.824	45.7	mg/L	178	Standard
	Fe	54	46.1	27.2	**0.1625**	0.105	64.5	mg/L	29	Standard
	Fe	57	385.0	9.8	**1.9082**	0.493	25.9	mg/L	408	Standard
>	**Sc-1**	45	61778.3	10.6				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	8.3	38.6				ug/L	12	Standard
	Br	81	1803.4	6.7				ug/L	1747	Standard
	P	31	30.0	44.1				ug/L	17	Standard
	S	34	0.0					ug/L	3	Standard
	Sr	88	370.0	8.1				ug/L	370	Standard
	C	12	40.0	43.3				mg/L	47	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	17	Standard
	Dy	164	12.7	118.3				mg/L	9	Standard
	Ho-1	165	18.3	83.3				mg/L	25	Standard
	Er	166	13.3	43.3				mg/L	20	Standard
	I	127	4218.9	6.9				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6			
	Be	9	89.539		
	Al	27	1.026		
	Sc	45			
	Ti	47			
	V	51	87.079		
	Cr	52	77.780		
	Cr	53			
	Mn	55	94.048		
	Co	59	93.465		
	Ni	60	96.748		
	Cu	65	99.052		
	Zn	66	96.975		
>	Ge	72		104.896	
	As	75	103.161		
	Se	82	60.900		
	Se-1	77			
>	Ga	71			

Sample ID: QC Std 3
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⌊	Rb	85		
⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98		
|	Ag	107	91.726	
|	Cd	111	98.223	
|	Cd	114		
|>	In	115		102.190
|	Sn	118		
|	Sb	123	111.817	
⌊	Ba	135	96.595	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	87.775	
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208	96.653	
|	U	238	93.714	
⌊>	Bi	209		102.293
⌈	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	Se	82	

Sample ID: QC Std 3
Report Date/Time: Friday, November 11, 2016 09:13:51
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Approved: November 15, 2016

Method 6020 - Summary Report

Sample ID: QC Std 4
Sample Date/Time: Friday, November 11, 2016 09:14:56
Number of Replicates: 3
Autosampler Position: 203
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	196633.5	11.4				ug/L	206101	Standard
	Be	9	16.7	62.4	**-0.0118**	0.004	34.6	ug/L	25	Standard
	Al	27	8150702.5	7.6	**43.9132**	1.833	4.2	ug/L	1120	Standard
	Sc	45	61625.6	7.9				ug/L	61425	Standard
	Ti	47	8100.2	8.1	**17.8298**	0.192	1.1	ug/L	70	Standard
	V	51	2317.4	25.2	**-0.0998**	0.038	37.8	ug/L	3309	Standard
	Cr	52	10542.0	7.5	**-0.3789**	0.025	6.7	ug/L	13497	Standard
	Cr	53	4725.7	1.8	**1.3845**	0.285	20.6	ug/L	3162	Standard
	Mn	55	2213.8	7.6	**0.0061**	0.001	24.4	ug/L	2226	Standard
	Co	59	574.0	4.5	**-0.0162**	0.002	12.5	ug/L	1003	Standard
	Ni	60	1099.0	10.7	**0.2942**	0.011	3.6	ug/L	355	Standard
	Cu	65	607.3	12.8	**0.0553**	0.012	21.3	ug/L	473	Standard
	Zn	66	805.4	11.7	**0.3698**	0.027	7.4	ug/L	341	Standard
>	Ge	72	564395.3	8.5				ug/L	566981	Standard
	As	75	-106.8	84.1	**0.0148**	0.075	505.9	ug/L	-156	Standard
	Se	82	26.2	26.7	**-0.0689**	0.053	77.1	ug/L	35	Standard
	Se-1	77	545.3	3.1	**1.9853**	0.555	28.0	ug/L	354	Standard
>	Ga	71	113.3	6.7				mg/L	43	Standard
	Rb	85	808.4	3.6				ug/L	48	Standard
	Y	89	441596.1	7.5				ug/L	447702	Standard
>	Rh	103	26.7	47.2				ug/L	20	Standard
	Mo	98	345820.8	13.6	**73.8039**	3.806	5.2	ug/L	158	Standard
	Ag	107	202.7	8.7	**0.0060**	0.001	23.9	ug/L	133	Standard
	Cd	111	-73.8	6.8	**-0.0295**	0.001	3.7	mg/L	7	Standard
	Cd	114	682.0	10.9	**0.0749**	0.002	2.3	ug/L	72	Standard
>	In	115	972336.7	8.7				ug/L	1004638	Standard
	Sn	118	111.0	15.2	**-0.0238**	0.013	54.3	ug/L	364	Standard
	Sb	123	1791.9	36.8	**0.1505**	0.092	61.3	ug/L	2464	Standard
	Ba	135	58.0	6.9	**0.0064**	0.001	15.2	ug/L	39	Standard
	Ce	140	105.0	4.8				ug/L	195	Standard
>	Tb	159	1598253.6	5.8				ug/L	1640193	Standard
	Ho	165	16.7	75.5				ug/L	25	Standard
	Tl	203	1697.8	26.4	**0.1037**	0.023	21.8	ug/L	324	Standard
	Tl	205	4005.6	27.8	**0.0981**	0.021	21.6	ug/L	698	Standard
	Pb	206	1807.1	21.3	**0.1082**	0.023	21.2	ug/L	600	Standard
	Pb	207	1565.1	21.6	**0.1052**	0.023	22.0	ug/L	541	Standard
	Pb	208	5140.3	21.5	**0.1051**	0.022	21.4	ug/L	1750	Standard
	U	238	4.0	50.0	**0.0023**	0.000	5.9	ug/L	10	Standard
>	Bi	209	800887.3	8.1				ug/L	811518	Standard

Sample ID: QC Std 4
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	Na	23	88.3	22.9	**13.7360**	4.299	31.3	mg/L	0	Standard
	Mg	24	518.3	11.6	**10.6835**	0.603	5.6	mg/L	77	Standard
	K	39	731.7	10.5	**3.9636**	0.404	10.2	mg/L	18	Standard
	Ca	43	163.3	6.4	**5.3062**	3.506	66.1	mg/L	178	Standard
	Fe	54	380.7	9.4	**4.6156**	0.089	1.9	mg/L	29	Standard
	Fe	57	498.3	19.5	**6.3956**	3.442	53.8	mg/L	408	Standard
>	**Sc-1**	45	61625.6	7.9				mg/L	61425	Standard
	Cl	35	2.0	100.0				ug/L	1	Standard
	Kr	83	7.7	7.5				ug/L	12	Standard
	Br	81	1533.4	20.0				ug/L	1747	Standard
	P	31	31.7	9.1				ug/L	17	Standard
	S	34	1.7	173.2				ug/L	3	Standard
	Sr	88	365.0	22.0				ug/L	370	Standard
	C	12	106.7	10.8				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	16.7	34.6				mg/L	17	Standard
	Dy	164	19.0	91.0				mg/L	9	Standard
	Ho-1	165	16.7	75.5				mg/L	25	Standard
	Er	166	20.0	0.0				mg/L	20	Standard
	I	127	4627.4	4.9				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6			
	Be	9			
	Al	27	0.878		
	Sc	45			
	Ti	47	17.830		
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		99.544	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			

Sample ID: QC Std 4
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⌊	Rb	85		
⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98	73.804	
|	Ag	107		
|	Cd	111		
|	Cd	114		
|>	In	115		96.785
|	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		98.690
⌈	Na	23	109.888	
|	Mg	24	213.670	
|	K	39	79.273	
|	Ca	43	35.374	
|	Fe	54	36.925	
|	Fe	57	51.165	
⌊>	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	

Sample ID: QC Std 4
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QC Std 4	Tl	203
QC Std 4	Mg	24
QC Std 4	K	39
QC Std 4	Ca	43
QC Std 4	Fe	54
QC Std 4	Fe	57

Sample ID: QC Std 4
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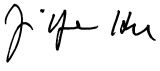

Method 6020 - Summary Report

Sample ID: QC Std 5
Sample Date/Time: Friday, November 11, 2016 09:18:17
Number of Replicates: 3
Autosampler Position: 204
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	219815.3	10.8				ug/L	206101	Standard
	Be	9	243991.8	11.3	**97.9241**	2.414	2.5	ug/L	25	Standard
	Al	27	9646021.0	7.1	**46.4736**	1.833	3.9	ug/L	1120	Standard
	Sc	45	65721.2	7.9				ug/L	61425	Standard
	Ti	47	50816.7	10.2	**102.2411**	2.132	2.1	ug/L	70	Standard
	V	51	1143020.3	9.6	**98.1418**	2.718	2.8	ug/L	3309	Standard
	Cr	52	1048860.1	9.7	**98.1567**	2.658	2.7	ug/L	13497	Standard
	Cr	53	135870.9	10.4	**100.2061**	1.755	1.8	ug/L	3162	Standard
	Mn	55	1671347.2	9.8	**97.7819**	2.297	2.3	ug/L	2226	Standard
	Co	59	1322306.6	10.5	**98.3462**	1.661	1.7	ug/L	1003	Standard
	Ni	60	285254.1	12.1	**98.7265**	0.995	1.0	ug/L	355	Standard
	Cu	65	261097.5	12.0	**99.5468**	0.338	0.3	ug/L	473	Standard
	Zn	66	136723.1	10.7	**101.6011**	1.541	1.5	ug/L	341	Standard
>	**Ge**	72	622433.1	12.0				ug/L	566981	Standard
	As	75	137357.1	10.6	**101.1381**	1.820	1.8	ug/L	-156	Standard
	Se	82	11399.1	11.6	**101.1467**	0.800	0.8	ug/L	35	Standard
	Se-1	77	9520.3	10.8	**102.5123**	1.676	1.6	ug/L	354	Standard
>	**Ga**	71	220.0	17.2				mg/L	43	Standard
	Rb	85	1036.7	12.7				ug/L	48	Standard
	Y	89	485118.7	10.7				ug/L	447702	Standard
>	**Rh**	103	98.3	24.0				ug/L	20	Standard
	Mo	98	480421.8	9.8	**93.0109**	1.320	1.4	ug/L	158	Standard
	Ag	107	1022546.8	11.1	**90.5435**	0.854	0.9	ug/L	133	Standard
	Cd	111	358354.8	11.1	**100.0360**	0.954	1.0	mg/L	7	Standard
	Cd	114	928254.8	10.0	**96.2587**	0.685	0.7	ug/L	72	Standard
>	**In**	115	1075282.7	10.3				ug/L	1004638	Standard
	Sn	118	275.0	9.8	**0.0447**	0.010	23.3	ug/L	364	Standard
	Sb	123	954830.2	11.9	**99.8811**	1.748	1.7	ug/L	2464	Standard
	Ba	135	393057.1	10.2	**97.3756**	0.467	0.5	ug/L	39	Standard
	Ce	140	148.3	21.4				ug/L	195	Standard
>	**Tb**	159	1708088.1	10.7				ug/L	1640193	Standard
	Ho	165	101.7	41.0				ug/L	25	Standard
	Tl	203	1524803.8	9.9	**99.0011**	1.508	1.5	ug/L	324	Standard
	Tl	205	4549831.3	9.8	**110.4118**	1.963	1.8	ug/L	698	Standard
	Pb	206	1196106.1	9.7	**99.6309**	1.483	1.5	ug/L	600	Standard
	Pb	207	1064546.1	9.3	**99.6709**	1.091	1.1	ug/L	541	Standard
	Pb	208	3504414.2	9.1	**99.6541**	1.266	1.3	ug/L	1750	Standard
	U	238	1370831.2	5.4	**97.9832**	4.650	4.7	ug/L	10	Standard
>	**Bi**	209	852885.2	9.7				ug/L	811518	Standard

Sample ID: QC Std 5
Report Date/Time: Friday, November 11, 2016 09:20:28
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⌈	**Na**	23	71.7	22.4	**10.2968**	2.185	21.2	mg/L	0	Standard
|	**Mg**	24	555.0	9.5	**10.8436**	1.947	18.0	mg/L	77	Standard
|	**K**	39	841.7	12.0	**4.2775**	0.417	9.8	mg/L	18	Standard
|	**Ca**	43	168.3	14.0	**6.2813**	8.185	130.3	mg/L	178	Standard
|	**Fe**	54	1040.0	22.0	**12.4228**	1.907	15.4	mg/L	29	Standard
|	**Fe**	57	623.3	9.2	**9.7720**	1.256	12.8	mg/L	408	Standard
⌊>	**Sc-1**	45	65721.2	7.9				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	9.3	50.6				ug/L	12	Standard
	Br	81	1690.1	13.5				ug/L	1747	Standard
	P	31	21.7	48.0				ug/L	17	Standard
	S	34	1.7	173.2				ug/L	3	Standard
	Sr	88	386.7	10.0				ug/L	370	Standard
	C	12	123.3	24.8				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	10.0	173.2				mg/L	17	Standard
	Dy	164	5.7	209.6				mg/L	9	Standard
	Ho-1	165	101.7	41.0				mg/L	25	Standard
	Er	166	20.0	50.0				mg/L	20	Standard
	I	127	5230.9	11.4				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6			
|	Be	9	97.924		
⌊	Al	27	0.929		
⌈	Sc	45			
|	Ti	47	102.241		
|	V	51	98.142		
|	Cr	52	98.157		
|	Cr	53			
|	Mn	55	97.782		
|	Co	59	98.346		
|	Ni	60	98.726		
|	Cu	65	99.547		
|	Zn	66	101.601		
|>	Ge	72		109.780	
|	As	75	101.138		
|	Se	82	101.147		
⌊	Se-1	77			
⌈>	Ga	71			

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⌊	Rb	85		
⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98	93.011	
|	Ag	107	90.543	
|	Cd	111	100.036	
|	Cd	114		
|>	In	115		107.032
|	Sn	118		
|	Sb	123	99.881	
⌊	Ba	135	97.376	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	99.001	
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208	99.654	
|	U	238	97.983	
⌊>	Bi	209		105.097
⌈	Na	23	82.375	
|	Mg	24	216.872	
|	K	39	85.550	
|	Ca	43	41.875	
|	Fe	54	99.382	
|	Fe	57	78.176	
⌊>	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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QC Std 5	Ca	43
QC Std 5	Fe	57

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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, November 11, 2016 09:21:26
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	222526.8	16.2				ug/L	206101	Standard
	Be	9	122731.6	12.1	**48.8835**	2.206	4.5	ug/L	25	Standard
	Al	27	10578064.1	11.1	**50.4952**	2.812	5.6	ug/L	1120	Standard
	Sc	45	64439.3	9.7				ug/L	61425	Standard
	Ti	47	50188.7	11.4	**101.4200**	2.555	2.5	ug/L	70	Standard
	V	51	592046.0	12.5	**50.8207**	0.678	1.3	ug/L	3309	Standard
	Cr	52	548685.2	12.2	**50.8022**	0.833	1.6	ug/L	13497	Standard
	Cr	53	69840.6	12.5	**50.4499**	0.943	1.9	ug/L	3162	Standard
	Mn	55	877307.2	13.0	**51.3882**	0.406	0.8	ug/L	2226	Standard
	Co	59	693766.2	13.8	**51.6812**	0.087	0.2	ug/L	1003	Standard
	Ni	60	148051.2	14.1	**51.3572**	0.512	1.0	ug/L	355	Standard
	Cu	65	133145.0	14.0	**50.8369**	0.538	1.1	ug/L	473	Standard
	Zn	66	68303.6	13.9	**50.7315**	0.107	0.2	ug/L	341	Standard
>	**Ge**	72	620165.2	13.7				ug/L	566981	Standard
	As	75	68588.0	12.5	**50.7353**	0.746	1.5	ug/L	-156	Standard
	Se	82	5695.6	13.9	**50.5473**	1.020	2.0	ug/L	35	Standard
	Se-1	77	4877.5	13.9	**50.3005**	0.556	1.1	ug/L	354	Standard
>	**Ga**	71	108.3	9.6				mg/L	43	Standard
	Rb	85	770.0	17.7				ug/L	48	Standard
	Y	89	479170.1	12.7				ug/L	447702	Standard
>	**Rh**	103	75.0	72.1				ug/L	20	Standard
	Mo	98	525689.3	12.0	**100.5046**	2.807	2.8	ug/L	158	Standard
	Ag	107	599022.1	11.9	**52.4297**	1.454	2.8	ug/L	133	Standard
	Cd	111	184191.7	13.2	**50.7683**	1.197	2.4	mg/L	7	Standard
	Cd	114	492282.6	13.8	**50.3402**	1.202	2.4	ug/L	72	Standard
>	**In**	115	1091223.2	14.4				ug/L	1004638	Standard
	Sn	118	112534.0	13.4	**50.1985**	1.551	3.1	ug/L	364	Standard
	Sb	123	499265.5	12.5	**51.6017**	1.171	2.3	ug/L	2464	Standard
	Ba	135	199467.8	12.2	**48.8059**	1.395	2.9	ug/L	39	Standard
	Ce	140	235.0	15.3				ug/L	195	Standard
>	**Tb**	159	1717241.0	11.6				ug/L	1640193	Standard
	Ho	165	68.3	30.5				ug/L	25	Standard
	Tl	203	788515.9	12.4	**50.2822**	0.415	0.8	ug/L	324	Standard
	Tl	205	2046470.8	24.6	**48.3879**	6.959	14.4	ug/L	698	Standard
	Pb	206	618734.6	11.2	**50.6427**	0.404	0.8	ug/L	600	Standard
	Pb	207	549779.2	12.0	**50.5385**	0.371	0.7	ug/L	541	Standard
	Pb	208	1811564.9	11.8	**50.5757**	0.129	0.3	ug/L	1750	Standard
	U	238	708930.9	8.6	**49.7766**	1.701	3.4	ug/L	10	Standard
>	**Bi**	209	868016.7	11.9				ug/L	811518	Standard

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⌈	**Na**	23	46.7	40.6	**6.9658**	3.203	46.0	mg/L	0	Standard
|	**Mg**	24	296.7	4.2	**5.5091**	0.630	11.4	mg/L	77	Standard
|	**K**	39	1023.4	13.9	**5.3130**	0.249	4.7	mg/L	18	Standard
|	**Ca**	43	133.3	14.2	**13.1434**	7.358	56.0	mg/L	178	Standard
|	**Fe**	54	430.3	15.2	**5.0141**	0.387	7.7	mg/L	29	Standard
|	**Fe**	57	515.0	22.4	**6.0503**	2.933	48.5	mg/L	408	Standard
⌊>	**Sc-1**	45	64439.3	9.7				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	10.7	35.5				ug/L	12	Standard
	Br	81	1996.8	24.9				ug/L	1747	Standard
	P	31	31.7	24.1				ug/L	17	Standard
	S	34	0.0					ug/L	3	Standard
	Sr	88	331.7	2.3				ug/L	370	Standard
	C	12	76.7	7.5				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	10.0	100.0				mg/L	17	Standard
	Dy	164	28.6	32.5				mg/L	9	Standard
	Ho-1	165	68.3	30.5				mg/L	25	Standard
	Er	166	30.0	57.7				mg/L	20	Standard
	I	127	4489.0	8.8				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6			
|	Be	9	97.767		
⌊	Al	27	100.990		
⌈	Sc	45			
|	Ti	47	101.420		
|	V	51	101.641		
|	Cr	52	101.604		
|	Cr	53			
|	Mn	55	102.776		
|	Co	59	103.362		
|	Ni	60	102.714		
|	Cu	65	101.674		
|	Zn	66	101.463		
|>	Ge	72		109.380	
|	As	75	101.471		
|	Se	82	101.095		
⌊	Se-1	77			
⌈>	Ga	71			

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⌊	Rb	85		
⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98	100.505	
|	Ag	107	104.859	
|	Cd	111	101.537	
|	Cd	114		
|>	In	115		108.619
|	Sn	118	100.397	
|	Sb	123	103.203	
⌊	Ba	135	97.612	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	100.564	
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208	101.151	
|	U	238	99.553	
⌊>	Bi	209		106.962
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	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: Friday, November 11, 2016 09:24:31
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	213015.8	7.5				ug/L	206101	Standard
	Be	9	38.3	66.9	**-0.0034**	0.010	299.1	ug/L	25	Standard
	Al	27	2590.2	5.6	**0.0186**	0.001	5.0	ug/L	1120	Standard
	Sc	45	63262.1	6.3				ug/L	61425	Standard
	Ti	47	53.7	15.1	**-0.0319**	0.019	60.1	ug/L	70	Standard
	V	51	2723.7	4.6	**-0.0698**	0.009	12.7	ug/L	3309	Standard
	Cr	52	10521.7	3.5	**-0.4263**	0.039	9.2	ug/L	13497	Standard
	Cr	53	2421.9	5.7	**-0.6307**	0.156	24.8	ug/L	3162	Standard
	Mn	55	1662.8	10.1	**-0.0340**	0.008	23.1	ug/L	2226	Standard
	Co	59	515.0	10.5	**-0.0229**	0.004	16.0	ug/L	1003	Standard
	Ni	60	368.3	5.3	**0.0098**	0.010	98.1	ug/L	355	Standard
	Cu	65	435.3	10.1	**-0.0243**	0.012	49.6	ug/L	473	Standard
	Zn	66	383.3	10.1	**0.0109**	0.013	121.0	ug/L	341	Standard
>	Ge	72	589230.5	7.2				ug/L	566981	Standard
	As	75	-150.8	61.6	**-0.0098**	0.065	665.6	ug/L	-156	Standard
	Se	82	26.8	20.8	**-0.0702**	0.060	86.1	ug/L	35	Standard
	Se-1	77	347.3	7.2	**-0.6853**	0.041	5.9	ug/L	354	Standard
>	Ga	71	36.7	28.4				mg/L	43	Standard
	Rb	85	50.0	43.6				ug/L	48	Standard
	Y	89	454246.1	6.3				ug/L	447702	Standard
>	Rh	103	35.0	37.8				ug/L	20	Standard
	Mo	98	103.7	9.7	**0.0115**	0.003	27.4	ug/L	158	Standard
	Ag	107	192.7	16.4	**0.0039**	0.002	45.2	ug/L	133	Standard
	Cd	111	15.2	56.0	**-0.0024**	0.002	92.6	mg/L	7	Standard
	Cd	114	58.8	50.8	**0.0033**	0.004	110.8	ug/L	72	Standard
>	In	115	1028867.8	6.5				ug/L	1004638	Standard
	Sn	118	170.0	14.7	**0.0003**	0.010	3282.6	ug/L	364	Standard
	Sb	123	822.6	28.5	**0.0293**	0.032	109.3	ug/L	2464	Standard
	Ba	135	42.7	14.1	**0.0016**	0.002	140.9	ug/L	39	Standard
	Ce	140	45.0	29.4				ug/L	195	Standard
>	Tb	159	1620431.0	6.0				ug/L	1640193	Standard
	Ho	165	13.3	78.1				ug/L	25	Standard
	Tl	203	188.3	14.8	**-0.0004**	0.002	523.6	ug/L	324	Standard
	Tl	205	406.7	13.5	**0.0056**	0.001	22.4	ug/L	698	Standard
	Pb	206	602.0	11.0	**-0.0007**	0.003	428.3	ug/L	600	Standard
	Pb	207	531.7	3.6	**0.0002**	0.003	1224.5	ug/L	541	Standard
	Pb	208	1831.4	6.7	**0.0028**	0.001	30.0	ug/L	1750	Standard
	U	238	17.7	48.8	**0.0033**	0.001	20.8	ug/L	10	Standard
>	Bi	209	846522.8	5.1				ug/L	811518	Standard

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	Na	23	1.7	173.2	**0.2395**	0.406	169.6	mg/L	0	Standard
	Mg	24	53.3	35.5	**0.3264**	0.493	151.1	mg/L	77	Standard
	K	39	25.0	0.0	**0.0234**	0.009	37.0	mg/L	18	Standard
	Ca	43	156.7	12.9	**7.6168**	6.661	87.5	mg/L	178	Standard
	Fe	54	22.8	77.0	**-0.1363**	0.247	180.9	mg/L	29	Standard
	Fe	57	368.3	19.9	**0.8192**	1.950	238.0	mg/L	408	Standard
>	**Sc-1**	45	63262.1	6.3				mg/L	61425	Standard
	Cl	35	1.3	173.2				ug/L	1	Standard
	Kr	83	10.0	36.1				ug/L	12	Standard
	Br	81	1703.4	5.1				ug/L	1747	Standard
	P	31	30.0	16.7				ug/L	17	Standard
	S	34	0.0					ug/L	3	Standard
	Sr	88	360.0	12.3				ug/L	370	Standard
	C	12	43.3	58.1				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	17	Standard
	Dy	164	12.2	100.2				mg/L	9	Standard
	Ho-1	165	13.3	78.1				mg/L	25	Standard
	Er	166	23.3	65.5				mg/L	20	Standard
	I	127	14710.7	21.6				mg/L	6023	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		103.924	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			

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⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	102.412
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	104.313
⌈	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

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 7
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Method 6020 - Summary Report

Sample ID: PBW 87 WG590567-02
Sample Date/Time: Friday, November 11, 2016 09:30:37
Number of Replicates: 3
Autosampler Position: 219
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	191539.2	21.3				ug/L	206101	Standard
	Be	9	28.3	20.4	**-0.0055**	0.003	60.0	ug/L	25	Standard
	Al	27	2633.6	18.3	**0.0203**	0.001	3.7	ug/L	1120	Standard
	Sc	45	55866.1	15.4				ug/L	61425	Standard
	Ti	47	45.0	19.8	**-0.0355**	0.043	121.8	ug/L	70	Standard
	V	51	2623.2	12.7	**-0.0525**	0.016	30.8	ug/L	3309	Standard
	Cr	52	10523.7	11.8	**-0.3075**	0.091	29.7	ug/L	13497	Standard
	Cr	53	2328.5	5.2	**-0.4712**	0.392	83.2	ug/L	3162	Standard
	Mn	55	1442.7	14.4	**-0.0378**	0.006	16.7	ug/L	2226	Standard
	Co	59	431.0	3.2	**-0.0250**	0.008	34.0	ug/L	1003	Standard
	Ni	60	342.0	11.7	**0.0142**	0.012	84.5	ug/L	355	Standard
	Cu	65	376.7	18.7	**-0.0322**	0.001	4.4	ug/L	473	Standard
	Zn	66	381.0	32.6	**0.0366**	0.053	145.4	ug/L	341	Standard
>	Ge	72	533670.7	18.7				ug/L	566981	Standard
	As	75	-118.6	28.6	**0.0034**	0.019	572.5	ug/L	-156	Standard
	Se	82	23.7	33.9	**-0.0644**	0.133	207.0	ug/L	35	Standard
	Se-1	77	357.3	4.3	**-0.0364**	0.702	1927.0	ug/L	354	Standard
>	Ga	71	41.7	38.6				mg/L	43	Standard
	Rb	85	45.0	38.5				ug/L	48	Standard
	Y	89	416329.5	18.6				ug/L	447702	Standard
>	Rh	103	41.7	48.5				ug/L	20	Standard
	Mo	98	60.6	39.2	**0.0049**	0.008	169.4	ug/L	158	Standard
	Ag	107	149.0	2.9	**0.0016**	0.003	181.0	ug/L	133	Standard
	Cd	111	6.3	40.0	**-0.0046**	0.001	19.3	mg/L	7	Standard
	Cd	114	54.0	27.6	**0.0036**	0.003	92.4	ug/L	72	Standard
>	In	115	943261.1	20.0				ug/L	1004638	Standard
	Sn	118	160.7	13.9	**0.0043**	0.014	334.7	ug/L	364	Standard
	Sb	123	651.3	73.9	**0.0262**	0.079	301.7	ug/L	2464	Standard
	Ba	135	31.0	38.7	**-0.0010**	0.002	174.5	ug/L	39	Standard
	Ce	140	58.3	47.2				ug/L	195	Standard
>	Tb	159	1499033.9	17.3				ug/L	1640193	Standard
	Ho	165	18.3	31.5				ug/L	25	Standard
	Tl	203	77.0	25.3	**-0.0072**	0.001	16.1	ug/L	324	Standard
	Tl	205	213.3	43.9	**0.0014**	0.002	178.7	ug/L	698	Standard
	Pb	206	589.0	20.5	**0.0027**	0.004	158.6	ug/L	600	Standard
	Pb	207	477.0	24.3	**-0.0013**	0.005	374.9	ug/L	541	Standard
	Pb	208	1624.7	18.4	**0.0012**	0.003	289.6	ug/L	1750	Standard
	U	238	31.7	132.2	**0.0045**	0.003	72.1	ug/L	10	Standard
>	Bi	209	775743.9	17.7				ug/L	811518	Standard

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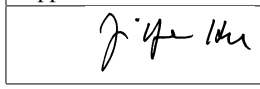

⌈	**Na**	23	1.7	173.2	**0.2822**	0.480	170.1	mg/L	0	Standard
|	**Mg**	24	41.7	50.0	**0.1416**	0.353	249.3	mg/L	77	Standard
|	**K**	39	20.0	43.3	**0.0070**	0.041	587.0	mg/L	18	Standard
|	**Ca**	43	131.7	33.2	**9.6900**	8.361	86.3	mg/L	178	Standard
|	**Fe**	54	14.1	36.5	**-0.2398**	0.045	18.6	mg/L	29	Standard
|	**Fe**	57	376.7	6.1	**3.4152**	3.052	89.4	mg/L	408	Standard
⌊>	**Sc-1**	45	55866.1	15.4				mg/L	61425	Standard
	Cl	35	1.3	86.6				ug/L	1	Standard
	Kr	83	9.0	22.2				ug/L	12	Standard
	Br	81	1633.4	5.9				ug/L	1747	Standard
	P	31	25.0	40.0				ug/L	17	Standard
	S	34	3.3	86.6				ug/L	3	Standard
	Sr	88	378.3	15.8				ug/L	370	Standard
	C	12	36.7	31.5				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	17	Standard
	Dy	164	22.1	23.7				mg/L	9	Standard
	Ho-1	165	18.3	31.5				mg/L	25	Standard
	Er	166	26.7	43.3				mg/L	20	Standard
	I	127	15498.2	21.2				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		92.934	
|	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		94.125	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

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⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	93.891
|	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	95.592
⌈	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: LCSW 87 WG590567-03
Sample Date/Time: Friday, November 11, 2016 09:33:43
Number of Replicates: 3
Autosampler Position: 220
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	219682.1	20.3				ug/L	206101	Standard
	Be	9	119573.4	19.4	**48.0702**	0.640	1.3	ug/L	25	Standard
	Al	27	15219.5	17.8	**0.0791**	0.002	3.0	ug/L	1120	Standard
	Sc	45	62128.8	14.2				ug/L	61425	Standard
	Ti	47	67.0	12.8	**-0.0036**	0.020	551.6	ug/L	70	Standard
	V	51	555233.7	17.7	**49.6235**	1.194	2.4	ug/L	3309	Standard
	Cr	52	525396.6	18.4	**50.5962**	0.796	1.6	ug/L	13497	Standard
	Cr	53	66044.8	17.4	**49.6626**	1.320	2.7	ug/L	3162	Standard
	Mn	55	810352.0	19.1	**49.3568**	0.408	0.8	ug/L	2226	Standard
	Co	59	643396.4	19.9	**49.8300**	0.083	0.2	ug/L	1003	Standard
	Ni	60	140071.0	19.3	**50.5645**	0.275	0.5	ug/L	355	Standard
	Cu	65	127866.8	19.8	**50.7784**	0.358	0.7	ug/L	473	Standard
	Zn	66	65152.3	19.6	**50.3416**	0.442	0.9	ug/L	341	Standard
>	Ge	72	596504.3	19.8				ug/L	566981	Standard
	As	75	64302.7	19.1	**49.4412**	0.443	0.9	ug/L	-156	Standard
	Se	82	5465.2	20.6	**50.3631**	0.442	0.9	ug/L	35	Standard
	Se-1	77	4562.7	19.8	**48.8001**	0.092	0.2	ug/L	354	Standard
>	Ga	71	56.7	51.7				mg/L	43	Standard
	Rb	85	100.0	8.7				ug/L	48	Standard
	Y	89	464164.1	18.8				ug/L	447702	Standard
>	Rh	103	56.7	27.0				ug/L	20	Standard
	Mo	98	129.9	23.6	**0.0174**	0.012	67.8	ug/L	158	Standard
	Ag	107	542518.6	18.3	**48.4913**	1.359	2.8	ug/L	133	Standard
	Cd	111	178937.4	20.4	**50.2642**	0.711	1.4	mg/L	7	Standard
	Cd	114	463976.9	19.9	**48.4212**	0.598	1.2	ug/L	72	Standard
>	In	115	1069843.3	21.0				ug/L	1004638	Standard
	Sn	118	261.7	6.8	**0.0417**	0.020	48.0	ug/L	364	Standard
	Sb	123	458845.4	20.2	**48.3208**	0.450	0.9	ug/L	2464	Standard
	Ba	135	192398.9	18.5	**48.0675**	1.234	2.6	ug/L	39	Standard
	Ce	140	190.0	20.9				ug/L	195	Standard
>	Tb	159	1679921.5	18.7				ug/L	1640193	Standard
	Ho	165	60.0	66.1				ug/L	25	Standard
	Tl	203	787513.3	18.2	**51.2887**	0.801	1.6	ug/L	324	Standard
	Tl	205	2030702.1	32.9	**48.6082**	7.227	14.9	ug/L	698	Standard
	Pb	206	607078.9	18.7	**50.6657**	0.594	1.2	ug/L	600	Standard
	Pb	207	521724.2	18.6	**48.9394**	0.201	0.4	ug/L	541	Standard
	Pb	208	1741279.2	17.3	**49.6912**	0.579	1.2	ug/L	1750	Standard
	U	238	655835.4	12.5	**47.2241**	2.799	5.9	ug/L	10	Standard
>	Bi	209	850277.8	18.3				ug/L	811518	Standard

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	Na	23	0.0		**0.0050**	0.000	0.0	mg/L	0	Standard
	Mg	24	36.7	28.4	**-0.0473**	0.162	341.7	mg/L	77	Standard
	K	39	21.7	35.3	**0.0050**	0.026	520.8	mg/L	18	Standard
	Ca	43	153.3	15.4	**6.9894**	10.943	156.6	mg/L	178	Standard
	Fe	54	30.5	9.9	**-0.0308**	0.096	310.9	mg/L	29	Standard
	Fe	57	418.3	7.2	**3.4236**	3.522	102.9	mg/L	408	Standard
>	**Sc-1**	45	62128.8	14.2				mg/L	61425	Standard
	Cl	35	1.3	86.6				ug/L	1	Standard
	Kr	83	9.3	22.3				ug/L	12	Standard
	Br	81	1906.8	24.2				ug/L	1747	Standard
	P	31	36.7	28.4				ug/L	17	Standard
	S	34	3.3	173.2				ug/L	3	Standard
	Sr	88	335.0	6.5				ug/L	370	Standard
	C	12	80.0	33.1				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	17	Standard
	Dy	164	22.5	23.2				mg/L	9	Standard
	Ho-1	165	60.0	66.1				mg/L	25	Standard
	Er	166	16.7	69.3				mg/L	20	Standard
	I	127	3803.8	11.1				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		106.589	
	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		105.207	
	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	106.490
|	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	104.776
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: F BLANK WG590567-06
Sample Date/Time: Friday, November 11, 2016 09:36:48
Number of Replicates: 3
Autosampler Position: 221
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	198113.7	22.2				ug/L	206101	Standard
	Be	9	31.7	24.1	**-0.0048**	0.000	7.2	ug/L	25	Standard
	Al	27	2561.9	9.7	**0.0196**	0.002	9.2	ug/L	1120	Standard
	Sc	45	58381.0	16.7				ug/L	61425	Standard
	Ti	47	50.3	11.6	**-0.0266**	0.035	131.9	ug/L	70	Standard
	V	51	2701.5	14.4	**-0.0509**	0.017	32.6	ug/L	3309	Standard
	Cr	52	10977.3	8.3	**-0.2789**	0.121	43.5	ug/L	13497	Standard
	Cr	53	2200.2	5.9	**-0.6372**	0.283	44.5	ug/L	3162	Standard
	Mn	55	1873.5	14.8	**-0.0111**	0.005	44.4	ug/L	2226	Standard
	Co	59	680.3	5.1	**-0.0047**	0.008	165.4	ug/L	1003	Standard
	Ni	60	353.7	11.5	**0.0163**	0.018	111.5	ug/L	355	Standard
	Cu	65	403.3	23.7	**-0.0252**	0.011	44.0	ug/L	473	Standard
	Zn	66	356.0	15.9	**0.0134**	0.013	96.4	ug/L	341	Standard
>	Ge	72	545352.3	18.7				ug/L	566981	Standard
	As	75	-148.1	49.4	**-0.0155**	0.045	289.5	ug/L	-156	Standard
	Se	82	26.3	41.6	**-0.0394**	0.166	420.6	ug/L	35	Standard
	Se-1	77	340.3	9.6	**-0.3808**	0.570	149.7	ug/L	354	Standard
>	Ga	71	51.7	39.1				mg/L	43	Standard
	Rb	85	46.7	30.9				ug/L	48	Standard
	Y	89	423755.0	18.8				ug/L	447702	Standard
>	Rh	103	33.3	60.6				ug/L	20	Standard
	Mo	98	51.3	38.6	**0.0024**	0.007	274.0	ug/L	158	Standard
	Ag	107	183.0	27.0	**0.0043**	0.001	31.8	ug/L	133	Standard
	Cd	111	9.9	10.1	**-0.0035**	0.001	23.1	mg/L	7	Standard
	Cd	114	36.5	59.3	**0.0009**	0.002	178.5	ug/L	72	Standard
>	In	115	949344.0	19.9				ug/L	1004638	Standard
	Sn	118	131.3	5.7	**-0.0115**	0.009	80.4	ug/L	364	Standard
	Sb	123	1233.2	59.8	**0.0990**	0.119	120.6	ug/L	2464	Standard
	Ba	135	39.0	37.2	**0.0012**	0.002	187.6	ug/L	39	Standard
	Ce	140	55.0	36.4				ug/L	195	Standard
>	Tb	159	1548529.6	20.2				ug/L	1640193	Standard
	Ho	165	15.0	66.7				ug/L	25	Standard
	Tl	203	131.3	7.8	**-0.0032**	0.001	44.7	ug/L	324	Standard
	Tl	205	373.3	5.6	**0.0057**	0.001	24.8	ug/L	698	Standard
	Pb	206	593.0	23.7	**0.0024**	0.002	85.8	ug/L	600	Standard
	Pb	207	489.3	19.9	**-0.0001**	0.001	951.1	ug/L	541	Standard
	Pb	208	1661.0	18.7	**0.0020**	0.001	62.4	ug/L	1750	Standard
	U	238	26.3	32.7	**0.0041**	0.000	8.8	ug/L	10	Standard
>	Bi	209	782662.2	19.8				ug/L	811518	Standard

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⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	0	Standard
|	**Mg**	24	33.3	17.3	**-0.0651**	0.045	68.9	mg/L	77	Standard
|	**K**	39	15.0	57.7	**-0.0278**	0.034	123.7	mg/L	18	Standard
|	**Ca**	43	143.3	14.5	**7.7717**	6.350	81.7	mg/L	178	Standard
|	**Fe**	54	29.3	72.9	**0.0004**	0.38	107577.1	mg/L	29	Standard
|	**Fe**	57	431.7	8.5	**4.9717**	2.931	58.9	mg/L	408	Standard
⌊>	**Sc-1**	45	58381.0	16.7				mg/L	61425	Standard
	Cl	35	1.3	173.2				ug/L	1	Standard
	Kr	83	9.3	44.6				ug/L	12	Standard
	Br	81	1683.4	5.7				ug/L	1747	Standard
	P	31	23.3	44.6				ug/L	17	Standard
	S	34	6.7	86.6				ug/L	3	Standard
	Sr	88	418.3	8.0				ug/L	370	Standard
	C	12	60.0	50.0				mg/L	47	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	17	Standard
	Dy	164	26.2	79.9				mg/L	9	Standard
	Ho-1	165	15.0	66.7				mg/L	25	Standard
	Er	166	10.0	100.0				mg/L	20	Standard
	I	127	16208.8	16.9				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		96.124	
|	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		96.185	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: F BLANK WG590567-06
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⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	94.496
|	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	96.444
⌈	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

Sample ID: F BLANK WG590567-06
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Method 6020 - Summary Report

Sample ID: L1611009813 WG590567-01
Sample Date/Time: Friday, November 11, 2016 09:39:53
Number of Replicates: 3
Autosampler Position: 222
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	230712.9	17.8				ug/L	206101	Standard
	Be	9	58.3	32.5	**0.0031**	0.004	120.0	ug/L	25	Standard
	Al	27	782276.7	12.8	**3.6083**	0.192	5.3	ug/L	1120	Standard
	Sc	45	66348.0	11.8				ug/L	61425	Standard
	Ti	47	394.0	27.6	**0.6425**	0.105	16.4	ug/L	70	Standard
	V	51	4325.2	9.0	**0.0597**	0.029	48.5	ug/L	3309	Standard
	Cr	52	21565.8	11.0	**0.5873**	0.107	18.3	ug/L	13497	Standard
	Cr	53	3492.1	10.7	**0.1050**	0.207	197.0	ug/L	3162	Standard
	Mn	55	71091.7	15.6	**4.0493**	0.046	1.1	ug/L	2226	Standard
	Co	59	1613.8	16.2	**0.0574**	0.005	8.6	ug/L	1003	Standard
	Ni	60	1166.7	13.6	**0.2826**	0.010	3.5	ug/L	355	Standard
	Cu	65	882.0	14.1	**0.1398**	0.008	5.9	ug/L	473	Standard
	Zn	66	1892.5	14.1	**1.1305**	0.034	3.0	ug/L	341	Standard
>	**Ge**	72	618404.9	15.8				ug/L	566981	Standard
	As	75	-82.4	54.6	**0.0405**	0.037	90.8	ug/L	-156	Standard
	Se	82	29.4	32.2	**-0.0519**	0.115	221.6	ug/L	35	Standard
	Se-1	77	326.7	2.0	**-1.0438**	0.679	65.1	ug/L	354	Standard
>	**Ga**	71	106.7	16.5				mg/L	43	Standard
	Rb	85	3985.5	12.5				ug/L	48	Standard
	Y	89	485221.0	16.6				ug/L	447702	Standard
>	**Rh**	103	40.0	25.0				ug/L	20	Standard
	Mo	98	151.5	10.9	**0.0203**	0.009	43.2	ug/L	158	Standard
	Ag	107	197.0	11.5	**0.0034**	0.001	30.1	ug/L	133	Standard
	Cd	111	33.5	7.6	**0.0026**	0.001	43.5	mg/L	7	Standard
	Cd	114	107.8	9.2	**0.0080**	0.001	17.7	ug/L	72	Standard
>	**In**	115	1091017.5	16.8				ug/L	1004638	Standard
	Sn	118	266.7	6.2	**0.0405**	0.015	38.1	ug/L	364	Standard
	Sb	123	3250.5	33.9	**0.2915**	0.166	57.0	ug/L	2464	Standard
	Ba	135	16410.0	15.7	**4.0036**	0.071	1.8	ug/L	39	Standard
	Ce	140	4664.1	18.0				ug/L	195	Standard
>	**Tb**	159	1711008.4	14.7				ug/L	1640193	Standard
	Ho	165	130.0	27.7				ug/L	25	Standard
	Tl	203	291.0	10.1	**0.0062**	0.003	45.1	ug/L	324	Standard
	Tl	205	640.0	9.0	**0.0111**	0.002	15.7	ug/L	698	Standard
	Pb	206	1035.0	16.2	**0.0339**	0.004	10.5	ug/L	600	Standard
	Pb	207	852.4	12.9	**0.0289**	0.001	3.8	ug/L	541	Standard
	Pb	208	2973.4	12.7	**0.0340**	0.001	4.0	ug/L	1750	Standard
	U	238	78.3	45.1	**0.0079**	0.004	44.7	ug/L	10	Standard
>	**Bi**	209	864126.8	14.2				ug/L	811518	Standard

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⌈	**Na**	23	6.7	86.6	**1.0090**	0.879	87.1	mg/L	0	Standard
|	**Mg**	24	103.3	42.3	**1.2346**	0.691	55.9	mg/L	77	Standard
|	**K**	39	66.7	26.3	**0.2304**	0.072	31.4	mg/L	18	Standard
|	**Ca**	43	136.7	22.4	**12.9248**	10.450	80.9	mg/L	178	Standard
|	**Fe**	54	49.1	0.7	**0.1703**	0.076	44.4	mg/L	29	Standard
|	**Fe**	57	400.0	7.8	**1.4964**	1.556	104.0	mg/L	408	Standard
⌊>	**Sc-1**	45	66348.0	11.8				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	9.3	12.4				ug/L	12	Standard
	Br	81	2536.9	6.8				ug/L	1747	Standard
	P	31	36.7	7.9				ug/L	17	Standard
	S	34	1.7	173.2				ug/L	3	Standard
	Sr	88	386.7	20.9				ug/L	370	Standard
	C	12	93.3	80.4				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	13.3	86.6				mg/L	17	Standard
	Dy	164	190.4	36.7				mg/L	9	Standard
	Ho-1	165	130.0	27.7				mg/L	25	Standard
	Er	166	130.0	20.4				mg/L	20	Standard
	I	127	23436.5	5.1				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		111.941	
|	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		109.070	
|	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	108.598
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	106.483
⌈	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: L1611009814S WG590567-04
Sample Date/Time: Friday, November 11, 2016 09:42:59
Number of Replicates: 3
Autosampler Position: 223
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	227161.7	20.1				ug/L	206101	Standard
	Be	9	120302.0	17.5	**46.8844**	1.442	3.1	ug/L	25	Standard
	Al	27	765425.9	14.6	**3.5905**	0.200	5.6	ug/L	1120	Standard
	Sc	45	64817.0	14.7				ug/L	61425	Standard
	Ti	47	367.3	25.1	**0.6186**	0.157	25.4	ug/L	70	Standard
	V	51	564648.3	17.2	**49.8718**	1.206	2.4	ug/L	3309	Standard
	Cr	52	527800.0	17.3	**50.2489**	1.198	2.4	ug/L	13497	Standard
	Cr	53	68621.8	18.1	**50.9667**	1.645	3.2	ug/L	3162	Standard
	Mn	55	885016.8	17.8	**53.3338**	1.175	2.2	ug/L	2226	Standard
	Co	59	649751.6	17.9	**49.8252**	1.191	2.4	ug/L	1003	Standard
	Ni	60	141874.6	18.4	**50.6378**	0.846	1.7	ug/L	355	Standard
	Cu	65	129269.4	18.7	**50.7622**	0.741	1.5	ug/L	473	Standard
	Zn	66	65550.0	17.5	**50.1441**	0.925	1.8	ug/L	341	Standard
>	**Ge**	72	603288.6	19.0				ug/L	566981	Standard
	As	75	65282.6	16.6	**49.7326**	1.275	2.6	ug/L	-156	Standard
	Se	82	5324.2	16.6	**48.7017**	1.281	2.6	ug/L	35	Standard
	Se-1	77	4593.7	17.5	**48.6492**	1.062	2.2	ug/L	354	Standard
>	**Ga**	71	118.3	30.6				mg/L	43	Standard
	Rb	85	3840.5	17.3				ug/L	48	Standard
	Y	89	474405.4	16.8				ug/L	447702	Standard
>	**Rh**	103	65.0	38.5				ug/L	20	Standard
	Mo	98	123.4	12.2	**0.0152**	0.008	50.4	ug/L	158	Standard
	Ag	107	542316.8	16.0	**48.0817**	1.816	3.8	ug/L	133	Standard
	Cd	111	177367.7	18.7	**49.3973**	0.965	2.0	mg/L	7	Standard
	Cd	114	457855.7	18.9	**47.3300**	0.327	0.7	ug/L	72	Standard
>	**In**	115	1079160.3	19.4				ug/L	1004638	Standard
	Sn	118	239.3	12.4	**0.0289**	0.008	28.0	ug/L	364	Standard
	Sb	123	453504.8	18.0	**47.3785**	0.670	1.4	ug/L	2464	Standard
	Ba	135	205696.7	15.9	**50.9961**	1.773	3.5	ug/L	39	Standard
	Ce	140	4607.4	15.2				ug/L	195	Standard
>	**Tb**	159	1682840.9	16.3				ug/L	1640193	Standard
	Ho	165	151.7	19.3				ug/L	25	Standard
	Tl	203	776589.3	16.2	**50.2456**	1.140	2.3	ug/L	324	Standard
	Tl	205	2040582.3	31.4	**48.6245**	7.727	15.9	ug/L	698	Standard
	Pb	206	605741.0	16.5	**50.2416**	0.881	1.8	ug/L	600	Standard
	Pb	207	513691.6	15.5	**47.9267**	0.882	1.8	ug/L	541	Standard
	Pb	208	1719052.6	15.2	**48.7243**	0.754	1.5	ug/L	1750	Standard
	U	238	664057.0	11.0	**47.4238**	2.286	4.8	ug/L	10	Standard
>	**Bi**	209	855193.8	15.5				ug/L	811518	Standard

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⌈	**Na**	23	10.0	50.0	**1.5320**	0.963	62.9	mg/L	0	Standard
|	**Mg**	24	93.3	3.1	**1.1517**	0.246	21.3	mg/L	77	Standard
|	**K**	39	65.0	33.5	**0.2326**	0.107	46.2	mg/L	18	Standard
|	**Ca**	43	135.0	19.6	**13.5046**	3.152	23.3	mg/L	178	Standard
|	**Fe**	54	40.7	28.3	**0.0835**	0.183	218.7	mg/L	29	Standard
|	**Fe**	57	393.3	7.8	**1.7767**	2.949	166.0	mg/L	408	Standard
⌊>	**Sc-1**	45	64817.0	14.7				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	8.0	33.1				ug/L	12	Standard
	Br	81	2070.1	7.6				ug/L	1747	Standard
	P	31	25.0	72.1				ug/L	17	Standard
	S	34	6.7	114.6				ug/L	3	Standard
	Sr	88	335.0	3.9				ug/L	370	Standard
	C	12	86.7	29.0				mg/L	47	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	20.0	0.0				mg/L	17	Standard
	Dy	164	185.5	23.6				mg/L	9	Standard
	Ho-1	165	151.7	19.3				mg/L	25	Standard
	Er	166	163.3	51.0				mg/L	20	Standard
	I	127	25424.7	3.4				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		110.218	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		106.404	
|	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	107.418
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	105.382
⌈	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

Sample ID: L1611009814S WG590567-04
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Method 6020 - Summary Report

Sample ID: L1611009815SD WG590567-05
Sample Date/Time: Friday, November 11, 2016 09:46:04
Number of Replicates: 3
Autosampler Position: 224
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	224007.0	21.8				ug/L	206101	Standard
	Be	9	121848.2	16.3	**48.4084**	2.900	6.0	ug/L	25	Standard
	Al	27	739801.7	17.1	**3.5199**	0.186	5.3	ug/L	1120	Standard
	Sc	45	65526.3	13.1				ug/L	61425	Standard
	Ti	47	370.3	36.2	**0.5995**	0.136	22.7	ug/L	70	Standard
	V	51	564448.2	15.7	**49.3465**	1.711	3.5	ug/L	3309	Standard
	Cr	52	533313.6	16.1	**50.2487**	1.555	3.1	ug/L	13497	Standard
	Cr	53	66295.8	16.8	**48.6229**	1.173	2.4	ug/L	3162	Standard
	Mn	55	882516.1	18.2	**52.5220**	0.464	0.9	ug/L	2226	Standard
	Co	59	655667.6	18.2	**49.6598**	0.564	1.1	ug/L	1003	Standard
	Ni	60	141923.3	18.3	**50.0474**	0.738	1.5	ug/L	355	Standard
	Cu	65	129547.7	18.3	**50.2831**	0.560	1.1	ug/L	473	Standard
	Zn	66	65637.4	18.5	**49.5434**	0.758	1.5	ug/L	341	Standard
>	**Ge**	72	610675.1	19.0				ug/L	566981	Standard
	As	75	64810.9	16.9	**48.7647**	1.067	2.2	ug/L	-156	Standard
	Se	82	5381.6	18.7	**48.5082**	0.186	0.4	ug/L	35	Standard
	Se-1	77	4506.4	17.9	**46.9794**	1.134	2.4	ug/L	354	Standard
>	**Ga**	71	120.0	12.5				mg/L	43	Standard
	Rb	85	3592.1	17.7				ug/L	48	Standard
	Y	89	477926.0	18.4				ug/L	447702	Standard
>	**Rh**	103	48.3	23.9				ug/L	20	Standard
	Mo	98	113.4	10.9	**0.0129**	0.003	24.0	ug/L	158	Standard
	Ag	107	546602.4	16.3	**49.0239**	1.465	3.0	ug/L	133	Standard
	Cd	111	176436.2	18.9	**49.7241**	0.943	1.9	mg/L	7	Standard
	Cd	114	455674.5	20.4	**47.5781**	1.142	2.4	ug/L	72	Standard
>	**In**	115	1065022.3	18.6				ug/L	1004638	Standard
	Sn	118	240.0	7.3	**0.0312**	0.013	41.9	ug/L	364	Standard
	Sb	123	456538.3	17.8	**48.2865**	0.428	0.9	ug/L	2464	Standard
	Ba	135	204784.2	16.4	**51.3509**	1.186	2.3	ug/L	39	Standard
	Ce	140	4652.4	21.7				ug/L	195	Standard
>	**Tb**	159	1678282.4	15.8				ug/L	1640193	Standard
	Ho	165	155.0	34.1				ug/L	25	Standard
	Tl	203	771054.9	16.7	**50.4143**	0.621	1.2	ug/L	324	Standard
	Tl	205	2022749.7	31.1	**48.7233**	7.302	15.0	ug/L	698	Standard
	Pb	206	598163.1	16.6	**50.1539**	1.143	2.3	ug/L	600	Standard
	Pb	207	507437.6	16.1	**47.8372**	0.596	1.2	ug/L	541	Standard
	Pb	208	1726193.4	16.5	**49.3993**	0.619	1.3	ug/L	1750	Standard
	U	238	663909.5	12.0	**47.8989**	2.170	4.5	ug/L	10	Standard
>	**Bi**	209	846568.5	16.4				ug/L	811518	Standard

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⌈	**Na**	23	1.7	173.2	**0.2162**	0.366	169.2	mg/L	0	Standard
|	**Mg**	24	86.7	28.5	**0.9465**	0.288	30.5	mg/L	77	Standard
|	**K**	39	50.0	55.7	**0.1479**	0.134	90.9	mg/L	18	Standard
|	**Ca**	43	130.0	3.8	**14.5860**	2.614	17.9	mg/L	178	Standard
|	**Fe**	54	30.2	41.3	**-0.0691**	0.142	205.3	mg/L	29	Standard
|	**Fe**	57	385.0	5.7	**1.1303**	1.209	107.0	mg/L	408	Standard
⌊>	**Sc-1**	45	65526.3	13.1				mg/L	61425	Standard
	Cl	35	2.7	43.3				ug/L	1	Standard
	Kr	83	10.3	53.3				ug/L	12	Standard
	Br	81	2413.5	9.1				ug/L	1747	Standard
	P	31	21.7	70.5				ug/L	17	Standard
	S	34	5.0	100.0				ug/L	3	Standard
	Sr	88	346.7	6.0				ug/L	370	Standard
	C	12	100.0	36.1				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	17	Standard
	Dy	164	187.3	24.4				mg/L	9	Standard
	Ho-1	165	155.0	34.1				mg/L	25	Standard
	Er	166	126.7	60.3				mg/L	20	Standard
	I	127	24052.5	7.4				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		108.688	
|	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		107.706	
|	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	106.011
|	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	104.319
⌈	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

Sample ID: L1611009815SD WG590567-05
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Method 6020 - Summary Report

Sample ID: L1611012101
Sample Date/Time: Friday, November 11, 2016 09:49:10
Number of Replicates: 3
Autosampler Position: 225
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	224231.9	18.4				ug/L	206101	Standard
	Be	9	66.7	11.5	**0.0076**	0.002	32.7	ug/L	25	Standard
	Al	27	8233003.1	13.5	**39.0258**	2.031	5.2	ug/L	1120	Standard
	Sc	45	66950.8	12.5				ug/L	61425	Standard
	Ti	47	280.0	23.2	**0.4328**	0.054	12.4	ug/L	70	Standard
	V	51	3619.5	14.9	**0.0048**	0.006	131.3	ug/L	3309	Standard
	Cr	52	20156.5	10.8	**0.5062**	0.096	18.9	ug/L	13497	Standard
	Cr	53	3492.1	10.5	**0.1774**	0.160	90.5	ug/L	3162	Standard
	Mn	55	637298.6	15.4	**38.4534**	0.873	2.3	ug/L	2226	Standard
	Co	59	4241.9	18.7	**0.2621**	0.016	6.0	ug/L	1003	Standard
	Ni	60	5443.0	17.1	**1.8245**	0.053	2.9	ug/L	355	Standard
	Cu	65	879.4	15.3	**0.1478**	0.000	0.2	ug/L	473	Standard
	Zn	66	2407.2	16.7	**1.5621**	0.028	1.8	ug/L	341	Standard
>	Ge	72	601242.1	15.3				ug/L	566981	Standard
	As	75	29.2	139.9	**0.1260**	0.030	23.7	ug/L	-156	Standard
	Se	82	46.4	25.0	**0.1065**	0.098	91.8	ug/L	35	Standard
	Se-1	77	351.3	8.4	**-0.6201**	1.024	165.1	ug/L	354	Standard
>	Ga	71	60.0	30.0				mg/L	43	Standard
	Rb	85	1355.1	10.0				ug/L	48	Standard
	Y	89	474334.3	13.7				ug/L	447702	Standard
>	Rh	103	28.3	44.4				ug/L	20	Standard
	Mo	98	102.3	15.5	**0.0107**	0.005	45.4	ug/L	158	Standard
	Ag	107	248.7	13.8	**0.0083**	0.001	7.6	ug/L	133	Standard
	Cd	111	16.9	11.8	**-0.0020**	0.001	27.2	mg/L	7	Standard
	Cd	114	60.0	16.9	**0.0031**	0.001	19.4	ug/L	72	Standard
>	In	115	1071866.3	14.8				ug/L	1004638	Standard
	Sn	118	247.3	6.5	**0.0338**	0.017	51.6	ug/L	364	Standard
	Sb	123	8526.9	30.3	**0.8698**	0.381	43.8	ug/L	2464	Standard
	Ba	135	8099.9	13.2	**2.0069**	0.054	2.7	ug/L	39	Standard
	Ce	140	2975.3	12.8				ug/L	195	Standard
>	Tb	159	1676211.4	14.0				ug/L	1640193	Standard
	Ho	165	108.3	35.3				ug/L	25	Standard
	Tl	203	491.0	0.5	**0.0201**	0.005	24.8	ug/L	324	Standard
	Tl	205	1208.4	12.3	**0.0255**	0.003	10.8	ug/L	698	Standard
	Pb	206	959.0	15.3	**0.0298**	0.003	8.8	ug/L	600	Standard
	Pb	207	751.0	12.8	**0.0214**	0.002	7.4	ug/L	541	Standard
	Pb	208	2756.1	9.5	**0.0303**	0.004	14.0	ug/L	1750	Standard
	U	238	272.3	11.9	**0.0222**	0.005	24.0	ug/L	10	Standard
>	Bi	209	841084.5	14.2				ug/L	811518	Standard

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	Na	23	61.7	12.4	**8.7324**	1.079	12.4	mg/L	0	Standard
	Mg	24	101.7	15.0	**1.2837**	0.580	45.2	mg/L	77	Standard
	K	39	78.3	51.2	**0.3107**	0.266	85.5	mg/L	18	Standard
	Ca	43	153.3	18.0	**9.6668**	10.360	107.2	mg/L	178	Standard
	Fe	54	25.7	46.2	**-0.1263**	0.140	110.8	mg/L	29	Standard
	Fe	57	441.7	9.4	**3.0260**	3.140	103.8	mg/L	408	Standard
>	**Sc-1**	45	66950.8	12.5				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	7.0	51.5				ug/L	12	Standard
	Br	81	3133.7	11.0				ug/L	1747	Standard
	P	31	25.0	87.2				ug/L	17	Standard
	S	34	3.3	86.6				ug/L	3	Standard
	Sr	88	346.7	12.1				ug/L	370	Standard
	C	12	60.0	28.9				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	13.3	43.3				mg/L	17	Standard
	Dy	164	105.5	52.1				mg/L	9	Standard
	Ho-1	165	108.3	35.3				mg/L	25	Standard
	Er	166	93.3	44.6				mg/L	20	Standard
	I	127	88331.0	7.4				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		108.797	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		106.043	
	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	106.692
|	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	103.643
⌈	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: L1611012401
Sample Date/Time: Friday, November 11, 2016 09:52:15
Number of Replicates: 3
Autosampler Position: 226
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	231682.4	11.8				ug/L	206101	Standard
	Be	9	43.3	13.3	**-0.0024**	0.000	9.7	ug/L	25	Standard
	Al	27	15065065.5	8.6	**68.8390**	2.305	3.3	ug/L	1120	Standard
	Sc	45	66812.7	8.8				ug/L	61425	Standard
	Ti	47	233.3	19.8	**0.3282**	0.068	20.7	ug/L	70	Standard
	V	51	3884.9	1.7	**0.0234**	0.032	135.7	ug/L	3309	Standard
	Cr	52	21576.4	7.1	**0.5981**	0.091	15.2	ug/L	13497	Standard
	Cr	53	3365.4	11.3	**0.0085**	0.009	102.7	ug/L	3162	Standard
	Mn	55	1529987.1	10.6	**90.6148**	2.135	2.4	ug/L	2226	Standard
	Co	59	2264.5	9.3	**0.1077**	0.010	9.7	ug/L	1003	Standard
	Ni	60	3065.6	11.6	**0.9520**	0.049	5.2	ug/L	355	Standard
	Cu	65	1183.7	11.9	**0.2585**	0.022	8.7	ug/L	473	Standard
	Zn	66	4494.7	8.7	**3.1080**	0.098	3.2	ug/L	341	Standard
>	Ge	72	614179.0	11.7				ug/L	566981	Standard
	As	75	2780.7	6.9	**2.1817**	0.097	4.4	ug/L	-156	Standard
	Se	82	41.0	16.3	**0.0533**	0.096	179.3	ug/L	35	Standard
	Se-1	77	352.7	9.2	**-0.7837**	0.173	22.0	ug/L	354	Standard
>	Ga	71	71.7	24.5				mg/L	43	Standard
	Rb	85	6614.8	13.8				ug/L	48	Standard
	Y	89	469134.2	10.1				ug/L	447702	Standard
>	Rh	103	73.3	25.8				ug/L	20	Standard
	Mo	98	1199.0	6.0	**0.2257**	0.008	3.4	ug/L	158	Standard
	Ag	107	175.7	10.8	**0.0019**	0.000	16.2	ug/L	133	Standard
	Cd	111	18.8	39.5	**-0.0015**	0.002	109.5	mg/L	7	Standard
	Cd	114	105.7	37.4	**0.0077**	0.003	40.9	ug/L	72	Standard
>	In	115	1062880.3	9.4				ug/L	1004638	Standard
	Sn	118	284.0	6.9	**0.0502**	0.005	9.0	ug/L	364	Standard
	Sb	123	2798.5	42.5	**0.2435**	0.148	60.9	ug/L	2464	Standard
	Ba	135	84511.3	9.0	**21.1812**	0.532	2.5	ug/L	39	Standard
	Ce	140	601.7	8.5				ug/L	195	Standard
>	Tb	159	1679019.7	11.4				ug/L	1640193	Standard
	Ho	165	45.0	22.2				ug/L	25	Standard
	Tl	203	841.7	1.8	**0.0423**	0.005	13.0	ug/L	324	Standard
	Tl	205	1830.1	4.7	**0.0402**	0.002	4.8	ug/L	698	Standard
	Pb	206	824.7	12.7	**0.0175**	0.003	14.7	ug/L	600	Standard
	Pb	207	681.3	11.1	**0.0138**	0.002	12.0	ug/L	541	Standard
	Pb	208	2281.7	9.0	**0.0153**	0.002	10.7	ug/L	1750	Standard
	U	238	978.0	4.0	**0.0720**	0.005	6.9	ug/L	10	Standard
>	Bi	209	852319.1	8.8				ug/L	811518	Standard

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⌈	**Na**	23	145.0	24.1	**20.4391**	4.743	23.2	mg/L	0	Standard
|	**Mg**	24	123.3	35.0	**1.6502**	0.663	40.2	mg/L	77	Standard
|	**K**	39	85.0	17.6	**0.3259**	0.091	27.8	mg/L	18	Standard
|	**Ca**	43	223.3	8.5	**-4.6342**	6.981	150.6	mg/L	178	Standard
|	**Fe**	54	54.1	36.8	**0.2250**	0.265	117.8	mg/L	29	Standard
|	**Fe**	57	563.3	11.2	**7.3377**	3.160	43.1	mg/L	408	Standard
⌊>	**Sc-1**	45	66812.7	8.8				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	7.3	7.9				ug/L	12	Standard
	Br	81	2993.6	6.2				ug/L	1747	Standard
	P	31	38.3	19.9				ug/L	17	Standard
	S	34	3.3	86.6				ug/L	3	Standard
	Sr	88	423.3	4.5				ug/L	370	Standard
	C	12	86.7	17.6				mg/L	47	Standard
	N	14	6.7	173.2				mg/L	0	Standard
	Hg	202	10.0	100.0				mg/L	17	Standard
	Dy	164	48.6	76.2				mg/L	9	Standard
	Ho-1	165	45.0	22.2				mg/L	25	Standard
	Er	166	30.0	66.7				mg/L	20	Standard
	I	127	28887.6	6.0				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		112.412	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
| >	Ge	72		108.324	
|	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	105.797
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	105.028
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1611012401PS WG590881-03
Sample Date/Time: Friday, November 11, 2016 09:55:20
Number of Replicates: 3
Autosampler Position: 227
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	226832.0	15.0				ug/L	206101	Standard
	Be	9	123441.7	18.2	**47.8829**	2.080	4.3	ug/L	25	Standard
	Al	27	14505777.6	13.3	**67.6959**	2.462	3.6	ug/L	1120	Standard
	Sc	45	65050.7	12.3				ug/L	61425	Standard
	Ti	47	227.3	22.0	**0.3229**	0.025	7.9	ug/L	70	Standard
	V	51	577743.1	14.9	**51.0411**	0.970	1.9	ug/L	3309	Standard
	Cr	52	540210.1	15.5	**51.4465**	0.743	1.4	ug/L	13497	Standard
	Cr	53	68525.1	14.7	**50.9801**	1.216	2.4	ug/L	3162	Standard
	Mn	55	2811916.7	27.6	**167.4177**	21.741	13.0	ug/L	2226	Standard
	Co	59	659788.3	16.3	**50.5759**	0.531	1.1	ug/L	1003	Standard
	Ni	60	142566.1	16.1	**50.8994**	0.314	0.6	ug/L	355	Standard
	Cu	65	126562.3	15.4	**49.7734**	0.759	1.5	ug/L	473	Standard
	Zn	66	68829.7	16.1	**52.6288**	0.595	1.1	ug/L	341	Standard
>	Ge	72	603125.0	16.7				ug/L	566981	Standard
	As	75	69127.8	16.6	**52.5285**	0.822	1.6	ug/L	-156	Standard
	Se	82	5529.6	17.2	**50.4317**	0.346	0.7	ug/L	35	Standard
	Se-1	77	4618.4	15.5	**48.9270**	0.754	1.5	ug/L	354	Standard
>	Ga	71	80.0	22.5				mg/L	43	Standard
	Rb	85	6401.4	16.4				ug/L	48	Standard
	Y	89	468603.1	14.0				ug/L	447702	Standard
>	Rh	103	85.0	10.2				ug/L	20	Standard
	Mo	98	1190.9	16.5	**0.2254**	0.001	0.6	ug/L	158	Standard
	Ag	107	551248.0	15.1	**49.8694**	0.867	1.7	ug/L	133	Standard
	Cd	111	175437.5	17.1	**49.9259**	0.582	1.2	mg/L	7	Standard
	Cd	114	457436.7	18.9	**48.2343**	1.295	2.7	ug/L	72	Standard
>	In	115	1055009.5	16.7				ug/L	1004638	Standard
	Sn	118	278.0	15.1	**0.0487**	0.009	18.9	ug/L	364	Standard
	Sb	123	463543.8	16.7	**49.4610**	0.720	1.5	ug/L	2464	Standard
	Ba	135	272058.1	15.8	**68.7641**	0.837	1.2	ug/L	39	Standard
	Ce	140	740.0	19.7				ug/L	195	Standard
>	Tb	159	1641465.1	14.8				ug/L	1640193	Standard
	Ho	165	81.7	49.9				ug/L	25	Standard
	Tl	203	752069.4	14.4	**49.7240**	0.631	1.3	ug/L	324	Standard
	Tl	205	1975136.9	29.2	**48.2297**	7.858	16.3	ug/L	698	Standard
	Pb	206	587898.9	15.9	**49.7706**	1.341	2.7	ug/L	600	Standard
	Pb	207	515802.0	15.0	**49.1212**	1.036	2.1	ug/L	541	Standard
	Pb	208	1722712.2	13.8	**49.8655**	0.320	0.6	ug/L	1750	Standard
	U	238	690043.4	10.0	**50.2738**	1.672	3.3	ug/L	10	Standard
>	Bi	209	836742.8	13.3				ug/L	811518	Standard

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⌈	**Na**	23	146.7	31.7	**20.9784**	4.263	20.3	mg/L	0	Standard
|	**Mg**	24	121.7	9.5	**1.7637**	0.572	32.4	mg/L	77	Standard
|	**K**	39	75.0	24.0	**0.2788**	0.052	18.7	mg/L	18	Standard
|	**Ca**	43	195.0	18.5	**-0.1095**	11.479	10482.5	mg/L	178	Standard
|	**Fe**	54	49.2	30.2	**0.1686**	0.119	70.5	mg/L	29	Standard
|	**Fe**	57	555.0	13.1	**7.5275**	2.285	30.4	mg/L	408	Standard
⌊>	**Sc-1**	45	65050.7	12.3				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	14.7	27.6				ug/L	12	Standard
	Br	81	2987.0	7.3				ug/L	1747	Standard
	P	31	43.3	26.6				ug/L	17	Standard
	S	34	5.0	100.0				ug/L	3	Standard
	Sr	88	371.7	18.9				ug/L	370	Standard
	C	12	113.3	28.4				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	17	Standard
	Dy	164	58.9	72.8				mg/L	9	Standard
	Ho-1	165	81.7	49.9				mg/L	25	Standard
	Er	166	23.3	65.5				mg/L	20	Standard
	I	127	26197.7	5.6				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		110.058	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		106.375	
|	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	105.014
|	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	103.108
⌈	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
Mn 55 Upper, S, EEE	Mn	55	

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Method 6020 - Summary Report

Sample ID: L1611012401SDL WG590881-04
Sample Date/Time: Friday, November 11, 2016 09:58:26
Number of Replicates: 3
Autosampler Position: 228
Sample Description: 5
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	204793.6	14.5				ug/L	206101	Standard
	Be	9	38.3	71.8	**-0.0033**	0.010	297.9	ug/L	25	Standard
	Al	27	2568989.2	24.5	**13.1462**	1.900	14.5	ug/L	1120	Standard
	Sc	45	59902.6	11.6				ug/L	61425	Standard
	Ti	47	73.3	16.3	**0.0206**	0.018	87.5	ug/L	70	Standard
	V	51	3531.2	10.9	**0.0262**	0.014	53.1	ug/L	3309	Standard
	Cr	52	13607.1	9.6	**-0.0191**	0.075	393.4	ug/L	13497	Standard
	Cr	53	2101.8	5.9	**-0.7553**	0.239	31.7	ug/L	3162	Standard
	Mn	55	277355.1	15.0	**18.1543**	0.120	0.7	ug/L	2226	Standard
	Co	59	773.4	11.7	**0.0017**	0.003	193.5	ug/L	1003	Standard
	Ni	60	846.7	14.2	**0.2059**	0.012	5.9	ug/L	355	Standard
	Cu	65	695.0	12.9	**0.1001**	0.012	12.3	ug/L	473	Standard
	Zn	66	2618.2	11.7	**1.9151**	0.079	4.1	ug/L	341	Standard
>	Ge	72	551571.2	14.4				ug/L	566981	Standard
	As	75	382.2	35.1	**0.4188**	0.083	19.7	ug/L	-156	Standard
	Se	82	26.3	16.5	**-0.0598**	0.016	27.4	ug/L	35	Standard
	Se-1	77	350.7	10.1	**-0.3182**	0.583	183.1	ug/L	354	Standard
>	Ga	71	41.7	18.3				mg/L	43	Standard
	Rb	85	1300.1	17.8				ug/L	48	Standard
	Y	89	422514.7	14.8				ug/L	447702	Standard
>	Rh	103	20.0	43.3				ug/L	20	Standard
	Mo	98	268.3	2.7	**0.0496**	0.008	15.9	ug/L	158	Standard
	Ag	107	207.0	13.9	**0.0068**	0.002	29.4	ug/L	133	Standard
	Cd	111	11.0	68.8	**-0.0034**	0.002	53.1	mg/L	7	Standard
	Cd	114	60.5	33.5	**0.0038**	0.002	47.5	ug/L	72	Standard
>	In	115	955894.1	15.2				ug/L	1004638	Standard
	Sn	118	105.3	7.0	**-0.0257**	0.008	32.9	ug/L	364	Standard
	Sb	123	3318.7	29.2	**0.3462**	0.169	48.7	ug/L	2464	Standard
	Ba	135	15471.0	13.5	**4.3088**	0.083	1.9	ug/L	39	Standard
	Ce	140	150.0	25.2				ug/L	195	Standard
>	Tb	159	1517206.5	13.1				ug/L	1640193	Standard
	Ho	165	16.7	34.6				ug/L	25	Standard
	Tl	203	306.3	5.4	**0.0088**	0.002	24.9	ug/L	324	Standard
	Tl	205	776.7	14.8	**0.0159**	0.003	18.7	ug/L	698	Standard
	Pb	206	628.3	13.8	**0.0049**	0.000	4.9	ug/L	600	Standard
	Pb	207	504.3	10.9	**0.0007**	0.001	214.1	ug/L	541	Standard
	Pb	208	1724.4	12.5	**0.0029**	0.001	22.5	ug/L	1750	Standard
	U	238	208.7	10.3	**0.0181**	0.002	9.8	ug/L	10	Standard
>	Bi	209	796621.7	13.5				ug/L	811518	Standard

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⌈	**Na**	23	23.3	24.7	**3.7118**	1.009	27.2	mg/L	0	Standard
|	**Mg**	24	48.3	6.0	**0.2679**	0.145	54.2	mg/L	77	Standard
|	**K**	39	36.7	43.8	**0.1057**	0.119	112.4	mg/L	18	Standard
|	**Ca**	43	135.0	23.1	**10.3572**	10.698	103.3	mg/L	178	Standard
|	**Fe**	54	29.0	17.0	**-0.0388**	0.097	249.6	mg/L	29	Standard
|	**Fe**	57	450.0	9.9	**5.1775**	3.115	60.2	mg/L	408	Standard
⌊>	**Sc-1**	45	59902.6	11.6				mg/L	61425	Standard
	Cl	35	2.7	114.6				ug/L	1	Standard
	Kr	83	8.0	33.1				ug/L	12	Standard
	Br	81	1740.1	23.9				ug/L	1747	Standard
	P	31	31.7	48.2				ug/L	17	Standard
	S	34	0.0					ug/L	3	Standard
	Sr	88	378.3	8.0				ug/L	370	Standard
	C	12	66.7	17.3				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	17	Standard
	Dy	164	12.4	46.8				mg/L	9	Standard
	Ho-1	165	16.7	34.6				mg/L	25	Standard
	Er	166	20.0	50.0				mg/L	20	Standard
	I	127	9909.9	7.7				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		99.365	
|	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		97.282	
|	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	95.148
|	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	98.164
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, November 11, 2016 10:01:33
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	227050.9	18.7				ug/L	206101	Standard
	Be	9	119650.7	16.5	**46.6392**	1.287	2.8	ug/L	25	Standard
	Al	27	9983476.4	12.9	**46.8034**	2.963	6.3	ug/L	1120	Standard
	Sc	45	62269.1	12.9				ug/L	61425	Standard
	Ti	47	46497.9	14.5	**97.1195**	2.507	2.6	ug/L	70	Standard
	V	51	552393.4	14.4	**49.0556**	1.306	2.7	ug/L	3309	Standard
	Cr	52	512800.2	14.8	**49.0481**	1.122	2.3	ug/L	13497	Standard
	Cr	53	65190.0	13.4	**48.6963**	1.859	3.8	ug/L	3162	Standard
	Mn	55	812347.4	16.4	**49.1477**	0.309	0.6	ug/L	2226	Standard
	Co	59	643393.9	17.3	**49.4965**	0.269	0.5	ug/L	1003	Standard
	Ni	60	137418.5	17.2	**49.2413**	0.381	0.8	ug/L	355	Standard
	Cu	65	124989.2	18.1	**49.2444**	0.612	1.2	ug/L	473	Standard
	Zn	66	64399.0	16.3	**49.4552**	0.418	0.8	ug/L	341	Standard
>	**Ge**	72	600339.3	17.0				ug/L	566981	Standard
	As	75	63649.5	15.9	**48.6507**	0.796	1.6	ug/L	-156	Standard
	Se	82	5331.3	17.6	**48.8369**	0.722	1.5	ug/L	35	Standard
	Se-1	77	4481.7	16.0	**47.5626**	0.497	1.0	ug/L	354	Standard
>	**Ga**	71	83.3	19.3				mg/L	43	Standard
	Rb	85	678.3	12.6				ug/L	48	Standard
	Y	89	470974.9	15.8				ug/L	447702	Standard
>	**Rh**	103	45.0	38.5				ug/L	20	Standard
	Mo	98	491481.8	14.4	**98.6605**	2.942	3.0	ug/L	158	Standard
	Ag	107	556985.2	14.9	**51.1598**	1.358	2.7	ug/L	133	Standard
	Cd	111	170795.5	16.8	**49.3438**	0.374	0.8	mg/L	7	Standard
	Cd	114	453060.0	15.5	**48.6799**	1.430	2.9	ug/L	72	Standard
>	**In**	115	1040198.8	17.4				ug/L	1004638	Standard
	Sn	118	105228.3	16.0	**49.2444**	0.687	1.4	ug/L	364	Standard
	Sb	123	456499.9	16.8	**49.4287**	0.475	1.0	ug/L	2464	Standard
	Ba	135	187021.8	15.0	**48.0389**	1.638	3.4	ug/L	39	Standard
	Ce	140	210.0	25.1				ug/L	195	Standard
>	**Tb**	159	1655818.5	13.3				ug/L	1640193	Standard
	Ho	165	51.7	31.1				ug/L	25	Standard
	Tl	203	741248.2	14.3	**49.4723**	0.815	1.6	ug/L	324	Standard
	Tl	205	1929262.1	30.2	**47.5226**	8.221	17.3	ug/L	698	Standard
	Pb	206	579623.1	13.6	**49.6363**	0.781	1.6	ug/L	600	Standard
	Pb	207	511817.0	13.5	**49.2554**	0.623	1.3	ug/L	541	Standard
	Pb	208	1692665.3	14.1	**49.4348**	0.394	0.8	ug/L	1750	Standard
	U	238	669586.2	10.0	**49.2398**	1.864	3.8	ug/L	10	Standard
>	**Bi**	209	829418.1	13.7				ug/L	811518	Standard

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⌈	**Na**	23	40.0	43.3	**6.1528**	2.896	47.1	mg/L	0	Standard
|	**Mg**	24	245.0	10.2	**4.6340**	1.029	22.2	mg/L	77	Standard
|	**K**	39	798.4	6.4	**4.3062**	0.310	7.2	mg/L	18	Standard
|	**Ca**	43	138.3	18.5	**10.6380**	9.779	91.9	mg/L	178	Standard
|	**Fe**	54	399.9	13.7	**4.8186**	0.280	5.8	mg/L	29	Standard
|	**Fe**	57	578.3	11.5	**9.5017**	3.427	36.1	mg/L	408	Standard
⌊>	**Sc-1**	45	62269.1	12.9				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	7.7	61.6				ug/L	12	Standard
	Br	81	1746.8	19.6				ug/L	1747	Standard
	P	31	23.3	32.7				ug/L	17	Standard
	S	34	8.3	124.9				ug/L	3	Standard
	Sr	88	338.3	14.2				ug/L	370	Standard
	C	12	80.0	33.1				mg/L	47	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	17	Standard
	Dy	164	27.9	33.7				mg/L	9	Standard
	Ho-1	165	51.7	31.1				mg/L	25	Standard
	Er	166	43.3	81.0				mg/L	20	Standard
	I	127	4163.9	14.6				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6			
|	Be	9	93.278		
⌊	Al	27	93.607		
⌈	Sc	45			
|	Ti	47	97.119		
|	V	51	98.111		
|	Cr	52	98.096		
|	Cr	53			
|	Mn	55	98.295		
|	Co	59	98.993		
|	Ni	60	98.483		
|	Cu	65	98.489		
|	Zn	66	98.910		
|>	Ge	72		105.883	
|	As	75	97.301		
|	Se	82	97.674		
⌊	Se-1	77			
⌈>	Ga	71			

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Rb	85			
Y	89			
Rh	103			
Mo	98	98.661		
Ag	107	102.320		
Cd	111	98.688		
Cd	114			
In	115			103.540
Sn	118	98.489		
Sb	123	98.857		
Ba	135	96.078		
Ce	140			
Tb	159			
Ho	165			
Tl	203	98.945		
Tl	205			
Pb	206			
Pb	207			
Pb	208	98.870		
U	238	98.480		
Bi	209			102.206
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: Friday, November 11, 2016 10:04:38
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	231759.6	4.3				ug/L	206101	Standard
	Be	9	55.0	18.2	**0.0020**	0.004	183.7	ug/L	25	Standard
	Al	27	2733.6	8.5	**0.0181**	0.001	3.1	ug/L	1120	Standard
	Sc	45	64353.2	3.9				ug/L	61425	Standard
	Ti	47	59.0	12.2	**-0.0291**	0.013	43.6	ug/L	70	Standard
	V	51	2783.1	2.3	**-0.0809**	0.007	9.2	ug/L	3309	Standard
	Cr	52	11368.3	2.3	**-0.4165**	0.016	3.7	ug/L	13497	Standard
	Cr	53	2026.8	1.8	**-1.0536**	0.081	7.7	ug/L	3162	Standard
	Mn	55	1858.4	6.1	**-0.0294**	0.006	19.0	ug/L	2226	Standard
	Co	59	581.0	12.2	**-0.0208**	0.004	19.8	ug/L	1003	Standard
	Ni	60	369.0	2.5	**0.0011**	0.002	219.3	ug/L	355	Standard
	Cu	65	480.0	9.2	**-0.0188**	0.015	79.2	ug/L	473	Standard
	Zn	66	393.3	8.8	**-0.0009**	0.023	2670.7	ug/L	341	Standard
>	Ge	72	629890.7	3.7				ug/L	566981	Standard
	As	75	-113.3	35.1	**0.0223**	0.027	120.8	ug/L	-156	Standard
	Se	82	26.8	6.3	**-0.0871**	0.024	27.1	ug/L	35	Standard
	Se-1	77	338.7	8.0	**-1.0484**	0.264	25.2	ug/L	354	Standard
>	Ga	71	40.0	33.1				mg/L	43	Standard
	Rb	85	45.0	29.4				ug/L	48	Standard
	Y	89	480481.6	3.3				ug/L	447702	Standard
>	Rh	103	30.0	44.1				ug/L	20	Standard
	Mo	98	81.6	69.1	**0.0057**	0.010	181.1	ug/L	158	Standard
	Ag	107	217.0	42.8	**0.0047**	0.008	163.1	ug/L	133	Standard
	Cd	111	23.9	75.8	**-0.0003**	0.005	1768.2	mg/L	7	Standard
	Cd	114	107.2	71.0	**0.0076**	0.008	99.2	ug/L	72	Standard
>	In	115	1107761.8	4.6				ug/L	1004638	Standard
	Sn	118	165.3	8.8	**-0.0074**	0.007	92.0	ug/L	364	Standard
	Sb	123	606.7	26.9	**-0.0005**	0.016	2967.8	ug/L	2464	Standard
	Ba	135	61.7	56.4	**0.0052**	0.008	155.3	ug/L	39	Standard
	Ce	140	28.3	66.8				ug/L	195	Standard
>	Tb	159	1748273.1	3.9				ug/L	1640193	Standard
	Ho	165	20.0	43.3				ug/L	25	Standard
	Tl	203	90.0	60.6	**-0.0072**	0.003	46.0	ug/L	324	Standard
	Tl	205	186.7	52.6	**-0.0001**	0.002	2588.4	ug/L	698	Standard
	Pb	206	664.0	9.9	**0.0013**	0.006	452.6	ug/L	600	Standard
	Pb	207	551.0	8.0	**-0.0012**	0.004	302.8	ug/L	541	Standard
	Pb	208	1901.4	8.2	**0.0015**	0.004	249.1	ug/L	1750	Standard
	U	238	29.0	85.8	**0.0040**	0.002	41.4	ug/L	10	Standard
>	Bi	209	901688.8	3.9				ug/L	811518	Standard

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	Na	23	0.0		**0.0050**	0.000	0.0	mg/L	0	Standard
	Mg	24	41.7	30.2	**0.0335**	0.234	699.3	mg/L	77	Standard
	K	39	16.7	34.6	**-0.0234**	0.031	133.6	mg/L	18	Standard
	Ca	43	151.7	12.5	**9.6453**	3.003	31.1	mg/L	178	Standard
	Fe	54	23.8	37.2	**-0.1361**	0.121	88.7	mg/L	29	Standard
	Fe	57	383.3	4.9	**1.2564**	1.241	98.8	mg/L	408	Standard
>	**Sc-1**	45	64353.2	3.9				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	8.7	35.3				ug/L	12	Standard
	Br	81	1696.8	2.7				ug/L	1747	Standard
	P	31	35.0	49.5				ug/L	17	Standard
	S	34	6.7	114.6				ug/L	3	Standard
	Sr	88	405.0	6.9				ug/L	370	Standard
	C	12	60.0	60.1				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	17	Standard
	Dy	164	21.4	29.1				mg/L	9	Standard
	Ho-1	165	20.0	43.3				mg/L	25	Standard
	Er	166	40.0	43.3				mg/L	20	Standard
	I	127	14520.4	16.5				mg/L	6023	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		111.095	
	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	110.265
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	111.111
⌈	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

Sample ID: QC Std 7
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Method 6020 - Summary Report

Sample ID: L1611014402
Sample Date/Time: Friday, November 11, 2016 10:08:23
Number of Replicates: 3
Autosampler Position: 240
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	249410.6	17.9				ug/L	206101	Standard
	Be	9	85.0	21.2	**0.0111**	0.002	14.3	ug/L	25	Standard
	Al	27	44525074.0	11.0	**190.1296**	13.928	7.3	ug/L	1120	Standard
	Sc	45	66595.2	9.4				ug/L	61425	Standard
	Ti	47	558.7	20.1	**1.0033**	0.082	8.2	ug/L	70	Standard
	V	51	9508.1	9.6	**0.5324**	0.126	23.7	ug/L	3309	Standard
	Cr	52	22498.8	10.3	**0.7192**	0.107	14.9	ug/L	13497	Standard
	Cr	53	17438.4	5.2	**11.0928**	1.344	12.1	ug/L	3162	Standard
	Mn	55	263310.2	14.4	**15.6832**	0.106	0.7	ug/L	2226	Standard
	Co	59	3233.0	13.6	**0.1837**	0.003	1.6	ug/L	1003	Standard
	Ni	60	4693.1	21.9	**1.5335**	0.131	8.5	ug/L	355	Standard
	Cu	65	1483.4	16.9	**0.3807**	0.021	5.6	ug/L	473	Standard
	Zn	66	3020.6	14.3	**2.0202**	0.015	0.8	ug/L	341	Standard
>	**Ge**	72	605829.5	14.4				ug/L	566981	Standard
	As	75	1006.6	15.6	**0.8631**	0.010	1.1	ug/L	-156	Standard
	Se	82	484.6	16.0	**4.1022**	0.137	3.3	ug/L	35	Standard
	Se-1	77	1157.7	1.3	**8.7771**	2.085	23.8	ug/L	354	Standard
>	**Ga**	71	78.3	30.2				mg/L	43	Standard
	Rb	85	3227.0	18.8				ug/L	48	Standard
	Y	89	463954.0	13.2				ug/L	447702	Standard
>	**Rh**	103	348.3	33.1				ug/L	20	Standard
	Mo	98	800.0	8.4	**0.1533**	0.013	8.4	ug/L	158	Standard
	Ag	107	262.0	16.6	**0.0104**	0.002	23.6	ug/L	133	Standard
	Cd	111	200.3	13.1	**0.0519**	0.003	6.4	mg/L	7	Standard
	Cd	114	584.1	10.1	**0.0604**	0.005	7.5	ug/L	72	Standard
>	**In**	115	1029723.8	15.0				ug/L	1004638	Standard
	Sn	118	343.0	7.6	**0.0834**	0.013	16.1	ug/L	364	Standard
	Sb	123	4430.6	23.6	**0.4379**	0.168	38.3	ug/L	2464	Standard
	Ba	135	45867.9	14.2	**11.8693**	0.208	1.7	ug/L	39	Standard
	Ce	140	573.3	12.2				ug/L	195	Standard
>	**Tb**	159	1646735.2	12.3				ug/L	1640193	Standard
	Ho	165	58.3	13.1				ug/L	25	Standard
	Tl	203	5567.2	46.3	**0.3647**	0.137	37.6	ug/L	324	Standard
	Tl	205	13430.2	48.7	**0.3352**	0.132	39.3	ug/L	698	Standard
	Pb	206	2692.2	24.5	**0.1865**	0.033	17.6	ug/L	600	Standard
	Pb	207	2292.5	22.9	**0.1778**	0.028	15.8	ug/L	541	Standard
	Pb	208	7804.5	23.4	**0.1858**	0.030	16.3	ug/L	1750	Standard
	U	238	107781.9	7.9	**8.2394**	0.323	3.9	ug/L	10	Standard
>	**Bi**	209	797692.0	11.6				ug/L	811518	Standard

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⌈	**Na**	23	203.3	18.1	**28.6544**	2.882	10.1	mg/L	0	Standard
|	**Mg**	24	5841.1	5.5	**119.9346**	6.113	5.1	mg/L	77	Standard
|	**K**	39	78.3	9.8	**0.2911**	0.026	9.0	mg/L	18	Standard
|	**Ca**	43	188.3	8.1	**2.6811**	5.217	194.6	mg/L	178	Standard
|	**Fe**	54	33.5	39.4	**-0.0362**	0.139	382.7	mg/L	29	Standard
|	**Fe**	57	626.7	3.0	**9.7259**	2.378	24.5	mg/L	408	Standard
⌊>	**Sc-1**	45	66595.2	9.4				mg/L	61425	Standard
	Cl	35	1.3	173.2				ug/L	1	Standard
	Kr	83	9.7	51.0				ug/L	12	Standard
	Br	81	59186.1	9.9				ug/L	1747	Standard
	P	31	23.3	32.7				ug/L	17	Standard
	S	34	6.7	114.6				ug/L	3	Standard
	Sr	88	373.3	12.4				ug/L	370	Standard
	C	12	146.7	27.6				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	16.7	69.3				mg/L	17	Standard
	Dy	164	41.4	76.9				mg/L	9	Standard
	Ho-1	165	58.3	13.1				mg/L	25	Standard
	Er	166	40.0	43.3				mg/L	20	Standard
	I	127	953699.7	6.6				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		121.014	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		106.852	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

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⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	102.497
|	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	98.296
⌈	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: L1611014404
Sample Date/Time: Friday, November 11, 2016 10:11:28
Number of Replicates: 3
Autosampler Position: 241
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	248778.7	17.3				ug/L	206101	Standard
	Be	9	103.3	17.0	**0.0177**	0.001	3.6	ug/L	25	Standard
	Al	27	88450249.1	12.7	**377.4590**	17.522	4.6	ug/L	1120	Standard
	Sc	45	68408.4	10.1				ug/L	61425	Standard
	Ti	47	480.3	22.9	**0.8854**	0.078	8.8	ug/L	70	Standard
	V	51	4480.9	12.0	**0.1016**	0.062	61.1	ug/L	3309	Standard
	Cr	52	27504.9	13.3	**1.3306**	0.067	5.0	ug/L	13497	Standard
	Cr	53	33782.8	9.5	**25.0686**	1.745	7.0	ug/L	3162	Standard
	Mn	55	26955.3	15.1	**1.5601**	0.008	0.5	ug/L	2226	Standard
	Co	59	2981.3	15.7	**0.1750**	0.003	1.5	ug/L	1003	Standard
	Ni	60	9828.0	22.8	**3.5126**	0.264	7.5	ug/L	355	Standard
	Cu	65	2287.8	16.9	**0.7393**	0.016	2.1	ug/L	473	Standard
	Zn	66	14618.5	14.1	**11.4368**	0.173	1.5	ug/L	341	Standard
>	**Ge**	72	578455.8	15.6				ug/L	566981	Standard
	As	75	1841.2	16.5	**1.5583**	0.018	1.2	ug/L	-156	Standard
	Se	82	777.9	19.1	**7.0989**	0.287	4.0	ug/L	35	Standard
	Se-1	77	2253.5	7.7	**22.7271**	2.400	10.6	ug/L	354	Standard
>	**Ga**	71	88.3	3.3				mg/L	43	Standard
	Rb	85	4324.0	14.2				ug/L	48	Standard
	Y	89	459421.3	14.8				ug/L	447702	Standard
>	**Rh**	103	756.7	8.4				ug/L	20	Standard
	Mo	98	417.1	10.7	**0.0794**	0.006	7.9	ug/L	158	Standard
	Ag	107	191.0	3.8	**0.0049**	0.002	46.3	ug/L	133	Standard
	Cd	111	249.1	14.8	**0.0697**	0.005	6.8	mg/L	7	Standard
	Cd	114	675.2	17.7	**0.0734**	0.004	5.3	ug/L	72	Standard
>	**In**	115	981189.6	15.5				ug/L	1004638	Standard
	Sn	118	302.7	10.8	**0.0708**	0.007	10.3	ug/L	364	Standard
	Sb	123	1736.1	27.6	**0.1462**	0.087	59.3	ug/L	2464	Standard
	Ba	135	44363.0	13.5	**12.0615**	0.289	2.4	ug/L	39	Standard
	Ce	140	990.0	15.2				ug/L	195	Standard
>	**Tb**	159	1564750.3	13.2				ug/L	1640193	Standard
	Ho	165	85.0	36.7				ug/L	25	Standard
	Tl	203	2586.2	27.5	**0.1760**	0.030	16.9	ug/L	324	Standard
	Tl	205	6259.7	27.0	**0.1664**	0.026	15.6	ug/L	698	Standard
	Pb	206	2213.2	19.0	**0.1576**	0.016	10.0	ug/L	600	Standard
	Pb	207	1897.5	19.5	**0.1509**	0.015	10.1	ug/L	541	Standard
	Pb	208	6504.2	18.6	**0.1597**	0.014	8.7	ug/L	1750	Standard
	U	238	50695.8	9.2	**4.1207**	0.116	2.8	ug/L	10	Standard
>	**Bi**	209	749791.2	12.0				ug/L	811518	Standard

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⌈	**Na**	23	586.7	8.1	**80.9287**	1.882	2.3	mg/L	0	Standard
|	**Mg**	24	9498.0	7.7	**190.1572**	6.767	3.6	mg/L	77	Standard
|	**K**	39	216.7	17.9	**0.9722**	0.146	15.0	mg/L	18	Standard
|	**Ca**	43	418.3	18.5	**-44.2623**	20.216	45.7	mg/L	178	Standard
|	**Fe**	54	35.4	60.1	**-0.0219**	0.247	1127.4	mg/L	29	Standard
|	**Fe**	57	960.0	1.9	**20.9844**	3.182	15.2	mg/L	408	Standard
⌊>	**Sc-1**	45	68408.4	10.1				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	8.0	25.0				ug/L	12	Standard
	Br	81	126422.4	10.5				ug/L	1747	Standard
	P	31	23.3	12.4				ug/L	17	Standard
	S	34	1.7	173.2				ug/L	3	Standard
	Sr	88	445.0	7.4				ug/L	370	Standard
	C	12	183.3	12.6				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	17	Standard
	Dy	164	66.6	39.5				mg/L	9	Standard
	Ho-1	165	85.0	36.7				mg/L	25	Standard
	Er	166	70.0	37.8				mg/L	20	Standard
	I	127	1028792.1	8.2				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		120.707	
|	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		102.024	
|	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	97.666
|	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	92.394
⌈	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: L1611014406
Sample Date/Time: Friday, November 11, 2016 10:14:34
Number of Replicates: 3
Autosampler Position: 242
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	238328.4	14.4				ug/L	206101	Standard
	Be	9	303.3	17.8	**0.0931**	0.005	5.8	ug/L	25	Standard
	Al	27	2223078.1	27.4	**9.7460**	1.263	13.0	ug/L	1120	Standard
	Sc	45	72673.7	11.3				ug/L	61425	Standard
	Ti	47	14156.0	13.8	**28.5630**	0.428	1.5	ug/L	70	Standard
	V	51	43814.0	14.7	**3.4759**	0.027	0.8	ug/L	3309	Standard
	Cr	52	49947.6	13.9	**3.2919**	0.076	2.3	ug/L	13497	Standard
	Cr	53	8779.2	13.5	**4.1196**	0.123	3.0	ug/L	3162	Standard
	Mn	55	380723.4	14.9	**22.2821**	0.171	0.8	ug/L	2226	Standard
	Co	59	17193.2	15.4	**1.2229**	0.005	0.4	ug/L	1003	Standard
	Ni	60	9560.7	15.6	**3.2091**	0.013	0.4	ug/L	355	Standard
	Cu	65	4142.2	17.3	**1.3896**	0.032	2.3	ug/L	473	Standard
	Zn	66	34580.7	15.2	**25.6228**	0.207	0.8	ug/L	341	Standard
>	**Ge**	72	618338.0	15.3				ug/L	566981	Standard
	As	75	1258.4	13.7	**1.0377**	0.059	5.6	ug/L	-156	Standard
	Se	82	57.5	15.7	**0.1978**	0.101	51.0	ug/L	35	Standard
	Se-1	77	436.0	8.3	**0.1609**	0.352	218.9	ug/L	354	Standard
>	**Ga**	71	2275.2	15.2				mg/L	43	Standard
	Rb	85	22548.7	14.0				ug/L	48	Standard
	Y	89	512932.0	13.1				ug/L	447702	Standard
>	**Rh**	103	65.0	13.3				ug/L	20	Standard
	Mo	98	2115.9	13.9	**0.3992**	0.017	4.3	ug/L	158	Standard
	Ag	107	222.3	18.4	**0.0057**	0.001	13.2	ug/L	133	Standard
	Cd	111	212.9	14.7	**0.0526**	0.002	4.5	mg/L	7	Standard
	Cd	114	647.6	7.8	**0.0644**	0.008	11.9	ug/L	72	Standard
>	**In**	115	1078353.8	14.6				ug/L	1004638	Standard
	Sn	118	339.0	13.7	**0.0732**	0.009	12.6	ug/L	364	Standard
	Sb	123	1726.1	14.2	**0.1233**	0.051	41.6	ug/L	2464	Standard
	Ba	135	129084.6	13.3	**31.9179**	0.424	1.3	ug/L	39	Standard
	Ce	140	155436.0	13.4				ug/L	195	Standard
>	**Tb**	159	1664777.4	13.6				ug/L	1640193	Standard
	Ho	165	2540.2	11.9				ug/L	25	Standard
	Tl	203	1483.1	26.6	**0.0816**	0.013	16.0	ug/L	324	Standard
	Tl	205	3503.8	21.4	**0.0792**	0.007	9.1	ug/L	698	Standard
	Pb	206	20135.2	14.3	**1.6082**	0.027	1.7	ug/L	600	Standard
	Pb	207	15998.9	13.3	**1.4327**	0.009	0.6	ug/L	541	Standard
	Pb	208	56062.5	13.7	**1.5276**	0.019	1.2	ug/L	1750	Standard
	U	238	2820.6	8.6	**0.2018**	0.008	4.1	ug/L	10	Standard
>	**Bi**	209	861445.5	12.7				ug/L	811518	Standard

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	Na	23	11.7	49.5	**1.5356**	0.797	51.9	mg/L	0	Standard
	Mg	24	950.0	9.4	**17.1293**	0.573	3.3	mg/L	77	Standard
	K	39	55.0		**0.1492**	0.030	19.9	mg/L	18	Standard
	Ca	43	148.3	15.2	**13.4360**	7.676	57.1	mg/L	178	Standard
	Fe	54	199.2	22.3	**1.8453**	0.717	38.9	mg/L	29	Standard
	Fe	57	513.3	4.1	**4.0438**	2.009	49.7	mg/L	408	Standard
>	**Sc-1**	45	72673.7	11.3				mg/L	61425	Standard
	Cl	35	1.3	173.2				ug/L	1	Standard
	Kr	83	10.3	40.3				ug/L	12	Standard
	Br	81	5217.6	14.5				ug/L	1747	Standard
	P	31	21.7	13.3				ug/L	17	Standard
	S	34	3.3	86.6				ug/L	3	Standard
	Sr	88	391.7	19.2				ug/L	370	Standard
	C	12	103.3	40.3				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	73.3	47.9				mg/L	17	Standard
	Dy	164	3987.2	12.2				mg/L	9	Standard
	Ho-1	165	2540.2	11.9				mg/L	25	Standard
	Er	166	2156.8	9.0				mg/L	20	Standard
	I	127	178698.9	6.6				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		115.636	
	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		109.058	
	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	107.338
|	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	106.152
⌈	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

Sample ID: L1611014406
Report Date/Time: Monday, November 14, 2016 08:36:31
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Method 6020 - Summary Report

Sample ID: L1611030601
Sample Date/Time: Friday, November 11, 2016 10:18:12
Number of Replicates: 3
Autosampler Position: 230
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	248201.4	13.7				ug/L	206101	Standard
	Be	9	35.0	24.7	**-0.0061**	0.004	73.9	ug/L	25	Standard
	Al	27	27961781.0	9.1	**119.5076**	6.335	5.3	ug/L	1120	Standard
	Sc	45	68723.7	12.2				ug/L	61425	Standard
	Ti	47	382.0	45.5	**0.5851**	0.233	39.9	ug/L	70	Standard
	V	51	5234.0	5.2	**0.1265**	0.041	32.8	ug/L	3309	Standard
	Cr	52	23581.8	8.8	**0.7164**	0.125	17.5	ug/L	13497	Standard
	Cr	53	3838.8	7.5	**0.2864**	0.200	69.7	ug/L	3162	Standard
	Mn	55	14446.6	13.0	**0.6904**	0.012	1.7	ug/L	2226	Standard
	Co	59	1585.8	11.3	**0.0523**	0.005	9.6	ug/L	1003	Standard
	Ni	60	3354.7	15.4	**1.0103**	0.023	2.3	ug/L	355	Standard
	Cu	65	1977.1	13.6	**0.5393**	0.016	3.0	ug/L	473	Standard
	Zn	66	2726.9	14.8	**1.6948**	0.046	2.7	ug/L	341	Standard
>	**Ge**	72	636449.0	14.3				ug/L	566981	Standard
	As	75	90.7	97.2	**0.1694**	0.062	36.8	ug/L	-156	Standard
	Se	82	93.1	25.4	**0.4891**	0.188	38.4	ug/L	35	Standard
	Se-1	77	419.3	2.3	**-0.1238**	0.790	637.7	ug/L	354	Standard
>	**Ga**	71	101.7	10.2				mg/L	43	Standard
	Rb	85	5002.5	13.1				ug/L	48	Standard
	Y	89	498446.2	14.8				ug/L	447702	Standard
>	**Rh**	103	936.7	13.7				ug/L	20	Standard
	Mo	98	84896.9	12.3	**15.9791**	0.434	2.7	ug/L	158	Standard
	Ag	107	183.3	16.4	**0.0019**	0.000	19.9	ug/L	133	Standard
	Cd	111	9.1	154.9	**-0.0046**	0.003	73.1	mg/L	7	Standard
	Cd	114	242.3	25.4	**0.0210**	0.004	19.0	ug/L	72	Standard
>	**In**	115	1107705.2	14.7				ug/L	1004638	Standard
	Sn	118	349.3	6.9	**0.0746**	0.013	17.2	ug/L	364	Standard
	Sb	123	3365.6	8.5	**0.2851**	0.055	19.2	ug/L	2464	Standard
	Ba	135	52881.9	13.4	**12.7254**	0.338	2.7	ug/L	39	Standard
	Ce	140	3432.1	5.3				ug/L	195	Standard
>	**Tb**	159	1710236.8	13.6				ug/L	1640193	Standard
	Ho	165	71.7	46.5				ug/L	25	Standard
	Tl	203	958.0	12.6	**0.0489**	0.001	1.3	ug/L	324	Standard
	Tl	205	2271.8	11.8	**0.0503**	0.001	2.9	ug/L	698	Standard
	Pb	206	1301.4	14.9	**0.0560**	0.003	4.6	ug/L	600	Standard
	Pb	207	1106.4	14.0	**0.0524**	0.002	4.5	ug/L	541	Standard
	Pb	208	3772.5	14.3	**0.0564**	0.001	2.3	ug/L	1750	Standard
	U	238	13420.3	8.1	**0.9527**	0.056	5.9	ug/L	10	Standard
>	**Bi**	209	862223.4	13.4				ug/L	811518	Standard

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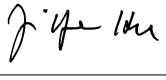

	Na	23	120.0	25.0	**16.4456**	3.410	20.7	mg/L	0	Standard
	Mg	24	948.4	9.4	**18.1432**	0.574	3.2	mg/L	77	Standard
	K	39	150.0	18.6	**0.6355**	0.101	15.9	mg/L	18	Standard
	Ca	43	161.7	4.7	**9.3978**	3.224	34.3	mg/L	178	Standard
	Fe	54	30.9	24.8	**-0.0674**	0.110	163.4	mg/L	29	Standard
	Fe	57	558.3	14.1	**6.6102**	3.266	49.4	mg/L	408	Standard
>	**Sc-1**	45	68723.7	12.2				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	7.3	103.3				ug/L	12	Standard
	Br	81	4480.7	7.4				ug/L	1747	Standard
	P	31	30.0	76.4				ug/L	17	Standard
	S	34	5.0	0.0				ug/L	3	Standard
	Sr	88	356.7	10.1				ug/L	370	Standard
	C	12	60.0	44.1				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	173.2				mg/L	17	Standard
	Dy	164	133.3	98.0				mg/L	9	Standard
	Ho-1	165	71.7	46.5				mg/L	25	Standard
	Er	166	70.0	74.2				mg/L	20	Standard
	I	127	25528.3	9.0				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		120.427	
	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		112.252	
	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	110.259
|	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	106.248
⌈	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: L1611030701
Sample Date/Time: Friday, November 11, 2016 10:21:17
Number of Replicates: 3
Autosampler Position: 231
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	229295.0	18.3				ug/L	206101	Standard
	Be	9	55.0	54.5	**0.0013**	0.008	624.8	ug/L	25	Standard
	Al	27	42700863.5	11.0	**198.5009**	15.396	7.8	ug/L	1120	Standard
	Sc	45	67082.6	10.8				ug/L	61425	Standard
	Ti	47	807.7	23.1	**1.5106**	0.173	11.5	ug/L	70	Standard
	V	51	8070.8	16.1	**0.3942**	0.024	6.2	ug/L	3309	Standard
	Cr	52	24633.2	12.1	**0.9218**	0.046	5.0	ug/L	13497	Standard
	Cr	53	4092.2	9.3	**0.6221**	0.167	26.8	ug/L	3162	Standard
	Mn	55	117429.4	13.0	**6.9260**	0.191	2.8	ug/L	2226	Standard
	Co	59	3929.5	13.7	**0.2369**	0.011	4.7	ug/L	1003	Standard
	Ni	60	9175.8	18.8	**3.1294**	0.241	7.7	ug/L	355	Standard
	Cu	65	2627.2	13.5	**0.8318**	0.027	3.3	ug/L	473	Standard
	Zn	66	2997.0	13.6	**2.0030**	0.034	1.7	ug/L	341	Standard
>	**Ge**	72	605042.4	12.7				ug/L	566981	Standard
	As	75	292.5	13.7	**0.3251**	0.009	2.8	ug/L	-156	Standard
	Se	82	84.2	17.7	**0.4442**	0.052	11.6	ug/L	35	Standard
	Se-1	77	401.0	4.8	**-0.1394**	0.394	282.8	ug/L	354	Standard
>	**Ga**	71	245.0	15.9				mg/L	43	Standard
	Rb	85	9709.8	11.4				ug/L	48	Standard
	Y	89	488001.2	11.0				ug/L	447702	Standard
>	**Rh**	103	1385.1	22.8				ug/L	20	Standard
	Mo	98	124799.4	12.3	**24.6769**	0.273	1.1	ug/L	158	Standard
	Ag	107	177.7	18.7	**0.0022**	0.002	77.8	ug/L	133	Standard
	Cd	111	-4.7	258.2	**-0.0080**	0.003	40.5	mg/L	7	Standard
	Cd	114	320.9	18.6	**0.0306**	0.002	6.5	ug/L	72	Standard
>	**In**	115	1052840.5	13.0				ug/L	1004638	Standard
	Sn	118	341.0	11.7	**0.0780**	0.012	15.1	ug/L	364	Standard
	Sb	123	1843.2	6.8	**0.1382**	0.035	25.4	ug/L	2464	Standard
	Ba	135	45013.1	11.9	**11.3914**	0.134	1.2	ug/L	39	Standard
	Ce	140	11039.1	14.5				ug/L	195	Standard
>	**Tb**	159	1620497.7	11.6				ug/L	1640193	Standard
	Ho	165	225.0	13.9				ug/L	25	Standard
	Tl	203	1595.8	6.6	**0.0986**	0.008	7.8	ug/L	324	Standard
	Tl	205	3842.2	10.3	**0.0956**	0.007	7.2	ug/L	698	Standard
	Pb	206	2376.9	25.4	**0.1588**	0.033	21.0	ug/L	600	Standard
	Pb	207	1807.1	13.6	**0.1307**	0.007	5.3	ug/L	541	Standard
	Pb	208	6387.9	10.8	**0.1447**	0.003	1.8	ug/L	1750	Standard
	U	238	18921.2	8.3	**1.4468**	0.025	1.7	ug/L	10	Standard
>	**Bi**	209	796825.7	9.8				ug/L	811518	Standard

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	Na	23	366.7	19.9	**51.1642**	4.883	9.5	mg/L	0	Standard
	Mg	24	2136.8	7.4	**43.0862**	3.677	8.5	mg/L	77	Standard
	K	39	170.0	10.2	**0.7568**	0.042	5.5	mg/L	18	Standard
	Ca	43	313.3	12.2	**-23.8849**	14.716	61.6	mg/L	178	Standard
	Fe	54	79.2	27.5	**0.5283**	0.263	49.7	mg/L	29	Standard
	Fe	57	698.3	4.5	**12.1949**	2.816	23.1	mg/L	408	Standard
>	**Sc-1**	45	67082.6	10.8				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	8.7	59.2				ug/L	12	Standard
	Br	81	8138.9	2.9				ug/L	1747	Standard
	P	31	35.0	51.5				ug/L	17	Standard
	S	34	1.7	173.2				ug/L	3	Standard
	Sr	88	431.7	5.8				ug/L	370	Standard
	C	12	86.7	24.0				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	173.2				mg/L	17	Standard
	Dy	164	308.9	8.1				mg/L	9	Standard
	Ho-1	165	225.0	13.9				mg/L	25	Standard
	Er	166	370.0	108.2				mg/L	20	Standard
	I	127	147004.6	5.9				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		111.254	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		106.713	
	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	104.798
|	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	98.190
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	

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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, November 11, 2016 10:24:24
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	216341.6	21.0				ug/L	206101	Standard
	Be	9	122976.8	17.2	**50.4832**	2.752	5.5	ug/L	25	Standard
	Al	27	10584944.2	14.4	**52.2362**	4.223	8.1	ug/L	1120	Standard
	Sc	45	63017.7	14.7				ug/L	61425	Standard
	Ti	47	49125.8	15.7	**106.4401**	2.403	2.3	ug/L	70	Standard
	V	51	582120.2	15.8	**53.6404**	1.128	2.1	ug/L	3309	Standard
	Cr	52	535433.7	16.0	**53.2506**	1.224	2.3	ug/L	13497	Standard
	Cr	53	67171.0	15.6	**52.1751**	1.595	3.1	ug/L	3162	Standard
	Mn	55	829081.6	15.4	**52.1686**	1.286	2.5	ug/L	2226	Standard
	Co	59	650670.7	17.1	**52.0049**	0.558	1.1	ug/L	1003	Standard
	Ni	60	139908.3	17.0	**52.0855**	0.567	1.1	ug/L	355	Standard
	Cu	65	125112.8	16.6	**51.2907**	0.757	1.5	ug/L	473	Standard
	Zn	66	64483.8	15.6	**51.4945**	1.395	2.7	ug/L	341	Standard
>	**Ge**	72	578598.9	17.7				ug/L	566981	Standard
	As	75	64025.9	14.5	**50.9122**	1.885	3.7	ug/L	-156	Standard
	Se	82	5383.1	14.1	**51.4504**	2.194	4.3	ug/L	35	Standard
	Se-1	77	4581.4	14.5	**50.9109**	1.975	3.9	ug/L	354	Standard
>	**Ga**	71	85.0	27.0				mg/L	43	Standard
	Rb	85	713.4	19.6				ug/L	48	Standard
	Y	89	461271.8	17.1				ug/L	447702	Standard
>	**Rh**	103	53.3	32.9				ug/L	20	Standard
	Mo	98	518163.6	15.2	**105.7650**	2.750	2.6	ug/L	158	Standard
	Ag	107	592317.2	16.2	**55.2794**	1.214	2.2	ug/L	133	Standard
	Cd	111	174089.1	16.9	**51.1784**	0.522	1.0	mg/L	7	Standard
	Cd	114	471290.3	19.0	**51.2983**	0.838	1.6	ug/L	72	Standard
>	**In**	115	1022286.3	17.5				ug/L	1004638	Standard
	Sn	118	105466.0	16.8	**50.1821**	1.166	2.3	ug/L	364	Standard
	Sb	123	452633.8	18.6	**49.7641**	0.709	1.4	ug/L	2464	Standard
	Ba	135	184460.9	14.7	**48.2204**	1.434	3.0	ug/L	39	Standard
	Ce	140	163.3	11.6				ug/L	195	Standard
>	**Tb**	159	1575452.2	14.9				ug/L	1640193	Standard
	Ho	165	58.3	55.1				ug/L	25	Standard
	Tl	203	749278.6	15.3	**50.4623**	0.816	1.6	ug/L	324	Standard
	Tl	205	1962473.5	28.1	**48.8485**	6.826	14.0	ug/L	698	Standard
	Pb	206	585867.7	14.3	**50.6480**	0.869	1.7	ug/L	600	Standard
	Pb	207	524739.5	15.2	**50.9274**	0.477	0.9	ug/L	541	Standard
	Pb	208	1742459.1	14.7	**51.3879**	0.872	1.7	ug/L	1750	Standard
	U	238	694676.0	10.2	**51.6335**	2.972	5.8	ug/L	10	Standard
>	**Bi**	209	822713.0	15.7				ug/L	811518	Standard

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⌈	**Na**	23	46.7	6.2	**7.1318**	1.542	21.6	mg/L	0	Standard
|	**Mg**	24	310.0	14.3	**5.9198**	0.419	7.1	mg/L	77	Standard
|	**K**	39	901.7	6.6	**4.8629**	0.829	17.0	mg/L	18	Standard
|	**Ca**	43	148.3	3.9	**9.1382**	4.947	54.1	mg/L	178	Standard
|	**Fe**	54	403.3	16.0	**4.8639**	1.041	21.4	mg/L	29	Standard
|	**Fe**	57	530.0	7.4	**7.3255**	1.670	22.8	mg/L	408	Standard
⌊>	**Sc-1**	45	63017.7	14.7				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	7.3	67.3				ug/L	12	Standard
	Br	81	2043.5	20.9				ug/L	1747	Standard
	P	31	25.0	20.0				ug/L	17	Standard
	S	34	1.7	173.2				ug/L	3	Standard
	Sr	88	383.3	4.0				ug/L	370	Standard
	C	12	86.7	58.1				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	17	Standard
	Dy	164	52.2	66.9				mg/L	9	Standard
	Ho-1	165	58.3	55.1				mg/L	25	Standard
	Er	166	23.3	65.5				mg/L	20	Standard
	I	127	8235.9	47.2				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6			
|	Be	9	100.966		
⌊	Al	27	104.472		
⌈	Sc	45			
|	Ti	47	106.440		
|	V	51	107.281		
|	Cr	52	106.501		
|	Cr	53			
|	Mn	55	104.337		
|	Co	59	104.010		
|	Ni	60	104.171		
|	Cu	65	102.581		
|	Zn	66	102.989		
|>	Ge	72		102.049	
|	As	75	101.824		
|	Se	82	102.901		
⌊	Se-1	77			
⌈>	Ga	71			

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⌊	Rb	85		
⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98	105.765	
|	Ag	107	110.559	
|	Cd	111	102.357	
|	Cd	114		
|>	In	115		101.757
|	Sn	118	100.364	
|	Sb	123	99.528	
⌊	Ba	135	96.441	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	100.925	
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208	102.776	
|	U	238	103.267	
⌊>	Bi	209		101.379
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	14		
	Hg	202		
	Dy	164		
	Ho-1	165		
	Er	166		
	I	127		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Ag	107	

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Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, November 11, 2016 10:27:30
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	222374.0	2.5				ug/L	206101	Standard
	Be	9	41.7	34.6	**-0.0023**	0.006	265.4	ug/L	25	Standard
	Al	27	3993.9	22.5	**0.0247**	0.005	18.6	ug/L	1120	Standard
	Sc	45	65498.0	2.0				ug/L	61425	Standard
	Ti	47	47.3	23.3	**-0.0493**	0.022	44.5	ug/L	70	Standard
	V	51	2805.3	6.3	**-0.0715**	0.014	19.8	ug/L	3309	Standard
	Cr	52	11391.3	1.6	**-0.3798**	0.016	4.1	ug/L	13497	Standard
	Cr	53	2153.5	4.5	**-0.9086**	0.065	7.2	ug/L	3162	Standard
	Mn	55	1768.4	5.2	**-0.0312**	0.006	18.6	ug/L	2226	Standard
	Co	59	543.3	5.5	**-0.0221**	0.003	11.3	ug/L	1003	Standard
	Ni	60	418.0	5.1	**0.0225**	0.008	33.4	ug/L	355	Standard
	Cu	65	462.7	1.7	**-0.0196**	0.003	15.0	ug/L	473	Standard
	Zn	66	425.3	8.7	**0.0329**	0.028	86.1	ug/L	341	Standard
>	Ge	72	609918.9	0.7				ug/L	566981	Standard
	As	75	-135.7	43.0	**0.0027**	0.043	1583.2	ug/L	-156	Standard
	Se	82	22.9	57.5	**-0.1154**	0.121	104.6	ug/L	35	Standard
	Se-1	77	351.3	3.2	**-0.7789**	0.157	20.2	ug/L	354	Standard
>	Ga	71	50.0	55.7				mg/L	43	Standard
	Rb	85	61.7	47.5				ug/L	48	Standard
	Y	89	488217.9	0.7				ug/L	447702	Standard
>	Rh	103	28.3	27.0				ug/L	20	Standard
	Mo	98	85.5	26.6	**0.0068**	0.005	66.6	ug/L	158	Standard
	Ag	107	205.0	5.5	**0.0040**	0.001	27.3	ug/L	133	Standard
	Cd	111	18.9	19.0	**-0.0015**	0.001	67.5	mg/L	7	Standard
	Cd	114	52.2	28.6	**0.0021**	0.001	69.4	ug/L	72	Standard
>	In	115	1091009.6	1.0				ug/L	1004638	Standard
	Sn	118	166.7	9.6	**-0.0058**	0.007	116.7	ug/L	364	Standard
	Sb	123	338.2	34.9	**-0.0271**	0.013	46.5	ug/L	2464	Standard
	Ba	135	52.0	25.1	**0.0032**	0.003	98.4	ug/L	39	Standard
	Ce	140	38.3	39.8				ug/L	195	Standard
>	Tb	159	1690686.7	1.9				ug/L	1640193	Standard
	Ho	165	10.0	50.0				ug/L	25	Standard
	Tl	203	100.7	39.1	**-0.0065**	0.003	38.7	ug/L	324	Standard
	Tl	205	268.3	42.6	**0.0018**	0.003	152.5	ug/L	698	Standard
	Pb	206	713.4	4.4	**0.0048**	0.002	50.0	ug/L	600	Standard
	Pb	207	565.0	5.3	**-0.0002**	0.004	1794.4	ug/L	541	Standard
	Pb	208	1948.4	4.6	**0.0025**	0.003	126.1	ug/L	1750	Standard
	U	238	52.7	33.8	**0.0056**	0.001	22.4	ug/L	10	Standard
>	Bi	209	906961.3	2.3				ug/L	811518	Standard

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⌈	**Na**	23	5.0	100.0	**0.7302**	0.735	100.7	mg/L	0	Standard
|	**Mg**	24	58.3	48.7	**0.3660**	0.570	155.7	mg/L	77	Standard
|	**K**	39	13.3	57.3	**-0.0421**	0.041	98.0	mg/L	18	Standard
|	**Ca**	43	113.3	14.2	**18.3744**	3.444	18.7	mg/L	178	Standard
|	**Fe**	54	42.9	33.5	**0.0940**	0.179	189.9	mg/L	29	Standard
|	**Fe**	57	450.0	4.8	**3.4447**	0.941	27.3	mg/L	408	Standard
⌊>	**Sc-1**	45	65498.0	2.0				mg/L	61425	Standard
	Cl	35	1.3	173.2				ug/L	1	Standard
	Kr	83	8.3	30.2				ug/L	12	Standard
	Br	81	1796.8	8.6				ug/L	1747	Standard
	P	31	26.7	47.2				ug/L	17	Standard
	S	34	1.7	173.2				ug/L	3	Standard
	Sr	88	395.0	12.2				ug/L	370	Standard
	C	12	60.0	72.6				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	17	Standard
	Dy	164	16.2	71.3				mg/L	9	Standard
	Ho-1	165	10.0	50.0				mg/L	25	Standard
	Er	166	10.0					mg/L	20	Standard
	I	127	14131.6	9.0				mg/L	6023	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		107.573	
|	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	108.597
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	111.761
⌈	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

Sample ID: QC Std 7
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Method 6020 - Summary Report

Sample ID: QC Std 8
Sample Date/Time: Friday, November 11, 2016 10:32:20
Number of Replicates: 3
Autosampler Position: 202
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	211241.0	21.7				ug/L	206101	Standard
	Be	9	480.0	14.1	**0.1838**	0.015	8.2	ug/L	25	Standard
	Al	27	1190.0	5.7	**0.0118**	0.001	8.2	ug/L	1120	Standard
	Sc	45	58861.6	18.2				ug/L	61425	Standard
	Ti	47	47.0	8.5	**-0.0388**	0.028	72.7	ug/L	70	Standard
	V	51	7273.0	18.8	**0.3718**	0.015	4.1	ug/L	3309	Standard
	Cr	52	20693.0	15.6	**0.6907**	0.109	15.9	ug/L	13497	Standard
	Cr	53	3088.7	13.4	**0.0283**	0.269	950.4	ug/L	3162	Standard
	Mn	55	9474.7	20.7	**0.4725**	0.017	3.6	ug/L	2226	Standard
	Co	59	5429.0	18.5	**0.3818**	0.011	2.8	ug/L	1003	Standard
	Ni	60	4415.3	21.4	**1.5561**	0.012	0.8	ug/L	355	Standard
	Cu	65	2336.5	20.6	**0.7821**	0.015	1.9	ug/L	473	Standard
	Zn	66	7770.0	19.6	**6.0839**	0.159	2.6	ug/L	341	Standard
>	Ge	72	565900.5	20.7				ug/L	566981	Standard
	As	75	323.1	30.1	**0.3632**	0.051	14.1	ug/L	-156	Standard
	Se	82	63.3	16.8	**0.3001**	0.036	12.0	ug/L	35	Standard
	Se-1	77	364.7	3.4	**-0.1936**	0.778	401.5	ug/L	354	Standard
>	Ga	71	45.0	57.7				mg/L	43	Standard
	Rb	85	41.7	13.9				ug/L	48	Standard
	Y	89	442673.9	18.0				ug/L	447702	Standard
>	Rh	103	21.7	26.6				ug/L	20	Standard
	Mo	98	78.1	38.5	**0.0079**	0.009	114.5	ug/L	158	Standard
	Ag	107	4139.9	21.1	**0.3803**	0.007	1.9	ug/L	133	Standard
	Cd	111	774.9	18.1	**0.2268**	0.003	1.5	mg/L	7	Standard
	Cd	114	2043.9	23.3	**0.2240**	0.009	3.8	ug/L	72	Standard
>	In	115	998639.9	19.5				ug/L	1004638	Standard
	Sn	118	171.3	0.7	**0.0056**	0.017	300.9	ug/L	364	Standard
	Sb	123	5159.3	2.3	**0.5330**	0.100	18.7	ug/L	2464	Standard
	Ba	135	2545.2	16.0	**0.6725**	0.028	4.2	ug/L	39	Standard
	Ce	140	35.0	51.5				ug/L	195	Standard
>	Tb	159	1549067.5	17.1				ug/L	1640193	Standard
	Ho	165	20.0	50.0				ug/L	25	Standard
	Tl	203	1112.4	16.2	**0.0638**	0.002	2.5	ug/L	324	Standard
	Tl	205	2581.9	12.4	**0.0623**	0.005	7.9	ug/L	698	Standard
	Pb	206	2839.6	17.8	**0.1988**	0.002	1.2	ug/L	600	Standard
	Pb	207	2315.2	19.7	**0.1784**	0.005	2.6	ug/L	541	Standard
	Pb	208	7912.5	19.4	**0.1876**	0.003	1.8	ug/L	1750	Standard
	U	238	5009.8	13.7	**0.3810**	0.020	5.4	ug/L	10	Standard
>	Bi	209	808034.0	18.4				ug/L	811518	Standard

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⌈	**Na**	23	3.3	86.6	**0.4977**	0.431	86.6	mg/L	0	Standard
|	**Mg**	24	55.0	15.7	**0.4857**	0.456	94.0	mg/L	77	Standard
|	**K**	39	18.3	78.7	**0.0064**	0.113	1751.8	mg/L	18	Standard
|	**Ca**	43	113.3	24.3	**14.3018**	12.093	84.6	mg/L	178	Standard
|	**Fe**	54	37.3	34.0	**0.0661**	0.093	141.3	mg/L	29	Standard
|	**Fe**	57	411.7	17.0	**4.2836**	4.922	114.9	mg/L	408	Standard
⌊>	**Sc-1**	45	58861.6	18.2				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	10.3	11.2				ug/L	12	Standard
	Br	81	1733.4	17.4				ug/L	1747	Standard
	P	31	28.3	53.9				ug/L	17	Standard
	S	34	5.0	100.0				ug/L	3	Standard
	Sr	88	381.7	10.5				ug/L	370	Standard
	C	12	73.3	75.1				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	17	Standard
	Dy	164	12.1	50.2				mg/L	9	Standard
	Ho-1	165	20.0	50.0				mg/L	25	Standard
	Er	166	26.7	21.7				mg/L	20	Standard
	I	127	3745.5	3.8				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6			
|	Be	9	91.905		
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51	92.953		
|	Cr	52	86.335		
|	Cr	53			
|	Mn	55	94.492		
|	Co	59	95.449		
|	Ni	60	97.257		
|	Cu	65	97.757		
|	Zn	66	97.343		
|>	Ge	72		99.809	
|	As	75	90.794		
|	Se	82	75.023		
⌊	Se-1	77			
⌈>	Ga	71			

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⌊	Rb	85		
⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98		
|	Ag	107	95.076	
|	Cd	111	94.492	
|	Cd	114		
|>	In	115		99.403
|	Sn	118		
|	Sb	123	133.256	
⌊	Ba	135	89.666	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	79.688	
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208	93.822	
|	U	238	95.260	
⌊>	Bi	209		99.571
⌈	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 8	Sb	123	

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Method 6020 - Summary Report

Sample ID: PBW 82 WG590016-02
Sample Date/Time: Friday, November 11, 2016 10:41:51
Number of Replicates: 3
Autosampler Position: 205
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	204909.6	18.2				ug/L	206101	Standard
	Be	9	35.0	14.3	**-0.0032**	0.005	155.8	ug/L	25	Standard
	Al	27	7076.7	12.2	**0.0424**	0.003	6.2	ug/L	1120	Standard
	Sc	45	57970.3	13.4				ug/L	61425	Standard
	Ti	47	52.0	13.5	**-0.0304**	0.014	46.5	ug/L	70	Standard
	V	51	3224.0	9.2	**-0.0096**	0.031	328.3	ug/L	3309	Standard
	Cr	52	14282.4	11.0	**0.0192**	0.129	672.0	ug/L	13497	Standard
	Cr	53	2215.2	3.6	**-0.6938**	0.310	44.7	ug/L	3162	Standard
	Mn	55	3274.4	16.0	**0.0741**	0.008	10.5	ug/L	2226	Standard
	Co	59	507.3	4.5	**-0.0207**	0.010	48.8	ug/L	1003	Standard
	Ni	60	472.3	10.1	**0.0564**	0.018	32.6	ug/L	355	Standard
	Cu	65	462.0	15.6	**-0.0054**	0.011	196.7	ug/L	473	Standard
	Zn	66	874.4	15.3	**0.4281**	0.048	11.2	ug/L	341	Standard
>	Ge	72	567793.1	19.6				ug/L	566981	Standard
	As	75	-106.8	21.2	**0.0149**	0.029	193.4	ug/L	-156	Standard
	Se	82	32.6	20.8	**0.0107**	0.133	1241.7	ug/L	35	Standard
	Se-1	77	349.0	11.3	**-0.4481**	0.567	126.5	ug/L	354	Standard
>	Ga	71	41.7	18.3				mg/L	43	Standard
	Rb	85	75.0	29.1				ug/L	48	Standard
	Y	89	429388.8	16.7				ug/L	447702	Standard
>	Rh	103	20.0	66.1				ug/L	20	Standard
	Mo	98	84.6	27.3	**0.0094**	0.008	88.9	ug/L	158	Standard
	Ag	107	160.7	8.6	**0.0020**	0.002	101.3	ug/L	133	Standard
	Cd	111	16.9	31.5	**-0.0016**	0.001	60.6	mg/L	7	Standard
	Cd	114	59.6	16.5	**0.0038**	0.002	50.9	ug/L	72	Standard
>	In	115	980098.5	18.2				ug/L	1004638	Standard
	Sn	118	202.3	4.6	**0.0232**	0.023	98.9	ug/L	364	Standard
	Sb	123	1720.1	27.5	**0.1464**	0.088	60.4	ug/L	2464	Standard
	Ba	135	63.3	10.2	**0.0079**	0.002	20.8	ug/L	39	Standard
	Ce	140	91.7	32.9				ug/L	195	Standard
>	Tb	159	1538332.0	17.8				ug/L	1640193	Standard
	Ho	165	8.3	34.6				ug/L	25	Standard
	Tl	203	48.3	5.2	**-0.0093**	0.001	8.7	ug/L	324	Standard
	Tl	205	115.0	11.5	**-0.0014**	0.000	28.0	ug/L	698	Standard
	Pb	206	646.7	20.5	**0.0062**	0.002	27.3	ug/L	600	Standard
	Pb	207	540.3	15.7	**0.0041**	0.003	62.0	ug/L	541	Standard
	Pb	208	1798.7	19.3	**0.0049**	0.001	24.4	ug/L	1750	Standard
	U	238	15.3	3.8	**0.0032**	0.000	6.7	ug/L	10	Standard
>	Bi	209	800406.5	18.7				ug/L	811518	Standard

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	Na	23	0.0		**0.0050**	0.000	0.0	mg/L	0	Standard
	Mg	24	36.7	34.3	**0.0152**	0.267	1755.3	mg/L	77	Standard
	K	39	16.7	45.8	**-0.0118**	0.047	398.3	mg/L	18	Standard
	Ca	43	125.0	14.4	**11.8505**	7.550	63.7	mg/L	178	Standard
	Fe	54	25.7	78.3	**-0.0803**	0.266	330.8	mg/L	29	Standard
	Fe	57	431.7	6.4	**5.0804**	3.077	60.6	mg/L	408	Standard
>	**Sc-1**	45	57970.3	13.4				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	10.0	70.0				ug/L	12	Standard
	Br	81	1596.8	19.7				ug/L	1747	Standard
	P	31	31.7	24.1				ug/L	17	Standard
	S	34	6.7	43.3				ug/L	3	Standard
	Sr	88	426.7	5.4				ug/L	370	Standard
	C	12	73.3	15.7				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	17	Standard
	Dy	164	12.4	40.1				mg/L	9	Standard
	Ho-1	165	8.3	34.6				mg/L	25	Standard
	Er	166	20.0	100.0				mg/L	20	Standard
	I	127	4268.9	5.8				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		99.422	
	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		100.143	
	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	97.557
|	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	98.631
⌈	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: LCSW 82 WG590016-03
Sample Date/Time: Friday, November 11, 2016 10:44:57
Number of Replicates: 3
Autosampler Position: 206
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	237007.6	21.3				ug/L	206101	Standard
	Be	9	125650.8	18.7	**46.9424**	1.499	3.2	ug/L	25	Standard
	Al	27	18771.8	15.8	**0.0900**	0.005	5.6	ug/L	1120	Standard
	Sc	45	63577.2	16.4				ug/L	61425	Standard
	Ti	47	69.7	26.0	**-0.0074**	0.015	201.6	ug/L	70	Standard
	V	51	572445.7	17.0	**49.0332**	1.264	2.6	ug/L	3309	Standard
	Cr	52	540318.7	16.9	**49.8975**	1.401	2.8	ug/L	13497	Standard
	Cr	53	68356.2	15.0	**49.3650**	2.491	5.0	ug/L	3162	Standard
	Mn	55	839257.0	17.5	**49.0447**	1.077	2.2	ug/L	2226	Standard
	Co	59	662726.8	18.6	**49.2308**	0.475	1.0	ug/L	1003	Standard
	Ni	60	144932.2	18.1	**50.1724**	0.745	1.5	ug/L	355	Standard
	Cu	65	130935.8	19.5	**49.8052**	0.341	0.7	ug/L	473	Standard
	Zn	66	66818.7	18.6	**49.4864**	0.689	1.4	ug/L	341	Standard
>	Ge	72	622667.7	19.5				ug/L	566981	Standard
	As	75	65407.4	16.7	**48.3145**	1.393	2.9	ug/L	-156	Standard
	Se	82	5478.9	18.8	**48.4501**	0.464	1.0	ug/L	35	Standard
	Se-1	77	4711.1	18.6	**48.2805**	0.519	1.1	ug/L	354	Standard
>	Ga	71	73.3	14.2				mg/L	43	Standard
	Rb	85	100.0	47.7				ug/L	48	Standard
	Y	89	479699.2	18.4				ug/L	447702	Standard
>	Rh	103	51.7	20.1				ug/L	20	Standard
	Mo	98	136.1	1.2	**0.0169**	0.005	28.1	ug/L	158	Standard
	Ag	107	557862.8	17.1	**48.5722**	0.290	0.6	ug/L	133	Standard
	Cd	111	181742.3	17.3	**49.8794**	0.236	0.5	mg/L	7	Standard
	Cd	114	472354.4	18.9	**48.0338**	0.810	1.7	ug/L	72	Standard
>	In	115	1094823.4	17.7				ug/L	1004638	Standard
	Sn	118	307.7	10.4	**0.0580**	0.011	19.6	ug/L	364	Standard
	Sb	123	458714.8	19.0	**47.0847**	0.903	1.9	ug/L	2464	Standard
	Ba	135	190041.1	17.3	**46.2631**	0.668	1.4	ug/L	39	Standard
	Ce	140	326.7	17.9				ug/L	195	Standard
>	Tb	159	1685365.8	16.6				ug/L	1640193	Standard
	Ho	165	63.3	16.4				ug/L	25	Standard
	Tl	203	788666.7	17.0	**49.8931**	0.103	0.2	ug/L	324	Standard
	Tl	205	2066446.8	32.1	**48.1478**	7.737	16.1	ug/L	698	Standard
	Pb	206	617744.8	17.5	**50.0922**	0.585	1.2	ug/L	600	Standard
	Pb	207	526924.7	17.6	**47.9953**	0.427	0.9	ug/L	541	Standard
	Pb	208	1767573.4	15.9	**48.9969**	0.574	1.2	ug/L	1750	Standard
	U	238	664341.5	11.6	**46.4252**	2.566	5.5	ug/L	10	Standard
>	Bi	209	875256.1	16.9				ug/L	811518	Standard

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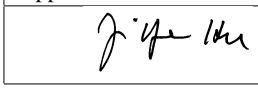

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	0	Standard
|	**Mg**	24	58.3	26.2	**0.4413**	0.403	91.3	mg/L	77	Standard
|	**K**	39	15.0	100.0	**-0.0391**	0.070	178.6	mg/L	18	Standard
|	**Ca**	43	108.3	19.2	**18.8213**	1.332	7.1	mg/L	178	Standard
|	**Fe**	54	48.9	51.6	**0.1627**	0.235	144.6	mg/L	29	Standard
|	**Fe**	57	375.0	19.2	**1.5374**	4.449	289.4	mg/L	408	Standard
⌊>	**Sc-1**	45	63577.2	16.4				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	8.0	12.5				ug/L	12	Standard
	Br	81	1813.4	20.7				ug/L	1747	Standard
	P	31	25.0	20.0				ug/L	17	Standard
	S	34	3.3	86.6				ug/L	3	Standard
	Sr	88	371.7	13.5				ug/L	370	Standard
	C	12	90.0	38.5				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	17	Standard
	Dy	164	32.2	32.8				mg/L	9	Standard
	Ho-1	165	63.3	16.4				mg/L	25	Standard
	Er	166	23.3	89.2				mg/L	20	Standard
	I	127	3502.1	9.1				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		114.996	
|	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		109.822	
|	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	108.977
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	107.854
⌈	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

Sample ID: LCSW 82 WG590016-03
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Method 6020 - Summary Report

Sample ID: L1610137502 WG590016-01
Sample Date/Time: Friday, November 11, 2016 10:48:02
Number of Replicates: 3
Autosampler Position: 207
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	246286.1	15.3				ug/L	206101	Standard
	Be	9	71.7	42.6	**0.0066**	0.009	134.1	ug/L	25	Standard
	Al	27	70195904.0	11.0	**302.4481**	15.159	5.0	ug/L	1120	Standard
	Sc	45	67283.4	10.3				ug/L	61425	Standard
	Ti	47	326.3	12.7	**0.5281**	0.015	2.9	ug/L	70	Standard
	V	51	4405.8	8.6	**0.0742**	0.042	56.5	ug/L	3309	Standard
	Cr	52	22786.9	10.3	**0.7422**	0.086	11.6	ug/L	13497	Standard
	Cr	53	11154.1	5.6	**6.1498**	0.836	13.6	ug/L	3162	Standard
	Mn	55	3072384.4	13.7	**184.2112**	0.927	0.5	ug/L	2226	Standard
	Co	59	10512.7	17.6	**0.7355**	0.031	4.2	ug/L	1003	Standard
	Ni	60	13764.1	18.8	**4.7452**	0.243	5.1	ug/L	355	Standard
	Cu	65	3616.8	12.8	**1.2191**	0.024	2.0	ug/L	473	Standard
	Zn	66	17808.6	13.8	**13.3133**	0.167	1.3	ug/L	341	Standard
>	Ge	72	606778.1	14.0				ug/L	566981	Standard
	As	75	391.7	12.9	**0.4003**	0.022	5.5	ug/L	-156	Standard
	Se	82	153.8	9.5	**1.0866**	0.071	6.6	ug/L	35	Standard
	Se-1	77	816.0	7.2	**4.6746**	0.729	15.6	ug/L	354	Standard
>	Ga	71	63.3	4.6				mg/L	43	Standard
	Rb	85	37741.0	15.0				ug/L	48	Standard
	Y	89	467831.3	12.1				ug/L	447702	Standard
>	Rh	103	526.7	16.6				ug/L	20	Standard
	Mo	98	9709.1	12.2	**1.9279**	0.046	2.4	ug/L	158	Standard
	Ag	107	291.0	15.9	**0.0128**	0.004	31.6	ug/L	133	Standard
	Cd	111	156.8	10.8	**0.0385**	0.003	7.3	mg/L	7	Standard
	Cd	114	460.9	17.1	**0.0460**	0.004	9.1	ug/L	72	Standard
>	In	115	1045142.8	14.3				ug/L	1004638	Standard
	Sn	118	278.0	11.6	**0.0497**	0.005	9.3	ug/L	364	Standard
	Sb	123	8250.2	25.1	**0.8590**	0.337	39.3	ug/L	2464	Standard
	Ba	135	461774.7	14.4	**117.6880**	0.199	0.2	ug/L	39	Standard
	Ce	140	2095.1	15.6				ug/L	195	Standard
>	Tb	159	1674441.6	12.8				ug/L	1640193	Standard
	Ho	165	96.7	28.5				ug/L	25	Standard
	Tl	203	6612.4	52.3	**0.4198**	0.179	42.5	ug/L	324	Standard
	Tl	205	15753.1	54.2	**0.3798**	0.167	43.9	ug/L	698	Standard
	Pb	206	5599.7	16.7	**0.4310**	0.022	5.0	ug/L	600	Standard
	Pb	207	4782.4	16.4	**0.4132**	0.025	6.1	ug/L	541	Standard
	Pb	208	16173.1	16.9	**0.4258**	0.026	6.1	ug/L	1750	Standard
	U	238	18881.1	7.8	**1.4029**	0.068	4.8	ug/L	10	Standard
>	Bi	209	822492.0	12.4				ug/L	811518	Standard

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⌈	**Na**	23	415.0	7.3	**58.2587**	2.233	3.8	mg/L	0	Standard
|	**Mg**	24	1985.1	8.5	**39.7161**	0.861	2.2	mg/L	77	Standard
|	**K**	39	1213.4	17.5	**6.0432**	0.558	9.2	mg/L	18	Standard
|	**Ca**	43	281.7	13.8	**-16.5153**	9.389	56.9	mg/L	178	Standard
|	**Fe**	54	50.4	23.7	**0.1721**	0.129	75.1	mg/L	29	Standard
|	**Fe**	57	758.4	3.7	**14.2862**	3.012	21.1	mg/L	408	Standard
⌊>	**Sc-1**	45	67283.4	10.3				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	8.3	18.3				ug/L	12	Standard
	Br	81	23715.3	9.7				ug/L	1747	Standard
	P	31	16.7	69.3				ug/L	17	Standard
	S	34	6.7	114.6				ug/L	3	Standard
	Sr	88	445.0	12.5				ug/L	370	Standard
	C	12	113.3	13.5				mg/L	47	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	10.0	100.0				mg/L	17	Standard
	Dy	164	91.4	26.4				mg/L	9	Standard
	Ho-1	165	96.7	28.5				mg/L	25	Standard
	Er	166	110.0	24.1				mg/L	20	Standard
	I	127	405504.7	8.2				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		119.498	
|	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		107.019	
|	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	104.032
|	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	101.352
⌈	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	
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1610137502 WG590016-01
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Method 6020 - Summary Report

Sample ID: L1610137503S WG590016-04
Sample Date/Time: Friday, November 11, 2016 10:51:07
Number of Replicates: 3
Autosampler Position: 208
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	240529.8	14.8				ug/L	206101	Standard
	Be	9	127617.0	15.4	**46.7805**	0.372	0.8	ug/L	25	Standard
	Al	27	68710734.2	12.1	**302.4693**	8.528	2.8	ug/L	1120	Standard
	Sc	45	66774.6	10.6				ug/L	61425	Standard
	Ti	47	323.7	28.2	**0.5152**	0.086	16.7	ug/L	70	Standard
	V	51	578032.7	13.7	**50.8961**	1.039	2.0	ug/L	3309	Standard
	Cr	52	532226.9	13.5	**50.5362**	1.029	2.0	ug/L	13497	Standard
	Cr	53	75744.3	12.8	**56.4572**	1.619	2.9	ug/L	3162	Standard
	Mn	55	3869715.1	13.8	**233.0843**	4.324	1.9	ug/L	2226	Standard
	Co	59	642799.5	15.2	**49.1008**	0.617	1.3	ug/L	1003	Standard
	Ni	60	148529.9	15.9	**52.8119**	0.633	1.2	ug/L	355	Standard
	Cu	65	123149.0	16.2	**48.1682**	0.457	0.9	ug/L	473	Standard
	Zn	66	84235.7	15.7	**64.2113**	0.323	0.5	ug/L	341	Standard
>	**Ge**	72	604804.7	15.2				ug/L	566981	Standard
	As	75	66621.4	15.1	**50.4781**	0.332	0.7	ug/L	-156	Standard
	Se	82	5586.1	16.9	**50.7471**	0.831	1.6	ug/L	35	Standard
	Se-1	77	5033.5	13.2	**53.6725**	2.317	4.3	ug/L	354	Standard
>	**Ga**	71	113.3	6.7				mg/L	43	Standard
	Rb	85	35517.1	13.6				ug/L	48	Standard
	Y	89	471897.0	12.2				ug/L	447702	Standard
>	**Rh**	103	576.7	23.9				ug/L	20	Standard
	Mo	98	9007.8	13.3	**1.7962**	0.043	2.4	ug/L	158	Standard
	Ag	107	512400.6	13.6	**46.9930**	0.600	1.3	ug/L	133	Standard
	Cd	111	172423.6	16.7	**49.7007**	0.970	2.0	mg/L	7	Standard
	Cd	114	444514.5	17.4	**47.5313**	1.276	2.7	ug/L	72	Standard
>	**In**	115	1039970.5	14.8				ug/L	1004638	Standard
	Sn	118	272.7	17.0	**0.0472**	0.004	9.5	ug/L	364	Standard
	Sb	123	466785.9	14.0	**50.5590**	0.450	0.9	ug/L	2464	Standard
	Ba	135	594702.3	13.8	**152.4853**	1.940	1.3	ug/L	39	Standard
	Ce	140	2020.1	15.3				ug/L	195	Standard
>	**Tb**	159	1624461.1	11.9				ug/L	1640193	Standard
	Ho	165	143.3	8.8				ug/L	25	Standard
	Tl	203	741198.1	13.5	**51.1474**	0.984	1.9	ug/L	324	Standard
	Tl	205	1732305.3	13.8	**44.6659**	0.929	2.1	ug/L	698	Standard
	Pb	206	577215.9	12.9	**51.1016**	0.664	1.3	ug/L	600	Standard
	Pb	207	484373.0	12.5	**48.2008**	0.348	0.7	ug/L	541	Standard
	Pb	208	1662608.3	12.4	**50.2467**	0.408	0.8	ug/L	1750	Standard
	U	238	689546.5	8.7	**52.4272**	1.627	3.1	ug/L	10	Standard
>	**Bi**	209	801380.2	11.7				ug/L	811518	Standard

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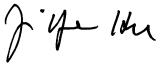

⌈	**Na**	23	351.7	21.7	**49.2638**	5.625	11.4	mg/L	0	Standard
|	**Mg**	24	1901.8	9.3	**38.3326**	2.259	5.9	mg/L	77	Standard
|	**K**	39	1150.0	2.6	**5.8435**	0.792	13.6	mg/L	18	Standard
|	**Ca**	43	318.3	17.3	**-25.5189**	17.889	70.1	mg/L	178	Standard
|	**Fe**	54	51.6	25.7	**0.1840**	0.106	57.6	mg/L	29	Standard
|	**Fe**	57	748.4	14.8	**13.8849**	1.759	12.7	mg/L	408	Standard
⌊>	**Sc-1**	45	66774.6	10.6				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	10.0	26.5				ug/L	12	Standard
	Br	81	23568.4	8.5				ug/L	1747	Standard
	P	31	38.3	30.1				ug/L	17	Standard
	S	34	5.0	0.0				ug/L	3	Standard
	Sr	88	408.3	5.5				ug/L	370	Standard
	C	12	96.7	21.5				mg/L	47	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	17	Standard
	Dy	164	110.8	29.2				mg/L	9	Standard
	Ho-1	165	143.3	8.8				mg/L	25	Standard
	Er	166	123.3	33.8				mg/L	20	Standard
	I	127	466338.2	5.8				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		116.705	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		106.671	
|	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	103.517
|	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	98.751
⌈	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	
Ba 135 Upper, S, EEE	Ba	135	

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Method 6020 - Summary Report

Sample ID: L1610137504SD WG590016-05
Sample Date/Time: Friday, November 11, 2016 10:54:12
Number of Replicates: 3
Autosampler Position: 209
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	247687.1	14.8				ug/L	206101	Standard
	Be	9	132856.4	14.5	**47.3378**	0.208	0.4	ug/L	25	Standard
	Al	27	70894936.3	10.6	**303.5824**	13.425	4.4	ug/L	1120	Standard
	Sc	45	68076.9	9.8				ug/L	61425	Standard
	Ti	47	298.0	17.7	**0.4625**	0.041	8.8	ug/L	70	Standard
	V	51	605289.7	12.0	**52.7907**	1.708	3.2	ug/L	3309	Standard
	Cr	52	555795.1	11.6	**52.3234**	1.730	3.3	ug/L	13497	Standard
	Cr	53	78402.6	12.1	**57.8750**	1.691	2.9	ug/L	3162	Standard
	Mn	55	4111031.1	12.6	**245.0950**	5.954	2.4	ug/L	2226	Standard
	Co	59	663950.6	13.3	**50.2394**	0.742	1.5	ug/L	1003	Standard
	Ni	60	154817.8	14.5	**54.5079**	0.818	1.5	ug/L	355	Standard
	Cu	65	126255.2	13.9	**48.9369**	0.357	0.7	ug/L	473	Standard
	Zn	66	88238.0	13.6	**66.6497**	0.368	0.6	ug/L	341	Standard
>	Ge	72	611043.6	14.1				ug/L	566981	Standard
	As	75	67873.4	13.2	**50.9334**	0.645	1.3	ug/L	-156	Standard
	Se	82	5715.7	14.1	**51.4816**	0.612	1.2	ug/L	35	Standard
	Se-1	77	5210.9	10.9	**55.1361**	1.955	3.5	ug/L	354	Standard
>	Ga	71	98.3	25.6				mg/L	43	Standard
	Rb	85	36865.3	12.4				ug/L	48	Standard
	Y	89	474986.7	11.1				ug/L	447702	Standard
>	Rh	103	570.0	33.4				ug/L	20	Standard
	Mo	98	9485.7	12.1	**1.8712**	0.023	1.2	ug/L	158	Standard
	Ag	107	494893.7	12.7	**44.8906**	0.342	0.8	ug/L	133	Standard
	Cd	111	177707.3	15.0	**50.7173**	0.877	1.7	mg/L	7	Standard
	Cd	114	452381.5	14.1	**47.9613**	0.921	1.9	ug/L	72	Standard
>	In	115	1050681.9	13.3				ug/L	1004638	Standard
	Sn	118	302.7	15.6	**0.0602**	0.013	22.3	ug/L	364	Standard
	Sb	123	478499.2	11.8	**51.3237**	0.822	1.6	ug/L	2464	Standard
	Ba	135	617687.8	12.9	**156.6687**	1.288	0.8	ug/L	39	Standard
	Ce	140	2153.5	12.1				ug/L	195	Standard
>	Tb	159	1655719.6	12.8				ug/L	1640193	Standard
	Ho	165	110.0	31.8				ug/L	25	Standard
	Tl	203	766299.5	12.0	**51.5047**	0.332	0.6	ug/L	324	Standard
	Tl	205	1987114.7	26.4	**49.4261**	7.472	15.1	ug/L	698	Standard
	Pb	206	593312.4	11.3	**51.1632**	0.617	1.2	ug/L	600	Standard
	Pb	207	502557.3	12.5	**48.6518**	0.839	1.7	ug/L	541	Standard
	Pb	208	1718052.4	11.0	**50.5680**	0.502	1.0	ug/L	1750	Standard
	U	238	705846.5	7.0	**52.2773**	2.424	4.6	ug/L	10	Standard
>	Bi	209	823539.1	11.5				ug/L	811518	Standard

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⌈	**Na**	23	381.7	21.8	**52.4661**	6.573	12.5	mg/L	0	Standard
|	**Mg**	24	1986.8	8.0	**39.4496**	4.549	11.5	mg/L	77	Standard
|	**K**	39	1248.4	16.2	**6.1508**	0.602	9.8	mg/L	18	Standard
|	**Ca**	43	348.3	10.8	**-30.1834**	14.981	49.6	mg/L	178	Standard
|	**Fe**	54	50.3	32.0	**0.1768**	0.233	131.7	mg/L	29	Standard
|	**Fe**	57	830.0	9.5	**16.3755**	2.030	12.4	mg/L	408	Standard
⌊>	**Sc-1**	45	68076.9	9.8				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	11.7	44.0				ug/L	12	Standard
	Br	81	23491.6	8.1				ug/L	1747	Standard
	P	31	36.7	77.5				ug/L	17	Standard
	S	34	3.3	86.6				ug/L	3	Standard
	Sr	88	361.7	13.9				ug/L	370	Standard
	C	12	86.7	26.6				mg/L	47	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	17	Standard
	Dy	164	149.8	2.9				mg/L	9	Standard
	Ho-1	165	110.0	31.8				mg/L	25	Standard
	Er	166	73.3	55.1				mg/L	20	Standard
	I	127	446550.4	6.4				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		120.177	
|	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		107.771	
|	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	104.583
	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	101.481
	Na	23	
	Mg	24	
	K	39	
	Ca	43	
	Fe	54	
	Fe	57	
>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Li 6 Int Std for sample	Li	6	Rerun sample
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	

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Ba 135 Upper, S, EEE	Ba	135

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Method 6020 - Summary Report

Sample ID: L1611007402
Sample Date/Time: Friday, November 11, 2016 10:57:17
Number of Replicates: 3
Autosampler Position: 210
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	246666.2	14.6				ug/L	206101	Standard
	Be	9	88.3	61.1	**0.0115**	0.014	126.1	ug/L	25	Standard
	Al	27	49184275.9	10.6	**211.4016**	9.010	4.3	ug/L	1120	Standard
	Sc	45	69999.3	11.0				ug/L	61425	Standard
	Ti	47	623.0	17.4	**1.1482**	0.053	4.6	ug/L	70	Standard
	V	51	5128.7	31.9	**0.1354**	0.098	72.2	ug/L	3309	Standard
	Cr	52	21771.2	13.9	**0.6579**	0.043	6.6	ug/L	13497	Standard
	Cr	53	20303.6	7.7	**13.4275**	1.166	8.7	ug/L	3162	Standard
	Mn	55	659971.5	13.7	**39.8721**	0.861	2.2	ug/L	2226	Standard
	Co	59	13464.7	15.5	**0.9722**	0.010	1.0	ug/L	1003	Standard
	Ni	60	8847.0	20.5	**3.0312**	0.185	6.1	ug/L	355	Standard
	Cu	65	1468.4	18.5	**0.3787**	0.021	5.7	ug/L	473	Standard
	Zn	66	3588.1	15.0	**2.4752**	0.013	0.5	ug/L	341	Standard
>	**Ge**	72	601150.6	15.0				ug/L	566981	Standard
	As	75	1010.8	14.4	**0.8811**	0.130	14.7	ug/L	-156	Standard
	Se	82	321.8	11.4	**2.6538**	0.193	7.3	ug/L	35	Standard
	Se-1	77	1145.4	2.7	**8.7130**	1.767	20.3	ug/L	354	Standard
>	**Ga**	71	80.0	22.5				mg/L	43	Standard
	Rb	85	3495.4	9.7				ug/L	48	Standard
	Y	89	478412.9	15.2				ug/L	447702	Standard
>	**Rh**	103	388.3	16.4				ug/L	20	Standard
	Mo	98	522.8	11.9	**0.0957**	0.005	5.5	ug/L	158	Standard
	Ag	107	257.3	17.7	**0.0097**	0.001	13.7	ug/L	133	Standard
	Cd	111	664.0	17.0	**0.1851**	0.006	3.1	mg/L	7	Standard
	Cd	114	1859.3	15.2	**0.1965**	0.003	1.3	ug/L	72	Standard
>	**In**	115	1036860.2	14.2				ug/L	1004638	Standard
	Sn	118	339.3	20.6	**0.0783**	0.011	14.3	ug/L	364	Standard
	Sb	123	1900.7	12.4	**0.1497**	0.055	36.9	ug/L	2464	Standard
	Ba	135	48690.4	13.8	**12.5062**	0.127	1.0	ug/L	39	Standard
	Ce	140	1025.0	12.9				ug/L	195	Standard
>	**Tb**	159	1627520.7	12.4				ug/L	1640193	Standard
	Ho	165	58.3	17.8				ug/L	25	Standard
	Tl	203	1911.1	26.1	**0.1177**	0.019	16.5	ug/L	324	Standard
	Tl	205	4665.7	23.0	**0.1148**	0.014	12.3	ug/L	698	Standard
	Pb	206	1751.4	17.1	**0.1031**	0.009	8.9	ug/L	600	Standard
	Pb	207	1520.4	13.9	**0.1008**	0.004	4.2	ug/L	541	Standard
	Pb	208	5419.1	24.9	**0.1125**	0.023	20.3	ug/L	1750	Standard
	U	238	37892.9	8.7	**2.8742**	0.080	2.8	ug/L	10	Standard
>	**Bi**	209	803405.3	11.2				ug/L	811518	Standard

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⌈	**Na**	23	266.7	6.0	**36.3304**	6.009	16.5	mg/L	0	Standard
|	**Mg**	24	5372.6	7.1	**104.9096**	6.267	6.0	mg/L	77	Standard
|	**K**	39	110.0	29.8	**0.4239**	0.147	34.7	mg/L	18	Standard
|	**Ca**	43	230.0	10.9	**-3.4828**	0.675	19.4	mg/L	178	Standard
|	**Fe**	54	45.5	51.5	**0.0816**	0.258	316.4	mg/L	29	Standard
|	**Fe**	57	690.0	10.1	**10.6826**	0.375	3.5	mg/L	408	Standard
⌊>	**Sc-1**	45	69999.3	11.0				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	11.7	32.5				ug/L	12	Standard
	Br	81	48775.3	7.3				ug/L	1747	Standard
	P	31	50.0	17.3				ug/L	17	Standard
	S	34	3.3	86.6				ug/L	3	Standard
	Sr	88	408.3	9.5				ug/L	370	Standard
	C	12	66.7	31.2				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	23.3	65.5				mg/L	17	Standard
	Dy	164	53.5	17.5				mg/L	9	Standard
	Ho-1	165	58.3	17.8				mg/L	25	Standard
	Er	166	66.7	70.9				mg/L	20	Standard
	I	127	2764592.9	4.4				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		119.682	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
| >	Ge	72		106.026	
|	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	103.207
|	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	99.000
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	

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Method 6020 - Summary Report

Sample ID: L1611007404
Sample Date/Time: Friday, November 11, 2016 11:00:23
Number of Replicates: 3
Autosampler Position: 211
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	246055.5	13.0				ug/L	206101	Standard
	Be	9	68.3	42.9	**0.0050**	0.008	165.5	ug/L	25	Standard
	Al	27	51587205.4	9.4	**222.0946**	8.789	4.0	ug/L	1120	Standard
	Sc	45	69624.0	10.0				ug/L	61425	Standard
	Ti	47	949.7	14.8	**1.8580**	0.086	4.6	ug/L	70	Standard
	V	51	4357.2	10.1	**0.0770**	0.012	15.2	ug/L	3309	Standard
	Cr	52	21930.3	10.9	**0.7060**	0.016	2.3	ug/L	13497	Standard
	Cr	53	24177.7	7.2	**16.7066**	0.863	5.2	ug/L	3162	Standard
	Mn	55	3915609.5	11.7	**240.6680**	0.414	0.2	ug/L	2226	Standard
	Co	59	21053.1	12.6	**1.5810**	0.019	1.2	ug/L	1003	Standard
	Ni	60	7528.2	17.1	**2.6068**	0.162	6.2	ug/L	355	Standard
	Cu	65	1342.1	8.6	**0.3405**	0.018	5.4	ug/L	473	Standard
	Zn	66	4251.9	12.0	**3.0375**	0.052	1.7	ug/L	341	Standard
>	**Ge**	72	591771.1	11.5				ug/L	566981	Standard
	As	75	2092.8	18.9	**1.7133**	0.168	9.8	ug/L	-156	Standard
	Se	82	425.0	19.9	**3.6278**	0.357	9.8	ug/L	35	Standard
	Se-1	77	1361.4	10.5	**11.3223**	0.279	2.5	ug/L	354	Standard
>	**Ga**	71	130.0	27.7				mg/L	43	Standard
	Rb	85	6446.4	11.0				ug/L	48	Standard
	Y	89	470755.6	9.8				ug/L	447702	Standard
>	**Rh**	103	581.7	18.2				ug/L	20	Standard
	Mo	98	2615.4	7.5	**0.5271**	0.020	3.8	ug/L	158	Standard
	Ag	107	178.3	10.9	**0.0028**	0.001	20.3	ug/L	133	Standard
	Cd	111	186.0	14.1	**0.0481**	0.003	5.5	mg/L	7	Standard
	Cd	114	471.1	28.0	**0.0478**	0.009	19.6	ug/L	72	Standard
>	**In**	115	1016993.3	11.1				ug/L	1004638	Standard
	Sn	118	269.0	9.8	**0.0488**	0.004	8.2	ug/L	364	Standard
	Sb	123	1035.1	24.0	**0.0556**	0.041	73.4	ug/L	2464	Standard
	Ba	135	71984.8	10.4	**18.8578**	0.173	0.9	ug/L	39	Standard
	Ce	140	9971.6	11.6				ug/L	195	Standard
>	**Tb**	159	1588985.3	8.6				ug/L	1640193	Standard
	Ho	165	145.0	3.4				ug/L	25	Standard
	Tl	203	1449.1	16.3	**0.0860**	0.008	9.4	ug/L	324	Standard
	Tl	205	3613.8	14.3	**0.0877**	0.005	5.4	ug/L	698	Standard
	Pb	206	2175.5	11.9	**0.1397**	0.013	9.3	ug/L	600	Standard
	Pb	207	1741.4	13.0	**0.1213**	0.006	5.1	ug/L	541	Standard
	Pb	208	6248.5	11.5	**0.1373**	0.006	4.1	ug/L	1750	Standard
	U	238	2955.0	6.5	**0.2242**	0.008	3.4	ug/L	10	Standard
>	**Bi**	209	810233.2	9.7				ug/L	811518	Standard

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⌈	**Na**	23	246.7	8.4	**33.5174**	2.977	8.9	mg/L	0	Standard
|	**Mg**	24	5034.2	3.9	**98.8644**	6.432	6.5	mg/L	77	Standard
|	**K**	39	148.3	17.3	**0.6229**	0.148	23.7	mg/L	18	Standard
|	**Ca**	43	243.3	24.5	**-7.6098**	17.875	234.9	mg/L	178	Standard
|	**Fe**	54	204.0	13.0	**1.9575**	0.170	8.7	mg/L	29	Standard
|	**Fe**	57	755.0	7.0	**13.2561**	3.413	25.7	mg/L	408	Standard
⌊>	**Sc-1**	45	69624.0	10.0				mg/L	61425	Standard
	Cl	35	1.3	173.2				ug/L	1	Standard
	Kr	83	7.0	28.6				ug/L	12	Standard
	Br	81	66860.9	6.3				ug/L	1747	Standard
	P	31	40.0	33.1				ug/L	17	Standard
	S	34	1.7	173.2				ug/L	3	Standard
	Sr	88	388.3	8.8				ug/L	370	Standard
	C	12	80.0	54.5				mg/L	47	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	26.7	57.3				mg/L	17	Standard
	Dy	164	203.5	17.4				mg/L	9	Standard
	Ho-1	165	145.0	3.4				mg/L	25	Standard
	Er	166	136.7	11.2				mg/L	20	Standard
	I	127	1161003.3	3.6				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		119.386	
|	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		104.372	
|	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	101.230
|	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	99.842
⌈	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	

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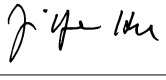

Method 6020 - Summary Report

Sample ID: L1611007404PS WG590880-03
Sample Date/Time: Friday, November 11, 2016 11:03:28
Number of Replicates: 3
Autosampler Position: 212
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	249005.8	12.7				ug/L	206101	Standard
	Be	9	68.3	23.5	**0.0051**	0.003	59.9	ug/L	25	Standard
	Al	27	52067444.9	9.1	**221.4955**	8.216	3.7	ug/L	1120	Standard
	Sc	45	71047.1	9.0				ug/L	61425	Standard
	Ti	47	951.4	13.2	**1.8349**	0.022	1.2	ug/L	70	Standard
	V	51	3779.5	7.6	**0.0205**	0.019	93.0	ug/L	3309	Standard
	Cr	52	21837.2	9.9	**0.6668**	0.048	7.1	ug/L	13497	Standard
	Cr	53	24688.5	7.2	**16.8365**	1.151	6.8	ug/L	3162	Standard
	Mn	55	3962645.7	11.2	**240.0980**	2.313	1.0	ug/L	2226	Standard
	Co	59	21262.1	12.6	**1.5732**	0.009	0.5	ug/L	1003	Standard
	Ni	60	7655.3	16.3	**2.6138**	0.119	4.6	ug/L	355	Standard
	Cu	65	1387.1	13.1	**0.3485**	0.009	2.5	ug/L	473	Standard
	Zn	66	4656.1	9.9	**3.3073**	0.087	2.6	ug/L	341	Standard
>	**Ge**	72	600780.6	12.1				ug/L	566981	Standard
	As	75	2142.1	11.8	**1.7349**	0.029	1.7	ug/L	-156	Standard
	Se	82	428.2	15.1	**3.6219**	0.357	9.9	ug/L	35	Standard
	Se-1	77	1332.7	7.7	**10.8148**	1.321	12.2	ug/L	354	Standard
>	**Ga**	71	165.0	24.8				mg/L	43	Standard
	Rb	85	6744.9	14.3				ug/L	48	Standard
	Y	89	480829.5	10.1				ug/L	447702	Standard
>	**Rh**	103	573.3	23.7				ug/L	20	Standard
	Mo	98	2710.0	10.8	**0.5363**	0.009	1.8	ug/L	158	Standard
	Ag	107	172.0	15.7	**0.0019**	0.001	38.9	ug/L	133	Standard
	Cd	111	185.2	18.7	**0.0468**	0.005	10.2	mg/L	7	Standard
	Cd	114	512.8	13.7	**0.0521**	0.003	4.8	ug/L	72	Standard
>	**In**	115	1033382.3	11.0				ug/L	1004638	Standard
	Sn	118	268.0	9.9	**0.0462**	0.002	4.5	ug/L	364	Standard
	Sb	123	785.5	28.2	**0.0261**	0.034	130.4	ug/L	2464	Standard
	Ba	135	72439.8	11.1	**18.6625**	0.084	0.5	ug/L	39	Standard
	Ce	140	9966.6	6.7				ug/L	195	Standard
>	**Tb**	159	1610237.7	9.5				ug/L	1640193	Standard
	Ho	165	133.3	42.1				ug/L	25	Standard
	Tl	203	1331.1	14.0	**0.0776**	0.005	6.4	ug/L	324	Standard
	Tl	205	3107.0	8.2	**0.0747**	0.004	5.8	ug/L	698	Standard
	Pb	206	2245.5	12.4	**0.1444**	0.007	4.7	ug/L	600	Standard
	Pb	207	1860.4	11.6	**0.1321**	0.005	3.6	ug/L	541	Standard
	Pb	208	6564.2	12.5	**0.1454**	0.006	4.2	ug/L	1750	Standard
	U	238	2996.6	4.7	**0.2263**	0.011	4.8	ug/L	10	Standard
>	**Bi**	209	814814.2	9.4				ug/L	811518	Standard

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⌈	**Na**	23	300.0	7.3	**39.8613**	1.937	4.9	mg/L	0	Standard
|	**Mg**	24	5135.9	1.6	**98.8949**	8.071	8.2	mg/L	77	Standard
|	**K**	39	143.3	33.9	**0.5882**	0.275	46.8	mg/L	18	Standard
|	**Ca**	43	266.7	27.1	**-11.1024**	19.449	175.2	mg/L	178	Standard
|	**Fe**	54	228.5	26.8	**2.1709**	0.485	22.3	mg/L	29	Standard
|	**Fe**	57	821.7	12.3	**14.7691**	1.858	12.6	mg/L	408	Standard
⌊>	**Sc-1**	45	71047.1	9.0				mg/L	61425	Standard
	Cl	35	1.3	86.6				ug/L	1	Standard
	Kr	83	7.7	27.2				ug/L	12	Standard
	Br	81	68974.0	8.2				ug/L	1747	Standard
	P	31	40.0	37.5				ug/L	17	Standard
	S	34	11.7	99.0				ug/L	3	Standard
	Sr	88	430.0	4.7				ug/L	370	Standard
	C	12	100.0	36.1				mg/L	47	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	16.7	91.7				mg/L	17	Standard
	Dy	164	125.7	38.6				mg/L	9	Standard
	Ho-1	165	133.3	42.1				mg/L	25	Standard
	Er	166	160.0	45.1				mg/L	20	Standard
	I	127	1157135.1	3.7				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		120.817	
|	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		105.961	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

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⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	102.861
|	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	100.406
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Li 6 Int Std for sample	Li	6	Rerun sample
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	

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Method 6020 - Summary Report

Sample ID: L1611007404SDL WG590880-04
Sample Date/Time: Friday, November 11, 2016 11:06:34
Number of Replicates: 3
Autosampler Position: 213
Sample Description: 5
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	217501.8	16.2				ug/L	206101	Standard
	Be	9	31.7	18.2	**-0.0056**	0.004	73.8	ug/L	25	Standard
	Al	27	9846510.3	12.8	**47.9855**	2.037	4.2	ug/L	1120	Standard
	Sc	45	63450.6	12.5				ug/L	61425	Standard
	Ti	47	211.3	10.4	**0.3181**	0.016	5.1	ug/L	70	Standard
	V	51	3261.0	3.5	**-0.0090**	0.035	390.4	ug/L	3309	Standard
	Cr	52	13964.8	8.6	**-0.0331**	0.077	233.0	ug/L	13497	Standard
	Cr	53	8203.9	7.5	**4.2220**	0.487	11.5	ug/L	3162	Standard
	Mn	55	589313.4	13.0	**37.4144**	0.333	0.9	ug/L	2226	Standard
	Co	59	4431.3	15.2	**0.2947**	0.006	2.0	ug/L	1003	Standard
	Ni	60	1788.1	13.9	**0.5494**	0.004	0.7	ug/L	355	Standard
	Cu	65	765.0	12.3	**0.1189**	0.017	14.1	ug/L	473	Standard
	Zn	66	2483.9	13.5	**1.7237**	0.007	0.4	ug/L	341	Standard
>	**Ge**	72	571590.0	13.7				ug/L	566981	Standard
	As	75	312.2	5.6	**0.3565**	0.029	8.1	ug/L	-156	Standard
	Se	82	103.2	18.3	**0.6724**	0.050	7.5	ug/L	35	Standard
	Se-1	77	574.0	5.8	**2.2899**	0.796	34.7	ug/L	354	Standard
>	**Ga**	71	71.7	31.5				mg/L	43	Standard
	Rb	85	1223.4	14.5				ug/L	48	Standard
	Y	89	446309.5	15.9				ug/L	447702	Standard
>	**Rh**	103	150.0	12.0				ug/L	20	Standard
	Mo	98	513.0	8.6	**0.1001**	0.007	6.9	ug/L	158	Standard
	Ag	107	140.3	14.2	**-0.0002**	0.001	239.5	ug/L	133	Standard
	Cd	111	39.0	9.6	**0.0053**	0.001	18.2	mg/L	7	Standard
	Cd	114	140.7	21.0	**0.0127**	0.001	8.1	ug/L	72	Standard
>	**In**	115	979810.9	14.7				ug/L	1004638	Standard
	Sn	118	158.7	10.8	**-0.0009**	0.005	548.5	ug/L	364	Standard
	Sb	123	457.1	15.5	**-0.0080**	0.016	199.1	ug/L	2464	Standard
	Ba	135	14000.9	12.5	**3.8052**	0.084	2.2	ug/L	39	Standard
	Ce	140	1991.8	7.5				ug/L	195	Standard
>	**Tb**	159	1524391.3	13.2				ug/L	1640193	Standard
	Ho	165	46.7	6.2				ug/L	25	Standard
	Tl	203	1163.4	8.8	**0.0673**	0.004	6.4	ug/L	324	Standard
	Tl	205	2725.2	9.6	**0.0657**	0.005	8.1	ug/L	698	Standard
	Pb	206	1588.1	13.1	**0.0883**	0.004	5.1	ug/L	600	Standard
	Pb	207	1373.1	11.9	**0.0856**	0.003	3.8	ug/L	541	Standard
	Pb	208	4580.3	11.6	**0.0879**	0.003	3.8	ug/L	1750	Standard
	U	238	576.7	11.1	**0.0455**	0.002	3.7	ug/L	10	Standard
>	**Bi**	209	809938.4	14.0				ug/L	811518	Standard

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⌈	**Na**	23	46.7	37.6	**7.1735**	3.530	49.2	mg/L	0	Standard
|	**Mg**	24	985.0	14.1	**20.4363**	0.386	1.9	mg/L	77	Standard
|	**K**	39	45.0	22.2	**0.1287**	0.024	19.0	mg/L	18	Standard
|	**Ca**	43	151.7	26.6	**8.1488**	13.364	164.0	mg/L	178	Standard
|	**Fe**	54	60.8	13.0	**0.3582**	0.203	56.6	mg/L	29	Standard
|	**Fe**	57	545.0	11.5	**7.6172**	0.280	3.7	mg/L	408	Standard
⌊>	**Sc-1**	45	63450.6	12.5				mg/L	61425	Standard
	Cl	35	1.3	86.6				ug/L	1	Standard
	Kr	83	6.7	34.6				ug/L	12	Standard
	Br	81	14346.8	7.9				ug/L	1747	Standard
	P	31	33.3	43.3				ug/L	17	Standard
	S	34	3.3	173.2				ug/L	3	Standard
	Sr	88	401.7	15.0				ug/L	370	Standard
	C	12	76.7	60.2				mg/L	47	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	0.0					mg/L	17	Standard
	Dy	164	68.1	64.1				mg/L	9	Standard
	Ho-1	165	46.7	6.2				mg/L	25	Standard
	Er	166	40.0	25.0				mg/L	20	Standard
	I	127	256173.1	7.2				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		105.531	
|	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		100.813	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: L1611007404SDL WG590880-04
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⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	97.529
|	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	99.805
⌈	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

Sample ID: L1611007404SDL WG590880-04
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Method 6020 - Summary Report

Sample ID: L1611007404SDL WG590880-04
Sample Date/Time: Friday, November 11, 2016 11:09:39
Number of Replicates: 3
Autosampler Position: 214
Sample Description: 25
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	211750.0	14.6				ug/L	206101	Standard
	Be	9	31.7	92.5	**-0.0059**	0.012	204.8	ug/L	25	Standard
	Al	27	1576712.4	11.6	**7.8928**	0.250	3.2	ug/L	1120	Standard
	Sc	45	60100.4	13.3				ug/L	61425	Standard
	Ti	47	83.3	13.6	**0.0417**	0.007	17.1	ug/L	70	Standard
	V	51	3763.6	13.0	**0.0455**	0.018	39.5	ug/L	3309	Standard
	Cr	52	13433.3	7.8	**-0.0458**	0.108	235.9	ug/L	13497	Standard
	Cr	53	3675.4	6.7	**0.5663**	0.283	49.9	ug/L	3162	Standard
	Mn	55	125739.9	14.9	**8.0932**	0.119	1.5	ug/L	2226	Standard
	Co	59	1284.7	10.7	**0.0440**	0.006	12.9	ug/L	1003	Standard
	Ni	60	678.7	6.7	**0.1405**	0.029	20.5	ug/L	355	Standard
	Cu	65	460.0	12.3	**-0.0027**	0.009	325.7	ug/L	473	Standard
	Zn	66	1621.8	14.6	**1.0616**	0.046	4.3	ug/L	341	Standard
>	Ge	72	556260.9	15.3				ug/L	566981	Standard
	As	75	-35.4	340.9	**0.0714**	0.096	134.4	ug/L	-156	Standard
	Se	82	40.5	12.7	**0.0809**	0.013	16.4	ug/L	35	Standard
	Se-1	77	414.3	2.2	**0.4765**	0.715	150.0	ug/L	354	Standard
>	Ga	71	46.7	12.4				mg/L	43	Standard
	Rb	85	310.0	15.4				ug/L	48	Standard
	Y	89	428367.6	14.5				ug/L	447702	Standard
>	Rh	103	53.3	30.1				ug/L	20	Standard
	Mo	98	129.5	2.7	**0.0184**	0.003	17.9	ug/L	158	Standard
	Ag	107	146.7	8.5	**0.0006**	0.001	230.0	ug/L	133	Standard
	Cd	111	12.8	7.8	**-0.0027**	0.001	18.9	mg/L	7	Standard
	Cd	114	52.7	16.6	**0.0030**	0.002	58.3	ug/L	72	Standard
>	In	115	973822.1	14.2				ug/L	1004638	Standard
	Sn	118	84.7	6.8	**-0.0375**	0.004	10.0	ug/L	364	Standard
	Sb	123	468.7	14.7	**-0.0064**	0.015	240.9	ug/L	2464	Standard
	Ba	135	2992.6	10.7	**0.8118**	0.030	3.7	ug/L	39	Standard
	Ce	140	421.7	13.5				ug/L	195	Standard
>	Tb	159	1497903.5	12.4				ug/L	1640193	Standard
	Ho	165	18.3	31.5				ug/L	25	Standard
	Tl	203	1295.7	2.9	**0.0768**	0.010	13.6	ug/L	324	Standard
	Tl	205	3032.0	7.0	**0.0735**	0.005	6.9	ug/L	698	Standard
	Pb	206	954.4	11.3	**0.0327**	0.002	7.3	ug/L	600	Standard
	Pb	207	820.4	7.3	**0.0313**	0.005	17.2	ug/L	541	Standard
	Pb	208	2878.1	8.0	**0.0369**	0.005	12.3	ug/L	1750	Standard
	U	238	121.0	9.5	**0.0112**	0.001	6.5	ug/L	10	Standard
>	Bi	209	810396.4	13.1				ug/L	811518	Standard

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	Na	23	11.7	24.7	**1.8943**	0.726	38.3	mg/L	0	Standard
	Mg	24	253.3	18.7	**4.9286**	0.706	14.3	mg/L	77	Standard
	K	39	11.7	24.7	**-0.0452**	0.017	38.3	mg/L	18	Standard
	Ca	43	150.0	18.6	**7.5153**	5.393	71.8	mg/L	178	Standard
	Fe	54	32.3	83.6	**0.0034**	0.365	10829.1	mg/L	29	Standard
	Fe	57	445.0	10.3	**5.0721**	4.182	82.4	mg/L	408	Standard
>	**Sc-1**	45	60100.4	13.3				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	8.3	6.9				ug/L	12	Standard
	Br	81	4430.7	11.9				ug/L	1747	Standard
	P	31	26.7	10.8				ug/L	17	Standard
	S	34	0.0					ug/L	3	Standard
	Sr	88	410.0	4.9				ug/L	370	Standard
	C	12	53.3	75.8				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	17	Standard
	Dy	164	12.2	34.9				mg/L	9	Standard
	Ho-1	165	18.3	31.5				mg/L	25	Standard
	Er	166	23.3	137.8				mg/L	20	Standard
	I	127	60905.7	4.6				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		102.741	
	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		98.109	
	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	96.933
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	99.862
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, November 11, 2016 11:12:47
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	226560.2	18.8				ug/L	206101	Standard
	Be	9	127316.8	16.1	**49.7665**	1.715	3.4	ug/L	25	Standard
	Al	27	10499195.4	11.7	**49.3937**	3.630	7.3	ug/L	1120	Standard
	Sc	45	63790.1	11.0				ug/L	61425	Standard
	Ti	47	48680.8	14.1	**100.5088**	1.907	1.9	ug/L	70	Standard
	V	51	577290.6	14.1	**50.6867**	0.934	1.8	ug/L	3309	Standard
	Cr	52	531853.6	14.7	**50.3114**	0.586	1.2	ug/L	13497	Standard
	Cr	53	68260.7	15.0	**50.3838**	0.578	1.1	ug/L	3162	Standard
	Mn	55	846322.9	14.8	**50.6919**	0.559	1.1	ug/L	2226	Standard
	Co	59	664623.3	14.7	**50.6734**	0.545	1.1	ug/L	1003	Standard
	Ni	60	142537.3	14.8	**50.6141**	0.618	1.2	ug/L	355	Standard
	Cu	65	128762.5	14.9	**50.3142**	0.468	0.9	ug/L	473	Standard
	Zn	66	66060.2	15.1	**50.2073**	0.684	1.4	ug/L	341	Standard
>	Ge	72	606676.1	15.8				ug/L	566981	Standard
	As	75	66095.6	15.2	**49.9466**	0.274	0.5	ug/L	-156	Standard
	Se	82	5616.3	15.5	**50.9639**	0.144	0.3	ug/L	35	Standard
	Se-1	77	4727.1	15.0	**49.8460**	0.563	1.1	ug/L	354	Standard
>	Ga	71	81.7	7.1				mg/L	43	Standard
	Rb	85	718.4	13.0				ug/L	48	Standard
	Y	89	472980.4	15.0				ug/L	447702	Standard
>	Rh	103	78.3	19.5				ug/L	20	Standard
	Mo	98	515208.4	13.7	**100.8176**	1.439	1.4	ug/L	158	Standard
	Ag	107	588444.2	13.8	**52.7099**	0.751	1.4	ug/L	133	Standard
	Cd	111	178107.7	15.6	**50.2057**	0.370	0.7	mg/L	7	Standard
	Cd	114	474332.4	13.4	**49.7413**	1.008	2.0	ug/L	72	Standard
>	In	115	1064929.1	15.1				ug/L	1004638	Standard
	Sn	118	109226.4	15.7	**49.8324**	1.010	2.0	ug/L	364	Standard
	Sb	123	463192.9	15.3	**48.9447**	0.467	1.0	ug/L	2464	Standard
	Ba	135	185870.3	13.6	**46.5620**	0.863	1.9	ug/L	39	Standard
	Ce	140	213.3	24.8				ug/L	195	Standard
>	Tb	159	1624422.6	12.8				ug/L	1640193	Standard
	Ho	165	46.7	22.3				ug/L	25	Standard
	Tl	203	769736.8	14.0	**50.0794**	0.084	0.2	ug/L	324	Standard
	Tl	205	2042483.3	28.7	**49.0956**	7.718	15.7	ug/L	698	Standard
	Pb	206	602226.7	13.3	**50.2793**	0.380	0.8	ug/L	600	Standard
	Pb	207	532665.6	13.8	**49.9613**	0.834	1.7	ug/L	541	Standard
	Pb	208	1772816.0	13.2	**50.5200**	0.862	1.7	ug/L	1750	Standard
	U	238	695174.3	8.7	**49.9015**	2.699	5.4	ug/L	10	Standard
>	Bi	209	851021.8	13.9				ug/L	811518	Standard

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⌈	**Na**	23	43.3	35.3	**6.2946**	1.527	24.3	mg/L	0	Standard
|	**Mg**	24	285.0	15.8	**5.2993**	0.887	16.7	mg/L	77	Standard
|	**K**	39	850.0	2.1	**4.4969**	0.601	13.4	mg/L	18	Standard
|	**Ca**	43	111.7	25.5	**18.2197**	5.172	28.4	mg/L	178	Standard
|	**Fe**	54	422.0	13.6	**4.9703**	0.200	4.0	mg/L	29	Standard
|	**Fe**	57	488.3	15.7	**5.6903**	5.005	88.0	mg/L	408	Standard
⌊>	**Sc-1**	45	63790.1	11.0				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	9.7	31.6				ug/L	12	Standard
	Br	81	2020.1	25.3				ug/L	1747	Standard
	P	31	25.0	60.0				ug/L	17	Standard
	S	34	1.7	173.2				ug/L	3	Standard
	Sr	88	440.0	8.0				ug/L	370	Standard
	C	12	100.0	10.0				mg/L	47	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	17	Standard
	Dy	164	48.9	53.6				mg/L	9	Standard
	Ho-1	165	46.7	22.3				mg/L	25	Standard
	Er	166	23.3	65.5				mg/L	20	Standard
	I	127	6764.9	23.2				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6			
|	Be	9	99.533		
⌊	Al	27	98.787		
⌈	Sc	45			
|	Ti	47	100.509		
|	V	51	101.373		
|	Cr	52	100.623		
|	Cr	53			
|	Mn	55	101.384		
|	Co	59	101.347		
|	Ni	60	101.228		
|	Cu	65	100.628		
|	Zn	66	100.415		
|>	Ge	72		107.001	
|	As	75	99.893		
|	Se	82	101.928		
⌊	Se-1	77			
⌈>	Ga	71			

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Rb	85			
Y	89			
Rh	103			
Mo	98	100.818		
Ag	107	105.420		
Cd	111	100.411		
Cd	114			
In	115			106.001
Sn	118	99.665		
Sb	123	97.889		
Ba	135	93.124		
Ce	140			
Tb	159			
Ho	165			
Tl	203	100.159		
Tl	205			
Pb	206			
Pb	207			
Pb	208	101.040		
U	238	99.803		
Bi	209			104.868
Na	23			
Mg	24			
K	39			
Ca	43			
Fe	54			
Fe	57			
Sc-1	45			
Cl	35			
Kr	83			
Br	81			
P	31			
S	34			
Sr	88			
C	12			
N	14			
Hg	202			
Dy	164			
Ho-1	165			
Er	166			
I	127			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, November 11, 2016 11:15:52
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	218037.8	18.5				ug/L	206101	Standard
	Be	9	63.3	9.1	**0.0073**	0.005	68.2	ug/L	25	Standard
	Al	27	1773.4	7.5	**0.0145**	0.002	15.0	ug/L	1120	Standard
	Sc	45	60064.0	15.5				ug/L	61425	Standard
	Ti	47	52.3	17.8	**-0.0314**	0.030	96.4	ug/L	70	Standard
	V	51	3042.4	7.0	**-0.0350**	0.039	112.8	ug/L	3309	Standard
	Cr	52	13035.6	9.3	**-0.1516**	0.154	101.3	ug/L	13497	Standard
	Cr	53	2216.8	2.7	**-0.7484**	0.340	45.4	ug/L	3162	Standard
	Mn	55	2682.2	12.7	**0.0312**	0.014	44.2	ug/L	2226	Standard
	Co	59	794.7	11.8	**-0.0000**	0.006	38883.9	ug/L	1003	Standard
	Ni	60	391.7	9.4	**0.0210**	0.019	92.3	ug/L	355	Standard
	Cu	65	480.7	15.4	**-0.0040**	0.012	288.0	ug/L	473	Standard
	Zn	66	401.3	13.3	**0.0295**	0.024	81.5	ug/L	341	Standard
>	Ge	72	587703.9	20.9				ug/L	566981	Standard
	As	75	-84.0	39.4	**0.0401**	0.019	48.5	ug/L	-156	Standard
	Se	82	32.4	8.5	**-0.0058**	0.092	1607.4	ug/L	35	Standard
	Se-1	77	347.7	2.3	**-0.5526**	0.869	157.2	ug/L	354	Standard
>	Ga	71	38.3	19.9				mg/L	43	Standard
	Rb	85	41.7	30.2				ug/L	48	Standard
	Y	89	458851.5	18.7				ug/L	447702	Standard
>	Rh	103	33.3	31.2				ug/L	20	Standard
	Mo	98	260.0	18.1	**0.0445**	0.017	38.9	ug/L	158	Standard
	Ag	107	187.7	14.9	**0.0034**	0.001	24.5	ug/L	133	Standard
	Cd	111	26.3	14.2	**0.0012**	0.002	212.3	mg/L	7	Standard
	Cd	114	154.7	9.8	**0.0139**	0.004	30.2	ug/L	72	Standard
>	In	115	1038404.9	17.4				ug/L	1004638	Standard
	Sn	118	320.7	10.8	**0.0751**	0.042	56.4	ug/L	364	Standard
	Sb	123	7001.8	26.4	**0.7345**	0.319	43.4	ug/L	2464	Standard
	Ba	135	62.0	32.7	**0.0070**	0.007	106.2	ug/L	39	Standard
	Ce	140	36.7	47.9				ug/L	195	Standard
>	Tb	159	1576340.1	15.9				ug/L	1640193	Standard
	Ho	165	11.7	24.7				ug/L	25	Standard
	Tl	203	165.7	21.3	**-0.0012**	0.004	350.8	ug/L	324	Standard
	Tl	205	396.7	31.7	**0.0060**	0.005	84.1	ug/L	698	Standard
	Pb	206	734.7	16.1	**0.0116**	0.003	24.1	ug/L	600	Standard
	Pb	207	568.7	13.2	**0.0047**	0.003	72.1	ug/L	541	Standard
	Pb	208	2000.1	13.7	**0.0088**	0.002	24.0	ug/L	1750	Standard
	U	238	72.7	34.2	**0.0076**	0.003	35.2	ug/L	10	Standard
>	Bi	209	834564.3	17.1				ug/L	811518	Standard

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	Na	23	3.3	86.6	**0.5756**	0.500	86.8	mg/L	0	Standard
	Mg	24	50.0	52.0	**0.3186**	0.660	207.3	mg/L	77	Standard
	K	39	21.7	13.3	**0.0119**	0.011	90.0	mg/L	18	Standard
	Ca	43	123.3	39.8	**13.4902**	11.641	86.3	mg/L	178	Standard
	Fe	54	45.7	33.1	**0.2039**	0.261	128.0	mg/L	29	Standard
	Fe	57	438.3	8.9	**4.9174**	4.318	87.8	mg/L	408	Standard
>	**Sc-1**	45	60064.0	15.5				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	8.3	66.1				ug/L	12	Standard
	Br	81	1846.8	12.0				ug/L	1747	Standard
	P	31	30.0	28.9				ug/L	17	Standard
	S	34	3.3	173.2				ug/L	3	Standard
	Sr	88	383.3	4.0				ug/L	370	Standard
	C	12	63.3	45.6				mg/L	47	Standard
	N	14	6.7	86.6				mg/L	0	Standard
	Hg	202	0.0					mg/L	17	Standard
	Dy	164	15.7	134.7				mg/L	9	Standard
	Ho-1	165	11.7	24.7				mg/L	25	Standard
	Er	166	20.0	50.0				mg/L	20	Standard
	I	127	5927.8	9.2				mg/L	6023	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		103.655	
	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	103.361
|	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	102.840
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 7	Sb	123	

Sample ID: QC Std 7
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Method 6020 - Summary Report

Sample ID: L1611007406
Sample Date/Time: Friday, November 11, 2016 11:18:58
Number of Replicates: 3
Autosampler Position: 215
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	251546.4	15.0				ug/L	206101	Standard
	Be	9	76.7	10.0	**0.0084**	0.005	59.8	ug/L	25	Standard
	Al	27	51102112.3	8.4	**216.0932**	16.092	7.4	ug/L	1120	Standard
	Sc	45	69513.7	11.0				ug/L	61425	Standard
	Ti	47	1389.4	13.1	**2.7324**	0.049	1.8	ug/L	70	Standard
	V	51	6269.2	0.7	**0.2446**	0.081	33.2	ug/L	3309	Standard
	Cr	52	24822.5	10.0	**0.9489**	0.099	10.5	ug/L	13497	Standard
	Cr	53	22228.0	7.9	**14.8092**	1.079	7.3	ug/L	3162	Standard
	Mn	55	690223.0	12.6	**41.4537**	0.787	1.9	ug/L	2226	Standard
	Co	59	7717.3	13.3	**0.5273**	0.012	2.2	ug/L	1003	Standard
	Ni	60	8796.6	16.9	**3.0035**	0.120	4.0	ug/L	355	Standard
	Cu	65	1647.4	14.0	**0.4476**	0.011	2.4	ug/L	473	Standard
	Zn	66	3720.5	12.3	**2.5654**	0.103	4.0	ug/L	341	Standard
>	**Ge**	72	604745.3	13.6				ug/L	566981	Standard
	As	75	928.3	6.0	**0.8129**	0.082	10.1	ug/L	-156	Standard
	Se	82	356.6	12.1	**2.9483**	0.116	3.9	ug/L	35	Standard
	Se-1	77	1180.0	4.4	**8.9913**	1.504	16.7	ug/L	354	Standard
>	**Ga**	71	148.3	19.8				mg/L	43	Standard
	Rb	85	4335.6	13.9				ug/L	48	Standard
	Y	89	483927.5	11.9				ug/L	447702	Standard
>	**Rh**	103	435.0	19.6				ug/L	20	Standard
	Mo	98	768.4	8.0	**0.1443**	0.017	11.8	ug/L	158	Standard
	Ag	107	226.7	8.7	**0.0069**	0.002	23.7	ug/L	133	Standard
	Cd	111	586.4	14.4	**0.1612**	0.004	2.3	mg/L	7	Standard
	Cd	114	1548.2	12.3	**0.1618**	0.007	4.3	ug/L	72	Standard
>	**In**	115	1049201.2	14.7				ug/L	1004638	Standard
	Sn	118	379.0	4.4	**0.0985**	0.030	30.1	ug/L	364	Standard
	Sb	123	2876.7	21.9	**0.2581**	0.115	44.5	ug/L	2464	Standard
	Ba	135	48755.0	11.5	**12.4142**	0.533	4.3	ug/L	39	Standard
	Ce	140	8278.9	10.5				ug/L	195	Standard
>	**Tb**	159	1616766.7	11.9				ug/L	1640193	Standard
	Ho	165	186.7	14.8				ug/L	25	Standard
	Tl	203	2342.2	36.3	**0.1434**	0.038	26.7	ug/L	324	Standard
	Tl	205	5902.9	39.5	**0.1422**	0.041	28.7	ug/L	698	Standard
	Pb	206	2710.9	17.6	**0.1840**	0.013	7.1	ug/L	600	Standard
	Pb	207	2222.2	19.0	**0.1663**	0.015	9.0	ug/L	541	Standard
	Pb	208	7769.8	15.9	**0.1807**	0.009	5.2	ug/L	1750	Standard
	U	238	36233.7	6.7	**2.7135**	0.154	5.7	ug/L	10	Standard
>	**Bi**	209	815986.2	12.3				ug/L	811518	Standard

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⌈	**Na**	23	260.0	13.5	**35.2554**	2.800	7.9	mg/L	0	Standard
|	**Mg**	24	5245.9	5.4	**103.2557**	6.845	6.6	mg/L	77	Standard
|	**K**	39	151.7	1.9	**0.6409**	0.080	12.4	mg/L	18	Standard
|	**Ca**	43	271.7	5.9	**-12.5611**	5.270	42.0	mg/L	178	Standard
|	**Fe**	54	29.0	18.5	**-0.1023**	0.030	29.8	mg/L	29	Standard
|	**Fe**	57	715.0	6.1	**11.7999**	1.302	11.0	mg/L	408	Standard
⌊>	**Sc-1**	45	69513.7	11.0				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	8.0	12.5				ug/L	12	Standard
	Br	81	52380.7	7.7				ug/L	1747	Standard
	P	31	33.3	37.7				ug/L	17	Standard
	S	34	3.3	86.6				ug/L	3	Standard
	Sr	88	420.0	14.6				ug/L	370	Standard
	C	12	93.3	55.0				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	17	Standard
	Dy	164	240.4	26.6				mg/L	9	Standard
	Ho-1	165	186.7	14.8				mg/L	25	Standard
	Er	166	200.0	35.0				mg/L	20	Standard
	I	127	1483753.1	3.7				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		122.050	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		106.661	
|	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	104.436
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	100.551
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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: L1611007408
Sample Date/Time: Friday, November 11, 2016 11:22:03
Number of Replicates: 3
Autosampler Position: 216
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	242126.8	13.4				ug/L	206101	Standard
	Be	9	46.7	6.2	**-0.0018**	0.002	110.0	ug/L	25	Standard
	Al	27	15058577.5	9.5	**65.9280**	2.850	4.3	ug/L	1120	Standard
	Sc	45	70693.8	9.0				ug/L	61425	Standard
	Ti	47	525.7	11.1	**0.9374**	0.042	4.5	ug/L	70	Standard
	V	51	18427.8	9.9	**1.3091**	0.113	8.7	ug/L	3309	Standard
	Cr	52	42317.1	10.3	**2.6316**	0.141	5.4	ug/L	13497	Standard
	Cr	53	17997.4	7.3	**11.4048**	0.763	6.7	ug/L	3162	Standard
	Mn	55	1629040.7	11.5	**97.4281**	2.154	2.2	ug/L	2226	Standard
	Co	59	4306.6	13.2	**0.2640**	0.003	1.0	ug/L	1003	Standard
	Ni	60	12267.4	17.0	**4.2083**	0.207	4.9	ug/L	355	Standard
	Cu	65	1620.1	15.9	**0.4315**	0.030	7.0	ug/L	473	Standard
	Zn	66	4782.1	12.0	**3.3542**	0.041	1.2	ug/L	341	Standard
>	Ge	72	608284.6	12.5				ug/L	566981	Standard
	As	75	700.0	13.8	**0.6298**	0.009	1.4	ug/L	-156	Standard
	Se	82	283.9	10.8	**2.2653**	0.055	2.4	ug/L	35	Standard
	Se-1	77	893.0	7.8	**5.5376**	0.968	17.5	ug/L	354	Standard
>	Ga	71	103.3	12.2				mg/L	43	Standard
	Rb	85	22462.0	17.0				ug/L	48	Standard
	Y	89	493045.0	12.2				ug/L	447702	Standard
>	Rh	103	1826.8	26.8				ug/L	20	Standard
	Mo	98	13647.2	11.9	**2.6614**	0.054	2.0	ug/L	158	Standard
	Ag	107	205.7	5.6	**0.0047**	0.002	44.8	ug/L	133	Standard
	Cd	111	1233.4	15.0	**0.3407**	0.006	1.8	mg/L	7	Standard
	Cd	114	3303.8	13.2	**0.3437**	0.031	9.1	ug/L	72	Standard
>	In	115	1065003.7	13.5				ug/L	1004638	Standard
	Sn	118	308.3	3.1	**0.0626**	0.020	32.3	ug/L	364	Standard
	Sb	123	1876.3	18.5	**0.1422**	0.065	45.4	ug/L	2464	Standard
	Ba	135	472410.1	11.8	**118.3512**	2.213	1.9	ug/L	39	Standard
	Ce	140	3610.4	15.5				ug/L	195	Standard
>	Tb	159	1606186.1	11.0				ug/L	1640193	Standard
	Ho	165	285.0	16.1				ug/L	25	Standard
	Tl	203	1800.8	14.0	**0.1097**	0.007	6.8	ug/L	324	Standard
	Tl	205	4292.3	12.0	**0.1048**	0.004	3.8	ug/L	698	Standard
	Pb	206	1392.7	10.1	**0.0706**	0.001	1.6	ug/L	600	Standard
	Pb	207	1246.7	12.3	**0.0722**	0.002	2.4	ug/L	541	Standard
	Pb	208	4069.5	10.7	**0.0717**	0.002	2.3	ug/L	1750	Standard
	U	238	4785.8	7.3	**0.3605**	0.014	4.0	ug/L	10	Standard
>	Bi	209	813805.2	11.0				ug/L	811518	Standard

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	Na	23	430.0	9.2	**57.9299**	10.611	18.3	mg/L	0	Standard
	Mg	24	1758.4	5.4	**33.3834**	1.315	3.9	mg/L	77	Standard
	K	39	161.7	38.7	**0.6585**	0.257	39.0	mg/L	18	Standard
	Ca	43	371.7	9.0	**-31.8089**	11.502	36.2	mg/L	178	Standard
	Fe	54	47.0	33.1	**0.1009**	0.156	154.7	mg/L	29	Standard
	Fe	57	906.7	6.4	**18.0024**	3.201	17.8	mg/L	408	Standard
>	**Sc-1**	45	70693.8	9.0				mg/L	61425	Standard
	Cl	35	1.3	86.6				ug/L	1	Standard
	Kr	83	11.3	35.7				ug/L	12	Standard
	Br	81	40925.5	8.7				ug/L	1747	Standard
	P	31	35.0	51.5				ug/L	17	Standard
	S	34	1.7	173.2				ug/L	3	Standard
	Sr	88	405.0	7.5				ug/L	370	Standard
	C	12	146.7	79.9				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	17	Standard
	Dy	164	375.8	27.2				mg/L	9	Standard
	Ho-1	165	285.0	16.1				mg/L	25	Standard
	Er	166	296.7	13.6				mg/L	20	Standard
	I	127	397407.7	8.4				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		117.479	
	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		107.285	
	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	106.009
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	100.282
⌈	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	

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Method 6020 - Summary Report

Sample ID: L1611007410
Sample Date/Time: Friday, November 11, 2016 11:25:08
Number of Replicates: 3
Autosampler Position: 217
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	247618.8	14.7				ug/L	206101	Standard
	Be	9	68.3	29.6	**0.0051**	0.004	71.4	ug/L	25	Standard
	Al	27	104543010.0	9.0	**448.4862**	28.791	6.4	ug/L	1120	Standard
	Sc	45	72474.1	10.0				ug/L	61425	Standard
	Ti	47	785.4	10.6	**1.5544**	0.072	4.7	ug/L	70	Standard
	V	51	4443.9	33.7	**0.0894**	0.121	135.6	ug/L	3309	Standard
	Cr	52	24361.7	9.7	**1.0060**	0.110	10.9	ug/L	13497	Standard
	Cr	53	51325.5	8.4	**39.2473**	2.400	6.1	ug/L	3162	Standard
	Mn	55	343271.7	12.0	**21.4429**	0.804	3.7	ug/L	2226	Standard
	Co	59	6458.7	12.4	**0.4526**	0.022	4.9	ug/L	1003	Standard
	Ni	60	16063.0	15.2	**5.8425**	0.277	4.7	ug/L	355	Standard
	Cu	65	2305.8	14.4	**0.7447**	0.016	2.1	ug/L	473	Standard
	Zn	66	4298.6	12.2	**3.1500**	0.157	5.0	ug/L	341	Standard
>	**Ge**	72	579738.0	13.3				ug/L	566981	Standard
	As	75	1839.4	13.3	**1.5579**	0.125	8.0	ug/L	-156	Standard
	Se	82	804.8	14.8	**7.3547**	0.117	1.6	ug/L	35	Standard
	Se-1	77	3202.3	4.8	**34.2063**	3.547	10.4	ug/L	354	Standard
>	**Ga**	71	105.0	43.6				mg/L	43	Standard
	Rb	85	4193.9	12.0				ug/L	48	Standard
	Y	89	469392.6	11.9				ug/L	447702	Standard
>	**Rh**	103	736.7	6.5				ug/L	20	Standard
	Mo	98	398.9	4.4	**0.0725**	0.007	10.2	ug/L	158	Standard
	Ag	107	323.7	10.1	**0.0164**	0.001	5.1	ug/L	133	Standard
	Cd	111	546.2	13.3	**0.1541**	0.002	1.1	mg/L	7	Standard
	Cd	114	1476.7	8.2	**0.1590**	0.008	4.8	ug/L	72	Standard
>	**In**	115	1019206.7	12.5				ug/L	1004638	Standard
	Sn	118	498.0	11.0	**0.1581**	0.008	4.9	ug/L	364	Standard
	Sb	123	1212.8	18.5	**0.0755**	0.042	55.7	ug/L	2464	Standard
	Ba	135	43062.0	11.4	**11.2562**	0.191	1.7	ug/L	39	Standard
	Ce	140	1961.8	14.6				ug/L	195	Standard
>	**Tb**	159	1577047.7	11.5				ug/L	1640193	Standard
	Ho	165	80.0	10.8				ug/L	25	Standard
	Tl	203	1056.7	12.7	**0.0634**	0.002	3.1	ug/L	324	Standard
	Tl	205	2383.5	15.5	**0.0597**	0.004	6.3	ug/L	698	Standard
	Pb	206	1421.4	14.8	**0.0800**	0.006	7.7	ug/L	600	Standard
	Pb	207	1214.7	14.1	**0.0760**	0.004	5.6	ug/L	541	Standard
	Pb	208	4203.6	14.4	**0.0828**	0.005	6.5	ug/L	1750	Standard
	U	238	54879.9	7.1	**4.3570**	0.175	4.0	ug/L	10	Standard
>	**Bi**	209	768101.0	10.9				ug/L	811518	Standard

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⌈	**Na**	23	576.7	10.3	**75.0964**	4.951	6.6	mg/L	0	Standard
|	**Mg**	24	10195.1	4.7	**193.0413**	10.952	5.7	mg/L	77	Standard
|	**K**	39	151.7	3.8	**0.6111**	0.097	15.8	mg/L	18	Standard
|	**Ca**	43	435.0	5.0	**-42.2058**	9.117	21.6	mg/L	178	Standard
|	**Fe**	54	40.3	40.1	**0.0116**	0.169	1465.6	mg/L	29	Standard
|	**Fe**	57	1038.4	10.2	**21.5292**	2.019	9.4	mg/L	408	Standard
⌊>	**Sc-1**	45	72474.1	10.0				mg/L	61425	Standard
	Cl	35	1.3	173.2				ug/L	1	Standard
	Kr	83	11.0	24.1				ug/L	12	Standard
	Br	81	129642.7	10.2				ug/L	1747	Standard
	P	31	31.7	32.9				ug/L	17	Standard
	S	34	3.3	86.6				ug/L	3	Standard
	Sr	88	403.3	4.7				ug/L	370	Standard
	C	12	80.0	33.1				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	20.0	86.6				mg/L	17	Standard
	Dy	164	105.7	24.1				mg/L	9	Standard
	Ho-1	165	80.0	10.8				mg/L	25	Standard
	Er	166	90.0	29.4				mg/L	20	Standard
	I	127	779235.0	2.8				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		120.144	
|	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		102.250	
|	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	101.450
|	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	94.650
⌈	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: L1611007412
Sample Date/Time: Friday, November 11, 2016 11:28:13
Number of Replicates: 3
Autosampler Position: 218
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	270957.7	13.0				ug/L	206101	Standard
	Be	9	98.3	21.2	**0.0131**	0.006	46.1	ug/L	25	Standard
	Al	27	139810915.4	8.8	**546.9941**	30.221	5.5	ug/L	1120	Standard
	Sc	45	74217.0	7.6				ug/L	61425	Standard
	Ti	47	677.3	8.8	**1.3074**	0.052	4.0	ug/L	70	Standard
	V	51	7418.8	11.4	**0.3715**	0.146	39.2	ug/L	3309	Standard
	Cr	52	35058.0	8.2	**2.0645**	0.067	3.3	ug/L	13497	Standard
	Cr	53	61343.1	10.4	**46.8125**	1.038	2.2	ug/L	3162	Standard
	Mn	55	187130.8	9.6	**11.5285**	0.156	1.4	ug/L	2226	Standard
	Co	59	4751.8	12.0	**0.3125**	0.009	2.9	ug/L	1003	Standard
	Ni	60	23215.0	13.9	**8.4267**	0.366	4.3	ug/L	355	Standard
	Cu	65	1999.8	12.9	**0.6127**	0.027	4.5	ug/L	473	Standard
	Zn	66	4355.3	10.2	**3.1647**	0.071	2.2	ug/L	341	Standard
>	**Ge**	72	583960.2	9.8				ug/L	566981	Standard
	As	75	3108.2	18.5	**2.5239**	0.217	8.6	ug/L	-156	Standard
	Se	82	1417.1	14.8	**13.0721**	0.725	5.5	ug/L	35	Standard
	Se-1	77	5830.5	4.4	**65.4601**	4.933	7.5	ug/L	354	Standard
>	**Ga**	71	238.3	20.4				mg/L	43	Standard
	Rb	85	10665.4	9.9				ug/L	48	Standard
	Y	89	463247.2	10.6				ug/L	447702	Standard
>	**Rh**	103	1128.4	15.8				ug/L	20	Standard
	Mo	98	340.2	15.0	**0.0617**	0.005	8.0	ug/L	158	Standard
	Ag	107	195.3	7.8	**0.0050**	0.002	35.7	ug/L	133	Standard
	Cd	111	809.9	12.5	**0.2385**	0.008	3.5	mg/L	7	Standard
	Cd	114	2150.6	11.2	**0.2387**	0.003	1.3	ug/L	72	Standard
>	**In**	115	990367.7	9.9				ug/L	1004638	Standard
	Sn	118	232.0	8.2	**0.0343**	0.009	25.4	ug/L	364	Standard
	Sb	123	1214.0	16.1	**0.0784**	0.036	45.4	ug/L	2464	Standard
	Ba	135	348119.0	8.5	**93.7148**	1.324	1.4	ug/L	39	Standard
	Ce	140	693.3	9.8				ug/L	195	Standard
>	**Tb**	159	1559651.9	7.9				ug/L	1640193	Standard
	Ho	165	51.7	43.6				ug/L	25	Standard
	Tl	203	771.7	13.6	**0.0447**	0.003	6.8	ug/L	324	Standard
	Tl	205	1898.5	15.8	**0.0483**	0.004	8.1	ug/L	698	Standard
	Pb	206	1198.4	10.6	**0.0634**	0.003	4.1	ug/L	600	Standard
	Pb	207	934.7	11.0	**0.0504**	0.003	5.3	ug/L	541	Standard
	Pb	208	3395.1	11.8	**0.0611**	0.004	6.2	ug/L	1750	Standard
	U	238	21354.1	7.0	**1.7517**	0.033	1.9	ug/L	10	Standard
>	**Bi**	209	742411.7	8.4				ug/L	811518	Standard

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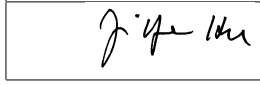

⌈	**Na**	23	856.7	6.6	**108.8327**	1.386	1.3	mg/L	0	Standard
|	**Mg**	24	9889.9	3.5	**182.6970**	12.282	6.7	mg/L	77	Standard
|	**K**	39	315.0	25.4	**1.3547**	0.410	30.2	mg/L	18	Standard
|	**Ca**	43	618.3	8.6	**-75.3637**	19.385	25.7	mg/L	178	Standard
|	**Fe**	54	53.8	16.6	**0.1593**	0.148	92.7	mg/L	29	Standard
|	**Fe**	57	1311.7	5.3	**29.8712**	5.633	18.9	mg/L	408	Standard
⌊>	**Sc-1**	45	74217.0	7.6				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	10.3	49.7				ug/L	12	Standard
	Br	81	197458.4	6.4				ug/L	1747	Standard
	P	31	60.0	28.9				ug/L	17	Standard
	S	34	3.3	86.6				ug/L	3	Standard
	Sr	88	396.7	7.6				ug/L	370	Standard
	C	12	56.7	71.3				mg/L	47	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	17	Standard
	Dy	164	80.9	16.3				mg/L	9	Standard
	Ho-1	165	51.7	43.6				mg/L	25	Standard
	Er	166	50.0	69.3				mg/L	20	Standard
	I	127	516836.2	1.2				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		131.468	
|	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		102.995	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

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Rb	85	
Y	89	
Rh	103	
Mo	98	
Ag	107	
Cd	111	
Cd	114	
In	115	98.580
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	91.484
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: QC Std 6
Sample Date/Time: Friday, November 11, 2016 11:31:20
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	235080.2	14.2				ug/L	206101	Standard
	Be	9	132696.5	14.5	**49.7878**	0.214	0.4	ug/L	25	Standard
	Al	27	10786283.3	11.2	**48.5923**	1.632	3.4	ug/L	1120	Standard
	Sc	45	66111.2	7.7				ug/L	61425	Standard
	Ti	47	51804.3	12.0	**105.5615**	0.490	0.5	ug/L	70	Standard
	V	51	610393.4	11.6	**52.9183**	0.920	1.7	ug/L	3309	Standard
	Cr	52	560619.9	12.0	**52.4296**	0.606	1.2	ug/L	13497	Standard
	Cr	53	73929.7	11.2	**54.1180**	1.312	2.4	ug/L	3162	Standard
	Mn	55	889248.8	12.0	**52.6064**	0.161	0.3	ug/L	2226	Standard
	Co	59	693799.0	13.3	**52.1862**	0.555	1.1	ug/L	1003	Standard
	Ni	60	148774.7	12.8	**52.1407**	0.403	0.8	ug/L	355	Standard
	Cu	65	133145.0	13.4	**51.3345**	0.578	1.1	ug/L	473	Standard
	Zn	66	69204.7	12.7	**51.9326**	0.415	0.8	ug/L	341	Standard
>	Ge	72	613812.6	12.3				ug/L	566981	Standard
	As	75	68274.4	12.6	**50.9524**	0.318	0.6	ug/L	-156	Standard
	Se	82	5759.8	11.6	**51.6809**	0.427	0.8	ug/L	35	Standard
	Se-1	77	4933.5	15.1	**51.3953**	1.682	3.3	ug/L	354	Standard
>	Ga	71	108.3	23.2				mg/L	43	Standard
	Rb	85	668.3	10.2				ug/L	48	Standard
	Y	89	475516.1	9.5				ug/L	447702	Standard
>	Rh	103	83.3	19.3				ug/L	20	Standard
	Mo	98	534233.4	11.4	**101.8701**	0.308	0.3	ug/L	158	Standard
	Ag	107	611046.1	11.7	**53.3297**	0.428	0.8	ug/L	133	Standard
	Cd	111	186101.3	14.2	**51.1062**	1.391	2.7	mg/L	7	Standard
	Cd	114	496161.0	14.5	**50.5599**	1.519	3.0	ug/L	72	Standard
>	In	115	1091487.8	11.6				ug/L	1004638	Standard
	Sn	118	111185.3	13.4	**49.4432**	1.083	2.2	ug/L	364	Standard
	Sb	123	481338.4	13.4	**49.5648**	0.999	2.0	ug/L	2464	Standard
	Ba	135	193207.4	11.3	**47.1578**	0.377	0.8	ug/L	39	Standard
	Ce	140	233.3	15.5				ug/L	195	Standard
>	Tb	159	1684653.7	9.1				ug/L	1640193	Standard
	Ho	165	66.7	15.6				ug/L	25	Standard
	Tl	203	789824.4	11.4	**50.4771**	0.576	1.1	ug/L	324	Standard
	Tl	205	2065611.0	25.6	**48.9028**	7.558	15.5	ug/L	698	Standard
	Pb	206	616998.0	11.5	**50.5615**	0.657	1.3	ug/L	600	Standard
	Pb	207	547660.8	11.0	**50.4499**	0.327	0.6	ug/L	541	Standard
	Pb	208	1826421.8	11.8	**51.0627**	0.754	1.5	ug/L	1750	Standard
	U	238	725768.8	7.4	**51.0521**	1.565	3.1	ug/L	10	Standard
>	Bi	209	865886.7	10.4				ug/L	811518	Standard

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⌈	**Na**	23	33.3	22.9	**4.7195**	0.758	16.1	mg/L	0	Standard
|	**Mg**	24	300.0	7.3	**5.3877**	0.293	5.4	mg/L	77	Standard
|	**K**	39	881.7	5.1	**4.4805**	0.516	11.5	mg/L	18	Standard
|	**Ca**	43	130.0	30.5	**14.6181**	10.564	72.3	mg/L	178	Standard
|	**Fe**	54	420.1	12.5	**4.7520**	0.255	5.4	mg/L	29	Standard
|	**Fe**	57	568.3	7.3	**7.7160**	2.391	31.0	mg/L	408	Standard
⌊>	**Sc-1**	45	66111.2	7.7				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	9.7	23.9				ug/L	12	Standard
	Br	81	2937.0	38.9				ug/L	1747	Standard
	P	31	26.7	21.7				ug/L	17	Standard
	S	34	5.0	0.0				ug/L	3	Standard
	Sr	88	411.7	10.1				ug/L	370	Standard
	C	12	76.7	79.7				mg/L	47	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	10.0	100.0				mg/L	17	Standard
	Dy	164	42.5	14.2				mg/L	9	Standard
	Ho-1	165	66.7	15.6				mg/L	25	Standard
	Er	166	16.7	34.6				mg/L	20	Standard
	I	127	15377.8	56.1				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6			
|	Be	9	99.576		
⌊	Al	27	97.185		
⌈	Sc	45			
|	Ti	47	105.561		
|	V	51	105.837		
|	Cr	52	104.859		
|	Cr	53			
|	Mn	55	105.213		
|	Co	59	104.372		
|	Ni	60	104.281		
|	Cu	65	102.669		
|	Zn	66	103.865		
|>	Ge	72		108.260	
|	As	75	101.905		
|	Se	82	103.362		
⌊	Se-1	77			
⌈>	Ga	71			

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⌊	Rb	85		
⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98	101.870	
|	Ag	107	106.659	
|	Cd	111	102.212	
|	Cd	114		
|>	In	115		108.645
|	Sn	118	98.886	
|	Sb	123	99.130	
⌊	Ba	135	94.316	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	100.954	
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208	102.125	
|	U	238	102.104	
⌊>	Bi	209		106.700
⌈	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

Sample ID: QC Std 6
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Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, November 11, 2016 11:34:26
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	236749.3	2.3				ug/L	206101	Standard
	Be	9	23.3	24.7	**-0.0103**	0.002	19.0	ug/L	25	Standard
	Al	27	4740.7	8.3	**0.0269**	0.002	8.3	ug/L	1120	Standard
	Sc	45	66504.0	1.2				ug/L	61425	Standard
	Ti	47	46.3	17.4	**-0.0543**	0.020	36.9	ug/L	70	Standard
	V	51	3140.4	7.8	**-0.0523**	0.023	43.7	ug/L	3309	Standard
	Cr	52	11671.2	3.2	**-0.3952**	0.036	9.0	ug/L	13497	Standard
	Cr	53	2875.3	7.4	**-0.4323**	0.209	48.5	ug/L	3162	Standard
	Mn	55	2058.5	2.0	**-0.0185**	0.004	23.2	ug/L	2226	Standard
	Co	59	574.0	7.7	**-0.0213**	0.005	24.6	ug/L	1003	Standard
	Ni	60	513.0	3.8	**0.0495**	0.014	28.0	ug/L	355	Standard
	Cu	65	488.7	5.6	**-0.0168**	0.007	44.0	ug/L	473	Standard
	Zn	66	404.7	4.2	**0.0057**	0.016	279.1	ug/L	341	Standard
>	Ge	72	634266.1	4.6				ug/L	566981	Standard
	As	75	-100.5	66.1	**0.0331**	0.045	136.3	ug/L	-156	Standard
	Se	82	32.5	14.6	**-0.0378**	0.056	147.3	ug/L	35	Standard
	Se-1	77	385.7	4.7	**-0.5439**	0.387	71.2	ug/L	354	Standard
>	Ga	71	53.3	19.5				mg/L	43	Standard
	Rb	85	41.7	27.7				ug/L	48	Standard
	Y	89	488193.5	2.5				ug/L	447702	Standard
>	Rh	103	50.0	43.6				ug/L	20	Standard
	Mo	98	66.5	36.0	**0.0030**	0.005	155.7	ug/L	158	Standard
	Ag	107	176.3	1.3	**0.0013**	0.000	6.3	ug/L	133	Standard
	Cd	111	12.2	36.6	**-0.0034**	0.001	36.4	mg/L	7	Standard
	Cd	114	69.1	47.5	**0.0038**	0.003	88.0	ug/L	72	Standard
>	In	115	1109799.5	1.5				ug/L	1004638	Standard
	Sn	118	158.3	14.5	**-0.0107**	0.009	88.1	ug/L	364	Standard
	Sb	123	367.6	39.8	**-0.0247**	0.015	61.2	ug/L	2464	Standard
	Ba	135	44.0	24.6	**0.0011**	0.003	250.0	ug/L	39	Standard
	Ce	140	30.0	33.3				ug/L	195	Standard
>	Tb	159	1726193.1	1.7				ug/L	1640193	Standard
	Ho	165	25.0	20.0				ug/L	25	Standard
	Tl	203	515.3	9.7	**0.0183**	0.003	19.0	ug/L	324	Standard
	Tl	205	1291.7	12.5	**0.0247**	0.004	15.9	ug/L	698	Standard
	Pb	206	647.3	4.5	**-0.0012**	0.002	138.3	ug/L	600	Standard
	Pb	207	561.7	5.7	**-0.0013**	0.003	244.5	ug/L	541	Standard
	Pb	208	1938.7	1.3	**0.0014**	0.000	8.3	ug/L	1750	Standard
	U	238	20.7	43.4	**0.0034**	0.001	18.0	ug/L	10	Standard
>	Bi	209	920975.2	1.5				ug/L	811518	Standard

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⌈	**Na**	23	1.7	173.2	**0.2396**	0.406	169.6	mg/L	0	Standard
|	**Mg**	24	55.0	41.7	**0.2889**	0.484	167.6	mg/L	77	Standard
|	**K**	39	6.7	86.6	**-0.0782**	0.030	37.7	mg/L	18	Standard
|	**Ca**	43	123.3	14.2	**16.6589**	3.429	20.6	mg/L	178	Standard
|	**Fe**	54	24.4	34.2	**-0.1407**	0.107	76.2	mg/L	29	Standard
|	**Fe**	57	411.7	11.0	**1.7790**	1.477	83.0	mg/L	408	Standard
⌊>	**Sc-1**	45	66504.0	1.2				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	8.7	6.7				ug/L	12	Standard
	Br	81	2283.5	1.3				ug/L	1747	Standard
	P	31	30.0	16.7				ug/L	17	Standard
	S	34	5.0	100.0				ug/L	3	Standard
	Sr	88	420.0	8.2				ug/L	370	Standard
	C	12	46.7	32.7				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	17	Standard
	Dy	164	18.9	111.0				mg/L	9	Standard
	Ho-1	165	25.0	20.0				mg/L	25	Standard
	Er	166	23.3	89.2				mg/L	20	Standard
	I	127	16417.3	7.7				mg/L	6023	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		111.867	
|	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	110.468
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	113.488
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: QC Std 8
Sample Date/Time: Friday, November 11, 2016 11:38:49
Number of Replicates: 3
Autosampler Position: 202
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	223687.3	18.4				ug/L	206101	Standard
	Be	9	526.7	30.7	**0.1859**	0.026	13.8	ug/L	25	Standard
	Al	27	3033.8	75.6	**0.0192**	0.008	41.4	ug/L	1120	Standard
	Sc	45	58828.8	14.0				ug/L	61425	Standard
	Ti	47	45.7	13.4	**-0.0453**	0.026	57.9	ug/L	70	Standard
	V	51	7398.6	13.7	**0.3647**	0.034	9.4	ug/L	3309	Standard
	Cr	52	20970.3	12.3	**0.6534**	0.110	16.8	ug/L	13497	Standard
	Cr	53	3617.1	5.3	**0.3890**	0.339	87.1	ug/L	3162	Standard
	Mn	55	10278.6	17.2	**0.5052**	0.016	3.1	ug/L	2226	Standard
	Co	59	5534.7	15.6	**0.3768**	0.006	1.6	ug/L	1003	Standard
	Ni	60	4739.8	17.5	**1.6285**	0.020	1.3	ug/L	355	Standard
	Cu	65	2473.5	17.6	**0.8088**	0.026	3.2	ug/L	473	Standard
	Zn	66	8199.9	19.0	**6.2165**	0.177	2.9	ug/L	341	Standard
>	**Ge**	72	582549.1	17.0				ug/L	566981	Standard
	As	75	316.0	39.6	**0.3459**	0.057	16.4	ug/L	-156	Standard
	Se	82	67.4	30.6	**0.3101**	0.135	43.5	ug/L	35	Standard
	Se-1	77	388.7	4.5	**-0.0621**	0.741	1192.3	ug/L	354	Standard
>	**Ga**	71	48.3	15.8				mg/L	43	Standard
	Rb	85	38.3	37.7				ug/L	48	Standard
	Y	89	448251.7	18.2				ug/L	447702	Standard
>	**Rh**	103	45.0	40.1				ug/L	20	Standard
	Mo	98	73.1	29.0	**0.0062**	0.006	104.5	ug/L	158	Standard
	Ag	107	4218.3	16.3	**0.3845**	0.002	0.6	ug/L	133	Standard
	Cd	111	849.3	19.0	**0.2453**	0.005	2.1	mg/L	7	Standard
	Cd	114	2120.3	17.7	**0.2309**	0.016	7.0	ug/L	72	Standard
>	**In**	115	1009642.3	16.9				ug/L	1004638	Standard
	Sn	118	182.7	5.3	**0.0102**	0.020	195.6	ug/L	364	Standard
	Sb	123	5321.1	3.7	**0.5423**	0.094	17.3	ug/L	2464	Standard
	Ba	135	2642.2	16.7	**0.6877**	0.012	1.8	ug/L	39	Standard
	Ce	140	31.7	50.8				ug/L	195	Standard
>	**Tb**	159	1556497.6	15.0				ug/L	1640193	Standard
	Ho	165	10.0	86.6				ug/L	25	Standard
	Tl	203	1368.7	21.1	**0.0790**	0.004	4.8	ug/L	324	Standard
	Tl	205	3125.3	17.8	**0.0742**	0.001	1.1	ug/L	698	Standard
	Pb	206	2933.6	16.5	**0.2025**	0.005	2.6	ug/L	600	Standard
	Pb	207	2466.9	17.2	**0.1895**	0.002	0.8	ug/L	541	Standard
	Pb	208	8288.9	17.0	**0.1949**	0.002	1.2	ug/L	1750	Standard
	U	238	5110.9	12.9	**0.3816**	0.016	4.2	ug/L	10	Standard
>	**Bi**	209	822482.1	17.1				ug/L	811518	Standard

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	Na	23	1.7	173.2	**0.3130**	0.534	170.4	mg/L	0	Standard
	Mg	24	51.7	40.3	**0.3609**	0.486	134.8	mg/L	77	Standard
	K	39	20.0	50.0	**0.0084**	0.064	767.0	mg/L	18	Standard
	Ca	43	98.3	12.8	**18.7854**	5.552	29.6	mg/L	178	Standard
	Fe	54	44.2	0.7	**0.1818**	0.082	45.3	mg/L	29	Standard
	Fe	57	480.0	9.5	**6.9311**	4.422	63.8	mg/L	408	Standard
>	**Sc-1**	45	58828.8	14.0				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	6.0	72.6				ug/L	12	Standard
	Br	81	2000.1	19.3				ug/L	1747	Standard
	P	31	20.0	50.0				ug/L	17	Standard
	S	34	3.3	86.6				ug/L	3	Standard
	Sr	88	391.7	7.8				ug/L	370	Standard
	C	12	56.7	27.0				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	173.2				mg/L	17	Standard
	Dy	164	5.5	94.1				mg/L	9	Standard
	Ho-1	165	10.0	86.6				mg/L	25	Standard
	Er	166	23.3	49.5				mg/L	20	Standard
	I	127	4430.6	4.9				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6			
	Be	9	92.934		
	Al	27			
	Sc	45			
	Ti	47			
	V	51	91.170		
	Cr	52	81.680		
	Cr	53			
	Mn	55	101.045		
	Co	59	94.207		
	Ni	60	101.779		
	Cu	65	101.096		
	Zn	66	99.464		
>	Ge	72		102.746	
	As	75	86.487		
	Se	82	77.525		
	Se-1	77			
>	Ga	71			

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⌊	Rb	85		
⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98		
|	Ag	107	96.121	
|	Cd	111	102.227	
|	Cd	114		
|>	In	115		100.498
|	Sn	118		
|	Sb	123	135.566	
⌊	Ba	135	91.695	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	98.806	
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208	97.450	
|	U	238	95.390	
⌊>	Bi	209		101.351
⌈	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 8	Sb	123	

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Method 6020 - Summary Report

Sample ID: L1610157201
Sample Date/Time: Friday, November 11, 2016 11:46:23
Number of Replicates: 3
Autosampler Position: 232
Sample Description: 5
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	216043.0	15.3				ug/L	206101	Standard
	Be	9	48.3	21.5	**0.0013**	0.006	454.5	ug/L	25	Standard
	Al	27	504482.6	9.7	**2.4854**	0.141	5.7	ug/L	1120	Standard
	Sc	45	58724.7	12.2				ug/L	61425	Standard
	Ti	47	114.3	10.2	**0.1062**	0.049	45.8	ug/L	70	Standard
	V	51	4007.1	12.4	**0.0576**	0.046	80.3	ug/L	3309	Standard
	Cr	52	12027.1	5.6	**-0.2390**	0.095	39.9	ug/L	13497	Standard
	Cr	53	3705.5	2.9	**0.4895**	0.314	64.2	ug/L	3162	Standard
	Mn	55	205017.7	11.8	**12.8585**	0.175	1.4	ug/L	2226	Standard
	Co	59	10339.9	11.3	**0.7700**	0.015	1.9	ug/L	1003	Standard
	Ni	60	1603.1	12.3	**0.4766**	0.005	1.0	ug/L	355	Standard
	Cu	65	889.7	14.0	**0.1676**	0.005	3.1	ug/L	473	Standard
	Zn	66	2921.6	12.7	**2.0654**	0.019	0.9	ug/L	341	Standard
>	**Ge**	72	574855.8	13.0				ug/L	566981	Standard
	As	75	4143.5	12.9	**3.4003**	0.009	0.3	ug/L	-156	Standard
	Se	82	99.3	12.9	**0.6330**	0.023	3.6	ug/L	35	Standard
	Se-1	77	419.3	7.6	**0.3367**	0.585	173.8	ug/L	354	Standard
>	**Ga**	71	60.0	22.0				mg/L	43	Standard
	Rb	85	5847.8	12.8				ug/L	48	Standard
	Y	89	445252.3	12.9				ug/L	447702	Standard
>	**Rh**	103	63.3	16.4				ug/L	20	Standard
	Mo	98	976419.5	12.9	**204.7720**	2.849	1.4	ug/L	158	Standard
	Ag	107	182.3	3.7	**0.0038**	0.002	57.2	ug/L	133	Standard
	Cd	111	-106.9	60.9	**-0.0414**	0.025	59.7	mg/L	7	Standard
	Cd	114	1998.6	24.8	**0.2188**	0.024	11.1	ug/L	72	Standard
>	**In**	115	993534.9	14.2				ug/L	1004638	Standard
	Sn	118	183.3	11.4	**0.0116**	0.021	178.0	ug/L	364	Standard
	Sb	123	1844.9	23.8	**0.1544**	0.077	49.9	ug/L	2464	Standard
	Ba	135	12555.6	13.7	**3.3584**	0.052	1.6	ug/L	39	Standard
	Ce	140	25212.9	13.7				ug/L	195	Standard
>	**Tb**	159	1591259.3	10.5				ug/L	1640193	Standard
	Ho	165	1206.7	18.6				ug/L	25	Standard
	Tl	203	1898.1	3.9	**0.1164**	0.012	10.3	ug/L	324	Standard
	Tl	205	4374.0	6.8	**0.1066**	0.008	7.4	ug/L	698	Standard
	Pb	206	1006.0	6.4	**0.0365**	0.005	14.9	ug/L	600	Standard
	Pb	207	872.0	8.1	**0.0352**	0.004	10.6	ug/L	541	Standard
	Pb	208	2974.8	8.8	**0.0386**	0.003	8.5	ug/L	1750	Standard
	U	238	2025.5	6.8	**0.1528**	0.009	5.6	ug/L	10	Standard
>	**Bi**	209	820270.9	12.3				ug/L	811518	Standard

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⌈	**Na**	23	28.3	10.2	**4.5975**	0.762	16.6	mg/L	0	Standard
|	**Mg**	24	490.0	12.4	**10.6076**	0.143	1.3	mg/L	77	Standard
|	**K**	39	593.3	19.8	**3.3305**	0.277	8.3	mg/L	18	Standard
|	**Ca**	43	140.0	27.9	**9.5362**	5.496	57.6	mg/L	178	Standard
|	**Fe**	54	50.8	20.9	**0.2823**	0.208	73.8	mg/L	29	Standard
|	**Fe**	57	500.0	12.2	**7.4562**	1.467	19.7	mg/L	408	Standard
⌊>	**Sc-1**	45	58724.7	12.2				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	9.3	22.3				ug/L	12	Standard
	Br	81	14200.0	3.5				ug/L	1747	Standard
	P	31	23.3	12.4				ug/L	17	Standard
	S	34	1.7	173.2				ug/L	3	Standard
	Sr	88	458.3	4.4				ug/L	370	Standard
	C	12	53.3	65.8				mg/L	47	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	17	Standard
	Dy	164	1156.1	1.4				mg/L	9	Standard
	Ho-1	165	1206.7	18.6				mg/L	25	Standard
	Er	166	1473.4	6.9				mg/L	20	Standard
	I	127	723536.0	5.1				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		104.824	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		101.389	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

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⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	98.895
|	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	101.079
⌈	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
Mo 98 Upper, S, EEE	Mo	98	

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Method 6020 - Summary Report

Sample ID: L1610157213
Sample Date/Time: Friday, November 11, 2016 11:49:29
Number of Replicates: 3
Autosampler Position: 233
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	228744.9	21.3				ug/L	206101	Standard
	Be	9	35.0	24.7	**-0.0050**	0.004	82.1	ug/L	25	Standard
	Al	27	23336.6	15.2	**0.1145**	0.008	7.4	ug/L	1120	Standard
	Sc	45	60100.7	14.6				ug/L	61425	Standard
	Ti	47	55.0	6.3	**-0.0311**	0.018	57.0	ug/L	70	Standard
	V	51	3981.6	11.1	**0.0362**	0.033	90.8	ug/L	3309	Standard
	Cr	52	21355.2	10.5	**0.6115**	0.197	32.2	ug/L	13497	Standard
	Cr	53	3405.4	8.2	**0.1000**	0.317	317.2	ug/L	3162	Standard
	Mn	55	5725.8	15.2	**0.2072**	0.017	8.0	ug/L	2226	Standard
	Co	59	736.7	13.9	**-0.0070**	0.003	48.5	ug/L	1003	Standard
	Ni	60	816.4	11.5	**0.1668**	0.025	14.8	ug/L	355	Standard
	Cu	65	1168.7	15.3	**0.2589**	0.024	9.4	ug/L	473	Standard
	Zn	66	3005.0	18.4	**1.9987**	0.042	2.1	ug/L	341	Standard
>	**Ge**	72	609606.1	19.9				ug/L	566981	Standard
	As	75	-177.3	14.8	**-0.0308**	0.023	74.6	ug/L	-156	Standard
	Se	82	28.4	43.4	**-0.0678**	0.083	122.3	ug/L	35	Standard
	Se-1	77	360.3	1.6	**-0.5693**	0.797	140.1	ug/L	354	Standard
>	**Ga**	71	56.7	39.8				mg/L	43	Standard
	Rb	85	173.3	27.7				ug/L	48	Standard
	Y	89	458673.9	18.3				ug/L	447702	Standard
>	**Rh**	103	36.7	20.8				ug/L	20	Standard
	Mo	98	2373.2	20.6	**0.4789**	0.159	33.3	ug/L	158	Standard
	Ag	107	158.7	8.2	**0.0008**	0.002	311.3	ug/L	133	Standard
	Cd	111	17.3	16.9	**-0.0016**	0.001	83.9	mg/L	7	Standard
	Cd	114	216.4	24.5	**0.0196**	0.003	13.3	ug/L	72	Standard
>	**In**	115	1051043.6	18.5				ug/L	1004638	Standard
	Sn	118	1314.1	19.7	**0.5275**	0.010	1.9	ug/L	364	Standard
	Sb	123	1083.5	22.8	**0.0597**	0.046	76.4	ug/L	2464	Standard
	Ba	135	696.7	22.6	**0.1662**	0.009	5.6	ug/L	39	Standard
	Ce	140	101.7	36.9				ug/L	195	Standard
>	**Tb**	159	1621588.2	16.5				ug/L	1640193	Standard
	Ho	165	15.0	33.3				ug/L	25	Standard
	Tl	203	398.7	32.3	**0.0129**	0.004	31.7	ug/L	324	Standard
	Tl	205	921.7	33.1	**0.0177**	0.004	21.0	ug/L	698	Standard
	Pb	206	646.3	16.6	**0.0030**	0.001	25.6	ug/L	600	Standard
	Pb	207	600.3	17.7	**0.0065**	0.001	14.3	ug/L	541	Standard
	Pb	208	1925.7	16.6	**0.0055**	0.000	4.8	ug/L	1750	Standard
	U	238	17.7	29.0	**0.0033**	0.000	11.4	ug/L	10	Standard
>	**Bi**	209	847464.1	16.3				ug/L	811518	Standard

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	Na	23	0.0		**0.0050**	0.000	0.0	mg/L	0	Standard
	Mg	24	71.7	22.4	**0.7777**	0.144	18.5	mg/L	77	Standard
	K	39	15.0	33.3	**-0.0270**	0.024	88.8	mg/L	18	Standard
	Ca	43	93.3	6.2	**20.4422**	4.536	22.2	mg/L	178	Standard
	Fe	54	34.3	43.7	**0.0529**	0.277	523.9	mg/L	29	Standard
	Fe	57	456.7	13.1	**5.6297**	4.569	81.2	mg/L	408	Standard
>	**Sc-1**	45	60100.7	14.6				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	7.7	19.9				ug/L	12	Standard
	Br	81	2036.8	20.1				ug/L	1747	Standard
	P	31	28.3	62.0				ug/L	17	Standard
	S	34	3.3	86.6				ug/L	3	Standard
	Sr	88	370.0	14.3				ug/L	370	Standard
	C	12	80.0	76.0				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	17	Standard
	Dy	164	22.7	24.2				mg/L	9	Standard
	Ho-1	165	15.0	33.3				mg/L	25	Standard
	Er	166	13.3	43.3				mg/L	20	Standard
	I	127	19174.3	52.0				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		110.987	
	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		107.518	
	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	104.619
|	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	104.429
⌈	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: L1610157214
Sample Date/Time: Friday, November 11, 2016 11:52:34
Number of Replicates: 3
Autosampler Position: 234
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	244598.6	16.1				ug/L	206101	Standard
	Be	9	333.3	10.2	**0.1024**	0.012	11.8	ug/L	25	Standard
	Al	27	4867960.4	10.0	**21.1647**	1.341	6.3	ug/L	1120	Standard
	Sc	45	69193.5	9.1				ug/L	61425	Standard
	Ti	47	925.4	16.6	**1.7560**	0.095	5.4	ug/L	70	Standard
	V	51	8102.8	10.5	**0.3988**	0.056	14.1	ug/L	3309	Standard
	Cr	52	22458.5	12.1	**0.7012**	0.034	4.9	ug/L	13497	Standard
	Cr	53	21218.3	12.8	**13.8554**	0.295	2.1	ug/L	3162	Standard
	Mn	55	910171.8	12.7	**54.3990**	0.456	0.8	ug/L	2226	Standard
	Co	59	38499.8	14.0	**2.8654**	0.045	1.6	ug/L	1003	Standard
	Ni	60	6335.0	14.9	**2.1204**	0.058	2.7	ug/L	355	Standard
	Cu	65	2272.2	15.3	**0.6873**	0.019	2.8	ug/L	473	Standard
	Zn	66	23325.9	14.8	**17.4687**	0.293	1.7	ug/L	341	Standard
>	**Ge**	72	607734.3	13.2				ug/L	566981	Standard
	As	75	1232.0	25.6	**1.0208**	0.118	11.6	ug/L	-156	Standard
	Se	82	336.7	19.4	**2.7273**	0.216	7.9	ug/L	35	Standard
	Se-1	77	955.7	12.0	**6.2538**	1.084	17.3	ug/L	354	Standard
>	**Ga**	71	95.0	9.1				mg/L	43	Standard
	Rb	85	15663.2	14.2				ug/L	48	Standard
	Y	89	482071.5	12.9				ug/L	447702	Standard
>	**Rh**	103	65.0	26.6				ug/L	20	Standard
	Mo	98	2767.2	7.3	**0.5415**	0.042	7.7	ug/L	158	Standard
	Ag	107	180.7	15.3	**0.0025**	0.002	76.0	ug/L	133	Standard
	Cd	111	285.1	15.3	**0.0746**	0.005	6.8	mg/L	7	Standard
	Cd	114	1290.3	20.5	**0.1327**	0.008	5.7	ug/L	72	Standard
>	**In**	115	1052908.5	15.0				ug/L	1004638	Standard
	Sn	118	4714.4	16.2	**2.0968**	0.057	2.7	ug/L	364	Standard
	Sb	123	1279.0	10.6	**0.0782**	0.034	43.7	ug/L	2464	Standard
	Ba	135	81134.9	14.1	**20.5347**	0.395	1.9	ug/L	39	Standard
	Ce	140	60941.9	12.3				ug/L	195	Standard
>	**Tb**	159	1674919.4	12.5				ug/L	1640193	Standard
	Ho	165	2156.8	11.9				ug/L	25	Standard
	Tl	203	2241.5	27.0	**0.1358**	0.022	16.6	ug/L	324	Standard
	Tl	205	5229.3	28.2	**0.1250**	0.021	16.8	ug/L	698	Standard
	Pb	206	3223.3	12.9	**0.2259**	0.008	3.5	ug/L	600	Standard
	Pb	207	2645.6	12.9	**0.2055**	0.005	2.2	ug/L	541	Standard
	Pb	208	8954.4	12.3	**0.2131**	0.005	2.2	ug/L	1750	Standard
	U	238	1870.4	9.4	**0.1399**	0.004	2.7	ug/L	10	Standard
>	**Bi**	209	826311.7	11.8				ug/L	811518	Standard

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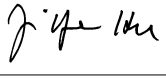

⌈	**Na**	23	63.3	43.5	**8.6617**	3.695	42.7	mg/L	0	Standard
|	**Mg**	24	3088.6	8.6	**60.5023**	2.456	4.1	mg/L	77	Standard
|	**K**	39	81.7	46.4	**0.2863**	0.155	54.2	mg/L	18	Standard
|	**Ca**	43	180.0	9.6	**6.0998**	2.187	35.9	mg/L	178	Standard
|	**Fe**	54	34.3	51.4	**-0.0432**	0.173	399.6	mg/L	29	Standard
|	**Fe**	57	498.3	9.0	**4.3186**	1.940	44.9	mg/L	408	Standard
⌊>	**Sc-1**	45	69193.5	9.1				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	11.7	34.6				ug/L	12	Standard
	Br	81	50116.6	9.9				ug/L	1747	Standard
	P	31	48.3	21.5				ug/L	17	Standard
	S	34	3.3	173.2				ug/L	3	Standard
	Sr	88	408.3	11.6				ug/L	370	Standard
	C	12	73.3	7.9				mg/L	47	Standard
	N	14	6.7	86.6				mg/L	0	Standard
	Hg	202	66.7	8.7				mg/L	17	Standard
	Dy	164	2792.2	13.1				mg/L	9	Standard
	Ho-1	165	2156.8	11.9				mg/L	25	Standard
	Er	166	2326.8	4.8				mg/L	20	Standard
	I	127	7293757.4	7.3				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		118.679	
|	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		107.188	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

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⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	104.805
|	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	101.823
⌈	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: L1611009702
Sample Date/Time: Friday, November 11, 2016 11:55:39
Number of Replicates: 3
Autosampler Position: 235
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	233753.7	19.1				ug/L	206101	Standard
	Be	9	41.7	34.6	**-0.0034**	0.004	108.3	ug/L	25	Standard
	Al	27	593743.5	14.6	**2.7035**	0.123	4.6	ug/L	1120	Standard
	Sc	45	64208.8	12.4				ug/L	61425	Standard
	Ti	47	311.0	17.5	**0.4794**	0.015	3.0	ug/L	70	Standard
	V	51	4419.0	11.0	**0.0653**	0.028	42.9	ug/L	3309	Standard
	Cr	52	22101.0	12.9	**0.6244**	0.111	17.7	ug/L	13497	Standard
	Cr	53	3473.7	12.1	**0.0724**	0.172	236.9	ug/L	3162	Standard
	Mn	55	65651.2	16.6	**3.7050**	0.065	1.8	ug/L	2226	Standard
	Co	59	1397.7	12.4	**0.0411**	0.006	14.4	ug/L	1003	Standard
	Ni	60	1493.1	14.6	**0.3937**	0.019	4.8	ug/L	355	Standard
	Cu	65	748.4	19.9	**0.0849**	0.010	11.8	ug/L	473	Standard
	Zn	66	3140.0	15.5	**2.0520**	0.060	2.9	ug/L	341	Standard
>	Ge	72	622999.6	18.0				ug/L	566981	Standard
	As	75	-63.6	24.2	**0.0574**	0.009	15.8	ug/L	-156	Standard
	Se	82	29.6	17.6	**-0.0588**	0.033	56.2	ug/L	35	Standard
	Se-1	77	377.7	9.9	**-0.4491**	1.108	246.8	ug/L	354	Standard
>	Ga	71	116.7	28.5				mg/L	43	Standard
	Rb	85	3808.8	15.9				ug/L	48	Standard
	Y	89	479583.1	17.4				ug/L	447702	Standard
>	Rh	103	45.0	29.4				ug/L	20	Standard
	Mo	98	224.0	25.8	**0.0356**	0.018	49.6	ug/L	158	Standard
	Ag	107	157.0	13.7	**0.0000**	0.000	858.9	ug/L	133	Standard
	Cd	111	32.4	21.2	**0.0025**	0.002	98.3	mg/L	7	Standard
	Cd	114	106.3	22.3	**0.0080**	0.003	37.7	ug/L	72	Standard
>	In	115	1078090.0	16.6				ug/L	1004638	Standard
	Sn	118	262.0	1.3	**0.0403**	0.019	47.9	ug/L	364	Standard
	Sb	123	590.1	15.6	**0.0018**	0.020	1107.0	ug/L	2464	Standard
	Ba	135	12550.0	16.0	**3.0941**	0.038	1.2	ug/L	39	Standard
	Ce	140	7933.8	16.5				ug/L	195	Standard
>	Tb	159	1647412.1	15.4				ug/L	1640193	Standard
	Ho	165	163.3	9.8				ug/L	25	Standard
	Tl	203	432.3	44.2	**0.0144**	0.008	55.2	ug/L	324	Standard
	Tl	205	1116.7	51.5	**0.0216**	0.010	44.2	ug/L	698	Standard
	Pb	206	1296.1	14.5	**0.0559**	0.001	2.0	ug/L	600	Standard
	Pb	207	1065.0	17.8	**0.0485**	0.002	4.9	ug/L	541	Standard
	Pb	208	3637.2	18.4	**0.0525**	0.003	6.1	ug/L	1750	Standard
	U	238	69.0	10.9	**0.0069**	0.000	3.9	ug/L	10	Standard
>	Bi	209	861287.4	15.6				ug/L	811518	Standard

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	Na	23	5.0	100.0	**0.6844**	0.660	96.4	mg/L	0	Standard
	Mg	24	90.0	29.4	**1.0471**	0.362	34.6	mg/L	77	Standard
	K	39	26.7	21.7	**0.0289**	0.017	59.3	mg/L	18	Standard
	Ca	43	103.3	21.8	**19.5757**	7.489	38.3	mg/L	178	Standard
	Fe	54	53.8	39.8	**0.2736**	0.379	138.7	mg/L	29	Standard
	Fe	57	508.3	6.7	**6.2730**	3.670	58.5	mg/L	408	Standard
>	**Sc-1**	45	64208.8	12.4				mg/L	61425	Standard
	Cl	35	2.0	100.0				ug/L	1	Standard
	Kr	83	9.3	40.6				ug/L	12	Standard
	Br	81	2786.9	22.1				ug/L	1747	Standard
	P	31	56.7	27.0				ug/L	17	Standard
	S	34	5.0	100.0				ug/L	3	Standard
	Sr	88	416.7	7.0				ug/L	370	Standard
	C	12	93.3	32.7				mg/L	47	Standard
	N	14	6.7	86.6				mg/L	0	Standard
	Hg	202	16.7	91.7				mg/L	17	Standard
	Dy	164	269.8	17.6				mg/L	9	Standard
	Ho-1	165	163.3	9.8				mg/L	25	Standard
	Er	166	143.3	26.4				mg/L	20	Standard
	I	127	121159.1	64.7				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		113.417	
	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		109.880	
	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	107.311
|	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	106.133
⌈	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: L1611009714
Sample Date/Time: Friday, November 11, 2016 11:58:45
Number of Replicates: 3
Autosampler Position: 236
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	230907.5	21.8				ug/L	206101	Standard
	Be	9	30.0	28.9	**-0.0075**	0.002	26.5	ug/L	25	Standard
	Al	27	750524.1	17.7	**3.4583**	0.149	4.3	ug/L	1120	Standard
	Sc	45	63121.5	15.0				ug/L	61425	Standard
	Ti	47	298.3	29.5	**0.4585**	0.075	16.3	ug/L	70	Standard
	V	51	4382.4	14.8	**0.0687**	0.022	32.3	ug/L	3309	Standard
	Cr	52	21063.2	14.5	**0.5648**	0.098	17.4	ug/L	13497	Standard
	Cr	53	3245.3	6.6	**-0.0300**	0.327	1091.8	ug/L	3162	Standard
	Mn	55	70372.8	16.9	**4.0671**	0.094	2.3	ug/L	2226	Standard
	Co	59	1079.4	6.2	**0.0203**	0.017	83.9	ug/L	1003	Standard
	Ni	60	1245.1	17.0	**0.3154**	0.008	2.5	ug/L	355	Standard
	Cu	65	832.7	15.5	**0.1257**	0.015	11.6	ug/L	473	Standard
	Zn	66	2613.2	20.2	**1.6895**	0.061	3.6	ug/L	341	Standard
>	**Ge**	72	610730.7	18.6				ug/L	566981	Standard
	As	75	-72.5	75.5	**0.0509**	0.039	76.5	ug/L	-156	Standard
	Se	82	34.0	28.5	**-0.0138**	0.070	508.0	ug/L	35	Standard
	Se-1	77	373.3	4.2	**-0.4144**	0.986	238.0	ug/L	354	Standard
>	**Ga**	71	75.0	6.7				mg/L	43	Standard
	Rb	85	3660.5	17.3				ug/L	48	Standard
	Y	89	471458.9	18.7				ug/L	447702	Standard
>	**Rh**	103	35.0	37.8				ug/L	20	Standard
	Mo	98	188.7	26.0	**0.0295**	0.016	55.1	ug/L	158	Standard
	Ag	107	174.3	10.9	**0.0020**	0.001	62.5	ug/L	133	Standard
	Cd	111	21.4	32.7	**-0.0003**	0.003	965.0	mg/L	7	Standard
	Cd	114	96.5	25.0	**0.0071**	0.003	36.0	ug/L	72	Standard
>	**In**	115	1057246.4	18.2				ug/L	1004638	Standard
	Sn	118	315.7	14.8	**0.0660**	0.009	12.9	ug/L	364	Standard
	Sb	123	559.2	12.6	**-0.0003**	0.018	7264.1	ug/L	2464	Standard
	Ba	135	14994.6	18.6	**3.7683**	0.070	1.9	ug/L	39	Standard
	Ce	140	4454.0	22.9				ug/L	195	Standard
>	**Tb**	159	1631039.4	16.2				ug/L	1640193	Standard
	Ho	165	125.0	34.2				ug/L	25	Standard
	Tl	203	196.7	11.2	**0.0002**	0.001	543.1	ug/L	324	Standard
	Tl	205	503.3	17.4	**0.0079**	0.000	3.8	ug/L	698	Standard
	Pb	206	992.0	17.4	**0.0316**	0.000	0.3	ug/L	600	Standard
	Pb	207	850.0	15.8	**0.0299**	0.003	9.5	ug/L	541	Standard
	Pb	208	2850.8	17.1	**0.0316**	0.000	0.8	ug/L	1750	Standard
	U	238	50.3	7.0	**0.0057**	0.000	6.6	ug/L	10	Standard
>	**Bi**	209	851787.4	17.4				ug/L	811518	Standard

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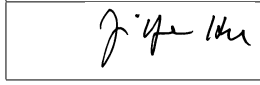

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	0	Standard
|	**Mg**	24	83.3	18.3	**0.9726**	0.284	29.2	mg/L	77	Standard
|	**K**	39	48.3	15.8	**0.1498**	0.006	4.0	mg/L	18	Standard
|	**Ca**	43	118.3	34.4	**15.0283**	13.855	92.2	mg/L	178	Standard
|	**Fe**	54	40.7	60.7	**0.1246**	0.429	344.2	mg/L	29	Standard
|	**Fe**	57	448.3	3.2	**4.2590**	2.613	61.4	mg/L	408	Standard
⌊>	**Sc-1**	45	63121.5	15.0				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	6.7	22.9				ug/L	12	Standard
	Br	81	2493.5	17.7				ug/L	1747	Standard
	P	31	30.0	66.7				ug/L	17	Standard
	S	34	1.7	173.2				ug/L	3	Standard
	Sr	88	378.3	5.3				ug/L	370	Standard
	C	12	90.0	19.2				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	13.3	43.3				mg/L	17	Standard
	Dy	164	183.9	38.5				mg/L	9	Standard
	Ho-1	165	125.0	34.2				mg/L	25	Standard
	Er	166	126.7	22.8				mg/L	20	Standard
	I	127	36491.4	17.1				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		112.036	
|	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		107.716	
|	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	105.237
|	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	104.962
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	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: L1611009717
Sample Date/Time: Friday, November 11, 2016 12:01:50
Number of Replicates: 3
Autosampler Position: 237
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	236717.7	19.9				ug/L	206101	Standard
	Be	9	38.3	19.9	**-0.0046**	0.001	14.9	ug/L	25	Standard
	Al	27	750504.7	13.7	**3.3818**	0.217	6.4	ug/L	1120	Standard
	Sc	45	63967.7	12.1				ug/L	61425	Standard
	Ti	47	314.3	21.2	**0.4947**	0.102	20.7	ug/L	70	Standard
	V	51	4080.7	8.8	**0.0408**	0.029	71.2	ug/L	3309	Standard
	Cr	52	21285.7	11.8	**0.5724**	0.103	18.0	ug/L	13497	Standard
	Cr	53	3412.1	12.7	**0.0559**	0.205	367.6	ug/L	3162	Standard
	Mn	55	68968.6	14.8	**3.9545**	0.100	2.5	ug/L	2226	Standard
	Co	59	1027.4	10.3	**0.0145**	0.005	36.2	ug/L	1003	Standard
	Ni	60	1244.7	15.0	**0.3122**	0.017	5.3	ug/L	355	Standard
	Cu	65	866.7	19.7	**0.1340**	0.010	7.3	ug/L	473	Standard
	Zn	66	2309.2	18.4	**1.4467**	0.028	1.9	ug/L	341	Standard
>	**Ge**	72	614908.3	16.8				ug/L	566981	Standard
	As	75	-98.9	30.5	**0.0318**	0.013	41.5	ug/L	-156	Standard
	Se	82	25.4	27.0	**-0.0899**	0.079	87.7	ug/L	35	Standard
	Se-1	77	347.0	3.0	**-0.7787**	0.763	98.0	ug/L	354	Standard
>	**Ga**	71	71.7	35.8				mg/L	43	Standard
	Rb	85	3635.4	19.2				ug/L	48	Standard
	Y	89	464998.0	14.9				ug/L	447702	Standard
>	**Rh**	103	20.0	66.1				ug/L	20	Standard
	Mo	98	149.7	20.1	**0.0208**	0.010	49.8	ug/L	158	Standard
	Ag	107	170.0	12.2	**0.0014**	0.001	61.4	ug/L	133	Standard
	Cd	111	19.5	19.6	**-0.0012**	0.000	25.6	mg/L	7	Standard
	Cd	114	60.8	28.3	**0.0031**	0.001	23.6	ug/L	72	Standard
>	**In**	115	1067699.3	16.9				ug/L	1004638	Standard
	Sn	118	220.0	7.2	**0.0213**	0.010	48.4	ug/L	364	Standard
	Sb	123	475.9	17.5	**-0.0100**	0.016	164.0	ug/L	2464	Standard
	Ba	135	14930.1	14.1	**3.7270**	0.126	3.4	ug/L	39	Standard
	Ce	140	4427.3	13.0				ug/L	195	Standard
>	**Tb**	159	1639432.0	14.7				ug/L	1640193	Standard
	Ho	165	98.3	28.9				ug/L	25	Standard
	Tl	203	249.0	6.6	**0.0036**	0.002	45.7	ug/L	324	Standard
	Tl	205	613.3	18.0	**0.0107**	0.003	27.8	ug/L	698	Standard
	Pb	206	966.7	16.0	**0.0294**	0.002	5.1	ug/L	600	Standard
	Pb	207	798.7	12.5	**0.0250**	0.003	13.0	ug/L	541	Standard
	Pb	208	2813.8	13.6	**0.0306**	0.003	9.5	ug/L	1750	Standard
	U	238	44.0	3.9	**0.0052**	0.000	8.0	ug/L	10	Standard
>	**Bi**	209	853985.4	16.7				ug/L	811518	Standard

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⌈	**Na**	23	3.3	86.6	**0.5287**	0.457	86.5	mg/L	0	Standard
|	**Mg**	24	100.0	47.7	**1.3012**	0.994	76.4	mg/L	77	Standard
|	**K**	39	53.3	37.9	**0.1782**	0.115	64.6	mg/L	18	Standard
|	**Ca**	43	96.7	24.4	**21.0887**	6.908	32.8	mg/L	178	Standard
|	**Fe**	54	35.9	53.1	**0.0039**	0.215	5457.2	mg/L	29	Standard
|	**Fe**	57	428.3	13.9	**3.3401**	4.091	122.5	mg/L	408	Standard
⌊>	**Sc-1**	45	63967.7	12.1				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	11.7	35.7				ug/L	12	Standard
	Br	81	2576.9	12.6				ug/L	1747	Standard
	P	31	40.0	21.7				ug/L	17	Standard
	S	34	0.0					ug/L	3	Standard
	Sr	88	411.7	13.7				ug/L	370	Standard
	C	12	83.3	6.9				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	17	Standard
	Dy	164	180.1	21.4				mg/L	9	Standard
	Ho-1	165	98.3	28.9				mg/L	25	Standard
	Er	166	136.7	33.0				mg/L	20	Standard
	I	127	30054.8	5.1				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		114.855	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		108.453	
|	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	106.277
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	105.233
⌈	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: L1611009720
Sample Date/Time: Friday, November 11, 2016 12:04:56
Number of Replicates: 3
Autosampler Position: 238
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	231539.2	17.9				ug/L	206101	Standard
	Be	9	21.7	53.3	**-0.0105**	0.004	42.2	ug/L	25	Standard
	Al	27	20647.6	14.2	**0.1003**	0.004	3.6	ug/L	1120	Standard
	Sc	45	62428.6	15.2				ug/L	61425	Standard
	Ti	47	71.7	14.3	**0.0024**	0.007	307.3	ug/L	70	Standard
	V	51	3306.8	7.7	**-0.0210**	0.041	194.6	ug/L	3309	Standard
	Cr	52	20177.6	12.3	**0.4953**	0.106	21.4	ug/L	13497	Standard
	Cr	53	2796.9	9.4	**-0.3771**	0.184	48.8	ug/L	3162	Standard
	Mn	55	3935.8	12.7	**0.1010**	0.012	11.7	ug/L	2226	Standard
	Co	59	595.7	4.5	**-0.0172**	0.006	35.6	ug/L	1003	Standard
	Ni	60	718.7	10.6	**0.1326**	0.019	14.1	ug/L	355	Standard
	Cu	65	726.7	17.0	**0.0854**	0.006	7.2	ug/L	473	Standard
	Zn	66	2280.2	18.4	**1.4524**	0.044	3.0	ug/L	341	Standard
>	**Ge**	72	606019.2	17.7				ug/L	566981	Standard
	As	75	-99.8	42.4	**0.0302**	0.021	68.6	ug/L	-156	Standard
	Se	82	22.1	25.5	**-0.1163**	0.065	55.6	ug/L	35	Standard
	Se-1	77	354.3	3.4	**-0.6440**	0.638	99.1	ug/L	354	Standard
>	**Ga**	71	61.7	46.8				mg/L	43	Standard
	Rb	85	118.3	31.1				ug/L	48	Standard
	Y	89	452366.5	15.6				ug/L	447702	Standard
>	**Rh**	103	35.0	37.8				ug/L	20	Standard
	Mo	98	75.2	40.4	**0.0062**	0.008	135.4	ug/L	158	Standard
	Ag	107	201.3	11.1	**0.0044**	0.002	37.4	ug/L	133	Standard
	Cd	111	17.2	9.1	**-0.0018**	0.001	40.5	mg/L	7	Standard
	Cd	114	80.7	20.8	**0.0053**	0.000	5.7	ug/L	72	Standard
>	**In**	115	1056514.5	17.3				ug/L	1004638	Standard
	Sn	118	223.0	13.4	**0.0232**	0.006	25.3	ug/L	364	Standard
	Sb	123	430.1	9.0	**-0.0149**	0.012	78.4	ug/L	2464	Standard
	Ba	135	1731.4	19.2	**0.4263**	0.011	2.6	ug/L	39	Standard
	Ce	140	156.7	16.4				ug/L	195	Standard
>	**Tb**	159	1631198.1	16.6				ug/L	1640193	Standard
	Ho	165	25.0	0.0				ug/L	25	Standard
	Tl	203	69.3	14.7	**-0.0081**	0.000	2.9	ug/L	324	Standard
	Tl	205	173.3	27.7	**-0.0001**	0.001	493.4	ug/L	698	Standard
	Pb	206	665.7	22.8	**0.0054**	0.005	95.4	ug/L	600	Standard
	Pb	207	567.7	16.0	**0.0044**	0.001	33.4	ug/L	541	Standard
	Pb	208	1944.0	14.0	**0.0071**	0.001	10.8	ug/L	1750	Standard
	U	238	6.3	18.2	**0.0025**	0.000	4.7	ug/L	10	Standard
>	**Bi**	209	832163.3	15.1				ug/L	811518	Standard

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⌈	**Na**	23	3.3	86.6	**0.5533**	0.479	86.6	mg/L	0	Standard
|	**Mg**	24	78.3	32.1	**0.8695**	0.439	50.5	mg/L	77	Standard
|	**K**	39	13.3	78.1	**-0.0322**	0.072	223.9	mg/L	18	Standard
|	**Ca**	43	130.0	17.6	**12.4585**	9.622	77.2	mg/L	178	Standard
|	**Fe**	54	29.2	78.6	**-0.0713**	0.249	349.3	mg/L	29	Standard
|	**Fe**	57	386.7	9.4	**2.0548**	3.000	146.0	mg/L	408	Standard
⌊>	**Sc-1**	45	62428.6	15.2				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	12.3	36.6				ug/L	12	Standard
	Br	81	1920.1	17.4				ug/L	1747	Standard
	P	31	43.3	13.3				ug/L	17	Standard
	S	34	1.7	173.2				ug/L	3	Standard
	Sr	88	378.3	16.7				ug/L	370	Standard
	C	12	106.7	30.1				mg/L	47	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	17	Standard
	Dy	164	15.2	101.4				mg/L	9	Standard
	Ho-1	165	25.0	0.0				mg/L	25	Standard
	Er	166	30.0	33.3				mg/L	20	Standard
	I	127	8185.6	11.2				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		112.342	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		106.885	
|	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	105.164
|	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	102.544
⌈	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

Sample ID: L1611009720
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Method 6020 - Summary Report

Sample ID: L1611009723
Sample Date/Time: Friday, November 11, 2016 12:08:01
Number of Replicates: 3
Autosampler Position: 239
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	231162.7	23.0				ug/L	206101	Standard
	Be	9	26.7	21.7	**-0.0087**	0.001	14.2	ug/L	25	Standard
	Al	27	19749.7	13.9	**0.0972**	0.009	9.1	ug/L	1120	Standard
	Sc	45	60651.4	15.4				ug/L	61425	Standard
	Ti	47	76.3	15.6	**0.0175**	0.022	125.4	ug/L	70	Standard
	V	51	3512.1	16.7	**0.0026**	0.012	469.4	ug/L	3309	Standard
	Cr	52	20560.8	13.7	**0.5941**	0.147	24.7	ug/L	13497	Standard
	Cr	53	2970.3	10.2	**-0.1669**	0.262	157.3	ug/L	3162	Standard
	Mn	55	4180.6	13.8	**0.1235**	0.018	14.3	ug/L	2226	Standard
	Co	59	599.7	10.9	**-0.0157**	0.005	34.9	ug/L	1003	Standard
	Ni	60	727.7	16.2	**0.1426**	0.018	12.9	ug/L	355	Standard
	Cu	65	613.3	20.9	**0.0469**	0.008	17.9	ug/L	473	Standard
	Zn	66	2236.8	18.1	**1.4719**	0.045	3.1	ug/L	341	Standard
>	**Ge**	72	590092.3	20.5				ug/L	566981	Standard
	As	75	-174.9	30.9	**-0.0293**	0.017	59.7	ug/L	-156	Standard
	Se	82	22.5	23.5	**-0.1041**	0.083	79.8	ug/L	35	Standard
	Se-1	77	345.3	8.8	**-0.6258**	0.700	111.8	ug/L	354	Standard
>	**Ga**	71	56.7	28.4				mg/L	43	Standard
	Rb	85	140.0	21.4				ug/L	48	Standard
	Y	89	452517.4	18.0				ug/L	447702	Standard
>	**Rh**	103	45.0	29.4				ug/L	20	Standard
	Mo	98	70.1	23.1	**0.0053**	0.005	100.6	ug/L	158	Standard
	Ag	107	213.3	8.0	**0.0062**	0.002	32.5	ug/L	133	Standard
	Cd	111	20.6	19.7	**-0.0006**	0.001	168.1	mg/L	7	Standard
	Cd	114	69.2	29.8	**0.0046**	0.003	63.0	ug/L	72	Standard
>	**In**	115	1022940.7	17.5				ug/L	1004638	Standard
	Sn	118	214.7	17.2	**0.0221**	0.002	10.6	ug/L	364	Standard
	Sb	123	433.2	4.4	**-0.0132**	0.010	76.6	ug/L	2464	Standard
	Ba	135	1635.8	18.6	**0.4161**	0.008	1.9	ug/L	39	Standard
	Ce	140	78.3	32.8				ug/L	195	Standard
>	**Tb**	159	1593356.0	16.4				ug/L	1640193	Standard
	Ho	165	33.3	22.9				ug/L	25	Standard
	Tl	203	165.7	4.6	**-0.0015**	0.001	89.3	ug/L	324	Standard
	Tl	205	365.0	14.3	**0.0048**	0.001	14.2	ug/L	698	Standard
	Pb	206	625.3	19.8	**0.0022**	0.003	128.8	ug/L	600	Standard
	Pb	207	550.7	22.5	**0.0027**	0.003	128.7	ug/L	541	Standard
	Pb	208	1845.4	15.8	**0.0044**	0.000	8.3	ug/L	1750	Standard
	U	238	6.7	22.9	**0.0025**	0.000	6.7	ug/L	10	Standard
>	**Bi**	209	829414.3	16.2				ug/L	811518	Standard

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	Na	23	0.0		**0.0050**	0.000	0.0	mg/L	0	Standard
	Mg	24	106.7	11.8	**1.6217**	0.624	38.5	mg/L	77	Standard
	K	39	11.7	65.5	**-0.0482**	0.035	71.6	mg/L	18	Standard
	Ca	43	106.7	25.8	**18.2469**	2.625	14.4	mg/L	178	Standard
	Fe	54	42.9	26.8	**0.1321**	0.105	79.6	mg/L	29	Standard
	Fe	57	413.3	5.5	**3.5255**	2.383	67.6	mg/L	408	Standard
>	**Sc-1**	45	60651.4	15.4				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	7.0	28.6				ug/L	12	Standard
	Br	81	1793.4	15.7				ug/L	1747	Standard
	P	31	31.7	63.8				ug/L	17	Standard
	S	34	6.7	114.6				ug/L	3	Standard
	Sr	88	430.0	10.3				ug/L	370	Standard
	C	12	66.7	43.3				mg/L	47	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	17	Standard
	Dy	164	21.6	28.8				mg/L	9	Standard
	Ho-1	165	33.3	22.9				mg/L	25	Standard
	Er	166	36.7	83.3				mg/L	20	Standard
	I	127	7545.2	7.0				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		112.160	
	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		104.076	
	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	101.822
|	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	102.205
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, November 11, 2016 12:11:08
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	230958.3	13.7				ug/L	206101	Standard
	Be	9	124159.7	11.9	**47.5038**	1.335	2.8	ug/L	25	Standard
	Al	27	10207073.9	9.7	**46.8359**	1.864	4.0	ug/L	1120	Standard
	Sc	45	61749.5	8.7				ug/L	61425	Standard
	Ti	47	48132.2	10.4	**99.7962**	1.233	1.2	ug/L	70	Standard
	V	51	575073.3	10.5	**50.7021**	0.640	1.3	ug/L	3309	Standard
	Cr	52	532026.2	10.9	**50.5605**	0.428	0.8	ug/L	13497	Standard
	Cr	53	67352.4	11.8	**49.8901**	0.080	0.2	ug/L	3162	Standard
	Mn	55	835178.9	10.5	**50.2708**	0.710	1.4	ug/L	2226	Standard
	Co	59	662915.0	11.6	**50.7435**	0.287	0.6	ug/L	1003	Standard
	Ni	60	142638.7	11.8	**50.8441**	0.357	0.7	ug/L	355	Standard
	Cu	65	129878.0	12.2	**50.9445**	0.417	0.8	ug/L	473	Standard
	Zn	66	67412.3	11.4	**51.4659**	0.286	0.6	ug/L	341	Standard
>	Ge	72	603592.0	11.6				ug/L	566981	Standard
	As	75	65379.7	12.3	**49.6073**	0.342	0.7	ug/L	-156	Standard
	Se	82	5468.3	13.0	**49.8010**	0.667	1.3	ug/L	35	Standard
	Se-1	77	4646.4	11.9	**49.1387**	1.713	3.5	ug/L	354	Standard
>	Ga	71	96.7	26.5				mg/L	43	Standard
	Rb	85	716.7	5.3				ug/L	48	Standard
	Y	89	458738.7	11.7				ug/L	447702	Standard
>	Rh	103	63.3	16.4				ug/L	20	Standard
	Mo	98	504964.2	12.2	**101.1901**	0.802	0.8	ug/L	158	Standard
	Ag	107	567712.9	12.2	**52.0794**	0.127	0.2	ug/L	133	Standard
	Cd	111	178549.8	13.2	**51.5976**	0.369	0.7	mg/L	7	Standard
	Cd	114	471788.1	14.0	**50.5721**	1.118	2.2	ug/L	72	Standard
>	In	115	1038627.7	12.4				ug/L	1004638	Standard
	Sn	118	106670.0	13.0	**49.8935**	0.726	1.5	ug/L	364	Standard
	Sb	123	454001.2	13.5	**49.1527**	0.925	1.9	ug/L	2464	Standard
	Ba	135	186650.7	11.6	**47.8956**	0.434	0.9	ug/L	39	Standard
	Ce	140	226.7	34.3				ug/L	195	Standard
>	Tb	159	1621830.4	10.0				ug/L	1640193	Standard
	Ho	165	38.3	30.1				ug/L	25	Standard
	Tl	203	756777.0	11.9	**50.9712**	0.917	1.8	ug/L	324	Standard
	Tl	205	1745728.6	12.2	**43.9367**	0.922	2.1	ug/L	698	Standard
	Pb	206	586933.0	11.2	**50.7148**	0.575	1.1	ug/L	600	Standard
	Pb	207	515652.0	10.9	**50.0830**	0.576	1.1	ug/L	541	Standard
	Pb	208	1732115.9	11.3	**51.0726**	0.601	1.2	ug/L	1750	Standard
	U	238	692717.6	7.6	**51.3557**	1.282	2.5	ug/L	10	Standard
>	Bi	209	821182.2	10.1				ug/L	811518	Standard

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	Na	23	31.7	50.8	**4.7493**	2.027	42.7	mg/L	0	Standard
	Mg	24	276.7	13.8	**5.2856**	0.381	7.2	mg/L	77	Standard
	K	39	770.0	22.0	**4.1297**	0.635	15.4	mg/L	18	Standard
	Ca	43	118.3	20.0	**15.6886**	5.478	34.9	mg/L	178	Standard
	Fe	54	471.8	24.1	**5.7664**	0.962	16.7	mg/L	29	Standard
	Fe	57	546.7	12.4	**8.4961**	4.497	52.9	mg/L	408	Standard
>	**Sc-1**	45	61749.5	8.7				mg/L	61425	Standard
	Cl	35	1.3	173.2				ug/L	1	Standard
	Kr	83	12.3	26.1				ug/L	12	Standard
	Br	81	1976.8	7.1				ug/L	1747	Standard
	P	31	23.3	44.6				ug/L	17	Standard
	S	34	5.0	100.0				ug/L	3	Standard
	Sr	88	430.0	14.1				ug/L	370	Standard
	C	12	60.0	72.6				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	17	Standard
	Dy	164	22.2	49.5				mg/L	9	Standard
	Ho-1	165	38.3	30.1				mg/L	25	Standard
	Er	166	23.3	65.5				mg/L	20	Standard
	I	127	4737.4	4.3				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6			
	Be	9	95.008		
	Al	27	93.672		
	Sc	45			
	Ti	47	99.796		
	V	51	101.404		
	Cr	52	101.121		
	Cr	53			
	Mn	55	100.542		
	Co	59	101.487		
	Ni	60	101.688		
	Cu	65	101.889		
	Zn	66	102.932		
>	Ge	72		106.457	
	As	75	99.215		
	Se	82	99.602		
	Se-1	77			
>	Ga	71			

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Rb	85			
Y	89			
Rh	103			
Mo	98	101.190		
Ag	107	104.159		
Cd	111	103.195		
Cd	114			
In	115			103.383
Sn	118	99.787		
Sb	123	98.305		
Ba	135	95.791		
Ce	140			
Tb	159			
Ho	165			
Tl	203	101.942		
Tl	205			
Pb	206			
Pb	207			
Pb	208	102.145		
U	238	102.711		
Bi	209			101.191
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: Friday, November 11, 2016 12:14:13
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	237449.8	5.5				ug/L	206101	Standard
	Be	9	36.7	61.5	**-0.0050**	0.009	186.8	ug/L	25	Standard
	Al	27	3073.7	19.0	**0.0194**	0.003	14.0	ug/L	1120	Standard
	Sc	45	63692.1	4.4				ug/L	61425	Standard
	Ti	47	46.3	6.9	**-0.0543**	0.006	11.3	ug/L	70	Standard
	V	51	3057.9	7.8	**-0.0583**	0.010	16.4	ug/L	3309	Standard
	Cr	52	11910.4	7.2	**-0.3686**	0.022	6.0	ug/L	13497	Standard
	Cr	53	1786.8	4.1	**-1.2354**	0.062	5.0	ug/L	3162	Standard
	Mn	55	1942.8	15.4	**-0.0249**	0.013	53.5	ug/L	2226	Standard
	Co	59	585.7	18.7	**-0.0206**	0.006	27.9	ug/L	1003	Standard
	Ni	60	431.3	5.9	**0.0221**	0.004	15.9	ug/L	355	Standard
	Cu	65	461.7	11.7	**-0.0263**	0.012	47.2	ug/L	473	Standard
	Zn	66	397.0	7.5	**0.0012**	0.010	847.4	ug/L	341	Standard
>	Ge	72	631239.5	6.6				ug/L	566981	Standard
	As	75	-135.2	54.8	**0.0065**	0.051	785.9	ug/L	-156	Standard
	Se	82	26.0	18.4	**-0.0932**	0.057	61.1	ug/L	35	Standard
	Se-1	77	341.3	3.6	**-1.0179**	0.242	23.8	ug/L	354	Standard
>	Ga	71	45.0	19.2				mg/L	43	Standard
	Rb	85	56.7	5.1				ug/L	48	Standard
	Y	89	467664.3	7.1				ug/L	447702	Standard
>	Rh	103	31.7	24.1				ug/L	20	Standard
	Mo	98	76.1	71.8	**0.0050**	0.010	199.5	ug/L	158	Standard
	Ag	107	179.0	19.1	**0.0019**	0.002	123.2	ug/L	133	Standard
	Cd	111	14.9	54.5	**-0.0026**	0.002	81.7	mg/L	7	Standard
	Cd	114	63.9	37.9	**0.0034**	0.002	67.5	ug/L	72	Standard
>	In	115	1077573.3	5.0				ug/L	1004638	Standard
	Sn	118	163.7	9.4	**-0.0063**	0.004	57.3	ug/L	364	Standard
	Sb	123	851.6	104.6	**0.0249**	0.088	353.9	ug/L	2464	Standard
	Ba	135	42.0	29.7	**0.0008**	0.003	331.3	ug/L	39	Standard
	Ce	140	30.0	33.3				ug/L	195	Standard
>	Tb	159	1682087.3	5.3				ug/L	1640193	Standard
	Ho	165	15.0	100.0				ug/L	25	Standard
	Tl	203	48.7	51.3	**-0.0097**	0.001	15.2	ug/L	324	Standard
	Tl	205	131.7	41.8	**-0.0013**	0.001	93.8	ug/L	698	Standard
	Pb	206	663.0	5.4	**0.0024**	0.001	57.2	ug/L	600	Standard
	Pb	207	563.0	5.0	**0.0011**	0.001	86.5	ug/L	541	Standard
	Pb	208	1867.0	7.1	**0.0019**	0.002	98.3	ug/L	1750	Standard
	U	238	26.7	64.6	**0.0039**	0.001	29.8	ug/L	10	Standard
>	Bi	209	879008.4	4.0				ug/L	811518	Standard

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	Na	23	3.3	173.2	**0.5214**	0.894	171.5	mg/L	0	Standard
	Mg	24	45.0	29.4	**0.1227**	0.289	235.9	mg/L	77	Standard
	K	39	20.0	25.0	**-0.0054**	0.022	411.8	mg/L	18	Standard
	Ca	43	101.7	27.1	**20.1656**	6.384	31.7	mg/L	178	Standard
	Fe	54	19.2	79.8	**-0.1979**	0.188	95.0	mg/L	29	Standard
	Fe	57	461.7	11.9	**4.4305**	2.849	64.3	mg/L	408	Standard
>	**Sc-1**	45	63692.1	4.4				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	10.7	53.3				ug/L	12	Standard
	Br	81	1816.8	7.5				ug/L	1747	Standard
	P	31	23.3	65.5				ug/L	17	Standard
	S	34	3.3	86.6				ug/L	3	Standard
	Sr	88	386.7	5.2				ug/L	370	Standard
	C	12	36.7	31.5				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	17	Standard
	Dy	164	18.4	146.7				mg/L	9	Standard
	Ho-1	165	15.0	100.0				mg/L	25	Standard
	Er	166	33.3	34.6				mg/L	20	Standard
	I	127	14440.8	34.5				mg/L	6023	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		111.333	
	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	107.260
|	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	108.317
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: QC Std 7
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Method 6020 - Summary Report

Sample ID: PBW 76 WG590719-02
Sample Date/Time: Friday, November 11, 2016 12:37:31
Number of Replicates: 3
Autosampler Position: 301
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	220308.3	21.5				ug/L	206101	Standard
	Be	9	13.3	21.7	**-0.0135**	0.001	6.8	ug/L	25	Standard
	Al	27	24369.9	16.7	**0.1232**	0.005	4.3	ug/L	1120	Standard
	Sc	45	55028.1	15.9				ug/L	61425	Standard
	Ti	47	77.0	14.8	**0.0213**	0.023	110.2	ug/L	70	Standard
	V	51	3555.1	14.0	**0.0122**	0.030	246.1	ug/L	3309	Standard
	Cr	52	19418.9	12.8	**0.5076**	0.195	38.3	ug/L	13497	Standard
	Cr	53	3405.4	9.9	**0.2265**	0.391	172.5	ug/L	3162	Standard
	Mn	55	4188.9	15.5	**0.1268**	0.019	14.7	ug/L	2226	Standard
	Co	59	686.3	13.4	**-0.0083**	0.005	60.6	ug/L	1003	Standard
	Ni	60	646.0	15.4	**0.1157**	0.018	15.3	ug/L	355	Standard
	Cu	65	521.7	22.8	**0.0122**	0.001	9.8	ug/L	473	Standard
	Zn	66	1687.8	19.4	**1.0539**	0.044	4.2	ug/L	341	Standard
>	Ge	72	584666.8	22.8				ug/L	566981	Standard
	As	75	-189.9	10.8	**-0.0518**	0.051	98.5	ug/L	-156	Standard
	Se	82	23.7	33.7	**-0.1028**	0.030	29.3	ug/L	35	Standard
	Se-1	77	367.7	6.2	**-0.2411**	1.113	461.6	ug/L	354	Standard
>	Ga	71	66.7	11.5				mg/L	43	Standard
	Rb	85	145.0	28.2				ug/L	48	Standard
	Y	89	434883.2	24.7				ug/L	447702	Standard
>	Rh	103	26.7	10.8				ug/L	20	Standard
	Mo	98	155.1	13.4	**0.0235**	0.005	19.2	ug/L	158	Standard
	Ag	107	222.7	21.9	**0.0075**	0.002	22.5	ug/L	133	Standard
	Cd	111	19.8	26.1	**-0.0007**	0.001	67.5	mg/L	7	Standard
	Cd	114	53.1	32.0	**0.0030**	0.003	86.7	ug/L	72	Standard
>	In	115	994931.6	23.8				ug/L	1004638	Standard
	Sn	118	255.7	20.8	**0.0456**	0.004	8.7	ug/L	364	Standard
	Sb	123	957.2	3.6	**0.0508**	0.028	54.9	ug/L	2464	Standard
	Ba	135	338.3	26.0	**0.0808**	0.009	11.0	ug/L	39	Standard
	Ce	140	150.0	35.1				ug/L	195	Standard
>	Tb	159	1586984.9	20.3				ug/L	1640193	Standard
	Ho	165	28.3	56.7				ug/L	25	Standard
	Tl	203	971.4	7.8	**0.0560**	0.009	16.7	ug/L	324	Standard
	Tl	205	2401.9	14.8	**0.0589**	0.010	16.9	ug/L	698	Standard
	Pb	206	859.0	21.7	**0.0253**	0.001	4.0	ug/L	600	Standard
	Pb	207	761.0	20.7	**0.0262**	0.002	6.2	ug/L	541	Standard
	Pb	208	2584.1	21.0	**0.0290**	0.001	4.1	ug/L	1750	Standard
	U	238	15.0		**0.0032**	0.000	7.6	ug/L	10	Standard
>	Bi	209	799259.5	22.3				ug/L	811518	Standard

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	Na	23	0.0		**0.0050**	0.000	0.0	mg/L	0	Standard
	Mg	24	46.7	40.6	**0.2899**	0.363	125.1	mg/L	77	Standard
	K	39	13.3	21.7	**-0.0262**	0.029	111.4	mg/L	18	Standard
	Ca	43	65.0	23.1	**25.4174**	6.475	25.5	mg/L	178	Standard
	Fe	54	27.7	56.3	**-0.0473**	0.163	343.7	mg/L	29	Standard
	Fe	57	421.7	6.8	**5.6736**	3.173	55.9	mg/L	408	Standard
>	**Sc-1**	45	55028.1	15.9				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	10.3	14.8				ug/L	12	Standard
	Br	81	2173.5	19.9				ug/L	1747	Standard
	P	31	25.0	34.6				ug/L	17	Standard
	S	34	8.3	124.9				ug/L	3	Standard
	Sr	88	385.0	14.6				ug/L	370	Standard
	C	12	43.3	26.6				mg/L	47	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	6.7	173.2				mg/L	17	Standard
	Dy	164	12.1	131.5				mg/L	9	Standard
	Ho-1	165	28.3	56.7				mg/L	25	Standard
	Er	166	26.7	57.3				mg/L	20	Standard
	I	127	4127.2	11.2				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		106.893	
	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		103.119	
	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	99.034
|	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	98.489
⌈	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: LCSW 76 WG590719-03
Sample Date/Time: Friday, November 11, 2016 12:40:36
Number of Replicates: 3
Autosampler Position: 302
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	220497.7	21.8				ug/L	206101	Standard
	Be	9	118920.9	20.3	**47.6854**	2.538	5.3	ug/L	25	Standard
	Al	27	15528.1	15.5	**0.0807**	0.004	5.5	ug/L	1120	Standard
	Sc	45	58493.1	16.7				ug/L	61425	Standard
	Ti	47	48.7	5.9	**-0.0415**	0.023	55.1	ug/L	70	Standard
	V	51	534616.2	18.7	**47.5806**	1.686	3.5	ug/L	3309	Standard
	Cr	52	504700.1	19.1	**48.3568**	1.552	3.2	ug/L	13497	Standard
	Cr	53	63249.9	18.9	**47.2122**	1.766	3.7	ug/L	3162	Standard
	Mn	55	782366.1	19.9	**47.4588**	1.184	2.5	ug/L	2226	Standard
	Co	59	631085.2	20.7	**48.6747**	0.859	1.8	ug/L	1003	Standard
	Ni	60	138945.3	21.0	**49.8939**	0.655	1.3	ug/L	355	Standard
	Cu	65	125340.1	21.7	**49.4834**	0.237	0.5	ug/L	473	Standard
	Zn	66	63948.9	20.0	**49.2332**	1.088	2.2	ug/L	341	Standard
>	Ge	72	600257.3	22.2				ug/L	566981	Standard
	As	75	63723.3	20.4	**48.7802**	0.945	1.9	ug/L	-156	Standard
	Se	82	5267.8	22.6	**48.2532**	0.220	0.5	ug/L	35	Standard
	Se-1	77	4423.7	20.3	**46.9784**	0.957	2.0	ug/L	354	Standard
>	Ga	71	66.7	28.4				mg/L	43	Standard
	Rb	85	101.7	43.0				ug/L	48	Standard
	Y	89	443194.0	21.3				ug/L	447702	Standard
>	Rh	103	51.7	34.0				ug/L	20	Standard
	Mo	98	65.9	20.3	**0.0044**	0.005	108.4	ug/L	158	Standard
	Ag	107	503591.2	19.8	**47.1789**	1.085	2.3	ug/L	133	Standard
	Cd	111	171156.3	22.3	**50.3638**	0.697	1.4	mg/L	7	Standard
	Cd	114	434740.7	23.2	**47.4234**	0.667	1.4	ug/L	72	Standard
>	In	115	1020254.6	22.2				ug/L	1004638	Standard
	Sn	118	209.0	12.2	**0.0211**	0.010	47.3	ug/L	364	Standard
	Sb	123	449388.8	20.0	**49.7242**	1.051	2.1	ug/L	2464	Standard
	Ba	135	180070.2	20.3	**47.1373**	0.883	1.9	ug/L	39	Standard
	Ce	140	166.7	28.4				ug/L	195	Standard
>	Tb	159	1601185.7	18.6				ug/L	1640193	Standard
	Ho	165	36.7	31.5				ug/L	25	Standard
	Tl	203	741027.6	19.0	**50.3341**	0.360	0.7	ug/L	324	Standard
	Tl	205	1937830.4	34.9	**48.2959**	7.493	15.5	ug/L	698	Standard
	Pb	206	578251.4	19.9	**50.3051**	0.241	0.5	ug/L	600	Standard
	Pb	207	491765.2	20.8	**48.0270**	0.694	1.4	ug/L	541	Standard
	Pb	208	1654062.2	19.9	**49.1106**	0.400	0.8	ug/L	1750	Standard
	U	238	630218.0	13.9	**47.3032**	2.694	5.7	ug/L	10	Standard
>	Bi	209	815788.5	19.5				ug/L	811518	Standard

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⌈	**Na**	23	1.7	173.2	**0.2754**	0.468	170.1	mg/L	0	Standard
|	**Mg**	24	55.0	47.2	**0.5279**	0.875	165.8	mg/L	77	Standard
|	**K**	39	18.3	31.5	**-0.0061**	0.018	299.2	mg/L	18	Standard
|	**Ca**	43	95.0	9.1	**19.2422**	5.667	29.4	mg/L	178	Standard
|	**Fe**	54	48.4	37.6	**0.2369**	0.243	102.6	mg/L	29	Standard
|	**Fe**	57	415.0	11.0	**4.4364**	4.216	95.0	mg/L	408	Standard
⌊>	**Sc-1**	45	58493.1	16.7				mg/L	61425	Standard
	Cl	35	1.3	173.2				ug/L	1	Standard
	Kr	83	6.7	22.9				ug/L	12	Standard
	Br	81	1850.1	12.7				ug/L	1747	Standard
	P	31	30.0	16.7				ug/L	17	Standard
	S	34	5.0	100.0				ug/L	3	Standard
	Sr	88	381.7	9.2				ug/L	370	Standard
	C	12	80.0	111.1				mg/L	47	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	10.0					mg/L	17	Standard
	Dy	164	15.9	45.1				mg/L	9	Standard
	Ho-1	165	36.7	31.5				mg/L	25	Standard
	Er	166	16.7	173.2				mg/L	20	Standard
	I	127	2845.3	11.6				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		106.985	
|	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		105.869	
|	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	101.554
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	100.526
⌈	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: L1611037005 WG590719-01
Sample Date/Time: Friday, November 11, 2016 12:43:41
Number of Replicates: 3
Autosampler Position: 303
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	229889.8	16.4				ug/L	206101	Standard
	Be	9	43.3	46.6	**-0.0018**	0.009	494.0	ug/L	25	Standard
	Al	27	149359551.7	9.7	**691.4604**	50.272	7.3	ug/L	1120	Standard
	Sc	45	63873.4	8.8				ug/L	61425	Standard
	Ti	47	184.0	7.8	**0.2435**	0.031	12.8	ug/L	70	Standard
	V	51	4034.0	1.9	**0.0505**	0.055	110.0	ug/L	3309	Standard
	Cr	52	29553.3	9.1	**1.4642**	0.188	12.8	ug/L	13497	Standard
	Cr	53	8227.3	11.9	**3.9476**	0.244	6.2	ug/L	3162	Standard
	Mn	55	854219.9	13.4	**52.1568**	1.138	2.2	ug/L	2226	Standard
	Co	59	3995.5	23.7	**0.2442**	0.025	10.3	ug/L	1003	Standard
	Ni	60	13942.6	20.0	**4.8984**	0.227	4.6	ug/L	355	Standard
	Cu	65	2604.9	15.0	**0.8399**	0.027	3.2	ug/L	473	Standard
	Zn	66	3946.9	12.6	**2.7879**	0.101	3.6	ug/L	341	Standard
>	Ge	72	595886.7	15.5				ug/L	566981	Standard
	As	75	154.0	54.1	**0.2177**	0.048	22.2	ug/L	-156	Standard
	Se	82	123.5	14.9	**0.8282**	0.121	14.6	ug/L	35	Standard
	Se-1	77	669.3	1.9	**3.1681**	1.086	34.3	ug/L	354	Standard
>	Ga	71	85.0	35.8				mg/L	43	Standard
	Rb	85	4677.4	13.5				ug/L	48	Standard
	Y	89	469457.7	13.3				ug/L	447702	Standard
>	Rh	103	201.7	33.7				ug/L	20	Standard
	Mo	98	1022.3	13.9	**0.2011**	0.003	1.4	ug/L	158	Standard
	Ag	107	5785.4	11.6	**0.5332**	0.018	3.4	ug/L	133	Standard
	Cd	111	69.7	22.8	**0.0141**	0.004	29.3	mg/L	7	Standard
	Cd	114	184.0	30.4	**0.0169**	0.003	19.7	ug/L	72	Standard
>	In	115	1011004.0	14.9				ug/L	1004638	Standard
	Sn	118	224.3	9.3	**0.0285**	0.007	25.1	ug/L	364	Standard
	Sb	123	852.2	13.7	**0.0356**	0.027	76.3	ug/L	2464	Standard
	Ba	135	16281.2	12.5	**4.2910**	0.108	2.5	ug/L	39	Standard
	Ce	140	18499.8	13.4				ug/L	195	Standard
>	Tb	159	1595894.3	13.7				ug/L	1640193	Standard
	Ho	165	40.0	65.0				ug/L	25	Standard
	Tl	203	6798.6	61.4	**0.4460**	0.224	50.2	ug/L	324	Standard
	Tl	205	15918.7	59.6	**0.3977**	0.189	47.5	ug/L	698	Standard
	Pb	206	2224.8	18.2	**0.1486**	0.010	6.8	ug/L	600	Standard
	Pb	207	1829.8	19.6	**0.1344**	0.012	8.7	ug/L	541	Standard
	Pb	208	6433.9	19.3	**0.1473**	0.012	8.1	ug/L	1750	Standard
	U	238	33477.8	8.0	**2.5958**	0.136	5.2	ug/L	10	Standard
>	Bi	209	788117.1	13.2				ug/L	811518	Standard

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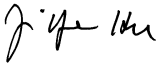

	Na	23	535.0	20.1	**78.3990**	9.084	11.6	mg/L	0	Standard
	Mg	24	3945.5	13.5	**83.7475**	4.963	5.9	mg/L	77	Standard
	K	39	248.3	21.7	**1.2221**	0.280	22.9	mg/L	18	Standard
	Ca	43	366.7	2.8	**-38.3780**	7.415	19.3	mg/L	178	Standard
	Fe	54	32.1	45.4	**-0.0342**	0.161	469.4	mg/L	29	Standard
	Fe	57	901.7	5.2	**21.2191**	4.293	20.2	mg/L	408	Standard
>	**Sc-1**	45	63873.4	8.8				mg/L	61425	Standard
	Cl	35	2.0	100.0				ug/L	1	Standard
	Kr	83	7.0	24.7				ug/L	12	Standard
	Br	81	12762.1	7.2				ug/L	1747	Standard
	P	31	28.3	20.4				ug/L	17	Standard
	S	34	5.0	100.0				ug/L	3	Standard
	Sr	88	450.0	6.8				ug/L	370	Standard
	C	12	170.0	73.7				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	17	Standard
	Dy	164	64.4	19.0				mg/L	9	Standard
	Ho-1	165	40.0	65.0				mg/L	25	Standard
	Er	166	46.7	32.7				mg/L	20	Standard
	I	127	23154.4	7.3				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		111.542	
	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		105.098	
	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	100.634
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	97.116
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: L1611037005 WG590719-01
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Method 6020 - Summary Report

Sample ID: L1611037005S WG590719-04
Sample Date/Time: Friday, November 11, 2016 12:46:47
Number of Replicates: 3
Autosampler Position: 304
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	223838.3	18.5				ug/L	206101	Standard
	Be	9	121807.8	14.5	**48.2456**	1.922	4.0	ug/L	25	Standard
	Al	27	157929274.8	12.1	**751.0147**	49.239	6.6	ug/L	1120	Standard
	Sc	45	64719.7	13.8				ug/L	61425	Standard
	Ti	47	189.0	13.9	**0.2655**	0.026	9.8	ug/L	70	Standard
	V	51	586634.1	13.8	**54.2422**	1.943	3.6	ug/L	3309	Standard
	Cr	52	543036.1	14.2	**54.1956**	1.708	3.2	ug/L	13497	Standard
	Cr	53	72617.8	14.9	**56.7064**	1.398	2.5	ug/L	3162	Standard
	Mn	55	1679794.9	16.1	**105.8715**	1.650	1.6	ug/L	2226	Standard
	Co	59	634527.6	15.7	**50.8522**	0.833	1.6	ug/L	1003	Standard
	Ni	60	147616.8	17.7	**54.9842**	0.281	0.5	ug/L	355	Standard
	Cu	65	120057.5	17.6	**49.2120**	0.256	0.5	ug/L	473	Standard
	Zn	66	64612.9	16.1	**51.6159**	0.556	1.1	ug/L	341	Standard
>	**Ge**	72	577478.4	17.2				ug/L	566981	Standard
	As	75	65989.1	16.9	**52.3717**	0.259	0.5	ug/L	-156	Standard
	Se	82	5727.9	19.0	**54.5045**	0.949	1.7	ug/L	35	Standard
	Se-1	77	5071.2	17.5	**56.7157**	0.163	0.3	ug/L	354	Standard
>	**Ga**	71	90.0	24.2				mg/L	43	Standard
	Rb	85	4817.4	15.7				ug/L	48	Standard
	Y	89	455162.6	14.1				ug/L	447702	Standard
>	**Rh**	103	243.3	12.0				ug/L	20	Standard
	Mo	98	1004.6	12.7	**0.2012**	0.009	4.4	ug/L	158	Standard
	Ag	107	518913.1	15.2	**49.6847**	0.734	1.5	ug/L	133	Standard
	Cd	111	168199.2	17.3	**50.6550**	0.365	0.7	mg/L	7	Standard
	Cd	114	433267.9	16.5	**48.4836**	0.687	1.4	ug/L	72	Standard
>	**In**	115	996531.6	16.7				ug/L	1004638	Standard
	Sn	118	429.0	18.5	**0.1290**	0.006	4.6	ug/L	364	Standard
	Sb	123	456027.1	15.1	**51.5917**	0.790	1.5	ug/L	2464	Standard
	Ba	135	190349.2	14.4	**51.0017**	1.144	2.2	ug/L	39	Standard
	Ce	140	458.3	6.6				ug/L	195	Standard
>	**Tb**	159	1542499.1	15.4				ug/L	1640193	Standard
	Ho	165	61.7	40.8				ug/L	25	Standard
	Tl	203	717912.4	15.4	**52.0386**	0.667	1.3	ug/L	324	Standard
	Tl	205	1709397.9	14.3	**46.3533**	0.405	0.9	ug/L	698	Standard
	Pb	206	552677.1	14.2	**51.4287**	0.542	1.1	ug/L	600	Standard
	Pb	207	475080.8	14.7	**49.6479**	0.137	0.3	ug/L	541	Standard
	Pb	208	1611162.3	13.6	**51.1865**	0.658	1.3	ug/L	1750	Standard
	U	238	695507.6	9.1	**55.6777**	3.271	5.9	ug/L	10	Standard
>	**Bi**	209	763707.3	14.9				ug/L	811518	Standard

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	Na	23	550.0	22.6	**79.3967**	7.610	9.6	mg/L	0	Standard
	Mg	24	3982.2	6.0	**84.3050**	7.415	8.8	mg/L	77	Standard
	K	39	278.3	27.9	**1.4203**	0.652	45.9	mg/L	18	Standard
	Ca	43	411.7	19.0	**-48.2054**	22.102	45.9	mg/L	178	Standard
	Fe	54	36.8	53.9	**0.0068**	0.192	2842.7	mg/L	29	Standard
	Fe	57	863.4	4.6	**19.3857**	3.186	16.4	mg/L	408	Standard
>	**Sc-1**	45	64719.7	13.8				mg/L	61425	Standard
	Cl	35	2.7	86.6				ug/L	1	Standard
	Kr	83	8.3	45.4				ug/L	12	Standard
	Br	81	13686.2	7.6				ug/L	1747	Standard
	P	31	45.0	19.2				ug/L	17	Standard
	S	34	0.0					ug/L	3	Standard
	Sr	88	433.3	2.4				ug/L	370	Standard
	C	12	170.0	50.3				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	13.3	114.6				mg/L	17	Standard
	Dy	164	43.3	44.1				mg/L	9	Standard
	Ho-1	165	61.7	40.8				mg/L	25	Standard
	Er	166	70.0	51.5				mg/L	20	Standard
	I	127	28733.9	5.3				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		108.606	
	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		101.851	
	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	99.193
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	94.108
⌈	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	

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Method 6020 - Summary Report

Sample ID: L1611037005SD WG590719-05
Sample Date/Time: Friday, November 11, 2016 12:49:52
Number of Replicates: 3
Autosampler Position: 305
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	216616.0	20.0				ug/L	206101	Standard
	Be	9	116631.4	20.6	**47.4592**	0.450	0.9	ug/L	25	Standard
	Al	27	162900405.2	14.5	**799.5989**	43.854	5.5	ug/L	1120	Standard
	Sc	45	62751.6	14.9				ug/L	61425	Standard
	Ti	47	204.3	18.2	**0.3094**	0.025	8.2	ug/L	70	Standard
	V	51	573515.8	16.6	**54.4213**	1.697	3.1	ug/L	3309	Standard
	Cr	52	528036.2	17.3	**54.0610**	1.214	2.2	ug/L	13497	Standard
	Cr	53	69195.6	21.1	**55.1473**	1.110	2.0	ug/L	3162	Standard
	Mn	55	1667671.6	18.2	**107.9302**	2.144	2.0	ug/L	2226	Standard
	Co	59	613864.4	19.5	**50.4171**	0.500	1.0	ug/L	1003	Standard
	Ni	60	143775.1	19.4	**55.0114**	0.666	1.2	ug/L	355	Standard
	Cu	65	115110.7	19.0	**48.4837**	0.210	0.4	ug/L	473	Standard
	Zn	66	63903.1	18.3	**52.4201**	0.607	1.2	ug/L	341	Standard
>	**Ge**	72	562511.4	19.5				ug/L	566981	Standard
	As	75	63960.2	18.2	**52.1712**	0.699	1.3	ug/L	-156	Standard
	Se	82	5566.5	20.3	**54.4241**	0.669	1.2	ug/L	35	Standard
	Se-1	77	4994.2	18.3	**57.5132**	0.927	1.6	ug/L	354	Standard
>	**Ga**	71	101.7	23.2				mg/L	43	Standard
	Rb	85	5187.6	17.9				ug/L	48	Standard
	Y	89	465396.2	17.2				ug/L	447702	Standard
>	**Rh**	103	211.7	28.2				ug/L	20	Standard
	Mo	98	1208.5	15.6	**0.2487**	0.015	5.9	ug/L	158	Standard
	Ag	107	508258.9	16.7	**49.5956**	0.367	0.7	ug/L	133	Standard
	Cd	111	162775.8	18.7	**49.9638**	0.734	1.5	mg/L	7	Standard
	Cd	114	418611.6	18.8	**47.6879**	0.751	1.6	ug/L	72	Standard
>	**In**	115	976932.4	17.3				ug/L	1004638	Standard
	Sn	118	313.7	13.5	**0.0776**	0.019	24.9	ug/L	364	Standard
	Sb	123	439201.2	15.9	**50.6736**	0.692	1.4	ug/L	2464	Standard
	Ba	135	184121.2	16.3	**50.2595**	0.779	1.5	ug/L	39	Standard
	Ce	140	3187.0	14.1				ug/L	195	Standard
>	**Tb**	159	1530576.6	14.4				ug/L	1640193	Standard
	Ho	165	101.7	36.9				ug/L	25	Standard
	Tl	203	701322.0	16.0	**51.0881**	0.706	1.4	ug/L	324	Standard
	Tl	205	1646678.5	14.8	**44.8858**	0.305	0.7	ug/L	698	Standard
	Pb	206	537869.4	16.3	**50.2280**	0.651	1.3	ug/L	600	Standard
	Pb	207	460488.5	15.0	**48.3826**	0.505	1.0	ug/L	541	Standard
	Pb	208	1565717.2	15.0	**49.9598**	0.832	1.7	ug/L	1750	Standard
	U	238	683329.7	10.1	**54.9625**	2.933	5.3	ug/L	10	Standard
>	**Bi**	209	759653.4	15.3				ug/L	811518	Standard

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⌈	**Na**	23	530.0	25.3	**78.9465**	9.224	11.7	mg/L	0	Standard
|	**Mg**	24	4268.9	8.8	**93.1260**	5.878	6.3	mg/L	77	Standard
|	**K**	39	238.3	36.1	**1.1719**	0.312	26.7	mg/L	18	Standard
|	**Ca**	43	381.7	3.0	**-44.0275**	12.779	29.0	mg/L	178	Standard
|	**Fe**	54	40.1	71.3	**0.0564**	0.333	590.0	mg/L	29	Standard
|	**Fe**	57	956.7	7.9	**24.1813**	5.789	23.9	mg/L	408	Standard
⌊>	**Sc-1**	45	62751.6	14.9				mg/L	61425	Standard
	Cl	35	1.3	86.6				ug/L	1	Standard
	Kr	83	10.3	5.6				ug/L	12	Standard
	Br	81	12715.4	11.0				ug/L	1747	Standard
	P	31	41.7	36.7				ug/L	17	Standard
	S	34	6.7	43.3				ug/L	3	Standard
	Sr	88	440.0	4.1				ug/L	370	Standard
	C	12	213.3	34.6				mg/L	47	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	17	Standard
	Dy	164	110.0	31.9				mg/L	9	Standard
	Ho-1	165	101.7	36.9				mg/L	25	Standard
	Er	166	70.0	24.7				mg/L	20	Standard
	I	127	27379.9	9.2				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		105.102	
|	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		99.212	
|	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	97.242
|	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	93.609
⌈	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	

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Method 6020 - Summary Report

Sample ID: L1611027201
Sample Date/Time: Friday, November 11, 2016 12:52:58
Number of Replicates: 3
Autosampler Position: 306
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	154441.7	21.4				ug/L	206101	Standard
	Be	9	3468.7	22.0	**1.9613**	0.058	3.0	ug/L	25	Standard
	Al	27	1069556812.6	19.0	**7335.5268**	195.012	2.7	ug/L	1120	Standard
	Sc	45	103738.1	13.4				ug/L	61425	Standard
	Ti	47	458075.4	14.8	**1278.8247**	50.994	4.0	ug/L	70	Standard
	V	51	1120355.5	15.7	**133.1932**	4.437	3.3	ug/L	3309	Standard
	Cr	52	556275.2	16.1	**71.5981**	2.155	3.0	ug/L	13497	Standard
	Cr	53	67979.9	16.4	**68.5716**	2.356	3.4	ug/L	3162	Standard
	Mn	55	97387325.4	18.1	**7874.7683**	266.175	3.4	ug/L	2226	Standard
	Co	59	553726.7	18.4	**56.8270**	1.607	2.8	ug/L	1003	Standard
	Ni	60	367490.6	19.6	**175.6981**	6.225	3.5	ug/L	355	Standard
	Cu	65	324260.9	16.4	**171.3967**	4.517	2.6	ug/L	473	Standard
	Zn	66	544248.3	15.9	**561.2234**	12.398	2.2	ug/L	341	Standard
>	Ge	72	449595.9	17.0				ug/L	566981	Standard
	As	75	119636.5	15.2	**122.0018**	2.894	2.4	ug/L	-156	Standard
	Se	82	390.4	15.5	**4.4943**	0.121	2.7	ug/L	35	Standard
	Se-1	77	878.0	12.3	**8.9456**	0.865	9.7	ug/L	354	Standard
>	Ga	71	50869.0	19.4				mg/L	43	Standard
	Rb	85	580077.3	16.7				ug/L	48	Standard
	Y	89	1541221.4	17.1				ug/L	447702	Standard
>	Rh	103	921.7	22.7				ug/L	20	Standard
	Mo	98	106953.3	19.9	**34.7784**	1.067	3.1	ug/L	158	Standard
	Ag	107	2828.9	21.6	**0.4066**	0.017	4.1	ug/L	133	Standard
	Cd	111	6217.7	16.9	**2.9224**	0.032	1.1	mg/L	7	Standard
	Cd	114	16507.0	18.6	**2.8776**	0.024	0.8	ug/L	72	Standard
>	In	115	638424.2	18.1				ug/L	1004638	Standard
	Sn	118	764.7	18.0	**0.5030**	0.007	1.3	ug/L	364	Standard
	Sb	123	13913.2	14.1	**2.4051**	0.109	4.5	ug/L	2464	Standard
	Ba	135	2160596.8	29.7	**889.9778**	99.698	11.2	ug/L	39	Standard
	Ce	140	5920712.5	12.9				ug/L	195	Standard
>	Tb	159	1103754.7	12.6				ug/L	1640193	Standard
	Ho	165	101609.0	11.0				ug/L	25	Standard
	Tl	203	26600.0	15.0	**3.0192**	0.019	0.6	ug/L	324	Standard
	Tl	205	63551.7	15.2	**2.7022**	0.004	0.1	ug/L	698	Standard
	Pb	206	1498438.6	15.4	**219.0474**	2.045	0.9	ug/L	600	Standard
	Pb	207	1212910.7	15.1	**199.3100**	1.616	0.8	ug/L	541	Standard
	Pb	208	4811320.2	21.4	**238.6817**	19.872	8.3	ug/L	1750	Standard
	U	238	139467.3	11.7	**17.5048**	0.663	3.8	ug/L	10	Standard
>	Bi	209	486060.5	15.3				ug/L	811518	Standard

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⌈	**Na**	23	5005.8	16.2	**453.7114**	15.478	3.4	mg/L	0	Standard
|	**Mg**	24	678.3	2.6	**8.2159**	0.970	11.8	mg/L	77	Standard
|	**K**	39	1671.8	12.9	**5.4192**	0.329	6.1	mg/L	18	Standard
|	**Ca**	43	5337.6	4.9	**-691.3669**	124.533	18.0	mg/L	178	Standard
|	**Fe**	54	4911.5	5.8	**38.6115**	2.950	7.6	mg/L	29	Standard
|	**Fe**	57	8414.0	10.3	**183.6621**	6.085	3.3	mg/L	408	Standard
⌊>	**Sc-1**	45	103738.1	13.4				mg/L	61425	Standard
	Cl	35	1.3	173.2				ug/L	1	Standard
	Kr	83	6.0	33.3				ug/L	12	Standard
	Br	81	5541.0	12.6				ug/L	1747	Standard
	P	31	58.3	34.6				ug/L	17	Standard
	S	34	8.3	69.3				ug/L	3	Standard
	Sr	88	521.7	12.5				ug/L	370	Standard
	C	12	1030.0	32.1				mg/L	47	Standard
	N	14	6.7	173.2				mg/L	0	Standard
	Hg	202	260.0	35.3				mg/L	17	Standard
	Dy	164	153444.6	14.3				mg/L	9	Standard
	Ho-1	165	101609.0	11.0				mg/L	25	Standard
	Er	166	90258.1	13.9				mg/L	20	Standard
	I	127	216087.5	5.0				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		74.935	
|	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		79.296	
|	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	63.548
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	59.895
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	
Ti 47 Upper, S, EEE	Ti	47	
V 51 Upper, S, EEE	V	51	

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Mn 55 Upper, S, EEE	Mn	55
Ni 60 Upper, S, EEE	Ni	60
Cu 65 Upper, S, EEE	Cu	65
Zn 66 Upper, S, EEE	Zn	66
As 75 Upper, S, EEE	As	75
Ba 135 Upper, S, EEE	Ba	135
Pb 206 Upper, S, EEE	Pb	206
Pb 207 Upper, S, EEE	Pb	207
Pb 208 Upper, S, EEE	Pb	208

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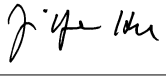

Method 6020 - Summary Report

Sample ID: L1611027202
Sample Date/Time: Friday, November 11, 2016 12:56:03
Number of Replicates: 3
Autosampler Position: 307
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	204431.4	18.2				ug/L	206101	Standard
	Be	9	51.7	31.1	**0.0031**	0.003	102.7	ug/L	25	Standard
	Al	27	54728405.5	13.3	**284.4900**	15.519	5.5	ug/L	1120	Standard
	Sc	45	60587.9	15.9				ug/L	61425	Standard
	Ti	47	3452.7	18.3	**7.6490**	0.045	0.6	ug/L	70	Standard
	V	51	10781.7	13.6	**0.7286**	0.048	6.6	ug/L	3309	Standard
	Cr	52	23290.5	13.9	**1.0089**	0.100	9.9	ug/L	13497	Standard
	Cr	53	3395.4	6.1	**0.3519**	0.342	97.1	ug/L	3162	Standard
	Mn	55	1291224.1	17.8	**84.6399**	0.837	1.0	ug/L	2226	Standard
	Co	59	7803.1	20.0	**0.5861**	0.014	2.5	ug/L	1003	Standard
	Ni	60	7291.1	22.5	**2.6956**	0.141	5.2	ug/L	355	Standard
	Cu	65	3001.6	18.9	**1.0859**	0.013	1.2	ug/L	473	Standard
	Zn	66	19173.0	16.9	**15.7530**	0.200	1.3	ug/L	341	Standard
>	**Ge**	72	554405.8	18.0				ug/L	566981	Standard
	As	75	13720.1	17.3	**11.4280**	0.071	0.6	ug/L	-156	Standard
	Se	82	69.8	16.6	**0.3756**	0.055	14.7	ug/L	35	Standard
	Se-1	77	394.0	4.6	**0.2463**	0.688	279.5	ug/L	354	Standard
>	**Ga**	71	371.7	21.5				mg/L	43	Standard
	Rb	85	6062.9	14.9				ug/L	48	Standard
	Y	89	423879.5	14.9				ug/L	447702	Standard
>	**Rh**	103	313.3	22.0				ug/L	20	Standard
	Mo	98	32458.4	15.6	**7.2821**	0.181	2.5	ug/L	158	Standard
	Ag	107	190.0	11.1	**0.0058**	0.002	28.1	ug/L	133	Standard
	Cd	111	57.8	20.5	**0.0119**	0.002	12.8	mg/L	7	Standard
	Cd	114	230.3	3.3	**0.0250**	0.005	19.2	ug/L	72	Standard
>	**In**	115	928762.3	17.8				ug/L	1004638	Standard
	Sn	118	238.3	20.0	**0.0445**	0.003	6.3	ug/L	364	Standard
	Sb	123	805.4	2.1	**0.0379**	0.019	49.6	ug/L	2464	Standard
	Ba	135	535614.8	16.4	**153.8784**	2.213	1.4	ug/L	39	Standard
	Ce	140	27816.1	18.4				ug/L	195	Standard
>	**Tb**	159	1524152.4	14.9				ug/L	1640193	Standard
	Ho	165	668.3	12.9				ug/L	25	Standard
	Tl	203	1974.5	9.7	**0.1383**	0.007	5.2	ug/L	324	Standard
	Tl	205	4800.8	11.3	**0.1326**	0.005	4.0	ug/L	698	Standard
	Pb	206	10056.7	15.0	**0.9306**	0.010	1.1	ug/L	600	Standard
	Pb	207	8209.9	15.2	**0.8504**	0.011	1.2	ug/L	541	Standard
	Pb	208	28584.3	13.8	**0.9037**	0.008	0.9	ug/L	1750	Standard
	U	238	6060.2	10.1	**0.5102**	0.020	3.9	ug/L	10	Standard
>	**Bi**	209	727467.4	14.1				ug/L	811518	Standard

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	Na	23	231.7	10.9	**36.3933**	4.576	12.6	mg/L	0	Standard
	Mg	24	638.3	4.3	**13.8567**	2.291	16.5	mg/L	77	Standard
	K	39	578.3	9.2	**3.2012**	0.480	15.0	mg/L	18	Standard
	Ca	43	261.7	24.2	**-20.5797**	25.014	121.5	mg/L	178	Standard
	Fe	54	297.1	14.2	**3.5862**	0.253	7.1	mg/L	29	Standard
	Fe	57	700.0	11.3	**14.9942**	2.963	19.8	mg/L	408	Standard
>	**Sc-1**	45	60587.9	15.9				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	7.7	54.3				ug/L	12	Standard
	Br	81	8452.4	2.3				ug/L	1747	Standard
	P	31	21.7	13.3				ug/L	17	Standard
	S	34	6.7	114.6				ug/L	3	Standard
	Sr	88	450.0	14.2				ug/L	370	Standard
	C	12	103.3	40.3				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	173.2				mg/L	17	Standard
	Dy	164	1015.6	21.6				mg/L	9	Standard
	Ho-1	165	668.3	12.9				mg/L	25	Standard
	Er	166	650.0	29.7				mg/L	20	Standard
	I	127	334686.6	4.0				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		99.190	
	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		97.782	
	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	92.447
|	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	89.643
⌈	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	
Ba 135 Upper, S, EEE	Ba	135	

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Method 6020 - Summary Report

Sample ID: L1611027202PS WG590943-01
Sample Date/Time: Friday, November 11, 2016 12:59:09
Number of Replicates: 3
Autosampler Position: 308
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	207995.5	18.2				ug/L	206101	Standard
	Be	9	117199.1	15.9	**49.8548**	1.228	2.5	ug/L	25	Standard
	Al	27	53982045.5	12.6	**275.9354**	15.539	5.6	ug/L	1120	Standard
	Sc	45	60630.7	12.8				ug/L	61425	Standard
	Ti	47	3407.4	13.2	**7.5921**	0.295	3.9	ug/L	70	Standard
	V	51	558838.5	14.4	**53.8338**	1.101	2.0	ug/L	3309	Standard
	Cr	52	509842.7	15.3	**52.9582**	0.940	1.8	ug/L	13497	Standard
	Cr	53	64778.6	15.0	**52.5632**	0.734	1.4	ug/L	3162	Standard
	Mn	55	2466279.4	26.7	**160.5307**	23.051	14.4	ug/L	2226	Standard
	Co	59	617400.7	15.6	**51.6010**	1.003	1.9	ug/L	1003	Standard
	Ni	60	136324.9	17.0	**52.9908**	1.145	2.2	ug/L	355	Standard
	Cu	65	121165.8	16.4	**51.8736**	1.228	2.4	ug/L	473	Standard
	Zn	66	79298.7	15.6	**66.1735**	0.774	1.2	ug/L	341	Standard
>	Ge	72	552989.5	16.0				ug/L	566981	Standard
	As	75	75429.2	15.4	**62.5037**	1.384	2.2	ug/L	-156	Standard
	Se	82	5025.9	16.7	**49.9722**	0.720	1.4	ug/L	35	Standard
	Se-1	77	4332.6	16.2	**50.0826**	0.445	0.9	ug/L	354	Standard
>	Ga	71	358.3	20.4				mg/L	43	Standard
	Rb	85	6266.3	18.1				ug/L	48	Standard
	Y	89	421331.7	15.5				ug/L	447702	Standard
>	Rh	103	338.3	24.7				ug/L	20	Standard
	Mo	98	32915.1	15.6	**7.3223**	0.108	1.5	ug/L	158	Standard
	Ag	107	443866.3	15.2	**45.2674**	0.363	0.8	ug/L	133	Standard
	Cd	111	162535.5	17.6	**52.1330**	0.992	1.9	mg/L	7	Standard
	Cd	114	414921.3	18.5	**49.3647**	1.590	3.2	ug/L	72	Standard
>	In	115	934718.2	15.9				ug/L	1004638	Standard
	Sn	118	225.0	13.9	**0.0376**	0.010	25.6	ug/L	364	Standard
	Sb	123	430705.9	17.5	**51.7825**	1.032	2.0	ug/L	2464	Standard
	Ba	135	709499.5	15.0	**202.4255**	3.944	1.9	ug/L	39	Standard
	Ce	140	27497.0	16.0				ug/L	195	Standard
>	Tb	159	1525595.0	13.2				ug/L	1640193	Standard
	Ho	165	656.7	11.1				ug/L	25	Standard
	Tl	203	685464.6	14.8	**51.8181**	0.791	1.5	ug/L	324	Standard
	Tl	205	1596698.4	15.8	**45.0750**	1.146	2.5	ug/L	698	Standard
	Pb	206	534622.3	14.3	**51.8503**	0.526	1.0	ug/L	600	Standard
	Pb	207	471797.4	15.3	**51.3739**	1.037	2.0	ug/L	541	Standard
	Pb	208	1566553.9	13.4	**51.8884**	0.220	0.4	ug/L	1750	Standard
	U	238	660813.4	9.0	**55.1132**	2.330	4.2	ug/L	10	Standard
>	Bi	209	731516.2	13.3				ug/L	811518	Standard

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	Na	23	223.3	10.6	**34.7881**	1.188	3.4	mg/L	0	Standard
	Mg	24	628.3	8.8	**13.5733**	2.651	19.5	mg/L	77	Standard
	K	39	520.0	18.7	**2.8219**	0.327	11.6	mg/L	18	Standard
	Ca	43	281.7	11.8	**-23.8651**	15.932	66.8	mg/L	178	Standard
	Fe	54	300.4	9.9	**3.6540**	0.604	16.5	mg/L	29	Standard
	Fe	57	756.7	9.0	**17.4252**	5.668	32.5	mg/L	408	Standard
>	**Sc-1**	45	60630.7	12.8				mg/L	61425	Standard
	Cl	35	1.3	173.2				ug/L	1	Standard
	Kr	83	11.3	20.4				ug/L	12	Standard
	Br	81	8312.3	8.0				ug/L	1747	Standard
	P	31	26.7	10.8				ug/L	17	Standard
	S	34	0.0					ug/L	3	Standard
	Sr	88	441.7	9.2				ug/L	370	Standard
	C	12	113.3	5.1				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	13.3	86.6				mg/L	17	Standard
	Dy	164	1171.5	19.3				mg/L	9	Standard
	Ho-1	165	656.7	11.1				mg/L	25	Standard
	Er	166	526.7	21.6				mg/L	20	Standard
	I	127	339068.8	5.3				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		100.919	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		97.532	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			

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Rb	85	
Y	89	
> Rh	103	
Mo	98	
Ag	107	
Cd	111	
Cd	114	
> In	115	93.040
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	90.142
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	
Ba 135 Upper, S, EEE	Ba	135	

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Method 6020 - Summary Report

Sample ID: L1611027202SDL WG590943-02
Sample Date/Time: Friday, November 11, 2016 13:02:14
Number of Replicates: 3
Autosampler Position: 309
Sample Description: 5
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	187208.6	15.2				ug/L	206101	Standard
	Be	9	40.0	76.0	**-0.0011**	0.011	1031.8	ug/L	25	Standard
	Al	27	10252947.2	13.0	**57.9635**	1.523	2.6	ug/L	1120	Standard
	Sc	45	53578.9	12.6				ug/L	61425	Standard
	Ti	47	667.7	16.3	**1.4589**	0.032	2.2	ug/L	70	Standard
	V	51	4855.2	11.0	**0.1841**	0.026	14.2	ug/L	3309	Standard
	Cr	52	14450.9	8.9	**0.1680**	0.112	66.5	ug/L	13497	Standard
	Cr	53	1783.4	8.3	**-0.9456**	0.111	11.8	ug/L	3162	Standard
	Mn	55	243490.8	15.3	**16.9006**	0.446	2.6	ug/L	2226	Standard
	Co	59	1856.1	15.3	**0.1019**	0.010	10.0	ug/L	1003	Standard
	Ni	60	1649.8	17.8	**0.5581**	0.046	8.2	ug/L	355	Standard
	Cu	65	1033.7	21.7	**0.2695**	0.034	12.8	ug/L	473	Standard
	Zn	66	4743.1	13.4	**3.9416**	0.090	2.3	ug/L	341	Standard
>	**Ge**	72	519939.4	14.4				ug/L	566981	Standard
	As	75	2643.7	14.5	**2.4306**	0.085	3.5	ug/L	-156	Standard
	Se	82	35.8	33.0	**0.0554**	0.109	197.1	ug/L	35	Standard
	Se-1	77	349.3	4.7	**-0.0441**	0.716	1625.8	ug/L	354	Standard
>	**Ga**	71	88.3	17.3				mg/L	43	Standard
	Rb	85	1213.4	15.1				ug/L	48	Standard
	Y	89	381708.5	13.6				ug/L	447702	Standard
>	**Rh**	103	81.7	31.4				ug/L	20	Standard
	Mo	98	5968.4	14.5	**1.4264**	0.030	2.1	ug/L	158	Standard
	Ag	107	205.7	17.1	**0.0088**	0.002	24.4	ug/L	133	Standard
	Cd	111	25.3	55.4	**0.0017**	0.003	198.6	mg/L	7	Standard
	Cd	114	77.7	27.7	**0.0067**	0.002	30.1	ug/L	72	Standard
>	**In**	115	865966.5	15.4				ug/L	1004638	Standard
	Sn	118	85.3	12.5	**-0.0319**	0.004	11.2	ug/L	364	Standard
	Sb	123	2631.7	29.8	**0.2960**	0.152	51.5	ug/L	2464	Standard
	Ba	135	101591.2	15.6	**31.2377**	0.197	0.6	ug/L	39	Standard
	Ce	140	5459.3	17.9				ug/L	195	Standard
>	**Tb**	159	1412866.3	15.2				ug/L	1640193	Standard
	Ho	165	143.3	10.1				ug/L	25	Standard
	Tl	203	1132.4	6.7	**0.0767**	0.007	8.7	ug/L	324	Standard
	Tl	205	2705.2	1.1	**0.0759**	0.012	15.2	ug/L	698	Standard
	Pb	206	2475.9	15.3	**0.1976**	0.005	2.5	ug/L	600	Standard
	Pb	207	1967.5	15.2	**0.1721**	0.003	1.9	ug/L	541	Standard
	Pb	208	6967.6	14.6	**0.1894**	0.004	2.1	ug/L	1750	Standard
	U	238	1208.4	9.7	**0.1064**	0.006	5.8	ug/L	10	Standard
>	**Bi**	209	706692.7	13.8				ug/L	811518	Standard

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⌈	**Na**	23	41.7	38.6	**7.6319**	3.862	50.6	mg/L	0	Standard
|	**Mg**	24	178.3	11.3	**3.7959**	1.027	27.0	mg/L	77	Standard
|	**K**	39	101.7	22.7	**0.5446**	0.176	32.3	mg/L	18	Standard
|	**Ca**	43	123.3	51.3	**8.6821**	21.382	246.3	mg/L	178	Standard
|	**Fe**	54	69.3	55.1	**0.6095**	0.530	86.9	mg/L	29	Standard
|	**Fe**	57	506.7	0.6	**9.9481**	3.007	30.2	mg/L	408	Standard
⌊>	**Sc-1**	45	53578.9	12.6				mg/L	61425	Standard
	Cl	35	1.3	173.2				ug/L	1	Standard
	Kr	83	9.7	6.0				ug/L	12	Standard
	Br	81	2790.3	10.4				ug/L	1747	Standard
	P	31	28.3	36.7				ug/L	17	Standard
	S	34	8.3	34.6				ug/L	3	Standard
	Sr	88	445.0	10.3				ug/L	370	Standard
	C	12	76.7	64.3				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	17	Standard
	Dy	164	261.4	24.9				mg/L	9	Standard
	Ho-1	165	143.3	10.1				mg/L	25	Standard
	Er	166	110.0	18.2				mg/L	20	Standard
	I	127	78673.4	9.8				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		90.833	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		91.703	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

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Rb	85	
Y	89	
Rh	103	
Mo	98	
Ag	107	
Cd	111	
Cd	114	
In	115	86.197
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	87.083
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

Sample ID: L1611027202SDL WG590943-02
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Method 6020 - Summary Report

Sample ID: L1611027202SDL WG590943-02
Sample Date/Time: Friday, November 11, 2016 13:05:20
Number of Replicates: 3
Autosampler Position: 310
Sample Description: 25
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	185271.9	22.5				ug/L	206101	Standard
	Be	9	35.0	28.6	**-0.0020**	0.005	230.0	ug/L	25	Standard
	Al	27	1568290.0	14.7	**9.0581**	0.816	9.0	ug/L	1120	Standard
	Sc	45	52497.1	14.9				ug/L	61425	Standard
	Ti	47	165.3	16.2	**0.2678**	0.042	15.7	ug/L	70	Standard
	V	51	4073.1	7.6	**0.1215**	0.048	39.2	ug/L	3309	Standard
	Cr	52	13272.8	9.4	**0.0924**	0.141	153.0	ug/L	13497	Standard
	Cr	53	1500.1	5.8	**-1.1434**	0.194	17.0	ug/L	3162	Standard
	Mn	55	49969.9	17.5	**3.4838**	0.053	1.5	ug/L	2226	Standard
	Co	59	717.7	9.0	**0.0034**	0.007	191.6	ug/L	1003	Standard
	Ni	60	519.7	18.2	**0.0977**	0.006	6.4	ug/L	355	Standard
	Cu	65	486.0	21.1	**0.0293**	0.012	40.3	ug/L	473	Standard
	Zn	66	1738.1	15.6	**1.3176**	0.076	5.7	ug/L	341	Standard
>	Ge	72	502892.5	18.3				ug/L	566981	Standard
	As	75	471.2	21.9	**0.5326**	0.045	8.5	ug/L	-156	Standard
	Se	82	27.4	27.9	**-0.0085**	0.135	1594.5	ug/L	35	Standard
	Se-1	77	320.3	7.7	**-0.2371**	0.971	409.5	ug/L	354	Standard
>	Ga	71	51.7	59.1				mg/L	43	Standard
	Rb	85	268.3	14.9				ug/L	48	Standard
	Y	89	366931.8	16.2				ug/L	447702	Standard
>	Rh	103	48.3	46.6				ug/L	20	Standard
	Mo	98	1120.0	18.9	**0.2653**	0.004	1.4	ug/L	158	Standard
	Ag	107	198.7	14.6	**0.0090**	0.005	58.4	ug/L	133	Standard
	Cd	111	13.2	14.1	**-0.0020**	0.001	28.0	mg/L	7	Standard
	Cd	114	43.2	52.1	**0.0023**	0.002	97.5	ug/L	72	Standard
>	In	115	847540.4	18.6				ug/L	1004638	Standard
	Sn	118	66.3	21.9	**-0.0422**	0.002	5.6	ug/L	364	Standard
	Sb	123	720.4	31.6	**0.0394**	0.046	117.1	ug/L	2464	Standard
	Ba	135	20366.6	16.2	**6.4108**	0.158	2.5	ug/L	39	Standard
	Ce	140	1106.7	17.5				ug/L	195	Standard
>	Tb	159	1390937.0	17.2				ug/L	1640193	Standard
	Ho	165	35.0	28.6				ug/L	25	Standard
	Tl	203	399.7	1.0	**0.0197**	0.005	25.2	ug/L	324	Standard
	Tl	205	931.7	8.6	**0.0241**	0.006	26.6	ug/L	698	Standard
	Pb	206	874.4	15.3	**0.0385**	0.001	2.2	ug/L	600	Standard
	Pb	207	702.3	11.2	**0.0313**	0.004	12.8	ug/L	541	Standard
	Pb	208	2455.4	15.9	**0.0363**	0.001	4.0	ug/L	1750	Standard
	U	238	231.7	16.7	**0.0224**	0.002	9.0	ug/L	10	Standard
>	Bi	209	693737.6	16.3				ug/L	811518	Standard

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⌈	**Na**	23	15.0	33.3	**2.6483**	0.519	19.6	mg/L	0	Standard
|	**Mg**	24	68.3	11.2	**0.9446**	0.091	9.6	mg/L	77	Standard
|	**K**	39	30.0	60.1	**0.0826**	0.111	134.6	mg/L	18	Standard
|	**Ca**	43	118.3	9.8	**10.5701**	5.748	54.4	mg/L	178	Standard
|	**Fe**	54	29.5	0.7	**0.0247**	0.067	270.7	mg/L	29	Standard
|	**Fe**	57	498.3	17.1	**10.2035**	5.500	53.9	mg/L	408	Standard
⌊>	**Sc-1**	45	52497.1	14.9				mg/L	61425	Standard
	Cl	35	1.3	173.2				ug/L	1	Standard
	Kr	83	8.7	37.1				ug/L	12	Standard
	Br	81	1630.1	26.6				ug/L	1747	Standard
	P	31	31.7	18.2				ug/L	17	Standard
	S	34	6.7	43.3				ug/L	3	Standard
	Sr	88	458.3	6.9				ug/L	370	Standard
	C	12	70.0	14.3				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	17	Standard
	Dy	164	49.5	48.9				mg/L	9	Standard
	Ho-1	165	35.0	28.6				mg/L	25	Standard
	Er	166	80.0	25.0				mg/L	20	Standard
	I	127	21230.0	9.4				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		89.894	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		88.696	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

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⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	84.363
|	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	85.486
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, November 11, 2016 13:08:27
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	208631.1	20.9				ug/L	206101	Standard
	Be	9	113364.1	18.9	**48.0805**	1.042	2.2	ug/L	25	Standard
	Al	27	9406358.9	14.3	**48.0771**	3.309	6.9	ug/L	1120	Standard
	Sc	45	57555.7	14.8				ug/L	61425	Standard
	Ti	47	44911.3	16.0	**99.7742**	3.004	3.0	ug/L	70	Standard
	V	51	536648.1	16.7	**50.6541**	1.300	2.6	ug/L	3309	Standard
	Cr	52	495085.4	17.2	**50.3468**	1.168	2.3	ug/L	13497	Standard
	Cr	53	62172.8	16.2	**49.3622**	1.458	3.0	ug/L	3162	Standard
	Mn	55	781844.3	17.8	**50.3048**	0.643	1.3	ug/L	2226	Standard
	Co	59	617894.0	18.0	**50.5912**	0.621	1.2	ug/L	1003	Standard
	Ni	60	133821.9	17.7	**51.0548**	0.704	1.4	ug/L	355	Standard
	Cu	65	123520.6	18.4	**51.8252**	0.383	0.7	ug/L	473	Standard
	Zn	66	63434.5	17.4	**51.8413**	0.807	1.6	ug/L	341	Standard
>	Ge	72	564901.7	18.9				ug/L	566981	Standard
	As	75	61723.0	17.5	**50.1595**	0.774	1.5	ug/L	-156	Standard
	Se	82	5214.0	19.2	**50.7718**	0.301	0.6	ug/L	35	Standard
	Se-1	77	4345.0	17.4	**49.2060**	0.917	1.9	ug/L	354	Standard
>	Ga	71	113.3	26.6				mg/L	43	Standard
	Rb	85	605.0	36.4				ug/L	48	Standard
	Y	89	419326.1	19.5				ug/L	447702	Standard
>	Rh	103	48.3	29.9				ug/L	20	Standard
	Mo	98	451906.5	16.5	**98.5448**	3.178	3.2	ug/L	158	Standard
	Ag	107	504248.3	16.6	**50.3279**	1.524	3.0	ug/L	133	Standard
	Cd	111	164395.6	18.2	**51.6141**	0.756	1.5	mg/L	7	Standard
	Cd	114	434490.2	19.8	**50.5147**	0.503	1.0	ug/L	72	Standard
>	In	115	957847.1	19.1				ug/L	1004638	Standard
	Sn	118	99276.8	19.7	**50.3355**	0.322	0.6	ug/L	364	Standard
	Sb	123	432963.7	18.8	**50.9160**	0.962	1.9	ug/L	2464	Standard
	Ba	135	176875.0	17.7	**49.2877**	1.111	2.3	ug/L	39	Standard
	Ce	140	220.0	29.0				ug/L	195	Standard
>	Tb	159	1552511.0	17.7				ug/L	1640193	Standard
	Ho	165	51.7	53.3				ug/L	25	Standard
	Tl	203	694893.0	17.2	**50.2160**	0.340	0.7	ug/L	324	Standard
	Tl	205	1618218.1	17.1	**43.7141**	0.241	0.6	ug/L	698	Standard
	Pb	206	540967.9	17.7	**50.1039**	0.535	1.1	ug/L	600	Standard
	Pb	207	480756.3	18.2	**50.0126**	0.702	1.4	ug/L	541	Standard
	Pb	208	1590896.8	16.4	**50.3595**	0.552	1.1	ug/L	1750	Standard
	U	238	650583.1	11.1	**51.9781**	3.203	6.2	ug/L	10	Standard
>	Bi	209	766135.9	17.0				ug/L	811518	Standard

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⌈	**Na**	23	30.0	33.3	**4.8841**	1.384	28.3	mg/L	0	Standard
|	**Mg**	24	283.3	14.3	**5.9137**	0.066	1.1	mg/L	77	Standard
|	**K**	39	866.7	6.2	**5.1523**	1.069	20.8	mg/L	18	Standard
|	**Ca**	43	140.0	27.9	**7.7668**	12.410	159.8	mg/L	178	Standard
|	**Fe**	54	403.4	28.5	**5.2206**	0.812	15.5	mg/L	29	Standard
|	**Fe**	57	523.3	9.9	**9.1357**	4.009	43.9	mg/L	408	Standard
⌊>	**Sc-1**	45	57555.7	14.8				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	8.7	29.0				ug/L	12	Standard
	Br	81	1726.8	11.7				ug/L	1747	Standard
	P	31	41.7	30.2				ug/L	17	Standard
	S	34	1.7	173.2				ug/L	3	Standard
	Sr	88	376.7	4.7				ug/L	370	Standard
	C	12	53.3	54.1				mg/L	47	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	10.0	100.0				mg/L	17	Standard
	Dy	164	35.5	32.9				mg/L	9	Standard
	Ho-1	165	51.7	53.3				mg/L	25	Standard
	Er	166	23.3	24.7				mg/L	20	Standard
	I	127	3922.2	25.0				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6			
|	Be	9	96.161		
⌊	Al	27	96.154		
⌈	Sc	45			
|	Ti	47	99.774		
|	V	51	101.308		
|	Cr	52	100.694		
|	Cr	53			
|	Mn	55	100.610		
|	Co	59	101.182		
|	Ni	60	102.110		
|	Cu	65	103.650		
|	Zn	66	103.683		
|>	Ge	72		99.633	
|	As	75	100.319		
|	Se	82	101.544		
⌊	Se-1	77			
⌈>	Ga	71			

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Rb	85			
Y	89			
Rh	103			
Mo	98	98.545		
Ag	107	100.656		
Cd	111	103.228		
Cd	114			
In	115			95.343
Sn	118	100.671		
Sb	123	101.832		
Ba	135	98.575		
Ce	140			
Tb	159			
Ho	165			
Tl	203	100.432		
Tl	205			
Pb	206			
Pb	207			
Pb	208	100.719		
U	238	103.956		
Bi	209			94.408
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: Friday, November 11, 2016 13:11:32
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	184424.8	23.1				ug/L	206101	Standard
	Be	9	60.0	36.3	**0.0095**	0.005	54.4	ug/L	25	Standard
	Al	27	9102.8	13.4	**0.0586**	0.005	9.0	ug/L	1120	Standard
	Sc	45	52245.7	20.4				ug/L	61425	Standard
	Ti	47	39.0	22.8	**-0.0485**	0.015	30.7	ug/L	70	Standard
	V	51	2714.5	6.8	**-0.0218**	0.047	214.5	ug/L	3309	Standard
	Cr	52	10288.5	11.8	**-0.2553**	0.136	53.1	ug/L	13497	Standard
	Cr	53	1460.1	4.1	**-1.1614**	0.295	25.4	ug/L	3162	Standard
	Mn	55	2344.2	16.4	**0.0344**	0.011	33.1	ug/L	2226	Standard
	Co	59	576.7	13.6	**-0.0095**	0.007	71.9	ug/L	1003	Standard
	Ni	60	266.3	8.1	**-0.0086**	0.018	207.0	ug/L	355	Standard
	Cu	65	397.0	17.3	**-0.0105**	0.020	191.3	ug/L	473	Standard
	Zn	66	307.7	19.7	**-0.0052**	0.019	361.6	ug/L	341	Standard
>	Ge	72	503596.1	23.2				ug/L	566981	Standard
	As	75	-140.6	13.9	**-0.0298**	0.046	154.3	ug/L	-156	Standard
	Se	82	29.1	18.5	**0.0138**	0.128	931.2	ug/L	35	Standard
	Se-1	77	314.7	2.7	**-0.2663**	1.109	416.2	ug/L	354	Standard
>	Ga	71	31.7	18.2				mg/L	43	Standard
	Rb	85	56.7	13.5				ug/L	48	Standard
	Y	89	366391.6	23.3				ug/L	447702	Standard
>	Rh	103	40.0	57.3				ug/L	20	Standard
	Mo	98	86.7	40.7	**0.0119**	0.008	65.8	ug/L	158	Standard
	Ag	107	161.3	35.0	**0.0040**	0.002	55.6	ug/L	133	Standard
	Cd	111	14.9	54.8	**-0.0017**	0.002	98.6	mg/L	7	Standard
	Cd	114	52.7	72.6	**0.0033**	0.003	102.3	ug/L	72	Standard
>	In	115	845313.1	22.7				ug/L	1004638	Standard
	Sn	118	146.3	14.7	**0.0055**	0.011	205.3	ug/L	364	Standard
	Sb	123	876.9	56.1	**0.0677**	0.097	143.1	ug/L	2464	Standard
	Ba	135	38.3	51.3	**0.0022**	0.003	158.8	ug/L	39	Standard
	Ce	140	33.3	31.2				ug/L	195	Standard
>	Tb	159	1390776.3	20.6				ug/L	1640193	Standard
	Ho	165	18.3	31.5				ug/L	25	Standard
	Tl	203	60.3	75.9	**-0.0081**	0.003	33.2	ug/L	324	Standard
	Tl	205	110.0	39.4	**-0.0012**	0.001	54.6	ug/L	698	Standard
	Pb	206	536.7	25.7	**0.0033**	0.003	79.8	ug/L	600	Standard
	Pb	207	427.3	34.8	**-0.0019**	0.006	338.1	ug/L	541	Standard
	Pb	208	1507.7	21.9	**0.0029**	0.000	8.6	ug/L	1750	Standard
	U	238	19.0	86.6	**0.0036**	0.001	28.5	ug/L	10	Standard
>	Bi	209	696027.1	21.4				ug/L	811518	Standard

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⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	0	Standard
|	**Mg**	24	41.7	6.9	**0.2665**	0.162	60.9	mg/L	77	Standard
|	**K**	39	18.3	63.0	**0.0202**	0.093	459.5	mg/L	18	Standard
|	**Ca**	43	120.0	25.3	**8.5159**	14.040	164.9	mg/L	178	Standard
|	**Fe**	54	30.9	38.5	**0.0332**	0.094	283.0	mg/L	29	Standard
|	**Fe**	57	433.3	13.8	**7.7396**	6.341	81.9	mg/L	408	Standard
⌊>	**Sc-1**	45	52245.7	20.4				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	5.3	60.3				ug/L	12	Standard
	Br	81	1413.4	14.7				ug/L	1747	Standard
	P	31	40.0	12.5				ug/L	17	Standard
	S	34	1.7	173.2				ug/L	3	Standard
	Sr	88	390.0	1.3				ug/L	370	Standard
	C	12	40.0	50.0				mg/L	47	Standard
	N	14	6.7	86.6				mg/L	0	Standard
	Hg	202	0.0					mg/L	17	Standard
	Dy	164	15.2	70.4				mg/L	9	Standard
	Ho-1	165	18.3	31.5				mg/L	25	Standard
	Er	166	30.0	66.7				mg/L	20	Standard
	I	127	14879.1	13.6				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6			
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		88.821	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

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⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	84.141
|	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	85.769
⌈	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

Sample ID: QC Std 7
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Method 6020 - Summary Report

Sample ID: L1611027203
Sample Date/Time: Friday, November 11, 2016 13:14:39
Number of Replicates: 3
Autosampler Position: 311
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	202976.8	20.7				ug/L	206101	Standard
	Be	9	65.0	27.7	**0.0094**	0.006	66.6	ug/L	25	Standard
	Al	27	87681565.2	15.8	**459.2055**	22.092	4.8	ug/L	1120	Standard
	Sc	45	59028.4	15.9				ug/L	61425	Standard
	Ti	47	3430.1	10.2	**7.8648**	1.401	17.8	ug/L	70	Standard
	V	51	10962.5	14.4	**0.7637**	0.063	8.3	ug/L	3309	Standard
	Cr	52	42467.7	15.8	**3.1278**	0.189	6.1	ug/L	13497	Standard
	Cr	53	6022.9	4.7	**2.7218**	0.847	31.1	ug/L	3162	Standard
	Mn	55	2693765.2	29.7	**176.9814**	23.873	13.5	ug/L	2226	Standard
	Co	59	5592.4	19.7	**0.4100**	0.010	2.4	ug/L	1003	Standard
	Ni	60	17994.4	22.4	**6.9529**	0.182	2.6	ug/L	355	Standard
	Cu	65	6504.4	20.4	**2.6282**	0.029	1.1	ug/L	473	Standard
	Zn	66	79264.2	18.0	**67.0733**	1.342	2.0	ug/L	341	Standard
>	**Ge**	72	546532.8	19.9				ug/L	566981	Standard
	As	75	537.8	22.9	**0.5523**	0.016	2.8	ug/L	-156	Standard
	Se	82	82.5	17.2	**0.5157**	0.037	7.2	ug/L	35	Standard
	Se-1	77	406.7	4.9	**0.5265**	0.979	186.0	ug/L	354	Standard
>	**Ga**	71	615.0	25.7				mg/L	43	Standard
	Rb	85	24525.2	16.9				ug/L	48	Standard
	Y	89	406023.4	18.7				ug/L	447702	Standard
>	**Rh**	103	243.3	22.2				ug/L	20	Standard
	Mo	98	1347.4	15.4	**0.2966**	0.014	4.8	ug/L	158	Standard
	Ag	107	236.3	11.4	**0.0108**	0.002	19.4	ug/L	133	Standard
	Cd	111	349.9	15.8	**0.1080**	0.007	6.3	mg/L	7	Standard
	Cd	114	1042.9	29.8	**0.1215**	0.012	9.7	ug/L	72	Standard
>	**In**	115	921473.6	20.1				ug/L	1004638	Standard
	Sn	118	1197.7	18.1	**0.5543**	0.013	2.3	ug/L	364	Standard
	Sb	123	3681.3	19.5	**0.4110**	0.171	41.5	ug/L	2464	Standard
	Ba	135	442669.9	17.9	**128.3563**	3.214	2.5	ug/L	39	Standard
	Ce	140	22153.2	18.2				ug/L	195	Standard
>	**Tb**	159	1526734.7	18.5				ug/L	1640193	Standard
	Ho	165	496.7	25.0				ug/L	25	Standard
	Tl	203	2922.6	18.9	**0.2155**	0.004	1.7	ug/L	324	Standard
	Tl	205	6761.5	19.6	**0.1928**	0.005	2.5	ug/L	698	Standard
	Pb	206	207278.8	17.1	**20.7601**	0.121	0.6	ug/L	600	Standard
	Pb	207	165934.4	17.4	**18.6669**	0.223	1.2	ug/L	541	Standard
	Pb	208	582683.4	17.1	**19.9144**	0.169	0.8	ug/L	1750	Standard
	U	238	1442.7	11.4	**0.1268**	0.009	7.5	ug/L	10	Standard
>	**Bi**	209	708247.6	17.4				ug/L	811518	Standard

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	Na	23	285.0	24.4	**45.2735**	5.415	12.0	mg/L	0	Standard
	Mg	24	995.0	9.5	**22.4615**	1.562	7.0	mg/L	77	Standard
	K	39	1615.1	7.1	**9.3938**	1.338	14.2	mg/L	18	Standard
	Ca	43	311.7	17.7	**-33.8054**	24.886	73.6	mg/L	178	Standard
	Fe	54	220.6	26.4	**2.5943**	0.515	19.8	mg/L	29	Standard
	Fe	57	808.4	3.8	**20.4333**	4.535	22.2	mg/L	408	Standard
>	**Sc-1**	45	59028.4	15.9				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	6.7	17.3				ug/L	12	Standard
	Br	81	9172.8	6.2				ug/L	1747	Standard
	P	31	36.7	28.4				ug/L	17	Standard
	S	34	8.3	91.7				ug/L	3	Standard
	Sr	88	425.0	7.3				ug/L	370	Standard
	C	12	160.0	43.8				mg/L	47	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	33.3	91.7				mg/L	17	Standard
	Dy	164	718.0	9.8				mg/L	9	Standard
	Ho-1	165	496.7	25.0				mg/L	25	Standard
	Er	166	530.0	31.2				mg/L	20	Standard
	I	127	215602.8	5.5				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		98.484	
	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		96.393	
	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	91.722
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	87.274
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	
Ba 135 Upper, S, EEE	Ba	135	

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Method 6020 - Summary Report

Sample ID: L1611027204
Sample Date/Time: Friday, November 11, 2016 13:17:45
Number of Replicates: 3
Autosampler Position: 312
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	210050.1	18.0				ug/L	206101	Standard
	Be	9	36.7	75.1	**-0.0045**	0.009	197.1	ug/L	25	Standard
	Al	27	89424521.0	13.1	**452.0831**	21.067	4.7	ug/L	1120	Standard
	Sc	45	58187.7	12.7				ug/L	61425	Standard
	Ti	47	543.7	10.9	**1.1137**	0.205	18.5	ug/L	70	Standard
	V	51	5732.1	14.7	**0.2441**	0.032	12.9	ug/L	3309	Standard
	Cr	52	24179.2	14.0	**1.1320**	0.103	9.1	ug/L	13497	Standard
	Cr	53	3772.1	8.5	**0.7013**	0.295	42.1	ug/L	3162	Standard
	Mn	55	2225959.0	32.7	**145.1937**	20.608	14.2	ug/L	2226	Standard
	Co	59	2764.3	19.0	**0.1696**	0.003	1.5	ug/L	1003	Standard
	Ni	60	6123.3	27.6	**2.2566**	0.230	10.2	ug/L	355	Standard
	Cu	65	1659.4	18.4	**0.5191**	0.008	1.5	ug/L	473	Standard
	Zn	66	5048.9	16.0	**3.9853**	0.093	2.3	ug/L	341	Standard
>	**Ge**	72	548317.2	17.9				ug/L	566981	Standard
	As	75	46.8	159.5	**0.1432**	0.065	45.5	ug/L	-156	Standard
	Se	82	70.6	26.0	**0.3828**	0.080	20.8	ug/L	35	Standard
	Se-1	77	407.3	5.7	**0.5289**	1.189	224.7	ug/L	354	Standard
>	**Ga**	71	108.3	17.5				mg/L	43	Standard
	Rb	85	20731.2	18.9				ug/L	48	Standard
	Y	89	400279.0	16.8				ug/L	447702	Standard
>	**Rh**	103	241.7	14.7				ug/L	20	Standard
	Mo	98	422.7	13.2	**0.0880**	0.005	6.1	ug/L	158	Standard
	Ag	107	175.3	8.0	**0.0048**	0.002	39.2	ug/L	133	Standard
	Cd	111	31.8	24.2	**0.0038**	0.002	41.4	mg/L	7	Standard
	Cd	114	113.7	32.7	**0.0106**	0.002	18.9	ug/L	72	Standard
>	**In**	115	907409.7	18.3				ug/L	1004638	Standard
	Sn	118	296.3	8.8	**0.0807**	0.015	18.6	ug/L	364	Standard
	Sb	123	1537.0	30.4	**0.1399**	0.092	65.7	ug/L	2464	Standard
	Ba	135	421117.3	15.4	**124.0572**	3.855	3.1	ug/L	39	Standard
	Ce	140	1085.0	9.7				ug/L	195	Standard
>	**Tb**	159	1486370.3	16.8				ug/L	1640193	Standard
	Ho	165	45.0	57.7				ug/L	25	Standard
	Tl	203	2168.8	10.3	**0.1559**	0.011	6.8	ug/L	324	Standard
	Tl	205	5197.6	13.4	**0.1462**	0.005	3.5	ug/L	698	Standard
	Pb	206	7546.6	15.8	**0.6975**	0.008	1.1	ug/L	600	Standard
	Pb	207	6145.6	15.9	**0.6349**	0.006	0.9	ug/L	541	Standard
	Pb	208	21413.6	14.7	**0.6761**	0.014	2.1	ug/L	1750	Standard
	U	238	1177.4	10.2	**0.1025**	0.006	6.1	ug/L	10	Standard
>	**Bi**	209	717292.6	16.7				ug/L	811518	Standard

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⌈	**Na**	23	286.7	13.1	**46.4385**	1.798	3.9	mg/L	0	Standard
|	**Mg**	24	971.7	6.7	**22.2706**	2.647	11.9	mg/L	77	Standard
|	**K**	39	1506.7	8.7	**8.7964**	0.581	6.6	mg/L	18	Standard
|	**Ca**	43	240.0	34.8	**-17.1151**	24.791	144.8	mg/L	178	Standard
|	**Fe**	54	177.4	19.8	**2.0608**	0.437	21.2	mg/L	29	Standard
|	**Fe**	57	763.4	13.0	**18.6022**	2.513	13.5	mg/L	408	Standard
⌊>	**Sc-1**	45	58187.7	12.7				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	6.0					ug/L	12	Standard
	Br	81	7431.8	10.9				ug/L	1747	Standard
	P	31	21.7	35.3				ug/L	17	Standard
	S	34	3.3	173.2				ug/L	3	Standard
	Sr	88	428.3	7.6				ug/L	370	Standard
	C	12	130.0	7.7				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	13.3	43.3				mg/L	17	Standard
	Dy	164	56.6	61.2				mg/L	9	Standard
	Ho-1	165	45.0	57.7				mg/L	25	Standard
	Er	166	70.0	14.3				mg/L	20	Standard
	I	127	224468.1	2.9				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		101.916	
|	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		96.708	
|	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	90.322
|	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	88.389
⌈	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	
Ba 135 Upper, S, EEE	Ba	135	

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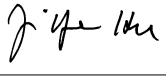

Method 6020 - Summary Report

Sample ID: L1611027205
Sample Date/Time: Friday, November 11, 2016 13:20:50
Number of Replicates: 3
Autosampler Position: 313
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	207090.8	18.5				ug/L	206101	Standard
	Be	9	36.7	41.7	**-0.0024**	0.008	334.3	ug/L	25	Standard
	Al	27	91307498.9	13.9	**468.2413**	21.938	4.7	ug/L	1120	Standard
	Sc	45	58514.0	13.0				ug/L	61425	Standard
	Ti	47	542.7	20.8	**1.0926**	0.083	7.6	ug/L	70	Standard
	V	51	5852.2	15.9	**0.2564**	0.019	7.5	ug/L	3309	Standard
	Cr	52	23236.3	13.2	**1.0386**	0.087	8.4	ug/L	13497	Standard
	Cr	53	3770.5	8.2	**0.7089**	0.283	39.9	ug/L	3162	Standard
	Mn	55	2243122.2	32.9	**146.9006**	23.645	16.1	ug/L	2226	Standard
	Co	59	2626.2	18.7	**0.1586**	0.005	2.8	ug/L	1003	Standard
	Ni	60	6093.3	25.7	**2.2580**	0.213	9.4	ug/L	355	Standard
	Cu	65	1431.7	21.2	**0.4203**	0.035	8.4	ug/L	473	Standard
	Zn	66	4008.2	15.0	**3.1172**	0.058	1.9	ug/L	341	Standard
>	**Ge**	72	546068.8	16.7				ug/L	566981	Standard
	As	75	92.4	36.2	**0.1843**	0.033	18.2	ug/L	-156	Standard
	Se	82	76.0	9.9	**0.4699**	0.206	43.9	ug/L	35	Standard
	Se-1	77	413.7	6.6	**0.5560**	0.599	107.7	ug/L	354	Standard
>	**Ga**	71	96.7	21.5				mg/L	43	Standard
	Rb	85	21247.0	20.9				ug/L	48	Standard
	Y	89	406736.2	16.4				ug/L	447702	Standard
>	**Rh**	103	238.3	26.2				ug/L	20	Standard
	Mo	98	455.5	16.7	**0.0961**	0.006	6.2	ug/L	158	Standard
	Ag	107	165.7	13.0	**0.0038**	0.001	23.2	ug/L	133	Standard
	Cd	111	20.4	39.0	**0.0001**	0.002	3170.4	mg/L	7	Standard
	Cd	114	76.8	59.3	**0.0059**	0.004	65.0	ug/L	72	Standard
>	**In**	115	898677.4	17.6				ug/L	1004638	Standard
	Sn	118	242.0	14.6	**0.0515**	0.007	14.3	ug/L	364	Standard
	Sb	123	971.9	26.5	**0.0658**	0.052	78.5	ug/L	2464	Standard
	Ba	135	440183.9	17.2	**130.5223**	1.178	0.9	ug/L	39	Standard
	Ce	140	1068.4	14.8				ug/L	195	Standard
>	**Tb**	159	1478502.0	14.6				ug/L	1640193	Standard
	Ho	165	50.0	40.0				ug/L	25	Standard
	Tl	203	1981.5	11.5	**0.1441**	0.006	4.2	ug/L	324	Standard
	Tl	205	4649.1	12.3	**0.1331**	0.007	5.3	ug/L	698	Standard
	Pb	206	6808.2	16.6	**0.6366**	0.009	1.3	ug/L	600	Standard
	Pb	207	5447.0	15.1	**0.5693**	0.004	0.8	ug/L	541	Standard
	Pb	208	19326.9	15.7	**0.6173**	0.005	0.8	ug/L	1750	Standard
	U	238	1178.7	11.2	**0.1044**	0.005	4.5	ug/L	10	Standard
>	**Bi**	209	702712.4	15.3				ug/L	811518	Standard

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	Na	23	310.0	21.7	**49.7924**	8.193	16.5	mg/L	0	Standard
	Mg	24	1083.4	15.7	**24.7566**	4.403	17.8	mg/L	77	Standard
	K	39	1598.4	20.1	**9.2311**	1.398	15.1	mg/L	18	Standard
	Ca	43	296.7	4.2	**-29.1027**	6.410	22.0	mg/L	178	Standard
	Fe	54	175.6	18.3	**2.0102**	0.257	12.8	mg/L	29	Standard
	Fe	57	810.0	0.0	**20.6984**	4.429	21.4	mg/L	408	Standard
>	**Sc-1**	45	58514.0	13.0				mg/L	61425	Standard
	Cl	35	2.7	114.6				ug/L	1	Standard
	Kr	83	8.0	45.1				ug/L	12	Standard
	Br	81	9176.1	5.5				ug/L	1747	Standard
	P	31	21.7	35.3				ug/L	17	Standard
	S	34	3.3	86.6				ug/L	3	Standard
	Sr	88	416.7	17.2				ug/L	370	Standard
	C	12	93.3	30.9				mg/L	47	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	26.7	94.4				mg/L	17	Standard
	Dy	164	39.2	90.5				mg/L	9	Standard
	Ho-1	165	50.0	40.0				mg/L	25	Standard
	Er	166	86.7	24.0				mg/L	20	Standard
	I	127	218046.8	6.3				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		100.480	
	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		96.312	
	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	89.453
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	86.592
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	
Ba 135 Upper, S, EEE	Ba	135	

Approved: November 15, 2016

Method 6020 - Summary Report

Sample ID: L1611027206
Sample Date/Time: Friday, November 11, 2016 13:23:56
Number of Replicates: 3
Autosampler Position: 314
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	205239.9	20.8				ug/L	206101	Standard
	Be	9	476.7	26.8	**0.1843**	0.015	8.2	ug/L	25	Standard
	Al	27	46238384.5	14.1	**240.0550**	15.559	6.5	ug/L	1120	Standard
	Sc	45	63437.6	14.1				ug/L	61425	Standard
	Ti	47	27344.4	16.6	**62.1504**	1.394	2.2	ug/L	70	Standard
	V	51	92667.7	16.8	**8.7016**	0.170	1.9	ug/L	3309	Standard
	Cr	52	70095.1	16.8	**6.0424**	0.150	2.5	ug/L	13497	Standard
	Cr	53	9683.1	13.3	**5.7491**	0.429	7.5	ug/L	3162	Standard
	Mn	55	4375427.0	17.7	**289.2289**	5.649	2.0	ug/L	2226	Standard
	Co	59	34734.6	17.7	**2.8563**	0.023	0.8	ug/L	1003	Standard
	Ni	60	28735.6	20.0	**11.1050**	0.250	2.2	ug/L	355	Standard
	Cu	65	28134.3	18.0	**11.9521**	0.072	0.6	ug/L	473	Standard
	Zn	66	76252.3	17.4	**63.9278**	0.770	1.2	ug/L	341	Standard
>	**Ge**	72	550870.7	18.5				ug/L	566981	Standard
	As	75	7042.8	17.1	**5.9601**	0.084	1.4	ug/L	-156	Standard
	Se	82	106.4	16.0	**0.7499**	0.039	5.3	ug/L	35	Standard
	Se-1	77	448.0	7.1	**0.9644**	0.662	68.7	ug/L	354	Standard
>	**Ga**	71	5939.5	17.5				mg/L	43	Standard
	Rb	85	100140.0	19.7				ug/L	48	Standard
	Y	89	478277.7	17.6				ug/L	447702	Standard
>	**Rh**	103	165.0	34.4				ug/L	20	Standard
	Mo	98	18795.0	16.6	**4.2149**	0.057	1.3	ug/L	158	Standard
	Ag	107	494.7	14.8	**0.0371**	0.002	5.2	ug/L	133	Standard
	Cd	111	564.4	18.4	**0.1764**	0.014	7.7	mg/L	7	Standard
	Cd	114	1606.9	17.2	**0.1904**	0.011	5.8	ug/L	72	Standard
>	**In**	115	927285.4	17.8				ug/L	1004638	Standard
	Sn	118	616.0	20.8	**0.2425**	0.016	6.4	ug/L	364	Standard
	Sb	123	3694.7	10.1	**0.3912**	0.037	9.6	ug/L	2464	Standard
	Ba	135	890177.8	16.3	**256.1784**	4.040	1.6	ug/L	39	Standard
	Ce	140	332508.1	17.1				ug/L	195	Standard
>	**Tb**	159	1507280.9	15.0				ug/L	1640193	Standard
	Ho	165	7428.5	18.6				ug/L	25	Standard
	Tl	203	4966.8	12.3	**0.3680**	0.010	2.6	ug/L	324	Standard
	Tl	205	11816.3	15.5	**0.3330**	0.003	0.9	ug/L	698	Standard
	Pb	206	162990.2	14.8	**15.9406**	0.006	0.0	ug/L	600	Standard
	Pb	207	130619.5	16.3	**14.3294**	0.219	1.5	ug/L	541	Standard
	Pb	208	454014.9	15.7	**15.1374**	0.146	1.0	ug/L	1750	Standard
	U	238	8051.8	9.0	**0.6814**	0.040	5.8	ug/L	10	Standard
>	**Bi**	209	724473.0	14.8				ug/L	811518	Standard

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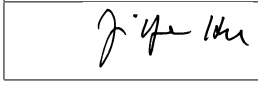

⌈	**Na**	23	385.0	6.0	**58.0466**	9.427	16.2	mg/L	0	Standard
|	**Mg**	24	561.7	15.2	**11.2971**	0.165	1.5	mg/L	77	Standard
|	**K**	39	1100.0	7.3	**5.8676**	0.415	7.1	mg/L	18	Standard
|	**Ca**	43	306.7	10.9	**-26.1494**	11.733	44.9	mg/L	178	Standard
|	**Fe**	54	835.7	14.1	**10.3528**	0.131	1.3	mg/L	29	Standard
|	**Fe**	57	911.7	9.2	**21.8015**	2.822	12.9	mg/L	408	Standard
⌊>	**Sc-1**	45	63437.6	14.1				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	14.0	14.3				ug/L	12	Standard
	Br	81	11264.2	7.4				ug/L	1747	Standard
	P	31	38.3	19.9				ug/L	17	Standard
	S	34	3.3	86.6				ug/L	3	Standard
	Sr	88	403.3	9.6				ug/L	370	Standard
	C	12	136.7	36.1				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	50.0	52.9				mg/L	17	Standard
	Dy	164	11384.2	13.9				mg/L	9	Standard
	Ho-1	165	7428.5	18.6				mg/L	25	Standard
	Er	166	6618.2	23.1				mg/L	20	Standard
	I	127	250706.4	4.4				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		99.582	
|	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		97.158	
|	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	92.300
|	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	89.274
⌈	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	
Ba 135 Upper, S, EEE	Ba	135	

Approved: November 15, 2016

Method 6020 - Summary Report

Sample ID: L1611027207
Sample Date/Time: Friday, November 11, 2016 13:27:01
Number of Replicates: 3
Autosampler Position: 315
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	206485.4	21.2				ug/L	206101	Standard
	Be	9	283.3	24.5	**0.1040**	0.028	26.8	ug/L	25	Standard
	Al	27	41609743.0	17.0	**214.2757**	11.217	5.2	ug/L	1120	Standard
	Sc	45	61963.3	14.8				ug/L	61425	Standard
	Ti	47	15494.4	16.1	**34.6817**	1.535	4.4	ug/L	70	Standard
	V	51	55399.2	17.3	**4.9949**	0.144	2.9	ug/L	3309	Standard
	Cr	52	47645.1	16.5	**3.5625**	0.186	5.2	ug/L	13497	Standard
	Cr	53	6381.4	14.0	**2.8328**	0.307	10.8	ug/L	3162	Standard
	Mn	55	3692530.5	17.5	**240.6569**	6.086	2.5	ug/L	2226	Standard
	Co	59	21992.3	18.4	**1.7574**	0.034	2.0	ug/L	1003	Standard
	Ni	60	18429.3	22.9	**6.9469**	0.270	3.9	ug/L	355	Standard
	Cu	65	15662.3	19.7	**6.4533**	0.057	0.9	ug/L	473	Standard
	Zn	66	50987.6	18.7	**41.9718**	0.524	1.2	ug/L	341	Standard
>	Ge	72	559625.8	19.6				ug/L	566981	Standard
	As	75	4693.8	20.9	**3.9342**	0.076	1.9	ug/L	-156	Standard
	Se	82	129.1	19.2	**0.9584**	0.109	11.4	ug/L	35	Standard
	Se-1	77	404.0	2.4	**0.3601**	0.907	251.9	ug/L	354	Standard
>	Ga	71	3275.4	23.0				mg/L	43	Standard
	Rb	85	62277.8	20.1				ug/L	48	Standard
	Y	89	450134.0	16.9				ug/L	447702	Standard
>	Rh	103	138.3	8.3				ug/L	20	Standard
	Mo	98	14090.7	17.0	**3.1401**	0.095	3.0	ug/L	158	Standard
	Ag	107	338.0	11.6	**0.0210**	0.003	14.1	ug/L	133	Standard
	Cd	111	332.8	24.2	**0.0996**	0.008	8.1	mg/L	7	Standard
	Cd	114	871.7	24.4	**0.1003**	0.006	5.9	ug/L	72	Standard
>	In	115	934600.7	19.9				ug/L	1004638	Standard
	Sn	118	496.3	17.9	**0.1794**	0.013	7.3	ug/L	364	Standard
	Sb	123	2586.1	8.3	**0.2546**	0.037	14.4	ug/L	2464	Standard
	Ba	135	785451.3	17.0	**224.7441**	6.581	2.9	ug/L	39	Standard
	Ce	140	176268.5	16.1				ug/L	195	Standard
>	Tb	159	1501547.8	17.0				ug/L	1640193	Standard
	Ho	165	4007.2	14.9				ug/L	25	Standard
	Tl	203	3374.7	16.0	**0.2419**	0.004	1.8	ug/L	324	Standard
	Tl	205	8048.8	15.2	**0.2227**	0.008	3.7	ug/L	698	Standard
	Pb	206	88687.0	16.8	**8.5251**	0.101	1.2	ug/L	600	Standard
	Pb	207	70386.5	17.8	**7.5904**	0.035	0.5	ug/L	541	Standard
	Pb	208	247187.8	16.5	**8.1108**	0.094	1.2	ug/L	1750	Standard
	U	238	5197.6	12.2	**0.4342**	0.023	5.2	ug/L	10	Standard
>	Bi	209	735571.4	17.5				ug/L	811518	Standard

Sample ID: L1611027207
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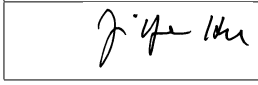

	Na	23	358.3	25.0	**53.9709**	6.880	12.7	mg/L	0	Standard
	Mg	24	578.3	12.4	**12.0004**	0.535	4.5	mg/L	77	Standard
	K	39	1021.7	10.3	**5.5776**	0.575	10.3	mg/L	18	Standard
	Ca	43	308.3	9.9	**-27.5781**	3.854	14.0	mg/L	178	Standard
	Fe	54	597.3	17.0	**7.4513**	0.473	6.4	mg/L	29	Standard
	Fe	57	918.4	5.5	**23.1187**	4.665	20.2	mg/L	408	Standard
>	**Sc-1**	45	61963.3	14.8				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	8.7	17.6				ug/L	12	Standard
	Br	81	12481.8	4.1				ug/L	1747	Standard
	P	31	45.0	11.1				ug/L	17	Standard
	S	34	8.3	34.6				ug/L	3	Standard
	Sr	88	395.0	3.3				ug/L	370	Standard
	C	12	120.0	58.3				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	50.0	20.0				mg/L	17	Standard
	Dy	164	6000.5	16.8				mg/L	9	Standard
	Ho-1	165	4007.2	14.9				mg/L	25	Standard
	Er	166	3633.8	10.7				mg/L	20	Standard
	I	127	234660.8	8.0				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		100.186	
	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		98.703	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			

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Rb	85	
Y	89	
Rh	103	
Mo	98	
Ag	107	
Cd	111	
Cd	114	
In	115	93.029
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	90.641
Na	23	
Mg	24	
K	39	
Ca	43	
Fe	54	
Fe	57	
Sc-1	45	
Cl	35	
Kr	83	
Br	81	
P	31	
S	34	
Sr	88	
C	12	
N	14	
Hg	202	
Dy	164	
Ho-1	165	
Er	166	
I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1611027207
Report Date/Time: Friday, November 11, 2016 13:29:12
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Approved: November 15, 2016

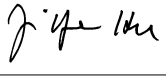
Method 6020 - Summary Report

Sample ID: L1611027208
Sample Date/Time: Friday, November 11, 2016 13:30:07
Number of Replicates: 3
Autosampler Position: 316
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	199967.0	19.0				ug/L	206101	Standard
	Be	9	170.0	19.3	**0.0568**	0.013	23.4	ug/L	25	Standard
	Al	27	29526898.2	14.4	**156.8174**	7.177	4.6	ug/L	1120	Standard
	Sc	45	59078.1	14.1				ug/L	61425	Standard
	Ti	47	6848.6	17.8	**15.2698**	0.381	2.5	ug/L	70	Standard
	V	51	28773.0	16.6	**2.4538**	0.055	2.3	ug/L	3309	Standard
	Cr	52	37963.4	17.2	**2.5485**	0.061	2.4	ug/L	13497	Standard
	Cr	53	5234.3	15.5	**1.8697**	0.234	12.5	ug/L	3162	Standard
	Mn	55	2563977.9	28.9	**165.5247**	24.291	14.7	ug/L	2226	Standard
	Co	59	13104.8	18.0	**1.0263**	0.006	0.6	ug/L	1003	Standard
	Ni	60	15837.5	22.1	**5.9846**	0.279	4.7	ug/L	355	Standard
	Cu	65	9376.7	20.8	**3.7945**	0.108	2.9	ug/L	473	Standard
	Zn	66	61737.0	18.3	**51.1063**	0.832	1.6	ug/L	341	Standard
>	Ge	72	556342.8	18.0				ug/L	566981	Standard
	As	75	1819.5	24.7	**1.5915**	0.136	8.6	ug/L	-156	Standard
	Se	82	140.3	16.7	**1.0771**	0.069	6.4	ug/L	35	Standard
	Se-1	77	402.0	5.7	**0.3459**	0.846	244.6	ug/L	354	Standard
>	Ga	71	1578.4	17.5				mg/L	43	Standard
	Rb	85	42398.0	22.9				ug/L	48	Standard
	Y	89	426249.7	18.2				ug/L	447702	Standard
>	Rh	103	110.0	19.8				ug/L	20	Standard
	Mo	98	6437.1	20.3	**1.4365**	0.034	2.4	ug/L	158	Standard
	Ag	107	236.7	14.4	**0.0107**	0.002	18.6	ug/L	133	Standard
	Cd	111	416.0	17.3	**0.1287**	0.007	5.6	mg/L	7	Standard
	Cd	114	1091.5	22.8	**0.1279**	0.007	5.6	ug/L	72	Standard
>	In	115	923881.3	18.0				ug/L	1004638	Standard
	Sn	118	628.7	20.3	**0.2502**	0.008	3.2	ug/L	364	Standard
	Sb	123	1543.0	7.7	**0.1284**	0.019	15.0	ug/L	2464	Standard
	Ba	135	202610.8	18.4	**58.3879**	0.286	0.5	ug/L	39	Standard
	Ce	140	76149.8	17.6				ug/L	195	Standard
>	Tb	159	1491215.4	16.2				ug/L	1640193	Standard
	Ho	165	1586.8	15.5				ug/L	25	Standard
	Tl	203	2139.8	11.6	**0.1500**	0.008	5.6	ug/L	324	Standard
	Tl	205	4965.8	13.0	**0.1366**	0.005	3.9	ug/L	698	Standard
	Pb	206	58833.4	17.8	**5.6522**	0.057	1.0	ug/L	600	Standard
	Pb	207	47411.0	18.3	**5.1115**	0.075	1.5	ug/L	541	Standard
	Pb	208	164215.7	16.9	**5.3878**	0.008	0.1	ug/L	1750	Standard
	U	238	4208.3	11.5	**0.3533**	0.018	5.2	ug/L	10	Standard
>	Bi	209	732491.3	16.8				ug/L	811518	Standard

Approved: November 15, 2016



⌈	**Na**	23	216.7	29.0	**34.4875**	9.062	26.3	mg/L	0	Standard
|	**Mg**	24	488.3	6.0	**10.6571**	1.864	17.5	mg/L	77	Standard
|	**K**	39	1301.7	24.8	**7.3635**	0.962	13.1	mg/L	18	Standard
|	**Ca**	43	271.7	15.0	**-22.8402**	14.528	63.6	mg/L	178	Standard
|	**Fe**	54	1017.4	34.2	**13.4314**	3.418	25.4	mg/L	29	Standard
|	**Fe**	57	835.0	8.5	**21.4189**	5.020	23.4	mg/L	408	Standard
⌊>	**Sc-1**	45	59078.1	14.1				mg/L	61425	Standard
	Cl	35	1.3	173.2				ug/L	1	Standard
	Kr	83	8.0	21.7				ug/L	12	Standard
	Br	81	18631.5	6.5				ug/L	1747	Standard
	P	31	15.0	57.7				ug/L	17	Standard
	S	34	1.7	173.2				ug/L	3	Standard
	Sr	88	435.0	2.3				ug/L	370	Standard
	C	12	126.7	32.9				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	26.7	43.3				mg/L	17	Standard
	Dy	164	2407.7	20.2				mg/L	9	Standard
	Ho-1	165	1586.8	15.5				mg/L	25	Standard
	Er	166	1443.4	11.3				mg/L	20	Standard
	I	127	114317.0	11.9				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		97.024	
|	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		98.124	
|	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	91.962
|	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	90.262
⌈	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	

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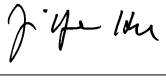

Method 6020 - Summary Report

Sample ID: L1611027209
Sample Date/Time: Friday, November 11, 2016 13:33:11
Number of Replicates: 3
Autosampler Position: 317
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	209154.9	20.5				ug/L	206101	Standard
	Be	9	31.7	39.7	**-0.0057**	0.004	67.9	ug/L	25	Standard
	Al	27	27336355.2	14.0	**139.1999**	8.699	6.2	ug/L	1120	Standard
	Sc	45	59151.6	13.4				ug/L	61425	Standard
	Ti	47	808.4	28.0	**1.6095**	0.159	9.9	ug/L	70	Standard
	V	51	5625.9	12.9	**0.2142**	0.034	15.7	ug/L	3309	Standard
	Cr	52	21147.6	14.7	**0.7173**	0.099	13.8	ug/L	13497	Standard
	Cr	53	2937.0	9.9	**-0.1134**	0.312	275.4	ug/L	3162	Standard
	Mn	55	1918686.2	32.8	**120.3309**	16.444	13.7	ug/L	2226	Standard
	Co	59	5234.6	19.6	**0.3607**	0.003	0.8	ug/L	1003	Standard
	Ni	60	9053.1	22.0	**3.2842**	0.128	3.9	ug/L	355	Standard
	Cu	65	1706.1	22.5	**0.5078**	0.028	5.4	ug/L	473	Standard
	Zn	66	8477.8	17.5	**6.6074**	0.108	1.6	ug/L	341	Standard
>	Ge	72	570623.0	19.1				ug/L	566981	Standard
	As	75	655.7	19.0	**0.6296**	0.014	2.3	ug/L	-156	Standard
	Se	82	105.1	14.1	**0.7056**	0.107	15.2	ug/L	35	Standard
	Se-1	77	379.0	5.8	**-0.0813**	0.632	777.5	ug/L	354	Standard
>	Ga	71	185.0	30.5				mg/L	43	Standard
	Rb	85	21619.2	21.1				ug/L	48	Standard
	Y	89	427339.9	20.1				ug/L	447702	Standard
>	Rh	103	128.3	2.2				ug/L	20	Standard
	Mo	98	4561.8	17.6	**0.9888**	0.025	2.6	ug/L	158	Standard
	Ag	107	154.3	3.3	**0.0019**	0.003	146.7	ug/L	133	Standard
	Cd	111	64.4	19.8	**0.0136**	0.002	12.2	mg/L	7	Standard
	Cd	114	182.8	25.4	**0.0180**	0.001	7.1	ug/L	72	Standard
>	In	115	953129.1	19.4				ug/L	1004638	Standard
	Sn	118	267.0	17.2	**0.0568**	0.006	11.3	ug/L	364	Standard
	Sb	123	819.6	2.0	**0.0372**	0.018	49.2	ug/L	2464	Standard
	Ba	135	183389.8	17.5	**51.3817**	1.100	2.1	ug/L	39	Standard
	Ce	140	6479.7	18.3				ug/L	195	Standard
>	Tb	159	1506097.4	16.0				ug/L	1640193	Standard
	Ho	165	145.0	36.5				ug/L	25	Standard
	Tl	203	1780.8	10.4	**0.1193**	0.009	7.4	ug/L	324	Standard
	Tl	205	4108.9	11.6	**0.1093**	0.006	5.6	ug/L	698	Standard
	Pb	206	6161.3	19.4	**0.5288**	0.015	2.8	ug/L	600	Standard
	Pb	207	4982.5	15.1	**0.4796**	0.010	2.1	ug/L	541	Standard
	Pb	208	17266.2	16.3	**0.5070**	0.004	0.9	ug/L	1750	Standard
	U	238	2532.5	8.0	**0.2085**	0.018	8.9	ug/L	10	Standard
>	Bi	209	753009.5	17.0				ug/L	811518	Standard

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⌈	**Na**	23	261.7	20.6	**41.4673**	4.654	11.2	mg/L	0	Standard
|	**Mg**	24	530.0	2.5	**11.6272**	1.963	16.9	mg/L	77	Standard
|	**K**	39	1081.7	7.1	**6.2023**	0.663	10.7	mg/L	18	Standard
|	**Ca**	43	228.3	17.7	**-12.1831**	11.610	95.3	mg/L	178	Standard
|	**Fe**	54	840.9	21.5	**11.1349**	1.398	12.6	mg/L	29	Standard
|	**Fe**	57	873.4	2.6	**22.8895**	3.871	16.9	mg/L	408	Standard
⌊>	**Sc-1**	45	59151.6	13.4				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	7.3	47.9				ug/L	12	Standard
	Br	81	13896.4	6.5				ug/L	1747	Standard
	P	31	26.7	10.8				ug/L	17	Standard
	S	34	3.3	173.2				ug/L	3	Standard
	Sr	88	348.3	3.0				ug/L	370	Standard
	C	12	96.7	67.3				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	10.0	100.0				mg/L	17	Standard
	Dy	164	217.6	42.2				mg/L	9	Standard
	Ho-1	165	145.0	36.5				mg/L	25	Standard
	Er	166	190.0	27.9				mg/L	20	Standard
	I	127	112713.8	9.9				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		101.482	
|	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		100.642	
|	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	94.873
|	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	92.790
⌈	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	

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Method 6020 - Summary Report

Sample ID: L1611027213
Sample Date/Time: Friday, November 11, 2016 13:36:16
Number of Replicates: 3
Autosampler Position: 318
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	208756.4	19.2				ug/L	206101	Standard
	Be	9	181.7	17.7	**0.0582**	0.007	12.8	ug/L	25	Standard
	Al	27	195873747.9	13.8	**997.5369**	52.933	5.3	ug/L	1120	Standard
	Sc	45	61634.9	13.1				ug/L	61425	Standard
	Ti	47	10590.8	15.2	**24.3264**	0.650	2.7	ug/L	70	Standard
	V	51	40299.4	15.5	**3.6600**	0.109	3.0	ug/L	3309	Standard
	Cr	52	52889.5	15.1	**4.2785**	0.189	4.4	ug/L	13497	Standard
	Cr	53	7336.8	12.4	**3.8188**	0.363	9.5	ug/L	3162	Standard
	Mn	55	6678443.8	16.3	**447.8412**	9.700	2.2	ug/L	2226	Standard
	Co	59	18976.8	19.2	**1.5491**	0.034	2.2	ug/L	1003	Standard
	Ni	60	20093.8	24.0	**7.7910**	0.512	6.6	ug/L	355	Standard
	Cu	65	16043.7	19.5	**6.8049**	0.107	1.6	ug/L	473	Standard
	Zn	66	39041.2	16.9	**33.0277**	0.359	1.1	ug/L	341	Standard
>	**Ge**	72	543600.3	18.0				ug/L	566981	Standard
	As	75	5513.3	18.0	**4.7411**	0.069	1.5	ug/L	-156	Standard
	Se	82	124.5	27.0	**0.9331**	0.121	13.0	ug/L	35	Standard
	Se-1	77	453.0	4.2	**1.1293**	0.921	81.6	ug/L	354	Standard
>	**Ga**	71	1790.1	13.0				mg/L	43	Standard
	Rb	85	44976.6	18.9				ug/L	48	Standard
	Y	89	447367.5	17.0				ug/L	447702	Standard
>	**Rh**	103	350.0	30.7				ug/L	20	Standard
	Mo	98	14034.6	16.4	**3.1848**	0.048	1.5	ug/L	158	Standard
	Ag	107	285.0	9.9	**0.0161**	0.002	14.4	ug/L	133	Standard
	Cd	111	330.9	9.0	**0.1029**	0.009	9.1	mg/L	7	Standard
	Cd	114	933.8	23.0	**0.1099**	0.007	5.9	ug/L	72	Standard
>	**In**	115	915572.6	17.6				ug/L	1004638	Standard
	Sn	118	542.7	15.5	**0.2091**	0.007	3.2	ug/L	364	Standard
	Sb	123	2112.0	10.6	**0.2000**	0.019	9.4	ug/L	2464	Standard
	Ba	135	627334.6	16.8	**182.7028**	2.214	1.2	ug/L	39	Standard
	Ce	140	134776.0	16.6				ug/L	195	Standard
>	**Tb**	159	1457396.9	15.3				ug/L	1640193	Standard
	Ho	165	3328.7	15.6				ug/L	25	Standard
	Tl	203	2589.6	9.6	**0.1915**	0.013	6.6	ug/L	324	Standard
	Tl	205	6391.4	14.5	**0.1831**	0.008	4.1	ug/L	698	Standard
	Pb	206	58412.0	16.2	**5.8205**	0.147	2.5	ug/L	600	Standard
	Pb	207	47043.6	16.6	**5.2601**	0.078	1.5	ug/L	541	Standard
	Pb	208	165668.1	15.3	**5.6366**	0.036	0.6	ug/L	1750	Standard
	U	238	11778.3	9.1	**1.0215**	0.063	6.2	ug/L	10	Standard
>	**Bi**	209	706670.4	15.2				ug/L	811518	Standard

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⌈	**Na**	23	645.0	27.0	**97.5627**	17.494	17.9	mg/L	0	Standard
|	**Mg**	24	913.4	15.0	**19.4699**	1.019	5.2	mg/L	77	Standard
|	**K**	39	2248.5	16.9	**12.3436**	0.535	4.3	mg/L	18	Standard
|	**Ca**	43	520.0	3.8	**-77.6155**	20.266	26.1	mg/L	178	Standard
|	**Fe**	54	654.0	24.8	**8.1756**	1.062	13.0	mg/L	29	Standard
|	**Fe**	57	1208.4	4.4	**34.8071**	6.480	18.6	mg/L	408	Standard
⌊>	**Sc-1**	45	61634.9	13.1				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	9.0	29.4				ug/L	12	Standard
	Br	81	10623.7	7.0				ug/L	1747	Standard
	P	31	36.7	39.4				ug/L	17	Standard
	S	34	5.0	173.2				ug/L	3	Standard
	Sr	88	396.7	12.8				ug/L	370	Standard
	C	12	160.0	10.8				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	16.7	91.7				mg/L	17	Standard
	Dy	164	4949.0	16.5				mg/L	9	Standard
	Ho-1	165	3328.7	15.6				mg/L	25	Standard
	Er	166	3240.4	18.7				mg/L	20	Standard
	I	127	419069.7	5.2				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		101.288	
|	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		95.876	
|	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	91.135
|	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	87.080
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	
Ba 135 Upper, S, EEE	Ba	135	

Approved: November 15, 2016

Method 6020 - Summary Report

Sample ID: L1611027214
Sample Date/Time: Friday, November 11, 2016 13:39:22
Number of Replicates: 3
Autosampler Position: 319
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	210736.7	19.9				ug/L	206101	Standard
	Be	9	31.7	18.2	**-0.0050**	0.005	95.9	ug/L	25	Standard
	Al	27	188275779.9	13.9	**951.1179**	58.169	6.1	ug/L	1120	Standard
	Sc	45	60663.0	14.8				ug/L	61425	Standard
	Ti	47	453.0	18.8	**0.8999**	0.020	2.3	ug/L	70	Standard
	V	51	8350.4	12.4	**0.5133**	0.061	11.9	ug/L	3309	Standard
	Cr	52	23004.7	13.2	**1.0396**	0.162	15.6	ug/L	13497	Standard
	Cr	53	3807.1	10.2	**0.7707**	0.335	43.4	ug/L	3162	Standard
	Mn	55	5541103.0	16.9	**372.6263**	10.056	2.7	ug/L	2226	Standard
	Co	59	3609.8	18.7	**0.2446**	0.003	1.1	ug/L	1003	Standard
	Ni	60	10208.9	26.3	**3.8952**	0.273	7.0	ug/L	355	Standard
	Cu	65	2346.5	19.8	**0.8275**	0.002	0.2	ug/L	473	Standard
	Zn	66	6401.4	19.1	**5.1771**	0.055	1.1	ug/L	341	Standard
>	**Ge**	72	542932.4	19.6				ug/L	566981	Standard
	As	75	2137.2	21.5	**1.9017**	0.075	3.9	ug/L	-156	Standard
	Se	82	115.6	12.9	**0.8679**	0.108	12.5	ug/L	35	Standard
	Se-1	77	409.7	9.3	**0.5437**	0.556	102.2	ug/L	354	Standard
>	**Ga**	71	88.3	25.5				mg/L	43	Standard
	Rb	85	25346.6	16.5				ug/L	48	Standard
	Y	89	418217.3	15.4				ug/L	447702	Standard
>	**Rh**	103	431.7	27.4				ug/L	20	Standard
	Mo	98	7295.0	16.0	**1.6545**	0.029	1.8	ug/L	158	Standard
	Ag	107	178.7	14.8	**0.0048**	0.001	15.6	ug/L	133	Standard
	Cd	111	14.9	13.9	**-0.0017**	0.001	68.6	mg/L	7	Standard
	Cd	114	74.0	17.0	**0.0059**	0.001	9.3	ug/L	72	Standard
>	**In**	115	913489.7	17.1				ug/L	1004638	Standard
	Sn	118	222.7	15.8	**0.0389**	0.010	26.3	ug/L	364	Standard
	Sb	123	640.5	0.4	**0.0185**	0.014	74.3	ug/L	2464	Standard
	Ba	135	578320.7	16.1	**168.8613**	2.550	1.5	ug/L	39	Standard
	Ce	140	2613.6	16.8				ug/L	195	Standard
>	**Tb**	159	1463823.2	14.8				ug/L	1640193	Standard
	Ho	165	183.3	18.2				ug/L	25	Standard
	Tl	203	1595.4	12.2	**0.1134**	0.005	4.3	ug/L	324	Standard
	Tl	205	3637.1	6.6	**0.1037**	0.011	10.3	ug/L	698	Standard
	Pb	206	1073.0	13.2	**0.0576**	0.004	7.6	ug/L	600	Standard
	Pb	207	907.0	16.2	**0.0529**	0.003	4.9	ug/L	541	Standard
	Pb	208	3175.8	17.2	**0.0597**	0.002	2.8	ug/L	1750	Standard
	U	238	8536.8	11.3	**0.7430**	0.036	4.8	ug/L	10	Standard
>	**Bi**	209	703817.2	16.1				ug/L	811518	Standard

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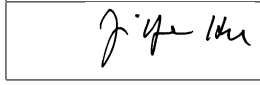

	Na	23	576.7	20.2	**89.7400**	12.701	14.2	mg/L	0	Standard
	Mg	24	910.0	4.5	**19.9699**	2.242	11.2	mg/L	77	Standard
	K	39	2045.1	10.3	**11.4961**	0.641	5.6	mg/L	18	Standard
	Ca	43	436.7	13.4	**-60.2003**	21.101	35.1	mg/L	178	Standard
	Fe	54	402.3	13.3	**5.0216**	0.572	11.4	mg/L	29	Standard
	Fe	57	1201.7	14.4	**35.2719**	8.383	23.8	mg/L	408	Standard
>	**Sc-1**	45	60663.0	14.8				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	7.3	34.3				ug/L	12	Standard
	Br	81	12224.9	0.9				ug/L	1747	Standard
	P	31	30.0	33.3				ug/L	17	Standard
	S	34	3.3	86.6				ug/L	3	Standard
	Sr	88	455.0	2.9				ug/L	370	Standard
	C	12	203.3	49.3				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	17	Standard
	Dy	164	180.9	21.5				mg/L	9	Standard
	Ho-1	165	183.3	18.2				mg/L	25	Standard
	Er	166	190.0	13.9				mg/L	20	Standard
	I	127	421464.6	5.5				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		102.249	
	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		95.758	
	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	90.927
|	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	86.728
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	
Ba 135 Upper, S, EEE	Ba	135	

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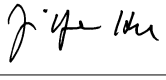

Method 6020 - Summary Report

Sample ID: L1611037002
Sample Date/Time: Friday, November 11, 2016 13:42:27
Number of Replicates: 3
Autosampler Position: 320
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	217589.1	20.1				ug/L	206101	Standard
	Be	9	50.0	20.0	**0.0025**	0.008	338.9	ug/L	25	Standard
	Al	27	37149723.0	15.4	**181.4546**	8.724	4.8	ug/L	1120	Standard
	Sc	45	61123.0	14.2				ug/L	61425	Standard
	Ti	47	1707.8	20.4	**3.6746**	0.339	9.2	ug/L	70	Standard
	V	51	7684.0	13.9	**0.4218**	0.021	5.0	ug/L	3309	Standard
	Cr	52	50529.3	14.8	**3.8752**	0.121	3.1	ug/L	13497	Standard
	Cr	53	7897.1	9.2	**4.1447**	0.515	12.4	ug/L	3162	Standard
	Mn	55	36782.0	18.7	**2.2582**	0.057	2.5	ug/L	2226	Standard
	Co	59	3436.7	20.1	**0.2207**	0.012	5.6	ug/L	1003	Standard
	Ni	60	10011.8	22.5	**3.7218**	0.229	6.2	ug/L	355	Standard
	Cu	65	3063.0	16.7	**1.1060**	0.031	2.8	ug/L	473	Standard
	Zn	66	2830.3	17.4	**2.0591**	0.032	1.6	ug/L	341	Standard
>	Ge	72	557855.0	16.7				ug/L	566981	Standard
	As	75	63.0	112.6	**0.1572**	0.058	36.6	ug/L	-156	Standard
	Se	82	113.7	15.2	**0.8075**	0.018	2.2	ug/L	35	Standard
	Se-1	77	529.7	3.2	**1.9412**	0.928	47.8	ug/L	354	Standard
>	Ga	71	295.0	6.1				mg/L	43	Standard
	Rb	85	22675.6	17.9				ug/L	48	Standard
	Y	89	423266.8	17.1				ug/L	447702	Standard
>	Rh	103	353.3	32.8				ug/L	20	Standard
	Mo	98	4003.2	18.7	**0.8793**	0.040	4.5	ug/L	158	Standard
	Ag	107	789.0	16.5	**0.0665**	0.002	3.7	ug/L	133	Standard
	Cd	111	20.5	26.8	**-0.0002**	0.001	491.0	mg/L	7	Standard
	Cd	114	84.2	26.8	**0.0069**	0.002	31.1	ug/L	72	Standard
>	In	115	934421.1	15.1				ug/L	1004638	Standard
	Sn	118	216.3	10.4	**0.0331**	0.005	16.5	ug/L	364	Standard
	Sb	123	399.7	15.4	**-0.0124**	0.015	119.4	ug/L	2464	Standard
	Ba	135	35031.2	16.6	**9.9677**	0.305	3.1	ug/L	39	Standard
	Ce	140	9743.2	14.5				ug/L	195	Standard
>	Tb	159	1491617.5	14.0				ug/L	1640193	Standard
	Ho	165	230.0	24.7				ug/L	25	Standard
	Tl	203	1829.8	12.7	**0.1263**	0.004	2.9	ug/L	324	Standard
	Tl	205	4223.9	10.6	**0.1158**	0.005	4.6	ug/L	698	Standard
	Pb	206	1724.8	15.4	**0.1165**	0.002	1.8	ug/L	600	Standard
	Pb	207	1440.1	16.3	**0.1072**	0.003	3.0	ug/L	541	Standard
	Pb	208	4967.7	12.8	**0.1156**	0.003	2.7	ug/L	1750	Standard
	U	238	59539.0	10.9	**4.9727**	0.163	3.3	ug/L	10	Standard
>	Bi	209	730260.4	14.2				ug/L	811518	Standard

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	Na	23	336.7	6.0	**52.3101**	4.302	8.2	mg/L	0	Standard
	Mg	24	1128.4	3.6	**24.7848**	3.147	12.7	mg/L	77	Standard
	K	39	223.3	9.3	**1.1528**	0.187	16.2	mg/L	18	Standard
	Ca	43	275.0	8.3	**-20.8900**	4.100	19.6	mg/L	178	Standard
	Fe	54	44.2	11.5	**0.1512**	0.016	10.6	mg/L	29	Standard
	Fe	57	750.0	16.0	**16.6828**	4.615	27.7	mg/L	408	Standard
>	**Sc-1**	45	61123.0	14.2				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	11.7	21.6				ug/L	12	Standard
	Br	81	5040.8	5.1				ug/L	1747	Standard
	P	31	46.7	71.3				ug/L	17	Standard
	S	34	6.7	43.3				ug/L	3	Standard
	Sr	88	461.7	15.8				ug/L	370	Standard
	C	12	73.3	51.6				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	17	Standard
	Dy	164	419.1	25.6				mg/L	9	Standard
	Ho-1	165	230.0	24.7				mg/L	25	Standard
	Er	166	226.7	21.8				mg/L	20	Standard
	I	127	52731.4	28.2				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		105.574	
	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		98.390	
	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	93.011
|	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	89.987
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	

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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, November 11, 2016 13:45:34
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	215281.2	23.0				ug/L	206101	Standard
	Be	9	116454.5	20.2	**47.9477**	1.857	3.9	ug/L	25	Standard
	Al	27	9654159.6	15.8	**47.8858**	3.571	7.5	ug/L	1120	Standard
	Sc	45	58902.7	15.3				ug/L	61425	Standard
	Ti	47	45417.5	16.4	**99.5858**	2.348	2.4	ug/L	70	Standard
	V	51	548231.6	17.2	**51.0754**	0.908	1.8	ug/L	3309	Standard
	Cr	52	503950.5	16.9	**50.6417**	1.190	2.3	ug/L	13497	Standard
	Cr	53	63026.4	16.1	**49.4170**	1.190	2.4	ug/L	3162	Standard
	Mn	55	801438.2	17.6	**50.9534**	0.466	0.9	ug/L	2226	Standard
	Co	59	627651.0	18.2	**50.7569**	0.089	0.2	ug/L	1003	Standard
	Ni	60	135109.0	18.6	**50.8599**	0.591	1.2	ug/L	355	Standard
	Cu	65	123314.1	18.3	**51.1102**	0.473	0.9	ug/L	473	Standard
	Zn	66	63252.2	18.0	**51.0151**	0.439	0.9	ug/L	341	Standard
>	Ge	72	571289.8	18.1				ug/L	566981	Standard
	As	75	61496.7	17.9	**49.3383**	0.230	0.5	ug/L	-156	Standard
	Se	82	5197.2	18.6	**50.0373**	0.446	0.9	ug/L	35	Standard
	Se-1	77	4397.3	20.3	**48.9985**	1.121	2.3	ug/L	354	Standard
>	Ga	71	95.0	29.3				mg/L	43	Standard
	Rb	85	590.0	13.6				ug/L	48	Standard
	Y	89	436087.2	18.3				ug/L	447702	Standard
>	Rh	103	51.7	11.2				ug/L	20	Standard
	Mo	98	471337.4	17.7	**101.1089**	0.925	0.9	ug/L	158	Standard
	Ag	107	523936.1	16.8	**51.5053**	0.953	1.9	ug/L	133	Standard
	Cd	111	165837.0	18.5	**51.2892**	0.057	0.1	mg/L	7	Standard
	Cd	114	435320.1	19.9	**49.8945**	0.627	1.3	ug/L	72	Standard
>	In	115	971167.1	18.6				ug/L	1004638	Standard
	Sn	118	98115.3	19.1	**49.0684**	0.265	0.5	ug/L	364	Standard
	Sb	123	428569.0	18.9	**49.6432**	0.802	1.6	ug/L	2464	Standard
	Ba	135	172399.1	17.7	**47.3263**	0.451	1.0	ug/L	39	Standard
	Ce	140	171.7	10.2				ug/L	195	Standard
>	Tb	159	1525128.4	16.3				ug/L	1640193	Standard
	Ho	165	71.7	31.5				ug/L	25	Standard
	Tl	203	692007.8	16.6	**50.1754**	0.184	0.4	ug/L	324	Standard
	Tl	205	1620089.0	15.7	**43.9503**	0.453	1.0	ug/L	698	Standard
	Pb	206	534312.9	16.8	**49.6627**	0.294	0.6	ug/L	600	Standard
	Pb	207	478601.8	17.3	**49.9679**	0.509	1.0	ug/L	541	Standard
	Pb	208	1586476.4	16.6	**50.3390**	0.092	0.2	ug/L	1750	Standard
	U	238	652290.9	11.0	**52.2204**	2.725	5.2	ug/L	10	Standard
>	Bi	209	763612.6	16.5				ug/L	811518	Standard

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⌈	**Na**	23	30.0	16.7	**4.9058**	1.329	27.1	mg/L	0	Standard
|	**Mg**	24	246.7	16.3	**4.9479**	1.000	20.2	mg/L	77	Standard
|	**K**	39	815.0	21.6	**4.5989**	0.327	7.1	mg/L	18	Standard
|	**Ca**	43	111.7	20.7	**15.1411**	8.987	59.4	mg/L	178	Standard
|	**Fe**	54	362.3	12.2	**4.6152**	0.218	4.7	mg/L	29	Standard
|	**Fe**	57	551.7	14.7	**9.5074**	0.902	9.5	mg/L	408	Standard
⌊>	**Sc-1**	45	58902.7	15.3				mg/L	61425	Standard
	Cl	35	1.3	86.6				ug/L	1	Standard
	Kr	83	7.3	20.8				ug/L	12	Standard
	Br	81	1820.1	21.2				ug/L	1747	Standard
	P	31	40.0	25.0				ug/L	17	Standard
	S	34	3.3	173.2				ug/L	3	Standard
	Sr	88	405.0	8.1				ug/L	370	Standard
	C	12	66.7	69.3				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	17	Standard
	Dy	164	44.9	11.9				mg/L	9	Standard
	Ho-1	165	71.7	31.5				mg/L	25	Standard
	Er	166	36.7	103.3				mg/L	20	Standard
	I	127	5199.3	28.6				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6			
|	Be	9	95.895		
⌊	Al	27	95.772		
⌈	Sc	45			
|	Ti	47	99.586		
|	V	51	102.151		
|	Cr	52	101.283		
|	Cr	53			
|	Mn	55	101.907		
|	Co	59	101.514		
|	Ni	60	101.720		
|	Cu	65	102.220		
|	Zn	66	102.030		
|>	Ge	72		100.760	
|	As	75	98.677		
|	Se	82	100.075		
⌊	Se-1	77			
⌈>	Ga	71			

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Rb	85			
Y	89			
Rh	103			
Mo	98	101.109		
Ag	107	103.011		
Cd	111	102.578		
Cd	114			
In	115			96.668
Sn	118	98.137		
Sb	123	99.286		
Ba	135	94.653		
Ce	140			
Tb	159			
Ho	165			
Tl	203	100.351		
Tl	205			
Pb	206			
Pb	207			
Pb	208	100.678		
U	238	104.441		
Bi	209			94.097
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

Sample ID: QC Std 6
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Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, November 11, 2016 13:48:40
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	185504.8	27.1				ug/L	206101	Standard
	Be	9	31.7	45.6	**-0.0042**	0.005	123.2	ug/L	25	Standard
	Al	27	14693.9	60.8	**0.0916**	0.054	58.7	ug/L	1120	Standard
	Sc	45	51493.3	21.1				ug/L	61425	Standard
	Ti	47	43.7	20.8	**-0.0313**	0.043	138.1	ug/L	70	Standard
	V	51	2591.6	12.8	**-0.0376**	0.041	109.7	ug/L	3309	Standard
	Cr	52	10421.3	11.4	**-0.2396**	0.179	74.6	ug/L	13497	Standard
	Cr	53	1498.4	5.4	**-1.1304**	0.295	26.1	ug/L	3162	Standard
	Mn	55	2261.5	15.7	**0.0284**	0.020	70.1	ug/L	2226	Standard
	Co	59	551.0	12.4	**-0.0119**	0.008	65.1	ug/L	1003	Standard
	Ni	60	344.0	7.8	**0.0255**	0.027	106.0	ug/L	355	Standard
	Cu	65	408.0	24.0	**-0.0082**	0.014	164.6	ug/L	473	Standard
	Zn	66	317.3	29.7	**-0.0025**	0.015	575.4	ug/L	341	Standard
>	Ge	72	507699.7	26.1				ug/L	566981	Standard
	As	75	-151.5	4.5	**-0.0374**	0.031	81.7	ug/L	-156	Standard
	Se	82	20.9	15.9	**-0.0907**	0.037	40.5	ug/L	35	Standard
	Se-1	77	323.0	1.1	**-0.1612**	1.145	710.7	ug/L	354	Standard
>	Ga	71	41.7	25.0				mg/L	43	Standard
	Rb	85	30.0	33.3				ug/L	48	Standard
	Y	89	372384.6	26.6				ug/L	447702	Standard
>	Rh	103	43.3	6.7				ug/L	20	Standard
	Mo	98	77.1	22.5	**0.0106**	0.010	91.6	ug/L	158	Standard
	Ag	107	149.3	25.4	**0.0026**	0.001	23.9	ug/L	133	Standard
	Cd	111	14.2	38.7	**-0.0017**	0.002	96.0	mg/L	7	Standard
	Cd	114	46.0	1.2	**0.0030**	0.002	54.3	ug/L	72	Standard
>	In	115	864847.7	26.1				ug/L	1004638	Standard
	Sn	118	150.3	13.9	**0.0072**	0.019	262.5	ug/L	364	Standard
	Sb	123	913.9	46.7	**0.0724**	0.095	130.8	ug/L	2464	Standard
	Ba	135	77.7	84.8	**0.0148**	0.021	141.0	ug/L	39	Standard
	Ce	140	21.7	87.4				ug/L	195	Standard
>	Tb	159	1384659.9	24.9				ug/L	1640193	Standard
	Ho	165	10.0	50.0				ug/L	25	Standard
	Tl	203	101.7	65.9	**-0.0043**	0.006	130.0	ug/L	324	Standard
	Tl	205	261.7	88.0	**0.0033**	0.007	214.7	ug/L	698	Standard
	Pb	206	569.0	24.7	**0.0067**	0.007	105.6	ug/L	600	Standard
	Pb	207	476.3	29.8	**0.0039**	0.009	215.5	ug/L	541	Standard
	Pb	208	1550.7	26.3	**0.0040**	0.007	166.3	ug/L	1750	Standard
	U	238	65.7	86.7	**0.0075**	0.005	67.8	ug/L	10	Standard
>	Bi	209	701912.4	25.6				ug/L	811518	Standard

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	Na	23	1.7	173.2	**0.2547**	0.432	169.8	mg/L	0	Standard
	Mg	24	58.3	17.8	**0.7818**	0.610	78.0	mg/L	77	Standard
	K	39	11.7	107.9	**-0.0374**	0.087	232.2	mg/L	18	Standard
	Ca	43	110.0	15.7	**12.3521**	3.262	26.4	mg/L	178	Standard
	Fe	54	29.1	51.1	**0.0011**	0.146	13092.2	mg/L	29	Standard
	Fe	57	475.0	18.3	**10.1802**	7.686	75.5	mg/L	408	Standard
>	**Sc-1**	45	51493.3	21.1				mg/L	61425	Standard
	Cl	35	2.0	0.0				ug/L	1	Standard
	Kr	83	10.0					ug/L	12	Standard
	Br	81	1643.4	21.6				ug/L	1747	Standard
	P	31	25.0	72.1				ug/L	17	Standard
	S	34	3.3	86.6				ug/L	3	Standard
	Sr	88	388.3	14.6				ug/L	370	Standard
	C	12	36.7	56.8				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	17	Standard
	Dy	164	9.5	100.0				mg/L	9	Standard
	Ho-1	165	10.0	50.0				mg/L	25	Standard
	Er	166	10.0	100.0				mg/L	20	Standard
	I	127	15094.2	5.3				mg/L	6023	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		89.544	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			

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⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	86.086
|	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	86.494
⌈	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: L1611037004
Sample Date/Time: Friday, November 11, 2016 13:51:47
Number of Replicates: 3
Autosampler Position: 321
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	219538.9	19.2				ug/L	206101	Standard
	Be	9	33.3	60.6	**-0.0058**	0.006	109.7	ug/L	25	Standard
	Al	27	736897.2	14.0	**3.5736**	0.185	5.2	ug/L	1120	Standard
	Sc	45	60229.4	14.1				ug/L	61425	Standard
	Ti	47	151.7	7.8	**0.1953**	0.037	19.0	ug/L	70	Standard
	V	51	1557.9	18.5	**-0.1683**	0.025	14.6	ug/L	3309	Standard
	Cr	52	20413.5	12.2	**0.6722**	0.117	17.4	ug/L	13497	Standard
	Cr	53	32999.3	6.8	**25.6540**	5.671	22.1	ug/L	3162	Standard
	Mn	55	193664.4	16.3	**12.4068**	0.260	2.1	ug/L	2226	Standard
	Co	59	3207.0	14.4	**0.2012**	0.008	4.2	ug/L	1003	Standard
	Ni	60	103961.3	16.6	**39.7679**	0.787	2.0	ug/L	355	Standard
	Cu	65	918.0	21.0	**0.1864**	0.022	12.0	ug/L	473	Standard
	Zn	66	2237.2	13.8	**1.5598**	0.069	4.4	ug/L	341	Standard
>	**Ge**	72	562643.2	17.5				ug/L	566981	Standard
	As	75	1640.0	25.8	**1.4237**	0.120	8.4	ug/L	-156	Standard
	Se	82	444.8	26.3	**4.0106**	0.380	9.5	ug/L	35	Standard
	Se-1	77	1863.1	4.6	**18.8699**	4.157	22.0	ug/L	354	Standard
>	**Ga**	71	110.0	12.0				mg/L	43	Standard
	Rb	85	40142.6	18.0				ug/L	48	Standard
	Y	89	422816.8	16.4				ug/L	447702	Standard
>	**Rh**	103	251.7	25.9				ug/L	20	Standard
	Mo	98	88487.9	16.1	**19.6784**	0.375	1.9	ug/L	158	Standard
	Ag	107	167.3	13.2	**0.0032**	0.001	29.2	ug/L	133	Standard
	Cd	111	-0.8	1374.2	**-0.0074**	0.004	52.2	mg/L	7	Standard
	Cd	114	228.6	21.1	**0.0243**	0.006	25.2	ug/L	72	Standard
>	**In**	115	937184.3	17.6				ug/L	1004638	Standard
	Sn	118	238.3	10.2	**0.0459**	0.022	47.7	ug/L	364	Standard
	Sb	123	2900.1	22.5	**0.3024**	0.135	44.8	ug/L	2464	Standard
	Ba	135	46397.5	16.0	**13.2043**	0.220	1.7	ug/L	39	Standard
	Ce	140	140.0	7.1				ug/L	195	Standard
>	**Tb**	159	1513226.8	16.1				ug/L	1640193	Standard
	Ho	165	15.0	88.2				ug/L	25	Standard
	Tl	203	2714.6	52.2	**0.1912**	0.077	40.1	ug/L	324	Standard
	Tl	205	6219.9	54.5	**0.1699**	0.069	40.8	ug/L	698	Standard
	Pb	206	2063.1	22.7	**0.1536**	0.015	10.0	ug/L	600	Standard
	Pb	207	1786.1	21.9	**0.1494**	0.013	9.0	ug/L	541	Standard
	Pb	208	5866.5	23.9	**0.1488**	0.018	11.8	ug/L	1750	Standard
	U	238	308.7	11.0	**0.0286**	0.003	9.2	ug/L	10	Standard
>	**Bi**	209	710843.3	15.1				ug/L	811518	Standard

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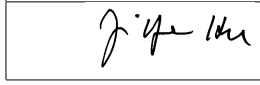

⌈	**Na**	23	13.3	43.3	**2.1970**	1.257	57.2	mg/L	0	Standard
|	**Mg**	24	9829.9	6.1	**224.9723**	18.310	8.1	mg/L	77	Standard
|	**K**	39	170.0	39.8	**0.9047**	0.536	59.3	mg/L	18	Standard
|	**Ca**	43	116.7	28.5	**14.3919**	11.525	80.1	mg/L	178	Standard
|	**Fe**	54	32.6	18.5	**0.0147**	0.148	1011.5	mg/L	29	Standard
|	**Fe**	57	506.7	4.7	**7.5076**	3.608	48.1	mg/L	408	Standard
⌊>	**Sc-1**	45	60229.4	14.1				mg/L	61425	Standard
	Cl	35	2.0	100.0				ug/L	1	Standard
	Kr	83	8.7	24.0				ug/L	12	Standard
	Br	81	75224.7	11.8				ug/L	1747	Standard
	P	31	40.0	45.1				ug/L	17	Standard
	S	34	8.3	69.3				ug/L	3	Standard
	Sr	88	383.3	16.3				ug/L	370	Standard
	C	12	66.7	31.2				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	10.0					mg/L	17	Standard
	Dy	164	12.1	47.8				mg/L	9	Standard
	Ho-1	165	15.0	88.2				mg/L	25	Standard
	Er	166	26.7	94.4				mg/L	20	Standard
	I	127	841482.4	3.2				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		106.520	
|	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		99.235	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

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⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	93.286
|	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	87.594
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, November 11, 2016 13:54:54
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	211542.0	19.6				ug/L	206101	Standard
	Be	9	119175.8	18.5	**49.7739**	2.018	4.1	ug/L	25	Standard
	Al	27	9550499.4	13.2	**48.0733**	3.126	6.5	ug/L	1120	Standard
	Sc	45	58495.8	13.6				ug/L	61425	Standard
	Ti	47	46116.2	15.3	**99.9934**	3.229	3.2	ug/L	70	Standard
	V	51	549824.1	15.8	**50.6715**	1.288	2.5	ug/L	3309	Standard
	Cr	52	508423.4	15.4	**50.5430**	1.565	3.1	ug/L	13497	Standard
	Cr	53	64907.6	15.6	**50.3363**	1.576	3.1	ug/L	3162	Standard
	Mn	55	806057.8	15.8	**50.7124**	1.540	3.0	ug/L	2226	Standard
	Co	59	646695.9	17.5	**51.6802**	0.925	1.8	ug/L	1003	Standard
	Ni	60	138730.1	17.1	**51.6606**	0.754	1.5	ug/L	355	Standard
	Cu	65	127433.9	17.3	**52.2199**	0.510	1.0	ug/L	473	Standard
	Zn	66	64838.9	16.4	**51.7445**	1.044	2.0	ug/L	341	Standard
>	Ge	72	578711.6	18.3				ug/L	566981	Standard
	As	75	63716.5	18.3	**50.4416**	0.466	0.9	ug/L	-156	Standard
	Se	82	5223.1	19.0	**49.6164**	0.553	1.1	ug/L	35	Standard
	Se-1	77	4475.3	17.6	**49.4305**	0.566	1.1	ug/L	354	Standard
>	Ga	71	98.3	28.0				mg/L	43	Standard
	Rb	85	626.7	14.4				ug/L	48	Standard
	Y	89	422739.9	15.6				ug/L	447702	Standard
>	Rh	103	65.0	15.4				ug/L	20	Standard
	Mo	98	466343.4	16.3	**99.1043**	1.506	1.5	ug/L	158	Standard
	Ag	107	518927.2	16.8	**50.4542**	0.868	1.7	ug/L	133	Standard
	Cd	111	169125.3	18.8	**51.7270**	1.240	2.4	mg/L	7	Standard
	Cd	114	439785.1	18.9	**49.9311**	1.150	2.3	ug/L	72	Standard
>	In	115	979576.8	16.7				ug/L	1004638	Standard
	Sn	118	103221.5	18.2	**51.1224**	1.427	2.8	ug/L	364	Standard
	Sb	123	440493.3	18.7	**50.4981**	1.004	2.0	ug/L	2464	Standard
	Ba	135	177965.5	16.4	**48.4009**	0.187	0.4	ug/L	39	Standard
	Ce	140	178.3	22.8				ug/L	195	Standard
>	Tb	159	1556783.6	15.9				ug/L	1640193	Standard
	Ho	165	53.3	32.9				ug/L	25	Standard
	Tl	203	698458.5	16.5	**50.4510**	1.007	2.0	ug/L	324	Standard
	Tl	205	1631159.4	16.0	**44.0627**	0.216	0.5	ug/L	698	Standard
	Pb	206	547419.4	17.8	**50.6398**	1.447	2.9	ug/L	600	Standard
	Pb	207	481716.5	17.1	**50.1135**	0.944	1.9	ug/L	541	Standard
	Pb	208	1617524.0	17.1	**51.0971**	1.154	2.3	ug/L	1750	Standard
	U	238	660591.4	11.8	**52.6358**	2.115	4.0	ug/L	10	Standard
>	Bi	209	765863.9	15.7				ug/L	811518	Standard

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⌈	**Na**	23	23.3	12.4	**3.7714**	0.227	6.0	mg/L	0	Standard
|	**Mg**	24	268.3	12.1	**5.4579**	0.095	1.7	mg/L	77	Standard
|	**K**	39	828.4	26.9	**4.6803**	0.653	13.9	mg/L	18	Standard
|	**Ca**	43	113.3	5.1	**15.2271**	2.814	18.5	mg/L	178	Standard
|	**Fe**	54	422.2	19.1	**5.4469**	0.374	6.9	mg/L	29	Standard
|	**Fe**	57	551.7	8.9	**9.9266**	3.933	39.6	mg/L	408	Standard
⌊>	**Sc-1**	45	58495.8	13.6				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	8.0	33.1				ug/L	12	Standard
	Br	81	2260.2	28.8				ug/L	1747	Standard
	P	31	38.3	27.2				ug/L	17	Standard
	S	34	6.7	86.6				ug/L	3	Standard
	Sr	88	418.3	13.2				ug/L	370	Standard
	C	12	53.3	92.5				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	17	Standard
	Dy	164	22.2	25.1				mg/L	9	Standard
	Ho-1	165	53.3	32.9				mg/L	25	Standard
	Er	166	23.3	89.2				mg/L	20	Standard
	I	127	18938.7	66.8				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6			
|	Be	9	99.548		
⌊	Al	27	96.147		
⌈	Sc	45			
|	Ti	47	99.993		
|	V	51	101.343		
|	Cr	52	101.086		
|	Cr	53			
|	Mn	55	101.425		
|	Co	59	103.360		
|	Ni	60	103.321		
|	Cu	65	104.440		
|	Zn	66	103.489		
|>	Ge	72		102.069	
|	As	75	100.883		
|	Se	82	99.233		
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: QC Std 6
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⌊	Rb	85		
⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98	99.104	
|	Ag	107	100.908	
|	Cd	111	103.454	
|	Cd	114		
|>	In	115		97.505
|	Sn	118	102.245	
|	Sb	123	100.996	
⌊	Ba	135	96.802	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	100.902	
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208	102.194	
|	U	238	105.272	
⌊>	Bi	209		94.374
⌈	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

Sample ID: QC Std 6
Report Date/Time: Friday, November 11, 2016 13:57:05
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Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, November 11, 2016 13:58:01
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	189993.8	24.5				ug/L	206101	Standard
	Be	9	35.0	0.0	**-0.0020**	0.004	197.5	ug/L	25	Standard
	Al	27	5234.2	8.4	**0.0355**	0.005	13.0	ug/L	1120	Standard
	Sc	45	52716.8	17.8				ug/L	61425	Standard
	Ti	47	39.0	25.3	**-0.0499**	0.033	66.8	ug/L	70	Standard
	V	51	2640.4	11.2	**-0.0455**	0.035	77.9	ug/L	3309	Standard
	Cr	52	10474.3	11.5	**-0.2922**	0.150	51.4	ug/L	13497	Standard
	Cr	53	1820.1	8.0	**-0.9005**	0.372	41.3	ug/L	3162	Standard
	Mn	55	2256.5	14.8	**0.0205**	0.015	75.5	ug/L	2226	Standard
	Co	59	597.7	10.0	**-0.0097**	0.011	108.0	ug/L	1003	Standard
	Ni	60	350.3	13.0	**0.0197**	0.016	80.6	ug/L	355	Standard
	Cu	65	398.7	22.8	**-0.0208**	0.004	18.8	ug/L	473	Standard
	Zn	66	321.7	20.8	**-0.0076**	0.010	129.0	ug/L	341	Standard
>	Ge	72	530226.2	24.0				ug/L	566981	Standard
	As	75	-143.3	17.1	**-0.0223**	0.025	113.9	ug/L	-156	Standard
	Se	82	23.2	15.0	**-0.0777**	0.022	28.6	ug/L	35	Standard
	Se-1	77	332.3	5.6	**-0.2463**	1.182	479.7	ug/L	354	Standard
>	Ga	71	55.0	41.7				mg/L	43	Standard
	Rb	85	45.0	48.4				ug/L	48	Standard
	Y	89	387656.3	24.9				ug/L	447702	Standard
>	Rh	103	41.7	27.7				ug/L	20	Standard
	Mo	98	65.8	32.8	**0.0073**	0.009	129.1	ug/L	158	Standard
	Ag	107	157.7	16.8	**0.0034**	0.001	44.4	ug/L	133	Standard
	Cd	111	9.9	10.3	**-0.0033**	0.000	13.9	mg/L	7	Standard
	Cd	114	51.9	52.0	**0.0031**	0.002	64.0	ug/L	72	Standard
>	In	115	881965.3	23.6				ug/L	1004638	Standard
	Sn	118	178.3	15.7	**0.0203**	0.017	82.8	ug/L	364	Standard
	Sb	123	1035.8	43.3	**0.0836**	0.096	114.9	ug/L	2464	Standard
	Ba	135	28.0	29.2	**-0.0011**	0.001	45.6	ug/L	39	Standard
	Ce	140	26.7	21.7				ug/L	195	Standard
>	Tb	159	1424934.0	22.3				ug/L	1640193	Standard
	Ho	165	13.3	43.3				ug/L	25	Standard
	Tl	203	174.7	26.7	**0.0008**	0.001	68.2	ug/L	324	Standard
	Tl	205	381.7	26.9	**0.0067**	0.001	20.6	ug/L	698	Standard
	Pb	206	505.7	22.6	**-0.0008**	0.002	221.7	ug/L	600	Standard
	Pb	207	442.3	27.6	**-0.0009**	0.003	298.6	ug/L	541	Standard
	Pb	208	1495.4	22.8	**0.0012**	0.001	54.0	ug/L	1750	Standard
	U	238	12.0	102.4	**0.0032**	0.001	43.4	ug/L	10	Standard
>	Bi	209	713678.1	22.7				ug/L	811518	Standard

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⌈	**Na**	23	1.7	173.2	**0.3682**	0.629	170.9	mg/L	0	Standard
|	**Mg**	24	53.3	21.7	**0.5358**	0.152	28.3	mg/L	77	Standard
|	**K**	39	16.7	34.6	**-0.0059**	0.025	429.1	mg/L	18	Standard
|	**Ca**	43	105.0	12.6	**13.6980**	8.489	62.0	mg/L	178	Standard
|	**Fe**	54	36.1	92.4	**0.0765**	0.403	526.2	mg/L	29	Standard
|	**Fe**	57	418.3	8.0	**6.4452**	4.082	63.3	mg/L	408	Standard
⌊>	**Sc-1**	45	52716.8	17.8				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	10.0	55.7				ug/L	12	Standard
	Br	81	1623.4	3.2				ug/L	1747	Standard
	P	31	23.3	32.7				ug/L	17	Standard
	S	34	3.3	86.6				ug/L	3	Standard
	Sr	88	360.0	13.2				ug/L	370	Standard
	C	12	50.0	72.1				mg/L	47	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	0.0					mg/L	17	Standard
	Dy	164	12.7	46.6				mg/L	9	Standard
	Ho-1	165	13.3	43.3				mg/L	25	Standard
	Er	166	13.3	43.3				mg/L	20	Standard
	I	127	35572.8	31.5				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6			
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		93.517	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

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⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	87.789
|	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	87.944
⌈	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: PBS M2 WG591256-01
Sample Date/Time: Friday, November 11, 2016 14:13:56
Number of Replicates: 3
Autosampler Position: 205
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	213242.6	22.4				ug/L	206101	Standard
	Be	9	30.0	16.7	**-0.0063**	0.002	35.3	ug/L	25	Standard
	Al	27	11687.9	6.9	**0.0650**	0.010	15.6	ug/L	1120	Standard
	Sc	45	54299.0	17.3				ug/L	61425	Standard
	Ti	47	107.7	63.5	**0.0721**	0.092	126.9	ug/L	70	Standard
	V	51	3327.6	7.3	**-0.0034**	0.055	1597.2	ug/L	3309	Standard
	Cr	52	16886.5	12.2	**0.2581**	0.186	72.2	ug/L	13497	Standard
	Cr	53	1933.5	11.6	**-0.9790**	0.188	19.3	ug/L	3162	Standard
	Mn	55	3740.8	12.6	**0.1008**	0.025	24.8	ug/L	2226	Standard
	Co	59	659.0	6.4	**-0.0096**	0.010	99.3	ug/L	1003	Standard
	Ni	60	564.7	15.6	**0.0862**	0.016	18.1	ug/L	355	Standard
	Cu	65	567.3	17.7	**0.0335**	0.014	41.8	ug/L	473	Standard
	Zn	66	2512.9	21.0	**1.7149**	0.046	2.7	ug/L	341	Standard
>	Ge	72	582136.8	22.7				ug/L	566981	Standard
	As	75	-144.1	31.2	**-0.0166**	0.053	321.6	ug/L	-156	Standard
	Se	82	25.2	35.3	**-0.0879**	0.048	54.0	ug/L	35	Standard
	Se-1	77	341.3	6.8	**-0.5380**	1.120	208.1	ug/L	354	Standard
>	Ga	71	70.0	31.1				mg/L	43	Standard
	Rb	85	88.3	22.9				ug/L	48	Standard
	Y	89	420173.8	21.6				ug/L	447702	Standard
>	Rh	103	15.0	57.7				ug/L	20	Standard
	Mo	98	138.8	21.2	**0.0222**	0.011	49.0	ug/L	158	Standard
	Ag	107	136.3	17.3	**-0.0001**	0.001	773.0	ug/L	133	Standard
	Cd	111	11.8	22.5	**-0.0030**	0.000	10.9	mg/L	7	Standard
	Cd	114	56.6	31.2	**0.0039**	0.004	93.7	ug/L	72	Standard
>	In	115	953386.3	21.9				ug/L	1004638	Standard
	Sn	118	314.3	9.1	**0.0878**	0.051	57.7	ug/L	364	Standard
	Sb	123	3040.6	22.0	**0.3180**	0.144	45.4	ug/L	2464	Standard
	Ba	135	291.3	33.2	**0.0706**	0.009	12.8	ug/L	39	Standard
	Ce	140	211.7	38.8				ug/L	195	Standard
>	Tb	159	1555820.8	21.0				ug/L	1640193	Standard
	Ho	165	33.3	17.3				ug/L	25	Standard
	Tl	203	31.7	26.9	**-0.0104**	0.001	5.6	ug/L	324	Standard
	Tl	205	61.7	20.4	**-0.0026**	0.001	25.9	ug/L	698	Standard
	Pb	206	700.0	20.2	**0.0145**	0.000	1.9	ug/L	600	Standard
	Pb	207	610.7	25.0	**0.0139**	0.004	26.3	ug/L	541	Standard
	Pb	208	2053.4	16.8	**0.0164**	0.003	16.5	ug/L	1750	Standard
	U	238	17.7	34.1	**0.0035**	0.001	21.8	ug/L	10	Standard
>	Bi	209	758197.9	20.6				ug/L	811518	Standard

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⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	0	Standard
|	**Mg**	24	55.0	65.6	**0.5235**	0.873	166.8	mg/L	77	Standard
|	**K**	39	20.0	100.0	**0.0261**	0.156	597.2	mg/L	18	Standard
|	**Ca**	43	78.3	20.5	**22.4918**	1.440	6.4	mg/L	178	Standard
|	**Fe**	54	25.8	68.6	**-0.0352**	0.274	777.8	mg/L	29	Standard
|	**Fe**	57	483.3	0.6	**8.8140**	4.017	45.6	mg/L	408	Standard
⌊>	**Sc-1**	45	54299.0	17.3				mg/L	61425	Standard
	Cl	35	2.7	43.3				ug/L	1	Standard
	Kr	83	8.7	24.0				ug/L	12	Standard
	Br	81	1733.4	18.5				ug/L	1747	Standard
	P	31	21.7	74.2				ug/L	17	Standard
	S	34	5.0	100.0				ug/L	3	Standard
	Sr	88	393.3	15.9				ug/L	370	Standard
	C	12	53.3	28.6				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	10.0					mg/L	17	Standard
	Dy	164	5.7	202.4				mg/L	9	Standard
	Ho-1	165	33.3	17.3				mg/L	25	Standard
	Er	166	20.0	50.0				mg/L	20	Standard
	I	127	16427.3	7.9				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		103.465	
|	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		102.673	
|	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	94.899
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	93.430
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: LCSS M2 WG591256-02
Sample Date/Time: Friday, November 11, 2016 14:17:01
Number of Replicates: 3
Autosampler Position: 206
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	215855.6	20.5				ug/L	206101	Standard
	Be	9	57883.8	21.5	**23.6202**	0.375	1.6	ug/L	25	Standard
	Al	27	10595.4	12.7	**0.0581**	0.005	8.6	ug/L	1120	Standard
	Sc	45	55368.2	18.2				ug/L	61425	Standard
	Ti	47	57.3	8.8	**-0.0207**	0.016	75.6	ug/L	70	Standard
	V	51	263211.1	18.4	**23.9970**	0.680	2.8	ug/L	3309	Standard
	Cr	52	254701.9	18.5	**24.4603**	0.678	2.8	ug/L	13497	Standard
	Cr	53	31922.8	20.0	**23.2852**	0.306	1.3	ug/L	3162	Standard
	Mn	55	387027.5	19.6	**24.1451**	0.418	1.7	ug/L	2226	Standard
	Co	59	309486.8	20.3	**24.5887**	0.234	1.0	ug/L	1003	Standard
	Ni	60	68579.1	21.1	**25.3190**	0.232	0.9	ug/L	355	Standard
	Cu	65	63645.6	21.7	**25.8036**	0.171	0.7	ug/L	473	Standard
	Zn	66	33151.3	20.9	**26.1330**	0.077	0.3	ug/L	341	Standard
>	**Ge**	72	581445.8	21.1				ug/L	566981	Standard
	As	75	31542.2	20.5	**24.9374**	0.409	1.6	ug/L	-156	Standard
	Se	82	2586.2	20.2	**24.3505**	0.532	2.2	ug/L	35	Standard
	Se-1	77	2386.5	20.0	**24.0006**	0.468	2.0	ug/L	354	Standard
>	**Ga**	71	80.0	27.2				mg/L	43	Standard
	Rb	85	61.7	44.7				ug/L	48	Standard
	Y	89	414251.6	22.3				ug/L	447702	Standard
>	**Rh**	103	56.7	43.5				ug/L	20	Standard
	Mo	98	61.6	5.4	**0.0042**	0.003	61.7	ug/L	158	Standard
	Ag	107	230695.0	20.3	**22.9606**	0.220	1.0	ug/L	133	Standard
	Cd	111	82379.7	21.3	**25.8236**	0.268	1.0	mg/L	7	Standard
	Cd	114	209572.3	22.6	**24.3430**	0.436	1.8	ug/L	72	Standard
>	**In**	115	958063.8	21.3				ug/L	1004638	Standard
	Sn	118	211.0	11.1	**0.0288**	0.013	43.9	ug/L	364	Standard
	Sb	123	218144.4	20.9	**25.6133**	0.192	0.8	ug/L	2464	Standard
	Ba	135	87964.9	20.7	**24.4721**	0.252	1.0	ug/L	39	Standard
	Ce	140	175.0	34.3				ug/L	195	Standard
>	**Tb**	159	1563275.1	19.0				ug/L	1640193	Standard
	Ho	165	35.0	14.3				ug/L	25	Standard
	Tl	203	353755.3	19.8	**25.6734**	0.138	0.5	ug/L	324	Standard
	Tl	205	817442.7	19.8	**22.1752**	0.146	0.7	ug/L	698	Standard
	Pb	206	274737.0	21.8	**25.4825**	0.358	1.4	ug/L	600	Standard
	Pb	207	232609.5	20.7	**24.2791**	0.105	0.4	ug/L	541	Standard
	Pb	208	792405.6	20.8	**25.1183**	0.240	1.0	ug/L	1750	Standard
	U	238	309144.7	15.2	**24.7932**	1.317	5.3	ug/L	10	Standard
>	**Bi**	209	763353.3	20.4				ug/L	811518	Standard

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⌈	**Na**	23	1.7	173.2	**0.3541**	0.605	170.8	mg/L	0	Standard
|	**Mg**	24	51.7	24.4	**0.4715**	0.415	88.0	mg/L	77	Standard
|	**K**	39	18.3	103.3	**-0.0091**	0.094	1028.9	mg/L	18	Standard
|	**Ca**	43	86.7	14.5	**19.7762**	7.651	38.7	mg/L	178	Standard
|	**Fe**	54	36.3	8.9	**0.1130**	0.146	129.5	mg/L	29	Standard
|	**Fe**	57	431.7	11.1	**5.8480**	1.395	23.9	mg/L	408	Standard
⌊>	**Sc-1**	45	55368.2	18.2				mg/L	61425	Standard
	Cl	35	1.3	86.6				ug/L	1	Standard
	Kr	83	8.7	56.9				ug/L	12	Standard
	Br	81	1840.1	22.6				ug/L	1747	Standard
	P	31	25.0	34.6				ug/L	17	Standard
	S	34	0.0					ug/L	3	Standard
	Sr	88	386.7	8.6				ug/L	370	Standard
	C	12	40.0	25.0				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	173.2				mg/L	17	Standard
	Dy	164	18.2	96.5				mg/L	9	Standard
	Ho-1	165	35.0	14.3				mg/L	25	Standard
	Er	166	36.7	15.7				mg/L	20	Standard
	I	127	13921.4	10.4				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		104.733	
|	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		102.551	
|	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	95.364
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	94.065
Na	23	
Mg	24	
K	39	
Ca	43	
Fe	54	
Fe	57	
Sc-1	45	
Cl	35	
Kr	83	
Br	81	
P	31	
S	34	
Sr	88	
C	12	
N	14	
Hg	202	
Dy	164	
Ho-1	165	
Er	166	
I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

Sample ID: LCSS M2 WG591256-02
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Method 6020 - Summary Report

Sample ID: LCSS M2 WG591256-03
Sample Date/Time: Friday, November 11, 2016 14:20:06
Number of Replicates: 3
Autosampler Position: 207
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	209484.0	23.9				ug/L	206101	Standard
	Be	9	54983.8	19.8	**23.2985**	1.002	4.3	ug/L	25	Standard
	Al	27	10191.8	15.8	**0.0577**	0.004	7.6	ug/L	1120	Standard
	Sc	45	53959.4	17.0				ug/L	61425	Standard
	Ti	47	59.7	29.3	**-0.0156**	0.012	78.0	ug/L	70	Standard
	V	51	253986.4	18.9	**23.7737**	0.691	2.9	ug/L	3309	Standard
	Cr	52	244426.1	18.9	**24.0903**	0.518	2.1	ug/L	13497	Standard
	Cr	53	29946.8	16.9	**22.4653**	0.930	4.1	ug/L	3162	Standard
	Mn	55	369032.0	19.9	**23.6406**	0.368	1.6	ug/L	2226	Standard
	Co	59	295929.2	19.9	**24.1730**	0.243	1.0	ug/L	1003	Standard
	Ni	60	64853.8	20.6	**24.6153**	0.347	1.4	ug/L	355	Standard
	Cu	65	59752.5	21.5	**24.8975**	0.297	1.2	ug/L	473	Standard
	Zn	66	32339.8	20.5	**26.2160**	0.281	1.1	ug/L	341	Standard
>	Ge	72	565286.8	20.6				ug/L	566981	Standard
	As	75	29864.7	21.8	**24.2166**	0.325	1.3	ug/L	-156	Standard
	Se	82	2482.1	20.8	**23.9859**	0.095	0.4	ug/L	35	Standard
	Se-1	77	2238.8	20.7	**22.9538**	0.726	3.2	ug/L	354	Standard
>	Ga	71	55.0	18.2				mg/L	43	Standard
	Rb	85	53.3	28.6				ug/L	48	Standard
	Y	89	402168.7	19.3				ug/L	447702	Standard
>	Rh	103	40.0	50.0				ug/L	20	Standard
	Mo	98	74.3	3.0	**0.0077**	0.004	55.8	ug/L	158	Standard
	Ag	107	223217.0	21.3	**22.8772**	0.545	2.4	ug/L	133	Standard
	Cd	111	79489.1	22.4	**25.6446**	0.462	1.8	mg/L	7	Standard
	Cd	114	201888.7	21.9	**24.1883**	0.138	0.6	ug/L	72	Standard
>	In	115	930945.4	22.2				ug/L	1004638	Standard
	Sn	118	174.0	19.3	**0.0113**	0.003	26.9	ug/L	364	Standard
	Sb	123	205579.9	21.8	**24.8510**	0.538	2.2	ug/L	2464	Standard
	Ba	135	83901.7	20.4	**24.0785**	0.689	2.9	ug/L	39	Standard
	Ce	140	128.3	55.4				ug/L	195	Standard
>	Tb	159	1527073.1	20.4				ug/L	1640193	Standard
	Ho	165	30.0	44.1				ug/L	25	Standard
	Tl	203	340217.1	19.9	**25.6238**	0.213	0.8	ug/L	324	Standard
	Tl	205	801709.0	20.8	**22.5451**	0.455	2.0	ug/L	698	Standard
	Pb	206	262963.0	20.6	**25.3537**	0.425	1.7	ug/L	600	Standard
	Pb	207	224639.2	21.9	**24.3036**	0.671	2.8	ug/L	541	Standard
	Pb	208	760477.0	19.8	**25.0449**	0.500	2.0	ug/L	1750	Standard
	U	238	301512.7	14.7	**25.0986**	1.114	4.4	ug/L	10	Standard
>	Bi	209	734256.7	19.1				ug/L	811518	Standard

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	Na	23	1.7	173.2	**0.3572**	0.610	170.8	mg/L	0	Standard
	Mg	24	46.7	27.0	**0.3997**	0.551	137.8	mg/L	77	Standard
	K	39	18.3	41.7	**0.0095**	0.058	612.3	mg/L	18	Standard
	Ca	43	100.0	18.0	**16.0487**	6.652	41.4	mg/L	178	Standard
	Fe	54	43.4	39.9	**0.2586**	0.403	155.8	mg/L	29	Standard
	Fe	57	480.0	5.5	**8.6785**	3.185	36.7	mg/L	408	Standard
>	**Sc-1**	45	53959.4	17.0				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	6.7	22.9				ug/L	12	Standard
	Br	81	1663.4	10.9				ug/L	1747	Standard
	P	31	46.7	6.2				ug/L	17	Standard
	S	34	11.7	65.5				ug/L	3	Standard
	Sr	88	350.0	10.3				ug/L	370	Standard
	C	12	43.3	13.3				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	17	Standard
	Dy	164	12.2	86.8				mg/L	9	Standard
	Ho-1	165	30.0	44.1				mg/L	25	Standard
	Er	166	23.3	107.9				mg/L	20	Standard
	I	127	14999.1	8.6				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		101.641	
	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		99.701	
	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	92.665
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	90.479
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

Sample ID: LCSS M2 WG591256-03
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Method 6020 - Summary Report

Sample ID: L1611053602
Sample Date/Time: Friday, November 11, 2016 14:23:12
Number of Replicates: 3
Autosampler Position: 208
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	220521.6	17.9				ug/L	206101	Standard
	Be	9	921.7	13.6	**0.3518**	0.016	4.5	ug/L	25	Standard
	Al	27	918939.5	13.1	**4.4310**	0.213	4.8	ug/L	1120	Standard
	Sc	45	67095.8	9.5				ug/L	61425	Standard
	Ti	47	5189.6	15.9	**10.7091**	0.264	2.5	ug/L	70	Standard
	V	51	66727.2	13.2	**5.6635**	0.170	3.0	ug/L	3309	Standard
	Cr	52	98599.7	12.4	**8.2742**	0.357	4.3	ug/L	13497	Standard
	Cr	53	12443.5	10.8	**7.2593**	0.514	7.1	ug/L	3162	Standard
	Mn	55	4244534.6	14.0	**258.4687**	5.929	2.3	ug/L	2226	Standard
	Co	59	101403.2	14.9	**7.7814**	0.101	1.3	ug/L	1003	Standard
	Ni	60	106820.5	15.5	**38.3847**	0.469	1.2	ug/L	355	Standard
	Cu	65	20067.6	17.8	**7.7550**	0.143	1.8	ug/L	473	Standard
	Zn	66	32757.9	15.0	**25.0899**	0.428	1.7	ug/L	341	Standard
>	Ge	72	598655.9	16.0				ug/L	566981	Standard
	As	75	2415.1	15.0	**1.9512**	0.036	1.8	ug/L	-156	Standard
	Se	82	100.2	8.5	**0.6126**	0.102	16.7	ug/L	35	Standard
	Se-1	77	453.0	6.5	**0.5433**	0.547	100.6	ug/L	354	Standard
>	Ga	71	3375.4	22.7				mg/L	43	Standard
	Rb	85	37336.9	17.9				ug/L	48	Standard
	Y	89	1404774.5	17.1				ug/L	447702	Standard
>	Rh	103	65.0	53.8				ug/L	20	Standard
	Mo	98	2550.3	16.6	**0.5249**	0.006	1.2	ug/L	158	Standard
	Ag	107	627.3	19.2	**0.0462**	0.002	4.9	ug/L	133	Standard
	Cd	111	1484.8	18.3	**0.4417**	0.014	3.3	mg/L	7	Standard
	Cd	114	3888.7	19.0	**0.4322**	0.015	3.5	ug/L	72	Standard
>	In	115	992069.9	15.7				ug/L	1004638	Standard
	Sn	118	255.0	16.2	**0.0451**	0.006	12.4	ug/L	364	Standard
	Sb	123	3683.9	22.3	**0.3724**	0.155	41.6	ug/L	2464	Standard
	Ba	135	200276.2	16.8	**53.7139**	0.975	1.8	ug/L	39	Standard
	Ce	140	995517.7	17.1				ug/L	195	Standard
>	Tb	159	1681089.0	14.1				ug/L	1640193	Standard
	Ho	165	86990.0	16.2				ug/L	25	Standard
	Tl	203	1977.8	18.1	**0.1274**	0.005	3.6	ug/L	324	Standard
	Tl	205	4804.1	17.8	**0.1229**	0.007	5.5	ug/L	698	Standard
	Pb	206	33589.8	15.7	**3.0108**	0.020	0.7	ug/L	600	Standard
	Pb	207	23989.3	16.6	**2.4049**	0.044	1.8	ug/L	541	Standard
	Pb	208	87132.6	15.0	**2.6625**	0.024	0.9	ug/L	1750	Standard
	U	238	38982.8	10.4	**3.0565**	0.144	4.7	ug/L	10	Standard
>	Bi	209	779245.1	15.0				ug/L	811518	Standard

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	Na	23	58.3	27.6	**8.2418**	2.369	28.7	mg/L	0	Standard
	Mg	24	71.7	29.0	**0.6533**	0.584	89.5	mg/L	77	Standard
	K	39	86.7	12.0	**0.3361**	0.094	27.9	mg/L	18	Standard
	Ca	43	161.7	15.9	**8.2798**	8.843	106.8	mg/L	178	Standard
	Fe	54	130.2	15.4	**1.1658**	0.338	29.0	mg/L	29	Standard
	Fe	57	485.0	8.1	**4.3358**	0.874	20.2	mg/L	408	Standard
>	**Sc-1**	45	67095.8	9.5				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	9.3	22.3				ug/L	12	Standard
	Br	81	1980.1	7.1				ug/L	1747	Standard
	P	31	30.0	28.9				ug/L	17	Standard
	S	34	8.3	69.3				ug/L	3	Standard
	Sr	88	396.7	9.3				ug/L	370	Standard
	C	12	30.0	57.7				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	206.7	7.4				mg/L	17	Standard
	Dy	164	120281.1	16.9				mg/L	9	Standard
	Ho-1	165	86990.0	16.2				mg/L	25	Standard
	Er	166	80120.3	13.1				mg/L	20	Standard
	I	127	34943.8	9.2				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		106.997	
	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		105.586	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			

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⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	98.749
|	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	96.023
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	

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Method 6020 - Summary Report

Sample ID: L1611053604
Sample Date/Time: Friday, November 11, 2016 14:26:17
Number of Replicates: 3
Autosampler Position: 209
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	213521.6	20.0				ug/L	206101	Standard
	Be	9	961.7	11.7	**0.3831**	0.034	8.8	ug/L	25	Standard
	Al	27	812075.6	13.1	**4.0598**	0.285	7.0	ug/L	1120	Standard
	Sc	45	68232.8	10.9				ug/L	61425	Standard
	Ti	47	4994.8	20.1	**10.4370**	0.412	4.0	ug/L	70	Standard
	V	51	129427.4	14.2	**11.4724**	0.310	2.7	ug/L	3309	Standard
	Cr	52	211415.0	14.5	**19.7519**	0.459	2.3	ug/L	13497	Standard
	Cr	53	26622.0	13.7	**18.7539**	0.627	3.3	ug/L	3162	Standard
	Mn	55	3111797.2	14.3	**192.6792**	4.573	2.4	ug/L	2226	Standard
	Co	59	54246.0	16.4	**4.1992**	0.032	0.8	ug/L	1003	Standard
	Ni	60	152374.5	16.9	**55.6742**	0.401	0.7	ug/L	355	Standard
	Cu	65	35261.1	16.7	**14.0368**	0.121	0.9	ug/L	473	Standard
	Zn	66	142700.0	16.8	**111.9664**	0.350	0.3	ug/L	341	Standard
>	Ge	72	588911.1	16.6				ug/L	566981	Standard
	As	75	5353.7	18.4	**4.2521**	0.103	2.4	ug/L	-156	Standard
	Se	82	113.5	22.5	**0.7371**	0.092	12.5	ug/L	35	Standard
	Se-1	77	468.3	15.2	**0.7659**	0.088	11.5	ug/L	354	Standard
>	Ga	71	4632.4	22.6				mg/L	43	Standard
	Rb	85	41690.3	18.9				ug/L	48	Standard
	Y	89	1581038.1	17.9				ug/L	447702	Standard
>	Rh	103	45.0	11.1				ug/L	20	Standard
	Mo	98	1969.4	16.5	**0.4079**	0.018	4.3	ug/L	158	Standard
	Ag	107	731.4	21.4	**0.0567**	0.005	8.8	ug/L	133	Standard
	Cd	111	1743.2	16.0	**0.5268**	0.008	1.6	mg/L	7	Standard
	Cd	114	4531.4	18.5	**0.5100**	0.005	1.1	ug/L	72	Standard
>	In	115	983174.3	17.5				ug/L	1004638	Standard
	Sn	118	223.3	7.3	**0.0319**	0.013	41.0	ug/L	364	Standard
	Sb	123	1328.0	22.9	**0.0972**	0.061	62.4	ug/L	2464	Standard
	Ba	135	137295.3	17.4	**37.1959**	0.117	0.3	ug/L	39	Standard
	Ce	140	1072257.8	17.1				ug/L	195	Standard
>	Tb	159	1665122.6	14.7				ug/L	1640193	Standard
	Ho	165	103611.9	17.6				ug/L	25	Standard
	Tl	203	2294.2	14.2	**0.1517**	0.004	2.7	ug/L	324	Standard
	Tl	205	5362.6	17.7	**0.1387**	0.005	3.3	ug/L	698	Standard
	Pb	206	51106.5	17.5	**4.6326**	0.091	2.0	ug/L	600	Standard
	Pb	207	36457.3	17.2	**3.7054**	0.066	1.8	ug/L	541	Standard
	Pb	208	131833.0	14.9	**4.0842**	0.030	0.7	ug/L	1750	Standard
	U	238	53799.0	9.8	**4.2511**	0.241	5.7	ug/L	10	Standard
>	Bi	209	774068.3	15.5				ug/L	811518	Standard

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	Na	23	35.0	37.8	**4.8210**	1.676	34.8	mg/L	0	Standard
	Mg	24	73.3	28.4	**0.6530**	0.536	82.1	mg/L	77	Standard
	K	39	96.7	16.6	**0.3766**	0.090	23.9	mg/L	18	Standard
	Ca	43	125.0	18.3	**17.0641**	2.230	13.1	mg/L	178	Standard
	Fe	54	561.3	26.7	**6.2598**	1.284	20.5	mg/L	29	Standard
	Fe	57	671.7	14.2	**10.6121**	1.911	18.0	mg/L	408	Standard
>	**Sc-1**	45	68232.8	10.9				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	10.3	39.1				ug/L	12	Standard
	Br	81	1666.8	18.3				ug/L	1747	Standard
	P	31	21.7	66.6				ug/L	17	Standard
	S	34	8.3	34.6				ug/L	3	Standard
	Sr	88	408.3	13.1				ug/L	370	Standard
	C	12	46.7	32.7				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	313.3	46.5				mg/L	17	Standard
	Dy	164	149290.9	19.2				mg/L	9	Standard
	Ho-1	165	103611.9	17.6				mg/L	25	Standard
	Er	166	96636.2	16.7				mg/L	20	Standard
	I	127	28979.6	10.8				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		103.600	
	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		103.868	
	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	97.864
|	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	95.385
⌈	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
Mn 55 Upper, S, EEE	Mn	55	
Zn 66 Upper, S, EEE	Zn	66	

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Method 6020 - Summary Report

Sample ID: L1611053606
Sample Date/Time: Friday, November 11, 2016 14:29:23
Number of Replicates: 3
Autosampler Position: 210
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	219682.0	19.0				ug/L	206101	Standard
	Be	9	1711.8	15.3	**0.6736**	0.056	8.2	ug/L	25	Standard
	Al	27	2140216.6	26.8	**10.2193**	1.019	10.0	ug/L	1120	Standard
	Sc	45	71465.0	12.8				ug/L	61425	Standard
	Ti	47	5417.0	18.7	**10.9385**	0.121	1.1	ug/L	70	Standard
	V	51	160409.2	14.3	**13.7849**	0.555	4.0	ug/L	3309	Standard
	Cr	52	314954.0	13.6	**29.0815**	1.326	4.6	ug/L	13497	Standard
	Cr	53	39291.4	12.8	**27.8422**	1.609	5.8	ug/L	3162	Standard
	Mn	55	5073625.4	14.4	**303.2638**	10.466	3.5	ug/L	2226	Standard
	Co	59	99760.1	16.3	**7.5008**	0.108	1.4	ug/L	1003	Standard
	Ni	60	292916.3	16.4	**103.4295**	1.432	1.4	ug/L	355	Standard
	Cu	65	77127.0	15.7	**29.8790**	0.676	2.3	ug/L	473	Standard
	Zn	66	318886.0	15.8	**242.0326**	5.079	2.1	ug/L	341	Standard
>	**Ge**	72	611133.1	17.6				ug/L	566981	Standard
	As	75	7931.7	17.3	**6.0407**	0.098	1.6	ug/L	-156	Standard
	Se	82	347.7	18.9	**2.8257**	0.225	8.0	ug/L	35	Standard
	Se-1	77	651.7	8.8	**2.7436**	0.764	27.8	ug/L	354	Standard
>	**Ga**	71	9154.5	17.4				mg/L	43	Standard
	Rb	85	103286.4	17.6				ug/L	48	Standard
	Y	89	1453295.2	18.0				ug/L	447702	Standard
>	**Rh**	103	48.3	21.5				ug/L	20	Standard
	Mo	98	3797.7	16.7	**0.7759**	0.008	1.0	ug/L	158	Standard
	Ag	107	1305.7	19.3	**0.1096**	0.006	5.8	ug/L	133	Standard
	Cd	111	3294.5	17.9	**0.9751**	0.009	1.0	mg/L	7	Standard
	Cd	114	8621.3	18.7	**0.9496**	0.013	1.3	ug/L	72	Standard
>	**In**	115	1007401.9	17.7				ug/L	1004638	Standard
	Sn	118	293.0	17.0	**0.0616**	0.001	1.8	ug/L	364	Standard
	Sb	123	887.1	19.6	**0.0412**	0.035	86.1	ug/L	2464	Standard
	Ba	135	208158.0	16.4	**55.1232**	0.754	1.4	ug/L	39	Standard
	Ce	140	1336529.9	16.0				ug/L	195	Standard
>	**Tb**	159	1672244.9	16.2				ug/L	1640193	Standard
	Ho	165	92493.6	14.3				ug/L	25	Standard
	Tl	203	4271.9	16.2	**0.2877**	0.005	1.7	ug/L	324	Standard
	Tl	205	9988.3	16.0	**0.2581**	0.004	1.4	ug/L	698	Standard
	Pb	206	73333.3	15.7	**6.5705**	0.083	1.3	ug/L	600	Standard
	Pb	207	54591.6	14.6	**5.4973**	0.141	2.6	ug/L	541	Standard
	Pb	208	196485.9	15.0	**6.0098**	0.091	1.5	ug/L	1750	Standard
	U	238	48193.5	10.9	**3.7433**	0.202	5.4	ug/L	10	Standard
>	**Bi**	209	787145.4	15.6				ug/L	811518	Standard

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⌈	**Na**	23	46.7	34.4	**6.4243**	3.137	48.8	mg/L	0	Standard
|	**Mg**	24	51.7	14.8	**0.1496**	0.150	100.6	mg/L	77	Standard
|	**K**	39	163.3	20.8	**0.6649**	0.068	10.2	mg/L	18	Standard
|	**Ca**	43	126.7	2.3	**17.4435**	4.032	23.1	mg/L	178	Standard
|	**Fe**	54	1263.4	18.8	**13.9646**	0.923	6.6	mg/L	29	Standard
|	**Fe**	57	710.0	6.1	**11.0027**	1.727	15.7	mg/L	408	Standard
⌊>	**Sc-1**	45	71465.0	12.8				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	9.7	39.2				ug/L	12	Standard
	Br	81	2083.5	15.6				ug/L	1747	Standard
	P	31	31.7	24.1				ug/L	17	Standard
	S	34	1.7	173.2				ug/L	3	Standard
	Sr	88	450.0	12.4				ug/L	370	Standard
	C	12	56.7	66.8				mg/L	47	Standard
	N	14	6.7	86.6				mg/L	0	Standard
	Hg	202	800.0	12.1				mg/L	17	Standard
	Dy	164	126489.1	16.5				mg/L	9	Standard
	Ho-1	165	92493.6	14.3				mg/L	25	Standard
	Er	166	87372.3	16.4				mg/L	20	Standard
	I	127	31531.2	7.9				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		106.589	
|	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		107.787	
|	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	100.275
|	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	96.997
⌈	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
Mn 55 Upper, S, EEE	Mn	55	
Ni 60 Upper, S, EEE	Ni	60	
Zn 66 Upper, S, EEE	Zn	66	

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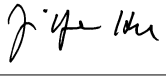

Method 6020 - Summary Report

Sample ID: L1611053608
Sample Date/Time: Friday, November 11, 2016 14:32:28
Number of Replicates: 3
Autosampler Position: 211
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	221632.8	19.1				ug/L	206101	Standard
	Be	9	978.4	19.3	**0.3707**	0.025	6.7	ug/L	25	Standard
	Al	27	741751.5	12.9	**3.5683**	0.229	6.4	ug/L	1120	Standard
	Sc	45	68034.1	12.9				ug/L	61425	Standard
	Ti	47	3864.5	18.6	**7.7680**	0.152	2.0	ug/L	70	Standard
	V	51	81784.7	15.1	**6.8685**	0.155	2.3	ug/L	3309	Standard
	Cr	52	168416.9	14.8	**14.8457**	0.400	2.7	ug/L	13497	Standard
	Cr	53	20971.4	14.1	**13.6435**	0.500	3.7	ug/L	3162	Standard
	Mn	55	3860349.8	15.2	**230.5778**	4.718	2.0	ug/L	2226	Standard
	Co	59	79149.7	16.1	**5.9427**	0.076	1.3	ug/L	1003	Standard
	Ni	60	163696.1	15.9	**57.8136**	0.952	1.6	ug/L	355	Standard
	Cu	65	39000.3	16.2	**15.0102**	0.180	1.2	ug/L	473	Standard
	Zn	66	131684.8	15.5	**99.8658**	1.754	1.8	ug/L	341	Standard
>	**Ge**	72	610344.4	17.1				ug/L	566981	Standard
	As	75	3470.0	14.9	**2.7109**	0.065	2.4	ug/L	-156	Standard
	Se	82	156.3	12.4	**1.1028**	0.075	6.8	ug/L	35	Standard
	Se-1	77	477.7	9.7	**0.7168**	0.425	59.3	ug/L	354	Standard
>	**Ga**	71	3652.1	17.7				mg/L	43	Standard
	Rb	85	48162.8	16.6				ug/L	48	Standard
	Y	89	1336885.6	17.7				ug/L	447702	Standard
>	**Rh**	103	86.7	35.3				ug/L	20	Standard
	Mo	98	1225.3	16.1	**0.2409**	0.004	1.6	ug/L	158	Standard
	Ag	107	1150.0	19.9	**0.0933**	0.003	3.0	ug/L	133	Standard
	Cd	111	1772.2	15.6	**0.5166**	0.012	2.4	mg/L	7	Standard
	Cd	114	4430.2	20.0	**0.4801**	0.017	3.6	ug/L	72	Standard
>	**In**	115	1019451.0	17.4				ug/L	1004638	Standard
	Sn	118	327.7	13.5	**0.0771**	0.007	9.2	ug/L	364	Standard
	Sb	123	728.8	24.0	**0.0223**	0.033	148.9	ug/L	2464	Standard
	Ba	135	198884.8	17.1	**51.9763**	0.147	0.3	ug/L	39	Standard
	Ce	140	1033135.7	16.7				ug/L	195	Standard
>	**Tb**	159	1691981.9	15.7				ug/L	1640193	Standard
	Ho	165	85931.3	17.6				ug/L	25	Standard
	Tl	203	2161.5	15.9	**0.1382**	0.006	4.2	ug/L	324	Standard
	Tl	205	5100.9	22.0	**0.1279**	0.009	6.7	ug/L	698	Standard
	Pb	206	42014.5	16.3	**3.7106**	0.033	0.9	ug/L	600	Standard
	Pb	207	29751.7	16.8	**2.9421**	0.032	1.1	ug/L	541	Standard
	Pb	208	108098.0	16.1	**3.2543**	0.023	0.7	ug/L	1750	Standard
	U	238	52270.6	9.8	**4.0325**	0.248	6.2	ug/L	10	Standard
>	**Bi**	209	793386.8	15.8				ug/L	811518	Standard

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	Na	23	50.0	70.0	**6.7095**	3.950	58.9	mg/L	0	Standard
	Mg	24	53.3	35.5	**0.2097**	0.250	119.0	mg/L	77	Standard
	K	39	123.3	10.2	**0.5102**	0.017	3.3	mg/L	18	Standard
	Ca	43	126.7	14.9	**15.9335**	7.066	44.3	mg/L	178	Standard
	Fe	54	391.7	24.4	**4.2304**	0.555	13.1	mg/L	29	Standard
	Fe	57	591.7	5.1	**8.0324**	2.142	26.7	mg/L	408	Standard
>	**Sc-1**	45	68034.1	12.9				mg/L	61425	Standard
	Cl	35	1.3	86.6				ug/L	1	Standard
	Kr	83	9.3	24.7				ug/L	12	Standard
	Br	81	1986.8	10.6				ug/L	1747	Standard
	P	31	35.0	51.5				ug/L	17	Standard
	S	34	6.7	43.3				ug/L	3	Standard
	Sr	88	360.0	3.7				ug/L	370	Standard
	C	12	63.3	24.1				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	520.0	10.0				mg/L	17	Standard
	Dy	164	117695.1	16.1				mg/L	9	Standard
	Ho-1	165	85931.3	17.6				mg/L	25	Standard
	Er	166	77753.3	18.1				mg/L	20	Standard
	I	127	28916.1	11.4				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		107.536	
	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		107.648	
	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	101.474
|	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	97.766
⌈	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
Mn 55 Upper, S, EEE	Mn	55	

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Method 6020 - Summary Report

Sample ID: L1611053608PS WG591380-01
Sample Date/Time: Friday, November 11, 2016 14:35:33
Number of Replicates: 3
Autosampler Position: 212
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	218472.0	17.0				ug/L	206101	Standard
	Be	9	121947.4	17.8	**49.2100**	0.793	1.6	ug/L	25	Standard
	Al	27	742150.7	14.2	**3.6049**	0.108	3.0	ug/L	1120	Standard
	Sc	45	67289.2	13.4				ug/L	61425	Standard
	Ti	47	3824.5	18.2	**7.7638**	0.178	2.3	ug/L	70	Standard
	V	51	633285.7	14.5	**55.8732**	1.616	2.9	ug/L	3309	Standard
	Cr	52	668596.8	14.3	**63.9653**	2.057	3.2	ug/L	13497	Standard
	Cr	53	83335.3	15.0	**62.3681**	1.524	2.4	ug/L	3162	Standard
	Mn	55	4888007.3	14.7	**294.8647**	8.075	2.7	ug/L	2226	Standard
	Co	59	730717.2	15.9	**55.9014**	0.782	1.4	ug/L	1003	Standard
	Ni	60	303821.0	15.6	**108.4403**	2.364	2.2	ug/L	355	Standard
	Cu	65	168960.0	16.7	**66.2678**	1.187	1.8	ug/L	473	Standard
	Zn	66	198255.1	16.3	**151.7334**	1.800	1.2	ug/L	341	Standard
>	Ge	72	604975.2	17.2				ug/L	566981	Standard
	As	75	70037.7	16.6	**53.0885**	0.713	1.3	ug/L	-156	Standard
	Se	82	5587.5	18.6	**50.7559**	0.849	1.7	ug/L	35	Standard
	Se-1	77	4911.5	16.1	**52.1846**	1.432	2.7	ug/L	354	Standard
>	Ga	71	3712.1	22.8				mg/L	43	Standard
	Rb	85	48074.1	15.9				ug/L	48	Standard
	Y	89	1347148.7	15.8				ug/L	447702	Standard
>	Rh	103	93.3	30.9				ug/L	20	Standard
	Mo	98	1259.6	16.0	**0.2506**	0.001	0.5	ug/L	158	Standard
	Ag	107	506083.0	15.5	**47.8632**	0.806	1.7	ug/L	133	Standard
	Cd	111	177218.5	17.0	**52.7546**	0.378	0.7	mg/L	7	Standard
	Cd	114	449112.0	16.8	**49.6351**	0.563	1.1	ug/L	72	Standard
>	In	115	1008094.1	16.3				ug/L	1004638	Standard
	Sn	118	246.3	9.4	**0.0398**	0.009	21.6	ug/L	364	Standard
	Sb	123	452940.9	17.4	**50.5083**	0.573	1.1	ug/L	2464	Standard
	Ba	135	379763.3	16.2	**100.3629**	0.677	0.7	ug/L	39	Standard
	Ce	140	1013831.3	16.5				ug/L	195	Standard
>	Tb	159	1655261.2	14.9				ug/L	1640193	Standard
	Ho	165	85871.9	16.3				ug/L	25	Standard
	Tl	203	721217.9	15.5	**50.7561**	0.136	0.3	ug/L	324	Standard
	Tl	205	1673286.6	14.8	**44.0529**	0.729	1.7	ug/L	698	Standard
	Pb	206	600698.3	16.6	**54.1490**	0.694	1.3	ug/L	600	Standard
	Pb	207	525764.1	15.9	**53.2967**	0.355	0.7	ug/L	541	Standard
	Pb	208	1747967.4	15.2	**53.8571**	0.643	1.2	ug/L	1750	Standard
	U	238	723716.8	10.6	**56.2000**	2.863	5.1	ug/L	10	Standard
>	Bi	209	786819.9	15.4				ug/L	811518	Standard

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	Na	23	51.7	22.3	**7.3065**	1.700	23.3	mg/L	0	Standard
	Mg	24	70.0	21.4	**0.6245**	0.513	82.1	mg/L	77	Standard
	K	39	115.0	30.1	**0.4779**	0.177	37.0	mg/L	18	Standard
	Ca	43	113.3	11.1	**18.9764**	0.552	2.9	mg/L	178	Standard
	Fe	54	370.7	22.2	**4.0368**	0.405	10.0	mg/L	29	Standard
	Fe	57	601.7	8.5	**8.8660**	4.851	54.7	mg/L	408	Standard
>	**Sc-1**	45	67289.2	13.4				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	10.7	56.5				ug/L	12	Standard
	Br	81	1926.8	13.5				ug/L	1747	Standard
	P	31	33.3	17.3				ug/L	17	Standard
	S	34	1.7	173.2				ug/L	3	Standard
	Sr	88	388.3	14.8				ug/L	370	Standard
	C	12	86.7	54.5				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	530.0	21.0				mg/L	17	Standard
	Dy	164	118635.8	15.5				mg/L	9	Standard
	Ho-1	165	85871.9	16.3				mg/L	25	Standard
	Er	166	77745.3	15.0				mg/L	20	Standard
	I	127	28039.4	8.9				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		106.002	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		106.701	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			

Sample ID: L1611053608PS WG591380-01
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⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	100.344
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	96.957
⌈	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
Mn 55 Upper, S, EEE	Mn	55	
Ni 60 Upper, S, EEE	Ni	60	
Zn 66 Upper, S, EEE	Zn	66	

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Ba 135 Upper, S, EEE	Ba	135	

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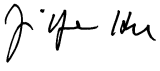

Method 6020 - Summary Report

Sample ID: L1611053608SDL WG591380-02
Sample Date/Time: Friday, November 11, 2016 14:38:38
Number of Replicates: 3
Autosampler Position: 213
Sample Description: 5
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	184745.9	20.1				ug/L	206101	Standard
	Be	9	220.0	29.5	**0.0854**	0.014	16.4	ug/L	25	Standard
	Al	27	136861.4	16.5	**0.7921**	0.034	4.3	ug/L	1120	Standard
	Sc	45	55503.4	16.9				ug/L	61425	Standard
	Ti	47	697.0	19.9	**1.4675**	0.026	1.8	ug/L	70	Standard
	V	51	16385.3	15.4	**1.3132**	0.065	4.9	ug/L	3309	Standard
	Cr	52	36466.2	15.3	**2.5214**	0.164	6.5	ug/L	13497	Standard
	Cr	53	4580.7	16.5	**1.4323**	0.181	12.7	ug/L	3162	Standard
	Mn	55	538348.3	18.1	**36.1817**	0.458	1.3	ug/L	2226	Standard
	Co	59	14608.2	18.4	**1.1887**	0.012	1.0	ug/L	1003	Standard
	Ni	60	30194.1	19.3	**11.9278**	0.023	0.2	ug/L	355	Standard
	Cu	65	7367.8	18.8	**3.0450**	0.046	1.5	ug/L	473	Standard
	Zn	66	26844.0	18.5	**22.7516**	0.235	1.0	ug/L	341	Standard
>	Ge	72	540370.4	19.3				ug/L	566981	Standard
	As	75	467.4	12.6	**0.5045**	0.047	9.4	ug/L	-156	Standard
	Se	82	42.3	5.6	**0.1244**	0.112	89.8	ug/L	35	Standard
	Se-1	77	338.0	5.3	**-0.3448**	0.689	199.8	ug/L	354	Standard
>	Ga	71	743.4	32.1				mg/L	43	Standard
	Rb	85	8397.4	21.5				ug/L	48	Standard
	Y	89	549186.6	18.1				ug/L	447702	Standard
>	Rh	103	21.7	26.6				ug/L	20	Standard
	Mo	98	219.9	9.5	**0.0424**	0.006	14.3	ug/L	158	Standard
	Ag	107	312.7	25.6	**0.0193**	0.002	12.4	ug/L	133	Standard
	Cd	111	342.4	20.6	**0.1083**	0.002	1.8	mg/L	7	Standard
	Cd	114	811.9	23.6	**0.0977**	0.010	9.8	ug/L	72	Standard
>	In	115	893236.6	19.7				ug/L	1004638	Standard
	Sn	118	116.7	22.8	**-0.0168**	0.002	14.7	ug/L	364	Standard
	Sb	123	2597.3	27.2	**0.2853**	0.150	52.6	ug/L	2464	Standard
	Ba	135	35710.9	17.8	**10.6670**	0.210	2.0	ug/L	39	Standard
	Ce	140	186454.6	18.6				ug/L	195	Standard
>	Tb	159	1458764.8	16.9				ug/L	1640193	Standard
	Ho	165	15589.9	17.9				ug/L	25	Standard
	Tl	203	427.0	19.2	**0.0198**	0.001	4.4	ug/L	324	Standard
	Tl	205	1038.4	19.6	**0.0253**	0.004	13.9	ug/L	698	Standard
	Pb	206	7990.8	18.2	**0.7295**	0.017	2.4	ug/L	600	Standard
	Pb	207	5712.8	18.8	**0.5767**	0.017	2.9	ug/L	541	Standard
	Pb	208	21104.7	19.2	**0.6531**	0.012	1.8	ug/L	1750	Standard
	U	238	9801.2	13.8	**0.8252**	0.035	4.2	ug/L	10	Standard
>	Bi	209	727319.7	18.0				ug/L	811518	Standard

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⌈	**Na**	23	5.0	100.0	**0.8109**	0.848	104.5	mg/L	0	Standard
|	**Mg**	24	28.3	66.8	**-0.0821**	0.633	771.3	mg/L	77	Standard
|	**K**	39	20.0	50.0	**0.0092**	0.057	614.7	mg/L	18	Standard
|	**Ca**	43	128.3	33.1	**8.7043**	14.531	166.9	mg/L	178	Standard
|	**Fe**	54	104.2	29.3	**1.0875**	0.269	24.7	mg/L	29	Standard
|	**Fe**	57	501.7	7.5	**9.1841**	4.551	49.6	mg/L	408	Standard
⌊>	**Sc-1**	45	55503.4	16.9				mg/L	61425	Standard
	Cl	35	1.3	86.6				ug/L	1	Standard
	Kr	83	11.0	48.1				ug/L	12	Standard
	Br	81	1366.7	23.1				ug/L	1747	Standard
	P	31	33.3	22.9				ug/L	17	Standard
	S	34	6.7	114.6				ug/L	3	Standard
	Sr	88	378.3	10.7				ug/L	370	Standard
	C	12	43.3	58.1				mg/L	47	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	86.7	29.0				mg/L	17	Standard
	Dy	164	21533.1	17.3				mg/L	9	Standard
	Ho-1	165	15589.9	17.9				mg/L	25	Standard
	Er	166	14130.1	20.5				mg/L	20	Standard
	I	127	9376.2	8.7				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		89.638	
|	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		95.307	
|	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	88.911
|	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	89.625
⌈	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: L1611053608SDL WG591380-02
Sample Date/Time: Friday, November 11, 2016 14:41:43
Number of Replicates: 3
Autosampler Position: 214
Sample Description: 25
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	184075.3	18.1				ug/L	206101	Standard
	Be	9	58.3	13.1	**0.0096**	0.006	62.4	ug/L	25	Standard
	Al	27	31835.4	12.1	**0.1897**	0.011	6.0	ug/L	1120	Standard
	Sc	45	52893.7	16.0				ug/L	61425	Standard
	Ti	47	181.0	16.3	**0.2830**	0.045	16.0	ug/L	70	Standard
	V	51	5523.6	8.5	**0.2453**	0.054	21.9	ug/L	3309	Standard
	Cr	52	14652.5	9.7	**0.1620**	0.130	80.5	ug/L	13497	Standard
	Cr	53	1926.8	8.0	**-0.8398**	0.202	24.1	ug/L	3162	Standard
	Mn	55	121845.1	13.7	**8.2541**	0.324	3.9	ug/L	2226	Standard
	Co	59	3524.4	10.9	**0.2462**	0.021	8.4	ug/L	1003	Standard
	Ni	60	7061.3	12.8	**2.7600**	0.149	5.4	ug/L	355	Standard
	Cu	65	1924.5	14.2	**0.6653**	0.029	4.4	ug/L	473	Standard
	Zn	66	7279.8	14.6	**6.0853**	0.215	3.5	ug/L	341	Standard
>	**Ge**	72	530881.4	17.5				ug/L	566981	Standard
	As	75	-17.4	168.8	**0.0865**	0.031	35.5	ug/L	-156	Standard
	Se	82	19.3	59.1	**-0.1311**	0.101	76.9	ug/L	35	Standard
	Se-1	77	314.0	9.0	**-0.6150**	0.567	92.2	ug/L	354	Standard
>	**Ga**	71	168.3	22.3				mg/L	43	Standard
	Rb	85	1865.1	23.0				ug/L	48	Standard
	Y	89	412188.2	16.3				ug/L	447702	Standard
>	**Rh**	103	35.0	75.6				ug/L	20	Standard
	Mo	98	68.8	18.4	**0.0066**	0.001	16.9	ug/L	158	Standard
	Ag	107	166.7	14.7	**0.0042**	0.002	45.4	ug/L	133	Standard
	Cd	111	81.2	20.9	**0.0207**	0.001	3.9	mg/L	7	Standard
	Cd	114	199.4	7.7	**0.0226**	0.006	27.4	ug/L	72	Standard
>	**In**	115	887068.5	18.1				ug/L	1004638	Standard
	Sn	118	83.0	9.4	**-0.0340**	0.005	13.3	ug/L	364	Standard
	Sb	123	939.3	26.1	**0.0636**	0.053	82.7	ug/L	2464	Standard
	Ba	135	7995.5	15.1	**2.4004**	0.079	3.3	ug/L	39	Standard
	Ce	140	42478.5	13.0				ug/L	195	Standard
>	**Tb**	159	1415591.8	16.3				ug/L	1640193	Standard
	Ho	165	3437.1	15.9				ug/L	25	Standard
	Tl	203	110.3	10.1	**-0.0041**	0.001	34.5	ug/L	324	Standard
	Tl	205	308.3	16.6	**0.0045**	0.000	9.4	ug/L	698	Standard
	Pb	206	2137.5	15.6	**0.1598**	0.003	2.0	ug/L	600	Standard
	Pb	207	1538.1	11.6	**0.1214**	0.010	8.3	ug/L	541	Standard
	Pb	208	5678.7	13.3	**0.1422**	0.007	5.1	ug/L	1750	Standard
	U	238	2152.8	12.1	**0.1845**	0.009	5.0	ug/L	10	Standard
>	**Bi**	209	721343.0	17.0				ug/L	811518	Standard

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	Na	23	1.7	173.2	**0.2609**	0.443	169.9	mg/L	0	Standard
	Mg	24	55.0	15.7	**0.5830**	0.125	21.4	mg/L	77	Standard
	K	39	16.7	45.8	**-0.0077**	0.032	412.9	mg/L	18	Standard
	Ca	43	93.3	21.7	**17.7305**	5.090	28.7	mg/L	178	Standard
	Fe	54	35.8	28.8	**0.1046**	0.088	84.5	mg/L	29	Standard
	Fe	57	473.3	5.4	**8.9278**	4.326	48.5	mg/L	408	Standard
>	**Sc-1**	45	52893.7	16.0				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	6.7	31.2				ug/L	12	Standard
	Br	81	1473.4	5.3				ug/L	1747	Standard
	P	31	26.7	10.8				ug/L	17	Standard
	S	34	3.3	86.6				ug/L	3	Standard
	Sr	88	416.7	23.5				ug/L	370	Standard
	C	12	73.3	41.7				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	23.3	65.5				mg/L	17	Standard
	Dy	164	5044.4	13.8				mg/L	9	Standard
	Ho-1	165	3437.1	15.9				mg/L	25	Standard
	Er	166	2850.3	23.2				mg/L	20	Standard
	I	127	6783.2	6.3				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		89.313	
	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		93.633	
	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	88.297
|	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	88.888
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, November 11, 2016 14:44:49
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	219253.9	16.7				ug/L	206101	Standard
	Be	9	121895.1	16.2	**49.0761**	0.464	0.9	ug/L	25	Standard
	Al	27	9505819.1	12.9	**45.9896**	1.898	4.1	ug/L	1120	Standard
	Sc	45	58326.1	10.0				ug/L	61425	Standard
	Ti	47	46461.0	13.6	**97.6952**	3.863	4.0	ug/L	70	Standard
	V	51	558319.4	13.9	**49.9018**	1.731	3.5	ug/L	3309	Standard
	Cr	52	513430.8	14.4	**49.4252**	1.583	3.2	ug/L	13497	Standard
	Cr	53	64391.8	14.4	**48.2976**	1.584	3.3	ug/L	3162	Standard
	Mn	55	817983.5	15.4	**49.8281**	1.126	2.3	ug/L	2226	Standard
	Co	59	660302.9	16.1	**51.1587**	1.175	2.3	ug/L	1003	Standard
	Ni	60	141366.5	16.2	**51.0051**	0.896	1.8	ug/L	355	Standard
	Cu	65	130978.0	16.7	**51.9895**	1.036	2.0	ug/L	473	Standard
	Zn	66	67628.1	15.7	**52.2777**	0.955	1.8	ug/L	341	Standard
>	**Ge**	72	596758.1	16.8				ug/L	566981	Standard
	As	75	66328.2	17.0	**50.9077**	0.475	0.9	ug/L	-156	Standard
	Se	82	5514.4	19.0	**50.7215**	1.401	2.8	ug/L	35	Standard
	Se-1	77	4702.4	19.6	**50.2373**	1.628	3.2	ug/L	354	Standard
>	**Ga**	71	106.7	31.9				mg/L	43	Standard
	Rb	85	670.0	14.3				ug/L	48	Standard
	Y	89	437770.5	17.3				ug/L	447702	Standard
>	**Rh**	103	51.7	14.8				ug/L	20	Standard
	Mo	98	475822.1	16.6	**99.0083**	0.927	0.9	ug/L	158	Standard
	Ag	107	532414.2	16.4	**50.7231**	0.729	1.4	ug/L	133	Standard
	Cd	111	176341.5	17.6	**52.8949**	1.030	1.9	mg/L	7	Standard
	Cd	114	463586.2	17.8	**51.6070**	0.620	1.2	ug/L	72	Standard
>	**In**	115	1000237.9	16.8				ug/L	1004638	Standard
	Sn	118	104870.8	18.4	**50.8676**	0.821	1.6	ug/L	364	Standard
	Sb	123	454726.3	17.5	**51.1210**	0.873	1.7	ug/L	2464	Standard
	Ba	135	184865.9	16.4	**49.2438**	0.523	1.1	ug/L	39	Standard
	Ce	140	220.0	15.9				ug/L	195	Standard
>	**Tb**	159	1599333.6	15.8				ug/L	1640193	Standard
	Ho	165	50.0	10.0				ug/L	25	Standard
	Tl	203	712034.1	16.0	**50.4281**	0.528	1.0	ug/L	324	Standard
	Tl	205	1695333.2	15.6	**44.8936**	0.482	1.1	ug/L	698	Standard
	Pb	206	558596.3	15.5	**50.7529**	0.414	0.8	ug/L	600	Standard
	Pb	207	498035.6	15.7	**50.8413**	0.639	1.3	ug/L	541	Standard
	Pb	208	1658345.2	15.6	**51.4155**	0.417	0.8	ug/L	1750	Standard
	U	238	669072.9	9.9	**52.3393**	2.757	5.3	ug/L	10	Standard
>	**Bi**	209	781044.4	15.0				ug/L	811518	Standard

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⌈	**Na**	23	26.7	96.2	**4.0795**	3.696	90.6	mg/L	0	Standard
|	**Mg**	24	256.7	9.8	**5.1939**	0.016	0.3	mg/L	77	Standard
|	**K**	39	918.4	9.5	**5.3035**	0.546	10.3	mg/L	18	Standard
|	**Ca**	43	125.0	10.6	**12.5870**	0.668	5.3	mg/L	178	Standard
|	**Fe**	54	579.9	26.8	**7.6145**	1.383	18.2	mg/L	29	Standard
|	**Fe**	57	598.3	15.0	**11.8414**	4.859	41.0	mg/L	408	Standard
⌊>	**Sc-1**	45	58326.1	10.0				mg/L	61425	Standard
	Cl	35	2.0	100.0				ug/L	1	Standard
	Kr	83	5.7	27.0				ug/L	12	Standard
	Br	81	1696.8	25.7				ug/L	1747	Standard
	P	31	26.7	43.3				ug/L	17	Standard
	S	34	5.0	100.0				ug/L	3	Standard
	Sr	88	396.7	12.9				ug/L	370	Standard
	C	12	60.0	72.6				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	17	Standard
	Dy	164	52.2	12.3				mg/L	9	Standard
	Ho-1	165	50.0	10.0				mg/L	25	Standard
	Er	166	23.3	99.0				mg/L	20	Standard
	I	127	3453.7	3.2				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6			
|	Be	9	98.152		
⌊	Al	27	91.979		
⌈	Sc	45			
|	Ti	47	97.695		
|	V	51	99.804		
|	Cr	52	98.850		
|	Cr	53			
|	Mn	55	99.656		
|	Co	59	102.317		
|	Ni	60	102.010		
|	Cu	65	103.979		
|	Zn	66	104.555		
|>	Ge	72		105.252	
|	As	75	101.815		
|	Se	82	101.443		
⌊	Se-1	77			
⌈>	Ga	71			

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⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			
⌈	Mo	98	99.008		
|	Ag	107	101.446		
|	Cd	111	105.790		
|	Cd	114			
|>	In	115		99.562	
|	Sn	118	101.735		
|	Sb	123	102.242		
⌊	Ba	135	98.488		
⌈	Ce	140			
⌊>	Tb	159			
⌈	Ho	165			
|	Tl	203	100.856		
|	Tl	205			
|	Pb	206			
|	Pb	207			
|	Pb	208	102.831		
|	U	238	104.679		
⌊>	Bi	209		96.245	
⌈	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: Friday, November 11, 2016 14:54:17
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	201206.2	22.9				ug/L	206101	Standard
	Be	9	16.7	45.8	**-0.0119**	0.002	14.3	ug/L	25	Standard
	Al	27	2421.9	11.5	**0.0186**	0.002	8.3	ug/L	1120	Standard
	Sc	45	53213.1	15.3				ug/L	61425	Standard
	Ti	47	127.7	118.3	**0.1397**	0.337	241.1	ug/L	70	Standard
	V	51	3136.8	5.1	**-0.0128**	0.060	466.9	ug/L	3309	Standard
	Cr	52	12751.7	9.4	**-0.1285**	0.182	141.7	ug/L	13497	Standard
	Cr	53	1493.4	8.9	**-1.3023**	0.198	15.2	ug/L	3162	Standard
	Mn	55	3903.9	30.2	**0.1167**	0.072	61.8	ug/L	2226	Standard
	Co	59	815.4	7.1	**0.0047**	0.011	227.8	ug/L	1003	Standard
	Ni	60	372.7	8.5	**0.0205**	0.029	142.4	ug/L	355	Standard
	Cu	65	424.7	21.2	**-0.0217**	0.003	13.7	ug/L	473	Standard
	Zn	66	372.0	12.8	**0.0181**	0.031	172.3	ug/L	341	Standard
>	Ge	72	567584.4	22.7				ug/L	566981	Standard
	As	75	-105.3	45.0	**0.0178**	0.039	219.4	ug/L	-156	Standard
	Se	82	34.8	23.8	**0.0169**	0.047	278.1	ug/L	35	Standard
	Se-1	77	313.7	3.1	**-0.8102**	0.911	112.4	ug/L	354	Standard
>	Ga	71	46.7	37.6				mg/L	43	Standard
	Rb	85	58.3	4.9				ug/L	48	Standard
	Y	89	410444.4	23.0				ug/L	447702	Standard
>	Rh	103	35.0	24.7				ug/L	20	Standard
	Mo	98	165.8	22.2	**0.0290**	0.014	47.8	ug/L	158	Standard
	Ag	107	157.3	5.3	**0.0025**	0.003	112.4	ug/L	133	Standard
	Cd	111	13.8	28.8	**-0.0020**	0.002	118.7	mg/L	7	Standard
	Cd	114	93.6	21.2	**0.0086**	0.005	53.5	ug/L	72	Standard
>	In	115	941398.1	21.8				ug/L	1004638	Standard
	Sn	118	364.7	5.4	**0.1149**	0.044	38.7	ug/L	364	Standard
	Sb	123	5448.8	19.7	**0.6247**	0.244	39.1	ug/L	2464	Standard
	Ba	135	44.7	13.7	**0.0033**	0.001	33.0	ug/L	39	Standard
	Ce	140	35.0	51.5				ug/L	195	Standard
>	Tb	159	1504131.0	21.9				ug/L	1640193	Standard
	Ho	165	23.3	53.9				ug/L	25	Standard
	Tl	203	36.0	7.3	**-0.0099**	0.001	6.2	ug/L	324	Standard
	Tl	205	83.3	34.6	**-0.0019**	0.001	64.7	ug/L	698	Standard
	Pb	206	565.3	18.9	**0.0031**	0.001	38.8	ug/L	600	Standard
	Pb	207	471.0	20.3	**0.0007**	0.000	64.9	ug/L	541	Standard
	Pb	208	1588.0	21.7	**0.0022**	0.000	16.4	ug/L	1750	Standard
	U	238	14.3	16.1	**0.0033**	0.000	14.0	ug/L	10	Standard
>	Bi	209	742766.3	21.1				ug/L	811518	Standard

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⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	0	Standard
|	**Mg**	24	40.0	54.5	**0.2181**	0.660	302.4	mg/L	77	Standard
|	**K**	39	8.3	124.9	**-0.0642**	0.058	90.5	mg/L	18	Standard
|	**Ca**	43	96.7	21.5	**16.7164**	6.616	39.6	mg/L	178	Standard
|	**Fe**	54	29.1	30.5	**0.0019**	0.086	4622.8	mg/L	29	Standard
|	**Fe**	57	435.0	11.9	**7.1138**	5.171	72.7	mg/L	408	Standard
⌊>	**Sc-1**	45	53213.1	15.3				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	12.3	9.4				ug/L	12	Standard
	Br	81	1733.4	10.3				ug/L	1747	Standard
	P	31	33.3	22.9				ug/L	17	Standard
	S	34	5.0	0.0				ug/L	3	Standard
	Sr	88	373.3	7.4				ug/L	370	Standard
	C	12	46.7	32.7				mg/L	47	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	10.0	100.0				mg/L	17	Standard
	Dy	164	19.2	53.3				mg/L	9	Standard
	Ho-1	165	23.3	53.9				mg/L	25	Standard
	Er	166	16.7	34.6				mg/L	20	Standard
	I	127	3823.8	6.9				mg/L	6023	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		100.106	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

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⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	93.705
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	91.528
⌈	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 7	Sb	123	

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Method 6020 - Summary Report

Sample ID: L1611053610
Sample Date/Time: Friday, November 11, 2016 14:57:24
Number of Replicates: 3
Autosampler Position: 215
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	218941.6	18.3				ug/L	206101	Standard
	Be	9	1480.1	16.4	**0.5791**	0.016	2.8	ug/L	25	Standard
	Al	27	1452468.4	13.0	**7.0576**	0.383	5.4	ug/L	1120	Standard
	Sc	45	71960.1	10.7				ug/L	61425	Standard
	Ti	47	5254.9	19.4	**10.6838**	0.456	4.3	ug/L	70	Standard
	V	51	122458.5	13.4	**10.5422**	0.464	4.4	ug/L	3309	Standard
	Cr	52	227185.6	13.3	**20.7391**	0.921	4.4	ug/L	13497	Standard
	Cr	53	28680.8	13.2	**19.7870**	0.882	4.5	ug/L	3162	Standard
	Mn	55	6087767.1	15.3	**366.2847**	9.336	2.5	ug/L	2226	Standard
	Co	59	121715.9	16.7	**9.2331**	0.149	1.6	ug/L	1003	Standard
	Ni	60	256373.3	16.9	**91.1544**	1.924	2.1	ug/L	355	Standard
	Cu	65	51494.5	17.8	**19.9898**	0.261	1.3	ug/L	473	Standard
	Zn	66	177372.0	16.8	**135.3873**	1.041	0.8	ug/L	341	Standard
>	Ge	72	605905.7	17.1				ug/L	566981	Standard
	As	75	5414.8	19.1	**4.1813**	0.081	1.9	ug/L	-156	Standard
	Se	82	136.6	17.8	**0.9237**	0.011	1.2	ug/L	35	Standard
	Se-1	77	516.3	15.1	**1.1690**	0.133	11.4	ug/L	354	Standard
>	Ga	71	6706.5	20.3				mg/L	43	Standard
	Rb	85	62069.8	18.5				ug/L	48	Standard
	Y	89	1957852.2	32.5				ug/L	447702	Standard
>	Rh	103	73.3	27.6				ug/L	20	Standard
	Mo	98	1481.0	17.0	**0.2953**	0.004	1.5	ug/L	158	Standard
	Ag	107	975.7	20.8	**0.0778**	0.005	6.2	ug/L	133	Standard
	Cd	111	2756.7	17.0	**0.8124**	0.005	0.7	mg/L	7	Standard
	Cd	114	7107.5	19.4	**0.7789**	0.027	3.5	ug/L	72	Standard
>	In	115	1010480.6	16.6				ug/L	1004638	Standard
	Sn	118	342.7	10.2	**0.0862**	0.011	13.3	ug/L	364	Standard
	Sb	123	1603.8	23.8	**0.1238**	0.067	53.9	ug/L	2464	Standard
	Ba	135	194694.5	16.2	**51.3393**	0.301	0.6	ug/L	39	Standard
	Ce	140	1564246.9	15.9				ug/L	195	Standard
>	Tb	159	1677102.2	14.1				ug/L	1640193	Standard
	Ho	165	122127.4	16.5				ug/L	25	Standard
	Tl	203	3310.4	17.1	**0.2191**	0.007	3.3	ug/L	324	Standard
	Tl	205	7935.5	18.8	**0.2030**	0.009	4.3	ug/L	698	Standard
	Pb	206	70453.2	16.1	**6.2863**	0.104	1.7	ug/L	600	Standard
	Pb	207	51702.6	16.0	**5.1767**	0.082	1.6	ug/L	541	Standard
	Pb	208	184555.6	16.0	**5.6164**	0.079	1.4	ug/L	1750	Standard
	U	238	51396.7	10.7	**3.9771**	0.161	4.1	ug/L	10	Standard
>	Bi	209	788992.9	14.7				ug/L	811518	Standard

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	Na	23	78.3	42.5	**10.0435**	3.260	32.5	mg/L	0	Standard
	Mg	24	56.7	5.1	**0.2439**	0.175	71.7	mg/L	77	Standard
	K	39	160.0	13.6	**0.6608**	0.170	25.7	mg/L	18	Standard
	Ca	43	121.7	29.7	**18.3641**	8.893	48.4	mg/L	178	Standard
	Fe	54	559.8	29.9	**5.8559**	1.251	21.4	mg/L	29	Standard
	Fe	57	556.7	12.2	**5.5406**	1.377	24.9	mg/L	408	Standard
>	**Sc-1**	45	71960.1	10.7				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	9.7	36.3				ug/L	12	Standard
	Br	81	1830.1	14.1				ug/L	1747	Standard
	P	31	25.0	0.0				ug/L	17	Standard
	S	34	3.3	173.2				ug/L	3	Standard
	Sr	88	385.0	13.7				ug/L	370	Standard
	C	12	26.7	78.1				mg/L	47	Standard
	N	14	6.7	173.2				mg/L	0	Standard
	Hg	202	630.0	21.8				mg/L	17	Standard
	Dy	164	170967.5	18.8				mg/L	9	Standard
	Ho-1	165	122127.4	16.5				mg/L	25	Standard
	Er	166	114277.7	17.2				mg/L	20	Standard
	I	127	26984.1	8.9				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		106.230	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		106.865	
	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	100.582
|	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	97.224
⌈	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
Mn 55 Upper, S, EEE	Mn	55	
Zn 66 Upper, S, EEE	Zn	66	

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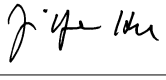

Method 6020 - Summary Report

Sample ID: L1611053612
Sample Date/Time: Friday, November 11, 2016 15:00:30
Number of Replicates: 3
Autosampler Position: 216
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	216990.0	16.9				ug/L	206101	Standard
	Be	9	590.0	13.3	**0.2228**	0.023	10.2	ug/L	25	Standard
	Al	27	542179.1	13.9	**2.6537**	0.088	3.3	ug/L	1120	Standard
	Sc	45	65660.1	12.6				ug/L	61425	Standard
	Ti	47	3787.5	22.3	**7.5653**	0.635	8.4	ug/L	70	Standard
	V	51	50818.8	14.9	**4.1417**	0.101	2.4	ug/L	3309	Standard
	Cr	52	115099.0	15.4	**9.6525**	0.231	2.4	ug/L	13497	Standard
	Cr	53	14447.0	14.3	**8.5800**	0.339	4.0	ug/L	3162	Standard
	Mn	55	2825498.1	27.7	**165.9006**	21.469	12.9	ug/L	2226	Standard
	Co	59	49948.7	16.8	**3.7185**	0.060	1.6	ug/L	1003	Standard
	Ni	60	108088.4	16.0	**38.0679**	0.603	1.6	ug/L	355	Standard
	Cu	65	23596.0	17.1	**8.9776**	0.020	0.2	ug/L	473	Standard
	Zn	66	54154.2	17.3	**40.7520**	0.482	1.2	ug/L	341	Standard
>	Ge	72	611314.6	17.0				ug/L	566981	Standard
	As	75	2558.0	23.4	**2.0053**	0.140	7.0	ug/L	-156	Standard
	Se	82	90.9	13.6	**0.5037**	0.038	7.5	ug/L	35	Standard
	Se-1	77	436.7	7.6	**0.2489**	0.533	213.9	ug/L	354	Standard
>	Ga	71	2140.2	21.8				mg/L	43	Standard
	Rb	85	23118.0	17.3				ug/L	48	Standard
	Y	89	1140752.5	17.7				ug/L	447702	Standard
>	Rh	103	40.0	69.6				ug/L	20	Standard
	Mo	98	843.3	18.9	**0.1619**	0.004	2.6	ug/L	158	Standard
	Ag	107	744.7	16.7	**0.0556**	0.000	0.2	ug/L	133	Standard
	Cd	111	992.3	14.4	**0.2860**	0.008	2.8	mg/L	7	Standard
	Cd	114	2590.6	17.6	**0.2802**	0.022	7.9	ug/L	72	Standard
>	In	115	1020844.4	16.6				ug/L	1004638	Standard
	Sn	118	235.3	13.7	**0.0325**	0.004	10.8	ug/L	364	Standard
	Sb	123	1119.9	23.0	**0.0669**	0.048	72.5	ug/L	2464	Standard
	Ba	135	80299.7	17.9	**20.9159**	0.305	1.5	ug/L	39	Standard
	Ce	140	706552.2	15.8				ug/L	195	Standard
>	Tb	159	1678271.2	16.0				ug/L	1640193	Standard
	Ho	165	65046.7	16.1				ug/L	25	Standard
	Tl	203	1428.4	15.4	**0.0859**	0.001	1.7	ug/L	324	Standard
	Tl	205	3422.1	16.4	**0.0838**	0.003	3.9	ug/L	698	Standard
	Pb	206	23875.4	15.9	**2.0615**	0.019	0.9	ug/L	600	Standard
	Pb	207	16991.0	17.5	**1.6364**	0.029	1.8	ug/L	541	Standard
	Pb	208	61575.5	16.5	**1.8086**	0.017	0.9	ug/L	1750	Standard
	U	238	27857.5	11.1	**2.1210**	0.106	5.0	ug/L	10	Standard
>	Bi	209	803295.0	15.9				ug/L	811518	Standard

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⌈	**Na**	23	21.7	26.6	**3.1758**	1.065	33.5	mg/L	0	Standard
|	**Mg**	24	55.0	27.3	**0.2918**	0.228	78.0	mg/L	77	Standard
|	**K**	39	78.3	32.1	**0.3110**	0.191	61.4	mg/L	18	Standard
|	**Ca**	43	100.0	18.0	**20.7583**	6.559	31.6	mg/L	178	Standard
|	**Fe**	54	167.0	27.3	**1.6150**	0.326	20.2	mg/L	29	Standard
|	**Fe**	57	498.3	8.4	**5.2763**	1.446	27.4	mg/L	408	Standard
⌊>	**Sc-1**	45	65660.1	12.6				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	10.7	10.8				ug/L	12	Standard
	Br	81	1910.1	19.9				ug/L	1747	Standard
	P	31	26.7	10.8				ug/L	17	Standard
	S	34	5.0	100.0				ug/L	3	Standard
	Sr	88	433.3	20.4				ug/L	370	Standard
	C	12	60.0					mg/L	47	Standard
	N	14	6.7	86.6				mg/L	0	Standard
	Hg	202	260.0	37.1				mg/L	17	Standard
	Dy	164	97516.9	16.7				mg/L	9	Standard
	Ho-1	165	65046.7	16.1				mg/L	25	Standard
	Er	166	59298.4	18.3				mg/L	20	Standard
	I	127	22652.0	9.7				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		105.283	
|	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		107.819	
|	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	101.613
|	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	98.987
⌈	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
Mn 55 Upper, S, EEE	Mn	55	

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Method 6020 - Summary Report

Sample ID: L1611053614
Sample Date/Time: Friday, November 11, 2016 15:03:35
Number of Replicates: 3
Autosampler Position: 217
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	222619.7	20.8				ug/L	206101	Standard
	Be	9	1023.4	11.7	**0.3936**	0.056	14.2	ug/L	25	Standard
	Al	27	1042527.3	12.5	**5.0098**	0.426	8.5	ug/L	1120	Standard
	Sc	45	71374.2	11.5				ug/L	61425	Standard
	Ti	47	5875.2	16.8	**11.8846**	0.108	0.9	ug/L	70	Standard
	V	51	114011.0	12.4	**9.7126**	0.555	5.7	ug/L	3309	Standard
	Cr	52	311234.7	13.1	**28.6894**	1.481	5.2	ug/L	13497	Standard
	Cr	53	39989.9	12.5	**28.3433**	1.701	6.0	ug/L	3162	Standard
	Mn	55	5347047.7	13.5	**319.4129**	13.757	4.3	ug/L	2226	Standard
	Co	59	112881.7	15.2	**8.4931**	0.220	2.6	ug/L	1003	Standard
	Ni	60	195709.6	15.3	**69.0386**	1.704	2.5	ug/L	355	Standard
	Cu	65	42723.5	15.8	**16.4339**	0.323	2.0	ug/L	473	Standard
	Zn	66	137898.8	14.5	**104.4924**	3.349	3.2	ug/L	341	Standard
>	Ge	72	612079.5	17.6				ug/L	566981	Standard
	As	75	4286.0	16.8	**3.3094**	0.031	0.9	ug/L	-156	Standard
	Se	82	227.7	19.5	**1.7331**	0.047	2.7	ug/L	35	Standard
	Se-1	77	584.3	8.8	**1.9527**	0.698	35.7	ug/L	354	Standard
>	Ga	71	4252.3	24.0				mg/L	43	Standard
	Rb	85	52288.3	16.0				ug/L	48	Standard
	Y	89	1707193.6	17.0				ug/L	447702	Standard
>	Rh	103	63.3	4.6				ug/L	20	Standard
	Mo	98	4668.6	16.0	**0.9378**	0.010	1.1	ug/L	158	Standard
	Ag	107	2354.2	13.8	**0.2054**	0.005	2.6	ug/L	133	Standard
	Cd	111	2217.8	16.6	**0.6425**	0.015	2.3	mg/L	7	Standard
	Cd	114	5567.2	15.4	**0.6026**	0.026	4.3	ug/L	72	Standard
>	In	115	1025230.7	15.8				ug/L	1004638	Standard
	Sn	118	265.7	13.1	**0.0464**	0.004	9.6	ug/L	364	Standard
	Sb	123	955.1	17.6	**0.0465**	0.034	73.3	ug/L	2464	Standard
	Ba	135	175964.5	14.9	**45.7529**	0.956	2.1	ug/L	39	Standard
	Ce	140	1095627.0	13.8				ug/L	195	Standard
>	Tb	159	1703309.3	15.4				ug/L	1640193	Standard
	Ho	165	109680.5	13.8				ug/L	25	Standard
	Tl	203	2715.2	17.1	**0.1746**	0.003	1.4	ug/L	324	Standard
	Tl	205	6459.7	16.3	**0.1623**	0.003	1.9	ug/L	698	Standard
	Pb	206	45615.1	14.2	**3.9992**	0.075	1.9	ug/L	600	Standard
	Pb	207	32294.9	15.5	**3.1681**	0.013	0.4	ug/L	541	Standard
	Pb	208	117488.2	14.6	**3.5088**	0.050	1.4	ug/L	1750	Standard
	U	238	55074.6	10.2	**4.2020**	0.243	5.8	ug/L	10	Standard
>	Bi	209	801923.5	15.9				ug/L	811518	Standard

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⌈	**Na**	23	66.7	42.6	**8.5865**	2.915	33.9	mg/L	0	Standard
|	**Mg**	24	43.3	17.6	**-0.0028**	0.206	7402.6	mg/L	77	Standard
|	**K**	39	101.7	44.1	**0.3849**	0.242	62.9	mg/L	18	Standard
|	**Ca**	43	123.3	9.4	**18.1484**	4.173	23.0	mg/L	178	Standard
|	**Fe**	54	593.1	20.9	**6.3147**	0.674	10.7	mg/L	29	Standard
|	**Fe**	57	590.0	9.6	**7.1401**	4.375	61.3	mg/L	408	Standard
⌊>	**Sc-1**	45	71374.2	11.5				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	7.3	34.3				ug/L	12	Standard
	Br	81	2036.8	16.1				ug/L	1747	Standard
	P	31	20.0	43.3				ug/L	17	Standard
	S	34	5.0	100.0				ug/L	3	Standard
	Sr	88	381.7	16.5				ug/L	370	Standard
	C	12	60.0	33.3				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	416.7	5.0				mg/L	17	Standard
	Dy	164	152872.3	16.4				mg/L	9	Standard
	Ho-1	165	109680.5	13.8				mg/L	25	Standard
	Er	166	97991.0	15.7				mg/L	20	Standard
	I	127	26411.4	7.3				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		108.015	
|	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		107.954	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

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⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	102.050
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	98.818
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	
Zn 66 Upper, S, EEE	Zn	66	

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Method 6020 - Summary Report

Sample ID: L1611053616
Sample Date/Time: Friday, November 11, 2016 15:06:40
Number of Replicates: 3
Autosampler Position: 218
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	214680.6	17.0				ug/L	206101	Standard
	Be	9	971.7	21.4	**0.3796**	0.033	8.8	ug/L	25	Standard
	Al	27	673943.6	12.2	**3.3393**	0.164	4.9	ug/L	1120	Standard
	Sc	45	67509.7	11.4				ug/L	61425	Standard
	Ti	47	3896.8	19.7	**8.0283**	0.234	2.9	ug/L	70	Standard
	V	51	93209.2	14.2	**8.0895**	0.241	3.0	ug/L	3309	Standard
	Cr	52	182136.6	14.2	**16.6371**	0.577	3.5	ug/L	13497	Standard
	Cr	53	23022.7	15.1	**15.6616**	0.508	3.2	ug/L	3162	Standard
	Mn	55	4063932.4	14.7	**249.0910**	5.842	2.3	ug/L	2226	Standard
	Co	59	107420.7	16.1	**8.2961**	0.076	0.9	ug/L	1003	Standard
	Ni	60	159857.6	15.8	**57.9073**	0.746	1.3	ug/L	355	Standard
	Cu	65	40083.0	17.7	**15.8040**	0.107	0.7	ug/L	473	Standard
	Zn	66	99422.3	16.5	**77.1654**	0.650	0.8	ug/L	341	Standard
>	Ge	72	595075.2	17.0				ug/L	566981	Standard
	As	75	4181.8	17.6	**3.3155**	0.020	0.6	ug/L	-156	Standard
	Se	82	132.7	20.0	**0.9137**	0.142	15.5	ug/L	35	Standard
	Se-1	77	481.3	4.6	**0.9333**	0.714	76.5	ug/L	354	Standard
>	Ga	71	3130.3	21.3				mg/L	43	Standard
	Rb	85	46370.7	17.9				ug/L	48	Standard
	Y	89	1304137.5	17.9				ug/L	447702	Standard
>	Rh	103	51.7	34.0				ug/L	20	Standard
	Mo	98	1352.9	13.2	**0.2709**	0.011	3.9	ug/L	158	Standard
	Ag	107	941.4	19.5	**0.0748**	0.004	5.2	ug/L	133	Standard
	Cd	111	1637.0	19.3	**0.4798**	0.012	2.4	mg/L	7	Standard
	Cd	114	4291.4	23.1	**0.4683**	0.045	9.6	ug/L	72	Standard
>	In	115	1008074.3	17.0				ug/L	1004638	Standard
	Sn	118	220.7	12.9	**0.0269**	0.004	15.8	ug/L	364	Standard
	Sb	123	826.8	17.6	**0.0339**	0.031	92.0	ug/L	2464	Standard
	Ba	135	169640.7	17.0	**44.8149**	0.275	0.6	ug/L	39	Standard
	Ce	140	944946.3	16.1				ug/L	195	Standard
>	Tb	159	1648022.5	15.6				ug/L	1640193	Standard
	Ho	165	78946.6	15.2				ug/L	25	Standard
	Tl	203	2419.9	18.0	**0.1570**	0.003	1.6	ug/L	324	Standard
	Tl	205	5364.3	16.7	**0.1364**	0.003	1.9	ug/L	698	Standard
	Pb	206	38725.0	16.7	**3.4391**	0.057	1.6	ug/L	600	Standard
	Pb	207	27939.5	16.6	**2.7800**	0.033	1.2	ug/L	541	Standard
	Pb	208	101728.6	16.3	**3.0806**	0.018	0.6	ug/L	1750	Standard
	U	238	42226.2	10.7	**3.2782**	0.190	5.8	ug/L	10	Standard
>	Bi	209	788367.8	16.5				ug/L	811518	Standard

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	Na	23	61.7	40.0	**8.4750**	2.513	29.7	mg/L	0	Standard
	Mg	24	46.7	27.0	**0.0884**	0.146	165.6	mg/L	77	Standard
	K	39	110.0	19.8	**0.4430**	0.065	14.7	mg/L	18	Standard
	Ca	43	101.7	7.5	**21.2657**	3.791	17.8	mg/L	178	Standard
	Fe	54	373.3	22.2	**4.0512**	0.511	12.6	mg/L	29	Standard
	Fe	57	593.3	12.9	**8.2760**	3.895	47.1	mg/L	408	Standard
>	**Sc-1**	45	67509.7	11.4				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	8.3	66.1				ug/L	12	Standard
	Br	81	1806.8	16.3				ug/L	1747	Standard
	P	31	31.7	36.5				ug/L	17	Standard
	S	34	3.3	173.2				ug/L	3	Standard
	Sr	88	408.3	5.5				ug/L	370	Standard
	C	12	56.7	36.7				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	293.3	9.8				mg/L	17	Standard
	Dy	164	109449.5	15.6				mg/L	9	Standard
	Ho-1	165	78946.6	15.2				mg/L	25	Standard
	Er	166	70615.2	20.0				mg/L	20	Standard
	I	127	25302.9	9.5				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		104.163	
	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		104.955	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			

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⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	100.342
|	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	97.147
⌈	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
Mn 55 Upper, S, EEE	Mn	55	

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Method 6020 - Summary Report

Sample ID: L1611053618
Sample Date/Time: Friday, November 11, 2016 15:09:46
Number of Replicates: 3
Autosampler Position: 219
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	217239.5	20.6				ug/L	206101	Standard
	Be	9	1165.0	13.8	**0.4604**	0.051	11.2	ug/L	25	Standard
	Al	27	1026846.3	14.7	**5.0447**	0.370	7.3	ug/L	1120	Standard
	Sc	45	70566.0	13.8				ug/L	61425	Standard
	Ti	47	5224.9	19.1	**10.6161**	0.155	1.5	ug/L	70	Standard
	V	51	135811.9	16.2	**11.6833**	0.371	3.2	ug/L	3309	Standard
	Cr	52	202113.4	15.8	**18.2281**	0.704	3.9	ug/L	13497	Standard
	Cr	53	25206.4	17.3	**16.9796**	0.456	2.7	ug/L	3162	Standard
	Mn	55	4419347.5	16.7	**265.3793**	7.088	2.7	ug/L	2226	Standard
	Co	59	94270.5	18.3	**7.1204**	0.095	1.3	ug/L	1003	Standard
	Ni	60	220400.8	18.6	**78.1522**	0.682	0.9	ug/L	355	Standard
	Cu	65	46091.4	19.3	**17.8254**	0.030	0.2	ug/L	473	Standard
	Zn	66	126507.5	17.4	**96.3784**	2.038	2.1	ug/L	341	Standard
>	**Ge**	72	607879.5	19.2				ug/L	566981	Standard
	As	75	6568.3	19.2	**5.0449**	0.008	0.2	ug/L	-156	Standard
	Se	82	139.3	12.3	**0.9577**	0.092	9.6	ug/L	35	Standard
	Se-1	77	496.7	5.9	**1.0148**	0.822	81.0	ug/L	354	Standard
>	**Ga**	71	5044.2	17.4				mg/L	43	Standard
	Rb	85	71883.3	20.7				ug/L	48	Standard
	Y	89	1411614.8	17.7				ug/L	447702	Standard
>	**Rh**	103	75.0	26.7				ug/L	20	Standard
	Mo	98	1356.2	21.9	**0.2700**	0.012	4.3	ug/L	158	Standard
	Ag	107	1106.7	20.6	**0.0909**	0.005	6.0	ug/L	133	Standard
	Cd	111	2216.1	19.0	**0.6547**	0.004	0.6	mg/L	7	Standard
	Cd	114	5736.0	18.7	**0.6325**	0.018	2.9	ug/L	72	Standard
>	**In**	115	1005732.1	18.5				ug/L	1004638	Standard
	Sn	118	251.0	18.0	**0.0415**	0.007	16.2	ug/L	364	Standard
	Sb	123	754.1	9.2	**0.0254**	0.024	94.0	ug/L	2464	Standard
	Ba	135	213237.9	19.1	**56.4553**	1.413	2.5	ug/L	39	Standard
	Ce	140	1452747.7	18.6				ug/L	195	Standard
>	**Tb**	159	1675816.0	16.4				ug/L	1640193	Standard
	Ho	165	91449.5	18.2				ug/L	25	Standard
	Tl	203	3274.4	18.1	**0.2160**	0.002	0.8	ug/L	324	Standard
	Tl	205	7933.8	19.5	**0.2024**	0.003	1.6	ug/L	698	Standard
	Pb	206	56649.7	18.2	**5.0264**	0.027	0.5	ug/L	600	Standard
	Pb	207	41370.0	18.7	**4.1151**	0.035	0.9	ug/L	541	Standard
	Pb	208	147908.3	17.4	**4.4793**	0.032	0.7	ug/L	1750	Standard
	U	238	52686.8	12.7	**4.0676**	0.222	5.4	ug/L	10	Standard
>	**Bi**	209	792799.9	18.0				ug/L	811518	Standard

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⌈	**Na**	23	61.7	38.3	**8.0530**	2.260	28.1	mg/L	0	Standard
|	**Mg**	24	55.0	15.7	**0.2198**	0.079	35.8	mg/L	77	Standard
|	**K**	39	158.3	9.6	**0.6633**	0.098	14.8	mg/L	18	Standard
|	**Ca**	43	110.0	24.1	**20.6549**	5.174	25.1	mg/L	178	Standard
|	**Fe**	54	427.9	30.4	**4.4806**	0.962	21.5	mg/L	29	Standard
|	**Fe**	57	630.0	8.1	**8.5407**	1.420	16.6	mg/L	408	Standard
⌊>	**Sc-1**	45	70566.0	13.8				mg/L	61425	Standard
	Cl	35	1.3	86.6				ug/L	1	Standard
	Kr	83	15.0	17.6				ug/L	12	Standard
	Br	81	1713.4	25.2				ug/L	1747	Standard
	P	31	15.0	120.2				ug/L	17	Standard
	S	34	5.0	100.0				ug/L	3	Standard
	Sr	88	365.0	13.5				ug/L	370	Standard
	C	12	46.7	75.3				mg/L	47	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	460.0	19.6				mg/L	17	Standard
	Dy	164	129993.2	20.4				mg/L	9	Standard
	Ho-1	165	91449.5	18.2				mg/L	25	Standard
	Er	166	83425.0	19.8				mg/L	20	Standard
	I	127	25581.7	10.1				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		105.404	
|	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		107.213	
|	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	100.109
|	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	97.693
⌈	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
Mn 55 Upper, S, EEE	Mn	55	

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Method 6020 - Summary Report

Sample ID: L1611053620
Sample Date/Time: Friday, November 11, 2016 15:12:51
Number of Replicates: 3
Autosampler Position: 220
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	222669.3	18.1				ug/L	206101	Standard
	Be	9	1120.0	20.8	**0.4235**	0.018	4.2	ug/L	25	Standard
	Al	27	806148.3	11.9	**3.8578**	0.246	6.4	ug/L	1120	Standard
	Sc	45	71948.6	11.6				ug/L	61425	Standard
	Ti	47	5587.1	19.5	**11.2717**	0.264	2.3	ug/L	70	Standard
	V	51	132939.7	13.1	**11.3753**	0.497	4.4	ug/L	3309	Standard
	Cr	52	325095.3	14.2	**30.0145**	1.015	3.4	ug/L	13497	Standard
	Cr	53	41057.9	14.0	**29.1354**	1.068	3.7	ug/L	3162	Standard
	Mn	55	3234458.6	14.9	**192.9930**	4.686	2.4	ug/L	2226	Standard
	Co	59	69146.9	16.4	**5.1748**	0.052	1.0	ug/L	1003	Standard
	Ni	60	183336.3	16.5	**64.6306**	0.605	0.9	ug/L	355	Standard
	Cu	65	49526.0	17.0	**19.0721**	0.079	0.4	ug/L	473	Standard
	Zn	66	176359.7	15.7	**133.6403**	2.160	1.6	ug/L	341	Standard
>	**Ge**	72	611249.7	17.3				ug/L	566981	Standard
	As	75	6350.1	17.4	**4.8535**	0.007	0.1	ug/L	-156	Standard
	Se	82	167.0	16.9	**1.2035**	0.242	20.1	ug/L	35	Standard
	Se-1	77	544.3	11.1	**1.4769**	0.524	35.5	ug/L	354	Standard
>	**Ga**	71	4462.3	23.7				mg/L	43	Standard
	Rb	85	52282.3	19.6				ug/L	48	Standard
	Y	89	1653750.1	18.0				ug/L	447702	Standard
>	**Rh**	103	83.3	36.7				ug/L	20	Standard
	Mo	98	7741.8	15.7	**1.5613**	0.041	2.6	ug/L	158	Standard
	Ag	107	871.7	20.1	**0.0667**	0.002	2.4	ug/L	133	Standard
	Cd	111	1819.1	17.2	**0.5251**	0.012	2.2	mg/L	7	Standard
	Cd	114	4812.8	20.8	**0.5168**	0.015	3.0	ug/L	72	Standard
>	**In**	115	1028964.0	18.2				ug/L	1004638	Standard
	Sn	118	296.3	27.9	**0.0584**	0.014	23.5	ug/L	364	Standard
	Sb	123	684.6	9.0	**0.0154**	0.020	132.3	ug/L	2464	Standard
	Ba	135	208531.2	17.2	**54.0644**	1.118	2.1	ug/L	39	Standard
	Ce	140	1187125.6	17.1				ug/L	195	Standard
>	**Tb**	159	1924595.9	31.4				ug/L	1640193	Standard
	Ho	165	110008.8	16.9				ug/L	25	Standard
	Tl	203	1820.1	15.0	**0.1129**	0.001	1.2	ug/L	324	Standard
	Tl	205	4370.6	16.4	**0.1082**	0.002	2.2	ug/L	698	Standard
	Pb	206	53135.3	16.4	**4.6490**	0.109	2.3	ug/L	600	Standard
	Pb	207	37891.5	16.7	**3.7156**	0.101	2.7	ug/L	541	Standard
	Pb	208	137723.7	15.6	**4.1105**	0.051	1.2	ug/L	1750	Standard
	U	238	63268.4	10.4	**4.8147**	0.197	4.1	ug/L	10	Standard
>	**Bi**	209	802194.2	14.5				ug/L	811518	Standard

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⌈	**Na**	23	56.7	13.5	**7.4181**	0.229	3.1	mg/L	0	Standard
|	**Mg**	24	58.3	13.1	**0.2785**	0.243	87.3	mg/L	77	Standard
|	**K**	39	120.0	8.3	**0.4606**	0.019	4.2	mg/L	18	Standard
|	**Ca**	43	121.7	23.4	**18.4349**	7.352	39.9	mg/L	178	Standard
|	**Fe**	54	702.7	27.7	**7.4661**	1.292	17.3	mg/L	29	Standard
|	**Fe**	57	660.0	6.1	**9.1084**	1.257	13.8	mg/L	408	Standard
⌊>	**Sc-1**	45	71948.6	11.6				mg/L	61425	Standard
	Cl	35	1.3	86.6				ug/L	1	Standard
	Kr	83	8.0	33.1				ug/L	12	Standard
	Br	81	1813.4	19.6				ug/L	1747	Standard
	P	31	30.0	16.7				ug/L	17	Standard
	S	34	5.0	100.0				ug/L	3	Standard
	Sr	88	391.7	5.2				ug/L	370	Standard
	C	12	56.7	53.9				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	426.7	29.5				mg/L	17	Standard
	Dy	164	161229.0	19.1				mg/L	9	Standard
	Ho-1	165	110008.8	16.9				mg/L	25	Standard
	Er	166	99093.3	18.0				mg/L	20	Standard
	I	127	26272.9	9.7				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		108.039	
|	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		107.808	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

Sample ID: L1611053620
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⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	102.421
|	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	98.851
⌈	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
Mn 55 Upper, S, EEE	Mn	55	
Zn 66 Upper, S, EEE	Zn	66	

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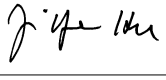

Method 6020 - Summary Report

Sample ID: L1611053622
Sample Date/Time: Friday, November 11, 2016 15:15:56
Number of Replicates: 3
Autosampler Position: 221
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	215939.6	16.8				ug/L	206101	Standard
	Be	9	771.7	23.2	**0.2941**	0.024	8.2	ug/L	25	Standard
	Al	27	690024.8	13.3	**3.3937**	0.123	3.6	ug/L	1120	Standard
	Sc	45	69117.0	11.3				ug/L	61425	Standard
	Ti	47	5080.9	20.4	**10.1545**	0.755	7.4	ug/L	70	Standard
	V	51	74159.0	14.1	**6.1529**	0.274	4.5	ug/L	3309	Standard
	Cr	52	123052.3	14.2	**10.3584**	0.489	4.7	ug/L	13497	Standard
	Cr	53	15601.4	10.5	**9.4522**	1.007	10.7	ug/L	3162	Standard
	Mn	55	4107064.8	14.2	**243.6382**	11.747	4.8	ug/L	2226	Standard
	Co	59	87258.2	15.6	**6.5082**	0.248	3.8	ug/L	1003	Standard
	Ni	60	148737.7	16.2	**52.0641**	1.555	3.0	ug/L	355	Standard
	Cu	65	26092.5	15.6	**9.8985**	0.275	2.8	ug/L	473	Standard
	Zn	66	83050.7	14.9	**62.4043**	2.078	3.3	ug/L	341	Standard
>	**Ge**	72	616258.4	18.2				ug/L	566981	Standard
	As	75	3012.1	12.5	**2.3551**	0.132	5.6	ug/L	-156	Standard
	Se	82	92.1	9.7	**0.5135**	0.077	15.0	ug/L	35	Standard
	Se-1	77	449.3	4.1	**0.3860**	0.777	201.3	ug/L	354	Standard
>	**Ga**	71	3160.3	17.4				mg/L	43	Standard
	Rb	85	36997.8	18.1				ug/L	48	Standard
	Y	89	1312564.5	16.4				ug/L	447702	Standard
>	**Rh**	103	45.0	19.2				ug/L	20	Standard
	Mo	98	975.6	16.0	**0.1892**	0.007	3.6	ug/L	158	Standard
	Ag	107	646.0	16.3	**0.0463**	0.002	3.5	ug/L	133	Standard
	Cd	111	1142.8	15.3	**0.3293**	0.009	2.7	mg/L	7	Standard
	Cd	114	2842.6	21.0	**0.3050**	0.014	4.5	ug/L	72	Standard
>	**In**	115	1023267.5	16.8				ug/L	1004638	Standard
	Sn	118	225.7	9.1	**0.0284**	0.011	39.3	ug/L	364	Standard
	Sb	123	574.4	6.3	**0.0028**	0.015	520.2	ug/L	2464	Standard
	Ba	135	158002.6	15.3	**41.2001**	0.722	1.8	ug/L	39	Standard
	Ce	140	962761.8	15.3				ug/L	195	Standard
>	**Tb**	159	1702097.0	13.1				ug/L	1640193	Standard
	Ho	165	79009.7	13.8				ug/L	25	Standard
	Tl	203	1812.4	14.3	**0.1122**	0.003	2.5	ug/L	324	Standard
	Tl	205	4295.6	18.0	**0.1058**	0.005	4.4	ug/L	698	Standard
	Pb	206	36606.8	14.6	**3.1828**	0.018	0.6	ug/L	600	Standard
	Pb	207	25728.2	15.7	**2.5013**	0.033	1.3	ug/L	541	Standard
	Pb	208	94063.6	15.1	**2.7848**	0.006	0.2	ug/L	1750	Standard
	U	238	44976.5	10.5	**3.4141**	0.165	4.8	ug/L	10	Standard
>	**Bi**	209	804798.1	14.9				ug/L	811518	Standard

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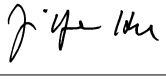

⌈	**Na**	23	46.7	89.9	**6.0724**	4.928	81.2	mg/L	0	Standard
|	**Mg**	24	45.0	57.7	**0.0135**	0.456	3371.1	mg/L	77	Standard
|	**K**	39	81.7	39.8	**0.3051**	0.209	68.6	mg/L	18	Standard
|	**Ca**	43	98.3	20.5	**22.2822**	5.961	26.8	mg/L	178	Standard
|	**Fe**	54	278.7	26.0	**2.8482**	0.709	24.9	mg/L	29	Standard
|	**Fe**	57	546.7	9.6	**6.2661**	4.153	66.3	mg/L	408	Standard
⌊>	**Sc-1**	45	69117.0	11.3				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	8.7	6.7				ug/L	12	Standard
	Br	81	1890.1	15.6				ug/L	1747	Standard
	P	31	33.3	31.2				ug/L	17	Standard
	S	34	3.3	86.6				ug/L	3	Standard
	Sr	88	343.3	26.5				ug/L	370	Standard
	C	12	56.7	44.4				mg/L	47	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	323.3	20.6				mg/L	17	Standard
	Dy	164	113004.4	16.8				mg/L	9	Standard
	Ho-1	165	79009.7	13.8				mg/L	25	Standard
	Er	166	71664.5	13.5				mg/L	20	Standard
	I	127	23575.1	7.4				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		104.773	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
| >	Ge	72		108.691	
|	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	101.854
|	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	99.172
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	C	12	
	N	14	
	Hg	202	
	Dy	164	
	Ho-1	165	
	Er	166	
	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Mn 55 Upper, S, EEE	Mn	55	

Approved: November 15, 2016

Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, November 11, 2016 15:19:03
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	215849.4	15.6				ug/L	206101	Standard
	Be	9	118853.7	17.5	**48.4882**	0.934	1.9	ug/L	25	Standard
	Al	27	9555255.0	14.2	**46.8157**	0.780	1.7	ug/L	1120	Standard
	Sc	45	59628.0	10.8				ug/L	61425	Standard
	Ti	47	46309.6	14.4	**97.1977**	3.166	3.3	ug/L	70	Standard
	V	51	554455.6	13.9	**49.5114**	1.717	3.5	ug/L	3309	Standard
	Cr	52	510512.3	14.6	**49.0780**	1.387	2.8	ug/L	13497	Standard
	Cr	53	63315.5	14.6	**47.4043**	1.487	3.1	ug/L	3162	Standard
	Mn	55	812433.7	14.9	**49.4761**	1.270	2.6	ug/L	2226	Standard
	Co	59	647132.7	16.4	**50.0786**	0.465	0.9	ug/L	1003	Standard
	Ni	60	139791.2	16.1	**50.3989**	0.748	1.5	ug/L	355	Standard
	Cu	65	129342.7	17.1	**51.2637**	0.549	1.1	ug/L	473	Standard
	Zn	66	66612.6	16.9	**51.3732**	0.192	0.4	ug/L	341	Standard
>	Ge	72	597668.4	17.3				ug/L	566981	Standard
	As	75	64864.0	17.6	**49.7149**	0.319	0.6	ug/L	-156	Standard
	Se	82	5409.6	19.3	**49.6860**	1.087	2.2	ug/L	35	Standard
	Se-1	77	4560.0	19.0	**48.5579**	0.888	1.8	ug/L	354	Standard
>	Ga	71	110.0	28.4				mg/L	43	Standard
	Rb	85	653.3	18.9				ug/L	48	Standard
	Y	89	436765.2	17.6				ug/L	447702	Standard
>	Rh	103	58.3	4.9				ug/L	20	Standard
	Mo	98	478543.4	16.8	**100.0586**	1.324	1.3	ug/L	158	Standard
	Ag	107	525829.2	16.6	**50.3404**	0.598	1.2	ug/L	133	Standard
	Cd	111	172473.5	17.9	**51.9820**	0.712	1.4	mg/L	7	Standard
	Cd	114	457616.6	17.6	**51.2121**	0.441	0.9	ug/L	72	Standard
>	In	115	995414.2	17.0				ug/L	1004638	Standard
	Sn	118	103461.2	18.3	**50.4440**	0.642	1.3	ug/L	364	Standard
	Sb	123	440978.9	17.1	**49.8496**	0.776	1.6	ug/L	2464	Standard
	Ba	135	180630.1	16.8	**48.3435**	0.283	0.6	ug/L	39	Standard
	Ce	140	190.0	5.3				ug/L	195	Standard
>	Tb	159	1580742.3	12.4				ug/L	1640193	Standard
	Ho	165	68.3	69.5				ug/L	25	Standard
	Tl	203	704296.7	16.5	**50.7649**	1.135	2.2	ug/L	324	Standard
	Tl	205	1630593.2	16.5	**43.9283**	1.093	2.5	ug/L	698	Standard
	Pb	206	547963.7	17.1	**50.6198**	1.459	2.9	ug/L	600	Standard
	Pb	207	482135.3	16.2	**50.0932**	1.009	2.0	ug/L	541	Standard
	Pb	208	1617109.6	15.6	**51.0488**	0.719	1.4	ug/L	1750	Standard
	U	238	667267.2	10.8	**53.0809**	1.926	3.6	ug/L	10	Standard
>	Bi	209	766710.3	14.3				ug/L	811518	Standard

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	Na	23	30.0	0.0	**4.7834**	0.524	11.0	mg/L	0	Standard
	Mg	24	286.7	20.1	**5.7076**	0.618	10.8	mg/L	77	Standard
	K	39	818.4	22.9	**4.5506**	0.574	12.6	mg/L	18	Standard
	Ca	43	128.3	26.5	**11.8225**	10.117	85.6	mg/L	178	Standard
	Fe	54	513.4	15.6	**6.5980**	0.507	7.7	mg/L	29	Standard
	Fe	57	593.3	4.2	**11.0472**	2.275	20.6	mg/L	408	Standard
>	**Sc-1**	45	59628.0	10.8				mg/L	61425	Standard
	Cl	35	2.7	43.3				ug/L	1	Standard
	Kr	83	10.0	10.0				ug/L	12	Standard
	Br	81	1730.1	16.8				ug/L	1747	Standard
	P	31	38.3	15.1				ug/L	17	Standard
	S	34	0.0					ug/L	3	Standard
	Sr	88	356.7	3.2				ug/L	370	Standard
	C	12	46.7	44.6				mg/L	47	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	16.7	34.6				mg/L	17	Standard
	Dy	164	35.7	27.7				mg/L	9	Standard
	Ho-1	165	68.3	69.5				mg/L	25	Standard
	Er	166	20.0	173.2				mg/L	20	Standard
	I	127	4182.3	15.5				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6			
	Be	9	96.976		
	Al	27	93.631		
	Sc	45			
	Ti	47	97.198		
	V	51	99.023		
	Cr	52	98.156		
	Cr	53			
	Mn	55	98.952		
	Co	59	100.157		
	Ni	60	100.798		
	Cu	65	102.527		
	Zn	66	102.746		
>	Ge	72		105.412	
	As	75	99.430		
	Se	82	99.372		
	Se-1	77			
>	Ga	71			

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Rb	85			
Y	89			
Rh	103			
Mo	98	100.059		
Ag	107	100.681		
Cd	111	103.964		
Cd	114			
In	115			99.082
Sn	118	100.888		
Sb	123	99.699		
Ba	135	96.687		
Ce	140			
Tb	159			
Ho	165			
Tl	203	101.530		
Tl	205			
Pb	206			
Pb	207			
Pb	208	102.098		
U	238	106.162		
Bi	209			94.479
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: Friday, November 11, 2016 15:22:08
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	207387.6	23.9				ug/L	206101	Standard
	Be	9	43.3	54.5	**0.0014**	0.015	1088.1	ug/L	25	Standard
	Al	27	2053.5	14.8	**0.0163**	0.001	6.1	ug/L	1120	Standard
	Sc	45	56120.8	17.4				ug/L	61425	Standard
	Ti	47	46.0	19.0	**-0.0436**	0.015	34.0	ug/L	70	Standard
	V	51	2821.7	8.8	**-0.0456**	0.037	82.2	ug/L	3309	Standard
	Cr	52	12187.9	10.3	**-0.1900**	0.153	80.5	ug/L	13497	Standard
	Cr	53	1380.1	13.8	**-1.4076**	0.117	8.3	ug/L	3162	Standard
	Mn	55	4290.0	17.1	**0.1409**	0.016	11.0	ug/L	2226	Standard
	Co	59	787.4	14.0	**0.0017**	0.005	319.4	ug/L	1003	Standard
	Ni	60	348.3	8.6	**0.0102**	0.021	204.9	ug/L	355	Standard
	Cu	65	455.3	23.6	**-0.0092**	0.004	41.2	ug/L	473	Standard
	Zn	66	322.0	19.9	**-0.0259**	0.009	33.3	ug/L	341	Standard
>	Ge	72	566769.0	22.4				ug/L	566981	Standard
	As	75	-64.4	122.0	**0.0570**	0.066	116.3	ug/L	-156	Standard
	Se	82	29.6	18.6	**-0.0249**	0.090	359.5	ug/L	35	Standard
	Se-1	77	318.7	9.1	**-0.7564**	0.921	121.8	ug/L	354	Standard
>	Ga	71	61.7	20.4				mg/L	43	Standard
	Rb	85	26.7	43.3				ug/L	48	Standard
	Y	89	416702.0	20.5				ug/L	447702	Standard
>	Rh	103	28.3	27.0				ug/L	20	Standard
	Mo	98	241.5	7.8	**0.0460**	0.015	32.2	ug/L	158	Standard
	Ag	107	180.7	33.9	**0.0041**	0.002	53.7	ug/L	133	Standard
	Cd	111	20.0	66.6	**-0.0005**	0.003	621.8	mg/L	7	Standard
	Cd	114	100.6	44.9	**0.0084**	0.003	32.6	ug/L	72	Standard
>	In	115	940294.6	21.8				ug/L	1004638	Standard
	Sn	118	288.3	8.4	**0.0727**	0.025	35.0	ug/L	364	Standard
	Sb	123	5654.3	20.2	**0.6555**	0.276	42.1	ug/L	2464	Standard
	Ba	135	61.3	74.8	**0.0067**	0.009	131.7	ug/L	39	Standard
	Ce	140	128.3	119.2				ug/L	195	Standard
>	Tb	159	1487207.0	19.4				ug/L	1640193	Standard
	Ho	165	16.7	45.8				ug/L	25	Standard
	Tl	203	65.3	63.4	**-0.0080**	0.002	25.6	ug/L	324	Standard
	Tl	205	156.7	71.8	**-0.0002**	0.002	1029.5	ug/L	698	Standard
	Pb	206	582.7	26.0	**0.0042**	0.003	78.5	ug/L	600	Standard
	Pb	207	462.0	25.5	**-0.0006**	0.003	464.3	ug/L	541	Standard
	Pb	208	1633.7	22.5	**0.0036**	0.001	36.0	ug/L	1750	Standard
	U	238	43.3	16.4	**0.0056**	0.000	2.5	ug/L	10	Standard
>	Bi	209	742186.4	20.2				ug/L	811518	Standard

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⌈	**Na**	23	3.3	173.2	**0.4812**	0.825	171.4	mg/L	0	Standard
|	**Mg**	24	56.7	13.5	**0.5442**	0.075	13.8	mg/L	77	Standard
|	**K**	39	13.3	57.3	**-0.0333**	0.043	128.2	mg/L	18	Standard
|	**Ca**	43	116.7	20.3	**12.9562**	7.702	59.4	mg/L	178	Standard
|	**Fe**	54	37.2	53.3	**0.0807**	0.240	297.2	mg/L	29	Standard
|	**Fe**	57	493.3	5.1	**8.6170**	4.763	55.3	mg/L	408	Standard
⌊>	**Sc-1**	45	56120.8	17.4				mg/L	61425	Standard
	Cl	35	2.0	173.2				ug/L	1	Standard
	Kr	83	7.3	34.3				ug/L	12	Standard
	Br	81	1610.1	17.9				ug/L	1747	Standard
	P	31	73.3	114.2				ug/L	17	Standard
	S	34	5.0	173.2				ug/L	3	Standard
	Sr	88	405.0	4.9				ug/L	370	Standard
	C	12	33.3	75.5				mg/L	47	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	17	Standard
	Dy	164	21.9	24.7				mg/L	9	Standard
	Ho-1	165	16.7	45.8				mg/L	25	Standard
	Er	166	30.0	57.7				mg/L	20	Standard
	I	127	5275.9	9.8				mg/L	6023	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		99.963	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

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⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	93.595
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	91.457
⌈	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 7	Sb	123	

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Method 6020 - Summary Report

Sample ID: PBS M5 WG591248-01
Sample Date/Time: Friday, November 11, 2016 15:32:56
Number of Replicates: 3
Autosampler Position: 222
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	180652.1	23.3				ug/L	206101	Standard
	Be	9	16.7	45.8	**-0.0104**	0.004	40.4	ug/L	25	Standard
	Al	27	2215.2	9.8	**0.0191**	0.003	17.8	ug/L	1120	Standard
	Sc	45	48622.8	17.7				ug/L	61425	Standard
	Ti	47	42.7	7.2	**-0.0379**	0.026	68.4	ug/L	70	Standard
	V	51	2765.8	9.2	**-0.0217**	0.041	187.7	ug/L	3309	Standard
	Cr	52	9697.8	7.3	**-0.3354**	0.171	51.0	ug/L	13497	Standard
	Cr	53	1035.0	6.1	**-1.5917**	0.159	10.0	ug/L	3162	Standard
	Mn	55	1795.8	15.0	**-0.0065**	0.020	311.0	ug/L	2226	Standard
	Co	59	382.0	1.4	**-0.0276**	0.008	27.7	ug/L	1003	Standard
	Ni	60	320.0	12.5	**0.0120**	0.015	127.6	ug/L	355	Standard
	Cu	65	422.7	27.7	**-0.0049**	0.014	278.2	ug/L	473	Standard
	Zn	66	733.0	38.7	**0.3703**	0.162	43.8	ug/L	341	Standard
>	Ge	72	510201.7	21.8				ug/L	566981	Standard
	As	75	-155.0	14.1	**-0.0419**	0.050	118.4	ug/L	-156	Standard
	Se	82	23.0	15.5	**-0.0644**	0.071	110.9	ug/L	35	Standard
	Se-1	77	316.0	5.6	**-0.3218**	1.064	330.6	ug/L	354	Standard
>	Ga	71	48.3	26.0				mg/L	43	Standard
	Rb	85	71.7	16.1				ug/L	48	Standard
	Y	89	363712.9	22.4				ug/L	447702	Standard
>	Rh	103	30.0	92.8				ug/L	20	Standard
	Mo	98	576.2	27.2	**0.1459**	0.063	43.2	ug/L	158	Standard
	Ag	107	126.3	15.0	**0.0010**	0.001	125.1	ug/L	133	Standard
	Cd	111	10.9	24.2	**-0.0027**	0.000	3.2	mg/L	7	Standard
	Cd	114	33.5	39.3	**0.0015**	0.002	140.7	ug/L	72	Standard
>	In	115	817853.7	22.5				ug/L	1004638	Standard
	Sn	118	54.3	22.1	**-0.0478**	0.000	0.5	ug/L	364	Standard
	Sb	123	1834.7	24.2	**0.2064**	0.108	52.2	ug/L	2464	Standard
	Ba	135	98.3	43.3	**0.0230**	0.014	59.0	ug/L	39	Standard
	Ce	140	58.3	27.6				ug/L	195	Standard
>	Tb	159	1372587.9	20.2				ug/L	1640193	Standard
	Ho	165	13.3	57.3				ug/L	25	Standard
	Tl	203	34.3	38.0	**-0.0097**	0.002	18.1	ug/L	324	Standard
	Tl	205	76.7	52.7	**-0.0018**	0.002	105.9	ug/L	698	Standard
	Pb	206	527.0	20.1	**0.0038**	0.002	40.6	ug/L	600	Standard
	Pb	207	461.3	21.2	**0.0039**	0.001	22.5	ug/L	541	Standard
	Pb	208	1542.7	20.8	**0.0052**	0.002	39.8	ug/L	1750	Standard
	U	238	5.3	108.3	**0.0026**	0.001	26.8	ug/L	10	Standard
>	Bi	209	683958.7	21.8				ug/L	811518	Standard

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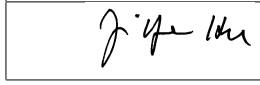

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	0	Standard
|	**Mg**	24	48.3	26.0	**0.5652**	0.493	87.3	mg/L	77	Standard
|	**K**	39	8.3	91.7	**-0.0576**	0.052	90.7	mg/L	18	Standard
|	**Ca**	43	110.0	20.8	**9.4284**	12.525	132.8	mg/L	178	Standard
|	**Fe**	54	29.2	60.9	**0.0450**	0.283	628.8	mg/L	29	Standard
|	**Fe**	57	480.0	1.0	**11.2188**	4.426	39.4	mg/L	408	Standard
⌊>	**Sc-1**	45	48622.8	17.7				mg/L	61425	Standard
	Cl	35	1.3	86.6				ug/L	1	Standard
	Kr	83	8.3	6.9				ug/L	12	Standard
	Br	81	1596.8	19.5				ug/L	1747	Standard
	P	31	23.3	32.7				ug/L	17	Standard
	S	34	8.3	69.3				ug/L	3	Standard
	Sr	88	381.7	0.8				ug/L	370	Standard
	C	12	13.3	86.6				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	113.3	35.7				mg/L	17	Standard
	Dy	164	22.5	28.9				mg/L	9	Standard
	Ho-1	165	13.3	57.3				mg/L	25	Standard
	Er	166	16.7	124.9				mg/L	20	Standard
	I	127	9027.7	5.0				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		87.652	
|	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		89.986	
|	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	81.408
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	84.281
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: LCSS M5 WG591248-02
Sample Date/Time: Friday, November 11, 2016 15:36:02
Number of Replicates: 3
Autosampler Position: 223
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	189790.7	21.0				ug/L	206101	Standard
	Be	9	50829.3	20.9	**23.6171**	0.480	2.0	ug/L	25	Standard
	Al	27	3210.3	16.1	**0.0237**	0.001	3.6	ug/L	1120	Standard
	Sc	45	50512.5	18.0				ug/L	61425	Standard
	Ti	47	45.3	7.7	**-0.0340**	0.033	97.6	ug/L	70	Standard
	V	51	225192.0	18.6	**22.6242**	0.672	3.0	ug/L	3309	Standard
	Cr	52	212464.5	18.7	**22.3872**	0.697	3.1	ug/L	13497	Standard
	Cr	53	26368.4	17.6	**21.0769**	1.006	4.8	ug/L	3162	Standard
	Mn	55	328406.0	19.5	**22.5926**	0.468	2.1	ug/L	2226	Standard
	Co	59	263221.9	20.1	**23.0720**	0.353	1.5	ug/L	1003	Standard
	Ni	60	58277.0	20.7	**23.7358**	0.155	0.7	ug/L	355	Standard
	Cu	65	55121.7	21.2	**24.6599**	0.045	0.2	ug/L	473	Standard
	Zn	66	32601.7	20.4	**28.4047**	0.584	2.1	ug/L	341	Standard
>	Ge	72	527332.0	21.3				ug/L	566981	Standard
	As	75	28057.7	19.5	**24.5011**	0.541	2.2	ug/L	-156	Standard
	Se	82	2500.4	21.2	**25.9423**	0.099	0.4	ug/L	35	Standard
	Se-1	77	2325.5	20.0	**26.1492**	0.492	1.9	ug/L	354	Standard
>	Ga	71	46.7	34.4				mg/L	43	Standard
	Rb	85	53.3	14.3				ug/L	48	Standard
	Y	89	372543.6	19.6				ug/L	447702	Standard
>	Rh	103	31.7	18.2				ug/L	20	Standard
	Mo	98	51.6	9.5	**0.0031**	0.002	74.8	ug/L	158	Standard
	Ag	107	203651.7	19.7	**22.3964**	0.253	1.1	ug/L	133	Standard
	Cd	111	74675.7	20.7	**25.8547**	0.170	0.7	mg/L	7	Standard
	Cd	114	189834.3	23.5	**24.3055**	0.689	2.8	ug/L	72	Standard
>	In	115	867251.5	20.7				ug/L	1004638	Standard
	Sn	118	88.3	8.6	**-0.0285**	0.015	52.8	ug/L	364	Standard
	Sb	123	167767.4	24.8	**21.6154**	0.881	4.1	ug/L	2464	Standard
	Ba	135	75598.3	20.3	**23.2267**	0.127	0.5	ug/L	39	Standard
	Ce	140	73.3	43.8				ug/L	195	Standard
>	Tb	159	1392864.5	19.9				ug/L	1640193	Standard
	Ho	165	20.0	75.0				ug/L	25	Standard
	Tl	203	308715.8	20.0	**24.2014**	0.170	0.7	ug/L	324	Standard
	Tl	205	729891.8	20.4	**21.3854**	0.253	1.2	ug/L	698	Standard
	Pb	206	238719.6	20.4	**23.9677**	0.191	0.8	ug/L	600	Standard
	Pb	207	204142.4	20.5	**23.0290**	0.202	0.9	ug/L	541	Standard
	Pb	208	690747.1	19.8	**23.6852**	0.080	0.3	ug/L	1750	Standard
	U	238	273949.1	15.7	**23.7135**	0.925	3.9	ug/L	10	Standard
>	Bi	209	705712.3	19.6				ug/L	811518	Standard

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⌈	**Na**	23	1.7	173.2	**0.3204**	0.546	170.5	mg/L	0	Standard
|	**Mg**	24	43.3	56.9	**0.2783**	0.555	199.3	mg/L	77	Standard
|	**K**	39	15.0	33.3	**-0.0043**	0.054	1259.4	mg/L	18	Standard
|	**Ca**	43	116.7	28.5	**8.5763**	15.661	182.6	mg/L	178	Standard
|	**Fe**	54	27.7	15.3	**0.0253**	0.153	606.2	mg/L	29	Standard
|	**Fe**	57	436.7	5.8	**8.1349**	3.655	44.9	mg/L	408	Standard
⌊>	**Sc-1**	45	50512.5	18.0				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	9.3	6.2				ug/L	12	Standard
	Br	81	2023.5	3.2				ug/L	1747	Standard
	P	31	25.0	0.0				ug/L	17	Standard
	S	34	1.7	173.2				ug/L	3	Standard
	Sr	88	390.0	15.6				ug/L	370	Standard
	C	12	36.7	31.5				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	20.0	50.0				mg/L	17	Standard
	Dy	164	22.2	53.4				mg/L	9	Standard
	Ho-1	165	20.0	75.0				mg/L	25	Standard
	Er	166	23.3	89.2				mg/L	20	Standard
	I	127	18037.4	4.0				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		92.086	
|	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		93.007	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

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⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	86.325
|	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	86.962
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	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: LCSS DP WG591248-03
Sample Date/Time: Friday, November 11, 2016 15:39:07
Number of Replicates: 3
Autosampler Position: 224
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	186129.9	23.2				ug/L	206101	Standard
	Be	9	49297.9	22.9	**23.3711**	0.164	0.7	ug/L	25	Standard
	Al	27	5559.4	14.5	**0.0377**	0.003	8.3	ug/L	1120	Standard
	Sc	45	51096.5	19.4				ug/L	61425	Standard
	Ti	47	43.0	4.7	**-0.0413**	0.024	57.7	ug/L	70	Standard
	V	51	223484.2	21.3	**22.3063**	0.560	2.5	ug/L	3309	Standard
	Cr	52	210834.7	20.1	**22.1026**	0.849	3.8	ug/L	13497	Standard
	Cr	53	26213.3	20.8	**20.7698**	0.701	3.4	ug/L	3162	Standard
	Mn	55	327075.6	22.3	**22.3476**	0.270	1.2	ug/L	2226	Standard
	Co	59	261945.6	23.2	**22.7897**	0.083	0.4	ug/L	1003	Standard
	Ni	60	58324.9	22.8	**23.6197**	0.194	0.8	ug/L	355	Standard
	Cu	65	54008.6	23.4	**24.0106**	0.034	0.1	ug/L	473	Standard
	Zn	66	33225.0	20.1	**28.8912**	1.028	3.6	ug/L	341	Standard
>	Ge	72	530421.0	23.4				ug/L	566981	Standard
	As	75	28194.0	21.1	**24.5092**	0.789	3.2	ug/L	-156	Standard
	Se	82	2517.7	22.0	**26.0218**	0.412	1.6	ug/L	35	Standard
	Se-1	77	2237.5	21.9	**24.8299**	0.628	2.5	ug/L	354	Standard
>	Ga	71	51.7	24.4				mg/L	43	Standard
	Rb	85	55.0	32.8				ug/L	48	Standard
	Y	89	375619.6	23.5				ug/L	447702	Standard
>	Rh	103	46.7	24.7				ug/L	20	Standard
	Mo	98	80.0	23.9	**0.0095**	0.003	28.1	ug/L	158	Standard
	Ag	107	200752.7	22.2	**21.9065**	0.237	1.1	ug/L	133	Standard
	Cd	111	74367.3	22.3	**25.5809**	0.212	0.8	mg/L	7	Standard
	Cd	114	186173.0	22.1	**23.7763**	0.283	1.2	ug/L	72	Standard
>	In	115	873834.7	23.0				ug/L	1004638	Standard
	Sn	118	81.0	16.6	**-0.0345**	0.004	10.5	ug/L	364	Standard
	Sb	123	172597.5	25.2	**22.1204**	0.488	2.2	ug/L	2464	Standard
	Ba	135	74380.5	22.3	**22.6950**	0.296	1.3	ug/L	39	Standard
	Ce	140	78.3	7.4				ug/L	195	Standard
>	Tb	159	1389838.1	20.9				ug/L	1640193	Standard
	Ho	165	16.7	62.4				ug/L	25	Standard
	Tl	203	305529.4	22.1	**24.1230**	0.237	1.0	ug/L	324	Standard
	Tl	205	721833.8	21.3	**21.3297**	0.478	2.2	ug/L	698	Standard
	Pb	206	236065.4	22.8	**23.8581**	0.240	1.0	ug/L	600	Standard
	Pb	207	199492.8	22.1	**22.6818**	0.052	0.2	ug/L	541	Standard
	Pb	208	678679.9	21.2	**23.4622**	0.237	1.0	ug/L	1750	Standard
	U	238	272328.2	17.7	**23.7618**	1.057	4.4	ug/L	10	Standard
>	Bi	209	701125.9	22.2				ug/L	811518	Standard

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	Na	23	3.3	173.2	**0.6171**	1.060	171.8	mg/L	0	Standard
	Mg	24	26.7	92.5	**-0.1349**	0.656	486.1	mg/L	77	Standard
	K	39	21.7	48.0	**0.0357**	0.073	204.9	mg/L	18	Standard
	Ca	43	90.0	16.7	**17.0775**	7.267	42.6	mg/L	178	Standard
	Fe	54	18.2	99.7	**-0.1104**	0.383	346.8	mg/L	29	Standard
	Fe	57	506.7	5.4	**11.4774**	5.494	47.9	mg/L	408	Standard
>	**Sc-1**	45	51096.5	19.4				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	8.3	30.2				ug/L	12	Standard
	Br	81	1926.8	11.9				ug/L	1747	Standard
	P	31	23.3	24.7				ug/L	17	Standard
	S	34	1.7	173.2				ug/L	3	Standard
	Sr	88	376.7	7.3				ug/L	370	Standard
	C	12	56.7	36.7				mg/L	47	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	6.7	173.2				mg/L	17	Standard
	Dy	164	9.4	7.8				mg/L	9	Standard
	Ho-1	165	16.7	62.4				mg/L	25	Standard
	Er	166	13.3	114.6				mg/L	20	Standard
	I	127	14855.6	6.9				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		90.310	
	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		93.552	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			

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Rb	85	
Y	89	
Rh	103	
Mo	98	
Ag	107	
Cd	111	
Cd	114	
In	115	86.980
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	86.397
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: L1611053601
Sample Date/Time: Friday, November 11, 2016 15:42:12
Number of Replicates: 3
Autosampler Position: 225
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	200967.8	14.7				ug/L	206101	Standard
	Be	9	21.7	58.1	**-0.0098**	0.004	42.6	ug/L	25	Standard
	Al	27	309573.6	5.6	**1.6485**	0.172	10.4	ug/L	1120	Standard
	Sc	45	56435.8	11.2				ug/L	61425	Standard
	Ti	47	271.0	17.9	**0.4602**	0.038	8.2	ug/L	70	Standard
	V	51	18496.9	22.1	**1.4437**	0.145	10.0	ug/L	3309	Standard
	Cr	52	10807.9	6.2	**-0.3290**	0.095	28.9	ug/L	13497	Standard
	Cr	53	1261.7	2.5	**-1.4898**	0.160	10.8	ug/L	3162	Standard
	Mn	55	9051.1	18.2	**0.4535**	0.053	11.6	ug/L	2226	Standard
	Co	59	588.7	6.6	**-0.0142**	0.004	27.2	ug/L	1003	Standard
	Ni	60	627.7	16.5	**0.1169**	0.008	6.9	ug/L	355	Standard
	Cu	65	371.0	18.1	**-0.0424**	0.008	19.4	ug/L	473	Standard
	Zn	66	547.3	31.5	**0.1573**	0.079	50.3	ug/L	341	Standard
>	**Ge**	72	557562.5	14.2				ug/L	566981	Standard
	As	75	59.2	43.3	**0.1514**	0.015	10.2	ug/L	-156	Standard
	Se	82	50.9	13.7	**0.1831**	0.026	14.0	ug/L	35	Standard
	Se-1	77	298.0	15.0	**-1.0724**	0.178	16.6	ug/L	354	Standard
>	**Ga**	71	66.7	24.1				mg/L	43	Standard
	Rb	85	1553.4	10.5				ug/L	48	Standard
	Y	89	398379.9	16.1				ug/L	447702	Standard
>	**Rh**	103	41.7	6.9				ug/L	20	Standard
	Mo	98	434.3	37.9	**0.0936**	0.047	50.5	ug/L	158	Standard
	Ag	107	155.3	6.1	**0.0025**	0.002	68.1	ug/L	133	Standard
	Cd	111	20.8	3.8	**0.0002**	0.001	353.4	mg/L	7	Standard
	Cd	114	69.9	28.7	**0.0053**	0.002	37.8	ug/L	72	Standard
>	**In**	115	909295.0	12.8				ug/L	1004638	Standard
	Sn	118	64.7	12.5	**-0.0455**	0.000	1.0	ug/L	364	Standard
	Sb	123	13964.6	4.6	**1.6840**	0.189	11.2	ug/L	2464	Standard
	Ba	135	5096.5	13.2	**1.4916**	0.192	12.9	ug/L	39	Standard
	Ce	140	31.7	32.9				ug/L	195	Standard
>	**Tb**	159	1499919.2	12.5				ug/L	1640193	Standard
	Ho	165	15.0	66.7				ug/L	25	Standard
	Tl	203	342.7	10.8	**0.0127**	0.001	10.7	ug/L	324	Standard
	Tl	205	808.4	21.7	**0.0180**	0.004	23.2	ug/L	698	Standard
	Pb	206	519.3	20.4	**-0.0023**	0.004	165.9	ug/L	600	Standard
	Pb	207	413.0	13.3	**-0.0060**	0.001	13.7	ug/L	541	Standard
	Pb	208	1489.0	16.3	**-0.0016**	0.002	137.2	ug/L	1750	Standard
	U	238	11.3	18.4	**0.0030**	0.000	8.5	ug/L	10	Standard
>	**Bi**	209	750040.6	13.1				ug/L	811518	Standard

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⌈	**Na**	23	5.0	100.0	**0.8205**	0.760	92.6	mg/L	0	Standard
|	**Mg**	24	71.7	17.6	**0.9246**	0.487	52.6	mg/L	77	Standard
|	**K**	39	58.3	26.2	**0.2380**	0.053	22.4	mg/L	18	Standard
|	**Ca**	43	106.7	18.9	**16.1728**	3.895	24.1	mg/L	178	Standard
|	**Fe**	54	30.9	10.3	**0.0104**	0.066	628.2	mg/L	29	Standard
|	**Fe**	57	490.0	3.5	**8.0081**	2.628	32.8	mg/L	408	Standard
⌊>	**Sc-1**	45	56435.8	11.2				mg/L	61425	Standard
	Cl	35	3.3	34.6				ug/L	1	Standard
	Kr	83	10.0	55.7				ug/L	12	Standard
	Br	81	1600.1	16.6				ug/L	1747	Standard
	P	31	46.7	34.4				ug/L	17	Standard
	S	34	3.3	86.6				ug/L	3	Standard
	Sr	88	400.0	7.5				ug/L	370	Standard
	C	12	80.0	66.1				mg/L	47	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	60.0	16.7				mg/L	17	Standard
	Dy	164	15.1	141.7				mg/L	9	Standard
	Ho-1	165	15.0	66.7				mg/L	25	Standard
	Er	166	33.3	34.6				mg/L	20	Standard
	I	127	15100.9	5.2				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		97.509	
|	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		98.339	
|	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	90.510
|	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	92.424
⌈	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: L1611053603
Sample Date/Time: Friday, November 11, 2016 15:45:18
Number of Replicates: 3
Autosampler Position: 226
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	206777.2	16.7				ug/L	206101	Standard
	Be	9	25.0	52.9	**-0.0086**	0.005	55.3	ug/L	25	Standard
	Al	27	234726.7	8.0	**1.2178**	0.127	10.5	ug/L	1120	Standard
	Sc	45	56387.7	13.9				ug/L	61425	Standard
	Ti	47	96.0	21.5	**0.0631**	0.011	18.1	ug/L	70	Standard
	V	51	3344.8	5.9	**-0.0001**	0.038	38268.9	ug/L	3309	Standard
	Cr	52	10922.9	7.3	**-0.3414**	0.108	31.5	ug/L	13497	Standard
	Cr	53	1090.0	8.4	**-1.6616**	0.095	5.7	ug/L	3162	Standard
	Mn	55	7095.7	14.1	**0.3172**	0.026	8.2	ug/L	2226	Standard
	Co	59	561.0	5.7	**-0.0173**	0.006	36.5	ug/L	1003	Standard
	Ni	60	612.3	11.3	**0.1075**	0.017	15.6	ug/L	355	Standard
	Cu	65	347.3	10.0	**-0.0543**	0.010	17.6	ug/L	473	Standard
	Zn	66	860.4	14.3	**0.4100**	0.027	6.7	ug/L	341	Standard
>	Ge	72	571013.6	16.4				ug/L	566981	Standard
	As	75	-144.6	22.0	**-0.0113**	0.012	104.3	ug/L	-156	Standard
	Se	82	27.7	21.5	**-0.0497**	0.070	140.0	ug/L	35	Standard
	Se-1	77	294.0	6.7	**-1.1316**	0.762	67.3	ug/L	354	Standard
>	Ga	71	56.7	22.2				mg/L	43	Standard
	Rb	85	1758.4	5.7				ug/L	48	Standard
	Y	89	401785.7	16.1				ug/L	447702	Standard
>	Rh	103	35.0	24.7				ug/L	20	Standard
	Mo	98	156.3	42.5	**0.0273**	0.021	77.5	ug/L	158	Standard
	Ag	107	158.7	19.2	**0.0021**	0.000	13.7	ug/L	133	Standard
	Cd	111	18.5	16.7	**-0.0008**	0.001	129.3	mg/L	7	Standard
	Cd	114	61.4	20.4	**0.0043**	0.003	60.6	ug/L	72	Standard
>	In	115	947072.6	17.5				ug/L	1004638	Standard
	Sn	118	71.7	2.9	**-0.0424**	0.008	18.6	ug/L	364	Standard
	Sb	123	2558.3	15.4	**0.2536**	0.097	38.3	ug/L	2464	Standard
	Ba	135	4019.9	8.7	**1.1357**	0.141	12.4	ug/L	39	Standard
	Ce	140	30.0	16.7				ug/L	195	Standard
>	Tb	159	1547974.8	13.9				ug/L	1640193	Standard
	Ho	165	15.0	66.7				ug/L	25	Standard
	Tl	203	149.3	2.2	**-0.0017**	0.002	93.0	ug/L	324	Standard
	Tl	205	303.3	9.1	**0.0039**	0.001	23.6	ug/L	698	Standard
	Pb	206	507.7	15.5	**-0.0039**	0.002	38.8	ug/L	600	Standard
	Pb	207	441.3	25.1	**-0.0044**	0.005	112.5	ug/L	541	Standard
	Pb	208	1480.0	15.3	**-0.0026**	0.001	32.4	ug/L	1750	Standard
	U	238	6.7	31.2	**0.0026**	0.000	4.7	ug/L	10	Standard
>	Bi	209	764354.8	15.2				ug/L	811518	Standard

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⌈	**Na**	23	3.3	86.6	**0.6065**	0.526	86.7	mg/L	0	Standard
|	**Mg**	24	60.0	22.0	**0.6517**	0.471	72.3	mg/L	77	Standard
|	**K**	39	56.7	5.1	**0.2363**	0.049	20.8	mg/L	18	Standard
|	**Ca**	43	103.3	26.6	**16.7352**	6.935	41.4	mg/L	178	Standard
|	**Fe**	54	25.9	11.9	**-0.0616**	0.058	94.8	mg/L	29	Standard
|	**Fe**	57	448.3	7.2	**6.4370**	4.208	65.4	mg/L	408	Standard
⌊>	**Sc-1**	45	56387.7	13.9				mg/L	61425	Standard
	Cl	35	1.3	86.6				ug/L	1	Standard
	Kr	83	7.0	24.7				ug/L	12	Standard
	Br	81	1606.8	9.9				ug/L	1747	Standard
	P	31	21.7	13.3				ug/L	17	Standard
	S	34	3.3	86.6				ug/L	3	Standard
	Sr	88	363.3	6.9				ug/L	370	Standard
	C	12	63.3	50.8				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	17	Standard
	Dy	164	12.4	93.3				mg/L	9	Standard
	Ho-1	165	15.0	66.7				mg/L	25	Standard
	Er	166	20.0	0.0				mg/L	20	Standard
	I	127	12620.3	2.7				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		100.328	
|	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		100.711	
|	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	94.270
|	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	94.188
⌈	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: L1611053605
Sample Date/Time: Friday, November 11, 2016 15:48:23
Number of Replicates: 3
Autosampler Position: 227
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	198263.4	15.9				ug/L	206101	Standard
	Be	9	23.3	53.9	**-0.0090**	0.004	46.8	ug/L	25	Standard
	Al	27	216902.0	8.4	**1.1717**	0.110	9.4	ug/L	1120	Standard
	Sc	45	53403.0	10.8				ug/L	61425	Standard
	Ti	47	206.0	35.3	**0.3125**	0.099	31.6	ug/L	70	Standard
	V	51	12773.0	36.4	**0.8971**	0.274	30.5	ug/L	3309	Standard
	Cr	52	11238.5	8.3	**-0.2707**	0.077	28.4	ug/L	13497	Standard
	Cr	53	1333.4	7.3	**-1.4223**	0.085	6.0	ug/L	3162	Standard
	Mn	55	19297.7	11.3	**1.1445**	0.096	8.4	ug/L	2226	Standard
	Co	59	623.0	11.0	**-0.0106**	0.007	61.5	ug/L	1003	Standard
	Ni	60	749.7	17.9	**0.1678**	0.021	12.5	ug/L	355	Standard
	Cu	65	351.0	17.1	**-0.0488**	0.006	11.8	ug/L	473	Standard
	Zn	66	816.4	18.0	**0.3976**	0.081	20.4	ug/L	341	Standard
>	**Ge**	72	550916.8	14.5				ug/L	566981	Standard
	As	75	-94.0	81.3	**0.0238**	0.069	289.1	ug/L	-156	Standard
	Se	82	43.7	9.1	**0.1242**	0.089	71.9	ug/L	35	Standard
	Se-1	77	313.3	10.6	**-0.8121**	0.258	31.8	ug/L	354	Standard
>	**Ga**	71	75.0	13.3				mg/L	43	Standard
	Rb	85	3102.0	12.8				ug/L	48	Standard
	Y	89	395043.3	13.4				ug/L	447702	Standard
>	**Rh**	103	26.7	88.6				ug/L	20	Standard
	Mo	98	287.7	9.2	**0.0577**	0.014	23.8	ug/L	158	Standard
	Ag	107	139.3	15.3	**0.0008**	0.001	102.9	ug/L	133	Standard
	Cd	111	13.3	38.0	**-0.0024**	0.001	43.0	mg/L	7	Standard
	Cd	114	51.8	14.4	**0.0032**	0.000	5.7	ug/L	72	Standard
>	**In**	115	906897.6	14.5				ug/L	1004638	Standard
	Sn	118	58.3	14.6	**-0.0488**	0.002	3.4	ug/L	364	Standard
	Sb	123	2194.4	11.4	**0.2157**	0.058	26.9	ug/L	2464	Standard
	Ba	135	2663.6	12.1	**0.7776**	0.083	10.7	ug/L	39	Standard
	Ce	140	168.3	101.6				ug/L	195	Standard
>	**Tb**	159	1480719.8	13.7				ug/L	1640193	Standard
	Ho	165	23.3	24.7				ug/L	25	Standard
	Tl	203	211.7	8.1	**0.0036**	0.004	98.2	ug/L	324	Standard
	Tl	205	501.7	19.4	**0.0101**	0.004	38.3	ug/L	698	Standard
	Pb	206	487.0	14.3	**-0.0039**	0.002	50.9	ug/L	600	Standard
	Pb	207	413.7	12.5	**-0.0049**	0.001	19.8	ug/L	541	Standard
	Pb	208	1504.7	12.1	**0.0003**	0.001	526.7	ug/L	1750	Standard
	U	238	8.0	21.7	**0.0027**	0.000	7.0	ug/L	10	Standard
>	**Bi**	209	733420.2	14.5				ug/L	811518	Standard

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⌈	**Na**	23	11.7	65.5	**2.1634**	1.639	75.8	mg/L	0	Standard
|	**Mg**	24	65.0	40.0	**0.7868**	0.537	68.3	mg/L	77	Standard
|	**K**	39	91.7	35.1	**0.4899**	0.243	49.6	mg/L	18	Standard
|	**Ca**	43	96.7	26.0	**16.5821**	9.487	57.2	mg/L	178	Standard
|	**Fe**	54	26.1	59.3	**-0.0291**	0.276	948.1	mg/L	29	Standard
|	**Fe**	57	443.3	14.5	**6.9562**	2.595	37.3	mg/L	408	Standard
⌊>	**Sc-1**	45	53403.0	10.8				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	8.0	33.1				ug/L	12	Standard
	Br	81	1623.4	4.1				ug/L	1747	Standard
	P	31	15.0	88.2				ug/L	17	Standard
	S	34	0.0					ug/L	3	Standard
	Sr	88	413.3	5.5				ug/L	370	Standard
	C	12	76.7	41.9				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	173.2				mg/L	17	Standard
	Dy	164	22.2	93.9				mg/L	9	Standard
	Ho-1	165	23.3	24.7				mg/L	25	Standard
	Er	166	23.3	65.5				mg/L	20	Standard
	I	127	13182.4	2.0				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		96.197	
|	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		97.167	
|	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	90.271
|	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	90.376
⌈	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: L1611053607
Sample Date/Time: Friday, November 11, 2016 15:51:28
Number of Replicates: 3
Autosampler Position: 228
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	198181.7	20.5				ug/L	206101	Standard
	Be	9	218.3	29.0	**0.0775**	0.010	12.8	ug/L	25	Standard
	Al	27	1085676.8	16.4	**5.8238**	0.254	4.4	ug/L	1120	Standard
	Sc	45	54879.6	17.7				ug/L	61425	Standard
	Ti	47	32464.0	20.0	**76.1536**	2.709	3.6	ug/L	70	Standard
	V	51	66505.3	26.6	**6.2951**	0.360	5.7	ug/L	3309	Standard
	Cr	52	264794.0	20.4	**27.8275**	0.865	3.1	ug/L	13497	Standard
	Cr	53	33412.8	19.8	**26.9300**	0.977	3.6	ug/L	3162	Standard
	Mn	55	453853.3	18.6	**30.9615**	1.348	4.4	ug/L	2226	Standard
	Co	59	6060.6	19.7	**0.4633**	0.011	2.4	ug/L	1003	Standard
	Ni	60	16656.4	22.1	**6.5976**	0.068	1.0	ug/L	355	Standard
	Cu	65	2953.6	22.0	**1.1142**	0.036	3.2	ug/L	473	Standard
	Zn	66	24744.9	22.4	**21.1526**	0.352	1.7	ug/L	341	Standard
>	**Ge**	72	534025.9	21.7				ug/L	566981	Standard
	As	75	1739.0	17.5	**1.6033**	0.076	4.8	ug/L	-156	Standard
	Se	82	49.0	20.9	**0.1914**	0.094	48.9	ug/L	35	Standard
	Se-1	77	321.0	2.2	**-0.4680**	0.940	200.8	ug/L	354	Standard
>	**Ga**	71	3802.2	23.5				mg/L	43	Standard
	Rb	85	43357.5	23.1				ug/L	48	Standard
	Y	89	399980.8	20.3				ug/L	447702	Standard
>	**Rh**	103	35.0	51.5				ug/L	20	Standard
	Mo	98	570.7	15.4	**0.1270**	0.011	8.8	ug/L	158	Standard
	Ag	107	345.0	16.1	**0.0239**	0.003	11.5	ug/L	133	Standard
	Cd	111	126.9	15.6	**0.0372**	0.004	10.6	mg/L	7	Standard
	Cd	114	306.2	25.4	**0.0357**	0.005	13.3	ug/L	72	Standard
>	**In**	115	877781.1	21.2				ug/L	1004638	Standard
	Sn	118	265.3	25.6	**0.0666**	0.012	17.9	ug/L	364	Standard
	Sb	123	2357.6	7.4	**0.2483**	0.057	22.8	ug/L	2464	Standard
	Ba	135	41818.9	20.7	**12.6930**	0.170	1.3	ug/L	39	Standard
	Ce	140	82015.2	24.5				ug/L	195	Standard
>	**Tb**	159	1440423.8	20.1				ug/L	1640193	Standard
	Ho	165	2110.2	22.6				ug/L	25	Standard
	Tl	203	661.7	21.4	**0.0384**	0.003	7.2	ug/L	324	Standard
	Tl	205	1571.8	18.3	**0.0411**	0.000	0.5	ug/L	698	Standard
	Pb	206	3975.9	20.7	**0.3423**	0.016	4.6	ug/L	600	Standard
	Pb	207	3080.3	23.7	**0.2912**	0.021	7.3	ug/L	541	Standard
	Pb	208	10937.9	21.5	**0.3194**	0.014	4.5	ug/L	1750	Standard
	U	238	2377.5	17.3	**0.2041**	0.005	2.2	ug/L	10	Standard
>	**Bi**	209	716306.1	18.7				ug/L	811518	Standard

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⌈	**Na**	23	13.3	57.3	**2.1804**	0.993	45.5	mg/L	0	Standard
|	**Mg**	24	91.7	37.1	**1.5847**	1.348	85.1	mg/L	77	Standard
|	**K**	39	228.3	9.9	**1.3272**	0.119	9.0	mg/L	18	Standard
|	**Ca**	43	98.3	29.8	**16.1417**	11.768	72.9	mg/L	178	Standard
|	**Fe**	54	137.9	36.6	**1.5685**	0.406	25.9	mg/L	29	Standard
|	**Fe**	57	455.0	2.9	**7.3468**	4.091	55.7	mg/L	408	Standard
⌊>	**Sc-1**	45	54879.6	17.7				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	9.0	57.7				ug/L	12	Standard
	Br	81	1910.1	17.0				ug/L	1747	Standard
	P	31	28.3	36.7				ug/L	17	Standard
	S	34	10.0	86.6				ug/L	3	Standard
	Sr	88	395.0	25.4				ug/L	370	Standard
	C	12	113.3	48.6				mg/L	47	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	40.0	25.0				mg/L	17	Standard
	Dy	164	2675.3	22.9				mg/L	9	Standard
	Ho-1	165	2110.2	22.6				mg/L	25	Standard
	Er	166	2330.2	25.3				mg/L	20	Standard
	I	127	18591.5	13.8				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		96.157	
|	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		94.188	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

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⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	87.373
|	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	88.267
⌈	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

Sample ID: L1611053607
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Method 6020 - Summary Report

Sample ID: L1611053609
Sample Date/Time: Friday, November 11, 2016 15:54:33
Number of Replicates: 3
Autosampler Position: 229
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	169879.5	39.5				ug/L	206101	Standard
	Be	9	15.0	66.7	**-0.0111**	0.004	38.9	ug/L	25	Standard
	Al	27	294081.3	28.8	**1.8862**	0.221	11.7	ug/L	1120	Standard
	Sc	45	46569.4	31.1				ug/L	61425	Standard
	Ti	47	283.0	42.7	**0.6228**	0.047	7.5	ug/L	70	Standard
	V	51	44469.0	51.9	**4.7327**	0.731	15.4	ug/L	3309	Standard
	Cr	52	9919.7	23.8	**-0.1516**	0.176	115.8	ug/L	13497	Standard
	Cr	53	1226.7	13.5	**-1.2256**	0.305	24.9	ug/L	3162	Standard
	Mn	55	21435.8	35.9	**1.5909**	0.121	7.6	ug/L	2226	Standard
	Co	59	611.0	12.7	**0.0027**	0.017	612.9	ug/L	1003	Standard
	Ni	60	1001.4	37.3	**0.3513**	0.028	8.1	ug/L	355	Standard
	Cu	65	401.3	35.2	**0.0110**	0.005	49.1	ug/L	473	Standard
	Zn	66	3858.2	47.0	**3.5779**	0.484	13.5	ug/L	341	Standard
>	Ge	72	455057.0	37.9				ug/L	566981	Standard
	As	75	1278.7	37.3	**1.3914**	0.014	1.0	ug/L	-156	Standard
	Se	82	31.8	41.0	**0.0611**	0.071	116.0	ug/L	35	Standard
	Se-1	77	303.0	9.0	**0.2444**	1.714	701.3	ug/L	354	Standard
>	Ga	71	46.7	80.4				mg/L	43	Standard
	Rb	85	1771.8	41.3				ug/L	48	Standard
	Y	89	331345.1	38.0				ug/L	447702	Standard
>	Rh	103	25.0	20.0				ug/L	20	Standard
	Mo	98	142.6	5.5	**0.0339**	0.017	49.3	ug/L	158	Standard
	Ag	107	128.7	22.8	**0.0031**	0.003	106.2	ug/L	133	Standard
	Cd	111	20.8	41.1	**0.0015**	0.002	114.6	mg/L	7	Standard
	Cd	114	66.0	49.0	**0.0063**	0.001	23.3	ug/L	72	Standard
>	In	115	756603.4	40.0				ug/L	1004638	Standard
	Sn	118	274.7	81.6	**0.0786**	0.067	85.7	ug/L	364	Standard
	Sb	123	1512.4	17.1	**0.1762**	0.050	28.3	ug/L	2464	Standard
	Ba	135	2803.6	35.8	**0.9945**	0.137	13.7	ug/L	39	Standard
	Ce	140	313.3	84.2				ug/L	195	Standard
>	Tb	159	1243004.2	36.2				ug/L	1640193	Standard
	Ho	165	33.3	45.8				ug/L	25	Standard
	Tl	203	175.7	22.2	**0.0035**	0.002	65.4	ug/L	324	Standard
	Tl	205	421.7	16.4	**0.0104**	0.003	26.3	ug/L	698	Standard
	Pb	206	470.3	41.0	**0.0023**	0.002	96.7	ug/L	600	Standard
	Pb	207	390.7	36.6	**0.0004**	0.000	47.0	ug/L	541	Standard
	Pb	208	1348.4	34.8	**0.0034**	0.001	36.2	ug/L	1750	Standard
	U	238	5.7	10.2	**0.0026**	0.000	7.6	ug/L	10	Standard
>	Bi	209	619728.4	36.9				ug/L	811518	Standard

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⌈	**Na**	23	5.0	173.2	**0.7553**	1.300	172.1	mg/L	0	Standard
|	**Mg**	24	85.0	29.4	**1.7197**	0.703	40.9	mg/L	77	Standard
|	**K**	39	95.0	27.3	**0.6593**	0.408	61.8	mg/L	18	Standard
|	**Ca**	43	100.0	13.2	**11.1918**	7.057	63.1	mg/L	178	Standard
|	**Fe**	54	19.0	68.7	**-0.0423**	0.316	745.9	mg/L	29	Standard
|	**Fe**	57	483.3	4.7	**13.6235**	8.176	60.0	mg/L	408	Standard
⌊>	**Sc-1**	45	46569.4	31.1				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	5.0	20.0				ug/L	12	Standard
	Br	81	1500.1	31.5				ug/L	1747	Standard
	P	31	21.7	93.3				ug/L	17	Standard
	S	34	3.3	173.2				ug/L	3	Standard
	Sr	88	413.3	3.7				ug/L	370	Standard
	C	12	90.0	0.0				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	30.0	33.3				mg/L	17	Standard
	Dy	164	31.9	18.3				mg/L	9	Standard
	Ho-1	165	33.3	45.8				mg/L	25	Standard
	Er	166	30.0	66.7				mg/L	20	Standard
	I	127	15251.2	18.1				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		82.425	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		80.260	
|	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	75.311
|	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	76.367
⌈	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: L1611053609PS WG591386-01
Sample Date/Time: Friday, November 11, 2016 16:00:19
Number of Replicates: 3
Autosampler Position: 230
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	162750.1	45.6				ug/L	206101	Standard
	Be	9	83249.5	43.1	**45.4314**	1.034	2.3	ug/L	25	Standard
	Al	27	256549.3	35.6	**1.7172**	0.155	9.0	ug/L	1120	Standard
	Sc	45	45249.2	33.5				ug/L	61425	Standard
	Ti	47	279.3	39.6	**0.6363**	0.072	11.4	ug/L	70	Standard
	V	51	415094.2	37.7	**49.3900**	1.393	2.8	ug/L	3309	Standard
	Cr	52	341745.5	37.8	**43.6504**	1.272	2.9	ug/L	13497	Standard
	Cr	53	43172.1	37.3	**42.9338**	1.736	4.0	ug/L	3162	Standard
	Mn	55	552722.9	39.6	**44.6998**	0.844	1.9	ug/L	2226	Standard
	Co	59	431026.2	40.9	**44.2182**	0.255	0.6	ug/L	1003	Standard
	Ni	60	94755.9	40.6	**45.3203**	0.815	1.8	ug/L	355	Standard
	Cu	65	89280.9	42.7	**46.7411**	0.916	2.0	ug/L	473	Standard
	Zn	66	50826.6	39.4	**52.2032**	0.780	1.5	ug/L	341	Standard
>	Ge	72	450206.0	40.7				ug/L	566981	Standard
	As	75	47498.5	40.4	**48.4110**	0.800	1.7	ug/L	-156	Standard
	Se	82	4003.1	42.8	**48.6944**	1.068	2.2	ug/L	35	Standard
	Se-1	77	3481.8	41.2	**49.3401**	0.518	1.1	ug/L	354	Standard
>	Ga	71	91.7	45.7				mg/L	43	Standard
	Rb	85	1720.1	43.1				ug/L	48	Standard
	Y	89	327200.1	39.9				ug/L	447702	Standard
>	Rh	103	58.3	58.3				ug/L	20	Standard
	Mo	98	88.2	7.2	**0.0177**	0.008	45.5	ug/L	158	Standard
	Ag	107	330634.0	39.3	**43.1675**	0.968	2.2	ug/L	133	Standard
	Cd	111	118467.2	41.5	**48.4858**	0.356	0.7	mg/L	7	Standard
	Cd	114	302036.3	41.9	**45.8473**	0.332	0.7	ug/L	72	Standard
>	In	115	733996.0	41.6				ug/L	1004638	Standard
	Sn	118	198.7	27.4	**0.0564**	0.018	31.2	ug/L	364	Standard
	Sb	123	291941.2	44.1	**44.4689**	1.044	2.3	ug/L	2464	Standard
	Ba	135	128800.5	38.7	**47.0819**	1.285	2.7	ug/L	39	Standard
	Ce	140	273.3	48.8				ug/L	195	Standard
>	Tb	159	1229525.0	38.5				ug/L	1640193	Standard
	Ho	165	41.7	25.0				ug/L	25	Standard
	Tl	203	494314.9	38.5	**44.7394**	0.450	1.0	ug/L	324	Standard
	Tl	205	1168758.7	38.6	**39.5380**	0.581	1.5	ug/L	698	Standard
	Pb	206	385856.2	38.5	**44.7966**	0.919	2.1	ug/L	600	Standard
	Pb	207	339980.8	37.9	**44.4210**	0.906	2.0	ug/L	541	Standard
	Pb	208	1140885.6	36.7	**45.3861**	1.036	2.3	ug/L	1750	Standard
	U	238	470856.1	28.3	**47.8943**	4.184	8.7	ug/L	10	Standard
>	Bi	209	610723.8	37.6				ug/L	811518	Standard

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⌈	**Na**	23	13.3	94.4	**2.4413**	2.114	86.6	mg/L	0	Standard
|	**Mg**	24	73.3	14.2	**1.4772**	0.510	34.5	mg/L	77	Standard
|	**K**	39	93.3	44.6	**0.5776**	0.077	13.4	mg/L	18	Standard
|	**Ca**	43	106.7	37.6	**9.8106**	5.612	57.2	mg/L	178	Standard
|	**Fe**	54	16.7	39.2	**-0.0934**	0.219	234.5	mg/L	29	Standard
|	**Fe**	57	493.3	21.5	**15.3254**	12.452	81.2	mg/L	408	Standard
⌊>	**Sc-1**	45	45249.2	33.5				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	7.7	15.1				ug/L	12	Standard
	Br	81	1436.7	35.2				ug/L	1747	Standard
	P	31	25.0	40.0				ug/L	17	Standard
	S	34	5.0	100.0				ug/L	3	Standard
	Sr	88	418.3	12.0				ug/L	370	Standard
	C	12	66.7	37.7				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	20.0	50.0				mg/L	17	Standard
	Dy	164	25.2	47.5				mg/L	9	Standard
	Ho-1	165	41.7	25.0				mg/L	25	Standard
	Er	166	30.0	57.7				mg/L	20	Standard
	I	127	13311.0	21.0				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		78.966	
|	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		79.404	
|	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	73.061
|	Sn	118	
|	Sb	123	
⌊	Ba	135	
⌈	Ce	140	
⌊>	Tb	159	
⌈	Ho	165	
|	Tl	203	
|	Tl	205	
|	Pb	206	
|	Pb	207	
|	Pb	208	
|	U	238	
⌊>	Bi	209	75.257
⌈	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: L1611053609SDL WG591386-02
Sample Date/Time: Friday, November 11, 2016 16:04:02
Number of Replicates: 3
Autosampler Position: 231
Sample Description: 5
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	161694.9	44.1				ug/L	206101	Standard
	Be	9	11.7	65.5	**-0.0110**	0.008	70.6	ug/L	25	Standard
	Al	27	58361.8	29.1	**0.4052**	0.074	18.2	ug/L	1120	Standard
	Sc	45	44246.3	34.5				ug/L	61425	Standard
	Ti	47	84.7	41.1	**0.0928**	0.010	11.2	ug/L	70	Standard
	V	51	8267.5	56.0	**0.6433**	0.155	24.1	ug/L	3309	Standard
	Cr	52	8718.3	21.4	**-0.2614**	0.209	79.9	ug/L	13497	Standard
	Cr	53	1126.7	7.5	**-1.2632**	0.415	32.8	ug/L	3162	Standard
	Mn	55	5455.1	35.7	**0.3197**	0.044	13.8	ug/L	2226	Standard
	Co	59	520.3	6.5	**-0.0041**	0.018	439.6	ug/L	1003	Standard
	Ni	60	467.7	34.0	**0.1067**	0.014	13.4	ug/L	355	Standard
	Cu	65	396.3	54.3	**0.0061**	0.028	448.2	ug/L	473	Standard
	Zn	66	1610.8	52.2	**1.3592**	0.231	17.0	ug/L	341	Standard
>	Ge	72	441708.9	40.2				ug/L	566981	Standard
	As	75	233.7	33.6	**0.3563**	0.075	21.1	ug/L	-156	Standard
	Se	82	23.1	39.5	**-0.0318**	0.033	104.2	ug/L	35	Standard
	Se-1	77	303.3	10.4	**0.3927**	1.491	379.7	ug/L	354	Standard
>	Ga	71	46.7	43.3				mg/L	43	Standard
	Rb	85	383.3	35.4				ug/L	48	Standard
	Y	89	318595.3	38.9				ug/L	447702	Standard
>	Rh	103	25.0	80.0				ug/L	20	Standard
	Mo	98	188.9	12.4	**0.0519**	0.028	53.3	ug/L	158	Standard
	Ag	107	140.7	18.7	**0.0056**	0.005	81.1	ug/L	133	Standard
	Cd	111	8.4	24.6	**-0.0029**	0.002	53.9	mg/L	7	Standard
	Cd	114	64.7	95.9	**0.0055**	0.005	90.6	ug/L	72	Standard
>	In	115	732127.7	42.5				ug/L	1004638	Standard
	Sn	118	444.7	88.6	**0.1796**	0.127	70.8	ug/L	364	Standard
	Sb	123	4543.0	4.9	**0.7088**	0.253	35.7	ug/L	2464	Standard
	Ba	135	508.7	44.9	**0.1770**	0.037	20.8	ug/L	39	Standard
	Ce	140	45.0	22.2				ug/L	195	Standard
>	Tb	159	1207127.5	38.6				ug/L	1640193	Standard
	Ho	165	20.0	90.1				ug/L	25	Standard
	Tl	203	89.0	27.3	**-0.0043**	0.001	28.6	ug/L	324	Standard
	Tl	205	236.7	6.8	**0.0044**	0.002	56.9	ug/L	698	Standard
	Pb	206	437.3	41.7	**-0.0000**	0.002	4395.8	ug/L	600	Standard
	Pb	207	381.3	41.0	**0.0001**	0.003	4163.4	ug/L	541	Standard
	Pb	208	1233.0	39.1	**-0.0001**	0.001	1587.9	ug/L	1750	Standard
	U	238	4.7	24.7	**0.0026**	0.000	8.4	ug/L	10	Standard
>	Bi	209	602693.1	37.7				ug/L	811518	Standard

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	Na	23	0.0		**0.0050**	0.000	0.0	mg/L	0	Standard
	Mg	24	56.7	5.1	**1.0251**	0.518	50.5	mg/L	77	Standard
	K	39	30.0	44.1	**0.1399**	0.159	113.6	mg/L	18	Standard
	Ca	43	100.0	18.0	**7.2322**	16.342	226.0	mg/L	178	Standard
	Fe	54	24.2	34.3	**0.0079**	0.049	619.9	mg/L	29	Standard
	Fe	57	421.7	8.7	**12.0046**	9.276	77.3	mg/L	408	Standard
>	**Sc-1**	45	44246.3	34.5				mg/L	61425	Standard
	Cl	35	1.3	86.6				ug/L	1	Standard
	Kr	83	9.7	6.0				ug/L	12	Standard
	Br	81	1246.7	38.5				ug/L	1747	Standard
	P	31	21.7	70.5				ug/L	17	Standard
	S	34	1.7	173.2				ug/L	3	Standard
	Sr	88	411.7	15.2				ug/L	370	Standard
	C	12	46.7	32.7				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	16.7	69.3				mg/L	17	Standard
	Dy	164	25.5	79.1				mg/L	9	Standard
	Ho-1	165	20.0	90.1				mg/L	25	Standard
	Er	166	23.3	65.5				mg/L	20	Standard
	I	127	6208.0	18.6				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		78.454	
	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		77.905	
	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	72.875
Sn	118	
Sb	123	
Ba	135	
Ce	140	
Tb	159	
Ho	165	
Tl	203	
Tl	205	
Pb	206	
Pb	207	
Pb	208	
U	238	
Bi	209	74.267
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

Sample ID: L1611053609SDL WG591386-02
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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, November 11, 2016 16:07:10
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	183584.6	39.6				ug/L	206101	Standard
	Be	9	98280.1	34.9	**47.7476**	2.302	4.8	ug/L	25	Standard
	Al	27	7937613.2	30.4	**46.7003**	4.096	8.8	ug/L	1120	Standard
	Sc	45	49829.2	27.3				ug/L	61425	Standard
	Ti	47	37995.1	30.2	**94.7658**	5.133	5.4	ug/L	70	Standard
	V	51	454999.5	30.2	**48.2506**	2.636	5.5	ug/L	3309	Standard
	Cr	52	422269.3	31.7	**48.0557**	2.186	4.5	ug/L	13497	Standard
	Cr	53	53433.1	34.3	**47.0781**	1.186	2.5	ug/L	3162	Standard
	Mn	55	670255.2	33.0	**48.2337**	1.320	2.7	ug/L	2226	Standard
	Co	59	535924.8	34.4	**48.9205**	1.005	2.1	ug/L	1003	Standard
	Ni	60	115884.9	34.6	**49.2376**	1.059	2.2	ug/L	355	Standard
	Cu	65	107647.6	34.8	**50.3279**	1.026	2.0	ug/L	473	Standard
	Zn	66	55348.5	32.9	**50.5632**	1.422	2.8	ug/L	341	Standard
>	Ge	72	507373.6	35.8				ug/L	566981	Standard
	As	75	54280.6	35.4	**49.0451**	0.332	0.7	ug/L	-156	Standard
	Se	82	4438.4	38.3	**47.8230**	1.443	3.0	ug/L	35	Standard
	Se-1	77	3814.9	36.9	**47.7091**	1.314	2.8	ug/L	354	Standard
>	Ga	71	101.7	47.8				mg/L	43	Standard
	Rb	85	646.7	44.6				ug/L	48	Standard
	Y	89	369306.2	34.9				ug/L	447702	Standard
>	Rh	103	41.7	25.0				ug/L	20	Standard
	Mo	98	391781.0	33.6	**98.2544**	3.251	3.3	ug/L	158	Standard
	Ag	107	429795.8	34.3	**49.2433**	1.298	2.6	ug/L	133	Standard
	Cd	111	140476.9	36.8	**50.4544**	0.181	0.4	mg/L	7	Standard
	Cd	114	375823.8	39.6	**49.7499**	1.582	3.2	ug/L	72	Standard
>	In	115	836600.2	37.1				ug/L	1004638	Standard
	Sn	118	87712.9	37.9	**50.8694**	0.359	0.7	ug/L	364	Standard
	Sb	123	374353.6	35.8	**50.5305**	0.724	1.4	ug/L	2464	Standard
	Ba	135	153357.9	33.9	**49.2080**	1.583	3.2	ug/L	39	Standard
	Ce	140	185.0	30.7				ug/L	195	Standard
>	Tb	159	1368400.4	33.5				ug/L	1640193	Standard
	Ho	165	53.3	23.6				ug/L	25	Standard
	Tl	203	594504.6	33.4	**50.2026**	0.993	2.0	ug/L	324	Standard
	Tl	205	1419330.0	33.8	**44.7513**	0.893	2.0	ug/L	698	Standard
	Pb	206	465010.4	33.4	**50.3628**	0.945	1.9	ug/L	600	Standard
	Pb	207	408252.5	32.9	**49.7231**	0.696	1.4	ug/L	541	Standard
	Pb	208	1369037.0	32.0	**50.7299**	0.313	0.6	ug/L	1750	Standard
	U	238	568504.1	23.1	**53.7867**	4.378	8.1	ug/L	10	Standard
>	Bi	209	653676.4	31.7				ug/L	811518	Standard

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	Na	23	21.7	96.1	**3.6077**	2.725	75.5	mg/L	0	Standard
	Mg	24	246.7	23.3	**6.1467**	1.846	30.0	mg/L	77	Standard
	K	39	713.4	27.2	**4.8016**	0.217	4.5	mg/L	18	Standard
	Ca	43	100.0	5.0	**12.9389**	8.529	65.9	mg/L	178	Standard
	Fe	54	359.8	48.4	**5.2448**	1.265	24.1	mg/L	29	Standard
	Fe	57	535.0	7.4	**14.0584**	7.562	53.8	mg/L	408	Standard
>	**Sc-1**	45	49829.2	27.3				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	8.7	24.0				ug/L	12	Standard
	Br	81	1420.1	46.0				ug/L	1747	Standard
	P	31	40.0	57.3				ug/L	17	Standard
	S	34	6.7	114.6				ug/L	3	Standard
	Sr	88	373.3	19.0				ug/L	370	Standard
	C	12	53.3	39.0				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	13.3	43.3				mg/L	17	Standard
	Dy	164	39.4	87.7				mg/L	9	Standard
	Ho-1	165	53.3	23.6				mg/L	25	Standard
	Er	166	13.3	114.6				mg/L	20	Standard
	I	127	3548.8	22.1				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6			
	Be	9	95.495		
	Al	27	93.401		
	Sc	45			
	Ti	47	94.766		
	V	51	96.501		
	Cr	52	96.111		
	Cr	53			
	Mn	55	96.467		
	Co	59	97.841		
	Ni	60	98.475		
	Cu	65	100.656		
	Zn	66	101.126		
>	Ge	72		89.487	
	As	75	98.090		
	Se	82	95.646		
	Se-1	77			
>	Ga	71			

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⌊	Rb	85			
⌈	Y	89			
⌊>	Rh	103			
⌈	Mo	98	98.254		
|	Ag	107	98.487		
|	Cd	111	100.909		
|	Cd	114			
|>	In	115		83.274	
|	Sn	118	101.739		
|	Sb	123	101.061		
⌊	Ba	135	98.416		
⌈	Ce	140			
⌊>	Tb	159			
⌈	Ho	165			
|	Tl	203	100.405		
|	Tl	205			
|	Pb	206			
|	Pb	207			
|	Pb	208	101.460		
|	U	238	107.573		
⌊>	Bi	209		80.550	
⌈	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: QC Std 7
Sample Date/Time: Friday, November 11, 2016 16:10:15
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	170688.7	45.3				ug/L	206101	Standard
	Be	9	36.7	41.7	**0.0003**	0.005	1496.1	ug/L	25	Standard
	Al	27	1398.4	32.2	**0.0146**	0.001	8.8	ug/L	1120	Standard
	Sc	45	46241.4	35.7				ug/L	61425	Standard
	Ti	47	36.7	30.0	**-0.0310**	0.061	195.4	ug/L	70	Standard
	V	51	2862.3	18.4	**0.0331**	0.084	254.1	ug/L	3309	Standard
	Cr	52	11414.5	26.2	**0.0273**	0.258	946.6	ug/L	13497	Standard
	Cr	53	1320.1	9.9	**-1.1145**	0.446	40.1	ug/L	3162	Standard
	Mn	55	2718.3	24.0	**0.0862**	0.042	49.2	ug/L	2226	Standard
	Co	59	1220.7	21.8	**0.0647**	0.027	41.3	ug/L	1003	Standard
	Ni	60	272.3	21.5	**0.0080**	0.028	355.3	ug/L	355	Standard
	Cu	65	371.7	38.5	**-0.0083**	0.014	168.6	ug/L	473	Standard
	Zn	66	274.7	42.3	**-0.0167**	0.018	104.9	ug/L	341	Standard
>	Ge	72	470815.0	45.6				ug/L	566981	Standard
	As	75	-111.2	22.9	**-0.0116**	0.030	256.5	ug/L	-156	Standard
	Se	82	20.8	50.3	**-0.0788**	0.051	64.1	ug/L	35	Standard
	Se-1	77	293.0	5.5	**0.0490**	1.665	3396.7	ug/L	354	Standard
>	Ga	71	53.3	62.4				mg/L	43	Standard
	Rb	85	51.7	14.8				ug/L	48	Standard
	Y	89	340914.3	44.9				ug/L	447702	Standard
>	Rh	103	30.0	60.1				ug/L	20	Standard
	Mo	98	206.0	5.8	**0.0538**	0.027	51.0	ug/L	158	Standard
	Ag	107	158.0	30.9	**0.0063**	0.003	44.9	ug/L	133	Standard
	Cd	111	12.4	26.0	**-0.0016**	0.001	89.7	mg/L	7	Standard
	Cd	114	82.3	26.2	**0.0095**	0.004	39.2	ug/L	72	Standard
>	In	115	780430.0	46.9				ug/L	1004638	Standard
	Sn	118	288.3	18.1	**0.1156**	0.055	47.4	ug/L	364	Standard
	Sb	123	6121.5	5.3	**0.9560**	0.436	45.6	ug/L	2464	Standard
	Ba	135	35.7	18.7	**0.0038**	0.004	106.7	ug/L	39	Standard
	Ce	140	58.3	32.5				ug/L	195	Standard
>	Tb	159	1281152.3	42.4				ug/L	1640193	Standard
	Ho	165	13.3	43.3				ug/L	25	Standard
	Tl	203	62.7	15.3	**-0.0067**	0.002	26.1	ug/L	324	Standard
	Tl	205	133.3	17.7	**0.0004**	0.001	279.1	ug/L	698	Standard
	Pb	206	467.7	51.3	**0.0012**	0.004	382.1	ug/L	600	Standard
	Pb	207	398.7	41.9	**0.0013**	0.002	132.2	ug/L	541	Standard
	Pb	208	1295.4	41.0	**0.0011**	0.003	242.3	ug/L	1750	Standard
	U	238	43.0	9.3	**0.0066**	0.001	22.3	ug/L	10	Standard
>	Bi	209	620865.4	42.2				ug/L	811518	Standard

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⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	0	Standard
|	**Mg**	24	48.3	21.5	**0.6323**	0.200	31.6	mg/L	77	Standard
|	**K**	39	11.7	65.5	**-0.0218**	0.066	301.2	mg/L	18	Standard
|	**Ca**	43	98.3	5.9	**10.3276**	10.437	101.1	mg/L	178	Standard
|	**Fe**	54	31.1	19.0	**0.1501**	0.226	150.3	mg/L	29	Standard
|	**Fe**	57	486.7	10.7	**14.9498**	11.755	78.6	mg/L	408	Standard
⌊>	**Sc-1**	45	46241.4	35.7				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	7.3	28.4				ug/L	12	Standard
	Br	81	1233.4	35.1				ug/L	1747	Standard
	P	31	20.0	43.3				ug/L	17	Standard
	S	34	1.7	173.2				ug/L	3	Standard
	Sr	88	361.7	18.8				ug/L	370	Standard
	C	12	33.3	45.8				mg/L	47	Standard
	N	14	6.7	86.6				mg/L	0	Standard
	Hg	202	13.3	43.3				mg/L	17	Standard
	Dy	164	12.9	89.9				mg/L	9	Standard
	Ho-1	165	13.3	43.3				mg/L	25	Standard
	Er	166	10.0	100.0				mg/L	20	Standard
	I	127	4340.7	26.9				mg/L	6023	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		83.039	
|	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	77.683
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	76.507
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
In 115 Int Std for QC Std	In	115	Rerun sample
QC Std 7	Sb	123	
Bi 209 Int Std for QC Std	Bi	209	Rerun sample

Sample ID: QC Std 7
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Method 6020 - Summary Report

Sample ID: L1611053611
Sample Date/Time: Friday, November 11, 2016 16:13:22
Number of Replicates: 3
Autosampler Position: 232
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	152550.4	42.6				ug/L	206101	Standard
	Be	9	33.3	43.3	**0.0043**	0.017	401.6	ug/L	25	Standard
	Al	27	283960.0	33.1	**2.0213**	0.181	8.9	ug/L	1120	Standard
	Sc	45	42982.1	33.5				ug/L	61425	Standard
	Ti	47	244.3	35.4	**0.5724**	0.034	6.0	ug/L	70	Standard
	V	51	16951.2	43.5	**1.7693**	0.093	5.2	ug/L	3309	Standard
	Cr	52	10964.1	24.5	**0.0814**	0.233	285.8	ug/L	13497	Standard
	Cr	53	1241.7	21.6	**-1.1479**	0.256	22.3	ug/L	3162	Standard
	Mn	55	71341.1	50.7	**5.7577**	0.659	11.4	ug/L	2226	Standard
	Co	59	893.7	28.5	**0.0359**	0.015	42.4	ug/L	1003	Standard
	Ni	60	1358.4	51.0	**0.5390**	0.073	13.5	ug/L	355	Standard
	Cu	65	342.0	36.3	**-0.0090**	0.011	122.8	ug/L	473	Standard
	Zn	66	756.0	57.1	**0.4904**	0.125	25.6	ug/L	341	Standard
>	Ge	72	430632.3	40.2				ug/L	566981	Standard
	As	75	362.4	43.3	**0.4866**	0.014	2.9	ug/L	-156	Standard
	Se	82	34.2	11.9	**0.1485**	0.125	84.0	ug/L	35	Standard
	Se-1	77	286.3	8.7	**0.3825**	2.009	525.4	ug/L	354	Standard
>	Ga	71	63.3	50.8				mg/L	43	Standard
	Rb	85	2020.2	42.9				ug/L	48	Standard
	Y	89	307838.4	36.2				ug/L	447702	Standard
>	Rh	103	28.3	20.4				ug/L	20	Standard
	Mo	98	386.4	19.0	**0.1230**	0.067	54.3	ug/L	158	Standard
	Ag	107	186.3	47.4	**0.0158**	0.023	143.4	ug/L	133	Standard
	Cd	111	50.8	80.9	**0.0202**	0.029	143.6	mg/L	7	Standard
	Cd	114	111.6	39.0	**0.0167**	0.012	74.4	ug/L	72	Standard
>	In	115	699008.0	40.8				ug/L	1004638	Standard
	Sn	118	64.0	9.5	**-0.0301**	0.021	70.4	ug/L	364	Standard
	Sb	123	3132.9	2.4	**0.4939**	0.192	38.8	ug/L	2464	Standard
	Ba	135	2934.7	41.8	**1.1124**	0.120	10.8	ug/L	39	Standard
	Ce	140	428.3	50.7				ug/L	195	Standard
>	Tb	159	1164912.6	35.4				ug/L	1640193	Standard
	Ho	165	26.7	75.8				ug/L	25	Standard
	Tl	203	227.3	27.1	**0.0109**	0.011	104.9	ug/L	324	Standard
	Tl	205	576.7	49.5	**0.0195**	0.018	92.8	ug/L	698	Standard
	Pb	206	473.3	29.9	**0.0082**	0.011	137.3	ug/L	600	Standard
	Pb	207	382.3	24.2	**0.0043**	0.009	218.1	ug/L	541	Standard
	Pb	208	1271.0	29.6	**0.0046**	0.008	165.8	ug/L	1750	Standard
	U	238	43.3	92.8	**0.0075**	0.006	84.8	ug/L	10	Standard
>	Bi	209	581105.9	36.7				ug/L	811518	Standard

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⌈	**Na**	23	3.3	86.6	**0.6854**	0.631	92.1	mg/L	0	Standard
|	**Mg**	24	68.3	84.5	**1.1193**	1.011	90.3	mg/L	77	Standard
|	**K**	39	103.3	14.8	**0.7818**	0.324	41.4	mg/L	18	Standard
|	**Ca**	43	113.3	12.7	**2.8604**	12.974	453.6	mg/L	178	Standard
|	**Fe**	54	24.1	20.4	**0.0302**	0.064	210.6	mg/L	29	Standard
|	**Fe**	57	436.7	9.2	**12.6621**	5.662	44.7	mg/L	408	Standard
⌊>	**Sc-1**	45	42982.1	33.5				mg/L	61425	Standard
	Cl	35	1.3	173.2				ug/L	1	Standard
	Kr	83	11.3	18.4				ug/L	12	Standard
	Br	81	1303.4	26.3				ug/L	1747	Standard
	P	31	26.7	21.7				ug/L	17	Standard
	S	34	3.3	86.6				ug/L	3	Standard
	Sr	88	408.3	1.9				ug/L	370	Standard
	C	12	90.0	96.9				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	46.7	24.7				mg/L	17	Standard
	Dy	164	42.1	35.5				mg/L	9	Standard
	Ho-1	165	26.7	75.8				mg/L	25	Standard
	Er	166	26.7	57.3				mg/L	20	Standard
	I	127	10753.9	14.8				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		74.017	
|	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		75.952	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

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Rb	85	
Y	89	
Rh	103	
Mo	98	
Ag	107	
Cd	111	
Cd	114	
In	115	69.578
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	71.607
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: L1611053613
Sample Date/Time: Friday, November 11, 2016 16:16:28
Number of Replicates: 3
Autosampler Position: 233
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	154184.5	43.1				ug/L	206101	Standard
	Be	9	25.0	80.0	**-0.0061**	0.007	122.0	ug/L	25	Standard
	Al	27	439294.2	35.9	**3.0761**	0.237	7.7	ug/L	1120	Standard
	Sc	45	43621.1	34.9				ug/L	61425	Standard
	Ti	47	142.7	47.1	**0.2617**	0.043	16.4	ug/L	70	Standard
	V	51	30380.0	45.5	**3.4128**	0.222	6.5	ug/L	3309	Standard
	Cr	52	10104.5	23.1	**-0.0349**	0.223	639.7	ug/L	13497	Standard
	Cr	53	1048.4	4.4	**-1.3158**	0.394	29.9	ug/L	3162	Standard
	Mn	55	30486.1	53.1	**2.3647**	0.293	12.4	ug/L	2226	Standard
	Co	59	747.7	25.0	**0.0202**	0.012	57.6	ug/L	1003	Standard
	Ni	60	802.0	46.0	**0.2713**	0.021	7.9	ug/L	355	Standard
	Cu	65	315.7	37.4	**-0.0240**	0.007	30.7	ug/L	473	Standard
	Zn	66	455.3	56.8	**0.1807**	0.072	40.1	ug/L	341	Standard
>	**Ge**	72	430067.7	40.6				ug/L	566981	Standard
	As	75	586.7	43.1	**0.7238**	0.020	2.7	ug/L	-156	Standard
	Se	82	101.0	32.0	**1.0061**	0.110	10.9	ug/L	35	Standard
	Se-1	77	353.3	12.9	**1.3426**	1.496	111.5	ug/L	354	Standard
>	**Ga**	71	85.0	73.5				mg/L	43	Standard
	Rb	85	9703.4	39.3				ug/L	48	Standard
	Y	89	310009.1	39.6				ug/L	447702	Standard
>	**Rh**	103	31.7	36.5				ug/L	20	Standard
	Mo	98	2414.2	32.9	**0.7217**	0.077	10.7	ug/L	158	Standard
	Ag	107	125.0	29.2	**0.0036**	0.002	67.0	ug/L	133	Standard
	Cd	111	10.6	35.2	**-0.0021**	0.000	16.3	mg/L	7	Standard
	Cd	114	48.6	20.3	**0.0053**	0.003	60.0	ug/L	72	Standard
>	**In**	115	707069.7	43.4				ug/L	1004638	Standard
	Sn	118	52.3	52.0	**-0.0450**	0.004	7.9	ug/L	364	Standard
	Sb	123	2156.2	8.6	**0.3142**	0.116	36.8	ug/L	2464	Standard
	Ba	135	8312.2	41.1	**3.1481**	0.206	6.5	ug/L	39	Standard
	Ce	140	20.0	0.0				ug/L	195	Standard
>	**Tb**	159	1193118.6	38.1				ug/L	1640193	Standard
	Ho	165	10.0	50.0				ug/L	25	Standard
	Tl	203	274.0	43.9	**0.0131**	0.003	19.3	ug/L	324	Standard
	Tl	205	640.0	39.3	**0.0184**	0.002	13.3	ug/L	698	Standard
	Pb	206	397.0	32.2	**-0.0020**	0.004	198.6	ug/L	600	Standard
	Pb	207	334.3	35.1	**-0.0038**	0.003	75.5	ug/L	541	Standard
	Pb	208	1161.7	39.7	**-0.0014**	0.001	41.8	ug/L	1750	Standard
	U	238	4.3	13.3	**0.0025**	0.000	4.7	ug/L	10	Standard
>	**Bi**	209	585614.0	40.3				ug/L	811518	Standard

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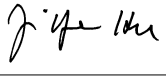

	Na	23	11.7	24.7	**2.8250**	1.483	52.5	mg/L	0	Standard
	Mg	24	110.0	29.8	**2.6597**	0.535	20.1	mg/L	77	Standard
	K	39	258.3	24.0	**1.9695**	0.263	13.4	mg/L	18	Standard
	Ca	43	106.7	27.1	**5.3606**	15.449	288.2	mg/L	178	Standard
	Fe	54	34.3	29.5	**0.2669**	0.379	142.2	mg/L	29	Standard
	Fe	57	503.3	4.9	**17.1712**	10.531	61.3	mg/L	408	Standard
>	**Sc-1**	45	43621.1	34.9				mg/L	61425	Standard
	Cl	35	1.3	86.6				ug/L	1	Standard
	Kr	83	10.3	29.6				ug/L	12	Standard
	Br	81	1553.4	35.0				ug/L	1747	Standard
	P	31	20.0	25.0				ug/L	17	Standard
	S	34	1.7	173.2				ug/L	3	Standard
	Sr	88	403.3	12.5				ug/L	370	Standard
	C	12	110.0	15.7				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	26.7	57.3				mg/L	17	Standard
	Dy	164	18.6	136.2				mg/L	9	Standard
	Ho-1	165	10.0	50.0				mg/L	25	Standard
	Er	166	30.0	88.2				mg/L	20	Standard
	I	127	12807.2	19.9				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		74.810	
	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		75.852	
	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	70.381
|	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	72.163
⌈	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: L1611053615
Sample Date/Time: Friday, November 11, 2016 16:19:33
Number of Replicates: 3
Autosampler Position: 234
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	159898.1	40.4				ug/L	206101	Standard
	Be	9	23.3	68.9	**-0.0065**	0.009	135.0	ug/L	25	Standard
	Al	27	173443.4	29.4	**1.1875**	0.152	12.8	ug/L	1120	Standard
	Sc	45	44075.1	32.3				ug/L	61425	Standard
	Ti	47	141.7	33.9	**0.2639**	0.048	18.2	ug/L	70	Standard
	V	51	27569.0	47.4	**2.9793**	0.351	11.8	ug/L	3309	Standard
	Cr	52	9518.1	24.5	**-0.1526**	0.173	113.3	ug/L	13497	Standard
	Cr	53	1163.4	12.0	**-1.2346**	0.326	26.4	ug/L	3162	Standard
	Mn	55	9961.6	41.1	**0.6903**	0.054	7.8	ug/L	2226	Standard
	Co	59	598.7	20.1	**0.0029**	0.012	401.0	ug/L	1003	Standard
	Ni	60	613.0	36.1	**0.1792**	0.010	5.3	ug/L	355	Standard
	Cu	65	307.0	38.0	**-0.0330**	0.013	38.5	ug/L	473	Standard
	Zn	66	515.3	52.2	**0.2402**	0.072	30.1	ug/L	341	Standard
>	Ge	72	437063.8	38.6				ug/L	566981	Standard
	As	75	640.6	38.3	**0.7756**	0.019	2.5	ug/L	-156	Standard
	Se	82	64.2	35.7	**0.4963**	0.023	4.6	ug/L	35	Standard
	Se-1	77	327.0	6.0	**0.8567**	1.674	195.5	ug/L	354	Standard
>	Ga	71	46.7	80.4				mg/L	43	Standard
	Rb	85	4717.5	34.0				ug/L	48	Standard
	Y	89	315536.1	35.5				ug/L	447702	Standard
>	Rh	103	26.7	39.0				ug/L	20	Standard
	Mo	98	167.0	12.2	**0.0440**	0.019	43.6	ug/L	158	Standard
	Ag	107	108.0	15.6	**0.0014**	0.003	234.6	ug/L	133	Standard
	Cd	111	9.4	26.9	**-0.0025**	0.002	60.2	mg/L	7	Standard
	Cd	114	45.1	26.4	**0.0041**	0.001	20.2	ug/L	72	Standard
>	In	115	712542.3	38.2				ug/L	1004638	Standard
	Sn	118	59.3	44.9	**-0.0400**	0.004	9.5	ug/L	364	Standard
	Sb	123	1461.2	15.2	**0.1821**	0.052	28.5	ug/L	2464	Standard
	Ba	135	2624.9	36.4	**0.9820**	0.111	11.3	ug/L	39	Standard
	Ce	140	30.0	33.3				ug/L	195	Standard
>	Tb	159	1216717.1	35.8				ug/L	1640193	Standard
	Ho	165	21.7	53.3				ug/L	25	Standard
	Tl	203	118.7	18.8	**-0.0012**	0.002	161.3	ug/L	324	Standard
	Tl	205	286.7	48.0	**0.0054**	0.002	44.5	ug/L	698	Standard
	Pb	206	423.0	36.6	**-0.0006**	0.001	91.0	ug/L	600	Standard
	Pb	207	342.0	36.8	**-0.0042**	0.002	54.6	ug/L	541	Standard
	Pb	208	1214.7	35.3	**0.0001**	0.002	1538.5	ug/L	1750	Standard
	U	238	3.0	33.3	**0.0024**	0.000	1.5	ug/L	10	Standard
>	Bi	209	594744.5	36.5				ug/L	811518	Standard

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	Na	23	6.7	86.6	**1.4987**	1.456	97.1	mg/L	0	Standard
	Mg	24	110.0	32.8	**2.7179**	1.374	50.6	mg/L	77	Standard
	K	39	128.3	43.8	**0.8841**	0.276	31.2	mg/L	18	Standard
	Ca	43	108.3	49.4	**5.6457**	20.913	370.4	mg/L	178	Standard
	Fe	54	15.7	34.4	**-0.1288**	0.162	126.0	mg/L	29	Standard
	Fe	57	473.3	6.9	**14.6748**	9.325	63.5	mg/L	408	Standard
>	**Sc-1**	45	44075.1	32.3				mg/L	61425	Standard
	Cl	35	1.3	86.6				ug/L	1	Standard
	Kr	83	7.3	7.9				ug/L	12	Standard
	Br	81	1510.1	31.2				ug/L	1747	Standard
	P	31	23.3	32.7				ug/L	17	Standard
	S	34	1.7	173.2				ug/L	3	Standard
	Sr	88	390.0	9.2				ug/L	370	Standard
	C	12	86.7	37.1				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	13.3	86.6				mg/L	17	Standard
	Dy	164	19.2	54.6				mg/L	9	Standard
	Ho-1	165	21.7	53.3				mg/L	25	Standard
	Er	166	16.7	69.3				mg/L	20	Standard
	I	127	12261.7	18.6				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		77.582	
	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		77.086	
	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	70.925
|	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	73.288
⌈	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: L1611053617
Sample Date/Time: Friday, November 11, 2016 16:22:38
Number of Replicates: 3
Autosampler Position: 235
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	157789.6	42.8				ug/L	206101	Standard
	Be	9	25.0	20.0	**-0.0031**	0.008	246.0	ug/L	25	Standard
	Al	27	164036.2	33.3	**1.1315**	0.102	9.1	ug/L	1120	Standard
	Sc	45	43478.7	33.8				ug/L	61425	Standard
	Ti	47	161.7	51.1	**0.3063**	0.046	15.0	ug/L	70	Standard
	V	51	47267.8	49.7	**5.3536**	0.637	11.9	ug/L	3309	Standard
	Cr	52	9153.2	24.8	**-0.1907**	0.190	99.4	ug/L	13497	Standard
	Cr	53	1130.0	3.8	**-1.2175**	0.479	39.3	ug/L	3162	Standard
	Mn	55	3561.5	46.4	**0.1574**	0.018	11.7	ug/L	2226	Standard
	Co	59	482.7	16.4	**-0.0088**	0.013	142.1	ug/L	1003	Standard
	Ni	60	511.7	44.4	**0.1263**	0.012	9.5	ug/L	355	Standard
	Cu	65	295.7	31.2	**-0.0345**	0.016	46.1	ug/L	473	Standard
	Zn	66	460.3	58.5	**0.1797**	0.079	44.2	ug/L	341	Standard
>	**Ge**	72	435891.7	41.4				ug/L	566981	Standard
	As	75	1395.6	44.4	**1.5575**	0.042	2.7	ug/L	-156	Standard
	Se	82	49.1	21.4	**0.3318**	0.117	35.2	ug/L	35	Standard
	Se-1	77	312.7	8.7	**0.6414**	1.561	243.4	ug/L	354	Standard
>	**Ga**	71	61.7	54.0				mg/L	43	Standard
	Rb	85	2611.9	40.7				ug/L	48	Standard
	Y	89	309133.6	36.9				ug/L	447702	Standard
>	**Rh**	103	23.3	49.5				ug/L	20	Standard
	Mo	98	127.4	19.9	**0.0339**	0.022	66.2	ug/L	158	Standard
	Ag	107	128.7	26.1	**0.0043**	0.003	79.7	ug/L	133	Standard
	Cd	111	12.8	41.4	**-0.0012**	0.001	87.2	mg/L	7	Standard
	Cd	114	27.1	72.3	**0.0009**	0.002	222.3	ug/L	72	Standard
>	**In**	115	706170.3	42.2				ug/L	1004638	Standard
	Sn	118	47.3	56.5	**-0.0487**	0.004	8.6	ug/L	364	Standard
	Sb	123	2690.8	33.4	**0.3769**	0.035	9.3	ug/L	2464	Standard
	Ba	135	3051.0	43.4	**1.1473**	0.172	15.0	ug/L	39	Standard
	Ce	140	63.3	38.9				ug/L	195	Standard
>	**Tb**	159	1179532.3	39.1				ug/L	1640193	Standard
	Ho	165	20.0	43.3				ug/L	25	Standard
	Tl	203	106.0	20.7	**-0.0022**	0.002	104.9	ug/L	324	Standard
	Tl	205	290.0	20.9	**0.0063**	0.002	28.2	ug/L	698	Standard
	Pb	206	420.7	41.7	**-0.0005**	0.002	411.4	ug/L	600	Standard
	Pb	207	340.7	35.5	**-0.0032**	0.001	45.1	ug/L	541	Standard
	Pb	208	1162.4	37.7	**-0.0014**	0.001	98.8	ug/L	1750	Standard
	U	238	20.7	148.4	**0.0037**	0.002	59.0	ug/L	10	Standard
>	**Bi**	209	584511.2	37.2				ug/L	811518	Standard

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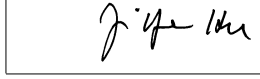

	Na	23	5.0	0.0	**1.1659**	0.347	29.8	mg/L	0	Standard
	Mg	24	68.3	21.1	**1.5370**	1.151	74.9	mg/L	77	Standard
	K	39	90.0	5.6	**0.6421**	0.209	32.6	mg/L	18	Standard
	Ca	43	95.0	5.3	**9.5772**	10.722	112.0	mg/L	178	Standard
	Fe	54	25.9	29.0	**0.0967**	0.245	253.8	mg/L	29	Standard
	Fe	57	490.0	6.7	**15.8526**	7.906	49.9	mg/L	408	Standard
>	**Sc-1**	45	43478.7	33.8				mg/L	61425	Standard
	Cl	35	1.3	86.6				ug/L	1	Standard
	Kr	83	10.3	24.4				ug/L	12	Standard
	Br	81	1406.7	37.5				ug/L	1747	Standard
	P	31	20.0	25.0				ug/L	17	Standard
	S	34	3.3	86.6				ug/L	3	Standard
	Sr	88	441.7	9.1				ug/L	370	Standard
	C	12	93.3	30.9				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	16.7	91.7				mg/L	17	Standard
	Dy	164	12.7	124.5				mg/L	9	Standard
	Ho-1	165	20.0	43.3				mg/L	25	Standard
	Er	166	13.3	86.6				mg/L	20	Standard
	I	127	13244.3	21.7				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		76.559	
	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		76.879	
	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	70.291
|	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	72.027
⌈	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

Sample ID: L1611053617
Report Date/Time: Friday, November 11, 2016 16:24:48
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Method 6020 - Summary Report

Sample ID: L1611053619
Sample Date/Time: Friday, November 11, 2016 16:25:43
Number of Replicates: 3
Autosampler Position: 236
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	164157.3	40.3				ug/L	206101	Standard
	Be	9	20.0	66.1	**-0.0085**	0.004	44.9	ug/L	25	Standard
	Al	27	190265.9	33.4	**1.2536**	0.101	8.1	ug/L	1120	Standard
	Sc	45	45997.5	31.0				ug/L	61425	Standard
	Ti	47	131.7	37.1	**0.2215**	0.013	5.8	ug/L	70	Standard
	V	51	33637.7	38.5	**3.6848**	0.112	3.0	ug/L	3309	Standard
	Cr	52	10153.2	22.8	**-0.0976**	0.195	199.5	ug/L	13497	Standard
	Cr	53	1158.4	7.2	**-1.2524**	0.433	34.5	ug/L	3162	Standard
	Mn	55	22229.8	56.8	**1.5894**	0.312	19.7	ug/L	2226	Standard
	Co	59	570.3	16.5	**-0.0015**	0.012	818.2	ug/L	1003	Standard
	Ni	60	670.7	49.6	**0.1887**	0.035	18.4	ug/L	355	Standard
	Cu	65	283.3	36.7	**-0.0495**	0.003	6.7	ug/L	473	Standard
	Zn	66	445.7	63.0	**0.1431**	0.106	74.4	ug/L	341	Standard
>	Ge	72	448732.1	38.0				ug/L	566981	Standard
	As	75	890.4	37.2	**1.0120**	0.058	5.7	ug/L	-156	Standard
	Se	82	39.5	15.8	**0.1932**	0.125	64.8	ug/L	35	Standard
	Se-1	77	315.0	4.9	**0.5006**	1.593	318.2	ug/L	354	Standard
>	Ga	71	88.3	54.4				mg/L	43	Standard
	Rb	85	4747.5	36.4				ug/L	48	Standard
	Y	89	322149.8	36.8				ug/L	447702	Standard
>	Rh	103	33.3	34.6				ug/L	20	Standard
	Mo	98	361.8	11.6	**0.0989**	0.027	27.7	ug/L	158	Standard
	Ag	107	121.3	26.4	**0.0022**	0.002	83.8	ug/L	133	Standard
	Cd	111	11.5	22.7	**-0.0018**	0.001	75.8	mg/L	7	Standard
	Cd	114	30.1	46.6	**0.0017**	0.003	180.5	ug/L	72	Standard
>	In	115	741054.3	38.5				ug/L	1004638	Standard
	Sn	118	59.3	36.2	**-0.0400**	0.011	26.7	ug/L	364	Standard
	Sb	123	2943.0	26.7	**0.3988**	0.055	13.7	ug/L	2464	Standard
	Ba	135	5675.5	45.0	**2.0066**	0.176	8.8	ug/L	39	Standard
	Ce	140	28.3	50.9				ug/L	195	Standard
>	Tb	159	1220747.5	34.8				ug/L	1640193	Standard
	Ho	165	13.3	57.3				ug/L	25	Standard
	Tl	203	178.7	34.0	**0.0035**	0.000	8.1	ug/L	324	Standard
	Tl	205	411.7	36.0	**0.0095**	0.000	3.5	ug/L	698	Standard
	Pb	206	413.3	31.3	**-0.0028**	0.002	54.5	ug/L	600	Standard
	Pb	207	346.3	35.8	**-0.0050**	0.001	22.3	ug/L	541	Standard
	Pb	208	1222.4	35.7	**-0.0013**	0.001	91.5	ug/L	1750	Standard
	U	238	4.7	86.6	**0.0025**	0.000	11.4	ug/L	10	Standard
>	Bi	209	612142.3	34.5				ug/L	811518	Standard

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⌈	**Na**	23	6.7	43.3	**1.4644**	0.735	50.2	mg/L	0	Standard
|	**Mg**	24	85.0	46.7	**1.6530**	0.622	37.6	mg/L	77	Standard
|	**K**	39	138.3	15.0	**0.9726**	0.330	33.9	mg/L	18	Standard
|	**Ca**	43	115.0	26.1	**4.3229**	16.478	381.2	mg/L	178	Standard
|	**Fe**	54	25.7	45.0	**0.0473**	0.254	535.9	mg/L	29	Standard
|	**Fe**	57	508.3	4.9	**15.4521**	9.208	59.6	mg/L	408	Standard
⌊>	**Sc-1**	45	45997.5	31.0				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	7.7	15.1				ug/L	12	Standard
	Br	81	1816.8	40.1				ug/L	1747	Standard
	P	31	28.3	27.0				ug/L	17	Standard
	S	34	5.0	100.0				ug/L	3	Standard
	Sr	88	383.3	9.3				ug/L	370	Standard
	C	12	113.3	27.0				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	20.0	50.0				mg/L	17	Standard
	Dy	164	8.9	120.7				mg/L	9	Standard
	Ho-1	165	13.3	57.3				mg/L	25	Standard
	Er	166	23.3	65.5				mg/L	20	Standard
	I	127	12798.9	18.3				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		79.649	
|	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		79.144	
|	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	73.763
|	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	75.432
⌈	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: L1611053621
Sample Date/Time: Friday, November 11, 2016 16:28:49
Number of Replicates: 3
Autosampler Position: 237
Sample Description: 1
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	161144.1	43.9				ug/L	206101	Standard
	Be	9	18.3	41.7	**-0.0074**	0.008	110.5	ug/L	25	Standard
	Al	27	233967.2	32.3	**1.5897**	0.181	11.4	ug/L	1120	Standard
	Sc	45	45006.8	33.8				ug/L	61425	Standard
	Ti	47	99.3	53.1	**0.1256**	0.033	26.2	ug/L	70	Standard
	V	51	4028.8	32.5	**0.1774**	0.039	22.0	ug/L	3309	Standard
	Cr	52	10015.8	24.3	**-0.0961**	0.211	219.4	ug/L	13497	Standard
	Cr	53	1130.0	10.0	**-1.2776**	0.354	27.7	ug/L	3162	Standard
	Mn	55	49041.6	39.0	**3.9077**	0.276	7.1	ug/L	2226	Standard
	Co	59	691.0	16.8	**0.0132**	0.018	136.5	ug/L	1003	Standard
	Ni	60	649.7	40.6	**0.1907**	0.016	8.6	ug/L	355	Standard
	Cu	65	258.7	34.7	**-0.0591**	0.014	23.2	ug/L	473	Standard
	Zn	66	704.7	52.7	**0.4248**	0.087	20.4	ug/L	341	Standard
>	Ge	72	445028.8	41.2				ug/L	566981	Standard
	As	75	-106.9	86.1	**0.0026**	0.056	2126.5	ug/L	-156	Standard
	Se	82	28.7	24.1	**0.0493**	0.061	124.6	ug/L	35	Standard
	Se-1	77	320.0	5.0	**0.6988**	1.749	250.2	ug/L	354	Standard
>	Ga	71	43.3	59.2				mg/L	43	Standard
	Rb	85	1796.8	42.2				ug/L	48	Standard
	Y	89	318898.6	37.8				ug/L	447702	Standard
>	Rh	103	31.7	39.7				ug/L	20	Standard
	Mo	98	88.2	15.8	**0.0192**	0.013	65.5	ug/L	158	Standard
	Ag	107	118.7	25.8	**0.0024**	0.003	124.1	ug/L	133	Standard
	Cd	111	12.2	53.3	**-0.0018**	0.001	63.9	mg/L	7	Standard
	Cd	114	45.3	74.3	**0.0032**	0.002	71.3	ug/L	72	Standard
>	In	115	725588.7	40.8				ug/L	1004638	Standard
	Sn	118	52.3	29.9	**-0.0441**	0.004	8.9	ug/L	364	Standard
	Sb	123	1223.1	29.2	**0.1337**	0.022	16.4	ug/L	2464	Standard
	Ba	135	5319.4	37.1	**1.9737**	0.244	12.4	ug/L	39	Standard
	Ce	140	23.3	44.6				ug/L	195	Standard
>	Tb	159	1192913.5	39.0				ug/L	1640193	Standard
	Ho	165	18.3	15.7				ug/L	25	Standard
	Tl	203	120.3	40.2	**-0.0016**	0.002	92.9	ug/L	324	Standard
	Tl	205	283.3	43.1	**0.0052**	0.001	11.0	ug/L	698	Standard
	Pb	206	422.7	41.1	**-0.0018**	0.003	189.7	ug/L	600	Standard
	Pb	207	352.7	44.8	**-0.0041**	0.003	73.8	ug/L	541	Standard
	Pb	208	1191.4	36.1	**-0.0015**	0.002	138.7	ug/L	1750	Standard
	U	238	5.0	91.7	**0.0027**	0.001	26.8	ug/L	10	Standard
>	Bi	209	603769.6	37.8				ug/L	811518	Standard

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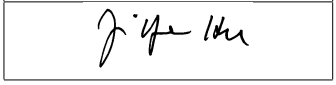

	Na	23	15.0	33.3	**3.4460**	1.933	56.1	mg/L	0	Standard
	Mg	24	65.0	13.3	**1.2847**	0.703	54.7	mg/L	77	Standard
	K	39	70.0	12.4	**0.4693**	0.234	49.8	mg/L	18	Standard
	Ca	43	131.7	32.3	**-3.0930**	22.310	721.3	mg/L	178	Standard
	Fe	54	30.5	58.6	**0.2211**	0.519	234.8	mg/L	29	Standard
	Fe	57	461.7	3.8	**13.6027**	8.889	65.3	mg/L	408	Standard
>	**Sc-1**	45	45006.8	33.8				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	11.3	22.2				ug/L	12	Standard
	Br	81	1416.7	26.7				ug/L	1747	Standard
	P	31	28.3	66.8				ug/L	17	Standard
	S	34	5.0	100.0				ug/L	3	Standard
	Sr	88	441.7	10.5				ug/L	370	Standard
	C	12	160.0	18.8				mg/L	47	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	6.7	173.2				mg/L	17	Standard
	Dy	164	12.9	48.2				mg/L	9	Standard
	Ho-1	165	18.3	15.7				mg/L	25	Standard
	Er	166	10.0	100.0				mg/L	20	Standard
	I	127	11195.9	20.7				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		78.187	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		78.491	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			

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⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	72.224
|	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	74.400
⌈	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

Sample ID: L1611053621
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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, November 11, 2016 16:31:56
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	178404.8	39.5				ug/L	206101	Standard
	Be	9	95564.8	36.2	**47.6492**	1.492	3.1	ug/L	25	Standard
	Al	27	7653810.1	28.0	**46.6005**	4.906	10.5	ug/L	1120	Standard
	Sc	45	48680.2	27.1				ug/L	61425	Standard
	Ti	47	36893.9	30.1	**96.1545**	5.986	6.2	ug/L	70	Standard
	V	51	444717.0	31.7	**49.1005**	2.342	4.8	ug/L	3309	Standard
	Cr	52	410394.0	31.4	**48.8614**	2.547	5.2	ug/L	13497	Standard
	Cr	53	51293.0	33.1	**47.3721**	1.755	3.7	ug/L	3162	Standard
	Mn	55	641089.8	33.2	**48.1683**	1.629	3.4	ug/L	2226	Standard
	Co	59	512301.5	34.1	**48.8958**	1.257	2.6	ug/L	1003	Standard
	Ni	60	110955.8	34.2	**49.3009**	1.326	2.7	ug/L	355	Standard
	Cu	65	103025.9	34.7	**50.3324**	1.087	2.2	ug/L	473	Standard
	Zn	66	53616.5	33.7	**51.0695**	1.552	3.0	ug/L	341	Standard
>	Ge	72	487096.7	36.9				ug/L	566981	Standard
	As	75	52340.7	34.1	**49.5573**	1.328	2.7	ug/L	-156	Standard
	Se	82	4285.4	38.6	**48.2401**	0.937	1.9	ug/L	35	Standard
	Se-1	77	3615.8	34.5	**47.4862**	1.306	2.7	ug/L	354	Standard
>	Ga	71	120.0	50.5				mg/L	43	Standard
	Rb	85	563.3	29.2				ug/L	48	Standard
	Y	89	355376.1	36.3				ug/L	447702	Standard
>	Rh	103	65.0	23.1				ug/L	20	Standard
	Mo	98	380157.2	34.5	**97.7570**	1.317	1.3	ug/L	158	Standard
	Ag	107	415735.9	34.5	**48.9441**	0.666	1.4	ug/L	133	Standard
	Cd	111	137732.7	37.9	**50.7318**	0.945	1.9	mg/L	7	Standard
	Cd	114	365489.0	39.9	**49.7722**	1.876	3.8	ug/L	72	Standard
>	In	115	811740.5	35.9				ug/L	1004638	Standard
	Sn	118	84419.9	37.6	**50.3840**	1.121	2.2	ug/L	364	Standard
	Sb	123	366216.4	36.2	**50.7497**	0.136	0.3	ug/L	2464	Standard
	Ba	135	149051.8	34.0	**49.1280**	1.001	2.0	ug/L	39	Standard
	Ce	140	185.0	37.5				ug/L	195	Standard
>	Tb	159	1309824.7	30.9				ug/L	1640193	Standard
	Ho	165	55.0	32.8				ug/L	25	Standard
	Tl	203	578582.4	34.9	**50.4513**	1.055	2.1	ug/L	324	Standard
	Tl	205	1370363.9	34.3	**44.7177**	0.664	1.5	ug/L	698	Standard
	Pb	206	451315.0	34.6	**50.4965**	0.892	1.8	ug/L	600	Standard
	Pb	207	398365.4	34.7	**50.0795**	0.923	1.8	ug/L	541	Standard
	Pb	208	1338101.0	32.6	**51.3064**	0.179	0.3	ug/L	1750	Standard
	U	238	560189.3	23.6	**54.8492**	4.554	8.3	ug/L	10	Standard
>	Bi	209	632200.5	32.7				ug/L	811518	Standard

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	Na	23	23.3	32.7	**4.6185**	1.545	33.5	mg/L	0	Standard
	Mg	24	235.0	6.4	**6.1623**	2.159	35.0	mg/L	77	Standard
	K	39	725.0	26.9	**5.0146**	0.541	10.8	mg/L	18	Standard
	Ca	43	113.3	5.1	**8.2173**	10.089	122.8	mg/L	178	Standard
	Fe	54	388.9	42.1	**5.9644**	1.032	17.3	mg/L	29	Standard
	Fe	57	595.0	17.9	**17.5623**	8.229	46.9	mg/L	408	Standard
>	**Sc-1**	45	48680.2	27.1				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	9.0	29.4				ug/L	12	Standard
	Br	81	1476.7	32.2				ug/L	1747	Standard
	P	31	26.7	57.3				ug/L	17	Standard
	S	34	1.7	173.2				ug/L	3	Standard
	Sr	88	340.0	13.5				ug/L	370	Standard
	C	12	23.3	65.5				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	17	Standard
	Dy	164	5.4	109.8				mg/L	9	Standard
	Ho-1	165	55.0	32.8				mg/L	25	Standard
	Er	166	26.7	21.7				mg/L	20	Standard
	I	127	3380.4	23.4				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6			
	Be	9	95.298		
	Al	27	93.201		
	Sc	45			
	Ti	47	96.155		
	V	51	98.201		
	Cr	52	97.723		
	Cr	53			
	Mn	55	96.337		
	Co	59	97.792		
	Ni	60	98.602		
	Cu	65	100.665		
	Zn	66	102.139		
>	Ge	72		85.911	
	As	75	99.115		
	Se	82	96.480		
	Se-1	77			
>	Ga	71			

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Rb	85			
Y	89			
Rh	103			
Mo	98	97.757		
Ag	107	97.888		
Cd	111	101.464		
Cd	114			
In	115			80.799
Sn	118	100.768		
Sb	123	101.499		
Ba	135	98.256		
Ce	140			
Tb	159			
Ho	165			
Tl	203	100.903		
Tl	205			
Pb	206			
Pb	207			
Pb	208	102.613		
U	238	109.698		
Bi	209			77.903
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
Bi 209 Int Std for QC Std	Bi	209	Rerun sample

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Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, November 11, 2016 16:35:02
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	170065.8	48.5				ug/L	206101	Standard
	Be	9	11.7	89.2	**-0.0135**	0.005	36.7	ug/L	25	Standard
	Al	27	1565.1	35.5	**0.0158**	0.001	7.4	ug/L	1120	Standard
	Sc	45	46461.1	37.5				ug/L	61425	Standard
	Ti	47	47.0	16.1	**-0.0090**	0.037	409.0	ug/L	70	Standard
	V	51	2858.4	20.8	**0.0348**	0.081	232.3	ug/L	3309	Standard
	Cr	52	11562.6	25.7	**0.0684**	0.293	427.5	ug/L	13497	Standard
	Cr	53	1380.1	7.4	**-1.0186**	0.517	50.8	ug/L	3162	Standard
	Mn	55	2639.6	25.7	**0.0816**	0.041	50.8	ug/L	2226	Standard
	Co	59	963.4	19.2	**0.0398**	0.025	63.1	ug/L	1003	Standard
	Ni	60	254.3	15.0	**0.0031**	0.036	1159.0	ug/L	355	Standard
	Cu	65	352.0	42.8	**-0.0188**	0.009	47.0	ug/L	473	Standard
	Zn	66	289.0	41.7	**0.0015**	0.025	1701.8	ug/L	341	Standard
>	Ge	72	468249.7	47.8				ug/L	566981	Standard
	As	75	-96.2	50.8	**-0.0020**	0.070	3424.3	ug/L	-156	Standard
	Se	82	26.6	34.8	**0.0428**	0.235	548.3	ug/L	35	Standard
	Se-1	77	279.3	3.4	**-0.0742**	1.808	2435.7	ug/L	354	Standard
>	Ga	71	36.7	41.7				mg/L	43	Standard
	Rb	85	38.3	15.1				ug/L	48	Standard
	Y	89	346727.1	46.6				ug/L	447702	Standard
>	Rh	103	10.0	50.0				ug/L	20	Standard
	Mo	98	228.0	3.6	**0.0597**	0.025	42.7	ug/L	158	Standard
	Ag	107	172.0	44.6	**0.0074**	0.001	11.7	ug/L	133	Standard
	Cd	111	21.7	7.9	**0.0027**	0.003	122.2	mg/L	7	Standard
	Cd	114	76.9	35.8	**0.0083**	0.002	18.6	ug/L	72	Standard
>	In	115	779243.8	49.1				ug/L	1004638	Standard
	Sn	118	239.0	15.2	**0.0844**	0.048	56.5	ug/L	364	Standard
	Sb	123	5655.6	3.7	**0.8821**	0.394	44.6	ug/L	2464	Standard
	Ba	135	45.7	20.3	**0.0074**	0.004	54.8	ug/L	39	Standard
	Ce	140	55.0	63.0				ug/L	195	Standard
>	Tb	159	1254302.0	43.4				ug/L	1640193	Standard
	Ho	165	13.3	57.3				ug/L	25	Standard
	Tl	203	60.0	47.6	**-0.0074**	0.000	6.8	ug/L	324	Standard
	Tl	205	128.3	53.0	**-0.0002**	0.000	281.1	ug/L	698	Standard
	Pb	206	480.0	50.3	**0.0031**	0.003	85.5	ug/L	600	Standard
	Pb	207	410.3	49.9	**0.0021**	0.004	174.5	ug/L	541	Standard
	Pb	208	1365.0	46.0	**0.0037**	0.001	39.1	ug/L	1750	Standard
	U	238	49.7	12.1	**0.0074**	0.002	22.5	ug/L	10	Standard
>	Bi	209	619396.5	45.0				ug/L	811518	Standard

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⌈	**Na**	23	3.3	86.6	**0.7027**	0.692	98.4	mg/L	0	Standard
|	**Mg**	24	51.7	22.3	**0.7322**	0.235	32.1	mg/L	77	Standard
|	**K**	39	16.7	17.3	**0.0224**	0.051	228.4	mg/L	18	Standard
|	**Ca**	43	80.0	43.3	**14.7373**	19.201	130.3	mg/L	178	Standard
|	**Fe**	54	34.2	38.0	**0.1610**	0.014	8.9	mg/L	29	Standard
|	**Fe**	57	475.0	4.8	**13.4468**	7.720	57.4	mg/L	408	Standard
⌊>	**Sc-1**	45	46461.1	37.5				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	6.3	63.8				ug/L	12	Standard
	Br	81	1346.7	33.5				ug/L	1747	Standard
	P	31	18.3	41.7				ug/L	17	Standard
	S	34	3.3	173.2				ug/L	3	Standard
	Sr	88	440.0	16.4				ug/L	370	Standard
	C	12	43.3	48.0				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	173.2				mg/L	17	Standard
	Dy	164	18.9	90.3				mg/L	9	Standard
	Ho-1	165	13.3	57.3				mg/L	25	Standard
	Er	166	23.3	49.5				mg/L	20	Standard
	I	127	4270.6	21.2				mg/L	6023	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		82.586	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

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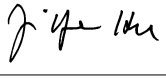

Rb	85	
Y	89	
> Rh	103	
Mo	98	
Ag	107	
Cd	111	
Cd	114	
> In	115	77.565
Sn	118	
Sb	123	
Ba	135	
Ce	140	
> Tb	159	
Ho	165	
Tl	203	
Tl	205	
Pb	206	
Pb	207	
Pb	208	
U	238	
> Bi	209	76.326
Na	23	
Mg	24	
K	39	
Ca	43	
Fe	54	
Fe	57	
> Sc-1	45	
Cl	35	
Kr	83	
Br	81	
P	31	
S	34	
Sr	88	
C	12	
N	14	
Hg	202	
Dy	164	
Ho-1	165	
Er	166	
I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
In 115 Int Std for QC Std	In	115	Rerun sample
QC Std 7	Sb	123	
Bi 209 Int Std for QC Std	Bi	209	Rerun sample

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Method 6020 - Summary Report

Sample ID: PBW 78 WG591065-02
Sample Date/Time: Friday, November 11, 2016 16:38:08
Number of Replicates: 3
Autosampler Position: 238
Sample Description: 50
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	178047.2	44.8				ug/L	206101	Standard
	Be	9	18.3	150.2	**-0.0122**	0.009	70.8	ug/L	25	Standard
	Al	27	1535.1	23.7	**0.0154**	0.002	13.4	ug/L	1120	Standard
	Sc	45	48314.6	34.2				ug/L	61425	Standard
	Ti	47	38.7	11.7	**-0.0307**	0.052	170.4	ug/L	70	Standard
	V	51	1497.2	26.1	**-0.1178**	0.121	103.1	ug/L	3309	Standard
	Cr	52	13446.2	24.5	**0.2791**	0.315	112.7	ug/L	13497	Standard
	Cr	53	29489.5	21.3	**28.4701**	6.425	22.6	ug/L	3162	Standard
	Mn	55	3516.4	30.7	**0.1427**	0.036	25.1	ug/L	2226	Standard
	Co	59	777.4	21.1	**0.0172**	0.017	98.2	ug/L	1003	Standard
	Ni	60	293.7	18.6	**0.0174**	0.033	187.4	ug/L	355	Standard
	Cu	65	361.3	36.7	**-0.0148**	0.021	142.8	ug/L	473	Standard
	Zn	66	1924.8	40.7	**1.6041**	0.065	4.1	ug/L	341	Standard
>	**Ge**	72	475651.6	44.4				ug/L	566981	Standard
	As	75	-123.0	79.5	**-0.0146**	0.088	603.1	ug/L	-156	Standard
	Se	82	20.7	26.0	**-0.0642**	0.083	128.8	ug/L	35	Standard
	Se-1	77	1234.1	17.1	**14.7748**	4.859	32.9	ug/L	354	Standard
>	**Ga**	71	75.0	40.6				mg/L	43	Standard
	Rb	85	43.3	65.6				ug/L	48	Standard
	Y	89	341228.9	41.8				ug/L	447702	Standard
>	**Rh**	103	30.0	33.3				ug/L	20	Standard
	Mo	98	74.7	10.5	**0.0135**	0.011	83.5	ug/L	158	Standard
	Ag	107	134.0	33.5	**0.0031**	0.004	143.6	ug/L	133	Standard
	Cd	111	14.9	17.7	**-0.0002**	0.003	1272.2	mg/L	7	Standard
	Cd	114	50.8	40.9	**0.0041**	0.001	14.0	ug/L	72	Standard
>	**In**	115	792953.1	48.1				ug/L	1004638	Standard
	Sn	118	156.7	24.9	**0.0237**	0.028	118.6	ug/L	364	Standard
	Sb	123	1669.4	15.5	**0.2204**	0.149	67.7	ug/L	2464	Standard
	Ba	135	54.0	21.8	**0.0101**	0.004	44.2	ug/L	39	Standard
	Ce	140	35.0	79.5				ug/L	195	Standard
>	**Tb**	159	1291593.1	42.5				ug/L	1640193	Standard
	Ho	165	21.7	13.3				ug/L	25	Standard
	Tl	203	12230.9	53.0	**1.0395**	0.128	12.3	ug/L	324	Standard
	Tl	205	29343.6	52.3	**0.9407**	0.113	12.0	ug/L	698	Standard
	Pb	206	2873.0	35.4	**0.2821**	0.026	9.1	ug/L	600	Standard
	Pb	207	2460.9	31.7	**0.2738**	0.035	12.9	ug/L	541	Standard
	Pb	208	8465.3	31.8	**0.2887**	0.036	12.6	ug/L	1750	Standard
	U	238	22.7	14.2	**0.0046**	0.001	26.4	ug/L	10	Standard
>	**Bi**	209	626757.9	44.0				ug/L	811518	Standard

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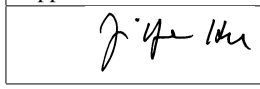

	Na	23	5.0	173.2	**1.0854**	1.871	172.4	mg/L	0	Standard
	Mg	24	46.7	22.3	**0.5150**	0.222	43.1	mg/L	77	Standard
	K	39	21.7	35.3	**0.0409**	0.004	10.9	mg/L	18	Standard
	Ca	43	96.7	20.9	**11.3691**	15.754	138.6	mg/L	178	Standard
	Fe	54	32.4	36.5	**0.1117**	0.159	142.1	mg/L	29	Standard
	Fe	57	426.7	20.7	**10.7307**	11.203	104.4	mg/L	408	Standard
>	**Sc-1**	45	48314.6	34.2				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	11.0	41.7				ug/L	12	Standard
	Br	81	1346.7	43.7				ug/L	1747	Standard
	P	31	28.3	27.0				ug/L	17	Standard
	S	34	1.7	173.2				ug/L	3	Standard
	Sr	88	420.0	18.6				ug/L	370	Standard
	C	12	33.3	45.8				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	173.2				mg/L	17	Standard
	Dy	164	22.7	26.1				mg/L	9	Standard
	Ho-1	165	21.7	13.3				mg/L	25	Standard
	Er	166	13.3	43.3				mg/L	20	Standard
	I	127	4639.1	22.8				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		86.388	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		83.892	
	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	78.929
|	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	77.233
⌈	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: LCSW 78 WG591065-03
Sample Date/Time: Friday, November 11, 2016 16:41:14
Number of Replicates: 3
Autosampler Position: 239
Sample Description: 50
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	185889.6	44.0				ug/L	206101	Standard
	Be	9	1016.7	39.0	**0.4699**	0.025	5.3	ug/L	25	Standard
	Al	27	116184.0	37.0	**0.6780**	0.042	6.2	ug/L	1120	Standard
	Sc	45	50169.9	35.6				ug/L	61425	Standard
	Ti	47	3595.1	40.3	**9.2854**	0.304	3.3	ug/L	70	Standard
	V	51	85093.3	40.6	**9.2172**	0.317	3.4	ug/L	3309	Standard
	Cr	52	53586.7	38.8	**5.1691**	0.299	5.8	ug/L	13497	Standard
	Cr	53	59764.4	29.4	**57.9915**	7.648	13.2	ug/L	3162	Standard
	Mn	55	64418.4	40.3	**4.7744**	0.158	3.3	ug/L	2226	Standard
	Co	59	20404.6	41.6	**1.9069**	0.056	3.0	ug/L	1003	Standard
	Ni	60	10921.7	42.5	**4.7798**	0.127	2.7	ug/L	355	Standard
	Cu	65	10269.9	44.9	**4.8537**	0.051	1.1	ug/L	473	Standard
	Zn	66	11241.0	42.3	**10.5597**	0.241	2.3	ug/L	341	Standard
>	Ge	72	481776.9	43.8				ug/L	566981	Standard
	As	75	3842.8	38.1	**3.8048**	0.212	5.6	ug/L	-156	Standard
	Se	82	323.6	43.3	**3.4022**	0.021	0.6	ug/L	35	Standard
	Se-1	77	2380.2	27.0	**31.3614**	5.311	16.9	ug/L	354	Standard
>	Ga	71	66.7	28.4				mg/L	43	Standard
	Rb	85	126.7	22.8				ug/L	48	Standard
	Y	89	346043.8	42.8				ug/L	447702	Standard
>	Rh	103	65.0	40.7				ug/L	20	Standard
	Mo	98	34907.6	42.0	**9.4124**	0.297	3.2	ug/L	158	Standard
	Ag	107	29236.4	43.4	**3.5862**	0.077	2.1	ug/L	133	Standard
	Cd	111	1280.7	45.6	**0.4876**	0.012	2.4	mg/L	7	Standard
	Cd	114	5177.5	48.8	**0.7330**	0.047	6.4	ug/L	72	Standard
>	In	115	778260.8	45.4				ug/L	1004638	Standard
	Sn	118	15608.1	45.4	**9.6792**	0.078	0.8	ug/L	364	Standard
	Sb	123	85051.0	41.4	**12.3863**	0.442	3.6	ug/L	2464	Standard
	Ba	135	27663.8	41.7	**9.5584**	0.336	3.5	ug/L	39	Standard
	Ce	140	36.7	43.8				ug/L	195	Standard
>	Tb	159	1282274.2	39.2				ug/L	1640193	Standard
	Ho	165	10.0	86.6				ug/L	25	Standard
	Tl	203	59794.9	41.0	**5.2955**	0.118	2.2	ug/L	324	Standard
	Tl	205	140230.2	41.3	**4.6447**	0.121	2.6	ug/L	698	Standard
	Pb	206	44391.4	40.5	**5.0124**	0.076	1.5	ug/L	600	Standard
	Pb	207	38813.1	40.6	**4.9234**	0.088	1.8	ug/L	541	Standard
	Pb	208	129988.4	39.2	**5.0264**	0.007	0.1	ug/L	1750	Standard
	U	238	33.3	59.2	**0.0052**	0.001	11.5	ug/L	10	Standard
>	Bi	209	620982.8	39.1				ug/L	811518	Standard

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⌈	**Na**	23	5.0	173.2	**1.1094**	1.913	172.4	mg/L	0	Standard
|	**Mg**	24	66.7	15.6	**1.0630**	0.409	38.4	mg/L	77	Standard
|	**K**	39	96.7	48.1	**0.5635**	0.325	57.7	mg/L	18	Standard
|	**Ca**	43	100.0	18.0	**11.9809**	13.357	111.5	mg/L	178	Standard
|	**Fe**	54	38.8	43.8	**0.1966**	0.261	132.7	mg/L	29	Standard
|	**Fe**	57	508.3	14.2	**13.9697**	11.126	79.6	mg/L	408	Standard
⌊>	**Sc-1**	45	50169.9	35.6				mg/L	61425	Standard
	Cl	35	2.0	100.0				ug/L	1	Standard
	Kr	83	10.7	44.3				ug/L	12	Standard
	Br	81	1440.1	36.6				ug/L	1747	Standard
	P	31	31.7	32.9				ug/L	17	Standard
	S	34	5.0	100.0				ug/L	3	Standard
	Sr	88	393.3	9.5				ug/L	370	Standard
	C	12	36.7	78.7				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	10.0	100.0				mg/L	17	Standard
	Dy	164	19.0	91.0				mg/L	9	Standard
	Ho-1	165	10.0	86.6				mg/L	25	Standard
	Er	166	20.0	50.0				mg/L	20	Standard
	I	127	4729.1	24.1				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		90.193	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		84.972	
|	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	77.467
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	76.521
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

Sample ID: LCSW 78 WG591065-03
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Method 6020 - Summary Report

Sample ID: F BLANK WG590907-01
Sample Date/Time: Friday, November 11, 2016 16:44:19
Number of Replicates: 3
Autosampler Position: 240
Sample Description: 50
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	172454.5	49.9				ug/L	206101	Standard
	Be	9	18.3	31.5	**-0.0079**	0.006	73.2	ug/L	25	Standard
	Al	27	1600.1	23.7	**0.0163**	0.002	14.6	ug/L	1120	Standard
	Sc	45	47609.6	36.3				ug/L	61425	Standard
	Ti	47	34.7	7.3	**-0.0405**	0.046	112.5	ug/L	70	Standard
	V	51	2212.2	21.5	**-0.0190**	0.162	852.0	ug/L	3309	Standard
	Cr	52	13741.6	28.0	**0.3267**	0.263	80.6	ug/L	13497	Standard
	Cr	53	27985.2	24.7	**27.0459**	5.240	19.4	ug/L	3162	Standard
	Mn	55	3014.0	30.0	**0.1066**	0.031	29.3	ug/L	2226	Standard
	Co	59	657.0	17.9	**0.0063**	0.017	267.2	ug/L	1003	Standard
	Ni	60	270.3	21.7	**0.0069**	0.026	385.9	ug/L	355	Standard
	Cu	65	400.7	40.6	**0.0053**	0.009	165.2	ug/L	473	Standard
	Zn	66	1585.1	42.1	**1.2875**	0.035	2.8	ug/L	341	Standard
>	Ge	72	468638.8	44.6				ug/L	566981	Standard
	As	75	-117.3	143.3	**0.0177**	0.102	575.9	ug/L	-156	Standard
	Se	82	25.7	20.4	**0.0297**	0.190	638.0	ug/L	35	Standard
	Se-1	77	1233.7	17.5	**14.9999**	4.599	30.7	ug/L	354	Standard
>	Ga	71	71.7	31.5				mg/L	43	Standard
	Rb	85	53.3	14.3				ug/L	48	Standard
	Y	89	332516.5	41.7				ug/L	447702	Standard
>	Rh	103	18.3	31.5				ug/L	20	Standard
	Mo	98	55.1	35.4	**0.0060**	0.004	73.0	ug/L	158	Standard
	Ag	107	124.3	29.6	**0.0024**	0.004	162.7	ug/L	133	Standard
	Cd	111	10.9	18.2	**-0.0018**	0.002	135.3	mg/L	7	Standard
	Cd	114	58.8	46.6	**0.0053**	0.001	14.3	ug/L	72	Standard
>	In	115	774216.4	47.8				ug/L	1004638	Standard
	Sn	118	168.0	24.3	**0.0332**	0.026	78.7	ug/L	364	Standard
	Sb	123	660.0	12.6	**0.0504**	0.055	108.7	ug/L	2464	Standard
	Ba	135	46.3	35.1	**0.0070**	0.002	32.0	ug/L	39	Standard
	Ce	140	56.7	44.4				ug/L	195	Standard
>	Tb	159	1260554.9	41.2				ug/L	1640193	Standard
	Ho	165	13.3	21.7				ug/L	25	Standard
	Tl	203	3020.3	34.0	**0.2676**	0.020	7.5	ug/L	324	Standard
	Tl	205	6890.0	29.7	**0.2372**	0.026	11.0	ug/L	698	Standard
	Pb	206	1868.8	36.6	**0.1699**	0.013	7.6	ug/L	600	Standard
	Pb	207	1629.1	33.7	**0.1682**	0.016	9.5	ug/L	541	Standard
	Pb	208	5368.4	29.2	**0.1715**	0.027	15.6	ug/L	1750	Standard
	U	238	5.7	20.4	**0.0027**	0.000	12.4	ug/L	10	Standard
>	Bi	209	608521.2	41.9				ug/L	811518	Standard

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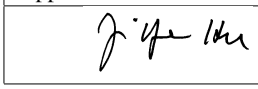

	Na	23	1.7	173.2	**0.3882**	0.664	171.0	mg/L	0	Standard
	Mg	24	55.0	50.6	**0.7677**	0.772	100.5	mg/L	77	Standard
	K	39	21.7	13.3	**0.0573**	0.059	102.8	mg/L	18	Standard
	Ca	43	91.7	61.3	**12.9999**	24.229	186.4	mg/L	178	Standard
	Fe	54	32.3	39.4	**0.1691**	0.376	222.5	mg/L	29	Standard
	Fe	57	463.3	8.0	**12.2913**	8.046	65.5	mg/L	408	Standard
>	**Sc-1**	45	47609.6	36.3				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	8.0	45.1				ug/L	12	Standard
	Br	81	1303.4	51.3				ug/L	1747	Standard
	P	31	30.0	44.1				ug/L	17	Standard
	S	34	0.0					ug/L	3	Standard
	Sr	88	325.0	24.4				ug/L	370	Standard
	C	12	90.0	40.1				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	17	Standard
	Dy	164	12.1	50.2				mg/L	9	Standard
	Ho-1	165	13.3	21.7				mg/L	25	Standard
	Er	166	26.7	21.7				mg/L	20	Standard
	I	127	2950.3	26.8				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		83.675	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		82.655	
	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	77.064
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	74.986
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: L1611048313 WG591065-01
Sample Date/Time: Friday, November 11, 2016 16:47:24
Number of Replicates: 3
Autosampler Position: 241
Sample Description: 50
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	179624.9	41.8				ug/L	206101	Standard
	Be	9	16.7	62.4	**-0.0103**	0.006	56.7	ug/L	25	Standard
	Al	27	776797.0	32.1	**4.6879**	0.416	8.9	ug/L	1120	Standard
	Sc	45	49435.1	29.4				ug/L	61425	Standard
	Ti	47	38.3	10.9	**-0.0402**	0.026	64.5	ug/L	70	Standard
	V	51	278.0	172.6	**-0.2966**	0.042	14.1	ug/L	3309	Standard
	Cr	52	13635.7	24.3	**0.2432**	0.227	93.4	ug/L	13497	Standard
	Cr	53	34633.8	18.8	**32.7885**	6.302	19.2	ug/L	3162	Standard
	Mn	55	126881.9	36.5	**9.4842**	0.259	2.7	ug/L	2226	Standard
	Co	59	686.7	19.0	**0.0056**	0.012	220.5	ug/L	1003	Standard
	Ni	60	432.0	29.7	**0.0722**	0.020	28.0	ug/L	355	Standard
	Cu	65	380.3	34.1	**-0.0105**	0.016	155.0	ug/L	473	Standard
	Zn	66	1316.4	37.2	**0.9789**	0.024	2.5	ug/L	341	Standard
>	Ge	72	482948.5	39.2				ug/L	566981	Standard
	As	75	-127.8	149.3	**-0.0011**	0.162	15004.2	ug/L	-156	Standard
	Se	82	23.8	12.5	**-0.0307**	0.078	253.1	ug/L	35	Standard
	Se-1	77	1272.1	20.7	**14.4657**	3.177	22.0	ug/L	354	Standard
>	Ga	71	75.0	35.3				mg/L	43	Standard
	Rb	85	473.3	30.0				ug/L	48	Standard
	Y	89	347731.3	38.0				ug/L	447702	Standard
>	Rh	103	36.7	31.5				ug/L	20	Standard
	Mo	98	63.6	16.2	**0.0082**	0.004	44.8	ug/L	158	Standard
	Ag	107	130.7	33.8	**0.0022**	0.001	39.1	ug/L	133	Standard
	Cd	111	11.2	37.1	**-0.0018**	0.003	139.4	mg/L	7	Standard
	Cd	114	39.7	31.1	**0.0028**	0.002	84.4	ug/L	72	Standard
>	In	115	786988.4	39.3				ug/L	1004638	Standard
	Sn	118	136.0	19.6	**0.0080**	0.015	192.1	ug/L	364	Standard
	Sb	123	472.6	15.5	**0.0144**	0.036	249.7	ug/L	2464	Standard
	Ba	135	4194.6	35.1	**1.4249**	0.056	3.9	ug/L	39	Standard
	Ce	140	43.3	33.3				ug/L	195	Standard
>	Tb	159	1307880.0	34.1				ug/L	1640193	Standard
	Ho	165	6.7	43.3				ug/L	25	Standard
	Tl	203	2189.2	30.2	**0.1830**	0.015	8.0	ug/L	324	Standard
	Tl	205	5160.9	26.9	**0.1693**	0.015	8.8	ug/L	698	Standard
	Pb	206	1764.1	24.4	**0.1540**	0.024	15.5	ug/L	600	Standard
	Pb	207	1464.4	28.2	**0.1397**	0.014	10.3	ug/L	541	Standard
	Pb	208	5149.0	24.4	**0.1546**	0.022	14.2	ug/L	1750	Standard
	U	238	772.7	28.3	**0.0782**	0.006	7.1	ug/L	10	Standard
>	Bi	209	628104.9	36.5				ug/L	811518	Standard

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⌈	**Na**	23	5.0	100.0	**1.0772**	1.287	119.5	mg/L	0	Standard
|	**Mg**	24	71.7	28.2	**1.1489**	0.257	22.4	mg/L	77	Standard
|	**K**	39	15.0	33.3	**-0.0091**	0.012	129.4	mg/L	18	Standard
|	**Ca**	43	85.0	23.5	**16.8063**	11.528	68.6	mg/L	178	Standard
|	**Fe**	54	45.8	45.9	**0.2940**	0.119	40.6	mg/L	29	Standard
|	**Fe**	57	498.3	10.3	**12.7481**	7.973	62.5	mg/L	408	Standard
⌊>	**Sc-1**	45	49435.1	29.4				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	10.3	29.6				ug/L	12	Standard
	Br	81	1500.1	29.5				ug/L	1747	Standard
	P	31	30.0	28.9				ug/L	17	Standard
	S	34	3.3	86.6				ug/L	3	Standard
	Sr	88	393.3	12.8				ug/L	370	Standard
	C	12	63.3	63.8				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	17	Standard
	Dy	164	2.4	284.5				mg/L	9	Standard
	Ho-1	165	6.7	43.3				mg/L	25	Standard
	Er	166	20.0	173.2				mg/L	20	Standard
	I	127	7065.0	15.9				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		87.154	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		85.179	
|	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	78.336
|	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	77.399
⌈	Na	23	
|	Mg	24	
|	K	39	
|	Ca	43	
|	Fe	54	
|	Fe	57	
⌊>	Sc-1	45	
	Cl	35	
	Kr	83	
	Br	81	
	P	31	
	S	34	
	Sr	88	
	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

Sample ID: L1611048313 WG591065-01
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Method 6020 - Summary Report

Sample ID: L1611048313S WG591065-04
Sample Date/Time: Friday, November 11, 2016 16:50:29
Number of Replicates: 3
Autosampler Position: 242
Sample Description: 50
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	181827.6	45.0				ug/L	206101	Standard
	Be	9	983.4	41.7	**0.4631**	0.082	17.8	ug/L	25	Standard
	Al	27	896625.5	35.1	**5.3523**	0.472	8.8	ug/L	1120	Standard
	Sc	45	50519.3	35.1				ug/L	61425	Standard
	Ti	47	3668.2	37.4	**9.4904**	0.450	4.7	ug/L	70	Standard
	V	51	81896.3	40.8	**8.7976**	0.149	1.7	ug/L	3309	Standard
	Cr	52	52457.0	36.5	**5.0290**	0.356	7.1	ug/L	13497	Standard
	Cr	53	70087.9	27.0	**68.4170**	9.782	14.3	ug/L	3162	Standard
	Mn	55	186978.8	39.9	**14.0474**	0.388	2.8	ug/L	2226	Standard
	Co	59	20022.6	39.8	**1.8679**	0.049	2.6	ug/L	1003	Standard
	Ni	60	10884.3	39.7	**4.7716**	0.127	2.7	ug/L	355	Standard
	Cu	65	10043.0	40.9	**4.7665**	0.077	1.6	ug/L	473	Standard
	Zn	66	11122.9	41.6	**10.4081**	0.094	0.9	ug/L	341	Standard
>	**Ge**	72	482911.3	42.5				ug/L	566981	Standard
	As	75	3856.9	40.7	**3.7684**	0.333	8.8	ug/L	-156	Standard
	Se	82	347.7	42.1	**3.6721**	0.120	3.3	ug/L	35	Standard
	Se-1	77	2302.5	22.6	**30.3369**	6.153	20.3	ug/L	354	Standard
>	**Ga**	71	86.7	50.4				mg/L	43	Standard
	Rb	85	533.3	33.8				ug/L	48	Standard
	Y	89	347029.8	41.1				ug/L	447702	Standard
>	**Rh**	103	66.7	45.8				ug/L	20	Standard
	Mo	98	34607.7	39.1	**9.1705**	0.297	3.2	ug/L	158	Standard
	Ag	107	28847.1	40.8	**3.4737**	0.058	1.7	ug/L	133	Standard
	Cd	111	1298.4	41.4	**0.4874**	0.006	1.1	mg/L	7	Standard
	Cd	114	5115.5	41.5	**0.7185**	0.028	3.9	ug/L	72	Standard
>	**In**	115	791753.0	42.6				ug/L	1004638	Standard
	Sn	118	15802.6	42.4	**9.6453**	0.128	1.3	ug/L	364	Standard
	Sb	123	84177.7	38.9	**12.0373**	0.426	3.5	ug/L	2464	Standard
	Ba	135	32034.9	40.7	**10.8265**	0.223	2.1	ug/L	39	Standard
	Ce	140	70.0	14.3				ug/L	195	Standard
>	**Tb**	159	1301829.4	36.9				ug/L	1640193	Standard
	Ho	165	8.3	173.2				ug/L	25	Standard
	Tl	203	55114.6	38.5	**4.8266**	0.058	1.2	ug/L	324	Standard
	Tl	205	130918.7	40.9	**4.2666**	0.118	2.8	ug/L	698	Standard
	Pb	206	43134.5	39.0	**4.8034**	0.078	1.6	ug/L	600	Standard
	Pb	207	37955.2	39.8	**4.7403**	0.089	1.9	ug/L	541	Standard
	Pb	208	128289.9	37.2	**4.8967**	0.036	0.7	ug/L	1750	Standard
	U	238	802.4	29.9	**0.0809**	0.006	7.5	ug/L	10	Standard
>	**Bi**	209	630149.0	37.9				ug/L	811518	Standard

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⌈	**Na**	23	16.7	45.8	**3.5131**	2.491	70.9	mg/L	0	Standard
|	**Mg**	24	86.7	35.3	**1.5439**	0.556	36.0	mg/L	77	Standard
|	**K**	39	115.0	13.0	**0.7352**	0.330	44.9	mg/L	18	Standard
|	**Ca**	43	106.7	22.2	**9.2954**	16.088	173.1	mg/L	178	Standard
|	**Fe**	54	39.1	55.1	**0.1892**	0.349	184.6	mg/L	29	Standard
|	**Fe**	57	515.0	18.4	**14.3069**	12.886	90.1	mg/L	408	Standard
⌊>	**Sc-1**	45	50519.3	35.1				mg/L	61425	Standard
	Cl	35	2.7	114.6				ug/L	1	Standard
	Kr	83	8.7	6.7				ug/L	12	Standard
	Br	81	1736.8	34.4				ug/L	1747	Standard
	P	31	33.3	22.9				ug/L	17	Standard
	S	34	1.7	173.2				ug/L	3	Standard
	Sr	88	391.7	9.6				ug/L	370	Standard
	C	12	46.7	53.9				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	17	Standard
	Dy	164	15.9	132.2				mg/L	9	Standard
	Ho-1	165	8.3	173.2				mg/L	25	Standard
	Er	166	16.7	69.3				mg/L	20	Standard
	I	127	6946.6	19.7				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		88.222	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		85.172	
|	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	78.810
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	77.651
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

Sample ID: L1611048313S WG591065-04
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Method 6020 - Summary Report

Sample ID: L1611048313SD WG591065-05
Sample Date/Time: Friday, November 11, 2016 16:53:34
Number of Replicates: 3
Autosampler Position: 243
Sample Description: 50
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	184475.5	42.2				ug/L	206101	Standard
	Be	9	893.4	40.9	**0.4095**	0.033	8.1	ug/L	25	Standard
	Al	27	913954.4	33.8	**5.3501**	0.404	7.5	ug/L	1120	Standard
	Sc	45	51171.1	33.7				ug/L	61425	Standard
	Ti	47	3739.8	36.5	**9.7248**	0.535	5.5	ug/L	70	Standard
	V	51	84616.0	36.2	**9.2295**	0.550	6.0	ug/L	3309	Standard
	Cr	52	52974.8	35.5	**5.1263**	0.420	8.2	ug/L	13497	Standard
	Cr	53	70410.7	26.2	**69.0718**	10.353	15.0	ug/L	3162	Standard
	Mn	55	189092.5	39.6	**14.2545**	0.409	2.9	ug/L	2226	Standard
	Co	59	20272.1	40.9	**1.8906**	0.051	2.7	ug/L	1003	Standard
	Ni	60	10823.3	41.3	**4.7341**	0.105	2.2	ug/L	355	Standard
	Cu	65	9900.3	41.1	**4.7033**	0.091	1.9	ug/L	473	Standard
	Zn	66	11128.9	40.1	**10.4765**	0.288	2.7	ug/L	341	Standard
>	Ge	72	481719.5	42.5				ug/L	566981	Standard
	As	75	3871.8	34.6	**3.8526**	0.275	7.1	ug/L	-156	Standard
	Se	82	346.9	38.1	**3.7130**	0.180	4.9	ug/L	35	Standard
	Se-1	77	2339.9	20.9	**31.1625**	6.932	22.2	ug/L	354	Standard
>	Ga	71	66.7	24.1				mg/L	43	Standard
	Rb	85	583.3	40.8				ug/L	48	Standard
	Y	89	349155.5	40.3				ug/L	447702	Standard
>	Rh	103	58.3	32.5				ug/L	20	Standard
	Mo	98	35167.1	39.7	**9.3673**	0.381	4.1	ug/L	158	Standard
	Ag	107	29179.8	40.2	**3.5434**	0.127	3.6	ug/L	133	Standard
	Cd	111	1302.0	42.4	**0.4910**	0.012	2.5	mg/L	7	Standard
	Cd	114	5370.0	41.8	**0.7593**	0.016	2.2	ug/L	72	Standard
>	In	115	789931.9	44.1				ug/L	1004638	Standard
	Sn	118	15828.5	40.2	**9.7822**	0.381	3.9	ug/L	364	Standard
	Sb	123	84679.1	38.5	**12.2062**	0.657	5.4	ug/L	2464	Standard
	Ba	135	31940.6	38.3	**10.9362**	0.606	5.5	ug/L	39	Standard
	Ce	140	68.3	29.6				ug/L	195	Standard
>	Tb	159	1296722.7	38.0				ug/L	1640193	Standard
	Ho	165	10.0	100.0				ug/L	25	Standard
	Tl	203	55324.5	38.8	**4.8632**	0.035	0.7	ug/L	324	Standard
	Tl	205	132654.3	41.1	**4.3400**	0.065	1.5	ug/L	698	Standard
	Pb	206	43473.8	40.6	**4.8443**	0.047	1.0	ug/L	600	Standard
	Pb	207	38391.8	38.9	**4.8275**	0.030	0.6	ug/L	541	Standard
	Pb	208	127658.7	38.1	**4.8845**	0.068	1.4	ug/L	1750	Standard
	U	238	818.7	29.8	**0.0829**	0.007	8.4	ug/L	10	Standard
>	Bi	209	629629.2	39.5				ug/L	811518	Standard

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⌈	**Na**	23	16.7	17.3	**3.1861**	0.537	16.9	mg/L	0	Standard
|	**Mg**	24	86.7	21.8	**1.6370**	0.995	60.8	mg/L	77	Standard
|	**K**	39	83.3	45.4	**0.4398**	0.200	45.4	mg/L	18	Standard
|	**Ca**	43	103.3	22.9	**12.3486**	10.877	88.1	mg/L	178	Standard
|	**Fe**	54	31.9	55.6	**0.0700**	0.245	349.8	mg/L	29	Standard
|	**Fe**	57	451.7	18.0	**9.9355**	8.419	84.7	mg/L	408	Standard
⌊>	**Sc-1**	45	51171.1	33.7				mg/L	61425	Standard
	Cl	35	1.3	173.2				ug/L	1	Standard
	Kr	83	9.0	19.2				ug/L	12	Standard
	Br	81	1766.8	38.3				ug/L	1747	Standard
	P	31	40.0	12.5				ug/L	17	Standard
	S	34	5.0	100.0				ug/L	3	Standard
	Sr	88	370.0	5.9				ug/L	370	Standard
	C	12	53.3	43.3				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	17	Standard
	Dy	164	22.2	90.3				mg/L	9	Standard
	Ho-1	165	10.0	100.0				mg/L	25	Standard
	Er	166	23.3	99.0				mg/L	20	Standard
	I	127	7176.7	13.6				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		89.507	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		84.962	
|	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	78.629
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	77.587
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: L1611042601
Sample Date/Time: Friday, November 11, 2016 16:56:40
Number of Replicates: 3
Autosampler Position: 244
Sample Description: 50
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	179986.6	41.5				ug/L	206101	Standard
	Be	9	25.0	87.2	**-0.0079**	0.005	68.8	ug/L	25	Standard
	Al	27	791212.2	32.6	**4.7524**	0.379	8.0	ug/L	1120	Standard
	Sc	45	50724.3	33.1				ug/L	61425	Standard
	Ti	47	45.7	14.2	**-0.0182**	0.042	229.9	ug/L	70	Standard
	V	51	330.8	86.7	**-0.2718**	0.052	19.1	ug/L	3309	Standard
	Cr	52	13750.5	23.0	**0.2733**	0.296	108.2	ug/L	13497	Standard
	Cr	53	31099.3	19.0	**29.3759**	6.440	21.9	ug/L	3162	Standard
	Mn	55	76582.7	38.2	**5.6645**	0.208	3.7	ug/L	2226	Standard
	Co	59	889.4	23.4	**0.0256**	0.015	60.3	ug/L	1003	Standard
	Ni	60	1313.1	44.7	**0.4543**	0.017	3.8	ug/L	355	Standard
	Cu	65	4979.9	40.1	**2.2531**	0.046	2.0	ug/L	473	Standard
	Zn	66	11549.8	37.7	**10.8636**	0.441	4.1	ug/L	341	Standard
>	Ge	72	485134.6	42.0				ug/L	566981	Standard
	As	75	16.9	371.6	**0.1120**	0.054	47.9	ug/L	-156	Standard
	Se	82	279.7	44.6	**2.8472**	0.102	3.6	ug/L	35	Standard
	Se-1	77	1453.7	24.8	**17.1373**	3.444	20.1	ug/L	354	Standard
>	Ga	71	51.7	63.0				mg/L	43	Standard
	Rb	85	10765.9	40.8				ug/L	48	Standard
	Y	89	353464.0	37.3				ug/L	447702	Standard
>	Rh	103	33.3	22.9				ug/L	20	Standard
	Mo	98	821.7	37.0	**0.2082**	0.012	5.8	ug/L	158	Standard
	Ag	107	140.7	29.6	**0.0035**	0.002	63.4	ug/L	133	Standard
	Cd	111	830.3	40.9	**0.3076**	0.015	4.9	mg/L	7	Standard
	Cd	114	2159.2	43.1	**0.2984**	0.018	6.0	ug/L	72	Standard
>	In	115	796756.3	42.9				ug/L	1004638	Standard
	Sn	118	161.3	21.3	**0.0252**	0.029	115.5	ug/L	364	Standard
	Sb	123	1530.7	25.1	**0.1644**	0.035	21.4	ug/L	2464	Standard
	Ba	135	8486.6	36.8	**2.8723**	0.155	5.4	ug/L	39	Standard
	Ce	140	66.7	45.8				ug/L	195	Standard
>	Tb	159	1301141.2	38.2				ug/L	1640193	Standard
	Ho	165	16.7	124.9				ug/L	25	Standard
	Tl	203	1524.7	29.8	**0.1231**	0.011	8.7	ug/L	324	Standard
	Tl	205	3535.4	24.8	**0.1147**	0.015	12.8	ug/L	698	Standard
	Pb	206	2002.1	31.1	**0.1772**	0.016	9.2	ug/L	600	Standard
	Pb	207	1653.1	35.2	**0.1600**	0.011	6.9	ug/L	541	Standard
	Pb	208	5763.4	29.9	**0.1752**	0.017	9.5	ug/L	1750	Standard
	U	238	255.3	25.6	**0.0272**	0.003	11.2	ug/L	10	Standard
>	Bi	209	633846.9	38.2				ug/L	811518	Standard

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⌈	**Na**	23	38.3	58.8	**7.1000**	3.549	50.0	mg/L	0	Standard
|	**Mg**	24	218.3	18.4	**5.4040**	1.877	34.7	mg/L	77	Standard
|	**K**	39	630.0	35.1	**4.1388**	0.321	7.8	mg/L	18	Standard
|	**Ca**	43	151.7	38.6	**-5.1574**	26.679	517.3	mg/L	178	Standard
|	**Fe**	54	30.8	10.6	**0.0926**	0.170	184.1	mg/L	29	Standard
|	**Fe**	57	455.0	21.2	**10.8444**	11.581	106.8	mg/L	408	Standard
⌊>	**Sc-1**	45	50724.3	33.1				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	9.3	16.4				ug/L	12	Standard
	Br	81	1753.4	31.5				ug/L	1747	Standard
	P	31	21.7	35.3				ug/L	17	Standard
	S	34	1.7	173.2				ug/L	3	Standard
	Sr	88	383.3	7.6				ug/L	370	Standard
	C	12	63.3	71.2				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	173.2				mg/L	17	Standard
	Dy	164	8.9	187.2				mg/L	9	Standard
	Ho-1	165	16.7	124.9				mg/L	25	Standard
	Er	166	23.3	65.5				mg/L	20	Standard
	I	127	18761.8	16.3				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		87.329	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		85.564	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

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⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	79.308
|	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	78.106
⌈	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

Sample ID: L1611042601
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Method 6020 - Summary Report

Sample ID: L1611042601PS WG591390-01
Sample Date/Time: Friday, November 11, 2016 16:59:46
Number of Replicates: 3
Autosampler Position: 245
Sample Description: 50
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	183094.2	41.5				ug/L	206101	Standard
	Be	9	95481.3	37.6	**46.4607**	1.693	3.6	ug/L	25	Standard
	Al	27	800716.6	31.6	**4.7367**	0.418	8.8	ug/L	1120	Standard
	Sc	45	51009.4	30.7				ug/L	61425	Standard
	Ti	47	40.0	5.0	**-0.0351**	0.034	97.9	ug/L	70	Standard
	V	51	445984.3	36.5	**48.8244**	1.247	2.6	ug/L	3309	Standard
	Cr	52	410983.5	35.9	**48.5415**	1.584	3.3	ug/L	13497	Standard
	Cr	53	81870.6	33.8	**77.2504**	4.276	5.5	ug/L	3162	Standard
	Mn	55	711934.7	36.9	**53.1790**	1.232	2.3	ug/L	2226	Standard
	Co	59	504957.2	38.5	**47.8323**	0.632	1.3	ug/L	1003	Standard
	Ni	60	109216.5	38.3	**48.2094**	0.744	1.5	ug/L	355	Standard
	Cu	65	107101.0	39.4	**51.8833**	0.128	0.2	ug/L	473	Standard
	Zn	66	63331.9	37.3	**60.0473**	1.292	2.2	ug/L	341	Standard
>	Ge	72	488812.2	39.4				ug/L	566981	Standard
	As	75	52176.9	39.0	**48.9702**	0.649	1.3	ug/L	-156	Standard
	Se	82	4403.5	41.5	**49.3148**	0.991	2.0	ug/L	35	Standard
	Se-1	77	4761.1	35.9	**64.0342**	2.326	3.6	ug/L	354	Standard
>	Ga	71	58.3	39.6				mg/L	43	Standard
	Rb	85	10897.6	38.3				ug/L	48	Standard
	Y	89	358234.7	39.7				ug/L	447702	Standard
>	Rh	103	66.7	17.3				ug/L	20	Standard
	Mo	98	808.4	34.0	**0.2017**	0.015	7.4	ug/L	158	Standard
	Ag	107	342106.4	37.7	**40.5197**	1.016	2.5	ug/L	133	Standard
	Cd	111	132971.3	39.2	**49.4788**	0.427	0.9	mg/L	7	Standard
	Cd	114	338605.7	40.1	**46.6662**	0.126	0.3	ug/L	72	Standard
>	In	115	808956.2	40.2				ug/L	1004638	Standard
	Sn	118	127.3	39.9	**-0.0033**	0.004	123.4	ug/L	364	Standard
	Sb	123	355375.4	38.8	**49.6083**	0.701	1.4	ug/L	2464	Standard
	Ba	135	152284.3	36.6	**50.5751**	1.646	3.3	ug/L	39	Standard
	Ce	140	63.3	22.8				ug/L	195	Standard
>	Tb	159	1315894.6	36.4				ug/L	1640193	Standard
	Ho	165	38.3	19.9				ug/L	25	Standard
	Tl	203	565777.4	36.8	**48.7652**	0.421	0.9	ug/L	324	Standard
	Tl	205	1328652.0	37.5	**42.7310**	0.843	2.0	ug/L	698	Standard
	Pb	206	437236.0	36.7	**48.3321**	0.384	0.8	ug/L	600	Standard
	Pb	207	384851.2	35.5	**47.9257**	0.148	0.3	ug/L	541	Standard
	Pb	208	1288678.7	34.1	**48.8841**	0.757	1.5	ug/L	1750	Standard
	U	238	555809.1	26.2	**53.7876**	4.585	8.5	ug/L	10	Standard
>	Bi	209	641131.2	35.8				ug/L	811518	Standard

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	Na	23	35.0	51.5	**6.8801**	4.594	66.8	mg/L	0	Standard
	Mg	24	206.7	32.2	**4.6954**	0.277	5.9	mg/L	77	Standard
	K	39	571.7	12.8	**3.8780**	0.835	21.5	mg/L	18	Standard
	Ca	43	121.7	22.6	**7.4238**	12.869	173.3	mg/L	178	Standard
	Fe	54	39.3	46.6	**0.2598**	0.406	156.4	mg/L	29	Standard
	Fe	57	501.7	14.0	**12.6053**	10.101	80.1	mg/L	408	Standard
>	**Sc-1**	45	51009.4	30.7				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	6.0	60.1				ug/L	12	Standard
	Br	81	1803.4	27.6				ug/L	1747	Standard
	P	31	21.7	48.0				ug/L	17	Standard
	S	34	0.0					ug/L	3	Standard
	Sr	88	373.3	13.2				ug/L	370	Standard
	C	12	36.7	78.7				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	23.3	24.7				mg/L	17	Standard
	Dy	164	12.7	90.0				mg/L	9	Standard
	Ho-1	165	38.3	19.9				mg/L	25	Standard
	Er	166	13.3	114.6				mg/L	20	Standard
	I	127	18586.6	17.4				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		88.837	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		86.213	
	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	80.522
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	79.004
Na	23	
Mg	24	
K	39	
Ca	43	
Fe	54	
Fe	57	
Sc-1	45	
Cl	35	
Kr	83	
Br	81	
P	31	
S	34	
Sr	88	
C	12	
N	14	
Hg	202	
Dy	164	
Ho-1	165	
Er	166	
I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

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Method 6020 - Summary Report

Sample ID: L1611042601SDL WG591390-02
Sample Date/Time: Friday, November 11, 2016 17:02:51
Number of Replicates: 3
Autosampler Position: 246
Sample Description: 250
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	161084.8	43.5				ug/L	206101	Standard
	Be	9	21.7	53.3	**-0.0038**	0.014	363.3	ug/L	25	Standard
	Al	27	140479.0	35.0	**0.9494**	0.079	8.3	ug/L	1120	Standard
	Sc	45	46110.2	33.4				ug/L	61425	Standard
	Ti	47	38.3	15.9	**-0.0321**	0.025	77.8	ug/L	70	Standard
	V	51	2821.2	26.8	**0.0317**	0.043	137.0	ug/L	3309	Standard
	Cr	52	11123.6	22.8	**0.0523**	0.228	435.9	ug/L	13497	Standard
	Cr	53	9798.3	21.0	**8.2513**	1.820	22.1	ug/L	3162	Standard
	Mn	55	14289.4	37.4	**1.0351**	0.017	1.6	ug/L	2226	Standard
	Co	59	582.7	13.4	**0.0011**	0.015	1354.8	ug/L	1003	Standard
	Ni	60	456.3	30.8	**0.1006**	0.020	20.0	ug/L	355	Standard
	Cu	65	1090.4	37.2	**0.3855**	0.017	4.4	ug/L	473	Standard
	Zn	66	3512.1	38.0	**3.3733**	0.028	0.8	ug/L	341	Standard
>	**Ge**	72	444829.4	38.5				ug/L	566981	Standard
	As	75	-119.3	104.4	**0.0018**	0.079	4426.8	ug/L	-156	Standard
	Se	82	60.6	30.5	**0.4499**	0.153	33.9	ug/L	35	Standard
	Se-1	77	573.7	12.6	**4.8345**	2.459	50.9	ug/L	354	Standard
>	**Ga**	71	50.0	26.5				mg/L	43	Standard
	Rb	85	1951.8	35.9				ug/L	48	Standard
	Y	89	319119.6	36.9				ug/L	447702	Standard
>	**Rh**	103	35.0	37.8				ug/L	20	Standard
	Mo	98	162.4	32.0	**0.0377**	0.004	11.8	ug/L	158	Standard
	Ag	107	172.0	34.5	**0.0089**	0.002	18.2	ug/L	133	Standard
	Cd	111	156.8	47.9	**0.0562**	0.007	12.5	mg/L	7	Standard
	Cd	114	405.0	46.8	**0.0575**	0.003	4.9	ug/L	72	Standard
>	**In**	115	734533.1	41.9				ug/L	1004638	Standard
	Sn	118	63.3	33.9	**-0.0367**	0.009	24.3	ug/L	364	Standard
	Sb	123	2284.2	3.1	**0.3320**	0.160	48.3	ug/L	2464	Standard
	Ba	135	1490.4	40.1	**0.5337**	0.010	1.8	ug/L	39	Standard
	Ce	140	25.0	60.0				ug/L	195	Standard
>	**Tb**	159	1216202.6	37.6				ug/L	1640193	Standard
	Ho	165	10.0	86.6				ug/L	25	Standard
	Tl	203	1232.4	22.7	**0.1053**	0.017	16.2	ug/L	324	Standard
	Tl	205	3023.6	23.9	**0.1035**	0.015	14.3	ug/L	698	Standard
	Pb	206	1455.4	25.2	**0.1265**	0.021	16.5	ug/L	600	Standard
	Pb	207	1255.7	24.4	**0.1225**	0.021	17.0	ug/L	541	Standard
	Pb	208	4328.3	25.8	**0.1304**	0.020	15.3	ug/L	1750	Standard
	U	238	86.7	21.4	**0.0112**	0.002	14.2	ug/L	10	Standard
>	**Bi**	209	599529.4	37.4				ug/L	811518	Standard

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	Na	23	6.7	43.3	**1.5897**	1.164	73.2	mg/L	0	Standard
	Mg	24	58.3	30.1	**0.8985**	0.138	15.3	mg/L	77	Standard
	K	39	120.0	33.1	**0.7965**	0.200	25.1	mg/L	18	Standard
	Ca	43	118.3	20.0	**3.5967**	14.460	402.0	mg/L	178	Standard
	Fe	54	32.5	9.3	**0.1900**	0.249	130.9	mg/L	29	Standard
	Fe	57	480.0	6.5	**14.0087**	9.656	68.9	mg/L	408	Standard
>	**Sc-1**	45	46110.2	33.4				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	10.7	23.6				ug/L	12	Standard
	Br	81	1226.7	23.5				ug/L	1747	Standard
	P	31	21.7	53.3				ug/L	17	Standard
	S	34	5.0	0.0				ug/L	3	Standard
	Sr	88	410.0	18.8				ug/L	370	Standard
	C	12	53.3	65.8				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	17	Standard
	Dy	164	12.2	41.6				mg/L	9	Standard
	Ho-1	165	10.0	86.6				mg/L	25	Standard
	Er	166	23.3	65.5				mg/L	20	Standard
	I	127	6921.6	20.0				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		78.158	
	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		78.456	
	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	73.114
	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	73.878
	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: L1611042701
Sample Date/Time: Friday, November 11, 2016 17:05:57
Number of Replicates: 3
Autosampler Position: 247
Sample Description: 50
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	185082.4	34.7				ug/L	206101	Standard
	Be	9	26.7	60.3	**-0.0067**	0.004	57.8	ug/L	25	Standard
	Al	27	1505.1	18.7	**0.0146**	0.002	10.6	ug/L	1120	Standard
	Sc	45	50237.4	27.8				ug/L	61425	Standard
	Ti	47	39.0	24.5	**-0.0454**	0.010	21.6	ug/L	70	Standard
	V	51	554.8	7.7	**-0.2531**	0.020	8.0	ug/L	3309	Standard
	Cr	52	14337.7	23.8	**0.2703**	0.168	62.2	ug/L	13497	Standard
	Cr	53	34864.4	19.5	**31.7090**	4.789	15.1	ug/L	3162	Standard
	Mn	55	2774.3	24.7	**0.0721**	0.020	27.1	ug/L	2226	Standard
	Co	59	809.4	20.5	**0.0147**	0.010	67.0	ug/L	1003	Standard
	Ni	60	617.0	37.8	**0.1419**	0.018	13.0	ug/L	355	Standard
	Cu	65	607.3	33.3	**0.0935**	0.012	12.6	ug/L	473	Standard
	Zn	66	8894.5	34.3	**8.0578**	0.048	0.6	ug/L	341	Standard
>	**Ge**	72	493658.3	34.2				ug/L	566981	Standard
	As	75	-35.4	356.2	**0.0878**	0.139	158.1	ug/L	-156	Standard
	Se	82	49.7	27.5	**0.2425**	0.066	27.4	ug/L	35	Standard
	Se-1	77	1162.0	19.3	**12.2169**	2.363	19.3	ug/L	354	Standard
>	**Ga**	71	88.3	31.2				mg/L	43	Standard
	Rb	85	11196.3	41.0				ug/L	48	Standard
	Y	89	351981.1	31.2				ug/L	447702	Standard
>	**Rh**	103	26.7	28.6				ug/L	20	Standard
	Mo	98	5751.8	35.5	**1.4681**	0.004	0.3	ug/L	158	Standard
	Ag	107	132.3	28.8	**0.0019**	0.002	101.9	ug/L	133	Standard
	Cd	111	12.9	56.8	**-0.0021**	0.002	98.8	mg/L	7	Standard
	Cd	114	58.6	70.5	**0.0044**	0.003	68.7	ug/L	72	Standard
>	**In**	115	809834.2	35.3				ug/L	1004638	Standard
	Sn	118	114.3	39.4	**-0.0105**	0.019	181.2	ug/L	364	Standard
	Sb	123	2817.1	17.2	**0.3745**	0.189	50.6	ug/L	2464	Standard
	Ba	135	17139.4	34.0	**5.6489**	0.138	2.4	ug/L	39	Standard
	Ce	140	30.0	16.7				ug/L	195	Standard
>	**Tb**	159	1325223.4	29.2				ug/L	1640193	Standard
	Ho	165	8.3	34.6				ug/L	25	Standard
	Tl	203	1461.7	31.9	**0.1106**	0.003	2.9	ug/L	324	Standard
	Tl	205	3483.8	29.0	**0.1061**	0.005	4.3	ug/L	698	Standard
	Pb	206	13619.9	34.2	**1.4173**	0.031	2.2	ug/L	600	Standard
	Pb	207	11180.4	33.8	**1.3057**	0.024	1.8	ug/L	541	Standard
	Pb	208	38809.5	31.4	**1.3863**	0.010	0.7	ug/L	1750	Standard
	U	238	22.0	40.4	**0.0044**	0.001	31.8	ug/L	10	Standard
>	**Bi**	209	656283.7	31.9				ug/L	811518	Standard

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⌈	**Na**	23	15.0	33.3	**2.8935**	1.052	36.4	mg/L	0	Standard
|	**Mg**	24	193.3	19.6	**4.5351**	0.839	18.5	mg/L	77	Standard
|	**K**	39	641.7	17.2	**4.3915**	0.950	21.6	mg/L	18	Standard
|	**Ca**	43	141.7	5.4	**0.7585**	12.738	1679.2	mg/L	178	Standard
|	**Fe**	54	37.3	33.9	**0.2214**	0.317	143.2	mg/L	29	Standard
|	**Fe**	57	545.0	12.6	**14.6246**	8.646	59.1	mg/L	408	Standard
⌊>	**Sc-1**	45	50237.4	27.8				mg/L	61425	Standard
	Cl	35	2.7	43.3				ug/L	1	Standard
	Kr	83	10.3	40.3				ug/L	12	Standard
	Br	81	1673.4	27.2				ug/L	1747	Standard
	P	31	23.3	68.9				ug/L	17	Standard
	S	34	5.0	100.0				ug/L	3	Standard
	Sr	88	338.3	16.8				ug/L	370	Standard
	C	12	50.0	40.0				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	17	Standard
	Dy	164	12.9	116.4				mg/L	9	Standard
	Ho-1	165	8.3	34.6				mg/L	25	Standard
	Er	166	10.0	100.0				mg/L	20	Standard
	I	127	14155.1	16.4				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		89.802	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		87.068	
|	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	80.610
|	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	80.871
⌈	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

Sample ID: L1611042701
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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, November 11, 2016 17:09:04
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	174776.7	38.2				ug/L	206101	Standard
	Be	9	92319.6	32.1	**47.2477**	2.710	5.7	ug/L	25	Standard
	Al	27	7607234.1	28.9	**46.9681**	3.964	8.4	ug/L	1120	Standard
	Sc	45	48258.7	26.9				ug/L	61425	Standard
	Ti	47	36783.4	30.5	**95.7198**	2.456	2.6	ug/L	70	Standard
	V	51	434965.7	31.2	**48.0749**	0.973	2.0	ug/L	3309	Standard
	Cr	52	400604.0	31.4	**47.6402**	0.808	1.7	ug/L	13497	Standard
	Cr	53	51760.8	31.6	**47.9664**	0.935	1.9	ug/L	3162	Standard
	Mn	55	629472.0	31.6	**47.4484**	0.787	1.7	ug/L	2226	Standard
	Co	59	503757.4	32.2	**48.2819**	0.519	1.1	ug/L	1003	Standard
	Ni	60	109148.1	32.7	**48.6632**	0.341	0.7	ug/L	355	Standard
	Cu	65	101316.2	32.9	**49.7045**	0.146	0.3	ug/L	473	Standard
	Zn	66	52551.1	31.9	**50.2484**	0.641	1.3	ug/L	341	Standard
>	Ge	72	482993.8	33.2				ug/L	566981	Standard
	As	75	51431.3	32.2	**48.9005**	0.535	1.1	ug/L	-156	Standard
	Se	82	4171.4	35.4	**47.2947**	1.009	2.1	ug/L	35	Standard
	Se-1	77	3656.5	34.8	**48.0362**	1.753	3.7	ug/L	354	Standard
>	Ga	71	88.3	39.8				mg/L	43	Standard
	Rb	85	566.7	39.0				ug/L	48	Standard
	Y	89	352698.7	31.9				ug/L	447702	Standard
>	Rh	103	53.3	10.8				ug/L	20	Standard
	Mo	98	370764.0	31.7	**97.9474**	1.630	1.7	ug/L	158	Standard
	Ag	107	403363.7	32.1	**48.7411**	0.604	1.2	ug/L	133	Standard
	Cd	111	132587.5	33.6	**50.3554**	0.266	0.5	mg/L	7	Standard
	Cd	114	348756.7	34.4	**49.0928**	0.457	0.9	ug/L	72	Standard
>	In	115	790401.8	33.4				ug/L	1004638	Standard
	Sn	118	81018.1	35.2	**49.6364**	0.842	1.7	ug/L	364	Standard
	Sb	123	360091.5	34.2	**51.1915**	0.376	0.7	ug/L	2464	Standard
	Ba	135	144810.8	31.2	**49.0214**	1.022	2.1	ug/L	39	Standard
	Ce	140	186.7	48.6				ug/L	195	Standard
>	Tb	159	1321460.3	29.4				ug/L	1640193	Standard
	Ho	165	56.7	27.0				ug/L	25	Standard
	Tl	203	568175.5	30.2	**49.7051**	0.430	0.9	ug/L	324	Standard
	Tl	205	1325821.7	30.1	**43.3632**	0.495	1.1	ug/L	698	Standard
	Pb	206	443936.5	31.3	**49.6964**	0.968	1.9	ug/L	600	Standard
	Pb	207	388538.3	30.9	**48.9202**	0.743	1.5	ug/L	541	Standard
	Pb	208	1302554.3	30.0	**49.8738**	0.394	0.8	ug/L	1750	Standard
	U	238	562220.2	22.9	**54.7076**	3.225	5.9	ug/L	10	Standard
>	Bi	209	631904.4	29.2				ug/L	811518	Standard

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⌈	**Na**	23	23.3	24.7	**4.5977**	0.473	10.3	mg/L	0	Standard
|	**Mg**	24	215.0	12.3	**5.4333**	0.966	17.8	mg/L	77	Standard
|	**K**	39	815.0	16.0	**5.8171**	1.005	17.3	mg/L	18	Standard
|	**Ca**	43	93.3	13.5	**14.5225**	6.886	47.4	mg/L	178	Standard
|	**Fe**	54	365.1	46.1	**5.5663**	1.124	20.2	mg/L	29	Standard
|	**Fe**	57	531.7	6.0	**14.7193**	7.450	50.6	mg/L	408	Standard
⌊>	**Sc-1**	45	48258.7	26.9				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	11.0	47.2				ug/L	12	Standard
	Br	81	1313.4	34.7				ug/L	1747	Standard
	P	31	33.3	8.7				ug/L	17	Standard
	S	34	1.7	173.2				ug/L	3	Standard
	Sr	88	405.0	4.9				ug/L	370	Standard
	C	12	53.3	88.6				mg/L	47	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	17	Standard
	Dy	164	22.5	23.2				mg/L	9	Standard
	Ho-1	165	56.7	27.0				mg/L	25	Standard
	Er	166	16.7	69.3				mg/L	20	Standard
	I	127	3320.4	30.4				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6			
|	Be	9	94.495		
⌊	Al	27	93.936		
⌈	Sc	45			
|	Ti	47	95.720		
|	V	51	96.150		
|	Cr	52	95.280		
|	Cr	53			
|	Mn	55	94.897		
|	Co	59	96.564		
|	Ni	60	97.326		
|	Cu	65	99.409		
|	Zn	66	100.497		
|>	Ge	72		85.187	
|	As	75	97.801		
|	Se	82	94.589		
⌊	Se-1	77			
⌈>	Ga	71			

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Rb	85			
Y	89			
Rh	103			
Mo	98	97.947		
Ag	107	97.482		
Cd	111	100.711		
Cd	114			
In	115			78.675
Sn	118	99.273		
Sb	123	102.383		
Ba	135	98.043		
Ce	140			
Tb	159			
Ho	165			
Tl	203	99.410		
Tl	205			
Pb	206			
Pb	207			
Pb	208	99.748		
U	238	109.415		
Bi	209			77.867
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
In 115 Int Std for QC Std	In	115	Rerun sample
Bi 209 Int Std for QC Std	Bi	209	Rerun sample

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Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, November 11, 2016 17:12:09
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	165428.8	42.6				ug/L	206101	Standard
	Be	9	41.7	36.7	**0.0038**	0.005	136.7	ug/L	25	Standard
	Al	27	1356.7	28.5	**0.0147**	0.002	10.8	ug/L	1120	Standard
	Sc	45	45059.9	32.3				ug/L	61425	Standard
	Ti	47	38.0	20.6	**-0.0272**	0.049	181.8	ug/L	70	Standard
	V	51	2522.2	23.1	**-0.0013**	0.053	4067.4	ug/L	3309	Standard
	Cr	52	10021.5	25.3	**-0.1048**	0.196	186.9	ug/L	13497	Standard
	Cr	53	2090.1	15.8	**-0.2253**	0.525	233.2	ug/L	3162	Standard
	Mn	55	2191.8	24.4	**0.0494**	0.028	56.8	ug/L	2226	Standard
	Co	59	905.4	26.1	**0.0340**	0.013	38.7	ug/L	1003	Standard
	Ni	60	258.3	17.9	**0.0076**	0.033	441.6	ug/L	355	Standard
	Cu	65	353.3	37.2	**-0.0103**	0.010	95.6	ug/L	473	Standard
	Zn	66	268.0	35.5	**-0.0084**	0.035	412.2	ug/L	341	Standard
>	Ge	72	446937.4	41.3				ug/L	566981	Standard
	As	75	-74.2	53.2	**0.0157**	0.057	364.4	ug/L	-156	Standard
	Se	82	27.5	22.7	**0.0344**	0.076	221.0	ug/L	35	Standard
	Se-1	77	320.3	0.4	**0.7421**	1.974	266.0	ug/L	354	Standard
>	Ga	71	43.3	13.3				mg/L	43	Standard
	Rb	85	45.0	11.1				ug/L	48	Standard
	Y	89	332027.1	42.6				ug/L	447702	Standard
>	Rh	103	25.0	52.9				ug/L	20	Standard
	Mo	98	195.5	9.6	**0.0506**	0.021	42.3	ug/L	158	Standard
	Ag	107	178.3	31.6	**0.0097**	0.003	30.7	ug/L	133	Standard
	Cd	111	19.7	22.0	**0.0020**	0.004	182.7	mg/L	7	Standard
	Cd	114	68.6	61.8	**0.0067**	0.002	36.6	ug/L	72	Standard
>	In	115	748468.3	44.3				ug/L	1004638	Standard
	Sn	118	239.0	19.5	**0.0859**	0.036	42.2	ug/L	364	Standard
	Sb	123	5349.8	7.4	**0.8570**	0.387	45.2	ug/L	2464	Standard
	Ba	135	39.0	40.7	**0.0045**	0.000	10.2	ug/L	39	Standard
	Ce	140	35.0	75.6				ug/L	195	Standard
>	Tb	159	1216143.6	38.8				ug/L	1640193	Standard
	Ho	165	6.7	86.6				ug/L	25	Standard
	Tl	203	211.7	38.1	**0.0068**	0.000	4.6	ug/L	324	Standard
	Tl	205	498.3	22.6	**0.0134**	0.002	18.7	ug/L	698	Standard
	Pb	206	451.3	35.1	**0.0025**	0.002	93.1	ug/L	600	Standard
	Pb	207	374.3	44.9	**-0.0012**	0.003	243.3	ug/L	541	Standard
	Pb	208	1318.7	39.6	**0.0033**	0.001	16.1	ug/L	1750	Standard
	U	238	55.0	22.8	**0.0078**	0.001	11.4	ug/L	10	Standard
>	Bi	209	603456.8	38.6				ug/L	811518	Standard

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⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	0	Standard
|	**Mg**	24	43.3	13.3	**0.5634**	0.452	80.2	mg/L	77	Standard
|	**K**	39	21.7	74.2	**0.0712**	0.146	204.7	mg/L	18	Standard
|	**Ca**	43	85.0	10.2	**13.9302**	10.496	75.3	mg/L	178	Standard
|	**Fe**	54	20.8	78.0	**-0.0990**	0.161	162.8	mg/L	29	Standard
|	**Fe**	57	478.3	3.2	**14.0186**	7.089	50.6	mg/L	408	Standard
⌊>	**Sc-1**	45	45059.9	32.3				mg/L	61425	Standard
	Cl	35	2.0	100.0				ug/L	1	Standard
	Kr	83	10.0	30.0				ug/L	12	Standard
	Br	81	1356.7	16.8				ug/L	1747	Standard
	P	31	35.0	14.3				ug/L	17	Standard
	S	34	3.3	173.2				ug/L	3	Standard
	Sr	88	356.7	8.2				ug/L	370	Standard
	C	12	30.0	33.3				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	17	Standard
	Dy	164	8.7	103.7				mg/L	9	Standard
	Ho-1	165	6.7	86.6				mg/L	25	Standard
	Er	166	26.7	78.1				mg/L	20	Standard
	I	127	3698.8	21.8				mg/L	6023	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		78.828	
|	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	74.501
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	74.361
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
Ge 72 Int Std for QC Std	Ge	72	Rerun sample
In 115 Int Std for QC Std	In	115	Rerun sample
QC Std 7	Sb	123	

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Bi 209 Int Std for QC Std	Bi	209	Rerun sample

Sample ID: QC Std 7
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Method 6020 - Summary Report

Sample ID: L1611042801
Sample Date/Time: Friday, November 11, 2016 17:15:17
Number of Replicates: 3
Autosampler Position: 248
Sample Description: 50
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	181092.0	34.9				ug/L	206101	Standard
	Be	9	21.7	74.2	**-0.0092**	0.004	41.5	ug/L	25	Standard
	Al	27	1688.4	21.8	**0.0158**	0.001	7.5	ug/L	1120	Standard
	Sc	45	50056.3	26.0				ug/L	61425	Standard
	Ti	47	36.3	5.7	**-0.0434**	0.036	82.8	ug/L	70	Standard
	V	51	2284.1	8.2	**-0.0425**	0.097	228.1	ug/L	3309	Standard
	Cr	52	12021.9	17.0	**0.0510**	0.271	532.1	ug/L	13497	Standard
	Cr	53	13799.7	12.8	**11.5896**	3.109	26.8	ug/L	3162	Standard
	Mn	55	2555.6	24.3	**0.0609**	0.022	36.5	ug/L	2226	Standard
	Co	59	772.4	19.2	**0.0135**	0.012	89.7	ug/L	1003	Standard
	Ni	60	635.7	35.9	**0.1587**	0.009	5.5	ug/L	355	Standard
	Cu	65	624.7	33.1	**0.1096**	0.013	12.3	ug/L	473	Standard
	Zn	66	1546.1	35.1	**1.1970**	0.021	1.7	ug/L	341	Standard
>	**Ge**	72	483278.2	36.6				ug/L	566981	Standard
	As	75	-152.7	42.5	**-0.0415**	0.055	131.8	ug/L	-156	Standard
	Se	82	52.6	32.2	**0.2856**	0.025	8.6	ug/L	35	Standard
	Se-1	77	997.7	15.6	**10.3288**	2.774	26.9	ug/L	354	Standard
>	**Ga**	71	135.0	30.3				mg/L	43	Standard
	Rb	85	10163.7	37.1				ug/L	48	Standard
	Y	89	350845.9	33.8				ug/L	447702	Standard
>	**Rh**	103	36.7	56.8				ug/L	20	Standard
	Mo	98	2295.8	32.0	**0.5960**	0.028	4.7	ug/L	158	Standard
	Ag	107	177.3	40.6	**0.0071**	0.001	11.2	ug/L	133	Standard
	Cd	111	17.0	48.6	**-0.0002**	0.003	1254.9	mg/L	7	Standard
	Cd	114	56.0	40.0	**0.0046**	0.002	44.7	ug/L	72	Standard
>	**In**	115	797896.6	37.0				ug/L	1004638	Standard
	Sn	118	149.7	18.9	**0.0153**	0.018	120.7	ug/L	364	Standard
	Sb	123	1743.3	17.6	**0.2146**	0.128	59.5	ug/L	2464	Standard
	Ba	135	18718.2	34.9	**6.2746**	0.239	3.8	ug/L	39	Standard
	Ce	140	25.0	0.0				ug/L	195	Standard
>	**Tb**	159	1326406.1	32.4				ug/L	1640193	Standard
	Ho	165	15.0	57.7				ug/L	25	Standard
	Tl	203	2075.8	43.2	**0.1619**	0.020	12.6	ug/L	324	Standard
	Tl	205	4859.2	43.8	**0.1482**	0.021	14.2	ug/L	698	Standard
	Pb	206	1805.8	31.8	**0.1482**	0.005	3.4	ug/L	600	Standard
	Pb	207	1535.1	25.9	**0.1427**	0.010	7.4	ug/L	541	Standard
	Pb	208	5121.7	30.0	**0.1441**	0.003	2.4	ug/L	1750	Standard
	U	238	21.7	51.0	**0.0041**	0.001	21.5	ug/L	10	Standard
>	**Bi**	209	643722.7	31.9				ug/L	811518	Standard

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⌈	**Na**	23	36.7	70.0	**6.4103**	2.964	46.2	mg/L	0	Standard
|	**Mg**	24	216.7	29.4	**5.0812**	0.562	11.1	mg/L	77	Standard
|	**K**	39	580.0	12.1	**3.9484**	0.531	13.4	mg/L	18	Standard
|	**Ca**	43	103.3	7.4	**12.4156**	7.972	64.2	mg/L	178	Standard
|	**Fe**	54	26.2	48.5	**0.0196**	0.306	1560.1	mg/L	29	Standard
|	**Fe**	57	530.0	9.6	**13.5759**	7.417	54.6	mg/L	408	Standard
⌊>	**Sc-1**	45	50056.3	26.0				mg/L	61425	Standard
	Cl	35	2.0	100.0				ug/L	1	Standard
	Kr	83	9.0	22.2				ug/L	12	Standard
	Br	81	1750.1	41.0				ug/L	1747	Standard
	P	31	38.3	52.7				ug/L	17	Standard
	S	34	1.7	173.2				ug/L	3	Standard
	Sr	88	400.0	11.9				ug/L	370	Standard
	C	12	66.7	8.7				mg/L	47	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	10.0	100.0				mg/L	17	Standard
	Dy	164	22.2	67.6				mg/L	9	Standard
	Ho-1	165	15.0	57.7				mg/L	25	Standard
	Er	166	23.3	24.7				mg/L	20	Standard
	I	127	15764.9	10.3				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		87.866	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		85.237	
|	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	79.421
|	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	79.323
⌈	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

Sample ID: L1611042801
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Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, November 11, 2016 17:18:24
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	180947.5	37.3				ug/L	206101	Standard
	Be	9	97847.5	35.3	**47.9350**	0.936	2.0	ug/L	25	Standard
	Al	27	7797721.8	27.4	**46.5414**	4.149	8.9	ug/L	1120	Standard
	Sc	45	50361.2	27.7				ug/L	61425	Standard
	Ti	47	38032.7	29.4	**97.5825**	5.586	5.7	ug/L	70	Standard
	V	51	452289.6	30.6	**49.1935**	2.521	5.1	ug/L	3309	Standard
	Cr	52	416234.0	30.9	**48.7477**	2.346	4.8	ug/L	13497	Standard
	Cr	53	52502.9	30.1	**48.0012**	2.727	5.7	ug/L	3162	Standard
	Mn	55	655222.6	32.9	**48.4282**	1.402	2.9	ug/L	2226	Standard
	Co	59	520575.2	32.8	**48.9816**	1.438	2.9	ug/L	1003	Standard
	Ni	60	112606.5	33.5	**49.2724**	1.157	2.3	ug/L	355	Standard
	Cu	65	105002.6	33.8	**50.5453**	1.016	2.0	ug/L	473	Standard
	Zn	66	54021.4	32.1	**50.7599**	1.771	3.5	ug/L	341	Standard
>	Ge	72	494010.5	35.7				ug/L	566981	Standard
	As	75	52951.8	33.8	**49.3178**	0.856	1.7	ug/L	-156	Standard
	Se	82	4338.1	36.8	**48.1933**	0.698	1.4	ug/L	35	Standard
	Se-1	77	3775.5	34.2	**48.9529**	1.169	2.4	ug/L	354	Standard
>	Ga	71	70.0	24.7				mg/L	43	Standard
	Rb	85	515.0	30.1				ug/L	48	Standard
	Y	89	364760.0	33.3				ug/L	447702	Standard
>	Rh	103	61.7	36.6				ug/L	20	Standard
	Mo	98	382841.8	31.5	**98.4028**	3.758	3.8	ug/L	158	Standard
	Ag	107	416462.4	32.3	**48.9178**	1.553	3.2	ug/L	133	Standard
	Cd	111	137007.1	33.8	**50.5674**	0.920	1.8	mg/L	7	Standard
	Cd	114	356238.2	34.0	**48.7835**	0.922	1.9	ug/L	72	Standard
>	In	115	817029.8	35.8				ug/L	1004638	Standard
	Sn	118	83792.4	34.3	**50.0100**	0.762	1.5	ug/L	364	Standard
	Sb	123	367075.5	33.0	**50.8660**	1.311	2.6	ug/L	2464	Standard
	Ba	135	148107.7	30.5	**48.8354**	2.339	4.8	ug/L	39	Standard
	Ce	140	148.3	28.1				ug/L	195	Standard
>	Tb	159	1311780.7	30.3				ug/L	1640193	Standard
	Ho	165	41.7	48.5				ug/L	25	Standard
	Tl	203	573060.2	28.8	**48.8542**	1.322	2.7	ug/L	324	Standard
	Tl	205	1369012.4	30.8	**43.4478**	0.671	1.5	ug/L	698	Standard
	Pb	206	453158.2	31.3	**49.2955**	0.189	0.4	ug/L	600	Standard
	Pb	207	400916.3	31.4	**49.0109**	0.177	0.4	ug/L	541	Standard
	Pb	208	1339178.9	29.5	**49.8907**	0.997	2.0	ug/L	1750	Standard
	U	238	573827.7	21.8	**54.4222**	4.857	8.9	ug/L	10	Standard
>	Bi	209	653173.2	31.7				ug/L	811518	Standard

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⌈	**Na**	23	15.0	33.3	**3.1129**	1.701	54.6	mg/L	0	Standard
|	**Mg**	24	231.7	26.1	**5.5322**	0.949	17.1	mg/L	77	Standard
|	**K**	39	760.0	22.4	**5.1051**	0.267	5.2	mg/L	18	Standard
|	**Ca**	43	108.3	2.7	**11.1028**	7.380	66.5	mg/L	178	Standard
|	**Fe**	54	360.7	34.7	**5.3543**	0.392	7.3	mg/L	29	Standard
|	**Fe**	57	530.0	9.0	**13.8032**	8.260	59.8	mg/L	408	Standard
⌊>	**Sc-1**	45	50361.2	27.7				mg/L	61425	Standard
	Cl	35	1.3	86.6				ug/L	1	Standard
	Kr	83	9.3	40.6				ug/L	12	Standard
	Br	81	1486.7	24.7				ug/L	1747	Standard
	P	31	26.7	60.3				ug/L	17	Standard
	S	34	6.7	43.3				ug/L	3	Standard
	Sr	88	388.3	10.4				ug/L	370	Standard
	C	12	50.0	72.1				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	10.0	173.2				mg/L	17	Standard
	Dy	164	22.9	175.0				mg/L	9	Standard
	Ho-1	165	41.7	48.5				mg/L	25	Standard
	Er	166	10.0	100.0				mg/L	20	Standard
	I	127	3438.7	30.2				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6			
|	Be	9	95.870		
⌊	Al	27	93.083		
⌈	Sc	45			
|	Ti	47	97.583		
|	V	51	98.387		
|	Cr	52	97.495		
|	Cr	53			
|	Mn	55	96.856		
|	Co	59	97.963		
|	Ni	60	98.545		
|	Cu	65	101.091		
|	Zn	66	101.520		
|>	Ge	72		87.130	
|	As	75	98.636		
|	Se	82	96.387		
⌊	Se-1	77			
⌈>	Ga	71			

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⌊	Rb	85		
⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98	98.403	
|	Ag	107	97.836	
|	Cd	111	101.135	
|	Cd	114		
|>	In	115		81.326
|	Sn	118	100.020	
|	Sb	123	101.732	
⌊	Ba	135	97.671	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	97.708	
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208	99.781	
|	U	238	108.844	
⌊>	Bi	209		80.488
⌈	Na	23		
|	Mg	24		
|	K	39		
|	Ca	43		
|	Fe	54		
|	Fe	57		
⌊>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	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: Friday, November 11, 2016 17:21:29
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	181251.8	39.5				ug/L	206101	Standard
	Be	9	40.0	50.0	**-0.0001**	0.002	3128.8	ug/L	25	Standard
	Al	27	2028.5	47.3	**0.0173**	0.001	5.8	ug/L	1120	Standard
	Sc	45	48959.2	31.7				ug/L	61425	Standard
	Ti	47	44.0	23.1	**-0.0301**	0.019	62.6	ug/L	70	Standard
	V	51	2497.9	17.9	**-0.0310**	0.064	205.2	ug/L	3309	Standard
	Cr	52	10423.1	24.6	**-0.1898**	0.187	98.5	ug/L	13497	Standard
	Cr	53	1905.1	15.7	**-0.6309**	0.520	82.4	ug/L	3162	Standard
	Mn	55	2310.5	26.6	**0.0389**	0.022	55.8	ug/L	2226	Standard
	Co	59	925.7	21.4	**0.0280**	0.020	72.5	ug/L	1003	Standard
	Ni	60	284.3	20.1	**0.0052**	0.026	493.1	ug/L	355	Standard
	Cu	65	372.3	29.9	**-0.0159**	0.024	148.2	ug/L	473	Standard
	Zn	66	292.3	34.0	**-0.0132**	0.011	84.1	ug/L	341	Standard
>	Ge	72	493948.7	37.5				ug/L	566981	Standard
	As	75	-94.4	56.0	**0.0157**	0.043	272.1	ug/L	-156	Standard
	Se	82	28.8	38.9	**0.0083**	0.082	992.7	ug/L	35	Standard
	Se-1	77	327.7	4.2	**0.4040**	2.317	573.5	ug/L	354	Standard
>	Ga	71	51.7	53.3				mg/L	43	Standard
	Rb	85	40.0	12.5				ug/L	48	Standard
	Y	89	360726.4	35.8				ug/L	447702	Standard
>	Rh	103	23.3	61.9				ug/L	20	Standard
	Mo	98	228.4	18.3	**0.0523**	0.014	27.4	ug/L	158	Standard
	Ag	107	192.0	31.8	**0.0089**	0.002	20.8	ug/L	133	Standard
	Cd	111	39.7	63.0	**0.0068**	0.005	67.6	mg/L	7	Standard
	Cd	114	109.8	35.9	**0.0120**	0.002	13.3	ug/L	72	Standard
>	In	115	816005.5	38.1				ug/L	1004638	Standard
	Sn	118	254.3	19.3	**0.0809**	0.037	46.2	ug/L	364	Standard
	Sb	123	5769.2	21.2	**0.8285**	0.379	45.7	ug/L	2464	Standard
	Ba	135	55.7	38.4	**0.0088**	0.002	21.5	ug/L	39	Standard
	Ce	140	28.3	27.0				ug/L	195	Standard
>	Tb	159	1323720.4	34.6				ug/L	1640193	Standard
	Ho	165	11.7	24.7				ug/L	25	Standard
	Tl	203	233.3	42.6	**0.0069**	0.002	29.0	ug/L	324	Standard
	Tl	205	550.0	50.1	**0.0126**	0.003	22.9	ug/L	698	Standard
	Pb	206	557.3	39.6	**0.0088**	0.003	35.6	ug/L	600	Standard
	Pb	207	459.3	44.4	**0.0048**	0.006	126.7	ug/L	541	Standard
	Pb	208	1589.0	41.1	**0.0086**	0.004	46.9	ug/L	1750	Standard
	U	238	109.7	38.1	**0.0122**	0.001	4.6	ug/L	10	Standard
>	Bi	209	652403.5	34.7				ug/L	811518	Standard

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	Na	23	1.7	173.2	**0.4936**	0.846	171.5	mg/L	0	Standard
	Mg	24	43.3	35.3	**0.3674**	0.140	38.2	mg/L	77	Standard
	K	39	18.3	68.6	**0.0243**	0.093	383.0	mg/L	18	Standard
	Ca	43	68.3	47.0	**19.2304**	19.438	101.1	mg/L	178	Standard
	Fe	54	26.0	62.2	**-0.0263**	0.145	552.0	mg/L	29	Standard
	Fe	57	460.0	18.1	**11.2319**	8.376	74.6	mg/L	408	Standard
>	**Sc-1**	45	48959.2	31.7				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	8.0	54.5				ug/L	12	Standard
	Br	81	1456.7	23.1				ug/L	1747	Standard
	P	31	23.3	44.6				ug/L	17	Standard
	S	34	3.3	86.6				ug/L	3	Standard
	Sr	88	360.0	15.0				ug/L	370	Standard
	C	12	53.3	75.8				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	17	Standard
	Dy	164	15.4	36.9				mg/L	9	Standard
	Ho-1	165	11.7	24.7				mg/L	25	Standard
	Er	166	26.7	114.6				mg/L	20	Standard
	I	127	3983.9	19.4				mg/L	6023	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		87.119	
	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	81.224
|	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	80.393
⌈	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 7	Sb	123	

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Method 6020 - Summary Report

Sample ID: PBW 62 WG591282-02
Sample Date/Time: Friday, November 11, 2016 17:24:35
Number of Replicates: 3
Autosampler Position: 249
Sample Description: 50
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	174546.6	42.5				ug/L	206101	Standard
	Be	9	18.3	56.8	**-0.0081**	0.007	87.0	ug/L	25	Standard
	Al	27	1328.4	23.6	**0.0141**	0.001	10.5	ug/L	1120	Standard
	Sc	45	48169.1	34.4				ug/L	61425	Standard
	Ti	47	41.3	7.8	**-0.0275**	0.037	135.6	ug/L	70	Standard
	V	51	1208.9	40.2	**-0.1750**	0.059	33.7	ug/L	3309	Standard
	Cr	52	11103.9	24.9	**-0.0452**	0.192	425.1	ug/L	13497	Standard
	Cr	53	20060.1	15.2	**18.6109**	4.692	25.2	ug/L	3162	Standard
	Mn	55	2443.9	26.3	**0.0576**	0.024	41.7	ug/L	2226	Standard
	Co	59	655.0	17.1	**0.0045**	0.015	336.6	ug/L	1003	Standard
	Ni	60	298.3	14.4	**0.0194**	0.033	172.1	ug/L	355	Standard
	Cu	65	398.3	31.1	**0.0049**	0.019	393.9	ug/L	473	Standard
	Zn	66	1111.0	38.2	**0.8029**	0.030	3.8	ug/L	341	Standard
>	Ge	72	472558.9	39.1				ug/L	566981	Standard
	As	75	-136.8	20.1	**-0.0477**	0.075	158.0	ug/L	-156	Standard
	Se	82	25.9	38.0	**-0.0194**	0.048	247.3	ug/L	35	Standard
	Se-1	77	1003.4	12.5	**11.0810**	3.930	35.5	ug/L	354	Standard
>	Ga	71	45.0	29.4				mg/L	43	Standard
	Rb	85	36.7	55.1				ug/L	48	Standard
	Y	89	330808.7	37.0				ug/L	447702	Standard
>	Rh	103	30.0	33.3				ug/L	20	Standard
	Mo	98	80.4	8.7	**0.0150**	0.011	73.2	ug/L	158	Standard
	Ag	107	141.7	30.6	**0.0041**	0.002	52.7	ug/L	133	Standard
	Cd	111	15.9	6.3	**0.0000**	0.002	7548.9	mg/L	7	Standard
	Cd	114	58.2	34.4	**0.0056**	0.002	42.7	ug/L	72	Standard
>	In	115	772800.4	40.9				ug/L	1004638	Standard
	Sn	118	128.0	29.4	**0.0029**	0.009	326.7	ug/L	364	Standard
	Sb	123	1532.7	17.5	**0.1963**	0.130	66.3	ug/L	2464	Standard
	Ba	135	44.3	54.3	**0.0053**	0.002	38.8	ug/L	39	Standard
	Ce	140	28.3	20.4				ug/L	195	Standard
>	Tb	159	1255503.1	37.8				ug/L	1640193	Standard
	Ho	165	16.7	17.3				ug/L	25	Standard
	Tl	203	2339.2	45.3	**0.1942**	0.016	8.1	ug/L	324	Standard
	Tl	205	5556.2	44.0	**0.1798**	0.013	7.2	ug/L	698	Standard
	Pb	206	1611.4	30.4	**0.1387**	0.015	10.7	ug/L	600	Standard
	Pb	207	1397.1	31.9	**0.1342**	0.012	8.9	ug/L	541	Standard
	Pb	208	4688.0	32.3	**0.1380**	0.011	8.3	ug/L	1750	Standard
	U	238	21.7	37.0	**0.0043**	0.001	16.5	ug/L	10	Standard
>	Bi	209	615927.6	38.9				ug/L	811518	Standard

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⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	0	Standard
|	**Mg**	24	50.0	26.5	**0.6257**	0.392	62.7	mg/L	77	Standard
|	**K**	39	26.7	39.0	**0.1080**	0.135	125.4	mg/L	18	Standard
|	**Ca**	43	95.0	5.3	**13.0648**	8.743	66.9	mg/L	178	Standard
|	**Fe**	54	32.5	23.0	**0.1423**	0.200	140.6	mg/L	29	Standard
|	**Fe**	57	410.0	8.5	**9.1379**	8.195	89.7	mg/L	408	Standard
⌊>	**Sc-1**	45	48169.1	34.4				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	10.3	20.1				ug/L	12	Standard
	Br	81	1190.1	36.5				ug/L	1747	Standard
	P	31	13.3	78.1				ug/L	17	Standard
	S	34	3.3	86.6				ug/L	3	Standard
	Sr	88	406.7	20.6				ug/L	370	Standard
	C	12	73.3	20.8				mg/L	47	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	0.0					mg/L	17	Standard
	Dy	164	18.7	87.4				mg/L	9	Standard
	Ho-1	165	16.7	17.3				mg/L	25	Standard
	Er	166	26.7	78.1				mg/L	20	Standard
	I	127	4127.3	26.0				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		84.690	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		83.346	
|	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	76.923
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	75.898
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

Sample ID: PBW 62 WG591282-02
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Method 6020 - Summary Report

Sample ID: LCSW 62 WG591282-03
Sample Date/Time: Friday, November 11, 2016 17:27:41
Number of Replicates: 3
Autosampler Position: 250
Sample Description: 50
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	191232.6	40.4				ug/L	206101	Standard
	Be	9	943.4	36.8	**0.4200**	0.036	8.5	ug/L	25	Standard
	Al	27	119251.5	31.5	**0.6783**	0.053	7.8	ug/L	1120	Standard
	Sc	45	50816.9	30.3				ug/L	61425	Standard
	Ti	47	3825.9	32.5	**9.7087**	0.532	5.5	ug/L	70	Standard
	V	51	86330.9	34.7	**9.1345**	0.326	3.6	ug/L	3309	Standard
	Cr	52	52186.7	32.6	**4.8512**	0.338	7.0	ug/L	13497	Standard
	Cr	53	55328.6	20.2	**52.4849**	8.894	16.9	ug/L	3162	Standard
	Mn	55	65937.1	35.9	**4.7608**	0.114	2.4	ug/L	2226	Standard
	Co	59	20789.9	36.8	**1.8949**	0.031	1.7	ug/L	1003	Standard
	Ni	60	11022.1	38.3	**4.6988**	0.080	1.7	ug/L	355	Standard
	Cu	65	10391.6	39.3	**4.8016**	0.052	1.1	ug/L	473	Standard
	Zn	66	11375.0	36.9	**10.4447**	0.201	1.9	ug/L	341	Standard
>	Ge	72	492926.6	38.5				ug/L	566981	Standard
	As	75	3982.5	34.7	**3.8311**	0.128	3.3	ug/L	-156	Standard
	Se	82	350.3	38.9	**3.6063**	0.079	2.2	ug/L	35	Standard
	Se-1	77	2153.5	15.6	**27.4686**	6.511	23.7	ug/L	354	Standard
>	Ga	71	58.3	17.8				mg/L	43	Standard
	Rb	85	105.0	31.2				ug/L	48	Standard
	Y	89	352532.0	35.0				ug/L	447702	Standard
>	Rh	103	56.7	48.6				ug/L	20	Standard
	Mo	98	35762.5	35.3	**9.3378**	0.179	1.9	ug/L	158	Standard
	Ag	107	30018.2	35.8	**3.5745**	0.053	1.5	ug/L	133	Standard
	Cd	111	1290.6	36.6	**0.4787**	0.004	0.9	mg/L	7	Standard
	Cd	114	5202.6	38.2	**0.7206**	0.006	0.9	ug/L	72	Standard
>	In	115	800052.2	37.4				ug/L	1004638	Standard
	Sn	118	16346.4	38.7	**9.8385**	0.119	1.2	ug/L	364	Standard
	Sb	123	87266.6	35.4	**12.2842**	0.221	1.8	ug/L	2464	Standard
	Ba	135	28588.5	35.0	**9.5622**	0.211	2.2	ug/L	39	Standard
	Ce	140	58.3	21.6				ug/L	195	Standard
>	Tb	159	1327534.8	35.7				ug/L	1640193	Standard
	Ho	165	11.7	65.5				ug/L	25	Standard
	Tl	203	57311.0	35.1	**4.9252**	0.040	0.8	ug/L	324	Standard
	Tl	205	135621.3	34.9	**4.3649**	0.066	1.5	ug/L	698	Standard
	Pb	206	44767.9	36.7	**4.8837**	0.121	2.5	ug/L	600	Standard
	Pb	207	39410.4	35.1	**4.8476**	0.049	1.0	ug/L	541	Standard
	Pb	208	132577.0	34.9	**4.9576**	0.112	2.3	ug/L	1750	Standard
	U	238	14.7	30.7	**0.0034**	0.000	5.3	ug/L	10	Standard
>	Bi	209	642475.9	34.7				ug/L	811518	Standard

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⌈	**Na**	23	1.7	173.2	**0.3457**	0.590	170.7	mg/L	0	Standard
|	**Mg**	24	78.3	35.2	**1.2524**	0.148	11.8	mg/L	77	Standard
|	**K**	39	106.7	7.2	**0.6468**	0.200	31.0	mg/L	18	Standard
|	**Ca**	43	78.3	30.2	**18.6186**	13.260	71.2	mg/L	178	Standard
|	**Fe**	54	34.0	30.9	**0.1500**	0.310	206.6	mg/L	29	Standard
|	**Fe**	57	478.3	15.8	**11.5295**	10.343	89.7	mg/L	408	Standard
⌊>	**Sc-1**	45	50816.9	30.3				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	5.7	27.0				ug/L	12	Standard
	Br	81	1320.1	25.3				ug/L	1747	Standard
	P	31	43.3	13.3				ug/L	17	Standard
	S	34	3.3	86.6				ug/L	3	Standard
	Sr	88	381.7	5.5				ug/L	370	Standard
	C	12	46.7	75.3				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	86.6				mg/L	17	Standard
	Dy	164	16.5	36.7				mg/L	9	Standard
	Ho-1	165	11.7	65.5				mg/L	25	Standard
	Er	166	3.3	173.2				mg/L	20	Standard
	I	127	4515.7	18.8				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		92.786	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		86.939	
|	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	79.636
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	79.170
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

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Method 6020 - Summary Report

Sample ID: F BLANK WG591135-01
Sample Date/Time: Friday, November 11, 2016 17:30:46
Number of Replicates: 3
Autosampler Position: 251
Sample Description: 50
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	187847.7	38.9				ug/L	206101	Standard
	Be	9	21.7	35.3	**-0.0087**	0.001	9.9	ug/L	25	Standard
	Al	27	1388.4	20.4	**0.0138**	0.001	9.7	ug/L	1120	Standard
	Sc	45	51211.7	30.5				ug/L	61425	Standard
	Ti	47	36.0	24.1	**-0.0486**	0.038	78.9	ug/L	70	Standard
	V	51	939.2	23.3	**-0.2032**	0.052	25.5	ug/L	3309	Standard
	Cr	52	12396.9	22.5	**0.0487**	0.196	402.8	ug/L	13497	Standard
	Cr	53	25518.8	22.0	**22.5613**	3.325	14.7	ug/L	3162	Standard
	Mn	55	2165.2	24.7	**0.0273**	0.018	66.8	ug/L	2226	Standard
	Co	59	577.7	9.7	**-0.0056**	0.015	266.2	ug/L	1003	Standard
	Ni	60	290.3	15.3	**0.0078**	0.025	325.4	ug/L	355	Standard
	Cu	65	395.3	35.2	**-0.0084**	0.013	152.7	ug/L	473	Standard
	Zn	66	1215.4	35.0	**0.8556**	0.031	3.6	ug/L	341	Standard
>	Ge	72	493554.0	37.0				ug/L	566981	Standard
	As	75	-70.2	153.7	**0.0475**	0.092	193.0	ug/L	-156	Standard
	Se	82	25.1	31.8	**-0.0259**	0.120	463.4	ug/L	35	Standard
	Se-1	77	1119.7	17.9	**11.7695**	2.784	23.7	ug/L	354	Standard
>	Ga	71	58.3	9.9				mg/L	43	Standard
	Rb	85	33.3	45.8				ug/L	48	Standard
	Y	89	356838.1	36.6				ug/L	447702	Standard
>	Rh	103	25.0	20.0				ug/L	20	Standard
	Mo	98	57.3	13.2	**0.0068**	0.007	99.7	ug/L	158	Standard
	Ag	107	158.0	7.9	**0.0062**	0.006	89.4	ug/L	133	Standard
	Cd	111	13.6	11.3	**-0.0013**	0.002	133.1	mg/L	7	Standard
	Cd	114	32.9	23.1	**0.0019**	0.003	133.6	ug/L	72	Standard
>	In	115	808155.6	39.2				ug/L	1004638	Standard
	Sn	118	139.0	30.6	**0.0061**	0.017	282.5	ug/L	364	Standard
	Sb	123	626.3	25.9	**0.0383**	0.054	140.4	ug/L	2464	Standard
	Ba	135	37.3	36.4	**0.0029**	0.001	22.7	ug/L	39	Standard
	Ce	140	31.7	81.0				ug/L	195	Standard
>	Tb	159	1330648.1	33.8				ug/L	1640193	Standard
	Ho	165	6.7	43.3				ug/L	25	Standard
	Tl	203	1296.7	28.9	**0.0983**	0.005	4.7	ug/L	324	Standard
	Tl	205	3082.0	20.7	**0.0959**	0.012	12.1	ug/L	698	Standard
	Pb	206	1325.7	24.6	**0.0957**	0.012	12.2	ug/L	600	Standard
	Pb	207	1116.0	26.6	**0.0884**	0.009	9.7	ug/L	541	Standard
	Pb	208	3823.9	22.1	**0.0957**	0.016	16.3	ug/L	1750	Standard
	U	238	10.7	23.6	**0.0031**	0.000	8.8	ug/L	10	Standard
>	Bi	209	653165.0	33.5				ug/L	811518	Standard

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⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	0	Standard
|	**Mg**	24	156.7	31.3	**3.4167**	1.220	35.7	mg/L	77	Standard
|	**K**	39	20.0	43.3	**0.0186**	0.017	92.6	mg/L	18	Standard
|	**Ca**	43	108.3	25.4	**12.2238**	7.348	60.1	mg/L	178	Standard
|	**Fe**	54	37.6	20.2	**0.1825**	0.167	91.3	mg/L	29	Standard
|	**Fe**	57	448.3	11.2	**9.6318**	8.258	85.7	mg/L	408	Standard
⌊>	**Sc-1**	45	51211.7	30.5				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	9.3	16.4				ug/L	12	Standard
	Br	81	1343.4	29.5				ug/L	1747	Standard
	P	31	43.3	29.0				ug/L	17	Standard
	S	34	3.3	86.6				ug/L	3	Standard
	Sr	88	396.7	9.1				ug/L	370	Standard
	C	12	76.7	32.8				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	0.0					mg/L	17	Standard
	Dy	164	19.2	138.8				mg/L	9	Standard
	Ho-1	165	6.7	43.3				mg/L	25	Standard
	Er	166	16.7	69.3				mg/L	20	Standard
	I	127	4145.6	18.6				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		91.143	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		87.049	
|	As	75			
|	Se	82			
⌊	Se-1	77			
⌈>	Ga	71			

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⌊	Rb	85	
⌈	Y	89	
⌊>	Rh	103	
⌈	Mo	98	
|	Ag	107	
|	Cd	111	
|	Cd	114	
|>	In	115	80.442
|	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	80.487
⌈	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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Method 6020 - Summary Report

Sample ID: F BLANK WG591135-02
Sample Date/Time: Friday, November 11, 2016 17:33:51
Number of Replicates: 3
Autosampler Position: 252
Sample Description: 50
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	171900.0	44.6				ug/L	206101	Standard
	Be	9	33.3	43.3	**0.0020**	0.016	786.8	ug/L	25	Standard
	Al	27	1236.7	17.4	**0.0139**	0.002	15.0	ug/L	1120	Standard
	Sc	45	47671.2	35.6				ug/L	61425	Standard
	Ti	47	33.3	25.0	**-0.0508**	0.022	44.1	ug/L	70	Standard
	V	51	645.7	158.0	**-0.2026**	0.163	80.7	ug/L	3309	Standard
	Cr	52	12030.7	27.6	**0.1212**	0.223	184.4	ug/L	13497	Standard
	Cr	53	28502.6	21.6	**28.1590**	5.846	20.8	ug/L	3162	Standard
	Mn	55	2000.5	24.4	**0.0291**	0.029	98.4	ug/L	2226	Standard
	Co	59	563.7	9.9	**-0.0018**	0.018	1012.6	ug/L	1003	Standard
	Ni	60	259.3	19.3	**0.0040**	0.029	737.8	ug/L	355	Standard
	Cu	65	338.0	33.8	**-0.0213**	0.016	76.0	ug/L	473	Standard
	Zn	66	1135.4	40.0	**0.8608**	0.043	5.0	ug/L	341	Standard
>	Ge	72	461462.8	43.4				ug/L	566981	Standard
	As	75	-110.7	67.5	**-0.0007**	0.035	4794.1	ug/L	-156	Standard
	Se	82	17.6	48.8	**-0.1155**	0.039	33.6	ug/L	35	Standard
	Se-1	77	1127.7	15.6	**13.5954**	4.472	32.9	ug/L	354	Standard
>	Ga	71	55.0	15.7				mg/L	43	Standard
	Rb	85	28.3	36.7				ug/L	48	Standard
	Y	89	334973.2	41.4				ug/L	447702	Standard
>	Rh	103	28.3	27.0				ug/L	20	Standard
	Mo	98	34.0	16.6	**0.0014**	0.005	386.6	ug/L	158	Standard
	Ag	107	114.3	32.9	**0.0010**	0.002	148.7	ug/L	133	Standard
	Cd	111	8.6	35.4	**-0.0029**	0.002	65.0	mg/L	7	Standard
	Cd	114	40.2	48.1	**0.0027**	0.001	33.9	ug/L	72	Standard
>	In	115	754147.8	44.4				ug/L	1004638	Standard
	Sn	118	116.3	28.1	**-0.0017**	0.011	643.0	ug/L	364	Standard
	Sb	123	411.7	13.4	**0.0092**	0.033	362.9	ug/L	2464	Standard
	Ba	135	645.7	41.7	**0.2202**	0.006	2.6	ug/L	39	Standard
	Ce	140	25.0	20.0				ug/L	195	Standard
>	Tb	159	1243512.6	39.7				ug/L	1640193	Standard
	Ho	165	15.0	88.2				ug/L	25	Standard
	Tl	203	1077.7	28.0	**0.0879**	0.012	13.5	ug/L	324	Standard
	Tl	205	2616.9	29.9	**0.0866**	0.010	12.1	ug/L	698	Standard
	Pb	206	1208.1	32.0	**0.0922**	0.012	12.7	ug/L	600	Standard
	Pb	207	1010.4	28.1	**0.0858**	0.014	16.7	ug/L	541	Standard
	Pb	208	3424.8	26.8	**0.0907**	0.017	18.7	ug/L	1750	Standard
	U	238	5.3	28.6	**0.0026**	0.000	2.4	ug/L	10	Standard
>	Bi	209	611288.1	40.0				ug/L	811518	Standard

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	Na	23	3.3	173.2	**0.7577**	1.304	172.1	mg/L	0	Standard
	Mg	24	48.3	15.8	**0.6298**	0.453	72.0	mg/L	77	Standard
	K	39	10.0	50.0	**-0.0428**	0.017	40.7	mg/L	18	Standard
	Ca	43	85.0	11.8	**15.8786**	7.773	49.0	mg/L	178	Standard
	Fe	54	27.5	27.0	**0.0968**	0.288	297.8	mg/L	29	Standard
	Fe	57	458.3	7.4	**12.2587**	9.193	75.0	mg/L	408	Standard
>	**Sc-1**	45	47671.2	35.6				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	10.0	26.5				ug/L	12	Standard
	Br	81	1296.7	37.1				ug/L	1747	Standard
	P	31	36.7	20.8				ug/L	17	Standard
	S	34	5.0	173.2				ug/L	3	Standard
	Sr	88	406.7	27.7				ug/L	370	Standard
	C	12	43.3	58.1				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	13.3	114.6				mg/L	17	Standard
	Dy	164	22.9	64.8				mg/L	9	Standard
	Ho-1	165	15.0	88.2				mg/L	25	Standard
	Er	166	10.0	100.0				mg/L	20	Standard
	I	127	4098.9	24.4				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		83.406	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		81.389	
	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	75.067
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	75.326
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

Sample ID: F BLANK WG591135-02
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Method 6020 - Summary Report

Sample ID: L1611054501 WG591282-01
Sample Date/Time: Friday, November 11, 2016 17:36:57
Number of Replicates: 3
Autosampler Position: 253
Sample Description: 50
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	190503.7	36.1				ug/L	206101	Standard
	Be	9	16.7	45.8	**-0.0112**	0.002	19.7	ug/L	25	Standard
	Al	27	3880.5	22.9	**0.0278**	0.003	9.8	ug/L	1120	Standard
	Sc	45	51225.8	27.6				ug/L	61425	Standard
	Ti	47	45.0	21.9	**-0.0291**	0.016	53.7	ug/L	70	Standard
	V	51	1153.3	80.8	**-0.1596**	0.142	88.8	ug/L	3309	Standard
	Cr	52	13163.6	24.8	**0.1240**	0.176	141.6	ug/L	13497	Standard
	Cr	53	23499.3	29.5	**20.0338**	1.509	7.5	ug/L	3162	Standard
	Mn	55	10209.0	28.3	**0.6252**	0.058	9.3	ug/L	2226	Standard
	Co	59	1466.7	23.0	**0.0774**	0.017	22.4	ug/L	1003	Standard
	Ni	60	668.0	32.8	**0.1674**	0.013	7.6	ug/L	355	Standard
	Cu	65	198691.7	33.7	**95.5259**	2.699	2.8	ug/L	473	Standard
	Zn	66	65446.6	32.5	**61.3226**	2.444	4.0	ug/L	341	Standard
>	**Ge**	72	496951.3	36.8				ug/L	566981	Standard
	As	75	-74.2	158.8	**0.0444**	0.128	287.4	ug/L	-156	Standard
	Se	82	27.1	22.9	**0.0148**	0.153	1031.2	ug/L	35	Standard
	Se-1	77	1041.0	17.3	**10.5161**	2.653	25.2	ug/L	354	Standard
>	**Ga**	71	93.3	48.6				mg/L	43	Standard
	Rb	85	185316.2	37.6				ug/L	48	Standard
	Y	89	359102.3	35.3				ug/L	447702	Standard
>	**Rh**	103	275.0	40.9				ug/L	20	Standard
	Mo	98	31.3	18.0	**-0.0007**	0.004	515.4	ug/L	158	Standard
	Ag	107	121.0	24.1	**0.0008**	0.002	214.4	ug/L	133	Standard
	Cd	111	12.6	18.3	**-0.0014**	0.002	168.6	mg/L	7	Standard
	Cd	114	41.9	31.0	**0.0027**	0.001	52.7	ug/L	72	Standard
>	**In**	115	807958.7	37.3				ug/L	1004638	Standard
	Sn	118	114.0	19.0	**-0.0080**	0.017	211.0	ug/L	364	Standard
	Sb	123	14284.8	31.9	**1.9560**	0.109	5.6	ug/L	2464	Standard
	Ba	135	3829137.8	32.9	**1276.0254**	61.786	4.8	ug/L	39	Standard
	Ce	140	25469.6	33.3				ug/L	195	Standard
>	**Tb**	159	1351853.7	33.3				ug/L	1640193	Standard
	Ho	165	1091.7	41.2				ug/L	25	Standard
	Tl	203	1032.4	27.9	**0.0757**	0.004	5.5	ug/L	324	Standard
	Tl	205	2341.9	31.8	**0.0702**	0.007	9.6	ug/L	698	Standard
	Pb	206	8034129.1	33.1	**873.7022**	9.019	1.0	ug/L	600	Standard
	Pb	207	6707698.5	32.9	**820.1827**	8.392	1.0	ug/L	541	Standard
	Pb	208	23266006.3	31.1	**867.0460**	17.862	2.1	ug/L	1750	Standard
	U	238	29.7	28.1	**0.0049**	0.000	9.8	ug/L	10	Standard
>	**Bi**	209	652944.1	32.5				ug/L	811518	Standard

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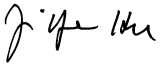

⌈	**Na**	23	0.0		**0.0050**	0.000	0.0	mg/L	0	Standard
|	**Mg**	24	146.7	31.5	**3.0722**	0.392	12.8	mg/L	77	Standard
|	**K**	39	33.3	45.8	**0.1082**	0.066	61.0	mg/L	18	Standard
|	**Ca**	43	78.3	24.2	**19.4755**	11.040	56.7	mg/L	178	Standard
|	**Fe**	54	27.8	26.8	**0.0143**	0.136	953.7	mg/L	29	Standard
|	**Fe**	57	443.3	13.6	**8.9460**	7.609	85.1	mg/L	408	Standard
⌊>	**Sc-1**	45	51225.8	27.6				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	6.3	63.8				ug/L	12	Standard
	Br	81	1600.1	33.7				ug/L	1747	Standard
	P	31	16.7	17.3				ug/L	17	Standard
	S	34	3.3	173.2				ug/L	3	Standard
	Sr	88	375.0	8.7				ug/L	370	Standard
	C	12	100.0	45.8				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	3.3	173.2				mg/L	17	Standard
	Dy	164	113.1	40.5				mg/L	9	Standard
	Ho-1	165	1091.7	41.2				mg/L	25	Standard
	Er	166	1466.7	47.5				mg/L	20	Standard
	I	127	4340.6	23.8				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		92.432	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		87.649	
|	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	80.423
|	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	80.460
⌈	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	
Pb 206 Upper, S, EEE	Pb	206	
Pb 207 Upper, S, EEE	Pb	207	

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Pb 208 Upper, S, EEE	Pb	208

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Method 6020 - Summary Report

Sample ID: L1611054501S WG591282-04
Sample Date/Time: Friday, November 11, 2016 17:40:03
Number of Replicates: 3
Autosampler Position: 254
Sample Description: 50
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	212182.9	35.1				ug/L	206101	Standard
	Be	9	998.4	27.0	**0.4073**	0.062	15.3	ug/L	25	Standard
	Al	27	133349.6	26.4	**0.6835**	0.061	8.9	ug/L	1120	Standard
	Sc	45	56011.4	26.3				ug/L	61425	Standard
	Ti	47	4135.9	28.5	**9.4432**	0.288	3.0	ug/L	70	Standard
	V	51	98486.1	28.2	**9.4416**	0.323	3.4	ug/L	3309	Standard
	Cr	52	58828.6	27.2	**4.9632**	0.275	5.5	ug/L	13497	Standard
	Cr	53	48448.5	23.5	**40.0962**	3.692	9.2	ug/L	3162	Standard
	Mn	55	80715.0	29.8	**5.2864**	0.093	1.8	ug/L	2226	Standard
	Co	59	24131.3	29.9	**1.9969**	0.030	1.5	ug/L	1003	Standard
	Ni	60	12548.9	30.6	**4.8636**	0.039	0.8	ug/L	355	Standard
	Cu	65	228796.3	30.8	**100.0150**	0.581	0.6	ug/L	473	Standard
	Zn	66	81626.5	30.1	**69.5068**	1.056	1.5	ug/L	341	Standard
>	Ge	72	543460.7	31.4				ug/L	566981	Standard
	As	75	4602.2	29.3	**3.9921**	0.083	2.1	ug/L	-156	Standard
	Se	82	376.3	30.8	**3.5117**	0.135	3.8	ug/L	35	Standard
	Se-1	77	2170.8	16.2	**24.1275**	4.567	18.9	ug/L	354	Standard
>	Ga	71	95.0					mg/L	43	Standard
	Rb	85	207646.5	32.8				ug/L	48	Standard
	Y	89	392385.4	31.0				ug/L	447702	Standard
>	Rh	103	293.3	28.1				ug/L	20	Standard
	Mo	98	40087.7	29.0	**9.3910**	0.313	3.3	ug/L	158	Standard
	Ag	107	33635.6	30.8	**3.5825**	0.058	1.6	ug/L	133	Standard
	Cd	111	1495.7	32.9	**0.4960**	0.015	3.1	mg/L	7	Standard
	Cd	114	5939.4	34.2	**0.7340**	0.019	2.6	ug/L	72	Standard
>	In	115	893851.0	32.3				ug/L	1004638	Standard
	Sn	118	18342.6	32.9	**9.8978**	0.064	0.6	ug/L	364	Standard
	Sb	123	111758.5	29.7	**14.1095**	0.387	2.7	ug/L	2464	Standard
	Ba	135	4141617.4	28.0	**1246.3744**	56.801	4.6	ug/L	39	Standard
	Ce	140	26898.3	26.6				ug/L	195	Standard
>	Tb	159	1434654.7	29.3				ug/L	1640193	Standard
	Ho	165	1081.7	27.4				ug/L	25	Standard
	Tl	203	61757.9	28.3	**4.8267**	0.016	0.3	ug/L	324	Standard
	Tl	205	145853.3	28.1	**4.2688**	0.021	0.5	ug/L	698	Standard
	Pb	206	8780571.7	28.5	**882.4300**	5.601	0.6	ug/L	600	Standard
	Pb	207	7291807.7	28.6	**823.4779**	1.049	0.1	ug/L	541	Standard
	Pb	208	25102690.6	27.5	**862.6433**	8.753	1.0	ug/L	1750	Standard
	U	238	8.7	24.0	**0.0029**	0.000	14.9	ug/L	10	Standard
>	Bi	209	707139.4	28.5				ug/L	811518	Standard

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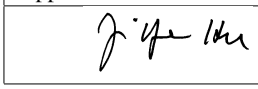

	Na	23	1.7	173.2	**0.2268**	0.384	169.4	mg/L	0	Standard
	Mg	24	190.0	33.6	**3.8735**	1.275	32.9	mg/L	77	Standard
	K	39	131.7	17.1	**0.7408**	0.285	38.5	mg/L	18	Standard
	Ca	43	90.0	48.4	**19.5299**	10.930	56.0	mg/L	178	Standard
	Fe	54	37.5	15.6	**0.1317**	0.155	117.9	mg/L	29	Standard
	Fe	57	428.3	10.2	**6.5618**	7.132	108.7	mg/L	408	Standard
>	**Sc-1**	45	56011.4	26.3				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	9.0	11.1				ug/L	12	Standard
	Br	81	1686.8	27.2				ug/L	1747	Standard
	P	31	26.7	39.0				ug/L	17	Standard
	S	34	1.7	173.2				ug/L	3	Standard
	Sr	88	453.3	12.1				ug/L	370	Standard
	C	12	86.7	58.1				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	6.7	173.2				mg/L	17	Standard
	Dy	164	113.3	46.9				mg/L	9	Standard
	Ho-1	165	1081.7	27.4				mg/L	25	Standard
	Er	166	1323.4	32.7				mg/L	20	Standard
	I	127	4745.8	22.7				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		102.951	
	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		95.852	
	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	88.972
|	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	87.138
⌈	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
Cu 65 Upper, S, EEE	Cu	65	
Ba 135 Upper, S, EEE	Ba	135	
Pb 206 Upper, S, EEE	Pb	206	

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Pb 207 Upper, S, EEE	Pb	207
Pb 208 Upper, S, EEE	Pb	208

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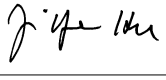

Method 6020 - Summary Report

Sample ID: L1611054501SD WG591282-05
Sample Date/Time: Friday, November 11, 2016 17:43:08
Number of Replicates: 3
Autosampler Position: 255
Sample Description: 50
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	209338.2	36.9				ug/L	206101	Standard
	Be	9	1000.0	26.2	**0.4144**	0.052	12.5	ug/L	25	Standard
	Al	27	131843.6	26.2	**0.6879**	0.070	10.1	ug/L	1120	Standard
	Sc	45	57142.0	25.1				ug/L	61425	Standard
	Ti	47	4107.3	27.6	**9.5879**	0.466	4.9	ug/L	70	Standard
	V	51	96019.6	27.5	**9.4081**	0.479	5.1	ug/L	3309	Standard
	Cr	52	58301.8	27.2	**5.0349**	0.330	6.6	ug/L	13497	Standard
	Cr	53	50249.5	23.2	**42.5585**	3.974	9.3	ug/L	3162	Standard
	Mn	55	78897.5	29.3	**5.2795**	0.173	3.3	ug/L	2226	Standard
	Co	59	23413.9	30.7	**1.9733**	0.044	2.2	ug/L	1003	Standard
	Ni	60	12694.7	32.5	**5.0061**	0.007	0.1	ug/L	355	Standard
	Cu	65	224398.9	32.4	**99.7890**	0.618	0.6	ug/L	473	Standard
	Zn	66	80318.4	29.7	**69.8367**	1.947	2.8	ug/L	341	Standard
>	**Ge**	72	533720.1	32.6				ug/L	566981	Standard
	As	75	4436.1	31.6	**3.9125**	0.036	0.9	ug/L	-156	Standard
	Se	82	374.0	28.6	**3.5869**	0.212	5.9	ug/L	35	Standard
	Se-1	77	2150.2	14.8	**24.4821**	4.889	20.0	ug/L	354	Standard
>	**Ga**	71	121.7	33.2				mg/L	43	Standard
	Rb	85	200685.4	33.7				ug/L	48	Standard
	Y	89	391044.5	32.2				ug/L	447702	Standard
>	**Rh**	103	338.3	31.0				ug/L	20	Standard
	Mo	98	39039.0	31.1	**9.2667**	0.218	2.4	ug/L	158	Standard
	Ag	107	32727.3	31.5	**3.5431**	0.075	2.1	ug/L	133	Standard
	Cd	111	1494.1	36.6	**0.4993**	0.027	5.4	mg/L	7	Standard
	Cd	114	5806.9	31.2	**0.7355**	0.061	8.3	ug/L	72	Standard
>	**In**	115	880270.7	33.6				ug/L	1004638	Standard
	Sn	118	17872.9	32.5	**9.8207**	0.259	2.6	ug/L	364	Standard
	Sb	123	108972.0	31.0	**13.9649**	0.357	2.6	ug/L	2464	Standard
	Ba	135	4048633.6	29.3	**1236.3967**	49.999	4.0	ug/L	39	Standard
	Ce	140	26848.5	30.2				ug/L	195	Standard
>	**Tb**	159	1430553.7	31.4				ug/L	1640193	Standard
	Ho	165	1130.0	29.7				ug/L	25	Standard
	Tl	203	60516.3	31.1	**4.8430**	0.027	0.6	ug/L	324	Standard
	Tl	205	144350.8	31.5	**4.3200**	0.043	1.0	ug/L	698	Standard
	Pb	206	8589361.4	31.1	**884.3019**	5.265	0.6	ug/L	600	Standard
	Pb	207	7129326.1	30.6	**825.5765**	3.942	0.5	ug/L	541	Standard
	Pb	208	24562354.2	29.8	**864.9696**	8.254	1.0	ug/L	1750	Standard
	U	238	11.7	13.1	**0.0032**	0.000	12.7	ug/L	10	Standard
>	**Bi**	209	689616.3	30.5				ug/L	811518	Standard

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	Na	23	3.3	86.6	**0.5745**	0.535	93.0	mg/L	0	Standard
	Mg	24	213.3	14.3	**4.4451**	1.303	29.3	mg/L	77	Standard
	K	39	135.0	3.7	**0.7330**	0.223	30.4	mg/L	18	Standard
	Ca	43	78.3	32.8	**21.8853**	9.661	44.1	mg/L	178	Standard
	Fe	54	49.0	40.2	**0.2657**	0.245	92.0	mg/L	29	Standard
	Fe	57	436.7	8.4	**6.3218**	6.107	96.6	mg/L	408	Standard
>	**Sc-1**	45	57142.0	25.1				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	6.7	37.7				ug/L	12	Standard
	Br	81	1626.8	33.2				ug/L	1747	Standard
	P	31	30.0	0.0				ug/L	17	Standard
	S	34	3.3	173.2				ug/L	3	Standard
	Sr	88	406.7	2.8				ug/L	370	Standard
	C	12	146.7	63.4				mg/L	47	Standard
	N	14	3.3	173.2				mg/L	0	Standard
	Hg	202	13.3	114.6				mg/L	17	Standard
	Dy	164	116.7	24.6				mg/L	9	Standard
	Ho-1	165	1130.0	29.7				mg/L	25	Standard
	Er	166	1390.1	31.3				mg/L	20	Standard
	I	127	4840.8	14.5				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		101.570	
	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		94.134	
	As	75			
	Se	82			
	Se-1	77			
>	Ga	71			

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Rb	85	
Y	89	
Rh	103	
Mo	98	
Ag	107	
Cd	111	
Cd	114	
In	115	87.621
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	84.979
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	
Pb 206 Upper, S, EEE	Pb	206	
Pb 207 Upper, S, EEE	Pb	207	

Sample ID: L1611054501SD WG591282-05
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Pb 208 Upper, S, EEE	Pb	208	

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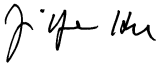

Method 6020 - Summary Report

Sample ID: L1611048801
Sample Date/Time: Friday, November 11, 2016 17:46:14
Number of Replicates: 3
Autosampler Position: 256
Sample Description: 50
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	177099.0	39.7				ug/L	206101	Standard
	Be	9	16.7	34.6	**-0.0091**	0.006	65.0	ug/L	25	Standard
	Al	27	2150.2	24.5	**0.0190**	0.002	10.0	ug/L	1120	Standard
	Sc	45	50193.9	32.7				ug/L	61425	Standard
	Ti	47	41.3	15.7	**-0.0322**	0.024	74.3	ug/L	70	Standard
	V	51	3037.7	20.6	**0.0366**	0.057	157.0	ug/L	3309	Standard
	Cr	52	11825.7	20.6	**0.0396**	0.255	644.0	ug/L	13497	Standard
	Cr	53	12088.3	20.0	**9.8795**	2.469	25.0	ug/L	3162	Standard
	Mn	55	3721.5	30.3	**0.1519**	0.024	16.1	ug/L	2226	Standard
	Co	59	645.7	11.1	**0.0033**	0.017	526.1	ug/L	1003	Standard
	Ni	60	601.0	34.2	**0.1477**	0.009	6.3	ug/L	355	Standard
	Cu	65	785.0	34.4	**0.1940**	0.023	11.7	ug/L	473	Standard
	Zn	66	2282.9	34.3	**1.9400**	0.083	4.3	ug/L	341	Standard
>	**Ge**	72	478466.6	37.6				ug/L	566981	Standard
	As	75	-104.4	63.4	**-0.0035**	0.072	2042.5	ug/L	-156	Standard
	Se	82	95.8	34.4	**0.7957**	0.044	5.5	ug/L	35	Standard
	Se-1	77	980.0	13.4	**10.4178**	3.515	33.7	ug/L	354	Standard
>	**Ga**	71	116.7	65.9				mg/L	43	Standard
	Rb	85	10532.3	33.5				ug/L	48	Standard
	Y	89	343279.5	37.2				ug/L	447702	Standard
>	**Rh**	103	28.3	66.8				ug/L	20	Standard
	Mo	98	652.6	31.0	**0.1673**	0.016	9.7	ug/L	158	Standard
	Ag	107	124.7	23.5	**0.0019**	0.003	139.4	ug/L	133	Standard
	Cd	111	13.5	40.4	**-0.0016**	0.001	67.4	mg/L	7	Standard
	Cd	114	43.4	32.3	**0.0033**	0.002	65.2	ug/L	72	Standard
>	**In**	115	786235.4	39.7				ug/L	1004638	Standard
	Sn	118	183.7	28.0	**0.0382**	0.023	59.2	ug/L	364	Standard
	Sb	123	345.0	8.5	**-0.0062**	0.026	412.9	ug/L	2464	Standard
	Ba	135	13961.5	32.2	**4.8288**	0.492	10.2	ug/L	39	Standard
	Ce	140	66.7	28.4				ug/L	195	Standard
>	**Tb**	159	1314733.7	36.8				ug/L	1640193	Standard
	Ho	165	15.0	33.3				ug/L	25	Standard
	Tl	203	1102.4	30.3	**0.0847**	0.005	6.4	ug/L	324	Standard
	Tl	205	2591.9	28.6	**0.0819**	0.010	11.9	ug/L	698	Standard
	Pb	206	16957.9	34.3	**1.8585**	0.097	5.2	ug/L	600	Standard
	Pb	207	14245.9	35.4	**1.7461**	0.038	2.2	ug/L	541	Standard
	Pb	208	48964.3	33.0	**1.8373**	0.099	5.4	ug/L	1750	Standard
	U	238	3.7	103.3	**0.0025**	0.001	22.7	ug/L	10	Standard
>	**Bi**	209	635057.0	36.1				ug/L	811518	Standard

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Report Date/Time: Friday, November 11, 2016 17:48:25
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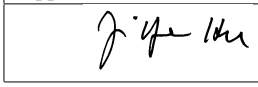

⌈	**Na**	23	18.3	56.8	**3.3759**	1.174	34.8	mg/L	0	Standard
|	**Mg**	24	223.3	34.3	**5.2538**	0.314	6.0	mg/L	77	Standard
|	**K**	39	633.3	22.1	**4.3314**	0.701	16.2	mg/L	18	Standard
|	**Ca**	43	103.3	31.1	**13.5752**	2.115	15.6	mg/L	178	Standard
|	**Fe**	54	22.5	101.9	**-0.1102**	0.250	227.0	mg/L	29	Standard
|	**Fe**	57	483.3	6.9	**12.0043**	9.198	76.6	mg/L	408	Standard
⌊>	**Sc-1**	45	50193.9	32.7				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	10.3	31.1				ug/L	12	Standard
	Br	81	1733.4	21.4				ug/L	1747	Standard
	P	31	35.0	14.3				ug/L	17	Standard
	S	34	6.7	114.6				ug/L	3	Standard
	Sr	88	356.7	8.5				ug/L	370	Standard
	C	12	56.7	10.2				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	13.3	43.3				mg/L	17	Standard
	Dy	164	24.9	94.9				mg/L	9	Standard
	Ho-1	165	15.0	33.3				mg/L	25	Standard
	Er	166	36.7	41.7				mg/L	20	Standard
	I	127	11966.4	13.2				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		85.928	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		84.388	
|	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	78.261
|	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	78.255
⌈	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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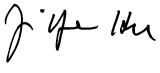

Method 6020 - Summary Report

Sample ID: L1611048801PS WG591392-01
Sample Date/Time: Friday, November 11, 2016 17:49:19
Number of Replicates: 3
Autosampler Position: 257
Sample Description: 50
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	188261.2	38.6				ug/L	206101	Standard
	Be	9	94481.6	36.7	**44.4312**	1.875	4.2	ug/L	25	Standard
	Al	27	1750.1	22.9	**0.0159**	0.001	9.4	ug/L	1120	Standard
	Sc	45	50856.5	28.6				ug/L	61425	Standard
	Ti	47	45.0	30.1	**-0.0306**	0.009	27.9	ug/L	70	Standard
	V	51	448731.1	33.7	**48.6371**	0.779	1.6	ug/L	3309	Standard
	Cr	52	415494.2	33.2	**48.5729**	1.020	2.1	ug/L	13497	Standard
	Cr	53	65079.8	30.7	**60.2528**	2.754	4.6	ug/L	3162	Standard
	Mn	55	637147.1	35.3	**46.9856**	0.156	0.3	ug/L	2226	Standard
	Co	59	509322.4	36.1	**47.7224**	0.383	0.8	ug/L	1003	Standard
	Ni	60	109585.5	36.6	**47.7712**	0.580	1.2	ug/L	355	Standard
	Cu	65	103485.5	37.2	**49.6094**	1.035	2.1	ug/L	473	Standard
	Zn	66	53250.3	34.8	**49.9316**	0.964	1.9	ug/L	341	Standard
>	**Ge**	72	492142.8	35.3				ug/L	566981	Standard
	As	75	51312.1	36.5	**47.6911**	1.104	2.3	ug/L	-156	Standard
	Se	82	4226.4	39.4	**46.8647**	2.081	4.4	ug/L	35	Standard
	Se-1	77	4317.0	30.4	**57.3240**	2.809	4.9	ug/L	354	Standard
>	**Ga**	71	128.3	32.7				mg/L	43	Standard
	Rb	85	10997.6	33.7				ug/L	48	Standard
	Y	89	357840.2	35.8				ug/L	447702	Standard
>	**Rh**	103	56.7	53.9				ug/L	20	Standard
	Mo	98	680.1	30.1	**0.1683**	0.012	7.1	ug/L	158	Standard
	Ag	107	344942.7	34.8	**40.8559**	1.009	2.5	ug/L	133	Standard
	Cd	111	133461.1	37.0	**49.6016**	0.357	0.7	mg/L	7	Standard
	Cd	114	336768.6	38.8	**46.2722**	0.642	1.4	ug/L	72	Standard
>	**In**	115	808537.2	37.3				ug/L	1004638	Standard
	Sn	118	136.3	41.0	**0.0013**	0.003	230.5	ug/L	364	Standard
	Sb	123	358738.4	37.3	**49.9353**	0.058	0.1	ug/L	2464	Standard
	Ba	135	159804.2	36.2	**52.7837**	0.586	1.1	ug/L	39	Standard
	Ce	140	60.0	22.0				ug/L	195	Standard
>	**Tb**	159	1334239.4	36.5				ug/L	1640193	Standard
	Ho	165	28.3	27.0				ug/L	25	Standard
	Tl	203	564147.4	35.0	**47.8438**	0.194	0.4	ug/L	324	Standard
	Tl	205	1324028.7	34.9	**41.9667**	0.296	0.7	ug/L	698	Standard
	Pb	206	454044.3	34.6	**49.4186**	0.121	0.2	ug/L	600	Standard
	Pb	207	400327.7	35.2	**48.9124**	0.343	0.7	ug/L	541	Standard
	Pb	208	1342884.2	33.2	**50.0291**	0.735	1.5	ug/L	1750	Standard
	U	238	560702.3	25.9	**53.2224**	4.324	8.1	ug/L	10	Standard
>	**Bi**	209	652642.5	34.8				ug/L	811518	Standard

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	Na	23	15.0	100.0	**2.6188**	2.283	87.2	mg/L	0	Standard
	Mg	24	268.3	14.0	**6.5886**	1.035	15.7	mg/L	77	Standard
	K	39	678.3	27.0	**4.4870**	0.431	9.6	mg/L	18	Standard
	Ca	43	93.3	34.4	**17.1483**	1.566	9.1	mg/L	178	Standard
	Fe	54	25.7	36.6	**-0.0335**	0.036	106.8	mg/L	29	Standard
	Fe	57	495.0	14.9	**10.9727**	3.352	30.6	mg/L	408	Standard
>	**Sc-1**	45	50856.5	28.6				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	9.0	29.4				ug/L	12	Standard
	Br	81	1693.4	30.7				ug/L	1747	Standard
	P	31	25.0	40.0				ug/L	17	Standard
	S	34	6.7	43.3				ug/L	3	Standard
	Sr	88	420.0	15.5				ug/L	370	Standard
	C	12	66.7	45.8				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	10.0	100.0				mg/L	17	Standard
	Dy	164	15.9	96.6				mg/L	9	Standard
	Ho-1	165	28.3	27.0				mg/L	25	Standard
	Er	166	16.7	34.6				mg/L	20	Standard
	I	127	12446.9	20.1				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6		91.344	
	Be	9			
	Al	27			
	Sc	45			
	Ti	47			
	V	51			
	Cr	52			
	Cr	53			
	Mn	55			
	Co	59			
	Ni	60			
	Cu	65			
	Zn	66			
>	Ge	72		86.801	
	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	80.480
|	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	80.422
⌈	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

Sample ID: L1611048801PS WG591392-01
Report Date/Time: Friday, November 11, 2016 17:51:30
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Method 6020 - Summary Report

Sample ID: L1611048801SDL WG591392-02
Sample Date/Time: Friday, November 11, 2016 17:52:25
Number of Replicates: 3
Autosampler Position: 258
Sample Description: 250
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	159927.9	34.7				ug/L	206101	Standard
	Be	9	46.7	99.6	**0.0038**	0.016	407.4	ug/L	25	Standard
	Al	27	15321.0	160.4	**0.0812**	0.115	141.3	ug/L	1120	Standard
	Sc	45	46248.8	26.8				ug/L	61425	Standard
	Ti	47	49.7	45.9	**-0.0097**	0.026	265.0	ug/L	70	Standard
	V	51	2647.1	33.0	**0.0016**	0.047	2947.7	ug/L	3309	Standard
	Cr	52	10207.2	20.8	**-0.1024**	0.160	156.2	ug/L	13497	Standard
	Cr	53	7063.3	15.9	**5.1089**	1.189	23.3	ug/L	3162	Standard
	Mn	55	2484.6	65.1	**0.0533**	0.063	117.7	ug/L	2226	Standard
	Co	59	615.0	27.5	**0.0014**	0.010	708.9	ug/L	1003	Standard
	Ni	60	324.7	38.5	**0.0299**	0.015	51.3	ug/L	355	Standard
	Cu	65	448.7	37.4	**0.0355**	0.018	50.6	ug/L	473	Standard
	Zn	66	2281.5	33.1	**2.0704**	0.066	3.2	ug/L	341	Standard
>	Ge	72	447393.1	32.1				ug/L	566981	Standard
	As	75	-112.3	89.0	**0.0038**	0.073	1953.3	ug/L	-156	Standard
	Se	82	39.1	27.3	**0.1798**	0.158	88.1	ug/L	35	Standard
	Se-1	77	509.3	12.7	**3.5147**	1.757	50.0	ug/L	354	Standard
>	Ga	71	65.0	35.3				mg/L	43	Standard
	Rb	85	2016.8	26.8				ug/L	48	Standard
	Y	89	318442.7	31.8				ug/L	447702	Standard
>	Rh	103	21.7	35.3				ug/L	20	Standard
	Mo	98	130.0	34.5	**0.0280**	0.001	2.3	ug/L	158	Standard
	Ag	107	194.3	36.0	**0.0118**	0.001	12.2	ug/L	133	Standard
	Cd	111	17.5	71.2	**0.0002**	0.003	1597.5	mg/L	7	Standard
	Cd	114	33.2	77.1	**0.0016**	0.002	135.3	ug/L	72	Standard
>	In	115	717996.5	33.2				ug/L	1004638	Standard
	Sn	118	66.0	20.0	**-0.0340**	0.006	18.7	ug/L	364	Standard
	Sb	123	2129.8	17.4	**0.3086**	0.166	53.8	ug/L	2464	Standard
	Ba	135	2453.2	32.2	**0.9027**	0.012	1.3	ug/L	39	Standard
	Ce	140	35.0	51.5				ug/L	195	Standard
>	Tb	159	1201852.4	30.8				ug/L	1640193	Standard
	Ho	165	13.3	21.7				ug/L	25	Standard
	Tl	203	1228.1	20.9	**0.1040**	0.012	11.7	ug/L	324	Standard
	Tl	205	2875.3	21.4	**0.0976**	0.010	10.3	ug/L	698	Standard
	Pb	206	6026.9	22.0	**0.6821**	0.067	9.8	ug/L	600	Standard
	Pb	207	5111.9	25.9	**0.6434**	0.039	6.0	ug/L	541	Standard
	Pb	208	19029.1	36.2	**0.7192**	0.035	4.9	ug/L	1750	Standard
	U	238	253.0	155.4	**0.0219**	0.029	131.4	ug/L	10	Standard
>	Bi	209	595594.9	31.8				ug/L	811518	Standard

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⌈	**Na**	23	1.7	173.2	**0.2686**	0.457	170.0	mg/L	0	Standard
|	**Mg**	24	90.0	25.5	**1.9105**	0.811	42.4	mg/L	77	Standard
|	**K**	39	103.3	2.8	**0.6865**	0.187	27.2	mg/L	18	Standard
|	**Ca**	43	108.3	21.8	**8.4728**	9.843	116.2	mg/L	178	Standard
|	**Fe**	54	29.2	29.3	**0.0770**	0.060	78.5	mg/L	29	Standard
|	**Fe**	57	478.3	10.3	**13.0893**	7.174	54.8	mg/L	408	Standard
⌊>	**Sc-1**	45	46248.8	26.8				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	8.7	13.3				ug/L	12	Standard
	Br	81	1203.4	25.0				ug/L	1747	Standard
	P	31	16.7	34.6				ug/L	17	Standard
	S	34	3.3	86.6				ug/L	3	Standard
	Sr	88	406.7	16.7				ug/L	370	Standard
	C	12	46.7	75.3				mg/L	47	Standard
	N	14	6.7	86.6				mg/L	0	Standard
	Hg	202	10.0	100.0				mg/L	17	Standard
	Dy	164	9.5	105.4				mg/L	9	Standard
	Ho-1	165	13.3	21.7				mg/L	25	Standard
	Er	166	10.0	173.2				mg/L	20	Standard
	I	127	5182.6	14.6				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
⌈>	Li	6		77.597	
|	Be	9			
⌊	Al	27			
⌈	Sc	45			
|	Ti	47			
|	V	51			
|	Cr	52			
|	Cr	53			
|	Mn	55			
|	Co	59			
|	Ni	60			
|	Cu	65			
|	Zn	66			
|>	Ge	72		78.908	
|	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	71.468
|	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	73.393
⌈	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

Approved: November 15, 2016

Method 6020 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, November 11, 2016 17:55:32
Number of Replicates: 3
Autosampler Position: 101
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH Nexion300X
Cumulative Autodilution Factor: 1
Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	**Li**	6	190884.2	30.7				ug/L	206101	Standard
	Be	9	103060.2	28.8	**47.7986**	1.134	2.4	ug/L	25	Standard
	Al	27	8168336.0	24.5	**45.7695**	2.814	6.1	ug/L	1120	Standard
	Sc	45	52445.0	21.3				ug/L	61425	Standard
	Ti	47	39801.1	25.3	**97.7032**	2.152	2.2	ug/L	70	Standard
	V	51	472507.3	25.9	**49.2431**	0.732	1.5	ug/L	3309	Standard
	Cr	52	434370.5	25.5	**48.8066**	0.937	1.9	ug/L	13497	Standard
	Cr	53	54870.4	26.3	**47.9785**	0.498	1.0	ug/L	3162	Standard
	Mn	55	681674.3	27.1	**48.4096**	0.171	0.4	ug/L	2226	Standard
	Co	59	543173.4	28.4	**48.9748**	0.647	1.3	ug/L	1003	Standard
	Ni	60	117549.6	28.3	**49.3753**	0.569	1.2	ug/L	355	Standard
	Cu	65	109662.0	28.5	**50.6919**	0.636	1.3	ug/L	473	Standard
	Zn	66	56765.5	27.6	**51.1124**	0.413	0.8	ug/L	341	Standard
>	**Ge**	72	511291.8	27.3				ug/L	566981	Standard
	As	75	55566.4	29.1	**49.6600**	1.013	2.0	ug/L	-156	Standard
	Se	82	4549.4	33.0	**48.4667**	2.773	5.7	ug/L	35	Standard
	Se-1	77	3980.6	29.3	**49.5781**	1.277	2.6	ug/L	354	Standard
>	**Ga**	71	90.0	33.3				mg/L	43	Standard
	Rb	85	593.3	38.3				ug/L	48	Standard
	Y	89	371740.6	25.4				ug/L	447702	Standard
>	**Rh**	103	65.0	50.4				ug/L	20	Standard
	Mo	98	396918.0	26.7	**97.6694**	2.227	2.3	ug/L	158	Standard
	Ag	107	433165.4	27.7	**48.6954**	0.717	1.5	ug/L	133	Standard
	Cd	111	145230.7	29.2	**51.3234**	0.504	1.0	mg/L	7	Standard
	Cd	114	381496.4	29.5	**50.0054**	0.969	1.9	ug/L	72	Standard
>	**In**	115	849313.7	29.0				ug/L	1004638	Standard
	Sn	118	88075.8	29.0	**50.3821**	0.681	1.4	ug/L	364	Standard
	Sb	123	388259.6	27.5	**51.5854**	0.809	1.6	ug/L	2464	Standard
	Ba	135	154029.3	26.5	**48.5384**	1.223	2.5	ug/L	39	Standard
	Ce	140	156.7	29.0				ug/L	195	Standard
>	**Tb**	159	1365873.3	26.5				ug/L	1640193	Standard
	Ho	165	66.7	41.3				ug/L	25	Standard
	Tl	203	607315.6	26.7	**50.2186**	0.880	1.8	ug/L	324	Standard
	Tl	205	1441141.2	27.1	**44.5047**	0.741	1.7	ug/L	698	Standard
	Pb	206	475149.1	26.8	**50.3816**	0.381	0.8	ug/L	600	Standard
	Pb	207	419061.8	26.6	**49.9455**	0.721	1.4	ug/L	541	Standard
	Pb	208	1395121.8	26.1	**50.5391**	0.436	0.9	ug/L	1750	Standard
	U	238	595807.6	19.0	**54.8213**	4.218	7.7	ug/L	10	Standard
>	**Bi**	209	669771.7	26.9				ug/L	811518	Standard

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	Na	23	11.7	24.7	**2.1642**	0.656	30.3	mg/L	0	Standard
	Mg	24	225.0	17.6	**5.0791**	0.508	10.0	mg/L	77	Standard
	K	39	870.0	23.9	**5.5999**	0.869	15.5	mg/L	18	Standard
	Ca	43	85.0	17.6	**18.9412**	7.328	38.7	mg/L	178	Standard
	Fe	54	375.5	35.6	**5.3054**	1.060	20.0	mg/L	29	Standard
	Fe	57	586.7	9.3	**14.4402**	4.201	29.1	mg/L	408	Standard
>	**Sc-1**	45	52445.0	21.3				mg/L	61425	Standard
	Cl	35	0.0					ug/L	1	Standard
	Kr	83	7.3	28.4				ug/L	12	Standard
	Br	81	1400.1	27.9				ug/L	1747	Standard
	P	31	33.3	22.9				ug/L	17	Standard
	S	34	3.3	173.2				ug/L	3	Standard
	Sr	88	405.0	1.2				ug/L	370	Standard
	C	12	60.0	66.7				mg/L	47	Standard
	N	14	0.0					mg/L	0	Standard
	Hg	202	10.0	100.0				mg/L	17	Standard
	Dy	164	38.7	50.5				mg/L	9	Standard
	Ho-1	165	66.7	41.3				mg/L	25	Standard
	Er	166	26.7	114.6				mg/L	20	Standard
	I	127	2930.3	21.9				mg/L	6023	Standard

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
>	Li	6			
	Be	9	95.597		
	Al	27	91.539		
	Sc	45			
	Ti	47	97.703		
	V	51	98.486		
	Cr	52	97.613		
	Cr	53			
	Mn	55	96.819		
	Co	59	97.950		
	Ni	60	98.751		
	Cu	65	101.384		
	Zn	66	102.225		
>	Ge	72		90.178	
	As	75	99.320		
	Se	82	96.933		
	Se-1	77			
>	Ga	71			

Sample ID: QC Std 6
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⌊	Rb	85		
⌈	Y	89		
⌊>	Rh	103		
⌈	Mo	98	97.669	
|	Ag	107	97.391	
|	Cd	111	102.647	
|	Cd	114		
|>	In	115		84.539
|	Sn	118	100.764	
|	Sb	123	103.171	
⌊	Ba	135	97.077	
⌈	Ce	140		
⌊>	Tb	159		
⌈	Ho	165		
|	Tl	203	100.437	
|	Tl	205		
|	Pb	206		
|	Pb	207		
|	Pb	208	101.078	
|	U	238	109.643	
⌊>	Bi	209		82.533
⌈	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

Sample ID: QC Std 6
Report Date/Time: Friday, November 11, 2016 17:57:43
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Method 6020 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, November 11, 2016 17:58:38
Number of Replicates: 3
Autosampler Position: 102
Sample Description:
Method File: C:\NexIONData\Method\6020a.mth
Aliquot Volume (mL):
Diluted to Volume (mL):
User Name: JYH 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	180288.8	41.5				ug/L	206101	Standard
	Be	9	43.3	17.6	**0.0044**	0.009	212.1	ug/L	25	Standard
	Al	27	1555.1	23.4	**0.0153**	0.002	11.8	ug/L	1120	Standard
	Sc	45	48894.6	33.4				ug/L	61425	Standard
	Ti	47	33.0	18.4	**-0.0564**	0.020	35.8	ug/L	70	Standard
	V	51	2470.9	13.9	**-0.0279**	0.066	237.5	ug/L	3309	Standard
	Cr	52	10584.1	21.4	**-0.1394**	0.208	149.4	ug/L	13497	Standard
	Cr	53	2096.8	20.6	**-0.4455**	0.345	77.5	ug/L	3162	Standard
	Mn	55	2309.8	22.6	**0.0434**	0.026	59.8	ug/L	2226	Standard
	Co	59	917.0	13.9	**0.0297**	0.022	75.6	ug/L	1003	Standard
	Ni	60	272.3	15.9	**0.0028**	0.028	999.7	ug/L	355	Standard
	Cu	65	393.0	38.5	**-0.0073**	0.003	42.6	ug/L	473	Standard
	Zn	66	283.0	39.5	**-0.0199**	0.012	61.3	ug/L	341	Standard
>	Ge	72	484050.4	37.5				ug/L	566981	Standard
	As	75	-75.3	60.7	**0.0376**	0.025	67.2	ug/L	-156	Standard
	Se	82	34.6	18.4	**0.1016**	0.146	144.0	ug/L	35	Standard
	Se-1	77	332.0	2.4	**0.4580**	1.940	423.6	ug/L	354	Standard
>	Ga	71	45.0	44.4				mg/L	43	Standard
	Rb	85	46.7	16.4				ug/L	48	Standard
	Y	89	349179.9	35.3				ug/L	447702	Standard
>	Rh	103	16.7	17.3				ug/L	20	Standard
	Mo	98	208.4	11.3	**0.0506**	0.023	46.3	ug/L	158	Standard
	Ag	107	185.3	17.3	**0.0094**	0.005	53.8	ug/L	133	Standard
	Cd	111	14.7	29.7	**-0.0010**	0.001	84.4	mg/L	7	Standard
	Cd	114	59.7	40.7	**0.0051**	0.001	20.3	ug/L	72	Standard
>	In	115	803299.2	39.4				ug/L	1004638	Standard
	Sn	118	260.3	10.5	**0.0905**	0.049	54.3	ug/L	364	Standard
	Sb	123	5876.5	11.8	**0.8652**	0.392	45.4	ug/L	2464	Standard
	Ba	135	55.3	47.3	**0.0084**	0.002	23.3	ug/L	39	Standard
	Ce	140	28.3	40.8				ug/L	195	Standard
>	Tb	159	1320179.4	36.5				ug/L	1640193	Standard
	Ho	165	13.3	78.1				ug/L	25	Standard
	Tl	203	202.7	32.0	**0.0052**	0.002	30.0	ug/L	324	Standard
	Tl	205	476.7	35.0	**0.0112**	0.001	5.3	ug/L	698	Standard
	Pb	206	565.0	39.0	**0.0117**	0.002	19.7	ug/L	600	Standard
	Pb	207	477.3	40.9	**0.0093**	0.004	43.1	ug/L	541	Standard
	Pb	208	1616.0	34.4	**0.0123**	0.001	6.2	ug/L	1750	Standard
	U	238	71.3	27.2	**0.0090**	0.001	11.2	ug/L	10	Standard
>	Bi	209	634670.3	35.6				ug/L	811518	Standard

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	Na	23	0.0		**0.0050**	0.000	0.0	mg/L	0	Standard
	Mg	24	41.7	59.2	**0.4212**	0.791	187.7	mg/L	77	Standard
	K	39	11.7	89.2	**-0.0407**	0.062	152.8	mg/L	18	Standard
	Ca	43	91.7	12.6	**14.9994**	6.524	43.5	mg/L	178	Standard
	Fe	54	21.1	69.5	**-0.0146**	0.337	2313.2	mg/L	29	Standard
	Fe	57	516.7	10.1	**14.9063**	11.787	79.1	mg/L	408	Standard
>	**Sc-1**	45	48894.6	33.4				mg/L	61425	Standard
	Cl	35	0.7	173.2				ug/L	1	Standard
	Kr	83	9.7	52.1				ug/L	12	Standard
	Br	81	1283.4	41.8				ug/L	1747	Standard
	P	31	15.0	88.2				ug/L	17	Standard
	S	34	1.7	173.2				ug/L	3	Standard
	Sr	88	406.7	8.6				ug/L	370	Standard
	C	12	43.3	35.3				mg/L	47	Standard
	N	14	6.7	86.6				mg/L	0	Standard
	Hg	202	13.3	43.3				mg/L	17	Standard
	Dy	164	29.4	68.9				mg/L	9	Standard
	Ho-1	165	13.3	78.1				mg/L	25	Standard
	Er	166	13.3	43.3				mg/L	20	Standard
	I	127	3742.1	18.8				mg/L	6023	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		85.373	
	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	79.959
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	78.208
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
In 115 Int Std for QC Std	In	115	Rerun sample
QC Std 7	Sb	123	
Bi 209 Int Std for QC Std	Bi	209	Rerun sample

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

Microbac

Lab Report #: L16110144
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110144-01	**PrePrep Method:**	N/A	**Instrument:**	IC1
Client ID:	50WW08-110216	**Prep Method:**	9056	**Prep Date:**	11/03/2016 19:34
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	10/11/2016 18:33
Workgroup #:	WG590307	**Analyst:**	CAS	**Run Date:**	11/04/2016 02:52
Collect Date:	11/02/2016 08:15	**Dilution:**	2	**File ID:**	I1_110316-27
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	0.350	J	0.800	0.400	0.200

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.

Microbac

Lab Report #: L16110144
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110144-01	**PrePrep Method:**	N/A	**Instrument:**	IC1
Client ID:	50WW08-110216	**Prep Method:**	9056	**Prep Date:**	11/03/2016 19:34
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	10/11/2016 18:33
Workgroup #:	WG590307	**Analyst:**	CAS	**Run Date:**	11/04/2016 03:10
Collect Date:	11/02/2016 08:15	**Dilution:**	5	**File ID:**	I1_110316-28
Sample Tag:	DL02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Sulfate	14808-79-8	300		10.0	5.00	2.50

J	Estimated value ; the analyte concentration was greater than the highest standard
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16110144
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110144-01	**PrePrep Method:**	N/A	**Instrument:**	IC1
Client ID:	50WW08-110216	**Prep Method:**	9056	**Prep Date:**	11/03/2016 19:34
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	10/11/2016 18:33
Workgroup #:	WG590307	**Analyst:**	CAS	**Run Date:**	11/04/2016 03:28
Collect Date:	11/02/2016 08:15	**Dilution:**	20	**File ID:**	I1_110316-29
Sample Tag:	DL03	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chloride	16887-00-6	349		8.00	4.00	2.00

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

Microbac

Lab Report #: L16110144
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110144-03	**PrePrep Method:**	N/A	**Instrument:**	IC1
Client ID:	50WW22-110216	**Prep Method:**	9056	**Prep Date:**	11/03/2016 19:34
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	10/11/2016 18:33
Workgroup #:	WG590307	**Analyst:**	CAS	**Run Date:**	11/04/2016 03:46
Collect Date:	11/02/2016 09:25	**Dilution:**	10	**File ID:**	I1_110316-30
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	2.00	U	4.00	2.00	1.00
Sulfate	14808-79-8	658		20.0	10.0	5.00

J	Estimated value ; the analyte concentration was greater than the highest standard
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16110144
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110144-03	**PrePrep Method:**	N/A	**Instrument:**	IC1
Client ID:	50WW22-110216	**Prep Method:**	9056	**Prep Date:**	11/03/2016 19:34
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	10/11/2016 18:33
Workgroup #:	WG590307	**Analyst:**	CAS	**Run Date:**	11/04/2016 04:23
Collect Date:	11/02/2016 09:25	**Dilution:**	50	**File ID:**	I1_110316-32
Sample Tag:	DL02	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chloride	16887-00-6	856		20.0	10.0	5.00

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

Microbac

Lab Report #: L16110144
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110144-05	**PrePrep Method:**	N/A	**Instrument:**	IC1
Client ID:	50WW16-110216	**Prep Method:**	9056	**Prep Date:**	11/03/2016 19:34
Matrix:	Water	**Analytical Method:**	9056	**Cal Date:**	10/11/2016 18:33
Workgroup #:	WG590307	**Analyst:**	CAS	**Run Date:**	11/04/2016 04:41
Collect Date:	11/02/2016 10:40	**Dilution:**	1	**File ID:**	I1_110316-33
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chloride	16887-00-6	6.59		0.400	0.200	0.100
Nitrate	14797-55-8	0.200	U	0.400	0.200	0.100
Nitrite	14797-65-0	0.200	U	0.400	0.200	0.100
Sulfate	14808-79-8	38.0		2.00	1.00	0.500

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

Microbac

Lab Report #: L16110144
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

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: 101116 IC1 ICAL.SEQ
Analyst1: JWR Analyst2: NA
Method: IC01 SOP: 300/9056 Rev: 19

Maintenance Log ID: Syringe Filter Lot#: 160109254
Eluent ID#: RGT38150

Workgroups: Column 1 ID: AG14A-4MM Column 2 ID: AS14A-4MM
Analytical WG587087(soils) WG587194(waters) WG587220(waters)

Internal STD: NA Surrogate STD: NA Calibration STD STD77046 (10/11/2016)
CCV STD: STD77046 LCS STD: STD77045 MS/MSD STD: STD77045

Comments:
ICAL WG586950 : Alternate Source STD77045
Guard Column : Ionpac AG14A (4x50mm)
Dionex S/N 013738
Analytical Column : Ionpac AS14A (4x250mm)
Dionex S/N 010890
Cond Suppressor : AERS 500 (4mm)
Dionex S/N 130904052
System backpressure = 1575psi

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	I1_101116-01	ELUENT	1	1		10/11/16 16:25
2	I1_101116-02	DI WATER	1	1		10/11/16 16:43
3	I1_101116-03	WG586950-01 STD	1	1	STD77046	10/11/16 17:02
4	I1_101116-04	WG586950-02 STD	1	1	STD77046	10/11/16 17:20
5	I1_101116-05	WG586950-03 STD	1	1	STD77046	10/11/16 17:38
6	I1_101116-06	WG586950-04 STD-CCV	1	1	STD77046	10/11/16 17:56
7	I1_101116-07	WG586950-05 STD	1	1	STD77046	10/11/16 18:14
8	I1_101116-08	WG586950-06 STD	1	1	STD77046	10/11/16 18:33
9	I1_101116-09	WG586950-07 SSCV	1	1	STD77045	10/11/16 18:51
10	I1_101116-10	LCRV @Level-6	1	1	STD77045	10/11/16 19:09
11	I1_101116-11	LCRV @Level-4	1	1	STD77045	10/11/16 19:27
12	I1_101116-12	LCRV @Level-2	1	1	STD77045	10/11/16 19:46
13	I1_101116-13	LCRV @Level-0	1	1		10/11/16 20:04
14	I1_101116-14	WG587087-01 ANION BLANK-SOIL	7	1		10/11/16 20:22
15	I1_101116-15	WG587087-02 ANION LCS-SOIL	7	1	STD77045	10/11/16 20:40
16	I1_101116-16	WG587087-03 ANION LCS2-SOIL	7	1	STD77045	10/11/16 20:58
17	I1_101116-17	L16100003-01 LOD (F,CL,Br,SO4)	7	1	STD77045	10/11/16 21:17
18	I1_101116-18	L16100003-01 LOD (NO2,NO3)	7	1	STD77045	10/11/16 21:35
19	I1_101116-19	L16100005-01 LOQ (F,CL,Br,SO4)	7	1	STD77045	10/11/16 21:53
20	I1_101116-20	L16100005-01 LOQ (NO2,NO3)	7	1	STD77045	10/11/16 22:11
21	I1_101116-21	L16100005-10 LOQ (F,CL,Br,SO4)	7	1	STD77045	10/11/16 22:29
22	I1_101116-22	L16100005-10 LOQ (NO2,NO3)	7	1	STD77045	10/11/16 22:48
23	I1_101116-23	WG587187-01 ANION CCV	1	1	STD77046	10/11/16 23:06
24	I1_101116-24	WG587187-02 ANION CCB	1	1		10/11/16 23:24
25	I1_101116-25	WG587194-01 ANION BLANK	1	1		10/11/16 23:42
26	I1_101116-26	WG587194-02 ANION LCS	1	1	STD77045	10/12/16 00:00
27	I1_101116-27	WG587194-03 ANION LCS2	1	1	STD77045	10/12/16 00:19
28	I1_101116-28	L16100002-01 LOD (F,CL,Br,SO4)	1	1	STD77045	10/12/16 00:37
29	I1_101116-29	L16100002-01 LOD (NO2,NO3)	1	1	STD77045	10/12/16 00:55
30	I1_101116-30	L16100004-01 LOQ (F,CL,Br,SO4)	1	1	STD77045	10/12/16 01:13

Page: 1 Approved: 13-OCT-16

Microbac Laboratories Inc.

Instrument Run Log

Instrument: IC1 Dataset: 101116 IC1 ICAL.SEQ
Analyst1: JWR Analyst2: NA
Method: IC01 SOP: 300/9056 Rev: 19

Maintenance Log ID: Syringe Filter Lot#: 160109254
Eluent ID#: RGT38150

Workgroups: Column 1 ID: AG14A-4MM Column 2 ID: AS14A-4MM
Analytical WG587087(soils) WG587194(waters) WG587220(waters)

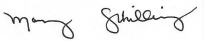
Internal STD: NA Surrogate STD: NA STD77046 (10/11/2016)
CCV STD: STD77046 LCS STD: STD77045 STD77045

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
31	I1_101116-31	L16100004-01 LOQ (NO2,NO3)	1	1	STD77045	10/12/16 01:31
32	I1_101116-32	L16100004-09 LOQ (F,CL,Br,SO4)	1	1	STD77045	10/12/16 01:50
33	I1_101116-33	L16100004-09 LOQ (NO2,NO3)	1	1	STD77045	10/12/16 02:08
34	I1_101116-34	WG587187-03 ANION CCV	1	1	STD77046	10/12/16 02:26
35	I1_101116-35	WG587187-04 ANION CCB	1	1		10/12/16 02:44
36	I1_101116-36	WG587220-01 ANION BLANK	1	1		10/12/16 03:03
37	I1_101116-37	WG587220-02 ANION LCS	1	1	STD77045	10/12/16 03:21
38	I1_101116-38	WG587220-03 ANION LCS2	1	1	STD77045	10/12/16 03:39
39	I1_101116-39	L16100545-01 (NO2,NO3) REF	1	1		10/12/16 03:57
40	I1_101116-40	WG587220-05 DUP 0545-01	1	1		10/12/16 04:15
41	I1_101116-41	WG587220-06 MS 0545-01	1	1	STD77045	10/12/16 04:34
42	I1_101116-42	WG587220-07 MSD 0545-01	1	1	STD77045	10/12/16 04:52
43	I1_101116-43	L16100545-02 (NO2)	1	1		10/12/16 05:10
44	I1_101116-44	WG587187-05 ANION CCV	1	1	STD77046	10/12/16 05:28
45	I1_101116-45	WG587187-06 ANION CCB	1	1		10/12/16 05:46
46	I1_101116-46	END	1	1		10/12/16 06:05

Comments

Seq.	Rerun	Dil.	Reason	Analytes

Page: 2 Approved: 13-OCT-16



Microbac Laboratories Inc.

Instrument Run Log

Instrument: IC1 Dataset: 110316 IC1.SEQ
Analyst1: CAS Analyst2: NA
Method: IC01 SOP: 300/9056 Rev: 19

Maintenance Log ID: Syringe Filter Lot#: 160109254
Eluent ID#: RGT38360

Workgroups: Column 1 ID: AG14A-4MM Column 2 ID: AS14A-4MM
Analytical WG590307

Internal STD: NA Surrogate STD: NA Calibration STD STD77046 (10/11/2016)
CCV STD: STD77046 LCS STD: STD77045 MS/MSD STD: STD77045

Comments: System backpressure: 1640 psi

Samples L16110147-02 and L16110144 (-01,03) were analyzed at dilutions only due to their pre-run screen results for sulfate, which were greater than 200 ppm.

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	I1_110316-01	ELUENT	1	1		11/03/16 18:58
2	I1_110316-02	DI WATER	1	1		11/03/16 19:16
3	I1_110316-03	WG590309-01 ANION CCV	1	1	STD77046	11/03/16 19:34
4	I1_110316-04	WG590309-02 ANION CCB	1	1		11/03/16 19:53
5	I1_110316-05	WG590307-01 ANION BLANK	1	1		11/03/16 20:11
6	I1_110316-06	WG590307-02 ANION LCS	1	1	STD77045	11/03/16 20:29
7	I1_110316-07	L16110147-02 (CL,NO3,SO4) 2x	1	2		11/03/16 20:47
8	I1_110316-08	L16110147-03 (CL,NO3,SO4)	1	1		11/03/16 21:06
9	I1_110316-09	L16110147-03 RR CL 2x	1	2		11/03/16 21:24
10	I1_110316-10	L16110147-04 (CL,NO3,SO4)	1	1		11/03/16 21:42
11	I1_110316-11	L16110147-05 (CL,NO3,SO4) REF	1	1		11/03/16 22:00
12	I1_110316-12	WG590307-04 DUP 0147-05	1	1		11/03/16 22:18
13	I1_110316-13	L16110147-06 (CL,NO3,SO4) MS	1	1	STD77045	11/03/16 22:37
14	I1_110316-14	L16110147-07 (CL,NO3,SO4) MSD	1	1	STD77045	11/03/16 22:55
15	I1_110316-15	WG590309-03 ANION CCV	1	1	STD77046	11/03/16 23:13
16	I1_110316-16	WG590309-04 ANION CCB	1	1		11/03/16 23:31
17	I1_110316-17	L16110147-08 (CL,NO3,SO4)	1	1		11/03/16 23:49
18	I1_110316-18	L16110147-08 RR CL 5x	1	5		11/04/16 00:08
19	I1_110316-19	L16110147-09 (CL,NO3,SO4)	1	1		11/04/16 00:26
20	I1_110316-20	L16110147-09 RR CL 5x	1	5		11/04/16 00:44
21	I1_110316-21	L16110147-10 (CL,NO3,SO4)	1	1		11/04/16 01:02
22	I1_110316-22	L16110147-10 RR CL 10x	1	10		11/04/16 01:20
23	I1_110316-23	L16110147-11 (CL,NO3,SO4)	1	1		11/04/16 01:39
24	I1_110316-24	L16110147-11 RR CL 10x	1	10		11/04/16 01:57
25	I1_110316-25	WG590309-05 ANION CCV	1	1	STD77046	11/04/16 02:15
26	I1_110316-26	WG590309-06 ANION CCB	1	1		11/04/16 02:33
27	I1_110316-27	L16110144-01 (CL,NO2,NO3,SO4) 2x	1	2		11/04/16 02:52
28	I1_110316-28	L16110144-01 RR SO4 5x	1	5		11/04/16 03:10
29	I1_110316-29	L16110144-01 RR CL 20x	1	20		11/04/16 03:28
30	I1_110316-30	L16110144-03 (CL,NO2,NO3,SO4) 10x	1	10		11/04/16 03:46
31	I1_110316-31	L16110144-03 RR SO4 20x (NR)	1	20		11/04/16 04:04
32	I1_110316-32	L16110144-03 RR CL 50x	1	50		11/04/16 04:23

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: IC1 Dataset: 110316 IC1.SEQ
Analyst1: CAS Analyst2: NA
Method: IC01 SOP: 300/9056 Rev: 19

Maintenance Log ID: Syringe Filter Lot#: 160109254
Eluent ID#: RGT38360
Column 1 ID: AG14A-4MM Column 2 ID: AS14A-4MM
Workgroups: Analytical WG590307
Internal STD: NA Surrogate STD: NA STD77046 (10/11/2016)
CCV STD: STD77046 LCS STD: STD77045 STD77045

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
33	I1_110316-33	L16110144-05 (CL,NO2,NO3,SO4) REF	1	1		11/04/16 04:41
34	I1_110316-34	WG590307-08 (CL,NO2,NO3,SO4) DUP 0144-05	1	1		11/04/16 04:59
35	I1_110316-35	WG590309-07 ANION CCV	1	1	STD77046	11/04/16 05:17
36	I1_110316-36	WG590309-08 ANION CCB	1	1		11/04/16 05:35
37	I1_110316-37	END	1	1		11/04/16 05:54

Comments

Seq.	Rerun	Dil.	Reason	Analytes

Page: 2 Approved: 08-NOV-16

Microbac Laboratories Inc.

Data Checklist

Date: 11-OCT-2016
Analyst: JWR
Analyst: NA
Method: 300/9056
Instrument: IC1
Curve Workgroup: WG586950
Runlog ID: 78004
Analytical Workgroups: L16100545 L16100002(LOD), 0004(LOQ), 0003(LOD), 0005(LOQ)

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)	1575PSI
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 (MS)	NA
Continuing calibration blank (CCB) (IC)	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
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	NA
Reruns	NA
Manual integrations	INTERNAL QC-ONLY
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	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:
12-OCT-2016
John Richards

Secondary Reviewer:
13-OCT-2016

CHECKLIST1 - Modified 03/05/2008
Generated: OCT-13-2016 09:18:24

Microbac Laboratories Inc.

Data Checklist

Date: 03-NOV-2016
Analyst: CAS
Analyst: NA
Method: 300/9056
Instrument: IC1
Curve Workgroup: NA
Runlog ID: 78557
Analytical Workgroups: L16110144, L16110147

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)	1640PSI
Window standard (FID)	NA
Initial Calibration	NA
Average RF	NA
Linear regression or higher order curve	NA
Alternate source standard (ICV) % Difference	NA
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (MS)	NA
Continuing calibration blank (CCB) (IC)	X
Special standards	NA
Blanks	X
TCL hits	ND
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	NA
MS/MSD/Sample duplicates	X
Recoveries	X
%RPD	X
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	NA
Library searches (MS)	NA
Calculations & correct factors	X
Compounds above calibration range	X
Reruns	X
Manual integrations	NA
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	X
Check for completeness	X
Primary Reviewer	CAS
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	ECL

Primary Reviewer:
08-NOV-2016

Secondary Reviewer:
08-NOV-2016

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-08-2016 14:41:51

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 9056 AAB#: WG590307

Login Number: L16110144

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
50WW08-110216	01	11/02/16					11/03/2016	1.5	2		11/04/16	1.8	2	
50WW08-110216	01	11/02/16					11/03/2016	1.5	2		11/04/16	1.8	2	
50WW08-110216	01	11/02/16					11/03/2016	1.5	2		11/04/16	1.8	2	
50WW22-110216	03	11/02/16					11/03/2016	1.4	2		11/04/16	1.8	2	
50WW22-110216	03	11/02/16					11/03/2016	1.4	2		11/04/16	1.8	2	
50WW16-110216	05	11/02/16					11/03/2016	1.4	2		11/04/16	1.8	2	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 5012967
Report generated 11/08/2016 14:53

METHOD BLANK SUMMARY

Login Number: L16110144
Blank File ID: I1_110316-05
Prep Date: 11/03/16 19:34
Analyzed Date: 11/03/16 20:11
Analyst: CAS

Work Group: WG590307
Blank Sample ID: WG590307-01
Instrument ID: IC1
Method: 9056

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG590307-02	I1_110316-06	11/03/16 20:29	01
DUP	WG590307-04	I1_110316-12	11/03/16 22:18	01
50WW08-110216	L16110144-01	I1_110316-27	11/04/16 02:52	DL01
50WW08-110216	L16110144-01	I1_110316-28	11/04/16 03:10	DL02
50WW08-110216	L16110144-01	I1_110316-29	11/04/16 03:28	DL03
50WW22-110216	L16110144-03	I1_110316-30	11/04/16 03:46	DL01
50WW22-110216	L16110144-03	I1_110316-32	11/04/16 04:23	DL02
50WW16-110216	L16110144-05	I1_110316-33	11/04/16 04:41	01
DUP	WG590307-08	I1_110316-34	11/04/16 04:59	01

Report Name: BLANK_SUMMARY
PDF File ID: 5012968
Report generated 11/08/2016 14:53

Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L16110144 Prep Date: 11/03/16 19:34 Sample ID: WG590307-01
Instrument ID: IC1 Run Date: 11/03/16 20:11 Prep Method: 9056
File ID: I1 110316-05 Analyst: CAS Method: 9056
Workgroup (AAB#): WG590307 Matrix: Water Units: mg/L
Contract #: Cal ID: IC1-11-OCT-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: 5012969
08-NOV-2016 14:53

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16110144 Run Date: 11/03/2016 Sample ID: WG590307-02
Instrument ID: IC1 Run Time: 20:29 Prep Method: 9056
File ID: I1_110316-06 Analyst: CAS Method: 9056
Workgroup (AAB#): WG590307 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD77045 Cal ID: IC1-11-OCT-16

Analytes	Expected	Found	% Rec	LCS Limits	Q
Chloride	8.00	8.06	101	90 - 110	
Nitrate	5.42	5.53	102	90 - 110	
Nitrite	4.87	4.88	100	90 - 110	
Sulfate	40.0	40.3	101	90 - 110	

LCS - Modified 03/06/2008
PDF File ID: 5012970
Report generated: 11/08/2016 14:53

Microbac Laboratories Inc.
INITIAL CALIBRATION SUMMARY

Login Number: L16110144
Analytical Method: 9056
ICAL Workgroup: WG586950
Instrument ID: IC1
Initial Calibration Date: 11-OCT-16 18:33
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R^2)
Chloride		5.848	8.59		0.99700
Nitrate		2.343	9.74		0.99600
Nitrite		2.983	7.01		0.99800
Sulfate		7.283	7.58		0.99700

R = Correlation coefficient; 0.995 minimum
R^2 = Coefficient of determination; 0.99 minimum

INT_CAL - Modified 03/06/2008
PDF File ID: 5013895
Report generated 11/08/2016 14:53

Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L16110144
Analytical Method: 9056

Instrument ID: IC1
Initial Calibration Date: 11-OCT-16 18:33
Column ID: F

Analyte	WG586950-01			WG586950-02			WG586950-03		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloride	0.200	0.0320000000	6.250	1.00	0.159000000	6.289	4.00	0.655000000	6.107
Nitrate	0.134	0.0530000000	2.520	0.678	0.262000000	2.586	2.71	1.11200000	2.438
Nitrite	0.122	0.0380000000	3.205	0.609	0.192000000	3.171	2.44	0.791000000	3.079
Sulfate	1.00	0.138000000	7.246	5.00	0.644000000	7.764	20.0	2.55600000	7.825

INT_CAL - Modified 03/06/2008
PDF File ID: 5013895
Report generated 11/08/2016 14:53

Login Number: L16110144
Analytical Method: 9056
Instrument ID: IC1
Initial Calibration Date: 11-OCT-16 18:33
Column ID: F

Analyte	WG586950-04			WG586950-05			WG586950-06		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloride	8.00	1.37700000	5.810	12.0	2.15300000	5.574	24.0	4.74200000	5.061
Nitrate	5.42	2.35500000	2.302	8.13	3.67100000	2.215	16.3	8.13500000	1.999
Nitrite	4.87	1.66200000	2.931	7.31	2.58600000	2.826	14.6	5.43800000	2.687
Sulfate	40.0	5.39900000	7.409	60.0	8.49900000	7.060	120	18.7590000	6.397

INT_CAL - Modified 03/06/2008
PDF File ID: 5013895
Report generated 11/08/2016 14:53

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L16110144 Run Date: 10/11/2016 Sample ID: WG586950-07
Instrument ID: IC1 Run Time: 18:51 Method: 9056
File ID: I1_101116-09 Analyst: JWR QC Key: DOD4
ICal Workgroup: WG586950 Cal ID: IC1 - 11-OCT-16

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Chloride		8.00	8.06	mg/L	5.79	0.800	10	
Nitrate		5.42	5.49	mg/L	2.30	1.30	10	
Nitrite		4.87	5.02	mg/L	2.86	3.10	10	
Sulfate		40.0	40.0	mg/L	7.41	0	10	

* Exceeds %D Limit

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 5013896
Report generated 11/08/2016 14:53

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L16110144 Run Date: 11/03/2016 Sample ID: WG590309-02
Instrument ID: IC1 Run Time: 19:53 Method: 9056
File ID: I1_110316-04 Analyst: CAS Units: mg/L
Workgroup (AAB#): WG590307 Cal ID: IC1 - 11-OCT-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: 5012973
Report generated 11/08/2016 14:53

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L16110144 | Run Date: 11/03/2016 | Sample ID: WG590309-04
Instrument ID: IC1 | Run Time: 23:31 | Method: 9056
File ID: I1_110316-16 | Analyst: CAS | Units: mg/L
Workgroup (AAB#): WG590307 | Cal ID: IC1 - 11-OCT-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: 5012973
Report generated 11/08/2016 14:53

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L16110144 | Run Date: 11/04/2016 | Sample ID: WG590309-06
Instrument ID: IC1 | Run Time: 02:33 | Method: 9056
File ID: I1_110316-26 | Analyst: CAS | Units: mg/L
Workgroup (AAB#): WG590307 | Cal ID: IC1 - 11-OCT-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: 5012973
Report generated 11/08/2016 14:53

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L16110144 | Run Date: 11/04/2016 | Sample ID: WG590309-08
Instrument ID: IC1 | Run Time: 05:35 | Method: 9056
File ID: I1_110316-36 | Analyst: CAS | Units: mg/L
Workgroup (AAB#): WG590307 | Cal ID: IC1 - 11-OCT-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: 5012973
Report generated 11/08/2016 14:53

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16110144 Run Date: 11/03/2016 Sample ID: WG590309-01

Instrument ID: IC1 Run Time: 19:34 Method: 9056

File ID: I1_110316-03 Analyst: CAS QC Key: DOD4

Workgroup (AAB#): WG590307 Cal ID: IC1 - 11-OCT-16

Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloride		8.00	7.81	mg/L	5.99	2.38	10	
Nitrate		5.42	5.33	mg/L	2.38	1.67	10	
Nitrite		4.87	4.68	mg/L	3.09	3.95	10	
Sulfate		40.0	39.1	mg/L	7.60	2.26	10	

* Exceeds %D Criteria

CCV - Modified 03/05/2008

PDF File ID: 5012972

Report generated 11/08/2016 14:53

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16110144 Run Date: 11/03/2016 Sample ID: WG590309-03

Instrument ID: IC1 Run Time: 23:13 Method: 9056

File ID: I1_110316-15 Analyst: CAS QC Key: DOD4

Workgroup (AAB#): WG590307 Cal ID: IC1 - 11-OCT-16

Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloride		8.00	8.06	mg/L	5.78	0.800	10	
Nitrate		5.42	5.48	mg/L	2.31	1.15	10	
Nitrite		4.87	4.95	mg/L	2.91	1.51	10	
Sulfate		40.0	40.2	mg/L	7.37	0.548	10	

* Exceeds %D Criteria

CCV - Modified 03/05/2008

PDF File ID: 5012972

Report generated 11/08/2016 14:53

Login Number: L16110144 Run Date: 11/04/2016 Sample ID: WG590309-05
Instrument ID: IC1 Run Time: 02:15 Method: 9056
File ID: I1_110316-25 Analyst: CAS QC Key: DOD4
Workgroup (AAB#): WG590307 Cal ID: IC1 - 11-OCT-16
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloride		8.00	8.07	mg/L	5.78	0.825	10	
Nitrate		5.42	5.50	mg/L	2.30	1.39	10	
Nitrite		4.87	4.89	mg/L	2.95	0.423	10	
Sulfate		40.0	40.2	mg/L	7.37	0.578	10	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 5012972
Report generated 11/08/2016 14:53

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16110144 Run Date: 11/04/2016 Sample ID: WG590309-07
Instrument ID: IC1 Run Time: 05:17 Method: 9056
File ID: I1_110316-35 Analyst: CAS QC Key: DOD4
Workgroup (AAB#): WG590307 Cal ID: IC1 - 11-OCT-16
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloride		8.00	8.07	mg/L	5.78	0.925	10	
Nitrate		5.42	5.51	mg/L	2.29	1.63	10	
Nitrite		4.87	4.90	mg/L	2.94	0.649	10	
Sulfate		40.0	40.2	mg/L	7.38	0.458	10	

* Exceeds %D Criteria

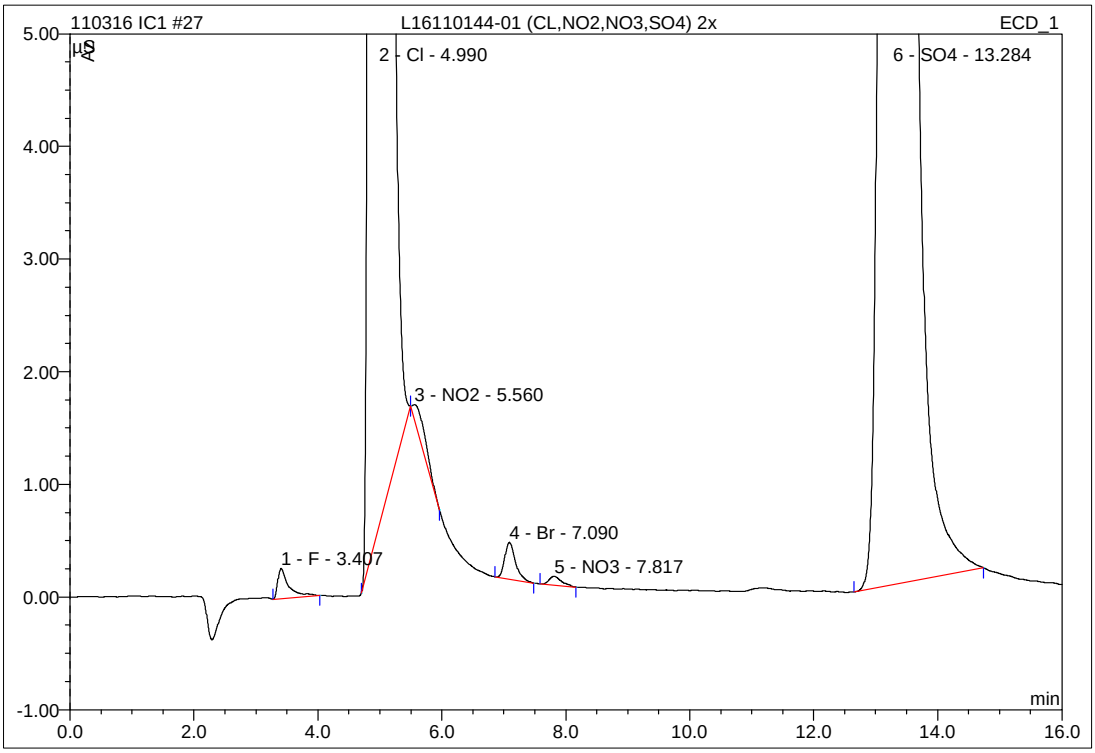
CCV - Modified 03/05/2008
PDF File ID: 5012972
Report generated 11/08/2016 14:53

2.4.1.3 Sample Data

27 L16110144-01 (CL,NO2,NO3,SO4) 2x

1,2 CAS (SO4 screen>200ppm)

Sample Name:	**L16110144-01 (CL,NO2,NO3,SO4) 2x**	*Injection Volume:*	**25.0**
Vial Number:	**29**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**101116_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/4/2016 2:52**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

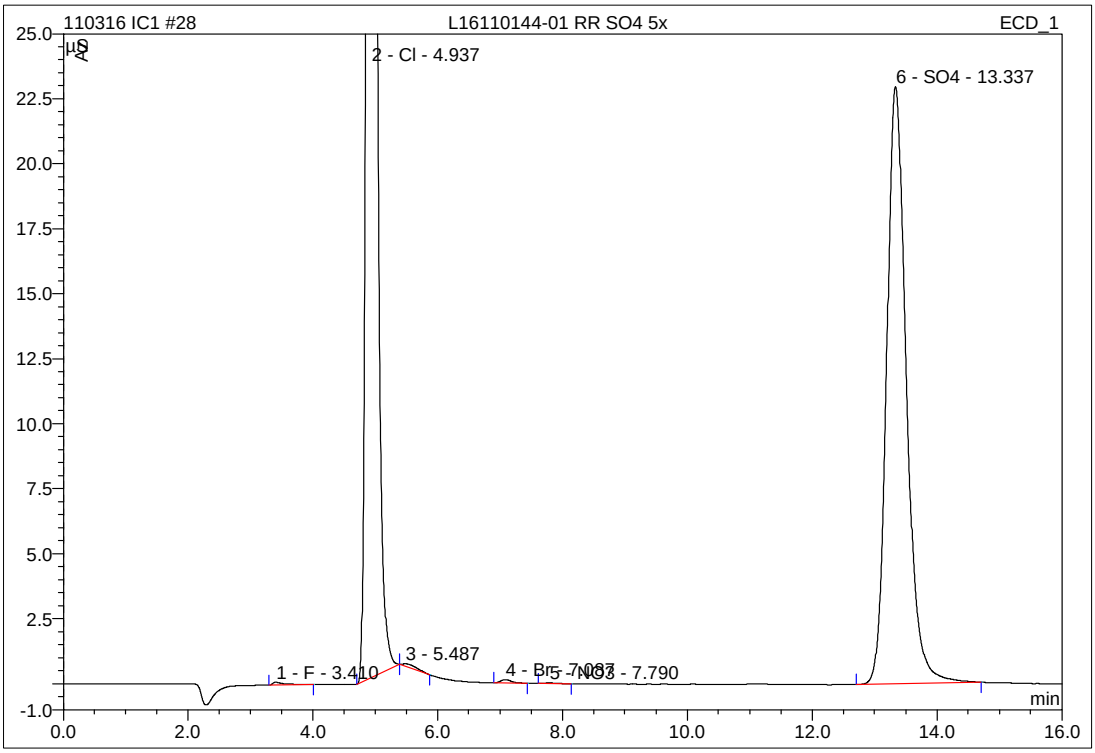


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.41	F	0.267	0.054	0.08	0.259	BMB
2	4.99	Cl	186.426	43.492	64.06	120.513	BMb
3	5.56	NO2	0.143	0.055	0.08	0.175	bMB
4	7.09	Br	0.325	0.066	0.10	0.988	BMB
5	7.82	NO3	0.077	0.018	0.03	0.046	BMB
6	13.28	SO4	66.748	24.206	35.65	147.334	BMB
Total:			253.985	67.891	100.00	269.315	

28 L16110144-01 RR SO4 5x

1,5 CAS

Sample Name:	**L16110144-01 RR SO4 5x**	*Injection Volume:*	**25.0**
Vial Number:	**30**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**101116_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/4/2016 3:10**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

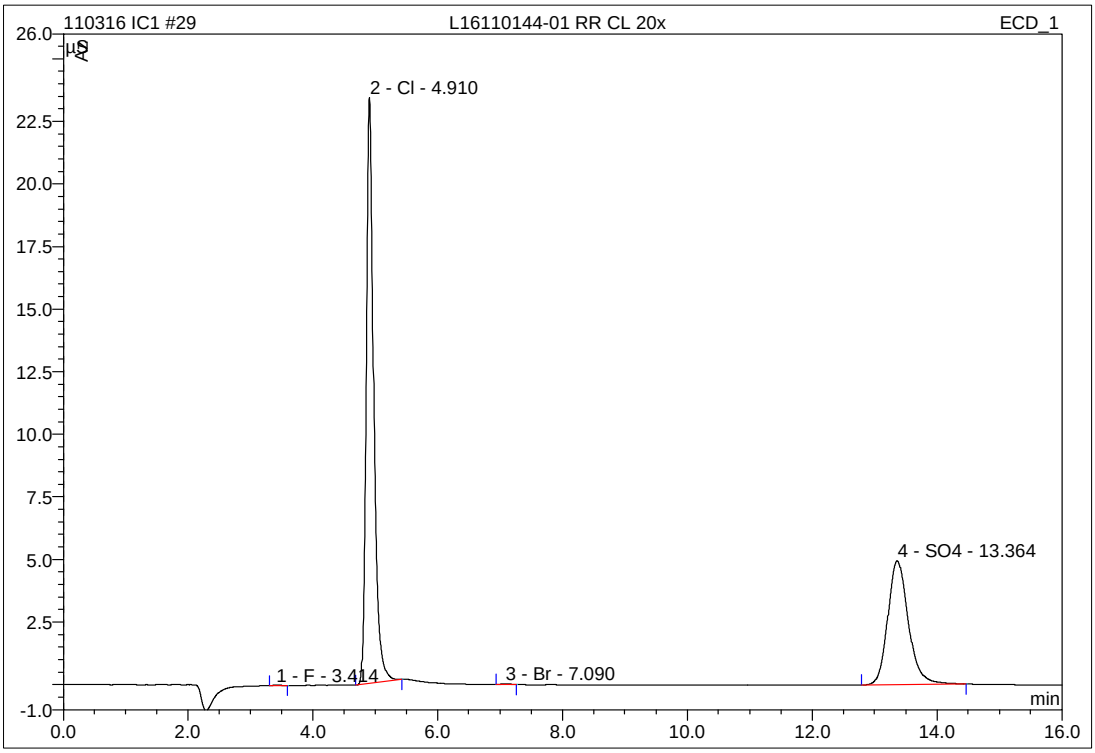


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.41	F	0.111	0.025	0.10	0.139	BMB
2	4.94	Cl	108.839	15.821	65.08	60.785	BMb
3	5.49	n.a.	0.094	0.031	0.13	n.a.	bMB
4	7.09	Br	0.128	0.025	0.10	0.398	BMB
5	7.79	NO3	0.029	0.006	0.02	0.016	BMB
6	13.34	SO4	22.971	8.403	34.56	59.910	BMB
Total:			132.172	24.312	100.00	121.248	

29 L16110144-01 RR CL 20x

1,20 CAS

Sample Name:	**L16110144-01 RR CL 20x**	*Injection Volume:*	**25.0**
Vial Number:	**31**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**101116_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/4/2016 3:28**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

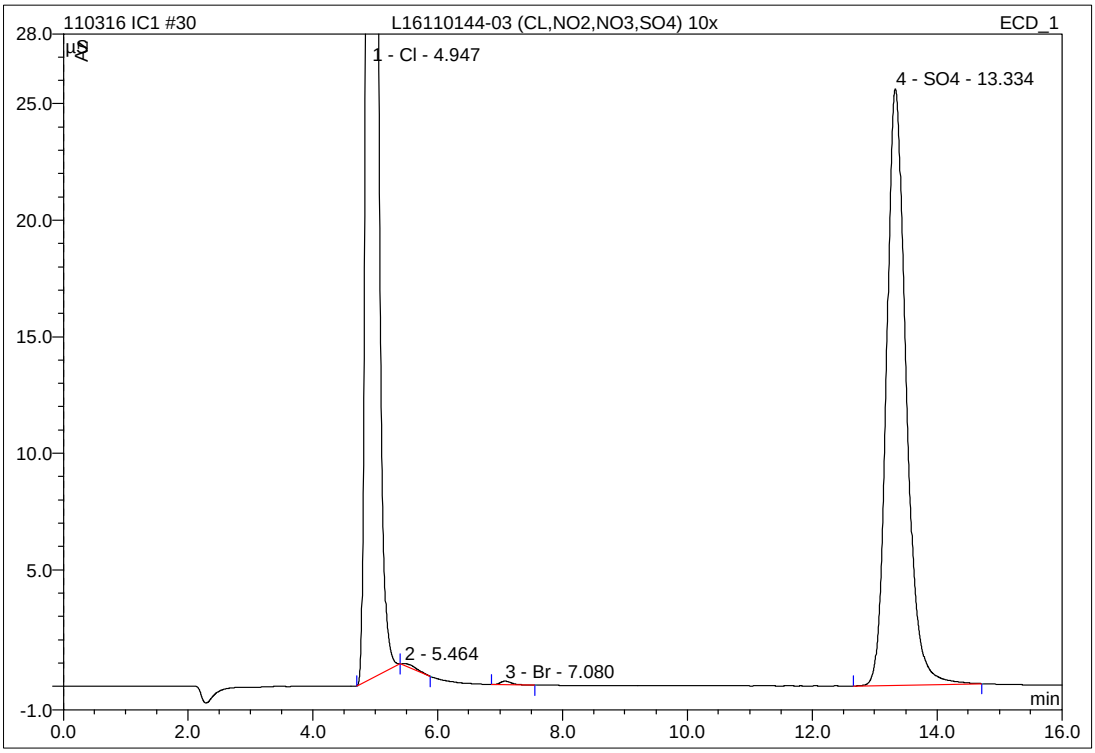


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.41	F	0.027	0.003	0.06	0.046	BMB
2	4.91	Cl	23.409	3.269	63.17	17.452	BMB
3	7.09	Br	0.032	0.005	0.10	0.103	BMB
4	13.36	SO4	4.947	1.897	36.67	14.762	BMB
Total:			28.415	5.175	100.00	32.364	

30 L16110144-03 (CL,NO2,NO3,SO4) 10x

1,10 CAS (SO4 screen>200ppm)

Sample Name:	**L16110144-03 (CL,NO2,NO3,SO4) 10x**	*Injection Volume:*	**25.0**
Vial Number:	**32**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**101116_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/4/2016 3:46**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

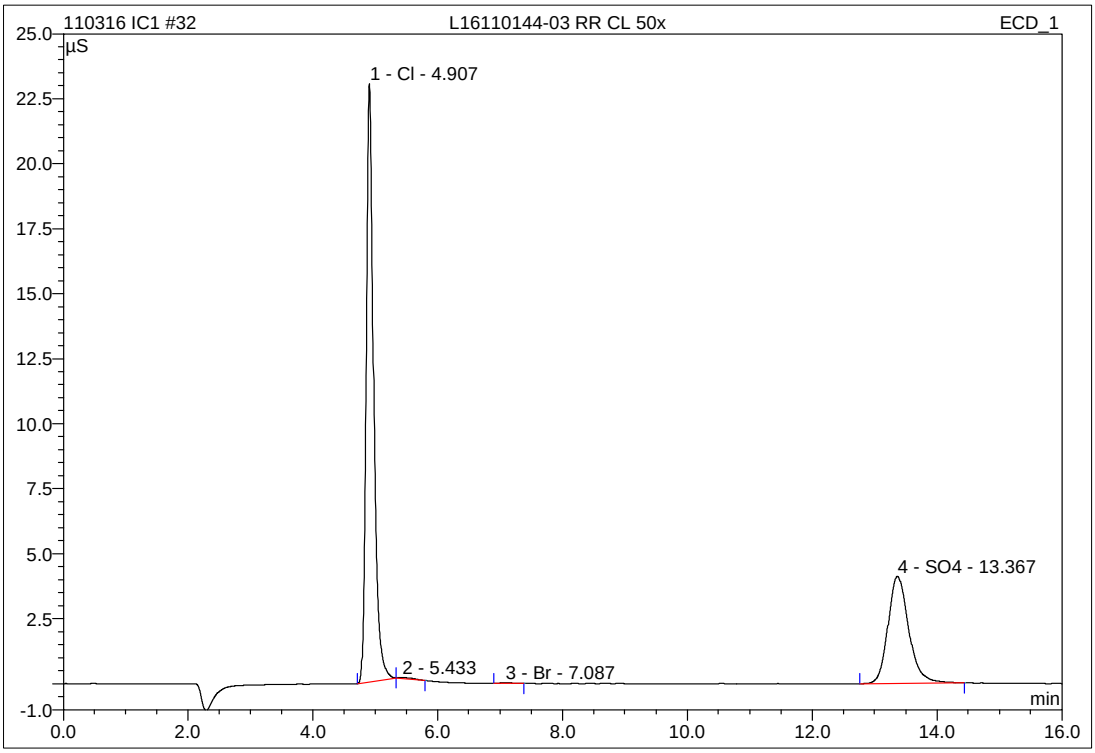


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	4.95	Cl	133.977	20.741	68.82	73.588	BMb
2	5.46	n.a.	0.081	0.032	0.11	n.a.	bMB
3	7.08	Br	0.155	0.033	0.11	0.515	BMB
4	13.33	SO4	25.593	9.330	30.96	65.767	BMB
Total:			159.806	30.136	100.00	139.870	

32 L16110144-03 RR CL 50x

1,50 CAS

Sample Name:	**L16110144-03 RR CL 50x**	*Injection Volume:*	**25.0**
Vial Number:	**34**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**101116_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/4/2016 4:23**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

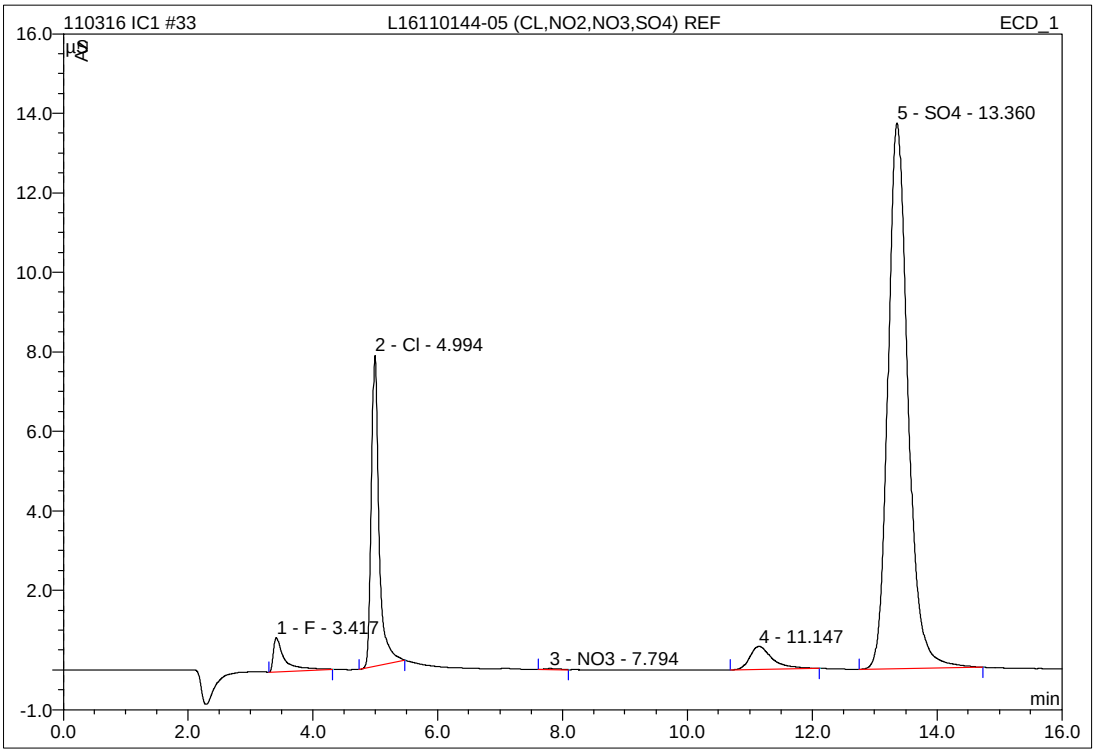


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	4.91	Cl	23.006	3.196	66.51	17.118	BMb
2	5.43	n.a.	0.028	0.010	0.21	n.a.	bMB
3	7.09	Br	0.035	0.008	0.16	0.139	BMB
4	13.37	SO4	4.124	1.592	33.12	12.430	BMB
Total:			27.192	4.806	100.00	29.687	

33 L16110144-05 (CL,NO2,NO3,SO4) REF

1,1 CAS WG590307-07 REF

Sample Name:	**L16110144-05 (CL,NO2,NO3,SO4) REF**	*Injection Volume:*	**25.0**
Vial Number:	**35**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**101116_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/4/2016 4:41**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



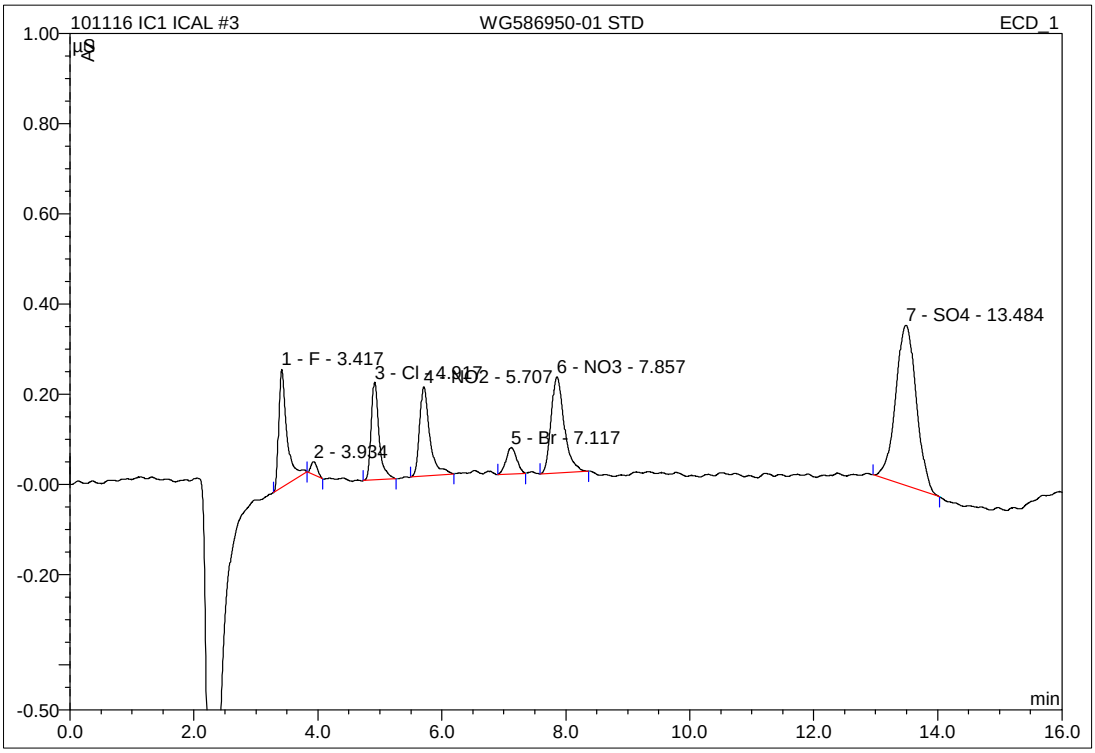
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.42	F	0.862	0.187	2.81	0.813	BMB
2	4.99	Cl	7.814	1.113	16.73	6.589	BMB
3	7.79	NO3	0.027	0.007	0.10	0.018	BMB
4	11.15	n.a.	0.582	0.247	3.71	n.a.	BMB
5	13.36	SO4	13.721	5.103	76.65	37.983	BMB
Total:			23.005	6.657	100.00	45.402	

2.4.1.4 Standards Data

3 WG586950-01 STD

1,1 JWR STD77046 (Level-1)

Sample Name:	**WG586950-01 STD**	*Injection Volume:*	**25.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**101116_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/11/2016 17:02**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

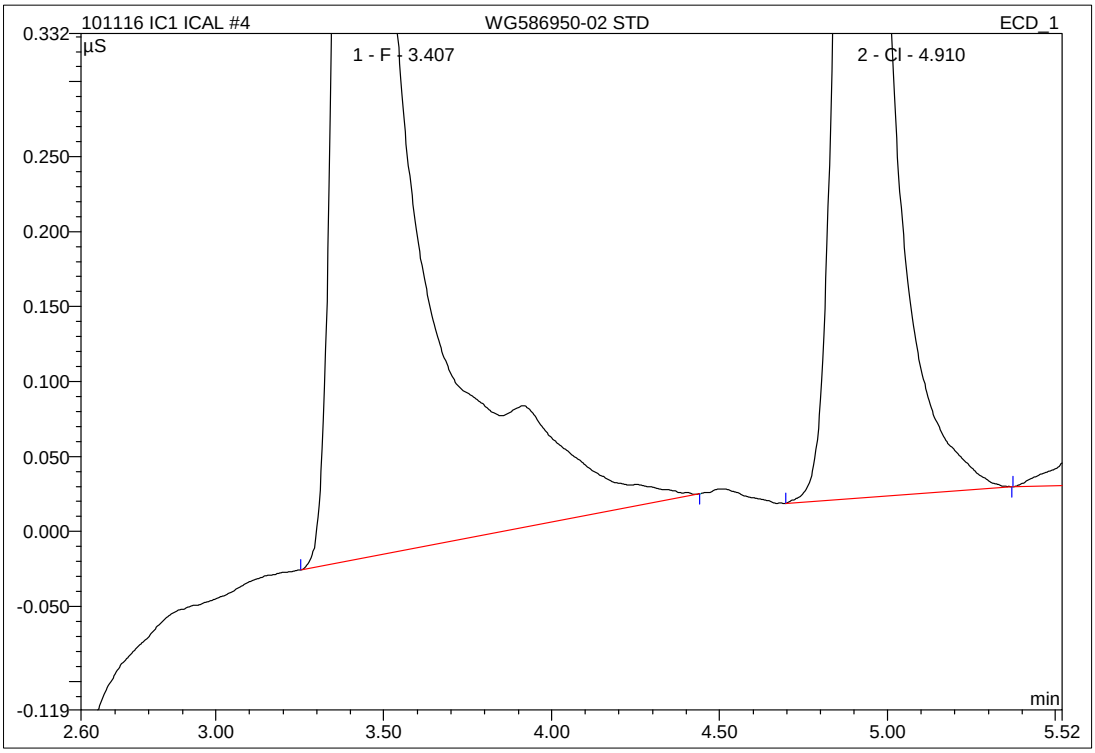


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.42	F	0.262	0.040	12.68	0.200	BMB
2	3.93	n.a.	0.029	0.003	1.07	n.a.	bMB
3	4.92	Cl	0.217	0.032	10.04	0.200	BMB
4	5.71	NO2	0.198	0.038	11.95	0.122	BMB
5	7.12	Br	0.059	0.012	3.73	0.199	BMB
6	7.86	NO3	0.213	0.053	16.76	0.136	BMB
7	13.48	SO4	0.356	0.138	43.77	0.999	BMB
Total:			1.335	0.316	100.00	1.856	

4 WG586950-02 STD

1,1 JWR STD77046 (Level-2)

Sample Name:	**WG586950-02 STD**	*Injection Volume:*	**25.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**101116_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/11/2016 17:20**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

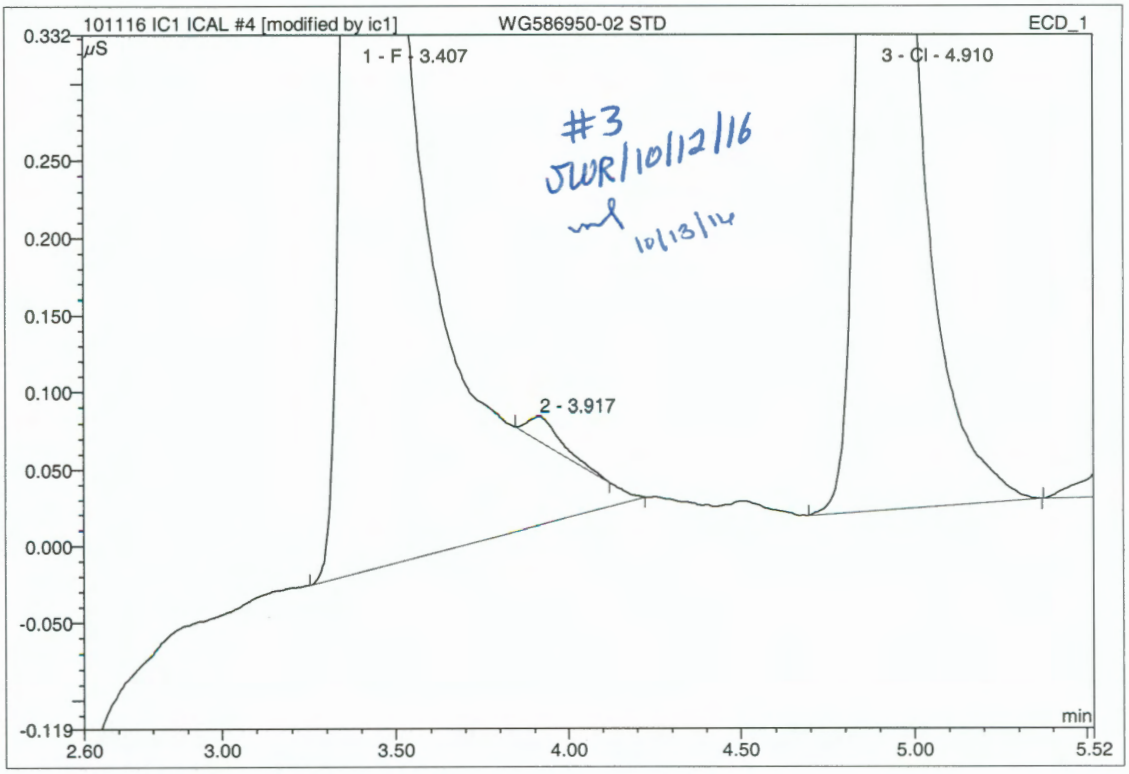


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.41	F	1.422	0.245	15.59	1.053	BMB
2	4.91	Cl	1.085	0.159	10.12	0.996	BMB
3	5.70	NO2	1.050	0.192	12.25	0.602	BMB
4	7.11	Br	0.323	0.069	4.42	1.039	BMB
5	7.84	NO3	1.082	0.262	16.64	0.663	BMB
6	13.48	SO4	1.633	0.644	40.98	5.041	BMB
Total:			6.596	1.572	100.00	9.395	

4 WG586950-02 STD

1,1 JWR STD77046 (Level-2)

Sample Name:	**WG586950-02 STD**	*Injection Volume:*	**25.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**101116_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/11/2016 17:20**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.41	F	1.420	0.234	14.99	1.008	BMB*
2	3.92	n.a.	0.016	0.002	0.12	n.a.	Rd*
3	4.91	Cl	1.085	0.159	10.18	0.996	BMB
4	5.70	NO2	1.050	0.192	12.32	0.602	BMB
5	7.11	Br	0.323	0.069	4.44	1.039	BMB
6	7.84	NO3	1.082	0.262	16.74	0.663	BMB
7	13.48	SO4	1.633	0.644	41.21	5.041	BMB
Total:			6.609	1.563	100.00	9.350	

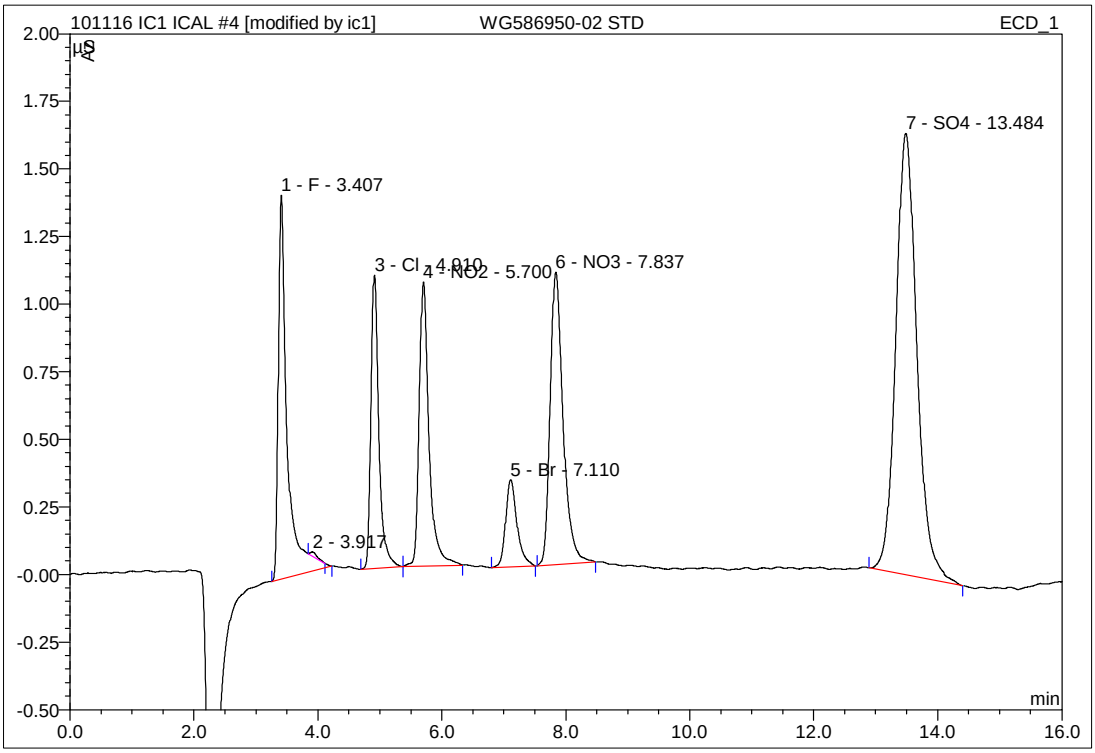
IC/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

4 WG586950-02 STD

1,1 JWR STD77046 (Level-2)

Sample Name:	**WG586950-02 STD**	*Injection Volume:*	**25.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**101116_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/11/2016 17:20**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

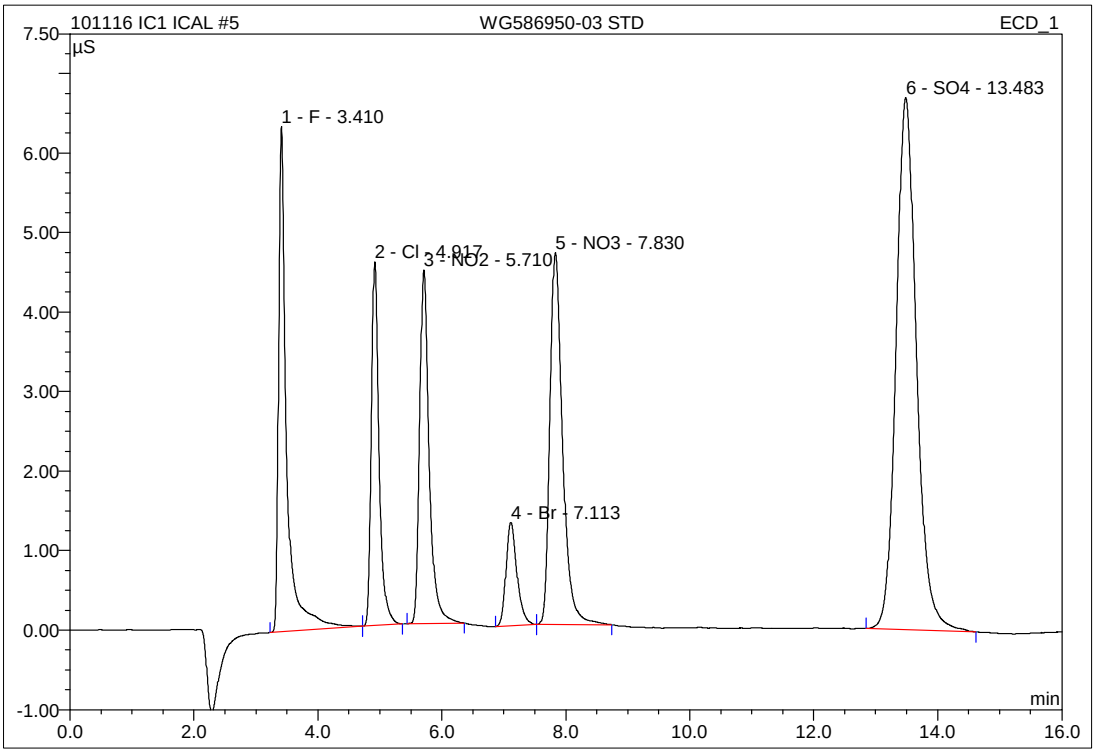


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.41	F	1.420	0.234	14.99	1.008	BMB*
2	3.92	n.a.	0.016	0.002	0.12	n.a.	Rd*
3	4.91	Cl	1.085	0.159	10.18	0.996	BMB
4	5.70	NO2	1.050	0.192	12.32	0.602	BMB
5	7.11	Br	0.323	0.069	4.44	1.039	BMB
6	7.84	NO3	1.082	0.262	16.74	0.663	BMB
7	13.48	SO4	1.633	0.644	41.21	5.041	BMB
Total:			6.609	1.563	100.00	9.350	

5 WG586950-03 STD

1,1 JWR STD77046 (Level-3)

Sample Name:	**WG586950-03 STD**	*Injection Volume:*	**25.0**
Vial Number:	**5**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**101116_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/11/2016 17:38**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

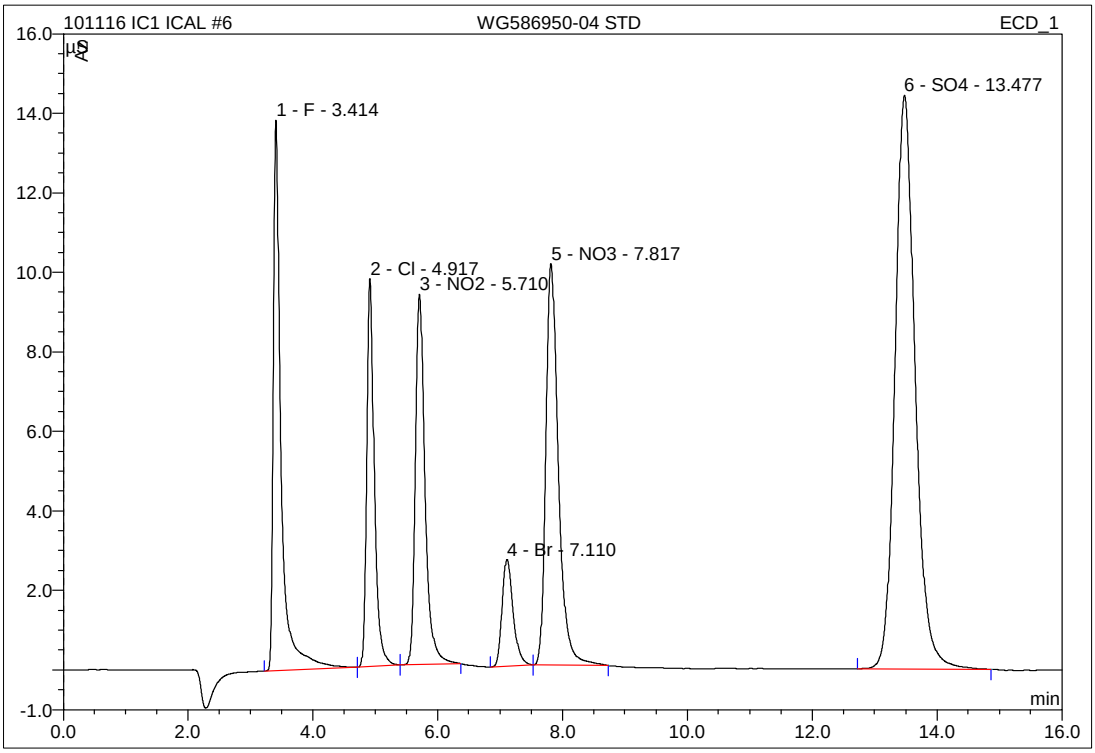


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.41	F	6.354	0.954	15.06	3.952	BMB
2	4.92	Cl	4.575	0.655	10.34	3.980	BMB
3	5.71	NO2	4.445	0.791	12.49	2.412	BMB
4	7.11	Br	1.301	0.268	4.22	3.897	BMb
5	7.83	NO3	4.676	1.112	17.55	2.716	bMB
6	13.48	SO4	6.691	2.556	40.34	19.713	BMB
Total:			28.043	6.335	100.00	36.669	

6 WG586950-04 STD

1,1 JWR STD77046 (Level-4)

Sample Name:	**WG586950-04 STD**	*Injection Volume:*	**25.0**
Vial Number:	**6**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**101116_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/11/2016 17:56**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

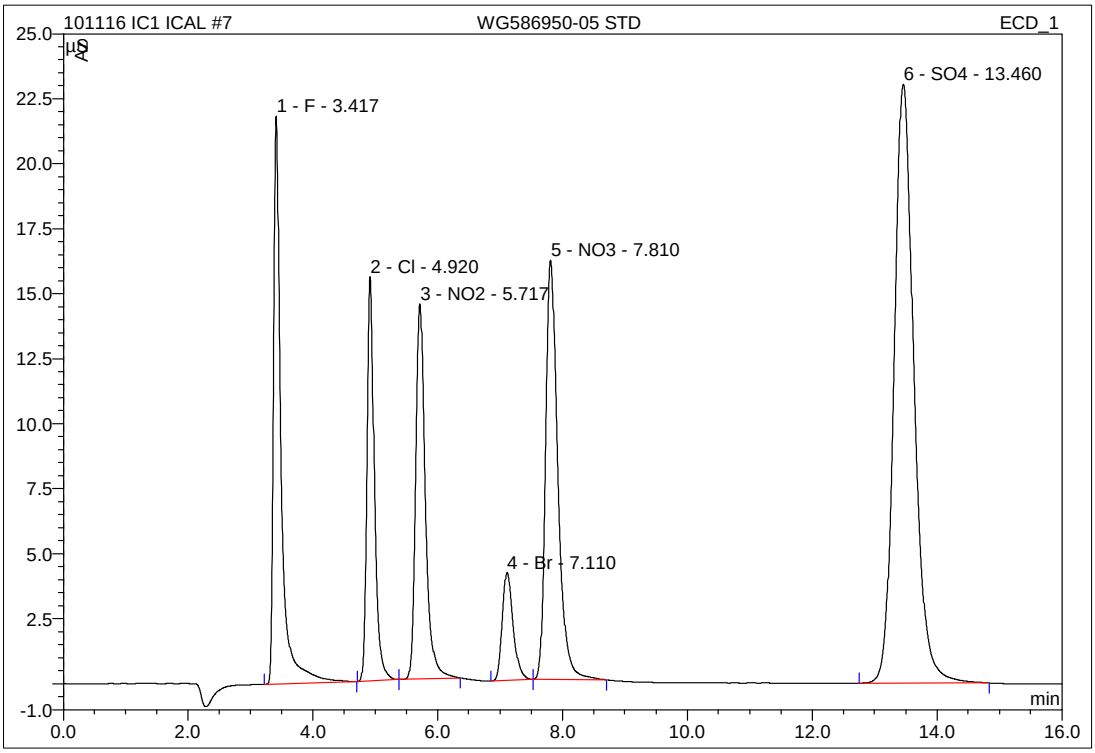


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.41	F	13.844	1.973	14.81	7.991	BMB
2	4.92	Cl	9.765	1.377	10.34	8.030	BMb
3	5.71	NO2	9.308	1.662	12.48	4.915	bMB
4	7.11	Br	2.691	0.552	4.15	7.925	BMb
5	7.82	NO3	10.103	2.355	17.68	5.492	bMB
6	13.48	SO4	14.436	5.399	40.54	40.026	BMB
Total:			60.147	13.317	100.00	74.380	

7 WG586950-05 STD

1,1 JWR STD77046 (Level-5)

Sample Name:	**WG586950-05 STD**	*Injection Volume:*	**25.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**101116_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/11/2016 18:14**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

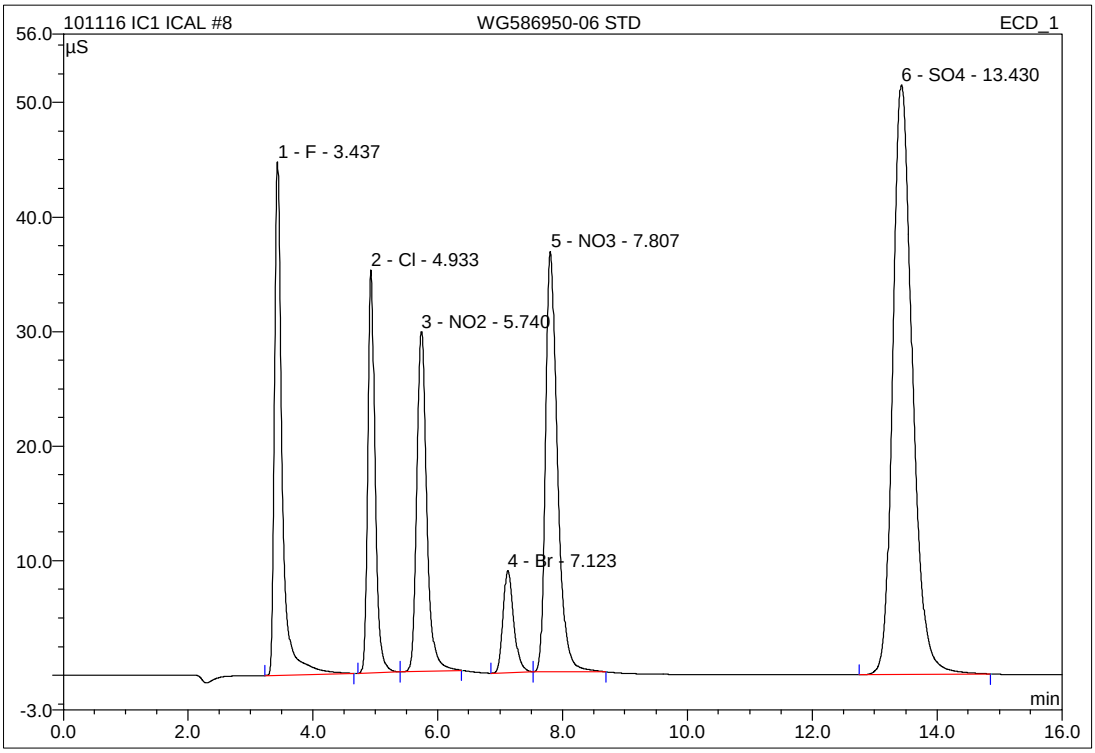


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.42	F	21.840	3.047	14.65	12.105	BMB
2	4.92	Cl	15.541	2.153	10.35	12.081	BMb
3	5.72	NO2	14.414	2.586	12.43	7.433	bMB
4	7.11	Br	4.155	0.842	4.05	11.930	BMB
5	7.81	NO3	16.142	3.671	17.65	8.201	bMB
6	13.46	SO4	23.045	8.499	40.86	60.521	BMB
Total:			95.137	20.799	100.00	112.271	

8 WG586950-06 STD

1,1 JWR STD77046 (Level-6)

Sample Name:	**WG586950-06 STD**	*Injection Volume:*	**25.0**
Vial Number:	**8**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**101116_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/11/2016 18:33**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

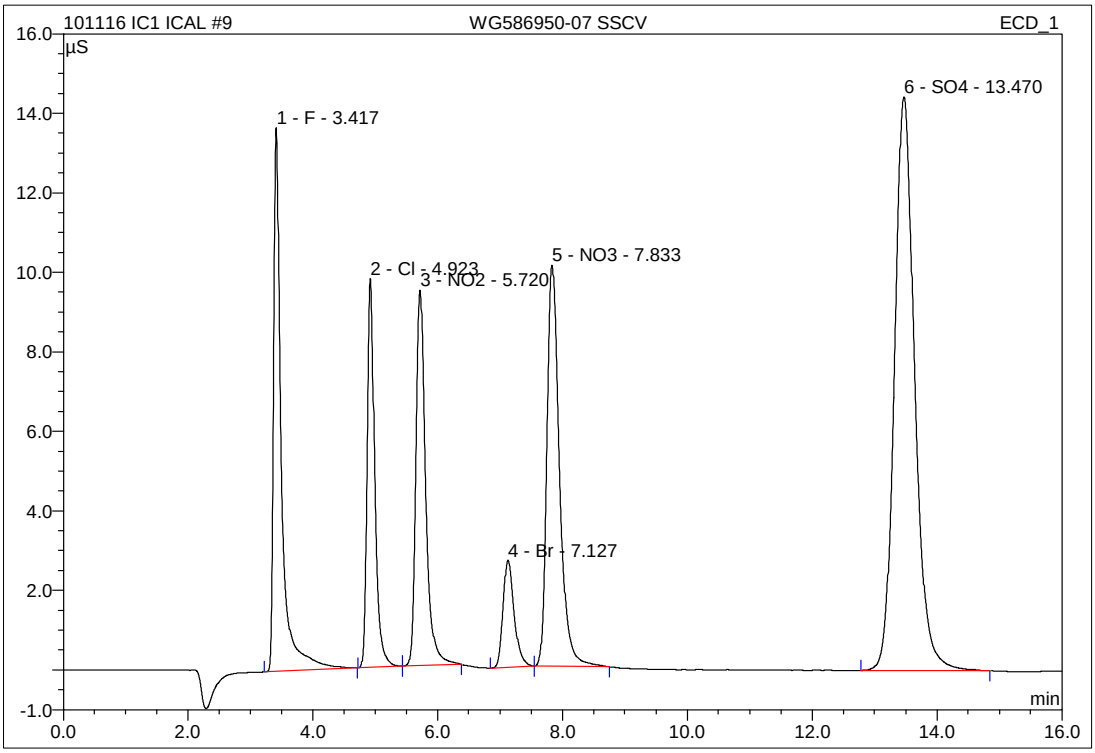


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.44	F	44.814	6.350	14.05	23.948	BMB
2	4.93	Cl	35.177	4.742	10.49	23.926	BMb
3	5.74	NO2	29.626	5.438	12.03	14.491	bMB
4	7.12	Br	8.911	1.767	3.91	24.193	BMB
5	7.81	NO3	36.679	8.135	18.00	16.161	bMB
6	13.43	SO4	51.492	18.759	41.51	119.726	BMB
Total:			206.699	45.192	100.00	222.445	

9 WG586950-07 SSCV

1,1 JWR STD77045 (@Level-4)

Sample Name:	**WG586950-07 SSCV**	*Injection Volume:*	**25.0**
Vial Number:	**9**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**101116_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/11/2016 18:51**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.42	F	13.671	1.975	14.77	7.998	BMB
2	4.92	Cl	9.786	1.382	10.34	8.060	BMb
3	5.72	NO2	9.442	1.701	12.72	5.024	bMB
4	7.13	Br	2.696	0.557	4.16	7.986	BMB
5	7.83	NO3	10.090	2.356	17.62	5.494	bMB
6	13.47	SO4	14.427	5.396	40.37	40.007	BMB
Total:			60.112	13.365	100.00	74.568	

9 WG586950-07 SSCV

1,1 JWR STD77045 (@Level-4)

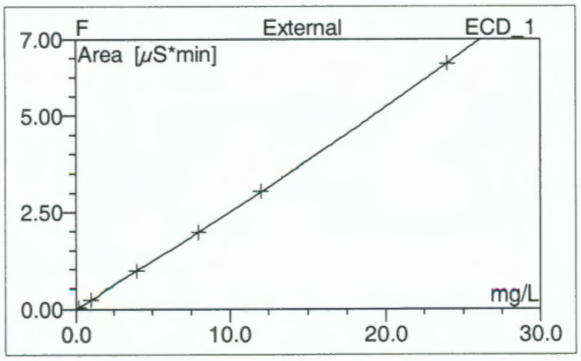
Sample Name:	**WG586950-07 SSCV**	*Injection Volume:*	**25.0**
Vial Number:	**9**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**101116_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/11/2016 18:51**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

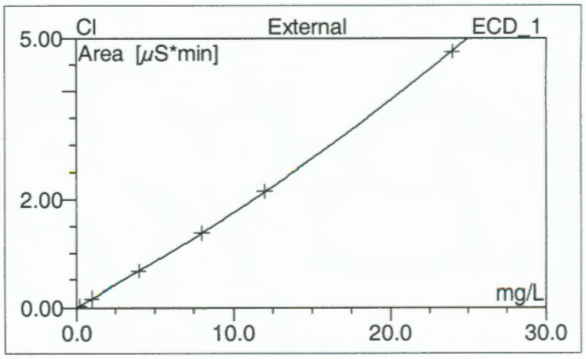
WG586950-07 SSCV	Actual mg/L	Recoved mg/L	%Difference	PASS/FAIL
F	8.00	7.9983	-0.02	PASS
Cl	8.00	8.0602	0.75	PASS
NO2-N	4.8714	5.0235	3.12	PASS
Br	8.00	7.9858	-0.18	PASS
NO3-N	5.4216	5.4936	1.33	PASS
PO4-P	13.0456	n.a.	#VALUE!	#VALUE!
SO4	40	40.0065	0.02	PASS

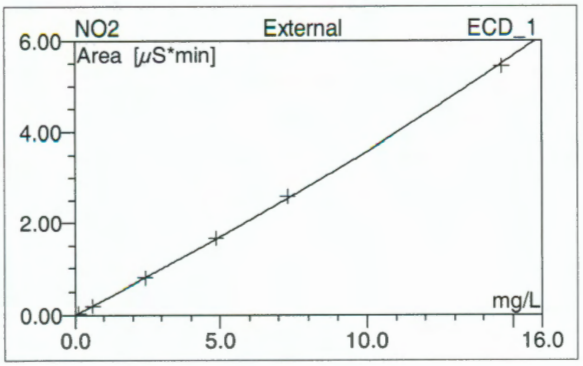
9 WG586950-07 SSCV

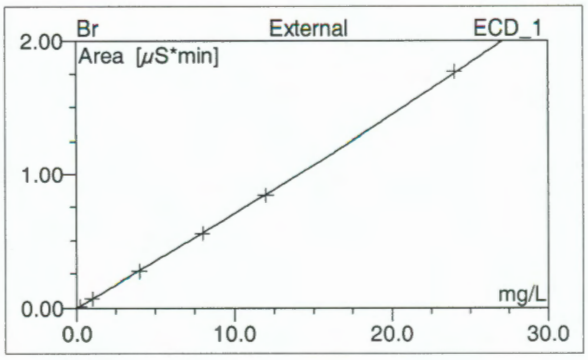
1,1 JWR STD77045 (@Level-4)

Sample Name:	**WG586950-07 SSCV**	*Injection Volume:*	**25.0**
Vial Number:	**9**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**101116_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/11/2016 18:51**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**









No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	3.42	F	XXQOff	6	99.9345	-0.0077	0.2390	0.0011
2	4.92	Cl	XXQOff	6	99.7077	0.0000	0.1579	0.0017
3	5.72	NO2	XXQOff	6	99.8432	-0.0013	0.3194	0.0039
4	7.13	Br	XXQOff	6	99.9479	-0.0018	0.0683	0.0002
5	7.83	NO3	XXQOff	6	99.6263	-0.0003	0.3904	0.0070
6	13.47	SO4	XXQOff	6	99.6788	0.0146	0.1234	0.0003
Average:					99.7897	0.0006	0.2164	0.0024

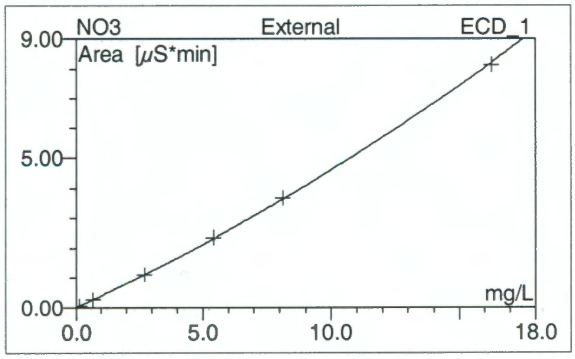
IC/Calibration(Batch)

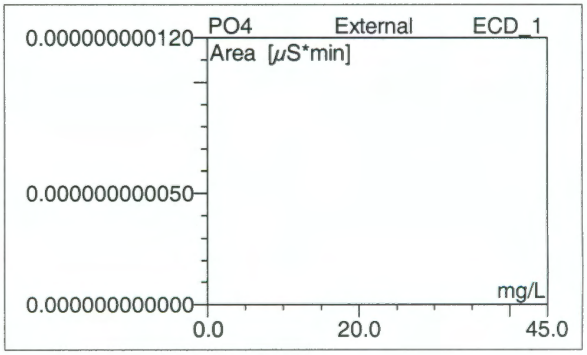
Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

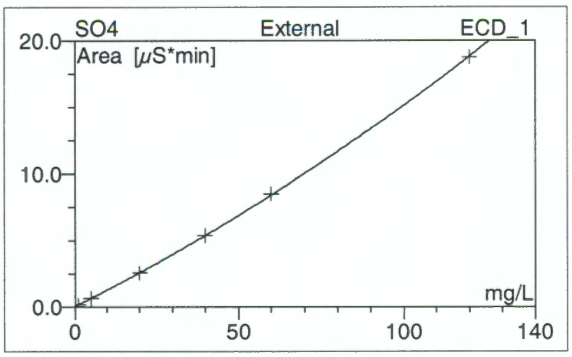
9 WG586950-07 SSCV

1,1 JWR STD77045 (@Level-4)

Sample Name:	**WG586950-07 SSCV**	*Injection Volume:*	**25.0**
Vial Number:	**9**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**101116_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/11/2016 18:51**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**





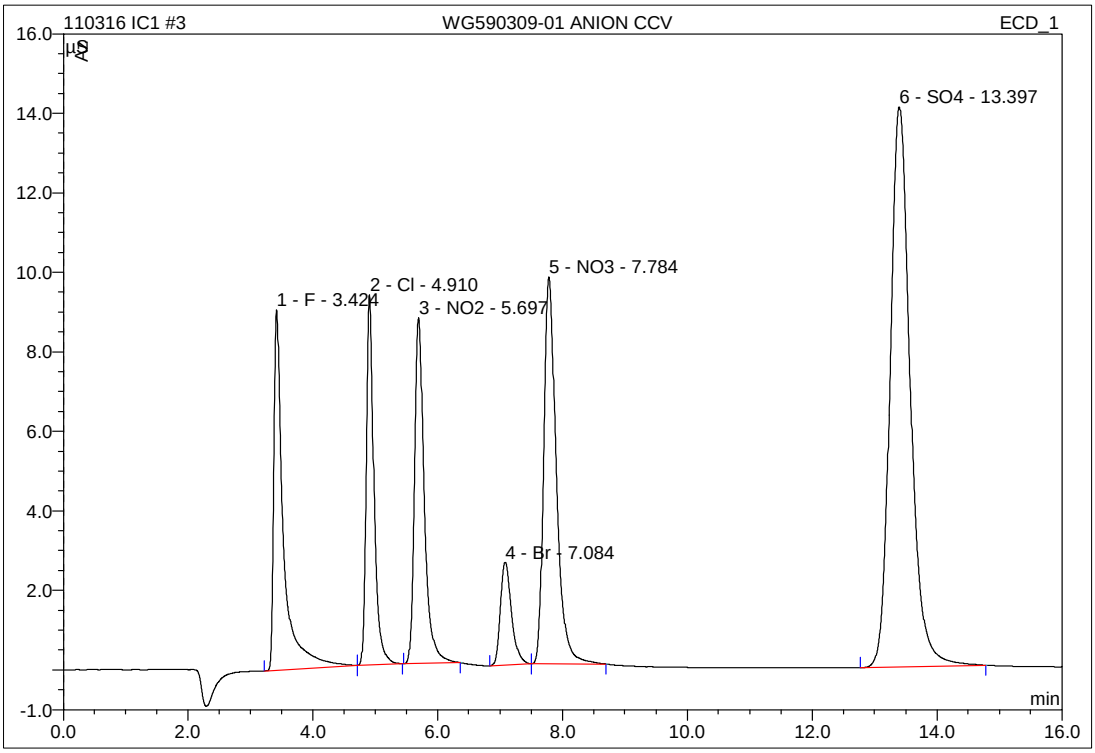


No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	3.42	F	XXQOff	6	99.9345	-0.0077	0.2390	0.0011
2	4.92	Cl	XXQOff	6	99.7077	0.0000	0.1579	0.0017
3	5.72	NO2	XXQOff	6	99.8432	-0.0013	0.3194	0.0039
4	7.13	Br	XXQOff	6	99.9479	-0.0018	0.0683	0.0002
5	7.83	NO3	XXQOff	6	99.6263	-0.0003	0.3904	0.0070
6	13.47	SO4	XXQOff	6	99.6788	0.0146	0.1234	0.0003
Average:					99.7897	0.0006	0.2164	0.0024

3 WG590309-01 ANION CCV

1,1 CAS STD77046 (BP=1640psi)

Sample Name:	**WG590309-01 ANION CCV**	*Injection Volume:*	**25.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**101116_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/3/2016 19:34**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.42	F	9.064	1.618	12.84	6.603	BMB
2	4.91	Cl	9.315	1.336	10.60	7.810	BMB
3	5.70	NO2	8.683	1.578	12.51	4.679	BMB
4	7.08	Br	2.581	0.531	4.22	7.633	BMB
5	7.78	NO3	9.729	2.280	18.08	5.331	BMB
6	13.40	SO4	14.090	5.263	41.75	39.095	BMB
Total:			53.463	12.607	100.00	71.151	

3 WG590309-01 ANION CCV

1,1 CAS STD77046 (BP=1640psi)

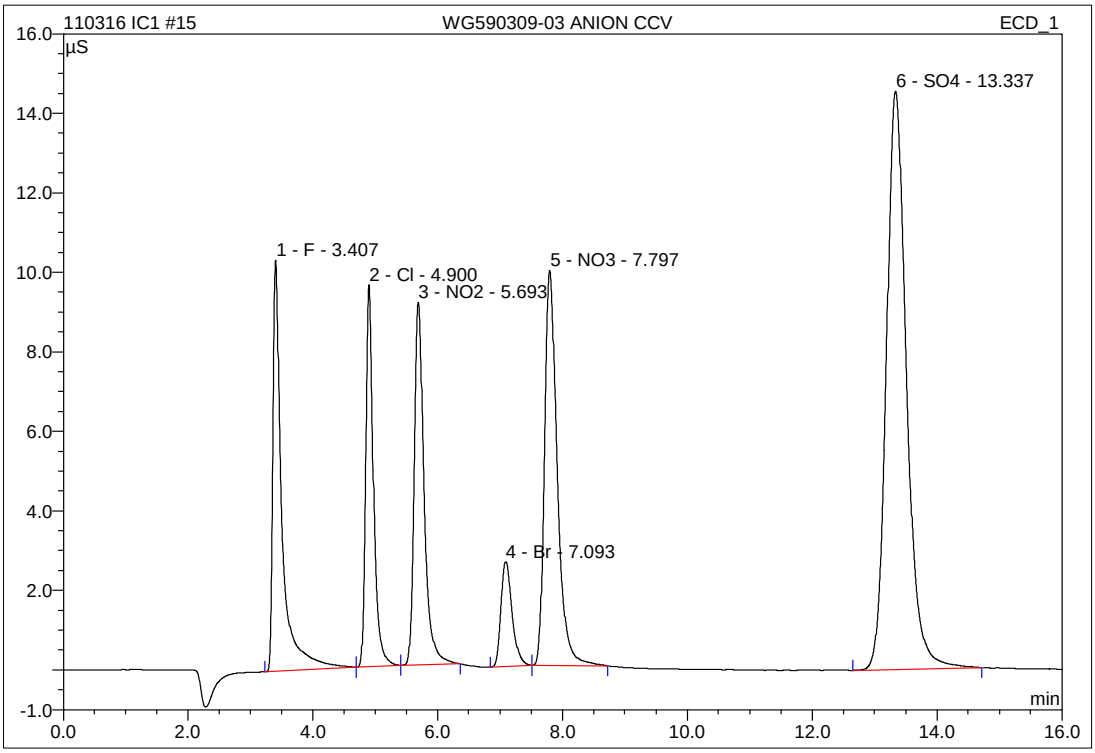
Sample Name:	**WG590309-01 ANION CCV**	*Injection Volume:*	**25.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**101116_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/3/2016 19:34**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

WG590309-01 ANIOI	Actual mg/L	Recoved mg/L	%Difference	PASS/FAIL
F	8.00	6.6027	-17.47	FAIL
Cl	8.00	7.8100	-2.37	PASS
NO2-N	4.8714	4.6789	-3.95	PASS
Br	8.00	7.6333	-4.58	PASS
NO3-N	5.4216	5.3311	-1.67	PASS
PO4-P	13.0456	n.a.	#VALUE!	#VALUE!
SO4	40	39.0947	-2.26	PASS

15 WG590309-03 ANION CCV

1,1 CAS STD77046

Sample Name:	**WG590309-03 ANION CCV**	*Injection Volume:*	**25.0**
Vial Number:	**15**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**101116_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/3/2016 23:13**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.41	F	10.342	1.745	13.30	7.101	BMB
2	4.90	Cl	9.594	1.383	10.54	8.064	BMb
3	5.69	NO2	9.119	1.672	12.74	4.945	bMB
4	7.09	Br	2.637	0.545	4.15	7.826	BMb
5	7.80	NO3	9.940	2.351	17.92	5.484	bMB
6	13.34	SO4	14.537	5.427	41.35	40.219	BMB
Total:			56.170	13.123	100.00	73.638	

15 WG590309-03 ANION CCV

1,1 CAS STD77046

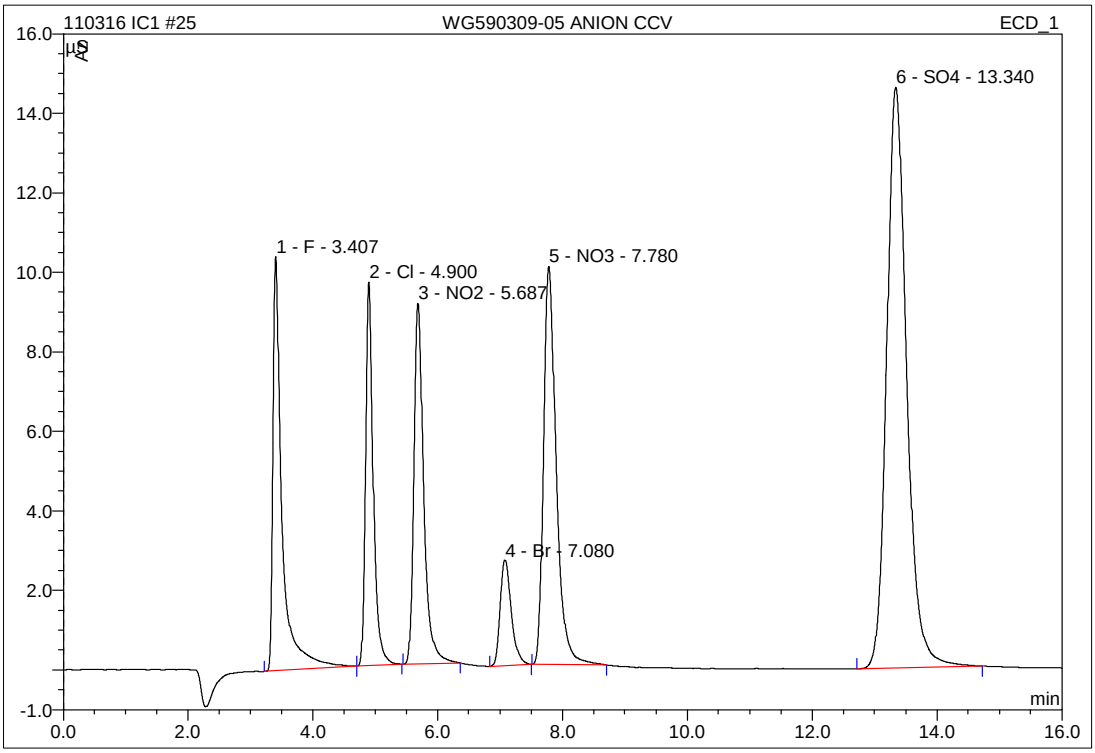
Sample Name:	**WG590309-03 ANION CCV**	*Injection Volume:*	**25.0**
Vial Number:	**15**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**101116_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/3/2016 23:13**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

WG590309-03 ANIOI	Actual mg/L	Recoved mg/L	%Difference	PASS/FAIL
F	8.00	7.1005	-11.24	FAIL
Cl	8.00	8.0641	0.80	PASS
NO2-N	4.8714	4.9447	1.50	PASS
Br	8.00	7.8261	-2.17	PASS
NO3-N	5.4216	5.4842	1.15	PASS
PO4-P	13.0456	n.a.	#VALUE!	#VALUE!
SO4	40	40.2186	0.55	PASS

25 WG590309-05 ANION CCV

1,1 CAS STD77046

Sample Name:	**WG590309-05 ANION CCV**	*Injection Volume:*	**25.0**
Vial Number:	**27**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**101116_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/4/2016 2:15**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.41	F	10.417	1.741	13.28	7.085	BMB
2	4.90	Cl	9.643	1.383	10.55	8.066	BMB
3	5.69	NO2	9.062	1.654	12.61	4.892	BMB
4	7.08	Br	2.658	0.550	4.20	7.897	BMB
5	7.78	NO3	10.012	2.357	17.97	5.497	BMB
6	13.34	SO4	14.601	5.429	41.40	40.231	BMB
Total:			56.395	13.114	100.00	73.669	

25 WG590309-05 ANION CCV

1,1 CAS STD77046

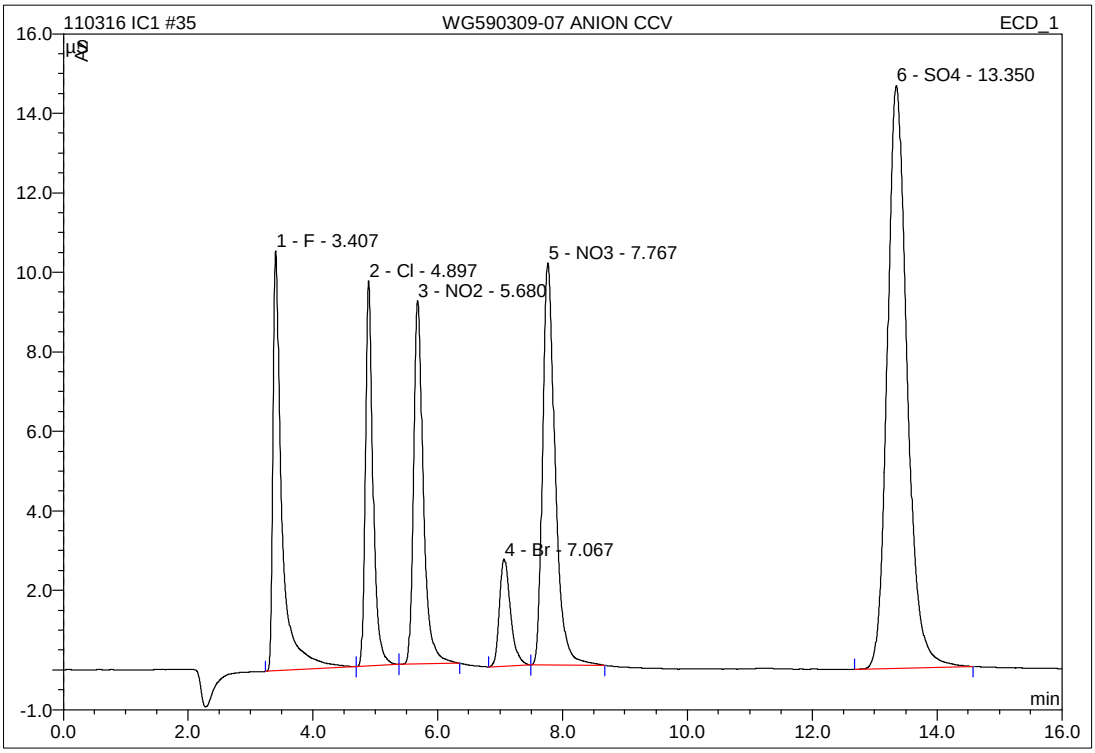
Sample Name:	**WG590309-05 ANION CCV**	*Injection Volume:*	**25.0**
Vial Number:	**27**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**101116_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/4/2016 2:15**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

WG590309-05 ANIOI	Actual mg/L	Recoved mg/L	%Difference	PASS/FAIL
F	8.00	7.0850	-11.44	FAIL
Cl	8.00	8.0665	0.83	PASS
NO2-N	4.8714	4.8917	0.42	PASS
Br	8.00	7.8972	-1.28	PASS
NO3-N	5.4216	5.4972	1.40	PASS
PO4-P	13.0456	n.a.	#VALUE!	#VALUE!
SO4	40	40.2313	0.58	PASS

35 WG590309-07 ANION CCV

1,1 CAS STD77046

Sample Name:	**WG590309-07 ANION CCV**	*Injection Volume:*	**25.0**
Vial Number:	**39**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**101116_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/4/2016 5:17**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.41	F	10.564	1.763	13.41	7.171	BMB
2	4.90	Cl	9.689	1.385	10.53	8.074	BMb
3	5.68	NO2	9.134	1.658	12.61	4.903	bMB
4	7.07	Br	2.692	0.555	4.22	7.956	BMb
5	7.77	NO3	10.111	2.363	17.98	5.510	bMB
6	13.35	SO4	14.658	5.422	41.25	40.183	BMB
Total:			56.848	13.145	100.00	73.798	

35 WG590309-07 ANION CCV

1,1 CAS STD77046

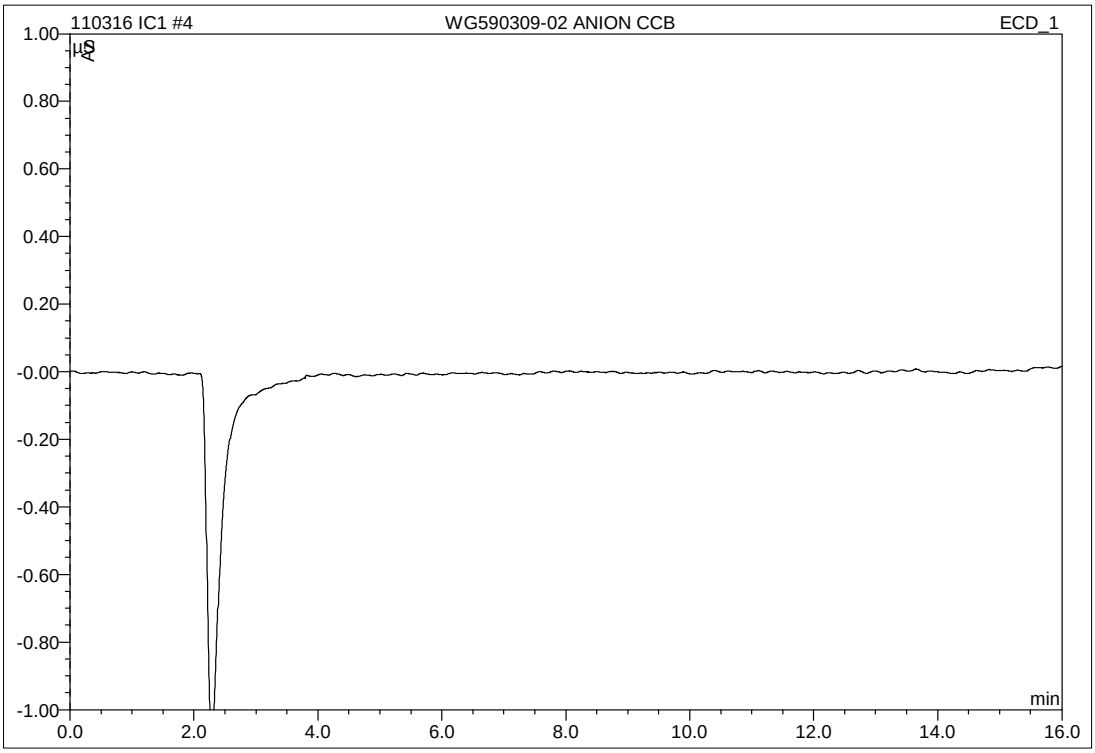
Sample Name:	**WG590309-07 ANION CCV**	*Injection Volume:*	**25.0**
Vial Number:	**39**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**101116_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/4/2016 5:17**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

WG590309-07 ANIOI	Actual mg/L	Recoved mg/L	%Difference	PASS/FAIL
F	8.00	7.1711	-10.36	FAIL
Cl	8.00	8.0742	0.93	PASS
NO2-N	4.8714	4.9031	0.65	PASS
Br	8.00	7.9564	-0.54	PASS
NO3-N	5.4216	5.5098	1.63	PASS
PO4-P	13.0456	n.a.	#VALUE!	#VALUE!
SO4	40	40.1833	0.46	PASS

4 WG590309-02 ANION CCB

1,1 CAS

Sample Name:	**WG590309-02 ANION CCB**	*Injection Volume:*	**25.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**101116_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/3/2016 19:53**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

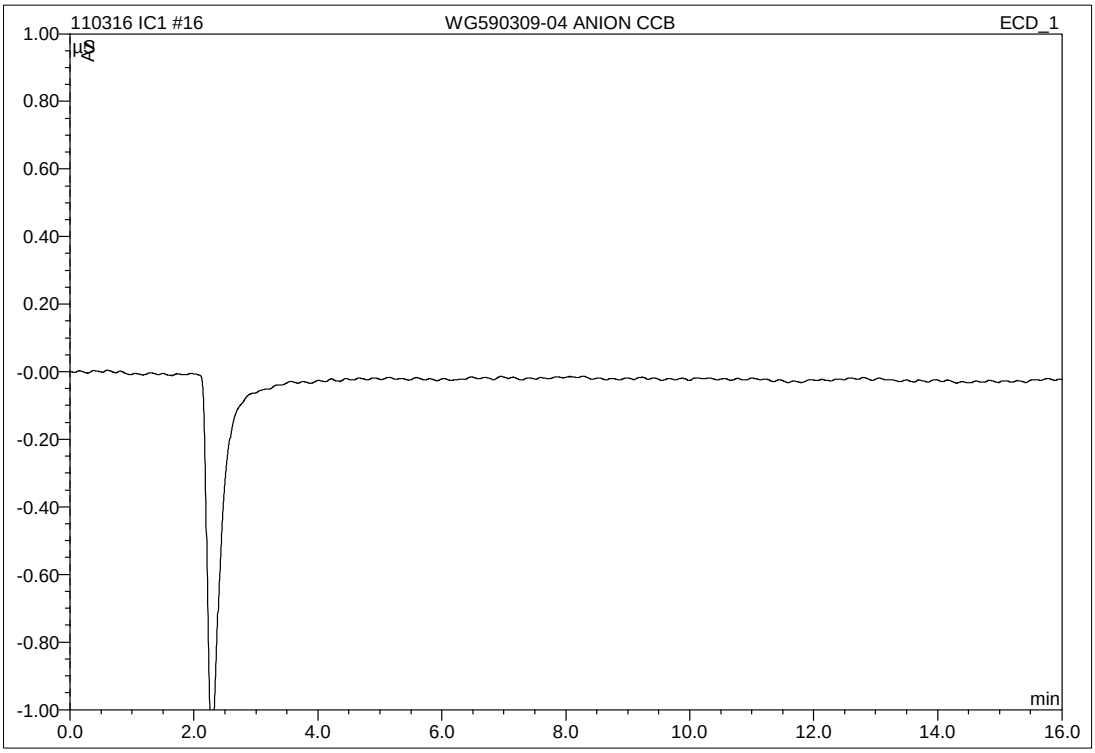


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
Total:			0.000	0.000	0.00	0.000	

16 WG590309-04 ANION CCB

1,1 CAS

Sample Name:	**WG590309-04 ANION CCB**	*Injection Volume:*	**25.0**
Vial Number:	**16**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**101116_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/3/2016 23:31**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

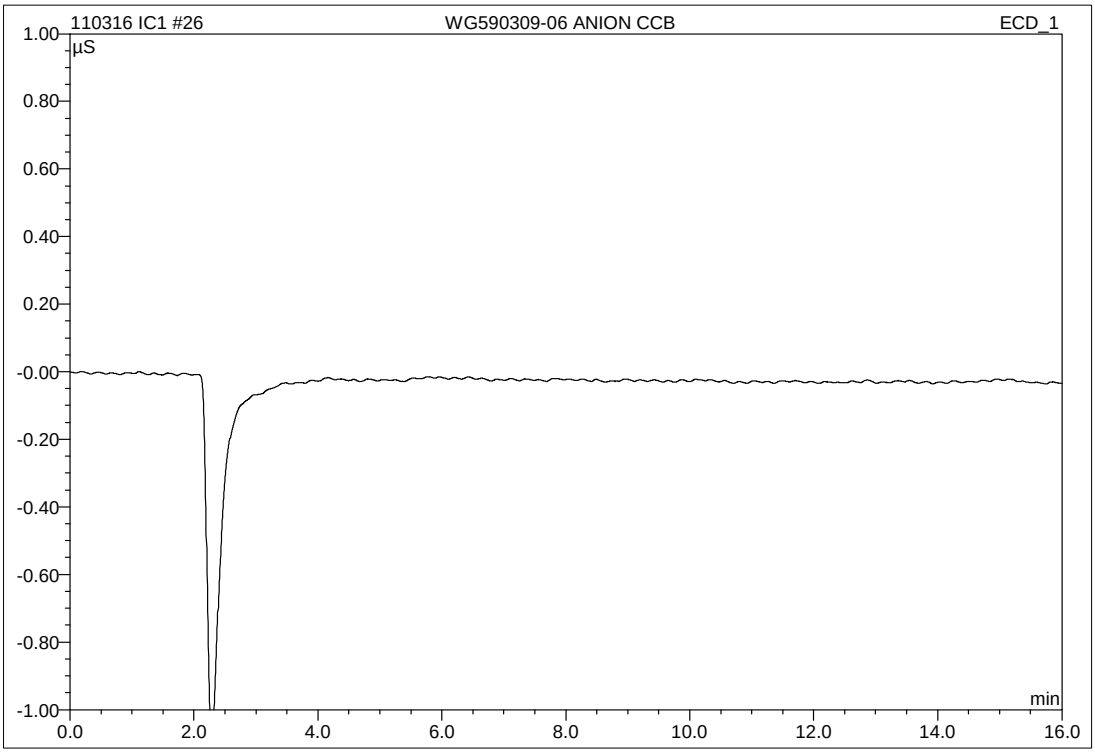


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
Total:			0.000	0.000	0.00	0.000	

26 WG590309-06 ANION CCB

1,1 CAS

Sample Name:	**WG590309-06 ANION CCB**	*Injection Volume:*	**25.0**
Vial Number:	**28**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**101116_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/4/2016 2:33**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

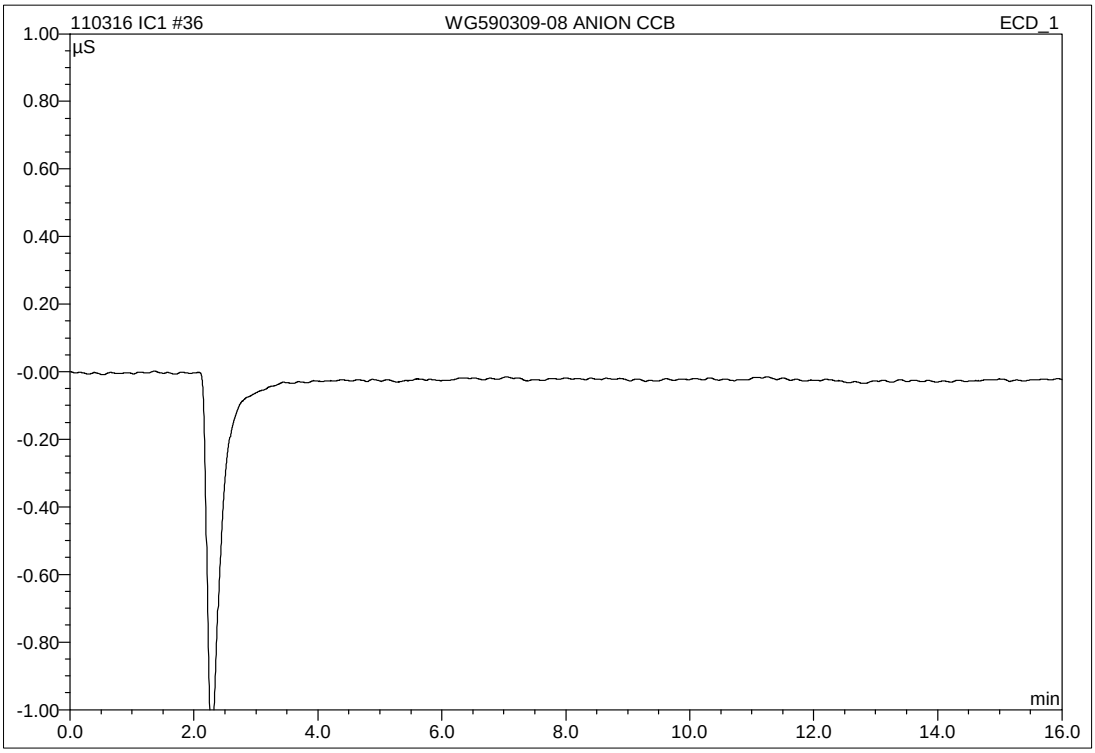


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
Total:			0.000	0.000	0.00	0.000	

36 WG590309-08 ANION CCB

1,1 CAS

Sample Name:	**WG590309-08 ANION CCB**	*Injection Volume:*	**25.0**
Vial Number:	**40**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**101116_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/4/2016 5:35**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*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	

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

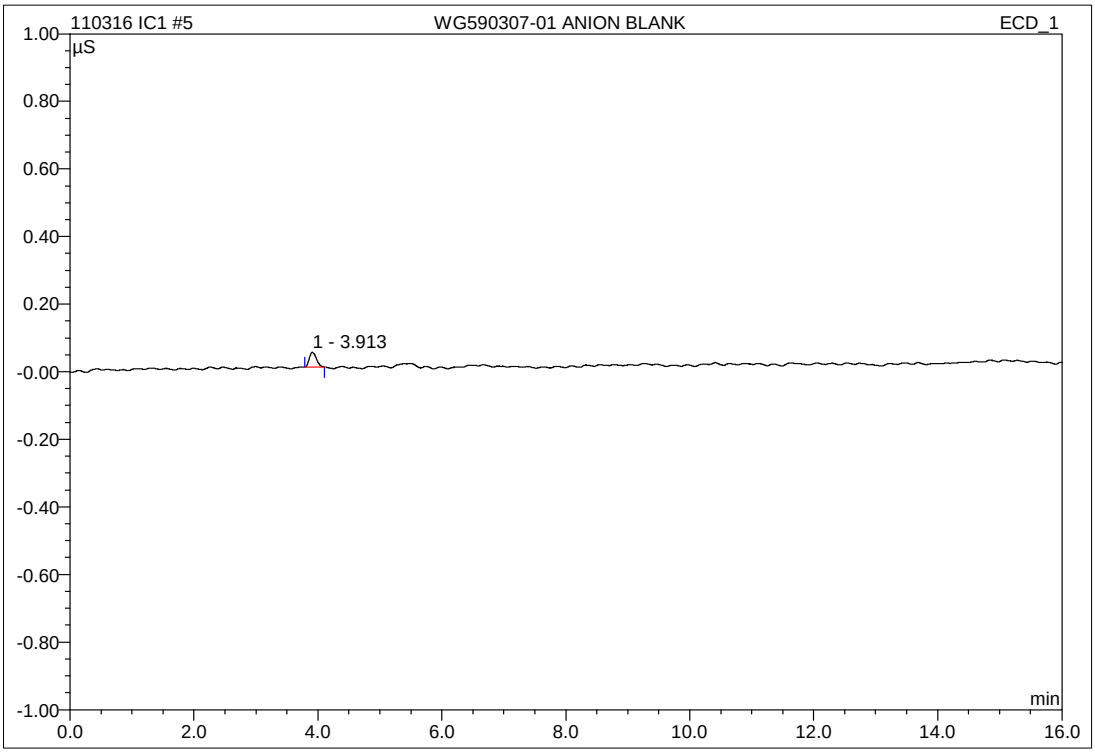
COMPOUND	STD #1 RT	STD #2 RT	STD #3 RT	RT WIN
F	3.41	3.41	3.41	0.000
Cl	5.11	5.09	5.07	0.050
NO2-N	6.14	6.11	6.07	0.101
Br	7.90	7.84	7.75	0.220
NO3-N	8.94	8.86	8.76	0.271
SO4	13.35	13.39	13.42	0.101

2.4.1.5 Raw QC Data

5 WG590307-01 ANION BLANK

1,1 CAS

Sample Name:	**WG590307-01 ANION BLANK**	*Injection Volume:*	**25.0**
Vial Number:	**5**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**101116_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/3/2016 20:11**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**

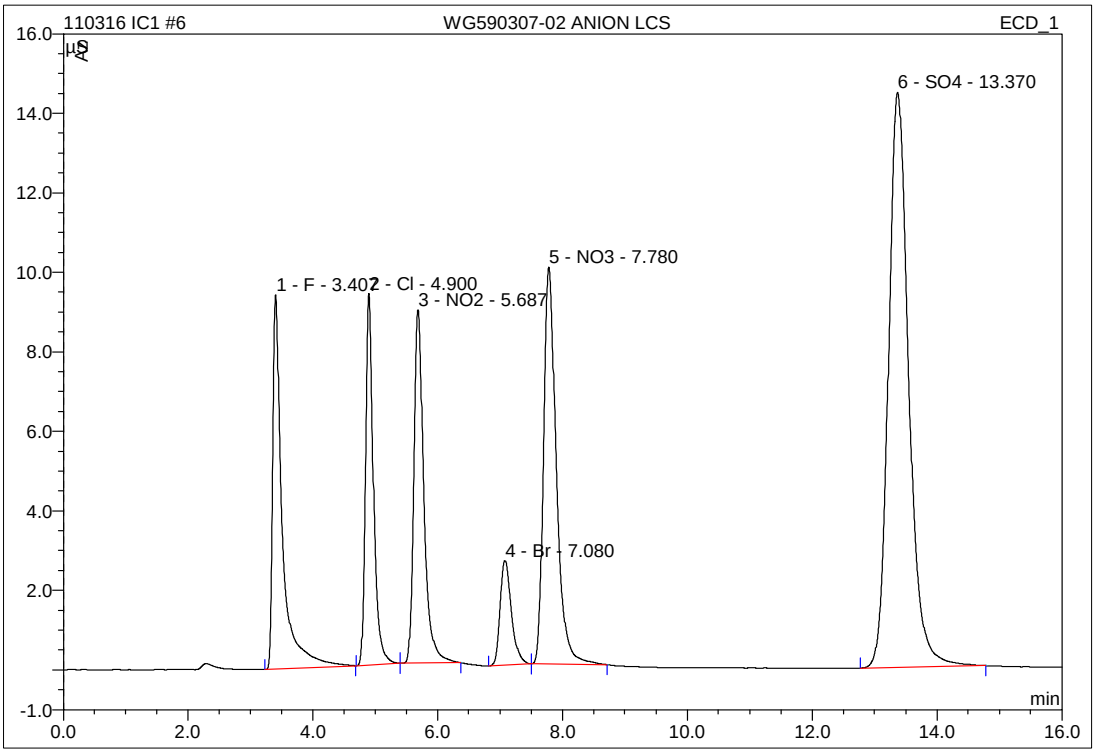


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.91	n.a.	0.044	0.006	100.00	n.a.	BMB
Total:			0.044	0.006	100.00	0.000	

6 WG590307-02 ANION LCS

1,1 CAS STD77045

Sample Name:	**WG590307-02 ANION LCS**	*Injection Volume:*	**25.0**
Vial Number:	**6**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**9056**	*Bandwidth:*	**n.a.**
Quantif. Method:	**101116_9056**	*Dilution Factor:*	**1.0000**
Recording Time:	**11/3/2016 20:29**	*Sample Weight:*	**1.0000**
Run Time (min):	**16.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.41	F	9.417	1.689	12.91	6.879	BMB
2	4.90	Cl	9.338	1.382	10.57	8.061	BMb
3	5.69	NO2	8.890	1.647	12.60	4.875	bMB
4	7.08	Br	2.631	0.552	4.22	7.919	BMB
5	7.78	NO3	9.980	2.371	18.13	5.527	BMB
6	13.37	SO4	14.465	5.439	41.58	40.301	BMB
Total:			54.721	13.080	100.00	73.563	

2.4.2 Alkalinity Data

2.4.2.1 Summary Data

Microbac

Lab Report #: L16110144
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110144-01	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	50WW08-110216	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	11/07/2016 08:33
Workgroup #:	WG590536	**Analyst:**	DCM	**Run Date:**	11/07/2016 08:42
Collect Date:	11/02/2016 08:15	**Dilution:**	2	**File ID:**	SC161107001.023
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Alkalinity, Total (as CaCO3)	11-43-8	419		80.0	40.0	20.0

Certificate of Analysis

Sample #:	L16110144-03	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	50WW22-110216	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	11/07/2016 08:33
Workgroup #:	WG590536	**Analyst:**	DCM	**Run Date:**	11/07/2016 08:43
Collect Date:	11/02/2016 09:25	**Dilution:**	2	**File ID:**	SC161107001.024
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Alkalinity, Total (as CaCO3)	11-43-8	407		80.0	40.0	20.0

Certificate of Analysis

Sample #:	L16110144-05	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	50WW16-110216	**Prep Method:**	310.2	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	310.2	**Cal Date:**	11/07/2016 08:33
Workgroup #:	WG590536	**Analyst:**	DCM	**Run Date:**	11/07/2016 08:43
Collect Date:	11/02/2016 10:40	**Dilution:**	2	**File ID:**	SC161107001.025
Sample Tag:	DL01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Alkalinity, Total (as CaCO3)	11-43-8	108		80.0	40.0	20.0

2.4.2.2 QC Summary Data

Example Calculations for Visible Spectrophotometric Methods

Linear Calibration Model

Step 1 - Retrieve Curve Data from ICAL

m = slope of the linear equation
b = intercept from the linear equation
y = instrument response as absorbance or OD
x = concentration of analyte (mg/L)
y = mx + b

Step 2: Calculate the instrument concentration, x

Where:

x = (y - b)/m

Step 3: Solve for analyte concentration in sample, Cx

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: 07-NOV-2016
Analyst: DCM
Analyst: NA
Method: ALK
Instrument: SC
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG590568 WG590536

Calibration/Linearity	11-07-2016
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:
07-NOV-2016

Secondary Reviewer:
08-NOV-2016

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-08-2016 11:32:59

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 310.2 **AAB#:** WG590536

Login Number: L16110144

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
50WW08-110216	01	11/02/16					11/07/2016	5	14		11/07/16	5	14	
50WW22-110216	03	11/02/16					11/07/2016	5	14		11/07/16	5	14	
50WW16-110216	05	11/02/16					11/07/2016	4.9	14		11/07/16	4.9	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 5012321
Report generated 11/07/2016 16:58

METHOD BLANK SUMMARY

Login Number:	L16110144	**Work Group:**	WG590536
Blank File ID:	SC161107001.012	**Blank Sample ID:**	WG590536-01
Prep Date:	11/07/16 08:36	**Instrument ID:**	SMARTCHEM
Analyzed Date:	11/07/16 08:36	**Method:**	310.2
Analyst:	DCM		

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG590536-02	SC161107001.013	11/07/16 08:36	01
LCS2	WG590536-03	SC161107001.014	11/07/16 08:37	01
50WW08-110216	L16110144-01	SC161107001.023	11/07/16 08:42	DL01
50WW22-110216	L16110144-03	SC161107001.024	11/07/16 08:43	DL01
50WW16-110216	L16110144-05	SC161107001.025	11/07/16 08:43	DL01
DUP	WG590536-08	SC161107001.038	11/07/16 08:51	DL01

Report Name: BLANK_SUMMARY
PDF File ID: 5012322
Report generated 11/07/2016 16:58

Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L16110144 Prep Date: 11/07/16 08:36 Sample ID: WG590536-01
Instrument ID: SMARTCHEM Run Date: 11/07/16 08:36 Prep Method: 310.2
File ID: SC161107001.012 Analyst: DCM Method: 310.2
Workgroup (AAB#): WG590536 Matrix: Water Units: mg/L
Contract #: Cal ID: SMARTC-07-NOV-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Alkalinity, Total (as CaCO3)	10.0	40.0	10.0	1	U

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 5012323
07-NOV-2016 16:58

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16110144 Analyst: DCM Prep Method: 310.2
Instrument ID: SMARTCHEM Matrix: Water Method: 310.2
Workgroup (AAB#): WG590536 Units: mg/L
QC Key: DOD4 Lot #: STD78728

Sample ID: WG590536-02 LCS File ID: SC161107001.013 Run Date: 11/07/2016 08:36
Sample ID: WG590536-03 LCS2 File ID: SC161107001.014 Run Date: 11/07/2016 08:37

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Alkalinity, Total (as CaCO3)	200	197	98.3	200	205	103	4.42	85 - 115	20	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 5012324
Report generated: 11/07/2016 16:58

2.4.2.3 Raw Data

WORKGROUP: WG590536
590508

SMARTCHEM RUN LOG

(smartchem2, smartchem3)

Daily Check

- [x] Lamp On
- [x] Probe Rinse Full
- [x] DI Water > ½ Full
- [x] Wash Solution > ½ Full
- [ ] NO3 Reagent bottle connected / purged
- [ ] NO3 pH adj to pH 5-9

Syringe filter lot # _____

pH paper Lot #: _____

- [x] WBL Run
- [x] Reagents Full
- [x] Dilution H_2O Full
- [x] Waste Container Check

1) **Workgroup** _____
Plan # 20161107001

2) **Workgroup** _____
Plan # 20161107002

3) **Workgroup** _____
Plan # _____

Instrument: SC1 [x] SC2 [ ]

	Analyte	1	2	3	
		Alk			
		Dilution			
SC Prepared Curve					
Position					
1-1	ICV				
1-2	Blk				
1-3	LCS				
1-4	LCSDup				
1-5	11-254-02	1/4		color	
1-6	c3	1/4		color	
1-7	c5	1/4		color	
1-8	c6	1/4		color	
1-9	c8	1/4		color	
1-10	c9	1/4		color	
1-11	11-144-c1	1/2			
1-12	c3	1/2			
1-13	c5	~~1/2~~	dcm 11/7/16		
* 1-14	11-145-c1			Bt	
1-15	11-151-c2	1/2			
1-16	c3	1/2			
1-17	c4	1/2			
1-18	c5	1/2			
1-19	c6	1/2			
1-20	MS c8	1/2			
1-21	MSD c9	1/2			
1-22	c7	1/2			
2-1	10	1/2			
2-2	Dup 11-151-10	1/2			
2-3	Blk				

Position	Analyte	1	2	3	
2-4 1	ICV				
2-5 2	Blk				
2-6 3	LCS				
2-7 4	LCSDup				
2-8 5	11-261-c2	1/2			
2-9 6	c3				
2-10 7	c4				
2-11 8	c5				
2-12 9	11-305-c1			Bt	*
2-13 10	11-306-c1			Bt	*
2-14 11	11-307-c1			Bt	*
2-15 12	Dup 11-307-c1				
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

* pH < 8.3

DCN#122042

WORKGROUP: WG590536

SMARTCHEM RUN LOG

(smartchem2, smartchem3)

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-CI E-2000
	Nitrate-Nitrite	EPA 353.2/SM 4500-NO3 F-2000
✓	Alkalinity	EPA 310.2
	Sulfate	EPA 375.4/SM 426C (15th)/ 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		Rfct 38368
Curve Stock (SC made)	Std 76180		
NO2 STD			
ICV	Std 78727		
CCV	Std 78726		
LCS	Std 78728		
MS	Std 78273 Dilution 0.4 (12500) 10 = 100		

Comments: _____

Analyst: David Merchle

Date: 11/7/16

DCN#122042

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	0.6273	0.00		8:27:57 AM
DIL-1	RBL	0.0	0.6335	0.00		8:28:14 AM
DIL-1	RBL	0.0	0.6242	0.00		8:29:09 AM
DIL-1	Std-1	0.0	0.0019	0.00	INV	8:29:26 AM
SR5-1	Std-2	10.0	-0.0088	0.00		8:30:21 AM
SR5-2	Std-3	20.0	-0.0263	0.00		8:30:39 AM
SR5-3	Std-4	50.0	-0.0619	0.00		8:31:33 AM
SR5-4	Std-5	100.0	-0.1364	0.00		8:31:51 AM
SR5-5	Std-6	200.0	-0.3079	0.00	EPL	8:32:46 AM
SR5-6	Std-7	250.0	-0.3743	0.00		8:33:03 AM
SR5-7	Std-8	300.0	-0.4389	0.00		8:33:58 AM
ST-3	1CCV (150 mg/L)	147.4	-0.2176	98.27		8:34:15 AM
ST-2	2CCB (0 mg/L)	0.0	0.0076	0.00	INV,><,LL	8:35:09 AM
1	ICV	249.5	-0.3706	0.00		8:35:27 AM
2	WG590536-01 BLK	0.8	0.0063	0.00	INV,><	8:36:21 AM
3	WG590536-02 LCS	196.5	-0.2915	0.00		8:36:39 AM
4	WG590536-03 LCSDUP	205.4	-0.3048	0.00		8:37:33 AM
5	L16110254-02 (4)	156.4	-0.2312	0.00		8:37:51 AM
6	L16110254-03 (4)	70.5	-0.1008	0.00		8:38:45 AM
7	L16110254-05 (4)	152.5	-0.2253	0.00	TMP	8:39:03 AM
8	L16110254-06 (4)	103.6	-0.1512	0.00	TMP	8:39:57 AM
9	L16110254-08 (4)	143.9	-0.2123	0.00	TMP	8:40:15 AM
10	L16110254-09 (4)	84.3	-0.1218	0.00	TMP	8:41:09 AM
ST-3	1CCV (150 mg/L)	155.9	-0.2305	103.97	TMP	8:41:27 AM
ST-2	2CCB (0 mg/L)	3.4	0.0023	0.00	TMP,INV,><	8:42:21 AM
11	L16110144-01 (2)	209.5	-0.3110	0.00	TMP	8:42:39 AM
12	L16110144-03 (2)	203.3	-0.3016	0.00	TMP,EPL	8:43:33 AM
13	L16110144-05	54.1	-0.0757	0.00	TMP	8:43:51 AM
14	L16110145-01 ~~(2)~~	133.8	-0.1970	0.00	TMP	8:44:45 AM
15	L16110151-02 (2)	176.7	-0.2617	0.00	TMP	8:45:03 AM
16	L16110151-03 (2)	222.1	-0.3298	0.00		8:45:57 AM
17	L16110151-04 (2)	204.3	-0.3031	0.00		8:46:15 AM

dm 11/7/16

Report Date :11/07/2016 **Run Date :11/7/2016** **Operator : SMARTCHEM1** **Plan # :20161107001**

Plan Description : ALK-A1-DCM/11/07/2016

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	L16110151-05 (2)	215.5	-0.3199	0.00		8:47:09 AM
19	L16110151-06 (2)	250.2	-0.3716	0.00		8:47:27 AM
20	L16110151-08 (2) MS	278.0	-0.4129	0.00		8:48:21 AM
ST-3	1CCV (150 mg/L)	154.2	-0.2278	102.77		8:48:39 AM
ST-2	2CCB (0 mg/L)	6.3	-0.0023	0.00		8:49:33 AM
21	L16110151-09 (2) MSD	282.1	-0.4190	0.00	EPL	8:49:51 AM
22	L16110151-07 (2)	253.7	-0.3768	0.00		8:50:45 AM
23	L16110151-10 (2)	255.1	-0.3790	0.00		8:51:03 AM
24	WG590536-08 (2) DUP	253.1	-0.3760	0.00		8:51:57 AM
25	ID 25	9.2	-0.0067	0.00		8:52:15 AM
ST-3	1CCV (150 mg/L)	163.7	-0.2422	109.14		8:53:09 AM
ST-2	2CCB (0 mg/L)	20.0	-0.0234	0.00	EPL	8:53:27 AM

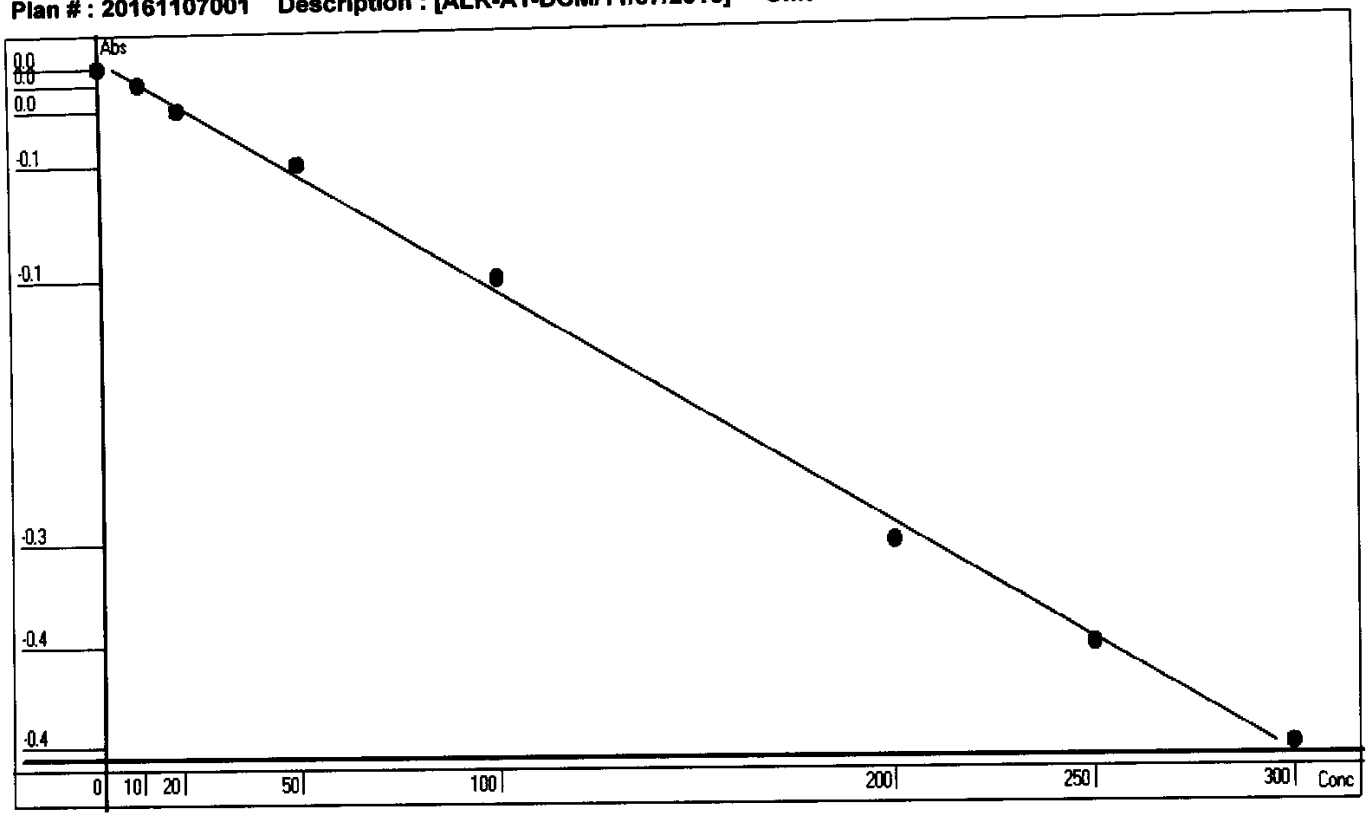
Report Date :11/07/2016 **Run Date :11/7/2016** **Operator : SMARTCHEM1** **Plan # :20161107001**

Plan Description : ALK-A1-DCM/11/07/2016

Calibrant Report - WALK -

Calib Lot #:010104 Exp Date:6/21/2020 User:MICROBAC

Plan # : 20161107001 Description : [ALK-A1-DCM/11/07/2016] Unit



Point	OD	Conc	Recalc Conc	% Error
1	0.0019	0	3.6418	364.18
2	-0.0088	10	10.5780	5.78
3	-0.0262	20	21.8736	9.37
4	-0.0619	50	45.1110	-9.78
5	-0.1364	100	93.8726	-6.13
6	-0.3079	200	207.5046	3.75
7	-0.3742	250	251.9499	0.78
8	-0.4388	300	295.5326	-1.49

Conc= +32.758*Abso^2 -648.0225*Abso +4.8729 R^2=0.9984

RBL
0.6258
0

Report Date 11/7/2016 Run Date 11/7/2016

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	0.5441	0.00		9:34:31 AM
DIL-1	RBL	0.0	0.5438	0.00		9:34:49 AM
DIL-1	RBL	0.0	0.5407	0.00		9:35:43 AM
DIL-1	Std-1	0.0	-0.0111	0.00		9:36:01 AM
SR5-1	Std-2	10.0	-0.0161	0.00		9:36:55 AM
SR5-2	Std-3	20.0	-0.0333	0.00		9:37:13 AM
SR5-3	Std-4	50.0	-0.0654	0.00		9:38:07 AM
SR5-4	Std-5	100.0	-0.1291	0.00		9:38:25 AM
SR5-5	Std-6	200.0	-0.2787	0.00	EPL	9:39:21 AM
SR5-6	Std-7	250.0	-0.3353	0.00		9:39:37 AM
SR5-7	Std-8	300.0	-0.3833	0.00		9:40:31 AM
ST-3	1CCV (150 mg/L)	145.7	-0.1988	97.12		9:40:49 AM
ST-2	2CCB (0 mg/L)	-9.8	0.0105	0.00	INV,><,LL	9:41:43 AM
1	ICV	252.8	-0.3338	0.00		9:42:01 AM
2	WG590568-01 BLK	-12.0	0.0137	0.00	INV,><,LL	9:42:55 AM
3	WG590568-02 LCS	193.9	-0.2604	0.00		9:43:13 AM
4	WG590568-03 LCSDUP	200.9	-0.2692	0.00		9:44:07 AM
5	L16110201-02 (2)	189.6	-0.2549	0.00		9:44:25 AM
6	L16110201-03	203.6	-0.2726	0.00		9:45:19 AM
7	L16110201-04	263.3	-0.3467	0.00		9:45:37 AM
8	L16110201-05	14.1	-0.0228	0.00		9:46:31 AM
9	L16110305-01	239.4	-0.3172	0.00		9:46:49 AM
10	L16110306-01	232.4	-0.3086	0.00		9:47:43 AM
ST-3	1CCV (150 mg/L)	147.5	-0.2011	98.31		9:48:01 AM
ST-2	2CCB (0 mg/L)	-1.6	-0.0010	0.00	LL	9:48:55 AM
11	L16110307-01	214.7	-0.2865	0.00		9:49:13 AM
12	WG590568-05 DUP	209.3	-0.2798	0.00		9:50:07 AM
ST-3	1CCV (150 mg/L)	152.9	-0.2081	101.93		9:50:25 AM
ST-2	2CCB (0 mg/L)	0.0	-0.0033	0.00		9:51:19 AM

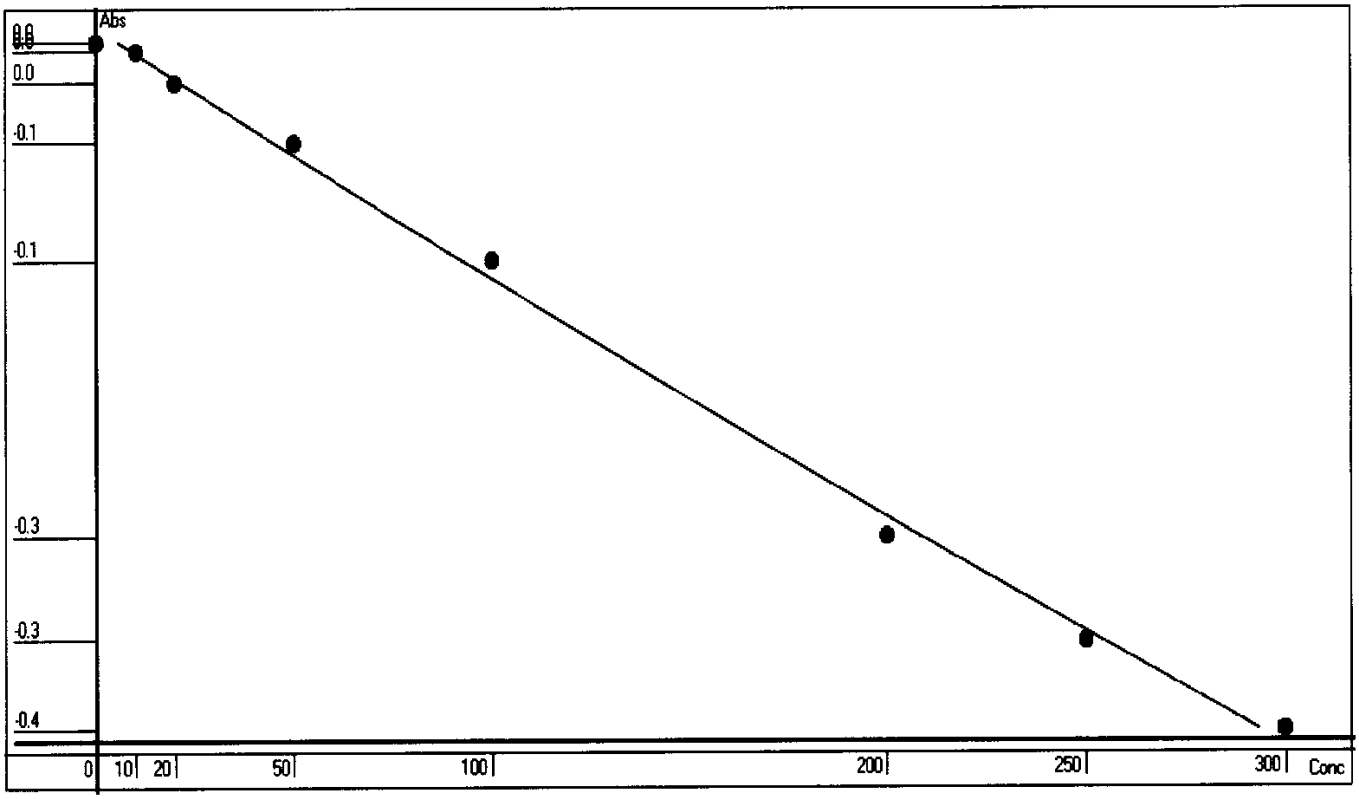
Report Date :11/07/2016 **Run Date :11/7/2016** **Operator : SMARTCHEM1** **Plan # :20161107002**

Plan Description : ALK-B1-DCM/11/07/2016

Calibrant Report - WALK -

Calib Lot #:010104 Exp Date:6/21/2020 User:MICROBAC

Plan # : 20161107002 Description : [ALK-B1-DCM/11/07/2016] Unit



Point	OD	Conc	Recalc Conc	% Error
1	-0.0111	0	5.6728	567.28
2	-0.0161	10	9.2694	-7.31
3	-0.0333	20	21.6979	8.49
4	-0.0654	50	45.1251	-9.75
5	-0.1291	100	92.5108	-7.49
6	-0.2786	200	208.4025	4.20
7	-0.3352	250	253.9915	1.60
8	-0.3832	300	293.3908	-2.20

Conc= +146.8416*Abso^2 -715.3279*Abso -2.2854 R^2**=0.9975**

RBL
0.544
0

Report Date 11/7/2016 Run Date 11/7/2016

2.4.3 Phosphorus Data

2.4.3.1 Summary Data

Microbac

Lab Report #: L16110144
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110144-01	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	50WW08-110216	**Prep Method:**	365.4	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	365.4	**Cal Date:**	11/10/2016 10:17
Workgroup #:	WG591071	**Analyst:**	DCM	**Run Date:**	11/10/2016 10:21
Collect Date:	11/02/2016 08:15	**Dilution:**	1	**File ID:**	SC161110002.013
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Phosphorus, Total	7723-14-0	0.135	J	0.400	0.200	0.100

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

Microbac

Lab Report #: L16110144
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110144-03	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	50WW22-110216	**Prep Method:**	365.4	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	365.4	**Cal Date:**	11/10/2016 10:17
Workgroup #:	WG591071	**Analyst:**	DCM	**Run Date:**	11/10/2016 10:22
Collect Date:	11/02/2016 09:25	**Dilution:**	1	**File ID:**	SC161110002.014
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.

Microbac

Lab Report #: L16110144
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110144-05	**PrePrep Method:**	N/A	**Instrument:**	SMARTCHEM
Client ID:	50WW16-110216	**Prep Method:**	365.4	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	365.4	**Cal Date:**	11/10/2016 10:17
Workgroup #:	WG591071	**Analyst:**	DCM	**Run Date:**	11/10/2016 10:22
Collect Date:	11/02/2016 10:40	**Dilution:**	1	**File ID:**	SC161110002.015
Sample Tag:	01	**Units:**	mg/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Phosphorus, Total	7723-14-0	0.909		0.400	0.200	0.100

2.4.3.2 QC Summary Data

Example Calculations for Visible Spectrophotometric Methods

Linear Calibration Model

Step 1 - Retrieve Curve Data from ICAL

m = slope of the linear equation
b = intercept from the linear equation
y = instrument response as absorbance or OD
x = concentration of analyte (mg/L)
y = mx + b

Step 2: Calculate the instrument concentration, x

Where:

x = (y - b)/m

Step 3: Solve for analyte concentration in sample, Cx

Cx = (x) (D)

Example Calculation (LCS):

Value of m from plot:	7.809	
Value of b from plot:	0.0004135	
Absorbance of unknown from quantitation report (y):	0.31	
Calculated concentration (x):	0.03964483	
Dilution factor (D):	1.00	
Concentration of analyte in sample, Cy:	0.0396	mg/L

SmartChem Autoanalyzer - Quadratic Calibration for Chloride and Sulfate

Step 1 - Retrieve Curve Data from Smartchem ICAL

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

x = instrument response as absorbance or OD

y = concentration of analyte (mg/L)

Step 2: Calculate the instrument concentration, y

Where:

y = Ax^2 + Bx + C

Step 3: Solve for analyte concentration in sample, Cy

Cy = (y) (D)

Example Calculation (LCS):

Value of A from plot:	101.2796	
Value of B from plot:	318.9056	
Value of C from plot:	-2.2712	
Absorbance of unknown from quantitation report (x):	0.1583	
Calculated concentration (y):	50.7495108	
Dilution factor (D):	1.00	
Concentration of analyte in sample, Cy:	50.75	mg/L

Microbac Laboratories Inc.

Data Checklist

Date: 10-NOV-2016
Analyst: DCM
Analyst: NA
Method: PHOS
Instrument: SC
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG591071

Calibration/Linearity	11-10-2016
Second Source Check	X
ICV/CCV (std)	X
ICB/CCB	X
Blank	X
LCS/LCS Dup	X
MS/MSD	X
Duplicate	X
Upload Results	X
Client Forms	X
QC Violation Sheet	X
Case Narratives	X
Signed Raw Data	X
STD/LCS on benchsheet	X
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	DCM
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
10-NOV-2016

Secondary Reviewer:
11-NOV-2016

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-11-2016 10:02:13

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 365.4 **AAB#:** WG591071

Login Number: L16110144

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
50WW08-110216	01	11/02/16					11/10/2016	8.1	28		11/10/16	8.1	28	
50WW22-110216	03	11/02/16					11/10/2016	8	28		11/10/16	8	28	
50WW16-110216	05	11/02/16					11/10/2016	8	28		11/10/16	8	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 5019030
Report generated 11/11/2016 08:07

METHOD BLANK SUMMARY

Login Number:	L16110144	**Work Group:**	WG591071
Blank File ID:	SC161110002.010	**Blank Sample ID:**	WG591071-01
Prep Date:	11/10/16 10:19	**Instrument ID:**	SMARTCHEM
Analyzed Date:	11/10/16 10:19	**Method:**	365.4
Analyst:	DCM		

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG591071-02	SC161110002.011	11/10/16 10:19	01
50WW08-110216	L16110144-01	SC161110002.013	11/10/16 10:21	01
50WW22-110216	L16110144-03	SC161110002.014	11/10/16 10:22	01
50WW16-110216	L16110144-05	SC161110002.015	11/10/16 10:22	01
DUP	WG591071-04	SC161110002.021	11/10/16 10:26	01

Report Name: BLANK_SUMMARY
PDF File ID: 5019031
Report generated 11/11/2016 08:07

Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L16110144 Prep Date: 11/10/16 10:19 Sample ID: WG591071-01
Instrument ID: SMARTCHEM Run Date: 11/10/16 10:19 Prep Method: 365.4
File ID: SC161110002.010 Analyst: DCM Method: 365.4
Workgroup (AAB#): WG591071 Matrix: Water Units: mg/L
Contract #: Cal ID: SMARTC-10-NOV-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: 5019032
11-NOV-2016 08:07

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16110144 Run Date: 11/10/2016 Sample ID: WG591071-02
Instrument ID: SMARTCHEM Run Time: 10:19 Prep Method: 365.4
File ID: SC161110002.011 Analyst: DCM Method: 365.4
Workgroup (AAB#): WG591071 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD78555 Cal ID: SMARTC-10-NOV-16

Analytes	Expected	Found	% Rec	LCS Limits	Q
Phosphorus, Total	1.00	0.909	90.9	70 - 130	

LCS - Modified 03/06/2008
PDF File ID: 5019033
Report generated: 11/11/2016 08:07

2.4.3.3 Raw Data

WORKGROUP: WG591071

SMARTCHEM RUN LOG

(smartchem2, smartchem3)

Daily Check

- [x] Lamp On
- [x] Probe Rinse Full
- [x] DI Water > ½ Full
- [x] Wash Solution > ½ Full
- [ ] NO3 Reagent bottle connected / purged
- [ ] NO3 pH adj to pH 5-9

Syringe filter lot # _____

pH paper Lot #: _____

- [x] WBL Run
- [x] Reagents Full
- [x] Dilution H_2O Full
- [x] Waste Container Check

1) **Workgroup** _____
Plan # 20161110ar2

2) **Workgroup** _____
Plan # _____

3) **Workgroup** _____
Plan # _____

Instrument: SC1 [x] SC2 [ ]

	Analyte	1	2	3
		PHCS		
		Dilution		
SC Prepared Curve				
Position				
1-1	ICV			
1-2	Blk			
1-3	LCS			
1-4	11-230-c1	1/25		
1-5	11-144-c1			
1-6	c3			
1-7	c5			
1-8	11-305-c1			
1-9	11-152-c2	1/2		
1-10	11-201-02 REF			
1-11	DUP 11-201-02			
1-12	MS 11-201-02			
1-13	11-152-02			
1-14				
1-15				
1-16				
1-17				
1-18				
1-19				
1-20				
1-21				
1-22				
2-1				
2-2				
2-3				

	Analyte	1	2	3
Position				
2-4				
2-5				
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#122121

WORKGROUP: WG591071

SMARTCHEM RUN LOG

(smartchem2, smartchem3)

	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 (15th)/ SM4500-504 E-1997

	Ammonia	EPA 350.1/SM 4500-NH3 B-1997
	TKN	EPA 351.2
✓	Phos	EPA 365.4

Analyte	PHCS		Reagents
SOP & Revision	K3654 R19		RGT 38224
Curve Stock (SC made)			RGT 37402
NO2 STD			RGT 38384
ICV	Direct		
CCV	See Log		
LCS			
MS	Dilution		

Comments: _____

Analyst: David Merlich Date: 11/10/16

DCN#122121

TKN/Phosphorus Digestion Log

TKN WG: _____ Phos WG: _____

TKN Std: Std 78767 Phos Std: Std 78767

TKN CCV: 1/2 (Std 78767) Phos CCV: 1/2 (Std 78767)

TKN ICV: Std 78620 Phos ICV: Std 78700

TKN LCS: Std 78619 Phos LCS: Std 78555

MS/MSD: Std 76885

Daily Dilution: 1(25)/25=1

Block Digester Temperature: 380 °C Digest Reagent: RGT 38582

	Sample	Volume	TKN Dilution	Phos Dilution		Sample	Volume	TKN Dilution	Phos Dilution
1	Std				26	11-392-05	1/50	✓	
2	Std				27	11-230-01			✓
3	ICVT				28	11-144-01			✓
4	ICVP				29	03			✓
5	LCST				30	05			✓
6	LCSP				31	11-407-03		✓	
7	11-298-01		✓		32	11-305-01			✓
8	11-300-01		✓		33	11-152-02			✓
9	11-151-02		✓		34	DUP 11-201-02		✓	✓
10	03		✓		35	MS 11-201-02		–	✓
11	04		✓		36	MS 11-201-03		✓	✓
12	05		✓		37	Blk		✓	✓
13	REF 06		✓		38	Blk			
14	07		✓		39	Blk			
15	MS 08		✓		40	Blk			
16	MSD 09		✓		41				
17	10		✓		42				
18	11-201-02		✓		43				
19	03		✓		44				
20	04		✓		45				
21	05		✓		46				
22	11-387-01		✓		47				
23	02		✓		48				
24	11-388-01		✓		49				
25	11-392-02	1/50	✓		50				

Analyst: David Morfitt Date: 11/9/16

MICROBAC (OVD)
SMARTCHEM200 INST1 (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	0.0532	0.00	R	10:12:29 AM
DIL-1	RBL	0.000	0.0597	0.00	R	10:12:47 AM
DIL-1	RBL	0.000	0.0644	0.00	R	10:13:42 AM
SR5-1	Std-1	0.010	-0.0003	0.00	INV	10:13:59 AM
SR5-2	Std-2	0.200	0.0398	0.00		10:14:54 AM
SR5-3	Std-3	0.500	0.0786	0.00		10:15:12 AM
SR5-4	Std-4	1.000	0.1603	0.00		10:16:06 AM
SR5-5	Std-5	1.500	0.2449	0.00		10:16:25 AM
ST-1	Std-6	2.000	0.3157	0.00	EPL	10:17:18 AM
ST-3	1CCV (1 mg/L)	1.050	0.1687	105.03		10:17:35 AM
ST-2	2CCB (0 mg/L)	-0.059	-0.0073	0.00	INV,><,LL	10:18:30 AM
1	ICV	1.361	0.2180	0.00		10:18:47 AM
2	WG591071-01 BLK	-0.003	0.0016	0.00	LL	10:19:42 AM
3	WG591071-02 LCS	0.909	0.1462	0.00		10:19:59 AM
4	L16110230-01 (25)	1.371	0.2196	0.00		10:20:54 AM
5	L16110144-01	0.136	0.0236	0.00		10:21:11 AM
6	L16110144-03	0.044	0.0090	0.00		10:22:06 AM
7	L16110144-05	0.909	0.1462	0.00		10:22:24 AM
8	L16110305-01	0.016	0.0046	0.00		10:23:18 AM
9	L16110152-02 (2)	1.402	0.2244	0.00		10:23:36 AM
10	WG591071-03 REF	0.195	0.0331	0.00		10:24:30 AM
ST-3	1CCV (1 mg/L)	1.089	0.1749	108.94		10:24:47 AM
ST-2	2CCB (0 mg/L)	0.014	0.0042	0.00		10:25:42 AM
11	WG591071-04 DUP	0.307	0.0508	0.00		10:26:00 AM
12	WG591071-05 MS	1.163	0.1865	0.00		10:26:54 AM
13	ID 13 L16110152-02	X 2.743	0.4372	0.00	><,LH	10:27:12 AM
14	ID 14	0.658	0.1065	0.00		10:28:06 AM
15	ID 15	0.989	0.1589	0.00		10:28:24 AM
ST-3	1CCV (1 mg/L)	1.043	0.1675	104.28		10:29:18 AM
ST-2	2CCB (0 mg/L)	0.056	0.0110	0.00		10:29:36 AM
13-[1/2]	ID 13 L16110152-02	X 2.708	0.2169	0.00	LH	10:37:16 AM
ST-3	1CCV (1 mg/L)	0.999	0.1605	99.86		10:37:16 AM

Report Date :11/10/2016 **Run Date :11/10/2016** **Operator : SMARTCHEM1** **Plan # :20161110002**

Plan Description : PHOS-A1-DCM/11/10/2016

MICROBAC (OVD)
SMARTCHEM200 INST1 (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
ST-2	**2CCB (0 mg/L)**	**-0.045**	**-0.0051**	**0.00**	**INV,><,LL**	**10:38:10 AM**

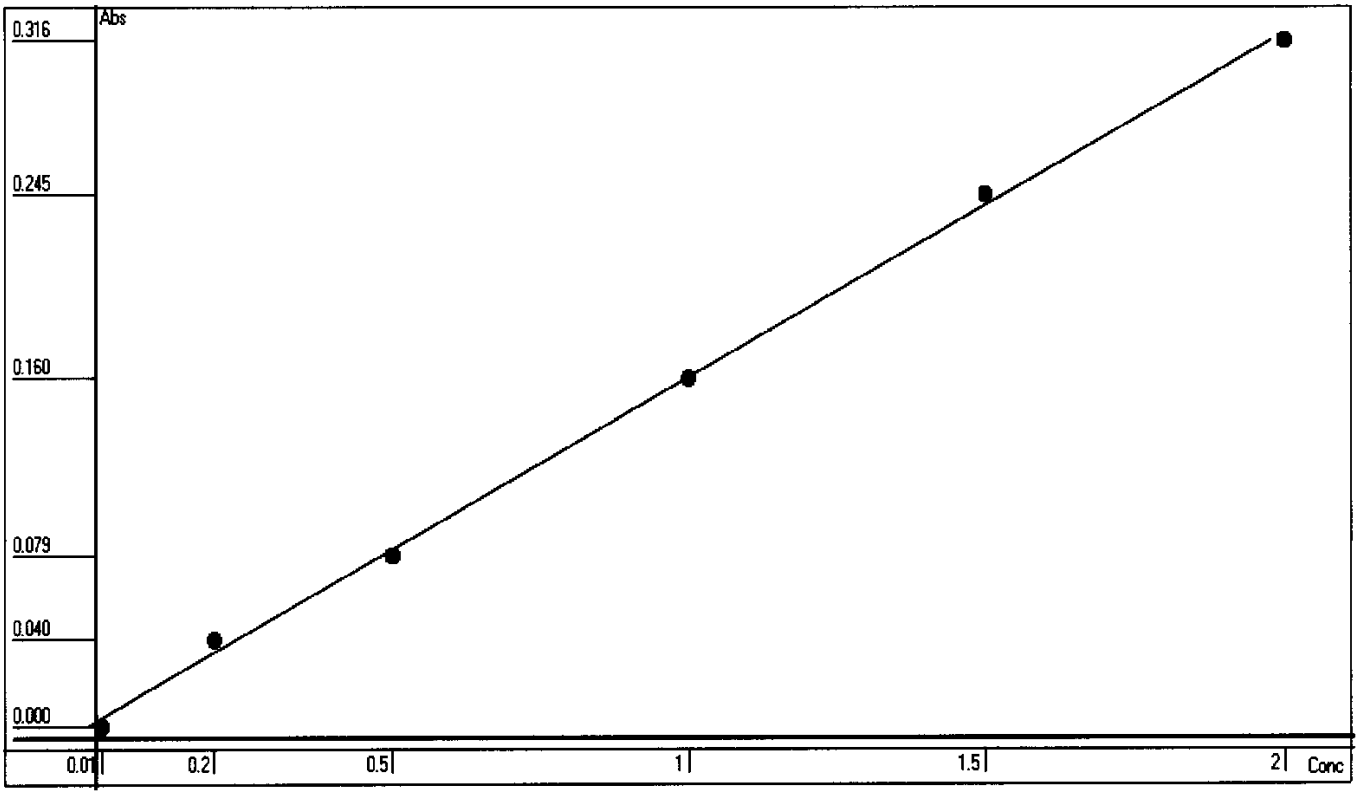
Report Date :11/10/2016 **Run Date :11/10/2016** **Operator : SMARTCHEM1** **Plan # :20161110002**

Plan Description : PHOS-A1-DCM/11/10/2016

Calibrant Report - WTPH -

Calib Lot #:010104 Exp Date:6/18/2020 User:MICROBAC

Plan # : 20161110002 Description : [PHOS-A1-DCM/11/10/2016] Unit



Point	OD	Conc	Recalc Conc	% Error
1	-0.0003	0.01	-0.0149	-249.00
2	0.0397	0.2	0.2373	18.65
3	0.0786	0.5	0.4825	-3.50
4	0.1602	1	0.9970	-0.30
5	0.2448	1.5	1.5304	2.03
6	0.3156	2	1.9768	-1.16

Conc= +6.3047*Abso -0.013 **R^2=0.9987**

RBL
0.062
0

Report Date 11/10/2016 Run Date 11/10/2016

2.4.4 Sulfide Data

2.4.4.1 Summary Data

Microbac

Lab Report #: L16110144
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110144-01	**PrePrep Method:**	N/A	**Instrument:**	BURET
Client ID:	50WW08-110216	**Prep Method:**	SM4500-S-(-2)-F-2000	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-S-(-2)-F-2000	**Cal Date:**	
Workgroup #:	WG590306	**Analyst:**	TB	**Run Date:**	11/03/2016 17:15
Collect Date:	11/02/2016 08:15	**Dilution:**	1	**File ID:**	ET.1611031715-10
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.

Microbac

Lab Report #: L16110144
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110144-03	**PrePrep Method:**	N/A	**Instrument:**	BURET
Client ID:	50WW22-110216	**Prep Method:**	SM4500-S-(-2)-F-2000	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-S-(-2)-F-2000	**Cal Date:**	
Workgroup #:	WG590306	**Analyst:**	TB	**Run Date:**	11/03/2016 17:15
Collect Date:	11/02/2016 09:25	**Dilution:**	1	**File ID:**	ET.1611031715-11
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.

Microbac

Lab Report #: L16110144
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110144-05	**PrePrep Method:**	N/A	**Instrument:**	BURET
Client ID:	50WW16-110216	**Prep Method:**	SM4500-S-(-2)-F-2000	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	SM4500-S-(-2)-F-2000	**Cal Date:**	
Workgroup #:	WG590306	**Analyst:**	TB	**Run Date:**	11/03/2016 17:15
Collect Date:	11/02/2016 10:40	**Dilution:**	1	**File ID:**	ET.1611031715-12
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.

Microbac

Lab Report #: L16110144
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

2.4.4.2 QC Summary Data

Example Total Sulfide(Liquid) Calculations

[mL Iodine * N Iodide) - (mL titrant * N titrant)] * 16000/(volume * dilution) = mg/L Sulfide

where:

mL Iodine = mL of Iodine used
N Iodine = normality of Iodine
mL titrant = mL of titrant used
N titrant = normality of titrant
16000 = factor: 1mL of 0.025 N iodine reacts with 0.4mg sulfide
volume = mL filtered of mL titrated(if not filtered)
dilution = dilution in decimal form (1/5 = 0.2)

Example Total Sulfide(Soil) Calculations

[(mL Iodine * N Iodine) - (mL titrant * N titrant)] * 16.03/weight = mg/kg sulfide

where:

mL Iodine = mL of Iodine used
N Iodine = normality of Iodine
mL titrant = normality of titrant
16.03 = 32.06 grams per 2 equivalents
weight = kg of sample used

Microbac Laboratories Inc.

Data Checklist

Date: 03-NOV-2016
Analyst: TB
Analyst: NA
Method: S
Instrument: BURET
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG590306

Calibration/Linearity	11/03/2016
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:
09-NOV-2016

Secondary Reviewer:
11-NOV-2016

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-11-2016 09:49:57

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: SM4500-S-(-2)-F- AAB#: WG590306

Login Number: L16110144

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
50WW08-110216	01	11/02/16					11/03/2016	1.4	7		11/03/16	1.4	7	
50WW22-110216	03	11/02/16					11/03/2016	1.3	7		11/03/16	1.3	7	
50WW16-110216	05	11/02/16					11/03/2016	1.3	7		11/03/16	1.3	7	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 5018993
Report generated 11/11/2016 07:59

METHOD BLANK SUMMARY

Login Number: L16110144
Work Group: WG590306
Blank File ID: ET.1611031715-01
Blank Sample ID: WG590306-01
Prep Date: 11/03/16 17:15
Instrument ID: BURET
Analyzed Date: 11/03/16 17:15
Method: SM4500-S-(-2)-F-
Analyst: TB

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG590306-02	ET.1611031715-02	11/03/16 17:15	
LCS2	WG590306-03	ET.1611031715-03	11/03/16 17:15	
50WW08-110216	L16110144-01	ET.1611031715-10	11/03/16 17:15	
50WW22-110216	L16110144-03	ET.1611031715-11	11/03/16 17:15	
50WW16-110216	L16110144-05	ET.1611031715-12	11/03/16 17:15	

Report Name: BLANK_SUMMARY
PDF File ID: 5018994
Report generated 11/11/2016 07:59

Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L16110144 Prep Date: 11/03/16 17:15 Sample ID: WG590306-01
Instrument ID: BURET Run Date: 11/03/16 17:15 Prep Method: SM4500-S-(-2)-F
File ID: ET.1611031715-01 Analyst: TB Method: SM4500-S-(-2)-F
Workgroup (AAB#): WG590306 Matrix: Water Units: mg/L
Contract #: Cal ID: BURET-

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Sulfide	0.500	2.00	0.500	1	U

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 5018995
11-NOV-2016 07:59

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16110144 Analyst: TB Prep Method: SM4500-S-(-2)-F
Instrument ID: BURET Matrix: Water Method: SM4500-S-(-2)-F
Workgroup (AAB#): WG590306 Units: mg/L
QC Key: DOD4 Lot #: STD78857

Sample ID: WG590306-02 LCS File ID: ET.1611031715-02 Run Date: 11/03/2016 17:15
Sample ID: WG590306-03 LCS2 File ID: ET.1611031715-03 Run Date: 11/03/2016 17:15

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Sulfide	19.1	19.0	99.6	19.1	19.0	99.6	0.00	85 - 115	10	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 5018996
Report generated: 11/11/2016 07:59

2.4.4.3 Raw Data

SULFIDE
(sulfide1)

WORKGROUP: WG590306

Water:
EPA 376.1 / SM4500-S(-2)-F
SOP K3761 Revision #: 17

Soil:
SM846 9030B/9034
SOP K9030 Revision #: _____

Instrument: Buret

LCS: STI 78857

Iodine standardization (0.025N) COA: 19159
mL 0.025N titrant: 10.0
Volume I: 10.0 mL
Normality I: 0.025

(0.1 N I) COA: 18931
mL 0.025 N titrant: 8.0
Volume I: 2.0 mL
Normality I: 0.100

Stock standardization (in duplicate) 5.0 mL stock
mL I 1) 10.0 2) 10.0
N I 1) 0.10 2) 0.10
mL 0.025 titrant 1) 24.1 2) 24.1
LCS daily dilution: 3(1272)/200 = 19.1 mg/L

pH paper lot #: 15A103

1272 = stock conc (mg/L)

Titrant: T- 1775-12-04

SAMPLE	Volume Filtered mL	mL Iodine	N Iodine	0.025 N Sodium Thiosulfate (mL)
BLANK	200	15.0	0.025	15.0
LCS (mL)	200	15.0	0.025	5.5
LCSDUP (mL)	200	15.0	0.025	5.5
11-0074-01	480	15.0	0.025	14.9
03	480	15.0	0.025	15.0
05	460	15.0	0.025	14.8
07	490	15.0	0.025	15.0
09	480	15.0	0.025	14.5
11/3/16 TB 11	~~480~~ 510	15.0	0.025	15.0
144-01	480	15.0	0.025	15.0
03	460	15.0	0.025	14.9
05	490	15.0	0.025	14.7

Analyst: _____ Date/Time: 11/3/16 1715

DCN#121998

Microbac Laboratories Inc.
TITRAMETRIC REPORT

Workgroup (AAB#):WG590306
Product:EPA 376.1\9034
Analyte:Sulfide

Analyst:TB
Run Date:11/03/2016 17:15

SAMPLE NUMBER	Volume	Vol I	Nor I	Vol T	Nor T	Dil	Analytical	Reported	Units
WG590306-01	200.0	15	.025	15	.025	1	0	0	mg/L
WG590306-02	200.0	15	.025	5.5	.025	1	19.0	19.00	mg/L
WG590306-03	200.0	15	.025	5.5	.025	1	19.0	19.00	mg/L
L16110074-01	480.0	15	.025	14.9	.025	1	0.0833	ND	mg/L
L16110074-03	480.0	15	.025	15	.025	1	0	ND	mg/L
L16110074-05	460.0	15	.025	14.8	.025	1	0.174	ND	mg/L
L16110074-07	490.0	15	.025	15	.025	1	0	ND	mg/L
L16110074-09	480.0	15	.025	14.5	.025	1	0.417	ND	mg/L
L16110074-11	510.0	15	.025	15	.025	1	0	ND	mg/L
L16110144-01	480.0	15	.025	15	.025	1	0	ND	mg/L
L16110144-03	460.0	15	.025	14.9	.025	1	0.0870	ND	mg/L
L16110144-05	490.0	15	.025	14.7	.025	1	0.245	ND	mg/L

SULFIDE_REPORT - Modified 03/06/2008

Report generated 11/09/2016 15:32

[redacted]*

2.4.5 Total Organic Carbon Data

2.4.5.1 Summary Data

Microbac

Lab Report #: L16110144
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #: L16110144-01 | **PrePrep Method:** N/A | **Instrument:** TOC-VWP
Client ID: 50WW08-110216 | **Prep Method:** 415.1 | **Prep Date:** N/A
Matrix: Water | **Analytical Method:** 415.1 | **Cal Date:**
Workgroup #: WG590598 | **Analyst:** DCM | **Run Date:** 11/07/2016 20:04
Collect Date: 11/02/2016 08:15 | **Dilution:** 3 | **File ID:** TC11072016.036
Sample Tag: DL01 | **Units:** mg/L

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Organic Carbon	TOC	13.6		6.00	3.00	1.50

Certificate of Analysis

Sample #: L16110144-03 | **PrePrep Method:** N/A | **Instrument:** TOC-VWP
Client ID: 50WW22-110216 | **Prep Method:** 415.1 | **Prep Date:** N/A
Matrix: Water | **Analytical Method:** 415.1 | **Cal Date:**
Workgroup #: WG590598 | **Analyst:** DCM | **Run Date:** 11/08/2016 10:35
Collect Date: 11/02/2016 09:25 | **Dilution:** 10 | **File ID:** TC11072016.088
Sample Tag: DL01 | **Units:** mg/L

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Organic Carbon	TOC	26.0		20.0	10.0	5.00

Certificate of Analysis

Sample #: L16110144-05 | **PrePrep Method:** N/A | **Instrument:** TOC-VWP
Client ID: 50WW16-110216 | **Prep Method:** 415.1 | **Prep Date:** N/A
Matrix: Water | **Analytical Method:** 415.1 | **Cal Date:**
Workgroup #: WG590598 | **Analyst:** DCM | **Run Date:** 11/07/2016 20:52
Collect Date: 11/02/2016 10:40 | **Dilution:** 5 | **File ID:** TC11072016.040
Sample Tag: DL01 | **Units:** mg/L

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Organic Carbon	TOC	10.3		10.0	5.00	2.50

2.4.5.2 QC Summary Data

Total Organic Carbon Example Calculations
(Direct Readout Parameter)

(Readout)/(dilution) = mg/L

where:

Readout = direct readout from the instrument
dilution = dilution in decimal form (ex. 1/5 dilution = 0.2)

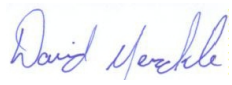
Microbac Laboratories Inc.

Data Checklist

Date: 07-NOV-2016
Analyst: DCM
Analyst: NA
Method: TOC
Instrument: TOC-VWP
Curve Workgroup: NA
Runlog ID:
Analytical Workgroups: WG590454 WG590598 WG590668

Calibration/Linearity	10-31-2015
Second Source Check	X
ICV/CCV (std)	X
ICB/CCB	X
Blank	X
LCS/LCS Dup	X
MS/MSD	X
Duplicate	X
Upload Results	X
Client Forms	X
QC Violation Sheet	X
Case Narratives	X
Signed Raw Data	X
STD/LCS on benchsheet	X
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	DCM
Secondary Reviewer	
Comments	

Primary Reviewer:
09-NOV-2016



Secondary Reviewer:

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-09-2016 15:05:07

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 415.1 AAB#: WG590598

Login Number: L16110144

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
50WW08-110216	01	11/02/16					11/07/2016	5.5	28		11/07/16	5.5	28	
50WW22-110216	03	11/02/16					11/08/2016	6	28		11/08/16	6	28	
50WW16-110216	05	11/02/16					11/07/2016	5.4	28		11/07/16	5.4	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 5016343
Report generated 11/10/2016 09:25

METHOD BLANK SUMMARY

Login Number: L16110144
Work Group: WG590598
Blank File ID: TC11072016.024
Blank Sample ID: WG590598-01
Prep Date: 11/07/16 17:42
Instrument ID: TOC-VWP
Analyzed Date: 11/07/16 17:42
Method: 415.1
Analyst: DCM

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG590598-02	TC11072016.025	11/07/16 17:54	01
LCS2	WG590598-03	TC11072016.028	11/07/16 18:27	01
50WW08-110216	L16110144-01	TC11072016.036	11/07/16 20:04	DL01
50WW16-110216	L16110144-05	TC11072016.040	11/07/16 20:52	DL01
DUP	WG590598-08	TC11072016.055	11/07/16 23:54	01
50WW22-110216	L16110144-03	TC11072016.088	11/08/16 10:35	DL01

Report Name: BLANK_SUMMARY
PDF File ID: 5016344
Report generated 11/10/2016 09:25

Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L16110144 Prep Date: 11/07/16 17:42 Sample ID: WG590598-01
Instrument ID: TOC-VWP Run Date: 11/07/16 17:42 Prep Method: 415.1
File ID: TC11072016.024 Analyst: DCM Method: 415.1
Workgroup (AAB#): WG590598 Matrix: Water Units: mg/L
Contract #: Cal ID: TOC-VW-09-NOV-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Total Organic Carbon	0.500	2.00	0.500	1	U

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 5016345
10-NOV-2016 09:25

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16110144 Analyst: DCM Prep Method: 415.1
Instrument ID: TOC-VWP Matrix: Water Method: 415.1
Workgroup (AAB#): WG590598 Units: mg/L
QC Key: DOD4 Lot #: STD77870

Sample ID: WG590598-02 LCS File ID: TC11072016.025 Run Date: 11/07/2016 17:54
Sample ID: WG590598-03 LCS2 File ID: TC11072016.028 Run Date: 11/07/2016 18:27

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Total Organic Carbon	25.0	26.7	107	25.0	26.8	107	0.374	85 - 115	15	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 5016346
Report generated: 11/10/2016 09:25

2.4.5.3 Raw Data

WORKGROUP: WG590454
590598
590668

Total Organic Carbon

MAKE DAILY

CCV (TOC): Std 75879
(5/200)(1000) = 25mg/L

LCS (TOC): Std 77870
(5/200)(1000) = 25mg/L

CCV (TIC): Std 78236
(5/200)(1000) = 25mg/L

MS (TOC): Std 77870
0.4(100)/40=10

Calibration Curve Date: 10/31/15

Reagent: RGET 38296
RGET 37673

☑ SM5310-C : Matrix 2 WG 590454
☐ EPA 415.1/9060A(mod): Matrix 1 WG 590598 SOP: K 4151 Rev. 19
WG 590668 Instrument: Shimadza TOC-VWP/ASI

DAILY CHECK

☑ drain reservoir filled
☑ ASI water bottle full
☑ dilution water bottle full
☑ 3rd bottle full
☑ sufficient gas
☑ sufficient persulfate
☑ sufficient acid
☑ waste container

Position	Sample ID	Dilution	Position	Sample ID	Dilution	Position	Sample ID	Dilution
1	TIC		26	CCV		51	CCB	
2	TOC/TIC		27	CCB		52	11-151-10	1/5
3	CCV		28	LCSDUP		53	11-201-02	
4	Blk		29	11-197-01		54	03	
5	LCS		30	11-283-01		55	DUP 11-201-03	
6	LCSDUP		31	02		56	Blk	
7	11-194-01		32	03		57	LCS	
8	11-195-01		33	04		58	LCSDUP	
9	02		34	05		59	11-201-04	
10	03		35	06		60	05	
11	11-198-01		36	11-144-01	1/3	61	11-147-02	1/2
12	11-256-01	1/3	37	03	1/5	62	CCV	
13	02		38	CCV		63	CCB	
14	CCV		39	CCB		64	11-147-03	
15	CCB		40	11-144-05	1/5	65	04	
16	11-256-04		41	11-145-02		66	05	1/2
17	11-281-01		42	11-151-02	1/5	67	MS 06	1/2
18	11-282-01		43	03	1/5	68	MSD 07	1/2
19	11-142-01	1/3	44	04	1/5	69		
20	02		45	05	1/5	70		
21	03		46	06	1/5	71		
22	DUP 11-194-01		47	MS 08	1/5	72		
23	MS 11-194-01		48	MSD 09	1/5	73		
24	Blk		49	07	1/5	74		
25	LCS		50	CCV		75		

Analyst: David Merchle Date/Time: 11/7/16 1019

pg. 1

DCN#122028

WORKGROUP: WG590454

Total Organic Carbon

MAKE DAILY

CCV (TOC): _____ (5/200)(1000) = 25mg/L

LCS (TOC): _____ (5/200)(1000) = 25mg/L

CCV (TIC): _____ (5/200)(1000) = 25mg/L

See Pg. 1

MS (TOC): _____

Calibration Curve Date: _____

Reagent: _____

☐ SM5310-C : Matrix 2 WG_____

☐ EPA 415.1/9060A(mod): Matrix 1 WG_____ SOP: K _____ Rev. _____

WG_____ Instrument: Shimadzu TOC-VWP/ASI

DAILY CHECK

☐ drain reservoir filled
☐ ASI water bottle full
☐ dilution water bottle full
☐ 3rd bottle full
☐ sufficient gas
☐ sufficient persulfate
☐ sufficient acid
☐ waste container

Position	Sample ID	Dilution
1	11-147-08	1/2
2	09	1/2
3	10	1/2
4	11	1/2
5	11-231-c2	
6	ccv	
7	ccb	
8	11-231-c3	1/2
9	c4	1/2
10	c5	1/2
11	c6	1/2
12	11-305-01	
13	11-306-c1	
14	11-307-c1	
15	Dup 11-307-c1	
16	ccv	
17	ccb	
18	ccv	
19	ccb	
20	11-144-c3	1/10
21	11-151-c2	1/2
22	c5	~~1/5~~ 1/5
23	c6	~~1/5~~ 1/5
24	MS c8	~~1/5~~ 1/5
25	MSD c9	~~1/5~~ 1/5

Position	Sample ID	Dilution
26	11-151-c7	1/5
27	11-151-05	1/5
28	~~ccv~~ 11-389-c1	~~1/1000~~ 1/1000
29	~~ccb~~ ccv	1/1000
30	ccb	
31	11-389-c1	1/10000
32	ccv	
33	ccb	
34		
35		
36		
37		
38		
39		
40		
41		
42		
43		
44		
45		
46		
47		
48		
49		
50		

Position	Sample ID	Dilution
51		
52		
53		
54		
55		
56		
57		
58		
59		
60		
61		
62		
63		
64		
65		
66		
67		
68		
69		
70		
71		
72		
73		
74		
75		

Analyst: dcm Date/Time: 11/7/16

Pg. 2

DCN#122028

C:\TOC3201\Data\11-07-2016-DCM-TOC.t32

	Analysis	Sample Name	Result	Status	Date / Time	Vial
1	TOC	TIC	TOC:3.580mg/L TC:28.42mg/L IC:24.84mg/L	Complete	11/7/2016 10:19:55 AM	1
2	TOC	TOC/TIC	TOC:28.22mg/L TC:36.61mg/L IC:8.394mg/L	Complete	11/7/2016 10:32:34 AM	2
3	TOC	CCV	TOC:26.19mg/L TC:26.24mg/L IC:0.05201mg/L	Complete	11/7/2016 10:44:44 AM	3
4	TOC	WG590454-01 BLK	TOC:0.01111mg/L TC:0.1563mg/L IC:0.1452mg/L	Complete	11/7/2016 11:01:12 AM	0
5	TOC	WG590454-02 LCS	TOC:26.62mg/L TC:26.64mg/L IC:0.02176mg/L	Complete	11/7/2016 11:22:11 AM	5
6	TOC	WG590454-03 LCSDUP	TOC:26.74mg/L TC:26.77mg/L IC:0.02652mg/L	Complete	11/7/2016 11:43:00 AM	6
7	TOC	L16110194-01	TOC:0.1123mg/L TC:0.2326mg/L IC:0.1202mg/L	Complete	11/7/2016 12:09:45 PM	7
8	TOC	L16110195-01	TOC:7.876mg/L TC:18.18mg/L IC:10.31mg/L	Complete	11/7/2016 12:31:13 PM	8
9	TOC	L16110195-02	TOC:8.796mg/L TC:9.378mg/L IC:0.5820mg/L	Complete	11/7/2016 12:52:08 PM	9
10	TOC	L16110195-03	TOC:6.123mg/L TC:10.58mg/L IC:4.460mg/L	Complete	11/7/2016 1:14:27 PM	10
11	TOC	L16110198-01	TOC:0.1938mg/L TC:0.2978mg/L IC:0.1040mg/L	Complete	11/7/2016 1:33:41 PM	11
12	TOC	L16110256-01 (3)	TOC:10.40mg/L TC:39.22mg/L IC:28.82mg/L	Complete	11/7/2016 1:57:11 PM	12
13	TOC	L16110256-02	TOC:4.808mg/L TC:15.67mg/L IC:10.86mg/L	Complete	11/7/2016 2:19:04 PM	13
14	TOC	CCV	TOC:25.78mg/L TC:25.88mg/L IC:0.1007mg/L	Complete	11/7/2016 2:31:13 PM	14
15	TOC	CCB	TOC:0.00014mg/L TC:0.1322mg/L IC:0.1320mg/L	Complete	11/7/2016 2:40:10 PM	0
16	TOC	L16110256-04	TOC:5.390mg/L TC:13.79mg/L IC:8.399mg/L	Complete	11/7/2016 3:01:29 PM	16
17	TOC	L16110281-01	TOC:3.380mg/L TC:13.36mg/L IC:9.983mg/L	Complete	11/7/2016 3:22:33 PM	17
18	TOC	L16110282-01	TOC:17.59mg/L TC:26.47mg/L IC:8.883mg/L	Complete	11/7/2016 3:45:07 PM	18
19	TOC	L16110142-01 (3)	TOC:4.362mg/L TC:15.58mg/L IC:11.22mg/L	Complete	11/7/2016 4:07:03 PM	19
20	TOC	L16110142-02	TOC:9.590mg/L TC:22.99mg/L IC:13.40mg/L	Complete	11/7/2016 4:37:17 PM	20
21	TOC	L16110142-03	TOC:5.228mg/L TC:14.58mg/L IC:9.352mg/L	Complete	11/7/2016 4:58:36 PM	21
22	TOC	WG590454-05 DUP	TOC:0.3126mg/L TC:0.4308mg/L IC:0.1182mg/L	Complete	11/7/2016 5:17:50 PM	22
23	TOC	WG590454-06 MS	TOC:10.46mg/L TC:10.58mg/L IC:0.1234mg/L	Complete	11/7/2016 5:37:59 PM	23
24	TOC	WG590598-01 BLK	TOC:0.02375mg/L TC:0.1118mg/L IC:0.08809mg/L	Complete	11/7/2016 5:46:54 PM	0
25	TOC	WG590598-02 LCS	TOC:26.72mg/L TC:26.78mg/L IC:0.06430mg/L	Complete	11/7/2016 5:58:59 PM	25
26	TOC	CCV	TOC:26.00mg/L TC:26.06mg/L IC:0.06580mg/L	Complete	11/7/2016 6:11:03 PM	26
27	TOC	CCV	TOC:0.03055mg/L TC:0.1118mg/L IC:0.08127mg/L	Complete	11/7/2016 6:20:00 PM	0
28	TOC	WG590598-03 LCSDUP	TOC:26.82mg/L TC:26.88mg/L IC:0.06544mg/L	Complete	11/7/2016 6:32:06 PM	28
29	TOC	L16110197-01	TOC:10.52mg/L TC:17.81mg/L IC:7.287mg/L	Complete	11/7/2016 6:44:41 PM	29
30	TOC	L16110283-01	TOC:6.132mg/L TC:9.832mg/L IC:3.700mg/L	Complete	11/7/2016 6:57:19 PM	30
31	TOC	L16110283-02	TOC:2.734mg/L TC:5.452mg/L IC:2.718mg/L	Complete	11/7/2016 7:09:16 PM	31
32	TOC	L16110283-03	TOC:3.028mg/L TC:6.528mg/L IC:3.500mg/L	Complete	11/7/2016 7:21:19 PM	32
33	TOC	L16110283-04	TOC:2.573mg/L TC:5.824mg/L IC:3.251mg/L	Complete	11/7/2016 7:33:13 PM	33
34	TOC	L16110283-05	TOC:2.050mg/L TC:3.978mg/L IC:1.928mg/L	Complete	11/7/2016 7:45:04 PM	34
35	TOC	L16110283-06	TOC:3.412mg/L TC:6.305mg/L IC:2.892mg/L	Complete	11/7/2016 7:57:05 PM	35
36	TOC	L16110144-01 (3)	TOC:4.541mg/L TC:30.14mg/L IC:25.60mg/L	Complete	11/7/2016 8:10:15 PM	36
37	TOC		TOC:6.344mg/L TC:58.28mg/L IC:51.94mg/L	Complete	11/7/2016 8:24:18 PM	37
38	TOC	CCV	TOC:26.21mg/L TC:26.45mg/L IC:0.2400mg/L	Complete	11/7/2016 8:36:29 PM	38
39	TOC	CCB	TOC:0.01534mg/L TC:0.1296mg/L IC:0.1143mg/L	Complete	11/7/2016 8:45:27 PM	0
40	TOC	L16110144-05 (5)	TOC:2.055mg/L TC:11.30mg/L IC:9.241mg/L	Complete	11/7/2016 8:57:42 PM	40
41	TOC	L16110145-02	TOC:2.430mg/L TC:7.973mg/L IC:5.543mg/L	Complete	11/7/2016 9:09:46 PM	41
42	TOC		TOC:4.361mg/L TC:8.746mg/L IC:4.385mg/L	Complete	11/7/2016 9:21:48 PM	42
43	TOC	L16110151-03 (5)	TOC:4.425mg/L TC:12.07mg/L IC:7.646mg/L	Complete	11/7/2016 9:34:14 PM	43
44	TOC	L16110151-04 (5)	TOC:7.502mg/L TC:11.23mg/L IC:3.730mg/L	Complete	11/7/2016 9:46:17 PM	44
45	TOC		TOC:2.023mg/L TC:8.287mg/L IC:6.264mg/L	Complete	11/7/2016 9:58:16 PM	45
46	TOC		TOC:20.10mg/L TC:34.41mg/L IC:14.31mg/L	Complete	11/7/2016 10:11:21 PM	46
47	TOC		TOC:4.913mg/L TC:8.828mg/L IC:3.916mg/L	Complete	11/7/2016 10:23:26 PM	47
48	TOC		TOC:4.991mg/L TC:11.11mg/L IC:6.118mg/L	Complete	11/7/2016 10:35:38 PM	48
49	TOC		TOC:2.997mg/L TC:7.367mg/L IC:4.370mg/L	Complete	11/7/2016 10:47:33 PM	49
50	TOC	CCV	TOC:26.25mg/L TC:26.34mg/L IC:0.08925mg/L	Complete	11/7/2016 10:59:45 PM	50
51	TOC	CCB	TOC:0.02195mg/L TC:0.1197mg/L IC:0.09775mg/L	Complete	11/7/2016 11:08:38 PM	0
52	TOC	L16110151-10 (5)	TOC:2.967mg/L TC:10.74mg/L IC:7.769mg/L	Complete	11/7/2016 11:20:43 PM	52
53	TOC	L16110201-02	TOC:25.39mg/L TC:49.37mg/L IC:23.99mg/L	Complete	11/7/2016 11:33:58 PM	53
54	TOC	L16110201-03	TOC:10.66mg/L TC:23.56mg/L IC:12.90mg/L	Complete	11/7/2016 11:46:29 PM	54
55	TOC	WG590598-08 DUP	TOC:10.38mg/L TC:21.36mg/L IC:10.98mg/L	Complete	11/7/2016 11:59:06 PM	55
56	TOC	WG590668-01 BLK	TOC:0.00994mg/L TC:0.1417mg/L IC:0.1317mg/L	Complete	11/8/2016 12:08:01 AM	0
57	TOC	WG590668-02 LCS	TOC:26.72mg/L TC:26.81mg/L IC:0.08925mg/L	Complete	11/8/2016 12:20:10 AM	57
58	TOC	WG590668-03 LCSDUP	TOC:26.75mg/L TC:26.83mg/L IC:0.08019mg/L	Complete	11/8/2016 12:32:17 AM	58
59	TOC	L16110201-04	TOC:12.30mg/L TC:35.77mg/L IC:23.47mg/L	Complete	11/8/2016 12:45:24 AM	59
60	TOC	L16110201-05	TOC:0.5452mg/L TC:0.6922mg/L IC:0.1470mg/L	Complete	11/8/2016 12:56:50 AM	60
61	TOC	L16110147-02 (2)	TOC:6.740mg/L TC:27.99mg/L IC:21.25mg/L	Complete	11/8/2016 1:09:31 AM	61
62	TOC	CCV	TOC:26.02mg/L TC:26.16mg/L IC:0.1413mg/L	Complete	11/8/2016 1:21:38 AM	62
63	TOC	CCB	TOC:0.02240mg/L TC:0.1263mg/L IC:0.1039mg/L	Complete	11/8/2016 1:30:38 AM	0
64	TOC	L16110147-03	TOC:14.67mg/L TC:36.02mg/L IC:21.35mg/L	Complete	11/8/2016 1:43:41 AM	64
65	TOC	L16110147-04	TOC:16.40mg/L TC:43.73mg/L IC:27.32mg/L	Complete	11/8/2016 1:56:47 AM	65
66	TOC	L16110147-05 (2)	TOC:5.975mg/L TC:19.08mg/L IC:13.10mg/L	Complete	11/8/2016 2:09:24 AM	66
67	TOC	L16110147-06 (2) MS	TOC:11.16mg/L TC:22.20mg/L IC:11.04mg/L	Complete	11/8/2016 2:22:06 AM	67

dcm 11/9/16

11/8/2016 3:46:31 PM

1/2

C:\TOC3201\Data\11-07-2016-DCM-TOC.t32

	Analysis	Sample Name	Result	Status	Date / Time	Vial
68	TOC	L16110147-07 (2) MSD	TOC:11.26mg/L TC:24.60mg/L IC:13.33mg/L	Complete	11/8/2016 2:34:43 AM	68
69	TOC	L16110147-08 (2)	TOC:4.209mg/L TC:15.40mg/L IC:11.19mg/L	Complete	11/8/2016 2:47:04 AM	1
70	TOC	L16110147-09 (2)	TOC:3.677mg/L TC:13.93mg/L IC:10.26mg/L	Complete	11/8/2016 2:59:21 AM	2
71	TOC	L16110147-10 (2)	TOC:5.927mg/L TC:13.34mg/L IC:7.410mg/L	Complete	11/8/2016 3:11:39 AM	3
72	TOC	L16110147-11 (2)	TOC:18.16mg/L TC:40.31mg/L IC:22.15mg/L	Complete	11/8/2016 3:24:24 AM	4
73	TOC	L16110231-02	TOC:9.932mg/L TC:20.87mg/L IC:10.94mg/L	Complete	11/8/2016 3:37:03 AM	5
74	TOC	CCV	TOC:25.93mg/L TC:26.06mg/L IC:0.1296mg/L	Complete	11/8/2016 3:49:14 AM	6
75	TOC	CCB	TOC:0.02280mg/L TC:0.1332mg/L IC:0.1104mg/L	Complete	11/8/2016 3:58:09 AM	0
76	TOC	L16110231-03 (2)	TOC:15.24mg/L TC:29.68mg/L IC:14.45mg/L	Complete	11/8/2016 4:10:46 AM	8
77	TOC	L16110231-04 (2)	TOC:4.262mg/L TC:10.54mg/L IC:6.279mg/L	Complete	11/8/2016 4:22:59 AM	9
78	TOC	L16110231-05 (2)	TOC:7.678mg/L TC:16.28mg/L IC:8.604mg/L	Complete	11/8/2016 4:35:19 AM	10
79	TOC	L16110231-06 (2)	TOC:13.06mg/L TC:19.59mg/L IC:6.536mg/L	Complete	11/8/2016 4:48:17 AM	11
80	TOC	L16110305-01	TOC:2.920mg/L TC:6.007mg/L IC:3.087mg/L	Complete	11/8/2016 5:00:17 AM	12
81	TOC	L16110306-01	TOC:2.046mg/L TC:6.844mg/L IC:4.798mg/L	Complete	11/8/2016 5:12:15 AM	13
82	TOC	L16110307-01	TOC:2.816mg/L TC:8.461mg/L IC:5.645mg/L	Complete	11/8/2016 5:24:17 AM	14
83	TOC	WG590668-08 DUP	TOC:2.711mg/L TC:7.180mg/L IC:4.469mg/L	Complete	11/8/2016 5:36:16 AM	15
84	TOC	CCV	TOC:26.08mg/L TC:26.19mg/L IC:0.1125mg/L	Complete	11/8/2016 5:48:23 AM	16
85	TOC	CCB	TOC:0.02520mg/L TC:0.1329mg/L IC:0.1077mg/L	Complete	11/8/2016 5:57:21 AM	0
86	TOC	CCV	TOC:26.73mg/L TC:26.93mg/L IC:0.2038mg/L	Complete	11/8/2016 10:17:24 AM	18
87	TOC	CCB	TOC:0.02573mg/L TC:0.1368mg/L IC:0.1111mg/L	Complete	11/8/2016 10:28:40 AM	0
88	TOC	L16110144-03 (10)	TOC:2.603mg/L TC:19.95mg/L IC:17.35mg/L	Complete	11/8/2016 10:40:55 AM	20
89	TOC	L16110151-02 (2)	TOC:12.84mg/L TC:44.68mg/L IC:31.84mg/L	Complete	11/8/2016 10:54:10 AM	21
90	TOC	L16110151-05 (5)	TOC:5.606mg/L TC:28.60mg/L IC:23.00mg/L	Complete	11/8/2016 11:45:54 AM	22
91	TOC	L16110151-06 (5)	TOC:7.132mg/L TC:25.60mg/L IC:18.47mg/L	Complete	11/8/2016 11:58:44 AM	23
92	TOC	L16110151-08 (5) MS	TOC:6.976mg/L TC:24.57mg/L IC:17.59mg/L	Complete	11/8/2016 12:11:27 PM	24
93	TOC	L16110151-09 (5) MSD	TOC:7.580mg/L TC:23.41mg/L IC:15.83mg/L	Complete	11/8/2016 1:11:12 PM	25
94	TOC	L16110151-07 (5)	TOC:3.956mg/L TC:18.49mg/L IC:14.53mg/L	Complete	11/8/2016 1:31:44 PM	26
95	TOC	L16110151-05 (5)	TOC:6.038mg/L TC:23.22mg/L IC:17.18mg/L	Complete	11/8/2016 1:44:13 PM	27
96	TOC		TOC:86.91mg/L TC:87.37mg/L IC:0.4692mg/L	Complete	11/8/2016 1:58:34 PM	28
97	TOC	CCV	TOC:25.72mg/L TC:25.88mg/L IC:0.1605mg/L	Complete	11/8/2016 2:10:42 PM	29
98	TOC	CCB	TOC:0.00649mg/L TC:0.1057mg/L IC:0.09919mg/L	Complete	11/8/2016 2:19:42 PM	0
99	TOC	L16110389-01 (10000)	TOC:15.53mg/L TC:15.62mg/L IC:0.09724mg/L	Complete	11/8/2016 3:16:59 PM	31
100	TOC	CCV	TOC:25.29mg/L TC:25.32mg/L IC:0.02224mg/L	Complete	11/8/2016 3:29:09 PM	32
101	TOC	CCB	TOC:0.00878mg/L TC:0.1110mg/L IC:0.1022mg/L	Complete	11/8/2016 3:38:03 PM	0

Instr.Information

System TOCVW ASI
Detector Wet Chemical

Sample

Sample Name: TIC
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

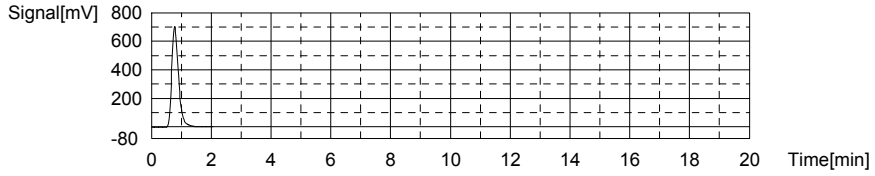
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.580mg/L TC:28.42mg/L IC:24.84mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1112	28.42mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 10:14:34 AM

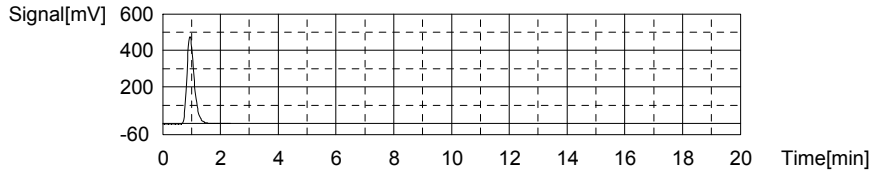
Mean Area 1112
Mean Conc. 28.42mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	836.3	24.84mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 10:19:55 AM

Mean Area 836.3
Mean Conc. 24.84mg/L



Sample

Sample Name: TOC/TIC
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

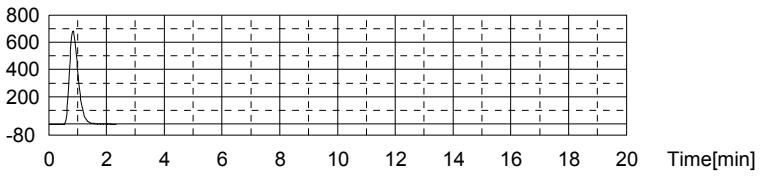
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:28.22mg/L TC:36.61mg/L IC:8.394mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1431	36.61mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 10:27:42 AM

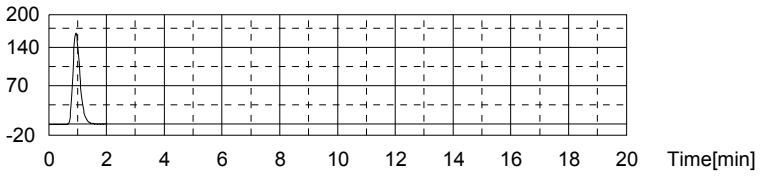
Mean Area 1431
Mean Conc. 36.61mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	286.5	8.394mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 10:32:34 AM

Mean Area 286.5
Mean Conc. 8.394mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

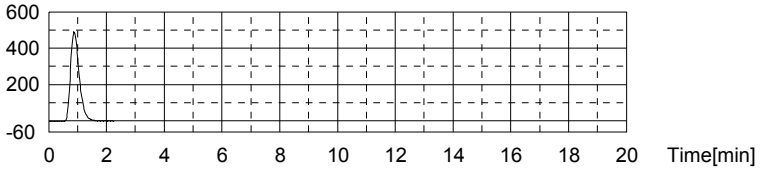
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.19mg/L TC:26.24mg/L IC:0.05201mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1027	26.24mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 10:40:17 AM

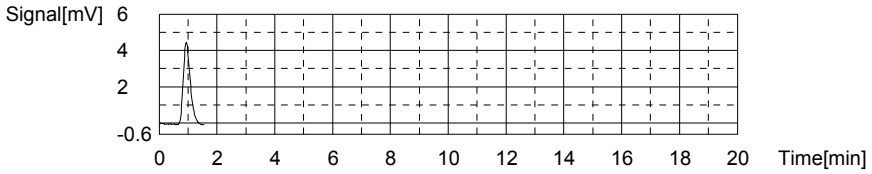
Mean Area 1027
Mean Conc. 26.24mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.665	0.05201mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 10:44:44 AM

Mean Area 7.665
Mean Conc. 0.05201mg/L



Sample

Sample Name: WG590454-01 BLK
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

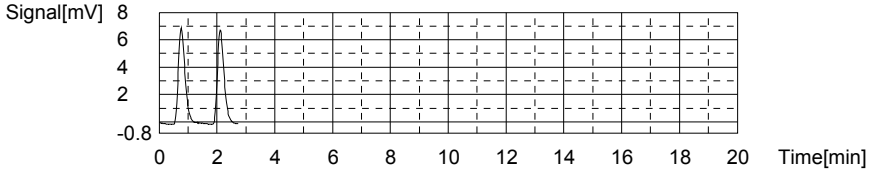
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.01111mg/L TC:0.1563mg/L IC:0.1452mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	11.21	0.1607mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 10:49:43 AM
2	10.87	0.1519mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 10:53:14 AM

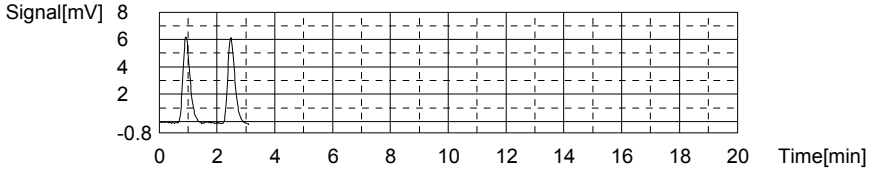
Mean Area 11.04
Mean Conc. 0.1563mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.75	0.1443mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 10:57:12 AM
2	10.81	0.1461mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 11:01:12 AM

Mean Area 10.78
Mean Conc. 0.1452mg/L



Sample

Sample Name: WG590454-02 LCS
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

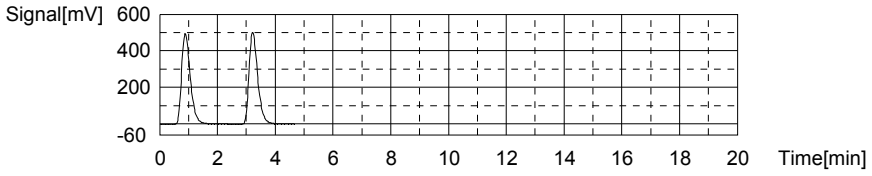
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.62mg/L TC:26.64mg/L IC:0.02176mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1038	26.52mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 11:08:59 AM
2	1047	26.75mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 11:13:36 AM

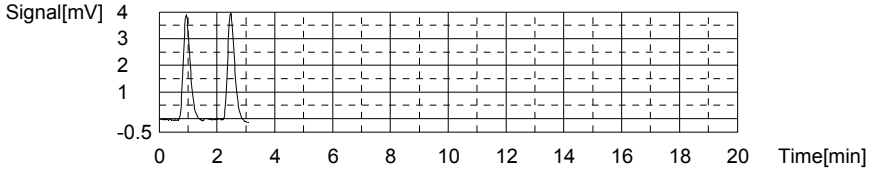
Mean Area 1043
Mean Conc. 26.64mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.620	0.02074mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 11:17:59 AM
2	6.688	0.02278mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 11:22:11 AM

Mean Area 6.654
Mean Conc. 0.02176mg/L



Sample

Sample Name: WG590454-03 LCSDUP
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

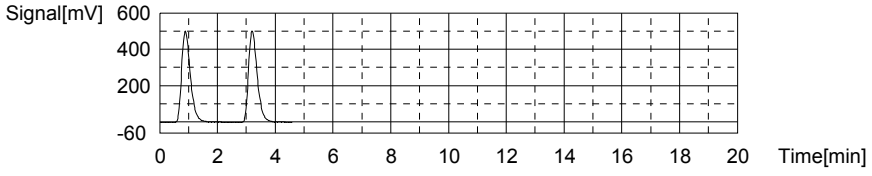
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.74mg/L TC:26.77mg/L IC:0.02652mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1051	26.86mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 11:29:56 AM
2	1044	26.68mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 11:34:28 AM

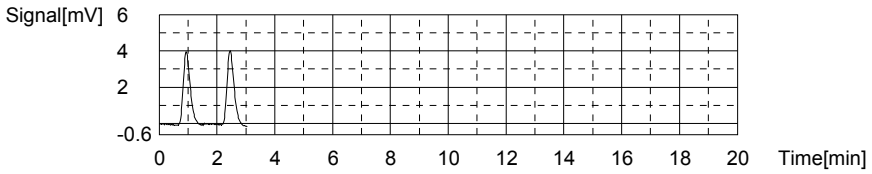
Mean Area 1048
Mean Conc. 26.77mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.799	0.02610mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 11:38:50 AM
2	6.827	0.02693mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 11:43:00 AM

Mean Area 6.813
Mean Conc. 0.02652mg/L



Sample

Sample Name: L16110194-01
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

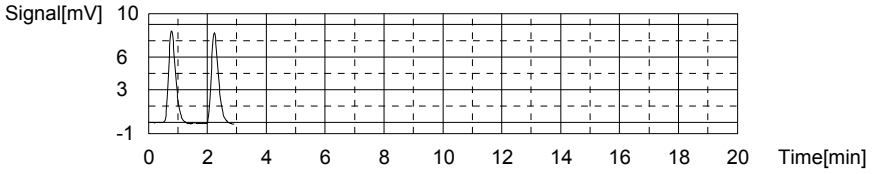
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.1123mg/L TC:0.2326mg/L IC:0.1202mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	14.00	0.2323mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 11:57:28 AM
2	14.02	0.2328mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 12:01:11 PM

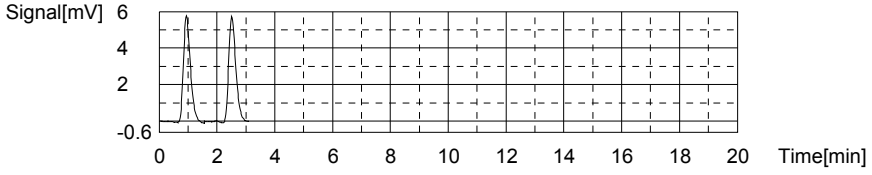
Mean Area 14.01
Mean Conc. 0.2326mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.957	0.1206mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 12:05:36 PM
2	9.933	0.1199mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 12:09:45 PM

Mean Area 9.945
Mean Conc. 0.1202mg/L



Sample

Sample Name: L16110195-01
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

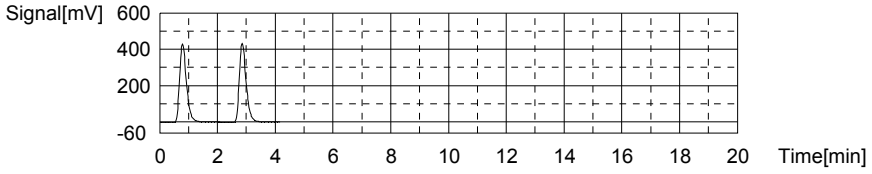
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:7.876mg/L TC:18.18mg/L IC:10.31mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	709.3	18.08mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 12:17:15 PM
2	717.0	18.28mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 12:21:37 PM

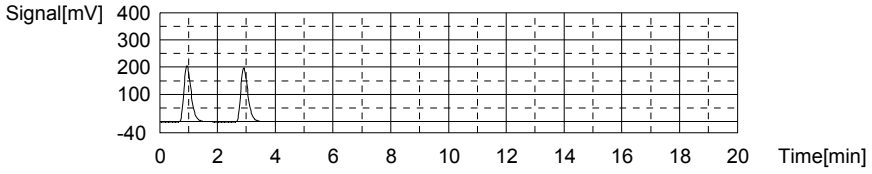
Mean Area 713.2
Mean Conc. 18.18mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	357.1	10.51mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 12:26:34 PM
2	343.8	10.11mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 12:31:13 PM

Mean Area 350.5
Mean Conc. 10.31mg/L



Sample

Sample Name: L16110195-02
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

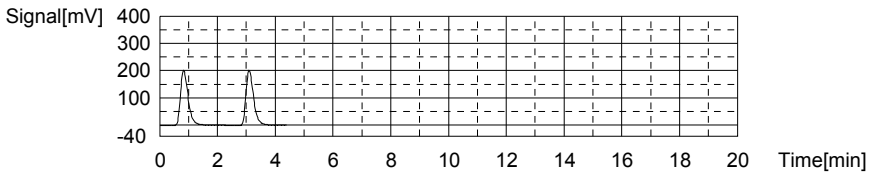
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:8.796mg/L TC:9.378mg/L IC:0.5820mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	371.2	9.404mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 12:38:55 PM
2	369.2	9.352mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 12:43:19 PM

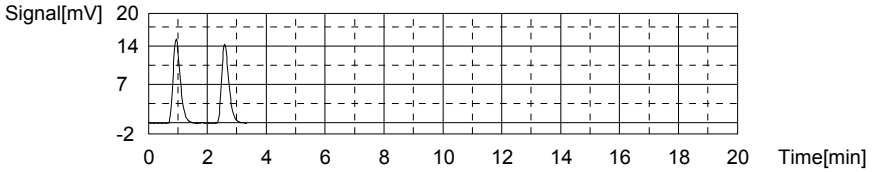
Mean Area 370.2
Mean Conc. 9.378mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	26.16	0.6053mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 12:47:49 PM
2	24.60	0.5587mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 12:52:08 PM

Mean Area 25.38
Mean Conc. 0.5820mg/L



Sample

Sample Name: L16110195-03
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

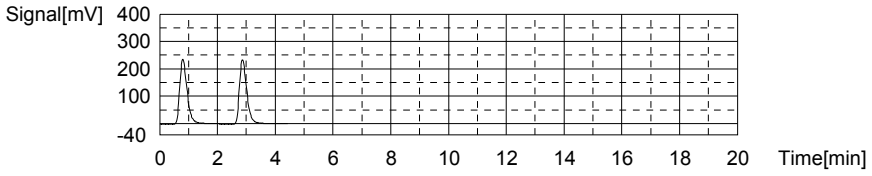
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:6.123mg/L TC:10.58mg/L IC:4.460mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	416.7	10.57mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 12:59:39 PM
2	417.6	10.59mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 1:05:12 PM

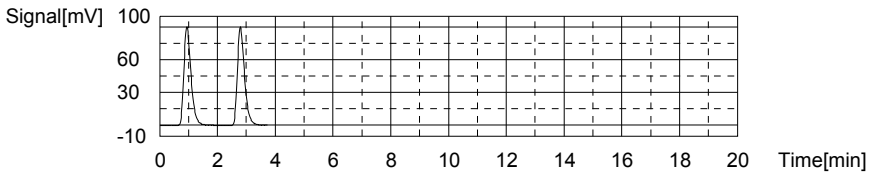
Mean Area 417.2
Mean Conc. 10.58mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	154.4	4.442mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 1:09:55 PM
2	155.6	4.478mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 1:14:27 PM

Mean Area 155.0
Mean Conc. 4.460mg/L



Sample

Sample Name: L16110198-01
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

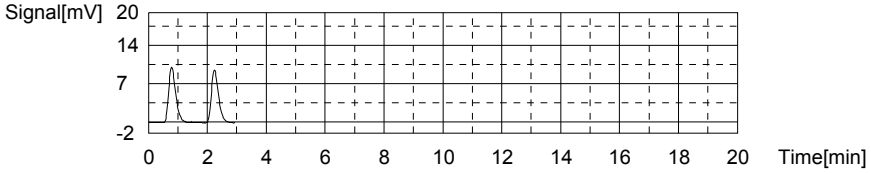
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.1938mg/L TC:0.2978mg/L IC:0.1040mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	16.92	0.3073mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 1:21:21 PM
2	16.18	0.2883mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 1:25:05 PM

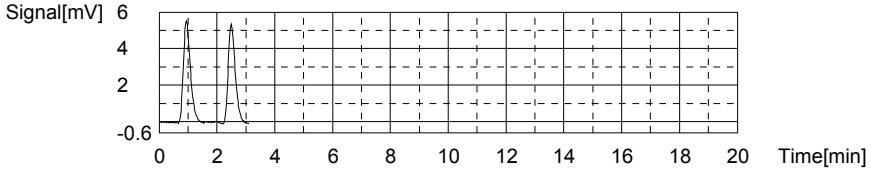
Mean Area 16.55
Mean Conc. 0.2978mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.573	0.1091mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 1:29:29 PM
2	9.230	0.09883mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 1:33:41 PM

Mean Area 9.402
Mean Conc. 0.1040mg/L



Sample

Sample Name: L16110256-01 (3)
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

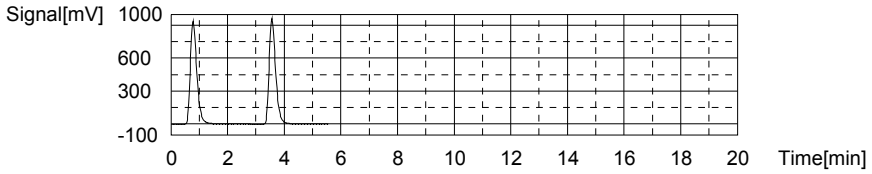
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:10.40mg/L TC:39.22mg/L IC:28.82mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1516	38.80mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 1:41:55 PM
2	1549	39.64mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 1:47:04 PM

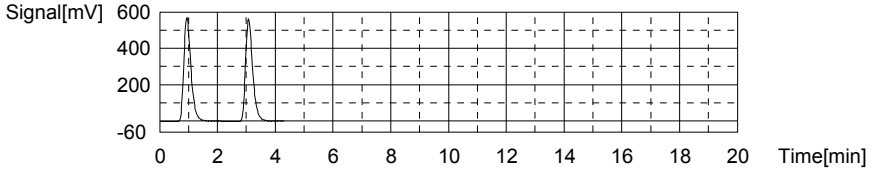
Mean Area 1533
Mean Conc. 39.22mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	976.1	29.03mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 1:52:09 PM
2	962.5	28.62mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 1:57:11 PM

Mean Area 969.3
Mean Conc. 28.82mg/L



Sample

Sample Name: L16110256-02
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

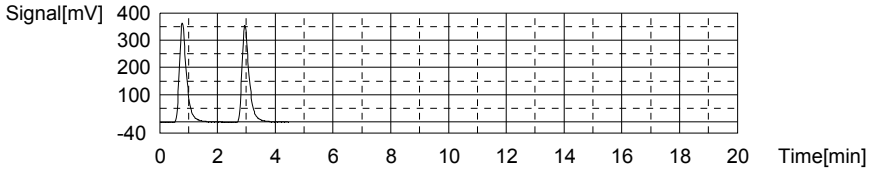
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:4.808mg/L TC:15.67mg/L IC:10.86mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	620.8	15.81mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 2:04:48 PM
2	609.4	15.52mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 2:09:30 PM

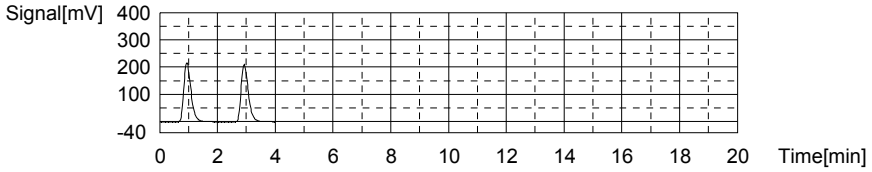
Mean Area 615.1
Mean Conc. 15.67mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	373.6	11.00mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 2:14:24 PM
2	364.1	10.72mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 2:19:04 PM

Mean Area 368.9
Mean Conc. 10.86mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

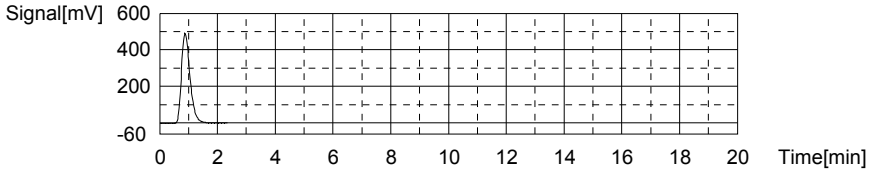
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:25.78mg/L TC:25.88mg/L IC:0.1007mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1013	25.88mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 2:26:51 PM

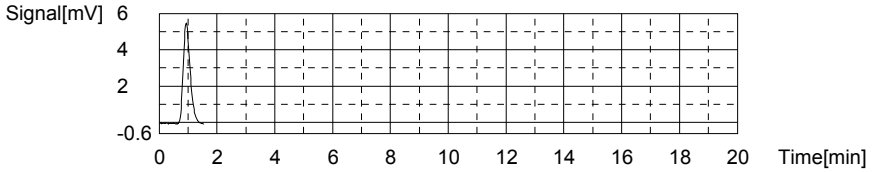
Mean Area 1013
Mean Conc. 25.88mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.293	0.1007mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 2:31:13 PM

Mean Area 9.293
Mean Conc. 0.1007mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

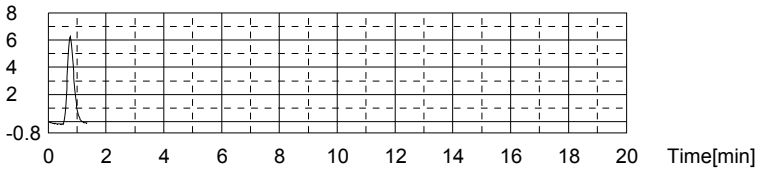
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.00014mg/L TC:0.1322mg/L IC:0.1320mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.10	0.1322mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 2:36:13 PM

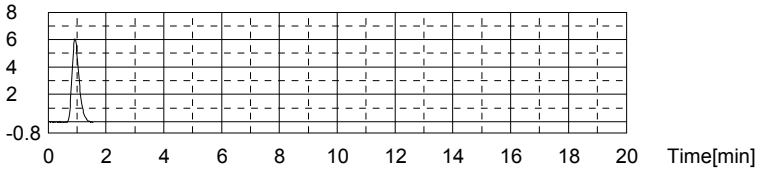
Mean Area 10.10
Mean Conc. 0.1322mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.34	0.1320mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 2:40:10 PM

Mean Area 10.34
Mean Conc. 0.1320mg/L



Sample

Sample Name: L16110256-04
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

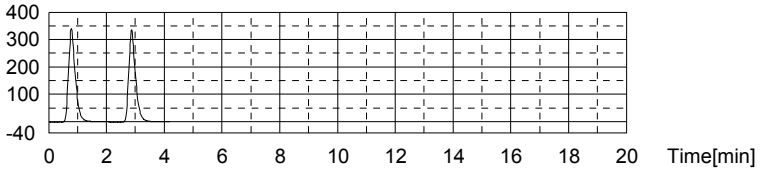
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:5.390mg/L TC:13.79mg/L IC:8.399mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	545.1	13.87mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 2:47:42 PM
2	538.9	13.71mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 2:52:04 PM

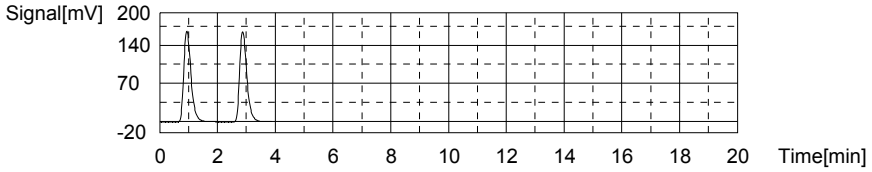
Mean Area 542.0
Mean Conc. 13.79mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	287.3	8.418mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 2:56:54 PM
2	286.0	8.379mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 3:01:29 PM

Mean Area 286.6
Mean Conc. 8.399mg/L



Sample

Sample Name: L16110281-01
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

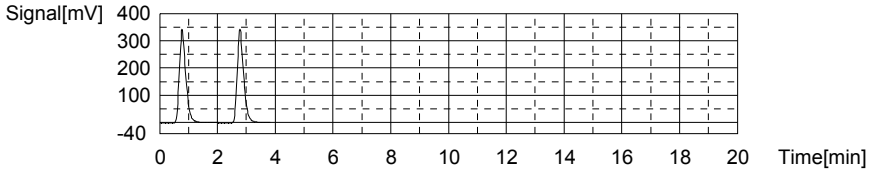
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.380mg/L TC:13.36mg/L IC:9.983mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	523.6	13.32mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 3:08:56 PM
2	527.2	13.41mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 3:13:03 PM

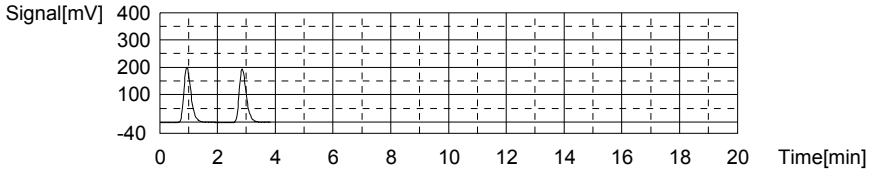
Mean Area 525.4
Mean Conc. 13.36mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	344.1	10.12mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 3:17:55 PM
2	335.1	9.848mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 3:22:33 PM

Mean Area 339.6
Mean Conc. 9.983mg/L



Sample

Sample Name: L16110282-01
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

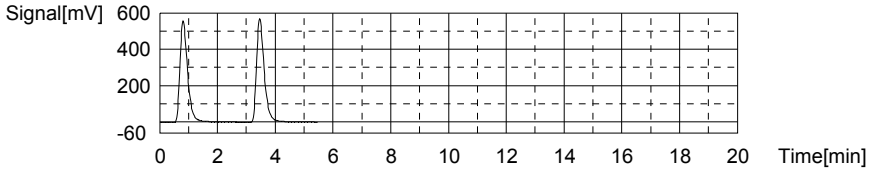
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:17.59mg/L TC:26.47mg/L IC:8.883mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1019	26.04mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 3:30:39 PM
2	1053	26.91mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 3:35:44 PM

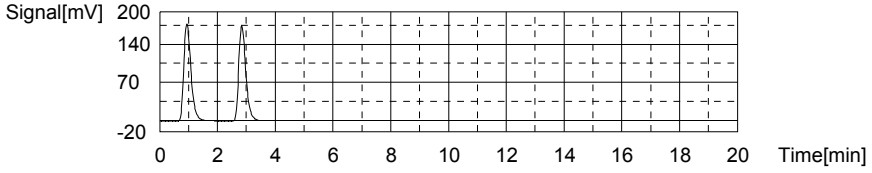
Mean Area 1036
Mean Conc. 26.47mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	305.8	8.972mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 3:40:31 PM
2	299.9	8.795mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 3:45:07 PM

Mean Area 302.9
Mean Conc. 8.883mg/L



Sample

Sample Name: L16110142-01 (3)
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

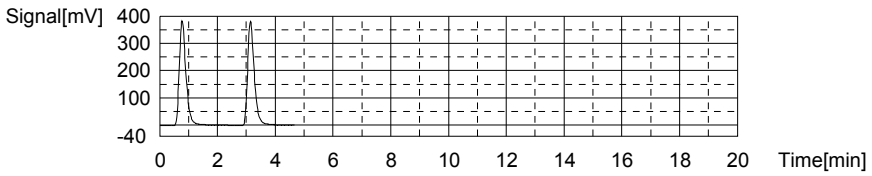
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:4.362mg/L TC:15.58mg/L IC:11.22mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	613.7	15.63mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 3:52:56 PM
2	610.1	15.54mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 3:57:29 PM

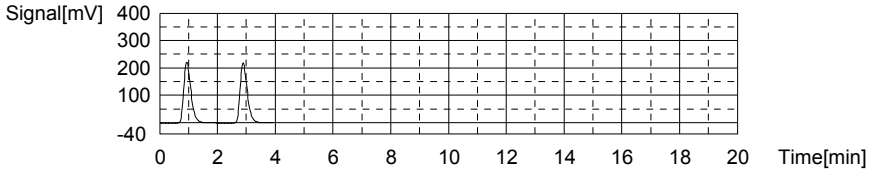
Mean Area 611.9
Mean Conc. 15.58mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	383.1	11.28mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 4:02:25 PM
2	378.9	11.16mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 4:07:03 PM

Mean Area 381.0
Mean Conc. 11.22mg/L



Sample

Sample Name: L16110142-02
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

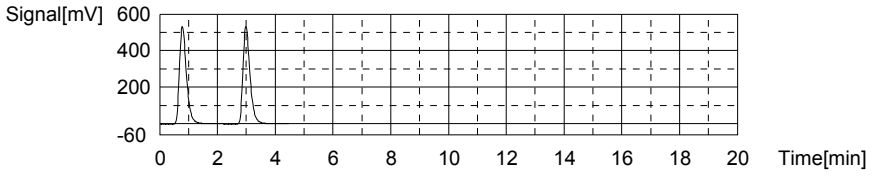
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:9.590mg/L TC:22.99mg/L IC:13.40mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	898.9	22.95mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 4:23:07 PM
2	901.8	23.03mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 4:27:39 PM

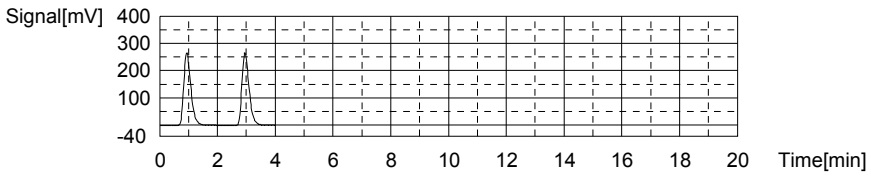
Mean Area 900.4
Mean Conc. 22.99mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	453.8	13.40mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 4:32:36 PM
2	453.8	13.40mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 4:37:17 PM

Mean Area 453.8
Mean Conc. 13.40mg/L



Sample

Sample Name: L161101472-03
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

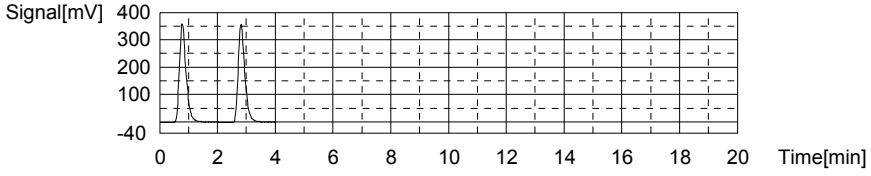
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:5.228mg/L TC:14.58mg/L IC:9.352mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	572.9	14.58mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 4:44:46 PM
2	572.7	14.58mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 4:49:13 PM

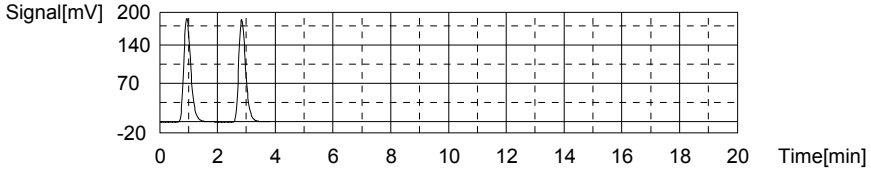
Mean Area 572.8
Mean Conc. 14.58mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	321.2	9.432mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 4:53:59 PM
2	315.8	9.271mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 4:58:36 PM

Mean Area 318.5
Mean Conc. 9.352mg/L



Sample

Sample Name: WG590454-05 DUP
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

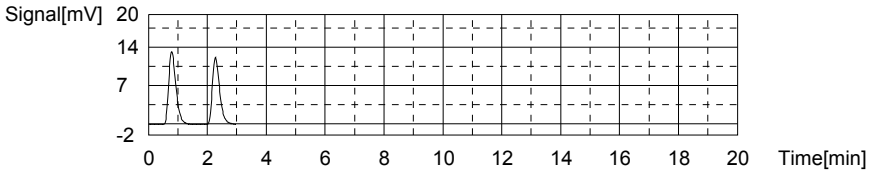
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.3126mg/L TC:0.4308mg/L IC:0.1182mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	22.64	0.4541mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 5:05:32 PM
2	20.82	0.4074mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 5:09:17 PM

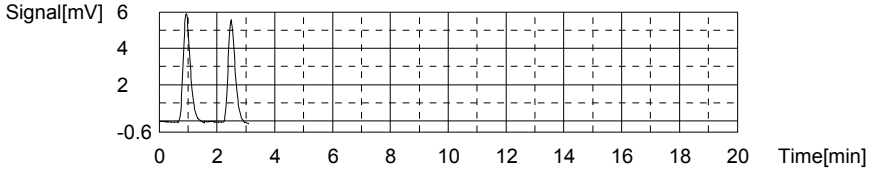
Mean Area 21.73
Mean Conc. 0.4308mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.24	0.1290mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 5:13:39 PM
2	9.513	0.1073mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 5:17:50 PM

Mean Area 9.877
Mean Conc. 0.1182mg/L



Sample

Sample Name: WG590454-06 MS
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status Completed
Chk. Result

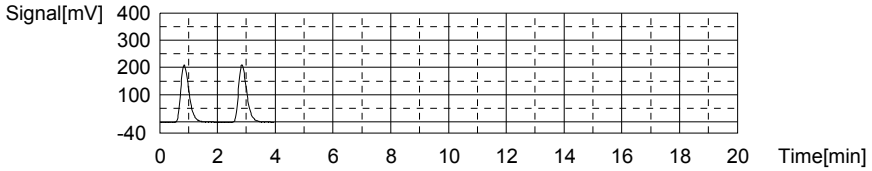
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:10.46mg/L TC:10.58mg/L IC:0.1234mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	416.3	10.56mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 5:25:17 PM
2	418.0	10.61mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 5:29:31 PM

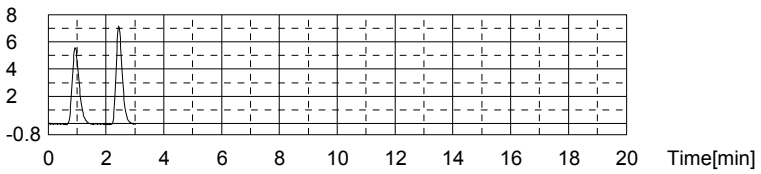
Mean Area 417.1
Mean Conc. 10.58mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.540	0.1081mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 5:33:53 PM
2	10.56	0.1386mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 5:37:59 PM

Mean Area 10.05
Mean Conc. 0.1234mg/L



Sample

Sample Name: WG590598-01 BLK
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

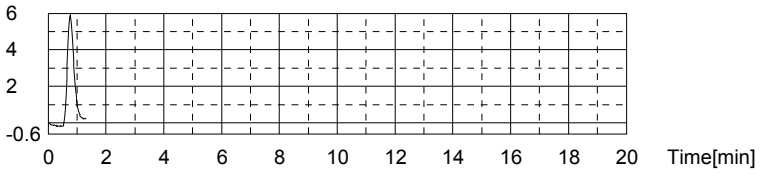
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.02375mg/L TC:0.1118mg/L IC:0.08809mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.308	0.1118mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 5:42:56 PM

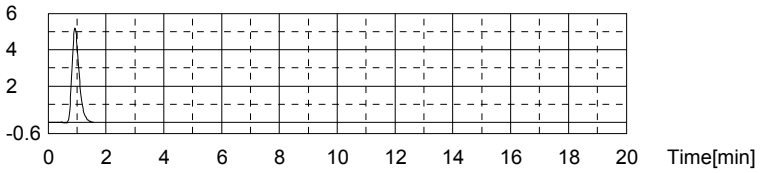
Mean Area 9.308
Mean Conc. 0.1118mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.871	0.08809mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 5:46:54 PM

Mean Area 8.871
Mean Conc. 0.08809mg/L



Sample

Sample Name: WG590598-02 LCS
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

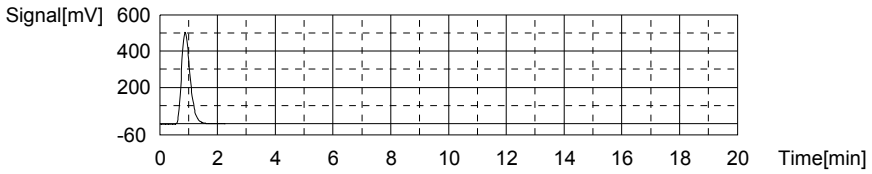
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.72mg/L TC:26.78mg/L IC:0.06430mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1048	26.78mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 5:54:37 PM

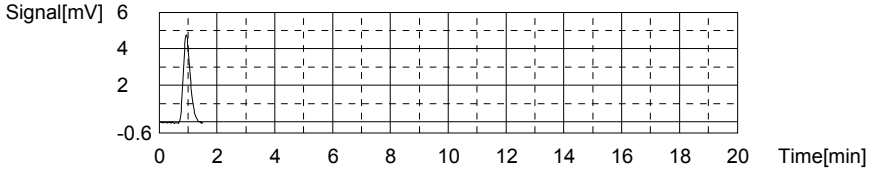
Mean Area 1048
Mean Conc. 26.78mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.076	0.06430mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 5:58:59 PM

Mean Area 8.076
Mean Conc. 0.06430mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

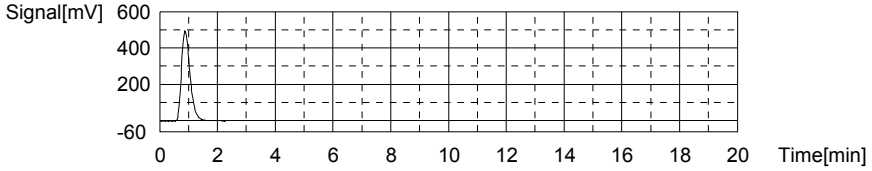
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.00mg/L TC:26.06mg/L IC:0.06580mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1020	26.06mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 6:06:43 PM

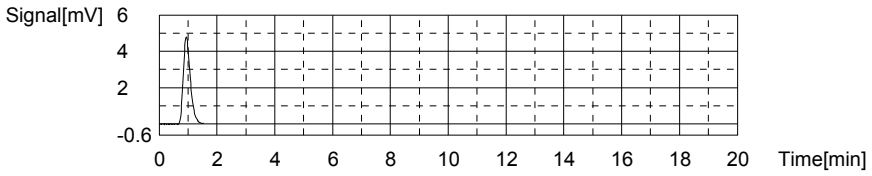
Mean Area 1020
Mean Conc. 26.06mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.126	0.06580mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 6:11:03 PM

Mean Area 8.126
Mean Conc. 0.06580mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

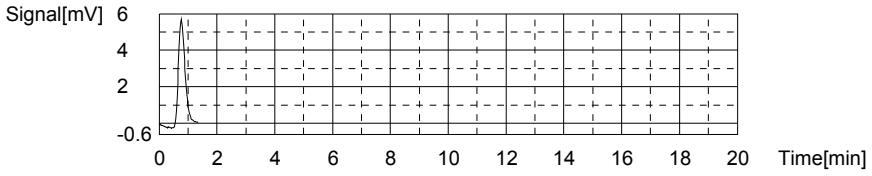
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.03055mg/L TC:0.1118mg/L IC:0.08127mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.307	0.1118mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 6:16:02 PM

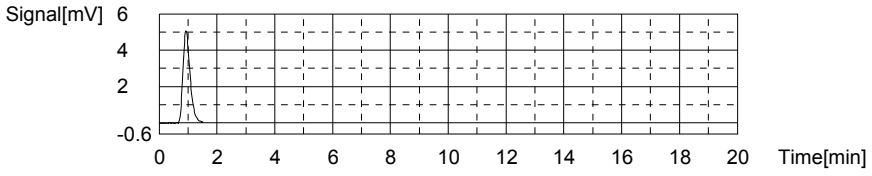
Mean Area 9.307
Mean Conc. 0.1118mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.643	0.08127mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 6:20:00 PM

Mean Area 8.643
Mean Conc. 0.08127mg/L



Sample

Sample Name: WG590598-03 LCSDUP
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

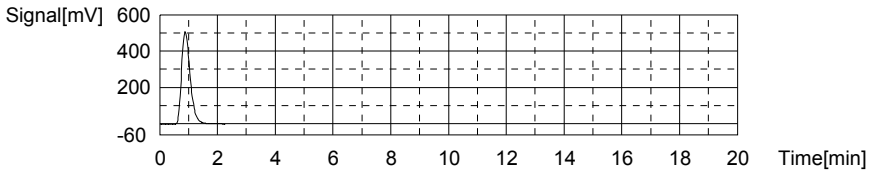
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.82mg/L TC:26.88mg/L IC:0.06544mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1052	26.88mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 6:27:43 PM

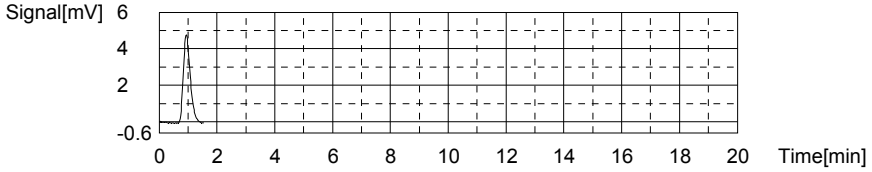
Mean Area 1052
Mean Conc. 26.88mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.114	0.06544mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 6:32:06 PM

Mean Area 8.114
Mean Conc. 0.06544mg/L



Sample

Sample Name: L16110197-01
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

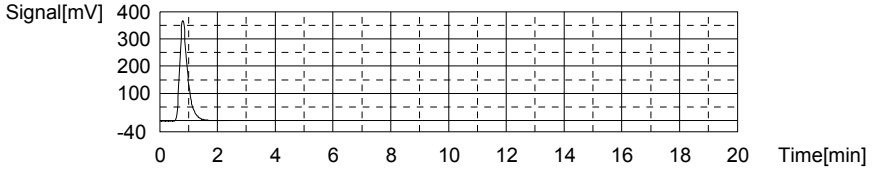
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:10.52mg/L TC:17.81mg/L IC:7.287mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	698.6	17.81mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 6:39:56 PM

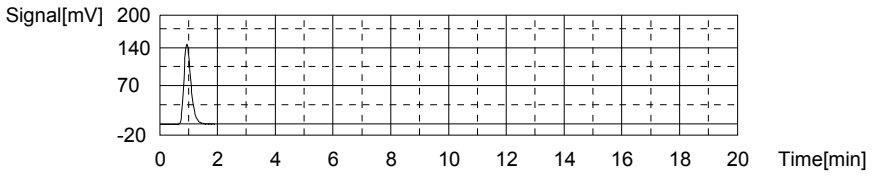
Mean Area 698.6
Mean Conc. 17.81mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	249.5	7.287mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 6:44:41 PM

Mean Area 249.5
Mean Conc. 7.287mg/L



Sample

Sample Name: L16110283-01
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

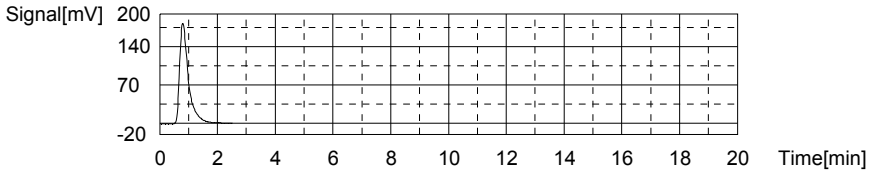
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:6.132mg/L TC:9.832mg/L IC:3.700mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	387.9	9.832mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 6:52:40 PM

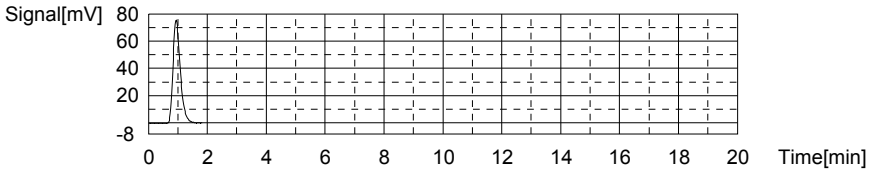
Mean Area 387.9
Mean Conc. 9.832mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	129.6	3.700mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 6:57:19 PM

Mean Area 129.6
Mean Conc. 3.700mg/L



Sample

Sample Name: L16110283-02
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

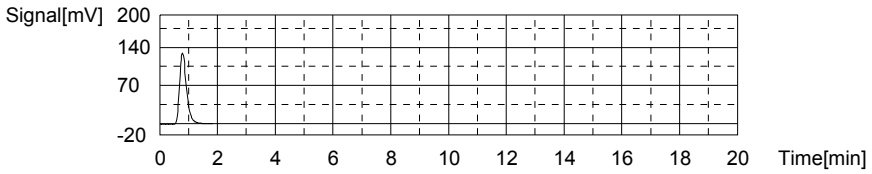
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.734mg/L TC:5.452mg/L IC:2.718mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	217.3	5.452mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 7:04:38 PM

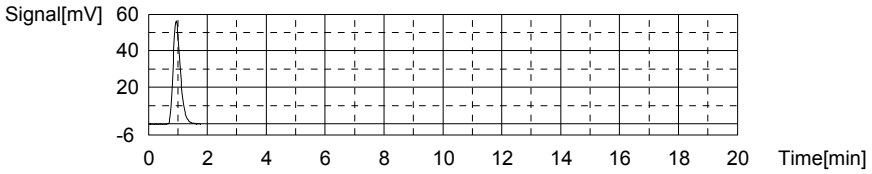
Mean Area 217.3
Mean Conc. 5.452mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	96.79	2.718mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 7:09:16 PM

Mean Area 96.79
Mean Conc. 2.718mg/L



Sample

Sample Name: L16110283-03
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

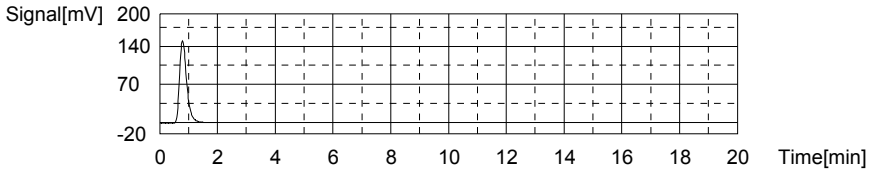
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.028mg/L TC:6.528mg/L IC:3.500mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	259.2	6.528mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 7:16:40 PM

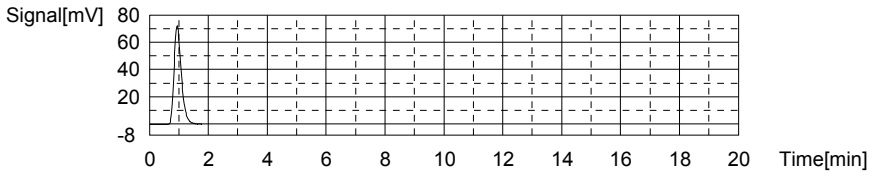
Mean Area 259.2
Mean Conc. 6.528mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	122.9	3.500mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 7:21:19 PM

Mean Area 122.9
Mean Conc. 3.500mg/L



Sample

Sample Name: L16110283-04
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

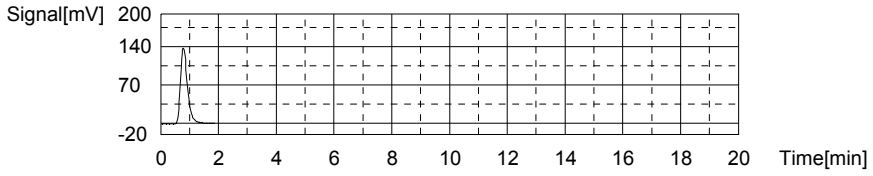
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.573mg/L TC:5.824mg/L IC:3.251mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	231.8	5.824mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 7:28:39 PM

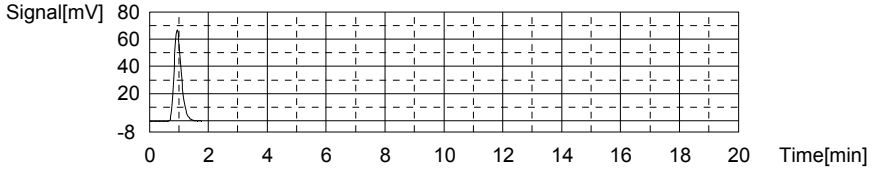
Mean Area 231.8
Mean Conc. 5.824mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	114.6	3.251mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 7:33:13 PM

Mean Area 114.6
Mean Conc. 3.251mg/L



Sample

Sample Name: L16110283-05
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

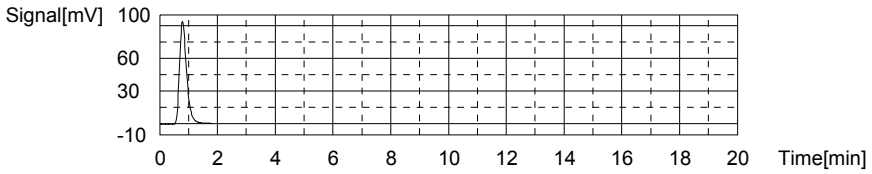
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.050mg/L TC:3.978mg/L IC:1.928mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	159.9	3.978mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 7:40:29 PM

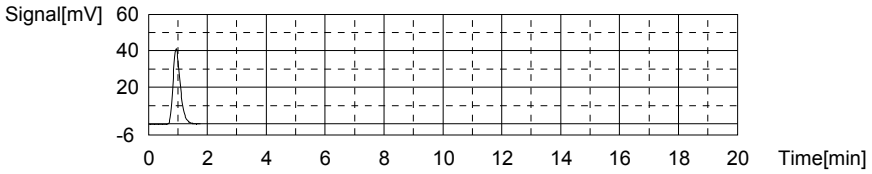
Mean Area 159.9
Mean Conc. 3.978mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	70.38	1.928mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 7:45:04 PM

Mean Area 70.38
Mean Conc. 1.928mg/L



Sample

Sample Name: L16110283-06
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

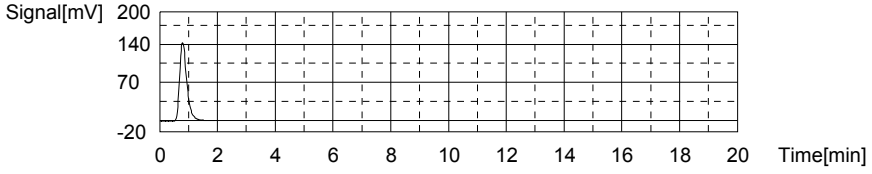
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.412mg/L TC:6.305mg/L IC:2.892mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	250.5	6.305mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 7:52:27 PM

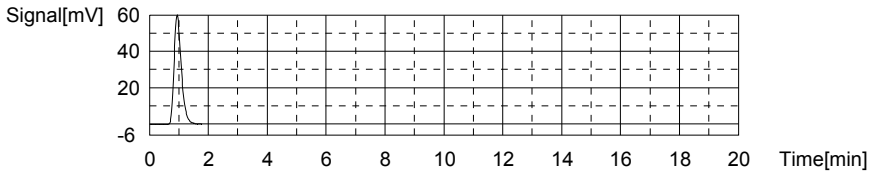
Mean Area 250.5
Mean Conc. 6.305mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	102.6	2.892mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 7:57:05 PM

Mean Area 102.6
Mean Conc. 2.892mg/L



Sample

Sample Name: L16110144-01 (3)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

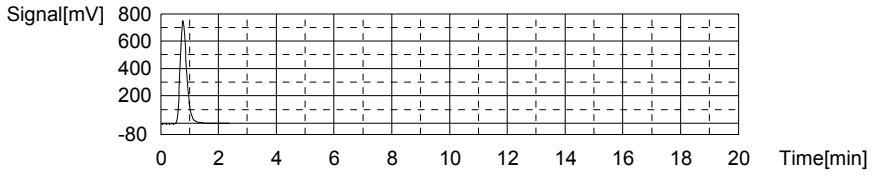
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:4.541mg/L TC:30.14mg/L IC:25.60mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1179	30.14mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 8:04:55 PM

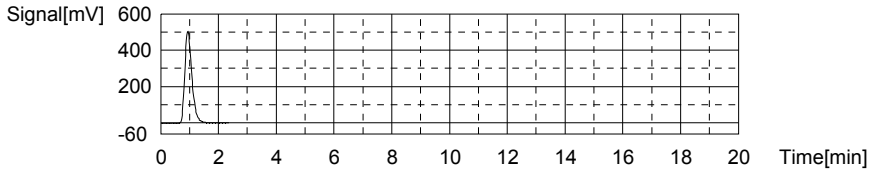
Mean Area 1179
Mean Conc. 30.14mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	861.7	25.60mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 8:10:15 PM

Mean Area 861.7
Mean Conc. 25.60mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

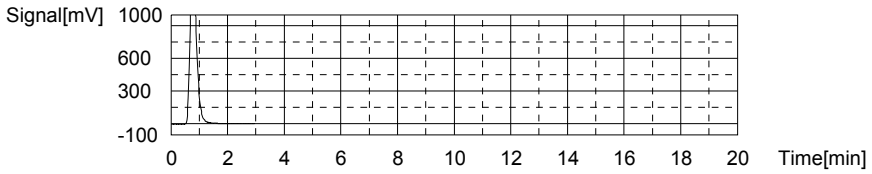
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:6.344mg/L TC:58.28mg/L IC:51.94mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2275	58.28mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 8:18:40 PM

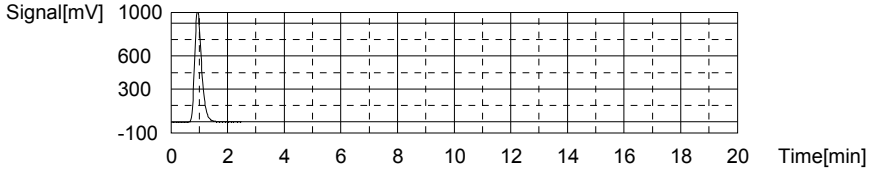
Mean Area 2275
Mean Conc. 58.28mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1742	51.94mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 8:24:18 PM

Mean Area 1742
Mean Conc. 51.94mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

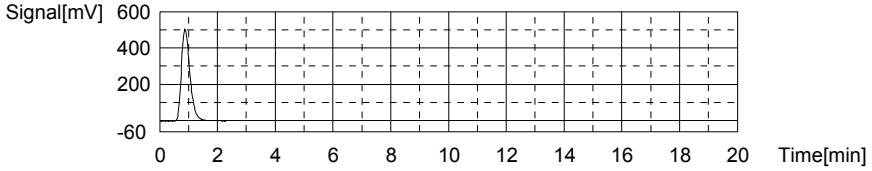
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.21mg/L TC:26.45mg/L IC:0.2400mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1035	26.45mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 8:32:04 PM

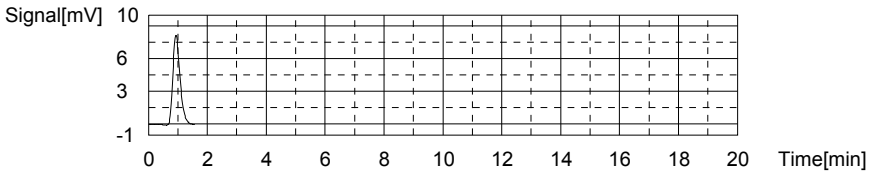
Mean Area 1035
Mean Conc. 26.45mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	13.95	0.2400mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 8:36:29 PM

Mean Area 13.95
Mean Conc. 0.2400mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

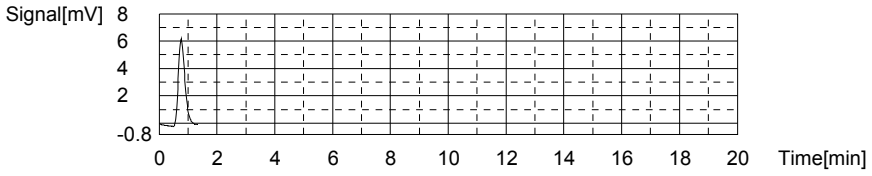
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.01534mg/L TC:0.1296mg/L IC:0.1143mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.00	0.1296mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 8:41:28 PM

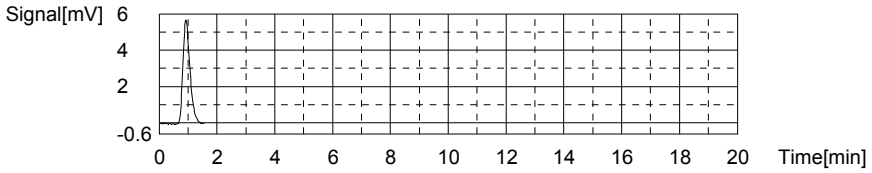
Mean Area 10.00
Mean Conc. 0.1296mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.746	0.1143mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 8:45:27 PM

Mean Area 9.746
Mean Conc. 0.1143mg/L



Sample

Sample Name: L16110144-05 (5)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

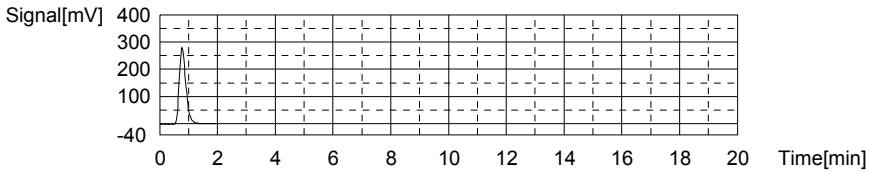
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.055mg/L TC:11.30mg/L IC:9.241mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	444.9	11.30mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 8:52:53 PM

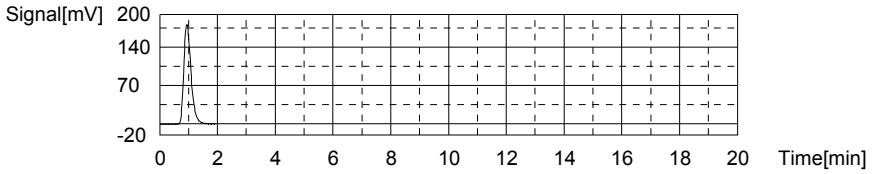
Mean Area 444.9
Mean Conc. 11.30mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	314.8	9.241mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 8:57:42 PM

Mean Area 314.8
Mean Conc. 9.241mg/L



Sample

Sample Name: L16110145-02
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

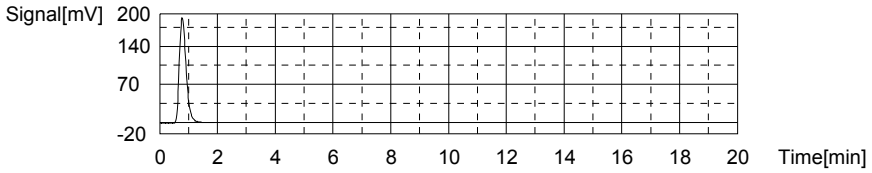
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.430mg/L TC:7.973mg/L IC:5.543mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	315.5	7.973mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 9:05:03 PM

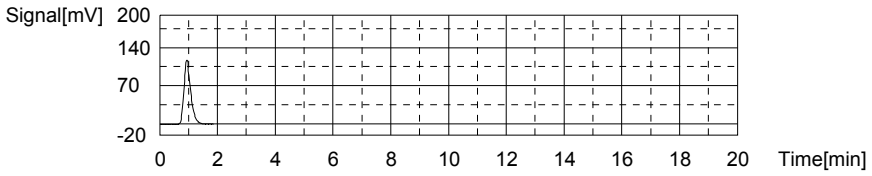
Mean Area 315.5
Mean Conc. 7.973mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	191.2	5.543mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 9:09:46 PM

Mean Area 191.2
Mean Conc. 5.543mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

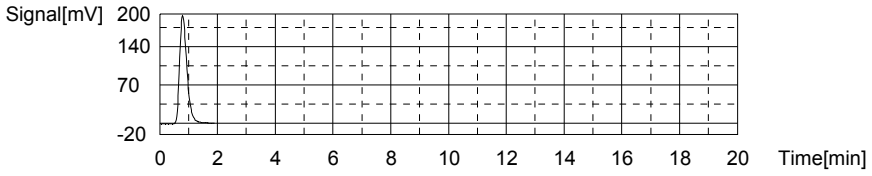
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:4.361mg/L TC:8.746mg/L IC:4.385mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	345.6	8.746mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 9:17:07 PM

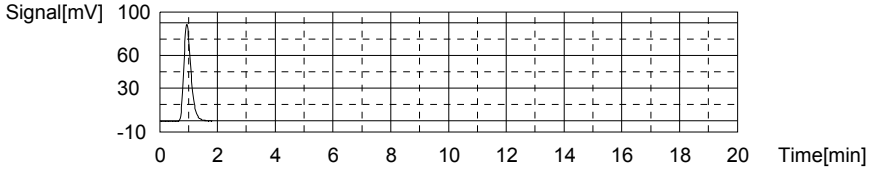
Mean Area 345.6
Mean Conc. 8.746mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	152.5	4.385mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 9:21:48 PM

Mean Area 152.5
Mean Conc. 4.385mg/L



Sample

Sample Name: L16110151-03 (5)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

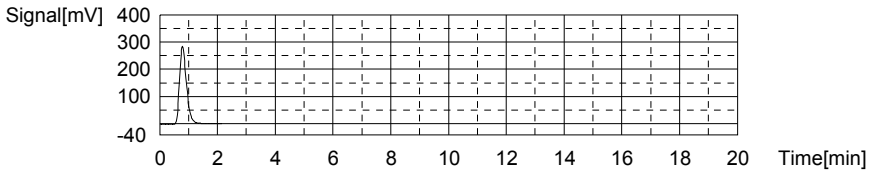
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:4.425mg/L TC:12.07mg/L IC:7.646mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	475.1	12.07mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 9:29:25 PM

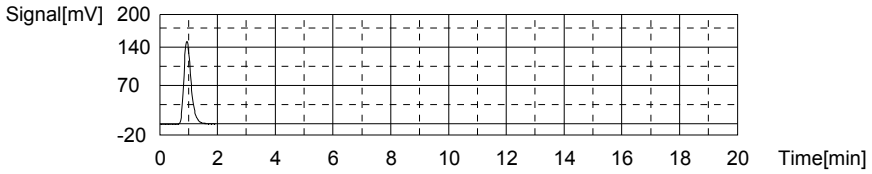
Mean Area 475.1
Mean Conc. 12.07mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	261.5	7.646mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 9:34:14 PM

Mean Area 261.5
Mean Conc. 7.646mg/L



Sample

Sample Name: L16110151-04 (5)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

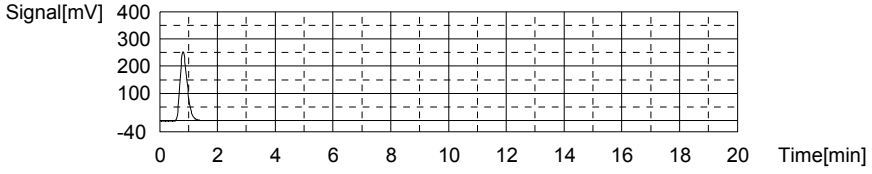
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:7.502mg/L TC:11.23mg/L IC:3.730mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	442.4	11.23mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 9:41:36 PM

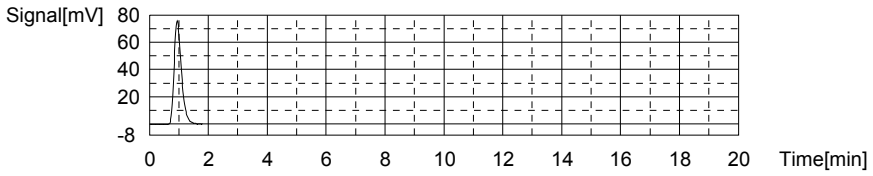
Mean Area 442.4
Mean Conc. 11.23mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	130.6	3.730mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 9:46:17 PM

Mean Area 130.6
Mean Conc. 3.730mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

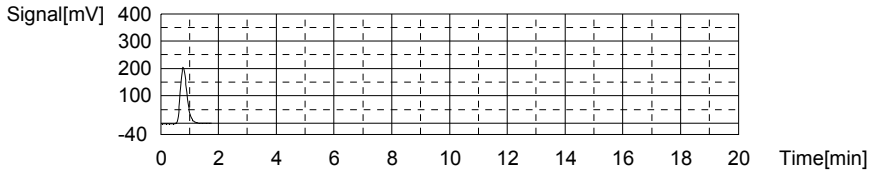
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.023mg/L TC:8.287mg/L IC:6.264mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	327.7	8.287mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 9:53:30 PM

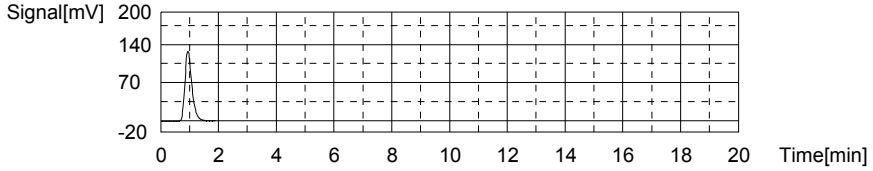
Mean Area 327.7
Mean Conc. 8.287mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	215.3	6.264mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 9:58:16 PM

Mean Area 215.3
Mean Conc. 6.264mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

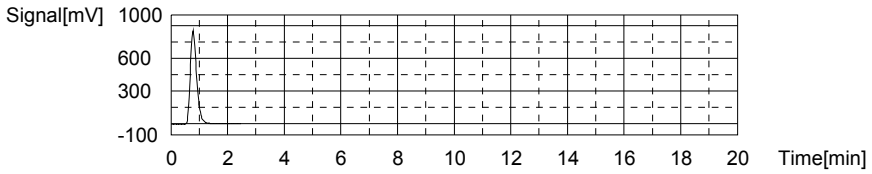
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:20.10mg/L TC:34.41mg/L IC:14.31mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1345	34.41mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 10:06:12 PM

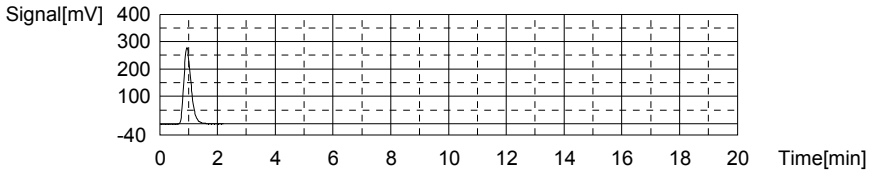
Mean Area 1345
Mean Conc. 34.41mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	484.1	14.31mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 10:11:21 PM

Mean Area 484.1
Mean Conc. 14.31mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

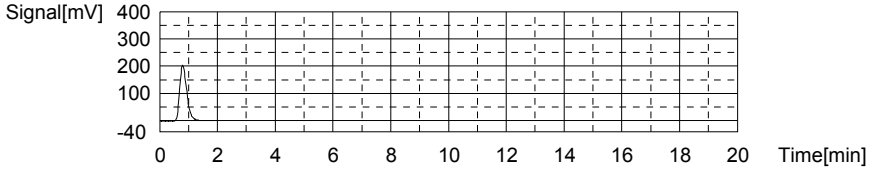
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:4.913mg/L TC:8.828mg/L IC:3.916mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	348.8	8.828mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 10:18:42 PM

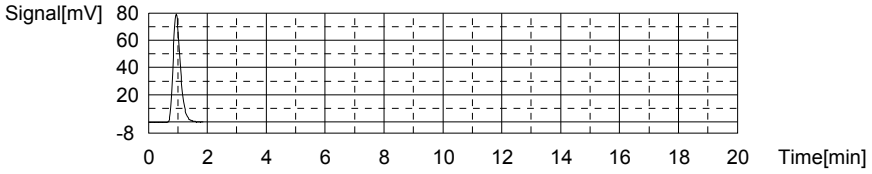
Mean Area 348.8
Mean Conc. 8.828mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	136.8	3.916mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 10:23:26 PM

Mean Area 136.8
Mean Conc. 3.916mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

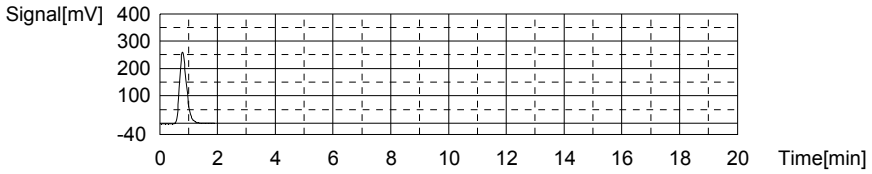
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:4.991mg/L TC:11.11mg/L IC:6.118mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	437.6	11.11mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 10:30:49 PM

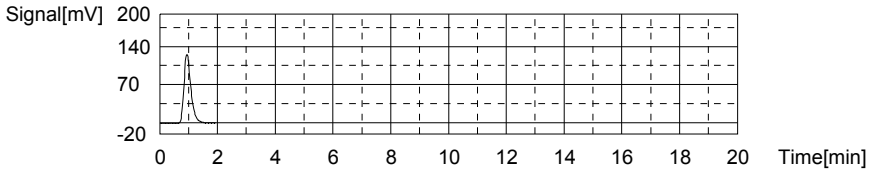
Mean Area 437.6
Mean Conc. 11.11mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	210.4	6.118mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 10:35:38 PM

Mean Area 210.4
Mean Conc. 6.118mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

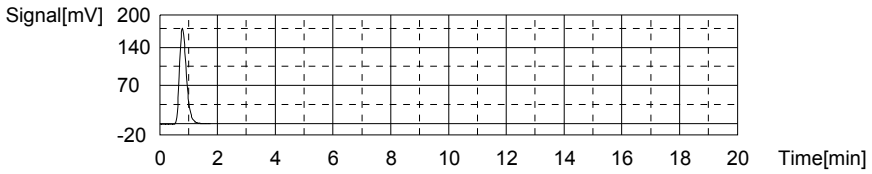
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.997mg/L TC:7.367mg/L IC:4.370mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	291.9	7.367mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 10:42:52 PM

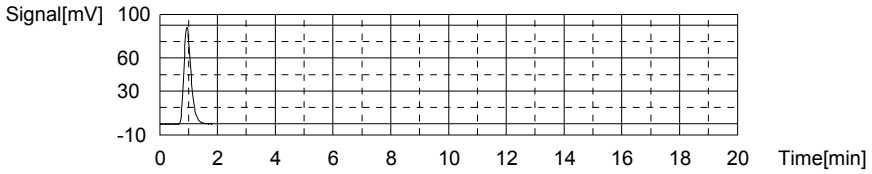
Mean Area 291.9
Mean Conc. 7.367mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	152.0	4.370mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 10:47:33 PM

Mean Area 152.0
Mean Conc. 4.370mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

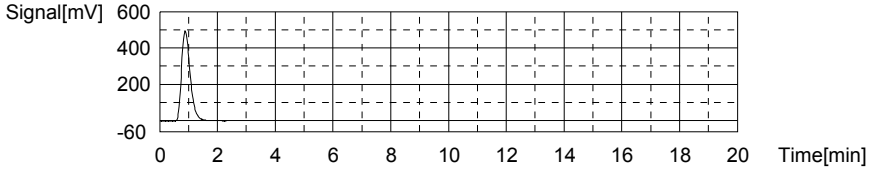
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.25mg/L TC:26.34mg/L IC:0.08925mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1031	26.34mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 10:55:20 PM

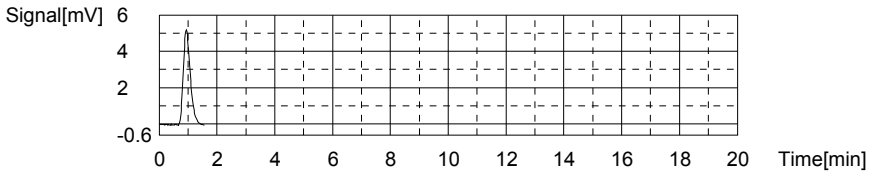
Mean Area 1031
Mean Conc. 26.34mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.910	0.08925mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 10:59:45 PM

Mean Area 8.910
Mean Conc. 0.08925mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

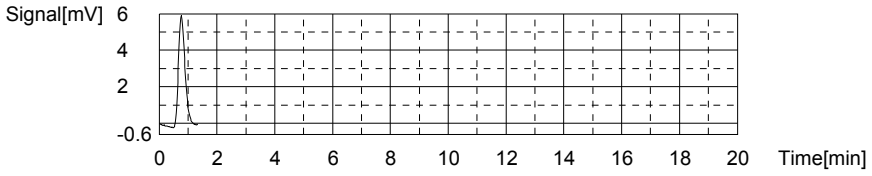
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.02195mg/L TC:0.1197mg/L IC:0.09775mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.614	0.1197mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 11:04:42 PM

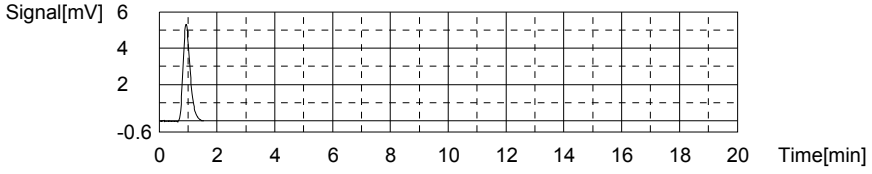
Mean Area 9.614
Mean Conc. 0.1197mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.194	0.09775mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 11:08:38 PM

Mean Area 9.194
Mean Conc. 0.09775mg/L



Sample

Sample Name: L16110151-10 (5)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

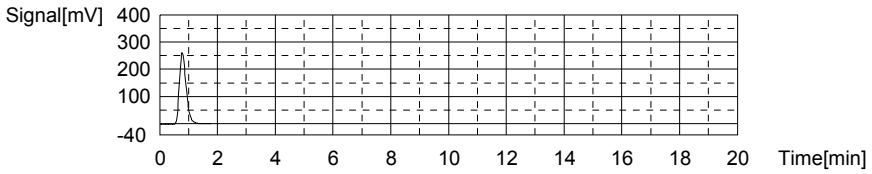
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.967mg/L TC:10.74mg/L IC:7.769mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	423.1	10.74mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 11:15:53 PM

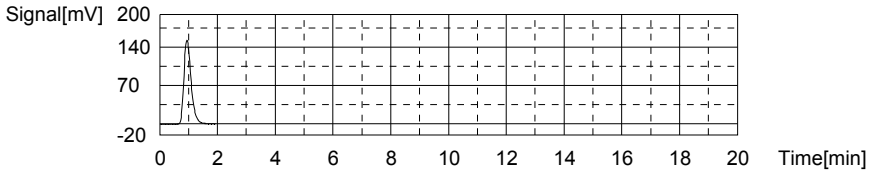
Mean Area 423.1
Mean Conc. 10.74mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	265.6	7.769mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 11:20:43 PM

Mean Area 265.6
Mean Conc. 7.769mg/L



Sample

Sample Name: L16110201-02
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

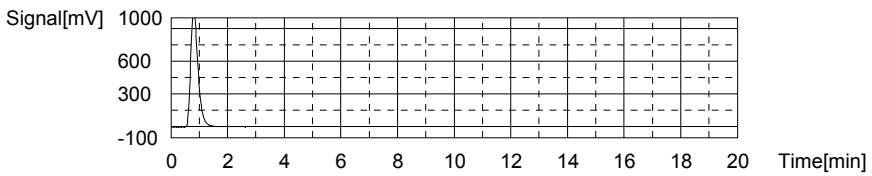
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:25.39mg/L TC:49.37mg/L IC:23.99mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1928	49.37mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 11:28:50 PM

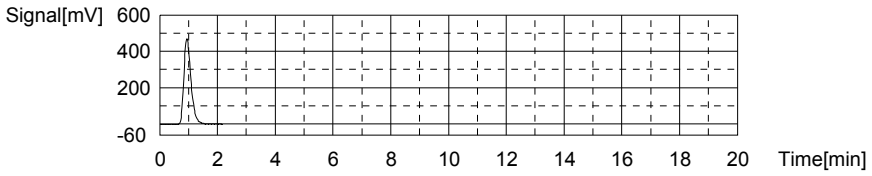
Mean Area 1928
Mean Conc. 49.37mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	807.7	23.99mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 11:33:58 PM

Mean Area 807.7
Mean Conc. 23.99mg/L



Sample

Sample Name: L16110201-03
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

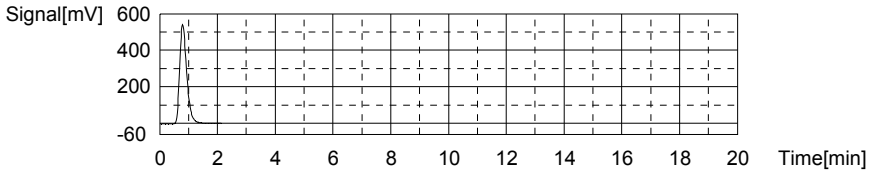
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:10.66mg/L TC:23.56mg/L IC:12.90mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	922.4	23.56mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 11:41:35 PM

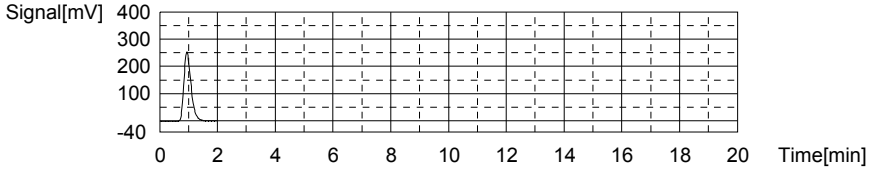
Mean Area 922.4
Mean Conc. 23.56mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	437.0	12.90mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 11:46:29 PM

Mean Area 437.0
Mean Conc. 12.90mg/L



Sample

Sample Name: WG590598-08 DUP
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

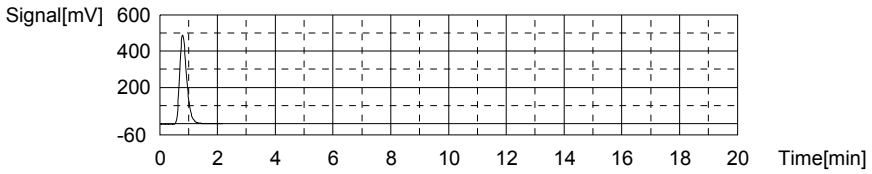
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:10.38mg/L TC:21.36mg/L IC:10.98mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	836.8	21.36mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/7/2016 11:54:09 PM

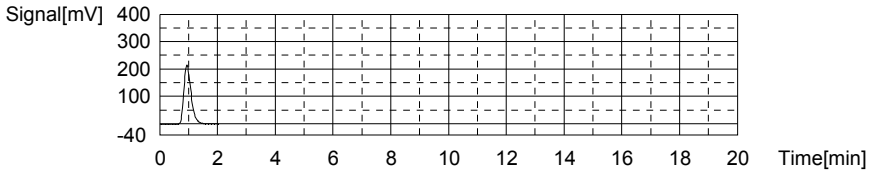
Mean Area 836.8
Mean Conc. 21.36mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	373.0	10.98mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/7/2016 11:59:06 PM

Mean Area 373.0
Mean Conc. 10.98mg/L



Sample

Sample Name: WG590668-01 BLK
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

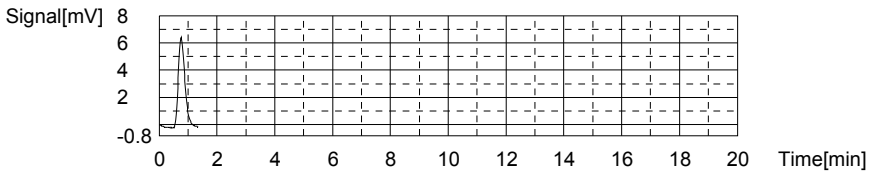
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.00994mg/L TC:0.1417mg/L IC:0.1317mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.47	0.1417mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 12:04:05 AM

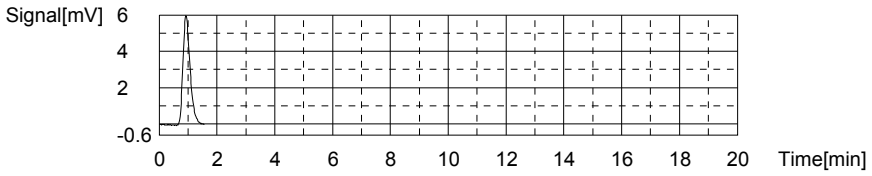
Mean Area 10.47
Mean Conc. 0.1417mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.33	0.1317mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 12:08:01 AM

Mean Area 10.33
Mean Conc. 0.1317mg/L



Sample

Sample Name: WG590668-02 LCS
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

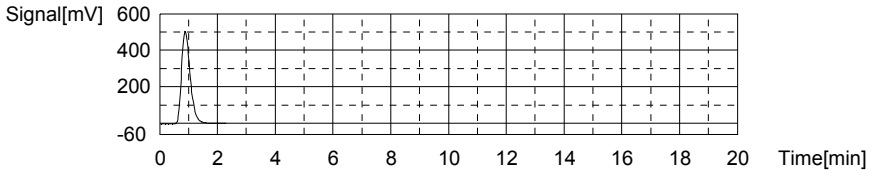
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.72mg/L TC:26.81mg/L IC:0.08925mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1049	26.81mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 12:15:49 AM

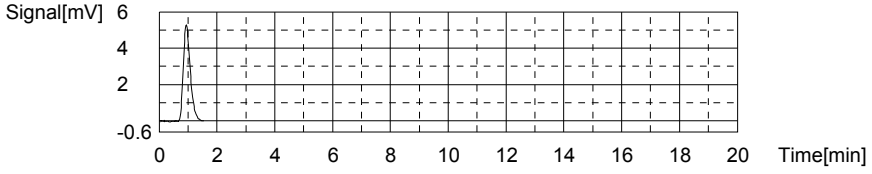
Mean Area 1049
Mean Conc. 26.81mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.910	0.08925mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 12:20:10 AM

Mean Area 8.910
Mean Conc. 0.08925mg/L



Sample

Sample Name: WG590668-03 LCSDUP
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

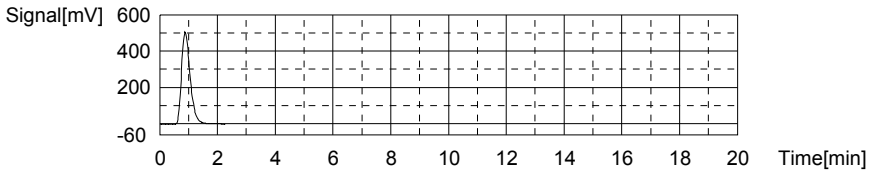
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.75mg/L TC:26.83mg/L IC:0.08019mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1050	26.83mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 12:27:55 AM

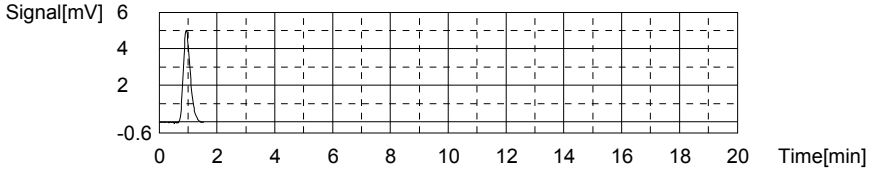
Mean Area 1050
Mean Conc. 26.83mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.607	0.08019mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 12:32:17 AM

Mean Area 8.607
Mean Conc. 0.08019mg/L



Sample

Sample Name: L16110201-04
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

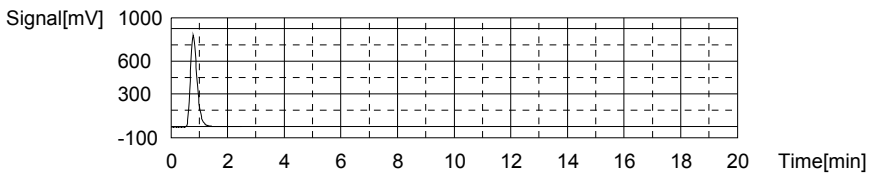
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:12.30mg/L TC:35.77mg/L IC:23.47mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1398	35.77mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 12:40:16 AM

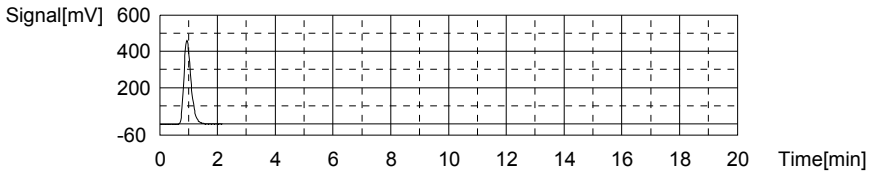
Mean Area 1398
Mean Conc. 35.77mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	790.4	23.47mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 12:45:24 AM

Mean Area 790.4
Mean Conc. 23.47mg/L



Sample

Sample Name: L16110201-05
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

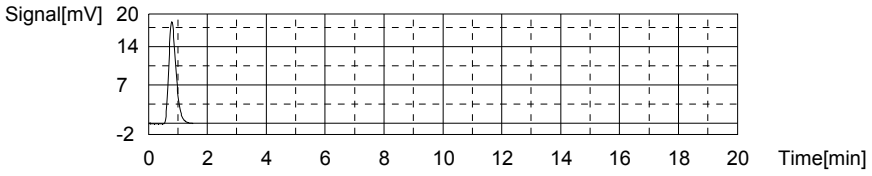
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.5452mg/L TC:0.6922mg/L IC:0.1470mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	31.91	0.6922mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 12:52:24 AM

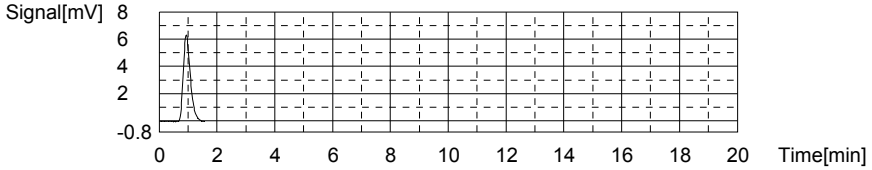
Mean Area 31.91
Mean Conc. 0.6922mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.84	0.1470mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 12:56:50 AM

Mean Area 10.84
Mean Conc. 0.1470mg/L



Sample

Sample Name: L16110147-02 (2)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

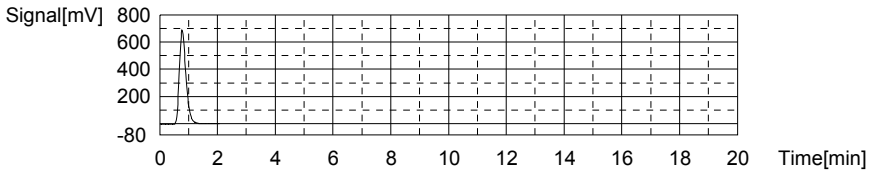
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:6.740mg/L TC:27.99mg/L IC:21.25mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1095	27.99mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 1:04:24 AM

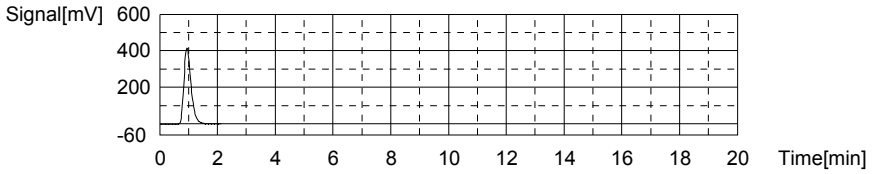
Mean Area 1095
Mean Conc. 27.99mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	716.1	21.25mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 1:09:31 AM

Mean Area 716.1
Mean Conc. 21.25mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

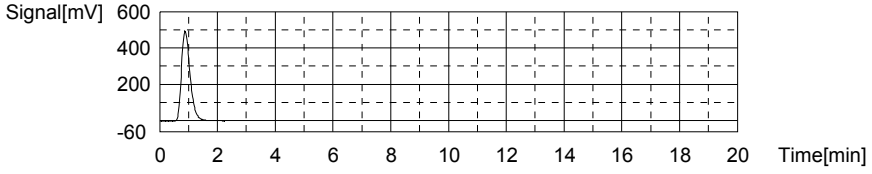
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.02mg/L TC:26.16mg/L IC:0.1413mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1024	26.16mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 1:17:16 AM

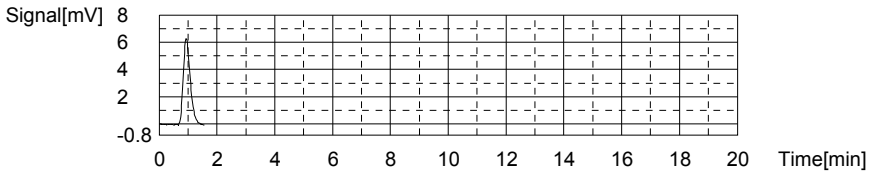
Mean Area 1024
Mean Conc. 26.16mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.65	0.1413mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 1:21:38 AM

Mean Area 10.65
Mean Conc. 0.1413mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

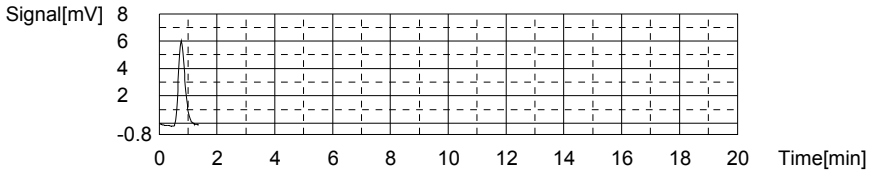
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.02240mg/L TC:0.1263mg/L IC:0.1039mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.873	0.1263mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 1:26:39 AM

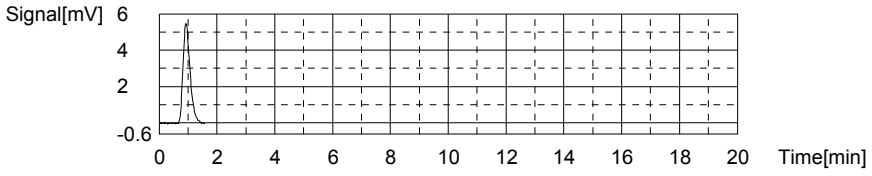
Mean Area 9.873
Mean Conc. 0.1263mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.401	0.1039mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 1:30:38 AM

Mean Area 9.401
Mean Conc. 0.1039mg/L



Sample

Sample Name: L16110147-03
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

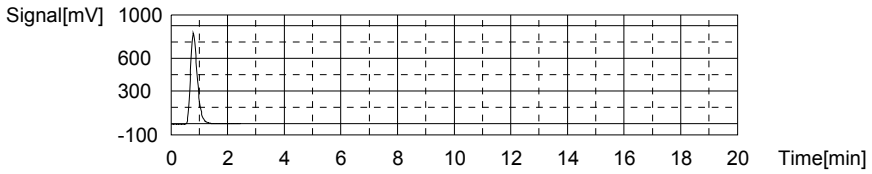
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:14.67mg/L TC:36.02mg/L IC:21.35mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1408	36.02mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 1:38:37 AM

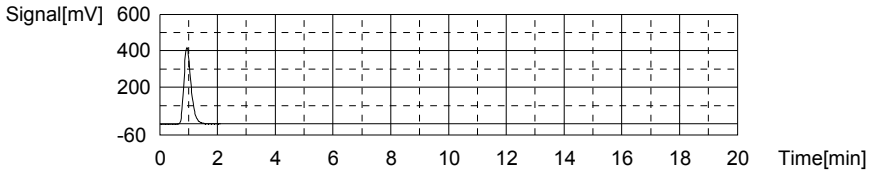
Mean Area 1408
Mean Conc. 36.02mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	719.6	21.35mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 1:43:41 AM

Mean Area 719.6
Mean Conc. 21.35mg/L



Sample

Sample Name: L16110147-04
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

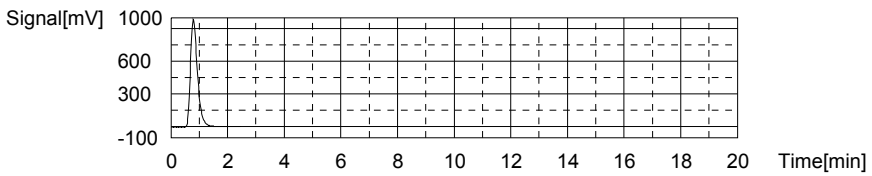
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:16.40mg/L TC:43.73mg/L IC:27.32mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1708	43.73mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 1:51:38 AM

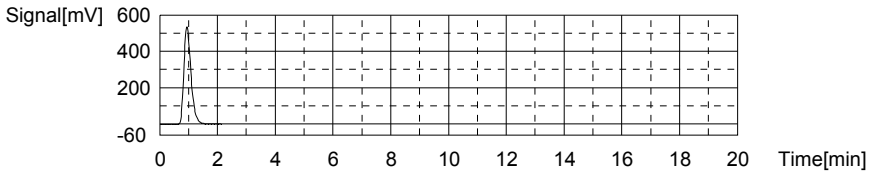
Mean Area 1708
Mean Conc. 43.73mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	919.2	27.32mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 1:56:47 AM

Mean Area 919.2
Mean Conc. 27.32mg/L



Sample

Sample Name: L16110147-05 (2)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

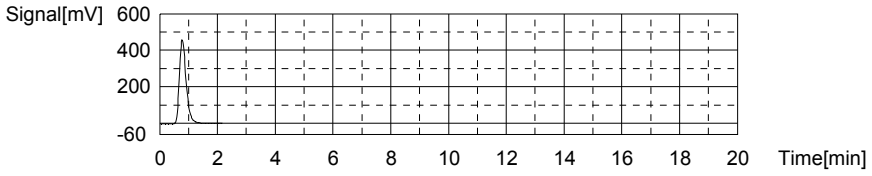
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:5.975mg/L TC:19.08mg/L IC:13.10mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	748.0	19.08mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 2:04:27 AM

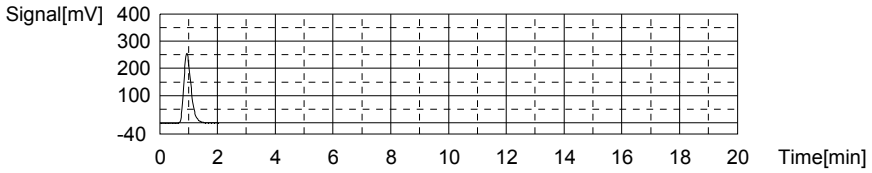
Mean Area 748.0
Mean Conc. 19.08mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	443.9	13.10mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 2:09:24 AM

Mean Area 443.9
Mean Conc. 13.10mg/L



Sample

Sample Name: L16110147-06 (2) MS
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

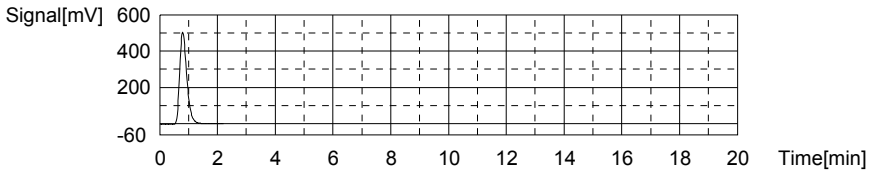
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:11.16mg/L TC:22.20mg/L IC:11.04mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	869.7	22.20mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 2:17:09 AM

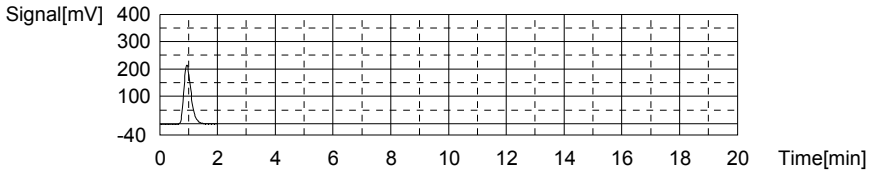
Mean Area 869.7
Mean Conc. 22.20mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	375.0	11.04mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 2:22:06 AM

Mean Area 375.0
Mean Conc. 11.04mg/L



Sample

Sample Name: L16110147-07 (2) MSD
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

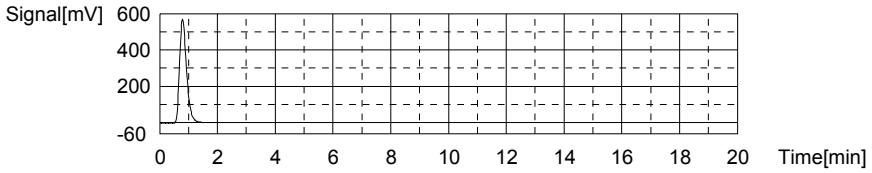
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:11.26mg/L TC:24.60mg/L IC:13.33mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	962.9	24.60mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 2:29:49 AM

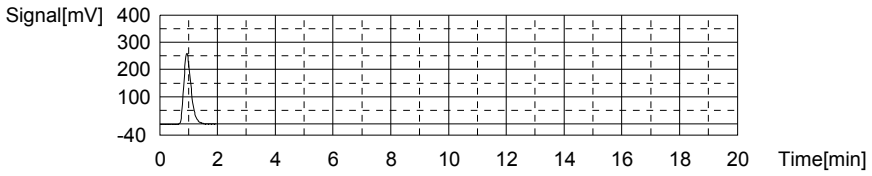
Mean Area 962.9
Mean Conc. 24.60mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	451.6	13.33mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 2:34:43 AM

Mean Area 451.6
Mean Conc. 13.33mg/L



Sample

Sample Name: L16110147-08 (2)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

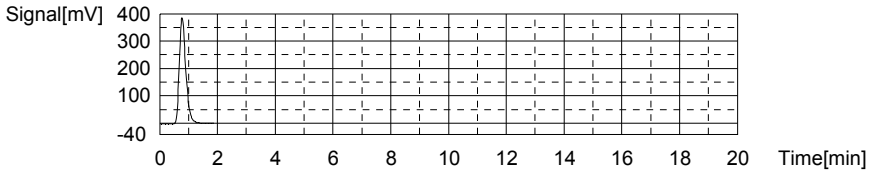
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:4.209mg/L TC:15.40mg/L IC:11.19mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	604.9	15.40mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 2:42:05 AM

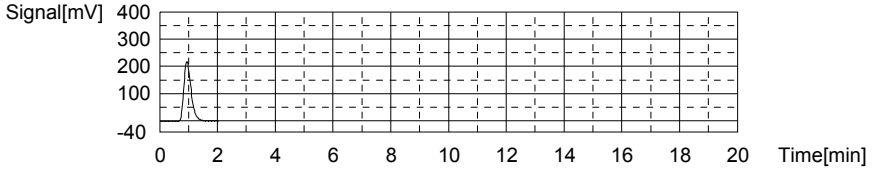
Mean Area 604.9
Mean Conc. 15.40mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	380.1	11.19mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 2:47:04 AM

Mean Area 380.1
Mean Conc. 11.19mg/L



Sample

Sample Name: L16110147-09 (2)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

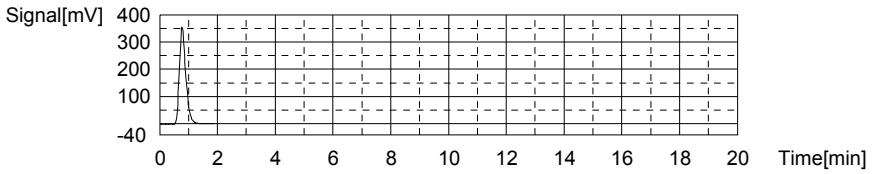
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.677mg/L TC:13.93mg/L IC:10.26mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	547.6	13.93mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 2:54:24 AM

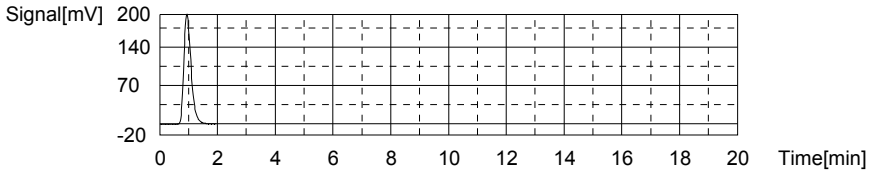
Mean Area 547.6
Mean Conc. 13.93mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	348.7	10.26mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 2:59:21 AM

Mean Area 348.7
Mean Conc. 10.26mg/L



Sample

Sample Name: L16110147-10 (2)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

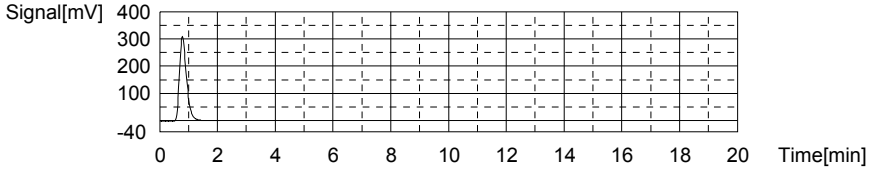
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:5.927mg/L TC:13.34mg/L IC:7.410mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	524.4	13.34mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 3:06:53 AM

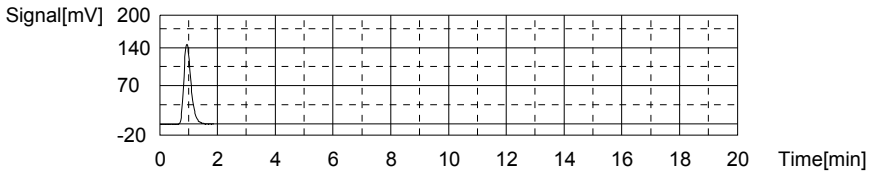
Mean Area 524.4
Mean Conc. 13.34mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	253.6	7.410mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 3:11:39 AM

Mean Area 253.6
Mean Conc. 7.410mg/L



Sample

Sample Name: L16110147-11 (2)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

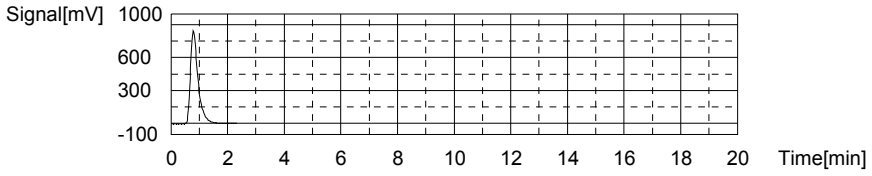
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:18.16mg/L TC:40.31mg/L IC:22.15mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1575	40.31mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 3:19:25 AM

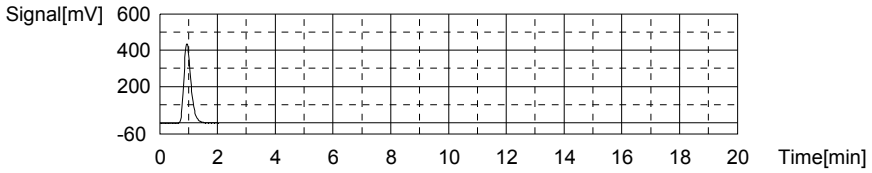
Mean Area 1575
Mean Conc. 40.31mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	746.2	22.15mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 3:24:24 AM

Mean Area 746.2
Mean Conc. 22.15mg/L



Sample

Sample Name: L16110231-02
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

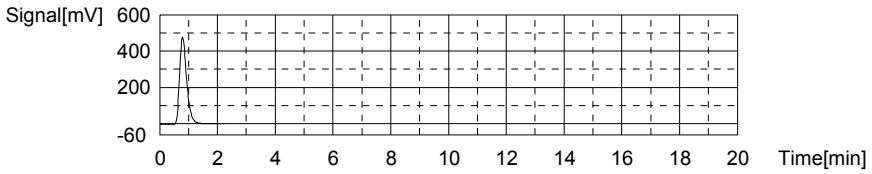
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:9.932mg/L TC:20.87mg/L IC:10.94mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	817.9	20.87mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 3:32:04 AM

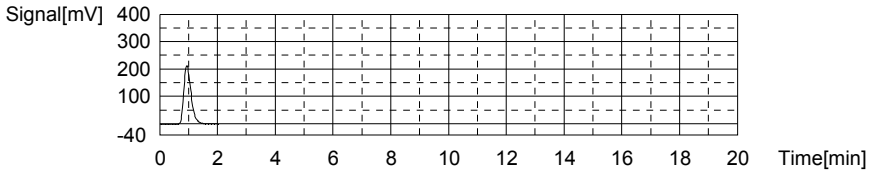
Mean Area 817.9
Mean Conc. 20.87mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	371.6	10.94mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 3:37:03 AM

Mean Area 371.6
Mean Conc. 10.94mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

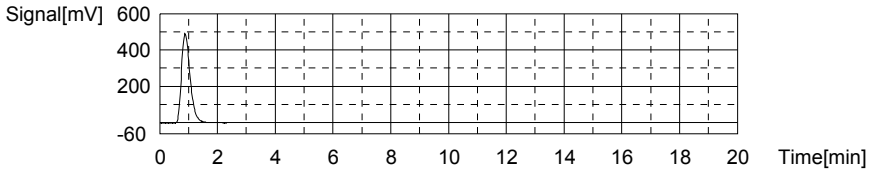
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:25.93mg/L TC:26.06mg/L IC:0.1296mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1020	26.06mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 3:44:49 AM

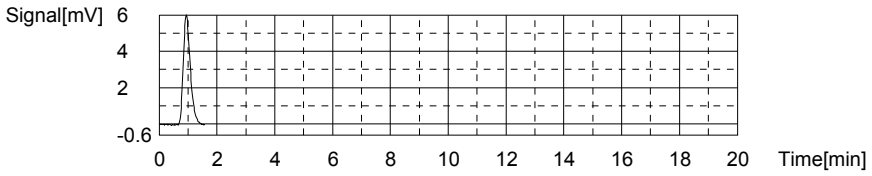
Mean Area 1020
Mean Conc. 26.06mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.26	0.1296mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 3:49:14 AM

Mean Area 10.26
Mean Conc. 0.1296mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

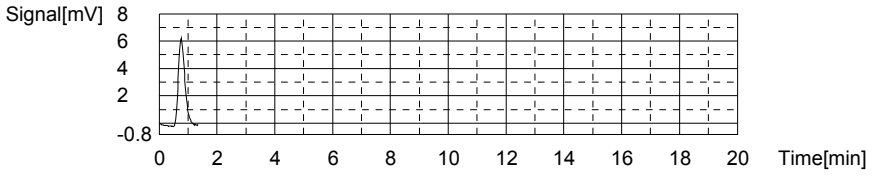
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.02280mg/L TC:0.1332mg/L IC:0.1104mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.14	0.1332mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 3:54:12 AM

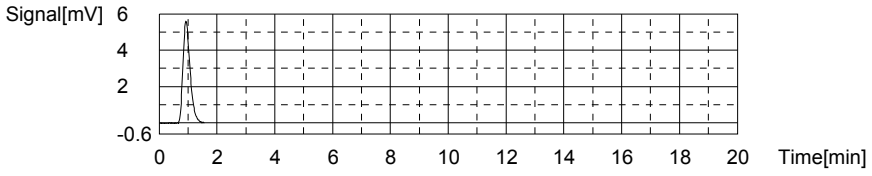
Mean Area 10.14
Mean Conc. 0.1332mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.617	0.1104mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 3:58:09 AM

Mean Area 9.617
Mean Conc. 0.1104mg/L



Sample

Sample Name: L16110231-03 (2)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

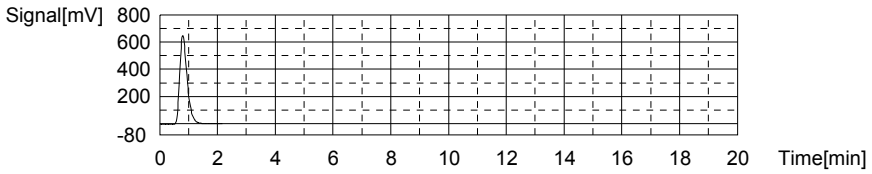
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:15.24mg/L TC:29.68mg/L IC:14.45mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1161	29.68mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 4:05:47 AM

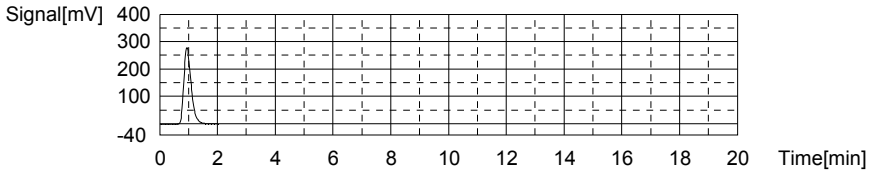
Mean Area 1161
Mean Conc. 29.68mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	488.8	14.45mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 4:10:46 AM

Mean Area 488.8
Mean Conc. 14.45mg/L



Sample

Sample Name: L16110231-04 (2)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

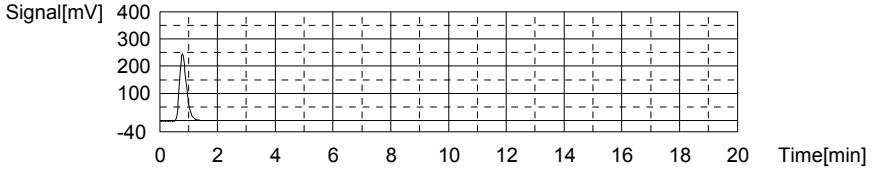
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:4.262mg/L TC:10.54mg/L IC:6.279mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	415.5	10.54mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 4:18:10 AM

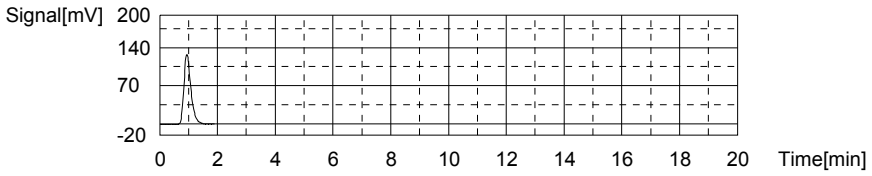
Mean Area 415.5
Mean Conc. 10.54mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	215.8	6.279mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 4:22:59 AM

Mean Area 215.8
Mean Conc. 6.279mg/L



Sample

Sample Name: L16110231-05 (2)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

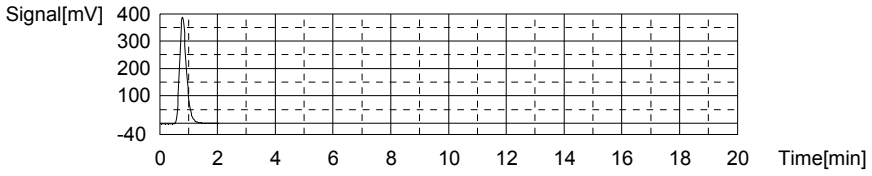
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:7.678mg/L TC:16.28mg/L IC:8.604mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	639.1	16.28mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 4:30:28 AM

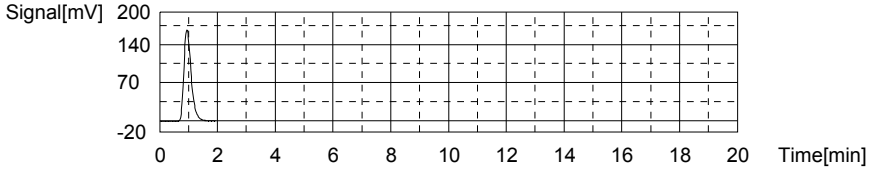
Mean Area 639.1
Mean Conc. 16.28mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	293.5	8.604mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 4:35:19 AM

Mean Area 293.5
Mean Conc. 8.604mg/L



Sample

Sample Name: L16110231-06 (2)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

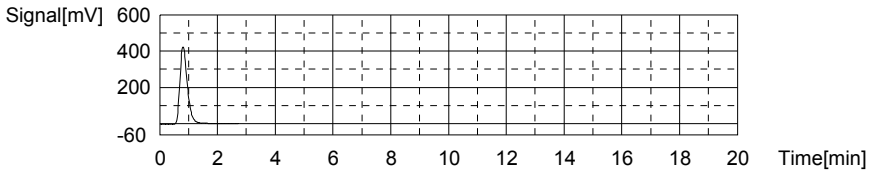
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:13.06mg/L TC:19.59mg/L IC:6.536mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	768.1	19.59mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 4:43:29 AM

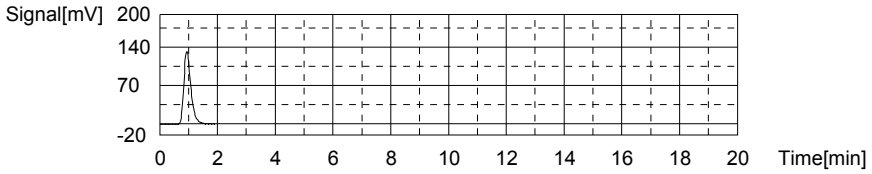
Mean Area 768.1
Mean Conc. 19.59mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	224.4	6.536mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 4:48:17 AM

Mean Area 224.4
Mean Conc. 6.536mg/L



Sample

Sample Name: L16110305-01
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

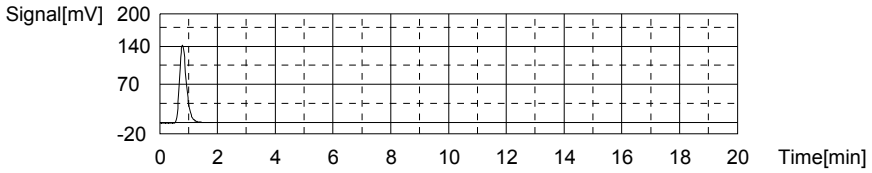
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.920mg/L TC:6.007mg/L IC:3.087mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	238.9	6.007mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 4:55:35 AM

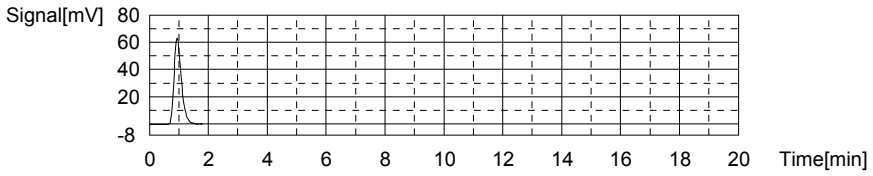
Mean Area 238.9
Mean Conc. 6.007mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	109.1	3.087mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 5:00:17 AM

Mean Area 109.1
Mean Conc. 3.087mg/L



Sample

Sample Name: L16110306-01
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

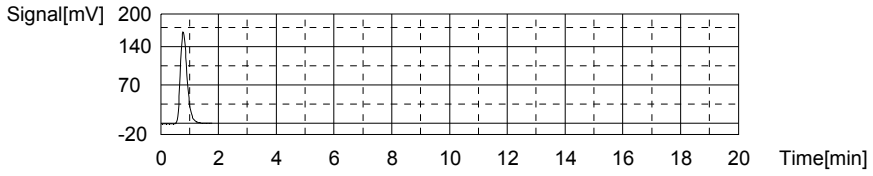
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.046mg/L TC:6.844mg/L IC:4.798mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	271.5	6.844mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 5:07:30 AM

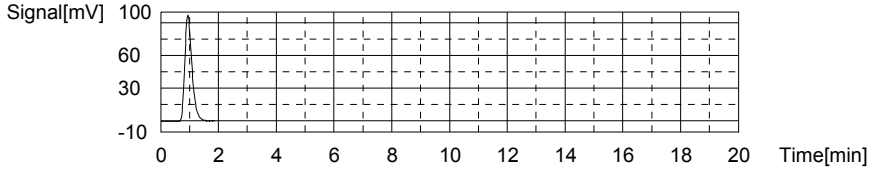
Mean Area 271.5
Mean Conc. 6.844mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	166.3	4.798mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 5:12:15 AM

Mean Area 166.3
Mean Conc. 4.798mg/L



Sample

Sample Name: L16110307-01
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

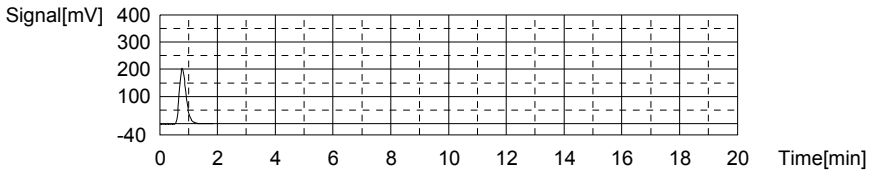
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.816mg/L TC:8.461mg/L IC:5.645mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	334.5	8.461mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 5:19:33 AM

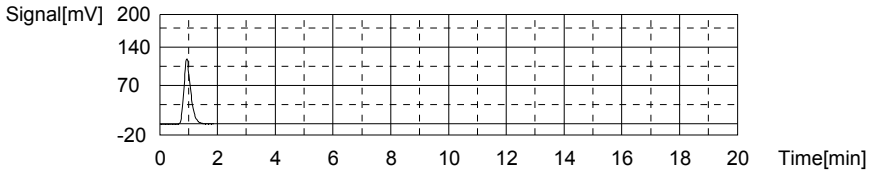
Mean Area 334.5
Mean Conc. 8.461mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	194.6	5.645mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 5:24:17 AM

Mean Area 194.6
Mean Conc. 5.645mg/L



Sample

Sample Name: WG590668-08 DUP
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

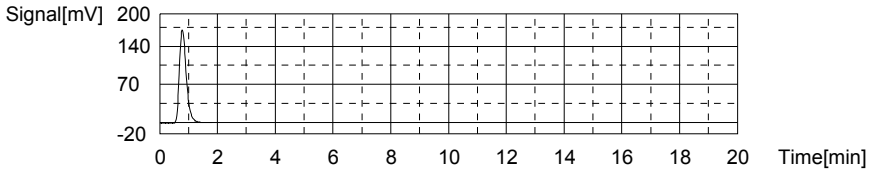
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.711mg/L TC:7.180mg/L IC:4.469mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	284.6	7.180mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 5:31:33 AM

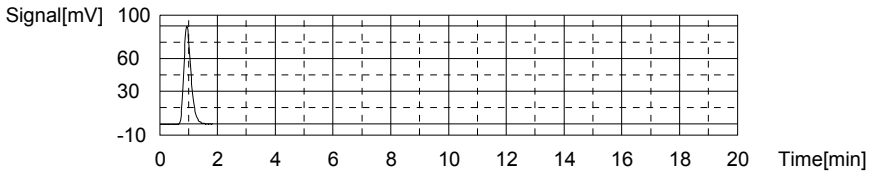
Mean Area 284.6
Mean Conc. 7.180mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	155.3	4.469mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 5:36:16 AM

Mean Area 155.3
Mean Conc. 4.469mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

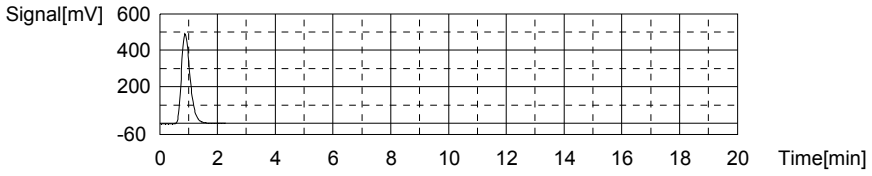
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.08mg/L TC:26.19mg/L IC:0.1125mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1025	26.19mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 5:44:00 AM

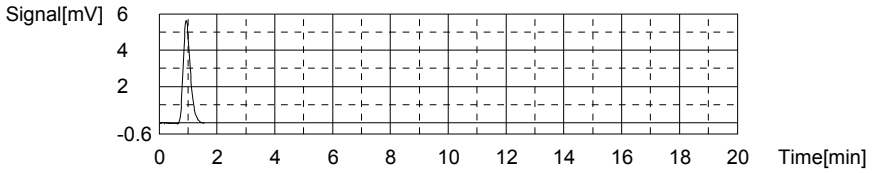
Mean Area 1025
Mean Conc. 26.19mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.687	0.1125mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 5:48:23 AM

Mean Area 9.687
Mean Conc. 0.1125mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

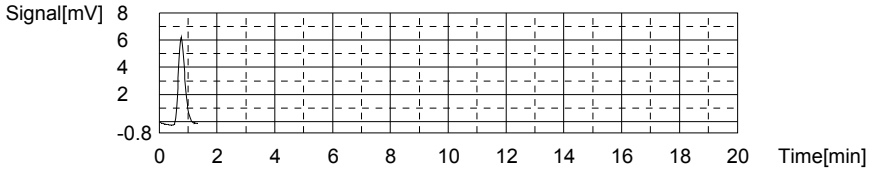
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.02520mg/L TC:0.1329mg/L IC:0.1077mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.13	0.1329mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 5:53:22 AM

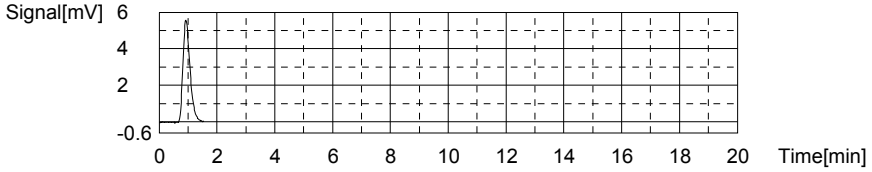
Mean Area 10.13
Mean Conc. 0.1329mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.528	0.1077mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 5:57:21 AM

Mean Area 9.528
Mean Conc. 0.1077mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

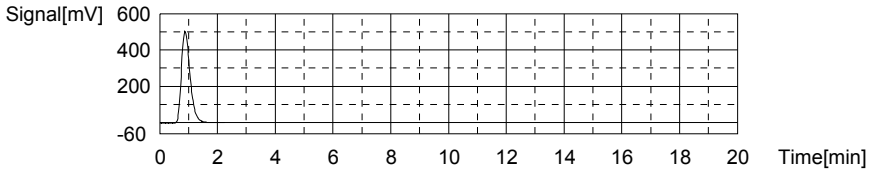
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.73mg/L TC:26.93mg/L IC:0.2038mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1054	26.93mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 10:12:57 AM

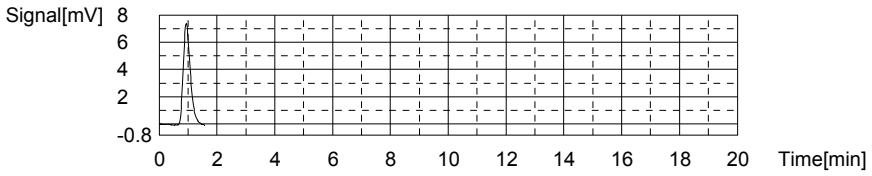
Mean Area 1054
Mean Conc. 26.93mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	12.74	0.2038mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 10:17:24 AM

Mean Area 12.74
Mean Conc. 0.2038mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

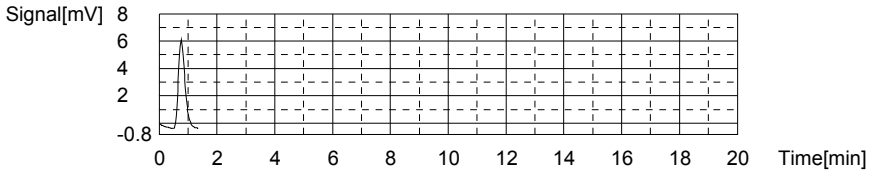
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.02573mg/L TC:0.1368mg/L IC:0.1111mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.28	0.1368mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 10:24:39 AM

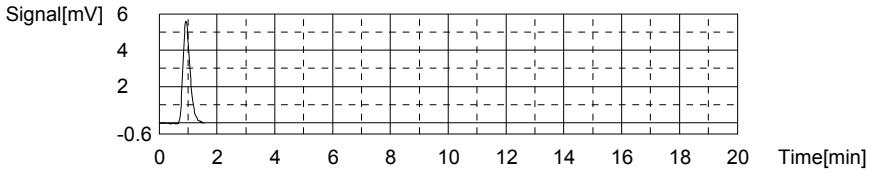
Mean Area 10.28
Mean Conc. 0.1368mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.639	0.1111mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 10:28:40 AM

Mean Area 9.639
Mean Conc. 0.1111mg/L



Sample

Sample Name: L16110144-03 (10)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

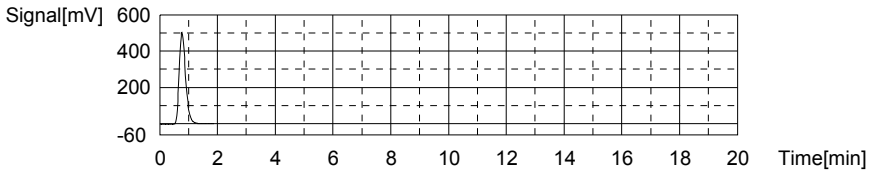
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.603mg/L TC:19.95mg/L IC:17.35mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	781.9	19.95mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 10:35:57 AM

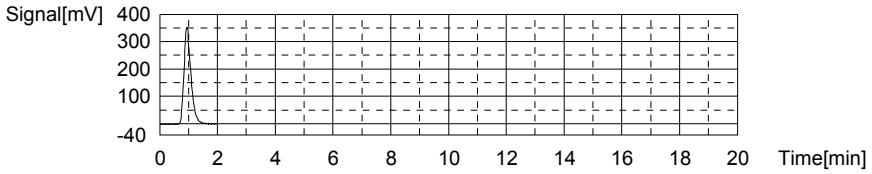
Mean Area 781.9
Mean Conc. 19.95mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	585.7	17.35mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 10:40:55 AM

Mean Area 585.7
Mean Conc. 17.35mg/L



Sample

Sample Name: L16110151-02 (2)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

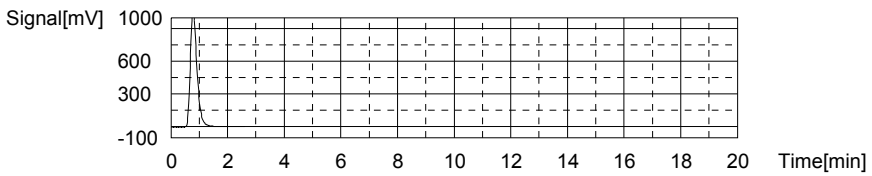
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:12.84mg/L TC:44.68mg/L IC:31.84mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1745	44.68mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 10:48:58 AM

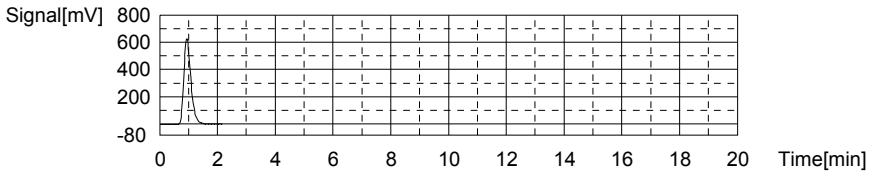
Mean Area 1745
Mean Conc. 44.68mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1070	31.84mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 10:54:10 AM

Mean Area 1070
Mean Conc. 31.84mg/L



Sample

Sample Name: L16110151-05 (5)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

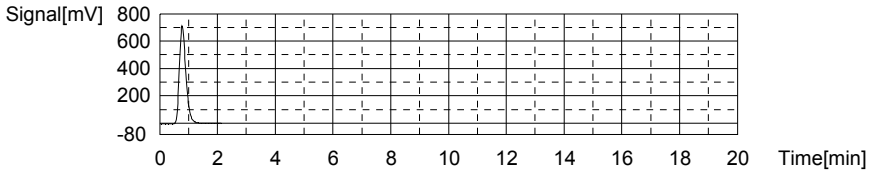
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:5.606mg/L TC:28.60mg/L IC:23.00mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1119	28.60mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 11:40:47 AM

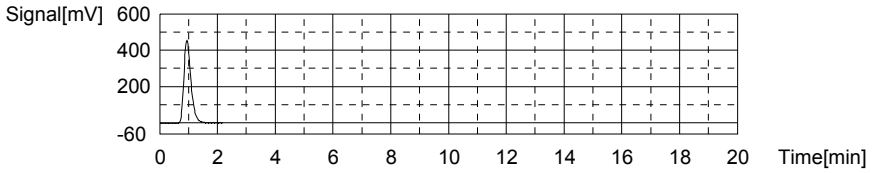
Mean Area 1119
Mean Conc. 28.60mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	774.6	23.00mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 11:45:54 AM

Mean Area 774.6
Mean Conc. 23.00mg/L



Sample

Sample Name: L16110151-06 (5)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

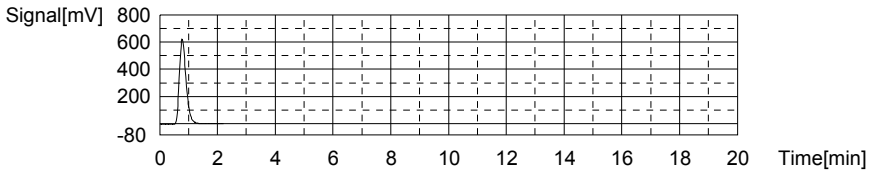
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:7.132mg/L TC:25.60mg/L IC:18.47mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1002	25.60mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 11:53:32 AM

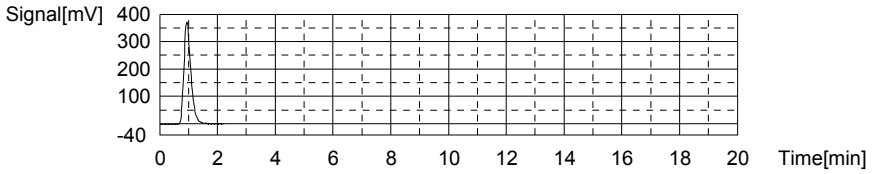
Mean Area 1002
Mean Conc. 25.60mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	623.2	18.47mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 11:58:44 AM

Mean Area 623.2
Mean Conc. 18.47mg/L



Sample

Sample Name: L16110151-08 (5) MS
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

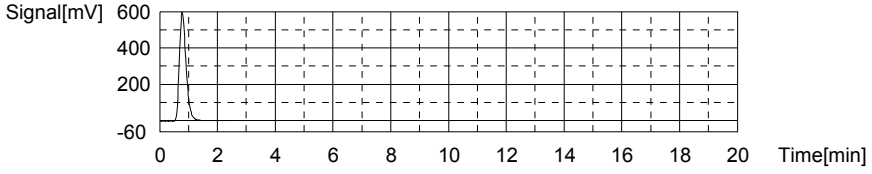
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:6.976mg/L TC:24.57mg/L IC:17.59mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	961.8	24.57mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 12:06:26 PM

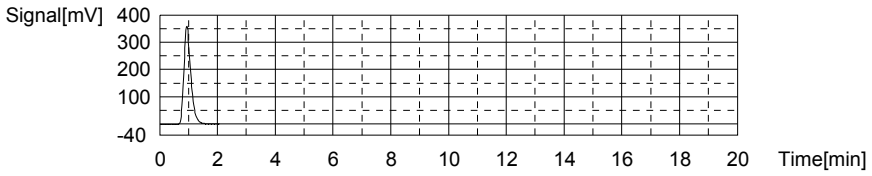
Mean Area 961.8
Mean Conc. 24.57mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	593.9	17.59mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 12:11:27 PM

Mean Area 593.9
Mean Conc. 17.59mg/L



Sample

Sample Name: L16110151-09 (5) MSD
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

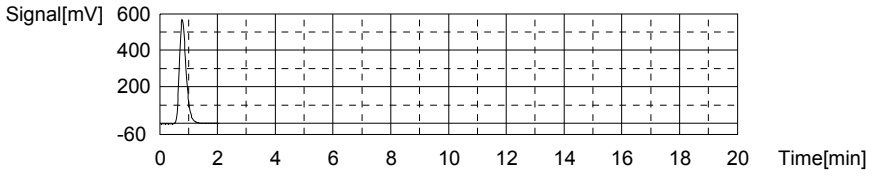
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:7.580mg/L TC:23.41mg/L IC:15.83mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	916.7	23.41mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 1:06:12 PM

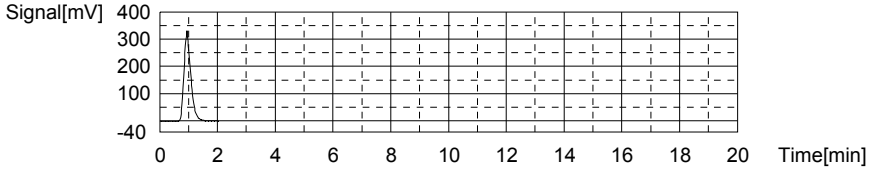
Mean Area 916.7
Mean Conc. 23.41mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	535.0	15.83mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 1:11:12 PM

Mean Area 535.0
Mean Conc. 15.83mg/L



Sample

Sample Name: L16110151-07 (5)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

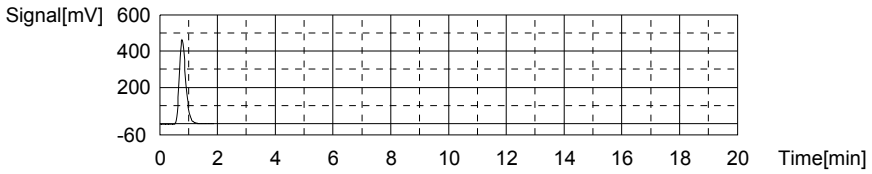
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.956mg/L TC:18.49mg/L IC:14.53mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	725.1	18.49mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 1:26:46 PM

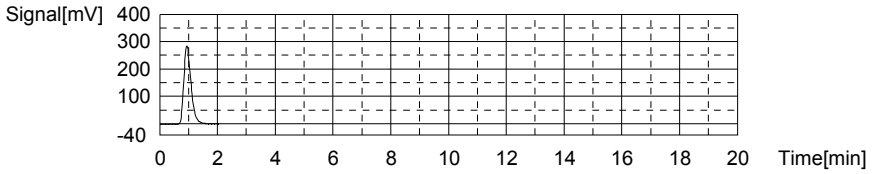
Mean Area 725.1
Mean Conc. 18.49mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	491.7	14.53mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 1:31:44 PM

Mean Area 491.7
Mean Conc. 14.53mg/L



Sample

Sample Name: L16110151-05 (5)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

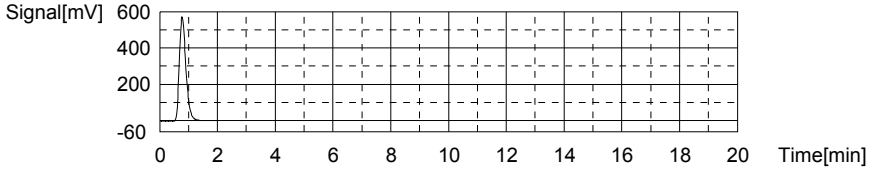
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:6.038mg/L TC:23.22mg/L IC:17.18mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	909.3	23.22mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 1:39:14 PM

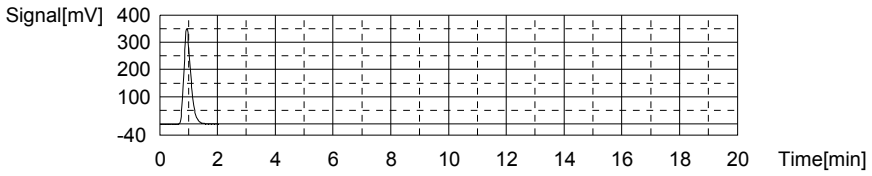
Mean Area 909.3
Mean Conc. 23.22mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	580.2	17.18mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 1:44:13 PM

Mean Area 580.2
Mean Conc. 17.18mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

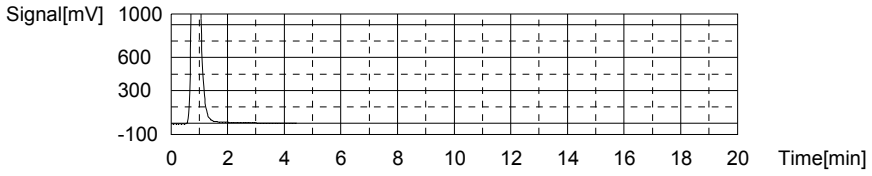
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:86.91mg/L TC:87.37mg/L IC:0.4692mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3408	87.37mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 1:54:06 PM

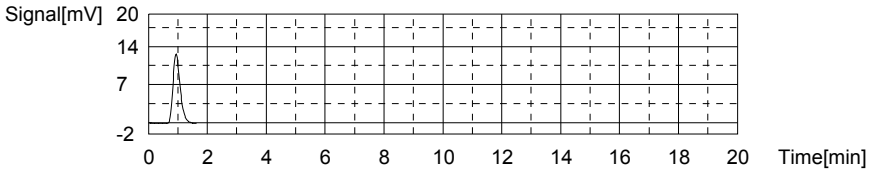
Mean Area 3408
Mean Conc. 87.37mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	21.61	0.4692mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 1:58:34 PM

Mean Area 21.61
Mean Conc. 0.4692mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

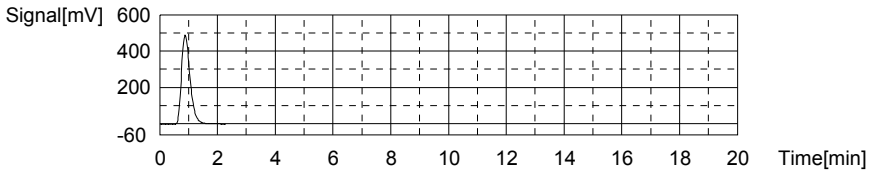
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:25.72mg/L TC:25.88mg/L IC:0.1605mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1013	25.88mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 2:06:19 PM

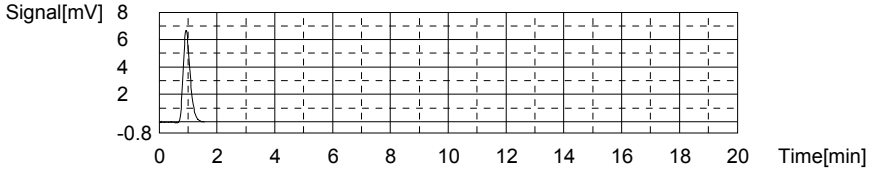
Mean Area 1013
Mean Conc. 25.88mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	11.29	0.1605mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 2:10:42 PM

Mean Area 11.29
Mean Conc. 0.1605mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

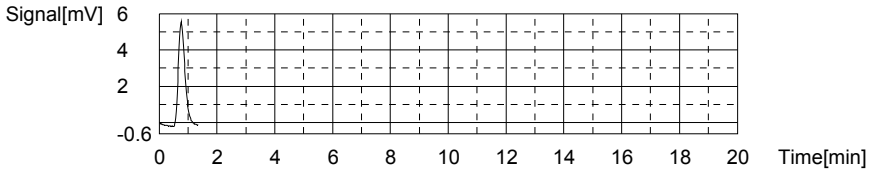
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.00649mg/L TC:0.1057mg/L IC:0.09919mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.068	0.1057mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 2:15:42 PM

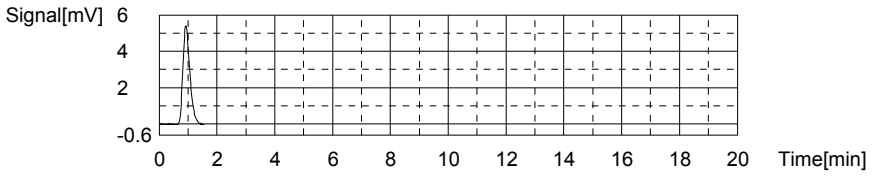
Mean Area 9.068
Mean Conc. 0.1057mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.242	0.09919mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 2:19:42 PM

Mean Area 9.242
Mean Conc. 0.09919mg/L



Sample

Sample Name: L16110389-01 (10000)
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

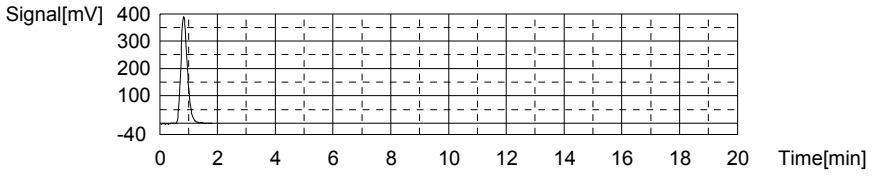
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:15.53mg/L TC:15.62mg/L IC:0.09724mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	613.5	15.62mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 3:12:36 PM

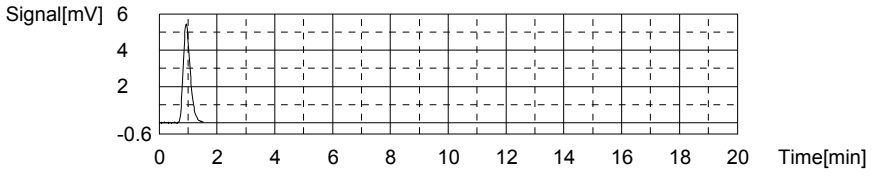
Mean Area 613.5
Mean Conc. 15.62mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.177	0.09724mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 3:16:59 PM

Mean Area 9.177
Mean Conc. 0.09724mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

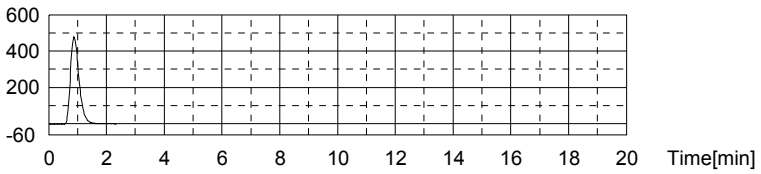
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:25.29mg/L TC:25.32mg/L IC:0.02224mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	991.0	25.32mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 3:24:47 PM

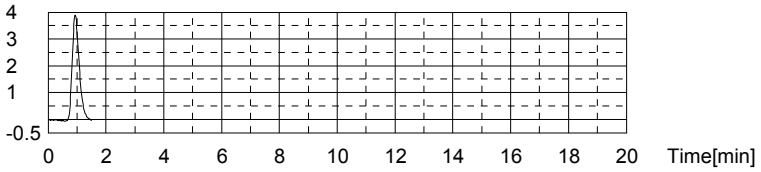
Mean Area 991.0
Mean Conc. 25.32mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.670	0.02224mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 3:29:09 PM

Mean Area 6.670
Mean Conc. 0.02224mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status Completed
Chk. Result

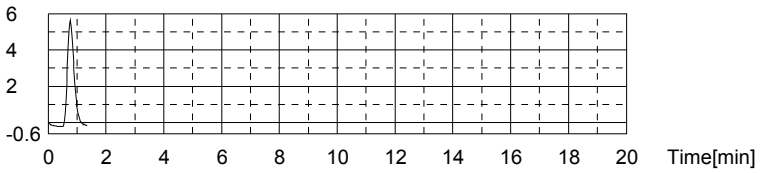
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.00878mg/L TC:0.1110mg/L IC:0.1022mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.275	0.1110mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	11/8/2016 3:34:09 PM

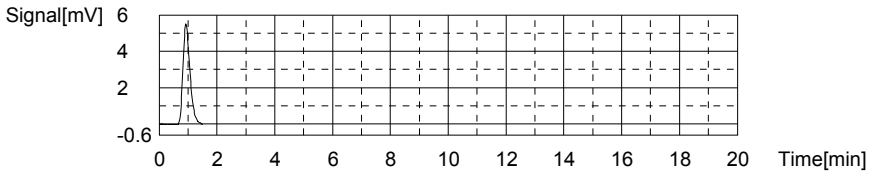
Mean Area 9.275
Mean Conc. 0.1110mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.343	0.1022mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_0	11/8/2016 3:38:03 PM

Mean Area 9.343
Mean Conc. 0.1022mg/L



3.0 Attachments

Microbac Laboratories Inc.
Ohio Valley Division Analyst List
November 18, 2016

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001 - BIO-CHEM TESTING WVDEP 220	002 - REIC Consultants, Inc. WVDEP 060
003 - Sturm Environmental	004 - MICROBAC PITTSBURGH
005 - ES LABORATORIES	006 - ALCOSAN LABORATORIES
007 - ALS LABORATORIES	008 - BENCHMARK LABORATORIES
010 - MICROBAC CHICAGOLAND	AC - AMBER R. CARMICHAEL
ADC - ANTHONY D. CANTER	ADG - APRIL D. GREENE
AED - ALLEN E. DAVIS	ALS - ADRIANE L. STEED
AMA - ALEXANDRA M. ALFRED	AWE - ANDREW W. ESSIG
AZH - AFTER HOURS	BJO - BRIAN J. OGDEN
BKT - BRENDAN TORRENCE	BLG - BRENDA L. GREENWALT
BNB - Brandi N. Bentley	BRG - BRENDA R. GREGORY
CAA - CASSIE A. AUGENSTEIN	CAF - CHERYL A. FLOWERS
CAS - Craig A. Smith	CEB - CHAD E. BARNES
CJQ - Cameron J. Quick	CLC - CHRYS L. CRAWFORD
CLS - CARA L. STRICKLER	CLW - CHARISSA L. WINTERS
CPD - CHAD P. DAVIS	CRW - CHRISTINA R. WILSON
CSH - CHRIS S. HILL	CV - Carl Volkman
DAK - DEAN A. KETELSEN	DCM - DAVID C. MERCKLE
DEV - DAVID E. VANDENBERG	DIH - DEANNA I. HESSON
DLB - DAVID L. BUMGARNER	DLP - DOROTHY L. PAYNE
DSM - DAVID S. MOSSOR	DTG - DOMINIC T. GEHRET
ECL - ERIC C. LAWSON	EMW - ERIC M. WILKEN
ENY - EMILY N. YOAK	ERP - ERIN R. PORTER
FJB - FRANCES J. BOLDEN	HDD - HANAH D. DAWKINS
JDH - JUSTIN D. HESSON	JDS - JARED D. SMITH
JKP - JACQUELINE K. PARSONS	JLD - JESSICA L. DELONG
JLL - JOHN L. LENT	JMW - JEANA M. WHITE
JTP - JOSHUA T. PEMBERTON	JWR - JOHN W. RICHARDS
JWS - JACK W. SHEAVES	JYH - JI Y. HU
KAK - KATHY A. KIRBY	KAT - KATHY A. TUCKER
KDD - Katelyn D. Daley	KDW - KATHRYN D. WELCH
KEB - KATIE E. BARNES	KHR - KIM H. RHODES
KKB - KERRI K. BUCK	KRA - KATHY R. ALBERTSON
KRB - KAELY R. BECKER	KRP - KATHY R. PARSONS
LJH - Lacey J. Hendershot	LKN - LINDA K. NEDEFF
LLS - LARRY L. STEPHENS	LSB - LESLIE S. BUCINA
LSJ - LAURA S. JONES	MAP - MARLA A. PORTER
MBK - MORGAN B. KNOWLTON	MDA - MIKE D. ALBERTSON
MDC - MIKE D. COCHRAN	MES - MARY E. SCHILLING
MMB - MAREN M. BEERY	MRT - MICHELLE R. TAYLOR
MSW - MATT S. WILSON	NPH - Natalie P. Hart
PDM - PIERCE D. MORRIS	PIT - MICROBAC WARRENDALE
QX - QIN XU	RAH - ROY A. HALSTEAD
REK - BOB E. KYER	RLB - BOB BUCHANAN
RNP - RICK N. PETTY	SAV - SARAH A. VANDENBERG
SCB - SARAH C. BOGOLIN	SDC - SHALYN D. CONLEY
SLM - STEPHANIE L. MOSSBURG	SLP - SHERI L. PFALZGRAF
TB - TODD BOYLE	TGF - TIM G. FELTON
TMB - TIFFANY M. BAILEY	TMM - TAMMY M. MORRIS
VC - VICKI COLLIER	WJB - WILL J. BEASLEY
WTD - WADE T. DELONG	XXX - UNAVAILABLE OR SUBCONTRACT

Microbac Laboratories Inc.
List of Valid Qualifiers
November 18, 2016

Qualkey: DOD

Qualifier	Description
*	Surrogate or spike compound out of range
+	Correlation coefficient for the MSA is less than 0.995
<	Result is less than the associated numerical value.
>	Greater than
>,H1	Result is greater than the associated numerical value. Sample analysis performed past holding time.
A	See the report narrative
B	The reported result is associated with a contaminated method blank.
B,H1	Analyte present in method blank. Sample analysis performed past holding time.
B1	Target analyte detected in method blank at or above the method reporting limit
B3	Target analyte detected in calibration blank at or above the method reporting limit
B4	The BOD unseeded dilution water blank exceeded 0.2 mg/L
C	Confirmed by GC/MS
CG	Confluent growth
CT1	Cooler temperature at sample reciept exceeded regulatory limit.
DL	Surrogate or spike compound was diluted out
E	Estimated concentration due to sample matrix interference
E,CT1	Estimated results. The cooler temperature at receipt exceeded regulatory guidelines for requested testing.
EDL	Elevated sample reporting limits, presence of non-target analytes
EMPC	Estimated Maximum Possible Concentration
F, S	Estimated result below quantitation limit; method of standard additions(MSA)
F,CT1	Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula
FL	Free Liquid
FP1	Did not ignite.
H1	Sample analysis performed past holding time.
H1,CT1	Sample analysis performed past holding time. The cooler temperature at receipt exceeded regulatory guidelines for reque
I	Semiquantitative result (out of instrument calibration range)
J	Estimated concentration; sample matrix interference.
J	Estimated value ; the analyte concentration was greater than the highest standard
J	Estimated value ; the analyte concentration was less than the LOQ.
J	The reported result is an estimated value.
J,B	Analyte detected in both the method blank and sample above the MDL.
J,CT1	Estimated value ; the analyte concentration was less than the LOQ. Cooler temperature at sample reciept exceeded regu
J,H1	Estimated value ; the analyte concentration was less than the LOQ. Sample analysis performed past holding time.
J,H1	The reported result is an estimated value. Sample was analyzed past holding time.
J,P	Estimate; columns don't agree to within 40%
J,S	Estimated concentration; analyzed by method of standard addition (MSA)
JB	The reported result is an estimated value. The reported result is also associated with a contaminated method blank.
JQ	The reported result is an estimated value and one or more quality control criteria failed. See narrative.
L	Sample reporting limits elevated due to matrix interference
L1	The associated blank spike (LCS) recovery was above the laboratory acceptance limits.
L2	The associated blank spike (LCS) recovery was below the laboratory acceptance limits.
M	Matrix effect; the concentration is an estimate due to matrix effect.
N	Nontarget analyte; the analyte is a tentativlely identified compound (TIC) by GC/MS
NA	Not applicable
ND	Not detected at or above the reporting limit (RL)
ND, B	Not detected at or above the reporting limit (RL). Analyte present in method blank.
ND, CT1	Analyte was not detected. The concentration is below the reported LOD. The cooler temperature at receipt exceeded reg
ND, L	Not detected; sample reporting limit (RL) elevated due to interference
ND, S	Not detected; analyzed by method of standard addition (MSA)
ND,H1	Not detected; Sample analysis performed past holding time.
ND,H1,CT1	Not detected; Sample analysis performed past holding time. The cooler temperature at receipt exceeded regulatory guide
NF	Not found by library search
NFL	No free liquid
NI	Non-ignitable
NR	Analyte is not required to be analyzed
NS	Not spiked
P	Concentrations >40% difference between the two GC columns
Q	One or more quality control criteria failed. See narrative.
Q,H1	One or more quality control criteria failed. Sample analyzed past holding time. See narrative.
QNS	Quantity of sample not sufficient to perform analysis
RA	Reanalysis confirms reported results
RE	Reanalysis confirms sample matrix interference
S	Analyzed by method of standard addition (MSA)
SMI	Sample matrix interference on surrogate
SP	Reported results are for spike compounds only
T5	Laboratory not licensed for this parameter
TIC	Library Search Compound

Microbac Laboratories Inc.
List of Valid Qualifiers
November 18, 2016

Qualkey: DOD

TNTC	Too numerous to count
TNTC, B	Too numerous to count. Analyte present in method blank.
TNTC,CT1	Too numerous to count. The cooler temperature at receipt exceeded regulatory guidelines for requested testing.
TNTC,H1	Too numerous to count. Sample analysis performed past holding time.
U	Analyte was not detected. The concentration is below the reported LOD.
U,CT1	Analyte was not detected. The concentration is below the reported LOD. Cooler temperature at sample reciept exceeded
U,H1	Not detected; Sample analysis performed past holding time.
UJ	Undetected; the MDL and RL are estimated due to quality control discrepancies.
UQ	Undetected; the analyte was analyzed for, but not detected.
W	Post-digestion spike for furnace AA out of control limits
X	Exceeds regulatory limit
X, S	Exceeds regulatory limit; method of standard additions (MSA)
Z	Cannot be resolved from isomer - see below

00892958

AECOM

Chain of Custody Record

COC Number:

Laboratory:	Microbac POC: Stephanie Mossburg	Project Manager:	Debra Richmann	Mail to:	Linda Raabe
Address:	158 Starlite Drive	Phone/Fax Number:	210-296-2000		112 East Pecan STE. 400
	Marietta, OH 45750	Sampler (print):	Scott Beesinger		San Antonio, TX 78205
Phone:	1-800-373-4071				210-296-2000
Client:	AECOM	Signature:	Scott Beesinger	Fed Ex Airbill No:	
Address:	112 East Pecan Ste. 400				
	San Antonio, TX 78205	pH:		Program:	
Turn Around Time:	STANDARD				
Project Name/Location:	Longhorn				
Project Number:	60256135.0002GA				

ERPIMS REQUIRED FIELDS

Site Name	Sample ID/Location ID	SBD	SED	Date	Time	Comp*	Grab	Matrix	Number of Containers	VOC	Perchlorate	Dissolved Gases / Carbon Dioxide	Alkalinity	Sulfide	Chloride / Sulfate Nitrate / Nitrite	TOC / Total Phosphorous	Dissolved Iron / Dissolved Manganese	SA CODE	Cooler ID	LOT CONTROL NUMBERS ABLOT	EBLOT	TBLOT
SITE 50	50WW08-110216			11/2/16	0815		X	W	11	X	X	X	X	X	X	X						
	50WW08FF-110216			11/2/16	0815		X	W	1								X					
	50WW22-110216			11/2/16	0925		X	W	11	X	X	X	X	X	X	X						
	50WW22FF-110216			11/2/16	0925		X	W	1								X					
	50WW16-110216			11/2/16	1040		X	W	11	X	X	X	X	X	X	X						
	50WW16FF-110216			11/2/16	1040		X	W	1								X					
	50WW27-110216			11/2/16	1320		X	W	4	X	X											
	50WW15-110216			11/2/16	1415		X	W	4	X	X											
	50WW15FD-110216			11/2/16	1415		X	W	4	X	X											
	TRIP BLANK			11/2/16			X	W	2	X												

Comments: **STANDARD TAT**

Relinquished by: (Signature) Scott Beesinger	Date 11/2/16	Time 1515	Received by: (Signature)	Received by: (Signature)	Date / Time / Relinquished by: (Signature)
Relinquished by: (Signature)	Date	Time	Received for Laboratory b (Signature)		ks:

Microbac OVD
Received: 11/03/2016 09:26
By: BRENDA GREGORY 221000093019
Brenda Gregory

*Homogenize all composite samples prior to analysis

Distr ... Manager

MICROBAC

COOLER TEMP >6° C LOG

Cooler ID 3019

SAMPLE ID	Bottle 1 °C	Bottle 2 °C	Bottle 3 °C	Bottle 4 °C	Bottle 5 °C	Bottle 6 °C

Brg 11/3/16

pH Exceptions

pH Lot # HC681919

SAMPLE ID	Bottle 1	Bottle 2	Bottle 3	Bottle 4	Bottle 5	Bottle 6

Brg 11/3/16

PRESERVATIVE EXCEPTIONS

✓ NONE

__ AS NOTED

Brg 11/3/16

Document Control # 1957
Last 10-07-2016

Issued to: Document Master File

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16110144
Account: 2551
Project: 2551.096
Samples: 10
Due Date: 14-NOV-2016

Samplenum	Container ID	Products
L16110144-01	824616	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	03-NOV-2016 11:46	BRG		
2	ANALYZ	V1	ORG4	03-NOV-2016 15:13	AWE	CLS	
3	STORE	ORG4	A1	17-NOV-2016 07:20	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	03-NOV-2016 11:46	BRG		
2	ANALYZ	V1	ORG4	03-NOV-2016 15:13	AWE	CLS	
3	STORE	ORG4	A1	17-NOV-2016 07:20	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	03-NOV-2016 11:46	BRG		
2	ANALYZ	V1	ORG4	03-NOV-2016 15:13	AWE	CLS	
3	STORE	ORG4	A1	17-NOV-2016 07:20	CLS	AWE	

Samplenum	Container ID	Products
L16110144-01	824617	RSK175EXT

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	03-NOV-2016 11:46	BRG		
2	ANALYZ	V1	ORG1	03-NOV-2016 14:40	JDS	CLS	
3	STORE	ORG1	A1	17-NOV-2016 07:17	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	03-NOV-2016 11:46	BRG		
2	ANALYZ	V1	ORG1	03-NOV-2016 14:40	JDS	CLS	
3	STORE	ORG1	A1	17-NOV-2016 07:17	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	03-NOV-2016 11:46	BRG		
2	ANALYZ	V1	ORG1	03-NOV-2016 14:40	JDS	CLS	
3	STORE	ORG1	A1	17-NOV-2016 07:17	CLS	AWE	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16110144
Account: 2551
Project: 2551.096
Samples: 10
Due Date: 14-NOV-2016

Samplenum	Container ID	Products
L16110144-01	824618	9056

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	03-NOV-2016 11:46	BRG		
2	PREP	W1	SEM	03-NOV-2016 11:54	CAS	BRG	
3	STORE	SEM	A1	11-NOV-2016 15:55	BRG	CAS	

Samplenum	Container ID	Products
L16110144-01	824619	ALK

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	03-NOV-2016 11:46	BRG		
2	ANALYZ	W1	WET	07-NOV-2016 07:48	DCM	BRG	
3	STORE	WET	A1	09-NOV-2016 16:01	BRG	EPT	

Samplenum	Container ID	Products
L16110144-01	824620	6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	03-NOV-2016 11:46	BRG		
2	ANALYZ	W1	SEM	08-NOV-2016 11:03	JWR	BRG	
3	STORE	SEM	A1	09-NOV-2016 12:46	BRG	JWR	

Samplenum	Container ID	Products
L16110144-01	824621	TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	L1	03-NOV-2016 11:46	BRG		<2
2	PREP	L1	WET	04-NOV-2016 15:52	EPT	BRG	
3	STORE	WET	A1	09-NOV-2016 16:02	BRG	EPT	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16110144
Account: 2551
Project: 2551.096
Samples: 10
Due Date: 14-NOV-2016

Samplenum	Container ID	Products
L16110144-01	824622	S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	03-NOV-2016 11:46	BRG		
2	ANALYZ	W1	WET	03-NOV-2016 14:22	TB	BRG	
3	ANALYZ	WET	A1	04-NOV-2016 09:47	BRG	TB	

Samplenum	Container ID	Products
L16110144-02	824623	FE-D MN-MSD

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	03-NOV-2016 11:46	BRG		
2	PREP	W1	DIG	03-NOV-2016 12:30	ERP	BRG	
3	ANALYZ*	DIG	METALS	04-NOV-2016 10:39	KKB	ERP	
4	STORE	DIG	A1	07-NOV-2016 14:16	BRG	ERP	

Sample extract/digestate/leachate

Samplenum	Container ID	Products
L16110144-03	824624	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	03-NOV-2016 11:46	BRG		
2	ANALYZ	V1	ORG4	03-NOV-2016 15:13	AWE	CLS	
3	STORE	ORG4	A1	17-NOV-2016 07:20	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	03-NOV-2016 11:46	BRG		
2	ANALYZ	V1	ORG4	03-NOV-2016 15:14	AWE	CLS	
3	STORE	ORG4	A1	17-NOV-2016 07:20	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	03-NOV-2016 11:46	BRG		
2	ANALYZ	V1	ORG4	03-NOV-2016 15:14	AWE	CLS	
3	STORE	ORG4	A1	17-NOV-2016 07:20	CLS	AWE	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16110144
Account: 2551
Project: 2551.096
Samples: 10
Due Date: 14-NOV-2016

Samplenum	Container ID	Products
L16110144-03	824625	RSK175EXT

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	03-NOV-2016 11:46	BRG		
2	ANALYZ	V1	ORG1	03-NOV-2016 14:40	JDS	CLS	
3	STORE	ORG1	A1	17-NOV-2016 07:17	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	03-NOV-2016 11:46	BRG		
2	ANALYZ	V1	ORG1	03-NOV-2016 14:40	JDS	CLS	
3	STORE	ORG1	A1	17-NOV-2016 07:17	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	03-NOV-2016 11:46	BRG		
2	ANALYZ	V1	ORG1	03-NOV-2016 14:40	JDS	CLS	
3	STORE	ORG1	A1	17-NOV-2016 07:17	CLS	AWE	

Samplenum	Container ID	Products
L16110144-03	824626	9056

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	03-NOV-2016 11:46	BRG		
2	PREP	W1	SEM	03-NOV-2016 11:54	CAS	BRG	
3	STORE	SEM	A1	11-NOV-2016 15:55	BRG	CAS	

Samplenum	Container ID	Products
L16110144-03	824627	ALK

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	03-NOV-2016 11:46	BRG		
2	ANALYZ	W1	WET	07-NOV-2016 07:48	DCM	BRG	
3	STORE	WET	A1	09-NOV-2016 16:01	BRG	EPT	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16110144
Account: 2551
Project: 2551.096
Samples: 10
Due Date: 14-NOV-2016

Samplenum	Container ID	Products
L16110144-03	824628	6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	03-NOV-2016 11:46	BRG		
2	ANALYZ	W1	SEM	08-NOV-2016 11:03	JWR	BRG	
3	STORE	SEM	A1	09-NOV-2016 12:46	BRG	JWR	

Samplenum	Container ID	Products
L16110144-03	824629	TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	L1	03-NOV-2016 11:46	BRG		<2
2	PREP	L1	WET	04-NOV-2016 15:52	EPT	BRG	
3	STORE	WET	A1	09-NOV-2016 16:02	BRG	EPT	

Samplenum	Container ID	Products
L16110144-03	824630	S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	03-NOV-2016 11:46	BRG		
2	ANALYZ	W1	WET	03-NOV-2016 14:22	TB	BRG	
3	ANALYZ	WET	A1	04-NOV-2016 09:47	BRG	TB	

Samplenum	Container ID	Products
L16110144-04	824631	FE-D MN-MSD

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	03-NOV-2016 11:46	BRG		
2	PREP	W1	DIG	03-NOV-2016 12:30	ERP	BRG	
3	ANALYZ*	DIG	METALS	04-NOV-2016 10:39	KKB	ERP	
4	STORE	DIG	A1	07-NOV-2016 14:16	BRG	ERP	

Sample extract/digestate/leachate

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16110144
Account: 2551
Project: 2551.096
Samples: 10
Due Date: 14-NOV-2016

Samplenum	Container ID	Products
L16110144-05	824632	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	03-NOV-2016 11:46	BRG		
2	ANALYZ	V1	ORG4	03-NOV-2016 15:13	AWE	CLS	
3	STORE	ORG4	A1	17-NOV-2016 07:20	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	03-NOV-2016 11:46	BRG		
2	ANALYZ	V1	ORG4	03-NOV-2016 15:13	AWE	CLS	
3	STORE	ORG4	A1	17-NOV-2016 07:20	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	03-NOV-2016 11:46	BRG		
2	ANALYZ	V1	ORG4	03-NOV-2016 15:13	AWE	CLS	
3	STORE	ORG4	A1	17-NOV-2016 07:20	CLS	AWE	

Samplenum	Container ID	Products
L16110144-05	824633	RSK175EXT

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	03-NOV-2016 11:46	BRG		
2	ANALYZ	V1	ORG1	03-NOV-2016 14:40	JDS	CLS	
3	STORE	ORG1	A1	17-NOV-2016 07:17	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	03-NOV-2016 11:46	BRG		
2	ANALYZ	V1	ORG1	03-NOV-2016 14:40	JDS	CLS	
3	STORE	ORG1	A1	17-NOV-2016 07:17	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	03-NOV-2016 11:46	BRG		
2	ANALYZ	V1	ORG1	03-NOV-2016 14:40	JDS	CLS	
3	STORE	ORG1	A1	17-NOV-2016 07:17	CLS	AWE	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16110144
Account: 2551
Project: 2551.096
Samples: 10
Due Date: 14-NOV-2016

Samplenum	Container ID	Products
L16110144-05	824634	9056

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	03-NOV-2016 11:46	BRG		
2	PREP	W1	SEM	03-NOV-2016 11:54	CAS	BRG	
3	STORE	SEM	A1	11-NOV-2016 15:55	BRG	CAS	

Samplenum	Container ID	Products
L16110144-05	824635	ALK

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	WET	03-NOV-2016 11:46	BRG		
2	STORE	WET	A1	09-NOV-2016 16:01	BRG	EPT	

Samplenum	Container ID	Products
L16110144-05	824636	6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	03-NOV-2016 11:46	BRG		
2	ANALYZ	W1	SEM	08-NOV-2016 11:03	JWR	BRG	
3	STORE	SEM	A1	09-NOV-2016 12:46	BRG	JWR	

Samplenum	Container ID	Products
L16110144-05	824637	TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	L1	03-NOV-2016 11:46	BRG		<2
2	PREP	L1	WET	04-NOV-2016 15:52	EPT	BRG	
3	STORE	WET	A1	09-NOV-2016 16:02	BRG	EPT	

Samplenum	Container ID	Products
L16110144-05	824638	S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	03-NOV-2016 11:46	BRG		
2	ANALYZ	W1	WET	03-NOV-2016 14:22	TB	BRG	
3	ANALYZ	WET	A1	04-NOV-2016 09:47	BRG	TB	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16110144
Account: 2551
Project: 2551.096
Samples: 10
Due Date: 14-NOV-2016

Samplenum	Container ID	Products
L16110144-06	824639	FE-D MN-MSD

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	03-NOV-2016 11:46	BRG		
2	PREP	W1	DIG	03-NOV-2016 12:30	ERP	BRG	
3	ANALYZ*	DIG	METALS	04-NOV-2016 10:39	KKB	ERP	
4	STORE	DIG	A1	07-NOV-2016 14:16	BRG	ERP	

Sample extract/digestate/leachate

Samplenum	Container ID	Products
L16110144-07	824640	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	03-NOV-2016 11:46	BRG		
2	ANALYZ	V1	ORG4	03-NOV-2016 15:13	AWE	CLS	
3	STORE	ORG4	A1	17-NOV-2016 07:20	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	03-NOV-2016 11:46	BRG		
2	ANALYZ	V1	ORG4	03-NOV-2016 15:13	AWE	CLS	
3	STORE	ORG4	A1	17-NOV-2016 07:20	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	03-NOV-2016 11:46	BRG		
2	ANALYZ	V1	ORG4	03-NOV-2016 15:13	AWE	CLS	
3	STORE	ORG4	A1	17-NOV-2016 07:20	CLS	AWE	

Samplenum	Container ID	Products
L16110144-07	824641	6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	03-NOV-2016 11:46	BRG		
2	ANALYZ	W1	SEM	08-NOV-2016 11:03	JWR	BRG	
3	STORE	SEM	A1	09-NOV-2016 12:46	BRG	JWR	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16110144
Account: 2551
Project: 2551.096
Samples: 10
Due Date: 14-NOV-2016

Samplenum	Container ID	Products
L16110144-08	824642	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	03-NOV-2016 11:46	BRG		
2	ANALYZ	V1	ORG4	03-NOV-2016 15:13	AWE	CLS	
3	STORE	ORG4	A1	17-NOV-2016 07:20	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	03-NOV-2016 11:46	BRG		
2	ANALYZ	V1	ORG4	03-NOV-2016 15:13	AWE	CLS	
3	STORE	ORG4	A1	17-NOV-2016 07:20	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	03-NOV-2016 11:46	BRG		
2	ANALYZ	V1	ORG4	03-NOV-2016 15:13	AWE	CLS	
3	STORE	ORG4	A1	17-NOV-2016 07:20	CLS	AWE	

Samplenum	Container ID	Products
L16110144-08	824643	6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	03-NOV-2016 11:46	BRG		
2	ANALYZ	W1	SEM	08-NOV-2016 11:03	JWR	BRG	
3	STORE	SEM	A1	09-NOV-2016 12:46	BRG	JWR	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16110144
Account: 2551
Project: 2551.096
Samples: 10
Due Date: 14-NOV-2016

Samplenum	Container ID	Products
L16110144-09	824644	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	03-NOV-2016 11:46	BRG		
2	ANALYZ	V1	ORG4	03-NOV-2016 15:13	AWE	CLS	
3	STORE	ORG4	A1	17-NOV-2016 07:20	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	03-NOV-2016 11:46	BRG		
2	ANALYZ	V1	ORG4	03-NOV-2016 15:13	AWE	CLS	
3	STORE	ORG4	A1	17-NOV-2016 07:20	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	03-NOV-2016 11:46	BRG		
2	ANALYZ	V1	ORG4	03-NOV-2016 15:13	AWE	CLS	
3	STORE	ORG4	A1	17-NOV-2016 07:20	CLS	AWE	

Samplenum	Container ID	Products
L16110144-09	824645	6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	03-NOV-2016 11:46	BRG		
2	ANALYZ	W1	SEM	08-NOV-2016 11:03	JWR	BRG	
3	STORE	SEM	A1	09-NOV-2016 12:46	BRG	JWR	

Samplenum	Container ID	Products
L16110144-10	824646	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	03-NOV-2016 11:46	BRG		
2	ANALYZ	V1	ORG4	03-NOV-2016 15:13	AWE	CLS	
3	STORE	ORG4	A1	17-NOV-2016 07:20	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	03-NOV-2016 11:46	BRG		
2	ANALYZ	V1	ORG4	03-NOV-2016 15:13	AWE	CLS	
3	STORE	ORG4	A1	17-NOV-2016 07:20	CLS	AWE	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

NELAP Addendum - January 4, 2016

Non-NELAP LIMS Product and Description

The following is a list of those tests that are not included in the Microbac – OVD NELAP Scope of Accreditation:

Heat of Combustion (BTU)
Total Halide by Bomb Combustion (TX)
Particle Sizing - 200 Mesh (PS200)
Specific Gravity/Density (SPGRAV)
Total Residual Chlorine (CL-TRL)
Total Volatile Solids (all forms) (TVS)
Total Coliform Bacteria (all methods)
Fecal Coliform Bacteria (all methods)
Sulfite (SO3)
Propionaldehyde (HPLC-UV)

SOLID AND HAZARDOUS CHEMICALS
Nitrogen, Ammonia by Method 350.1
Chromium, Hexavalent, Leachable by SM3500 Cr-B 2009
Phenolics, Total by Method 420.1
ASTM D3987-06

NELAP Accreditation by Laboratory SOP

NONPOTABLE WATER

OVD HPLC02/HPLC-UV

Nitroglycerin
Acetic acid
Butyric acid
Lactic acid
Propionic acid
Pyruvic acid

OVD MSS01/GC-MS

1,4-Phenylenediamine
1-Methylnaphthalene
1,4-Dioxane
Atrazine
Benzaldehyde
Biphenyl
Caprolactam
Hexamethylphosphoramide (HMPA)
Pentachlorobenzene
Pentachloroethane

NELAP Accreditation by Laboratory SOP

NONPOTABLE WATER

OVD MSV01/GC-MS

1, 1, 2-Trichloro-1,2,2-trifluoroethane
1,3-Butadiene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Methylacetate
Methylcyclohexane
T-amylmethylether (TAME)
Tetrahydrofuran (THF)

OVD HPLC07/HPLC-MS-MS

Hexamethylphosphoramide (XMPA-LCMS)

OVD HPLC12/HPLC/UV

Acetate
Formate

OVD RSK01/GC-FID

Acetylene
Propane

OVD K9305/ISE

Fluoroborate

SOLID AND HAZARDOUS CHEMICALS

OVD MSS0I/GC-MS

1-Methylnaphthalene
Benzaldehyde
Biphenyl
Caprolactam
Pentachloroethane

NELAP Accreditation by Laboratory SOP

SOLID AND HAZARDOUS CHEMICALS

OVD MSV0I/GC-MS

1.3-Butadiene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Methylacetate
Methylcyclohexane
n-Hexane
T-amylmethylether (TAME)

Microbac

Laboratory Report Number: L16110321

Kayla Teague
AECOM Technical Services, Inc.
1950 N Stemmons FWY
Dallas, TX 75207

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac's Ohio Valley Division (OVD). If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed below.

Laboratory Contact:
Adriane Steed – Client Services Specialist
(740) 373-4071
Adriane.Steed@microbac.com

I certify that all test results meet all of the requirements of the DoD QSM and other applicable contract terms and conditions. Any exceptions are attached to this cover page or addressed in the method narratives presented in the report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories, DoD ELAP certification number 2936.01. The reported results are related only to the samples analyzed as received.

This report was certified on November 18 2016

Leslie Bucina – Managing Director

State of Origin: TX
Accrediting Authority: Texas Commission on Environmental Quality ID:T104704252-07-TX
QAPP: DOD Ver 4.1

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Record of Sample Receipt and Inspection

Comments/Discrepancies

This is the record of the shipment conditions and the inspection records for the samples received and reported as a sample delivery group (SDG). All of the samples were inspected and observed to conform to our receipt policies, except as noted below.

The following discrepancies were noted:

Discrepancy	Resolution
Sample ID: 50WW24-110316 (11/3 @ 13:25). Time on labels read: 11:25. BRG	Please proceed per COC ALS
Sample ID: 50WW09-110316. 1 of 3 voa vials received w/headspace >6mm. BRG	Please proceed ALS

Coolers

Cooler #	Temperature Gun	Temperature	COC #	Airbill #	Temp Required?
00112208	H	1.0		J4616883111	X

Inspection Checklist

#	Question	Result
1	Were shipping coolers sealed?	Yes
2	Were custody seals intact?	Yes
3	Were cooler temperatures in range of 0-6?	Yes
4	Was ice present?	Yes
5	Were COC's received/information complete/signed and dated?	Yes
6	Were sample containers intact and match COC?	Yes
7	Were sample labels intact and match COC?	No
8	Were the correct containers and volumes received?	Yes
9	Were samples received within EPA hold times?	Yes
10	Were correct preservatives used? (water only)	Yes
11	Were pH ranges acceptable? (voa's excluded)	Yes
12	Were VOA samples free of headspace (less than 6mm)?	No

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Samples Received

Client ID	Laboratory ID	Date Collected	Date Received
50WW09-110316	L16110321-01	11/03/2016 08:15	11/05/2016 10:50
50WW10-110316	L16110321-02	11/03/2016 09:10	11/05/2016 10:50
50WW10FD-110316	L16110321-03	11/03/2016 09:10	11/05/2016 10:50
50WW05-110316	L16110321-04	11/03/2016 10:20	11/05/2016 10:50
50WW05MS-110316	L16110321-05	11/03/2016 10:20	11/05/2016 10:50
50WW05MSD-110316	L16110321-06	11/03/2016 10:20	11/05/2016 10:50
50WW21-110316	L16110321-07	11/03/2016 11:25	11/05/2016 10:50
50WW24-110316	L16110321-08	11/03/2016 13:25	11/05/2016 10:50
50WW18-110316	L16110321-09	11/03/2016 14:30	11/05/2016 10:50
50WW19-110416	L16110321-10	11/04/2016 08:15	11/05/2016 10:50
50WW17-110416	L16110321-11	11/04/2016 09:15	11/05/2016 10:50
TRIP BLANK	L16110321-12	11/04/2016 00:01	11/05/2016 10:50

Microbac REPORT L16110321
PREPARED FOR AECOM Technical Services, Inc.
WORK ID:

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1.0 Summary Data

1.1 Narratives

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16110321
Project Name:		**Method:**	8260
Prep Batch Number(s):	591571, 591615, 591757	**Reviewer Name:**	Franci Bolden
LRC Date:	2016-11-17 00:00:00		

Laboratory Data Package Cover Page

	R1	Field chain-of-custody documentation;
	R2	Sample identification cross-reference;
	R3	Test reports (analytical data sheets) for each environmental sample that includes: (a) Items consistent with NELAC Chapter 5, (b) dilution factors, (c) preparation methods, (d) cleanup methods, and (e) a.if required for the project, tentatively identified compounds (TICs).
	R4	Surrogate recovery data including: (a) Calculated recovery (%R), and (b) the laboratory's surrogate QC limits.
	R5	Test reports/summary forms for blank samples;
	R6	Test reports/summary forms for laboratory control samples (LCSs) including: (a) LCS spiking amounts, (b) calculated %R for each analyte, and (c) the laboratory's LCS QC limits.
	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including: (a) samples associated with the MS/MSD clearly identified, (b) MS/MSD spiking compounds, (c) concentration of each MS/MSD analyte measured in the parent and spiked samples, (d) calculated %Rs and relative percent differences (RPDs), and (e) the laboratory's MS/MSD QC limits.
	R8	Laboratory analytical duplicate (if applicable) recovery and precision: (a) the amount of analyte measured in the duplicate, (b) the calculated RPD, and (c) the laboratory's QC limits for analytical duplicates.
	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
	R10	Other problems or anomalies.

Name (Printed)	Signature	Official Title (Printed)	Date
Franci Bolden		Analyst I	2016-11-17 19:25:38

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16110321
Project Name:		**Method:**	8260
Prep Batch Number(s):	591571, 591615, 591757	**Reviewer Name:**	Franci Bolden
LRC Date:	2016-11-17 00:00:00		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification	X				
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports					
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?	X				
Were % moisture (or solids) reported for all soil and sediment samples?	X				
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?			X		
Surrogate recovery data					
Were surrogates added prior to extraction?	X				
Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
Test reports/summary forms for blank samples	X				
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16110321
Project Name:		**Method:**	8260
Prep Batch Number(s):	591571, 591615, 591757	**Reviewer Name:**	Franci Bolden
LRC Date:	2016-11-17 00:00:00		

Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		X			1
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?	X				
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?	X				
Were MS/MSD analyzed at the appropriate frequency?	X				
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			2
Were MS/MSD RPDs within laboratory QC limits?	X				
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?			X		
Were analytical duplicates analyzed at the appropriate frequency?			X		
Were RPDs or relative standard deviations within the laboratory QC limits?			X		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	X				
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC limits?	X				
Were percent RSDs or correlation coefficient criteria met?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16110321
Project Name:		**Method:**	8260
Prep Batch Number(s):	591571, 591615, 591757	**Reviewer Name:**	Franci Bolden
LRC Date:	2016-11-17 00:00:00		

Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?	X				
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	X				
Were percent differences for each analyte within the method-required QC limits?		X			4
Was the ICAL curve verified for each analyte?		X			3
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X		
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?	X				
Were ion abundance data within the method-required QC limits?	X				
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?	X				
Raw data (NELAC Section 5.5.10)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?	X				
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?			X		
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
Method detection limit (MDL) studies					

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16110321
Project Name:		**Method:**	8260
Prep Batch Number(s):	591571, 591615, 591757	**Reviewer Name:**	Franci Bolden
LRC Date:	2016-11-17 00:00:00		

Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter “R” must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter “S” should be retained and made available upon request for the appropriate retention period;

2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);

3. NA = Not applicable;

4. NR = Not reviewed;

5. ER# = Exception Report identification number (an Exception Report should be completed for an item if “NR” or “No” is checked).

The Exception Report for each “No” or “Not Reviewed (NR)” item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16110321
Project Name:		**Method:**	8260
Prep Batch Number(s):	591571, 591615, 591757	**Reviewer Name:**	Franci Bolden
LRC Date:	2016-11-17 00:00:00		

below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [ ] This laboratory meets an exception under 30 TAC §25.6 and was last inspection by [ ] TCEQ or [ ] _____ on **(enter date of last inspection**). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report

1)1,1-Dichloroethene was marginally below the LCL in the LCS/LCS2 analyzed 11/14/2016 on HPMS11.

2)1,1-Dichloroethene, cis-1,2-Dichloroethene, and Trichloroethene were below the LCL in the MS/MSD analyzed on HPMS6.

3)Naphthalene exceeded the UCL in the ICV analyzed 10/13/2016 om HPMS11. 1,1-Dichloroethene was below the LCL in the ICV analyzed 11/14/2016 on HPMS6.

4)Chloromethane was below the LCL in the CCV analyzed 11/14/2016 on HPMS11.

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16110321
Project Name:		**Method:**	6850
Prep Batch Number(s):	WG591037	**Reviewer Name:**	Eric Lawson
LRC Date:	2016-11-16 00:00:00		

Laboratory Data Package Cover Page

	R1	Field chain-of-custody documentation;
	R2	Sample identification cross-reference;
	R3	Test reports (analytical data sheets) for each environmental sample that includes: (a) Items consistent with NELAC Chapter 5, (b) dilution factors, (c) preparation methods, (d) cleanup methods, and (e) a.if required for the project, tentatively identified compounds (TICs).
	R4	Surrogate recovery data including: (a) Calculated recovery (%R), and (b) the laboratory's surrogate QC limits.
	R5	Test reports/summary forms for blank samples;
	R6	Test reports/summary forms for laboratory control samples (LCSs) including: (a) LCS spiking amounts, (b) calculated %R for each analyte, and (c) the laboratory's LCS QC limits.
	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including: (a) samples associated with the MS/MSD clearly identified, (b) MS/MSD spiking compounds, (c) concentration of each MS/MSD analyte measured in the parent and spiked samples, (d) calculated %Rs and relative percent differences (RPDs), and (e) the laboratory's MS/MSD QC limits.
	R8	Laboratory analytical duplicate (if applicable) recovery and precision: (a) the amount of analyte measured in the duplicate, (b) the calculated RPD, and (c) the laboratory's QC limits for analytical duplicates.
	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
	R10	Other problems or anomalies.

Name (Printed)	Signature	Official Title (Printed)	Date
Eric Lawson		Chemist III	2016-11-16 19:11:09

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16110321
Project Name:		**Method:**	6850
Prep Batch Number(s):	WG591037	**Reviewer Name:**	Eric Lawson
LRC Date:	2016-11-16 00:00:00		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification	X				
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports					
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?			X		
Were % moisture (or solids) reported for all soil and sediment samples?			X		
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?			X		
Surrogate recovery data					
Were surrogates added prior to extraction?			X		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
Test reports/summary forms for blank samples	X				
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	X				

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16110321
Project Name:		**Method:**	6850
Prep Batch Number(s):	WG591037	**Reviewer Name:**	Eric Lawson
LRC Date:	2016-11-16 00:00:00		

Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?			X		
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?	X				
Were MS/MSD analyzed at the appropriate frequency?	X				
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
Were MS/MSD RPDs within laboratory QC limits?	X				
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?			X		
Were analytical duplicates analyzed at the appropriate frequency?			X		
Were RPDs or relative standard deviations within the laboratory QC limits?			X		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	X				
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC limits?	X				
Were percent RSDs or correlation coefficient criteria met?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16110321
Project Name:		**Method:**	6850
Prep Batch Number(s):	WG591037	**Reviewer Name:**	Eric Lawson
LRC Date:	2016-11-16 00:00:00		

Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?	X				
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	X				
Were percent differences for each analyte within the method-required QC limits?	X				
Was the ICAL curve verified for each analyte?	X				
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X		
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?	X				
Were ion abundance data within the method-required QC limits?	X				
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?	X				
Raw data (NELAC Section 5.5.10)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?	X				
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?			X		
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
Method detection limit (MDL) studies					

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16110321
Project Name:		**Method:**	6850
Prep Batch Number(s):	WG591037	**Reviewer Name:**	Eric Lawson
LRC Date:	2016-11-16 00:00:00		

Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter “R” must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter “S” should be retained and made available upon request for the appropriate retention period;

2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);

3. NA = Not applicable;

4. NR = Not reviewed;

5. ER# = Exception Report identification number (an Exception Report should be completed for an item if “NR” or “No” is checked).

The Exception Report for each “No” or “Not Reviewed (NR)” item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16110321
Project Name:		**Method:**	6850
Prep Batch Number(s):	WG591037	**Reviewer Name:**	Eric Lawson
LRC Date:	2016-11-16 00:00:00		

below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [ ] This laboratory meets an exception under 30 TAC §25.6 and was last inspection by [ ] TCEQ or [ ] _____ on **(enter date of last inspection**). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report

There are no exceptions.

1.2 Certificate of Analysis

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110321-01	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	50WW09-110316	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/12/2016 21:35
Workgroup #:	WG591757	**Analyst:**	TMB	**Run Date:**	11/15/2016 22:45
Collect Date:	11/03/2016 08:15	**Dilution:**	1	**File ID:**	6M143484
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	4.50	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	0.205	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	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.519	J	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	10.8		1.00	0.500	0.250
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.344	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	126		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	95.5	85	115	
1,2-Dichloroethane-d4	92.1	70	120	
Toluene-d8	96.6	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.

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110321-01	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	50WW09-110316	**Prep Method:**	6850	**Prep Date:**	11/10/2016 10:30
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	05/03/2016 17:18
Workgroup #:	WG591037	**Analyst:**	JWR	**Run Date:**	11/10/2016 13:30
Collect Date:	11/03/2016 08:15	**Dilution:**	1	**File ID:**	1LM.LM37583
Sample Tag:	01	**Units:**	ug/L		

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

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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110321-02	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	50WW10-110316	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/12/2016 21:35
Workgroup #:	WG591757	**Analyst:**	TMB	**Run Date:**	11/15/2016 23:17
Collect Date:	11/03/2016 09:10	**Dilution:**	1	**File ID:**	6M143485
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	4.19	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	0.573	J	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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

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	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	96.7	85	115	
1,2-Dichloroethane-d4	92.3	70	120	
Toluene-d8	95.9	85	120	
4-Bromofluorobenzene	99.5	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.

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110321-02	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	50WW10-110316	**Prep Method:**	6850	**Prep Date:**	11/10/2016 10:30
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	05/03/2016 17:18
Workgroup #:	WG591037	**Analyst:**	JWR	**Run Date:**	11/10/2016 13:49
Collect Date:	11/03/2016 09:10	**Dilution:**	1	**File ID:**	1LM.LM37584
Sample Tag:	01	**Units:**	ug/L		

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

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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110321-03	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	50WW10FD-110316	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/12/2016 21:35
Workgroup #:	WG591757	**Analyst:**	TMB	**Run Date:**	11/15/2016 23:49
Collect Date:	11/03/2016 09:10	**Dilution:**	1	**File ID:**	6M143486
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	3.67	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	0.584	J	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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

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	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	96.3	85	115	
1,2-Dichloroethane-d4	92.9	70	120	
Toluene-d8	95.6	85	120	
4-Bromofluorobenzene	98.2	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.

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110321-03	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	50WW10FD-110316	**Prep Method:**	6850	**Prep Date:**	11/10/2016 10:30
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	05/03/2016 17:18
Workgroup #:	WG591037	**Analyst:**	JWR	**Run Date:**	11/10/2016 14:08
Collect Date:	11/03/2016 09:10	**Dilution:**	1	**File ID:**	1LM.LM37585
Sample Tag:	01	**Units:**	ug/L		

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

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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110321-04	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	50WW05-110316	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/12/2016 21:35
Workgroup #:	WG591615	**Analyst:**	TMB	**Run Date:**	11/15/2016 02:52
Collect Date:	11/03/2016 10:20	**Dilution:**	1	**File ID:**	6M143451
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	0.222	J	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	1.56		1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.78	J	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	66.7		1.00	0.500	0.250

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

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	0.637	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	184		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	94.4	85	115	
1,2-Dichloroethane-d4	91.1	70	120	
Toluene-d8	96.8	85	120	
4-Bromofluorobenzene	99.8	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.

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110321-04	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	50WW05-110316	**Prep Method:**	6850	**Prep Date:**	11/10/2016 10:30
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	05/03/2016 17:18
Workgroup #:	WG591037	**Analyst:**	JWR	**Run Date:**	11/10/2016 12:33
Collect Date:	11/03/2016 10:20	**Dilution:**	1	**File ID:**	1LM.LM37580
Sample Tag:	01	**Units:**	ug/L		

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

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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110321-05	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	50WW05MS-110316	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/12/2016 21:35
Workgroup #:	WG591615	**Analyst:**	TMB	**Run Date:**	11/14/2016 19:55
Collect Date:	11/03/2016 10:20	**Dilution:**	1	**File ID:**	6M143438
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	24.5		10.0	5.00	2.50
Benzene	71-43-2	17.8		1.00	0.250	0.125
Bromobenzene	108-86-1	20.7		1.00	0.250	0.125
Bromochloromethane	74-97-5	18.8		1.00	0.400	0.200
Bromodichloromethane	75-27-4	18.9		1.00	0.500	0.250
Bromoform	75-25-2	19.9		2.00	1.00	0.500
Bromomethane	74-83-9	20.5		2.00	1.00	0.500
2-Butanone	78-93-3	18.9		10.0	5.00	2.50
n-Butylbenzene	104-51-8	20.5		1.00	0.500	0.250
sec-Butylbenzene	135-98-8	20.4		1.00	0.500	0.250
tert-Butylbenzene	98-06-6	20.2		1.00	0.500	0.250
Carbon disulfide	75-15-0	17.7		2.00	1.00	0.500
Carbon tetrachloride	56-23-5	17.1		1.00	0.500	0.250
Chlorobenzene	108-90-7	19.1		1.00	0.250	0.125
Chlorodibromomethane	124-48-1	19.8		1.00	0.500	0.250
Chloroethane	75-00-3	20.4		2.00	1.00	0.500
Chloroform	67-66-3	18.2		1.00	0.250	0.125
Chloromethane	74-87-3	22.0		2.00	1.00	0.500
2-Chlorotoluene	95-49-8	20.9		1.00	0.250	0.125
4-Chlorotoluene	106-43-4	19.8		1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	20.6		5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	20.4		1.00	0.500	0.250
Dibromomethane	74-95-3	19.8		1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	20.5		1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	20.5		1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	20.1		1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	20.9		1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	17.5		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	19.7		1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	15.3		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	74.1		1.00	0.500	0.250

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	17.1		1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	19.3		1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	21.1		1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	17.7		1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	21.7		1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	20.4		2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	17.5		1.00	0.500	0.250
Ethylbenzene	100-41-4	19.7		1.00	0.500	0.250
2-Hexanone	591-78-6	20.2		10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	19.5		1.00	0.500	0.250
Isopropylbenzene	98-82-8	20.8		1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	21.3		1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	18.7		10.0	5.00	2.50
Methylene chloride	75-09-2	17.4		1.00	0.500	0.250
Naphthalene	91-20-3	24.4		1.00	0.400	0.200
n-Propylbenzene	103-65-1	21.4		1.00	0.250	0.125
Styrene	100-42-5	21.8		1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	19.5		1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	22.0		1.00	0.400	0.200
Tetrachloroethene	127-18-4	19.4		1.00	0.500	0.250
Toluene	108-88-3	19.3		1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	22.3		1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	22.5		1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	17.8		1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	20.1		1.00	0.500	0.250
Trichloroethene	79-01-6	161		1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	17.8		1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	20.8		2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	20.9		1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	21.3		1.00	0.500	0.250
Vinyl chloride	75-01-4	20.8		1.00	0.500	0.250
o-Xylene	95-47-6	20.6		1.00	0.500	0.250
m-,p-Xylene	179601-23-1	40.5		2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	93.9	85	115	
1,2-Dichloroethane-d4	88.9	70	120	
Toluene-d8	96.9	85	120	
4-Bromofluorobenzene	100	75	120	

Certificate of Analysis

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Sample #:	L16110321-05	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	50WW05MS-110316	**Prep Method:**	6850	**Prep Date:**	11/10/2016 10:30
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	05/03/2016 17:18
Workgroup #:	WG591037	**Analyst:**	JWR	**Run Date:**	11/10/2016 12:52
Collect Date:	11/03/2016 10:20	**Dilution:**	1	**File ID:**	1LM.LM37581
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	0.197	J	0.400	0.200	0.100

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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110321-06	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	50WW05MSD-110316	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/12/2016 21:35
Workgroup #:	WG591615	**Analyst:**	TMB	**Run Date:**	11/14/2016 20:27
Collect Date:	11/03/2016 10:20	**Dilution:**	1	**File ID:**	6M143439
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	23.9		10.0	5.00	2.50
Benzene	71-43-2	18.0		1.00	0.250	0.125
Bromobenzene	108-86-1	20.6		1.00	0.250	0.125
Bromochloromethane	74-97-5	18.9		1.00	0.400	0.200
Bromodichloromethane	75-27-4	18.8		1.00	0.500	0.250
Bromoform	75-25-2	19.8		2.00	1.00	0.500
Bromomethane	74-83-9	21.0		2.00	1.00	0.500
2-Butanone	78-93-3	18.6		10.0	5.00	2.50
n-Butylbenzene	104-51-8	20.9		1.00	0.500	0.250
sec-Butylbenzene	135-98-8	20.6		1.00	0.500	0.250
tert-Butylbenzene	98-06-6	20.4		1.00	0.500	0.250
Carbon disulfide	75-15-0	17.8		2.00	1.00	0.500
Carbon tetrachloride	56-23-5	17.3		1.00	0.500	0.250
Chlorobenzene	108-90-7	19.2		1.00	0.250	0.125
Chlorodibromomethane	124-48-1	19.9		1.00	0.500	0.250
Chloroethane	75-00-3	21.0		2.00	1.00	0.500
Chloroform	67-66-3	18.1		1.00	0.250	0.125
Chloromethane	74-87-3	21.8		2.00	1.00	0.500
2-Chlorotoluene	95-49-8	21.1		1.00	0.250	0.125
4-Chlorotoluene	106-43-4	19.7		1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	20.8		5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	20.1		1.00	0.500	0.250
Dibromomethane	74-95-3	19.6		1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	20.5		1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	20.4		1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	20.3		1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	21.4		1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	17.6		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	19.7		1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	15.4		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	74.0		1.00	0.500	0.250

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	17.3		1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	19.3		1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	20.8		1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	17.9		1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	21.4		1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	20.3		2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	17.8		1.00	0.500	0.250
Ethylbenzene	100-41-4	19.6		1.00	0.500	0.250
2-Hexanone	591-78-6	20.3		10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	19.6		1.00	0.500	0.250
Isopropylbenzene	98-82-8	21.1		1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	21.6		1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	18.4		10.0	5.00	2.50
Methylene chloride	75-09-2	17.1		1.00	0.500	0.250
Naphthalene	91-20-3	24.1		1.00	0.400	0.200
n-Propylbenzene	103-65-1	21.6		1.00	0.250	0.125
Styrene	100-42-5	22.0		1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	19.8		1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	21.7		1.00	0.400	0.200
Tetrachloroethene	127-18-4	19.6		1.00	0.500	0.250
Toluene	108-88-3	19.5		1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	22.2		1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	22.4		1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	18.1		1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	20.2		1.00	0.500	0.250
Trichloroethene	79-01-6	161		1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	18.4		1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	20.6		2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	20.9		1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	21.7		1.00	0.500	0.250
Vinyl chloride	75-01-4	21.3		1.00	0.500	0.250
o-Xylene	95-47-6	21.0		1.00	0.500	0.250
m-,p-Xylene	179601-23-1	41.1		2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	93.2	85	115	
1,2-Dichloroethane-d4	89.1	70	120	
Toluene-d8	97.5	85	120	
4-Bromofluorobenzene	100	75	120	

Certificate of Analysis

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Sample #:	L16110321-06	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	50WW05MSD-110316	**Prep Method:**	6850	**Prep Date:**	11/10/2016 10:30
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	05/03/2016 17:18
Workgroup #:	WG591037	**Analyst:**	JWR	**Run Date:**	11/10/2016 13:11
Collect Date:	11/03/2016 10:20	**Dilution:**	1	**File ID:**	1LM.LM37582
Sample Tag:	01	**Units:**	ug/L		

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

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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110321-07	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	50WW21-110316	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/12/2016 21:35
Workgroup #:	WG591615	**Analyst:**	TMB	**Run Date:**	11/14/2016 23:40
Collect Date:	11/03/2016 11:25	**Dilution:**	1	**File ID:**	6M143445
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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

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	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	94.8	85	115	
1,2-Dichloroethane-d4	91.8	70	120	
Toluene-d8	96.9	85	120	
4-Bromofluorobenzene	103	75	120	

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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110321-07	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	50WW21-110316	**Prep Method:**	6850	**Prep Date:**	11/10/2016 10:30
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	05/03/2016 17:18
Workgroup #:	WG591037	**Analyst:**	JWR	**Run Date:**	11/10/2016 14:27
Collect Date:	11/03/2016 11:25	**Dilution:**	1	**File ID:**	1LM.LM37586
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	0.581		0.400	0.200	0.100

Certificate of Analysis

Sample #:	L16110321-08	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	50WW24-110316	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/12/2016 21:35
Workgroup #:	WG591615	**Analyst:**	TMB	**Run Date:**	11/15/2016 00:12
Collect Date:	11/03/2016 13:25	**Dilution:**	1	**File ID:**	6M143446
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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

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	93.5	85	115	
1,2-Dichloroethane-d4	90.3	70	120	
Toluene-d8	97.8	85	120	
4-Bromofluorobenzene	102	75	120	

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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110321-08	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	50WW24-110316	**Prep Method:**	6850	**Prep Date:**	11/10/2016 10:30
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	05/03/2016 17:18
Workgroup #:	WG591037	**Analyst:**	JWR	**Run Date:**	11/10/2016 15:42
Collect Date:	11/03/2016 13:25	**Dilution:**	1	**File ID:**	1LM.LM37590
Sample Tag:	01	**Units:**	ug/L		

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

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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110321-09	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	50WW18-110316	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/12/2016 21:35
Workgroup #:	WG591615	**Analyst:**	TMB	**Run Date:**	11/15/2016 00:44
Collect Date:	11/03/2016 14:30	**Dilution:**	1	**File ID:**	6M143447
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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

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	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	94.7	85	115	
1,2-Dichloroethane-d4	92.6	70	120	
Toluene-d8	97.9	85	120	
4-Bromofluorobenzene	102	75	120	

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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110321-09	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	50WW18-110316	**Prep Method:**	6850	**Prep Date:**	11/10/2016 10:30
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	05/03/2016 17:18
Workgroup #:	WG591037	**Analyst:**	JWR	**Run Date:**	11/10/2016 16:20
Collect Date:	11/03/2016 14:30	**Dilution:**	1	**File ID:**	1LM.LM37592
Sample Tag:	01	**Units:**	ug/L		

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

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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110321-10	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	50WW19-110416	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/12/2016 21:35
Workgroup #:	WG591615	**Analyst:**	TMB	**Run Date:**	11/15/2016 01:16
Collect Date:	11/04/2016 08:15	**Dilution:**	1	**File ID:**	6M143448
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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

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	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	94.5	85	115	
1,2-Dichloroethane-d4	90.7	70	120	
Toluene-d8	98.0	85	120	
4-Bromofluorobenzene	101	75	120	

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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110321-10	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	50WW19-110416	**Prep Method:**	6850	**Prep Date:**	11/10/2016 10:30
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	05/03/2016 17:18
Workgroup #:	WG591037	**Analyst:**	JWR	**Run Date:**	11/10/2016 16:39
Collect Date:	11/04/2016 08:15	**Dilution:**	1	**File ID:**	1LM.LM37593
Sample Tag:	01	**Units:**	ug/L		

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

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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110321-11	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	50WW17-110416	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/12/2016 21:35
Workgroup #:	WG591615	**Analyst:**	TMB	**Run Date:**	11/15/2016 01:48
Collect Date:	11/04/2016 09:15	**Dilution:**	1	**File ID:**	6M143449
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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

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	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	95.4	85	115	
1,2-Dichloroethane-d4	91.3	70	120	
Toluene-d8	97.7	85	120	
4-Bromofluorobenzene	99.9	75	120	

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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110321-11	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	50WW17-110416	**Prep Method:**	6850	**Prep Date:**	11/10/2016 10:30
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	05/03/2016 17:18
Workgroup #:	WG591037	**Analyst:**	JWR	**Run Date:**	11/10/2016 16:58
Collect Date:	11/04/2016 09:15	**Dilution:**	1	**File ID:**	1LM.LM37594
Sample Tag:	01	**Units:**	ug/L		

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

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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110321-12	**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:**	10/13/2016 18:03
Workgroup #:	WG591571	**Analyst:**	JDS	**Run Date:**	11/14/2016 18:16
Collect Date:	11/04/2016 00:01	**Dilution:**	1	**File ID:**	11M15202
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	2.79	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	Q	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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

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	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	98.9	85	115	
1,2-Dichloroethane-d4	98.3	70	120	
Toluene-d8	105	85	120	
4-Bromofluorobenzene	108	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.

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

2.0 Full Sample Data Package

2.1 Volatiles Data

2.1.1 Volatiles GCMS Data (8260)

2.1.1.1 Summary Data

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110321-01	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	50WW09-110316	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/12/2016 21:35
Workgroup #:	WG591757	**Analyst:**	TMB	**Run Date:**	11/15/2016 22:45
Collect Date:	11/03/2016 08:15	**Dilution:**	1	**File ID:**	6M143484
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	4.50	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	0.205	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	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.519	J	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	10.8		1.00	0.500	0.250
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.344	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	126		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	95.5	85	115	
1,2-Dichloroethane-d4	92.1	70	120	
Toluene-d8	96.6	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.

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110321-02	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	50WW10-110316	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/12/2016 21:35
Workgroup #:	WG591757	**Analyst:**	TMB	**Run Date:**	11/15/2016 23:17
Collect Date:	11/03/2016 09:10	**Dilution:**	1	**File ID:**	6M143485
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	4.19	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	0.573	J	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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

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	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	96.7	85	115	
1,2-Dichloroethane-d4	92.3	70	120	
Toluene-d8	95.9	85	120	
4-Bromofluorobenzene	99.5	75	120	

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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110321-03	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	50WW10FD-110316	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/12/2016 21:35
Workgroup #:	WG591757	**Analyst:**	TMB	**Run Date:**	11/15/2016 23:49
Collect Date:	11/03/2016 09:10	**Dilution:**	1	**File ID:**	6M143486
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	3.67	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	0.584	J	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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

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	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	96.3	85	115	
1,2-Dichloroethane-d4	92.9	70	120	
Toluene-d8	95.6	85	120	
4-Bromofluorobenzene	98.2	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.

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110321-04	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	50WW05-110316	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/12/2016 21:35
Workgroup #:	WG591615	**Analyst:**	TMB	**Run Date:**	11/15/2016 02:52
Collect Date:	11/03/2016 10:20	**Dilution:**	1	**File ID:**	6M143451
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	0.222	J	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	1.56		1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.78	J	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	66.7		1.00	0.500	0.250

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Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

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	0.637	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	184		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	94.4	85	115	
1,2-Dichloroethane-d4	91.1	70	120	
Toluene-d8	96.8	85	120	
4-Bromofluorobenzene	99.8	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.

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110321-05	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	50WW05MS-110316	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/12/2016 21:35
Workgroup #:	WG591615	**Analyst:**	TMB	**Run Date:**	11/14/2016 19:55
Collect Date:	11/03/2016 10:20	**Dilution:**	1	**File ID:**	6M143438
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	24.5		10.0	5.00	2.50
Benzene	71-43-2	17.8		1.00	0.250	0.125
Bromobenzene	108-86-1	20.7		1.00	0.250	0.125
Bromochloromethane	74-97-5	18.8		1.00	0.400	0.200
Bromodichloromethane	75-27-4	18.9		1.00	0.500	0.250
Bromoform	75-25-2	19.9		2.00	1.00	0.500
Bromomethane	74-83-9	20.5		2.00	1.00	0.500
2-Butanone	78-93-3	18.9		10.0	5.00	2.50
n-Butylbenzene	104-51-8	20.5		1.00	0.500	0.250
sec-Butylbenzene	135-98-8	20.4		1.00	0.500	0.250
tert-Butylbenzene	98-06-6	20.2		1.00	0.500	0.250
Carbon disulfide	75-15-0	17.7		2.00	1.00	0.500
Carbon tetrachloride	56-23-5	17.1		1.00	0.500	0.250
Chlorobenzene	108-90-7	19.1		1.00	0.250	0.125
Chlorodibromomethane	124-48-1	19.8		1.00	0.500	0.250
Chloroethane	75-00-3	20.4		2.00	1.00	0.500
Chloroform	67-66-3	18.2		1.00	0.250	0.125
Chloromethane	74-87-3	22.0		2.00	1.00	0.500
2-Chlorotoluene	95-49-8	20.9		1.00	0.250	0.125
4-Chlorotoluene	106-43-4	19.8		1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	20.6		5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	20.4		1.00	0.500	0.250
Dibromomethane	74-95-3	19.8		1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	20.5		1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	20.5		1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	20.1		1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	20.9		1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	17.5		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	19.7		1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	15.3		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	74.1		1.00	0.500	0.250

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Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	17.1		1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	19.3		1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	21.1		1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	17.7		1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	21.7		1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	20.4		2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	17.5		1.00	0.500	0.250
Ethylbenzene	100-41-4	19.7		1.00	0.500	0.250
2-Hexanone	591-78-6	20.2		10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	19.5		1.00	0.500	0.250
Isopropylbenzene	98-82-8	20.8		1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	21.3		1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	18.7		10.0	5.00	2.50
Methylene chloride	75-09-2	17.4		1.00	0.500	0.250
Naphthalene	91-20-3	24.4		1.00	0.400	0.200
n-Propylbenzene	103-65-1	21.4		1.00	0.250	0.125
Styrene	100-42-5	21.8		1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	19.5		1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	22.0		1.00	0.400	0.200
Tetrachloroethene	127-18-4	19.4		1.00	0.500	0.250
Toluene	108-88-3	19.3		1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	22.3		1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	22.5		1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	17.8		1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	20.1		1.00	0.500	0.250
Trichloroethene	79-01-6	161		1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	17.8		1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	20.8		2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	20.9		1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	21.3		1.00	0.500	0.250
Vinyl chloride	75-01-4	20.8		1.00	0.500	0.250
o-Xylene	95-47-6	20.6		1.00	0.500	0.250
m-,p-Xylene	179601-23-1	40.5		2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	93.9	85	115	
1,2-Dichloroethane-d4	88.9	70	120	
Toluene-d8	96.9	85	120	
4-Bromofluorobenzene	100	75	120	

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Sample #:	L16110321-06	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	50WW05MSD-110316	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/12/2016 21:35
Workgroup #:	WG591615	**Analyst:**	TMB	**Run Date:**	11/14/2016 20:27
Collect Date:	11/03/2016 10:20	**Dilution:**	1	**File ID:**	6M143439
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	23.9		10.0	5.00	2.50
Benzene	71-43-2	18.0		1.00	0.250	0.125
Bromobenzene	108-86-1	20.6		1.00	0.250	0.125
Bromochloromethane	74-97-5	18.9		1.00	0.400	0.200
Bromodichloromethane	75-27-4	18.8		1.00	0.500	0.250
Bromoform	75-25-2	19.8		2.00	1.00	0.500
Bromomethane	74-83-9	21.0		2.00	1.00	0.500
2-Butanone	78-93-3	18.6		10.0	5.00	2.50
n-Butylbenzene	104-51-8	20.9		1.00	0.500	0.250
sec-Butylbenzene	135-98-8	20.6		1.00	0.500	0.250
tert-Butylbenzene	98-06-6	20.4		1.00	0.500	0.250
Carbon disulfide	75-15-0	17.8		2.00	1.00	0.500
Carbon tetrachloride	56-23-5	17.3		1.00	0.500	0.250
Chlorobenzene	108-90-7	19.2		1.00	0.250	0.125
Chlorodibromomethane	124-48-1	19.9		1.00	0.500	0.250
Chloroethane	75-00-3	21.0		2.00	1.00	0.500
Chloroform	67-66-3	18.1		1.00	0.250	0.125
Chloromethane	74-87-3	21.8		2.00	1.00	0.500
2-Chlorotoluene	95-49-8	21.1		1.00	0.250	0.125
4-Chlorotoluene	106-43-4	19.7		1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	20.8		5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	20.1		1.00	0.500	0.250
Dibromomethane	74-95-3	19.6		1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	20.5		1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	20.4		1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	20.3		1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	21.4		1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	17.6		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	19.7		1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	15.4		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	74.0		1.00	0.500	0.250
trans-1,2-Dichloroethene	156-60-5	17.3		1.00	0.500	0.250

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Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,2-Dichloropropane	78-87-5	19.3		1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	20.8		1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	17.9		1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	21.4		1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	20.3		2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	17.8		1.00	0.500	0.250
Ethylbenzene	100-41-4	19.6		1.00	0.500	0.250
2-Hexanone	591-78-6	20.3		10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	19.6		1.00	0.500	0.250
Isopropylbenzene	98-82-8	21.1		1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	21.6		1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	18.4		10.0	5.00	2.50
Methylene chloride	75-09-2	17.1		1.00	0.500	0.250
Naphthalene	91-20-3	24.1		1.00	0.400	0.200
n-Propylbenzene	103-65-1	21.6		1.00	0.250	0.125
Styrene	100-42-5	22.0		1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	19.8		1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	21.7		1.00	0.400	0.200
Tetrachloroethene	127-18-4	19.6		1.00	0.500	0.250
Toluene	108-88-3	19.5		1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	22.2		1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	22.4		1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	18.1		1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	20.2		1.00	0.500	0.250
Trichloroethene	79-01-6	161		1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	18.4		1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	20.6		2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	20.9		1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	21.7		1.00	0.500	0.250
Vinyl chloride	75-01-4	21.3		1.00	0.500	0.250
o-Xylene	95-47-6	21.0		1.00	0.500	0.250
m-,p-Xylene	179601-23-1	41.1		2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	93.2	85	115	
1,2-Dichloroethane-d4	89.1	70	120	
Toluene-d8	97.5	85	120	
4-Bromofluorobenzene	100	75	120	

Certificate of Analysis

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Sample #:	L16110321-07	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	50WW21-110316	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/12/2016 21:35
Workgroup #:	WG591615	**Analyst:**	TMB	**Run Date:**	11/14/2016 23:40
Collect Date:	11/03/2016 11:25	**Dilution:**	1	**File ID:**	6M143445
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
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250

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Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	94.8	85	115	
1,2-Dichloroethane-d4	91.8	70	120	
Toluene-d8	96.9	85	120	
4-Bromofluorobenzene	103	75	120	

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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110321-08	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	50WW24-110316	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/12/2016 21:35
Workgroup #:	WG591615	**Analyst:**	TMB	**Run Date:**	11/15/2016 00:12
Collect Date:	11/03/2016 13:25	**Dilution:**	1	**File ID:**	6M143446
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

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Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

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	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	93.5	85	115	
1,2-Dichloroethane-d4	90.3	70	120	
Toluene-d8	97.8	85	120	
4-Bromofluorobenzene	102	75	120	

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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110321-09	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	50WW18-110316	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/12/2016 21:35
Workgroup #:	WG591615	**Analyst:**	TMB	**Run Date:**	11/15/2016 00:44
Collect Date:	11/03/2016 14:30	**Dilution:**	1	**File ID:**	6M143447
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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

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	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	94.7	85	115	
1,2-Dichloroethane-d4	92.6	70	120	
Toluene-d8	97.9	85	120	
4-Bromofluorobenzene	102	75	120	

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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110321-10	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	50WW19-110416	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/12/2016 21:35
Workgroup #:	WG591615	**Analyst:**	TMB	**Run Date:**	11/15/2016 01:16
Collect Date:	11/04/2016 08:15	**Dilution:**	1	**File ID:**	6M143448
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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

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	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	94.5	85	115	
1,2-Dichloroethane-d4	90.7	70	120	
Toluene-d8	98.0	85	120	
4-Bromofluorobenzene	101	75	120	

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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110321-11	**PrePrep Method:**	N/A	**Instrument:**	HPMS6
Client ID:	50WW17-110416	**Prep Method:**	5030B/5030C/5035A	**Prep Date:**	N/A
Matrix:	Water	**Analytical Method:**	8260B	**Cal Date:**	11/12/2016 21:35
Workgroup #:	WG591615	**Analyst:**	TMB	**Run Date:**	11/15/2016 01:48
Collect Date:	11/04/2016 09:15	**Dilution:**	1	**File ID:**	6M143449
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

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Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

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	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	95.4	85	115	
1,2-Dichloroethane-d4	91.3	70	120	
Toluene-d8	97.7	85	120	
4-Bromofluorobenzene	99.9	75	120	

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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110321-12	**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:**	10/13/2016 18:03
Workgroup #:	WG591571	**Analyst:**	JDS	**Run Date:**	11/14/2016 18:16
Collect Date:	11/04/2016 00:01	**Dilution:**	1	**File ID:**	11M15202
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	2.79	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	Q	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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

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	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	98.9	85	115	
1,2-Dichloroethane-d4	98.3	70	120	
Toluene-d8	105	85	120	
4-Bromofluorobenzene	108	75	120	

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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Q	One or more quality control criteria failed. See narrative.
U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

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

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

Step 4: Solve for analyte concentration Cx

Cx = (Cis)(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 quantiation report:	**784848**	
Response ratio, y:	**0.374367**	
C - y:	**-0.40197**	
Root 1 - Computed amount ratio , X1:	**80.44567**	
Root 2 - Computed amount ratio , X2:	**0.794396**	use this solution
Concentration of IS, Cis:	**25.00**	
Concentration of analyte, Cx:	**19.86**	ug/L

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS6 Dataset: 042416
Analyst1: JDS Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 23
Method: 624 SOP: MSV10 Rev: 14
Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18
Maintenance Log ID:

Internal Standard: STD75498 Surrogate Standard: STD75498
CCV: STD75791 LCS: STD75801 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG566155

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
6M138749	RINSE	NA	1	1		04/24/16 16:05
6M138750	WG566155-01 50ng BFB 826-A9	NA	1	1	STD75485	04/24/16 16:33
6M138751	WG566155-02 5ug/L STD 826-A9	NA	1	1	STD75791	04/24/16 16:59
6M138752	WG566155-03 20ug/L STD 826-A	NA	1	1	STD75791	04/24/16 17:31
6M138753	WG566155-04 50ug/L STD 826-A9	NA	1	1	STD75791	04/24/16 18:03
6M138754	WG566155-05 100ug/L STD 826-A	NA	1	1	STD75791	04/24/16 18:36
6M138755	WG566155-06 200ug/L STD 826-A9	NA	1	1	STD75791	04/24/16 19:08
6M138756	WG566155-07 300ug/L STD 826-A9	NA	1	1	STD75791	04/24/16 19:40
6M138757	WG566155-08 400ug/L STD 826-A9	NA	1	1	STD75791	04/24/16 20:12
6M138758	WG566155-09 500ug/L STD 826-A9	NA	1	1	STD75791	04/24/16 20:44
6M138759	RINSE	NA	1	1		04/24/16 21:16
6M138760	RINSE	NA	1	1		04/24/16 21:49
6M138761	WG566155-10 100ug/L ALT SRC	NA	1	1	STD75801	04/24/16 22:21
6M138762	RINSE	NA	1	1		04/24/16 22:53
6M138763	RINSE	NA	1	1		04/24/16 23:25

Approved: April 29, 2016

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS11 Dataset: 081516
Analyst1: JDS Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 25
Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18

Maintenance Log ID:

Internal Standard: STD77497 Surrogate Standard: STD77498
CCV: STD77502 LCS: STD77604 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG580279 WG580280

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
11M13626	XG580279-01 50ng BFB STD 8260	NA	1	1	STD77509	08/15/16 14:37
11M13628	WG580279-01 50ng BFB STD 8260	NA	1	1	STD77509	08/15/16 14:52
11M13629	WG580279-02 5ug/L ICAL STD 8260-A9	NA	1	1	STD77502	08/15/16 15:17
11M13630	WG580279-03 20ug/L ICAL STD 8260-A9	NA	1	1	STD77502	08/15/16 15:46
11M13631	WG580279-04 50ug/L ICAL STD 8260-A9	NA	1	1	STD77502	08/15/16 16:16
11M13632	WG580279-05 100ug/L ICAL STD 8260-A9	NA	1	1	STD77502	08/15/16 16:45
11M13633	WG580279-06 200ug/L ICAL STD 8260-A9	NA	1	1	STD77502	08/15/16 17:14
11M13634	WG580279-07 300ug/L ICAL STD 8260-A9	NA	1	1	STD77502	08/15/16 17:43
11M13635	WG580279-08 400ug/L ICAL STD 8260-A9	NA	1	1	STD77502	08/15/16 18:12
11M13636	WG580279-09 500ug/L ICAL STD 8260-A9	NA	1	1	STD77502	08/15/16 18:41
11M13637	RINSE	NA	1	1		08/15/16 19:10
11M13638	WG580279-10 100ug/L ALT SRC 8260-A9	NA	1	1	STD77604	08/15/16 19:39
11M13639	RINSE	NA	1	1		08/15/16 20:08
11M13640	WG580280-01 BLANK STD 8260-A9	NA	1	1		08/15/16 20:37
11M13641	L16080201-01 50ug/L JDS DOC 8260-A9	NA	1	1	STD77604	08/15/16 21:06
11M13642	L16080201-02 50ug/L JDS DOC 8260-A9	NA	1	1	STD77604	08/15/16 21:34
11M13643	L16080201-03 50ug/L JDS DOC 8260-A9	NA	1	1	STD77604	08/15/16 22:03
11M13644	L16080201-04 50ug/L JDS DOC 8260-A9	NA	1	1	STD77604	08/15/16 22:32
11M13645	RINSE	NA	1	1		08/15/16 23:01
11M13646	RINSE	NA	1	1		08/15/16 23:30
11M13647	L16080563-01 2.5ug/L MDL 8260-A9	NA	1	1	STD77604	08/15/16 23:58
11M13648	RINSE	NA	1	1		08/16/16 00:27
11M13649	RINSE	NA	1	1		08/16/16 00:56
11M13650	RINSE	NA	1	1		08/16/16 01:25

Approved: August 26, 2016

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS11 Dataset: 101316
Analyst1: FJB Analyst2: JDS
Method: 8260B SOP: MSV01 Rev: 23
Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18
Method: 624 SOP: MSV10 Rev: 14
Maintenance Log ID: 53932

Internal Standard: STD78415 Surrogate Standard: STD78416
CCV: STD78143 LCS: STD78362 MS/MSD: STD78362

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG587480

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
11M14497	WG587480-01 BFB 50ng 8260	NA	1	1	STD78474	10/13/16 11:16
11M14498	WG587480-02 50ug/L CCV STD 8260	NA	1	1	STD78477	10/13/16 11:41
11M14499	WG587480-01 BFB 50ng 8260	NA	1	1	STD78474	10/13/16 12:50
11M14500	RINSE	NA	1	1		10/13/16 13:14
11M14501	WG587480-02 0.3ug/L STD 8260	NA	1	1	STD78477	10/13/16 13:42
11M14502	WG587480-03 0.4ug/L STD 8260	NA	1	1	STD78477	10/13/16 14:11
11M14503	WG587480-04 1ug/L STD 8260	NA	1	1	STD78477	10/13/16 14:40
11M14504	WG587480-05 2ug/L STD 8260	NA	1	1	STD78477	10/13/16 15:09
11M14505	WG587480-06 5ug/L STD 8260	NA	1	1	STD78477	10/13/16 15:38
11M14506	WG587480-07 20ug/L STD 8260	NA	1	1	STD78477	10/13/16 16:07
11M14507	WG587480-08 50ug/L STD 8260	NA	1	1	STD78477	10/13/16 16:36
11M14508	WG587480-09 100ug/L STD 8260	NA	1	1	STD78477	10/13/16 17:05
11M14509	WG587480-10 200ug/L STD 8260	NA	1	1	STD78477	10/13/16 17:33
11M14510	WG587480-11 300ug/L STD 8260	NA	1	1	STD78477	10/13/16 18:03
11M14511	RINSE	NA	1	1		10/13/16 18:32
11M14512	WG587480-12 50ug/L ICV 8260	NA	1	1	STD78491	10/13/16 19:00
11M14513	RINSE	NA	1	1		10/13/16 19:29
11M14514	WG587598-01 BLANK 8260	NA	1	1		10/13/16 19:58
11M14515	WG587598-02 20ug/L LCS 8260	NA	1	1	STD78491	10/13/16 20:27
11M14516	WG587598-03 20ug/L LCS2 8260	NA	1	1	STD78491	10/13/16 20:57
11M14517	L16100269-01 25X B 826-SPE	6	1	25		10/13/16 21:26
11M14518	L16100512-02 TB A 826-LOW	<2	1	1		10/13/16 21:55
11M14519	L16100194-01 10X B 826-LOW	6	1	10		10/13/16 22:24
11M14520	L16100194-03 10X B 826-LOW	6	1	10		10/13/16 22:54
11M14521	L16100194-06 5X B 826-LOW	<2	1	5		10/13/16 23:23
11M14522	L16100512-01 A 826-LOW	<2	1	1		10/13/16 23:52
11M14523	RINSE	NA	2	1		10/14/16 00:21
11M14524	WG587598-04 624 BLANK	NA	2	1		10/14/16 00:49
11M14525	L16100687-01 A 624-SPE	<2	2	1		10/14/16 01:18
11M14526	L16100565-01 10X B 624-SPE1	<2	2	10		10/14/16 01:47
11M14527	RINSE	NA	1	1		10/14/16 02:16
11M14528	RINSE	NA	1	1		10/14/16 02:45
11M14529	RINSE	NA	1	1		10/14/16 03:13

Approved: October 17, 2016

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS6 Dataset: 111216
Analyst1: ADC Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 24
Method: 624 SOP: MSV10 Rev: 15
Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18
Maintenance Log ID: 53962

Internal Standard: STD78986 Surrogate Standard: STD78986
CCV: STD78964 LCS: STD78939 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG591426

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
6M143415	WG591426-01 50ng BFB STD 8260	NA	1	1	STD78474	11/12/16 15:48
6M143416	rinse	NA	1	1	STD78964	11/12/16 16:14
6M143417	WG591426-02 0.3ug/L STD 8260	NA	1	1	STD78964	11/12/16 16:46
6M143418	WG591426-03 0.4ug/L STD 8260	NA	1	1	STD78964	11/12/16 17:18
6M143419	WG591426-04 1.0ug/L STD 8260	NA	1	1	STD78964	11/12/16 17:50
6M143420	WG591426-05 2.0ug/L STD 8260	NA	1	1	STD78964	11/12/16 18:22
6M143421	WG591426-06 5.0ug/L STD 8260	NA	1	1	STD78964	11/12/16 18:54
6M143422	WG591426-07 20.0ug/L STD 8260	NA	1	1	STD78964	11/12/16 19:26
6M143423	WG591426-08 50.0ug/L STD 8260	NA	1	1	STD78964	11/12/16 19:58
6M143424	WG591426-09 100.0ug/L STD 8260	NA	1	1	STD78964	11/12/16 20:31
6M143425	WG591426-10 200.0ug/L STD 8260	NA	1	1	STD78964	11/12/16 21:03
6M143426	WG591426-11 300.0ug/L STD 8260	NA	1	1	STD78964	11/12/16 21:35
6M143427	RINSE	NA	1	1		11/12/16 22:07
6M143428	WG591426-12 50.0ug/L STD 8260	NA	1	1	STD78939	11/12/16 22:39

Comments

Seq.	Rerun	Dil.	Reason	Analytes
14	X			
File ID: 6M143428				
DCDF was low. DNR.				

Approved: November 15, 2016

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS11 Dataset: 111416
Analyst1: JDS Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 24
Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18

Maintenance Log ID:

Internal Standard: STD78962 Surrogate Standard: STD78963
CCV: STD78327 LCS: STD78758 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG591571

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
11M15194	WG591570-01 50ng BFB	NA	1	1	STD78474	11/14/16 14:22
11M15195	WG591570-02 50ug/Kg CCV	NA	1	1	STD78327	11/14/16 14:47
11M15196	WGXXXXXX-01 A9FOO QC	NA	1	1		11/14/16 15:20
11M15197	WG591571-01 BLANK	NA	1	1		11/14/16 15:49
11M15198	WG591571-02 20ug/Kg LCS	NA	1	1	STD78758	11/14/16 16:18
11M15199	WG591571-03 20ug/Kg LCS2	NA	1	1	STD78758	11/14/16 16:48
11M15200	L16110147-10 B D1 25X 826-SPE	<2	1	25		11/14/16 17:17
11M15201	RINSE	NA	1	1		11/14/16 17:47
11M15202	L16110321-12 A TB 826-LOW	<2	1	1		11/14/16 18:16
11M15203	L16110147-08 B 826-SPE	<2	1	1		11/14/16 18:45
11M15204	L16110147-11 B 826-SPE	<2	1	1		11/14/16 19:14
11M15205	L16110463-01 A 826-LOW	<2	1	1		11/14/16 19:43
11M15206	L16110463-02 A 826-LOW	<2	1	1		11/14/16 20:12
11M15207	L16110463-03 A 826-LOW	<2	1	1		11/14/16 20:41
11M15208	L16110463-04 A 826-LOW	<2	1	1		11/14/16 21:10
11M15209	L16110231-02 A 826-SPE	<2	1	1		11/14/16 21:39
11M15210	L16110231-03 A 826-SPE	<2	1	1		11/14/16 22:08
11M15211	L16110231-04 A 826-SPE	<2	1	1		11/14/16 22:36
11M15212	L16110231-05 A 826-SPE	<2	1	1		11/14/16 23:06
11M15213	L16110231-06 A 826-SPE	<2	1	1		11/14/16 23:35
11M15214	L16110231-07 A 826-SPE	<2	1	1		11/15/16 00:03
11M15215	L16110321-01 A 826-LOW	NA	1	1		11/15/16 08:12

Comments

Seq.	Rerun	Dil.	Reason	Analytes
17	X	20	Over Calibration Range	VC, cis.
File ID: 11M15210				
L16110231-03				
18	X		Carry-over contamination	
File ID: 11M15211				
L16110231-04				
19	X		Carry-over contamination	
File ID: 11M15212				
L16110231-05				

Approved: November 17, 2016
Sarah Vandenberg

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS11 Dataset: 111416
Analyst1: JDS Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 24
Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18

Maintenance Log ID:

Internal Standard: STD78962 Surrogate Standard: STD78963
CCV: STD78327 LCS: STD78758 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG591571

Comments:

Comments

Seq.	Rerun	Dil.	Reason	Analytes
22	X			
File ID: 11M15215				
L16110321-01 sample unreportable due to instrument error				

Approved: November 17, 2016
Sarah Vandenberg

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS6 Dataset: 111416
Analyst1: TMB Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 24
Method: 624 SOP: MSV10 Rev: 15
Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18
Maintenance Log ID:

Internal Standard: STD78986 Surrogate Standard: STD78986
CCV: STD78996; STD78971 LCS: STD78998 MS/MSD: STD78998

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG591615

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
6M143429	RINSE	NA	1	1		11/14/16 09:23
6M143430	RINSE	NA	1	1		11/14/16 10:20
6M143431	WG591612-01 50ng BFB STD 8260	NA	1	1	STD78995	11/14/16 16:17
6M143432	WG591612-02 50ug/L CCV STD 8260	NA	1	1	STD78993	11/14/16 16:43
6M143433	WG591612-02 50ug/L CCV STD 8260	NA	1	1	STD78993	11/14/16 17:16
6M143434	WG591633-01 100ug/L A9 CCV STD 8260	NA	1	1	STD78971	11/14/16 17:48
6M143435	WG591615-01 VBLK1114 BLANK STD 826	NA	1	1		11/14/16 18:19
6M143436	WG591426-12 50ug/L ALT SRC STD 8260	NA	1	1	STD78998	11/14/16 18:51
6M143437	WG591615-02 20ug/L LCS STD 8260	NA	1	1	STD78998	11/14/16 19:23
6M143438	L16110321-05 A MS 826-LOW	NA	1	1	STD78998	11/14/16 19:55
6M143439	L16110321-06 A MSD 826-LOW	NA	1	1	STD78998	11/14/16 20:27
6M143440	L16110104-01 B 1000X 826-SPE D1	<2	1	1000		11/14/16 21:00
6M143441	L16110520-01 B 10X 826-TC	NA	17	10		11/14/16 21:32
6M143442	L16110550-01 B 10X 826-TC	NA	17	10		11/14/16 22:04
6M143443	L16110421-03 TB A 826-LOW	<2	1	1		11/14/16 22:36
6M143444	L16110370-01 TB B 826-SPE	<2	1	1		11/14/16 23:08
6M143445	L16110321-07 A 826-LOW	<2	1	1		11/14/16 23:40
6M143446	L16110321-08 A 826-LOW	<2	1	1		11/15/16 00:12
6M143447	L16110321-09 A 826-LOW	<2	1	1		11/15/16 00:44
6M143448	L16110321-10 A 826-LOW	<2	1	1		11/15/16 01:16
6M143449	L16110321-11 A 826-LOW	<2	1	1		11/15/16 01:48
6M143450	L16110397-01 B 826-SPE	<2	1	1		11/15/16 02:20
6M143451	L16110321-04 A RS 826-SPE	NA	1	1		11/15/16 02:52
6M143452	L16110421-01 A 50X 826-LOW	<2	1	50		11/15/16 03:24
6M143453	L16110623-02 B 100X 826-SPE 00	<2	1	100		11/15/16 03:56
6M143454	RINSE	NA	1	1		11/15/16 04:28
6M143455	WG591615-06 VBLK1114 BLANK STD 624	7	2	1		11/15/16 05:00
6M143456	L16110659-01 A 624-SPE1	<2	2	1		11/15/16 05:32
6M143457	L16110675-01 A 624-SPE	<2	2	1		11/15/16 06:04
6M143458	L16110662-01 A 624-SPE	<2	2	1		11/15/16 06:36
6M143459	L16110662-02 A 624-SPE	<2	2	1		11/15/16 07:08
6M143460	ccv	NA	1	1		11/15/16 07:40
6M143461	RINSE	NA	1	1		11/15/16 08:12
6M143462	RINSE	NA	1	1		11/15/16 08:44

Approved: November 16, 2016



Microbac

Page: 1

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS6 Dataset: 111416
Analyst1: TMB Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 24
Method: 624 SOP: MSV10 Rev: 15
Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18
Maintenance Log ID:

Internal Standard: STD78986 Surrogate Standard: STD78986
CCV: STD78996; STD78971 LCS: STD78998 MS/MSD: STD78998

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG591615

Comments:

Comments

Seq.	Rerun	Dil.	Reason	Analytes
4	X			
File ID: 6M143432				
	Acetone was low, DNR.			
28	X	200	Over Calibration Range	
File ID: 6M143456				
29	X	1	Carry-over contamination	
File ID: 6M143457				
	DNR.			

Approved: November 16, 2016

Page: 2

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS6 Dataset: 111516
Analyst1: TMB Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 24
Method: 624 SOP: MSV10 Rev: 15
Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18
Maintenance Log ID: 53964

Internal Standard: STD78986 Surrogate Standard: STD78986
CCV: STD78993 LCS: STD79035 MS/MSD: STD79035

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG591757

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
6M143463	RINSE	NA	1	1		11/15/16 09:59
6M143464	RINSE	NA	1	1		11/15/16 10:30
6M143465	RINSE	NA	1	1		11/15/16 11:26
6M143466	RINSE	NA	1	1		11/15/16 13:34
6M143467	RINSE	NA	1	1		11/15/16 14:06
6M143468	WG591756-01 50ng BFB STD 8260	NA	1	1	STD78995	11/15/16 14:38
6M143469	WG591756-01 50ng BFB STD 8260	NA	1	1	STD78995	11/15/16 14:52
6M143470	WG591756-01 50ng BFB STD 8260	NA	1	1	STD78995	11/15/16 15:06
6M143471	WG591756-02 50ug /L CCV STD 8260	NA	1	1	STD78993	11/15/16 15:47
6M143472	WG000000-01 100ug /L a9 CCV STD 8260	NA	1	1	STD78971	11/15/16 16:19
6M143473	WG591757-01 VBLK1115 BLANK STD 826	NA	1	1		11/15/16 16:52
6M143474	WG591757-02 20ug/L LCS STD 8260	NA	1	1	STD79035	11/15/16 17:24
6M143475	L16110440-10 A RS 826-SPE	<2	1	1		11/15/16 17:56
6M143476	L16110440-11 A MS 826-SPE	<2	1	1	STD79035	11/15/16 18:28
6M143477	L16110440-12 A MSD 826-SPE	<2	1	1	STD79035	11/15/16 19:00
6M143478	L16110151-02 B 826-SPE	<2	1	1		11/15/16 19:32
6M143479	L16110440-09 A 826-SPE	<2	1	1		11/15/16 20:05
6M143480	L16110440-08 A 826-SPE	<2	1	1		11/15/16 20:37
6M143481	L16110440-07 A 826-SPE	<2	1	1		11/15/16 21:09
6M143482	L16110440-13 A TB 826-SPE	<2	1	1		11/15/16 21:41
6M143483	L16110440-14 A TB 826-SPE	<2	1	1		11/15/16 22:13
6M143484	L16110321-01 B 826-LOW	<2	1	1		11/15/16 22:45
6M143485	L16110321-02 B 826-LOW	<2	1	1		11/15/16 23:17
6M143486	L16110321-03 B 826-LOW	<2	1	1		11/15/16 23:49
6M143487	L16110599-01 A 826-LOW	4	1	1		11/16/16 00:21
6M143488	L16110599-02 A 826-LOW	<2	1	1		11/16/16 00:53
6M143489	L16110599-03 A 826-LOW	<2	1	1		11/16/16 01:25
6M143490	L16110601-01 A 100X 826-TC	NA	17	100		11/16/16 01:58
6M143491	L16110702-02 A 100X 826-TC	NA	17	100		11/16/16 02:30
6M143492	RINSE	NA	1	1		11/16/16 03:02
6M143493	RINSE	NA	1	1		11/16/16 03:34
6M143494	WG591757-06 VBLK1115 BLANK STD 624	NA	2	1		11/16/16 04:06
6M143495	L16110655-01 A 624-SPE	<2	2	1		11/16/16 04:38
6M143496	L16110655-02 A 624-SPE	<2	2	1		11/16/16 05:10

Approved: November 16, 2016

Sarah Vandenberg

Microbac

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS6 Dataset: 111516
Analyst1: TMB Analyst2: NA
Method: 8260B SOP: MSV01 Rev: 24
Method: 624 SOP: MSV10 Rev: 15
Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18
Maintenance Log ID: 53964

Internal Standard: STD78986 Surrogate Standard: STD78986
CCV: STD78993 LCS: STD79035 MS/MSD: STD79035

Column 1 ID: RTX502.2 Column 2 ID: NA
Workgroups: WG591757

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
6M143497	L16110659-01 B 200X 624-SPE1 00	7	2	200		11/16/16 05:42
6M143498	CCV	NA	1	1		11/16/16 06:14
6M143499	RINSE	NA	1	1		11/16/16 06:46
6M143500	RINSE	NA	1	1		11/16/16 07:18
6M143501	RINSE	NA	1	1		11/16/16 07:50

Comments

Seq.	Rerun	Dil.	Reason	Analytes
6	X			
File ID: 6M143468				
	Tune failed, DNR.			
7	X			
File ID: 6M143469				
	Tune failed, DNR. Changed the septa.			
10				
File ID: 6M143472				
	Not needed. DNR.			
13	X	5	Over Calibration Range	D. ETHER
File ID: 6M143475				
28	X	10	Analyzed too dilute	
File ID: 6M143490				
	DNR.			
29	X	10	Analyzed too dilute	
File ID: 6M143491				
	DNR.			

Approved: November 16, 2016
Sarah Vandenberg

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Microbac Laboratories Inc.

Data Checklist

Date: 24-APR-2016
Analyst: JDS
Analyst: NA
Method: 8260B/624
Instrument: HPMS6
Curve Workgroup: NA
Runlog ID: 74754
Analytical Workgroups: WG566155

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:
27-APR-2016
Tiffany Bailey

Secondary Reviewer:
29-APR-2016

CHECKLIST1 - Modified 03/05/2008
Generated: APR-29-2016 12:29:57

Microbac Laboratories Inc.

Data Checklist

Date: 15-AUG-2016
Analyst: JDS
Analyst: NA
Method: 8260B
Instrument: HPMS11
Curve Workgroup: NA
Runlog ID: 76933
Analytical Workgroups: WG580279 WG580280

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	NA
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	NA
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	NA
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	NA
Samples	X
TCL Hits	X
Spectra of TCL Hits	JDS
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	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:
26-AUG-2016

Secondary Reviewer:
26-AUG-2016

CHECKLIST1 - Modified 03/05/2008
Generated: AUG-26-2016 13:41:28

Microbac Laboratories Inc.

Data Checklist

Date: 13-OCT-2016
Analyst: FJB
Analyst: JDS
Method: 8260B/624
Instrument: HPMS11
Curve Workgroup: NA
Runlog ID: 78081
Analytical Workgroups: WG587480

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	WTD
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:
14-OCT-2016

Secondary Reviewer:
17-OCT-2016

CHECKLIST1 - Modified 03/05/2008
Generated: OCT-17-2016 12:02:17

Microbac Laboratories Inc.

Data Checklist

Date: 12-NOV-2016
Analyst: ADC
Analyst: NA
Method: 8260B/624/OVAP
Instrument: HPMS6
Curve Workgroup: NA
Runlog ID: 78718
Analytical Workgroups: WG591426

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	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	TMB
Secondary Reviewer	FJB
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Check the reasonableness of the results	X

Primary Reviewer:
15-NOV-2016
Tiffany Bailey

Secondary Reviewer:
15-NOV-2016

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-15-2016 15:37:48

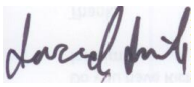
Microbac Laboratories Inc.

Data Checklist

Date: 14-NOV-2016
Analyst: JDS
Analyst: NA
Method: 8260
Instrument: HPMS11
Curve Workgroup: NA
Runlog ID: 78766
Analytical Workgroups: WG591571

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	NA
Samples	X
TCL Hits	X
Spectra of TCL Hits	JDS
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	JDS
Secondary Reviewer	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:
16-NOV-2016



Secondary Reviewer:
17-NOV-2016

Sarah Vandenberg

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-17-2016 14:02:14

Microbac

Microbac Laboratories Inc.

Data Checklist

Date: 14-NOV-2016
Analyst: TMB
Analyst: NA
Method: 8260B/624
Instrument: HPMS6
Curve Workgroup: NA
Runlog ID: 78729
Analytical Workgroups: WG591615

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	X
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	X
Samples	X
TCL Hits	X
Spectra of TCL Hits	TMB
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	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:
15-NOV-2016
Tiffany Bailey

Secondary Reviewer:
16-NOV-2016

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-16-2016 14:01:37

Microbac Laboratories Inc.

Data Checklist

Date: 15-NOV-2016
Analyst: TMB
Analyst: NA
Method: 8260B/624
Instrument: HPMS6
Curve Workgroup: NA
Runlog ID: 78745
Analytical Workgroups: WG591757

System Performance Check	NA
BFB	X
Initial Calibration	X
Average RF	X
Linear Reg or Higher Order Curve	X
Second Source standard % Difference	X
Continuing Calibration /Check Standards	X
Project/Client Specific Requirements	X
Special Standards	NA
Blanks	X
TCL's	X
Surrogates	X
LCS (Laboratory Control Sample)	X
Recoveries	X
Surrogates	X
MS/MSD/Duplicates	X
Samples	X
TCL Hits	X
Spectra of TCL Hits	TMB
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	NA
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	TMB
Secondary Reviewer	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:
16-NOV-2016
Tiffany Bailey

Secondary Reviewer:
16-NOV-2016
Sarah Vandenberg

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-16-2016 13:39:38

Microbac

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8260B AAB#: WG591571

Login Number: L16110321

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
TRIP BLANK	12	11/04/16					11/14/2016	10.8	14		11/14/16	10.8	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 5024733
Report generated 11/18/2016 13:13

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8260B AAB#: WG591615

Login Number: L16110321

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
50WW05-110316	04	11/03/16					11/15/2016	11.7	14		11/15/16	11.7	14	
50WW05MS-110316	05	11/03/16					11/14/2016	11.4	14		11/14/16	11.4	14	
50WW05MSD-110316	06	11/03/16					11/14/2016	11.4	14		11/14/16	11.4	14	
50WW21-110316	07	11/03/16					11/14/2016	11.5	14		11/14/16	11.5	14	
50WW24-110316	08	11/03/16					11/15/2016	11.4	14		11/15/16	11.4	14	
50WW18-110316	09	11/03/16					11/15/2016	11.4	14		11/15/16	11.4	14	
50WW19-110416	10	11/04/16					11/15/2016	10.7	14		11/15/16	10.7	14	
50WW17-110416	11	11/04/16					11/15/2016	10.7	14		11/15/16	10.7	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 5024733
Report generated 11/18/2016 13:13

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 8260B **AAB#:** WG591757

Login Number: L16110321

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
50WW09-110316	01	11/03/16					11/15/2016	12.6	14		11/15/16	12.6	14	
50WW10-110316	02	11/03/16					11/15/2016	12.6	14		11/15/16	12.6	14	
50WW10FD-110316	03	11/03/16					11/15/2016	12.6	14		11/15/16	12.6	14	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 5024733
Report generated 11/18/2016 13:13

Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L16110321
Instrument Id: HPMS6
Workgroup (AAB#): WG591615

Method: 8260
CAL ID: HPMS6-12-NOV-16
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L16110321-04	1.00	01	91.1	94.4	99.8	96.8
L16110321-05	1.00	01	88.9	93.9	100	96.9
L16110321-06	1.00	01	89.1	93.2	100	97.5
L16110321-07	1.00	01	91.8	94.8	103	96.9
L16110321-08	1.00	01	90.3	93.5	102	97.8
L16110321-09	1.00	01	92.6	94.7	102	97.9
L16110321-10	1.00	01	90.7	94.5	101	98.0
L16110321-11	1.00	01	91.3	95.4	99.9	97.7
WG591615-01	1.00	01	89.3	93.2	104	95.4
WG591615-02	1.00	01	88.6	94.1	99.3	97.1
WG591615-06	1.00	01	92.8	96.0	100	96.5

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	70	-	120
2 - Dibromofluoromethane	85	-	115
3 - 4-Bromofluorobenzene	75	-	120
4 - Toluene-d8	85	-	120

Underline = Result out of surrogate limits

DL = surrogate diluted out
ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 5024740
Report generated: 11/18/2016 13:14

Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L16110321
Instrument Id: HPMS6
Workgroup (AAB#): WG591757

Method: 8260
CAL ID: HPMS6-12-NOV-16
Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L16110321-01	1.00	01	92.1	95.5	101	96.6
L16110321-02	1.00	01	92.3	96.7	99.5	95.9
L16110321-03	1.00	01	92.9	96.3	98.2	95.6
WG591757-01	1.00	01	92.4	94.9	99.5	96.2
WG591757-02	1.00	01	90.8	95.3	98.0	96.2
WG591757-06	1.00	01	94.7	97.5	99.4	95.2

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	70	-	120
2 - Dibromofluoromethane	85	-	115
3 - 4-Bromofluorobenzene	75	-	120
4 - Toluene-d8	85	-	120

Underline = Result out of surrogate limits

DL = surrogate diluted out
ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 5024740
Report generated: 11/18/2016 13:14

Microbac Laboratories Inc.
SURROGATE STANDARDS

Login Number: L16110321
Instrument Id: HPMS11
Workgroup (AAB#): WG591571

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

Sample Number	Dilution	Tag	1	2	3	4
L16110321-12	1.00	01	98.3	98.9	108	105
WG591571-01	1.00	01	97.2	98.8	99.0	101
WG591571-02	1.00	01	97.9	99.8	98.9	100
WG591571-03	1.00	01	99.0	100	101	102

Surrogates	Surrogate Limits		
1 - 1,2-Dichloroethane-d4	70	-	120
2 - Dibromofluoromethane	85	-	115
3 - 4-Bromofluorobenzene	75	-	120
4 - Toluene-d8	85	-	120

Underline = Result out of surrogate limits

DL = surrogate diluted out
ND = surrogate not detected

SURROGATES - Modified 03/06/2008
PDF File ID: 5024740
Report generated: 11/18/2016 13:14

METHOD BLANK SUMMARY

Login Number:	L16110321	**Work Group:**	WG591571
Blank File ID:	11M15197	**Blank Sample ID:**	WG591571-01
Prep Date:	11/14/16 15:49	**Instrument ID:**	HPMS11
Analyzed Date:	11/14/16 15:49	**Method:**	8260B
Analyst:	JDS		

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG591571-02	11M15198	11/14/16 16:18	01
LCS2	WG591571-03	11M15199	11/14/16 16:48	01
TRIP BLANK	L16110321-12	11M15202	11/14/16 18:16	01

Report Name: BLANK_SUMMARY
PDF File ID: 5027249
Report generated 11/18/2016 13:13

METHOD BLANK SUMMARY

Login Number: L16110321
Blank File ID: 6M143435
Prep Date: 11/14/16 18:19
Analyzed Date: 11/14/16 18:19
Analyst: TMB

Work Group: WG591615
Blank Sample ID: WG591615-01
Instrument ID: HPMS6
Method: 8260B

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG591615-02	6M143437	11/14/16 19:23	01
50WW05MS-110316	L16110321-05	6M143438	11/14/16 19:55	01
50WW05MSD-110316	L16110321-06	6M143439	11/14/16 20:27	01
50WW21-110316	L16110321-07	6M143445	11/14/16 23:40	01
50WW24-110316	L16110321-08	6M143446	11/15/16 00:12	01
50WW18-110316	L16110321-09	6M143447	11/15/16 00:44	01
50WW19-110416	L16110321-10	6M143448	11/15/16 01:16	01
50WW17-110416	L16110321-11	6M143449	11/15/16 01:48	01
50WW05-110316	L16110321-04	6M143451	11/15/16 02:52	01

Report Name: BLANK_SUMMARY
PDF File ID: 5027249
Report generated 11/18/2016 13:13

METHOD BLANK SUMMARY

Login Number:	L16110321	**Work Group:**	WG591757
Blank File ID:	6M143473	**Blank Sample ID:**	WG591757-01
Prep Date:	11/15/16 16:52	**Instrument ID:**	HPMS6
Analyzed Date:	11/15/16 16:52	**Method:**	8260B
Analyst:	TMB		

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG591757-02	6M143474	11/15/16 17:24	01
50WW09-110316	L16110321-01	6M143484	11/15/16 22:45	01
50WW10-110316	L16110321-02	6M143485	11/15/16 23:17	01
50WW10FD-110316	L16110321-03	6M143486	11/15/16 23:49	01

Report Name: BLANK_SUMMARY
PDF File ID: 5027249
Report generated 11/18/2016 13:13

Login Number:L16110321 Prep Date:11/14/16 15:49 Sample ID:WG591571-01
Instrument ID:HPMS11 Run Date:11/14/16 15:49 Prep Method:5030B/5030C/503
File ID:11M15197 Analyst:JDS Method:8260B
Workgroup (AAB#):WG591571 Matrix:Water Units:ug/L
Contract #: Cal ID:HPMS11-13-OCT-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: 5024734
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Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L16110321 Prep Date: 11/14/16 15:49 Sample ID: WG591571-01
Instrument ID: HPMS11 Run Date: 11/14/16 15:49 Prep Method: 5030B/5030C/503
File ID: 11M15197 Analyst: JDS Method: 8260B
Workgroup (AAB#): WG591571 Matrix: Water Units: ug/L
Contract #: Cal ID: HPMS11-13-OCT-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	98.8	85 - 115	PASS
1,2-Dichloroethane-d4	97.2	70 - 120	PASS
Toluene-d8	101	85 - 120	PASS
4-Bromofluorobenzene	99.0	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: 5024734
18-NOV-2016 13:13

Login Number:L16110321 Prep Date:11/14/16 18:19 Sample ID:WG591615-01
Instrument ID:HPMS6 Run Date:11/14/16 18:19 Prep Method:5030B/5030C/503
File ID:6M143435 Analyst:TMB Method:8260B
Workgroup (AAB#):WG591615 Matrix:Water Units:ug/L
Contract #: Cal ID: HPMS6-12-NOV-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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Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L16110321 Prep Date: 11/14/16 18:19 Sample ID: WG591615-01
Instrument ID: HPMS6 Run Date: 11/14/16 18:19 Prep Method: 5030B/5030C/503
File ID: 6M143435 Analyst: TMB Method: 8260B
Workgroup (AAB#): WG591615 Matrix: Water Units: ug/L
Contract #: Cal ID: HPMS6-12-NOV-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	93.2	85 - 115	PASS
1,2-Dichloroethane-d4	89.3	70 - 120	PASS
Toluene-d8	95.4	85 - 120	PASS
4-Bromofluorobenzene	104	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: 5024734
18-NOV-2016 13:13

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L16110321 Prep Date: 11/15/16 16:52 Sample ID: WG591757-01
Instrument ID: HPMS6 Run Date: 11/15/16 16:52 Prep Method: 5030B/5030C/503
File ID: 6M143473 Analyst: TMB Method: 8260B
Workgroup (AAB#): WG591757 Matrix: Water Units: ug/L
Contract #: Cal ID: HPMS6-12-NOV-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: 5024734
18-NOV-2016 13:13

Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L16110321 Prep Date: 11/15/16 16:52 Sample ID: WG591757-01
Instrument ID: HPMS6 Run Date: 11/15/16 16:52 Prep Method: 5030B/5030C/503
File ID: 6M143473 Analyst: TMB Method: 8260B
Workgroup (AAB#): WG591757 Matrix: Water Units: ug/L
Contract #: Cal ID: HPMS6-12-NOV-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	94.9	85 - 115	PASS
1,2-Dichloroethane-d4	92.4	70 - 120	PASS
Toluene-d8	96.2	85 - 120	PASS
4-Bromofluorobenzene	99.5	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: 5024734
18-NOV-2016 13:13

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16110321 Run Date: 11/14/2016 Sample ID: WG591615-02
Instrument ID: HPMS6 Run Time: 19:23 Prep Method: 5030B/5030C/503
File ID: 6M143437 Analyst: TMB Method: 8260B
Workgroup (AAB#): WG591615 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD78939 Cal ID: HPMS6-12-NOV-16

Analytes	Expected	Found	% Rec	LCS Limits	Q
Acetone	20.0	19.9	99.4	40 - 140	
Benzene	20.0	18.3	91.4	80 - 120	
Bromobenzene	20.0	20.4	102	75 - 125	
Bromochloromethane	20.0	19.0	95.2	65 - 130	
Bromodichloromethane	20.0	18.7	93.6	75 - 120	
Bromoform	20.0	19.4	97.1	70 - 130	
Bromomethane	20.0	20.6	103	30 - 145	
2-Butanone	20.0	19.8	99.0	30 - 150	
n-Butylbenzene	20.0	21.0	105	70 - 135	
sec-Butylbenzene	20.0	20.7	103	70 - 125	
tert-Butylbenzene	20.0	20.6	103	70 - 130	
Carbon disulfide	20.0	17.6	88.2	35 - 160	
Carbon tetrachloride	20.0	17.5	87.5	65 - 140	
Chlorobenzene	20.0	19.2	96.2	80 - 120	
Chlorodibromomethane	20.0	19.9	99.5	60 - 135	
Chloroethane	20.0	21.0	105	60 - 135	
Chloroform	20.0	18.0	90.2	65 - 135	
Chloromethane	20.0	23.8	119	40 - 125	
2-Chlorotoluene	20.0	19.6	98.1	75 - 125	
4-Chlorotoluene	20.0	21.0	105	75 - 130	
1,2-Dibromo-3-chloropropane	20.0	20.4	102	50 - 130	
1,2-Dibromoethane	20.0	19.9	99.6	80 - 120	
Dibromomethane	20.0	19.5	97.7	75 - 125	
1,2-Dichlorobenzene	20.0	20.5	102	70 - 120	
1,3-Dichlorobenzene	20.0	20.2	101	75 - 125	
1,4-Dichlorobenzene	20.0	20.2	101	75 - 125	
Dichlorodifluoromethane	20.0	22.1	111	30 - 155	
1,1-Dichloroethane	20.0	17.7	88.5	70 - 135	
1,2-Dichloroethane	20.0	18.1	90.3	70 - 130	
1,1-Dichloroethene	20.0	14.2	70.9	70 - 130	
cis-1,2-Dichloroethene	20.0	19.0	95.2	70 - 125	
trans-1,2-Dichloroethene	20.0	17.3	86.5	60 - 140	
1,2-Dichloropropane	20.0	19.1	95.4	75 - 125	
1,3-Dichloropropane	20.0	20.8	104	75 - 125	
2,2-Dichloropropane	20.0	18.2	91.1	70 - 135	
cis-1,3-Dichloropropene	20.0	21.5	107	70 - 130	
trans-1,3-Dichloropropene	20.0	20.2	101	55 - 140	
1,1-Dichloropropene	20.0	18.0	89.8	75 - 130	
Ethylbenzene	20.0	19.9	99.3	75 - 125	
2-Hexanone	20.0	19.6	97.9	55 - 130	
Hexachlorobutadiene	20.0	21.1	105	50 - 140	

LCS - Modified 03/06/2008
PDF File ID: 5024784
Report generated: 11/18/2016 13:18

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16110321 Run Date: 11/14/2016 Sample ID: WG591615-02
Instrument ID: HPMS6 Run Time: 19:23 Prep Method: 5030B/5030C/503
File ID: 6M143437 Analyst: TMB Method: 8260B
Workgroup (AAB#): WG591615 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD78939 Cal ID: HPMS6-12-NOV-16

Analytes	Expected	Found	% Rec	LCS Limits	Q
Isopropylbenzene	20.0	21.1	106	75 - 125	
p-Isopropyltoluene	20.0	21.6	108	75 - 130	
4-Methyl-2-pentanone	20.0	19.2	96.2	60 - 135	
Methylene chloride	20.0	17.5	87.5	55 - 140	
Naphthalene	20.0	24.3	122	55 - 140	
n-Propylbenzene	20.0	21.4	107	70 - 130	
Styrene	20.0	22.1	110	65 - 135	
1,1,1,2-Tetrachloroethane	20.0	19.7	98.7	80 - 130	
1,1,2,2-Tetrachloroethane	20.0	20.6	103	65 - 130	
Tetrachloroethene	20.0	19.3	96.7	45 - 150	
Toluene	20.0	19.5	97.6	75 - 120	
1,2,3-Trichlorobenzene	20.0	22.7	114	55 - 140	
1,2,4-Trichlorobenzene	20.0	23.0	115	65 - 135	
1,1,1-Trichloroethane	20.0	18.5	92.5	65 - 130	
1,1,2-Trichloroethane	20.0	19.8	99.0	75 - 125	
Trichloroethene	20.0	18.5	92.7	70 - 125	
Trichlorofluoromethane	20.0	18.3	91.7	60 - 145	
1,2,3-Trichloropropane	20.0	20.4	102	75 - 125	
1,2,4-Trimethylbenzene	20.0	20.8	104	75 - 130	
1,3,5-Trimethylbenzene	20.0	21.4	107	75 - 130	
Vinyl chloride	20.0	19.7	98.6	50 - 145	
o-Xylene	20.0	20.9	104	80 - 120	
m-,p-Xylene	40.0	41.2	103	75 - 130	

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	94.1	85 - 115	PASS
1,2-Dichloroethane-d4	88.6	70 - 120	PASS
Toluene-d8	97.1	85 - 120	PASS
4-Bromofluorobenzene	99.3	75 - 120	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 5024784
Report generated: 11/18/2016 13:18

Login Number: L16110321 Run Date: 11/15/2016 Sample ID: WG591757-02
Instrument ID: HPMS6 Run Time: 17:24 Prep Method: 5030B/5030C/503
File ID: 6M143474 Analyst: TMB Method: 8260B
Workgroup (AAB#): WG591757 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD78998 Cal ID: HPMS6-12-NOV-16

Analytes	Expected	Found	% Rec	LCS Limits	Q
Acetone	20.0	22.2	111	40 - 140	
Benzene	20.0	19.7	98.4	80 - 120	
Bromobenzene	20.0	20.2	101	75 - 125	
Bromochloromethane	20.0	21.0	105	65 - 130	
Bromodichloromethane	20.0	19.3	96.4	75 - 120	
Bromoform	20.0	19.5	97.5	70 - 130	
Bromomethane	20.0	20.0	100	30 - 145	
2-Butanone	20.0	20.5	103	30 - 150	
n-Butylbenzene	20.0	20.4	102	70 - 135	
sec-Butylbenzene	20.0	20.3	101	70 - 125	
tert-Butylbenzene	20.0	20.4	102	70 - 130	
Carbon disulfide	20.0	17.7	88.3	35 - 160	
Carbon tetrachloride	20.0	18.3	91.5	65 - 140	
Chlorobenzene	20.0	19.6	98.0	80 - 120	
Chlorodibromomethane	20.0	19.5	97.7	60 - 135	
Chloroethane	20.0	21.0	105	60 - 135	
Chloroform	20.0	19.3	96.4	65 - 135	
Chloromethane	20.0	22.1	111	40 - 125	
2-Chlorotoluene	20.0	20.7	104	75 - 125	
4-Chlorotoluene	20.0	19.1	95.7	75 - 130	
1,2-Dibromo-3-chloropropane	20.0	20.3	102	50 - 130	
1,2-Dibromoethane	20.0	20.2	101	80 - 120	
Dibromomethane	20.0	20.5	102	75 - 125	
1,2-Dichlorobenzene	20.0	19.9	99.6	70 - 120	
1,3-Dichlorobenzene	20.0	19.9	99.6	75 - 125	
1,4-Dichlorobenzene	20.0	19.6	98.0	75 - 125	
Dichlorodifluoromethane	20.0	21.6	108	30 - 155	
1,1-Dichloroethane	20.0	19.7	98.5	70 - 135	
1,2-Dichloroethane	20.0	19.6	98.2	70 - 130	
1,1-Dichloroethene	20.0	19.4	97.0	70 - 130	
cis-1,2-Dichloroethene	20.0	20.5	102	70 - 125	
trans-1,2-Dichloroethene	20.0	20.1	101	60 - 140	
1,2-Dichloropropane	20.0	19.9	99.3	75 - 125	
1,3-Dichloropropane	20.0	20.8	104	75 - 125	
2,2-Dichloropropane	20.0	20.8	104	70 - 135	
cis-1,3-Dichloropropene	20.0	21.9	109	70 - 130	
trans-1,3-Dichloropropene	20.0	19.8	98.8	55 - 140	
1,1-Dichloropropene	20.0	19.8	99.2	75 - 130	
Ethylbenzene	20.0	20.2	101	75 - 125	
2-Hexanone	20.0	19.8	98.9	55 - 130	
Hexachlorobutadiene	20.0	19.8	99.1	50 - 140	

LCS - Modified 03/06/2008
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Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16110321 Run Date: 11/15/2016 Sample ID: WG591757-02
Instrument ID: HPMS6 Run Time: 17:24 Prep Method: 5030B/5030C/503
File ID: 6M143474 Analyst: TMB Method: 8260B
Workgroup (AAB#): WG591757 Matrix: Water Units: ug/L
QC Key: DOD4 Lot#: STD78998 Cal ID: HPMS6-12-NOV-16

Analytes	Expected	Found	% Rec	LCS Limits	Q
Isopropylbenzene	20.0	21.2	106	75 - 125	
p-Isopropyltoluene	20.0	21.3	106	75 - 130	
4-Methyl-2-pentanone	20.0	19.1	95.6	60 - 135	
Methylene chloride	20.0	19.7	98.5	55 - 140	
Naphthalene	20.0	23.4	117	55 - 140	
n-Propylbenzene	20.0	21.1	106	70 - 130	
Styrene	20.0	21.9	109	65 - 135	
1,1,1,2-Tetrachloroethane	20.0	19.6	98.0	80 - 130	
1,1,2,2-Tetrachloroethane	20.0	19.9	99.6	65 - 130	
Tetrachloroethene	20.0	20.3	101	45 - 150	
Toluene	20.0	20.1	101	75 - 120	
1,2,3-Trichlorobenzene	20.0	22.0	110	55 - 140	
1,2,4-Trichlorobenzene	20.0	22.0	110	65 - 135	
1,1,1-Trichloroethane	20.0	20.1	101	65 - 130	
1,1,2-Trichloroethane	20.0	19.9	99.3	75 - 125	
Trichloroethene	20.0	19.6	98.0	70 - 125	
Trichlorofluoromethane	20.0	19.4	97.1	60 - 145	
1,2,3-Trichloropropane	20.0	19.9	99.7	75 - 125	
1,2,4-Trimethylbenzene	20.0	20.5	102	75 - 130	
1,3,5-Trimethylbenzene	20.0	21.2	106	75 - 130	
Vinyl chloride	20.0	20.5	103	50 - 145	
o-Xylene	20.0	20.9	104	80 - 120	
m-,p-Xylene	40.0	41.7	104	75 - 130	

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	95.3	85 - 115	PASS
1,2-Dichloroethane-d4	90.8	70 - 120	PASS
Toluene-d8	96.2	85 - 120	PASS
4-Bromofluorobenzene	98.0	75 - 120	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
PDF File ID: 5024784
Report generated: 11/18/2016 13:18

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16110321 Analyst: JDS Prep Method: 5030B/5030C/503
Instrument ID: HPMS11 Matrix: Water Method: 8260B
Workgroup (AAB#): WG591571 Units: ug/L
QC Key: DOD4 Lot #: STD78491

Sample ID: WG591571-02 LCS File ID: 11M15198 Run Date: 11/14/2016 16:18
Sample ID: WG591571-03 LCS2 File ID: 11M15199 Run Date: 11/14/2016 16:48

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
1,1,1,2-Tetrachloroethane	20.0	19.6	97.8	20.0	19.8	99.2	1.39	80 - 130	30	
1,1,1-Trichloroethane	20.0	18.3	91.7	20.0	18.1	90.7	1.05	65 - 130	30	
1,1,2,2-Tetrachloroethane	20.0	23.0	115	20.0	22.1	111	3.78	65 - 130	30	
1,1,2-Trichloroethane	20.0	21.0	105	20.0	20.5	103	2.32	75 - 125	30	
1,1-Dichloroethane	20.0	17.3	86.4	20.0	17.1	85.6	0.916	70 - 135	30	
1,1-Dichloroethene	20.0	13.6	67.9	20.0	13.6	68.2	0.341	70 - 130	30	*
1,1-Dichloropropene	20.0	17.1	85.4	20.0	16.9	84.3	1.34	75 - 130	30	
1,2,3-Trichlorobenzene	20.0	19.9	99.4	20.0	19.7	98.3	1.05	55 - 140	30	
1,2,3-Trichloropropane	20.0	23.7	119	20.0	22.7	113	4.60	75 - 125	30	
1,2,4-Trichlorobenzene	20.0	19.9	99.5	20.0	19.9	99.5	0.0781	65 - 135	30	
1,2,4-Trimethylbenzene	20.0	21.5	108	20.0	21.1	105	2.25	75 - 130	30	
1,2-Dibromo-3-chloropropane	20.0	21.5	107	20.0	22.3	111	3.80	50 - 130	30	
1,2-Dibromoethane	20.0	19.9	99.3	20.0	19.9	99.6	0.353	80 - 120	30	
1,2-Dichlorobenzene	20.0	21.1	105	20.0	20.8	104	1.37	70 - 120	30	
1,2-Dichloroethane	20.0	18.6	93.2	20.0	18.3	91.4	1.98	70 - 130	30	
1,2-Dichloropropane	20.0	18.8	93.9	20.0	18.7	93.4	0.543	75 - 125	30	
1,3,5-Trimethylbenzene	20.0	21.2	106	20.0	21.1	106	0.395	75 - 130	30	
1,3-Dichlorobenzene	20.0	20.2	101	20.0	19.7	98.7	2.27	75 - 125	30	
1,3-Dichloropropane	20.0	20.8	104	20.0	20.5	103	1.44	75 - 125	30	
1,4-Dichlorobenzene	20.0	20.0	100	20.0	19.8	98.9	1.12	75 - 125	30	
2,2-Dichloropropane	20.0	18.1	90.5	20.0	17.8	89.1	1.54	70 - 135	30	
2-Butanone	20.0	20.8	104	20.0	20.5	102	1.30	30 - 150	30	
2-Chlorotoluene	20.0	20.0	100	20.0	24.0	120	17.9	75 - 125	30	
2-Hexanone	20.0	19.5	97.5	20.0	19.1	95.5	2.06	55 - 130	30	
4-Chlorotoluene	20.0	21.5	108	20.0	17.5	87.3	20.9	75 - 130	30	
4-Methyl-2-pentanone	20.0	20.1	101	20.0	19.4	96.9	3.72	60 - 135	30	
Acetone	20.0	20.5	103	20.0	20.4	102	0.643	40 - 140	30	
Benzene	20.0	17.9	89.7	20.0	18.1	90.4	0.754	80 - 120	30	
Bromobenzene	20.0	19.9	99.5	20.0	20.2	101	1.39	75 - 125	30	
Bromochloromethane	20.0	18.4	91.9	20.0	18.3	91.5	0.380	65 - 130	30	
Bromodichloromethane	20.0	18.8	93.9	20.0	18.8	93.8	0.0647	75 - 120	30	
Bromoform	20.0	20.6	103	20.0	19.8	99.0	4.17	70 - 130	30	
Bromomethane	20.0	21.1	106	20.0	20.8	104	1.71	30 - 145	30	
Carbon disulfide	20.0	16.9	84.3	20.0	16.6	83.2	1.35	35 - 160	30	
Carbon tetrachloride	20.0	17.9	89.7	20.0	18.0	90.0	0.327	65 - 140	30	
Chlorobenzene	20.0	18.9	94.4	20.0	18.6	93.2	1.30	80 - 120	30	
Chloroethane	20.0	20.2	101	20.0	19.9	99.5	1.31	60 - 135	30	
Chloroform	20.0	18.2	91.0	20.0	18.2	91.2	0.152	65 - 135	30	
Chloromethane	20.0	17.8	89.0	20.0	17.7	88.5	0.577	40 - 125	30	
cis-1,2-Dichloroethene	20.0	18.2	91.2	20.0	18.2	91.2	0.0164	70 - 125	30	

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 5024735
Report generated: 11/18/2016 13:13

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16110321 Analyst: JDS Prep Method: 5030B/5030C/503
Instrument ID: HPMS11 Matrix: Water Method: 8260B
Workgroup (AAB#): WG591571 Units: ug/L
QC Key: DOD4 Lot #: STD78491

Sample ID: WG591571-02 LCS File ID: 11M15198 Run Date: 11/14/2016 16:18
Sample ID: WG591571-03 LCS2 File ID: 11M15199 Run Date: 11/14/2016 16:48

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
cis-1,3-Dichloropropene	20.0	20.2	101	20.0	20.3	102	0.794	70 - 130	30	
Chlorodibromomethane	20.0	20.2	101	20.0	19.9	99.6	1.29	60 - 135	30	
Dibromomethane	20.0	19.5	97.5	20.0	19.5	97.4	0.159	75 - 125	30	
Dichlorodifluoromethane	20.0	21.5	108	20.0	21.2	106	1.29	30 - 155	30	
Ethylbenzene	20.0	19.7	98.4	20.0	18.8	94.0	4.54	75 - 125	30	
Hexachlorobutadiene	20.0	20.5	103	20.0	20.0	99.8	2.87	50 - 140	30	
Isopropylbenzene	20.0	19.6	98.2	20.0	19.4	97.1	1.19	75 - 125	30	
m-,p-Xylene	40.0	39.6	99.0	40.0	38.7	96.8	2.25	75 - 130	30	
Methylene chloride	20.0	17.0	85.0	20.0	17.0	84.8	0.288	55 - 140	30	
n-Butylbenzene	20.0	19.9	99.4	20.0	19.8	98.9	0.488	70 - 135	30	
n-Propylbenzene	20.0	21.4	107	20.0	21.2	106	0.868	70 - 130	30	
Naphthalene	20.0	22.5	113	20.0	23.0	115	1.97	55 - 140	30	
o-Xylene	20.0	20.0	100	20.0	19.6	98.1	1.92	80 - 120	30	
p-Isopropyltoluene	20.0	21.4	107	20.0	21.3	106	0.626	75 - 130	30	
sec-Butylbenzene	20.0	20.8	104	20.0	20.9	105	0.749	70 - 125	30	
Styrene	20.0	20.0	100	20.0	19.6	98.2	1.78	65 - 135	30	
tert-Butylbenzene	20.0	21.6	108	20.0	21.3	106	1.65	70 - 130	30	
Tetrachloroethene	20.0	18.4	91.9	20.0	17.8	89.2	3.04	45 - 150	30	
Toluene	20.0	19.1	95.6	20.0	18.8	93.9	1.78	75 - 120	30	
trans-1,2-Dichloroethene	20.0	15.9	79.5	20.0	15.8	79.2	0.434	60 - 140	30	
trans-1,3-Dichloropropene	20.0	19.1	95.6	20.0	18.9	94.3	1.39	55 - 140	30	
Trichloroethene	20.0	17.9	89.5	20.0	17.7	88.3	1.39	70 - 125	30	
Trichlorofluoromethane	20.0	19.0	94.9	20.0	19.0	94.9	0.0391	60 - 145	30	
Vinyl chloride	20.0	14.6	73.0	20.0	16.0	80.0	9.20	50 - 145	30	

Surogates	LCS	LCS2	Surrogate Limits	Qualifier
	% Recovery	% Recovery		
1,2-Dichloroethane-d4	97.9	99.0	70 - 120	PASS
Dibromofluoromethane	99.8	100	85 - 115	PASS
4-Bromofluorobenzene	98.9	101	75 - 120	PASS
Toluene-d8	100	102	85 - 120	PASS

* EXCEEDS %REC LIMIT

\# EXCEEDS RPD LIMIT

LCS_LCS2 - Modified 03/06/2008
PDF File ID: 5024735
Report generated: 11/18/2016 13:13

Microbac Laboratories Inc.

MS/MSD REPORT

Loginnum: L16110321 Cal ID: HPMS6- 12-NOV-16 Worknum: WG591615

Instrument ID: HPMS6 Contract #: Prep Method: 5030B/5030C/

Parent ID: L16110321-04 File ID: 6M143451 Dil: 1 Method: 5035A

Sample ID: L16110321-05 MS File ID: 6M143438 Dil: 1 Matrix: 8260B

Sample ID: L16110321-06 MSD File ID: 6M143439 Dil: 1 Units: Water

ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
1,1,1,2-Tetrachloroethane	U	20.0	19.5	97.3	20.0	19.8	99.1	1.88	80 - 130	30	
1,1,1-Trichloroethane	U	20.0	17.8	89.1	20.0	18.1	90.7	1.78	65 - 130	30	
1,1,2,2-Tetrachloroethane	U	20.0	22.0	110	20.0	21.7	108	1.40	65 - 130	30	
1,1,2-Trichloroethane	U	20.0	20.1	100	20.0	20.2	101	0.560	75 - 125	30	
1,1-Dichloroethane	0.222	20.0	17.5	86.6	20.0	17.6	86.8	0.254	70 - 135	30	
1,1-Dichloroethene	1.78	20.0	15.3	67.4	20.0	15.4	68.3	1.20	70 - 130	30	*
1,1-Dichloropropene	U	20.0	17.5	87.7	20.0	17.8	88.9	1.31	75 - 130	30	
1,2,3-Trichlorobenzene	U	20.0	22.3	111	20.0	22.2	111	0.429	55 - 140	30	
1,2,3-Trichloropropane	U	20.0	20.8	104	20.0	20.6	103	1.02	75 - 125	30	
1,2,4-Trichlorobenzene	U	20.0	22.5	113	20.0	22.4	112	0.490	65 - 135	30	
1,2,4-Trimethylbenzene	U	20.0	20.9	104	20.0	20.9	104	0.105	75 - 130	30	
1,2-Dibromo-3-chloropropane	U	20.0	20.6	103	20.0	20.8	104	1.43	50 - 130	30	
1,2-Dibromoethane	U	20.0	20.4	102	20.0	20.1	101	1.37	80 - 120	30	
1,2-Dichlorobenzene	U	20.0	20.5	102	20.0	20.5	103	0.248	70 - 120	30	
1,2-Dichloroethane	1.56	20.0	19.7	90.7	20.0	19.7	90.7	0.0864	70 - 130	30	
1,2-Dichloropropane	U	20.0	19.3	96.7	20.0	19.3	96.6	0.0684	75 - 125	30	
1,3,5-Trimethylbenzene	U	20.0	21.3	106	20.0	21.7	108	1.75	75 - 130	30	
1,3-Dichlorobenzene	U	20.0	20.5	102	20.0	20.4	102	0.332	75 - 125	30	
1,3-Dichloropropane	U	20.0	21.1	105	20.0	20.8	104	1.36	75 - 125	30	
1,4-Dichlorobenzene	U	20.0	20.1	100	20.0	20.3	101	1.12	75 - 125	30	
2,2-Dichloropropane	U	20.0	17.7	88.6	20.0	17.9	89.5	1.01	70 - 135	30	
2-Butanone	U	20.0	18.9	94.4	20.0	18.6	93.2	1.32	30 - 150	30	
2-Chlorotoluene	U	20.0	20.9	105	20.0	21.1	106	0.952	75 - 125	30	
2-Hexanone	U	20.0	20.2	101	20.0	20.3	101	0.304	55 - 130	30	
4-Chlorotoluene	U	20.0	19.8	99.1	20.0	19.7	98.5	0.654	75 - 130	30	
4-Methyl-2-pentanone	U	20.0	18.7	93.6	20.0	18.4	91.9	1.93	60 - 135	30	
Acetone	U	20.0	24.5	123	20.0	23.9	120	2.51	40 - 140	30	
Benzene	U	20.0	17.8	89	20.0	18.0	90.1	1.17	80 - 120	30	
Bromobenzene	U	20.0	20.7	103	20.0	20.6	103	0.247	75 - 125	30	
Bromochloromethane	U	20.0	18.8	93.8	20.0	18.9	94.4	0.712	65 - 130	30	
Bromodichloromethane	U	20.0	18.9	94.4	20.0	18.8	93.9	0.461	75 - 120	30	
Bromoform	U	20.0	19.9	99.5	20.0	19.8	99.1	0.413	70 - 130	30	
Bromomethane	U	20.0	20.5	102	20.0	21.0	105	2.56	30 - 145	30	
Carbon disulfide	U	20.0	17.7	88.4	20.0	17.8	88.8	0.432	35 - 160	30	
Carbon tetrachloride	U	20.0	17.1	85.4	20.0	17.3	86.4	1.23	65 - 140	30	
Chlorobenzene	U	20.0	19.1	95.7	20.0	19.2	96	0.361	80 - 120	30	
Chloroethane	U	20.0	20.4	102	20.0	21.0	105	3.03	60 - 135	30	
Chloroform	U	20.0	18.2	90.8	20.0	18.1	90.5	0.267	65 - 135	30	
Chloromethane	U	20.0	22.0	110	20.0	21.8	109	0.911	40 - 125	30	
cis-1,2-Dichloroethene	66.7	20.0	74.1	37.3	20.0	74.0	36.6	0.208	70 - 125	30	*
cis-1,3-Dichloropropene	U	20.0	21.7	108	20.0	21.4	107	1.25	70 - 130	30	

MS_MSD - Modified 03/06/2008

PDF File ID: 5024736

Report generated 11/18/2016 13:13

Microbac Laboratories Inc.

MS/MSD REPORT

Loginnum: L16110321 Cal ID: HPMS6 12-NOV-16 Worknum: WG591615

Instrument ID: HPMS6 Contract #: Prep Method: 5030B/5030C/

Parent ID: L16110321-04 File ID: 6M143451 Dil: 1 Method: 5035A

Sample ID: L16110321-05 MS File ID: 6M143438 Dil: 1 Matrix: 8260B

Sample ID: L16110321-06 MSD File ID: 6M143439 Dil: 1 Units: Water

ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Chlorodibromomethane	U	20.0	19.8	99.1	20.0	19.9	99.4	0.232	60 - 135	30	
Dibromomethane	U	20.0	19.8	98.8	20.0	19.6	98.2	0.630	75 - 125	30	
Dichlorodifluoromethane	U	20.0	20.9	105	20.0	21.4	107	2.34	30 - 155	30	
Ethylbenzene	U	20.0	19.7	98.6	20.0	19.6	98	0.573	75 - 125	30	
Hexachlorobutadiene	U	20.0	19.5	97.4	20.0	19.6	98	0.586	50 - 140	30	
Isopropylbenzene	U	20.0	20.8	104	20.0	21.1	105	1.36	75 - 125	30	
m-,p-Xylene	U	40.0	40.5	101	40.0	41.1	103	1.42	75 - 130	30	
Methylene chloride	U	20.0	17.4	86.8	20.0	17.1	85.5	1.44	55 - 140	30	
n-Butylbenzene	U	20.0	20.5	103	20.0	20.9	104	1.80	70 - 135	30	
n-Propylbenzene	U	20.0	21.4	107	20.0	21.6	108	0.836	70 - 130	30	
Naphthalene	U	20.0	24.4	122	20.0	24.1	121	1.28	55 - 140	30	
o-Xylene	U	20.0	20.6	103	20.0	21.0	105	1.89	80 - 120	30	
p-Isopropyltoluene	U	20.0	21.3	107	20.0	21.6	108	1.23	75 - 130	30	
sec-Butylbenzene	U	20.0	20.4	102	20.0	20.6	103	1.09	70 - 125	30	
Styrene	U	20.0	21.8	109	20.0	22.0	110	0.840	65 - 135	30	
tert-Butylbenzene	U	20.0	20.2	101	20.0	20.4	102	0.907	70 - 130	30	
Tetrachloroethene	0.637	20.0	19.4	93.6	20.0	19.6	94.8	1.19	45 - 150	30	
Toluene	U	20.0	19.3	96.5	20.0	19.5	97.5	1.04	75 - 120	30	
trans-1,2-Dichloroethene	U	20.0	17.1	85.6	20.0	17.3	86.4	0.930	60 - 140	30	
trans-1,3-Dichloropropene	U	20.0	20.4	102	20.0	20.3	101	0.402	55 - 140	30	
Trichloroethene	184	20.0	161	-119	20.0	161	-117	0.265	70 - 125	30	*
Trichlorofluoromethane	U	20.0	17.8	88.8	20.0	18.4	92	3.58	60 - 145	30	
Vinyl chloride	U	20.0	20.8	104	20.0	21.3	106	2.20	50 - 145	30	

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS_MSD - Modified 03/06/2008

PDF File ID: 5024736

Report generated 11/18/2016 13:13

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L16110321
Instrument: HPMS11
Analyst: JDS
Workgroup: WG580279

Tune ID: WG580279-01
Run Date: 08/15/2016
Run Time: 14:52
File ID: 11M13628
Cal ID: HPMS11-15-AUG-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	18.7	13531	PASS
75.0	95.0	30.0	60.0	47.0	33928	PASS
95.0	95.0	100	100	100	72218	PASS
96.0	95.0	5.00	9.00	6.65	4803	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	99.7	72018	PASS
175	174	5.00	9.00	7.96	5730	PASS
176	174	95.0	101	97.1	69941	PASS
177	176	5.00	9.00	6.46	4520	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG580279-02	STD	01	08/15/2016 15:17	
WG580279-03	STD	01	08/15/2016 15:46	
WG580279-04	STD	01	08/15/2016 16:16	
WG580279-05	STD-CCV	01	08/15/2016 16:45	
WG580279-06	STD	01	08/15/2016 17:14	
WG580279-07	STD	01	08/15/2016 17:43	
WG580279-08	STD	01	08/15/2016 18:12	
WG580279-09	STD	01	08/15/2016 18:41	
WG580279-10	SSCV	01	08/15/2016 19:39	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 5024738
Report generated 11/18/2016 13:13

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L16110321
Instrument: HPMS11
Analyst: FJB
Workgroup: WG587480

Tune ID: WG587480-01
Run Date: 10/13/2016
Run Time: 12:50
File ID: 11M14499
Cal ID: HPMS11-13-OCT-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	15619	PASS
75.0	95.0	30.0	60.0	46.1	28389	PASS
95.0	95.0	100	100	100	61637	PASS
96.0	95.0	5.00	9.00	6.76	4166	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	90.3	55672	PASS
175	174	5.00	9.00	7.65	4260	PASS
176	174	95.0	101	97.7	54378	PASS
177	176	5.00	9.00	6.22	3381	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG587480-02	STD	01	10/13/2016 13:42	
WG587480-03	STD	01	10/13/2016 14:11	
WG587480-04	STD	01	10/13/2016 14:40	
WG587480-05	STD	01	10/13/2016 15:09	
WG587480-06	STD	01	10/13/2016 15:38	
WG587480-07	STD	01	10/13/2016 16:07	
WG587480-08	STD-CCV	01	10/13/2016 16:36	
WG587480-09	STD	01	10/13/2016 17:05	
WG587480-10	STD	01	10/13/2016 17:33	
WG587480-11	STD	01	10/13/2016 18:03	
WG587480-12	SSCV	01	10/13/2016 19:00	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 5024738
Report generated 11/18/2016 13:13

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L16110321
Instrument: HPMS11
Analyst: JDS
Workgroup: WG591570

Tune ID: WG591570-01
Run Date: 11/14/2016
Run Time: 14:22
File ID: 11M15194
Cal ID: HPMS11-13-OCT-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	24.7	9051	PASS
75.0	95.0	30.0	60.0	47.8	17505	PASS
95.0	95.0	100	100	100	36613	PASS
96.0	95.0	5.00	9.00	6.35	2324	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	88.6	32432	PASS
175	174	5.00	9.00	6.54	2121	PASS
176	174	95.0	101	96.6	31322	PASS
177	176	5.00	9.00	6.57	2058	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG591570-02	CCV	01	11/14/2016 14:47	
WG591571-01	BLANK	01	11/14/2016 15:49	
WG591571-02	LCS	01	11/14/2016 16:18	
WG591571-03	LCS2	01	11/14/2016 16:48	
L16110321-12	TRIP BLANK	01	11/14/2016 18:16	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 5024738
Report generated 11/18/2016 13:13

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L16110321
Instrument: HPMS6
Analyst: JDS
Workgroup: WG566155

Tune ID: WG566155-01
Run Date: 04/24/2016
Run Time: 16:33
File ID: 6M138750
Cal ID: HPMS6-24-APR-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	10010	PASS
75.0	95.0	30.0	60.0	52.0	23152	PASS
95.0	95.0	100	100	100	44552	PASS
96.0	95.0	5.00	9.00	6.92	3085	PASS
173	174	0	2.00	0.346	113	PASS
174	95.0	50.0	100	73.2	32632	PASS
175	174	5.00	9.00	7.16	2336	PASS
176	174	95.0	101	99.2	32384	PASS
177	176	5.00	9.00	6.95	2251	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG566155-02	STD	01	04/24/2016 16:59	
WG566155-03	STD	01	04/24/2016 17:31	
WG566155-04	STD	01	04/24/2016 18:03	
WG566155-05	STD-CCV	01	04/24/2016 18:36	
WG566155-06	STD	01	04/24/2016 19:08	
WG566155-07	STD	01	04/24/2016 19:40	
WG566155-08	STD	01	04/24/2016 20:12	
WG566155-09	STD	01	04/24/2016 20:44	
WG566155-10	SSCV	01	04/24/2016 22:21	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 5024738
Report generated 11/18/2016 13:13

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L16110321
Instrument: HPMS6
Analyst: ADC
Workgroup: WG591426

Tune ID: WG591426-01
Run Date: 11/12/2016
Run Time: 15:48
File ID: 6M143415
Cal ID: HPMS6-12-NOV-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	20.1	5822	PASS
75.0	95.0	30.0	60.0	47.6	13780	PASS
95.0	95.0	100	100	100	28921	PASS
96.0	95.0	5.00	9.00	7.13	2061	PASS
173	174	0	2.00	0.483	113	PASS
174	95.0	50.0	100	80.9	23409	PASS
175	174	5.00	9.00	7.60	1779	PASS
176	174	95.0	101	98.6	23090	PASS
177	176	5.00	9.00	6.55	1512	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG591426-02	STD	01	11/12/2016 16:46	
WG591426-03	STD	01	11/12/2016 17:18	
WG591426-04	STD	01	11/12/2016 17:50	
WG591426-05	STD	01	11/12/2016 18:22	
WG591426-06	STD	01	11/12/2016 18:54	
WG591426-07	STD	01	11/12/2016 19:26	
WG591426-08	STD-CCV	01	11/12/2016 19:58	
WG591426-09	STD	01	11/12/2016 20:31	
WG591426-10	STD	01	11/12/2016 21:03	
WG591426-11	STD	01	11/12/2016 21:35	

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 5024738
Report generated 11/18/2016 13:13

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L16110321
Instrument: HPMS6
Analyst: TMB
Workgroup: WG591612

Tune ID: WG591612-01
Run Date: 11/14/2016
Run Time: 16:17
File ID: 6M143431
Cal ID: HPMS6-12-NOV-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	18.5	4717	PASS
75.0	95.0	30.0	60.0	44.1	11223	PASS
95.0	95.0	100	100	100	25469	PASS
96.0	95.0	5.00	9.00	6.98	1779	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	91.1	23210	PASS
175	174	5.00	9.00	6.82	1582	PASS
176	174	95.0	101	96.7	22450	PASS
177	176	5.00	9.00	6.78	1523	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG591612-02	CCV	01	11/14/2016 17:16	
WG591633-01	CCV	01	11/14/2016 17:48	
WG591615-01	BLANK	01	11/14/2016 18:19	
WG591426-12	SSCV	01	11/14/2016 18:51	
WG591615-02	LCS	01	11/14/2016 19:23	
L16110321-05	50WW05MS-110316	01	11/14/2016 19:55	
L16110321-06	50WW05MSD-110316	01	11/14/2016 20:27	
L16110321-07	50WW21-110316	01	11/14/2016 23:40	
L16110321-08	50WW24-110316	01	11/15/2016 00:12	
L16110321-09	50WW18-110316	01	11/15/2016 00:44	
L16110321-10	50WW19-110416	01	11/15/2016 01:16	
L16110321-11	50WW17-110416	01	11/15/2016 01:48	
L16110321-04	50WW05-110316	01	11/15/2016 02:52	
WG591615-06	BLANK2	01	11/15/2016 05:00	*

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 5024738
Report generated 11/18/2016 13:13

Microbac Laboratories Inc.
ORGANIC INSTRUMENT CHECK

BFB

Login Number: L16110321
Instrument: HPMS6
Analyst: TMB
Workgroup: WG591756

Tune ID: WG591756-01
Run Date: 11/15/2016
Run Time: 15:06
File ID: 6M143470
Cal ID: HPMS6-12-NOV-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	19.5	2735	PASS
75.0	95.0	30.0	60.0	46.6	6529	PASS
95.0	95.0	100	100	100	14000	PASS
96.0	95.0	5.00	9.00	7.51	1051	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	98.2	13744	PASS
175	174	5.00	9.00	7.31	1005	PASS
176	174	95.0	101	101	13823	PASS
177	176	5.00	9.00	6.29	870	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG591756-02	CCV	01	11/15/2016 15:47	
WG591757-01	BLANK	01	11/15/2016 16:52	
WG591757-02	LCS	01	11/15/2016 17:24	
L16110321-01	50WW09-110316	01	11/15/2016 22:45	
L16110321-02	50WW10-110316	01	11/15/2016 23:17	
L16110321-03	50WW10FD-110316	01	11/15/2016 23:49	
WG591757-06	BLANK2	01	11/16/2016 04:06	*

* Sample past 12 hour tune limit

TUNE - Modified 03/06/2008
PDF File ID: 5024738
Report generated 11/18/2016 13:13

Calibration Table Report
Method: A9FOOWT.M
Title: Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Calibration: Tue Aug 16 08:51:14 2016
Curve: WG580279
Calibration Files

	Compound	5 11M13629.D	20 11M13630.D	50 11M13631.D	100 11M13632.D	200 11M13633.D	300 11M13634.D	400 11M13635.D	500 11M13636.D	Avg	%RSD	Linear	Quadratic
I	Fluorobenzene	ISTD											
T	Acetonitrile	0.023	0.028	0.031	0.032	0.030	0.030	0.031	0.031	0.030	9.602		
T	3-Chloro-1-propene	0.458	0.455	0.479	0.505	0.501	0.481	0.479	0.471	0.479	3.715		
T	2-Chloro-1,3-butadiene	0.450	0.440	0.476	0.519	0.524	0.502	0.502	0.496	0.489	6.315		
T	Methacrylonitrile	0.156	0.164	0.181	0.186	0.186	0.180	0.181	0.184	0.177	6.206		
T	Isobutyl Alcohol		0.009	0.011	0.011	0.011	0.011	0.012	0.012	0.011	8.727		
T	1-Butanol			0.005	0.006	0.006	0.006	0.006	0.007	0.006	10.257		
T	Cyclohexanone		0.013	0.017	0.017	0.018	0.018	0.019	0.020	0.017	11.772		
T	2-Nitropropane			0.076	0.085	0.089	0.087	0.089	0.091	0.086	6.168		
T	Ethyl Acetate	0.201	0.224	0.244	0.257	0.258	0.249	0.251	0.255	0.242	8.192		
T	Methyl methacrylate	0.177	0.197	0.221	0.234	0.238	0.230	0.233	0.236	0.221	10.109		
I	Chlorobenzene-d5	ISTD											
I	1,4-Dichlorobenzene-d4	ISTD											

Tue Aug 16 09:27:52 2016

Calibration Table Report
Method: 8260WT.M
Title: 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Calibration: Fri Oct 14 09:20:10 2016
Curve: WG587480
Calibration Files

		0.3	0.4	1	2	5	20	50	100	200	300				
		11M14501.D	11M14502.D	11M14503.D	11M14504.D	11M14505.D	11M14506.D	11M14507.D	11M14508.D	11M14509.D	11M14510.D				
	Compound											Avg	%RSD	Linear	Quadratic
I	Fluorobenzene	ISTD													
T	Dichlorodifluoromethane			0.401	0.356	0.382	0.443	0.465	0.462	0.447	0.436	0.424	9.339		
P	Chloromethane			0.600	0.411	0.448	0.450	0.446	0.436			0.465	14.492		
C	Vinyl Chloride		0.444	0.414	0.383	0.405	0.414	0.432	0.425	0.414	0.402	0.415	4.276		
T	1,3-Butadiene					0.396	0.400	0.340	0.299	0.293	0.298	0.338	14.694		
T	Bromomethane			0.198	0.189	0.186	0.177	0.196	0.212	0.221	0.229	0.201	8.942		
T	Chloroethane			0.234	0.236	0.242	0.245	0.252	0.248	0.244	0.243	0.243	2.364		
T	Trichlorofluoromethane		0.405	0.496	0.460	0.506	0.486	0.507	0.502	0.490	0.494	0.483	6.725		
T	Diethyl ether			0.221	0.229	0.247	0.241	0.239	0.240		0.236	0.236	3.739		
T	Isoprene					0.431	0.443	0.444	0.445	0.436	0.445	0.441	1.343		
T	Acrolein			0.023	0.017	0.021	0.019	0.018	0.019		0.020	0.020	10.804		
T	1,1,2-Trichloro-1,2,2-Trifluor			0.246	0.240	0.259	0.262	0.274	0.269	0.262	0.266	0.260	4.446		
T	Acetone					0.110	0.094	0.091	0.094	0.100	0.094	0.097	7.304		
C	1,1-Dichloroethene		0.497	0.484	0.509	0.519	0.515	0.539	0.537	0.519	0.525	0.516	3.420		
T	Tert-Butyl Alcohol			0.023	0.023	0.027	0.026	0.024	0.026		0.027	0.025	7.707		
T	Dimethyl Sulfide					0.352	0.353	0.354	0.357	0.351	0.354	0.354	0.652		
T	Iodomethane			0.145	0.169	0.230	0.334	0.349	0.339	0.305	0.284	0.269	29.353		1.000
T	Methyl acetate				0.275	0.302	0.289	0.274	0.284	0.287	0.292	0.286	3.435		
T	Methylene Chloride		0.310	0.311	0.286	0.289	0.290	0.297	0.290	0.283	0.284	0.293	3.636		
T	Carbon Disulfide			0.886	0.836	0.845	0.870	0.871	0.867	0.837	0.830	0.855	2.402		
T	Acrylonitrile			0.117	0.116	0.131	0.132	0.134	0.137		0.146	0.130	8.262		
T	Methyl Tert Butyl Ether			0.682	0.669	0.721	0.738	0.737	0.739	0.740	0.743	0.721	4.063		
T	trans-1,2-Dichloroethene		0.301	0.287	0.293	0.294	0.284	0.296	0.296	0.288	0.291	0.292	1.802		
T	n-Hexane				0.471	0.478	0.520	0.516	0.512	0.493	0.509	0.500	3.901		
T	Diisopropyl ether			1.361	1.391	1.483	1.466	1.443	1.423		1.331	1.414	3.949		
T	Vinyl Acetate					0.769	0.767	0.764	0.751	0.757	0.728	0.756	2.003		
P	1,1-Dichloroethane		0.623	0.591	0.567	0.614	0.597	0.617	0.606	0.588	0.589	0.599	2.948		
T	Ethyl-Tert-Butyl ether			0.992	1.028	1.092	1.079	1.060	1.060		1.030	1.049	3.286		
T	2-Butanone					0.171	0.164	0.158	0.161	0.164	0.161	0.163	2.798		
T	Propionitrile			0.045	0.042	0.047	0.047	0.044	0.046		0.046	0.045	3.842		
T	2,2-Dichloropropane		0.467	0.393	0.387	0.412	0.396	0.413	0.408	0.399	0.401	0.408	5.773		
T	cis-1,2-Dichloroethene		0.342	0.281	0.326	0.324	0.319	0.335	0.329	0.320	0.321	0.322	5.277		
C	Chloroform	0.591	0.531	0.549	0.500	0.533	0.510	0.523	0.515	0.503	0.502	0.526	5.310		
T	1-Bromopropane				0.049	0.053	0.056	0.056	0.058	0.056	0.059	0.055	5.845		
T	Bromochloromethane		0.209	0.200	0.210	0.211	0.212	0.209	0.207	0.204	0.206	0.208	1.767		
T	Tetrahydrofuran			0.166	0.112	0.117	0.115	0.107	0.109		0.108	0.119	17.669	0.999	
S	Dibromofluoromethane				0.288	0.307	0.308	0.305	0.307	0.293	0.296	0.301	2.637		
T	1,1,1-Trichloroethane		0.459	0.460	0.440	0.454	0.454	0.480	0.479	0.472	0.474	0.464	2.918		
T	Cyclohexane		0.638	0.670	0.662	0.708	0.686	0.695	0.695	0.676	0.687	0.680	3.076		
T	1,1-Dichloropropene		0.402	0.392	0.357	0.390	0.371	0.394	0.389	0.379	0.380	0.384	3.525		
T	Carbon Tetrachloride		0.413	0.434	0.402	0.427	0.432	0.454	0.448	0.442	0.445	0.433	3.928		
T	Tert-Amyl-Methyl ether			0.672	0.675	0.739	0.737	0.715	0.723		0.710	0.710	3.826		
S	1,2-Dichloroethane-d4				0.332	0.343	0.349	0.341	0.341	0.327	0.331	0.338	2.297		
T	1,2-Dichloroethane		0.440	0.453	0.422	0.463	0.460	0.464	0.462	0.454	0.448	0.452	3.049		
T	Benzene		1.150	1.207	1.118	1.174	1.146	1.171	1.139	1.076	1.022	1.134	4.926		
T	Trichloroethene		0.343	0.319	0.311	0.334	0.325	0.333	0.332	0.324	0.329	0.328	2.809		
T	Methylcyclohexane		0.411	0.454	0.418	0.439	0.459	0.456	0.461	0.446	0.456	0.444	4.104		
C	1,2-Dichloropropane		0.329	0.323	0.316	0.350	0.339	0.343	0.341	0.333	0.334	0.334	3.170		
T	1,4-Dioxane				0.002	0.002	0.002	0.002	0.002		0.003	0.002	10.172		
T	Bromodichloromethane		0.400	0.386	0.363	0.405	0.395	0.412	0.409	0.402	0.403	0.397	3.746		
T	Dibromomethane		0.198	0.166	0.174	0.171	0.174	0.178	0.180	0.175	0.176	0.177	4.959		
T	2-Chloroethyl Vinyl Ether					0.182	0.194	0.194	0.201	0.203	0.201	0.196	3.929		
T	4-Methyl-2-Pentanone					0.114	0.116	0.115	0.121	0.127	0.128	0.120	5.086		
T	cis-1,3-Dichloropropene		0.423	0.405	0.392	0.437	0.456	0.466	0.463	0.456	0.454	0.439	6.087		
T	Dimethyl Disulfide					0.219	0.255	0.268	0.277	0.279	0.283	0.264	9.215		

I	Chlorobenzene-d5	ISTD											
S	Toluene-d8				1.329	1.388	1.379	1.343	1.346	1.248	1.240	1.325	4.444
C	Toluene		1.590	1.657	1.547	1.684	1.662	1.627	1.587	1.463	1.352	1.574	6.824
T	Ethyl Methacrylate			0.318	0.370	0.392	0.434	0.412	0.425	0.436	0.431	0.402	10.197
T	trans-1,3-Dichloropropene			0.481	0.479	0.515	0.536	0.533	0.535	0.529	0.516	0.515	4.559
T	1,1,2-Trichloroethane		0.276	0.310	0.286	0.321	0.325	0.316	0.310	0.309	0.304	0.306	5.213
T	2-Hexanone					0.328	0.323	0.306	0.325	0.349	0.350	0.330	5.055
T	1,3-Dichloropropane		0.564	0.503	0.475	0.544	0.532	0.514	0.511	0.502	0.488	0.515	5.413
T	Tetrachloroethene		0.357	0.390	0.314	0.339	0.346	0.337	0.335	0.328	0.330	0.342	6.393
T	Dibromochloromethane		0.397	0.375	0.376	0.416	0.429	0.420	0.428	0.429	0.425	0.411	5.410
T	1,2-Dibromoethane		0.323	0.295	0.293	0.319	0.334	0.317	0.320	0.320	0.317	0.315	4.182
T	1-Chlorohexane		0.473	0.516	0.461	0.512	0.529	0.523	0.525	0.518	0.515	0.508	4.714
P	Chlorobenzene		1.234	1.172	1.089	1.173	1.134	1.124	1.104	1.048	0.977	1.117	6.729
T	1,1,1,2-Tetrachloroethane		0.334	0.391	0.388	0.426	0.411	0.412	0.410	0.410	0.404	0.398	6.717
C	Ethylbenzene		0.553	0.607	0.537	0.582	0.585	0.588	0.573	0.567	0.549	0.571	3.886
T	m-,p-Xylene		0.695	0.678	0.665	0.716	0.707	0.694	0.684	0.635	0.583	0.673	6.156
T	o-Xylene		0.629	0.672	0.600	0.669	0.688	0.691	0.686	0.673	0.650	0.662	4.620
T	Styrene		1.061	1.059	1.044	1.159	1.191	1.196	1.187	1.147	1.070	1.124	5.688
P	Bromoform			0.223	0.229	0.254	0.273	0.273	0.278	0.298	0.303	0.266	10.978
T	Isopropylbenzene		1.737	1.686	1.635	1.777	1.780	1.780	1.760	1.644	1.465	1.696	6.131
I	1,4-Dichlorobenzene-d4	ISTD											
P	1,1,2,2-Tetrachloroethane		0.736	0.683	0.668	0.745	0.724	0.696	0.718	0.693	0.683	0.705	3.745
S	p-Bromofluorobenzene				1.024	1.101	1.033	0.999	1.034	0.918	0.893	1.000	7.208
T	1,2,3-Trichloropropane			0.191	0.206	0.228	0.226	0.214	0.220	0.214	0.210	0.214	5.547
T	trans-1,4-Dichloro-2-Butene			0.250	0.250	0.272	0.316	0.295	0.311	0.306	0.304	0.288	9.383
T	n-Propylbenzene		3.897	3.725	3.669	4.141	4.053	4.048	3.949	3.271	2.723	3.720	12.310
T	Bromobenzene	1.078	1.052	0.932	0.941	0.973	0.962	0.942	0.952	0.872	0.830	0.953	7.692
T	1,3,5-Trimethylbenzene		2.705	2.533	2.644	2.815	2.903	2.856	2.853	2.504	2.198	2.668	8.522
T	2-Chlorotoluene		2.556	2.381	2.372	2.557	2.499	2.459	2.413	2.101	1.846	2.354	9.971
T	4-Chlorotoluene		2.512	2.623	2.353	2.695	2.559	2.536	2.490	2.213	1.594	2.397	13.898
T	a-Methylstyrene			1.535	1.396	1.581	1.678	1.639	1.685	1.554	1.477	1.568	6.380
T	tert-Butylbenzene		0.512	0.572	0.570	0.646	0.609	0.617	0.612	0.568	0.546	0.584	7.055
T	1,2,4-Trimethylbenzene		2.790	2.701	2.623	2.973	2.949	2.943	2.917	2.562	2.242	2.745	8.807
T	sec-Butylbenzene			3.527	3.319	3.664	3.587	3.624	3.586	3.083	2.638	3.378	10.557
T	p-Isopropyltoluene			2.850	2.872	3.164	3.118	3.166	3.160	2.780	2.410	2.940	9.098
T	1,3-Dichlorobenzene		1.939	1.745	1.670	1.831	1.825	1.783	1.803	1.658	1.565	1.758	6.373
T	1,4-Dichlorobenzene	1.992	1.832	1.939	1.755	1.868	1.788	1.791	1.818	1.664	1.563	1.801	6.911
T	n-Butylbenzene		2.959	2.701	2.657	2.875	2.875	2.919	2.924	2.623	2.290	2.758	7.817
T	1,2-Dichlorobenzene	1.777	1.675	1.662	1.599	1.787	1.702	1.684	1.740	1.619	1.545	1.679	4.612
T	1,2-Dibromo-3-Chloropropane				0.121	0.127	0.134	0.132	0.141	0.147	0.146	0.136	7.229
T	1,2,4-Trichlorobenzene		1.356	1.210	1.068	1.225	1.224	1.248	1.311	1.319	1.246	1.245	6.695
T	Hexachlorobutadiene		0.541	0.460	0.439	0.496	0.465	0.472	0.508	0.511	0.495	0.487	6.436
T	Naphthalene		2.466	2.353	2.270	2.667	2.788	2.758	2.883	2.765	2.348	2.589	8.875
T	1,2,3-Trichlorobenzene	1.536	1.173	1.135	1.049	1.125	1.176	1.155	1.233	1.256	1.177	1.201	10.880

Fri Oct 14 09:30:30 2016

Calibration Table Report
Method: A9FOOWT.M
Title: A9-FOO Water - IC: 042416 - HPMS6
Last Calibration: Wed Apr 27 16:03:33 2016
Curve: WG566155
Calibration Files

	Compound	5 6M138751.D	20 6M138752.D	50 6M138753.D	100 6M138754.D	200 6M138755.D	300 6M138756.D	400 6M138757.D	500 6M138758.D	Avg	%RSD
I	Fluorobenzene	ISTD									
T	Acetonitrile	0.036	0.037	0.039	0.038	0.038	0.038	0.038	0.036	0.037	2.606
T	3-Chloro-1-propene	0.567	0.621	0.656	0.672	0.635	0.622	0.617	0.603	0.624	5.157
T	2-Chloro-1,3-butadiene	0.415	0.507	0.558	0.590	0.558	0.553	0.556	0.548	0.535	10.001
T	Ethyl Acetate	0.229	0.259	0.279	0.281	0.277	0.272	0.279	0.268	0.268	6.419
T	Methacrylonitrile	0.071	0.089	0.099	0.099	0.097	0.095	0.096	0.093	0.092	9.852
T	Isobutyl Alcohol		0.008	0.008	0.007	0.007	0.008	0.010	0.010	0.009	13.654
T	1-Butanol									0.000	0.000
T	Methyl methacrylate	0.159	0.200	0.231	0.244	0.244	0.241	0.246	0.236	0.225	13.591
T	2-Nitropropane			0.079	0.082	0.085	0.085	0.088	0.084	0.084	3.643
I	Chlorobenzene-d5	ISTD									
I	1,4-Dichlorobenzene-d4	ISTD									
T	Cyclohexanone			0.026	0.027	0.032	0.034	0.035	0.033	0.031	12.127

Wed Apr 27 16:05:59 2016

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number:L16110321 Run Date:10/13/2016 Sample ID:WG587480-12
Instrument ID:HPMS11 Run Time:19:00 Method:8260B
File ID:11M14512 Analyst:FJB QC Key:DOD4
ICal Workgroup:WG587480 Cal ID:HPMS11 - 13-OCT-16

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Chloroform	CCC	50.0	51.0	ug/L	0.536	1.90	20	
1,1-Dichloroethene	CCC	50.0	50.2	ug/L	0.518	0.300	20	
1,2-Dichloropropane	CCC	50.0	51.4	ug/L	0.344	2.80	20	
Ethylbenzene	CCC	50.0	50.9	ug/L	0.582	1.90	20	
Toluene	CCC	50.0	51.6	ug/L	1.62	3.10	20	
Vinyl Chloride	CCC	50.0	55.5	ug/L	0.460	11.0	20	
Bromoform	SPCC	50.0	50.2	ug/L	0.268	0.500	20	
Chlorobenzene	SPCC	50.0	49.5	ug/L	1.11	1.00	20	
Chloromethane	SPCC	50.0	51.7	ug/L	0.481	3.30	20	
1,1-Dichloroethane	SPCC	50.0	51.1	ug/L	0.613	2.30	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	50.9	ug/L	0.718	1.90	20	
Acetone		50.0	51.9	ug/L	0.101	3.80	20	
Benzene		50.0	52.0	ug/L	1.18	4.00	20	
Bromobenzene		50.0	47.9	ug/L	0.914	4.10	20	
Bromochloromethane		50.0	51.9	ug/L	0.216	3.80	20	
Bromodichloromethane		50.0	50.1	ug/L	0.398	0.300	20	
Bromomethane		50.0	51.9	ug/L	0.209	3.90	20	
2-Butanone		50.0	52.5	ug/L	0.171	4.90	20	
n-Butylbenzene		50.0	52.4	ug/L	2.89	4.70	20	
sec-Butylbenzene		50.0	51.6	ug/L	3.49	3.30	20	
tert-Butylbenzene		50.0	51.7	ug/L	0.603	3.30	20	
Carbon Disulfide		50.0	47.8	ug/L	0.817	4.50	20	
Carbon Tetrachloride		50.0	52.9	ug/L	0.458	5.70	20	
Dibromochloromethane		50.0	50.3	ug/L	0.413	0.500	20	
Chloroethane		50.0	55.1	ug/L	0.268	10.2	20	
2-Chlorotoluene		50.0	50.9	ug/L	2.40	1.80	20	
4-Chlorotoluene		50.0	51.6	ug/L	2.48	3.20	20	
1,2-Dibromo-3-Chloropropane		50.0	55.5	ug/L	0.150	10.9	20	
1,2-Dibromoethane		50.0	50.1	ug/L	0.316	0.300	20	
Dibromomethane		50.0	51.2	ug/L	0.181	2.40	20	
1,2-Dichlorobenzene		50.0	52.8	ug/L	1.77	5.60	20	
1,3-Dichlorobenzene		50.0	50.3	ug/L	1.77	0.600	20	
1,4-Dichlorobenzene		50.0	50.3	ug/L	1.81	0.600	20	
Dichlorodifluoromethane		50.0	56.2	ug/L	0.477	12.4	20	
1,2-Dichloroethane		50.0	50.8	ug/L	0.459	1.60	20	
cis-1,2-Dichloroethene		50.0	51.8	ug/L	0.334	3.60	20	
trans-1,2-Dichloroethene		50.0	51.8	ug/L	0.303	3.60	20	
1,3-Dichloropropane		50.0	51.8	ug/L	0.533	3.50	20	
2,2-Dichloropropane		50.0	53.4	ug/L	0.436	6.80	20	
cis-1,3-Dichloropropene		50.0	56.8	ug/L	0.499	13.5	20	
trans-1,3-Dichloropropene		50.0	51.4	ug/L	0.530	2.80	20	
1,1-Dichloropropene		50.0	52.0	ug/L	0.399	4.10	20	

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 5024737
Report generated 11/18/2016 13:13

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L16110321 Run Date: 10/13/2016 Sample ID: WG587480-12
Instrument ID: HPMS11 Run Time: 19:00 Method: 8260B
File ID: 11M14512 Analyst: FJB QC Key: DOD4
ICal Workgroup: WG587480 Cal ID: HPMS11 - 13-OCT-16

Analyte		Expected	Found	Units	RF	%D	UCL	Q
2-Hexanone		50.0	50.7	ug/L	0.335	1.40	20	
Hexachlorobutadiene		50.0	56.2	ug/L	0.548	12.4	20	
Isopropylbenzene		50.0	51.9	ug/L	1.76	3.80	20	
p-Isopropyltoluene		50.0	53.7	ug/L	3.16	7.40	20	
4-Methyl-2-Pentanone		50.0	52.1	ug/L	0.125	4.10	20	
Methylene Chloride		50.0	50.2	ug/L	0.295	0.500	20	
Naphthalene		50.0	62.7	ug/L	3.24	25.3	20	*
n-Propylbenzene		50.0	53.1	ug/L	3.95	6.20	20	
Styrene		50.0	53.5	ug/L	1.20	7.00	20	
1,1,1,2-Tetrachloroethane		50.0	50.5	ug/L	0.402	0.900	20	
Tetrachloroethene		50.0	51.2	ug/L	0.350	2.50	20	
1,2,3-Trichlorobenzene		50.0	57.2	ug/L	1.38	14.5	20	
1,2,4-Trichlorobenzene		50.0	58.2	ug/L	1.45	16.3	20	
1,1,1-Trichloroethane		50.0	54.1	ug/L	0.502	8.30	20	
1,1,2-Trichloroethane		50.0	50.8	ug/L	0.311	1.50	20	
Trichloroethene		50.0	51.3	ug/L	0.337	2.60	20	
Trichlorofluoromethane		50.0	51.8	ug/L	0.500	3.60	20	
1,2,3-Trichloropropane		50.0	51.9	ug/L	0.222	3.80	20	
1,2,4-Trimethylbenzene		50.0	52.4	ug/L	2.88	4.80	20	
1,3,5-Trimethylbenzene		50.0	52.4	ug/L	2.80	4.80	20	
o-Xylene		50.0	52.5	ug/L	0.695	5.00	20	
m-,p-Xylene		100	106	ug/L	0.710	5.50	20	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 5024737
Report generated 11/18/2016 13:13

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L16110321 Run Date: 11/14/2016 Sample ID: WG591426-12
Instrument ID: HPMS6 Run Time: 18:51 Method: 8260B
File ID: 6M143436 Analyst: TMB QC Key: DOD4
ICal Workgroup: WG591426 Cal ID: HPMS6 - 12-NOV-16

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Chloroform	CCC	50.0	43.4	ug/L	0.428	13.2	20	
1,1-Dichloroethene	CCC	50.0	35.0	ug/L	0.286	29.9	20	*
1,2-Dichloropropane	CCC	50.0	46.5	ug/L	0.242	6.90	20	
Ethylbenzene	CCC	50.0	48.3	ug/L	0.464	3.40	20	
Toluene	CCC	50.0	46.5	ug/L	1.20	7.00	20	
Vinyl Chloride	CCC	50.0	47.0	ug/L	0.256	6.00	20	
Bromoform	SPCC	50.0	48.8	ug/L	0.235	2.40	20	
Chlorobenzene	SPCC	50.0	46.0	ug/L	0.887	8.00	20	
Chloromethane	SPCC	50.0	55.6	ug/L	0.362	11.1	20	
1,1-Dichloroethane	SPCC	50.0	42.3	ug/L	0.404	15.4	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	50.2	ug/L	0.523	0.300	20	
Acetone		50.0	44.6	ug/L	0.0575	10.8	20	
Benzene		50.0	43.4	ug/L	0.865	13.3	20	
Bromobenzene		50.0	48.7	ug/L	0.750	2.60	20	
Bromochloromethane		50.0	45.5	ug/L	0.174	8.90	20	
Bromodichloromethane		50.0	45.6	ug/L	0.324	8.80	20	
Bromomethane		50.0	48.5	ug/L	0.123	3.10	20	
2-Butanone		50.0	46.3	ug/L	0.0893	7.30	20	
n-Butylbenzene		50.0	51.7	ug/L	1.67	3.30	20	
sec-Butylbenzene		50.0	50.1	ug/L	2.21	0.200	20	
tert-Butylbenzene		50.0	49.9	ug/L	0.449	0.200	20	
Carbon Disulfide		50.0	43.6	ug/L	0.705	12.7	20	
Carbon Tetrachloride		50.0	43.4	ug/L	0.354	13.2	20	
Dibromochloromethane		50.0	48.0	ug/L	0.348	3.90	20	
Chloroethane		50.0	50.3	ug/L	0.161	0.600	20	
2-Chlorotoluene		50.0	46.3	ug/L	1.67	7.50	20	
4-Chlorotoluene		50.0	50.7	ug/L	1.80	1.30	20	
1,2-Dibromo-3-Chloropropane		50.0	50.7	ug/L	0.0933	1.40	20	
1,2-Dibromoethane		50.0	48.6	ug/L	0.259	2.70	20	
Dibromomethane		50.0	46.9	ug/L	0.142	6.20	20	
1,2-Dichlorobenzene		50.0	49.6	ug/L	1.35	0.700	20	
1,3-Dichlorobenzene		50.0	48.8	ug/L	1.39	2.40	20	
1,4-Dichlorobenzene		50.0	48.3	ug/L	1.42	3.40	20	
Dichlorodifluoromethane		50.0	53.0	ug/L	0.460	6.00	20	
1,2-Dichloroethane		50.0	44.0	ug/L	0.303	11.9	20	
cis-1,2-Dichloroethene		50.0	45.6	ug/L	0.259	8.70	20	
trans-1,2-Dichloroethene		50.0	42.1	ug/L	0.221	15.7	20	
1,3-Dichloropropane		50.0	49.6	ug/L	0.415	0.800	20	
2,2-Dichloropropane		50.0	44.8	ug/L	0.314	10.4	20	
cis-1,3-Dichloropropene		50.0	53.1	ug/L	0.385	6.10	20	
trans-1,3-Dichloropropene		50.0	49.2	ug/L	0.414	1.50	20	
1,1-Dichloropropene		50.0	44.3	ug/L	0.297	11.5	20	

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Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L16110321 Run Date: 11/14/2016 Sample ID: WG591426-12
Instrument ID: HPMS6 Run Time: 18:51 Method: 8260B
File ID: 6M143436 Analyst: TMB QC Key: DOD4
ICal Workgroup: WG591426 Cal ID: HPMS6 - 12-NOV-16

Analyte		Expected	Found	Units	RF	%D	UCL	Q
2-Hexanone		50.0	47.7	ug/L	0.173	4.50	20	
Hexachlorobutadiene		50.0	51.2	ug/L	0.331	2.40	20	
Isopropylbenzene		50.0	51.6	ug/L	1.35	3.20	20	
p-Isopropyltoluene		50.0	52.8	ug/L	2.07	5.60	20	
4-Methyl-2-Pentanone		50.0	47.1	ug/L	0.0703	5.90	20	
Methylene Chloride		50.0	41.2	ug/L	0.224	17.6	20	
Naphthalene		50.0	58.2	ug/L	1.99	16.4	20	
n-Propylbenzene		50.0	51.2	ug/L	2.64	2.50	20	
Styrene		50.0	53.3	ug/L	0.983	6.60	20	
1,1,1,2-Tetrachloroethane		50.0	47.7	ug/L	0.352	4.50	20	
Tetrachloroethene		50.0	46.6	ug/L	0.368	6.90	20	
1,2,3-Trichlorobenzene		50.0	54.5	ug/L	0.880	9.10	20	
1,2,4-Trichlorobenzene		50.0	56.7	ug/L	0.965	13.5	20	
1,1,1-Trichloroethane		50.0	44.7	ug/L	0.374	10.6	20	
1,1,2-Trichloroethane		50.0	46.9	ug/L	0.245	6.20	20	
Trichloroethene		50.0	44.3	ug/L	0.277	11.5	20	
Trichlorofluoromethane		50.0	45.0	ug/L	0.397	10.0	20	
1,2,3-Trichloropropane		50.0	48.1	ug/L	0.163	3.80	20	
1,2,4-Trimethylbenzene		50.0	49.9	ug/L	2.08	0.100	20	
1,3,5-Trimethylbenzene		50.0	51.6	ug/L	1.96	3.20	20	
o-Xylene		50.0	50.6	ug/L	0.554	1.20	20	
m-,p-Xylene		100	98.5	ug/L	0.554	1.50	20	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 5024737
Report generated 11/18/2016 13:13

Login Number: L16110321 Run Date: 11/14/2016 Sample ID: WG591570-02
Instrument ID: HPMS11 Run Time: 14:47 Method: 8260B
File ID: 11M15195 Analyst: JDS QC Key: DOD4
Workgroup (AAB#): WG591571 Cal ID: HPMS11 - 13-OCT-16
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloroform	CCC	50.0	45.8	ug/L	0.482	8.42	20	
1,1-Dichloroethene	CCC	50.0	47.4	ug/L	0.489	5.16	20	
1,2-Dichloropropane	CCC	50.0	47.3	ug/L	0.316	5.33	20	
Ethylbenzene	CCC	50.0	47.2	ug/L	0.540	5.52	20	
Toluene	CCC	50.0	48.0	ug/L	1.51	3.97	20	
Vinyl Chloride	CCC	50.0	43.6	ug/L	0.362	12.8	20	
Bromoform	SPCC	50.0	49.1	ug/L	0.262	1.71	20	
Chlorobenzene	SPCC	50.0	47.2	ug/L	1.05	5.67	20	
Chloromethane	SPCC	50.0	39.4	ug/L	0.366	21.3	20	*
1,1-Dichloroethane	SPCC	50.0	46.8	ug/L	0.561	6.45	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	47.9	ug/L	0.676	4.16	20	
Xylenes		150	145	ug/L	0.647	3.04	20	
Acetone		50.0	44.4	ug/L	0.0862	11.1	20	
Benzene		50.0	46.9	ug/L	1.06	6.19	20	
Bromobenzene		50.0	45.2	ug/L	0.862	9.57	20	
Bromochloromethane		50.0	46.9	ug/L	0.195	6.27	20	
Bromodichloromethane		50.0	47.0	ug/L	0.373	6.09	20	
Bromomethane		50.0	44.2	ug/L	0.178	11.6	20	
2-Butanone		50.0	46.0	ug/L	0.150	8.09	20	
n-Butylbenzene		50.0	48.0	ug/L	2.65	4.09	20	
sec-Butylbenzene		50.0	47.7	ug/L	3.23	4.52	20	
tert-Butylbenzene		50.0	47.3	ug/L	0.553	5.33	20	
Carbon Disulfide		50.0	46.2	ug/L	0.790	7.59	20	
Carbon Tetrachloride		50.0	47.4	ug/L	0.411	5.11	20	
Dibromochloromethane		50.0	50.0	ug/L	0.411	0.0138	20	
Chloroethane		50.0	48.1	ug/L	0.234	3.70	20	
2-Chlorotoluene		50.0	53.2	ug/L	2.51	6.49	20	
4-Chlorotoluene		50.0	41.8	ug/L	2.00	16.4	20	
1,2-Dibromo-3-Chloropropane		50.0	45.5	ug/L	0.123	9.06	20	
1,2-Dibromoethane		50.0	48.1	ug/L	0.303	3.82	20	
Dibromomethane		50.0	46.9	ug/L	0.166	6.23	20	
1,2-Dichlorobenzene		50.0	46.7	ug/L	1.57	6.62	20	
1,3-Dichlorobenzene		50.0	46.8	ug/L	1.64	6.49	20	
1,4-Dichlorobenzene		50.0	45.5	ug/L	1.64	8.99	20	
Dichlorodifluoromethane		50.0	50.3	ug/L	0.427	0.635	20	
1,2-Dichloroethane		50.0	47.2	ug/L	0.427	5.58	20	
cis-1,2-Dichloroethene		50.0	48.1	ug/L	0.310	3.86	20	
trans-1,2-Dichloroethene		50.0	46.4	ug/L	0.271	7.24	20	
1,3-Dichloropropane		50.0	47.6	ug/L	0.491	4.73	20	
2,2-Dichloropropane		50.0	49.2	ug/L	0.402	1.66	20	
cis-1,3-Dichloropropene		50.0	48.6	ug/L	0.427	2.77	20	
trans-1,3-Dichloropropene		50.0	49.0	ug/L	0.505	2.05	20	

CCV - Modified 03/05/2008
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Login Number: L16110321 Run Date: 11/14/2016 Sample ID: WG591570-02
Instrument ID: HPMS11 Run Time: 14:47 Method: 8260B
File ID: 11M15195 Analyst: JDS QC Key: DOD4
Workgroup (AAB#): WG591571 Cal ID: HPMS11 - 13-OCT-16
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloropropene		50.0	46.8	ug/L	0.359	6.48	20	
2-Hexanone		50.0	42.9	ug/L	0.283	14.3	20	
Hexachlorobutadiene		50.0	47.1	ug/L	0.459	5.87	20	
Isopropylbenzene		50.0	48.1	ug/L	1.63	3.76	20	
p-Isopropyltoluene		50.0	48.4	ug/L	2.85	3.22	20	
4-Methyl-2-Pentanone		50.0	44.6	ug/L	0.107	10.8	20	
Methylene Chloride		50.0	46.6	ug/L	0.274	6.72	20	
Naphthalene		50.0	46.4	ug/L	2.40	7.26	20	
n-Propylbenzene		50.0	49.0	ug/L	3.64	2.07	20	
Styrene		50.0	49.2	ug/L	1.10	1.69	20	
1,1,1,2-Tetrachloroethane		50.0	48.6	ug/L	0.388	2.72	20	
Tetrachloroethene		50.0	46.5	ug/L	0.318	7.03	20	
1,2,3-Trichlorobenzene		50.0	42.2	ug/L	1.01	15.7	20	
1,2,4-Trichlorobenzene		50.0	44.6	ug/L	1.11	10.8	20	
1,1,1-Trichloroethane		50.0	47.0	ug/L	0.436	5.97	20	
1,1,2-Trichloroethane		50.0	49.1	ug/L	0.301	1.78	20	
Trichloroethene		50.0	46.3	ug/L	0.303	7.49	20	
Trichlorofluoromethane		50.0	48.2	ug/L	0.465	3.67	20	
1,2,3-Trichloropropane		50.0	46.9	ug/L	0.201	6.19	20	
1,2,4-Trimethylbenzene		50.0	48.2	ug/L	2.65	3.50	20	
1,3,5-Trimethylbenzene		50.0	48.4	ug/L	2.58	3.28	20	
o-Xylene		50.0	48.4	ug/L	0.641	3.20	20	
m-,p-Xylene		100	97.0	ug/L	0.653	2.95	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 5024739
Report generated 11/18/2016 13:14

Login Number: L16110321 Run Date: 11/14/2016 Sample ID: WG591612-02
Instrument ID: HPMS6 Run Time: 17:16 Method: 8260B
File ID: 6M143433 Analyst: TMB QC Key: DOD4
Workgroup (AAB#): WG591615 Cal ID: HPMS6 - 12-NOV-16
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloroform	CCC	50.0	46.4	ug/L	0.458	7.12	20	
1,1-Dichloroethene	CCC	50.0	49.8	ug/L	0.407	0.459	20	
1,2-Dichloropropane	CCC	50.0	50.7	ug/L	0.263	1.34	20	
Ethylbenzene	CCC	50.0	51.0	ug/L	0.490	1.94	20	
Toluene	CCC	50.0	51.0	ug/L	1.31	1.94	20	
Vinyl Chloride	CCC	50.0	47.5	ug/L	0.258	4.97	20	
Bromoform	SPCC	50.0	53.0	ug/L	0.255	6.02	20	
Chlorobenzene	SPCC	50.0	49.2	ug/L	0.949	1.58	20	
Chloromethane	SPCC	50.0	48.9	ug/L	0.319	2.10	20	
1,1-Dichloroethane	SPCC	50.0	49.6	ug/L	0.474	0.731	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	53.0	ug/L	0.552	5.96	20	
Xylenes		150	158	ug/L	0.585	5.10	20	
Acetone		50.0	48.3	ug/L	0.0622	3.48	20	
Benzene		50.0	49.2	ug/L	0.982	1.52	20	
Bromobenzene		50.0	51.0	ug/L	0.786	2.09	20	
Bromochloromethane		50.0	50.9	ug/L	0.194	1.71	20	
Bromodichloromethane		50.0	49.8	ug/L	0.354	0.493	20	
Bromomethane		50.0	48.7	ug/L	0.123	2.64	20	
2-Butanone		50.0	50.2	ug/L	0.0968	0.425	20	
n-Butylbenzene		50.0	53.4	ug/L	1.73	6.82	20	
sec-Butylbenzene		50.0	52.6	ug/L	2.32	5.13	20	
tert-Butylbenzene		50.0	51.9	ug/L	0.467	3.80	20	
Carbon Disulfide		50.0	49.2	ug/L	0.795	1.60	20	
Carbon Tetrachloride		50.0	48.3	ug/L	0.394	3.31	20	
Dibromochloromethane		50.0	52.1	ug/L	0.378	4.16	20	
Chloroethane		50.0	48.6	ug/L	0.156	2.71	20	
2-Chlorotoluene		50.0	49.0	ug/L	1.77	2.10	20	
4-Chlorotoluene		50.0	52.7	ug/L	1.87	5.38	20	
1,2-Dibromo-3-Chloropropane		50.0	52.6	ug/L	0.0968	5.27	20	
1,2-Dibromoethane		50.0	53.1	ug/L	0.283	6.21	20	
Dibromomethane		50.0	51.0	ug/L	0.154	1.95	20	
1,2-Dichlorobenzene		50.0	49.9	ug/L	1.36	0.249	20	
1,3-Dichlorobenzene		50.0	50.7	ug/L	1.44	1.50	20	
1,4-Dichlorobenzene		50.0	48.9	ug/L	1.44	2.24	20	
Dichlorodifluoromethane		50.0	50.5	ug/L	0.439	0.974	20	
1,2-Dichloroethane		50.0	48.9	ug/L	0.336	2.25	20	
cis-1,2-Dichloroethene		50.0	51.5	ug/L	0.292	2.94	20	
trans-1,2-Dichloroethene		50.0	51.2	ug/L	0.269	2.34	20	
1,3-Dichloropropane		50.0	51.7	ug/L	0.432	3.33	20	
2,2-Dichloropropane		50.0	53.5	ug/L	0.375	7.08	20	
cis-1,3-Dichloropropene		50.0	55.2	ug/L	0.400	10.4	20	
trans-1,3-Dichloropropene		50.0	54.2	ug/L	0.456	8.34	20	

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Login Number: L16110321 Run Date: 11/14/2016 Sample ID: WG591612-02
Instrument ID: HPMS6 Run Time: 17:16 Method: 8260B
File ID: 6M143433 Analyst: TMB QC Key: DOD4
Workgroup (AAB#): WG591615 Cal ID: HPMS6 - 12-NOV-16
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloropropene		50.0	50.4	ug/L	0.339	0.864	20	
2-Hexanone		50.0	51.6	ug/L	0.187	3.16	20	
Hexachlorobutadiene		50.0	51.3	ug/L	0.332	2.69	20	
Isopropylbenzene		50.0	54.3	ug/L	1.42	8.54	20	
p-Isopropyltoluene		50.0	53.7	ug/L	2.11	7.34	20	
4-Methyl-2-Pentanone		50.0	51.8	ug/L	0.0774	3.65	20	
Methylene Chloride		50.0	49.3	ug/L	0.267	1.46	20	
Naphthalene		50.0	58.9	ug/L	2.02	17.8	20	
n-Propylbenzene		50.0	54.2	ug/L	2.80	8.47	20	
Styrene		50.0	55.3	ug/L	1.02	10.6	20	
1,1,1,2-Tetrachloroethane		50.0	50.8	ug/L	0.374	1.53	20	
Tetrachloroethene		50.0	49.7	ug/L	0.392	0.700	20	
1,2,3-Trichlorobenzene		50.0	54.1	ug/L	0.872	8.12	20	
1,2,4-Trichlorobenzene		50.0	55.2	ug/L	0.938	10.3	20	
1,1,1-Trichloroethane		50.0	49.0	ug/L	0.410	1.97	20	
1,1,2-Trichloroethane		50.0	50.9	ug/L	0.266	1.86	20	
Trichloroethene		50.0	48.7	ug/L	0.305	2.57	20	
Trichlorofluoromethane		50.0	46.0	ug/L	0.406	7.96	20	
1,2,3-Trichloropropane		50.0	50.6	ug/L	0.172	1.17	20	
1,2,4-Trimethylbenzene		50.0	52.1	ug/L	2.17	4.28	20	
1,3,5-Trimethylbenzene		50.0	54.7	ug/L	2.07	9.31	20	
o-Xylene		50.0	53.4	ug/L	0.585	6.83	20	
m-,p-Xylene		100	104	ug/L	0.586	4.23	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 5024739
Report generated 11/18/2016 13:14

Login Number: L16110321 Run Date: 11/15/2016 Sample ID: WG591756-02
Instrument ID: HPMS6 Run Time: 15:47 Method: 8260B
File ID: 6M143471 Analyst: TMB QC Key: DOD4
Workgroup (AAB#): WG591757 Cal ID: HPMS6 - 12-NOV-16
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloroform	CCC	50.0	46.8	ug/L	0.462	6.48	20	
1,1-Dichloroethene	CCC	50.0	49.4	ug/L	0.403	1.25	20	
1,2-Dichloropropane	CCC	50.0	49.0	ug/L	0.255	2.04	20	
Ethylbenzene	CCC	50.0	50.0	ug/L	0.481	0.0200	20	
Toluene	CCC	50.0	49.7	ug/L	1.28	0.567	20	
Vinyl Chloride	CCC	50.0	46.0	ug/L	0.250	7.97	20	
Bromoform	SPCC	50.0	48.4	ug/L	0.233	3.13	20	
Chlorobenzene	SPCC	50.0	48.3	ug/L	0.931	3.36	20	
Chloromethane	SPCC	50.0	46.1	ug/L	0.300	7.84	20	
1,1-Dichloroethane	SPCC	50.0	48.9	ug/L	0.467	2.23	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	45.7	ug/L	0.476	8.69	20	
Xylenes		150	155	ug/L	0.576	3.27	20	
Acetone		50.0	44.8	ug/L	0.0578	10.3	20	
Benzene		50.0	48.4	ug/L	0.966	3.13	20	
Bromobenzene		50.0	50.3	ug/L	0.774	0.660	20	
Bromochloromethane		50.0	50.1	ug/L	0.191	0.276	20	
Bromodichloromethane		50.0	48.6	ug/L	0.345	2.86	20	
Bromomethane		50.0	49.1	ug/L	0.125	1.79	20	
2-Butanone		50.0	42.6	ug/L	0.0821	14.8	20	
n-Butylbenzene		50.0	53.2	ug/L	1.72	6.34	20	
sec-Butylbenzene		50.0	52.2	ug/L	2.30	4.34	20	
tert-Butylbenzene		50.0	51.6	ug/L	0.464	3.15	20	
Carbon Disulfide		50.0	48.8	ug/L	0.788	2.40	20	
Carbon Tetrachloride		50.0	45.9	ug/L	0.374	8.25	20	
Dibromochloromethane		50.0	48.8	ug/L	0.354	2.37	20	
Chloroethane		50.0	47.7	ug/L	0.152	4.62	20	
2-Chlorotoluene		50.0	48.8	ug/L	1.76	2.45	20	
4-Chlorotoluene		50.0	51.0	ug/L	1.81	2.00	20	
1,2-Dibromo-3-Chloropropane		50.0	43.2	ug/L	0.0794	13.7	20	
1,2-Dibromoethane		50.0	47.6	ug/L	0.254	4.73	20	
Dibromomethane		50.0	47.5	ug/L	0.144	5.10	20	
1,2-Dichlorobenzene		50.0	48.5	ug/L	1.32	2.97	20	
1,3-Dichlorobenzene		50.0	50.1	ug/L	1.42	0.168	20	
1,4-Dichlorobenzene		50.0	48.7	ug/L	1.44	2.64	20	
Dichlorodifluoromethane		50.0	50.4	ug/L	0.438	0.856	20	
1,2-Dichloroethane		50.0	47.3	ug/L	0.325	5.50	20	
cis-1,2-Dichloroethene		50.0	51.2	ug/L	0.290	2.36	20	
trans-1,2-Dichloroethene		50.0	50.7	ug/L	0.266	1.48	20	
1,3-Dichloropropane		50.0	47.0	ug/L	0.393	6.10	20	
2,2-Dichloropropane		50.0	51.2	ug/L	0.358	2.31	20	
cis-1,3-Dichloropropene		50.0	52.0	ug/L	0.377	3.93	20	
trans-1,3-Dichloropropene		50.0	49.7	ug/L	0.418	0.578	20	

CCV - Modified 03/05/2008
PDF File ID: 5024739
Report generated 11/18/2016 13:14

Login Number: L16110321 Run Date: 11/15/2016 Sample ID: WG591756-02
Instrument ID: HPMS6 Run Time: 15:47 Method: 8260B
File ID: 6M143471 Analyst: TMB QC Key: DOD4
Workgroup (AAB#): WG591757 Cal ID: HPMS6 - 12-NOV-16
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloropropene		50.0	48.8	ug/L	0.328	2.33	20	
2-Hexanone		50.0	41.5	ug/L	0.151	17.0	20	
Hexachlorobutadiene		50.0	53.4	ug/L	0.345	6.81	20	
Isopropylbenzene		50.0	53.5	ug/L	1.40	7.03	20	
p-Isopropyltoluene		50.0	53.9	ug/L	2.12	7.75	20	
4-Methyl-2-Pentanone		50.0	41.7	ug/L	0.0623	16.7	20	
Methylene Chloride		50.0	48.7	ug/L	0.264	2.66	20	
Naphthalene		50.0	52.3	ug/L	1.79	4.59	20	
n-Propylbenzene		50.0	52.9	ug/L	2.73	5.74	20	
Styrene		50.0	54.2	ug/L	0.999	8.35	20	
1,1,1,2-Tetrachloroethane		50.0	49.6	ug/L	0.366	0.798	20	
Tetrachloroethene		50.0	49.2	ug/L	0.389	1.58	20	
1,2,3-Trichlorobenzene		50.0	51.2	ug/L	0.825	2.31	20	
1,2,4-Trichlorobenzene		50.0	53.6	ug/L	0.911	7.19	20	
1,1,1-Trichloroethane		50.0	48.3	ug/L	0.404	3.39	20	
1,1,2-Trichloroethane		50.0	46.4	ug/L	0.243	7.12	20	
Trichloroethene		50.0	48.8	ug/L	0.306	2.33	20	
Trichlorofluoromethane		50.0	47.2	ug/L	0.416	5.60	20	
1,2,3-Trichloropropane		50.0	43.6	ug/L	0.148	12.8	20	
1,2,4-Trimethylbenzene		50.0	51.4	ug/L	2.14	2.88	20	
1,3,5-Trimethylbenzene		50.0	53.9	ug/L	2.04	7.83	20	
o-Xylene		50.0	52.6	ug/L	0.576	5.27	20	
m-,p-Xylene		100	102	ug/L	0.575	2.27	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 5024739
Report generated 11/18/2016 13:14

Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L16110321
Instrument ID: HPMS11
Workgroup (AAB#): WG591571

ICAL CCV Number: WG587480-08
CAL ID: HPMS11-13-OCT-16
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG587480-08	NA	NA	300608	570241	727439
Upper Limit	NA	NA	601216	1140482	1454878
Lower Limit	NA	NA	150304	285121	363720
L16110321-12	1.00	01	172151	374565	504532
WG591571-01	1.00	01	205917	415826	561781
WG591571-02	1.00	01	222780	438757	572486
WG591571-03	1.00	01	223926	447441	574852

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

Underline = Response outside limits

INTERNAL_STD_ICAL - Modified 03/06/2008
PDF File ID: 5027250
Report generated 11/18/2016 13:14

Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L16110321
Instrument ID: HPMS6
Workgroup (AAB#): WG591615

ICAL CCV Number: WG591426-08
CAL ID: HPMS6-12-NOV-16
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG591426-08	NA	NA	301121	522661	653160
Upper Limit	NA	NA	602242	1045322	1306320
Lower Limit	NA	NA	150561	261331	326580
L16110321-04	1.00	01	257752	470808	601864
L16110321-05	1.00	01	305680	533324	673102
L16110321-06	1.00	01	304377	530382	675354
L16110321-07	1.00	01	270899	500181	635598
L16110321-08	1.00	01	266600	491033	628333
L16110321-09	1.00	01	267020	486210	619120
L16110321-10	1.00	01	260937	475938	607678
L16110321-11	1.00	01	259748	472068	596445
WG591615-01	1.00	01	272285	506877	653913
WG591615-02	1.00	01	303796	524682	665614

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

Underline = Response outside limits

INTERNAL_STD_ICAL - Modified 03/06/2008
PDF File ID: 5027250
Report generated 11/18/2016 13:14

Microbac Laboratories Inc.

INTERNAL STANDARD AREA SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L16110321
Instrument ID: HPMS6
Workgroup (AAB#): WG591757

ICAL CCV Number: WG591426-08
CAL ID: HPMS6-12-NOV-16
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG591426-08	NA	NA	301121	522661	653160
Upper Limit	NA	NA	602242	1045322	1306320
Lower Limit	NA	NA	150561	261331	326580
L16110321-01	1.00	01	281505	508871	648484
L16110321-02	1.00	01	276737	502661	633075
L16110321-03	1.00	01	276611	498524	630110
WG591757-01	1.00	01	280454	507278	647941
WG591757-02	1.00	01	312539	531952	666859

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

Underline = Response outside limits

INTERNAL_STD_ICAL - Modified 03/06/2008
PDF File ID: 5027250
Report generated 11/18/2016 13:14

Microbac Laboratories Inc.

INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L16110321
Instrument ID: HPMS11
Workgroup (AAB#): WG591571

ICAL CCV Number: WG587480-08
CAL ID: HPMS11-13-OCT-16
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG587480-08	NA	NA	17.01	14.2	10.57
Upper Limit	NA	NA	17.51	14.7	11.07
Lower Limit	NA	NA	16.51	13.7	10.07
L16110321-12	1.00	01	17.02	14.2	10.57
WG591571-01	1.00	01	17.01	14.2	10.57
WG591571-02	1.00	01	17.02	14.2	10.57
WG591571-03	1.00	01	17.02	14.2	10.57

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

Underline = Response outside limits

INTERNAL_STD_RT_ICAL - Modified 03/06/2008
PDF File ID: 5027251
Report generated: 11/18/2016 13:14

Microbac Laboratories Inc.

INTERNAL STANDARD RETENTION TIME SUMMARY

(COMPARED TO MIDPOINT OF ICAL)

Login Number:L16110321

Instrument ID:HPMS6

Workgroup (AAB#):WG591615

ICAL CCV Number:WG591426-08

CAL ID: HPMS6-12-NOV-16

Matrix:WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG591426-08	NA	NA	18.78	15.22	10.74
Upper Limit	NA	NA	19.28	15.72	11.24
Lower Limit	NA	NA	18.28	14.72	10.24
L16110321-04	1.00	01	18.78	15.22	10.74
L16110321-05	1.00	01	18.78	15.22	10.74
L16110321-06	1.00	01	18.78	15.22	10.74
L16110321-07	1.00	01	18.77	15.22	10.74
L16110321-08	1.00	01	18.77	15.22	10.74
L16110321-09	1.00	01	18.78	15.21	10.74
L16110321-10	1.00	01	18.78	15.21	10.74
L16110321-11	1.00	01	18.78	15.22	10.74
WG591615-01	1.00	01	18.77	15.22	10.74
WG591615-02	1.00	01	18.78	15.21	10.74

IS-1 - 1,4-Dichlorobenzene-d4

IS-2 - Chlorobenzene-d5

IS-3 - Fluorobenzene

Underline = Response outside limits

INTERNAL_STD_RT_ICAL - Modified 03/06/2008

PDF File ID: 5027251

Report generated: 11/18/2016 13:14

Microbac Laboratories Inc.

INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

Login Number: L16110321
Instrument ID: HPMS6
Workgroup (AAB#): WG591757

ICAL CCV Number: WG591426-08
CAL ID: HPMS6-12-NOV-16
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG591426-08	NA	NA	18.78	15.22	10.74
Upper Limit	NA	NA	19.28	15.72	11.24
Lower Limit	NA	NA	18.28	14.72	10.24
L16110321-01	1.00	01	18.78	15.22	10.74
L16110321-02	1.00	01	18.77	15.22	10.74
L16110321-03	1.00	01	18.77	15.22	10.74
WG591757-01	1.00	01	18.77	15.22	10.74
WG591757-02	1.00	01	18.77	15.22	10.74

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

Underline = Response outside limits

INTERNAL_STD_RT_ICAL - Modified 03/06/2008
PDF File ID: 5027251
Report generated: 11/18/2016 13:14

2.1.1.3 Sample Data

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111516\6M143484.D Vial: 15
Acq On : 15 Nov 2016 22:45 Operator: TMB
Sample : L16110321-01 B 826-LOW Inst : Hpms6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 08:34:13 2016 Quant Results File: 8260WT.RES

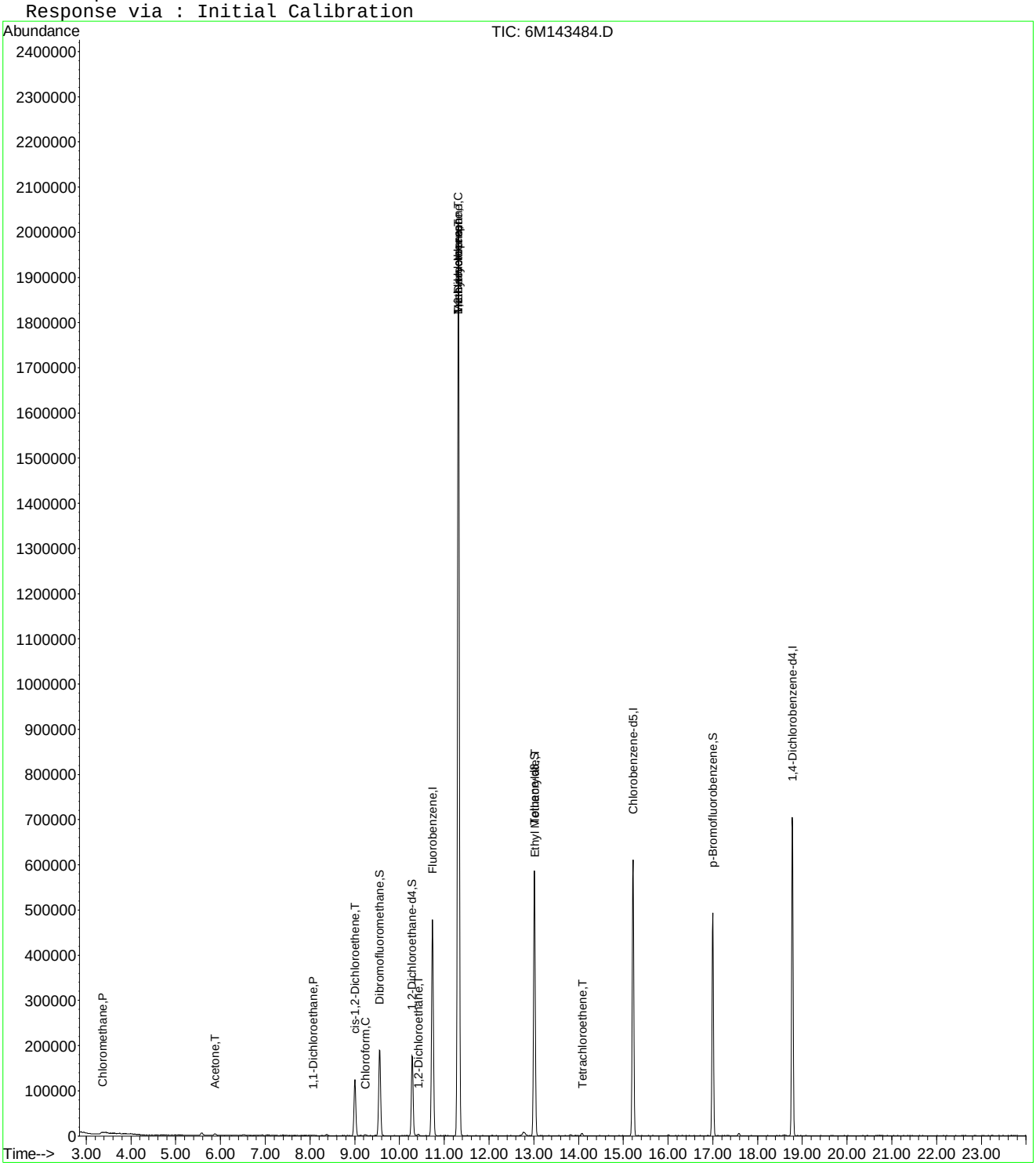
Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

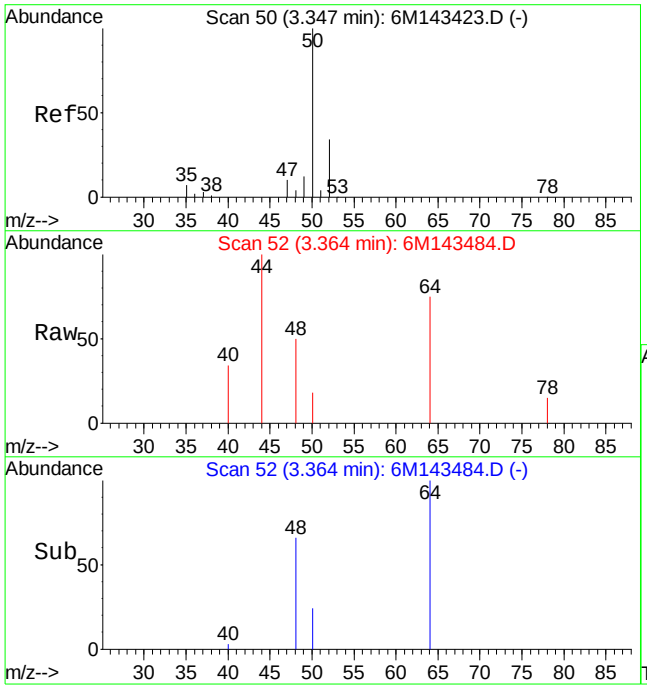
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.74	96	648484	25.00 ug/L	0.00
57) Chlorobenzene-d5	15.22	117	508871	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.78	152	281505	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.55	111	179335	23.8691 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 95.48%		
43) 1,2-Dichloroethane-d4	10.28	65	171570	23.0224 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 92.08%		
58) Toluene-d8	13.01	98	567793	24.1395 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 96.56%		
80) p-Bromofluorobenzene	17.00	95	221759	25.1746 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 100.68%		
Target Compounds					Qvalue
3) Chloromethane	3.36	50	1243	0.1471 ug/L #	42
13) Acetone	5.88	43	7516	4.4960 ug/L	91
27) 1,1-Dichloroethane	8.07	63	2379	0.1922 ug/L #	43
32) cis-1,2-Dichloroethene	9.00	96	79261	10.7689 ug/L	83
33) Chloroform	9.24	83	2622	0.2048 ug/L #	74
45) 1,2-Dichloroethane	10.42	62	4628	0.5188 ug/L #	75
47) Trichloroethene	11.31	130	1019541	125.6546 ug/L	85
48) Methylcyclohexane	11.31	83	11022	1.2296 ug/L #	1
49) 1,2-Dichloropropane	11.31	63	2500	0.3708 ug/L #	35
60) Ethyl Methacrylate	13.02	69	506	0.4647 ug/L #	7
66) Tetrachloroethene	14.09	166	2766	0.3441 ug/L	87

(#) = qualifier out of range (m) = manual integration
6M143484.D 8260WT.M Wed Nov 16 08:34:15 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111516\6M143484.D Vial: 15
Acq On : 15 Nov 2016 22:45 Operator: TMB
Sample : L16110321-01 B 826-LOW Inst : Hpms6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 8:34 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration

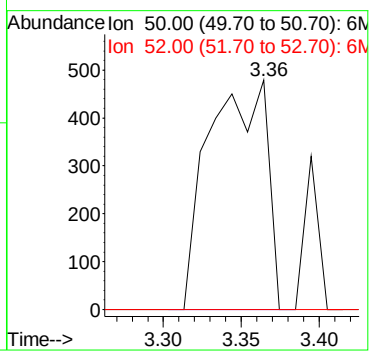


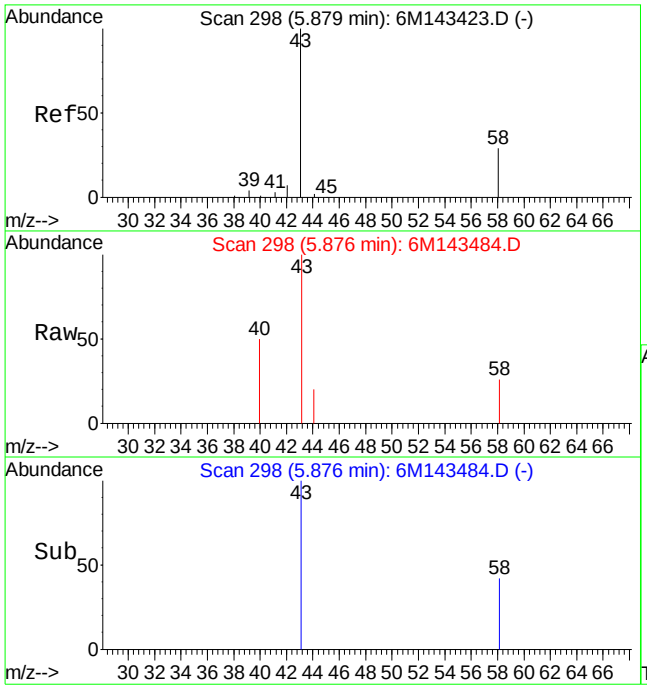


#3
Chloromethane
Concen: 0.15 ug/L
RT: 3.36 min Scan# 52
Delta R.T. 0.02 min
Lab File: 6M143484.D
Acq: 15 Nov 2016 22:45

Tgt Ion: 50 Resp: 1243

Ion	Ratio	Lower	Upper
50	100		
52	0.0	19.8	46.2#

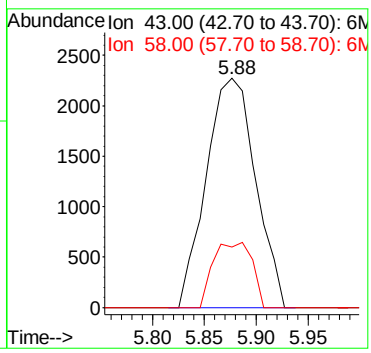


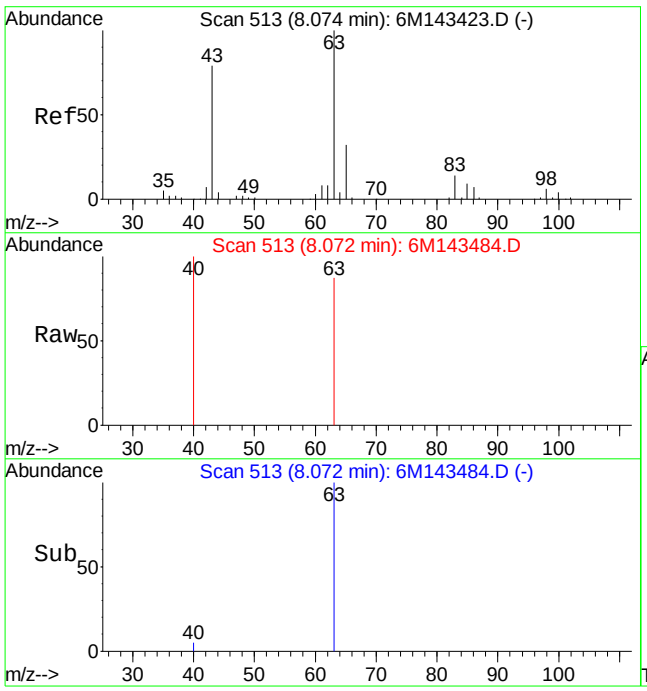


#13
Acetone
Concen: 4.50 ug/L
RT: 5.88 min Scan# 298
Delta R.T. -0.00 min
Lab File: 6M143484.D
Acq: 15 Nov 2016 22:45

Tgt Ion: 43 Resp: 7516

Ion	Ratio	Lower	Upper
43	100		
58	22.4	16.4	38.2

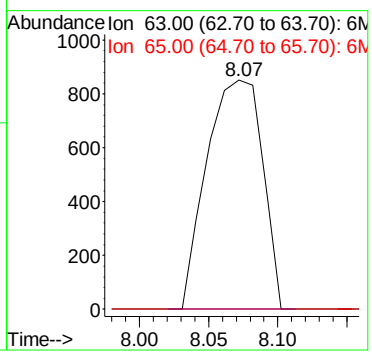


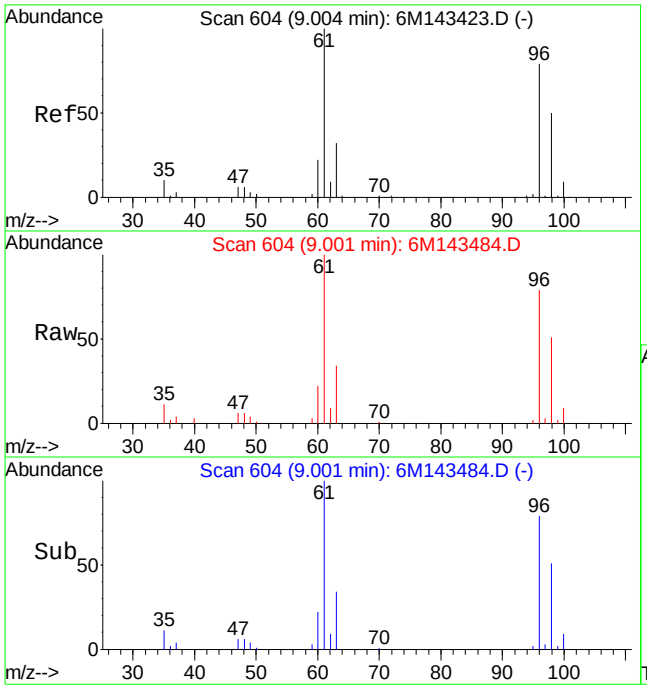


#27
1,1-Dichloroethane
Concen: 0.19 ug/L
RT: 8.07 min Scan# 513
Delta R.T. 0.01 min
Lab File: 6M143484.D
Acq: 15 Nov 2016 22:45

Tgt Ion: 63 Resp: 2379

Ion	Ratio	Lower	Upper
63	100		
65	0.0	19.3	44.9#

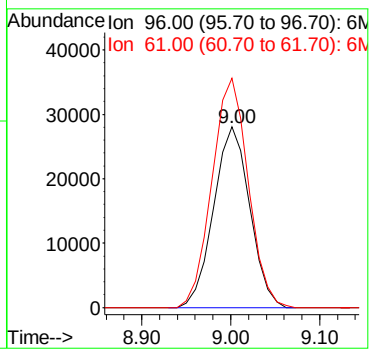


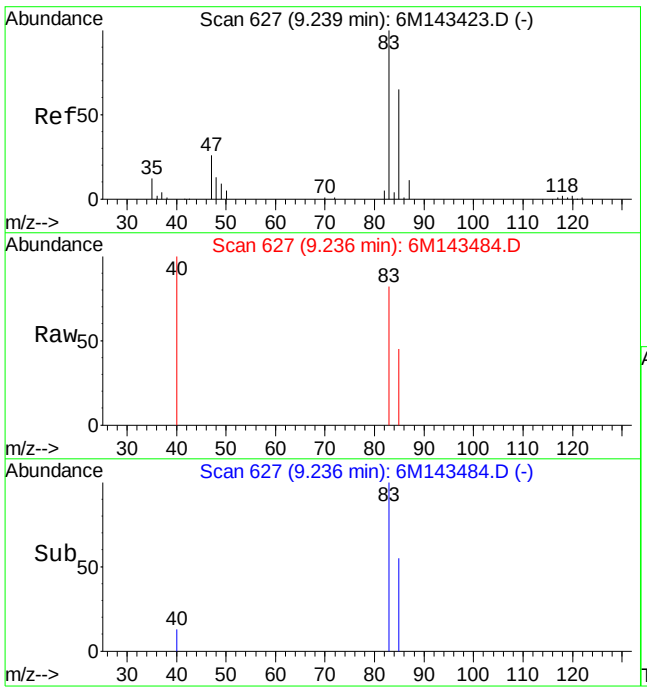


#32
cis-1,2-Dichloroethene
Concen: 10.77 ug/L
RT: 9.00 min Scan# 604
Delta R.T. -0.00 min
Lab File: 6M143484.D
Acq: 15 Nov 2016 22:45

Tgt Ion: 96 Resp: 79261

Ion	Ratio	Lower	Upper
96	100		
61	127.2	89.2	208.2

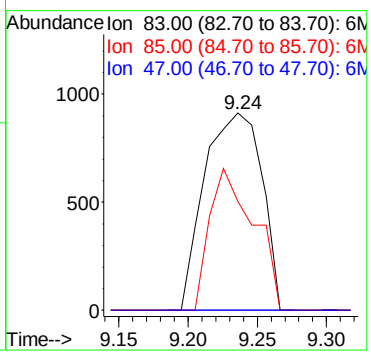


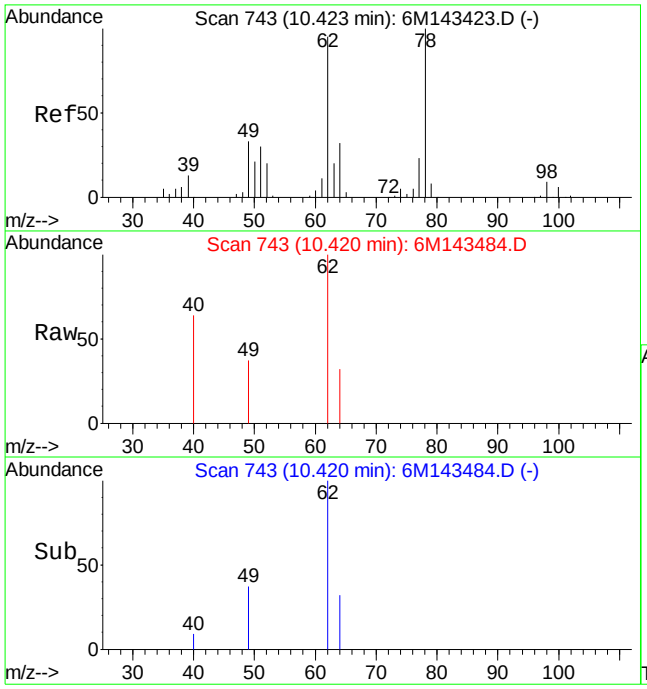


#33
Chloroform
Concen: 0.20 ug/L
RT: 9.24 min Scan# 627
Delta R.T. 0.01 min
Lab File: 6M143484.D
Acq: 15 Nov 2016 22:45

Tgt Ion: 83 Resp: 2622

Ion	Ratio	Lower	Upper
83	100		
85	55.7	39.0	91.0
47	0.0	18.5	43.1#

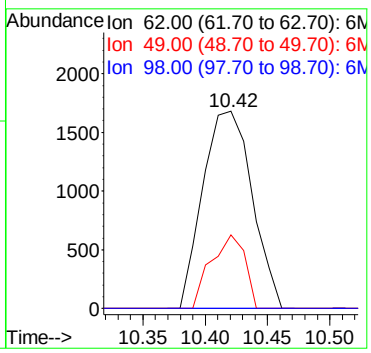


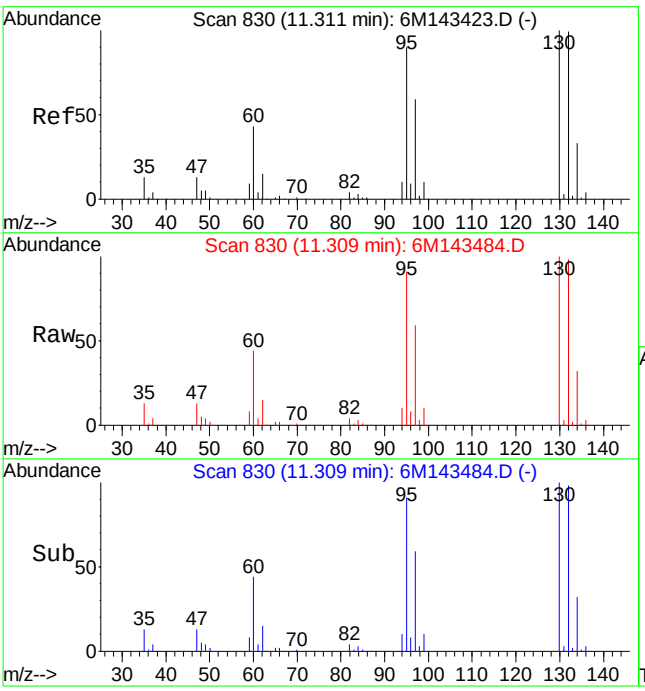


#45
1,2-Dichloroethane
Concen: 0.52 ug/L
RT: 10.42 min Scan# 743
Delta R.T. -0.00 min
Lab File: 6M143484.D
Acq: 15 Nov 2016 22:45

Tgt Ion: 62 Resp: 4628

Ion	Ratio	Lower	Upper
62	100		
49	25.6	25.1	58.5
98	0.0	5.2	12.0#

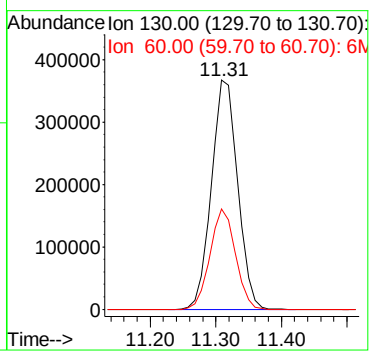


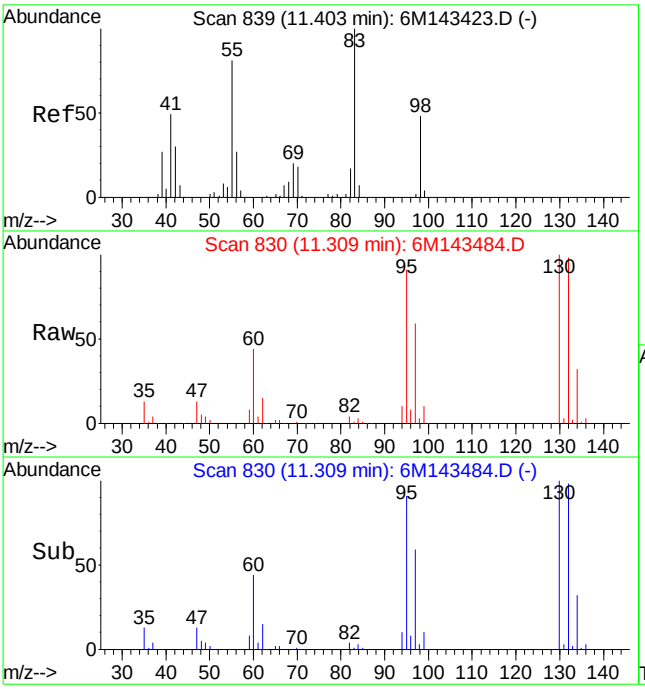


#47
Trichloroethene
Concen: 125.65 ug/L
RT: 11.31 min Scan# 830
Delta R.T. -0.00 min
Lab File: 6M143484.D
Acq: 15 Nov 2016 22:45

Tgt Ion:130 Resp: 1019541

Ion	Ratio	Lower	Upper
130	100		
60	42.4	32.0	74.6

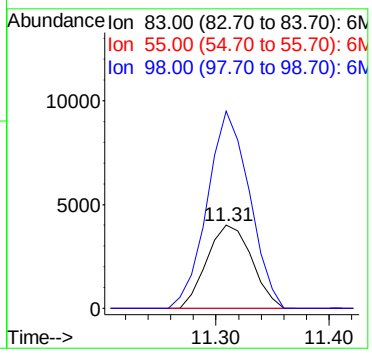


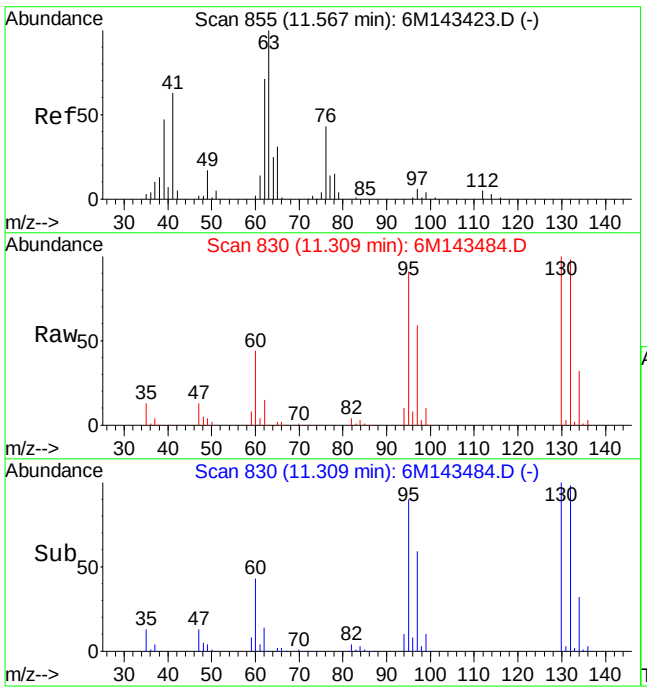


#48
Methylcyclohexane
Concen: 1.23 ug/L
RT: 11.31 min Scan# 830
Delta R.T. -0.08 min
Lab File: 6M143484.D
Acq: 15 Nov 2016 22:45

Tgt Ion: 83 Resp: 11022

Ion	Ratio	Lower	Upper
83	100		
55	0.0	56.3	131.3#
98	223.9	28.4	66.4#

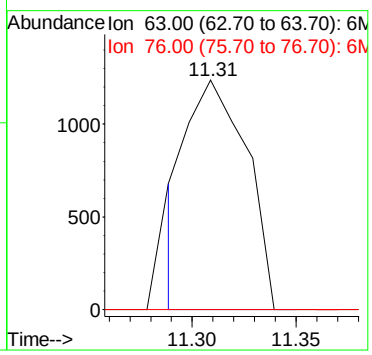


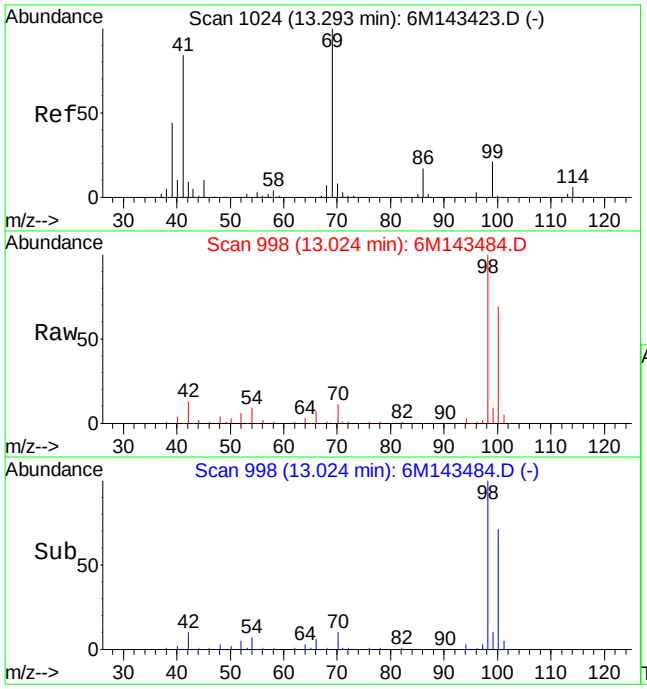


#49
1,2-Dichloropropane
Concen: 0.37 ug/L
RT: 11.31 min Scan# 830
Delta R.T. -0.26 min
Lab File: 6M143484.D
Acq: 15 Nov 2016 22:45

Tgt Ion: 63 Resp: 2500

Ion	Ratio	Lower	Upper
63	100		
76	0.0	24.2	56.4#

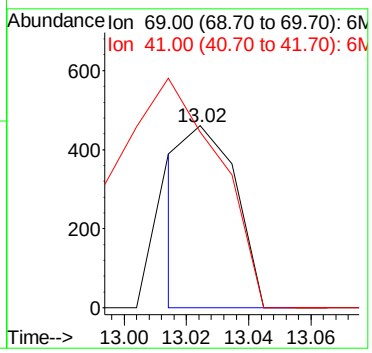


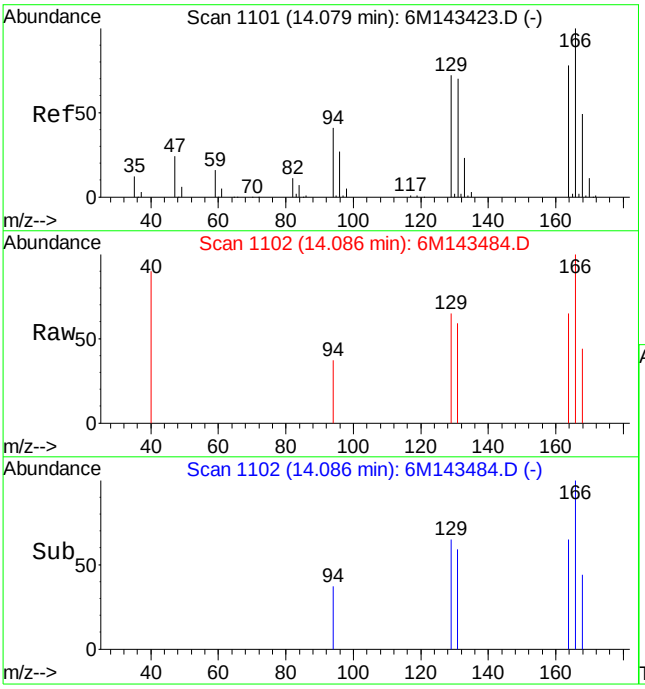


#60
Ethyl Methacrylate
Concen: 0.46 ug/L
RT: 13.02 min Scan# 998
Delta R.T. -0.27 min
Lab File: 6M143484.D
Acq: 15 Nov 2016 22:45

Tgt Ion: 69 Resp: 506

Ion	Ratio	Lower	Upper
69	100		
41	0.0	51.4	120.0#

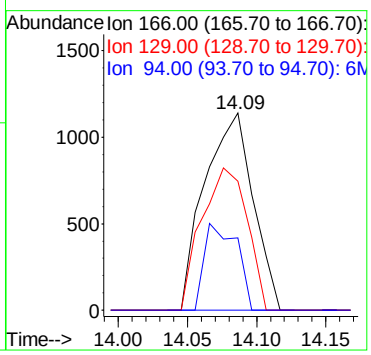




#66
Tetrachloroethene
Concen: 0.34 ug/L
RT: 14.09 min Scan# 1102
Delta R.T. 0.01 min
Lab File: 6M143484.D
Acq: 15 Nov 2016 22:45

Tgt Ion:166 Resp: 2766

Ion	Ratio	Lower	Upper
166	100		
129	67.7	43.5	101.5
94	29.5	27.8	64.8



Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111516\6M143485.D Vial: 16
Acq On : 15 Nov 2016 23:17 Operator: TMB
Sample : L16110321-02 B 826-LOW Inst : Hpms6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 08:34:20 2016 Quant Results File: 8260WT.RES

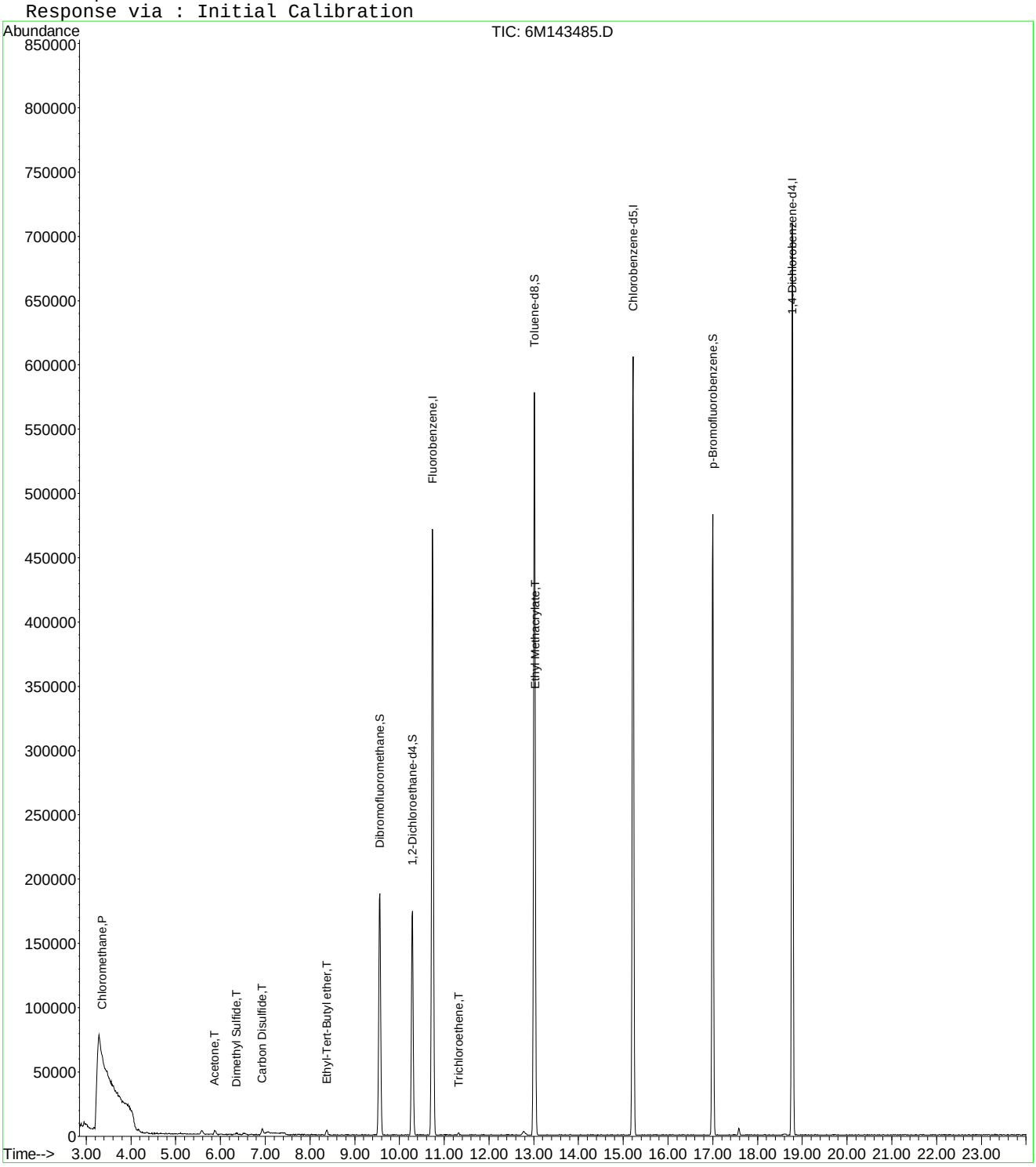
Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

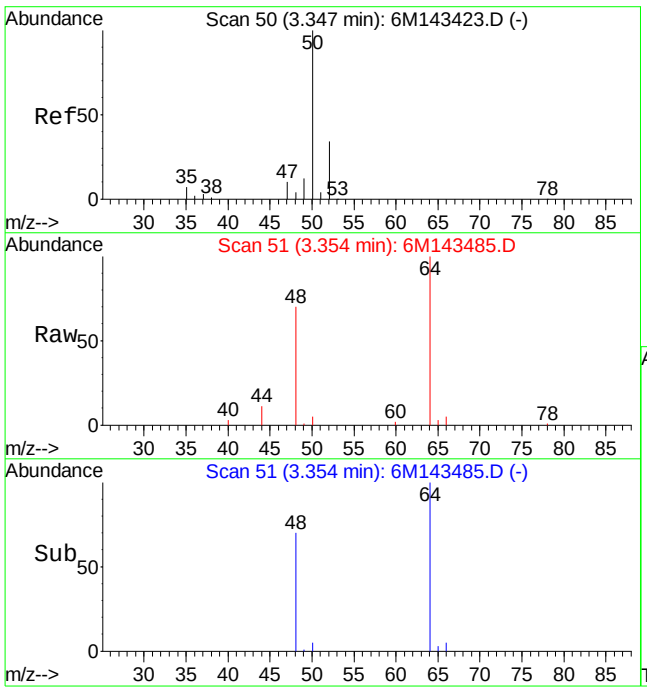
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.74	96	633075	25.00 ug/L	0.00
57) Chlorobenzene-d5	15.22	117	502661	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.77	152	276737	25.00 ug/L	-0.01
System Monitoring Compounds					
37) Dibromofluoromethane	9.56	111	177340	24.1781 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 96.72%		
43) 1,2-Dichloroethane-d4	10.29	65	167927	23.0820 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 92.32%		
58) Toluene-d8	13.01	98	556790	23.9641 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 95.84%		
80) p-Bromofluorobenzene	17.00	95	215352	24.8685 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 99.48%		
Target Compounds					Qvalue
3) Chloromethane	3.35	50	3141	0.3809 ug/L #	42
13) Acetone	5.87	43	6831	4.1857 ug/L	92
16) Dimethyl Sulfide	6.36	62	1008	0.1529 ug/L	96
20) Carbon Disulfide	6.93	76	11705	0.5725 ug/L #	86
28) Ethyl-Tert-Butyl ether	8.38	59	2726	0.1493 ug/L #	40
47) Trichloroethene	11.32	130	1095	0.1382 ug/L #	25
60) Ethyl Methacrylate	13.03	69	557	0.4730 ug/L #	7

(#) = qualifier out of range (m) = manual integration
6M143485.D 8260WT.M Wed Nov 16 08:34:22 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111516\6M143485.D Vial: 16
Acq On : 15 Nov 2016 23:17 Operator: TMB
Sample : L16110321-02 B 826-LOW Inst : Hpms6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 8:34 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration

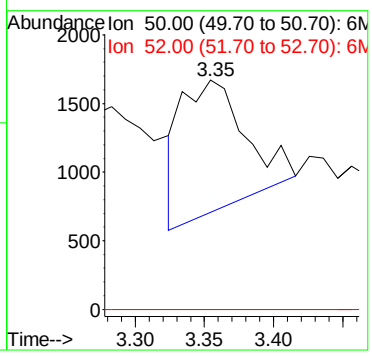


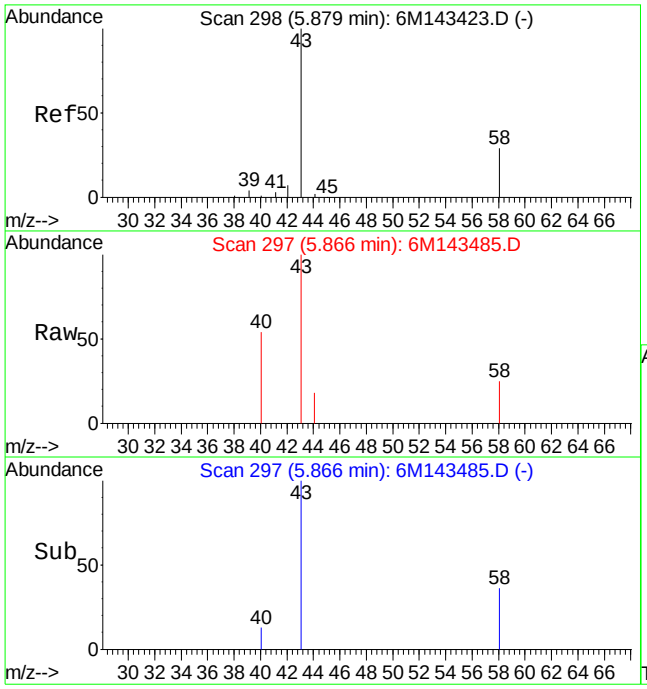


#3
Chloromethane
Concen: 0.38 ug/L
RT: 3.35 min Scan# 51
Delta R.T. 0.01 min
Lab File: 6M143485.D
Acq: 15 Nov 2016 23:17

Tgt Ion: 50 Resp: 3141

Ion	Ratio	Lower	Upper
50	100		
52	0.0	19.8	46.2#

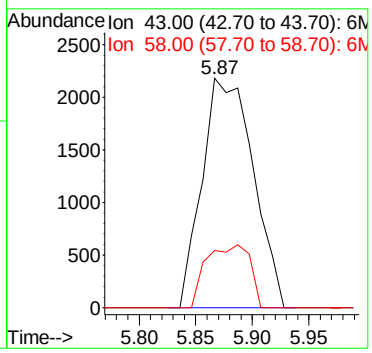


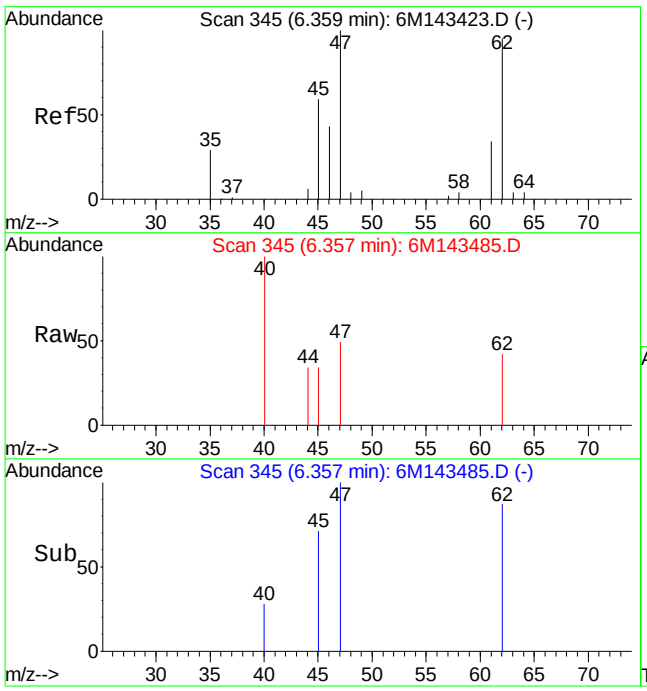


#13
Acetone
Concen: 4.19 ug/L
RT: 5.87 min Scan# 297
Delta R.T. -0.01 min
Lab File: 6M143485.D
Acq: 15 Nov 2016 23:17

Tgt Ion: 43 Resp: 6831

Ion	Ratio	Lower	Upper
43	100		
58	23.4	16.4	38.2

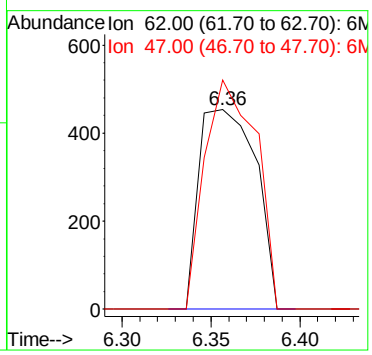


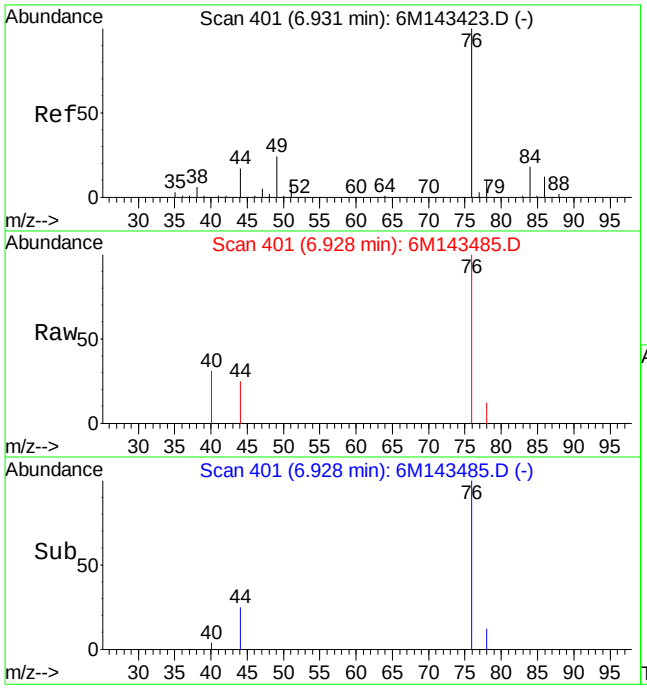


#16
Dimethyl Sulfide
Concen: 0.15 ug/L
RT: 6.36 min Scan# 345
Delta R.T. 0.01 min
Lab File: 6M143485.D
Acq: 15 Nov 2016 23:17

Tgt Ion: 62 Resp: 1008

Ion	Ratio	Lower	Upper
62	100		
47	103.6	64.7	151.1

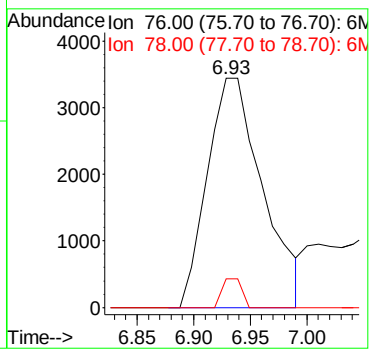


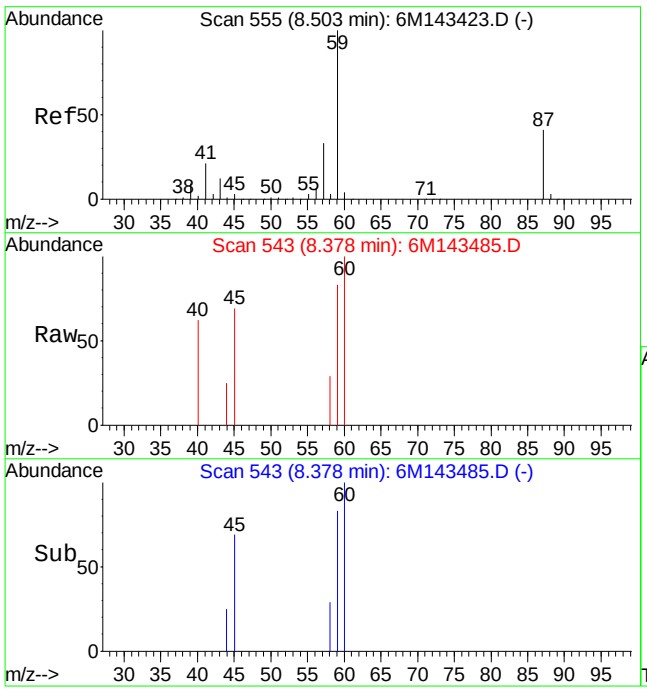


#20
Carbon Disulfide
Concen: 0.57 ug/L
RT: 6.93 min Scan# 401
Delta R.T. 0.01 min
Lab File: 6M143485.D
Acq: 15 Nov 2016 23:17

Tgt Ion: 76 Resp: 11705

Ion	Ratio	Lower	Upper
76	100		
78	4.5	5.7	13.3#

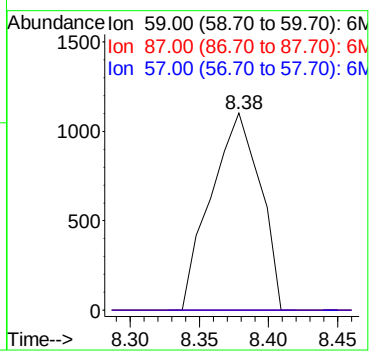


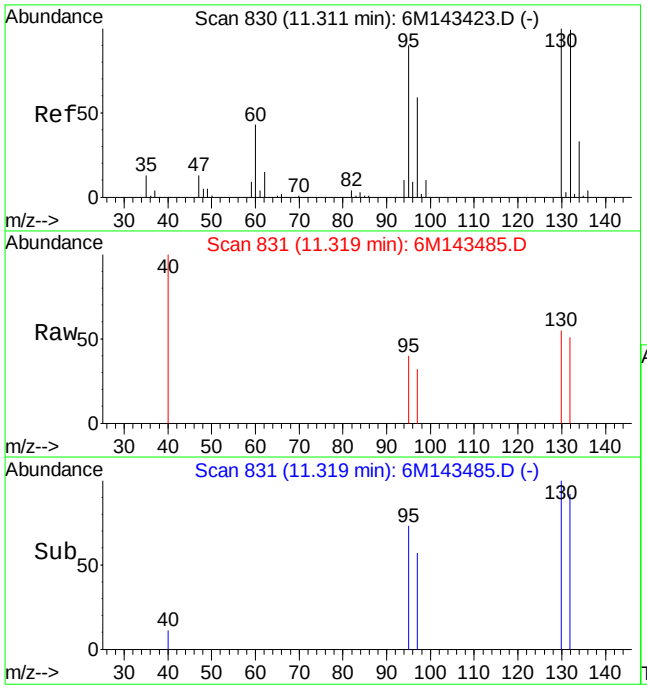


#28
Ethyl-Tert-Butyl ether
Concen: 0.15 ug/L
RT: 8.38 min Scan# 543
Delta R.T. -0.12 min
Lab File: 6M143485.D
Acq: 15 Nov 2016 23:17

Tgt Ion: 59 Resp: 2726

Ion	Ratio	Lower	Upper
59	100		
87	0.0	21.4	50.0#
57	0.0	19.8	46.2#

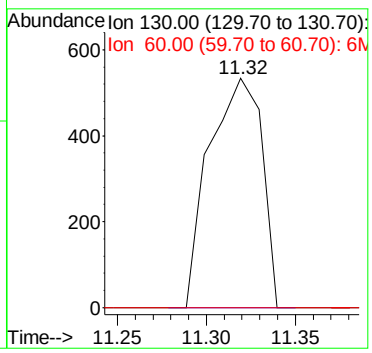


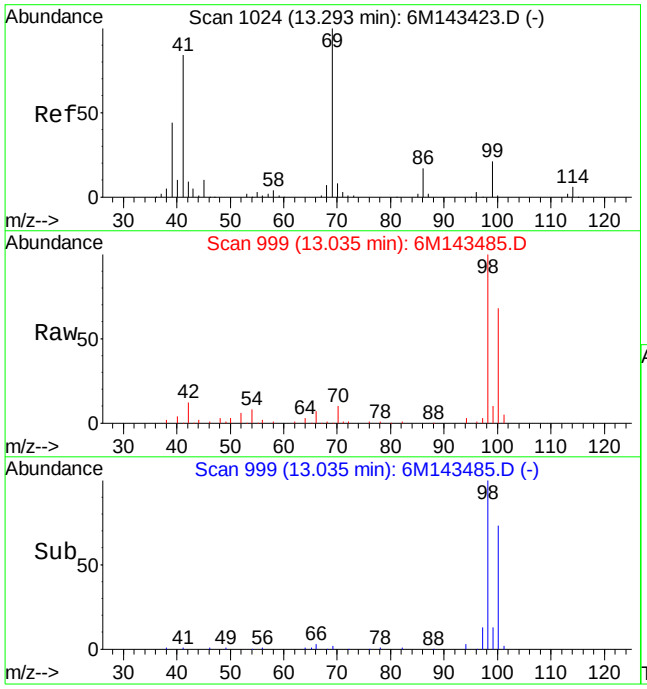


#47
Trichloroethene
Concen: 0.14 ug/L
RT: 11.32 min Scan# 831
Delta R.T. 0.01 min
Lab File: 6M143485.D
Acq: 15 Nov 2016 23:17

Tgt Ion:130 Resp: 1095

Ion	Ratio	Lower	Upper
130	100		
60	0.0	32.0	74.6#

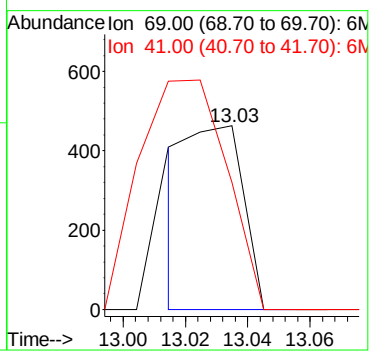




#60
Ethyl Methacrylate
Concen: 0.47 ug/L
RT: 13.03 min Scan# 999
Delta R.T. -0.26 min
Lab File: 6M143485.D
Acq: 15 Nov 2016 23:17

Tgt Ion: 69 Resp: 557

Ion	Ratio	Lower	Upper
69	100		
41	0.0	51.4	120.0#



Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111516\6M143486.D Vial: 17
Acq On : 15 Nov 2016 23:49 Operator: TMB
Sample : L16110321-03 B 826-LOW Inst : Hpms6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 08:34:26 2016 Quant Results File: 8260WT.RES

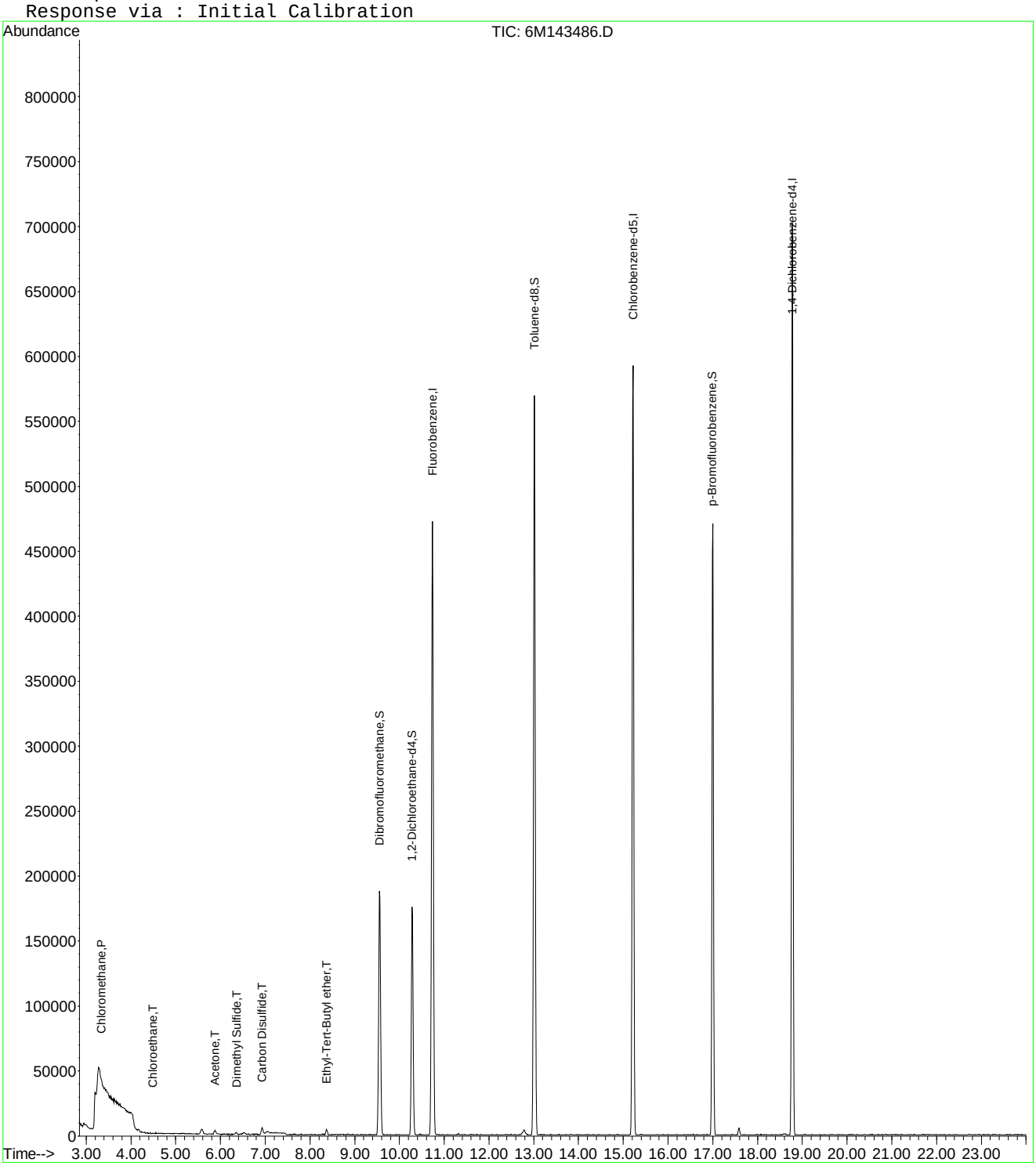
Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

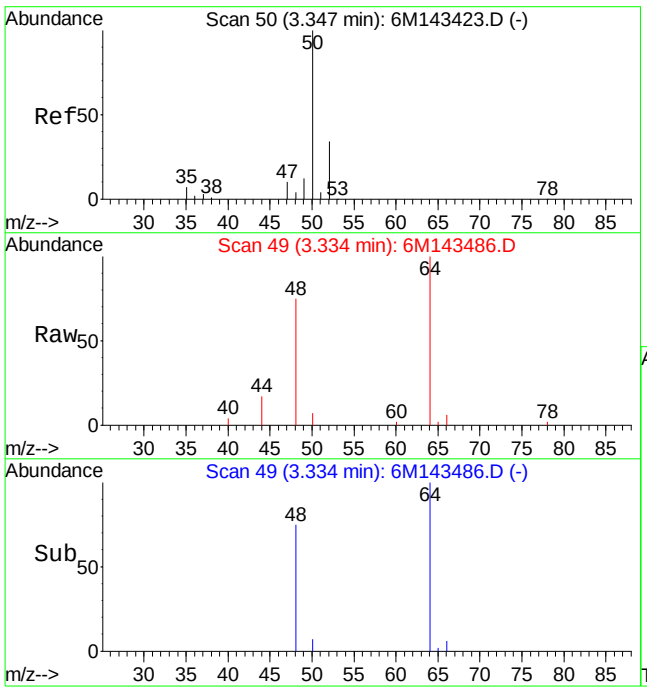
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.74	96	630110	25.00	ug/L	0.00
57) Chlorobenzene-d5	15.22	117	498524	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.77	152	276611	25.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	9.55	111	175711	24.0687	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 96.28%			
43) 1,2-Dichloroethane-d4	10.28	65	168141	23.2201	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 92.88%			
58) Toluene-d8	13.01	98	550516	23.8907	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 95.56%			
80) p-Bromofluorobenzene	16.99	95	212474	24.5473	ug/L	-0.01
Spiked Amount 25.000	Range 86 - 115		Recovery = 98.20%			
Target Compounds						Qvalue
3) Chloromethane	3.33	50	2168	0.2641	ug/L #	42
7) Chloroethane	4.49	64	634	0.1574	ug/L #	43
13) Acetone	5.88	43	5969	3.6747	ug/L	99
16) Dimethyl Sulfide	6.37	62	1017	0.1550	ug/L	96
20) Carbon Disulfide	6.93	76	11876	0.5836	ug/L #	84
28) Ethyl-Tert-Butyl ether	8.37	59	2813	0.1548	ug/L #	40

(#) = qualifier out of range (m) = manual integration
6M143486.D 8260WT.M Wed Nov 16 08:34:29 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111516\6M143486.D Vial: 17
Acq On : 15 Nov 2016 23:49 Operator: TMB
Sample : L16110321-03 B 826-LOW Inst : Hpms6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 8:34 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration

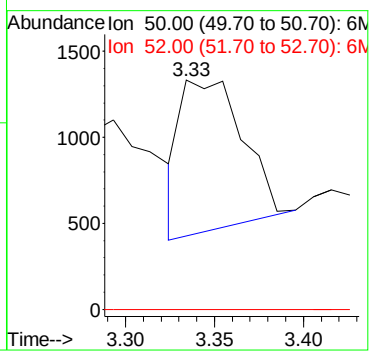


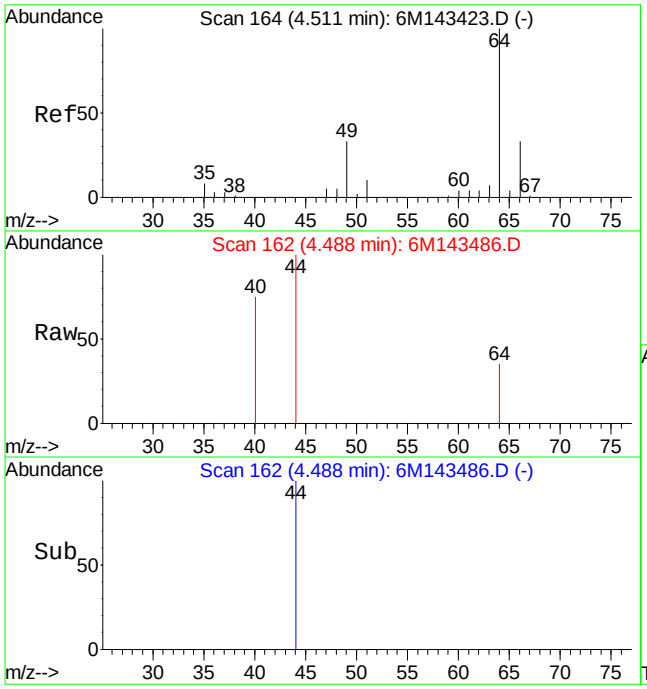


#3
Chloromethane
Concen: 0.26 ug/L
RT: 3.33 min Scan# 49
Delta R.T. -0.01 min
Lab File: 6M143486.D
Acq: 15 Nov 2016 23:49

Tgt Ion: 50 Resp: 2168

Ion	Ratio	Lower	Upper
50	100		
52	0.0	19.8	46.2#

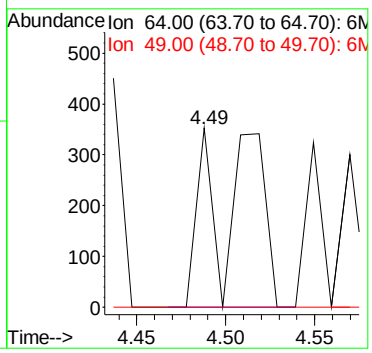


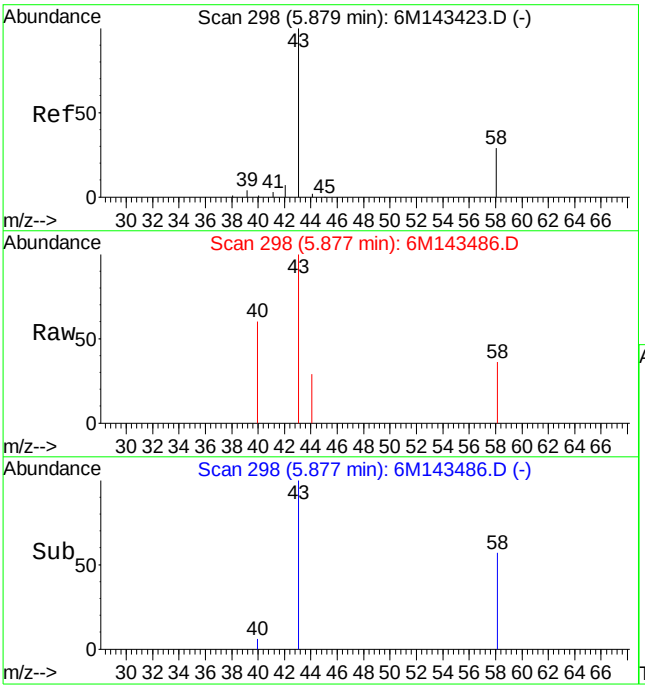


#7
Chloroethane
Concen: 0.16 ug/L
RT: 4.49 min Scan# 162
Delta R.T. -0.00 min
Lab File: 6M143486.D
Acq: 15 Nov 2016 23:49

Tgt Ion: 64 Resp: 634

Ion	Ratio	Lower	Upper
64	100		
49	0.0	19.3	44.9#

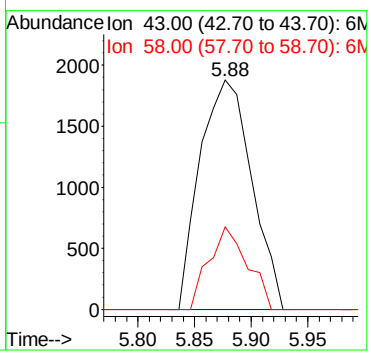


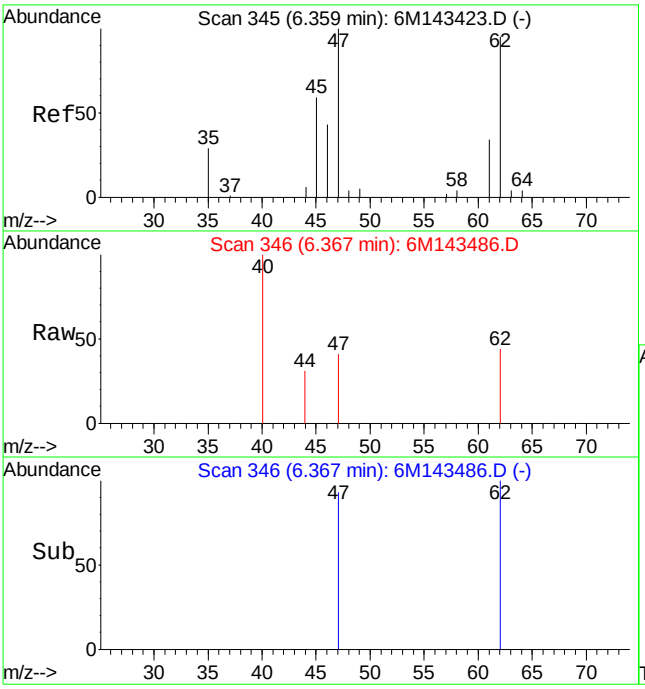


#13
Acetone
Concen: 3.67 ug/L
RT: 5.88 min Scan# 298
Delta R.T. -0.00 min
Lab File: 6M143486.D
Acq: 15 Nov 2016 23:49

Tgt Ion: 43 Resp: 5969

Ion	Ratio	Lower	Upper
43	100		
58	26.8	16.4	38.2

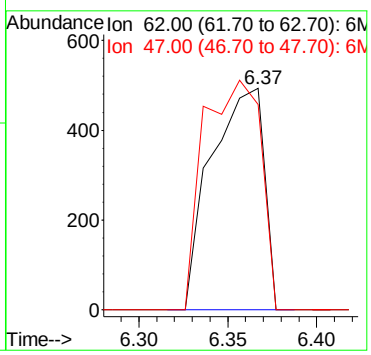


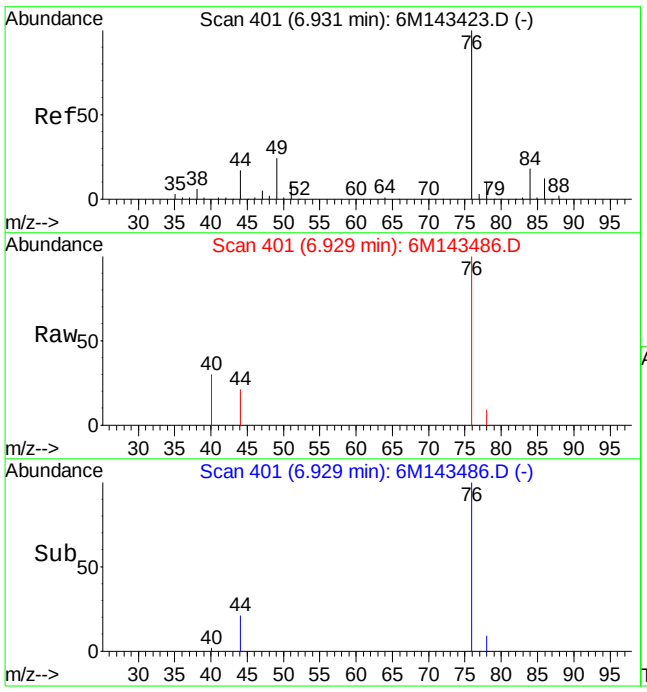


#16
Dimethyl Sulfide
Concen: 0.16 ug/L
RT: 6.37 min Scan# 346
Delta R.T. 0.02 min
Lab File: 6M143486.D
Acq: 15 Nov 2016 23:49

Tgt Ion: 62 Resp: 1017

Ion	Ratio	Lower	Upper
62	100		
47	112.0	64.7	151.1

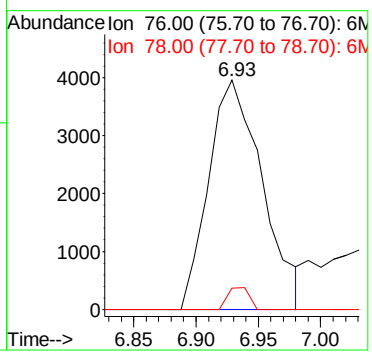


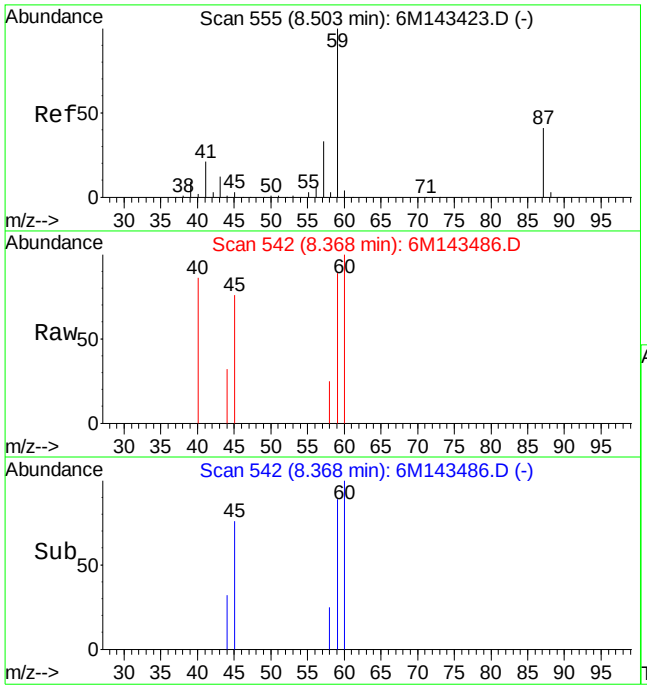


#20
Carbon Disulfide
Concen: 0.58 ug/L
RT: 6.93 min Scan# 401
Delta R.T. 0.01 min
Lab File: 6M143486.D
Acq: 15 Nov 2016 23:49

Tgt Ion: 76 Resp: 11876

Ion	Ratio	Lower	Upper
76	100		
78	3.8	5.7	13.3#

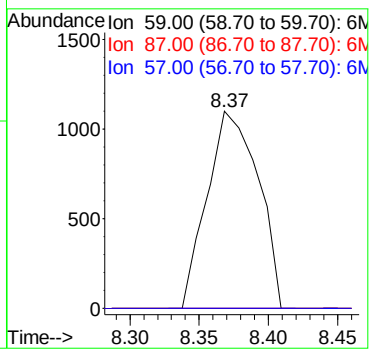




#28
Ethyl-Tert-Butyl ether
Concen: 0.15 ug/L
RT: 8.37 min Scan# 542
Delta R.T. -0.13 min
Lab File: 6M143486.D
Acq: 15 Nov 2016 23:49

Tgt Ion: 59 Resp: 2813

Ion	Ratio	Lower	Upper
59	100		
87	0.0	21.4	50.0#
57	0.0	19.8	46.2#



Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143451.D Vial: 21
Acq On : 15 Nov 2016 2:52 Operator: TMB
Sample : L16110321-04 A RS 826-SPE Inst : Hpms6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:30:51 2016 Quant Results File: 8260WT.RES

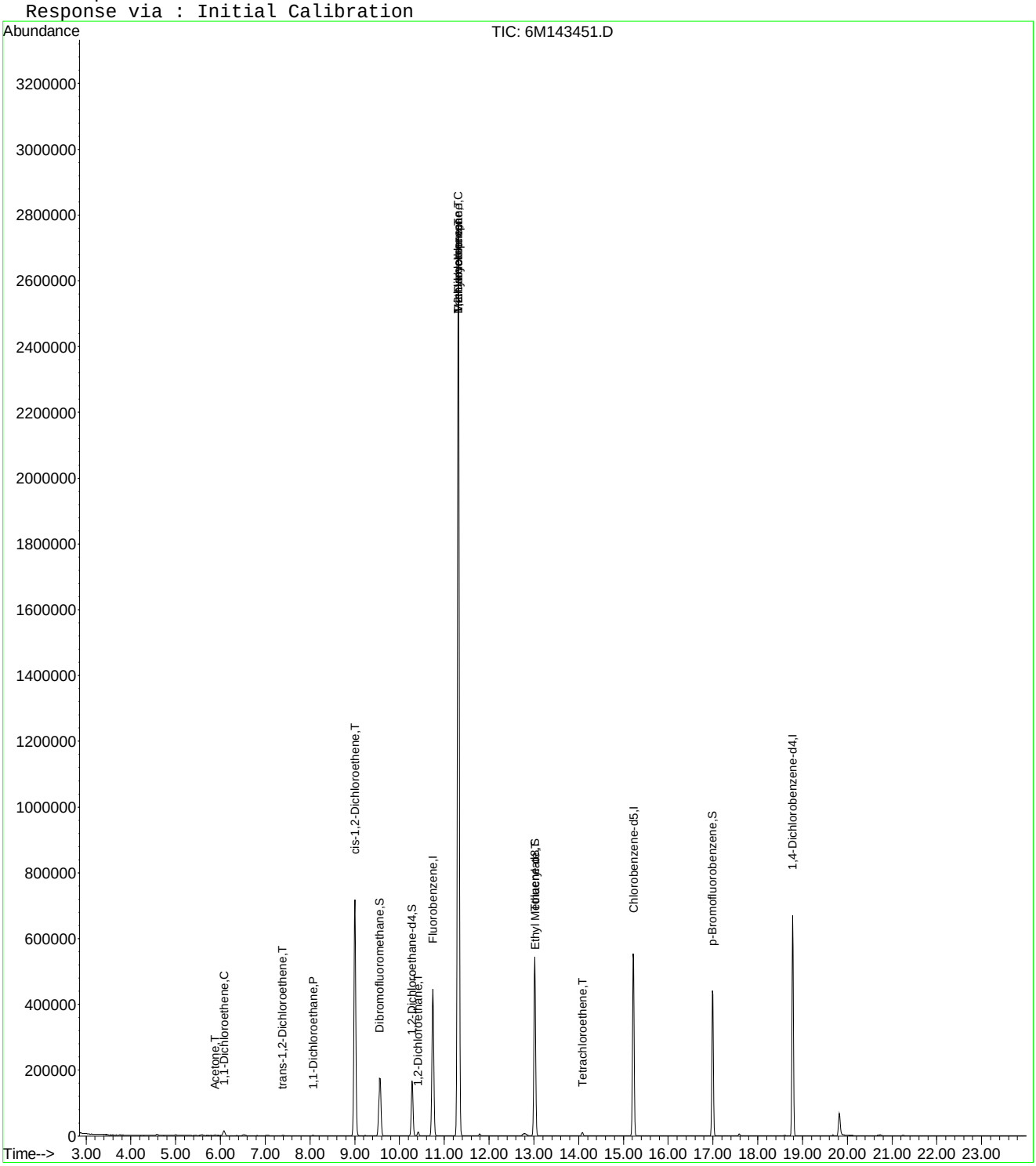
Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Tue Nov 15 10:18:32 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

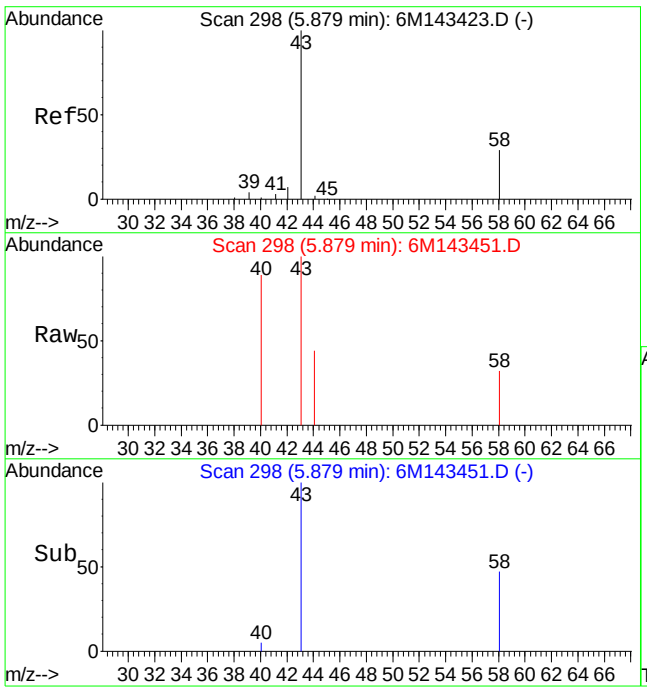
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.74	96	601864	25.00 ug/L	0.00
57) Chlorobenzene-d5	15.22	117	470808	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.78	152	257752	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.55	111	164494	23.5897 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 94.36%		
43) 1,2-Dichloroethane-d4	10.28	65	157527	22.7753 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 91.12%		
58) Toluene-d8	13.02	98	526820	24.2083 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 96.84%		
80) p-Bromofluorobenzene	16.99	95	201293	24.9571 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 99.84%		
Target Compounds					Qvalue
13) Acetone	5.88	43	3582	2.3087 ug/L #	69
14) 1,1-Dichloroethene	6.08	61	17544	1.7838 ug/L	88
23) trans-1,2-Dichloroethene	7.38	96	916	0.1450 ug/L	81
27) 1,1-Dichloroethane	8.07	63	2550	0.2220 ug/L #	56
32) cis-1,2-Dichloroethene	9.00	96	455487	66.6791 ug/L	85
45) 1,2-Dichloroethane	10.41	62	12883	1.5560 ug/L	80
47) Trichloroethene	11.31	130	1388092	184.3286 ug/L	85
48) Methylcyclohexane	11.31	83	15626	1.8782 ug/L #	1
49) 1,2-Dichloropropane	11.31	63	4034	0.6446 ug/L #	35
60) Ethyl Methacrylate	13.03	69	614	0.4871 ug/L	76
66) Tetrachloroethene	14.08	166	4737	0.6370 ug/L	89

(#) = qualifier out of range (m) = manual integration
6M143451.D 8260WT.M Tue Nov 15 10:30:55 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143451.D Vial: 21
Acq On : 15 Nov 2016 2:52 Operator: TMB
Sample : L16110321-04 A RS 826-SPE Inst : Hpms6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:30 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Tue Nov 15 10:18:32 2016
Response via : Initial Calibration

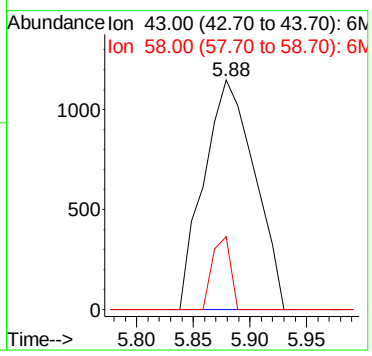


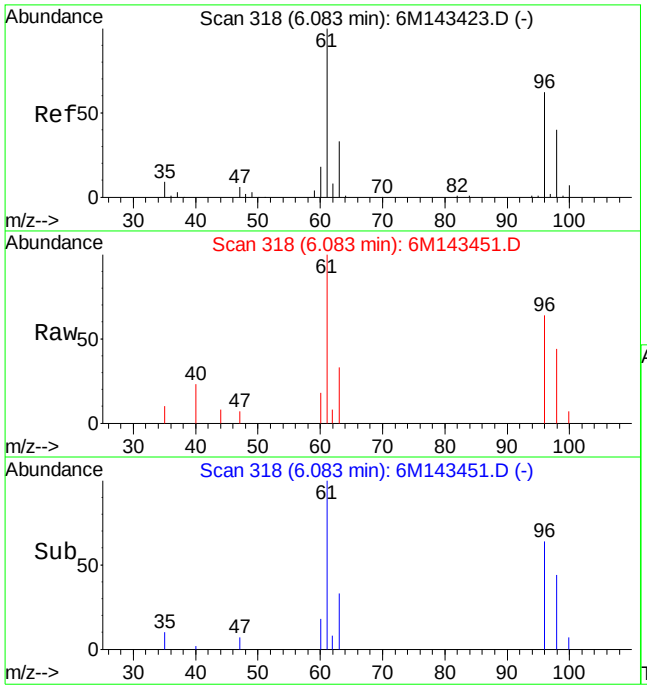


#13
Acetone
Concen: 2.31 ug/L
RT: 5.88 min Scan# 298
Delta R.T. 0.00 min
Lab File: 6M143451.D
Acq: 15 Nov 2016 2:52

Tgt Ion: 43 Resp: 3582

Ion	Ratio	Lower	Upper
43	100		
58	11.4	16.4	38.2#

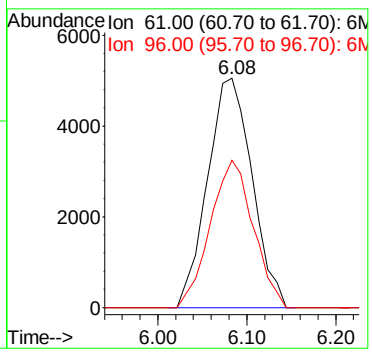


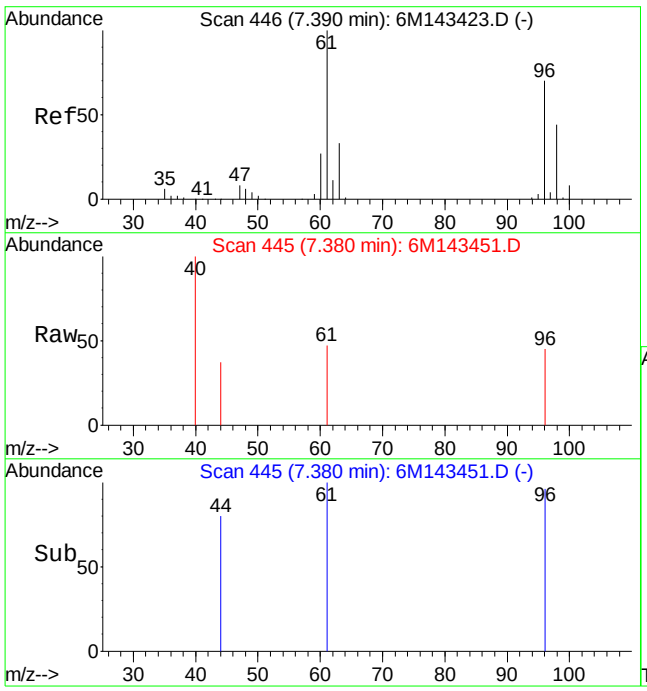


#14
1,1-Dichloroethene
Concen: 1.78 ug/L
RT: 6.08 min Scan# 318
Delta R.T. 0.01 min
Lab File: 6M143451.D
Acq: 15 Nov 2016 2:52

Tgt Ion: 61 Resp: 17544

Ion	Ratio	Lower	Upper
61	100		
96	61.9	32.0	74.6

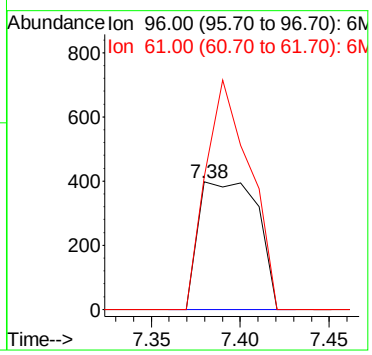


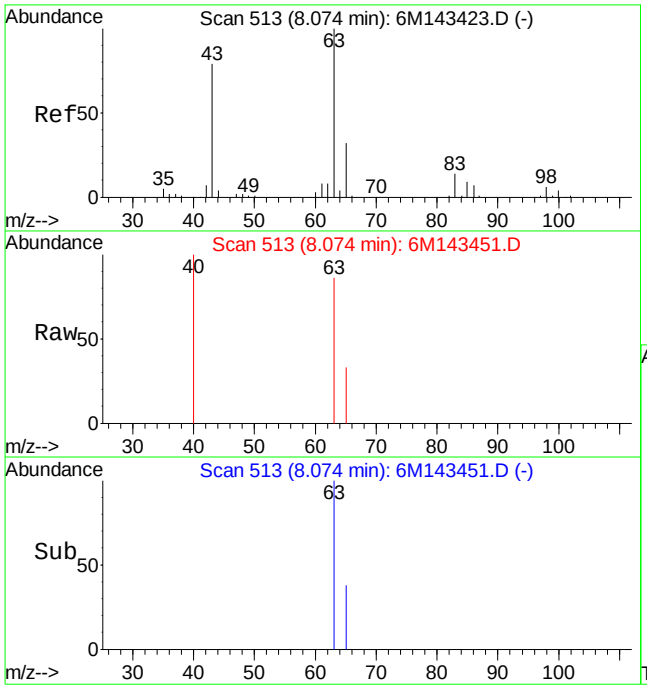


#23
trans-1,2-Dichloroethene
Concen: 0.15 ug/L
RT: 7.38 min Scan# 445
Delta R.T. -0.01 min
Lab File: 6M143451.D
Acq: 15 Nov 2016 2:52

Tgt Ion: 96 Resp: 916

Ion	Ratio	Lower	Upper
96	100		
61	134.8	96.3	224.7

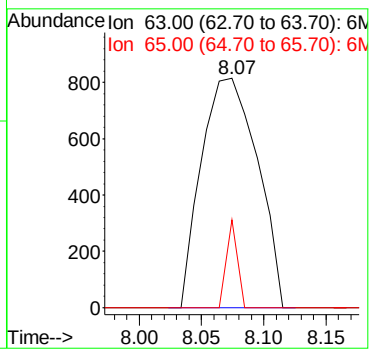


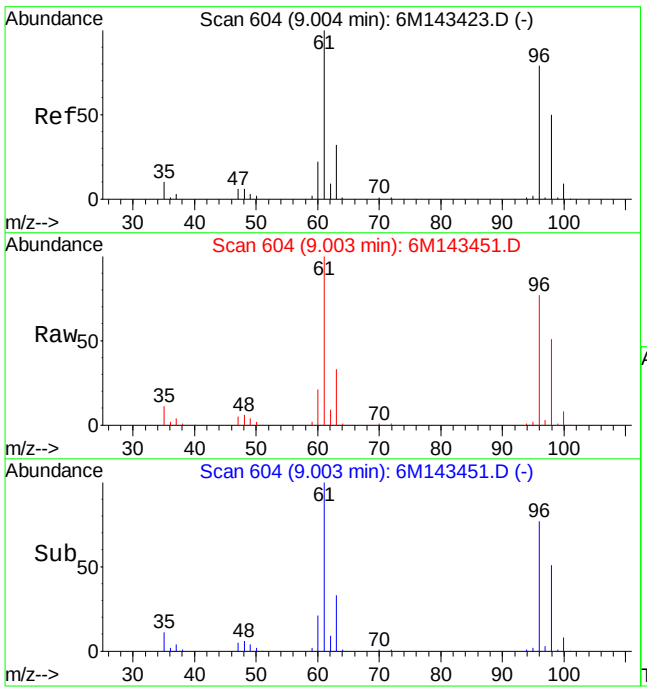


#27
1,1-Dichloroethane
Concen: 0.22 ug/L
RT: 8.07 min Scan# 513
Delta R.T. 0.01 min
Lab File: 6M143451.D
Acq: 15 Nov 2016 2:52

Tgt Ion: 63 Resp: 2550

Ion	Ratio	Lower	Upper
63	100		
65	7.5	19.3	44.9#

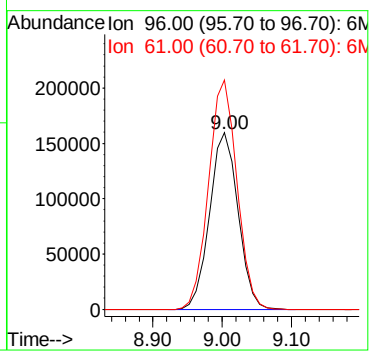


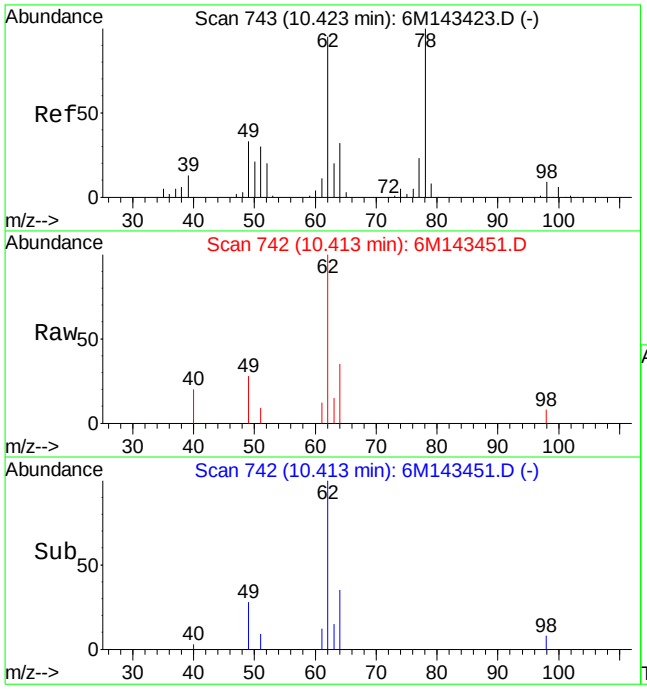


#32
cis-1,2-Dichloroethene
Concen: 66.68 ug/L
RT: 9.00 min Scan# 604
Delta R.T. 0.00 min
Lab File: 6M143451.D
Acq: 15 Nov 2016 2:52

Tgt Ion: 96 Resp: 455487

Ion	Ratio	Lower	Upper
96	100		
61	129.6	89.2	208.2

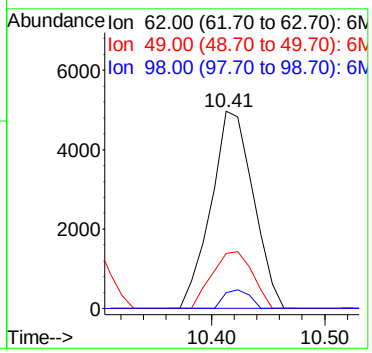


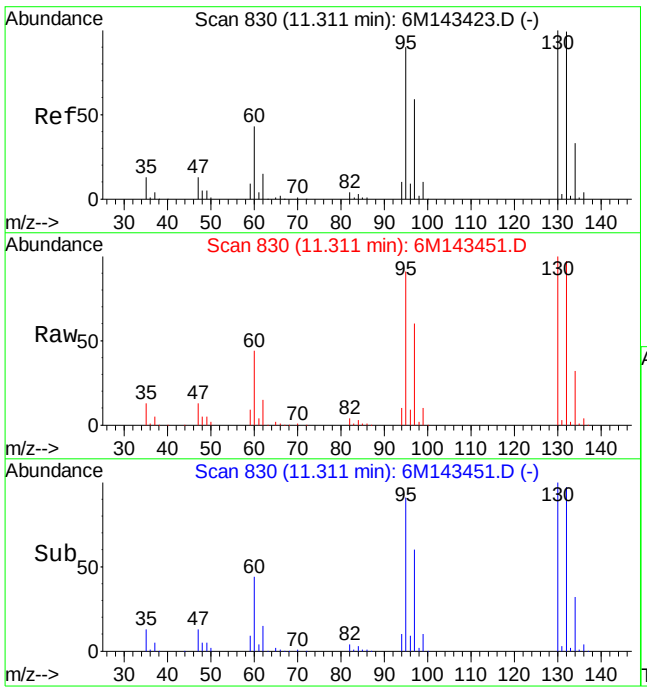


#45
1,2-Dichloroethane
Concen: 1.56 ug/L
RT: 10.41 min Scan# 742
Delta R.T. -0.01 min
Lab File: 6M143451.D
Acq: 15 Nov 2016 2:52

Tgt Ion: 62 Resp: 12883

Ion	Ratio	Lower	Upper
62	100		
49	27.7	25.1	58.5
98	5.8	5.2	12.0

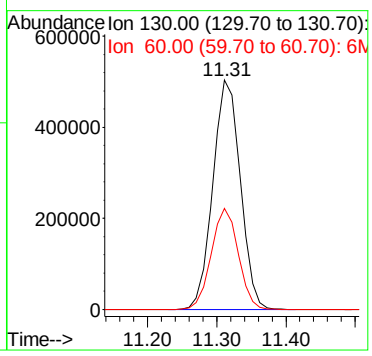


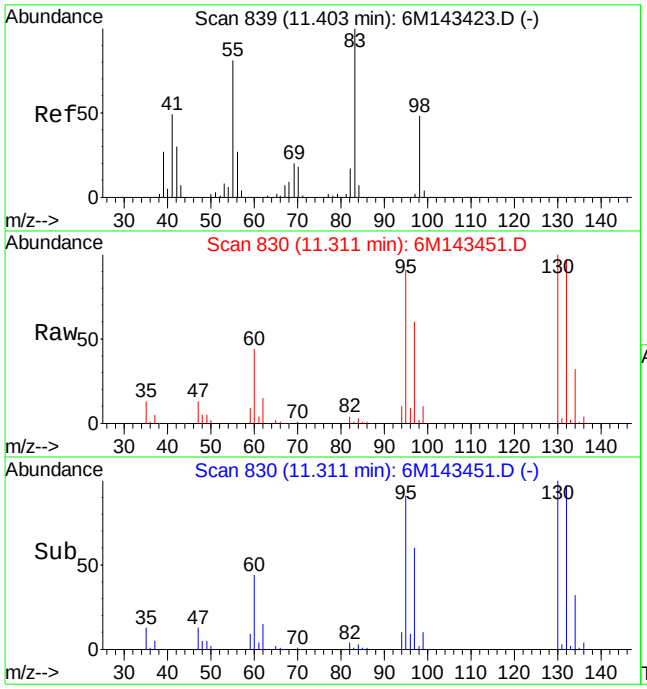


#47
Trichloroethene
Concen: 184.33 ug/L
RT: 11.31 min Scan# 830
Delta R.T. 0.00 min
Lab File: 6M143451.D
Acq: 15 Nov 2016 2:52

Tgt Ion:130 Resp: 1388092

Ion	Ratio	Lower	Upper
130	100		
60	43.0	32.0	74.6

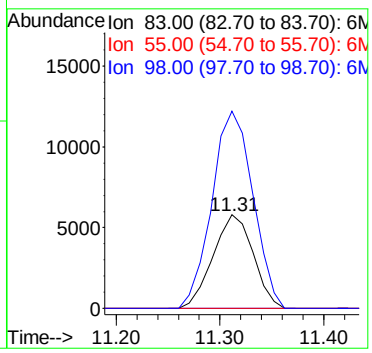


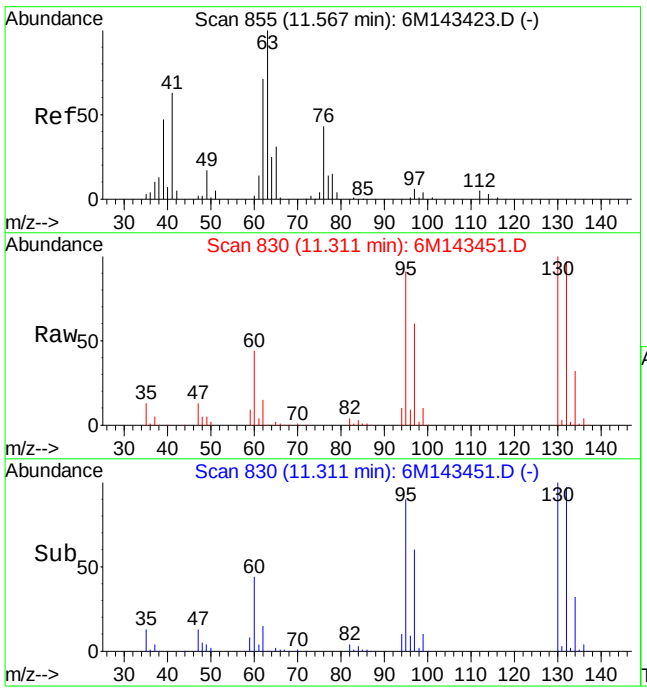


#48
Methylcyclohexane
Concen: 1.88 ug/L
RT: 11.31 min Scan# 830
Delta R.T. -0.08 min
Lab File: 6M143451.D
Acq: 15 Nov 2016 2:52

Tgt Ion: 83 Resp: 15626

Ion	Ratio	Lower	Upper
83	100		
55	0.0	56.3	131.3#
98	214.6	28.4	66.4#

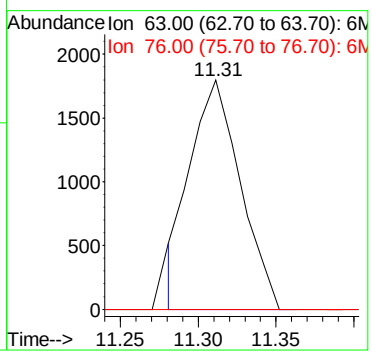


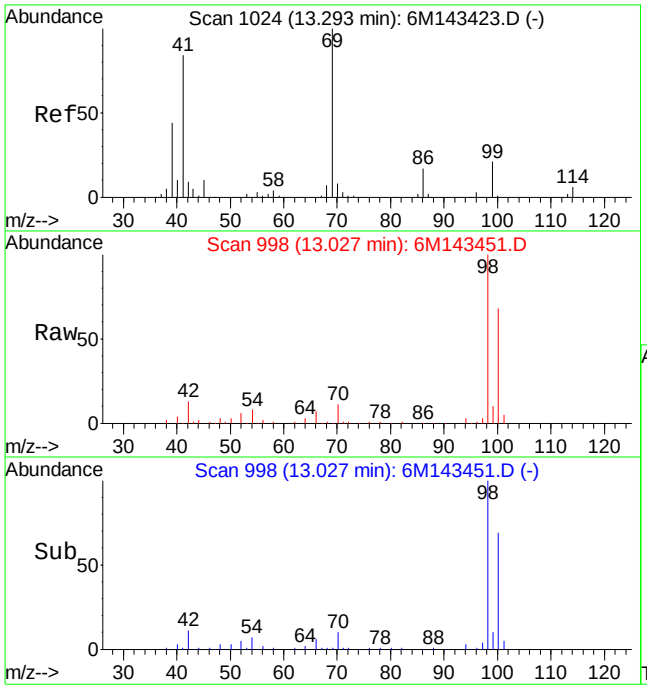


#49
1,2-Dichloropropane
Concen: 0.64 ug/L
RT: 11.31 min Scan# 830
Delta R.T. -0.25 min
Lab File: 6M143451.D
Acq: 15 Nov 2016 2:52

Tgt Ion: 63 Resp: 4034

Ion	Ratio	Lower	Upper
63	100		
76	0.0	24.2	56.4#

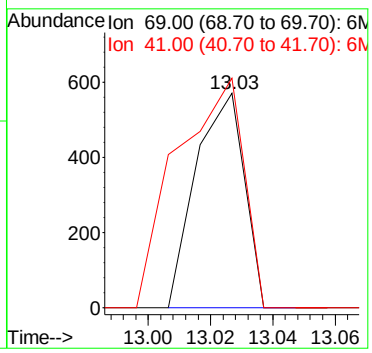


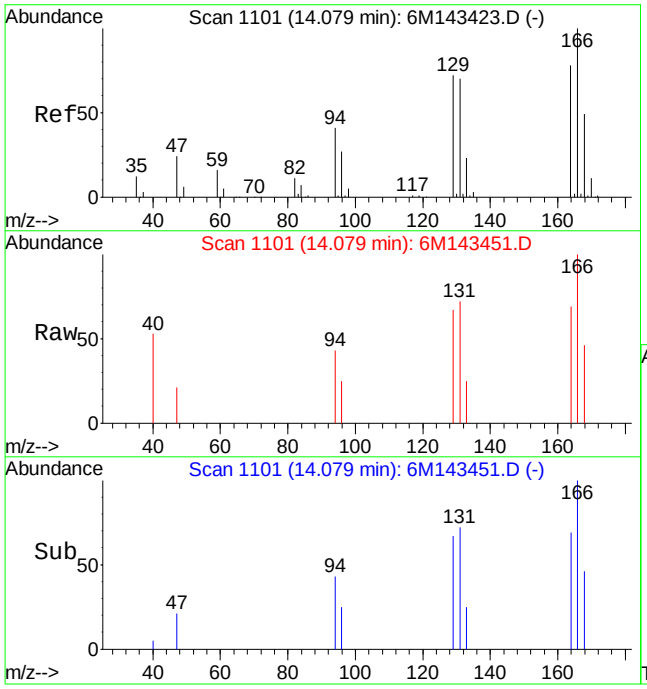


#60
Ethyl Methacrylate
Concen: 0.49 ug/L
RT: 13.03 min Scan# 998
Delta R.T. -0.26 min
Lab File: 6M143451.D
Acq: 15 Nov 2016 2:52

Tgt Ion: 69 Resp: 614

Ion	Ratio	Lower	Upper
69	100		
41	107.8	51.4	120.0

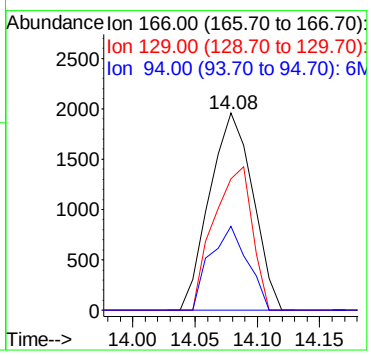




#66
Tetrachloroethene
Concen: 0.64 ug/L
RT: 14.08 min Scan# 1101
Delta R.T. 0.00 min
Lab File: 6M143451.D
Acq: 15 Nov 2016 2:52

Tgt Ion:166 Resp: 4737

Ion	Ratio	Lower	Upper
166	100		
129	64.5	43.5	101.5
94	36.8	27.8	64.8



Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143438.D Vial: 8
Acq On : 14 Nov 2016 19:55 Operator: TMB
Sample : L16110321-05 A MS 826-LOW Inst : Hpms6
Misc : 1,1 STD78998 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 08:28:49 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.74	96	673102	25.00 ug/L	0.00
57) Chlorobenzene-d5	15.22	117	533324	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.78	152	305680	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.56	111	183133	23.4831 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 93.92%		
43) 1,2-Dichloroethane-d4	10.29	65	171885	22.2211 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 88.88%		
58) Toluene-d8	13.01	98	597066	24.2201 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 96.88%		
80) p-Bromofluorobenzene	17.00	95	239716	25.0609 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 100.24%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	2.94	85	244753	20.9352 ug/L	95
3) Chloromethane	3.34	50	192705	21.9775 ug/L	99
4) Vinyl Chloride	3.54	62	152420	20.8245 ug/L	99
6) Bromomethane	4.35	94	69829	20.4541 ug/L	100
7) Chloroethane	4.51	64	87841	20.4152 ug/L	99
8) Trichlorofluoromethane	4.97	101	210768	17.7561 ug/L	99
10) Isoprene	5.54	67	200991	19.4477 ug/L	95
12) 1,1,2-Trichloro-1,2,2-Trif	5.76	101	137779	19.1112 ug/L	95
13) Acetone	5.88	43	42547	24.5205 ug/L	100
14) 1,1-Dichloroethene	6.08	61	167879	15.2628 ug/L	90
15) Tert-Butyl Alcohol	6.23	59	13403	28.8211 ug/L #	88
16) Dimethyl Sulfide	6.36	62	177739	25.3645 ug/L	98
17) Iodomethane	6.61	142	203810	25.8377 ug/L	97
18) Methyl acetate	6.66	43	88357	18.2959 ug/L	97
19) Methylene Chloride	6.91	84	126824	17.3561 ug/L	86
20) Carbon Disulfide	6.93	76	384355	17.6813 ug/L	100
21) Acrylonitrile	7.12	53	44145	20.4763 ug/L	99
22) Methyl Tert Butyl Ether	7.15	73	316674	20.3226 ug/L	96
23) trans-1,2-Dichloroethene	7.39	96	120938	17.1199 ug/L	88
24) n-Hexane	7.47	57	140643	17.4980 ug/L	97
27) 1,1-Dichloroethane	8.07	63	225402	17.5436 ug/L	99
29) 2-Butanone	8.70	43	49007	18.8857 ug/L	99
30) Propionitrile	8.84	54	1604	2.1955 ug/L #	56
31) 2,2-Dichloropropane	8.93	77	167006	17.7203 ug/L	99
32) cis-1,2-Dichloroethene	9.00	96	566437	74.1451 ug/L	89
33) Chloroform	9.24	83	241200	18.1506 ug/L	97
34) 1-Bromopropane	9.39	122	30387	18.5745 ug/L	98
35) Bromochloromethane	9.49	130	96265	18.7558 ug/L	99
36) Tetrahydrofuran	9.53	42	1873	1.0003 ug/L #	41
38) 1,1,1-Trichloroethane	9.83	97	200408	17.8145 ug/L	94
39) Cyclohexane	9.85	56	166153	15.0982 ug/L	93
40) 1,1-Dichloropropene	10.05	75	158510	17.5408 ug/L	91
41) Tert-Amyl-Methyl ether	10.05	73	22468	1.4517 ug/L #	54
42) Carbon Tetrachloride	10.21	117	187338	17.0710 ug/L	99
45) 1,2-Dichloroethane	10.42	62	182281	19.6863 ug/L	95
46) Benzene	10.45	78	477838	17.8056 ug/L	95
47) Trichloroethene	11.32	130	1352398	160.5819 ug/L	85
48) Methylcyclohexane	11.40	83	149750	16.0949 ug/L	92
49) 1,2-Dichloropropane	11.56	63	135336	19.3364 ug/L	98
50) 1,4-Dioxane	11.91	88	4160	90.3984 ug/L	88

(#) = qualifier out of range (m) = manual integration
6M143438.D 8260WT.M Tue Nov 15 08:28:53 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143438.D Vial: 8
Acq On : 14 Nov 2016 19:55 Operator: TMB
Sample : L16110321-05 A MS 826-LOW Inst : Hpms6
Misc : 1,1 STD78998 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 08:28:49 2016 Quant Results File: 8260WT.RES

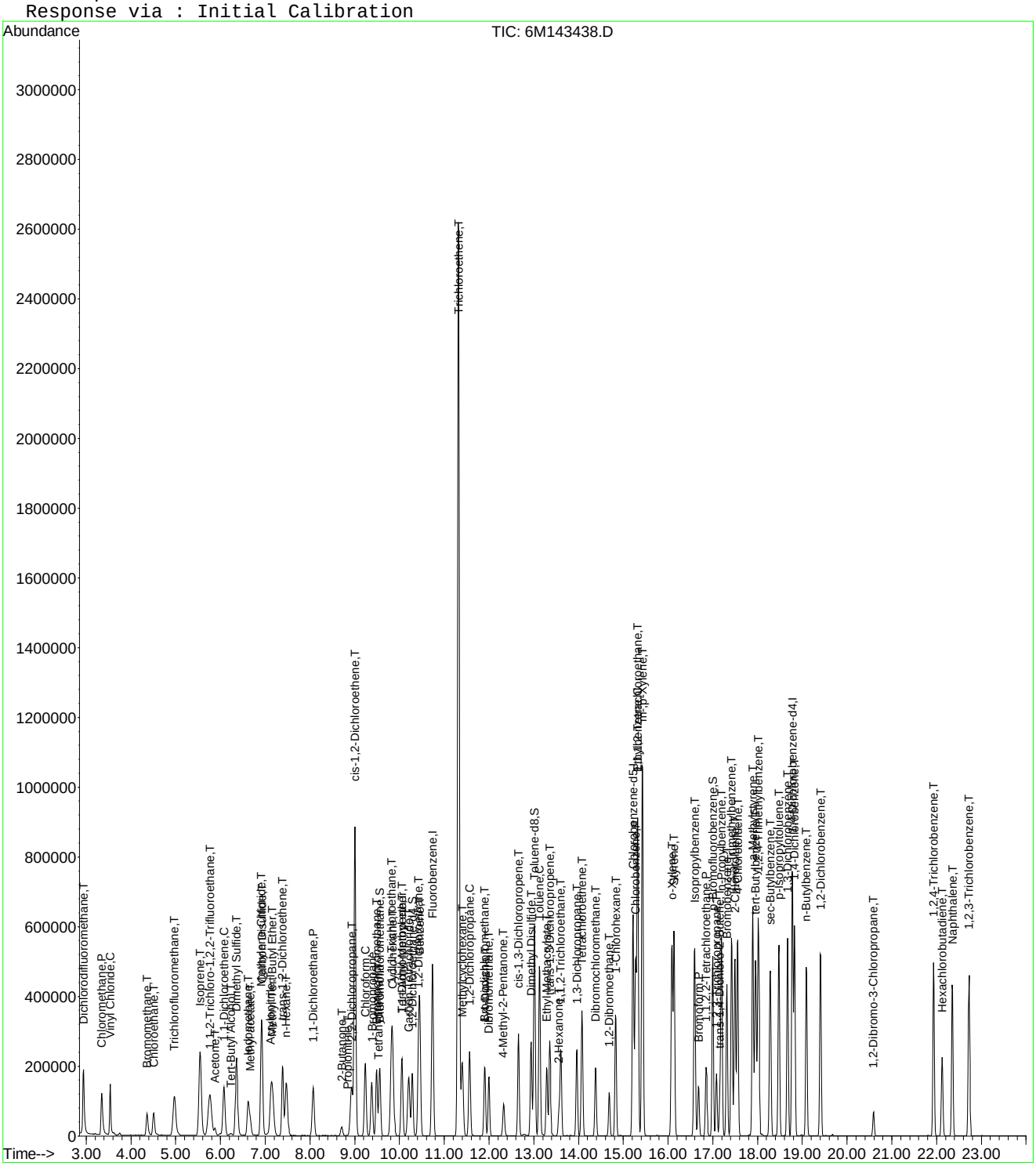
Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
51)	Bromodichloromethane	11.90	83	180666	18.8724	ug/L	100
52)	Dibromomethane	11.99	93	80538	19.7675	ug/L	97
54)	4-Methyl-2-Pentanone	12.32	58	37670	18.7288	ug/L	93
55)	cis-1,3-Dichloropropene	12.66	75	211432	21.6702	ug/L	98
56)	Dimethyl Disulfide	12.94	79	106263	18.7058	ug/L	96
59)	Toluene	13.13	91	531088	19.3041	ug/L	99
60)	Ethyl Methacrylate	13.29	69	145069	20.0883	ug/L	97
62)	trans-1,3-Dichloropropene	13.36	75	182696	20.3707	ug/L	94
63)	1,1,2-Trichloroethane	13.60	97	111860	20.0748	ug/L	98
64)	2-Hexanone	13.56	43	78256	20.2324	ug/L	97
65)	1,3-Dichloropropane	13.96	76	187874	21.0500	ug/L	96
66)	Tetrachloroethene	14.08	166	163129	19.3653	ug/L	95
67)	Dibromochloromethane	14.38	129	153345	19.8278	ug/L	99
68)	1,2-Dibromoethane	14.68	107	115862	20.3965	ug/L	99
69)	1-Chlorohexane	14.83	91	167378	19.2571	ug/L	89
70)	Chlorobenzene	15.27	112	393371	19.1322	ug/L	88
71)	1,1,1,2-Tetrachloroethane	15.32	131	153035	19.4593	ug/L	96
72)	Ethylbenzene	15.32	106	202108	19.7147	ug/L	91
73)	m-,p-Xylene	15.43	106	486219	40.5389	ug/L	91
74)	o-Xylene	16.09	106	240683	20.6085	ug/L	92
75)	Styrene	16.13	104	428641	21.7901	ug/L	92
76)	Bromoform	16.69	173	101991	19.8969	ug/L	97
77)	Isopropylbenzene	16.60	105	579238	20.7836	ug/L	97
79)	1,1,2,2-Tetrachloroethane	16.85	83	140032	21.9884	ug/L	100
81)	1,2,3-Trichloropropane	17.08	110	43048	20.7628	ug/L	91
82)	trans-1,4-Dichloro-2-Buten	17.15	53	34457	17.9990	ug/L	87
83)	n-Propylbenzene	17.19	91	674693	21.3794	ug/L	96
84)	Bromobenzene	17.31	156	194283	20.6529	ug/L	85
85)	1,3,5-Trimethylbenzene	17.42	105	493168	21.2814	ug/L	95
86)	2-Chlorotoluene	17.50	91	461249	20.9120	ug/L	92
87)	4-Chlorotoluene	17.56	91	430780	19.8202	ug/L	94
88)	a-Methylstyrene	17.90	118	302979	19.8495	ug/L	100
89)	tert-Butylbenzene	17.96	134	111122	20.2051	ug/L	100
90)	1,2,4-Trimethylbenzene	18.02	105	531285	20.8944	ug/L	95
91)	sec-Butylbenzene	18.28	105	549228	20.3575	ug/L	98
92)	p-Isopropyltoluene	18.48	119	511683	21.3070	ug/L	98
93)	1,3-Dichlorobenzene	18.67	146	355589	20.4726	ug/L	94
94)	1,4-Dichlorobenzene	18.82	146	361618	20.0631	ug/L	97
95)	n-Butylbenzene	19.09	91	405529	20.5067	ug/L	93
96)	1,2-Dichlorobenzene	19.41	146	340735	20.4626	ug/L	96
97)	1,2-Dibromo-3-Chloropropan	20.58	75	23115	20.5525	ug/L	79
98)	1,2,4-Trichlorobenzene	21.93	180	234286	22.5466	ug/L	99
99)	Hexachlorobutadiene	22.12	225	76992	19.4773	ug/L	99
100)	Naphthalene	22.36	128	511481	24.4188	ug/L	99
101)	1,2,3-Trichlorobenzene	22.73	180	219728	22.2795	ug/L	98

(#) = qualifier out of range (m) = manual integration
6M143438.D 8260WT.M Tue Nov 15 08:28:54 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143438.D Vial: 8
Acq On : 14 Nov 2016 19:55 Operator: TMB
Sample : L16110321-05 A MS 826-LOW Inst : Hpms6
Misc : 1,1 STD78998 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 8:28 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143439.D Vial: 9
Acq On : 14 Nov 2016 20:27 Operator: TMB
Sample : L16110321-06 A MSD 826-LOW Inst : Hpms6
Misc : 1,1 STD78998 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 08:28:56 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.74	96	675354	25.00 ug/L	0.00
57) Chlorobenzene-d5	15.22	117	530382	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.78	152	304377	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.56	111	182230	23.2894 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 93.16%		
43) 1,2-Dichloroethane-d4	10.29	65	172956	22.2850 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 89.12%		
58) Toluene-d8	13.01	98	597378	24.3672 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 97.48%		
80) p-Bromofluorobenzene	17.00	95	238372	25.0271 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 100.12%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	2.94	85	251374	21.4298 ug/L	94
3) Chloromethane	3.34	50	191597	21.7783 ug/L	99
4) Vinyl Chloride	3.54	62	156325	21.2868 ug/L	99
6) Bromomethane	4.35	94	71879	20.9844 ug/L	97
7) Chloroethane	4.51	64	90847	21.0434 ug/L	99
8) Trichlorofluoromethane	4.98	101	219191	18.4041 ug/L	100
10) Isoprene	5.54	67	207215	19.9831 ug/L	94
12) 1,1,2-Trichloro-1,2,2-Trif	5.75	101	142650	19.7209 ug/L	94
13) Acetone	5.88	43	41630	23.9120 ug/L	98
14) 1,1-Dichloroethene	6.08	61	170477	15.4473 ug/L	90
15) Tert-Butyl Alcohol	6.36	59	5899	12.6426 ug/L #	1
16) Dimethyl Sulfide	6.36	62	177431	25.2361 ug/L	97
17) Iodomethane	6.61	142	212350	26.8059 ug/L	98
18) Methyl acetate	6.66	43	87543	18.0669 ug/L	97
19) Methylene Chloride	6.91	84	125435	17.1088 ug/L	87
20) Carbon Disulfide	6.93	76	387310	17.7578 ug/L	99
21) Acrylonitrile	7.12	53	44826	20.7228 ug/L	99
22) Methyl Tert Butyl Ether	7.15	73	314122	20.0916 ug/L	97
23) trans-1,2-Dichloroethene	7.39	96	122476	17.2798 ug/L	84
24) n-Hexane	7.48	57	152480	18.9075 ug/L	97
27) 1,1-Dichloroethane	8.07	63	226731	17.5882 ug/L	100
29) 2-Butanone	8.70	43	48524	18.6373 ug/L	100
31) 2,2-Dichloropropane	8.93	77	169272	17.9009 ug/L	98
32) cis-1,2-Dichloroethene	9.00	96	567153	73.9913 ug/L	88
33) Chloroform	9.24	83	241362	18.1022 ug/L	97
34) 1-Bromopropane	9.38	122	30612	18.6496 ug/L	99
35) Bromochloromethane	9.49	130	97277	18.8897 ug/L	100
36) Tetrahydrofuran	9.38	42	22333	11.8871 ug/L #	41
38) 1,1,1-Trichloroethane	9.83	97	204690	18.1345 ug/L	94
39) Cyclohexane	9.85	56	171126	15.4982 ug/L	92
40) 1,1-Dichloropropene	10.05	75	161133	17.7716 ug/L	92
41) Tert-Amyl-Methyl ether	10.05	73	23037	1.4835 ug/L #	54
42) Carbon Tetrachloride	10.21	117	190291	17.2823 ug/L	99
45) 1,2-Dichloroethane	10.42	62	183049	19.7033 ug/L	95
46) Benzene	10.45	78	485094	18.0157 ug/L	94
47) Trichloroethene	11.31	130	1360524	161.0081 ug/L	85
48) Methylcyclohexane	11.40	83	155044	16.6084 ug/L	92
49) 1,2-Dichloropropane	11.56	63	135696	19.3232 ug/L	98
51) Bromodichloromethane	11.90	83	180437	18.7856 ug/L	100
52) Dibromomethane	11.99	93	80300	19.6433 ug/L	98

(#) = qualifier out of range (m) = manual integration
6M143439.D 8260WT.M Tue Nov 15 08:29:01 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143439.D Vial: 9
Acq On : 14 Nov 2016 20:27 Operator: TMB
Sample : L16110321-06 A MSD 826-LOW Inst : Hpms6
Misc : 1,1 STD78998 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 08:28:56 2016 Quant Results File: 8260WT.RES

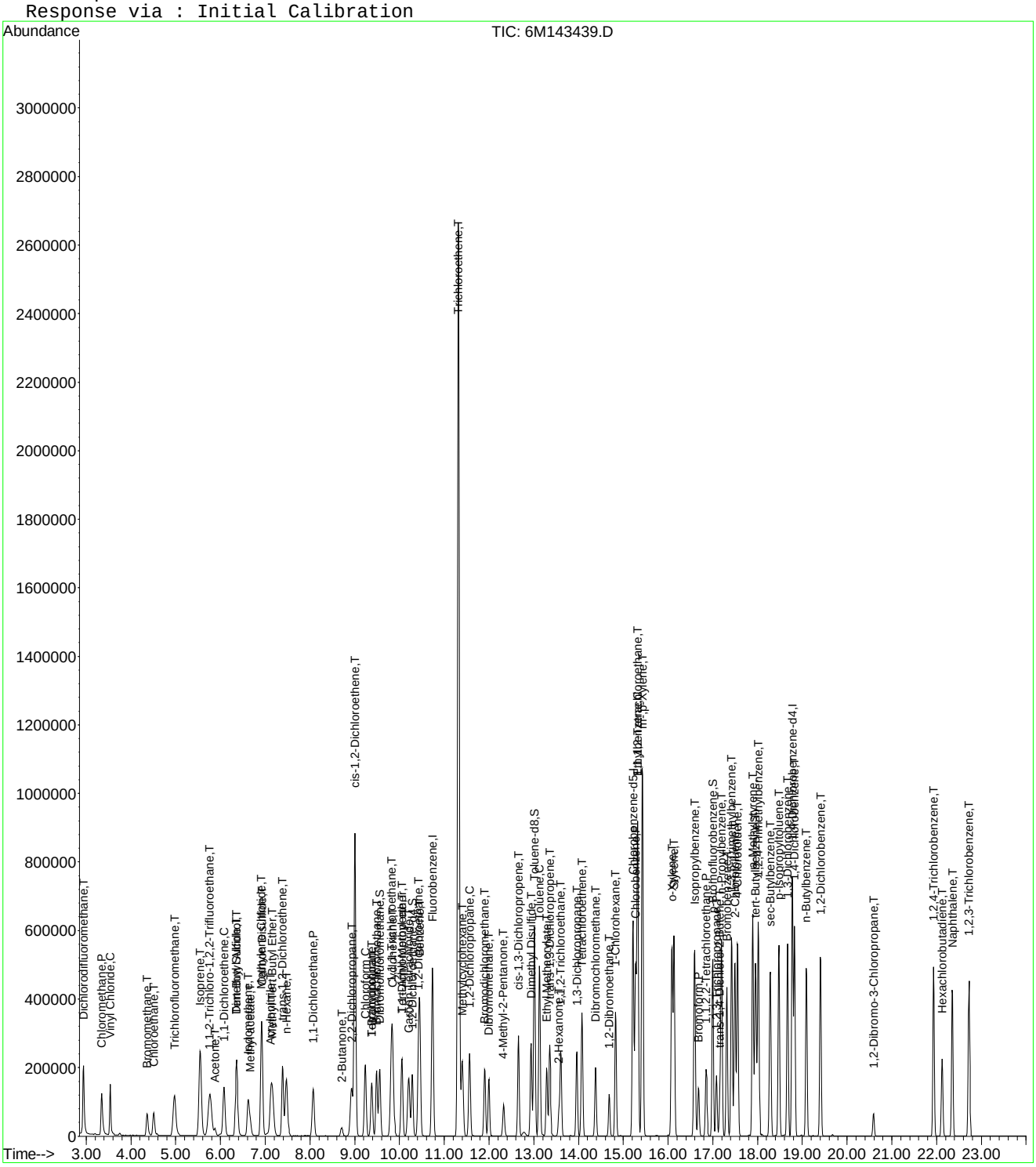
Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
54)	4-Methyl-2-Pentanone	12.32	58	37073	18.3706 ug/L	95
55)	cis-1,3-Dichloropropene	12.66	75	209497	21.4003 ug/L	98
56)	Dimethyl Disulfide	12.94	79	107656	18.8653 ug/L	94
59)	Toluene	13.13	91	533694	19.5065 ug/L	99
60)	Ethyl Methacrylate	13.29	69	144259	20.0870 ug/L	98
62)	trans-1,3-Dichloropropene	13.36	75	180959	20.2889 ug/L	95
63)	1,1,2-Trichloroethane	13.60	97	111868	20.1876 ug/L	99
64)	2-Hexanone	13.56	43	78061	20.2940 ug/L	97
65)	1,3-Dichloropropane	13.96	76	184307	20.7649 ug/L	96
66)	Tetrachloroethene	14.08	166	164164	19.5963 ug/L	95
67)	Dibromochloromethane	14.38	129	152853	19.8739 ug/L	99
68)	1,2-Dibromoethane	14.68	107	113655	20.1190 ug/L	99
69)	1-Chlorohexane	14.82	91	170652	19.7363 ug/L	90
70)	Chlorobenzene	15.27	112	392616	19.2014 ug/L	89
71)	1,1,1,2-Tetrachloroethane	15.32	131	155073	19.8279 ug/L	96
72)	Ethylbenzene	15.32	106	199845	19.6021 ug/L	93
73)	m-,p-Xylene	15.43	106	490468	41.1200 ug/L	91
74)	o-Xylene	16.09	106	243916	21.0012 ug/L	91
75)	Styrene	16.13	104	429873	21.9740 ug/L	92
76)	Bromoform	16.68	173	101010	19.8148 ug/L	98
77)	Isopropylbenzene	16.60	105	583930	21.0681 ug/L	97
79)	1,1,2,2-Tetrachloroethane	16.85	83	137501	21.6834 ug/L	99
81)	1,2,3-Trichloropropane	17.08	110	42431	20.5529 ug/L	91
82)	trans-1,4-Dichloro-2-Buten	17.15	53	34391	18.0393 ug/L	86
83)	n-Propylbenzene	17.19	91	677454	21.5588 ug/L	96
84)	Bromobenzene	17.31	156	192978	20.6019 ug/L	85
85)	1,3,5-Trimethylbenzene	17.42	105	499746	21.6576 ug/L	96
86)	2-Chlorotoluene	17.50	91	463676	21.1120 ug/L	92
87)	4-Chlorotoluene	17.55	91	426147	19.6910 ug/L	93
88)	a-Methylstyrene	17.90	118	307414	20.2263 ug/L	97
89)	tert-Butylbenzene	17.96	134	111656	20.3891 ug/L	80
90)	1,2,4-Trimethylbenzene	18.02	105	528466	20.8725 ug/L	95
91)	sec-Butylbenzene	18.28	105	552883	20.5807 ug/L	97
92)	p-Isopropyltoluene	18.48	119	515824	21.5714 ug/L	99
93)	1,3-Dichlorobenzene	18.67	146	352901	20.4048 ug/L	95
94)	1,4-Dichlorobenzene	18.82	146	364122	20.2885 ug/L	96
95)	n-Butylbenzene	19.09	91	411128	20.8788 ug/L	93
96)	1,2-Dichlorobenzene	19.41	146	340124	20.5133 ug/L	95
97)	1,2-Dibromo-3-Chloropropan	20.59	75	23347	20.8476 ug/L	83
98)	1,2,4-Trichlorobenzene	21.93	180	232147	22.4364 ug/L	98
99)	Hexachlorobutadiene	22.12	225	77114	19.5916 ug/L	99
100)	Naphthalene	22.36	128	502833	24.1087 ug/L	99
101)	1,2,3-Trichlorobenzene	22.73	180	217854	22.1840 ug/L	98

(#) = qualifier out of range (m) = manual integration
6M143439.D 8260WT.M Tue Nov 15 08:29:01 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143439.D Vial: 9
Acq On : 14 Nov 2016 20:27 Operator: TMB
Sample : L16110321-06 A MSD 826-LOW Inst : Hpms6
Misc : 1,1 STD78998 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 8:28 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration



6M143439.D 8260WT.M Tue Nov 15 08:29:02 2016 Page 3

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143445.D Vial: 15
Acq On : 14 Nov 2016 23:40 Operator: TMB
Sample : L16110321-07 A 826-LOW Inst : Hpms6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:30:16 2016 Quant Results File: 8260WT.RES

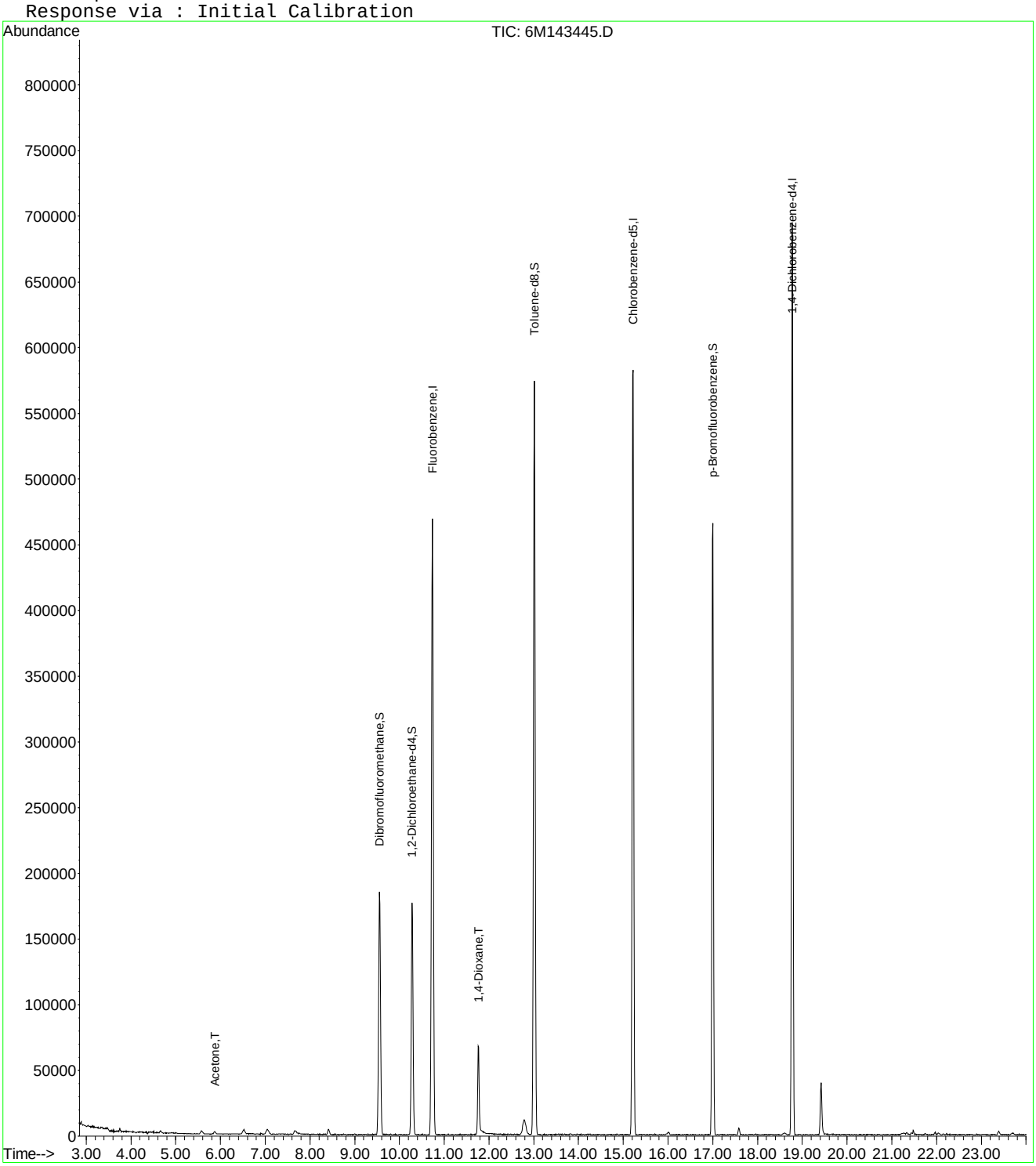
Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Tue Nov 15 10:18:32 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

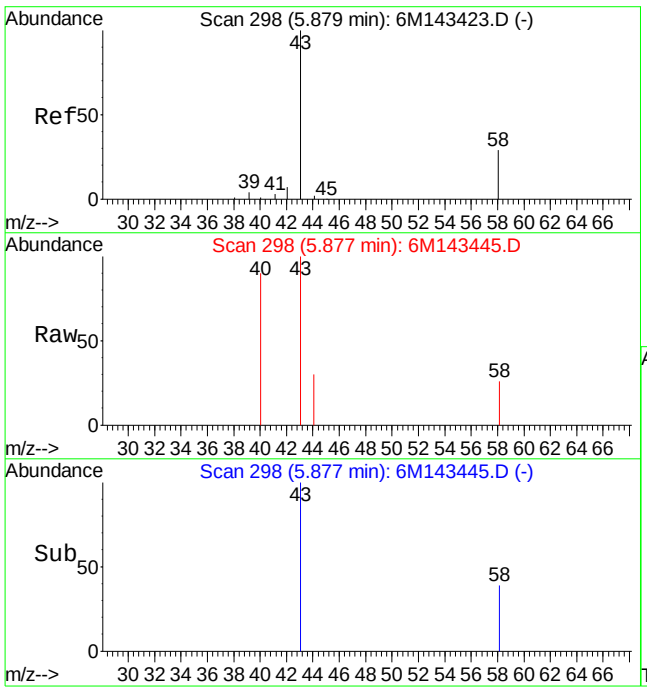
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.74	96	635598	25.00 ug/L	0.00
57) Chlorobenzene-d5	15.22	117	500181	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.77	152	270899	25.00 ug/L	-0.01
System Monitoring Compounds					
37) Dibromofluoromethane	9.55	111	174483	23.6941 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 94.76%		
43) 1,2-Dichloroethane-d4	10.28	65	167630	22.9497 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 91.80%		
58) Toluene-d8	13.01	98	560031	24.2231 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 96.88%		
80) p-Bromofluorobenzene	17.00	95	218285	25.7504 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 103.00%		
Target Compounds					Qvalue
13) Acetone	5.88	43	3981	2.4297 ug/L	89
50) 1,4-Dioxane	11.77	88	2707	62.2951 ug/L #	1

(#) = qualifier out of range (m) = manual integration
6M143445.D 8260WT.M Tue Nov 15 10:30:19 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143445.D Vial: 15
Acq On : 14 Nov 2016 23:40 Operator: TMB
Sample : L16110321-07 A 826-LOW Inst : Hpms6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:30 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Tue Nov 15 10:18:32 2016
Response via : Initial Calibration

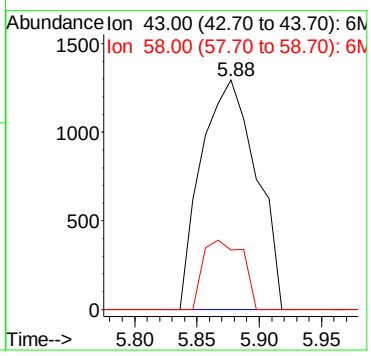


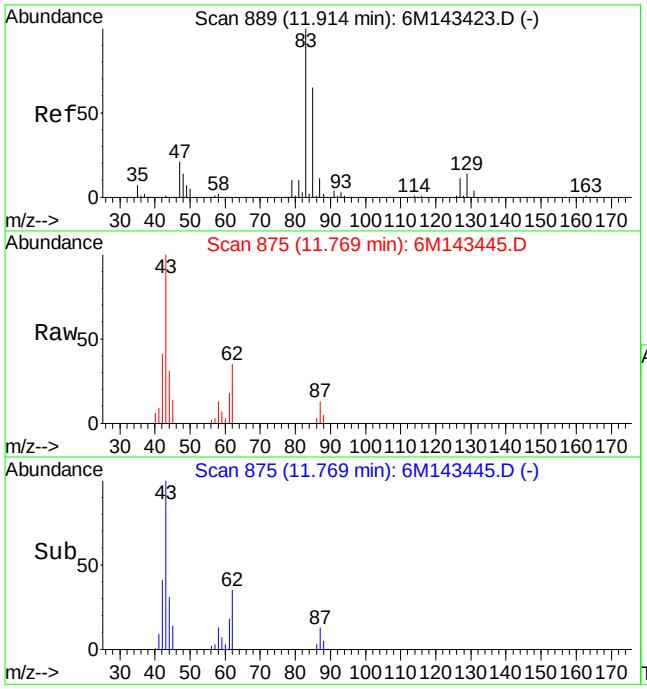


#13
Acetone
Concen: 2.43 ug/L
RT: 5.88 min Scan# 298
Delta R.T. 0.00 min
Lab File: 6M143445.D
Acq: 14 Nov 2016 23:40

Tgt Ion: 43 Resp: 3981

Ion	Ratio	Lower	Upper
43	100		
58	21.8	16.4	38.2

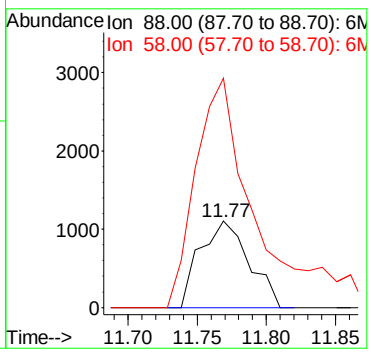




#50
1,4-Dioxane
Concen: 62.30 ug/L
RT: 11.77 min Scan# 875
Delta R.T. -0.14 min
Lab File: 6M143445.D
Acq: 14 Nov 2016 23:40

Tgt Ion: 88 Resp: 2707

Ion	Ratio	Lower	Upper
88	100		
58	325.8	42.6	99.4#



Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143446.D Vial: 16
Acq On : 15 Nov 2016 00:12 Operator: TMB
Sample : L16110321-08 A 826-LOW Inst : Hpms6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:30:22 2016 Quant Results File: 8260WT.RES

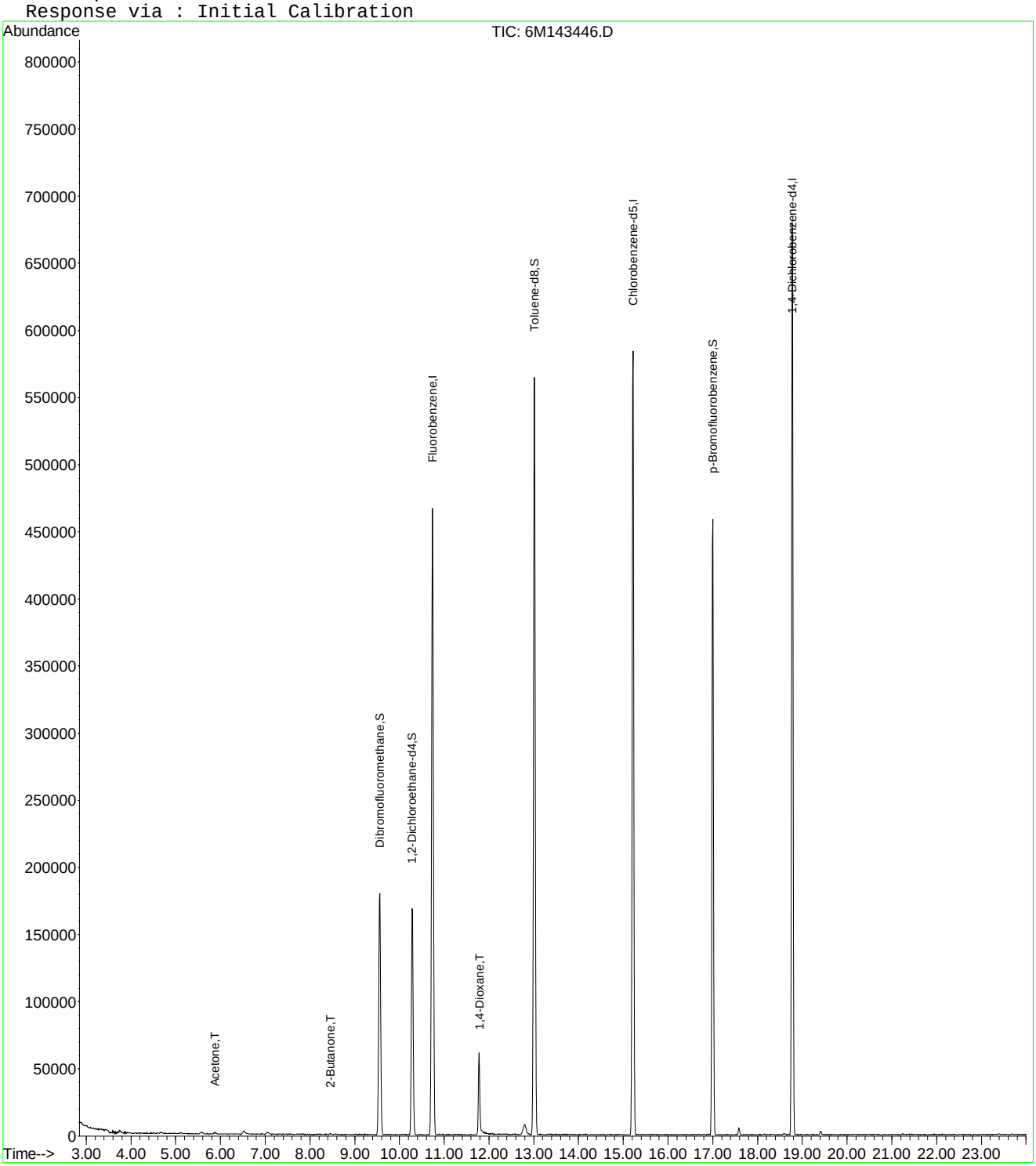
Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Tue Nov 15 10:18:32 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

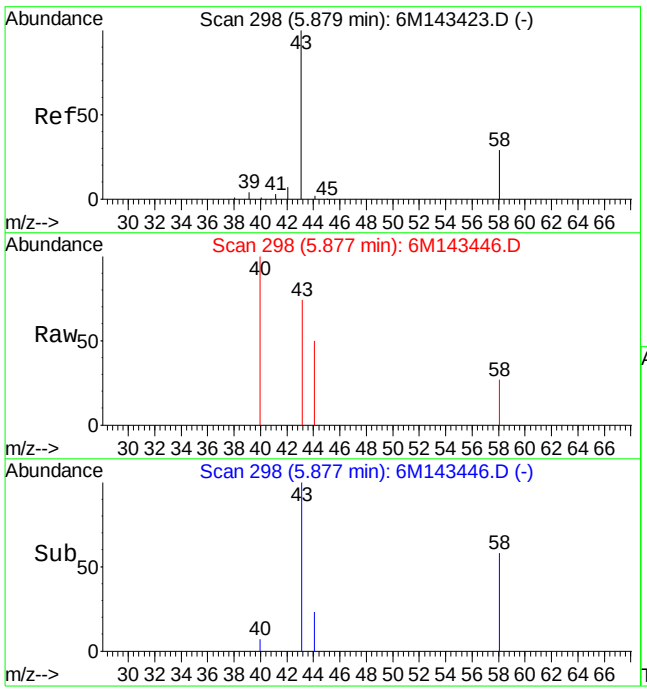
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.74	96	628333	25.00 ug/L	0.00
57) Chlorobenzene-d5	15.22	117	491033	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.77	152	266600	25.00 ug/L	-0.01
System Monitoring Compounds					
37) Dibromofluoromethane	9.56	111	170204	23.3803 ug/L	0.01
Spiked Amount 25.000	Range 86 - 118		Recovery = 93.52%		
43) 1,2-Dichloroethane-d4	10.28	65	163024	22.5772 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 90.32%		
58) Toluene-d8	13.01	98	554871	24.4471 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 97.80%		
80) p-Bromofluorobenzene	17.00	95	212711	25.4975 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 102.00%		
Target Compounds					Qvalue
13) Acetone	5.88	43	2916	1.8003 ug/L #	60
29) 2-Butanone	8.46	43	431	0.1779 ug/L #	57
50) 1,4-Dioxane	11.79	88	2317	53.9367 ug/L #	1

(#) = qualifier out of range (m) = manual integration
6M143446.D 8260WT.M Tue Nov 15 10:30:24 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143446.D Vial: 16
Acq On : 15 Nov 2016 00:12 Operator: TMB
Sample : L16110321-08 A 826-LOW Inst : Hpms6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:30 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Tue Nov 15 10:18:32 2016
Response via : Initial Calibration

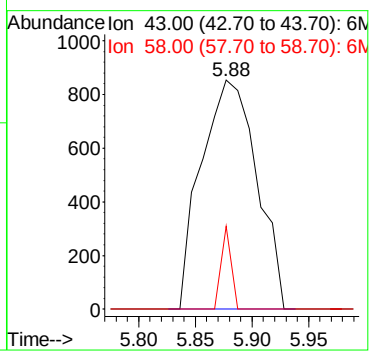


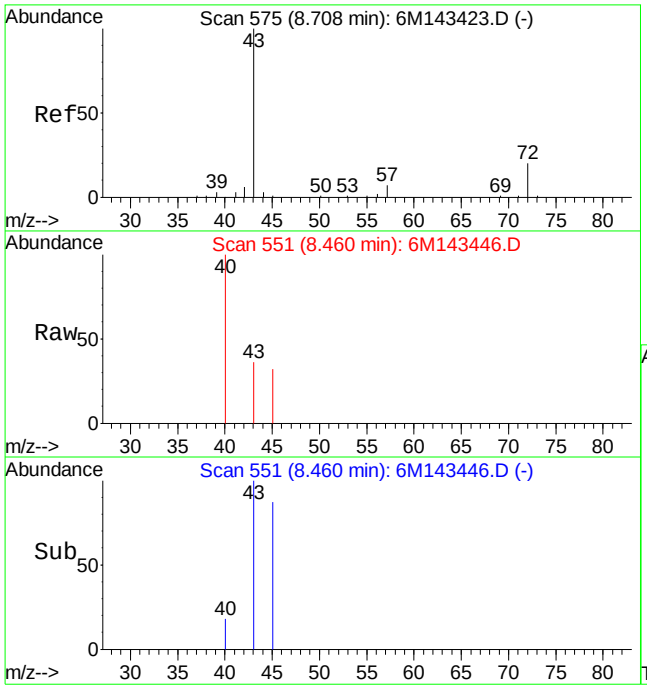


#13
Acetone
Concen: 1.80 ug/L
RT: 5.88 min Scan# 298
Delta R.T. -0.00 min
Lab File: 6M143446.D
Acq: 15 Nov 2016 00:12

Tgt Ion: 43 Resp: 2916

Ion	Ratio	Lower	Upper
43	100		
58	6.5	16.4	38.2#

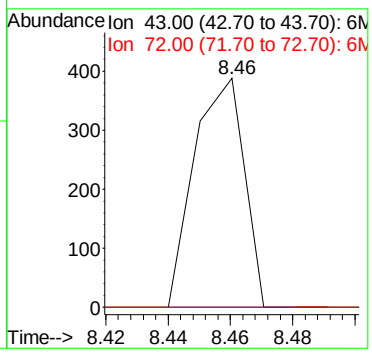


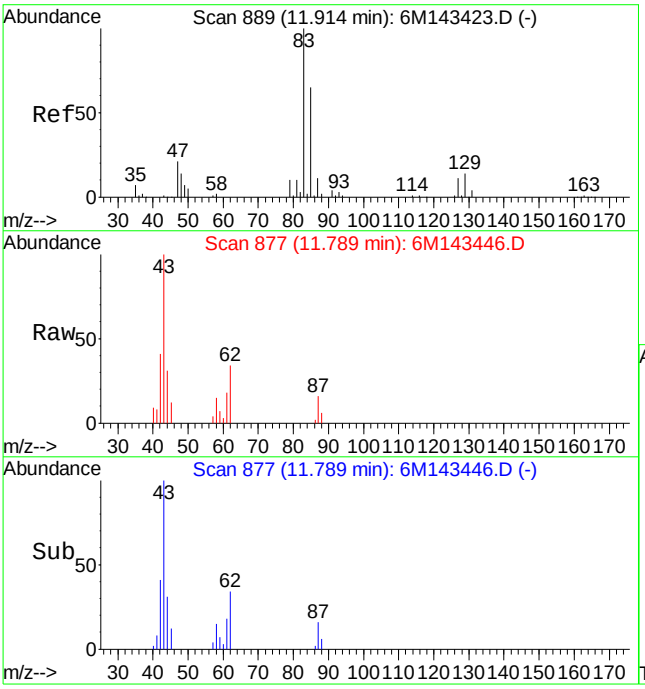


#29
2-Butanone
Concen: 0.18 ug/L
RT: 8.46 min Scan# 551
Delta R.T. -0.25 min
Lab File: 6M143446.D
Acq: 15 Nov 2016 00:12

Tgt Ion: 43 Resp: 431

Ion	Ratio	Lower	Upper
43	100		
72	0.0	11.9	27.9#

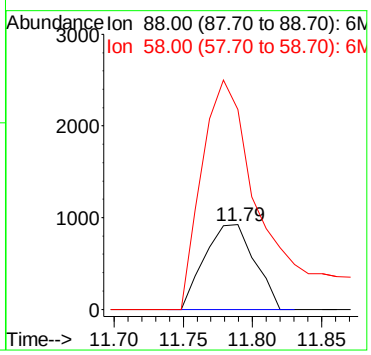




#50
1,4-Dioxane
Concen: 53.94 ug/L
RT: 11.79 min Scan# 877
Delta R.T. -0.12 min
Lab File: 6M143446.D
Acq: 15 Nov 2016 00:12

Tgt Ion: 88 Resp: 2317

Ion	Ratio	Lower	Upper
88	100		
58	333.0	42.6	99.4#



Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143447.D Vial: 17
Acq On : 15 Nov 2016 00:44 Operator: TMB
Sample : L16110321-09 A 826-LOW Inst : Hpms6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:30:27 2016 Quant Results File: 8260WT.RES

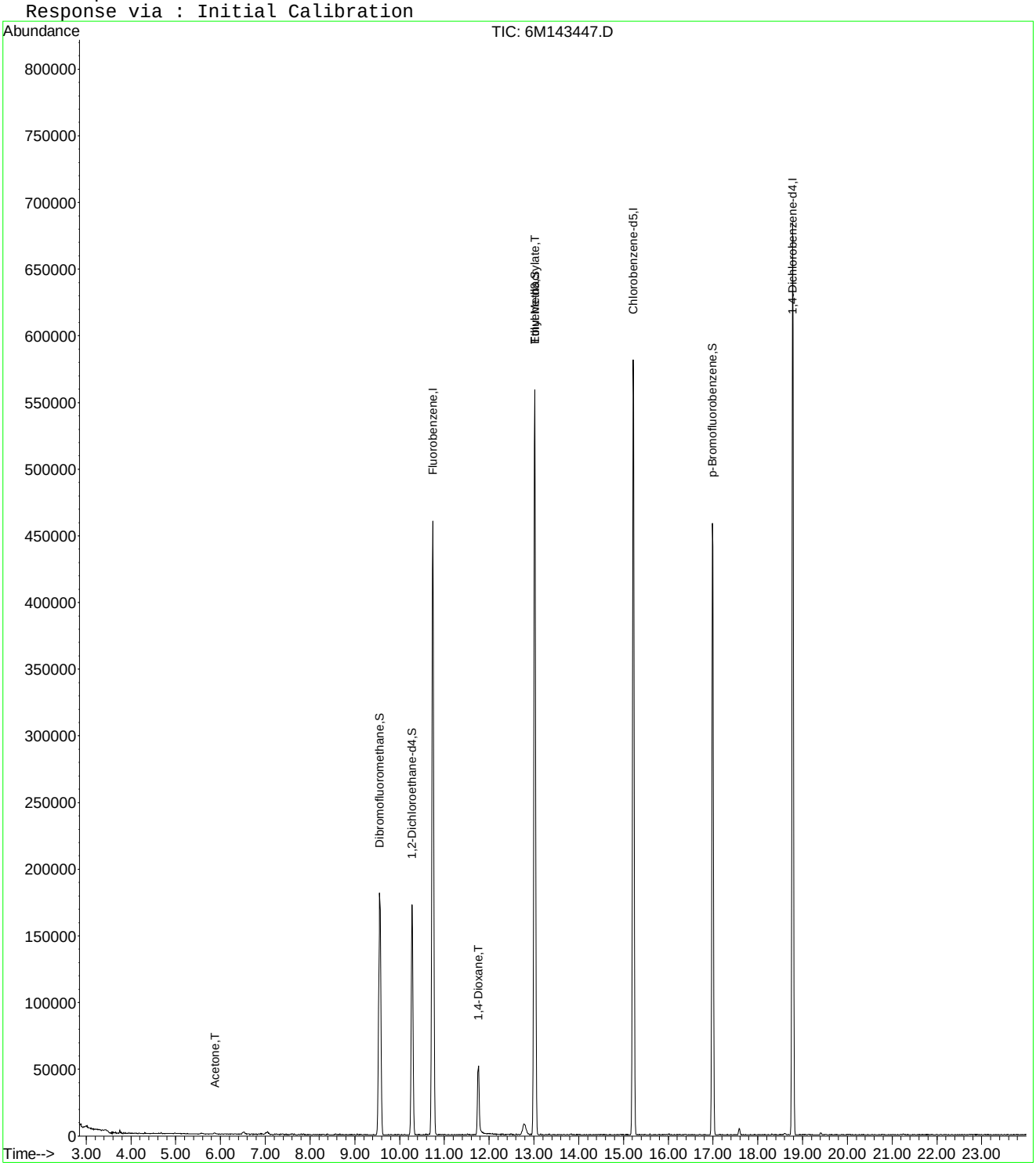
Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Tue Nov 15 10:18:32 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

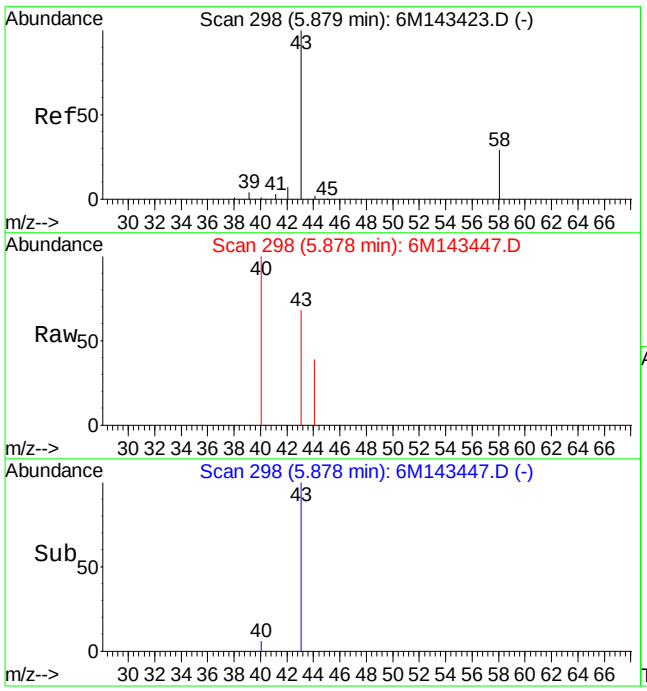
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.74	96	619120	25.00 ug/L	0.00
57) Chlorobenzene-d5	15.21	117	486210	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.78	152	267020	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.55	111	169784	23.6697 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 94.68%		
43) 1,2-Dichloroethane-d4	10.28	65	164724	23.1521 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 92.60%		
58) Toluene-d8	13.02	98	549930	24.4697 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 97.88%		
80) p-Bromofluorobenzene	16.99	95	212303	25.4085 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 101.64%		
Target Compounds					Qvalue
13) Acetone	5.88	43	2098	1.3145 ug/L #	48
50) 1,4-Dioxane	11.76	88	1702	40.2099 ug/L #	1
60) Ethyl Methacrylate	13.02	69	719	0.4998 ug/L #	7

(#) = qualifier out of range (m) = manual integration
6M143447.D 8260WT.M Tue Nov 15 10:30:30 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143447.D Vial: 17
Acq On : 15 Nov 2016 00:44 Operator: TMB
Sample : L16110321-09 A 826-LOW Inst : Hpms6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:30 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Tue Nov 15 10:18:32 2016
Response via : Initial Calibration

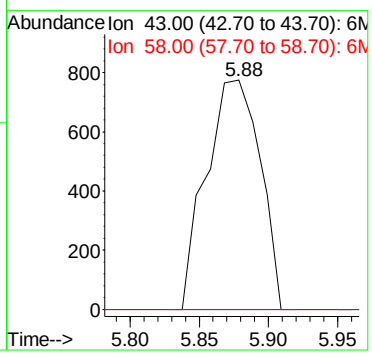


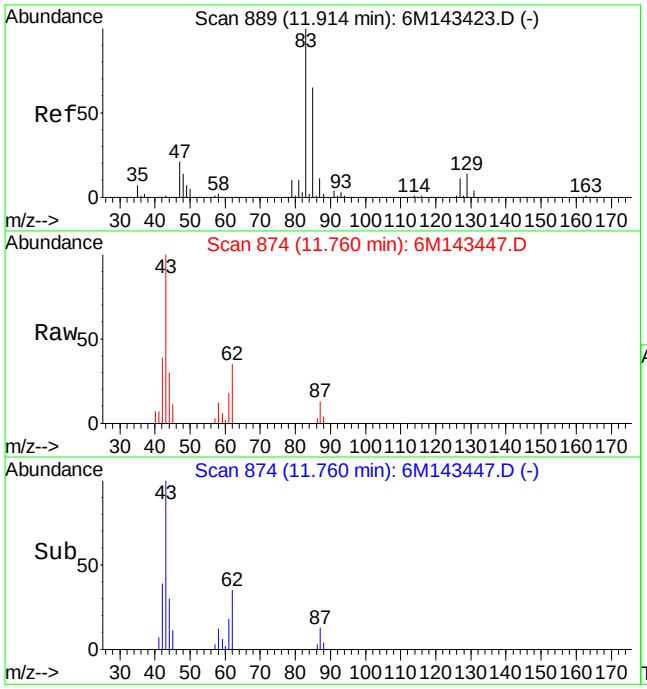


#13
Acetone
Concen: 1.31 ug/L
RT: 5.88 min Scan# 298
Delta R.T. 0.00 min
Lab File: 6M143447.D
Acq: 15 Nov 2016 00:44

Tgt Ion: 43 Resp: 2098

Ion	Ratio	Lower	Upper
43	100		
58	0.0	16.4	38.2#

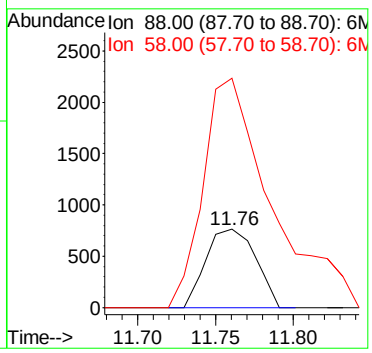


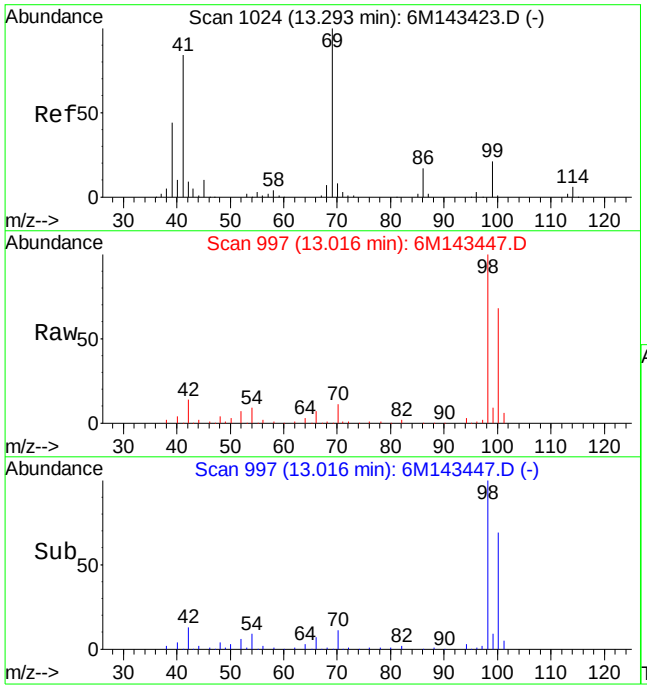


#50
1,4-Dioxane
Concen: 40.21 ug/L
RT: 11.76 min Scan# 874
Delta R.T. -0.15 min
Lab File: 6M143447.D
Acq: 15 Nov 2016 00:44

Tgt Ion: 88 Resp: 1702

Ion	Ratio	Lower	Upper
88	100		
58	399.8	42.6	99.4#

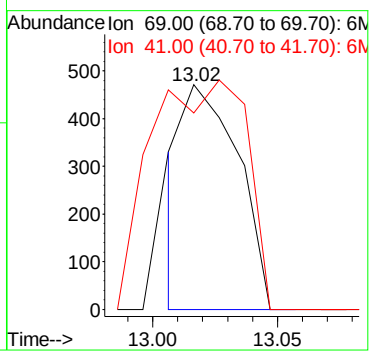




#60
Ethyl Methacrylate
Concen: 0.50 ug/L
RT: 13.02 min Scan# 997
Delta R.T. -0.27 min
Lab File: 6M143447.D
Acq: 15 Nov 2016 00:44

Tgt Ion: 69 Resp: 719

Ion	Ratio	Lower	Upper
69	100		
41	0.0	51.4	120.0#



Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143448.D Vial: 18
Acq On : 15 Nov 2016 1:16 Operator: TMB
Sample : L16110321-10 A 826-LOW Inst : Hpms6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:30:33 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Tue Nov 15 10:18:32 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

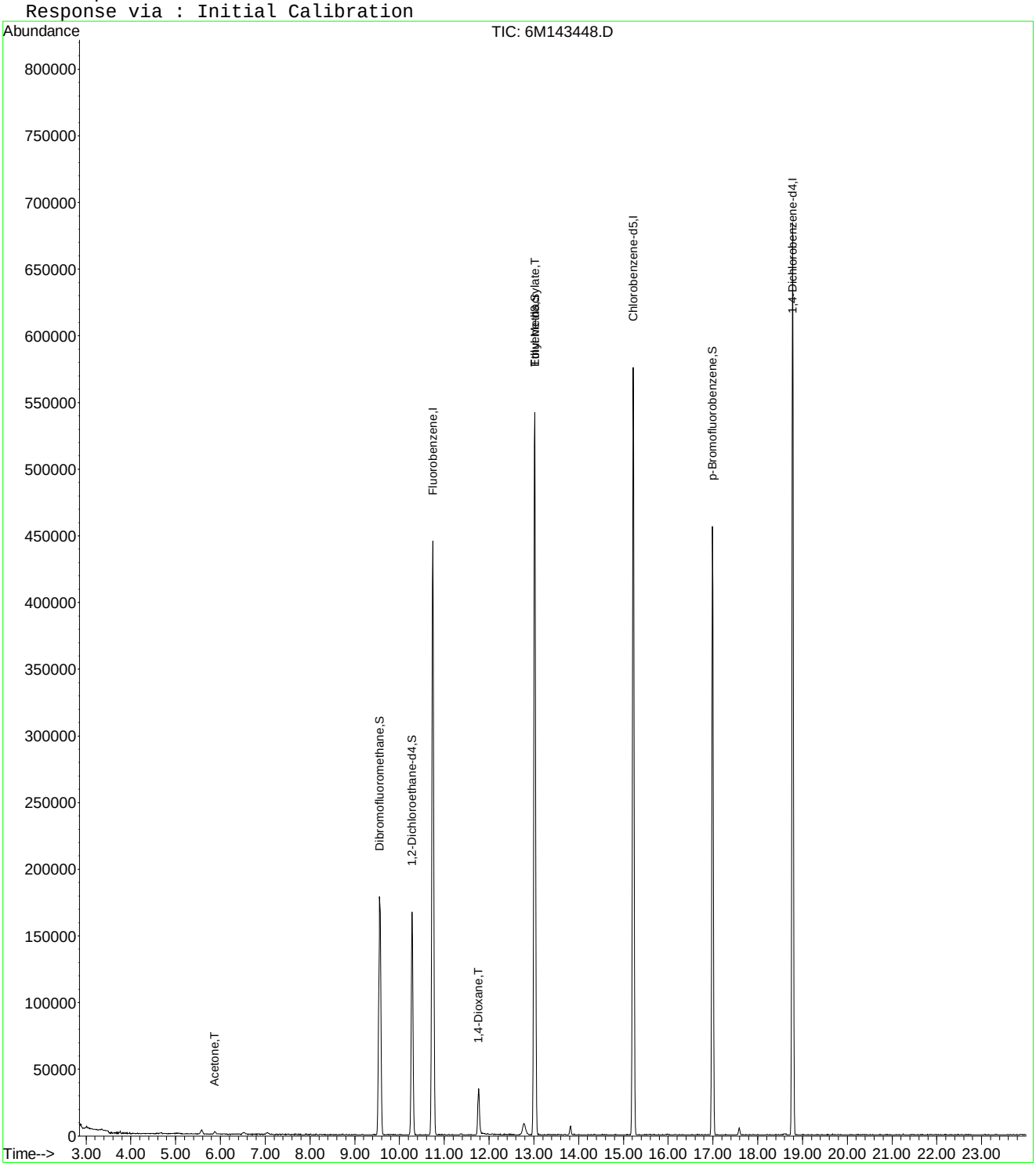
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.74	96	607678	25.00	ug/L	0.00
57) Chlorobenzene-d5	15.21	117	475938	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.78	152	260937	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.56	111	166351	23.6277	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 94.52%			
43) 1,2-Dichloroethane-d4	10.28	65	158294	22.6672	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 90.68%			
58) Toluene-d8	13.02	98	538877	24.4954	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 98.00%			
80) p-Bromofluorobenzene	16.99	95	206093	25.2403	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 100.96%			
Target Compounds						Qvalue
13) Acetone	5.87	43	3875	2.4737	ug/L	98
50) 1,4-Dioxane	11.76	88	1153	27.7526	ug/L #	1
60) Ethyl Methacrylate	13.02	69	742	0.5056	ug/L #	7

(#) = qualifier out of range (m) = manual integration
6M143448.D 8260WT.M Tue Nov 15 10:30:36 2016 Page 1

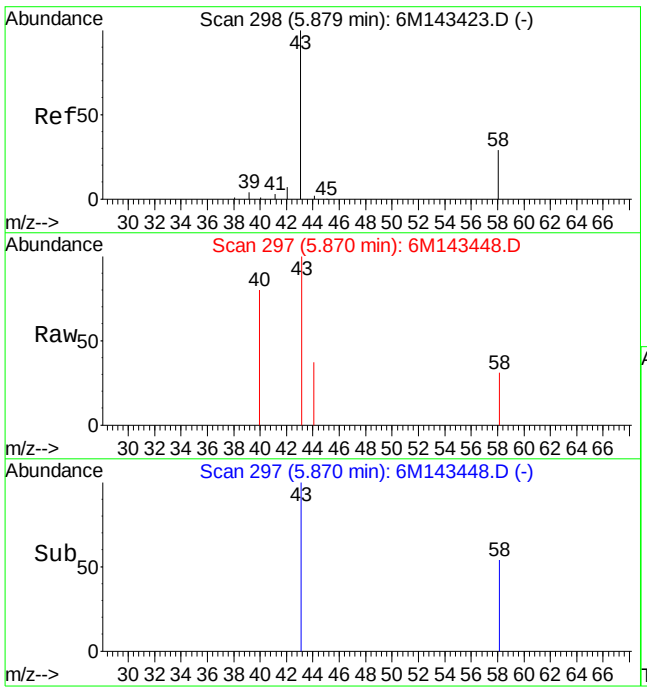
Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143448.D Vial: 18
Acq On : 15 Nov 2016 1:16 Operator: TMB
Sample : L16110321-10 A 826-LOW Inst : Hpms6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:30 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Tue Nov 15 10:18:32 2016
Response via : Initial Calibration



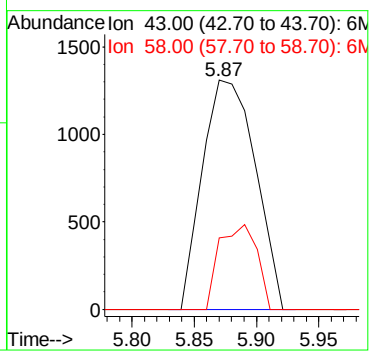
6M143448.D 8260WT.M Tue Nov 15 10:30:36 2016 Page 2

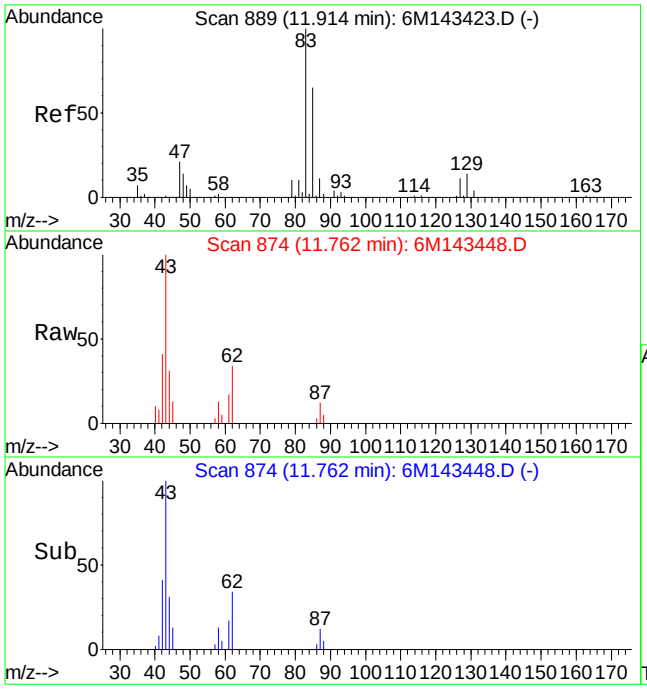


#13
Acetone
Concen: 2.47 ug/L
RT: 5.87 min Scan# 297
Delta R.T. -0.01 min
Lab File: 6M143448.D
Acq: 15 Nov 2016 1:16

Tgt Ion: 43 Resp: 3875

Ion	Ratio	Lower	Upper
43	100		
58	26.1	16.4	38.2

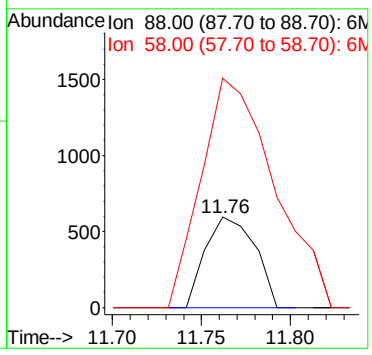


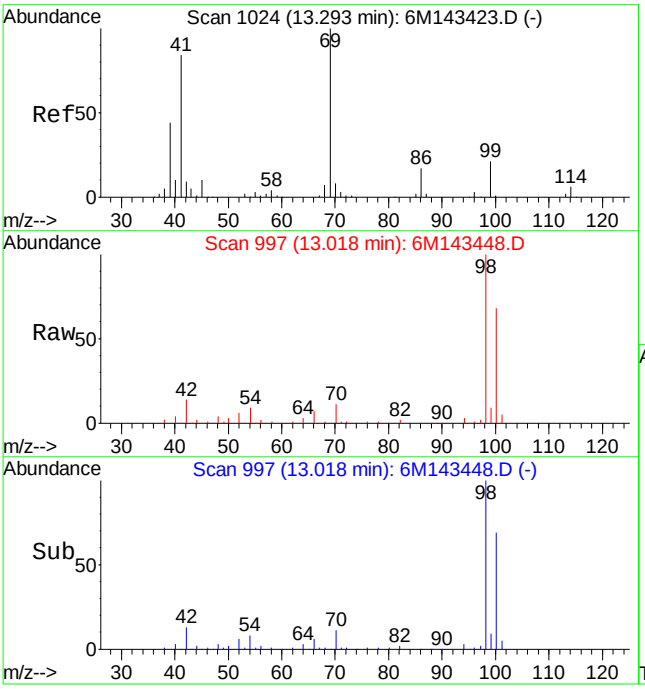


#50
1,4-Dioxane
Concen: 27.75 ug/L
RT: 11.76 min Scan# 874
Delta R.T. -0.15 min
Lab File: 6M143448.D
Acq: 15 Nov 2016 1:16

Tgt Ion: 88 Resp: 1153

Ion	Ratio	Lower	Upper
88	100		
58	374.5	42.6	99.4#

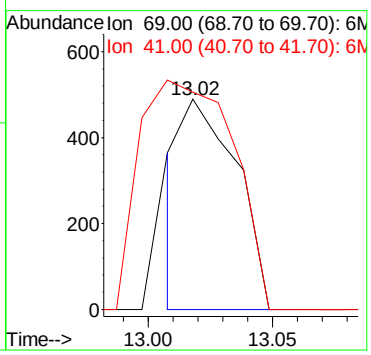




#60
Ethyl Methacrylate
Concen: 0.51 ug/L
RT: 13.02 min Scan# 997
Delta R.T. -0.27 min
Lab File: 6M143448.D
Acq: 15 Nov 2016 1:16

Tgt Ion: 69 Resp: 742

Ion	Ratio	Lower	Upper
69	100		
41	0.0	51.4	120.0#



Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143449.D Vial: 19
Acq On : 15 Nov 2016 1:48 Operator: TMB
Sample : L16110321-11 A 826-LOW Inst : Hpms6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:30:38 2016 Quant Results File: 8260WT.RES

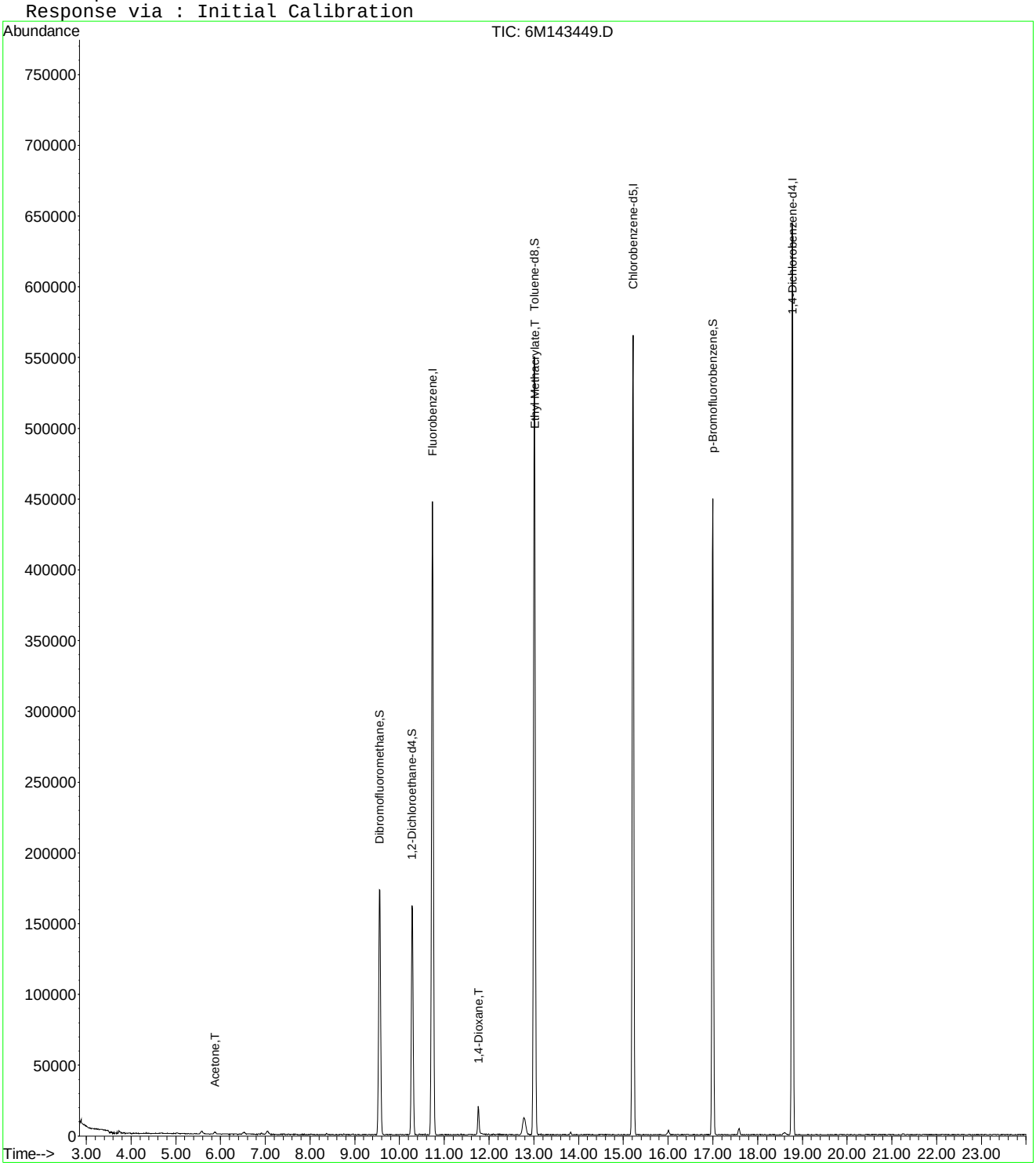
Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Tue Nov 15 10:18:32 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

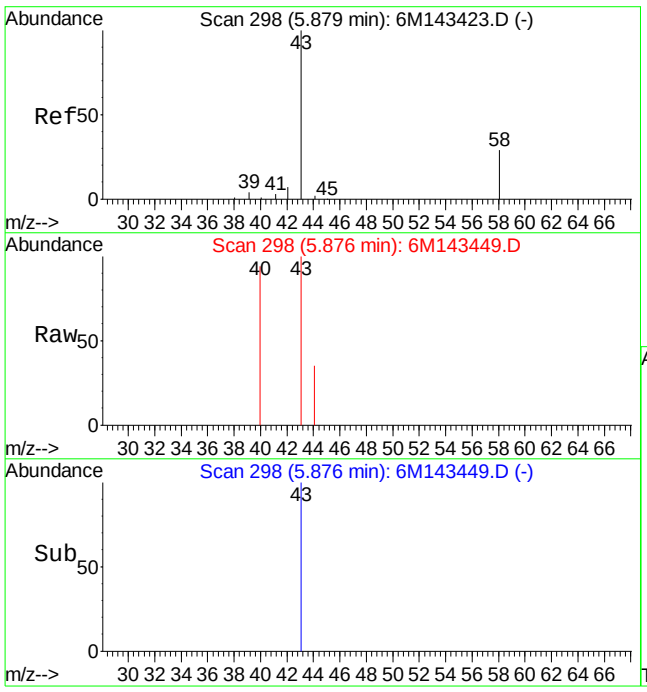
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.74	96	596445	25.00	ug/L	0.00
57) Chlorobenzene-d5	15.22	117	472068	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.78	152	259748	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.55	111	164824	23.8518	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 95.40%			
43) 1,2-Dichloroethane-d4	10.28	65	156462	22.8269	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 91.32%			
58) Toluene-d8	13.01	98	533179	24.4351	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 97.76%			
80) p-Bromofluorobenzene	17.00	95	203045	24.9809	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 99.92%			
Target Compounds						Qvalue
13) Acetone	5.88	43	2732	1.7769	ug/L	92
50) 1,4-Dioxane	11.77	88	442	10.8393	ug/L #	1
60) Ethyl Methacrylate	13.02	69	505	0.4702	ug/L #	7

(#) = qualifier out of range (m) = manual integration
6M143449.D 8260WT.M Tue Nov 15 10:30:41 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143449.D Vial: 19
Acq On : 15 Nov 2016 1:48 Operator: TMB
Sample : L16110321-11 A 826-LOW Inst : Hpms6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:30 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Tue Nov 15 10:18:32 2016
Response via : Initial Calibration

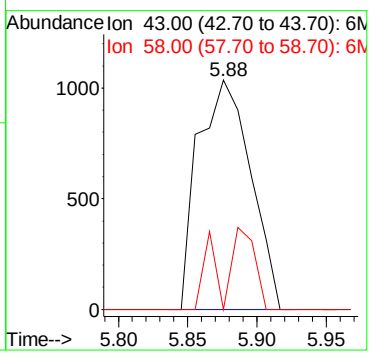


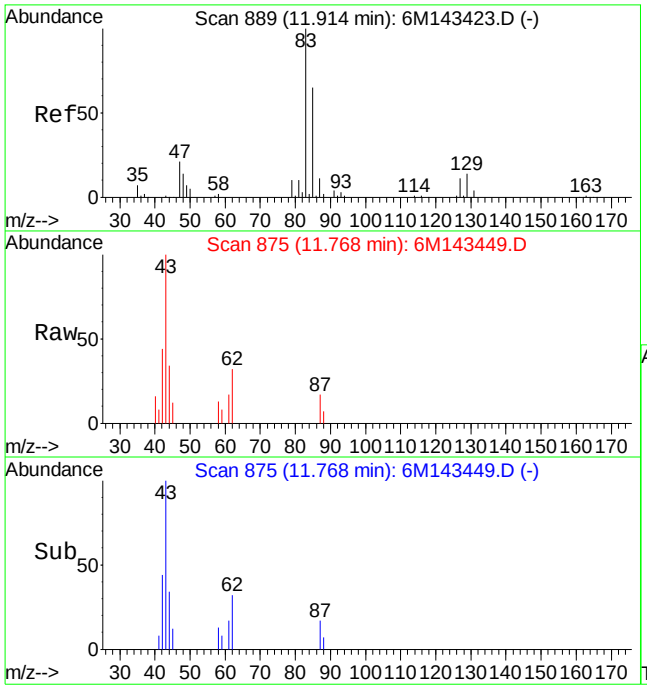


#13
Acetone
Concen: 1.78 ug/L
RT: 5.88 min Scan# 298
Delta R.T. -0.00 min
Lab File: 6M143449.D
Acq: 15 Nov 2016 1:48

Tgt Ion: 43 Resp: 2732

Ion	Ratio	Lower	Upper
43	100		
58	23.2	16.4	38.2

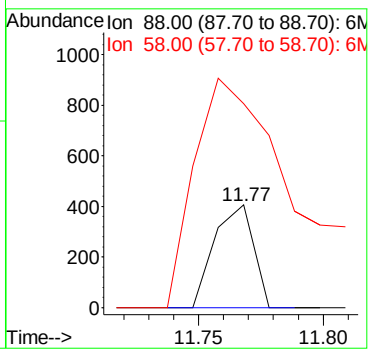


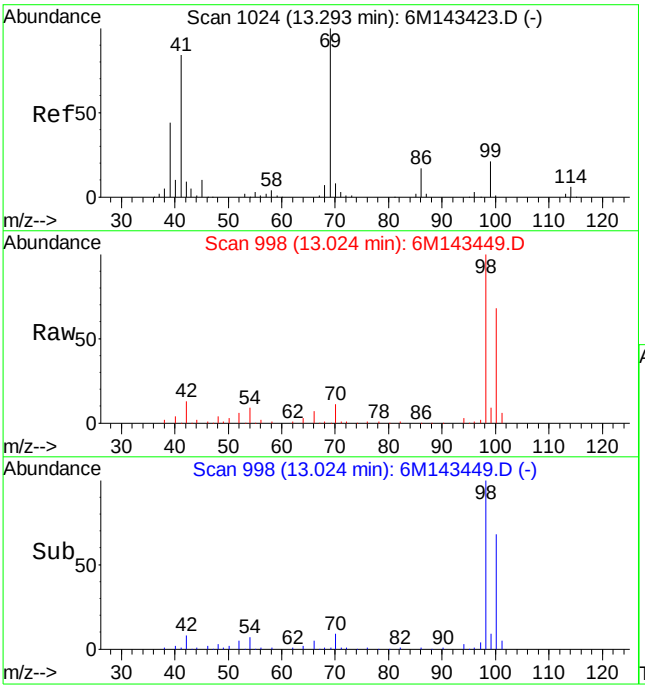


#50
1,4-Dioxane
Concen: 10.84 ug/L
RT: 11.77 min Scan# 875
Delta R.T. -0.14 min
Lab File: 6M143449.D
Acq: 15 Nov 2016 1:48

Tgt Ion: 88 Resp: 442

Ion	Ratio	Lower	Upper
88	100		
58	552.0	42.6	99.4#

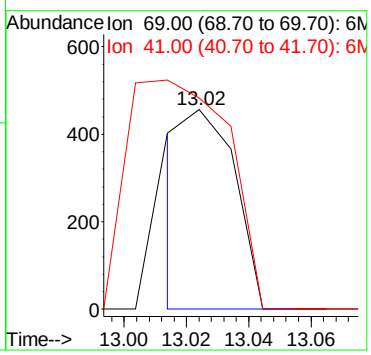




#60
Ethyl Methacrylate
Concen: 0.47 ug/L
RT: 13.02 min Scan# 998
Delta R.T. -0.27 min
Lab File: 6M143449.D
Acq: 15 Nov 2016 1:48

Tgt Ion: 69 Resp: 505

Ion	Ratio	Lower	Upper
69	100		
41	0.0	51.4	120.0#



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111416\11M15202.D Vial: 8
Acq On : 14 Nov 2016 18:16 Operator: JDS
Sample : L16110321-12 A TB 826-LOW Inst : hpms11
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 16 13:27:23 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

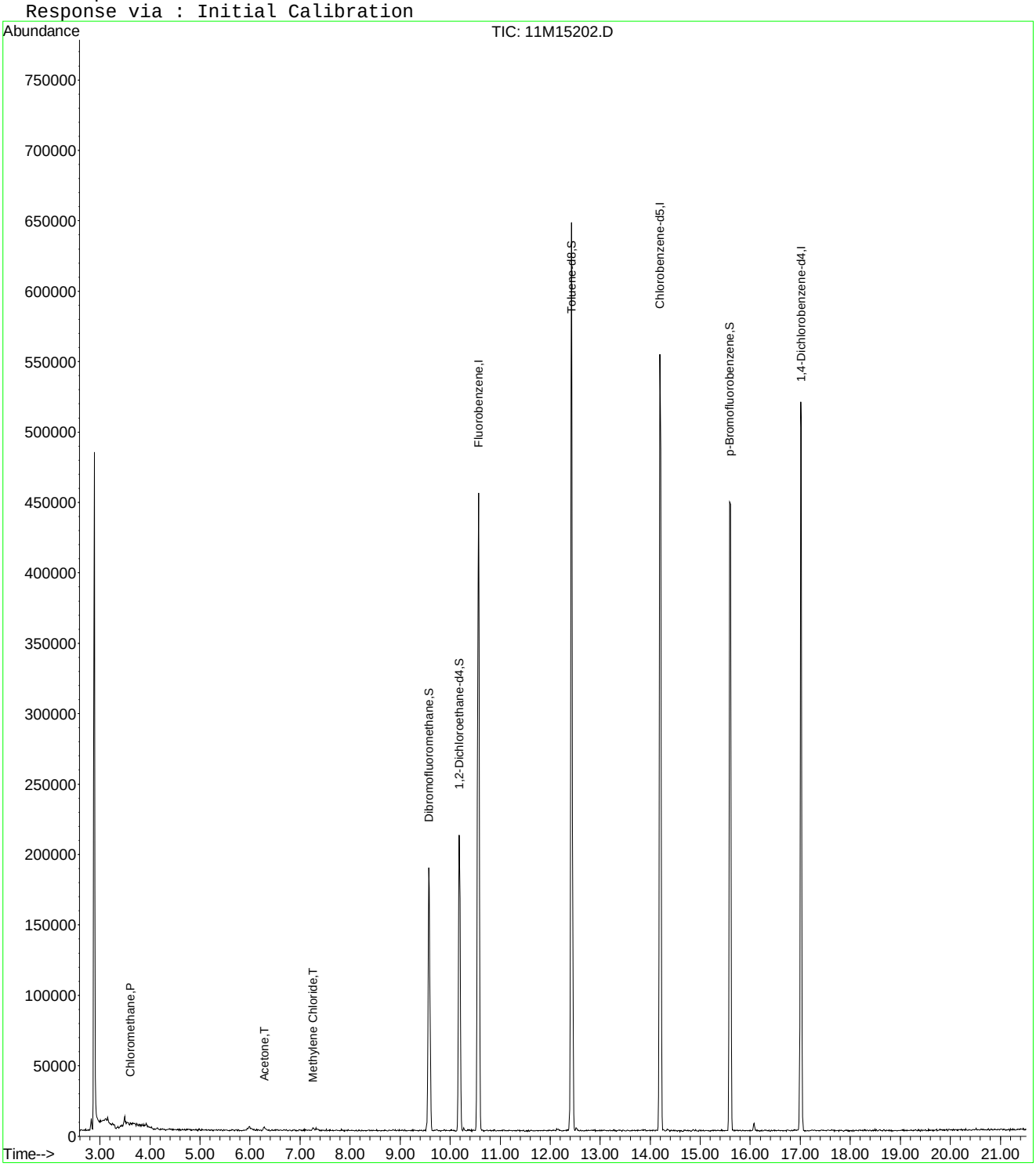
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.57	96	504532	25.00 ug/L	0.00
56) Chlorobenzene-d5	14.20	117	374565	25.00 ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.02	152	172151	25.00 ug/L	0.01
System Monitoring Compounds					
37) Dibromofluoromethane	9.57	111	150022	24.7192 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 98.88%		
43) 1,2-Dichloroethane-d4	10.18	65	167478	24.5796 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 98.32%		
57) Toluene-d8	12.43	98	520524	26.2236 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 104.88%		
78) p-Bromofluorobenzene	15.59	95	186784	27.1201 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 108.48%		
Target Compounds					Qvalue
3) Chloromethane	3.61	50	1226	0.1306 ug/L #	20
13) Acetone	6.29	43	5454	2.7863 ug/L	92
19) Methylene Chloride	7.26	84	714	0.1206 ug/L	63
36) Tetrahydrofuran	9.55	42	4708	Below Cal #	80

(#) = qualifier out of range (m) = manual integration
11M15202.D 8260WT.M Wed Nov 16 13:27:24 2016 Page 1

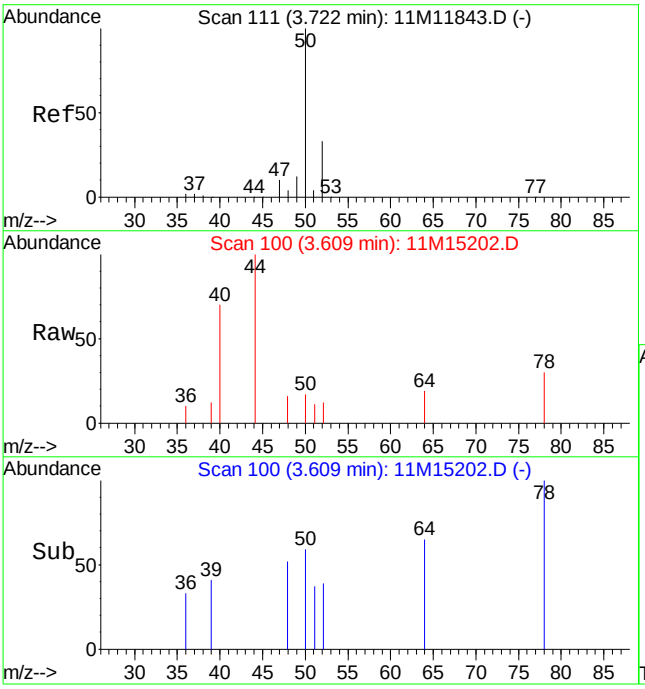
Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111416\11M15202.D Vial: 8
Acq On : 14 Nov 2016 18:16 Operator: JDS
Sample : L16110321-12 A TB 826-LOW Inst : hpms11
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 16 13:27 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration



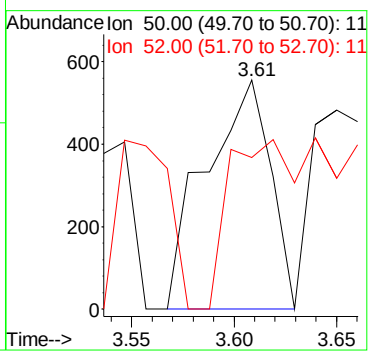
11M15202.D 8260WT.M Wed Nov 16 13:27:24 2016 Page 2

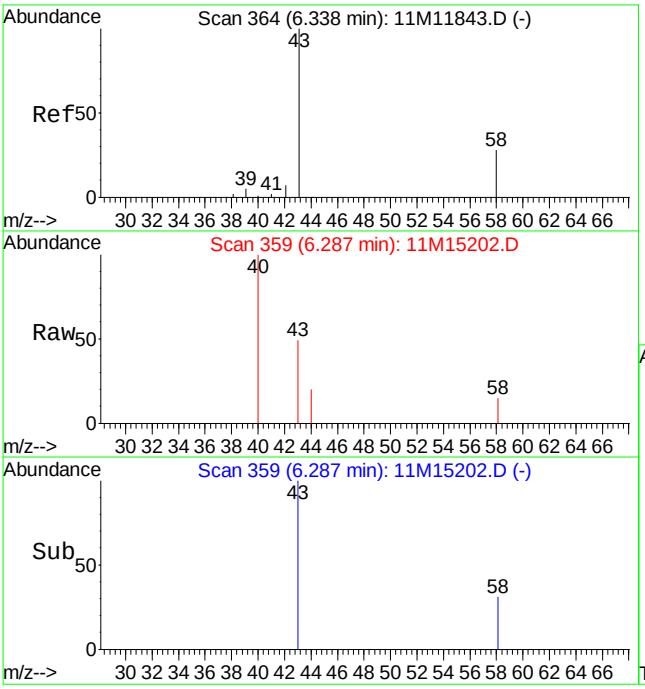


#3
Chloromethane
Concen: 0.13 ug/L
RT: 3.61 min Scan# 100
Delta R.T. -0.05 min
Lab File: 11M15202.D
Acq: 14 Nov 2016 18:16

Tgt Ion: 50 Resp: 1226

Ion	Ratio	Lower	Upper
50	100		
52	74.5	18.4	42.8#

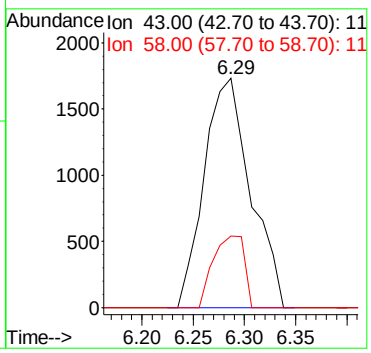


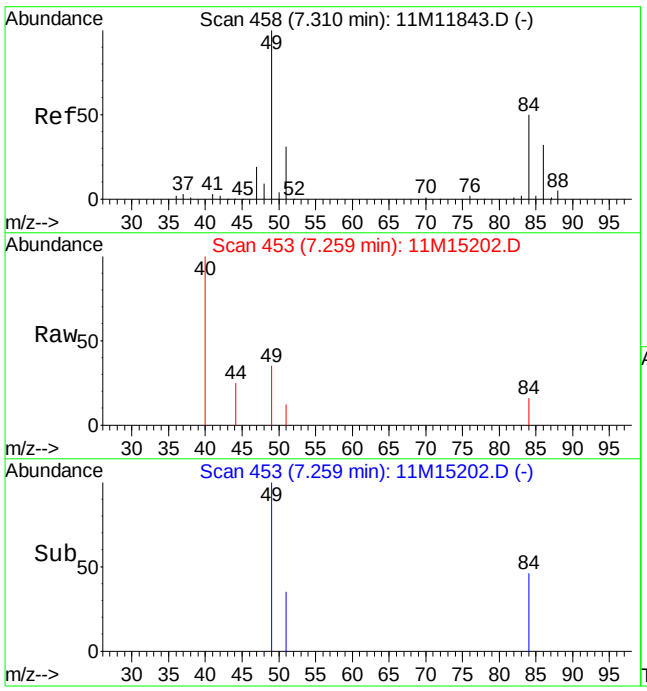


#13
Acetone
Concen: 2.79 ug/L
RT: 6.29 min Scan# 359
Delta R.T. 0.01 min
Lab File: 11M15202.D
Acq: 14 Nov 2016 18:16

Tgt Ion: 43 Resp: 5454

Ion	Ratio	Lower	Upper
43	100		
58	21.0	15.1	35.1

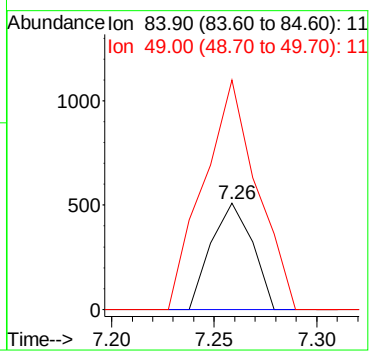


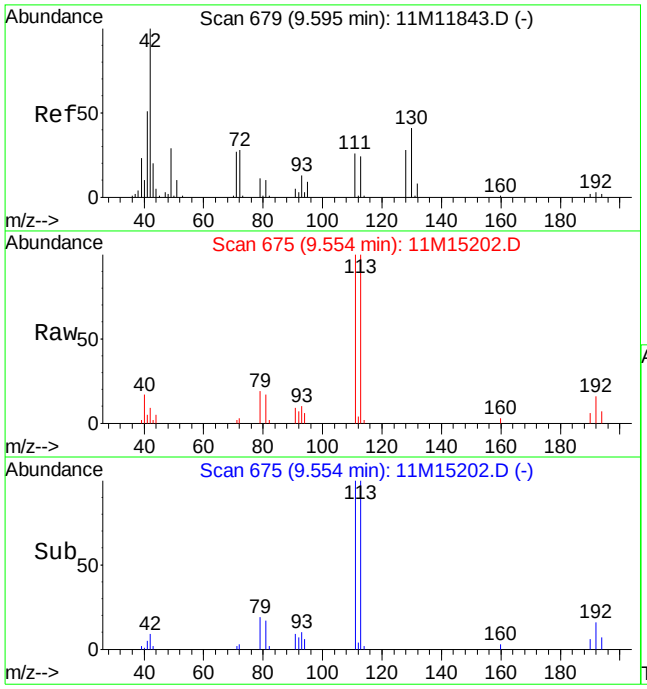


#19
Methylene Chloride
Concen: 0.12 ug/L
RT: 7.26 min Scan# 453
Delta R.T. 0.00 min
Lab File: 11M15202.D
Acq: 14 Nov 2016 18:16

Tgt Ion: 84 Resp: 714

Ion	Ratio	Lower	Upper
84	100		
49	279.6	131.8	307.4

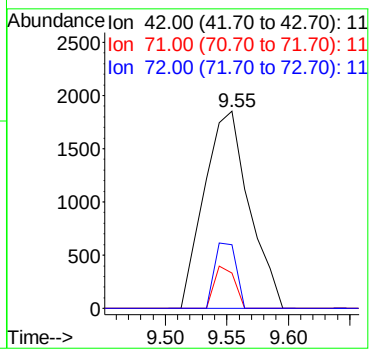




#36
Tetrahydrofuran
Concen: Below Cal
RT: 9.55 min Scan# 675
Delta R.T. 0.01 min
Lab File: 11M15202.D
Acq: 14 Nov 2016 18:16

Tgt Ion: 42 Resp: 4708

Ion	Ratio	Lower	Upper
42	100		
71	9.7	12.8	30.0#
72	16.0	14.0	32.6



2.1.1.4 Standards Data

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13629.D Vial: 2
Acq On : 15 Aug 2016 15:17 Operator: JDS
Sample : WG580279-02 5ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 08:48:31 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Thu Jul 21 09:27:59 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

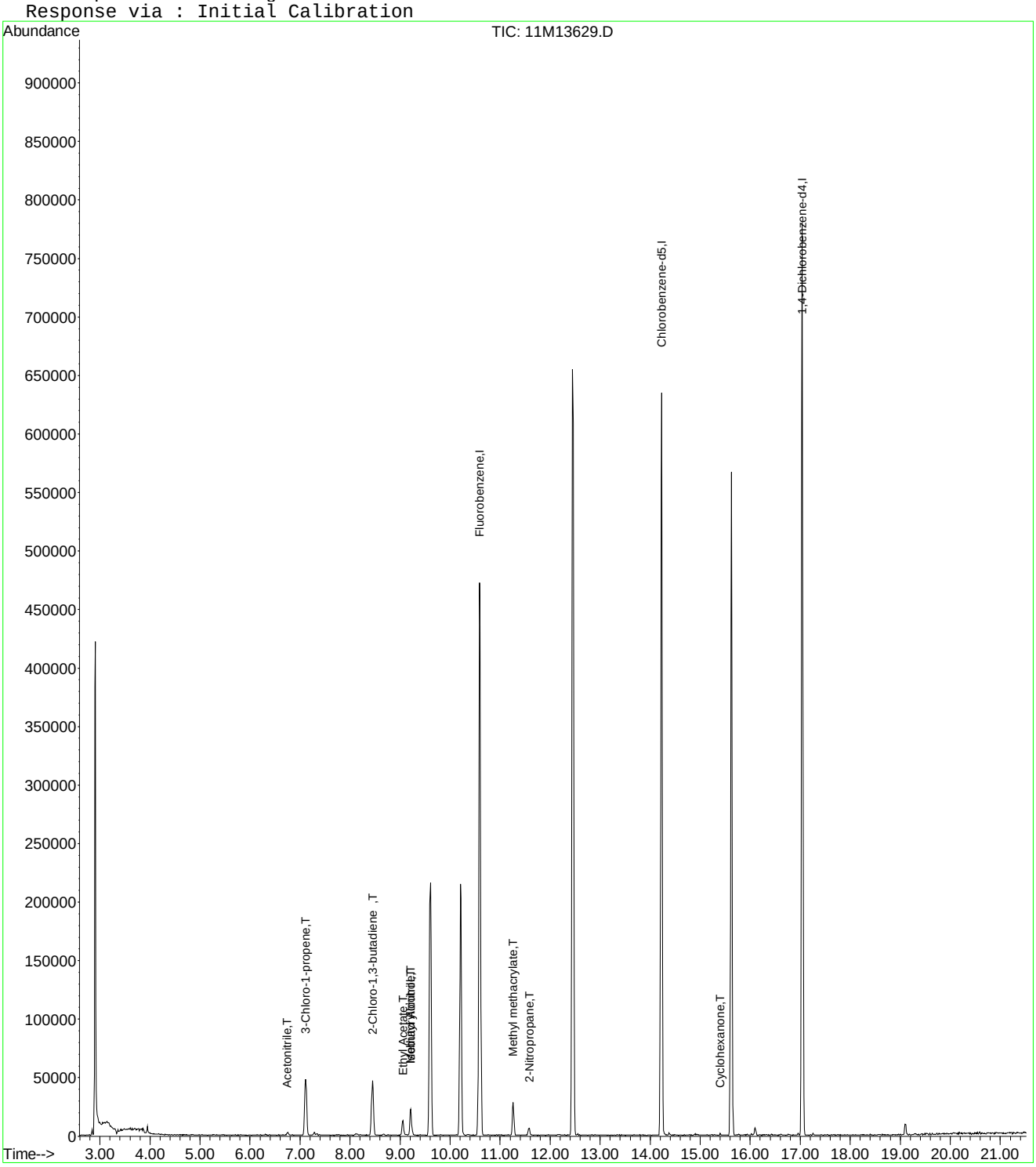
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.59	96	549582	25.00	ug/L		-0.02
12) Chlorobenzene-d5	14.23	117	468851	25.00	ug/L		-0.01
13) 1,4-Dichlorobenzene-d4	17.04	152	272643	25.00	ug/L		-0.02
Target Compounds							Qvalue
2) Acetonitrile	6.74	41	2526	5.1600	ug/L		83
3) 3-Chloro-1-propene	7.11	41	50299	4.8501	ug/L		93
4) 2-Chloro-1,3-butadiene	8.45	53	49466	4.6039	ug/L		99
5) Methacrylonitrile	9.21	41	17182	5.6819	ug/L		93
6) Isobutyl Alcohol	9.21	43	1768	11.0361	ug/L		73
8) Cyclohexanone	15.40	55	717	7.3303	ug/L	#	60
9) 2-Nitropropane	11.58	43	5543	4.2855	ug/L		86
10) Ethyl Acetate	9.06	43	22100	5.6341	ug/L	#	94
11) Methyl methacrylate	11.26	41	19419	5.3684	ug/L		89

(#) = qualifier out of range (m) = manual integration
11M13629.D A9FOOWT.M Tue Aug 16 08:48:31 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13629.D Vial: 2
Acq On : 15 Aug 2016 15:17 Operator: JDS
Sample : WG580279-02 5ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 8:48 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:47:42 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13629.D Vial: 2
Acq On : 15 Aug 2016 15:17 Operator: JDS
Sample : WG580279-02 5ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 08:59:12 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

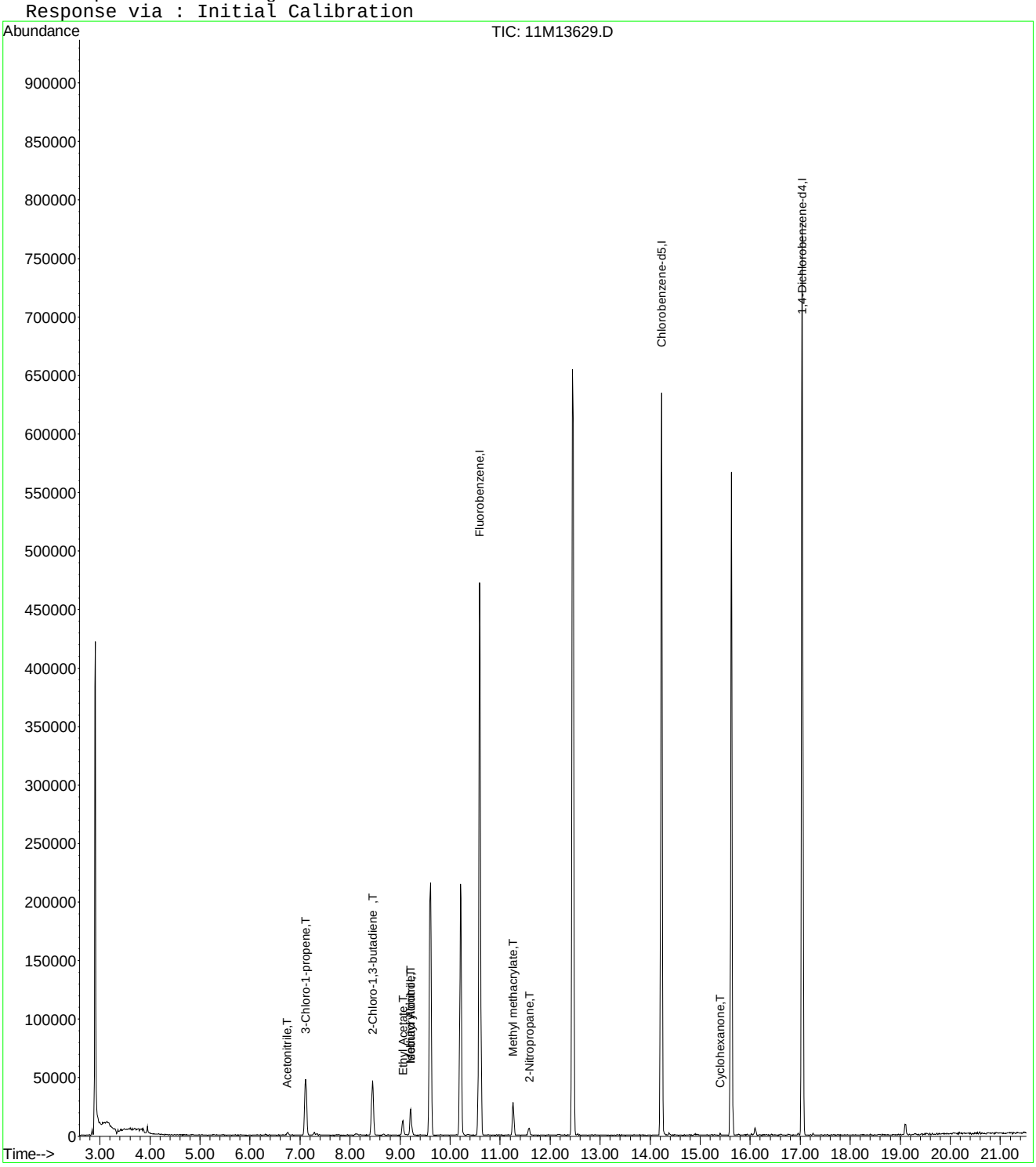
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.59	96	549582	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.23	117	468851	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.04	152	272643	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.74	41	2526	3.8896	ug/L	83
3) 3-Chloro-1-propene	7.11	41	50299	4.7813	ug/L	99
4) 2-Chloro-1,3-butadiene	8.45	53	49466	4.6042	ug/L	96
5) Methacrylonitrile	9.21	41	17182	4.4063	ug/L	100
6) Isobutyl Alcohol	9.21	43	1768	7.3489	ug/L	78
8) Cyclohexanone	15.40	55	717	1.8852	ug/L #	66
9) 2-Nitropropane	11.58	43	5543	2.9247	ug/L	85
10) Ethyl Acetate	9.06	43	22100	4.1473	ug/L	97
11) Methyl methacrylate	11.26	41	19419	4.0017	ug/L	97

(#) = qualifier out of range (m) = manual integration
11M13629.D A9FOOWT.M Tue Aug 16 08:59:13 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13629.D Vial: 2
Acq On : 15 Aug 2016 15:17 Operator: JDS
Sample : WG580279-02 5ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 8:59 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13629.D Vial: 2
Acq On : 15 Aug 2016 15:17 Operator: JDS
Sample : WG580279-02 5ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 09:05:19 2016 Quant Results File: A9FOOWT.RES

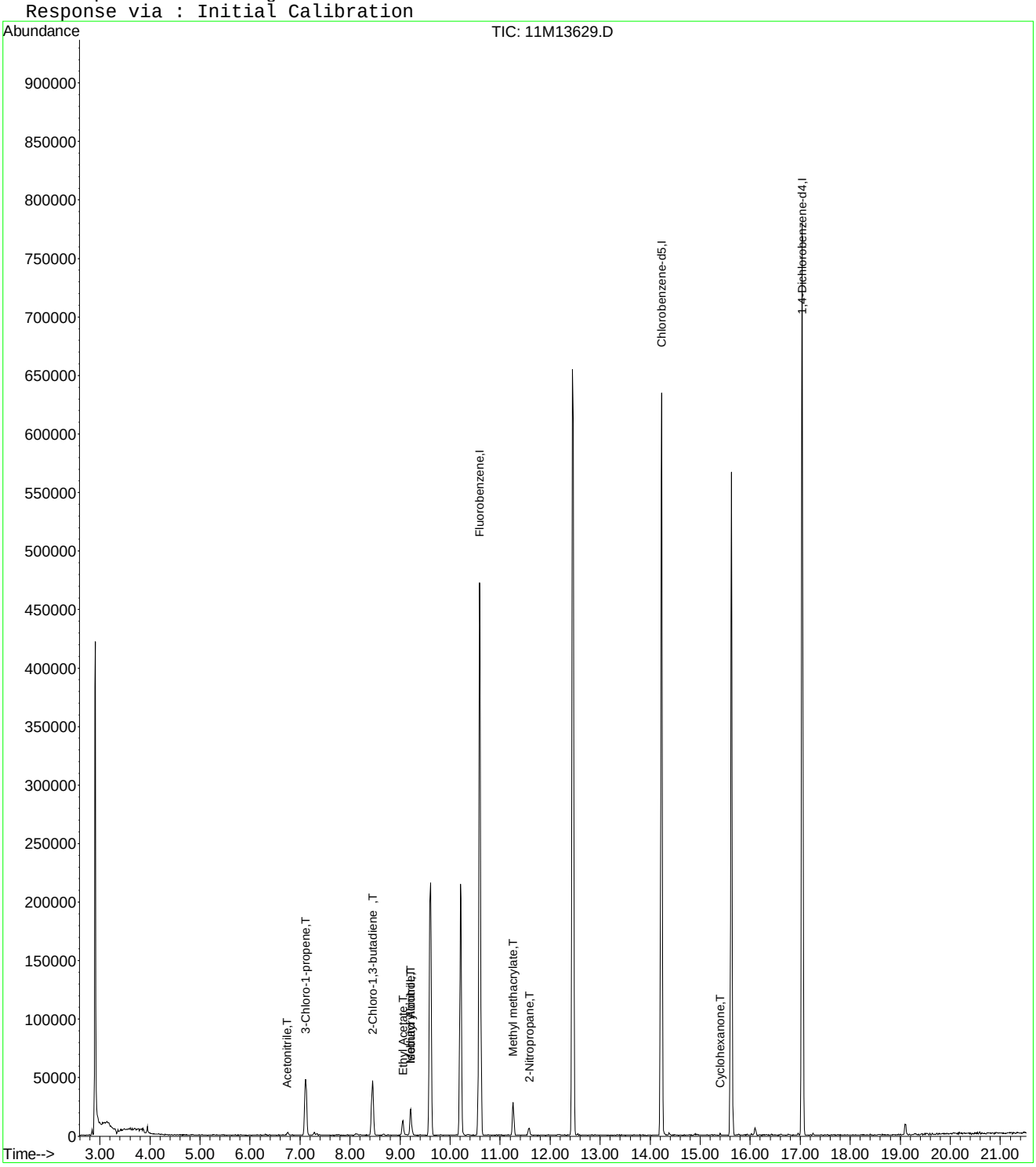
Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.59	96	549582	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.23	117	468851	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.04	152	272643	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.74	41	2526	3.8896	ug/L	83
3) 3-Chloro-1-propene	7.11	41	50299	4.7813	ug/L	99
4) 2-Chloro-1,3-butadiene	8.45	53	49466	4.6042	ug/L	96
5) Methacrylonitrile	9.21	41	17182	4.4063	ug/L	100
6) Isobutyl Alcohol	9.21	43	1768	7.3489	ug/L	78
8) Cyclohexanone	15.40	55	717	1.8852	ug/L #	66
9) 2-Nitropropane	11.58	43	5543	2.9247	ug/L	85
10) Ethyl Acetate	9.06	43	22100	4.1473	ug/L	97
11) Methyl methacrylate	11.26	41	19419	4.0017	ug/L	97

(#) = qualifier out of range (m) = manual integration
11M13629.D A9FOOWT.M Tue Aug 16 09:05:20 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13629.D Vial: 2
Acq On : 15 Aug 2016 15:17 Operator: JDS
Sample : WG580279-02 5ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 9:05 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13630.D Vial: 3
Acq On : 15 Aug 2016 15:46 Operator: JDS
Sample : WG580279-03 20ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 08:48:33 2016 Quant Results File: A9FOOWT.RES

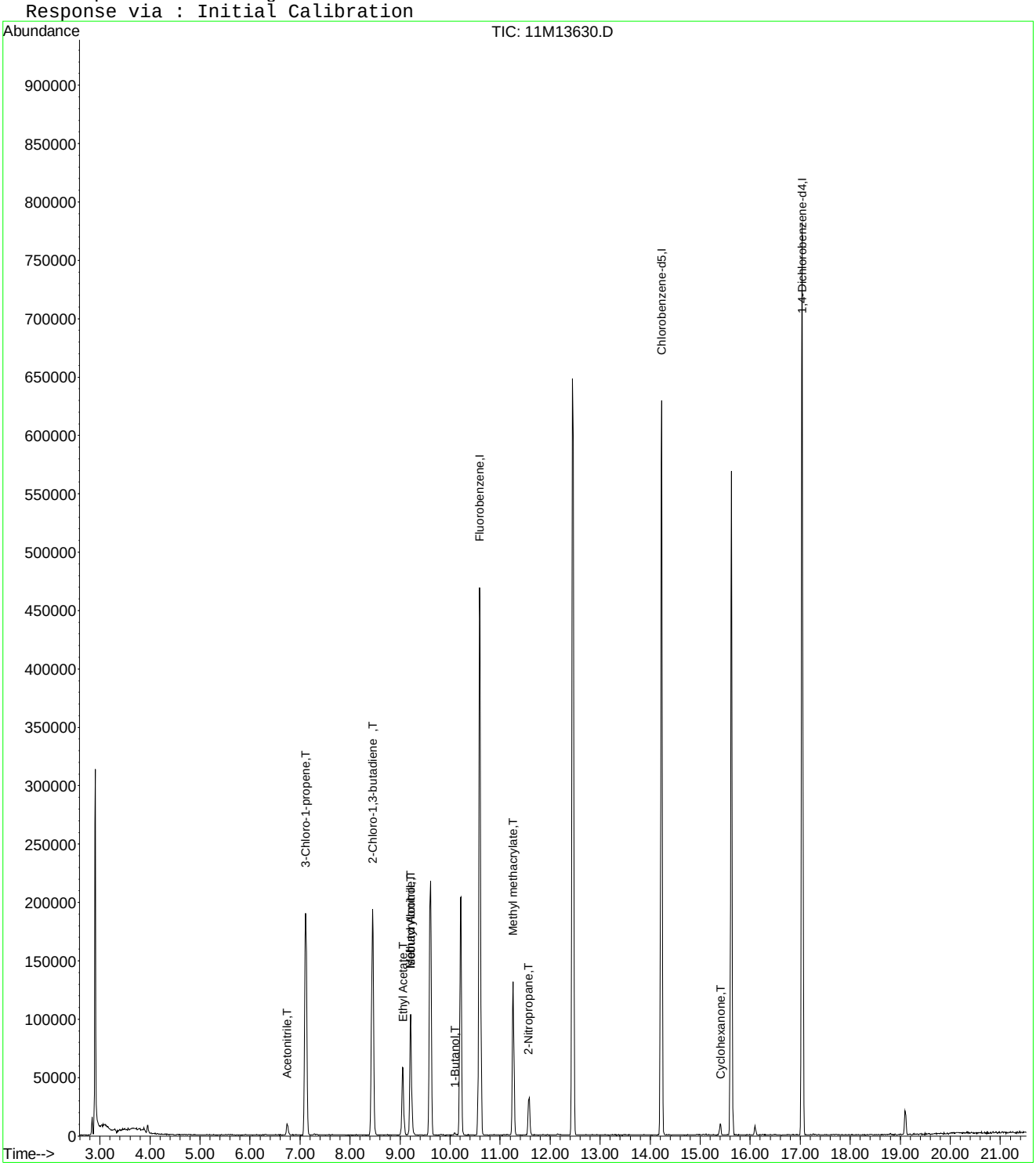
Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:47:42 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.59	96	551890	25.00	ug/L		-0.02
12) Chlorobenzene-d5	14.23	117	465436	25.00	ug/L		-0.01
13) 1,4-Dichlorobenzene-d4	17.04	152	274738	25.00	ug/L		-0.02
Target Compounds							Qvalue
2) Acetonitrile	6.74	41	12517	25.4621	ug/L		92
3) 3-Chloro-1-propene	7.11	41	200905	19.2915	ug/L		93
4) 2-Chloro-1,3-butadiene	8.45	53	194207	17.9997	ug/L		94
5) Methacrylonitrile	9.21	41	72509	23.8778	ug/L		92
6) Isobutyl Alcohol	9.21	43	7908	49.1562	ug/L		96
7) 1-Butanol	10.10	56	1209	16.1143	ug/L	#	69
8) Cyclohexanone	15.41	55	5806	59.1102	ug/L	#	80
9) 2-Nitropropane	11.57	43	30103	23.1762	ug/L		99
10) Ethyl Acetate	9.06	43	99065	25.1496	ug/L		99
11) Methyl methacrylate	11.26	41	86765	23.8858	ug/L		90

(#) = qualifier out of range (m) = manual integration
11M13630.D A9FOOWT.M Tue Aug 16 08:48:34 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13630.D Vial: 3
Acq On : 15 Aug 2016 15:46 Operator: JDS
Sample : WG580279-03 20ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 8:48 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:47:42 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13630.D Vial: 3
Acq On : 15 Aug 2016 15:46 Operator: JDS
Sample : WG580279-03 20ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 08:59:15 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

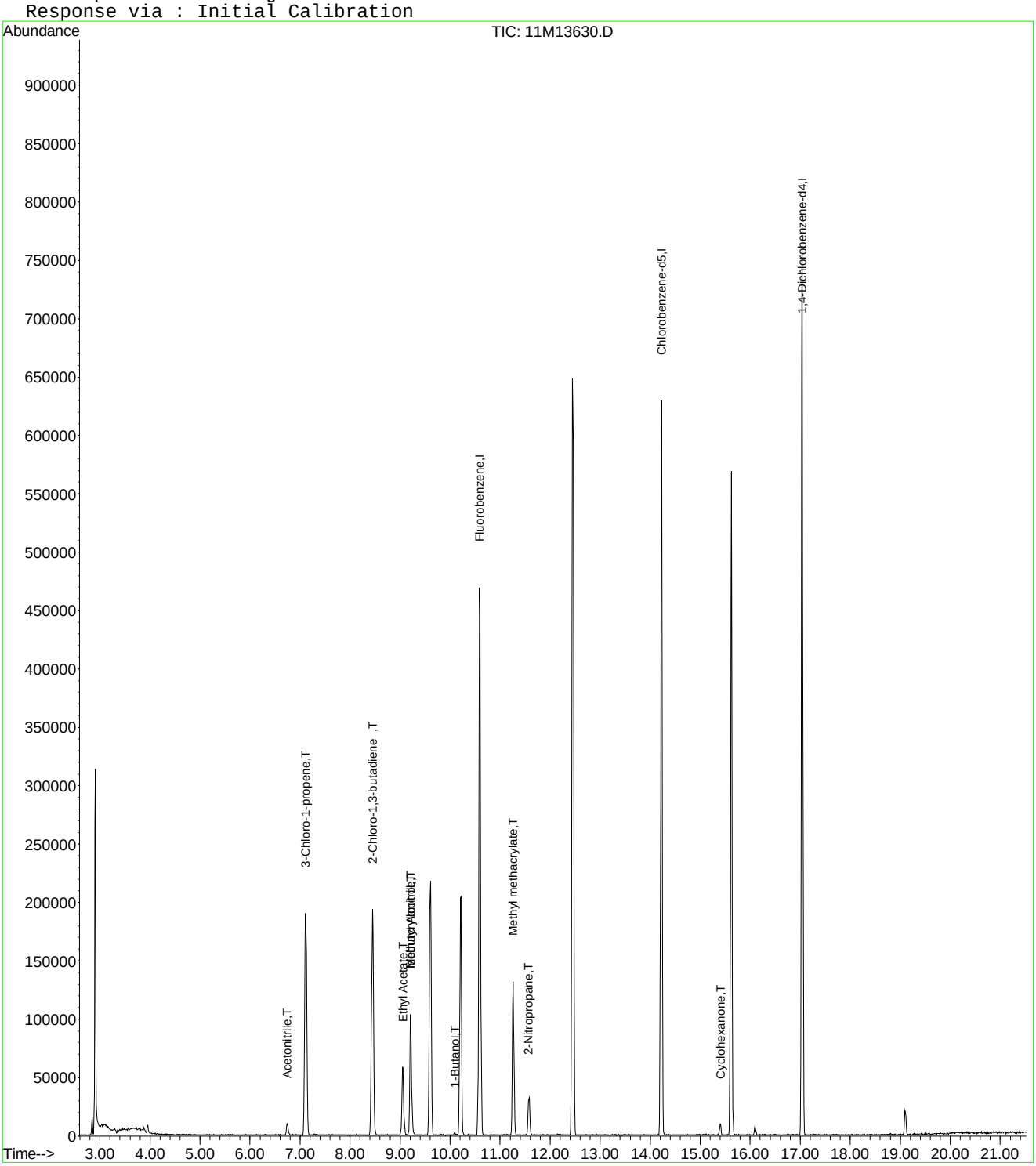
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.59	96	551890	25.00	ug/L		0.00
12) Chlorobenzene-d5	14.23	117	465436	25.00	ug/L		0.00
13) 1,4-Dichlorobenzene-d4	17.04	152	274738	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	6.74	41	12517	19.1932	ug/L		92
3) 3-Chloro-1-propene	7.11	41	200905	19.0176	ug/L		98
4) 2-Chloro-1,3-butadiene	8.45	53	194207	18.0008	ug/L		98
5) Methacrylonitrile	9.21	41	72509	18.5172	ug/L		99
6) Isobutyl Alcohol	9.21	43	7908	32.7331	ug/L		90
7) 1-Butanol	10.10	56	1209	9.1419	ug/L	#	53
8) Cyclohexanone	15.41	55	5806	15.2018	ug/L		92
9) 2-Nitropropane	11.57	43	30103	15.8172	ug/L		98
10) Ethyl Acetate	9.06	43	99065	18.5130	ug/L		99
11) Methyl methacrylate	11.26	41	86765	17.8050	ug/L		99

(#) = qualifier out of range (m) = manual integration
11M13630.D A9FOOWT.M Tue Aug 16 08:59:16 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13630.D Vial: 3
Acq On : 15 Aug 2016 15:46 Operator: JDS
Sample : WG580279-03 20ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 8:59 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13630.D Vial: 3
Acq On : 15 Aug 2016 15:46 Operator: JDS
Sample : WG580279-03 20ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 09:05:22 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

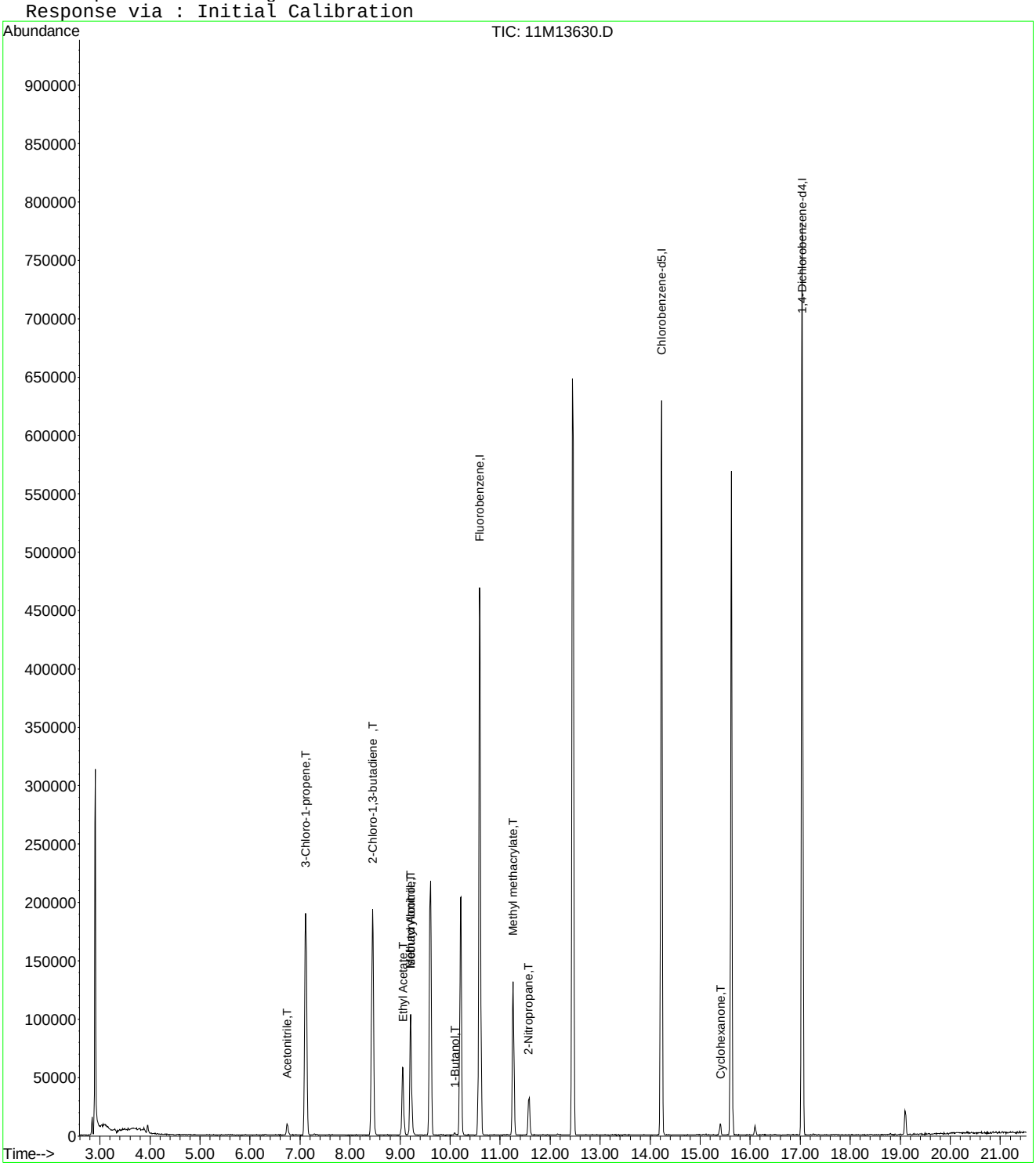
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.59	96	551890	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.23	117	465436	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.04	152	274738	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.74	41	12517	19.1932	ug/L	92
3) 3-Chloro-1-propene	7.11	41	200905	19.0176	ug/L	98
4) 2-Chloro-1,3-butadiene	8.45	53	194207	18.0008	ug/L	98
5) Methacrylonitrile	9.21	41	72509	18.5172	ug/L	99
6) Isobutyl Alcohol	9.21	43	7908	32.7331	ug/L	90
7) 1-Butanol	10.10	56	1209	9.1419	ug/L #	53
8) Cyclohexanone	15.41	55	5806	15.2018	ug/L	92
9) 2-Nitropropane	11.57	43	30103	15.8172	ug/L	98
10) Ethyl Acetate	9.06	43	99065	18.5130	ug/L	99
11) Methyl methacrylate	11.26	41	86765	17.8050	ug/L	99

(#) = qualifier out of range (m) = manual integration
11M13630.D A9FOOWT.M Tue Aug 16 09:05:23 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13630.D Vial: 3
Acq On : 15 Aug 2016 15:46 Operator: JDS
Sample : WG580279-03 20ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 9:05 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13631.D Vial: 4
Acq On : 15 Aug 2016 16:16 Operator: JDS
Sample : WG580279-04 50ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 08:48:36 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:47:42 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

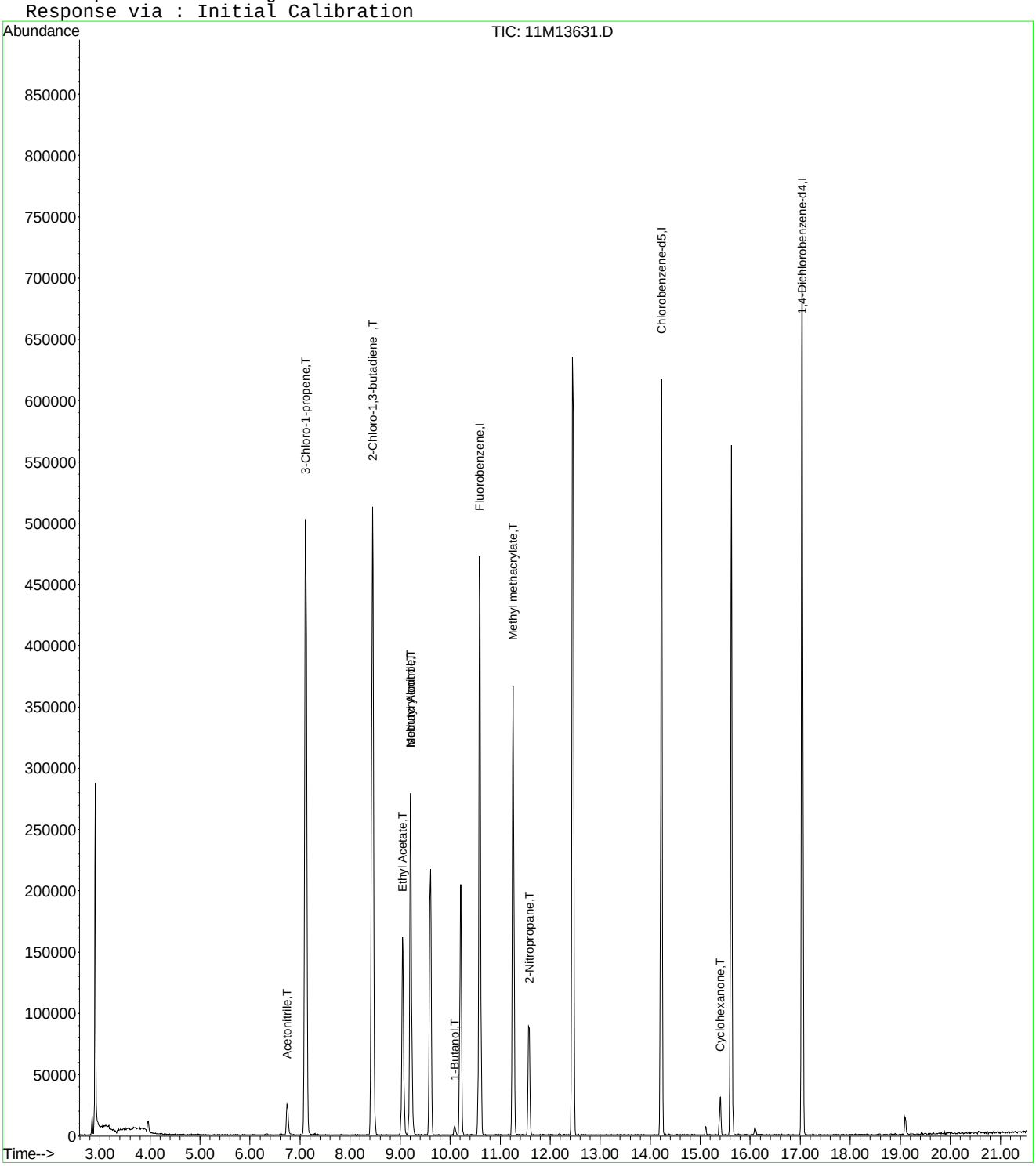
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.59	96	551775	25.00	ug/L	-0.02
12) Chlorobenzene-d5	14.23	117	455520	25.00	ug/L	-0.01
13) 1,4-Dichlorobenzene-d4	17.04	152	260750	25.00	ug/L	-0.02
Target Compounds						Qvalue
2) Acetonitrile	6.74	41	33841	68.8537	ug/L	99
3) 3-Chloro-1-propene	7.11	41	528428	50.7518	ug/L	96
4) 2-Chloro-1,3-butadiene	8.45	53	525312	48.6978	ug/L	96
5) Methacrylonitrile	9.21	41	199367	65.6668	ug/L	93
6) Isobutyl Alcohol	9.21	43	24706	153.6047	ug/L	90
7) 1-Butanol	10.09	56	5861	78.1353	ug/L	91
8) Cyclohexanone	15.40	55	18904	192.4994	ug/L	92
9) 2-Nitropropane	11.58	43	84236	64.8665	ug/L	99
10) Ethyl Acetate	9.05	43	269000	68.3052	ug/L	97
11) Methyl methacrylate	11.26	41	244240	67.2515	ug/L	91

(#) = qualifier out of range (m) = manual integration
11M13631.D A9FOOWT.M Tue Aug 16 08:48:36 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13631.D Vial: 4
Acq On : 15 Aug 2016 16:16 Operator: JDS
Sample : WG580279-04 50ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 8:48 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:47:42 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13631.D Vial: 4
Acq On : 15 Aug 2016 16:16 Operator: JDS
Sample : WG580279-04 50ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 08:59:18 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

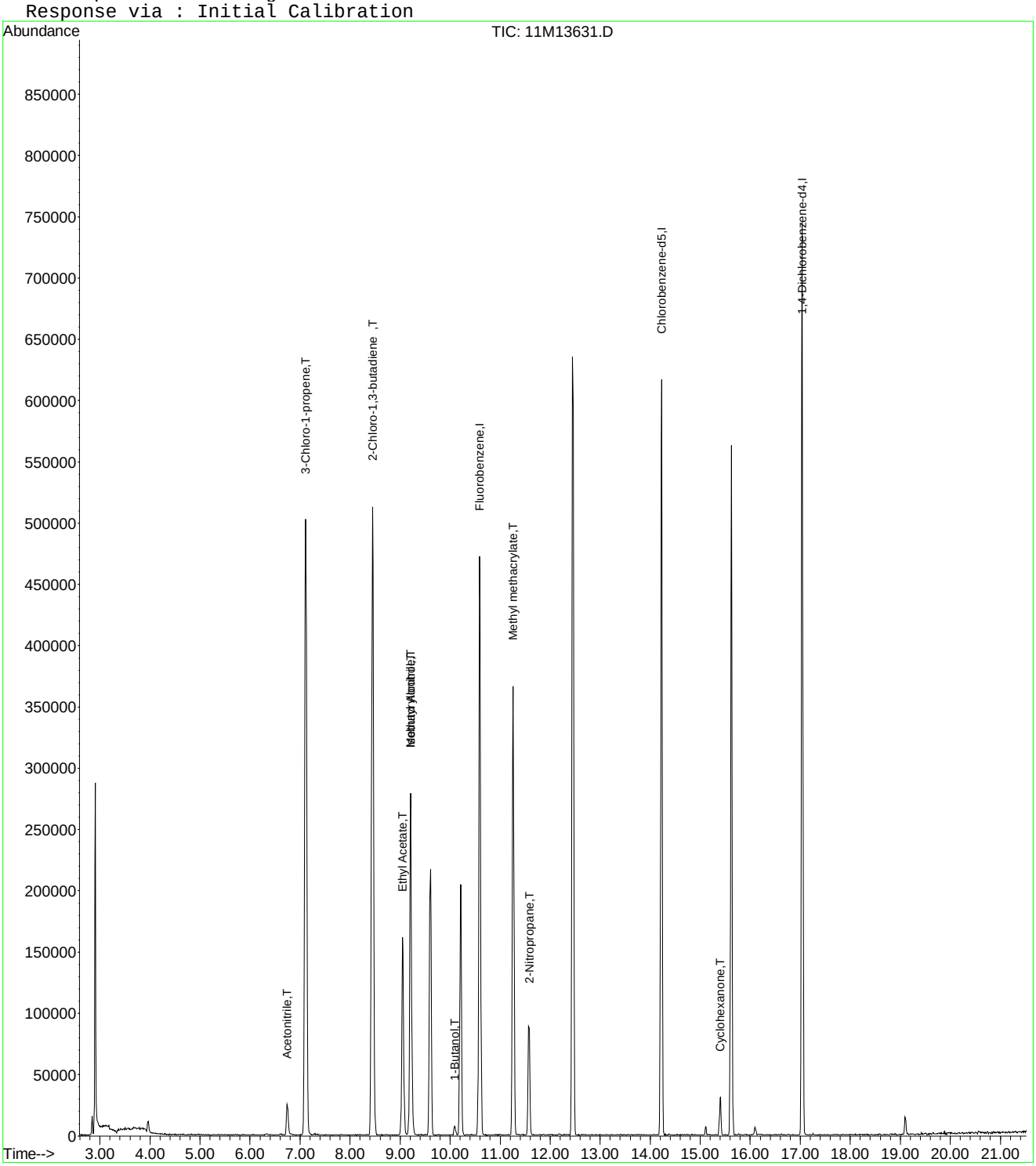
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.59	96	551775	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.23	117	455520	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.04	152	260750	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.74	41	33841	51.9017	ug/L	98
3) 3-Chloro-1-propene	7.11	41	528428	50.0313	ug/L	99
4) 2-Chloro-1,3-butadiene	8.45	53	525312	48.7008	ug/L	100
5) Methacrylonitrile	9.21	41	199367	50.9245	ug/L	99
6) Isobutyl Alcohol	9.21	43	24706	102.2853	ug/L	95
7) 1-Butanol	10.09	56	5861	44.3274	ug/L	96
8) Cyclohexanone	15.40	55	18904	49.5064	ug/L	97
9) 2-Nitropropane	11.58	43	84236	44.2698	ug/L	99
10) Ethyl Acetate	9.05	43	269000	50.2803	ug/L	100
11) Methyl methacrylate	11.26	41	244240	50.1308	ug/L	99

(#) = qualifier out of range (m) = manual integration
11M13631.D A9FOOWT.M Tue Aug 16 08:59:19 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13631.D Vial: 4
Acq On : 15 Aug 2016 16:16 Operator: JDS
Sample : WG580279-04 50ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 8:59 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13631.D Vial: 4
Acq On : 15 Aug 2016 16:16 Operator: JDS
Sample : WG580279-04 50ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 09:05:25 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

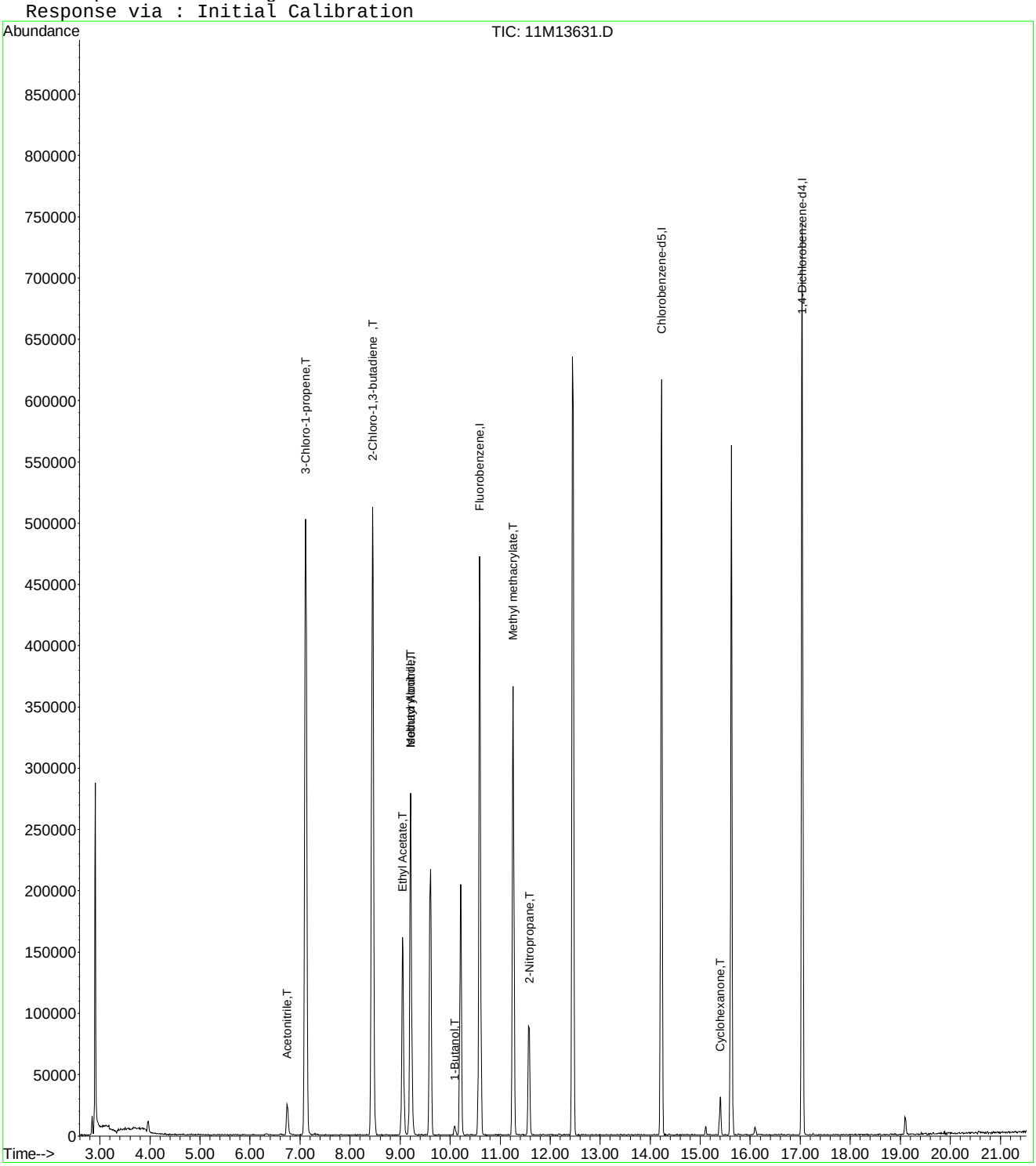
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.59	96	551775	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.23	117	455520	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.04	152	260750	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.74	41	33841	51.9017	ug/L	98
3) 3-Chloro-1-propene	7.11	41	528428	50.0313	ug/L	99
4) 2-Chloro-1,3-butadiene	8.45	53	525312	48.7008	ug/L	100
5) Methacrylonitrile	9.21	41	199367	50.9245	ug/L	99
6) Isobutyl Alcohol	9.21	43	24706	102.2853	ug/L	95
7) 1-Butanol	10.09	56	5861	44.3274	ug/L	96
8) Cyclohexanone	15.40	55	18904	49.5064	ug/L	97
9) 2-Nitropropane	11.58	43	84236	44.2698	ug/L	99
10) Ethyl Acetate	9.05	43	269000	50.2803	ug/L	100
11) Methyl methacrylate	11.26	41	244240	50.1308	ug/L	99

(#) = qualifier out of range (m) = manual integration
11M13631.D A9FOOWT.M Tue Aug 16 09:05:26 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13631.D Vial: 4
Acq On : 15 Aug 2016 16:16 Operator: JDS
Sample : WG580279-04 50ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 9:05 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13632.D Vial: 5
Acq On : 15 Aug 2016 16:45 Operator: JDS
Sample : WG580279-05 100ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 08:48:37 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:47:42 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

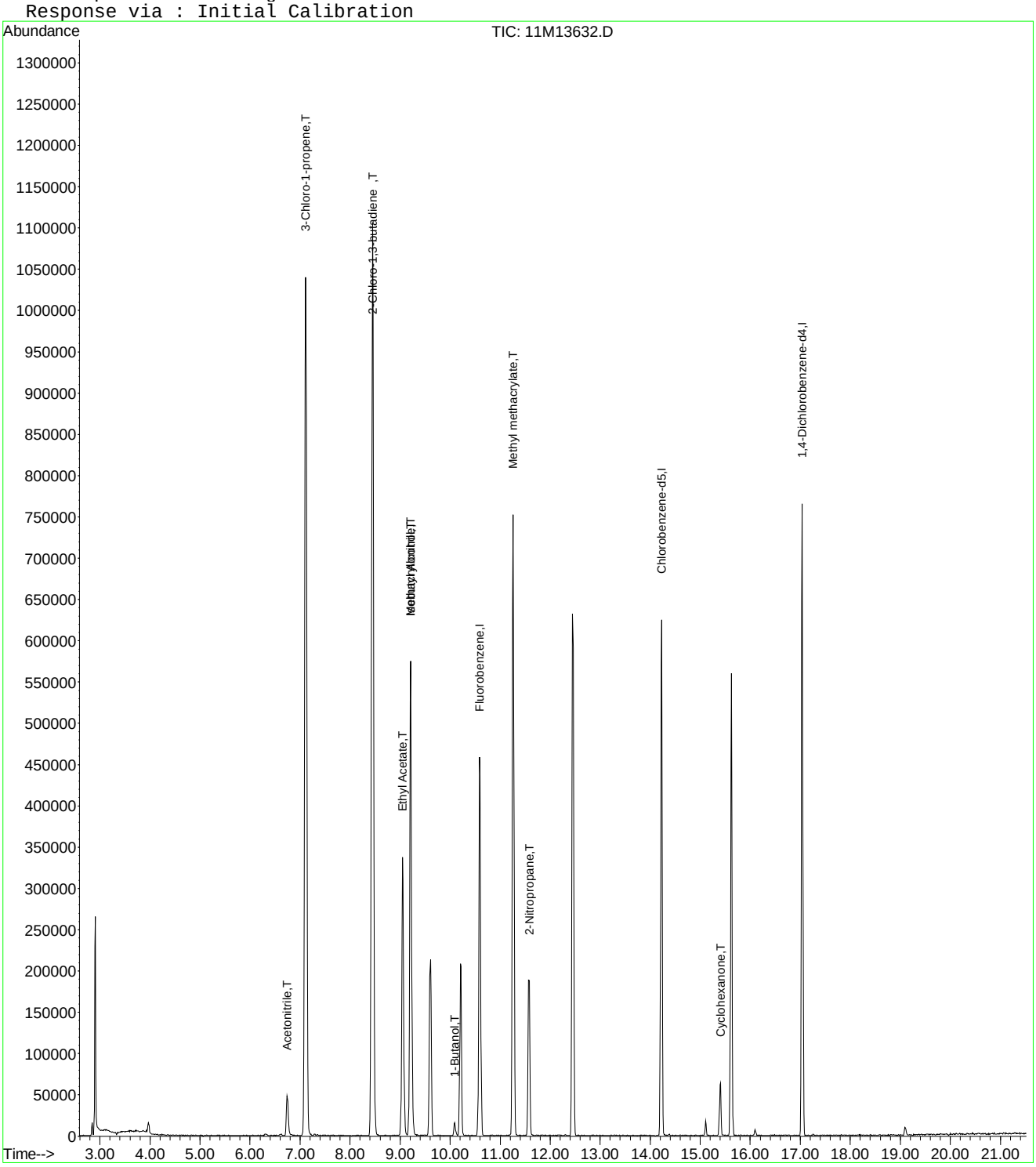
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.59	96	543164	25.00	ug/L	-0.02
12) Chlorobenzene-d5	14.23	117	464590	25.00	ug/L	-0.01
13) 1,4-Dichlorobenzene-d4	17.04	152	266669	25.00	ug/L	-0.02
Target Compounds						Qvalue
2) Acetonitrile	6.74	41	68995	142.6044	ug/L	100
3) 3-Chloro-1-propene	7.11	41	1096390	106.9699	ug/L	95
4) 2-Chloro-1,3-butadiene	8.45	53	1128196	106.2448	ug/L	95
5) Methacrylonitrile	9.21	41	403560	135.0305	ug/L	93
6) Isobutyl Alcohol	9.21	43	46970	296.6563	ug/L	95
7) 1-Butanol	10.09	56	11977	162.2014	ug/L	88
8) Cyclohexanone	15.41	55	37136	384.1508	ug/L	89
9) 2-Nitropropane	11.58	43	183774	143.7600	ug/L	99
10) Ethyl Acetate	9.05	43	558689	144.1128	ug/L	97
11) Methyl methacrylate	11.26	41	508903	142.3479	ug/L	92

(#) = qualifier out of range (m) = manual integration
11M13632.D A9FOOWT.M Tue Aug 16 08:48:38 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13632.D Vial: 5
Acq On : 15 Aug 2016 16:45 Operator: JDS
Sample : WG580279-05 100ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 8:48 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:47:42 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13632.D Vial: 5
Acq On : 15 Aug 2016 16:45 Operator: JDS
Sample : WG580279-05 100ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 08:59:22 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

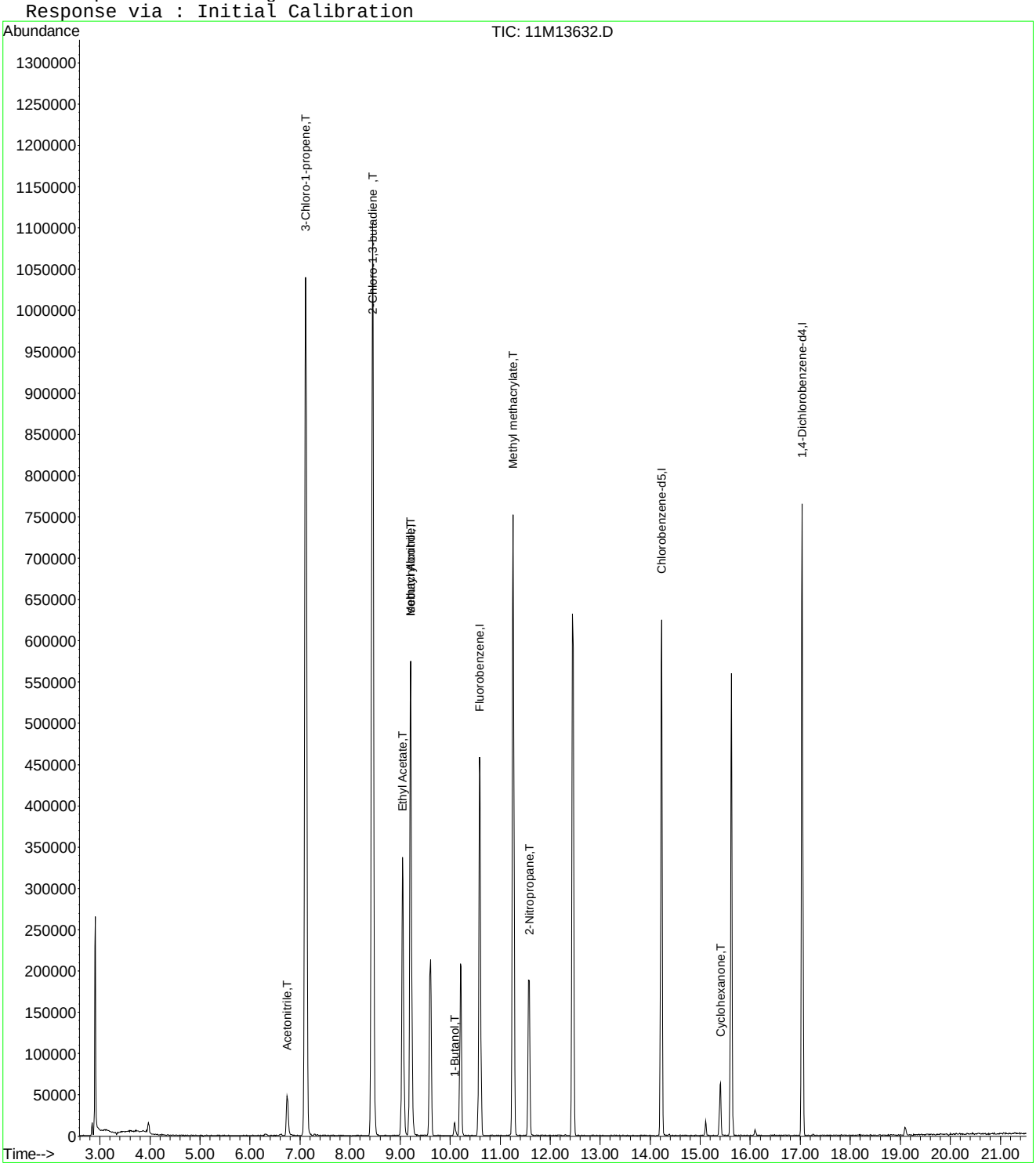
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.59	96	543164	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.23	117	464590	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.04	152	266669	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.74	41	68995	107.4947	ug/L	100
3) 3-Chloro-1-propene	7.11	41	1096390	105.4513	ug/L	100
4) 2-Chloro-1,3-butadiene	8.45	53	1128196	106.2513	ug/L	100
5) Methacrylonitrile	9.21	41	403560	104.7160	ug/L	100
6) Isobutyl Alcohol	9.21	43	46970	197.5434	ug/L	100
7) 1-Butanol	10.09	56	11977	92.0194	ug/L	100
8) Cyclohexanone	15.41	55	37136	98.7947	ug/L	100
9) 2-Nitropropane	11.58	43	183774	98.1127	ug/L	100
10) Ethyl Acetate	9.05	43	558689	106.0833	ug/L	100
11) Methyl methacrylate	11.26	41	508903	106.1093	ug/L	100

(#) = qualifier out of range (m) = manual integration
11M13632.D A9FOOWT.M Tue Aug 16 08:59:23 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13632.D Vial: 5
Acq On : 15 Aug 2016 16:45 Operator: JDS
Sample : WG580279-05 100ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 8:59 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13632.D Vial: 5
Acq On : 15 Aug 2016 16:45 Operator: JDS
Sample : WG580279-05 100ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 09:05:28 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

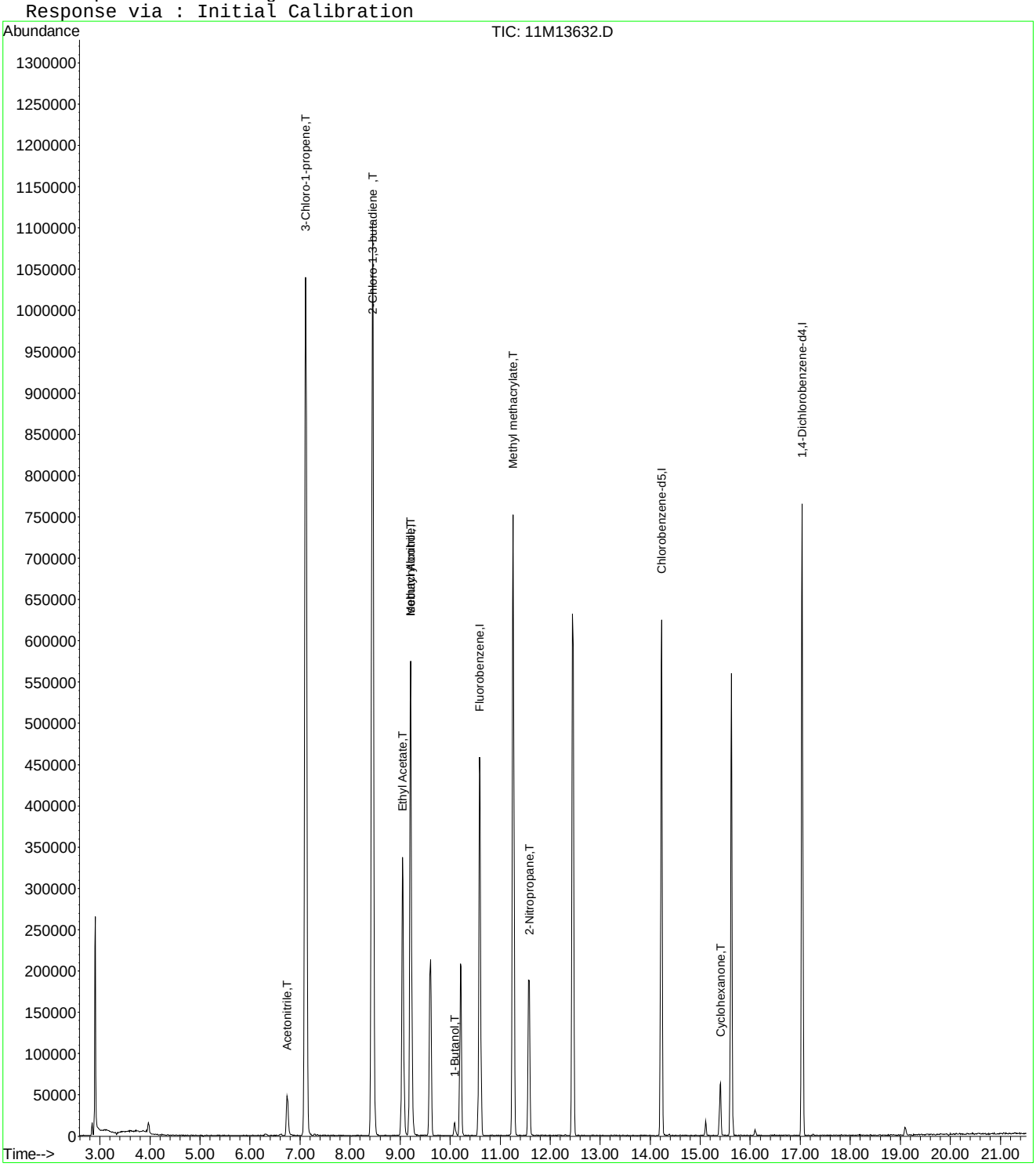
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.59	96	543164	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.23	117	464590	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.04	152	266669	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.74	41	68995	107.4947	ug/L	100
3) 3-Chloro-1-propene	7.11	41	1096390	105.4513	ug/L	100
4) 2-Chloro-1,3-butadiene	8.45	53	1128196	106.2513	ug/L	100
5) Methacrylonitrile	9.21	41	403560	104.7160	ug/L	100
6) Isobutyl Alcohol	9.21	43	46970	197.5434	ug/L	100
7) 1-Butanol	10.09	56	11977	92.0194	ug/L	100
8) Cyclohexanone	15.41	55	37136	98.7947	ug/L	100
9) 2-Nitropropane	11.58	43	183774	98.1127	ug/L	100
10) Ethyl Acetate	9.05	43	558689	106.0833	ug/L	100
11) Methyl methacrylate	11.26	41	508903	106.1093	ug/L	100

(#) = qualifier out of range (m) = manual integration
11M13632.D A9FOOWT.M Tue Aug 16 09:05:29 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13632.D Vial: 5
Acq On : 15 Aug 2016 16:45 Operator: JDS
Sample : WG580279-05 100ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 9:05 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13633.D Vial: 6
Acq On : 15 Aug 2016 17:14 Operator: JDS
Sample : WG580279-06 200ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 08:48:40 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:47:42 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

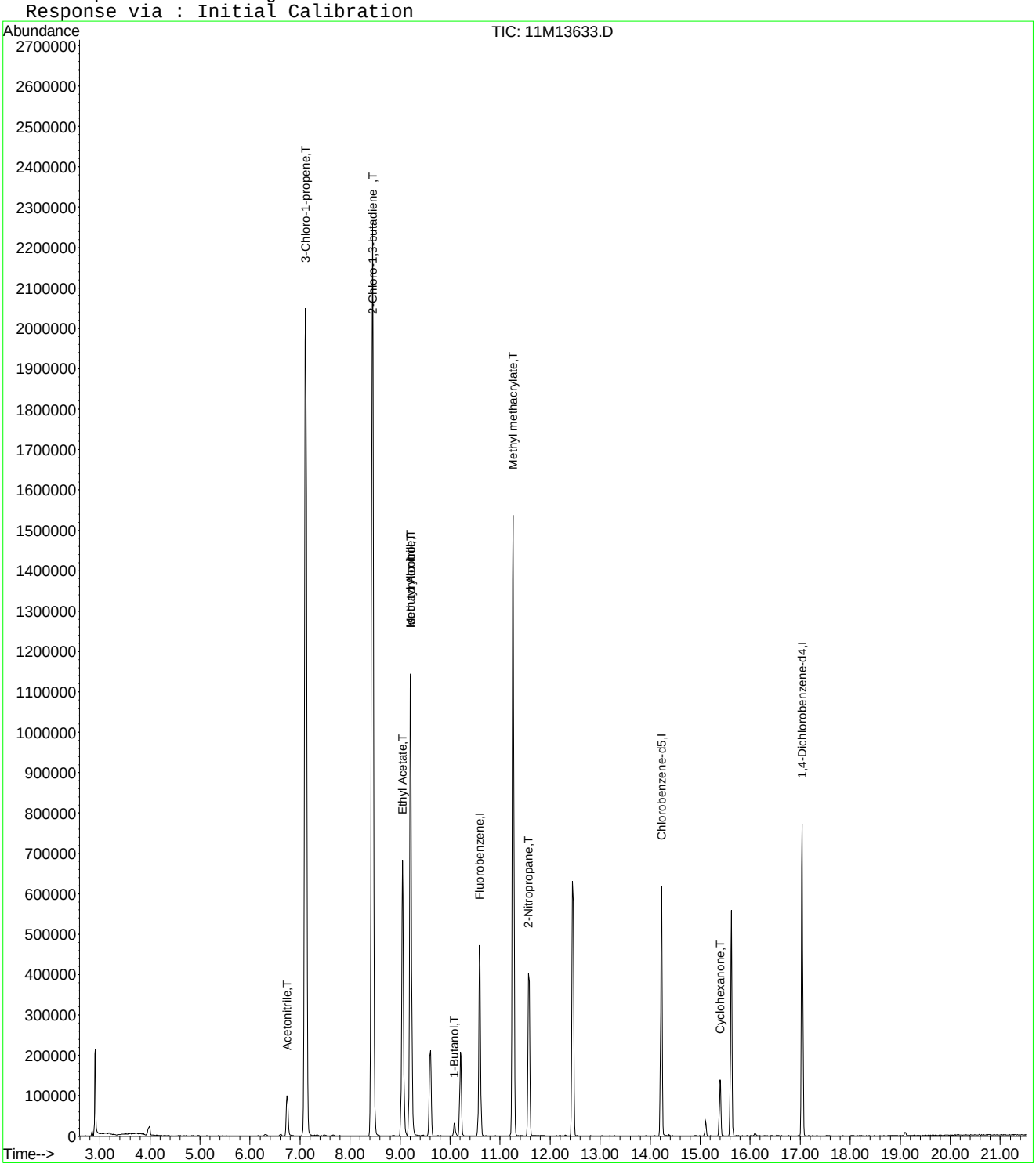
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.59	96	547458	25.00	ug/L		-0.02
12) Chlorobenzene-d5	14.23	117	461668	25.00	ug/L		-0.01
13) 1,4-Dichlorobenzene-d4	17.04	152	271762	25.00	ug/L		-0.02
Target Compounds							Qvalue
2) Acetonitrile	6.74	41	133520	273.8053	ug/L		98
3) 3-Chloro-1-propene	7.11	41	2192356	212.2208	ug/L		94
4) 2-Chloro-1,3-butadiene	8.45	53	2297004	214.6174	ug/L		95
5) Methacrylonitrile	9.21	41	816752	271.1403	ug/L		93
6) Isobutyl Alcohol	9.21	43	95965	601.3483	ug/L		97
7) 1-Butanol	10.08	56	25798	346.6353	ug/L		87
8) Cyclohexanone	15.40	55	77461	795.0050	ug/L	#	87
9) 2-Nitropropane	11.57	43	389052	301.9548	ug/L		97
10) Ethyl Acetate	9.05	43	1127878	288.6522	ug/L		98
11) Methyl methacrylate	11.26	41	1043795	289.6752	ug/L		93

(#) = qualifier out of range (m) = manual integration
11M13633.D A9FOOWT.M Tue Aug 16 08:48:41 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13633.D Vial: 6
Acq On : 15 Aug 2016 17:14 Operator: JDS
Sample : WG580279-06 200ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 8:48 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:47:42 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13633.D Vial: 6
Acq On : 15 Aug 2016 17:14 Operator: JDS
Sample : WG580279-06 200ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 08:59:25 2016 Quant Results File: A9FOOWT.RES

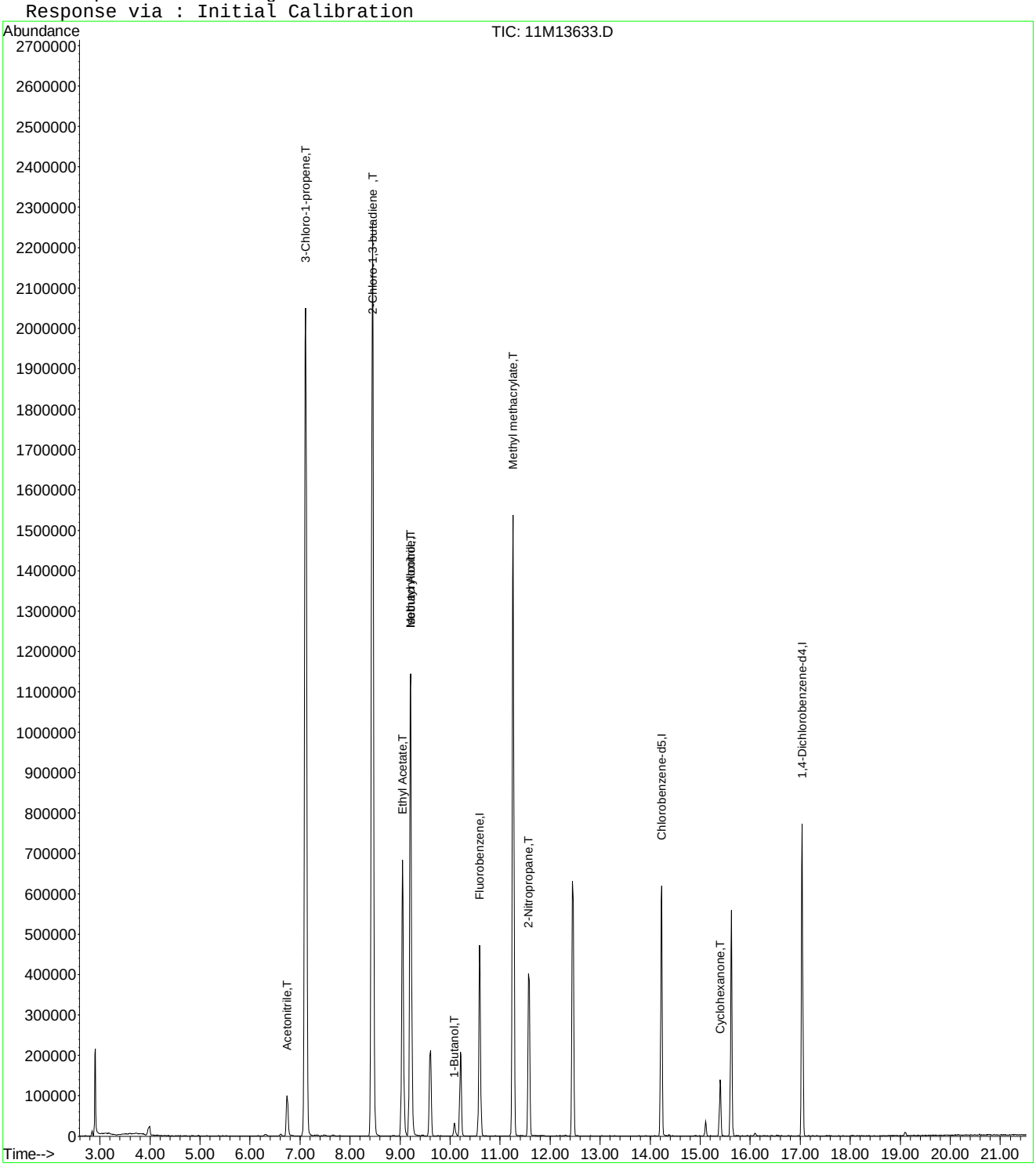
Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.59	96	547458	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.23	117	461668	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.04	152	271762	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.74	41	133520	206.3935	ug/L	98
3) 3-Chloro-1-propene	7.11	41	2192356	209.2079	ug/L	100
4) 2-Chloro-1,3-butadiene	8.45	53	2297004	214.6305	ug/L	99
5) Methacrylonitrile	9.21	41	816752	210.2690	ug/L	100
6) Isobutyl Alcohol	9.21	43	95965	400.4377	ug/L	97
7) 1-Butanol	10.08	56	25798	196.6517	ug/L	94
8) Cyclohexanone	15.40	55	77461	204.4569	ug/L	98
9) 2-Nitropropane	11.57	43	389052	206.0768	ug/L	98
10) Ethyl Acetate	9.05	43	1127878	212.4806	ug/L	100
11) Methyl methacrylate	11.26	41	1043795	215.9305	ug/L	99

(#) = qualifier out of range (m) = manual integration
11M13633.D A9FOOWT.M Tue Aug 16 08:59:26 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13633.D Vial: 6
Acq On : 15 Aug 2016 17:14 Operator: JDS
Sample : WG580279-06 200ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 8:59 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13633.D Vial: 6
Acq On : 15 Aug 2016 17:14 Operator: JDS
Sample : WG580279-06 200ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 09:05:31 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

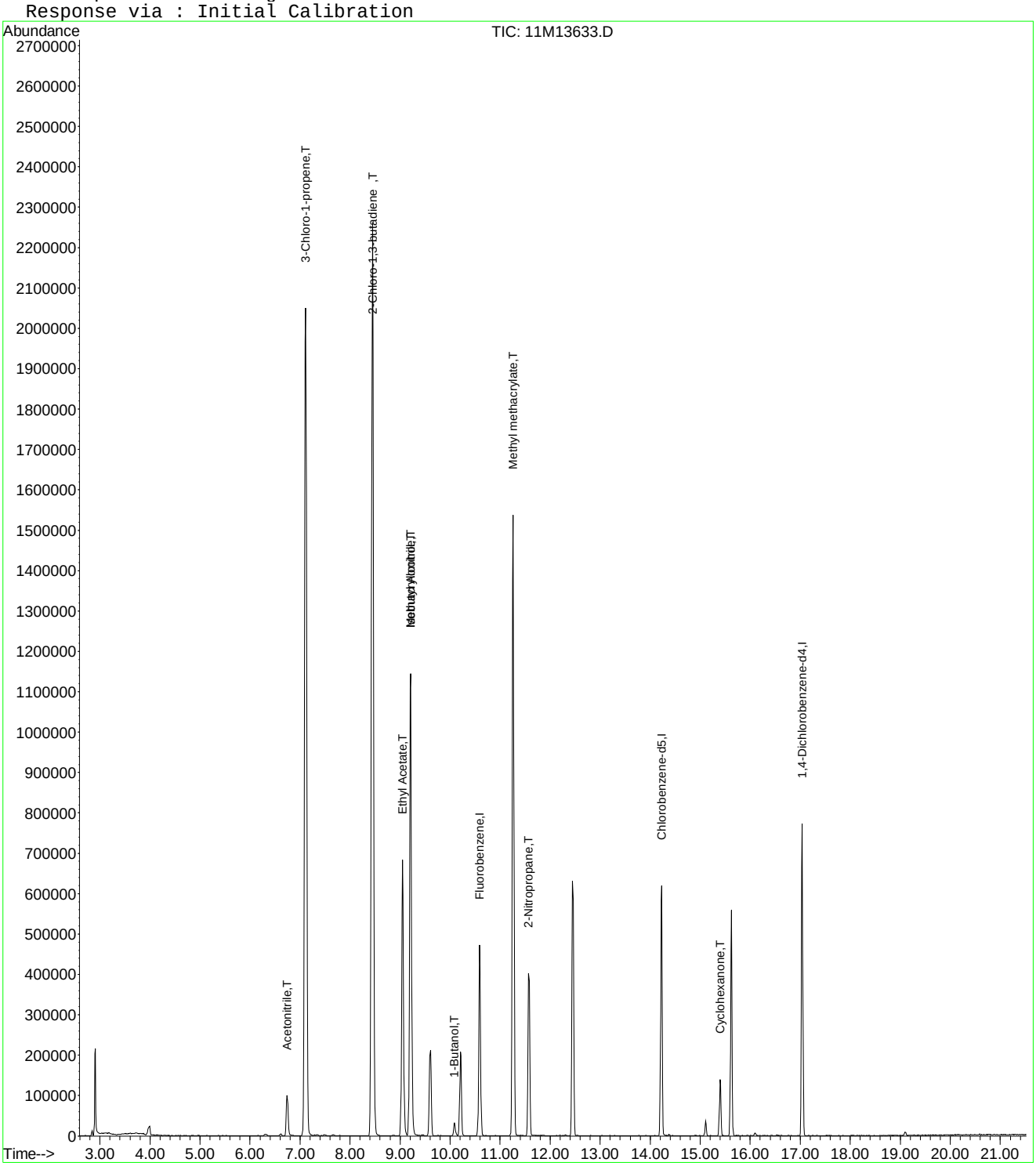
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.59	96	547458	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.23	117	461668	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.04	152	271762	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.74	41	133520	206.3935	ug/L	98
3) 3-Chloro-1-propene	7.11	41	2192356	209.2079	ug/L	100
4) 2-Chloro-1,3-butadiene	8.45	53	2297004	214.6305	ug/L	99
5) Methacrylonitrile	9.21	41	816752	210.2690	ug/L	100
6) Isobutyl Alcohol	9.21	43	95965	400.4377	ug/L	97
7) 1-Butanol	10.08	56	25798	196.6517	ug/L	94
8) Cyclohexanone	15.40	55	77461	204.4569	ug/L	98
9) 2-Nitropropane	11.57	43	389052	206.0768	ug/L	98
10) Ethyl Acetate	9.05	43	1127878	212.4806	ug/L	100
11) Methyl methacrylate	11.26	41	1043795	215.9305	ug/L	99

(#) = qualifier out of range (m) = manual integration
11M13633.D A9FOOWT.M Tue Aug 16 09:05:32 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13633.D Vial: 6
Acq On : 15 Aug 2016 17:14 Operator: JDS
Sample : WG580279-06 200ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 9:05 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13634.D Vial: 7
Acq On : 15 Aug 2016 17:43 Operator: JDS
Sample : WG580279-07 300ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 08:48:42 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:47:42 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

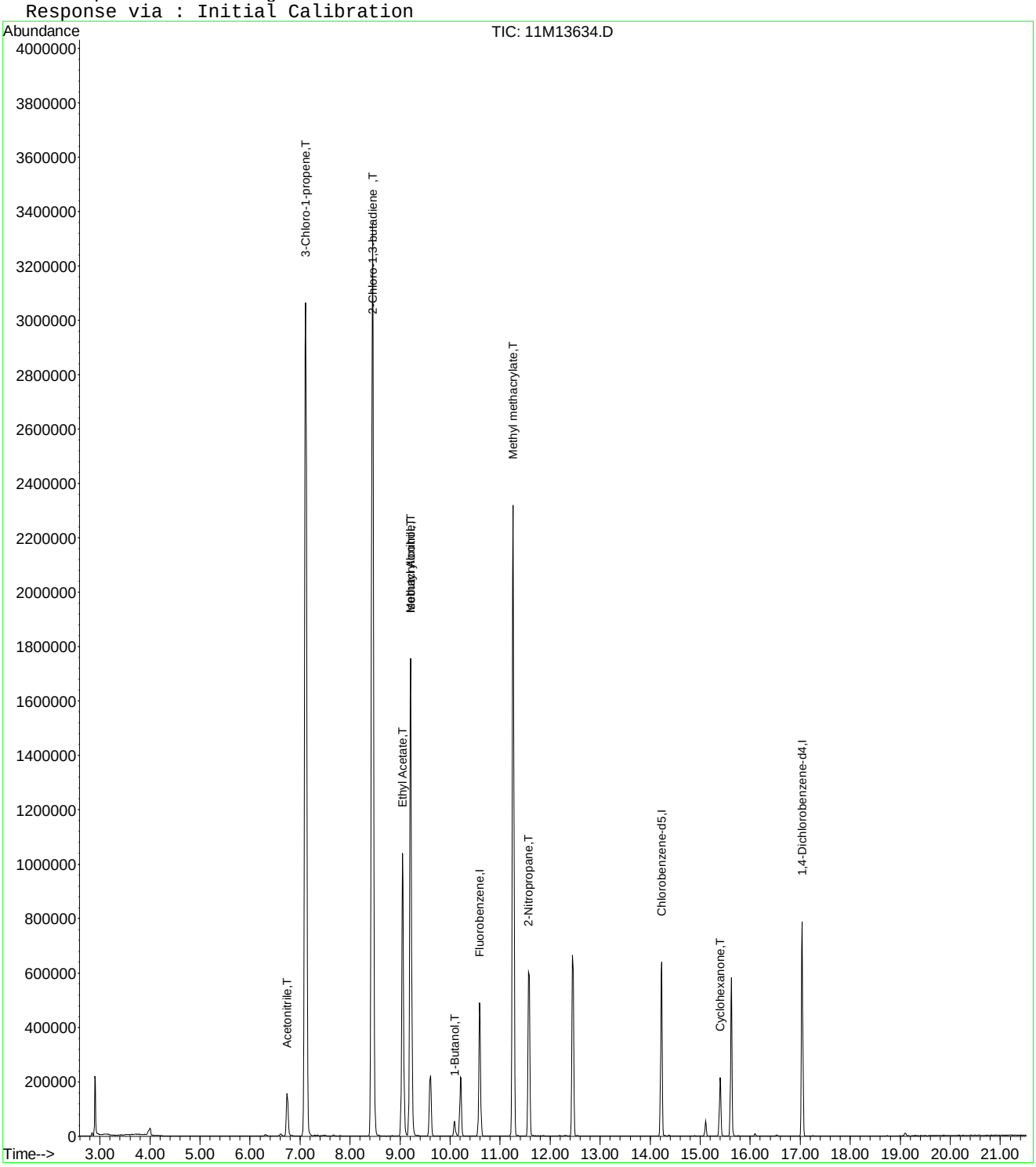
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.59	96	570456	25.00	ug/L		-0.02
12) Chlorobenzene-d5	14.23	117	475151	25.00	ug/L		-0.01
13) 1,4-Dichlorobenzene-d4	17.04	152	277872	25.00	ug/L		-0.02

Target Compounds							Qvalue
2) Acetonitrile	6.74	41	206621	406.6293	ug/L		99
3) 3-Chloro-1-propene	7.11	41	3291074	305.7336	ug/L		94
4) 2-Chloro-1,3-butadiene	8.45	53	3437501	308.2299	ug/L		95
5) Methacrylonitrile	9.21	41	1233098	392.8531	ug/L		93
6) Isobutyl Alcohol	9.21	43	152453	916.8068	ug/L		94
7) 1-Butanol	10.09	56	41314	532.7367	ug/L		92
8) Cyclohexanone	15.40	55	121765	1199.3278	ug/L	#	89
9) 2-Nitropropane	11.57	43	596726	444.4653	ug/L		97
10) Ethyl Acetate	9.05	43	1705829	418.9642	ug/L		97
11) Methyl methacrylate	11.26	41	1576015	419.7446	ug/L		92

(#) = qualifier out of range (m) = manual integration
11M13634.D A9FOOWT.M Tue Aug 16 08:48:43 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13634.D Vial: 7
Acq On : 15 Aug 2016 17:43 Operator: JDS
Sample : WG580279-07 300ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 8:48 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:47:42 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13634.D Vial: 7
Acq On : 15 Aug 2016 17:43 Operator: JDS
Sample : WG580279-07 300ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 08:59:28 2016 Quant Results File: A9FOOWT.RES

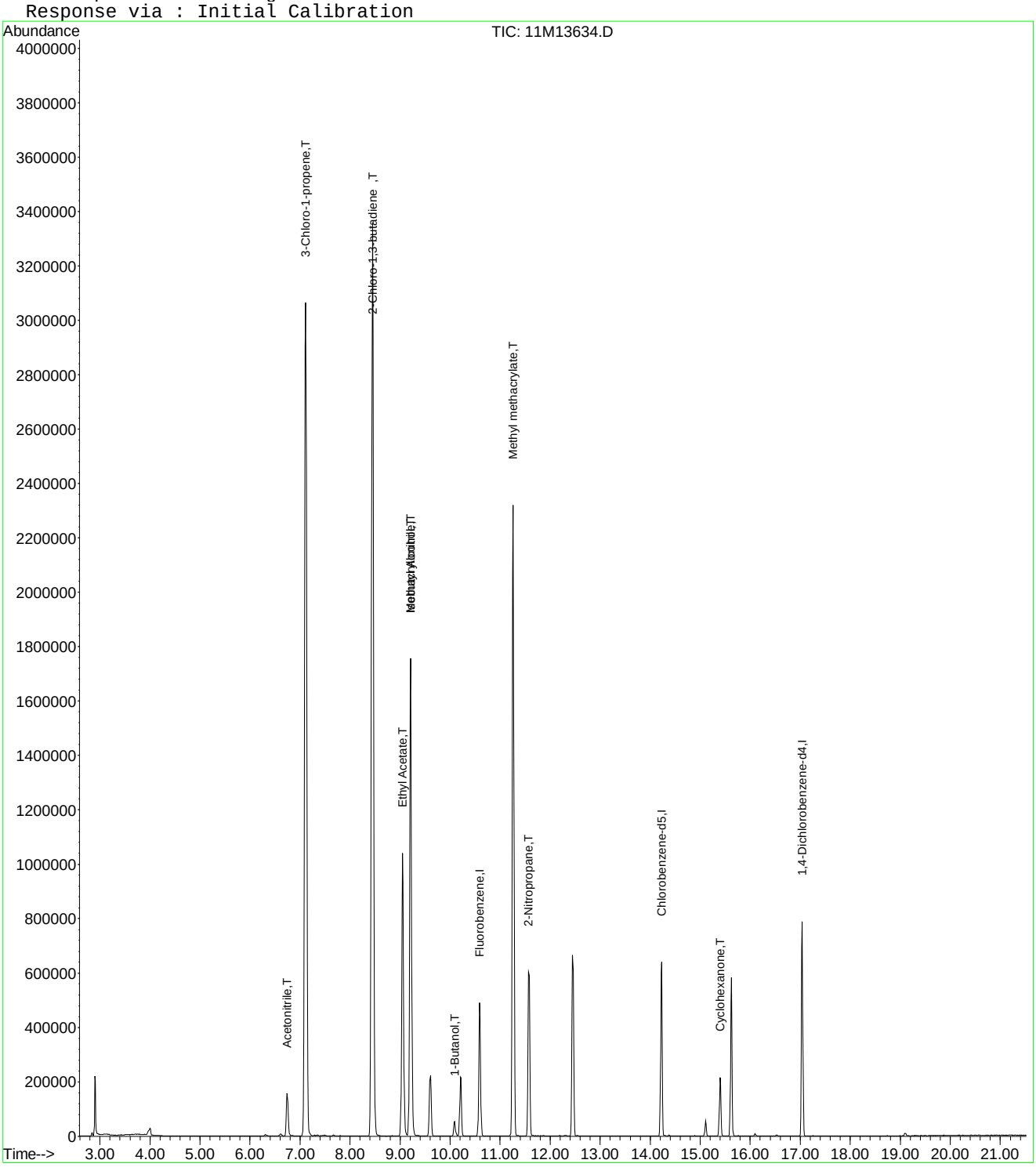
Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.59	96	570456	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.23	117	475151	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.04	152	277872	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.74	41	206621	306.5157	ug/L	98
3) 3-Chloro-1-propene	7.11	41	3291074	301.3931	ug/L	100
4) 2-Chloro-1,3-butadiene	8.45	53	3437501	308.2487	ug/L	99
5) Methacrylonitrile	9.21	41	1233098	304.6571	ug/L	99
6) Isobutyl Alcohol	9.21	43	152453	610.5015	ug/L	99
7) 1-Butanol	10.09	56	41314	302.2300	ug/L	95
8) Cyclohexanone	15.40	55	121765	308.4394	ug/L	99
9) 2-Nitropropane	11.57	43	596726	303.3368	ug/L	98
10) Ethyl Acetate	9.05	43	1705829	308.4049	ug/L	100
11) Methyl methacrylate	11.26	41	1576015	312.8871	ug/L	100

(#) = qualifier out of range (m) = manual integration
11M13634.D A9FOOWT.M Tue Aug 16 08:59:29 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13634.D Vial: 7
Acq On : 15 Aug 2016 17:43 Operator: JDS
Sample : WG580279-07 300ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 8:59 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13634.D Vial: 7
Acq On : 15 Aug 2016 17:43 Operator: JDS
Sample : WG580279-07 300ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 09:05:34 2016 Quant Results File: A9FOOWT.RES

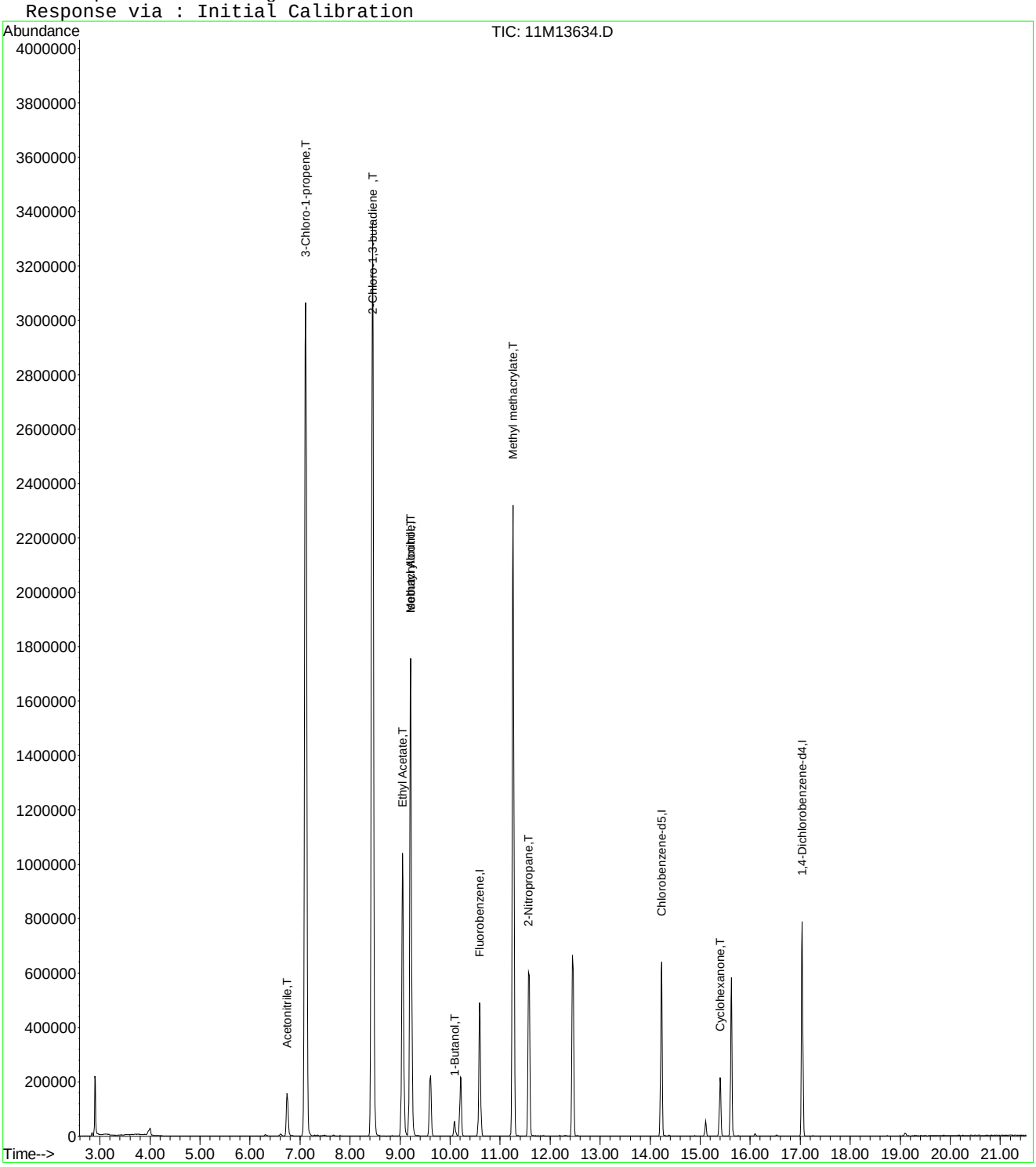
Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.59	96	570456	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.23	117	475151	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.04	152	277872	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.74	41	206621	306.5157	ug/L	98
3) 3-Chloro-1-propene	7.11	41	3291074	301.3931	ug/L	100
4) 2-Chloro-1,3-butadiene	8.45	53	3437501	308.2487	ug/L	99
5) Methacrylonitrile	9.21	41	1233098	304.6571	ug/L	99
6) Isobutyl Alcohol	9.21	43	152453	610.5015	ug/L	99
7) 1-Butanol	10.09	56	41314	302.2300	ug/L	95
8) Cyclohexanone	15.40	55	121765	308.4394	ug/L	99
9) 2-Nitropropane	11.57	43	596726	303.3368	ug/L	98
10) Ethyl Acetate	9.05	43	1705829	308.4049	ug/L	100
11) Methyl methacrylate	11.26	41	1576015	312.8871	ug/L	100

(#) = qualifier out of range (m) = manual integration
11M13634.D A9FOOWT.M Tue Aug 16 09:05:35 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13634.D Vial: 7
Acq On : 15 Aug 2016 17:43 Operator: JDS
Sample : WG580279-07 300ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 9:05 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13635.D Vial: 8
Acq On : 15 Aug 2016 18:12 Operator: JDS
Sample : WG580279-08 400ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 08:48:45 2016 Quant Results File: A9FOOWT.RES

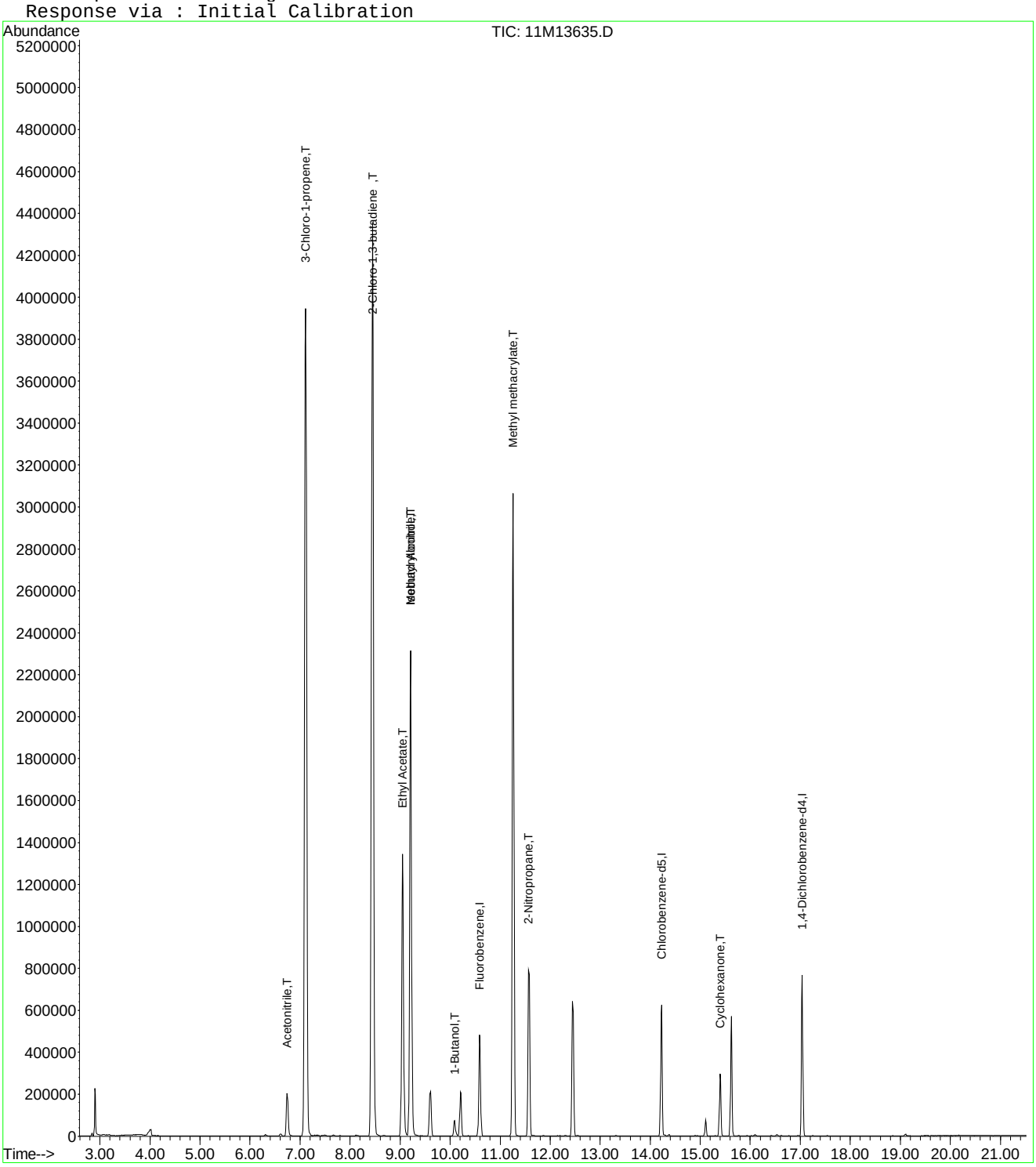
Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:47:42 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.59	96	552210	25.00	ug/L		-0.02
12) Chlorobenzene-d5	14.23	117	466578	25.00	ug/L		-0.01
13) 1,4-Dichlorobenzene-d4	17.04	152	272411	25.00	ug/L		-0.02
Target Compounds							Qvalue
2) Acetonitrile	6.74	41	269620	548.1434	ug/L		97
3) 3-Chloro-1-propene	7.11	41	4235652	406.4842	ug/L		94
4) 2-Chloro-1,3-butadiene	8.45	53	4437193	411.0154	ug/L		95
5) Methacrylonitrile	9.21	41	1603488	527.7353	ug/L		93
6) Isobutyl Alcohol	9.21	43	209353	1300.5856	ug/L		93
7) 1-Butanol	10.09	56	54105	720.7268	ug/L		97
8) Cyclohexanone	15.40	55	164553	1674.3225	ug/L	#	86
9) 2-Nitropropane	11.57	43	788121	606.4203	ug/L		96
10) Ethyl Acetate	9.05	43	2221977	563.7659	ug/L		97
11) Methyl methacrylate	11.26	41	2055104	565.4269	ug/L		91

(#) = qualifier out of range (m) = manual integration
11M13635.D A9FOOWT.M Tue Aug 16 08:48:46 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13635.D Vial: 8
Acq On : 15 Aug 2016 18:12 Operator: JDS
Sample : WG580279-08 400ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 8:48 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:47:42 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\081516\11M13635.D Vial: 8
Acq On : 15 Aug 2016 18:12 Operator: JDS
Sample : WG580279-08 400ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 08:59:31 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

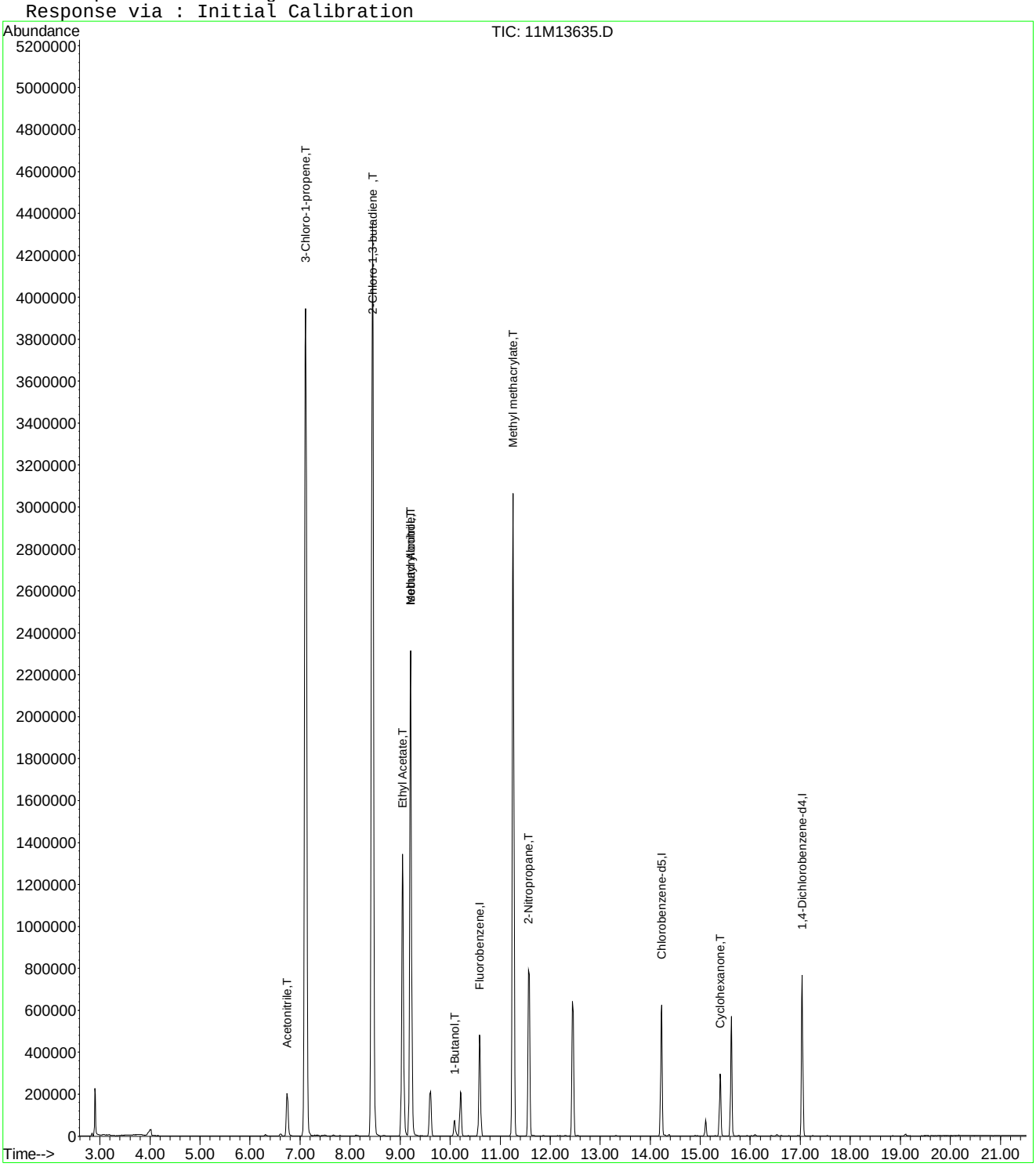
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.59	96	552210	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.23	117	466578	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.04	152	272411	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.74	41	269620	413.1886	ug/L	97
3) 3-Chloro-1-propene	7.11	41	4235652	400.7134	ug/L	99
4) 2-Chloro-1,3-butadiene	8.45	53	4437193	411.0405	ug/L	99
5) Methacrylonitrile	9.21	41	1603488	409.2581	ug/L	100
6) Isobutyl Alcohol	9.21	43	209353	866.0597	ug/L	98
7) 1-Butanol	10.09	56	54105	408.8798	ug/L	90
8) Cyclohexanone	15.40	55	164553	430.5971	ug/L	98
9) 2-Nitropropane	11.57	43	788121	413.8671	ug/L	97
10) Ethyl Acetate	9.05	43	2221977	414.9954	ug/L	99
11) Methyl methacrylate	11.26	41	2055104	421.4820	ug/L	100

(#) = qualifier out of range (m) = manual integration
11M13635.D A9FOOWT.M Tue Aug 16 08:59:32 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13635.D Vial: 8
Acq On : 15 Aug 2016 18:12 Operator: JDS
Sample : WG580279-08 400ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 8:59 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\081516\11M13635.D Vial: 8
Acq On : 15 Aug 2016 18:12 Operator: JDS
Sample : WG580279-08 400ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 09:05:37 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

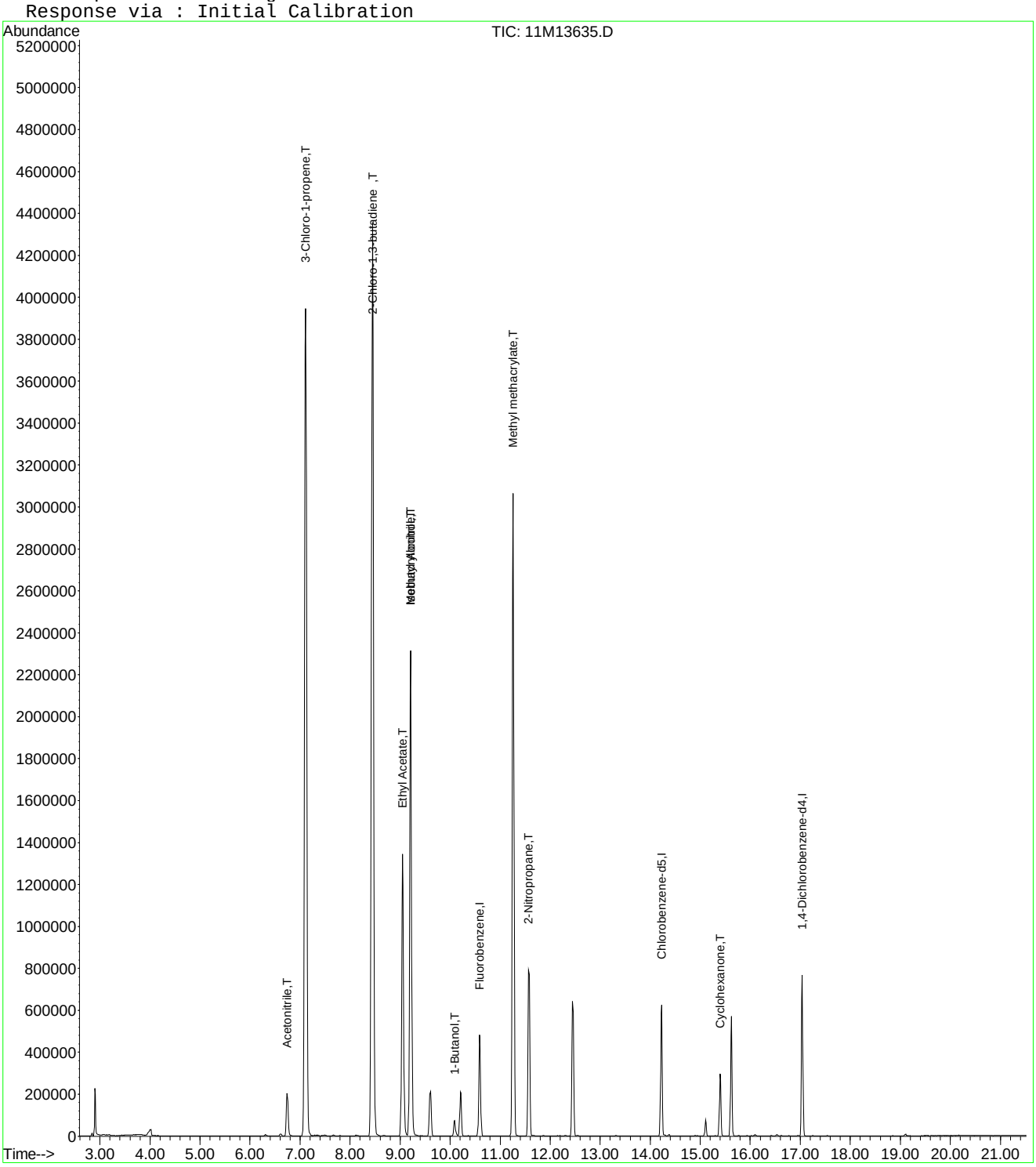
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.59	96	552210	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.23	117	466578	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.04	152	272411	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.74	41	269620	413.1886	ug/L	97
3) 3-Chloro-1-propene	7.11	41	4235652	400.7134	ug/L	99
4) 2-Chloro-1,3-butadiene	8.45	53	4437193	411.0405	ug/L	99
5) Methacrylonitrile	9.21	41	1603488	409.2581	ug/L	100
6) Isobutyl Alcohol	9.21	43	209353	866.0597	ug/L	98
7) 1-Butanol	10.09	56	54105	408.8798	ug/L	90
8) Cyclohexanone	15.40	55	164553	430.5971	ug/L	98
9) 2-Nitropropane	11.57	43	788121	413.8671	ug/L	97
10) Ethyl Acetate	9.05	43	2221977	414.9954	ug/L	99
11) Methyl methacrylate	11.26	41	2055104	421.4820	ug/L	100

(#) = qualifier out of range (m) = manual integration
11M13635.D A9FOOWT.M Tue Aug 16 09:05:38 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13635.D Vial: 8
Acq On : 15 Aug 2016 18:12 Operator: JDS
Sample : WG580279-08 400ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 9:05 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13636.D Vial: 9
Acq On : 15 Aug 2016 18:41 Operator: JDS
Sample : WG580279-09 500ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 08:48:47 2016 Quant Results File: A9FOOWT.RES

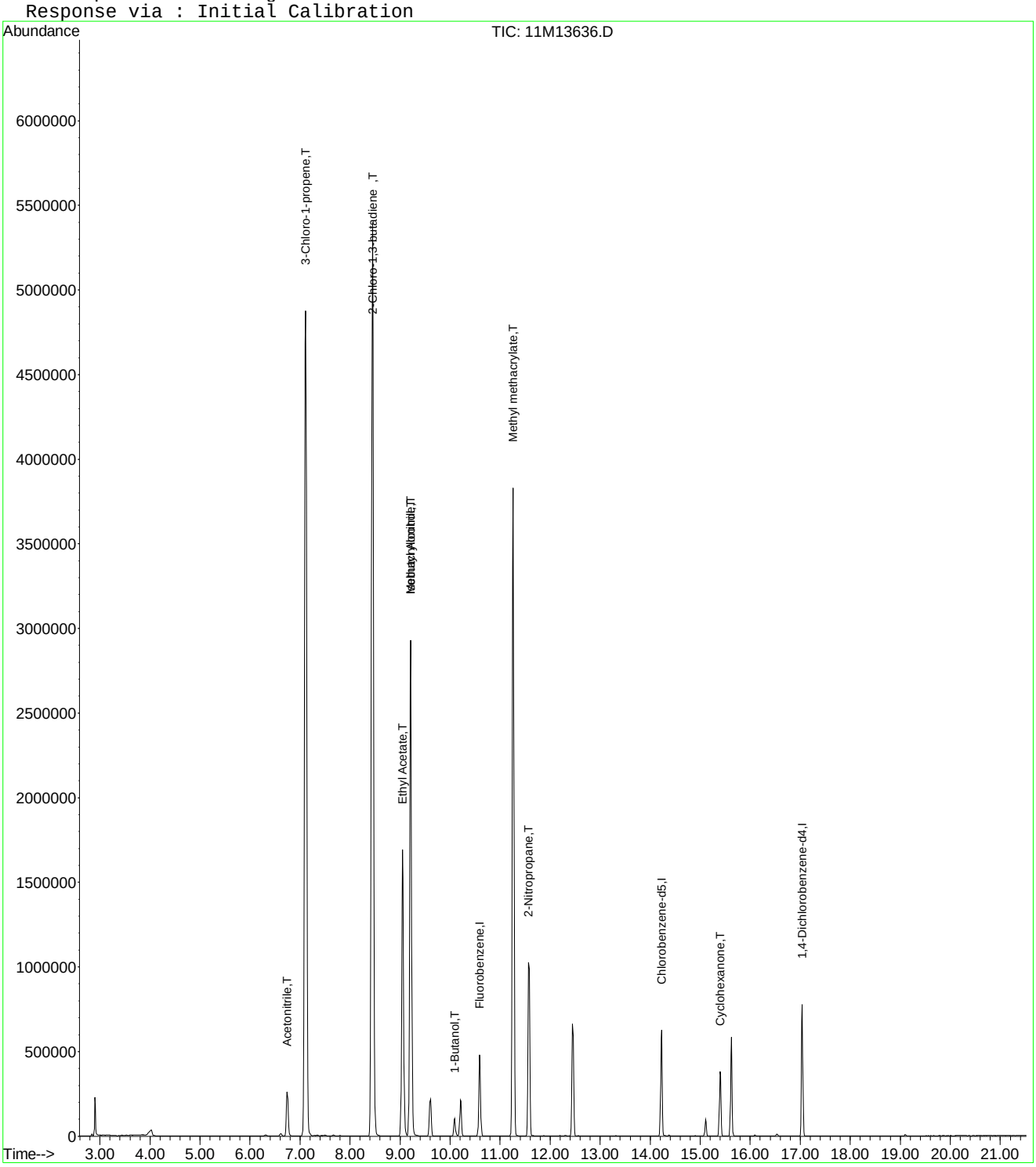
Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:47:42 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.59	96	551574	25.00	ug/L		-0.02
12) Chlorobenzene-d5	14.23	117	467201	25.00	ug/L		-0.01
13) 1,4-Dichlorobenzene-d4	17.04	152	275573	25.00	ug/L		-0.02
Target Compounds							Qvalue
2) Acetonitrile	6.74	41	346353	704.9551	ug/L		98
3) 3-Chloro-1-propene	7.11	41	5201220	499.7227	ug/L		93
4) 2-Chloro-1,3-butadiene	8.45	53	5468598	507.1382	ug/L		94
5) Methacrylonitrile	9.21	41	2029572	668.7370	ug/L		93
6) Isobutyl Alcohol	9.21	43	258337	1606.7446	ug/L		96
7) 1-Butanol	10.09	56	78006	1040.3075	ug/L		89
8) Cyclohexanone	15.40	55	216607	2206.5119	ug/L	#	87
9) 2-Nitropropane	11.57	43	1005542	774.6072	ug/L		98
10) Ethyl Acetate	9.05	43	2809173	713.5727	ug/L		96
11) Methyl methacrylate	11.26	41	2604115	717.3041	ug/L		91

(#) = qualifier out of range (m) = manual integration
11M13636.D A9FOOWT.M Tue Aug 16 08:48:48 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13636.D Vial: 9
Acq On : 15 Aug 2016 18:41 Operator: JDS
Sample : WG580279-09 500ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 8:48 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:47:42 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13636.D Vial: 9
Acq On : 15 Aug 2016 18:41 Operator: JDS
Sample : WG580279-09 500ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 08:59:34 2016 Quant Results File: A9FOOWT.RES

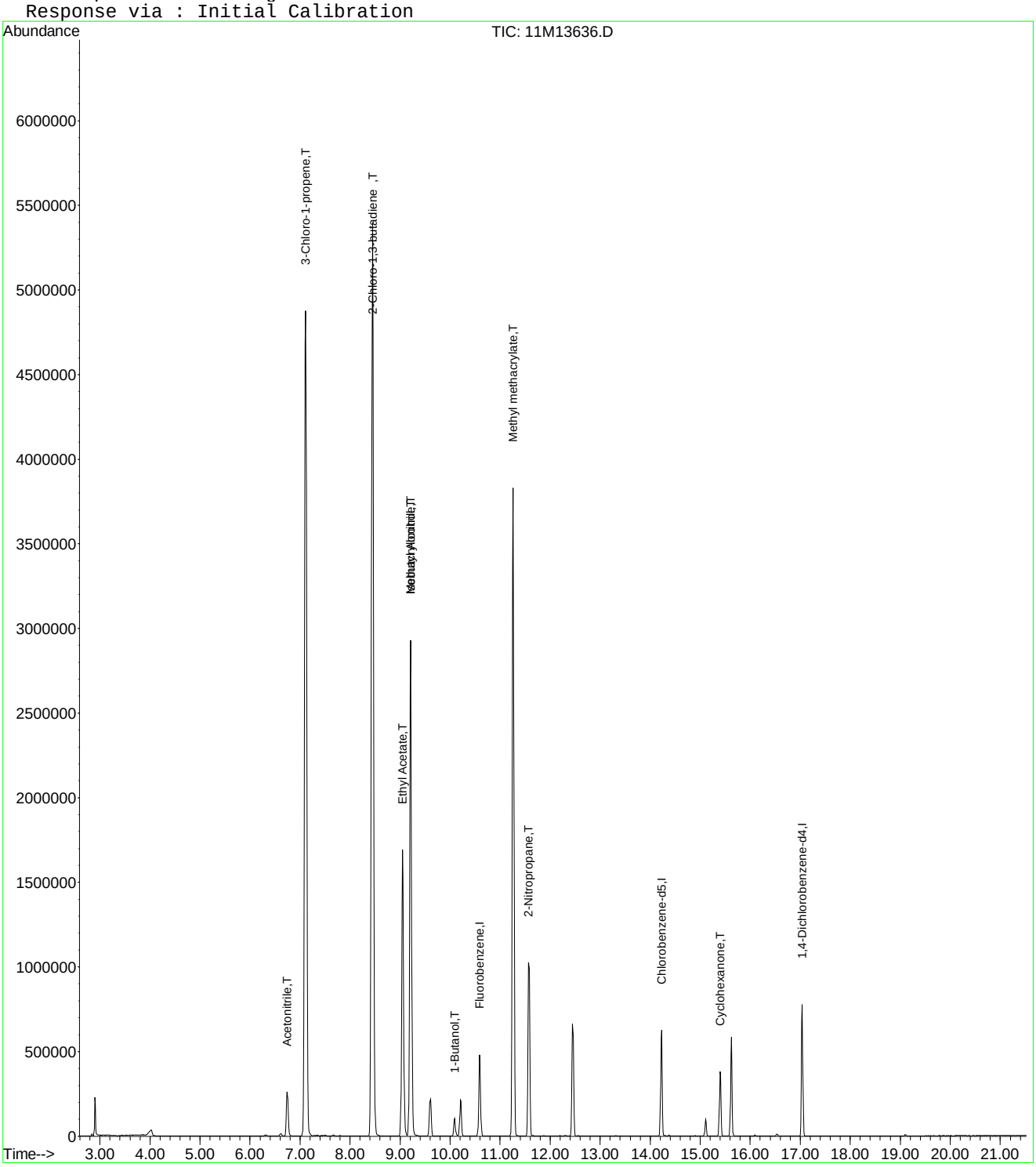
Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.59	96	551574	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.23	117	467201	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.04	152	275573	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.74	41	346353	531.3928	ug/L	97
3) 3-Chloro-1-propene	7.11	41	5201220	492.6282	ug/L	98
4) 2-Chloro-1,3-butadiene	8.45	53	5468598	507.1691	ug/L	99
5) Methacrylonitrile	9.21	41	2029572	518.6048	ug/L	100
6) Isobutyl Alcohol	9.21	43	258337	1069.9309	ug/L	98
7) 1-Butanol	10.09	56	78006	590.1831	ug/L	95
8) Cyclohexanone	15.40	55	216607	567.4639	ug/L	98
9) 2-Nitropropane	11.57	43	1005542	528.6506	ug/L	98
10) Ethyl Acetate	9.05	43	2809173	525.2701	ug/L	99
11) Methyl methacrylate	11.26	41	2604115	534.6947	ug/L	99

(#) = qualifier out of range (m) = manual integration
11M13636.D A9FOOWT.M Tue Aug 16 08:59:35 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13636.D Vial: 9
Acq On : 15 Aug 2016 18:41 Operator: JDS
Sample : WG580279-09 500ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 8:59 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13636.D Vial: 9
Acq On : 15 Aug 2016 18:41 Operator: JDS
Sample : WG580279-09 500ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 09:05:40 2016 Quant Results File: A9FOOWT.RES

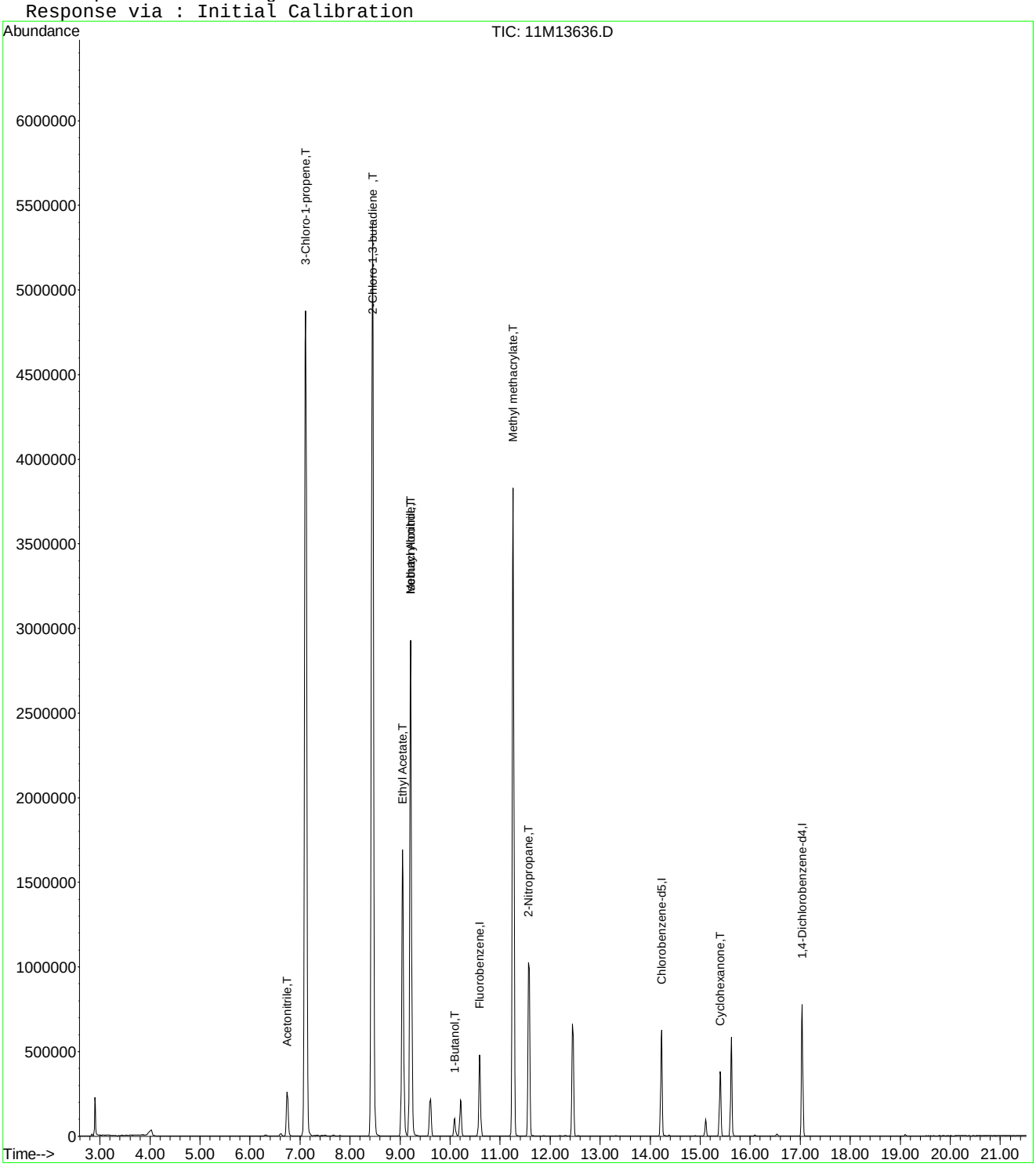
Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.59	96	551574	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.23	117	467201	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.04	152	275573	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.74	41	346353	531.3928	ug/L	97
3) 3-Chloro-1-propene	7.11	41	5201220	492.6282	ug/L	98
4) 2-Chloro-1,3-butadiene	8.45	53	5468598	507.1691	ug/L	99
5) Methacrylonitrile	9.21	41	2029572	518.6048	ug/L	100
6) Isobutyl Alcohol	9.21	43	258337	1069.9309	ug/L	98
7) 1-Butanol	10.09	56	78006	590.1831	ug/L	95
8) Cyclohexanone	15.40	55	216607	567.4639	ug/L	98
9) 2-Nitropropane	11.57	43	1005542	528.6506	ug/L	98
10) Ethyl Acetate	9.05	43	2809173	525.2701	ug/L	99
11) Methyl methacrylate	11.26	41	2604115	534.6947	ug/L	99

(#) = qualifier out of range (m) = manual integration
11M13636.D A9FOOWT.M Tue Aug 16 09:05:41 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13636.D Vial: 9
Acq On : 15 Aug 2016 18:41 Operator: JDS
Sample : WG580279-09 500ug/L ICAL STD 8260-A9 Inst : hpms11
Misc : 1,1 STD77502 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 9:05 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13638.D Vial: 11
Acq On : 15 Aug 2016 19:39 Operator: JDS
Sample : WG580279-10 100ug/L ALT SRC 8260-A9 Inst : hpms11
Misc : 1,1 STD77604 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 08:48:53 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:47:42 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

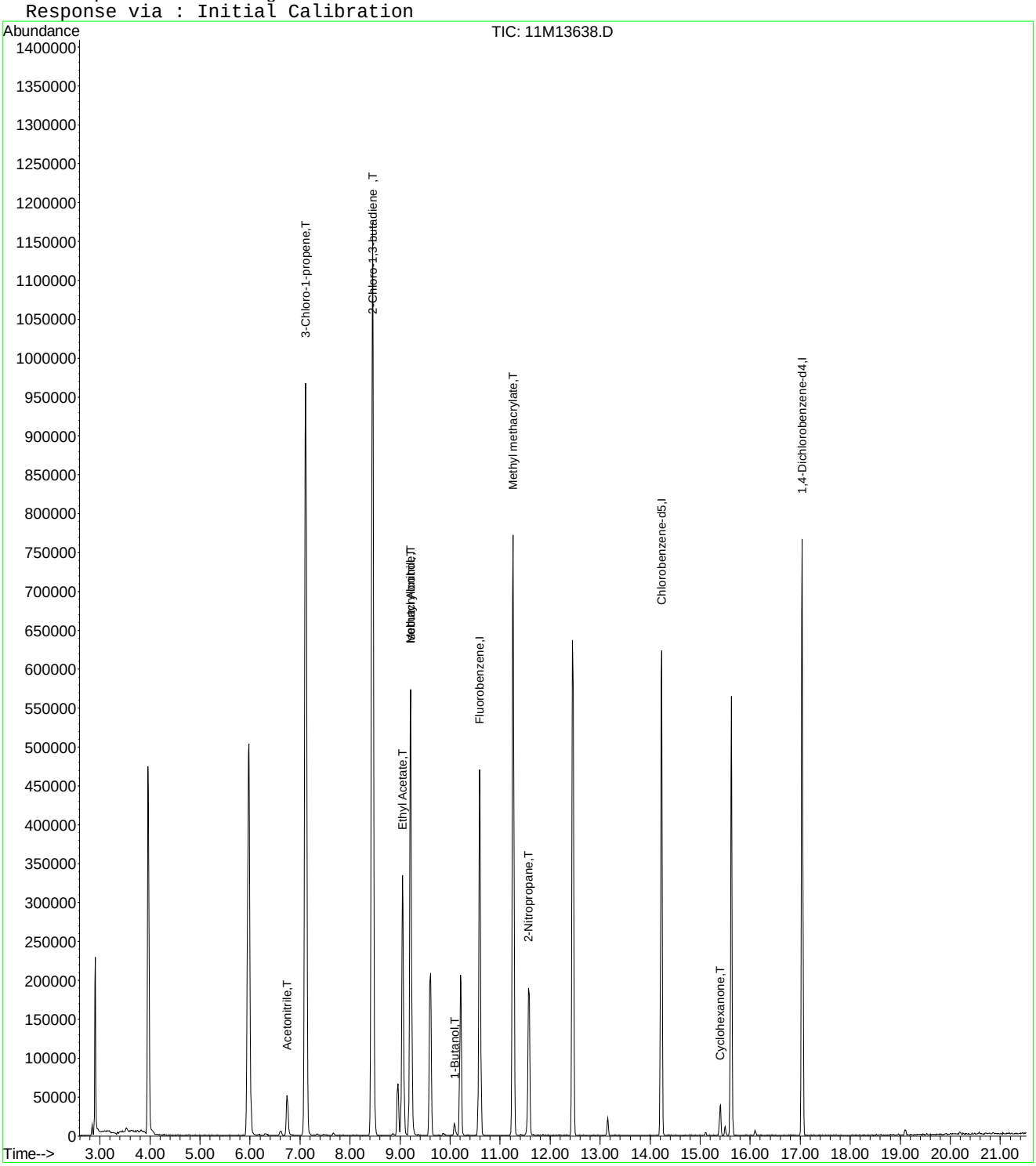
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.59	96	551890	25.00	ug/L	-0.02
12) Chlorobenzene-d5	14.23	117	463476	25.00	ug/L	-0.01
13) 1,4-Dichlorobenzene-d4	17.04	152	267856	25.00	ug/L	-0.02
Target Compounds						Qvalue
2) Acetonitrile	6.74	41	66452	135.1767	ug/L	97
3) 3-Chloro-1-propene	7.11	41	1025840	98.5042	ug/L	95
4) 2-Chloro-1,3-butadiene	8.45	53	1183806	109.7191	ug/L	95
5) Methacrylonitrile	9.21	41	403782	132.9686	ug/L	94
6) Isobutyl Alcohol	9.21	43	45725	284.2269	ug/L	97
7) 1-Butanol	10.09	56	11512	153.4390	ug/L	91
8) Cyclohexanone	15.40	55	23726	241.5514	ug/L	88
9) 2-Nitropropane	11.57	43	184828	142.2985	ug/L	96
10) Ethyl Acetate	9.05	43	552938	140.3742	ug/L	98
11) Methyl methacrylate	11.26	41	523675	144.1638	ug/L	91

(#) = qualifier out of range (m) = manual integration
11M13638.D A9FOOWT.M Tue Aug 16 08:48:54 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13638.D Vial: 11
Acq On : 15 Aug 2016 19:39 Operator: JDS
Sample : WG580279-10 100ug/L ALT SRC 8260-A9 Inst : hpms11
Misc : 1,1 STD77604 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 8:48 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:47:42 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13638.D Vial: 11
Acq On : 15 Aug 2016 19:39 Operator: JDS
Sample : WG580279-10 100ug/L ALT SRC 8260-A9 Inst : hpms11
Misc : 1,1 STD77604 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 08:59:40 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

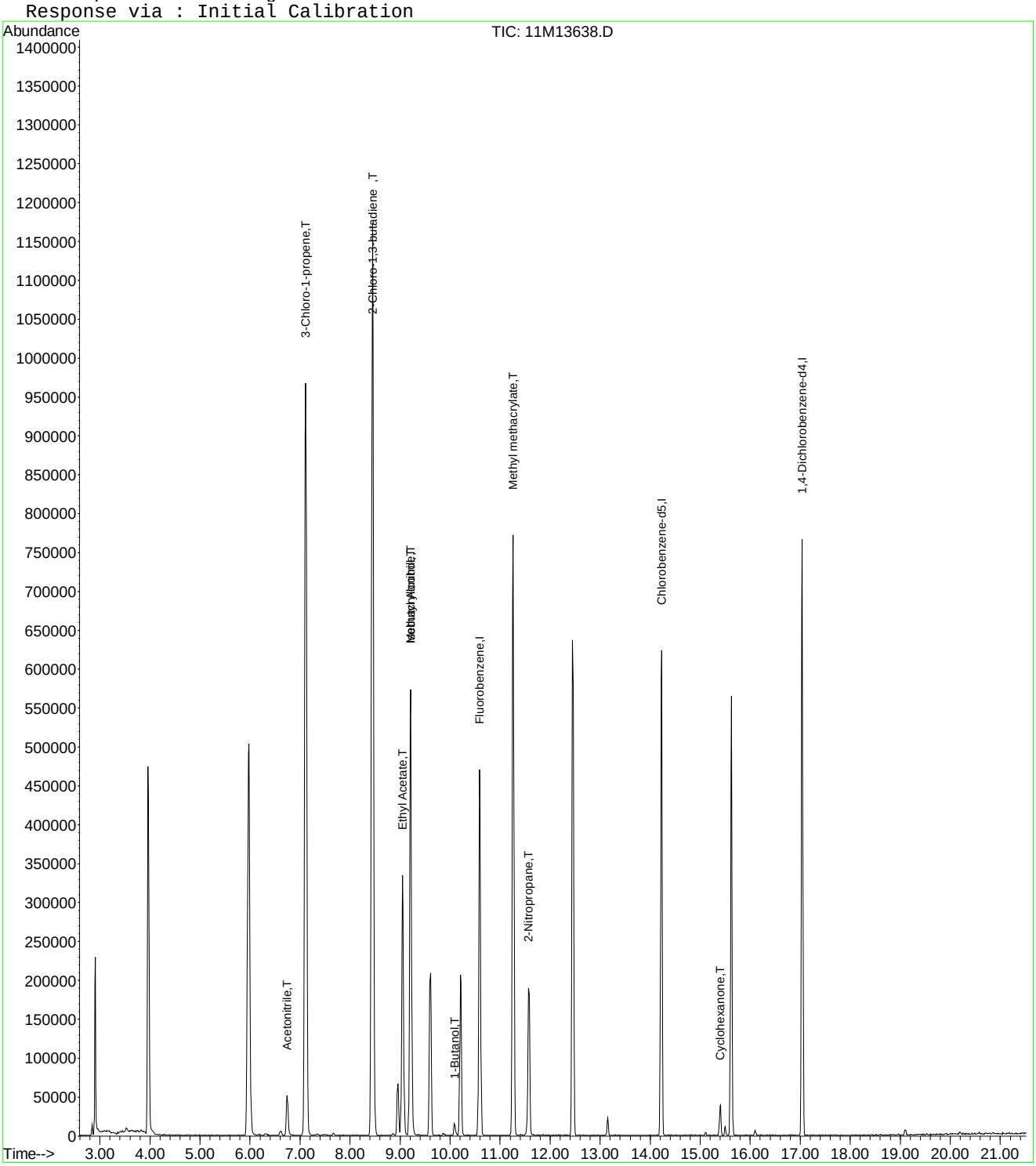
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.59	96	551890	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.23	117	463476	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.04	152	267856	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.74	41	66452	101.8957	ug/L	97
3) 3-Chloro-1-propene	7.11	41	1025840	97.1058	ug/L	99
4) 2-Chloro-1,3-butadiene	8.45	53	1183806	109.7258	ug/L	100
5) Methacrylonitrile	9.21	41	403782	103.1170	ug/L	99
6) Isobutyl Alcohol	9.21	43	45725	189.2667	ug/L	97
7) 1-Butanol	10.09	56	11512	87.0484	ug/L	96
8) Cyclohexanone	15.40	55	23726	62.1214	ug/L	99
9) 2-Nitropropane	11.57	43	184828	97.1153	ug/L	97
10) Ethyl Acetate	9.05	43	552938	103.3313	ug/L	100
11) Methyl methacrylate	11.26	41	523675	107.4630	ug/L	100

(#) = qualifier out of range (m) = manual integration
11M13638.D A9FOOWT.M Tue Aug 16 08:59:41 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13638.D Vial: 11
Acq On : 15 Aug 2016 19:39 Operator: JDS
Sample : WG580279-10 100ug/L ALT SRC 8260-A9 Inst : hpms11
Misc : 1,1 STD77604 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 8:59 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13638.D Vial: 11
Acq On : 15 Aug 2016 19:39 Operator: JDS
Sample : WG580279-10 100ug/L ALT SRC 8260-A9 Inst : hpms11
Misc : 1,1 STD77604 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 09:05:46 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

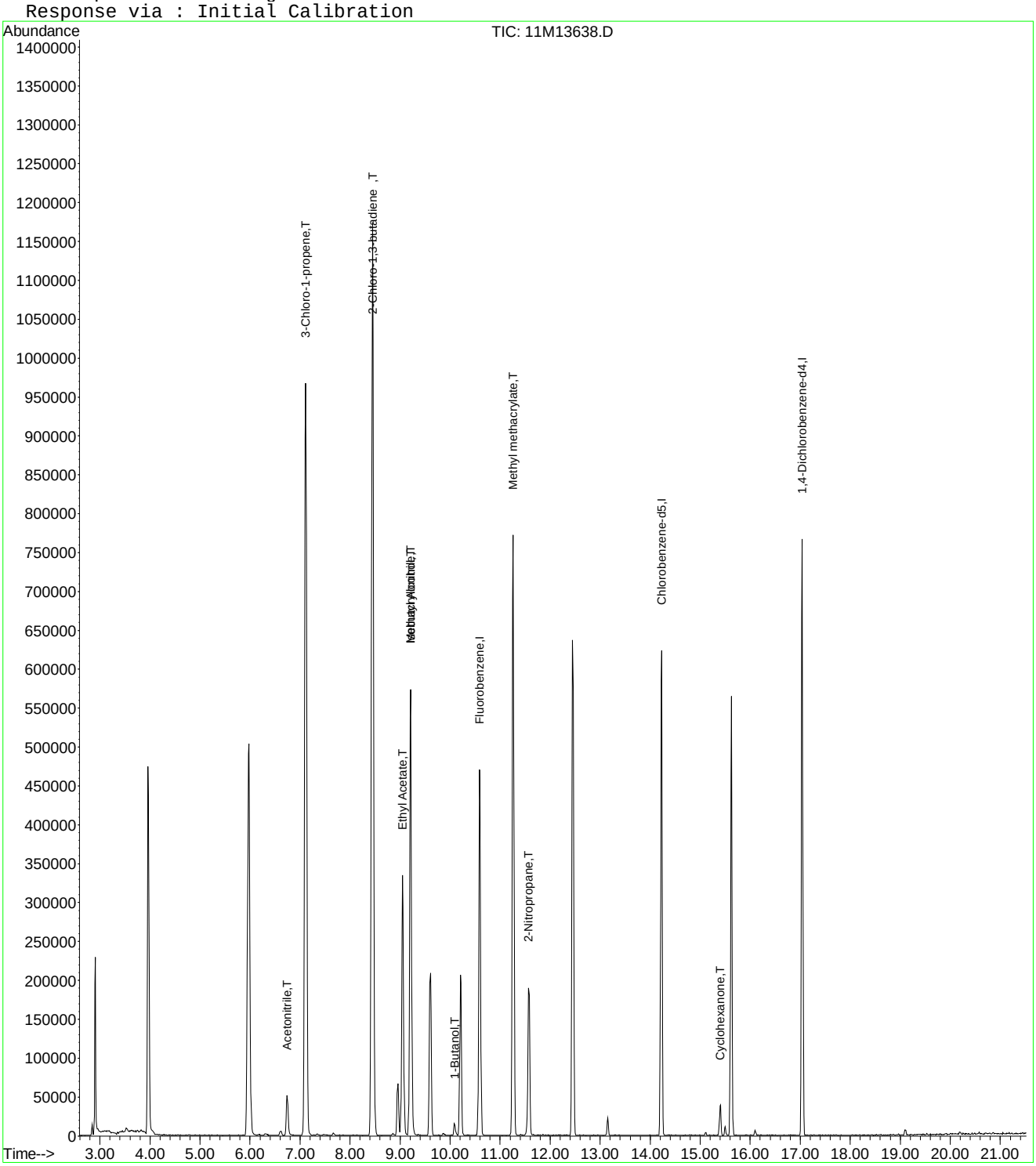
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.59	96	551890	25.00	ug/L	0.00
12) Chlorobenzene-d5	14.23	117	463476	25.00	ug/L	0.00
13) 1,4-Dichlorobenzene-d4	17.04	152	267856	25.00	ug/L	0.00
Target Compounds						Qvalue
2) Acetonitrile	6.74	41	66452	101.8957	ug/L	97
3) 3-Chloro-1-propene	7.11	41	1025840	97.1058	ug/L	99
4) 2-Chloro-1,3-butadiene	8.45	53	1183806	109.7258	ug/L	100
5) Methacrylonitrile	9.21	41	403782	103.1170	ug/L	99
6) Isobutyl Alcohol	9.21	43	45725	189.2667	ug/L	97
7) 1-Butanol	10.09	56	11512	87.0484	ug/L	96
8) Cyclohexanone	15.40	55	23726	62.1214	ug/L	99
9) 2-Nitropropane	11.57	43	184828	97.1153	ug/L	97
10) Ethyl Acetate	9.05	43	552938	103.3313	ug/L	100
11) Methyl methacrylate	11.26	41	523675	107.4630	ug/L	100

(#) = qualifier out of range (m) = manual integration
11M13638.D A9FOOWT.M Tue Aug 16 09:05:48 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13638.D Vial: 11
Acq On : 15 Aug 2016 19:39 Operator: JDS
Sample : WG580279-10 100ug/L ALT SRC 8260-A9 Inst : hpms11
Misc : 1,1 STD77604 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 9:05 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\081516\11M13638.D Vial: 11
Acq On : 15 Aug 2016 19:39 Operator: JDS
Sample : WG580279-10 100ug/L ALT SRC 8260-A9 Inst : hpms11
Misc : 1,1 STD77604 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.0000	1.0000	0.0	102	0.00
2	T	Acetonitrile	0.0295	0.0301	-1.9	96	0.00
3	T	3-Chloro-1-propene	0.4785	0.4647	2.9	94	0.00
4	T	2-Chloro-1,3-butadiene	0.4887	0.5363	-9.7	105	0.00
5	T	Methacrylonitrile	0.1774	0.1829	-3.1	100	0.00
6	T	Isobutyl Alcohol	0.0109	0.0104	5.3	97	0.00
7	T	1-Butanol	0.0060	0.0052	13.0	96	0.00
8	T	Cyclohexanone	0.0173	0.0107	37.9	64	-0.01
9	T	2-Nitropropane	0.0862	0.0837	2.9	101	-0.01
10	T	Ethyl Acetate	0.2424	0.2505	-3.3	99	0.00
11	T	Methyl methacrylate	0.2207	0.2372	-7.5	103	0.00
12	I	Chlorobenzene-d5	1.0000	1.0000	0.0	100	0.00
13	I	1,4-Dichlorobenzene-d4	1.0000	1.0000	0.0	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
11M13638.D A9FOOWT.M Tue Aug 16 09:23:34 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13638.D Vial: 11
Acq On : 15 Aug 2016 19:39 Operator: JDS
Sample : WG580279-10 100ug/L ALT SRC 8260-A9 Inst : hpms11
Misc : 1,1 STD77604 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	102	0.00
2	T	Acetonitrile	100.0000	101.8957	-1.9	96	0.00
3	T	3-Chloro-1-propene	100.0000	97.1058	2.9	94	0.00
4	T	2-Chloro-1,3-butadiene	100.0000	109.7258	-9.7	105	0.00
5	T	Methacrylonitrile	100.0000	103.1170	-3.1	100	0.00
6	T	Isobutyl Alcohol	200.0000	189.2667	5.4	97	0.00
7	T	1-Butanol	100.0000	87.0484	13.0	96	0.00
8	T	Cyclohexanone	100.0000	62.1215	37.9	64	-0.01
9	T	2-Nitropropane	100.0000	97.1153	2.9	101	-0.01
10	T	Ethyl Acetate	100.0000	103.3313	-3.3	99	0.00
11	T	Methyl methacrylate	100.0000	107.4630	-7.5	103	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
11M13638.D A9FOOWT.M Tue Aug 16 09:23:36 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\101316\11M14501.D Vial: 3
Acq On : 13 Oct 2016 13:42 Operator: FJB
Sample : WG587480-02 0.3ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:15:55 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.57	96	715274	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.20	117	547074	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	283852	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	0.00	111	0	0.0000	ug/L	
Spiked Amount 25.000	Range 86 - 118		Recovery =	0.00%#		
43) 1,2-Dichloroethane-d4	10.18	65	226	0.0234	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery =	0.08%#		
57) Toluene-d8	12.42	98	3192	0.1101	ug/L	-0.01
Spiked Amount 25.000	Range 88 - 110		Recovery =	0.44%#		
78) p-Bromofluorobenzene	15.59	95	2722	0.2397	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery =	0.96%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.21	85	2906	0.2395	ug/L #	60
3) Chloromethane	3.67	50	6371	0.4871	ug/L #	23
4) Vinyl Chloride	3.90	62	4121	0.3472	ug/L #	1
5) 1,3-Butadiene	3.95	54	4339	0.4491	ug/L	93
6) Bromomethane	4.80	94	2487	0.4325	ug/L	75
7) Chloroethane	4.94	64	2236	0.3216	ug/L	96
8) Trichlorofluoromethane	5.43	101	4597	0.3328	ug/L	99
10) Isoprene	5.98	67	3749	0.2974	ug/L	91
12) 1,1,2-Trichloro-1,2,2-Trif	6.19	101	2439	0.3283	ug/L	77
13) Acetone	6.29	43	1485	0.5351	ug/L #	50
14) 1,1-Dichloroethene	6.49	61	4467	0.3026	ug/L	100
16) Dimethyl Sulfide	6.75	62	3139	0.3103	ug/L	91
17) Iodomethane	7.01	142	835	0.9525	ug/L #	32
18) Methyl acetate	7.00	43	2163	0.2643	ug/L #	73
19) Methylene Chloride	7.26	84	3246	0.3868	ug/L	83
20) Carbon Disulfide	7.30	76	10076	0.4118	ug/L	98
22) Methyl Tert Butyl Ether	7.45	73	6143	0.2977	ug/L #	72
23) trans-1,2-Dichloroethene	7.70	96	2316	0.2769	ug/L	86
24) n-Hexane	7.77	57	4878	0.3410	ug/L #	75
26) Vinyl Acetate	8.27	43	6911	0.3196	ug/L #	88
27) 1,1-Dichloroethane	8.30	63	5784	0.3374	ug/L #	72
29) 2-Butanone	8.82	43	1317	0.2825	ug/L #	65
31) 2,2-Dichloropropane	9.05	77	3883	0.3324	ug/L #	66
32) cis-1,2-Dichloroethene	9.10	96	3034	0.3293	ug/L	90
33) Chloroform	9.30	83	5074	0.3373	ug/L	97
35) Bromochloromethane	9.52	130	1714	0.2886	ug/L	96
36) Tetrahydrofuran	9.55	42	9221	0.3270	ug/L	97
38) 1,1,1-Trichloroethane	9.80	97	4103	0.3094	ug/L #	86
39) Cyclohexane	9.84	56	6291	0.3236	ug/L #	85
40) 1,1-Dichloropropene	9.99	75	3620	0.3297	ug/L	86
41) Carbon Tetrachloride	10.14	117	3783	0.3053	ug/L	92
44) 1,2-Dichloroethane	10.30	62	4002	0.3097	ug/L	85
45) Benzene	10.34	78	10454	0.3223	ug/L	98
46) Trichloroethene	11.04	130	3082	0.3286	ug/L	99
47) Methylcyclohexane	11.13	83	3707	0.2915	ug/L	88
48) 1,2-Dichloropropane	11.25	63	3096	0.3239	ug/L	84
50) Bromodichloromethane	11.53	83	3184	0.2801	ug/L #	83
51) Dibromomethane	11.61	93	1315	0.2594	ug/L	82
52) 2-Chloroethyl Vinyl Ether	11.80	63	1152	0.2057	ug/L	97
53) 4-Methyl-2-Pentanone	11.84	58	619	0.1801	ug/L #	46

(#) = qualifier out of range (m) = manual integration
11M14501.D 8260WT.M Fri Oct 14 09:15:56 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\101316\11M14501.D Vial: 3
Acq On : 13 Oct 2016 13:42 Operator: FJB
Sample : WG587480-02 0.3ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:15:55 2016 Quant Results File: 8260WT.RES

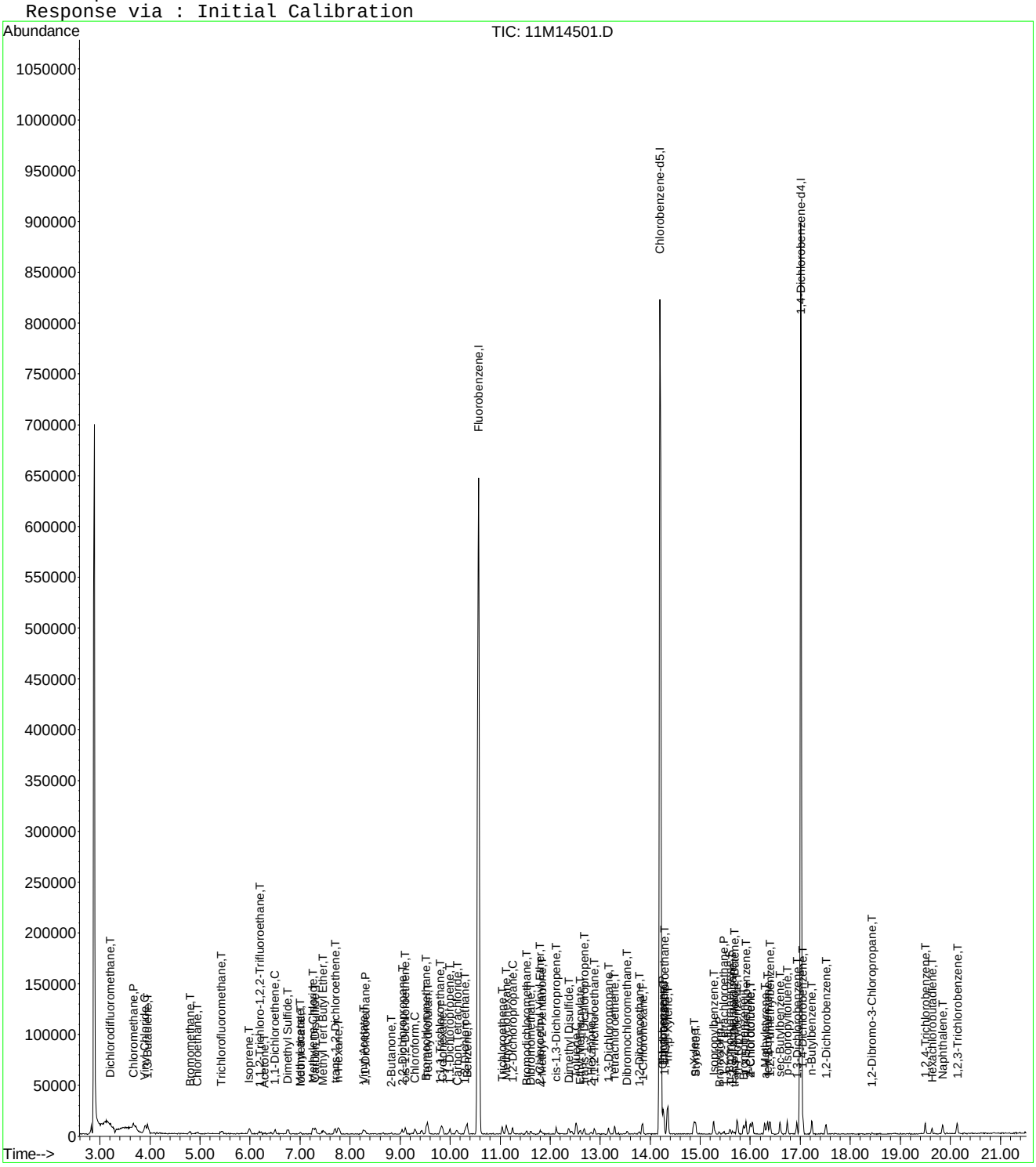
Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
54)	cis-1,3-Dichloropropene	12.12	75	4254	0.3386 ug/L		95
55)	Dimethyl Disulfide	12.38	79	1869	0.2479 ug/L		94
58)	Toluene	12.52	91	10919	0.3170 ug/L		100
59)	Ethyl Methacrylate	12.60	69	2349	0.2668 ug/L		85
60)	trans-1,3-Dichloropropene	12.68	75	3263	0.2893 ug/L	#	79
61)	1,1,2-Trichloroethane	12.88	97	1947	0.2905 ug/L		93
62)	2-Hexanone	12.82	43	1621	0.2244 ug/L	#	46
63)	1,3-Dichloropropane	13.17	76	2831	0.2513 ug/L		83
64)	Tetrachloroethene	13.29	164	2895	0.3872 ug/L		88
65)	Dibromochloromethane	13.53	129	2882	0.3208 ug/L		98
66)	1,2-Dibromoethane	13.78	107	2079	0.3013 ug/L		83
67)	1-Chlorohexane	13.86	91	3462	0.3114 ug/L		94
68)	Chlorobenzene	14.25	112	7987	0.3267 ug/L		97
69)	1,1,1,2-Tetrachloroethane	14.28	131	2258	0.2590 ug/L		83
70)	Ethylbenzene	14.27	106	4007	0.3206 ug/L		95
71)	m-,p-Xylene	14.35	106	9868	0.6701 ug/L		95
72)	o-Xylene	14.88	106	4696	0.3242 ug/L		90
73)	Styrene	14.91	104	6826	0.2776 ug/L		82
74)	Bromoform	15.39	173	1603	0.2752 ug/L	#	59
75)	Isopropylbenzene	15.27	105	12037	0.3243 ug/L		95
77)	1,1,2,2-Tetrachloroethane	15.47	83	1971	0.2462 ug/L		93
79)	1,2,3-Trichloropropane	15.64	110	474	0.1953 ug/L		79
80)	trans-1,4-Dichloro-2-Buten	15.69	53	711	0.2175 ug/L		63
81)	n-Propylbenzene	15.74	91	14873	0.3522 ug/L		98
82)	Bromobenzene	15.87	156	3673	0.3393 ug/L		87
83)	1,3,5-Trimethylbenzene	15.91	105	9294	0.3068 ug/L		97
84)	2-Chlorotoluene	16.01	91	11171	0.4180 ug/L		90
85)	4-Chlorotoluene	16.01	91	11172	0.4105 ug/L		87
86)	a-Methylstyrene	16.30	118	4569	0.2566 ug/L		78
87)	tert-Butylbenzene	16.35	134	2246	0.3389 ug/L		90
88)	1,2,4-Trimethylbenzene	16.40	105	10081	0.3235 ug/L		93
89)	sec-Butylbenzene	16.60	105	12863	0.3353 ug/L		94
90)	p-Isopropyltoluene	16.74	119	11684	0.3500 ug/L		98
91)	1,3-Dichlorobenzene	16.94	146	6561	0.3288 ug/L		99
92)	1,4-Dichlorobenzene	17.05	146	6786	0.3318 ug/L		80
93)	n-Butylbenzene	17.23	91	10734	0.3428 ug/L		91
94)	1,2-Dichlorobenzene	17.52	146	6054	0.3176 ug/L		100
95)	1,2-Dibromo-3-Chloropropan	18.44	75	222	0.1443 ug/L	#	1
96)	1,2,4-Trichlorobenzene	19.50	180	5493	0.3885 ug/L		95
97)	Hexachlorobutadiene	19.63	225	2254	0.4074 ug/L	#	75
98)	Naphthalene	19.84	128	8938	0.3041 ug/L	#	96
99)	1,2,3-Trichlorobenzene	20.14	180	5233	0.3836 ug/L		92

(#) = qualifier out of range (m) = manual integration
11M14501.D 8260WT.M Fri Oct 14 09:15:56 2016 Page 2

Data File : C:\MSDCHEM\1\DATA\101316\11M14501.D Vial: 3
Acq On : 13 Oct 2016 13:42 Operator: FJB
Sample : WG587480-02 0.3ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 9:15 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\101316\11M14501.D Vial: 3
Acq On : 13 Oct 2016 13:42 Operator: FJB
Sample : WG587480-02 0.3ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 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	0.2395	0.0	0	0.00
3	P	Chloromethane	-1.0000	0.4871	0.0	0	0.01
4	C	Vinyl Chloride	-1.0000	0.3472	0.0	0	0.00
5	T	1,3-Butadiene	-1.0000	0.4491	0.0	0	0.01
6	T	Bromomethane	-1.0000	0.4325	0.0	0	0.00
7	T	Chloroethane	-1.0000	0.3216	0.0	0	-0.01
8	T	Trichlorofluoromethane	-1.0000	0.3328	0.0	0	0.00
9	T	Diethyl ether	-1.0000	0.0000	0.0	0	-5.95#
10	T	Isoprene	-1.0000	0.2974	0.0	0	-0.01
11	T	Acrolein	-1.0000	0.0000	0.0	0	-6.17#
12	T	1,1,2-Trichloro-1,2,2-Trifl	-1.0000	0.3283	0.0	0	0.00
13	T	Acetone	-1.0000	0.5351	0.0	0	0.01
14	C	1,1-Dichloroethene	-1.0000	0.3026	0.0	0	0.00
15	T	Tert-Butyl Alcohol	-1.0000	0.0000	0.0	0	-6.60#
16	T	Dimethyl Sulfide	-1.0000	0.3103	0.0	0	0.00
17	T	Iodomethane	-1.0000	0.9525	0.0	0	0.01
18	T	Methyl acetate	-1.0000	0.2643	0.0	0	-0.01
19	T	Methylene Chloride	-1.0000	0.3868	0.0	0	0.00
20	T	Carbon Disulfide	-1.0000	0.4118	0.0	0	-0.01
21	T	Acrylonitrile	-1.0000	0.0000	0.0	0	-7.43#
22	T	Methyl Tert Butyl Ether	-1.0000	0.2977	0.0	0	-0.01
23	T	trans-1,2-Dichloroethene	-1.0000	0.2769	0.0	0	0.00
24	T	n-Hexane	-1.0000	0.3410	0.0	0	0.00
25	T	Diisopropyl ether	-1.0000	0.0000	0.0	0	-8.10#
26	T	Vinyl Acetate	-1.0000	0.3196	0.0	0	0.01
27	P	1,1-Dichloroethane	-1.0000	0.3374	0.0	0	0.01
28	T	Ethyl-Tert-Butyl ether	-1.0000	0.0000	0.0	0	-8.64#
29	T	2-Butanone	-1.0000	0.2825	0.0	0	0.00
30	T	Propionitrile	-1.0000	0.0000	0.0	0	-8.92#
31	T	2,2-Dichloropropane	-1.0000	0.3324	0.0	0	0.01
32	T	cis-1,2-Dichloroethene	-1.0000	0.3293	0.0	0	0.00
33	C	Chloroform	0.3000	0.3373	-12.4	100	-0.01
34	T	1-Bromopropane	-1.0000	0.0000	0.0	0	-9.43#
35	T	Bromochloromethane	-1.0000	0.2886	0.0	0	0.00
36	T	Tetrahydrofuran	-1.0000	0.3270	0.0	0	0.01
37	S	Dibromofluoromethane	-1.0000	0.0000	0.0	0	-9.57#
38	T	1,1,1-Trichloroethane	-1.0000	0.3094	0.0	0	-0.01
39	T	Cyclohexane	-1.0000	0.3236	0.0	0	0.00
40	T	1,1-Dichloropropene	-1.0000	0.3297	0.0	0	-0.01
41	T	Carbon Tetrachloride	-1.0000	0.3053	0.0	0	0.01
42	T	Tert-Amyl-Methyl ether	-1.0000	0.0000	0.0	0	-10.09#
43	S	1,2-Dichloroethane-d4	-1.0000	0.0234	0.0	0	0.00
44	T	1,2-Dichloroethane	-1.0000	0.3097	0.0	0	0.00
45	T	Benzene	-1.0000	0.3223	0.0	0	0.00
46	T	Trichloroethene	-1.0000	0.3286	0.0	0	0.00
47	T	Methylcyclohexane	-1.0000	0.2915	0.0	0	0.00
48	C	1,2-Dichloropropane	-1.0000	0.3239	0.0	0	0.00
49	T	1,4-Dioxane	-1.0000	0.0000	0.0	0	-11.51#
50	T	Bromodichloromethane	-1.0000	0.2801	0.0	0	0.00
51	T	Dibromomethane	-1.0000	0.2594	0.0	0	0.00
52	T	2-Chloroethyl Vinyl Ether	-1.0000	0.2057	0.0	0	0.00
53	T	4-Methyl-2-Pentanone	-1.0000	0.1801	0.0	0	0.01
54	T	cis-1,3-Dichloropropene	-1.0000	0.3386	0.0	0	0.00

(#) = Out of Range
11M14501.D 8260WT.M Fri Oct 14 09:17:33 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\101316\11M14501.D Vial: 3
Acq On : 13 Oct 2016 13:42 Operator: FJB
Sample : WG587480-02 0.3ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 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	0.2479	0.0	0	0.00
56	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
57	S	Toluene-d8	-1.0000	0.1101	0.0	0	-0.01
58	C	Toluene	-1.0000	0.3170	0.0	0	0.00
59	T	Ethyl Methacrylate	-1.0000	0.2668	0.0	0	0.01
60	T	trans-1,3-Dichloropropene	-1.0000	0.2893	0.0	0	0.00
61	T	1,1,2-Trichloroethane	-1.0000	0.2905	0.0	0	0.00
62	T	2-Hexanone	-1.0000	0.2244	0.0	0	0.00
63	T	1,3-Dichloropropane	-1.0000	0.2513	0.0	0	0.00
64	T	Tetrachloroethene	-1.0000	0.3872	0.0	0	0.00
65	T	Dibromochloromethane	-1.0000	0.3208	0.0	0	0.00
66	T	1,2-Dibromoethane	-1.0000	0.3013	0.0	0	0.00
67	T	1-Chlorohexane	-1.0000	0.3114	0.0	0	0.01
68	P	Chlorobenzene	-1.0000	0.3267	0.0	0	0.00
69	T	1,1,1,2-Tetrachloroethane	-1.0000	0.2590	0.0	0	0.01
70	C	Ethylbenzene	-1.0000	0.3206	0.0	0	0.00
71	T	m-,p-Xylene	-1.0000	0.6701	0.0	0	0.00
72	T	o-Xylene	-1.0000	0.3242	0.0	0	0.00
73	T	Styrene	-1.0000	0.2776	0.0	0	0.00
74	P	Bromoform	-1.0000	0.2752	0.0	0	0.01
75	T	Isopropylbenzene	-1.0000	0.3243	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	0.2462	0.0	0	0.00
78	S	p-Bromofluorobenzene	-1.0000	0.2397	0.0	0	0.00
79	T	1,2,3-Trichloropropane	-1.0000	0.1953	0.0	0	-0.01
80	T	trans-1,4-Dichloro-2-Butene	-1.0000	0.2175	0.0	0	0.00
81	T	n-Propylbenzene	-1.0000	0.3522	0.0	0	0.00
82	T	Bromobenzene	0.3000	0.3393	-13.1	100	0.00
83	T	1,3,5-Trimethylbenzene	-1.0000	0.3068	0.0	0	0.00
84	T	2-Chlorotoluene	-1.0000	0.4180	0.0	0	0.01
85	T	4-Chlorotoluene	-1.0000	0.4105	0.0	0	-0.03
86	T	a-Methylstyrene	-1.0000	0.2566	0.0	0	0.01
87	T	tert-Butylbenzene	-1.0000	0.3389	0.0	0	0.00
88	T	1,2,4-Trimethylbenzene	-1.0000	0.3235	0.0	0	0.00
89	T	sec-Butylbenzene	-1.0000	0.3353	0.0	0	0.00
90	T	p-Isopropyltoluene	-1.0000	0.3500	0.0	0	0.00
91	T	1,3-Dichlorobenzene	-1.0000	0.3288	0.0	0	0.00
92	T	1,4-Dichlorobenzene	0.3000	0.3318	-10.6	100	0.00
93	T	n-Butylbenzene	-1.0000	0.3428	0.0	0	0.00
94	T	1,2-Dichlorobenzene	0.3000	0.3176	-5.9	100	0.00
95	T	1,2-Dibromo-3-Chloropropane	-1.0000	0.1443	0.0	0	0.00
96	T	1,2,4-Trichlorobenzene	-1.0000	0.3885	0.0	0	0.00
97	T	Hexachlorobutadiene	-1.0000	0.4074	0.0	0	0.00
98	T	Naphthalene	-1.0000	0.3041	0.0	0	-0.01
99	T	1,2,3-Trichlorobenzene	0.3000	0.3836	-27.9#	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
11M14501.D 8260WT.M Fri Oct 14 09:17:34 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\101316\11M14502.D Vial: 4
Acq On : 13 Oct 2016 14:11 Operator: FJB
Sample : WG587480-03 0.4ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:15:58 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.57	96	694969	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.20	117	534036	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	272732	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	216	0.0258	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery =	0.12%#		
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	12.43	98	2484	0.0878	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	0.36%#		
78) p-Bromofluorobenzene	15.59	95	2180	0.1998	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery =	0.80%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.21	85	4237	0.3594	ug/L #	60
3) Chloromethane	3.67	50	8420	0.6626	ug/L #	69
4) Vinyl Chloride	3.90	62	4933	0.4278	ug/L #	1
5) 1,3-Butadiene	3.95	54	4982	0.5307	ug/L	94
6) Bromomethane	4.80	94	2169	0.3882	ug/L	95
7) Chloroethane	4.94	64	2684	0.3973	ug/L #	77
8) Trichlorofluoromethane	5.42	101	4501	0.3354	ug/L	88
10) Isoprene	5.99	67	4113	0.3358	ug/L	94
12) 1,1,2-Trichloro-1,2,2-Trif	6.19	101	3180	0.4405	ug/L	55
13) Acetone	6.28	43	1375	0.5100	ug/L #	50
14) 1,1-Dichloroethene	6.49	61	5528	0.3854	ug/L	99
16) Dimethyl Sulfide	6.76	62	3518	0.3579	ug/L	89
17) Iodomethane	7.00	142	1587	1.0298	ug/L #	57
18) Methyl acetate	7.02	43	2904	0.3652	ug/L #	73
19) Methylene Chloride	7.27	84	3451	0.4232	ug/L	90
20) Carbon Disulfide	7.30	76	11573	0.4868	ug/L	99
22) Methyl Tert Butyl Ether	7.46	73	7451	0.3717	ug/L	89
23) trans-1,2-Dichloroethene	7.69	96	3349	0.4121	ug/L	93
24) n-Hexane	7.78	57	5852	0.4210	ug/L #	75
26) Vinyl Acetate	8.26	43	7715	0.3672	ug/L #	90
27) 1,1-Dichloroethane	8.29	63	6929	0.4160	ug/L #	83
29) 2-Butanone	8.83	43	1422	0.3139	ug/L #	65
31) 2,2-Dichloropropane	9.03	77	5191	0.4573	ug/L #	75
32) cis-1,2-Dichloroethene	9.11	96	3800	0.4245	ug/L	72
33) Chloroform	9.30	83	5901	0.4038	ug/L	95
35) Bromochloromethane	9.52	130	2319	0.4019	ug/L	88
36) Tetrahydrofuran	9.55	42	10036	0.6879	ug/L	92
38) 1,1,1-Trichloroethane	9.81	97	5101	0.3958	ug/L #	86
39) Cyclohexane	9.83	56	7093	0.3755	ug/L	90
40) 1,1-Dichloropropene	10.00	75	4467	0.4187	ug/L	78
41) Carbon Tetrachloride	10.13	117	4587	0.3810	ug/L	97
44) 1,2-Dichloroethane	10.30	62	4892	0.3896	ug/L	99
45) Benzene	10.34	78	12783	0.4057	ug/L	97
46) Trichloroethene	11.04	130	3815	0.4186	ug/L	97
47) Methylcyclohexane	11.12	83	4572	0.3700	ug/L	83
48) 1,2-Dichloropropane	11.24	63	3661	0.3941	ug/L #	72
50) Bromodichloromethane	11.53	83	4451	0.4030	ug/L #	93
51) Dibromomethane	11.61	93	2202	0.4471	ug/L	82
52) 2-Chloroethyl Vinyl Ether	11.80	63	1491	0.2740	ug/L #	52
53) 4-Methyl-2-Pentanone	11.83	58	788	0.2359	ug/L #	69

(#) = qualifier out of range (m) = manual integration
11M14502.D 8260WT.M Fri Oct 14 09:15:59 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\101316\11M14502.D Vial: 4
Acq On : 13 Oct 2016 14:11 Operator: FJB
Sample : WG587480-03 0.4ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:15:58 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

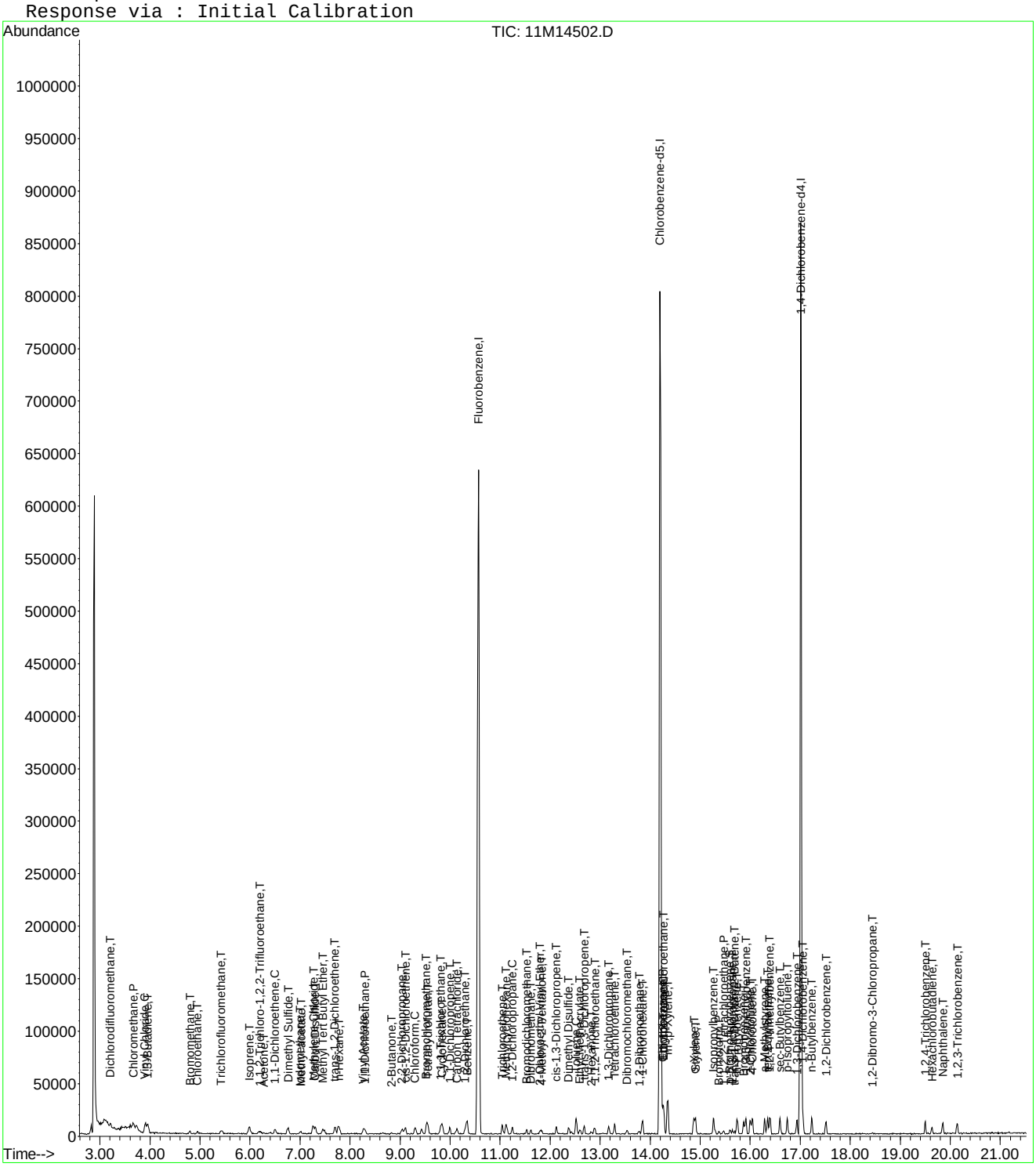
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
54)	cis-1,3-Dichloropropene	12.12	75	4707	0.3856 ug/L		97
55)	Dimethyl Disulfide	12.37	79	2098	0.2864 ug/L		92
58)	Toluene	12.52	91	13586	0.4040 ug/L		98
59)	Ethyl Methacrylate	12.59	69	2851	0.3317 ug/L		90
60)	trans-1,3-Dichloropropene	12.68	75	4313	0.3917 ug/L		87
61)	1,1,2-Trichloroethane	12.89	97	2359	0.3606 ug/L		99
62)	2-Hexanone	12.82	43	2459	0.3487 ug/L	#	60
63)	1,3-Dichloropropane	13.17	76	4820	0.4382 ug/L		86
64)	Tetrachloroethene	13.29	164	3050	0.4179 ug/L		100
65)	Dibromochloromethane	13.53	129	3393	0.3869 ug/L		95
66)	1,2-Dibromoethane	13.78	107	2756	0.4092 ug/L		87
67)	1-Chlorohexane	13.84	91	4045	0.3727 ug/L		96
68)	Chlorobenzene	14.25	112	10540	0.4417 ug/L		94
69)	1,1,1,2-Tetrachloroethane	14.27	131	2852	0.3351 ug/L		85
70)	Ethylbenzene	14.27	106	4722	0.3870 ug/L		96
71)	m-,p-Xylene	14.35	106	11881	0.8265 ug/L		95
72)	o-Xylene	14.88	106	5373	0.3800 ug/L		88
73)	Styrene	14.91	104	9069	0.3778 ug/L		98
74)	Bromoform	15.38	173	1617	0.2843 ug/L		78
75)	Isopropylbenzene	15.26	105	14843	0.4097 ug/L		97
77)	1,1,2,2-Tetrachloroethane	15.47	83	3210	0.4174 ug/L		83
79)	1,2,3-Trichloropropane	15.64	110	913	0.3914 ug/L	#	11
80)	trans-1,4-Dichloro-2-Buten	15.69	53	942	0.2999 ug/L	#	57
81)	n-Propylbenzene	15.74	91	17004	0.4191 ug/L		97
82)	Bromobenzene	15.87	156	4589	0.4412 ug/L		84
83)	1,3,5-Trimethylbenzene	15.91	105	11802	0.4055 ug/L		93
84)	2-Chlorotoluene	16.01	91	11152	0.4343 ug/L		99
85)	4-Chlorotoluene	16.04	91	10961	0.4191 ug/L		97
86)	a-Methylstyrene	16.29	118	5845	0.3417 ug/L		88
87)	tert-Butylbenzene	16.35	134	2236	0.3512 ug/L		68
88)	1,2,4-Trimethylbenzene	16.39	105	12175	0.4066 ug/L		97
89)	sec-Butylbenzene	16.60	105	15410	0.4181 ug/L		97
90)	p-Isopropyltoluene	16.74	119	12927	0.4031 ug/L		98
91)	1,3-Dichlorobenzene	16.94	146	8461	0.4413 ug/L		99
92)	1,4-Dichlorobenzene	17.05	146	7995	0.4069 ug/L		84
93)	n-Butylbenzene	17.23	91	12913	0.4291 ug/L		96
94)	1,2-Dichlorobenzene	17.52	146	7310	0.3991 ug/L		96
95)	1,2-Dibromo-3-Chloropropan	18.45	75	240	0.1623 ug/L	#	29
96)	1,2,4-Trichlorobenzene	19.50	180	5918	0.4357 ug/L		95
97)	Hexachlorobutadiene	19.64	225	2361	0.4441 ug/L		89
98)	Naphthalene	19.85	128	10762	0.3811 ug/L	#	92
99)	1,2,3-Trichlorobenzene	20.14	180	5119	0.3906 ug/L		98

(#) = qualifier out of range (m) = manual integration
11M14502.D 8260WT.M Fri Oct 14 09:15:59 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\101316\11M14502.D Vial: 4
Acq On : 13 Oct 2016 14:11 Operator: FJB
Sample : WG587480-03 0.4ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 9:15 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\101316\11M14502.D Vial: 4
Acq On : 13 Oct 2016 14:11 Operator: FJB
Sample : WG587480-03 0.4ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 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	0.3594	0.0	0	0.00
3	P	Chloromethane	-1.0000	0.6626	0.0	100	0.01
4	C	Vinyl Chloride	0.4000	0.4278	-6.9	100	0.00
5	T	1,3-Butadiene	-1.0000	0.5307	0.0	100	0.01
6	T	Bromomethane	-1.0000	0.3882	0.0	100	0.00
7	T	Chloroethane	-1.0000	0.3973	0.0	100	-0.01
8	T	Trichlorofluoromethane	0.4000	0.3354	16.2	100	-0.01
9	T	Diethyl ether	-1.0000	0.0000	0.0	0	-5.95#
10	T	Isoprene	-1.0000	0.3358	0.0	100	0.00
11	T	Acrolein	-1.0000	0.0000	0.0	0	-6.17#
12	T	1,1,2-Trichloro-1,2,2-Trifl	-1.0000	0.4405	0.0	100	0.00
13	T	Acetone	-1.0000	0.5100	0.0	0	0.00
14	C	1,1-Dichloroethene	0.4000	0.3854	3.6	100	0.00
15	T	Tert-Butyl Alcohol	-1.0000	0.0000	0.0	0	-6.60#
16	T	Dimethyl Sulfide	-1.0000	0.3579	0.0	100	0.01
17	T	Iodomethane	-1.0000	1.0298	0.0	0	0.00
18	T	Methyl acetate	-1.0000	0.3652	0.0	0	0.01
19	T	Methylene Chloride	0.4000	0.4232	-5.8	100	0.01
20	T	Carbon Disulfide	-1.0000	0.4868	0.0	100	-0.01
21	T	Acrylonitrile	-1.0000	0.0000	0.0	0	-7.43#
22	T	Methyl Tert Butyl Ether	-1.0000	0.3717	0.0	100	-0.01
23	T	trans-1,2-Dichloroethene	0.4000	0.4121	-3.0	100	-0.01
24	T	n-Hexane	-1.0000	0.4210	0.0	0	0.01
25	T	Diisopropyl ether	-1.0000	0.0000	0.0	0	-8.10#
26	T	Vinyl Acetate	-1.0000	0.3672	0.0	100	0.00
27	P	1,1-Dichloroethane	0.4000	0.4160	-4.0	100	0.00
28	T	Ethyl-Tert-Butyl ether	-1.0000	0.0000	0.0	0	-8.64#
29	T	2-Butanone	-1.0000	0.3139	0.0	0	0.01
30	T	Propionitrile	-1.0000	0.0000	0.0	0	-8.92#
31	T	2,2-Dichloropropane	0.4000	0.4573	-14.3	100	-0.01
32	T	cis-1,2-Dichloroethene	0.4000	0.4245	-6.1	100	0.01
33	C	Chloroform	0.4000	0.4038	-0.9	100	-0.01
34	T	1-Bromopropane	-1.0000	0.0000	0.0	0	-9.43#
35	T	Bromochloromethane	0.4000	0.4019	-0.5	100	0.00
36	T	Tetrahydrofuran	-1.0000	0.6879	0.0	100	0.01
37	S	Dibromofluoromethane	-1.0000	0.0258	0.0	100	0.00
38	T	1,1,1-Trichloroethane	0.4000	0.3958	1.0	100	0.00
39	T	Cyclohexane	0.4000	0.3755	6.1	100	-0.01
40	T	1,1-Dichloropropene	0.4000	0.4187	-4.7	100	0.00
41	T	Carbon Tetrachloride	0.4000	0.3810	4.8	100	0.00
42	T	Tert-Amyl-Methyl ether	-1.0000	0.0000	0.0	0	-10.09#
43	S	1,2-Dichloroethane-d4	-1.0000	0.0000	0.0	0	-10.18#
44	T	1,2-Dichloroethane	0.4000	0.3896	2.6	100	0.00
45	T	Benzene	0.4000	0.4057	-1.4	100	0.00
46	T	Trichloroethene	0.4000	0.4186	-4.6	100	0.00
47	T	Methylcyclohexane	0.4000	0.3700	7.5	100	-0.01
48	C	1,2-Dichloropropane	0.4000	0.3941	1.5	100	-0.01
49	T	1,4-Dioxane	-1.0000	0.0000	0.0	0	-11.51#
50	T	Bromodichloromethane	0.4000	0.4031	-0.8	100	0.00
51	T	Dibromomethane	0.4000	0.4471	-11.8	100	0.00
52	T	2-Chloroethyl Vinyl Ether	-1.0000	0.2740	0.0	0	0.00
53	T	4-Methyl-2-Pentanone	-1.0000	0.2359	0.0	100	0.00
54	T	cis-1,3-Dichloropropene	0.4000	0.3856	3.6	100	0.00

(#) = Out of Range
11M14502.D 8260WT.M Fri Oct 14 09:17:12 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\101316\11M14502.D Vial: 4
Acq On : 13 Oct 2016 14:11 Operator: FJB
Sample : WG587480-03 0.4ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 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	0.2864	0.0	100	-0.01
56	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
57	S	Toluene-d8	-1.0000	0.0878	0.0	0	0.00
58	C	Toluene	0.4000	0.4040	-1.0	100	0.00
59	T	Ethyl Methacrylate	-1.0000	0.3317	0.0	100	0.00
60	T	trans-1,3-Dichloropropene	-1.0000	0.3917	0.0	100	0.00
61	T	1,1,2-Trichloroethane	0.4000	0.3606	9.9	100	0.01
62	T	2-Hexanone	-1.0000	0.3487	0.0	100	0.00
63	T	1,3-Dichloropropane	0.4000	0.4382	-9.6	100	0.00
64	T	Tetrachloroethene	0.4000	0.4179	-4.5	100	0.00
65	T	Dibromochloromethane	0.4000	0.3869	3.3	100	0.00
66	T	1,2-Dibromoethane	0.4000	0.4092	-2.3	100	0.00
67	T	1-Chlorohexane	0.4000	0.3727	6.8	100	0.00
68	P	Chlorobenzene	0.4000	0.4417	-10.4	100	0.00
69	T	1,1,1,2-Tetrachloroethane	0.4000	0.3351	16.2	100	0.00
70	C	Ethylbenzene	0.4000	0.3870	3.3	100	0.00
71	T	m-,p-Xylene	0.8000	0.8265	-3.3	100	0.00
72	T	o-Xylene	0.4000	0.3800	5.0	100	0.00
73	T	Styrene	0.4000	0.3778	5.5	100	0.00
74	P	Bromoform	-1.0000	0.2843	0.0	100	0.00
75	T	Isopropylbenzene	0.4000	0.4097	-2.4	100	-0.01
76	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
77	P	1,1,2,2-Tetrachloroethane	0.4000	0.4174	-4.3	100	0.00
78	S	p-Bromofluorobenzene	-1.0000	0.1998	0.0	0	0.00
79	T	1,2,3-Trichloropropane	-1.0000	0.3914	0.0	100	-0.01
80	T	trans-1,4-Dichloro-2-Butene	-1.0000	0.2999	0.0	0	0.00
81	T	n-Propylbenzene	0.4000	0.4190	-4.8	100	0.00
82	T	Bromobenzene	0.4000	0.4412	-10.3	100	0.00
83	T	1,3,5-Trimethylbenzene	0.4000	0.4055	-1.4	100	0.00
84	T	2-Chlorotoluene	0.4000	0.4343	-8.6	100	0.01
85	T	4-Chlorotoluene	0.4000	0.4191	-4.8	100	0.00
86	T	a-Methylstyrene	-1.0000	0.3417	0.0	100	0.00
87	T	tert-Butylbenzene	0.4000	0.3512	12.2	100	0.00
88	T	1,2,4-Trimethylbenzene	0.4000	0.4066	-1.7	100	-0.01
89	T	sec-Butylbenzene	-1.0000	0.4181	0.0	100	0.00
90	T	p-Isopropyltoluene	-1.0000	0.4031	0.0	100	0.00
91	T	1,3-Dichlorobenzene	0.4000	0.4413	-10.3	100	0.00
92	T	1,4-Dichlorobenzene	0.4000	0.4069	-1.7	100	0.00
93	T	n-Butylbenzene	0.4000	0.4291	-7.3	100	0.00
94	T	1,2-Dichlorobenzene	0.4000	0.3991	0.2	100	0.00
95	T	1,2-Dibromo-3-Chloropropane	-1.0000	0.1623	0.0	100	0.01
96	T	1,2,4-Trichlorobenzene	0.4000	0.4357	-8.9	100	0.00
97	T	Hexachlorobutadiene	0.4000	0.4441	-11.0	100	0.00
98	T	Naphthalene	0.4000	0.3811	4.7	100	0.00
99	T	1,2,3-Trichlorobenzene	0.4000	0.3906	2.4	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
11M14502.D 8260WT.M Fri Oct 14 09:17:13 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\101316\11M14503.D Vial: 5
Acq On : 13 Oct 2016 14:40 Operator: FJB
Sample : WG587480-04 1ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:16:00 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.57	96	696558	25.00	ug/L		0.00
56) Chlorobenzene-d5	14.20	117	522816	25.00	ug/L		0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	272336	25.00	ug/L		0.00
System Monitoring Compounds							
37) Dibromofluoromethane	9.57	111	3816	0.4554	ug/L		0.00
Spiked Amount 25.000	Range 86 - 118		Recovery =	1.84%#			
43) 1,2-Dichloroethane-d4	10.18	65	4584	0.4873	ug/L		0.00
Spiked Amount 25.000	Range 80 - 120		Recovery =	1.96%#			
57) Toluene-d8	12.43	98	15638	0.5644	ug/L		0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	2.24%#			
78) p-Bromofluorobenzene	15.59	95	7490	0.6874	ug/L		0.00
Spiked Amount 25.000	Range 86 - 115		Recovery =	2.76%#			
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.21	85	11183	0.9463	ug/L		95
3) Chloromethane	3.66	50	16709	1.3118	ug/L		78
4) Vinyl Chloride	3.90	62	11527	0.9973	ug/L	#	50
5) 1,3-Butadiene	3.95	54	11636	1.2368	ug/L		88
6) Bromomethane	4.79	94	5513	0.9844	ug/L		99
7) Chloroethane	4.95	64	6524	0.9635	ug/L		88
8) Trichlorofluoromethane	5.43	101	13825	1.0277	ug/L		98
9) Diethyl ether	5.95	59	30723	4.6723	ug/L		97
10) Isoprene	6.00	67	11002	0.8962	ug/L		99
11) Acrolein	6.18	56	1635	2.9843	ug/L		87
12) 1,1,2-Trichloro-1,2,2-Trif	6.21	101	6856	0.9476	ug/L		94
13) Acetone	6.29	43	3023	1.1186	ug/L	#	65
14) 1,1-Dichloroethene	6.49	61	13484	0.9380	ug/L		96
15) Tert-Butyl Alcohol	6.60	59	6380	9.1468	ug/L	#	79
16) Dimethyl Sulfide	6.76	62	8686	0.8816	ug/L		99
17) Iodomethane	7.01	142	4037	1.2729	ug/L		83
18) Methyl acetate	7.02	43	6904	0.8663	ug/L	#	78
19) Methylene Chloride	7.26	84	8658	1.0594	ug/L		97
20) Carbon Disulfide	7.31	76	24681	1.0358	ug/L		99
21) Acrylonitrile	7.43	53	8115	2.2351	ug/L		94
22) Methyl Tert Butyl Ether	7.45	73	18990	0.9451	ug/L		98
23) trans-1,2-Dichloroethene	7.70	96	8010	0.9833	ug/L		99
24) n-Hexane	7.78	57	13300	0.9547	ug/L	#	96
25) Diisopropyl ether	8.11	45	189536	4.8108	ug/L		99
26) Vinyl Acetate	8.26	43	20300	0.9640	ug/L		98
27) 1,1-Dichloroethane	8.29	63	16467	0.9863	ug/L		99
28) Ethyl-Tert-Butyl ether	8.64	59	138133	4.7277	ug/L		99
29) 2-Butanone	8.83	43	4074	0.8972	ug/L	#	65
30) Propionitrile	8.93	54	6206	4.9329	ug/L	#	73
31) 2,2-Dichloropropane	9.04	77	10950	0.9624	ug/L		96
32) cis-1,2-Dichloroethene	9.09	96	7837	0.8736	ug/L		84
33) Chloroform	9.31	83	15308	1.0450	ug/L		97
34) 1-Bromopropane	9.43	122	1027	0.6973	ug/L		43
35) Bromochloromethane	9.53	130	5584	0.9656	ug/L		94
36) Tetrahydrofuran	9.54	42	23159	5.0695	ug/L		97
38) 1,1,1-Trichloroethane	9.82	97	12823	0.9928	ug/L	#	91
39) Cyclohexane	9.84	56	18655	0.9853	ug/L		98
40) 1,1-Dichloropropene	10.00	75	10918	1.0211	ug/L		98
41) Carbon Tetrachloride	10.14	117	12105	1.0031	ug/L		98
42) Tert-Amyl-Methyl ether	10.09	73	93599	4.7307	ug/L		97

(#) = qualifier out of range (m) = manual integration
11M14503.D 8260WT.M Fri Oct 14 09:16:01 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\101316\11M14503.D Vial: 5
Acq On : 13 Oct 2016 14:40 Operator: FJB
Sample : WG587480-04 1ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:16:00 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

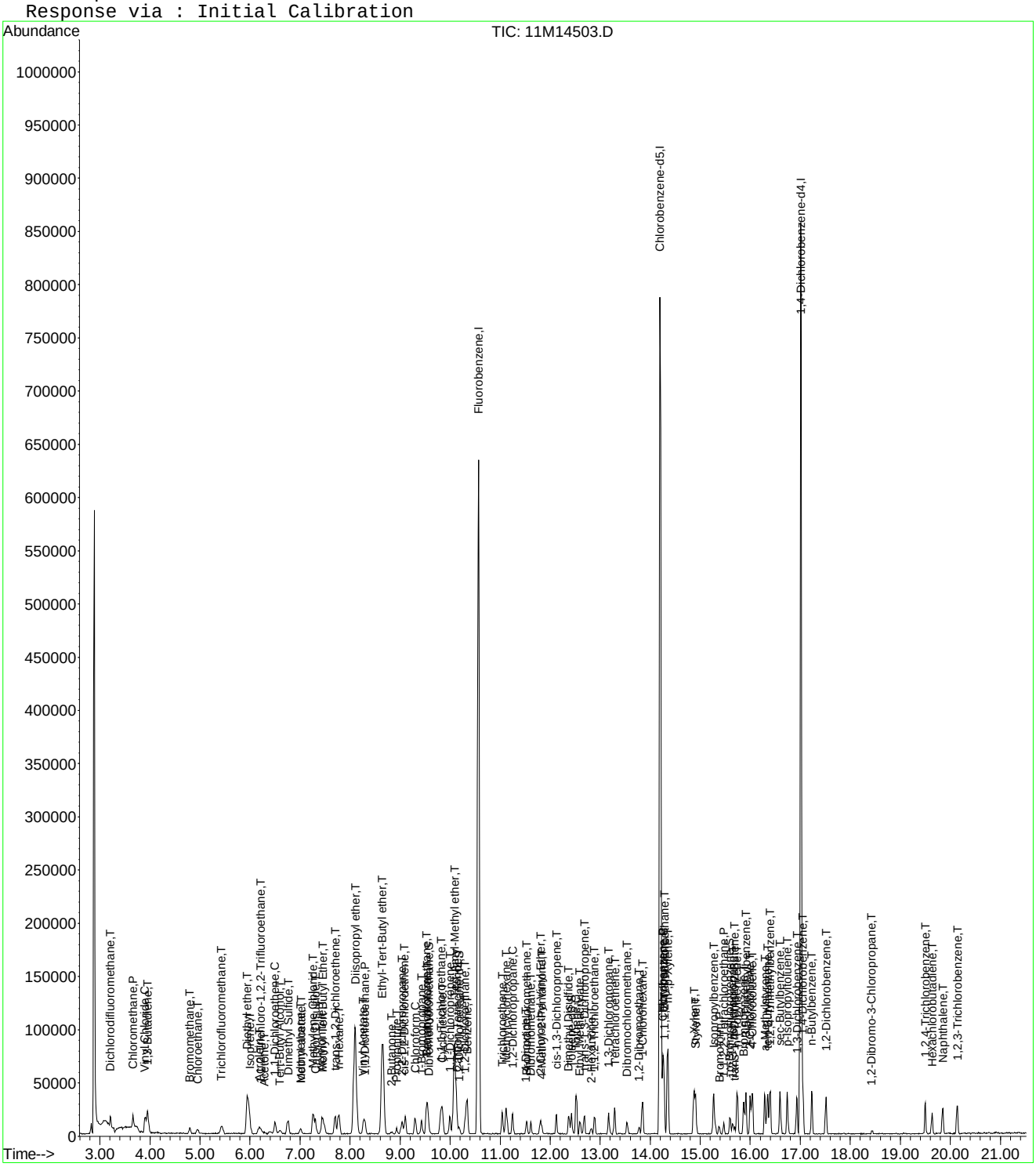
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
44)	1,2-Dichloroethane	10.30	62	12628	1.0035 ug/L		98
45)	Benzene	10.34	78	33635	1.0649 ug/L		94
46)	Trichloroethene	11.04	130	8895	0.9737 ug/L		95
47)	Methylcyclohexane	11.13	83	12653	1.0218 ug/L		97
48)	1,2-Dichloropropane	11.25	63	8989	0.9655 ug/L		96
49)	1,4-Dioxane	11.51	88	656	10.1084 ug/L	#	6
50)	Bromodichloromethane	11.53	83	10755	0.9717 ug/L		97
51)	Dibromomethane	11.61	93	4637	0.9394 ug/L		92
52)	2-Chloroethyl Vinyl Ether	11.81	63	4358	0.7992 ug/L		85
53)	4-Methyl-2-Pentanone	11.83	58	2459	0.7345 ug/L	#	62
54)	cis-1,3-Dichloropropene	12.13	75	11276	0.9217 ug/L		96
55)	Dimethyl Disulfide	12.37	79	5396	0.7349 ug/L		90
58)	Toluene	12.52	91	34651	1.0525 ug/L		95
59)	Ethyl Methacrylate	12.59	69	6655	0.7909 ug/L		99
60)	trans-1,3-Dichloropropene	12.69	75	10049	0.9323 ug/L		93
61)	1,1,2-Trichloroethane	12.88	97	6481	1.0118 ug/L		98
62)	2-Hexanone	12.82	43	5594	0.8102 ug/L	#	78
63)	1,3-Dichloropropane	13.17	76	10528	0.9778 ug/L		97
64)	Tetrachloroethene	13.30	164	8166	1.1428 ug/L		85
65)	Dibromochloromethane	13.53	129	7851	0.9145 ug/L		99
66)	1,2-Dibromoethane	13.77	107	6167	0.9353 ug/L		95
67)	1-Chlorohexane	13.84	91	10797	1.0163 ug/L		96
68)	Chlorobenzene	14.25	112	24500	1.0487 ug/L		93
69)	1,1,1,2-Tetrachloroethane	14.28	131	8184	0.9822 ug/L		98
70)	Ethylbenzene	14.27	106	12696	1.0628 ug/L		93
71)	m-,p-Xylene	14.35	106	28338	2.0136 ug/L		98
72)	o-Xylene	14.88	106	14053	1.0151 ug/L		98
73)	Styrene	14.91	104	22153	0.9427 ug/L		98
74)	Bromoform	15.39	173	4656	0.8363 ug/L		100
75)	Isopropylbenzene	15.27	105	35250	0.9938 ug/L		99
77)	1,1,2,2-Tetrachloroethane	15.47	83	7438	0.9685 ug/L		97
79)	1,2,3-Trichloropropane	15.65	110	2083	0.8943 ug/L		67
80)	trans-1,4-Dichloro-2-Buten	15.69	53	2724	0.8684 ug/L		86
81)	n-Propylbenzene	15.74	91	40574	1.0014 ug/L		98
82)	Bromobenzene	15.87	156	10150	0.9774 ug/L		92
83)	1,3,5-Trimethylbenzene	15.91	105	27593	0.9494 ug/L		99
84)	2-Chlorotoluene	16.00	91	25940	1.0117 ug/L		86
85)	4-Chlorotoluene	16.04	91	28574	1.0942 ug/L		86
86)	a-Methylstyrene	16.30	118	16716	0.9786 ug/L		92
87)	tert-Butylbenzene	16.35	134	6226	0.9792 ug/L		92
88)	1,2,4-Trimethylbenzene	16.40	105	29425	0.9842 ug/L		97
89)	sec-Butylbenzene	16.60	105	38423	1.0440 ug/L		99
90)	p-Isopropyltoluene	16.74	119	31045	0.9694 ug/L		100
91)	1,3-Dichlorobenzene	16.94	146	19007	0.9927 ug/L		95
92)	1,4-Dichlorobenzene	17.05	146	21127	1.0768 ug/L		79
93)	n-Butylbenzene	17.23	91	29424	0.9793 ug/L		96
94)	1,2-Dichlorobenzene	17.52	146	18105	0.9899 ug/L		99
95)	1,2-Dibromo-3-Chloropropan	18.43	75	914	0.6191 ug/L		79
96)	1,2,4-Trichlorobenzene	19.50	180	13180	0.9717 ug/L		93
97)	Hexachlorobutadiene	19.63	225	5010	0.9437 ug/L		94
98)	Naphthalene	19.85	128	25628	0.9088 ug/L		99
99)	1,2,3-Trichlorobenzene	20.14	180	12366	0.9448 ug/L		93

(#) = qualifier out of range (m) = manual integration
11M14503.D 8260WT.M Fri Oct 14 09:16:02 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\101316\11M14503.D Vial: 5
Acq On : 13 Oct 2016 14:40 Operator: FJB
Sample : WG587480-04 1ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 9:16 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\101316\11M14503.D Vial: 5
Acq On : 13 Oct 2016 14:40 Operator: FJB
Sample : WG587480-04 1ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 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	0.9463	5.4	100	0.00
3	P	Chloromethane	1.0000	1.2892	-28.9#	100	0.00
4	C	Vinyl Chloride	1.0000	0.9973	0.3	100	0.00
5	T	1,3-Butadiene	-1.0000	1.2368	0.0	100	0.01
6	T	Bromomethane	1.0000	0.9844	1.6	100	-0.01
7	T	Chloroethane	1.0000	0.9635	3.6	100	0.00
8	T	Trichlorofluoromethane	1.0000	1.0277	-2.8	100	0.00
9	T	Diethyl ether	5.0000	4.6723	6.6	100	0.00
10	T	Isoprene	-1.0000	0.8962	0.0	100	0.01
11	T	Acrolein	2.5000	2.9843	-19.4	100	0.01
12	T	1,1,2-Trichloro-1,2,2-Trifl	1.0000	0.9476	5.2	100	0.02
13	T	Acetone	-1.0000	1.1186	0.0	100	0.01
14	C	1,1-Dichloroethene	1.0000	0.9380	6.2	100	0.00
15	T	Tert-Butyl Alcohol	10.0000	9.1468	8.5	100	0.00
16	T	Dimethyl Sulfide	-1.0000	0.8816	0.0	100	0.01
17	T	Iodomethane	1.0000	1.2729	-27.3#	100	0.01
18	T	Methyl acetate	-1.0000	0.8663	0.0	100	0.01
19	T	Methylene Chloride	1.0000	1.0594	-5.9	100	0.00
20	T	Carbon Disulfide	1.0000	1.0358	-3.6	100	0.00
21	T	Acrylonitrile	2.5000	2.2351	10.6	100	0.00
22	T	Methyl Tert Butyl Ether	1.0000	0.9451	5.5	100	-0.01
23	T	trans-1,2-Dichloroethene	1.0000	0.9833	1.7	100	0.00
24	T	n-Hexane	-1.0000	0.9547	0.0	100	0.01
25	T	Diisopropyl ether	5.0000	4.8108	3.8	100	0.01
26	T	Vinyl Acetate	-1.0000	0.9640	0.0	100	0.00
27	P	1,1-Dichloroethane	1.0000	0.9863	1.4	100	0.00
28	T	Ethyl-Tert-Butyl ether	5.0000	4.7277	5.4	100	0.00
29	T	2-Butanone	-1.0000	0.8972	0.0	0	0.01
30	T	Propionitrile	5.0000	4.9329	1.3	100	0.01
31	T	2,2-Dichloropropane	1.0000	0.9624	3.8	100	0.00
32	T	cis-1,2-Dichloroethene	1.0000	0.8736	12.6	100	-0.01
33	C	Chloroform	1.0000	1.0450	-4.5	100	0.00
34	T	1-Bromopropane	-1.0000	0.6684	0.0	0	0.00
35	T	Bromochloromethane	1.0000	0.9656	3.4	100	0.01
36	T	Tetrahydrofuran	5.0000	5.0695	-1.4	100	0.00
37	S	Dibromofluoromethane	-1.0000	0.4554	0.0	100	0.00
38	T	1,1,1-Trichloroethane	1.0000	0.9928	0.7	100	0.01
39	T	Cyclohexane	1.0000	0.9853	1.5	100	0.00
40	T	1,1-Dichloropropene	1.0000	1.0211	-2.1	100	0.00
41	T	Carbon Tetrachloride	1.0000	1.0031	-0.3	100	0.01
42	T	Tert-Amyl-Methyl ether	5.0000	4.7307	5.4	100	0.00
43	S	1,2-Dichloroethane-d4	-1.0000	0.4873	0.0	100	0.00
44	T	1,2-Dichloroethane	1.0000	1.0035	-0.3	100	0.00
45	T	Benzene	1.0000	1.0649	-6.5	100	0.00
46	T	Trichloroethene	1.0000	0.9737	2.6	100	0.00
47	T	Methylcyclohexane	1.0000	1.0217	-2.2	100	0.00
48	C	1,2-Dichloropropane	1.0000	0.9655	3.4	100	0.00
49	T	1,4-Dioxane	-1.0000	10.1084	0.0	0	0.00
50	T	Bromodichloromethane	1.0000	0.9717	2.8	100	0.00
51	T	Dibromomethane	1.0000	0.9394	6.1	100	0.00
52	T	2-Chloroethyl Vinyl Ether	-1.0000	0.7992	0.0	100	0.01
53	T	4-Methyl-2-Pentanone	-1.0000	0.7345	0.0	100	0.00
54	T	cis-1,3-Dichloropropene	1.0000	0.9217	7.8	100	0.01

(#) = Out of Range
11M14503.D 8260WT.M Fri Oct 14 09:20:36 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\101316\11M14503.D Vial: 5
Acq On : 13 Oct 2016 14:40 Operator: FJB
Sample : WG587480-04 1ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 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	0.7349	0.0	100	-0.01
56	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
57	S	Toluene-d8	-1.0000	0.5644	0.0	0	0.00
58	C	Toluene	1.0000	1.0525	-5.3	100	0.00
59	T	Ethyl Methacrylate	1.0000	0.7909	20.9	100	0.00
60	T	trans-1,3-Dichloropropene	1.0000	0.9323	6.8	100	0.01
61	T	1,1,2-Trichloroethane	1.0000	1.0118	-1.2	100	0.00
62	T	2-Hexanone	-1.0000	0.8102	0.0	100	0.00
63	T	1,3-Dichloropropane	1.0000	0.9778	2.2	100	0.00
64	T	Tetrachloroethene	1.0000	1.1428	-14.3	100	0.01
65	T	Dibromochloromethane	1.0000	0.9145	8.6	100	0.00
66	T	1,2-Dibromoethane	1.0000	0.9353	6.5	100	-0.01
67	T	1-Chlorohexane	1.0000	1.0163	-1.6	100	0.00
68	P	Chlorobenzene	1.0000	1.0487	-4.9	100	0.00
69	T	1,1,1,2-Tetrachloroethane	1.0000	0.9822	1.8	100	0.01
70	C	Ethylbenzene	1.0000	1.0628	-6.3	100	0.00
71	T	m-,p-Xylene	2.0000	2.0136	-0.7	100	0.00
72	T	o-Xylene	1.0000	1.0151	-1.5	100	0.00
73	T	Styrene	1.0000	0.9427	5.7	100	0.00
74	P	Bromoform	1.0000	0.8363	16.4	100	0.01
75	T	Isopropylbenzene	1.0000	0.9938	0.6	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	0.9685	3.2	100	0.00
78	S	p-Bromofluorobenzene	-1.0000	0.6874	0.0	0	0.00
79	T	1,2,3-Trichloropropane	1.0000	0.8943	10.6	100	0.00
80	T	trans-1,4-Dichloro-2-Butene	1.0000	0.8684	13.2	100	0.00
81	T	n-Propylbenzene	1.0000	1.0014	-0.1	100	0.00
82	T	Bromobenzene	1.0000	0.9774	2.3	100	0.00
83	T	1,3,5-Trimethylbenzene	1.0000	0.9494	5.1	100	0.00
84	T	2-Chlorotoluene	1.0000	1.0117	-1.2	100	0.00
85	T	4-Chlorotoluene	1.0000	1.0942	-9.4	100	0.00
86	T	a-Methylstyrene	1.0000	0.9786	2.1	100	0.01
87	T	tert-Butylbenzene	1.0000	0.9792	2.1	100	0.00
88	T	1,2,4-Trimethylbenzene	1.0000	0.9842	1.6	100	0.00
89	T	sec-Butylbenzene	1.0000	1.0440	-4.4	100	0.00
90	T	p-Isopropyltoluene	1.0000	0.9694	3.1	100	0.00
91	T	1,3-Dichlorobenzene	1.0000	0.9927	0.7	100	0.00
92	T	1,4-Dichlorobenzene	1.0000	1.0768	-7.7	100	0.00
93	T	n-Butylbenzene	1.0000	0.9793	2.1	100	0.00
94	T	1,2-Dichlorobenzene	1.0000	0.9899	1.0	100	0.00
95	T	1,2-Dibromo-3-Chloropropane	-1.0000	0.6191	0.0	100	-0.01
96	T	1,2,4-Trichlorobenzene	1.0000	0.9717	2.8	100	0.00
97	T	Hexachlorobutadiene	1.0000	0.9437	5.6	100	0.00
98	T	Naphthalene	1.0000	0.9088	9.1	100	0.00
99	T	1,2,3-Trichlorobenzene	1.0000	0.9448	5.5	100	0.00

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\101316\11M14504.D Vial: 6
Acq On : 13 Oct 2016 15:09 Operator: FJB
Sample : WG587480-05 2ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:16:03 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.57	96	750406	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.20	117	573278	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	298694	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	8659	0.9593	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery =	3.84%#		
43) 1,2-Dichloroethane-d4	10.18	65	9974	0.9842	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery =	3.92%#		
57) Toluene-d8	12.43	98	30472	1.0030	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	4.00%#		
78) p-Bromofluorobenzene	15.59	95	12236	1.0239	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery =	4.08%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.21	85	21400	1.6809	ug/L	99
3) Chloromethane	3.66	50	24696	1.7997	ug/L	88
4) Vinyl Chloride	3.90	62	22964	1.8443	ug/L #	76
5) 1,3-Butadiene	3.95	54	25079	2.4743	ug/L	97
6) Bromomethane	4.79	94	11362	1.8833	ug/L	96
7) Chloroethane	4.95	64	14194	1.9459	ug/L	96
8) Trichlorofluoromethane	5.43	101	27626	1.9063	ug/L	95
9) Diethyl ether	5.95	59	171529	24.2141	ug/L	96
10) Isoprene	6.00	67	24848	1.8788	ug/L	92
11) Acrolein	6.18	56	6247	10.5841	ug/L	96
12) 1,1,2-Trichloro-1,2,2-Trif	6.19	101	14380	1.8450	ug/L	90
13) Acetone	6.28	43	6153	2.1135	ug/L	97
14) 1,1-Dichloroethene	6.50	61	30568	1.9739	ug/L	99
15) Tert-Butyl Alcohol	6.60	59	34028	45.2841	ug/L	99
16) Dimethyl Sulfide	6.76	62	19548	1.8417	ug/L	95
17) Iodomethane	7.00	142	10172	1.8102	ug/L	96
18) Methyl acetate	7.01	43	16505	1.9224	ug/L	95
19) Methylene Chloride	7.26	84	17147	1.9476	ug/L	94
20) Carbon Disulfide	7.30	76	50187	1.9551	ug/L	100
21) Acrylonitrile	7.43	53	43581	11.1421	ug/L	97
22) Methyl Tert Butyl Ether	7.47	73	40158	1.8552	ug/L	100
23) trans-1,2-Dichloroethene	7.69	96	17615	2.0072	ug/L	87
24) n-Hexane	7.78	57	28291	1.8851	ug/L #	97
25) Diisopropyl ether	8.10	45	1043584	24.5873	ug/L	98
26) Vinyl Acetate	8.26	43	44204	1.9484	ug/L	100
27) 1,1-Dichloroethane	8.29	63	34050	1.8931	ug/L	98
28) Ethyl-Tert-Butyl ether	8.64	59	771317	24.5046	ug/L	99
29) 2-Butanone	8.83	43	9673	1.9774	ug/L	99
30) Propionitrile	8.92	54	31510	23.2488	ug/L	94
31) 2,2-Dichloropropane	9.05	77	23224	1.8947	ug/L	99
32) cis-1,2-Dichloroethene	9.10	96	19546	2.0224	ug/L	89
33) Chloroform	9.30	83	30026	1.9026	ug/L	99
34) 1-Bromopropane	9.43	122	2954	1.8617	ug/L	83
35) Bromochloromethane	9.52	130	12618	2.0253	ug/L	92
36) Tetrahydrofuran	9.54	42	83984	23.3977	ug/L	98
38) 1,1,1-Trichloroethane	9.80	97	26435	1.8998	ug/L	95
39) Cyclohexane	9.83	56	39749	1.9487	ug/L	98
40) 1,1-Dichloropropene	9.99	75	21432	1.8606	ug/L	97
41) Carbon Tetrachloride	10.13	117	24149	1.8575	ug/L	99
42) Tert-Amyl-Methyl ether	10.08	73	506556	23.7652	ug/L	100

(#) = qualifier out of range (m) = manual integration
11M14504.D 8260WT.M Fri Oct 14 09:16:04 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\101316\11M14504.D Vial: 6
Acq On : 13 Oct 2016 15:09 Operator: FJB
Sample : WG587480-05 2ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:16:03 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

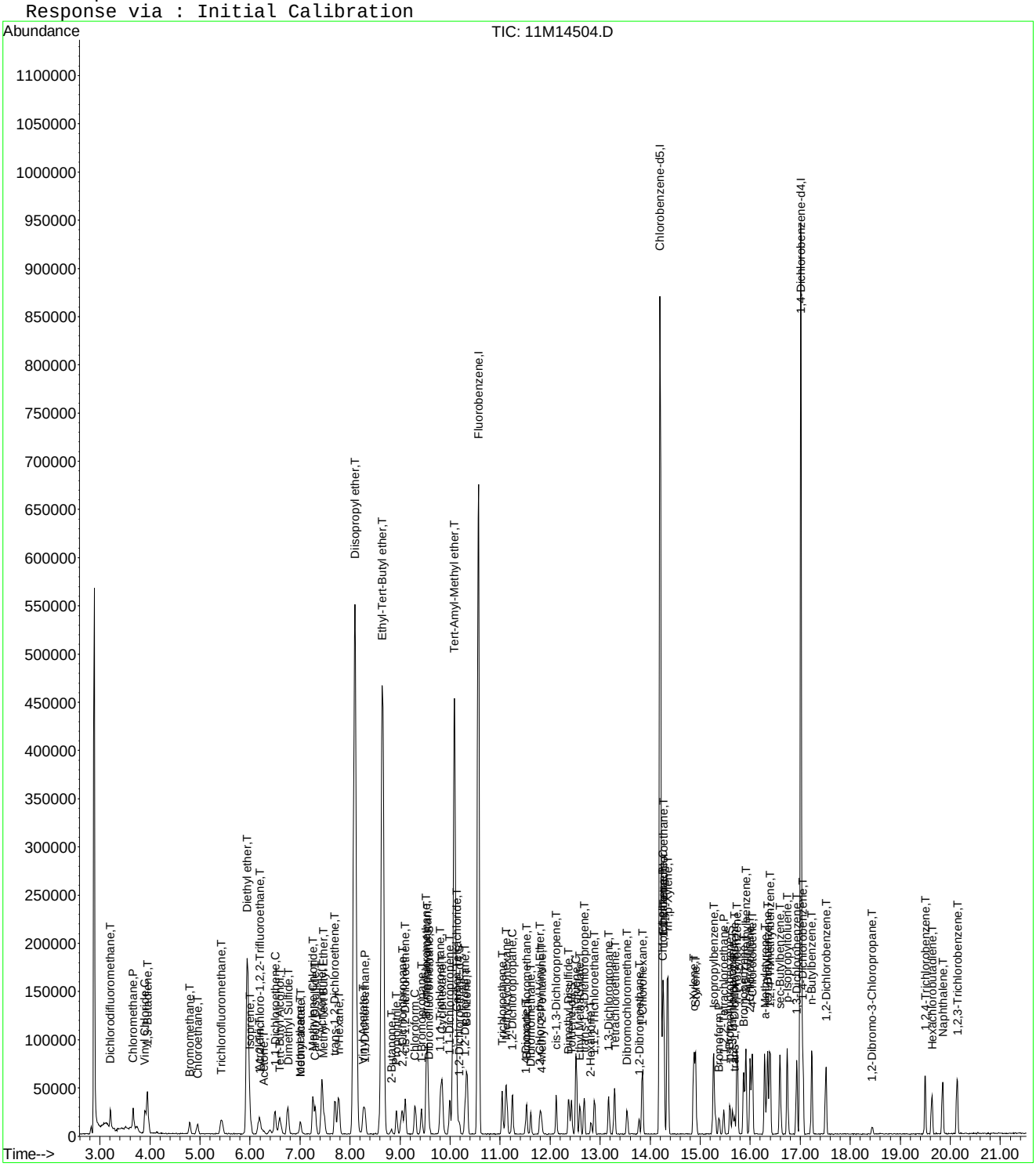
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44)	1,2-Dichloroethane	10.30	62	25307	1.8667	ug/L	99
45)	Benzene	10.33	78	67103	1.9721	ug/L	98
46)	Trichloroethene	11.04	130	18698	1.9000	ug/L	99
47)	Methylcyclohexane	11.13	83	25108	1.8820	ug/L	95
48)	1,2-Dichloropropane	11.24	63	18946	1.8890	ug/L	91
49)	1,4-Dioxane	11.51	88	2926	41.8519	ug/L	84
50)	Bromodichloromethane	11.53	83	21793	1.8276	ug/L	100
51)	Dibromomethane	11.61	93	10463	1.9676	ug/L	89
52)	2-Chloroethyl Vinyl Ether	11.80	63	10521	1.7909	ug/L	89
53)	4-Methyl-2-Pentanone	11.83	58	5675	1.5734	ug/L	94
54)	cis-1,3-Dichloropropene	12.12	75	23550	1.7868	ug/L	94
55)	Dimethyl Disulfide	12.37	79	12006	1.5178	ug/L	98
58)	Toluene	12.52	91	70955	1.9655	ug/L	95
59)	Ethyl Methacrylate	12.59	69	16986	1.8409	ug/L	85
60)	trans-1,3-Dichloropropene	12.68	75	21953	1.8574	ug/L	96
61)	1,1,2-Trichloroethane	12.88	97	13096	1.8646	ug/L	91
62)	2-Hexanone	12.81	43	11957	1.5794	ug/L	97
63)	1,3-Dichloropropane	13.17	76	21779	1.8447	ug/L	99
64)	Tetrachloroethene	13.30	164	14386	1.8360	ug/L	98
65)	Dibromochloromethane	13.53	129	17225	1.8298	ug/L	100
66)	1,2-Dibromoethane	13.78	107	13428	1.8572	ug/L	95
67)	1-Chlorohexane	13.84	91	21142	1.8148	ug/L	94
68)	Chlorobenzene	14.25	112	49928	1.9491	ug/L	99
69)	1,1,1,2-Tetrachloroethane	14.27	131	17787	1.9468	ug/L	93
70)	Ethylbenzene	14.26	106	24619	1.8796	ug/L	93
71)	m-,p-Xylene	14.35	106	61008	3.9534	ug/L	98
72)	o-Xylene	14.87	106	27515	1.8126	ug/L	93
73)	Styrene	14.91	104	47890	1.8585	ug/L	98
74)	Bromoform	15.38	173	10508	1.7213	ug/L	95
75)	Isopropylbenzene	15.27	105	74972	1.9277	ug/L	97
77)	1,1,2,2-Tetrachloroethane	15.47	83	15973	1.8962	ug/L	97
79)	1,2,3-Trichloropropane	15.64	110	4929	1.9295	ug/L	98
80)	trans-1,4-Dichloro-2-Buten	15.69	53	5967	1.7344	ug/L	95
81)	n-Propylbenzene	15.74	91	87684	1.9731	ug/L	99
82)	Bromobenzene	15.87	156	22494	1.9749	ug/L	93
83)	1,3,5-Trimethylbenzene	15.91	105	63171	1.9818	ug/L	95
84)	2-Chlorotoluene	16.00	91	56689	2.0159	ug/L	86
85)	4-Chlorotoluene	16.04	91	56230	1.9632	ug/L	90
86)	a-Methylstyrene	16.30	118	33367	1.7809	ug/L	98
87)	tert-Butylbenzene	16.35	134	13619	1.9530	ug/L	91
88)	1,2,4-Trimethylbenzene	16.40	105	62679	1.9115	ug/L	99
89)	sec-Butylbenzene	16.60	105	79306	1.9647	ug/L	100
90)	p-Isopropyltoluene	16.74	119	68621	1.9537	ug/L	98
91)	1,3-Dichlorobenzene	16.93	146	39896	1.8999	ug/L	98
92)	1,4-Dichlorobenzene	17.05	146	41926	1.9483	ug/L	90
93)	n-Butylbenzene	17.23	91	63490	1.9266	ug/L	98
94)	1,2-Dichlorobenzene	17.52	146	38202	1.9044	ug/L	97
95)	1,2-Dibromo-3-Chloropropan	18.44	75	2901	1.7917	ug/L	86
96)	1,2,4-Trichlorobenzene	19.50	180	25518	1.7153	ug/L	98
97)	Hexachlorobutadiene	19.64	225	10480	1.7999	ug/L	91
98)	Naphthalene	19.85	128	54253	1.7541	ug/L	99
99)	1,2,3-Trichlorobenzene	20.14	180	25071	1.7465	ug/L	97

(#) = qualifier out of range (m) = manual integration
11M14504.D 8260WT.M Fri Oct 14 09:16:04 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\101316\11M14504.D Vial: 6
Acq On : 13 Oct 2016 15:09 Operator: FJB
Sample : WG587480-05 2ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 9:16 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\101316\11M14504.D Vial: 6
Acq On : 13 Oct 2016 15:09 Operator: FJB
Sample : WG587480-05 2ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 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	2.0000	1.6809	16.0	100	0.00
3	P	Chloromethane	2.0000	1.7687	11.6	100	0.00
4	C	Vinyl Chloride	2.0000	1.8443	7.8	100	0.00
5	T	1,3-Butadiene	-1.0000	2.4743	0.0	100	0.01
6	T	Bromomethane	2.0000	1.8833	5.8	100	-0.01
7	T	Chloroethane	2.0000	1.9459	2.7	100	0.00
8	T	Trichlorofluoromethane	2.0000	1.9063	4.7	100	0.00
9	T	Diethyl ether	25.0000	24.2141	3.1	100	0.00
10	T	Isoprene	-1.0000	1.8788	0.0	100	0.01
11	T	Acrolein	12.5000	10.5841	15.3	100	0.01
12	T	1,1,2-Trichloro-1,2,2-Trifl	2.0000	1.8450	7.8	100	0.00
13	T	Acetone	-1.0000	2.1135	0.0	100	0.00
14	C	1,1-Dichloroethene	2.0000	1.9739	1.3	100	0.01
15	T	Tert-Butyl Alcohol	50.0000	45.2841	9.4	100	0.00
16	T	Dimethyl Sulfide	-1.0000	1.8417	0.0	100	0.01
17	T	Iodomethane	2.0000	1.8102	9.5	100	0.00
18	T	Methyl acetate	2.0000	1.9224	3.9	100	0.00
19	T	Methylene Chloride	2.0000	1.9476	2.6	100	0.00
20	T	Carbon Disulfide	2.0000	1.9551	2.2	100	-0.01
21	T	Acrylonitrile	12.5000	11.1421	10.9	100	0.00
22	T	Methyl Tert Butyl Ether	2.0000	1.8552	7.2	100	0.00
23	T	trans-1,2-Dichloroethene	2.0000	2.0072	-0.4	100	-0.01
24	T	n-Hexane	2.0000	1.8851	5.7	100	0.01
25	T	Diisopropyl ether	25.0000	24.5874	1.7	100	0.00
26	T	Vinyl Acetate	-1.0000	1.9484	0.0	100	0.00
27	P	1,1-Dichloroethane	2.0000	1.8931	5.3	100	0.00
28	T	Ethyl-Tert-Butyl ether	25.0000	24.5046	2.0	100	0.00
29	T	2-Butanone	-1.0000	1.9774	0.0	100	0.01
30	T	Propionitrile	25.0000	23.2488	7.0	100	0.00
31	T	2,2-Dichloropropane	2.0000	1.8947	5.3	100	0.01
32	T	cis-1,2-Dichloroethene	2.0000	2.0224	-1.1	100	0.00
33	C	Chloroform	2.0000	1.9026	4.9	100	-0.01
34	T	1-Bromopropane	2.0000	1.7845	10.8	100	0.00
35	T	Bromochloromethane	2.0000	2.0253	-1.3	100	0.00
36	T	Tetrahydrofuran	25.0000	23.3977	6.4	100	0.00
37	S	Dibromofluoromethane	1.0000	0.9593	4.1	100	0.00
38	T	1,1,1-Trichloroethane	2.0000	1.8998	5.0	100	-0.01
39	T	Cyclohexane	2.0000	1.9487	2.6	100	-0.01
40	T	1,1-Dichloropropene	2.0000	1.8606	7.0	100	-0.01
41	T	Carbon Tetrachloride	2.0000	1.8575	7.1	100	0.00
42	T	Tert-Amyl-Methyl ether	25.0000	23.7652	4.9	100	-0.01
43	S	1,2-Dichloroethane-d4	1.0000	0.9842	1.6	100	0.00
44	T	1,2-Dichloroethane	2.0000	1.8667	6.7	100	0.00
45	T	Benzene	2.0000	1.9721	1.4	100	-0.01
46	T	Trichloroethene	2.0000	1.9000	5.0	100	0.00
47	T	Methylcyclohexane	2.0000	1.8820	5.9	100	0.00
48	C	1,2-Dichloropropane	2.0000	1.8890	5.5	100	-0.01
49	T	1,4-Dioxane	50.0000	41.8519	16.3	100	0.00
50	T	Bromodichloromethane	2.0000	1.8276	8.6	100	0.00
51	T	Dibromomethane	2.0000	1.9676	1.6	100	0.00
52	T	2-Chloroethyl Vinyl Ether	-1.0000	1.7909	0.0	100	0.00
53	T	4-Methyl-2-Pentanone	-1.0000	1.5734	0.0	100	0.00
54	T	cis-1,3-Dichloropropene	2.0000	1.7868	10.7	100	0.00

(#) = Out of Range
11M14504.D 8260WT.M Fri Oct 14 09:21:13 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\101316\11M14504.D Vial: 6
Acq On : 13 Oct 2016 15:09 Operator: FJB
Sample : WG587480-05 2ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 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	1.5178	0.0	100	-0.01
56	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
57	S	Toluene-d8	1.0000	1.0030	-0.3	100	0.00
58	C	Toluene	2.0000	1.9655	1.7	100	0.00
59	T	Ethyl Methacrylate	2.0000	1.8409	8.0	100	0.00
60	T	trans-1,3-Dichloropropene	2.0000	1.8574	7.1	100	0.00
61	T	1,1,2-Trichloroethane	2.0000	1.8646	6.8	100	0.00
62	T	2-Hexanone	-1.0000	1.5794	0.0	100	-0.01
63	T	1,3-Dichloropropane	2.0000	1.8447	7.8	100	0.00
64	T	Tetrachloroethene	2.0000	1.8360	8.2	100	0.01
65	T	Dibromochloromethane	2.0000	1.8298	8.5	100	0.00
66	T	1,2-Dibromoethane	2.0000	1.8572	7.1	100	0.00
67	T	1-Chlorohexane	2.0000	1.8148	9.3	100	0.00
68	P	Chlorobenzene	2.0000	1.9491	2.5	100	0.00
69	T	1,1,1,2-Tetrachloroethane	2.0000	1.9468	2.7	100	0.00
70	C	Ethylbenzene	2.0000	1.8796	6.0	100	-0.01
71	T	m-,p-Xylene	4.0000	3.9534	1.2	100	0.00
72	T	o-Xylene	2.0000	1.8126	9.4	100	-0.01
73	T	Styrene	2.0000	1.8585	7.1	100	0.00
74	P	Bromoform	2.0000	1.7213	13.9	100	0.00
75	T	Isopropylbenzene	2.0000	1.9277	3.6	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	1.8962	5.2	100	0.00
78	S	p-Bromofluorobenzene	1.0000	1.0239	-2.4	100	0.00
79	T	1,2,3-Trichloropropane	2.0000	1.9295	3.5	100	-0.01
80	T	trans-1,4-Dichloro-2-Butene	2.0000	1.7344	13.3	100	0.00
81	T	n-Propylbenzene	2.0000	1.9731	1.3	100	0.00
82	T	Bromobenzene	2.0000	1.9749	1.3	100	0.00
83	T	1,3,5-Trimethylbenzene	2.0000	1.9818	0.9	100	0.00
84	T	2-Chlorotoluene	2.0000	2.0159	-0.8	100	0.00
85	T	4-Chlorotoluene	2.0000	1.9632	1.8	100	0.00
86	T	a-Methylstyrene	2.0000	1.7810	11.0	100	0.01
87	T	tert-Butylbenzene	2.0000	1.9530	2.3	100	0.00
88	T	1,2,4-Trimethylbenzene	2.0000	1.9115	4.4	100	0.00
89	T	sec-Butylbenzene	2.0000	1.9648	1.8	100	0.00
90	T	p-Isopropyltoluene	2.0000	1.9537	2.3	100	0.00
91	T	1,3-Dichlorobenzene	2.0000	1.8999	5.0	100	-0.01
92	T	1,4-Dichlorobenzene	2.0000	1.9483	2.6	100	0.00
93	T	n-Butylbenzene	2.0000	1.9266	3.7	100	0.00
94	T	1,2-Dichlorobenzene	2.0000	1.9044	4.8	100	0.00
95	T	1,2-Dibromo-3-Chloropropane	2.0000	1.7917	10.4	100	0.00
96	T	1,2,4-Trichlorobenzene	2.0000	1.7153	14.2	100	0.00
97	T	Hexachlorobutadiene	2.0000	1.7999	10.0	100	0.00
98	T	Naphthalene	2.0000	1.7541	12.3	100	0.00
99	T	1,2,3-Trichlorobenzene	2.0000	1.7465	12.7	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
11M14504.D 8260WT.M Fri Oct 14 09:21:13 2016 Page 2

Data File : C:\MSDCHEM\1\DATA\101316\11M14505.D Vial: 7
Acq On : 13 Oct 2016 15:38 Operator: FJB
Sample : WG587480-06 5ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:16:06 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.57	96	704915	25.00 ug/L	0.00
56) Chlorobenzene-d5	14.20	117	535384	25.00 ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	274083	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.57	111	21661	2.5545 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 10.20%#		
43) 1,2-Dichloroethane-d4	10.18	65	24158	2.5376 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 10.16%#		
57) Toluene-d8	12.43	98	74299	2.6188 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 10.48%#		
78) p-Bromofluorobenzene	15.59	95	30177	2.7520 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 11.00%#		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.21	85	53872	4.5046 ug/L	97
3) Chloromethane	3.66	50	63093	4.8946 ug/L	92
4) Vinyl Chloride	3.90	62	57167	4.8876 ug/L	94
5) 1,3-Butadiene	3.95	54	55779	5.8584 ug/L	99
6) Bromomethane	4.79	94	26223	4.6270 ug/L	95
7) Chloroethane	4.95	64	34076	4.9730 ug/L	99
8) Trichlorofluoromethane	5.43	101	71376	5.2430 ug/L	98
9) Diethyl ether	5.95	59	348253	52.3340 ug/L	96
10) Isoprene	5.99	67	60695	4.8854 ug/L	100
11) Acrolein	6.18	56	14503	26.1576 ug/L	96
12) 1,1,2-Trichloro-1,2,2-Trif	6.18	101	36540	4.9907 ug/L	92
13) Acetone	6.28	43	15534	5.6801 ug/L	98
14) 1,1-Dichloroethene	6.50	61	73163	5.0292 ug/L	99
15) Tert-Butyl Alcohol	6.59	59	76587	108.4985 ug/L	99
16) Dimethyl Sulfide	6.75	62	49571	4.9717 ug/L	91
17) Iodomethane	7.01	142	32491	4.0680 ug/L	98
18) Methyl acetate	7.01	43	42579	5.2794 ug/L	100
19) Methylene Chloride	7.26	84	40764	4.9289 ug/L	100
20) Carbon Disulfide	7.30	76	119131	4.9405 ug/L	98
21) Acrylonitrile	7.43	53	92086	25.0624 ug/L	98
22) Methyl Tert Butyl Ether	7.47	73	101639	4.9984 ug/L	100
23) trans-1,2-Dichloroethene	7.70	96	41497	5.0337 ug/L	97
24) n-Hexane	7.78	57	67335	4.7763 ug/L	99
25) Diisopropyl ether	8.10	45	2091384	52.4539 ug/L	98
26) Vinyl Acetate	8.26	43	108380	5.0855 ug/L	98
27) 1,1-Dichloroethane	8.29	63	86575	5.1240 ug/L	99
28) Ethyl-Tert-Butyl ether	8.64	59	1539500	52.0660 ug/L	99
29) 2-Butanone	8.83	43	24112	5.2473 ug/L	99
30) Propionitrile	8.92	54	65994	51.8343 ug/L	99
31) 2,2-Dichloropropane	9.03	77	58036	5.0404 ug/L	94
32) cis-1,2-Dichloroethene	9.10	96	45701	5.0337 ug/L	95
33) Chloroform	9.30	83	75154	5.0695 ug/L	99
34) 1-Bromopropane	9.44	122	7411	4.9720 ug/L	89
35) Bromochloromethane	9.52	130	29766	5.0860 ug/L	95
36) Tetrahydrofuran	9.54	42	165066	51.8781 ug/L	96
38) 1,1,1-Trichloroethane	9.80	97	64003	4.8966 ug/L	99
39) Cyclohexane	9.83	56	99752	5.2060 ug/L	97
40) 1,1-Dichloropropene	10.00	75	54937	5.0771 ug/L	99
41) Carbon Tetrachloride	10.13	117	60196	4.9290 ug/L	96
42) Tert-Amyl-Methyl ether	10.09	73	1041879	52.0345 ug/L	99

(#) = qualifier out of range (m) = manual integration
11M14505.D 8260WT.M Fri Oct 14 09:16:07 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\101316\11M14505.D Vial: 7
Acq On : 13 Oct 2016 15:38 Operator: FJB
Sample : WG587480-06 5ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:16:06 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

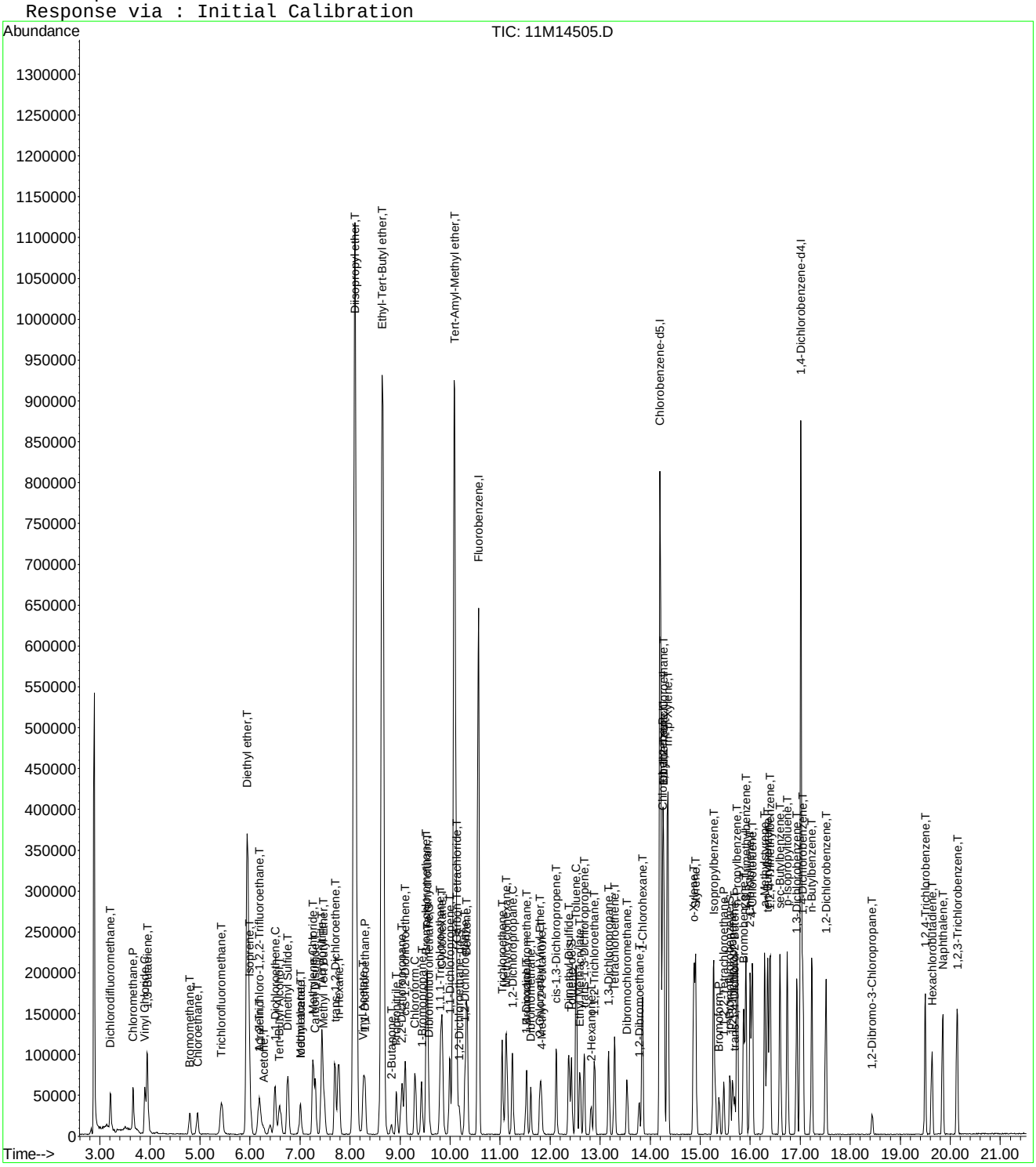
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44)	1,2-Dichloroethane	10.30	62	65317	5.1288	ug/L	98
45)	Benzene	10.33	78	165534	5.1789	ug/L	99
46)	Trichloroethene	11.04	130	47040	5.0884	ug/L	98
47)	Methylcyclohexane	11.13	83	61868	4.9367	ug/L	97
48)	1,2-Dichloropropane	11.25	63	49329	5.2358	ug/L	96
49)	1,4-Dioxane	11.52	88	6881	104.7737	ug/L	99
50)	Bromodichloromethane	11.53	83	57043	5.0925	ug/L	97
51)	Dibromomethane	11.61	93	24125	4.8295	ug/L	95
52)	2-Chloroethyl Vinyl Ether	11.80	63	25698	4.6567	ug/L	99
53)	4-Methyl-2-Pentanone	11.83	58	16116	4.7567	ug/L	95
54)	cis-1,3-Dichloropropene	12.12	75	61556	4.9719	ug/L	99
55)	Dimethyl Disulfide	12.38	79	30805	4.1457	ug/L	97
58)	Toluene	12.52	91	180331	5.3489	ug/L	97
59)	Ethyl Methacrylate	12.59	69	42002	4.8742	ug/L	94
60)	trans-1,3-Dichloropropene	12.68	75	55147	4.9961	ug/L	99
61)	1,1,2-Trichloroethane	12.88	97	34394	5.2436	ug/L	97
62)	2-Hexanone	12.82	43	35160	4.9730	ug/L	99
63)	1,3-Dichloropropane	13.17	76	58260	5.2838	ug/L	89
64)	Tetrachloroethene	13.29	164	36268	4.9563	ug/L	98
65)	Dibromochloromethane	13.53	129	44523	5.0644	ug/L	100
66)	1,2-Dibromoethane	13.78	107	34181	5.0622	ug/L	100
67)	1-Chlorohexane	13.84	91	54770	5.0342	ug/L	96
68)	Chlorobenzene	14.25	112	125617	5.2509	ug/L	98
69)	1,1,1,2-Tetrachloroethane	14.27	131	45570	5.3407	ug/L	94
70)	Ethylbenzene	14.27	106	62371	5.0988	ug/L	94
71)	m-,p-Xylene	14.35	106	153310	10.6378	ug/L	99
72)	o-Xylene	14.87	106	71617	5.0517	ug/L	96
73)	Styrene	14.91	104	124078	5.1560	ug/L	98
74)	Bromoform	15.38	173	27217	4.7739	ug/L	99
75)	Isopropylbenzene	15.27	105	190325	5.2399	ug/L	100
77)	1,1,2,2-Tetrachloroethane	15.47	83	40832	5.2826	ug/L	96
79)	1,2,3-Trichloropropane	15.64	110	12510	5.3369	ug/L	95
80)	trans-1,4-Dichloro-2-Buten	15.69	53	14900	4.7197	ug/L	98
81)	n-Propylbenzene	15.74	91	226980	5.5662	ug/L	99
82)	Bromobenzene	15.87	156	53330	5.1025	ug/L	95
83)	1,3,5-Trimethylbenzene	15.91	105	154334	5.2766	ug/L	99
84)	2-Chlorotoluene	16.00	91	140153	5.4314	ug/L	99
85)	4-Chlorotoluene	16.04	91	147742	5.6215	ug/L	99
86)	a-Methylstyrene	16.29	118	86678	5.0418	ug/L	100
87)	tert-Butylbenzene	16.35	134	35434	5.5376	ug/L	97
88)	1,2,4-Trimethylbenzene	16.40	105	162970	5.4163	ug/L	99
89)	sec-Butylbenzene	16.60	105	200864	5.4231	ug/L	100
90)	p-Isopropyltoluene	16.74	119	173418	5.3806	ug/L	99
91)	1,3-Dichlorobenzene	16.93	146	100344	5.2076	ug/L	100
92)	1,4-Dichlorobenzene	17.05	146	102402	5.1860	ug/L	100
93)	n-Butylbenzene	17.23	91	157612	5.2122	ug/L	100
94)	1,2-Dichlorobenzene	17.52	146	97937	5.3207	ug/L	97
95)	1,2-Dibromo-3-Chloropropan	18.44	75	6951	4.6786	ug/L	80
96)	1,2,4-Trichlorobenzene	19.50	180	67167	4.9204	ug/L	98
97)	Hexachlorobutadiene	19.64	225	27214	5.0937	ug/L	98
98)	Naphthalene	19.85	128	146177	5.1505	ug/L	99
99)	1,2,3-Trichlorobenzene	20.14	180	61650	4.6804	ug/L	96

(#) = qualifier out of range (m) = manual integration
11M14505.D 8260WT.M Fri Oct 14 09:16:07 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\101316\11M14505.D Vial: 7
Acq On : 13 Oct 2016 15:38 Operator: FJB
Sample : WG587480-06 5ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 9:16 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\101316\11M14505.D Vial: 7
Acq On : 13 Oct 2016 15:38 Operator: FJB
Sample : WG587480-06 5ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 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	5.0000	4.5046	9.9	100	0.00
3	P	Chloromethane	5.0000	4.8102	3.8	100	0.00
4	C	Vinyl Chloride	5.0000	4.8876	2.2	100	0.00
5	T	1,3-Butadiene	5.0000	5.8584	-17.2	100	0.01
6	T	Bromomethane	5.0000	4.6270	7.5	100	-0.01
7	T	Chloroethane	5.0000	4.9730	0.5	100	0.00
8	T	Trichlorofluoromethane	5.0000	5.2430	-4.9	100	0.00
9	T	Diethyl ether	50.0000	52.3340	-4.7	100	0.00
10	T	Isoprene	5.0000	4.8854	2.3	100	0.00
11	T	Acrolein	25.0000	26.1576	-4.6	100	0.01
12	T	1,1,2-Trichloro-1,2,2-Trifl	5.0000	4.9907	0.2	100	-0.01
13	T	Acetone	5.0000	5.6800	-13.6	100	0.00
14	C	1,1-Dichloroethene	5.0000	5.0292	-0.6	100	0.01
15	T	Tert-Butyl Alcohol	100.0000	108.4985	-8.5	100	-0.01
16	T	Dimethyl Sulfide	5.0000	4.9717	0.6	100	0.00
17	T	Iodomethane	5.0000	4.0680	18.6	100	0.01
18	T	Methyl acetate	5.0000	5.2794	-5.6	100	0.00
19	T	Methylene Chloride	5.0000	4.9289	1.4	100	0.00
20	T	Carbon Disulfide	5.0000	4.9405	1.2	100	-0.01
21	T	Acrylonitrile	25.0000	25.0624	-0.2	100	0.00
22	T	Methyl Tert Butyl Ether	5.0000	4.9984	0.0	100	0.00
23	T	trans-1,2-Dichloroethene	5.0000	5.0337	-0.7	100	0.00
24	T	n-Hexane	5.0000	4.7763	4.5	100	0.01
25	T	Diisopropyl ether	50.0000	52.4539	-4.9	100	0.00
26	T	Vinyl Acetate	5.0000	5.0855	-1.7	100	0.00
27	P	1,1-Dichloroethane	5.0000	5.1240	-2.5	100	0.00
28	T	Ethyl-Tert-Butyl ether	50.0000	52.0660	-4.1	100	0.00
29	T	2-Butanone	5.0000	5.2473	-4.9	100	0.01
30	T	Propionitrile	50.0000	51.8343	-3.7	100	0.00
31	T	2,2-Dichloropropane	5.0000	5.0404	-0.8	100	-0.01
32	T	cis-1,2-Dichloroethene	5.0000	5.0338	-0.7	100	0.00
33	C	Chloroform	5.0000	5.0695	-1.4	100	-0.01
34	T	1-Bromopropane	5.0000	4.7659	4.7	100	0.01
35	T	Bromochloromethane	5.0000	5.0860	-1.7	100	0.00
36	T	Tetrahydrofuran	50.0000	51.8781	-3.8	100	0.00
37	S	Dibromofluoromethane	2.5000	2.5545	-2.2	100	0.00
38	T	1,1,1-Trichloroethane	5.0000	4.8966	2.1	100	-0.01
39	T	Cyclohexane	5.0000	5.2060	-4.1	100	-0.01
40	T	1,1-Dichloropropene	5.0000	5.0771	-1.5	100	0.00
41	T	Carbon Tetrachloride	5.0000	4.9290	1.4	100	0.00
42	T	Tert-Amyl-Methyl ether	50.0000	52.0345	-4.1	100	0.00
43	S	1,2-Dichloroethane-d4	2.5000	2.5376	-1.5	100	0.00
44	T	1,2-Dichloroethane	5.0000	5.1288	-2.6	100	0.00
45	T	Benzene	5.0000	5.1789	-3.6	100	-0.01
46	T	Trichloroethene	5.0000	5.0884	-1.8	100	0.00
47	T	Methylcyclohexane	5.0000	4.9367	1.3	100	0.00
48	C	1,2-Dichloropropane	5.0000	5.2358	-4.7	100	0.00
49	T	1,4-Dioxane	100.0000	104.7737	-4.8	100	0.01
50	T	Bromodichloromethane	5.0000	5.0925	-1.9	100	0.00
51	T	Dibromomethane	5.0000	4.8295	3.4	100	0.00
52	T	2-Chloroethyl Vinyl Ether	5.0000	4.6567	6.9	100	0.00
53	T	4-Methyl-2-Pentanone	5.0000	4.7567	4.9	100	0.00
54	T	cis-1,3-Dichloropropene	5.0000	4.9719	0.6	100	0.00

(#) = Out of Range
11M14505.D 8260WT.M Fri Oct 14 09:21:33 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\101316\11M14505.D Vial: 7
Acq On : 13 Oct 2016 15:38 Operator: FJB
Sample : WG587480-06 5ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 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	5.0000	4.1457	17.1	100	0.00
56	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
57	S	Toluene-d8	2.5000	2.6188	-4.8	100	0.00
58	C	Toluene	5.0000	5.3489	-7.0	100	0.00
59	T	Ethyl Methacrylate	5.0000	4.8742	2.5	100	0.00
60	T	trans-1,3-Dichloropropene	5.0000	4.9961	0.1	100	0.00
61	T	1,1,2-Trichloroethane	5.0000	5.2436	-4.9	100	0.00
62	T	2-Hexanone	5.0000	4.9730	0.5	100	0.00
63	T	1,3-Dichloropropane	5.0000	5.2838	-5.7	100	0.00
64	T	Tetrachloroethene	5.0000	4.9563	0.9	100	0.00
65	T	Dibromochloromethane	5.0000	5.0644	-1.3	100	0.00
66	T	1,2-Dibromoethane	5.0000	5.0622	-1.2	100	0.00
67	T	1-Chlorohexane	5.0000	5.0342	-0.7	100	0.00
68	P	Chlorobenzene	5.0000	5.2509	-5.0	100	0.00
69	T	1,1,1,2-Tetrachloroethane	5.0000	5.3407	-6.8	100	0.00
70	C	Ethylbenzene	5.0000	5.0988	-2.0	100	0.00
71	T	m-,p-Xylene	10.0000	10.6378	-6.4	100	0.00
72	T	o-Xylene	5.0000	5.0517	-1.0	100	-0.01
73	T	Styrene	5.0000	5.1560	-3.1	100	0.00
74	P	Bromoform	5.0000	4.7739	4.5	100	0.00
75	T	Isopropylbenzene	5.0000	5.2399	-4.8	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	5.2826	-5.7	100	0.00
78	S	p-Bromofluorobenzene	2.5000	2.7521	-10.1	100	0.00
79	T	1,2,3-Trichloropropane	5.0000	5.3369	-6.7	100	-0.01
80	T	trans-1,4-Dichloro-2-Butene	5.0000	4.7197	5.6	100	0.00
81	T	n-Propylbenzene	5.0000	5.5662	-11.3	100	0.00
82	T	Bromobenzene	5.0000	5.1025	-2.1	100	0.00
83	T	1,3,5-Trimethylbenzene	5.0000	5.2766	-5.5	100	0.00
84	T	2-Chlorotoluene	5.0000	5.4314	-8.6	100	0.00
85	T	4-Chlorotoluene	5.0000	5.6215	-12.4	100	0.00
86	T	a-Methylstyrene	5.0000	5.0418	-0.8	100	0.00
87	T	tert-Butylbenzene	5.0000	5.5376	-10.8	100	0.00
88	T	1,2,4-Trimethylbenzene	5.0000	5.4163	-8.3	100	0.00
89	T	sec-Butylbenzene	5.0000	5.4231	-8.5	100	0.00
90	T	p-Isopropyltoluene	5.0000	5.3806	-7.6	100	0.00
91	T	1,3-Dichlorobenzene	5.0000	5.2076	-4.2	100	-0.01
92	T	1,4-Dichlorobenzene	5.0000	5.1860	-3.7	100	0.00
93	T	n-Butylbenzene	5.0000	5.2122	-4.2	100	0.00
94	T	1,2-Dichlorobenzene	5.0000	5.3208	-6.4	100	0.00
95	T	1,2-Dibromo-3-Chloropropane	5.0000	4.6786	6.4	100	0.00
96	T	1,2,4-Trichlorobenzene	5.0000	4.9204	1.6	100	0.00
97	T	Hexachlorobutadiene	5.0000	5.0937	-1.9	100	0.00
98	T	Naphthalene	5.0000	5.1505	-3.0	100	0.00
99	T	1,2,3-Trichlorobenzene	5.0000	4.6804	6.4	100	0.00

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\101316\11M14506.D Vial: 8
Acq On : 13 Oct 2016 16:07 Operator: FJB
Sample : WG587480-07 20ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:16:09 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.57	96	706675	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.20	117	531572	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	278289	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	86923	10.2255	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 40.92%#			
43) 1,2-Dichloroethane-d4	10.18	65	98685	10.3404	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 41.36%#			
57) Toluene-d8	12.43	98	293317	10.4125	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 41.64%#			
78) p-Bromofluorobenzene	15.59	95	114945	10.3242	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 41.28%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.21	85	250387	20.8845	ug/L	97
3) Chloromethane	3.66	50	254200	19.6712	ug/L	98
4) Vinyl Chloride	3.90	62	234082	19.9635	ug/L	99
5) 1,3-Butadiene	3.95	54	226181	23.6964	ug/L	100
6) Bromomethane	4.80	94	100146	17.6265	ug/L	98
7) Chloroethane	4.94	64	138332	20.1375	ug/L	98
8) Trichlorofluoromethane	5.43	101	274529	20.1155	ug/L	100
9) Diethyl ether	5.95	59	545664	81.7959	ug/L	97
10) Isoprene	5.99	67	250400	20.1049	ug/L	97
11) Acrolein	6.17	56	22047	39.6650	ug/L	98
12) 1,1,2-Trichloro-1,2,2-Trif	6.19	101	147897	20.1498	ug/L	95
13) Acetone	6.27	43	52079	18.9954	ug/L	95
14) 1,1-Dichloroethene	6.50	61	290895	19.9463	ug/L	97
15) Tert-Butyl Alcohol	6.60	59	118432	167.3613	ug/L	97
16) Dimethyl Sulfide	6.76	62	199782	19.9870	ug/L	97
17) Iodomethane	7.00	142	188769	19.6047	ug/L	98
18) Methyl acetate	7.01	43	163574	20.2311	ug/L	98
19) Methylene Chloride	7.26	84	163825	19.7593	ug/L	95
20) Carbon Disulfide	7.31	76	491726	20.3417	ug/L	100
21) Acrylonitrile	7.43	53	149410	40.5626	ug/L	96
22) Methyl Tert Butyl Ether	7.46	73	417416	20.4764	ug/L	100
23) trans-1,2-Dichloroethene	7.70	96	160666	19.4406	ug/L	100
24) n-Hexane	7.77	57	294217	20.8180	ug/L	100
25) Diisopropyl ether	8.10	45	3316172	82.9656	ug/L	98
26) Vinyl Acetate	8.26	43	433464	20.2888	ug/L	99
27) 1,1-Dichloroethane	8.29	63	337344	19.9163	ug/L	99
28) Ethyl-Tert-Butyl ether	8.64	59	2440876	82.3450	ug/L	100
29) 2-Butanone	8.82	43	92805	20.1461	ug/L	99
30) Propionitrile	8.92	54	106227	83.2270	ug/L	98
31) 2,2-Dichloropropane	9.04	77	223801	19.3886	ug/L	99
32) cis-1,2-Dichloroethene	9.10	96	180556	19.8378	ug/L	100
33) Chloroform	9.30	83	288279	19.3975	ug/L	99
34) 1-Bromopropane	9.43	122	31438	21.0390	ug/L	95
35) Bromochloromethane	9.52	130	119820	20.4224	ug/L	93
36) Tetrahydrofuran	9.54	42	261166	83.4243	ug/L	96
38) 1,1,1-Trichloroethane	9.81	97	256407	19.5676	ug/L	97
39) Cyclohexane	9.83	56	387768	20.1871	ug/L	99
40) 1,1-Dichloropropene	9.99	75	209875	19.3477	ug/L	98
41) Carbon Tetrachloride	10.13	117	244387	19.9610	ug/L	99
42) Tert-Amyl-Methyl ether	10.09	73	1666450	83.0201	ug/L	98

(#) = qualifier out of range (m) = manual integration
11M14506.D 8260WT.M Fri Oct 14 09:16:10 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\101316\11M14506.D Vial: 8
Acq On : 13 Oct 2016 16:07 Operator: FJB
Sample : WG587480-07 20ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:16:09 2016 Quant Results File: 8260WT.RES

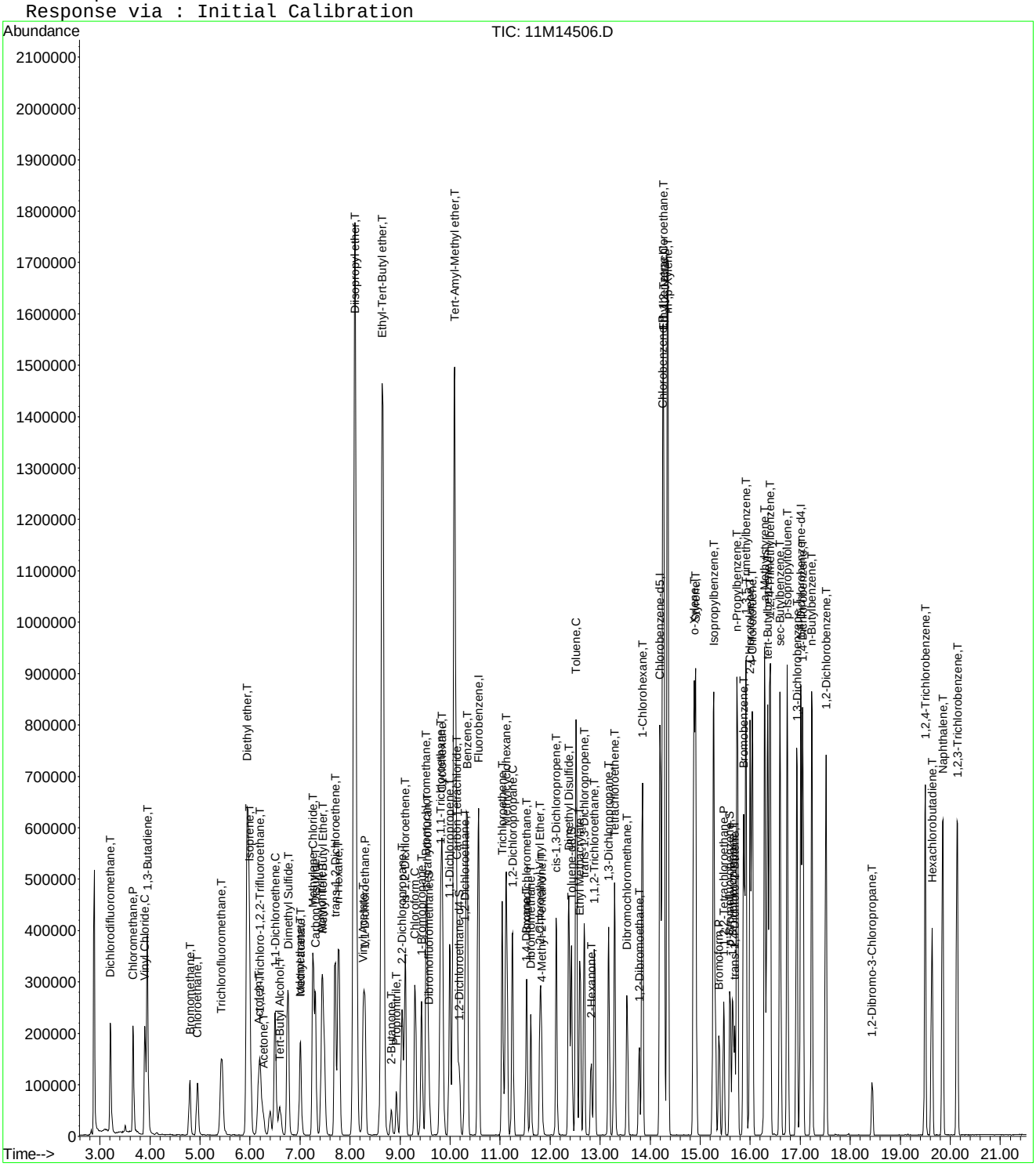
Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44)	1,2-Dichloroethane	10.30	62	259927	20.3590	ug/L	99
45)	Benzene	10.34	78	647697	20.2134	ug/L	98
46)	Trichloroethene	11.04	130	184008	19.8547	ug/L	99
47)	Methylcyclohexane	11.13	83	259302	20.6393	ug/L	99
48)	1,2-Dichloropropane	11.25	63	191579	20.2836	ug/L	98
49)	1,4-Dioxane	11.52	88	10082	153.1314	ug/L	87
50)	Bromodichloromethane	11.53	83	223563	19.9088	ug/L	100
51)	Dibromomethane	11.61	93	98625	19.6944	ug/L	98
52)	2-Chloroethyl Vinyl Ether	11.80	63	109528	19.7979	ug/L	97
53)	4-Methyl-2-Pentanone	11.83	58	65824	19.3797	ug/L	98
54)	cis-1,3-Dichloropropene	12.12	75	257876	20.7769	ug/L	99
55)	Dimethyl Disulfide	12.38	79	144066	19.3401	ug/L	97
58)	Toluene	12.52	91	706714	21.1126	ug/L	99
59)	Ethyl Methacrylate	12.59	69	184701	21.5878	ug/L	93
60)	trans-1,3-Dichloropropene	12.68	75	227985	20.8025	ug/L	100
61)	1,1,2-Trichloroethane	12.88	97	138069	21.2007	ug/L	99
62)	2-Hexanone	12.82	43	137498	19.5871	ug/L	98
63)	1,3-Dichloropropane	13.17	76	226348	20.6756	ug/L	92
64)	Tetrachloroethene	13.29	164	147071	20.2424	ug/L	97
65)	Dibromochloromethane	13.53	129	182384	20.8945	ug/L	98
66)	1,2-Dibromoethane	13.78	107	141983	21.1785	ug/L	98
67)	1-Chlorohexane	13.84	91	224795	20.8104	ug/L	98
68)	Chlorobenzene	14.25	112	482066	20.2953	ug/L	100
69)	1,1,1,2-Tetrachloroethane	14.27	131	174774	20.6302	ug/L	100
70)	Ethylbenzene	14.27	106	248807	20.4857	ug/L	98
71)	m-,p-Xylene	14.35	106	601304	42.0223	ug/L	98
72)	o-Xylene	14.88	106	292426	20.7749	ug/L	97
73)	Styrene	14.91	104	506484	21.1977	ug/L	99
74)	Bromoform	15.38	173	115971	20.4875	ug/L	98
75)	Isopropylbenzene	15.27	105	756754	20.9840	ug/L	100
77)	1,1,2,2-Tetrachloroethane	15.47	83	161088	20.5258	ug/L	100
79)	1,2,3-Trichloropropane	15.65	110	50366	21.1621	ug/L	99
80)	trans-1,4-Dichloro-2-Buten	15.69	53	70365	21.9517	ug/L	94
81)	n-Propylbenzene	15.74	91	902346	21.7937	ug/L	99
82)	Bromobenzene	15.87	156	214163	20.1811	ug/L	97
83)	1,3,5-Trimethylbenzene	15.91	105	646193	21.7591	ug/L	97
84)	2-Chlorotoluene	16.00	91	556334	21.2339	ug/L	99
85)	4-Chlorotoluene	16.04	91	569627	21.3465	ug/L	99
86)	a-Methylstyrene	16.29	118	373493	21.3967	ug/L	100
87)	tert-Butylbenzene	16.35	134	135686	20.8845	ug/L	97
88)	1,2,4-Trimethylbenzene	16.40	105	656547	21.4905	ug/L	99
89)	sec-Butylbenzene	16.60	105	798547	21.2340	ug/L	100
90)	p-Isopropyltoluene	16.74	119	694187	21.2129	ug/L	100
91)	1,3-Dichlorobenzene	16.94	146	406382	20.7715	ug/L	97
92)	1,4-Dichlorobenzene	17.05	146	398149	19.8590	ug/L	99
93)	n-Butylbenzene	17.23	91	640006	20.8452	ug/L	100
94)	1,2-Dichlorobenzene	17.52	146	379003	20.2794	ug/L	99
95)	1,2-Dibromo-3-Chloropropan	18.44	75	29757	19.7262	ug/L	93
96)	1,2,4-Trichlorobenzene	19.50	180	272433	19.6557	ug/L	99
97)	Hexachlorobutadiene	19.64	225	103511	19.0815	ug/L	99
98)	Naphthalene	19.85	128	620587	21.5357	ug/L	99
99)	1,2,3-Trichlorobenzene	20.14	180	261750	19.5714	ug/L	100

(#) = qualifier out of range (m) = manual integration
11M14506.D 8260WT.M Fri Oct 14 09:16:10 2016 Page 2

Data File : C:\MSDCHEM\1\DATA\101316\11M14506.D Vial: 8
Acq On : 13 Oct 2016 16:07 Operator: FJB
Sample : WG587480-07 20ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 9:16 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\101316\11M14507.D Vial: 9
Acq On : 13 Oct 2016 16:36 Operator: FJB
Sample : WG587480-08 50ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:16:12 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.57	96	727439	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.20	117	570241	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	300608	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	222037	25.3745	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 101.48%			
43) 1,2-Dichloroethane-d4	10.18	65	247871	25.2311	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 100.92%			
57) Toluene-d8	12.43	98	765817	25.3423	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 101.36%			
78) p-Bromofluorobenzene	15.59	95	300187	24.9605	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 99.84%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.21	85	676602	54.8236	ug/L	97
3) Chloromethane	3.66	50	649476	48.8248	ug/L	97
4) Vinyl Chloride	3.90	62	628611	52.0804	ug/L	100
5) 1,3-Butadiene	3.94	54	494799	50.3591	ug/L	93
6) Bromomethane	4.80	94	285226	48.7690	ug/L	97
7) Chloroethane	4.95	64	366231	51.7918	ug/L	99
8) Trichlorofluoromethane	5.43	101	737093	52.4671	ug/L	99
9) Diethyl ether	5.95	59	694146	101.0835	ug/L	95
10) Isoprene	5.99	67	646078	50.3938	ug/L	98
11) Acrolein	6.17	56	26657	46.5899	ug/L	100
12) 1,1,2-Trichloro-1,2,2-Trif	6.19	101	398710	52.7707	ug/L	100
13) Acetone	6.28	43	130895	46.3802	ug/L	93
14) 1,1-Dichloroethene	6.49	61	783939	52.2195	ug/L	97
15) Tert-Butyl Alcohol	6.60	59	137608	188.9090	ug/L	97
16) Dimethyl Sulfide	6.75	62	515295	50.0807	ug/L	96
17) Iodomethane	7.00	142	507613	50.9496	ug/L	100
18) Methyl acetate	7.01	43	398073	47.8290	ug/L	98
19) Methylene Chloride	7.26	84	432616	50.6894	ug/L	95
20) Carbon Disulfide	7.31	76	1266699	50.9051	ug/L	99
21) Acrylonitrile	7.43	53	194641	51.3339	ug/L	99
22) Methyl Tert Butyl Ether	7.47	73	1072525	51.1110	ug/L	99
23) trans-1,2-Dichloroethene	7.70	96	430733	50.6311	ug/L	99
24) n-Hexane	7.77	57	751246	51.6389	ug/L	100
25) Diisopropyl ether	8.10	45	4198955	102.0529	ug/L	98
26) Vinyl Acetate	8.26	43	1111467	50.5386	ug/L	99
27) 1,1-Dichloroethane	8.29	63	898229	51.5164	ug/L	99
28) Ethyl-Tert-Butyl ether	8.64	59	3083718	101.0623	ug/L	99
29) 2-Butanone	8.82	43	229616	48.4223	ug/L	99
30) Propionitrile	8.92	54	128708	97.9621	ug/L	99
31) 2,2-Dichloropropane	9.04	77	600617	50.5481	ug/L	100
32) cis-1,2-Dichloroethene	9.10	96	488016	52.0883	ug/L	97
33) Chloroform	9.31	83	760777	49.7295	ug/L	100
34) 1-Bromopropane	9.43	122	81811	53.1868	ug/L	95
35) Bromochloromethane	9.52	130	303683	50.2829	ug/L	95
36) Tetrahydrofuran	9.54	42	311923	97.2225	ug/L	95
38) 1,1,1-Trichloroethane	9.81	97	698456	51.7809	ug/L	97
39) Cyclohexane	9.84	56	1011014	51.1307	ug/L	100
40) 1,1-Dichloropropene	10.00	75	573505	51.3604	ug/L	100
41) Carbon Tetrachloride	10.13	117	661064	52.4531	ug/L	99
42) Tert-Amyl-Methyl ether	10.09	73	2080632	100.6953	ug/L	97

(#) = qualifier out of range (m) = manual integration
11M14507.D 8260WT.M Fri Oct 14 09:16:13 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\101316\11M14507.D Vial: 9
Acq On : 13 Oct 2016 16:36 Operator: FJB
Sample : WG587480-08 50ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:16:12 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

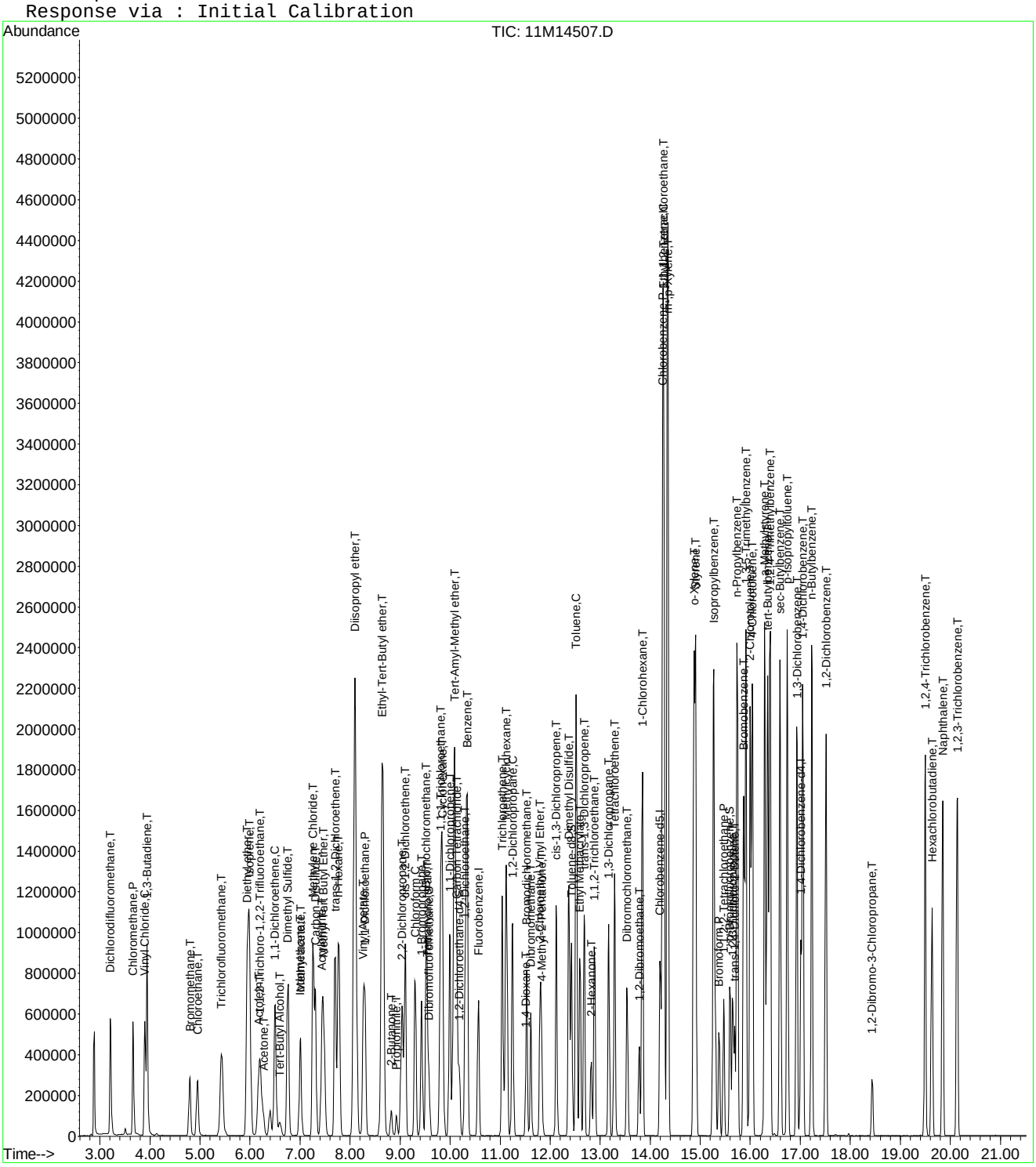
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
44)	1,2-Dichloroethane	10.30	62	674976	51.3591 ug/L	98
45)	Benzene	10.34	78	1703994	51.6606 ug/L	100
46)	Trichloroethene	11.04	130	484994	50.8378 ug/L	99
47)	Methylcyclohexane	11.13	83	663522	51.3059 ug/L	99
48)	1,2-Dichloropropane	11.25	63	498427	51.2651 ug/L	99
49)	1,4-Dioxane	11.51	88	13093	193.1879 ug/L	95
50)	Bromodichloromethane	11.53	83	599138	51.8318 ug/L	99
51)	Dibromomethane	11.61	93	259362	50.3136 ug/L	99
52)	2-Chloroethyl Vinyl Ether	11.80	63	281585	49.4456 ug/L	98
53)	4-Methyl-2-Pentanone	11.83	58	166700	47.6785 ug/L	99
54)	cis-1,3-Dichloropropene	12.12	75	677409	53.0204 ug/L	99
55)	Dimethyl Disulfide	12.38	79	390201	50.8871 ug/L	98
58)	Toluene	12.52	91	1855485	51.6726 ug/L	99
59)	Ethyl Methacrylate	12.59	69	469733	51.1793 ug/L	94
60)	trans-1,3-Dichloropropene	12.68	75	608085	51.7223 ug/L	99
61)	1,1,2-Trichloroethane	12.88	97	360796	51.6439 ug/L	98
62)	2-Hexanone	12.82	43	348809	46.3197 ug/L	98
63)	1,3-Dichloropropane	13.17	76	585849	49.8851 ug/L	91
64)	Tetrachloroethene	13.29	164	383896	49.2553 ug/L	99
65)	Dibromochloromethane	13.53	129	478518	51.1031 ug/L	100
66)	1,2-Dibromoethane	13.78	107	361741	50.2992 ug/L	100
67)	1-Chlorohexane	13.84	91	596263	51.4560 ug/L	96
68)	Chlorobenzene	14.25	112	1281852	50.3071 ug/L	99
69)	1,1,1,2-Tetrachloroethane	14.27	131	470373	51.7573 ug/L	98
70)	Ethylbenzene	14.27	106	670564	51.4674 ug/L	99
71)	m-,p-Xylene	14.35	106	1582315	103.0819 ug/L	97
72)	o-Xylene	14.88	106	788388	52.2117 ug/L	99
73)	Styrene	14.91	104	1363501	53.1964 ug/L	99
74)	Bromoform	15.38	173	310957	51.2088 ug/L	100
75)	Isopropylbenzene	15.27	105	2030553	52.4870 ug/L	100
77)	1,1,2,2-Tetrachloroethane	15.47	83	418265	49.3382 ug/L	99
79)	1,2,3-Trichloropropane	15.65	110	128881	50.1310 ug/L	99
80)	trans-1,4-Dichloro-2-Buten	15.69	53	177319	51.2109 ug/L	96
81)	n-Propylbenzene	15.74	91	2433864	54.4189 ug/L	100
82)	Bromobenzene	15.87	156	566113	49.3855 ug/L	97
83)	1,3,5-Trimethylbenzene	15.91	105	1716984	53.5231 ug/L	100
84)	2-Chlorotoluene	16.00	91	1478103	52.2270 ug/L	99
85)	4-Chlorotoluene	16.04	91	1524788	52.8983 ug/L	100
86)	a-Methylstyrene	16.29	118	985675	52.2750 ug/L	99
87)	tert-Butylbenzene	16.35	134	370904	52.8502 ug/L	98
88)	1,2,4-Trimethylbenzene	16.40	105	1769360	53.6158 ug/L	99
89)	sec-Butylbenzene	16.60	105	2178958	53.6384 ug/L	99
90)	p-Isopropyltoluene	16.74	119	1903201	53.8399 ug/L	100
91)	1,3-Dichlorobenzene	16.94	146	1071699	50.7108 ug/L	100
92)	1,4-Dichlorobenzene	17.05	146	1076674	49.7154 ug/L	99
93)	n-Butylbenzene	17.23	91	1754992	52.9166 ug/L	100
94)	1,2-Dichlorobenzene	17.52	146	1012205	50.1390 ug/L	99
95)	1,2-Dibromo-3-Chloropropan	18.44	75	79381	48.7154 ug/L	93
96)	1,2,4-Trichlorobenzene	19.50	180	750365	50.1183 ug/L	100
97)	Hexachlorobutadiene	19.64	225	283557	48.3907 ug/L	99
98)	Naphthalene	19.85	128	1658216	53.2714 ug/L	100
99)	1,2,3-Trichlorobenzene	20.14	180	694284	48.0581 ug/L	100

(#) = qualifier out of range (m) = manual integration
11M14507.D 8260WT.M Fri Oct 14 09:16:13 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\101316\11M14507.D Vial: 9
Acq On : 13 Oct 2016 16:36 Operator: FJB
Sample : WG587480-08 50ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 9:16 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\101316\11M14508.D Vial: 10
Acq On : 13 Oct 2016 17:05 Operator: FJB
Sample : WG587480-09 100ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:16:15 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.57	96	719369	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.20	117	565075	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	300209	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	441895	51.0665	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 204.28%#			
43) 1,2-Dichloroethane-d4	10.18	65	489944	50.4314	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 201.72%#			
57) Toluene-d8	12.43	98	1521598	50.8128	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 203.24%#			
78) p-Bromofluorobenzene	15.59	95	620828	51.6903	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 206.76%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.21	85	1328668	108.8669	ug/L	97
3) Chloromethane	3.66	50	1255832	95.4672	ug/L	98
4) Vinyl Chloride	3.90	62	1223091	102.4697	ug/L	99
5) 1,3-Butadiene	3.94	54	861394	88.6535	ug/L	88
6) Bromomethane	4.79	94	609425	105.3708	ug/L	98
7) Chloroethane	4.94	64	714443	102.1689	ug/L	99
8) Trichlorofluoromethane	5.43	101	1443077	103.8722	ug/L	100
9) Diethyl ether	5.95	59	1381938	203.4994	ug/L	96
10) Isoprene	5.99	67	1279309	100.9049	ug/L	99
11) Acrolein	6.17	56	54459	96.2488	ug/L	98
12) 1,1,2-Trichloro-1,2,2-Trif	6.19	101	774148	103.6106	ug/L	98
13) Acetone	6.28	43	266287	95.4122	ug/L	96
14) 1,1-Dichloroethene	6.49	61	1545327	104.0915	ug/L	97
15) Tert-Butyl Alcohol	6.60	59	296169	411.1435	ug/L	98
16) Dimethyl Sulfide	6.75	62	1027978	101.0284	ug/L	95
17) Iodomethane	7.00	142	974766	101.9515	ug/L	99
18) Methyl acetate	7.01	43	816880	99.2502	ug/L	98
19) Methylene Chloride	7.26	84	834842	98.9153	ug/L	96
20) Carbon Disulfide	7.30	76	2494404	101.3676	ug/L	100
21) Acrylonitrile	7.43	53	394296	105.1567	ug/L	99
22) Methyl Tert Butyl Ether	7.46	73	2127437	102.5200	ug/L	100
23) trans-1,2-Dichloroethene	7.69	96	851375	101.1987	ug/L	97
24) n-Hexane	7.77	57	1472024	102.3186	ug/L	100
25) Diisopropyl ether	8.10	45	8187016	201.2123	ug/L	99
26) Vinyl Acetate	8.26	43	2159769	99.3068	ug/L	99
27) 1,1-Dichloroethane	8.29	63	1744395	101.1691	ug/L	100
28) Ethyl-Tert-Butyl ether	8.64	59	6101032	202.1914	ug/L	99
29) 2-Butanone	8.82	43	462008	98.5229	ug/L	98
30) Propionitrile	8.92	54	264182	203.3296	ug/L	100
31) 2,2-Dichloropropane	9.04	77	1174384	99.9452	ug/L	99
32) cis-1,2-Dichloroethene	9.10	96	947323	102.2466	ug/L	99
33) Chloroform	9.30	83	1482246	97.9764	ug/L	99
34) 1-Bromopropane	9.43	122	165977	109.1152	ug/L	98
35) Bromochloromethane	9.52	130	596027	99.7954	ug/L	95
36) Tetrahydrofuran	9.54	42	627510	200.5495	ug/L	95
38) 1,1,1-Trichloroethane	9.80	97	1379112	103.3892	ug/L	96
39) Cyclohexane	9.83	56	1999015	102.2317	ug/L	99
40) 1,1-Dichloropropene	9.99	75	1118752	101.3140	ug/L	98
41) Carbon Tetrachloride	10.13	117	1288939	103.4201	ug/L	99
42) Tert-Amyl-Methyl ether	10.08	73	4158893	203.5338	ug/L	96

(#) = qualifier out of range (m) = manual integration
11M14508.D 8260WT.M Fri Oct 14 09:16:16 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\101316\11M14508.D Vial: 10
Acq On : 13 Oct 2016 17:05 Operator: FJB
Sample : WG587480-09 100ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:16:15 2016 Quant Results File: 8260WT.RES

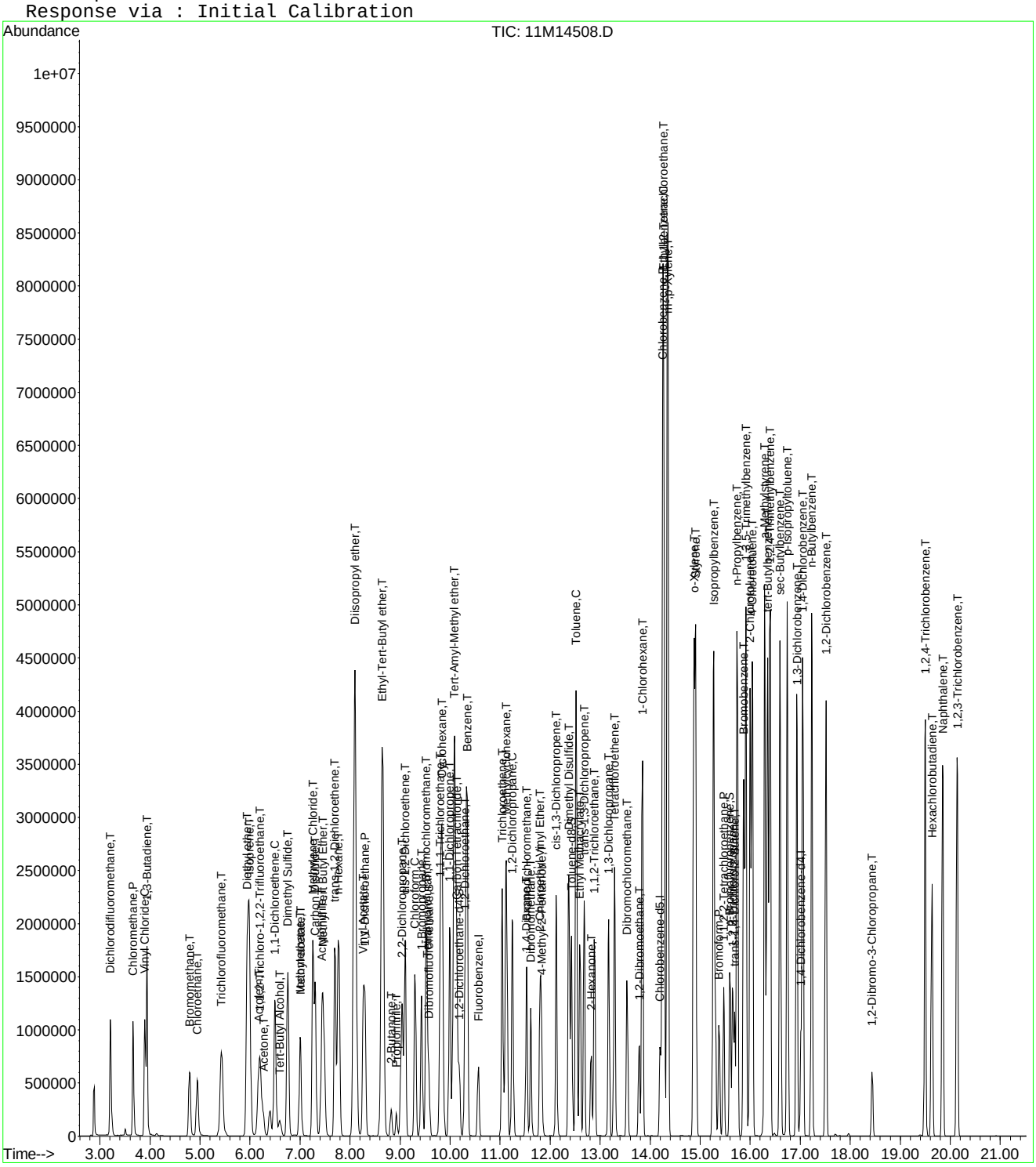
Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
44)	1,2-Dichloroethane	10.30	62	1327980	102.1799 ug/L	99
45)	Benzene	10.34	78	3277171	100.4697 ug/L	100
46)	Trichloroethene	11.04	130	955222	101.2511 ug/L	99
47)	Methylcyclohexane	11.13	83	1325506	103.6427 ug/L	98
48)	1,2-Dichloropropane	11.24	63	982601	102.1980 ug/L	99
49)	1,4-Dioxane	11.52	88	28669	427.7580 ug/L	97
50)	Bromodichloromethane	11.53	83	1176810	102.9486 ug/L	99
51)	Dibromomethane	11.61	93	518455	101.7032 ug/L	99
52)	2-Chloroethyl Vinyl Ether	11.80	63	577594	102.5618 ug/L	98
53)	4-Methyl-2-Pentanone	11.83	58	347272	100.4388 ug/L	99
54)	cis-1,3-Dichloropropene	12.12	75	1333465	105.5404 ug/L	100
55)	Dimethyl Disulfide	12.38	79	796670	105.0613 ug/L	98
58)	Toluene	12.52	91	3586175	100.7828 ug/L	100
59)	Ethyl Methacrylate	12.59	69	959871	105.5380 ug/L	94
60)	trans-1,3-Dichloropropene	12.68	75	1208292	103.7141 ug/L	99
61)	1,1,2-Trichloroethane	12.88	97	700425	101.1745 ug/L	100
62)	2-Hexanone	12.82	43	734494	98.4281 ug/L	98
63)	1,3-Dichloropropane	13.17	76	1156106	99.3425 ug/L	92
64)	Tetrachloroethene	13.29	164	756975	98.0106 ug/L	100
65)	Dibromochloromethane	13.53	129	966936	104.2076 ug/L	100
66)	1,2-Dibromoethane	13.78	107	723445	101.5128 ug/L	99
67)	1-Chlorohexane	13.84	91	1187567	103.4210 ug/L	96
68)	Chlorobenzene	14.25	112	2494653	98.7994 ug/L	99
69)	1,1,1,2-Tetrachloroethane	14.27	131	927340	102.9723 ug/L	99
70)	Ethylbenzene	14.27	106	1295400	100.3341 ug/L	99
71)	m-,p-Xylene	14.35	106	3094063	203.4093 ug/L	97
72)	o-Xylene	14.88	106	1551268	103.6733 ug/L	100
73)	Styrene	14.91	104	2682221	105.6024 ug/L	100
74)	Bromoform	15.38	173	627841	104.3389 ug/L	97
75)	Isopropylbenzene	15.27	105	3979092	103.7944 ug/L	99
77)	1,1,2,2-Tetrachloroethane	15.47	83	862243	101.8447 ug/L	100
79)	1,2,3-Trichloropropane	15.65	110	264487	103.0145 ug/L	98
80)	trans-1,4-Dichloro-2-Buten	15.69	53	373049	107.8823 ug/L	95
81)	n-Propylbenzene	15.74	91	4741929	106.1659 ug/L	99
82)	Bromobenzene	15.87	156	1143256	99.8658 ug/L	96
83)	1,3,5-Trimethylbenzene	15.91	105	3425761	106.9323 ug/L	100
84)	2-Chlorotoluene	16.00	91	2897679	102.5221 ug/L	98
85)	4-Chlorotoluene	16.04	91	2990308	103.8784 ug/L	99
86)	a-Methylstyrene	16.29	118	2023197	107.4422 ug/L	99
87)	tert-Butylbenzene	16.35	134	734639	104.8180 ug/L	98
88)	1,2,4-Trimethylbenzene	16.40	105	3502953	106.2889 ug/L	98
89)	sec-Butylbenzene	16.60	105	4305699	106.1322 ug/L	99
90)	p-Isopropyltoluene	16.74	119	3794766	107.4933 ug/L	99
91)	1,3-Dichlorobenzene	16.94	146	2165192	102.5891 ug/L	99
92)	1,4-Dichlorobenzene	17.05	146	2183662	100.9646 ug/L	99
93)	n-Butylbenzene	17.23	91	3511309	106.0139 ug/L	99
94)	1,2-Dichlorobenzene	17.52	146	2089351	103.6324 ug/L	99
95)	1,2-Dibromo-3-Chloropropan	18.44	75	169574	104.2043 ug/L	92
96)	1,2,4-Trichlorobenzene	19.50	180	1573966	105.2679 ug/L	100
97)	Hexachlorobutadiene	19.64	225	609479	104.1495 ug/L	99
98)	Naphthalene	19.85	128	3462577	111.3856 ug/L	100
99)	1,2,3-Trichlorobenzene	20.14	180	1480240	102.5980 ug/L	100

(#) = qualifier out of range (m) = manual integration
11M14508.D 8260WT.M Fri Oct 14 09:16:16 2016 Page 2

Data File : C:\MSDCHEM\1\DATA\101316\11M14508.D Vial: 10
Acq On : 13 Oct 2016 17:05 Operator: FJB
Sample : WG587480-09 100ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 9:16 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\101316\11M14509.D Vial: 11
Acq On : 13 Oct 2016 17:33 Operator: FJB
Sample : WG587480-10 200ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:16:17 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.57	96	720492	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.20	117	567633	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	328942	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	844965	97.4941	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 389.96%#			
43) 1,2-Dichloroethane-d4	10.18	65	942778	96.8917	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 387.56%#			
57) Toluene-d8	12.43	98	2834134	94.2176	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 376.88%#			
78) p-Bromofluorobenzene	15.59	95	1207445	91.7508	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 367.00%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.21	85	2577883	210.8944	ug/L	97
3) Chloromethane	3.66	50	2490193	189.0071	ug/L	98
4) Vinyl Chloride	3.90	62	2387846	199.7403	ug/L	99
5) 1,3-Butadiene	3.94	54	1689191	173.5783	ug/L	88
6) Bromomethane	4.79	94	1272944	219.7515	ug/L	99
7) Chloroethane	4.94	64	1406170	200.7759	ug/L	99
8) Trichlorofluoromethane	5.43	101	2824536	202.9922	ug/L	99
9) Diethyl ether	5.92	59	1512	0.2223	ug/L #	67
10) Isoprene	5.98	67	2514845	198.0480	ug/L	99
11) Acrolein	6.18	56	1117	1.9711	ug/L #	16
12) 1,1,2-Trichloro-1,2,2-Trif	6.19	101	1509392	201.6995	ug/L	97
13) Acetone	6.27	43	573969	205.3360	ug/L	97
14) 1,1-Dichloroethene	6.49	61	2990496	201.1225	ug/L	96
15) Tert-Butyl Alcohol	6.61	59	625	0.8663	ug/L #	52
16) Dimethyl Sulfide	6.75	62	2021751	198.3855	ug/L	94
17) Iodomethane	7.00	142	1756723	197.2261	ug/L	99
18) Methyl acetate	7.01	43	1653783	200.6201	ug/L	98
19) Methylene Chloride	7.26	84	1629114	192.7228	ug/L	95
20) Carbon Disulfide	7.30	76	4825739	195.8027	ug/L	100
21) Acrylonitrile	7.45	53	60621	16.1421	ug/L #	31
22) Methyl Tert Butyl Ether	7.47	73	4267667	205.3360	ug/L	100
23) trans-1,2-Dichloroethene	7.69	96	1658972	196.8863	ug/L	97
24) n-Hexane	7.77	57	2842349	197.2603	ug/L	100
25) Diisopropyl ether	8.10	45	8200	0.2012	ug/L #	95
26) Vinyl Acetate	8.26	43	4361805	200.2443	ug/L	99
27) 1,1-Dichloroethane	8.29	63	3390961	196.3579	ug/L	100
28) Ethyl-Tert-Butyl ether	8.65	59	5261	0.1741	ug/L #	78
29) 2-Butanone	8.82	43	942426	200.6585	ug/L	98
31) 2,2-Dichloropropane	9.04	77	2300027	195.4373	ug/L	100
32) cis-1,2-Dichloroethene	9.10	96	1844885	198.8119	ug/L	99
33) Chloroform	9.30	83	2897360	191.2169	ug/L	99
34) 1-Bromopropane	9.43	122	324044	212.6982	ug/L	97
35) Bromochloromethane	9.52	130	1176068	196.6073	ug/L	94
36) Tetrahydrofuran	9.55	42	9420	0.3696	ug/L	97
38) 1,1,1-Trichloroethane	9.80	97	2720789	203.6541	ug/L	96
39) Cyclohexane	9.83	56	3897858	199.0299	ug/L	99
40) 1,1-Dichloropropene	9.99	75	2185673	197.6257	ug/L	98
41) Carbon Tetrachloride	10.13	117	2548533	204.1669	ug/L	99
44) 1,2-Dichloroethane	10.30	62	2617438	201.0818	ug/L	99
45) Benzene	10.34	78	6199523	189.7653	ug/L	98

(#) = qualifier out of range (m) = manual integration
11M14509.D 8260WT.M Fri Oct 14 09:16:19 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\101316\11M14509.D Vial: 11
Acq On : 13 Oct 2016 17:33 Operator: FJB
Sample : WG587480-10 200ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:16:17 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

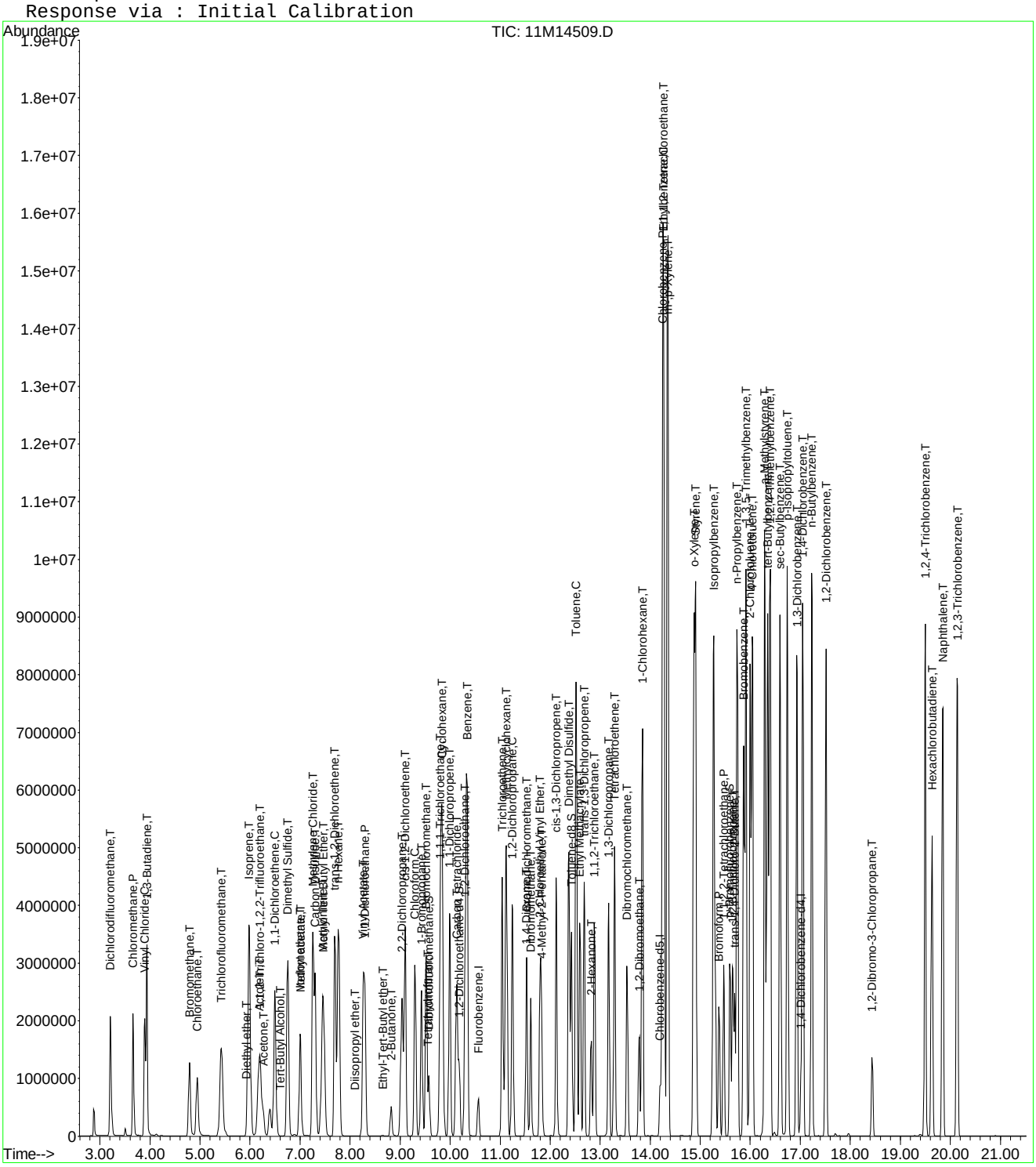
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
46)	Trichloroethene	11.04	130	1866413	197.5266	ug/L		100
47)	Methylcyclohexane	11.13	83	2571287	200.7382	ug/L		99
48)	1,2-Dichloropropane	11.24	63	1919460	199.3272	ug/L		99
49)	1,4-Dioxane	11.52	88	2700	40.2228	ug/L	#	6
50)	Bromodichloromethane	11.53	83	2319976	202.6376	ug/L		99
51)	Dibromomethane	11.61	93	1010011	197.8210	ug/L		97
52)	2-Chloroethyl Vinyl Ether	11.80	63	1170442	207.5083	ug/L		99
53)	4-Methyl-2-Pentanone	11.83	58	732474	211.5175	ug/L		99
54)	cis-1,3-Dichloropropene	12.12	75	2629347	207.7819	ug/L		99
55)	Dimethyl Disulfide	12.38	79	1609905	211.9763	ug/L		100
58)	Toluene	12.52	91	6643149	185.8521	ug/L		97
59)	Ethyl Methacrylate	12.59	69	1980164	216.7382	ug/L		94
60)	trans-1,3-Dichloropropene	12.68	75	2402551	205.2944	ug/L		98
61)	1,1,2-Trichloroethane	12.88	97	1401162	201.4820	ug/L		100
62)	2-Hexanone	12.82	43	1584035	211.3168	ug/L		97
63)	1,3-Dichloropropane	13.17	76	2279148	194.9613	ug/L		91
64)	Tetrachloroethene	13.29	164	1490161	192.0716	ug/L		100
65)	Dibromochloromethane	13.53	129	1949174	209.1177	ug/L		100
66)	1,2-Dibromoethane	13.78	107	1455227	203.2753	ug/L		99
67)	1-Chlorohexane	13.84	91	2352852	203.9782	ug/L		95
68)	Chlorobenzene	14.25	112	4760452	187.6855	ug/L		99
69)	1,1,1,2-Tetrachloroethane	14.27	131	1859811	205.5838	ug/L		98
70)	Ethylbenzene	14.27	106	2573927	198.4629	ug/L		88
71)	m-,p-Xylene	14.35	106	5768393	377.5157	ug/L		85
72)	o-Xylene	14.88	106	3057967	203.4470	ug/L		95
73)	Styrene	14.91	104	5207784	204.1130	ug/L		98
74)	Bromoform	15.38	173	1351988	223.6700	ug/L		98
75)	Isopropylbenzene	15.27	105	7467432	193.9097	ug/L		96
77)	1,1,2,2-Tetrachloroethane	15.47	83	1823753	196.5981	ug/L		100
79)	1,2,3-Trichloropropane	15.65	110	562549	199.9671	ug/L		98
80)	trans-1,4-Dichloro-2-Buten	15.69	53	805312	212.5460	ug/L		94
81)	n-Propylbenzene	15.74	91	8606877	175.8652	ug/L		94
82)	Bromobenzene	15.87	156	2295277	182.9838	ug/L		96
83)	1,3,5-Trimethylbenzene	15.91	105	6590614	187.7509	ug/L		96
84)	2-Chlorotoluene	16.00	91	5528793	178.5261	ug/L		84
85)	4-Chlorotoluene	16.04	91	5822520	184.5970	ug/L		91
86)	a-Methylstyrene	16.28	118	4090365	198.2455	ug/L		97
87)	tert-Butylbenzene	16.35	134	1495851	194.7847	ug/L		97
88)	1,2,4-Trimethylbenzene	16.40	105	6740991	186.6730	ug/L		95
89)	sec-Butylbenzene	16.60	105	8112055	182.4899	ug/L		95
90)	p-Isopropyltoluene	16.74	119	7315620	189.1262	ug/L		96
91)	1,3-Dichlorobenzene	16.94	146	4363436	188.6852	ug/L		99
92)	1,4-Dichlorobenzene	17.05	146	4377989	184.7407	ug/L		99
93)	n-Butylbenzene	17.23	91	6902646	190.2015	ug/L		96
94)	1,2-Dichlorobenzene	17.52	146	4260405	192.8588	ug/L		99
95)	1,2-Dibromo-3-Chloropropan	18.44	75	387420	217.2766	ug/L		89
96)	1,2,4-Trichlorobenzene	19.50	180	3470674	211.8452	ug/L		98
97)	Hexachlorobutadiene	19.64	225	1344657	209.7077	ug/L		99
98)	Naphthalene	19.85	128	7277101	213.6448	ug/L	#	97
99)	1,2,3-Trichlorobenzene	20.14	180	3305152	209.0751	ug/L		99

(#) = qualifier out of range (m) = manual integration
11M14509.D 8260WT.M Fri Oct 14 09:16:19 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\101316\11M14509.D Vial: 11
Acq On : 13 Oct 2016 17:33 Operator: FJB
Sample : WG587480-10 200ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 9:16 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\101316\11M14510.D Vial: 12
Acq On : 13 Oct 2016 18:03 Operator: FJB
Sample : WG587480-11 300ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:16:20 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.57	96	729552	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.20	117	578151	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	347891	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	1296783	147.7679	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 591.08%#			
43) 1,2-Dichloroethane-d4	10.18	65	1448218	146.9887	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 587.96%#			
57) Toluene-d8	12.43	98	4301991	140.4131	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 561.64%#			
78) p-Bromofluorobenzene	15.59	95	1864520	133.9632	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 535.84%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.21	85	3818905	308.5415	ug/L	97
3) Chloromethane	3.66	50	3800742	284.8961	ug/L	96
4) Vinyl Chloride	3.89	62	3523647	291.0883	ug/L	98
5) 1,3-Butadiene	3.93	54	2607025	264.5665	ug/L	89
6) Bromomethane	4.79	94	2004907	341.8139	ug/L	99
7) Chloroethane	4.94	64	2128974	300.2043	ug/L	99
8) Trichlorofluoromethane	5.42	101	4325678	307.0148	ug/L	99
9) Diethyl ether	5.95	59	2065090	299.8534	ug/L	95
10) Isoprene	5.98	67	3897848	303.1496	ug/L	100
11) Acrolein	6.17	56	88428	154.1029	ug/L	98
12) 1,1,2-Trichloro-1,2,2-Trif	6.19	101	2328264	307.2614	ug/L	96
13) Acetone	6.28	43	820708	289.9601	ug/L	96
14) 1,1-Dichloroethene	6.49	61	4595365	305.2182	ug/L	96
15) Tert-Butyl Alcohol	6.61	59	473645	648.3392	ug/L	96
16) Dimethyl Sulfide	6.75	62	3103459	300.7468	ug/L	94
17) Iodomethane	7.00	142	2484247	301.1614	ug/L	99
18) Methyl acetate	7.01	43	2552142	305.7550	ug/L	97
19) Methylene Chloride	7.26	84	2486581	290.5074	ug/L	92
20) Carbon Disulfide	7.30	76	7266754	291.1845	ug/L	99
21) Acrylonitrile	7.43	53	638728	167.9677	ug/L	94
22) Methyl Tert Butyl Ether	7.47	73	6501362	308.9241	ug/L	99
23) trans-1,2-Dichloroethene	7.69	96	2547219	298.5491	ug/L	96
24) n-Hexane	7.77	57	4460235	305.6983	ug/L	100
25) Diisopropyl ether	8.10	45	11656547	282.4842	ug/L	99
26) Vinyl Acetate	8.26	43	6374678	289.0182	ug/L	99
27) 1,1-Dichloroethane	8.29	63	5155673	294.8383	ug/L	99
28) Ethyl-Tert-Butyl ether	8.64	59	9015818	294.6185	ug/L	98
29) 2-Butanone	8.82	43	1407124	295.8800	ug/L	98
30) Propionitrile	8.93	54	399322	303.0513	ug/L	98
31) 2,2-Dichloropropane	9.04	77	3510287	294.5711	ug/L	100
32) cis-1,2-Dichloroethene	9.10	96	2810292	299.0870	ug/L	98
33) Chloroform	9.30	83	4399026	286.7168	ug/L	99
34) 1-Bromopropane	9.43	122	512392	332.1507	ug/L	97
35) Bromochloromethane	9.52	130	1802606	297.6055	ug/L	93
36) Tetrahydrofuran	9.54	42	942990	298.4584	ug/L	95
38) 1,1,1-Trichloroethane	9.81	97	4148568	306.6687	ug/L	96
39) Cyclohexane	9.83	56	6014710	303.3052	ug/L	100
40) 1,1-Dichloropropene	9.99	75	3327610	297.1417	ug/L	98
41) Carbon Tetrachloride	10.13	117	3897370	308.3470	ug/L	99
42) Tert-Amyl-Methyl ether	10.09	73	6217989	300.0573	ug/L	94

(#) = qualifier out of range (m) = manual integration
11M14510.D 8260WT.M Fri Oct 14 09:16:21 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\101316\11M14510.D Vial: 12
Acq On : 13 Oct 2016 18:03 Operator: FJB
Sample : WG587480-11 300ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:16:20 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

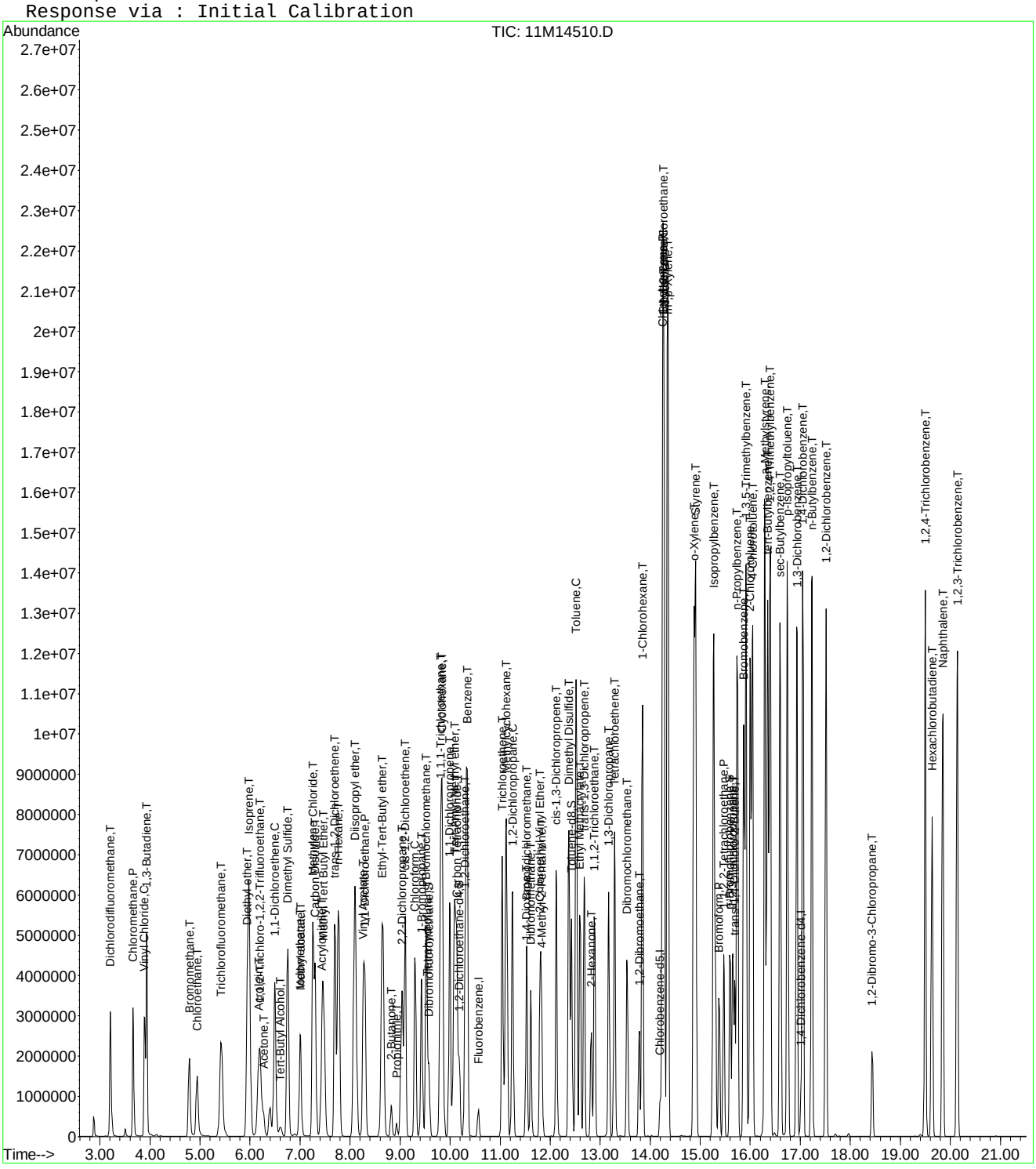
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
44)	1,2-Dichloroethane	10.30	62	3918674	297.3093 ug/L		99
45)	Benzene	10.34	78	8948396	270.5059 ug/L		96
46)	Trichloroethene	11.04	130	2877618	300.7626 ug/L		99
47)	Methylcyclohexane	11.13	83	3994548	307.9782 ug/L		98
48)	1,2-Dichloropropane	11.25	63	2923302	299.8017 ug/L		100
49)	1,4-Dioxane	11.52	88	45791	673.6917 ug/L		94
50)	Bromodichloromethane	11.53	83	3525316	304.0937 ug/L		99
51)	Dibromomethane	11.61	93	1544679	298.7841 ug/L		98
52)	2-Chloroethyl Vinyl Ether	11.80	63	1759152	308.0079 ug/L		98
53)	4-Methyl-2-Pentanone	11.83	58	1119413	319.2400 ug/L		98
54)	cis-1,3-Dichloropropene	12.12	75	3970419	309.8625 ug/L		99
55)	Dimethyl Disulfide	12.38	79	2481521	322.6843 ug/L		98
58)	Toluene	12.52	91	9379407	257.6293 ug/L		92
59)	Ethyl Methacrylate	12.59	69	2992079	321.5390 ug/L		94
60)	trans-1,3-Dichloropropene	12.68	75	3581773	300.4892 ug/L		97
61)	1,1,2-Trichloroethane	12.88	97	2111507	298.1032 ug/L		99
62)	2-Hexanone	12.82	43	2425107	317.6336 ug/L		96
63)	1,3-Dichloropropane	13.17	76	3385571	284.3376 ug/L		92
64)	Tetrachloroethene	13.29	164	2289189	289.6930 ug/L		100
65)	Dibromochloromethane	13.53	129	2950552	310.7920 ug/L		100
66)	1,2-Dibromoethane	13.78	107	2196747	301.2731 ug/L		99
67)	1-Chlorohexane	13.84	91	3573443	304.1602 ug/L		95
68)	Chlorobenzene	14.25	112	6781300	262.4955 ug/L		96
69)	1,1,1,2-Tetrachloroethane	14.27	131	2803495	304.2609 ug/L		98
70)	Ethylbenzene	14.27	106	3807691	288.2513 ug/L		75
71)	m-,p-Xylene	14.35	106	8084438	519.4651 ug/L		74
72)	o-Xylene	14.88	106	4507621	294.4368 ug/L		88
73)	Styrene	14.91	104	7421253	285.5758 ug/L		93
74)	Bromoform	15.38	173	2101779	341.3880 ug/L		98
75)	Isopropylbenzene	15.27	105	10163503	259.1183 ug/L		91
77)	1,1,2,2-Tetrachloroethane	15.47	83	2852095	290.7056 ug/L		100
79)	1,2,3-Trichloropropane	15.65	110	877232	294.8417 ug/L		93
80)	trans-1,4-Dichloro-2-Buten	15.69	53	1270846	317.1449 ug/L		93
81)	n-Propylbenzene	15.74	91	11368867	219.6482 ug/L		87
82)	Bromobenzene	15.87	156	3462989	261.0387 ug/L		95
83)	1,3,5-Trimethylbenzene	15.91	105	9178004	247.2183 ug/L		92
84)	2-Chlorotoluene	16.00	91	7705433	235.2582 ug/L		79
85)	4-Chlorotoluene	16.05	91	6654872	199.4939 ug/L		89
86)	a-Methylstyrene	16.30	118	6164223	282.4852 ug/L		95
87)	tert-Butylbenzene	16.35	134	2279313	280.6380 ug/L		91
88)	1,2,4-Trimethylbenzene	16.40	105	9361710	245.1259 ug/L		89
89)	sec-Butylbenzene	16.60	105	11011361	234.2206 ug/L		89
90)	p-Isopropyltoluene	16.74	119	10059158	245.8886 ug/L		90
91)	1,3-Dichlorobenzene	16.94	146	6533709	267.1438 ug/L		96
92)	1,4-Dichlorobenzene	17.05	146	6525107	260.3465 ug/L		96
93)	n-Butylbenzene	17.24	91	9560886	249.0993 ug/L		91
94)	1,2-Dichlorobenzene	17.52	146	6448020	275.9885 ug/L		96
95)	1,2-Dibromo-3-Chloropropan	18.44	75	610641	323.8121 ug/L		90
96)	1,2,4-Trichlorobenzene	19.50	180	5199714	300.0961 ug/L		97
97)	Hexachlorobutadiene	19.63	225	2065705	304.6121 ug/L		98
98)	Naphthalene	19.85	128	9803018	272.1259 ug/L	#	92
99)	1,2,3-Trichlorobenzene	20.14	180	4913727	293.8990 ug/L		97

(#) = qualifier out of range (m) = manual integration
11M14510.D 8260WT.M Fri Oct 14 09:16:22 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\101316\11M14510.D Vial: 12
Acq On : 13 Oct 2016 18:03 Operator: FJB
Sample : WG587480-11 300ug/L STD 8260 Inst : hpms11
Misc : 1,1 STD78477 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 9:16 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\101316\11M14512.D Vial: 14
Acq On : 13 Oct 2016 19:00 Operator: FJB
Sample : WG587480-12 50ug/L ICV 8260 Inst : hpms11
Misc : 1,1 STD78491 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:21:41 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.57	96	702162	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.20	117	553276	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	298660	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	0.00	111	0	0.0000	ug/L	
Spiked Amount 25.000	Range 86 - 118		Recovery =	0.00%#		
43) 1,2-Dichloroethane-d4	10.18	65	731	0.0771	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery =	0.32%#		
57) Toluene-d8	12.43	98	3821	0.1303	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	0.52%#		
78) p-Bromofluorobenzene	15.59	95	3099	0.2594	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery =	1.04%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.21	85	669777	56.2243	ug/L	96
3) Chloromethane	3.66	50	675074	51.6692	ug/L	98
4) Vinyl Chloride	3.90	62	646512	55.4917	ug/L	99
5) 1,3-Butadiene	3.94	54	413339	43.5828	ug/L	88
6) Bromomethane	4.79	94	293212	51.9393	ug/L	96
7) Chloroethane	4.94	64	375956	55.0811	ug/L	99
8) Trichlorofluoromethane	5.42	101	702738	51.8224	ug/L	100
9) Diethyl ether	5.95	59	854500	128.9143	ug/L	95
10) Isoprene	5.98	67	607453	49.0867	ug/L	98
11) Acrolein	6.17	56	86152	155.9931	ug/L	98
12) 1,1,2-Trichloro-1,2,2-Trif	6.18	101	391702	53.7094	ug/L	95
13) Acetone	6.28	43	141394	51.9038	ug/L	93
14) 1,1-Dichloroethene	6.49	61	726818	50.1574	ug/L	96
15) Tert-Butyl Alcohol	6.61	59	167411	238.0961	ug/L	97
16) Dimethyl Sulfide	6.75	62	546231	54.9984	ug/L	94
17) Iodomethane	7.00	142	269190	27.9208	ug/L	99
18) Methyl acetate	7.01	43	421307	52.4429	ug/L	97
19) Methylene Chloride	7.26	84	413893	50.2414	ug/L	93
20) Carbon Disulfide	7.30	76	1147115	47.7588	ug/L	100
21) Acrylonitrile	7.43	53	199446	54.4947	ug/L	100
22) Methyl Tert Butyl Ether	7.46	73	1106741	54.6402	ug/L	100
23) trans-1,2-Dichloroethene	7.69	96	425163	51.7754	ug/L	96
24) n-Hexane	7.77	57	709006	50.4898	ug/L	100
25) Diisopropyl ether	8.10	45	4544551	114.4285	ug/L	97
26) Vinyl Acetate	8.26	43	1118820	52.7043	ug/L	98
27) 1,1-Dichloroethane	8.29	63	860507	51.1295	ug/L	100
28) Ethyl-Tert-Butyl ether	8.64	59	3220436	109.3424	ug/L	99
29) 2-Butanone	8.82	43	240088	52.4533	ug/L	99
30) Propionitrile	8.92	54	137285	108.2518	ug/L	99
31) 2,2-Dichloropropane	9.04	77	612355	53.3912	ug/L	100
32) cis-1,2-Dichloroethene	9.10	96	468568	51.8129	ug/L	99
33) Chloroform	9.30	83	752417	50.9535	ug/L	99
34) 1-Bromopropane	9.43	122	107937	69.6843	ug/L	99
35) Bromochloromethane	9.52	130	302690	51.9227	ug/L	91
36) Tetrahydrofuran	9.54	42	319823	103.4400	ug/L	95
38) 1,1,1-Trichloroethane	9.80	97	704926	54.1419	ug/L	95
39) Cyclohexane	9.83	56	995372	52.1518	ug/L	100
40) 1,1-Dichloropropene	9.99	75	560744	52.0253	ug/L	98
41) Carbon Tetrachloride	10.13	117	643102	52.8648	ug/L	99
42) Tert-Amyl-Methyl ether	10.09	73	2260773	113.3523	ug/L	94

(#) = qualifier out of range (m) = manual integration
11M14512.D 8260WT.M Fri Oct 14 09:21:42 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\101316\11M14512.D Vial: 14
Acq On : 13 Oct 2016 19:00 Operator: FJB
Sample : WG587480-12 50ug/L ICV 8260 Inst : hpms11
Misc : 1,1 STD78491 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 09:21:41 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

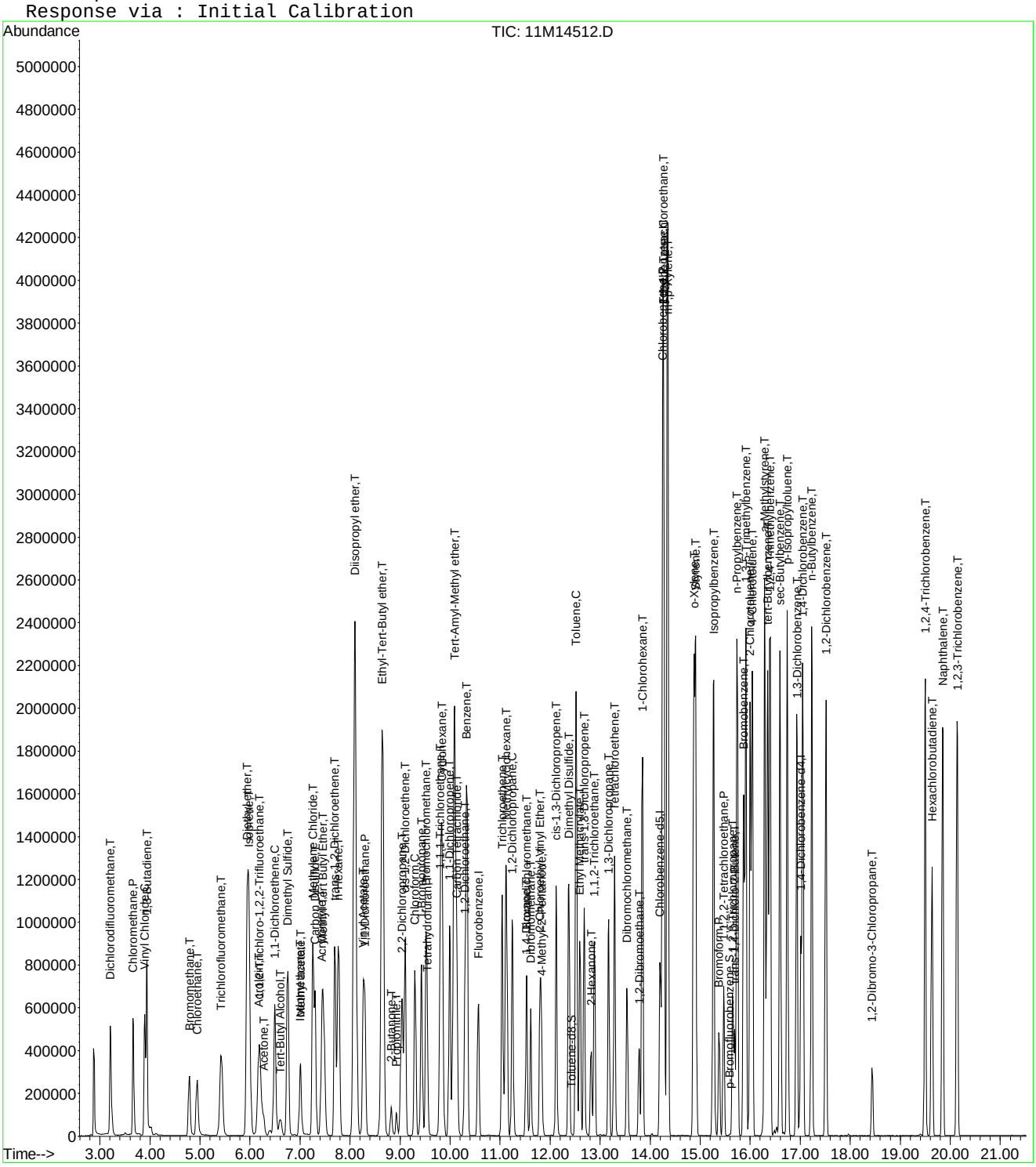
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
44)	1,2-Dichloroethane	10.30	62	644280	50.7882 ug/L	98
45)	Benzene	10.33	78	1655223	51.9885 ug/L	99
46)	Trichloroethene	11.04	130	472567	51.3184 ug/L	99
47)	Methylcyclohexane	11.13	83	662909	53.1038 ug/L	97
48)	1,2-Dichloropropane	11.24	63	482598	51.4239 ug/L	100
49)	1,4-Dioxane	11.52	88	16551	253.0022 ug/L	99
50)	Bromodichloromethane	11.53	83	559338	50.1306 ug/L	99
51)	Dibromomethane	11.61	93	254799	51.2078 ug/L	98
52)	2-Chloroethyl Vinyl Ether	11.80	63	288838	52.5450 ug/L	95
53)	4-Methyl-2-Pentanone	11.83	58	175736	52.0723 ug/L	97
54)	cis-1,3-Dichloropropene	12.12	75	700026	56.7631 ug/L	99
55)	Dimethyl Disulfide	12.38	79	386136	52.1698 ug/L	100
58)	Toluene	12.52	91	1796389	51.5608 ug/L	99
59)	Ethyl Methacrylate	12.59	69	504111	56.6091 ug/L	89
60)	trans-1,3-Dichloropropene	12.68	75	586038	51.3755 ug/L	98
61)	1,1,2-Trichloroethane	12.88	97	344021	50.7526 ug/L	99
62)	2-Hexanone	12.82	43	370333	50.6859 ug/L	95
63)	1,3-Dichloropropane	13.17	76	589952	51.7748 ug/L	89
64)	Tetrachloroethene	13.29	164	387425	51.2323 ug/L	100
65)	Dibromochloromethane	13.53	129	456598	50.2574 ug/L	100
66)	1,2-Dibromoethane	13.78	107	349809	50.1315 ug/L	100
67)	1-Chlorohexane	13.85	91	609636	54.2233 ug/L	93
68)	Chlorobenzene	14.25	112	1224273	49.5207 ug/L	99
69)	1,1,1,2-Tetrachloroethane	14.27	131	445065	50.4742 ug/L	99
70)	Ethylbenzene	14.27	106	643959	50.9410 ug/L	99
71)	m-,p-Xylene	14.35	106	1571819	105.5379 ug/L	99
72)	o-Xylene	14.88	106	769151	52.4996 ug/L	99
73)	Styrene	14.91	104	1330836	53.5141 ug/L	99
74)	Bromoform	15.38	173	295984	50.2376 ug/L	98
75)	Isopropylbenzene	15.27	105	1947725	51.8898 ug/L	100
77)	1,1,2,2-Tetrachloroethane	15.47	83	428994	50.9339 ug/L	100
79)	1,2,3-Trichloropropane	15.65	110	132554	51.8959 ug/L	94
80)	trans-1,4-Dichloro-2-Buten	15.69	53	161475	46.9393 ug/L	91
81)	n-Propylbenzene	15.74	91	2358906	53.0869 ug/L	100
82)	Bromobenzene	15.87	156	546049	47.9459 ug/L	95
83)	1,3,5-Trimethylbenzene	15.91	105	1670795	52.4230 ug/L	100
84)	2-Chlorotoluene	16.00	91	1431449	50.9084 ug/L	99
85)	4-Chlorotoluene	16.04	91	1478353	51.6219 ug/L	100
86)	a-Methylstyrene	16.29	118	1019160	54.4034 ug/L	100
87)	tert-Butylbenzene	16.35	134	360231	51.6642 ug/L	97
88)	1,2,4-Trimethylbenzene	16.40	105	1718302	52.4082 ug/L	99
89)	sec-Butylbenzene	16.60	105	2083719	51.6285 ug/L	99
90)	p-Isopropyltoluene	16.74	119	1886767	53.7231 ug/L	100
91)	1,3-Dichlorobenzene	16.94	146	1055911	50.2897 ug/L	99
92)	1,4-Dichlorobenzene	17.05	146	1082284	50.3004 ug/L	99
93)	n-Butylbenzene	17.23	91	1725319	52.3612 ug/L	99
94)	1,2-Dichlorobenzene	17.52	146	1059402	52.8192 ug/L	98
95)	1,2-Dibromo-3-Chloropropan	18.44	75	89801	55.4695 ug/L	90
96)	1,2,4-Trichlorobenzene	19.50	180	865195	58.1649 ug/L	100
97)	Hexachlorobutadiene	19.64	225	327170	56.1977 ug/L	98
98)	Naphthalene	19.85	128	1937943	62.6639 ug/L	99
99)	1,2,3-Trichlorobenzene	20.14	180	821651	57.2454 ug/L	100

(#) = qualifier out of range (m) = manual integration
11M14512.D 8260WT.M Fri Oct 14 09:21:42 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\101316\11M14512.D Vial: 14
Acq On : 13 Oct 2016 19:00 Operator: FJB
Sample : WG587480-12 50ug/L ICV 8260 Inst : hpms11
Misc : 1,1 STD78491 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 14 9:21 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\101316\11M14512.D Vial: 14
Acq On : 13 Oct 2016 19:00 Operator: FJB
Sample : WG587480-12 50ug/L ICV 8260 Inst : hpms11
Misc : 1,1 STD78491 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 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	97	0.00
2	T	Dichlorodifluoromethane	50.0000	56.2243	-12.4	99	0.00
3	P	Chloromethane	50.0000	51.6692	-3.3	104	0.00
4	C	Vinyl Chloride	50.0000	55.4917	-11.0	103	0.00
5	T	1,3-Butadiene	50.0000	43.5828	12.8	84	0.00
6	T	Bromomethane	50.0000	51.9393	-3.9	103	-0.01
7	T	Chloroethane	50.0000	55.0811	-10.2	103	-0.01
8	T	Trichlorofluoromethane	50.0000	51.8224	-3.6	95	-0.01
9	T	Diethyl ether	100.0000	128.9143	-28.9#	123	0.00
10	T	Isoprene	50.0000	49.0867	1.8	94	-0.01
11	T	Acrolein	50.0000	155.9931	-212.0#	323	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	53.7094	-7.4	98	-0.01
13	T	Acetone	50.0000	51.9038	-3.8	107	0.00
14	C	1,1-Dichloroethene	50.0000	50.1574	-0.3	93	0.00
15	T	Tert-Butyl Alcohol	200.0000	238.0961	-19.0	122	0.01
16	T	Dimethyl Sulfide	50.0000	54.9984	-10.0	106	0.00
17	T	Iodomethane	50.0000	27.9208	44.2#	53	0.00
18	T	Methyl acetate	50.0000	52.4429	-4.9	106	0.00
19	T	Methylene Chloride	50.0000	50.2414	-0.5	96	0.00
20	T	Carbon Disulfide	50.0000	47.7588	4.5	91	-0.01
21	T	Acrylonitrile	50.0000	54.4947	-9.0	102	0.00
22	T	Methyl Tert Butyl Ether	50.0000	54.6402	-9.3	103	-0.01
23	T	trans-1,2-Dichloroethene	50.0000	51.7754	-3.6	99	-0.01
24	T	n-Hexane	50.0000	50.4898	-1.0	94	0.00
25	T	Diisopropyl ether	100.0000	114.4285	-14.4	108	0.00
26	T	Vinyl Acetate	50.0000	52.7043	-5.4	101	0.00
27	P	1,1-Dichloroethane	50.0000	51.1295	-2.3	96	0.00
28	T	Ethyl-Tert-Butyl ether	100.0000	109.3424	-9.3	104	0.00
29	T	2-Butanone	50.0000	52.4533	-4.9	105	0.00
30	T	Propionitrile	100.0000	108.2518	-8.3	107	0.00
31	T	2,2-Dichloropropane	50.0000	53.3912	-6.8	102	0.00
32	T	cis-1,2-Dichloroethene	50.0000	51.8129	-3.6	96	0.00
33	C	Chloroform	50.0000	50.9535	-1.9	99	-0.01
34	T	1-Bromopropane	50.0000	69.6843	-39.4#	132	0.00
35	T	Bromochloromethane	50.0000	51.9227	-3.8	100	0.00
36	T	Tetrahydrofuran	100.0000	103.4400	-3.4	103	0.00
37	S	Dibromofluoromethane	25.0000	0.0000	100.0#	0	-9.57#
38	T	1,1,1-Trichloroethane	50.0000	54.1419	-8.3	101	-0.01
39	T	Cyclohexane	50.0000	52.1518	-4.3	98	-0.01
40	T	1,1-Dichloropropene	50.0000	52.0253	-4.1	98	-0.01
41	T	Carbon Tetrachloride	50.0000	52.8648	-5.7	97	0.00
42	T	Tert-Amyl-Methyl ether	100.0000	113.3523	-13.4	109	0.00
43	S	1,2-Dichloroethane-d4	25.0000	0.0771	99.7#	0	0.00
44	T	1,2-Dichloroethane	50.0000	50.7882	-1.6	95	0.00
45	T	Benzene	50.0000	51.9885	-4.0	97	-0.01
46	T	Trichloroethene	50.0000	51.3184	-2.6	97	0.00
47	T	Methylcyclohexane	50.0000	53.1037	-6.2	100	0.00
48	C	1,2-Dichloropropane	50.0000	51.4239	-2.8	97	-0.01
49	T	1,4-Dioxane	200.0000	253.0022	-26.5#	126	0.01
50	T	Bromodichloromethane	50.0000	50.1306	-0.3	93	0.00
51	T	Dibromomethane	50.0000	51.2078	-2.4	98	0.00
52	T	2-Chloroethyl Vinyl Ether	50.0000	52.5450	-5.1	103	0.00
53	T	4-Methyl-2-Pentanone	50.0000	52.0723	-4.1	105	0.00
54	T	cis-1,3-Dichloropropene	50.0000	56.7631	-13.5	103	0.00

(#) = Out of Range
11M14512.D 8260WT.M Fri Oct 14 09:22:07 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\101316\11M14512.D Vial: 14
Acq On : 13 Oct 2016 19:00 Operator: FJB
Sample : WG587480-12 50ug/L ICV 8260 Inst : hpms11
Misc : 1,1 STD78491 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 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	50.0000	52.1698	-4.3	99	0.00
56	I	Chlorobenzene-d5	25.0000	25.0000	0.0	97	0.00
57	S	Toluene-d8	25.0000	0.1303	99.5#	0	0.00
58	C	Toluene	50.0000	51.5608	-3.1	97	0.00
59	T	Ethyl Methacrylate	50.0000	56.6091	-13.2	107	0.00
60	T	trans-1,3-Dichloropropene	50.0000	51.3755	-2.8	96	0.00
61	T	1,1,2-Trichloroethane	50.0000	50.7526	-1.5	95	0.00
62	T	2-Hexanone	50.0000	50.6859	-1.4	106	0.00
63	T	1,3-Dichloropropane	50.0000	51.7748	-3.5	101	0.00
64	T	Tetrachloroethene	50.0000	51.2323	-2.5	101	0.00
65	T	Dibromochloromethane	50.0000	50.2574	-0.5	95	0.00
66	T	1,2-Dibromoethane	50.0000	50.1315	-0.3	97	0.00
67	T	1-Chlorohexane	50.0000	54.2233	-8.4	102	0.00
68	P	Chlorobenzene	50.0000	49.5207	1.0	96	0.00
69	T	1,1,1,2-Tetrachloroethane	50.0000	50.4742	-0.9	95	0.00
70	C	Ethylbenzene	50.0000	50.9410	-1.9	96	0.00
71	T	m-,p-Xylene	100.0000	105.5379	-5.5	99	0.00
72	T	o-Xylene	50.0000	52.4996	-5.0	98	0.00
73	T	Styrene	50.0000	53.5141	-7.0	98	0.00
74	P	Bromoform	50.0000	50.2376	-0.5	95	0.00
75	T	Isopropylbenzene	50.0000	51.8898	-3.8	96	0.00
76	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	99	0.00
77	P	1,1,2,2-Tetrachloroethane	50.0000	50.9339	-1.9	103	0.00
78	S	p-Bromofluorobenzene	25.0000	0.2594	99.0#	1	0.00
79	T	1,2,3-Trichloropropane	50.0000	51.8959	-3.8	103	0.00
80	T	trans-1,4-Dichloro-2-Butene	50.0000	46.9393	6.1	91	0.00
81	T	n-Propylbenzene	50.0000	53.0869	-6.2	97	0.00
82	T	Bromobenzene	50.0000	47.9459	4.1	96	0.00
83	T	1,3,5-Trimethylbenzene	50.0000	52.4230	-4.8	97	0.00
84	T	2-Chlorotoluene	50.0000	50.9084	-1.8	97	0.00
85	T	4-Chlorotoluene	50.0000	51.6219	-3.2	97	0.00
86	T	a-Methylstyrene	50.0000	54.4034	-8.8	103	0.00
87	T	tert-Butylbenzene	50.0000	51.6642	-3.3	97	0.00
88	T	1,2,4-Trimethylbenzene	50.0000	52.4082	-4.8	97	0.00
89	T	sec-Butylbenzene	50.0000	51.6285	-3.3	96	0.00
90	T	p-Isopropyltoluene	50.0000	53.7231	-7.4	99	0.00
91	T	1,3-Dichlorobenzene	50.0000	50.2897	-0.6	99	0.00
92	T	1,4-Dichlorobenzene	50.0000	50.3004	-0.6	101	0.00
93	T	n-Butylbenzene	50.0000	52.3612	-4.7	98	0.00
94	T	1,2-Dichlorobenzene	50.0000	52.8192	-5.6	105	0.00
95	T	1,2-Dibromo-3-Chloropropane	50.0000	55.4695	-10.9	113	0.00
96	T	1,2,4-Trichlorobenzene	50.0000	58.1649	-16.3	115	0.00
97	T	Hexachlorobutadiene	50.0000	56.1977	-12.4	115	0.00
98	T	Naphthalene	50.0000	62.6639	-25.3#	117	0.00
99	T	1,2,3-Trichlorobenzene	50.0000	57.2454	-14.5	118	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
11M14512.D 8260WT.M Fri Oct 14 09:22:07 2016 Page 2

Data File : C:\MSDCHEM\1\DATA\042416\6M138751.D Vial: 2
Acq On : 24 Apr 2016 16:59 Operator: JDS
Sample : WG566155-02 5ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 09:22:46 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

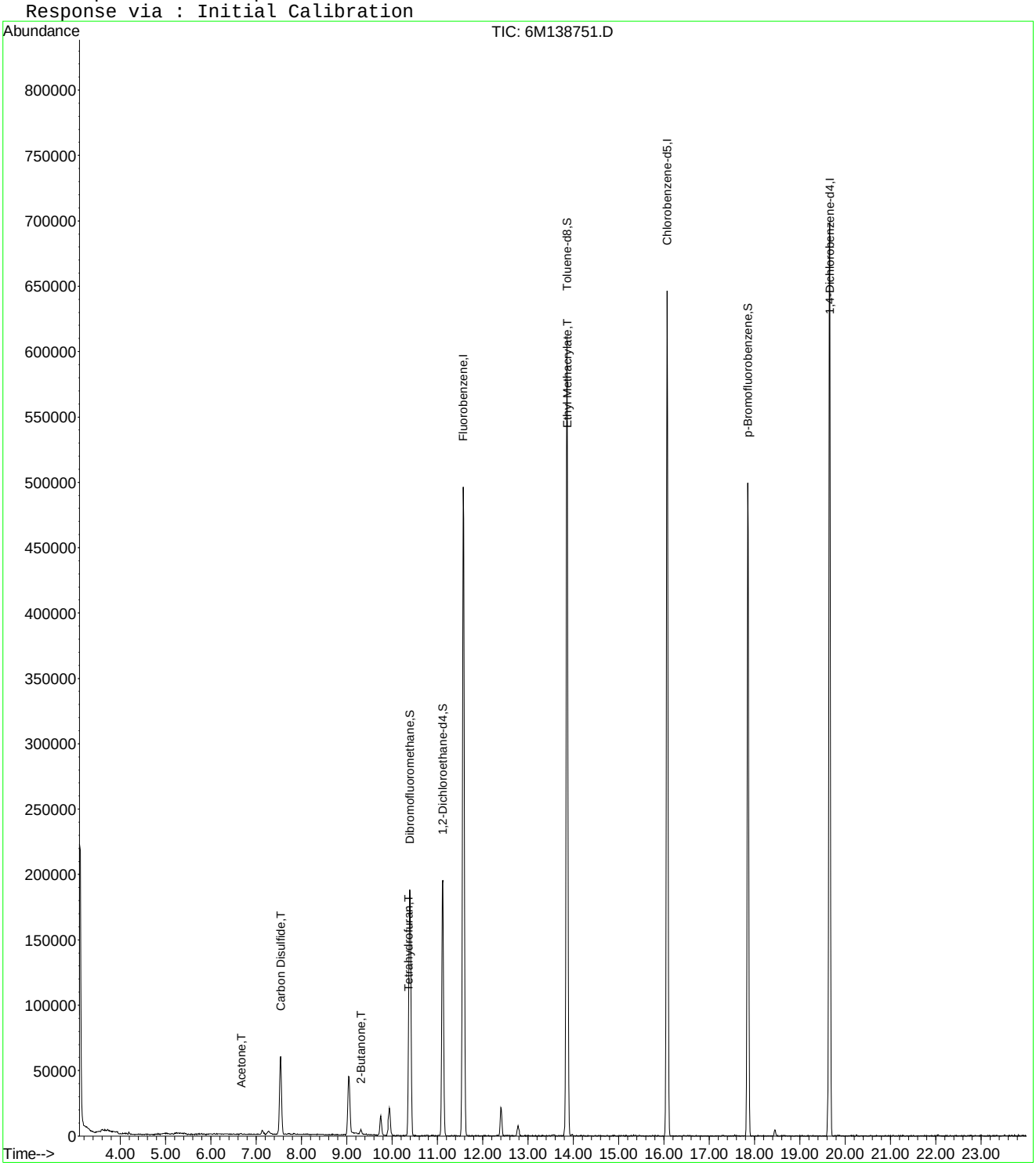
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.57	96	611118	25.00	ug/L	0.00
57) Chlorobenzene-d5	16.07	117	473080	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.66	152	253718	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.40	111	173671	27.7488	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 111.00%			
43) 1,2-Dichloroethane-d4	11.12	65	203570	26.8000	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 107.20%			
58) Toluene-d8	13.86	98	554047	26.0139	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 104.04%			
80) p-Bromofluorobenzene	17.85	95	229998	27.1525	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 108.60%			
Target Compounds						Qvalue
13) Acetone	6.67	43	1325	0.6992	ug/L #	46
20) Carbon Disulfide	7.54	76	18747	0.9622	ug/L #	39
29) 2-Butanone	9.31	43	1188	0.4247	ug/L #	1
36) Tetrahydrofuran	10.36	42	2769	1.5196	ug/L #	58
60) Ethyl Methacrylate	13.87	69	899	0.1270	ug/L #	1

(#) = qualifier out of range (m) = manual integration
6M138751.D 8260WTR.M Mon Apr 25 09:22:46 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138751.D Vial: 2
Acq On : 24 Apr 2016 16:59 Operator: JDS
Sample : WG566155-02 5ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 9:22 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138751.D Vial: 2
Acq On : 24 Apr 2016 16:59 Operator: JDS
Sample : WG566155-02 5ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:45:52 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

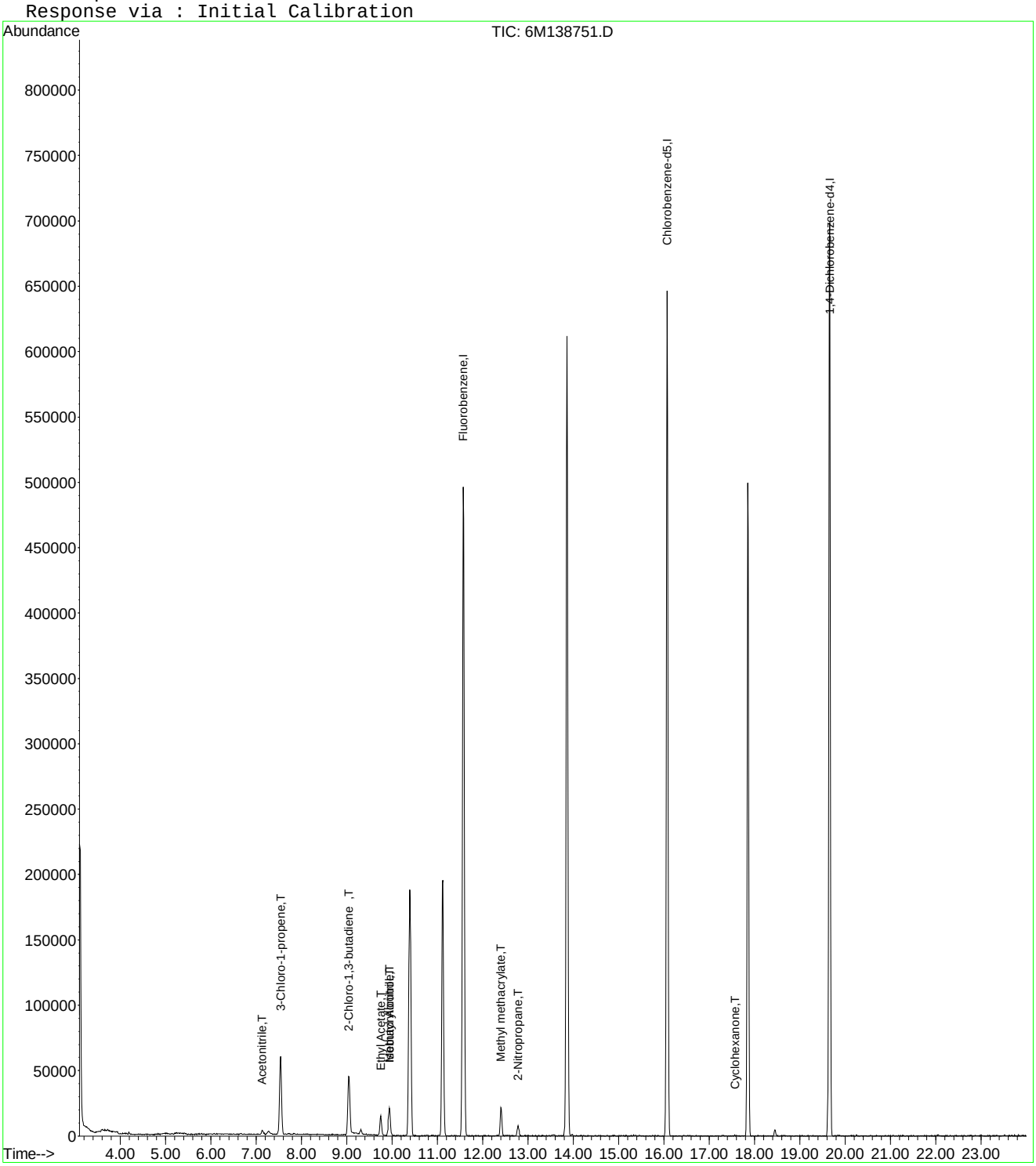
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	611118	25.00	ug/L		-0.03
11) Chlorobenzene-d5	16.07	117	473080	25.00	ug/L		-0.03
12) 1,4-Dichlorobenzene-d4	19.66	152	253718	25.00	ug/L		-0.02
Target Compounds							Qvalue
2) Acetonitrile	7.13	41	4366	3.7209	ug/L		76
3) 3-Chloro-1-propene	7.54	41	69268	4.2301	ug/L		92
4) 2-Chloro-1,3-butadiene	9.04	53	50753	3.6002	ug/L		85
5) Ethyl Acetate	9.75	43	28042	4.3499	ug/L	#	90
6) Methacrylonitrile	9.94	67	8721	3.5173	ug/L	#	55
7) Isobutyl Alcohol	9.94	43	1233	3.4767	ug/L	#	85
9) Methyl methacrylate	12.40	41	19474	3.0338	ug/L		79
10) 2-Nitropropane	12.78	43	7076	3.7392	ug/L		93
13) Cyclohexanone	17.57	55	447	0.5159	ug/L	#	25

(#) = qualifier out of range (m) = manual integration
6M138751.D A9FOOWT.M Mon Apr 25 15:45:52 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138751.D Vial: 2
Acq On : 24 Apr 2016 16:59 Operator: JDS
Sample : WG566155-02 5ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:45 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138751.D Vial: 2
Acq On : 24 Apr 2016 16:59 Operator: JDS
Sample : WG566155-02 5ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:04:56 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

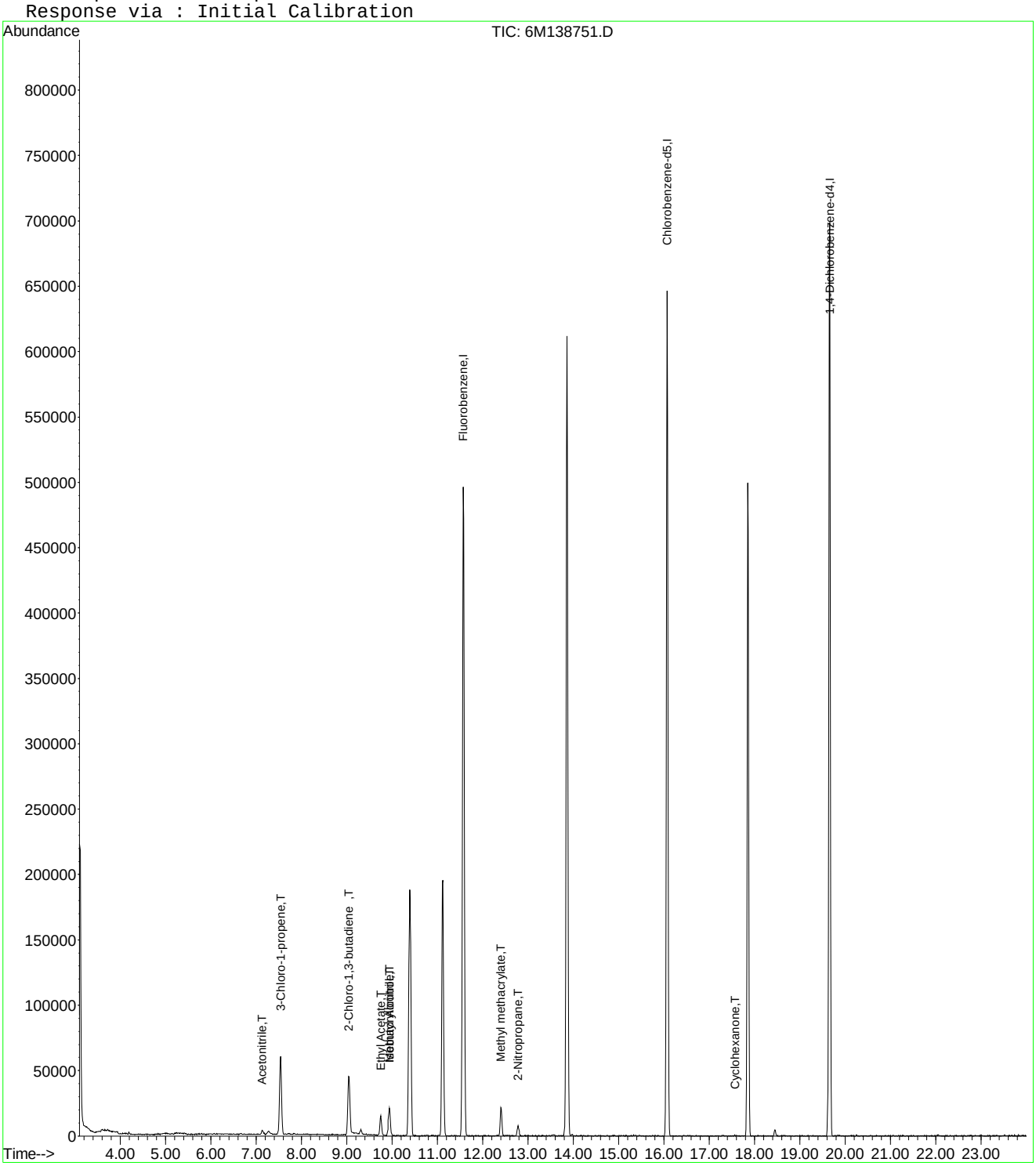
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	611118	25.00	ug/L		0.00
11) Chlorobenzene-d5	16.07	117	473080	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	19.66	152	253718	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	7.13	41	4366	4.7698	ug/L		76
3) 3-Chloro-1-propene	7.54	41	69268	4.5408	ug/L		92
4) 2-Chloro-1,3-butadiene	9.04	53	50753	3.8775	ug/L		85
5) Ethyl Acetate	9.75	43	28042	4.2792	ug/L	#	90
6) Methacrylonitrile	9.94	67	8721	3.8601	ug/L	#	55
7) Isobutyl Alcohol	9.94	43	1233	5.9076	ug/L	#	85
9) Methyl methacrylate	12.40	41	19474	3.5356	ug/L		79
10) 2-Nitropropane	12.78	43	7076	3.4543	ug/L		93
13) Cyclohexanone	17.57	55	447	1.4133	ug/L	#	25

(#) = qualifier out of range (m) = manual integration
6M138751.D A9FOOWT.M Wed Apr 27 16:04:56 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138751.D Vial: 2
Acq On : 24 Apr 2016 16:59 Operator: JDS
Sample : WG566155-02 5ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:04 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\042416\6M138751.D Vial: 2
Acq On : 24 Apr 2016 16:59 Operator: JDS
Sample : WG566155-02 5ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Acetonitrile	5.0000	4.7698	4.6	100	0.00
3	T	3-Chloro-1-propene	5.0000	4.5408	9.2	100	0.00
4	T	2-Chloro-1,3-butadiene	5.0000	3.8775	22.5	100	0.00
5	T	Ethyl Acetate	5.0000	4.2792	14.4	100	0.00
6	T	Methacrylonitrile	5.0000	3.8601	22.8	100	0.00
7	T	Isobutyl Alcohol	-1.0000	5.9076	0.0	100	0.00
8	T	1-Butanol	-1.0000	0.0000	0.0	0	-10.99#
9	T	Methyl methacrylate	5.0000	3.5356	29.3	100	0.00
10	T	2-Nitropropane	-1.0000	3.4543	0.0	100	0.00
11	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
12	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
13	T	Cyclohexanone	-1.0000	1.4133	0.0	0	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M138751.D A9FOOWT.M Wed Apr 27 16:04:12 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\042416\6M138752.D Vial: 3
Acq On : 24 Apr 2016 17:31 Operator: JDS
Sample : WG566155-03 20ug/L STD 826-A Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 09:22:48 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

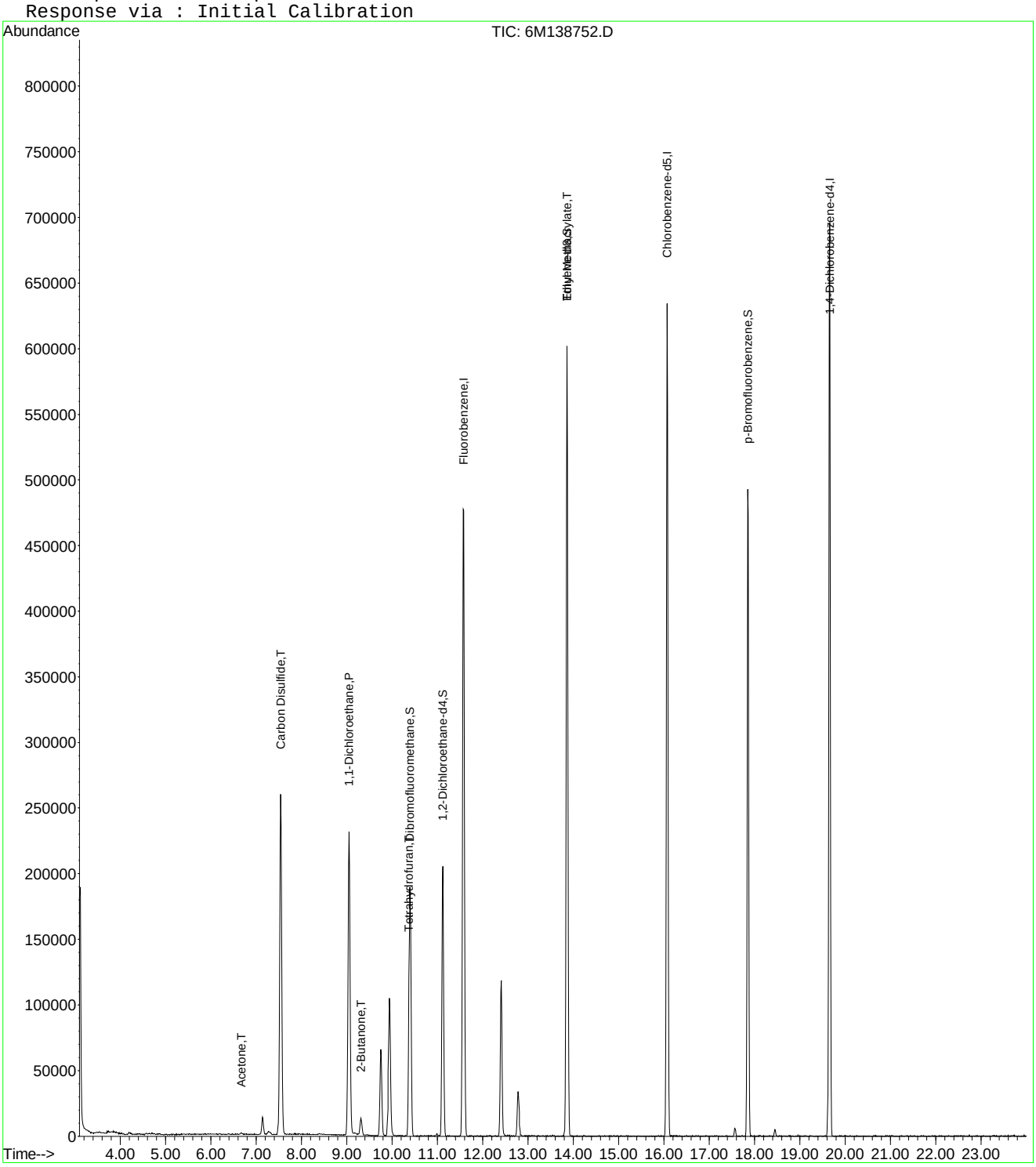
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.58	96	599043	25.00	ug/L	0.00
57) Chlorobenzene-d5	16.07	117	463005	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.66	152	248475	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.39	111	171577	27.9669	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 111.88%			
43) 1,2-Dichloroethane-d4	11.12	65	207390	27.8532	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 111.40%			
58) Toluene-d8	13.86	98	547786	26.2796	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 105.12%			
80) p-Bromofluorobenzene	17.85	95	228171	27.5052	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 110.04%			
Target Compounds						Qvalue
13) Acetone	6.67	43	2739	1.4745	ug/L #	59
20) Carbon Disulfide	7.54	76	81493	4.2668	ug/L #	36
27) 1,1-Dichloroethane	9.05	63	3411	0.2688	ug/L #	42
29) 2-Butanone	9.31	43	3879	1.4148	ug/L #	1
36) Tetrahydrofuran	10.37	42	3350	1.8754	ug/L #	62
60) Ethyl Methacrylate	13.86	69	1183	0.1708	ug/L #	27

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

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138752.D Vial: 3
Acq On : 24 Apr 2016 17:31 Operator: JDS
Sample : WG566155-03 20ug/L STD 826-A Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 9:22 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138752.D Vial: 3
Acq On : 24 Apr 2016 17:31 Operator: JDS
Sample : WG566155-03 20ug/L STD 826-A Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:45:54 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

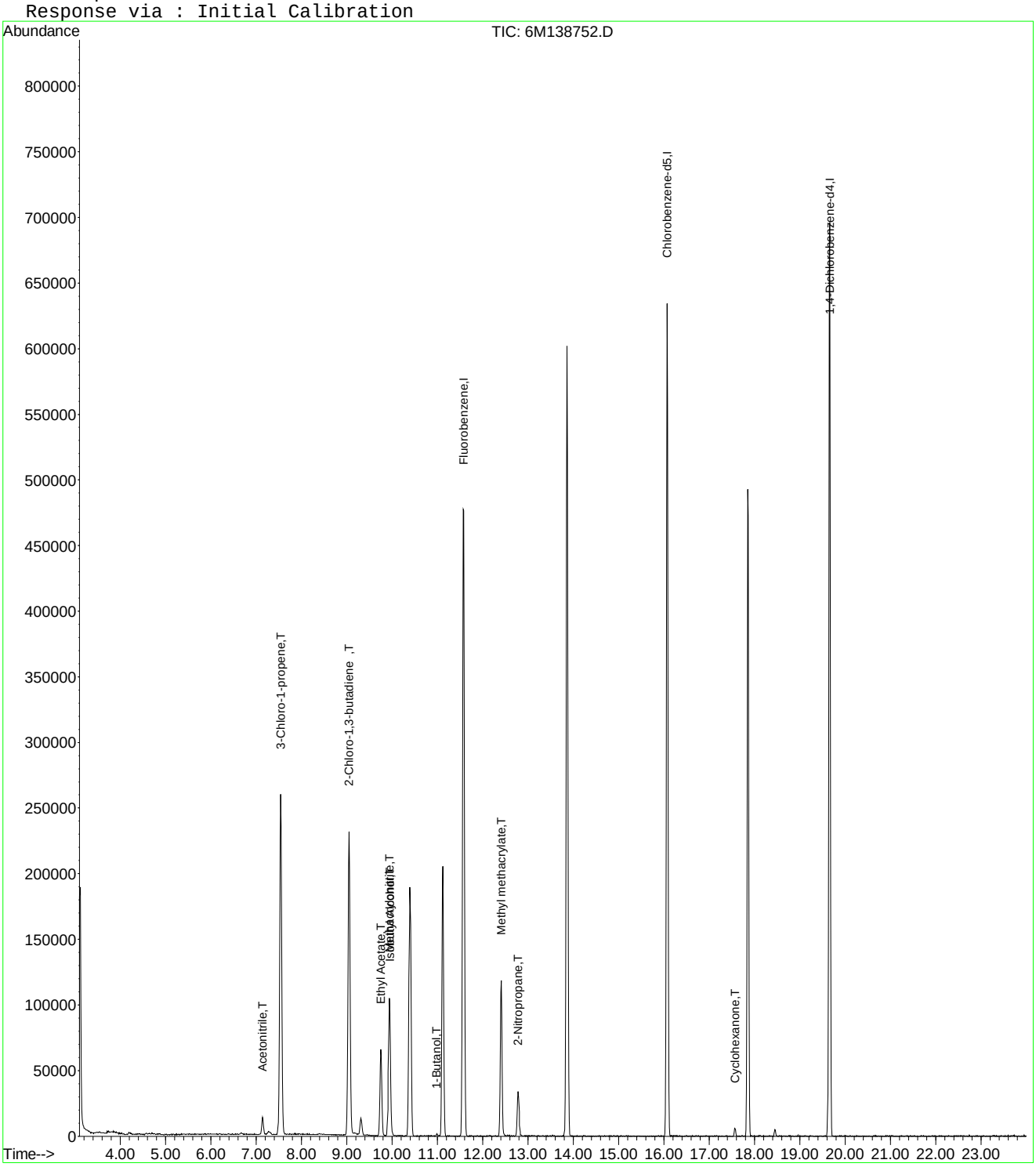
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.58	96	599043	25.00	ug/L		-0.02
11) Chlorobenzene-d5	16.07	117	463005	25.00	ug/L		-0.03
12) 1,4-Dichlorobenzene-d4	19.66	152	248475	25.00	ug/L		-0.02
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	17741	15.4242	ug/L		95
3) 3-Chloro-1-propene	7.54	41	297686	18.5457	ug/L		93
4) 2-Chloro-1,3-butadiene	9.05	53	242962	17.5823	ug/L		84
5) Ethyl Acetate	9.75	43	124111	19.6403	ug/L		93
6) Methacrylonitrile	9.93	67	42708	17.5719	ug/L	#	59
7) Isobutyl Alcohol	9.95	43	7968	22.9203	ug/L	#	85
8) 1-Butanol	10.98	41	982	6.5662	ug/L	#	52
9) Methyl methacrylate	12.41	41	95824	15.2291	ug/L		81
10) 2-Nitropropane	12.78	43	34207	18.4403	ug/L		92
13) Cyclohexanone	17.57	55	4053	4.7763	ug/L		81

(#) = qualifier out of range (m) = manual integration
6M138752.D A9FOOWT.M Mon Apr 25 15:45:54 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138752.D Vial: 3
Acq On : 24 Apr 2016 17:31 Operator: JDS
Sample : WG566155-03 20ug/L STD 826-A Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:45 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138752.D Vial: 3
Acq On : 24 Apr 2016 17:31 Operator: JDS
Sample : WG566155-03 20ug/L STD 826-A Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:04:58 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

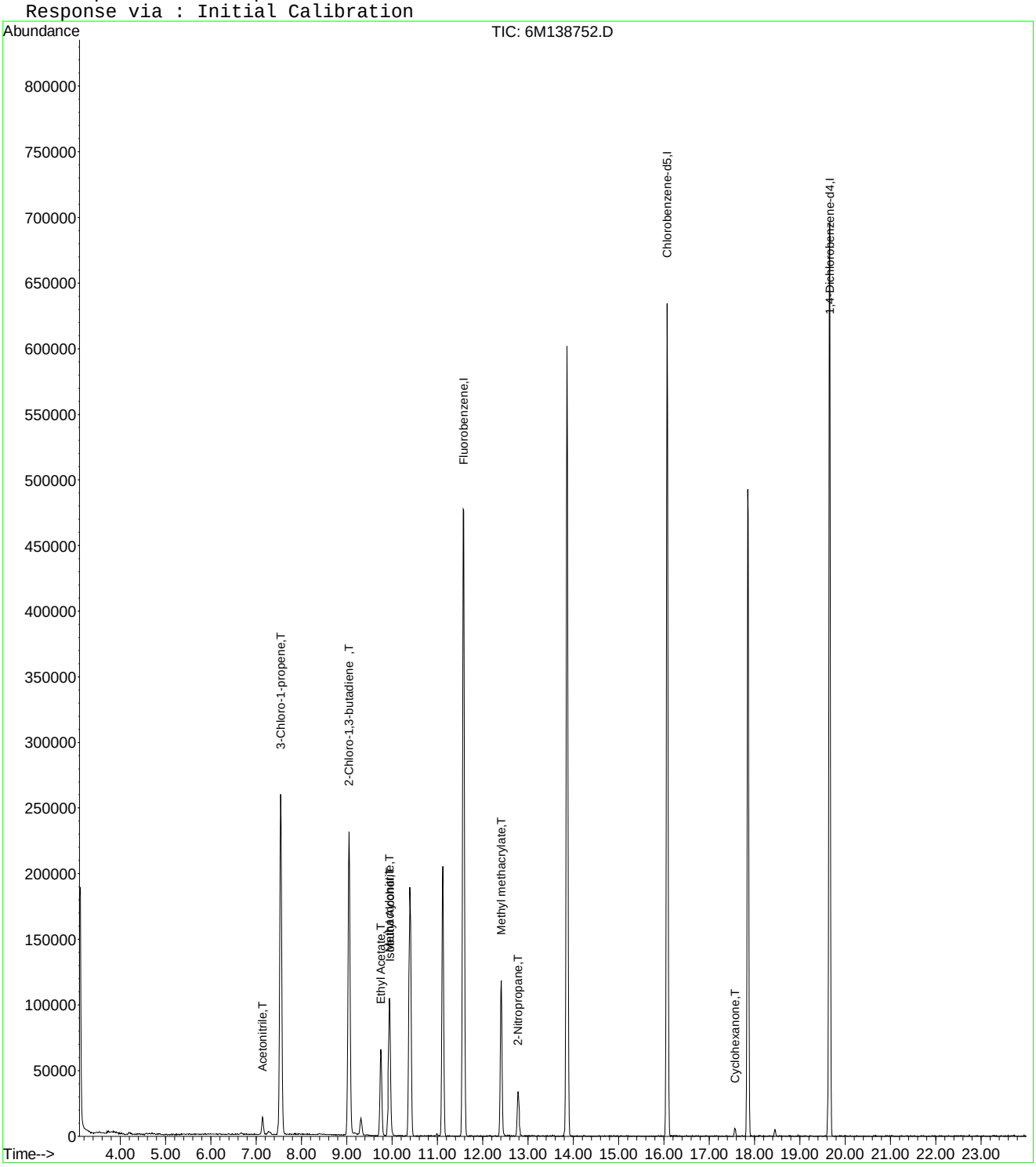
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.58	96	599043	25.00	ug/L		0.00
11) Chlorobenzene-d5	16.07	117	463005	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	19.66	152	248475	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	17741	19.7725	ug/L		95
3) 3-Chloro-1-propene	7.54	41	297686	19.9080	ug/L		93
4) 2-Chloro-1,3-butadiene	9.05	53	242962	18.9362	ug/L		84
5) Ethyl Acetate	9.75	43	124111	19.3209	ug/L		93
6) Methacrylonitrile	9.93	67	42708	19.2846	ug/L	#	59
7) Isobutyl Alcohol	9.95	43	7968	38.9462	ug/L	#	85
9) Methyl methacrylate	12.41	41	95824	17.7480	ug/L		81
10) 2-Nitropropane	12.78	43	34207	17.0355	ug/L		92
13) Cyclohexanone	17.57	55	4053	13.0852	ug/L		81

(#) = qualifier out of range (m) = manual integration
6M138752.D A9FOOWT.M Wed Apr 27 16:04:59 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138752.D Vial: 3
Acq On : 24 Apr 2016 17:31 Operator: JDS
Sample : WG566155-03 20ug/L STD 826-A Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:04 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\042416\6M138752.D Vial: 3
Acq On : 24 Apr 2016 17:31 Operator: JDS
Sample : WG566155-03 20ug/L STD 826-A Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Acetonitrile	20.0000	19.7724	1.1	100	0.00
3	T	3-Chloro-1-propene	20.0000	19.9080	0.5	100	0.00
4	T	2-Chloro-1,3-butadiene	20.0000	18.9362	5.3	100	0.00
5	T	Ethyl Acetate	20.0000	19.3209	3.4	100	0.00
6	T	Methacrylonitrile	20.0000	19.2846	3.6	100	0.00
7	T	Isobutyl Alcohol	40.0000	38.9462	2.6	100	0.00
8	T	1-Butanol	-1.0000	0.0000	0.0	0	0.00
9	T	Methyl methacrylate	20.0000	17.7480	11.3	100	0.00
10	T	2-Nitropropane	-1.0000	17.0355	0.0	100	0.00
11	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
12	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
13	T	Cyclohexanone	-1.0000	13.0852	0.0	0	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M138752.D A9FOOWT.M Wed Apr 27 16:04:26 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\042416\6M138753.D Vial: 4
Acq On : 24 Apr 2016 18:03 Operator: JDS
Sample : WG566155-04 50ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 09:22:48 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

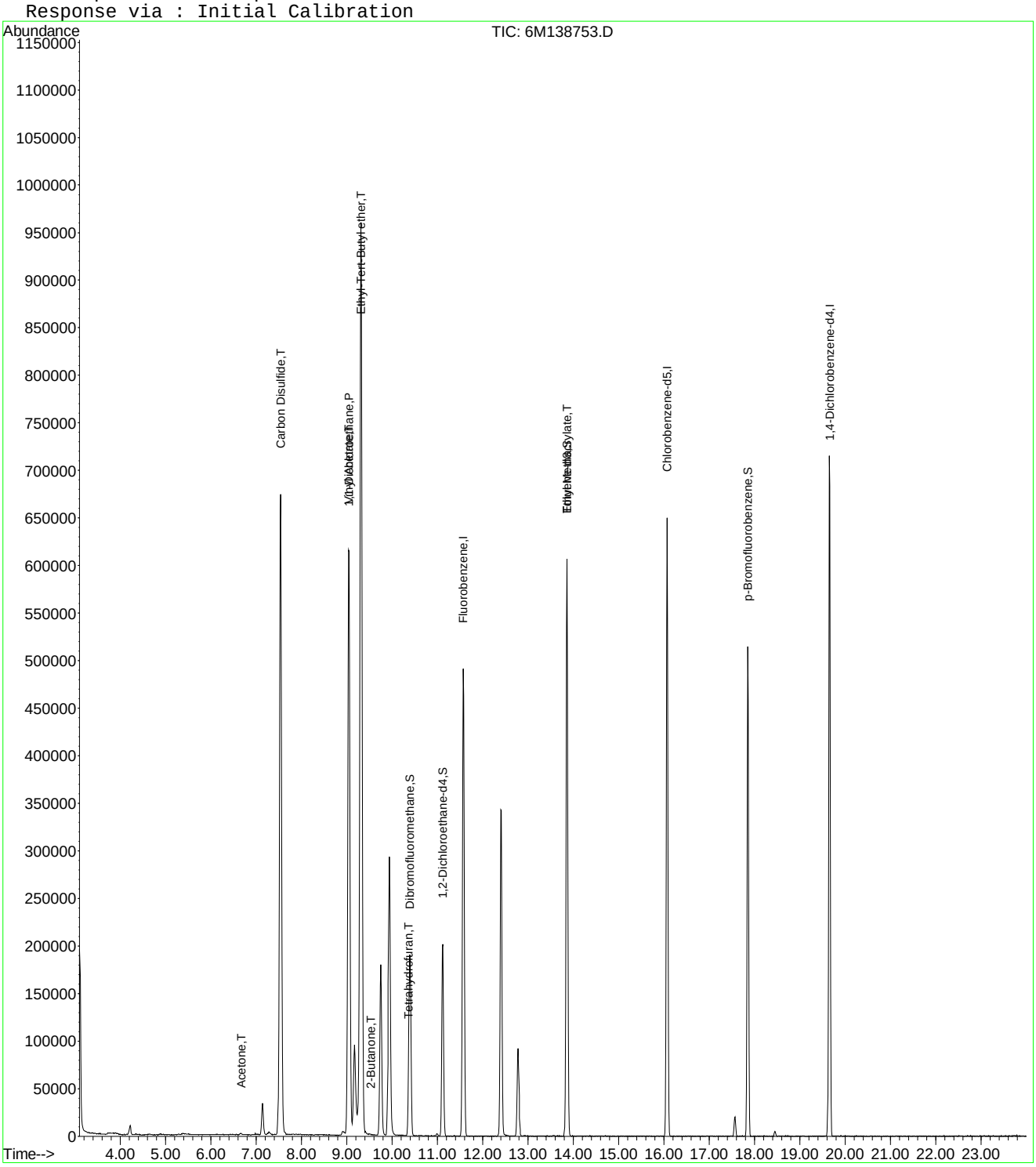
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	11.57	96	604736	25.00 ug/L	0.00
57) Chlorobenzene-d5	16.07	117	468574	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.66	152	254472	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	10.40	111	172256	27.8132 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 111.24%		
43) 1,2-Dichloroethane-d4	11.12	65	208744	27.7711 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 111.08%		
58) Toluene-d8	13.86	98	553191	26.2235 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 104.88%		
80) p-Bromofluorobenzene	17.85	95	239542	28.1954 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 112.80%		
Target Compounds					Qvalue
13) Acetone	6.67	43	3732	1.9901 ug/L #	57
20) Carbon Disulfide	7.54	76	220780	11.4508 ug/L #	36
26) Vinyl Acetate	9.04	43	2704	0.2791 ug/L #	8
27) 1,1-Dichloroethane	9.05	63	9803	0.7652 ug/L #	42
28) Ethyl-Tert-Butyl ether	9.31	59	152978	7.3579 ug/L #	39
29) 2-Butanone	9.53	43	660	0.2385 ug/L #	52
36) Tetrahydrofuran	10.37	42	3746	2.0774 ug/L #	62
60) Ethyl Methacrylate	13.86	69	1423	0.2030 ug/L #	9

(#) = qualifier out of range (m) = manual integration
6M138753.D 8260WTR.M Mon Apr 25 09:22:49 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138753.D Vial: 4
Acq On : 24 Apr 2016 18:03 Operator: JDS
Sample : WG566155-04 50ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 9:22 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138753.D Vial: 4
Acq On : 24 Apr 2016 18:03 Operator: JDS
Sample : WG566155-04 50ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:45:55 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

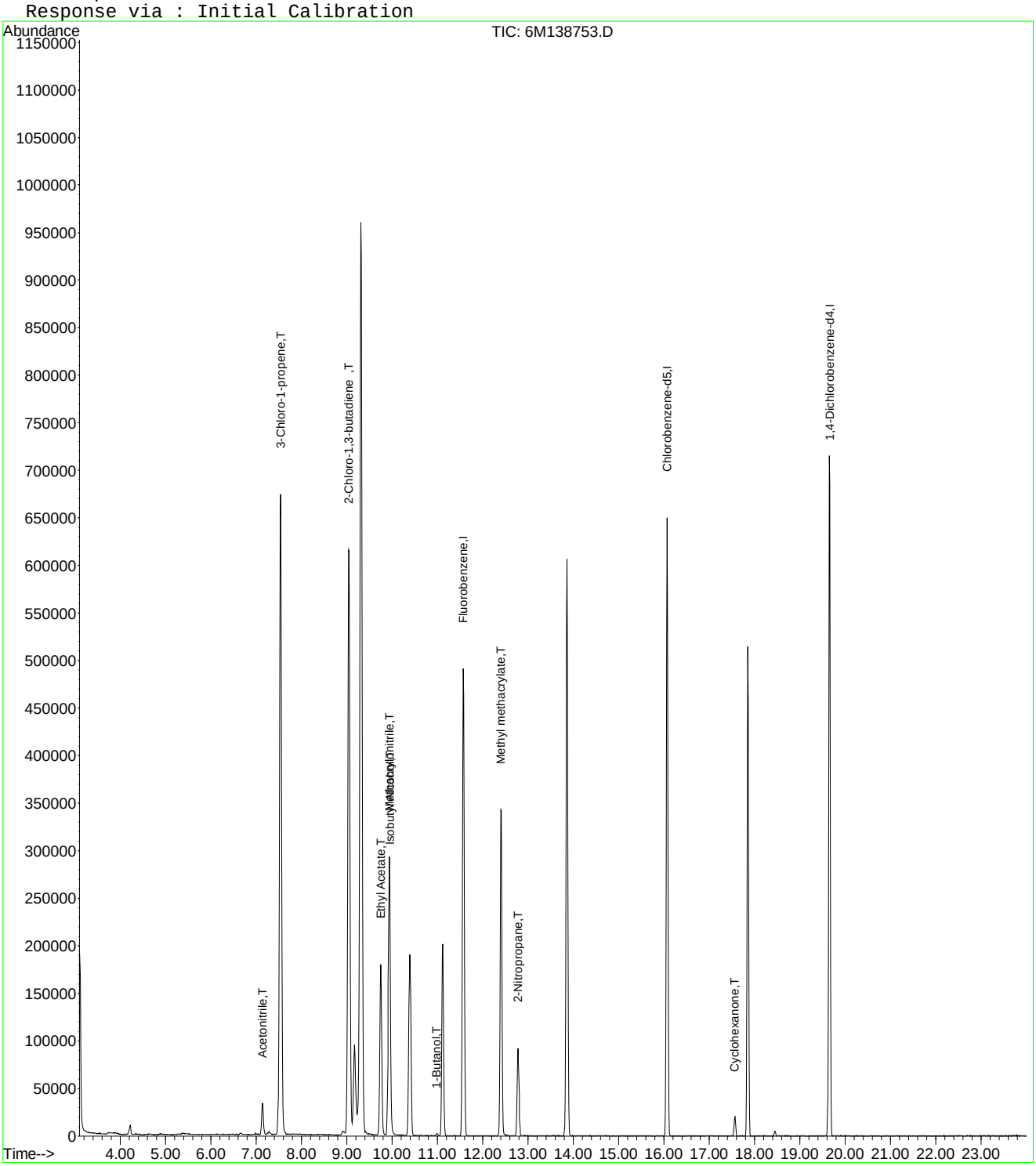
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	604736	25.00	ug/L		-0.03
11) Chlorobenzene-d5	16.07	117	468574	25.00	ug/L		-0.03
12) 1,4-Dichlorobenzene-d4	19.66	152	254472	25.00	ug/L		-0.02
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	46802	40.3072	ug/L		94
3) 3-Chloro-1-propene	7.54	41	793114	48.9454	ug/L		93
4) 2-Chloro-1,3-butadiene	9.04	53	674471	48.3496	ug/L		83
5) Ethyl Acetate	9.75	43	336975	52.8234	ug/L		93
6) Methacrylonitrile	9.94	67	119267	48.6097	ug/L	#	62
7) Isobutyl Alcohol	9.95	43	20135	57.3741	ug/L	#	99
8) 1-Butanol	10.98	41	1474	9.7632	ug/L		77
9) Methyl methacrylate	12.40	41	279157	43.9482	ug/L		81
10) 2-Nitropropane	12.79	43	95327	50.9052	ug/L		94
13) Cyclohexanone	17.56	55	13241	15.2363	ug/L		91

(#) = qualifier out of range (m) = manual integration
6M138753.D A9FOOWT.M Mon Apr 25 15:45:56 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138753.D Vial: 4
Acq On : 24 Apr 2016 18:03 Operator: JDS
Sample : WG566155-04 50ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:45 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138753.D Vial: 4
Acq On : 24 Apr 2016 18:03 Operator: JDS
Sample : WG566155-04 50ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:04:59 2016 Quant Results File: A9FOOWT.RES

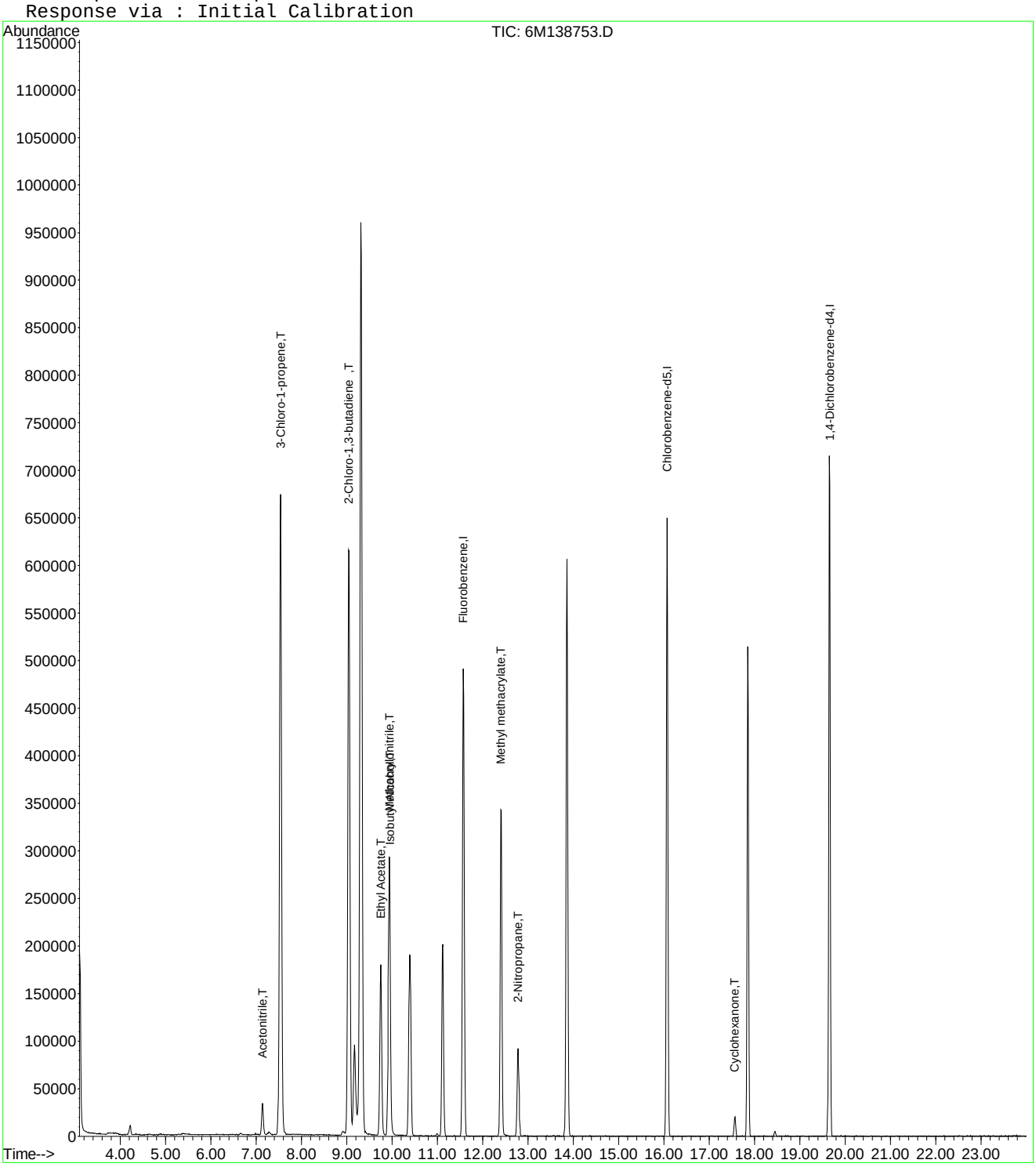
Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	604736	25.00	ug/L		0.00
11) Chlorobenzene-d5	16.07	117	468574	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	19.66	152	254472	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	46802	51.6701	ug/L		94
3) 3-Chloro-1-propene	7.54	41	793114	52.5409	ug/L		93
4) 2-Chloro-1,3-butadiene	9.04	53	674471	52.0726	ug/L		83
5) Ethyl Acetate	9.75	43	336975	51.9646	ug/L		93
6) Methacrylonitrile	9.94	67	119267	53.3476	ug/L	#	62
7) Isobutyl Alcohol	9.95	43	20135	97.4900	ug/L	#	99
9) Methyl methacrylate	12.40	41	279157	51.2171	ug/L		81
10) 2-Nitropropane	12.79	43	95327	47.0270	ug/L		94
13) Cyclohexanone	17.56	55	13241	41.7415	ug/L		91

(#) = qualifier out of range (m) = manual integration
6M138753.D A9FOOWT.M Wed Apr 27 16:04:59 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\042416\6M138753.D Vial: 4
Acq On : 24 Apr 2016 18:03 Operator: JDS
Sample : WG566155-04 50ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:04 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\042416\6M138753.D Vial: 4
Acq On : 24 Apr 2016 18:03 Operator: JDS
Sample : WG566155-04 50ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	100	0.00
2	T	Acetonitrile	50.0000	51.6701	-3.3	100	0.00
3	T	3-Chloro-1-propene	50.0000	52.5409	-5.1	100	0.00
4	T	2-Chloro-1,3-butadiene	50.0000	52.0726	-4.1	100	0.00
5	T	Ethyl Acetate	50.0000	51.9646	-3.9	100	0.00
6	T	Methacrylonitrile	50.0000	53.3476	-6.7	100	0.00
7	T	Isobutyl Alcohol	100.0000	97.4900	2.5	100	0.00
8	T	1-Butanol	-1.0000	0.0000	0.0	0	0.00
9	T	Methyl methacrylate	50.0000	51.2171	-2.4	100	0.00
10	T	2-Nitropropane	50.0000	47.0270	5.9	100	0.00
11	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
12	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
13	T	Cyclohexanone	50.0000	41.7415	16.5	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M138753.D A9FOOWT.M Wed Apr 27 16:04:38 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138754.D Vial: 5
Acq On : 24 Apr 2016 18:36 Operator: JDS
Sample : WG566155-05 100ug/L STD 826-A Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 09:22:49 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

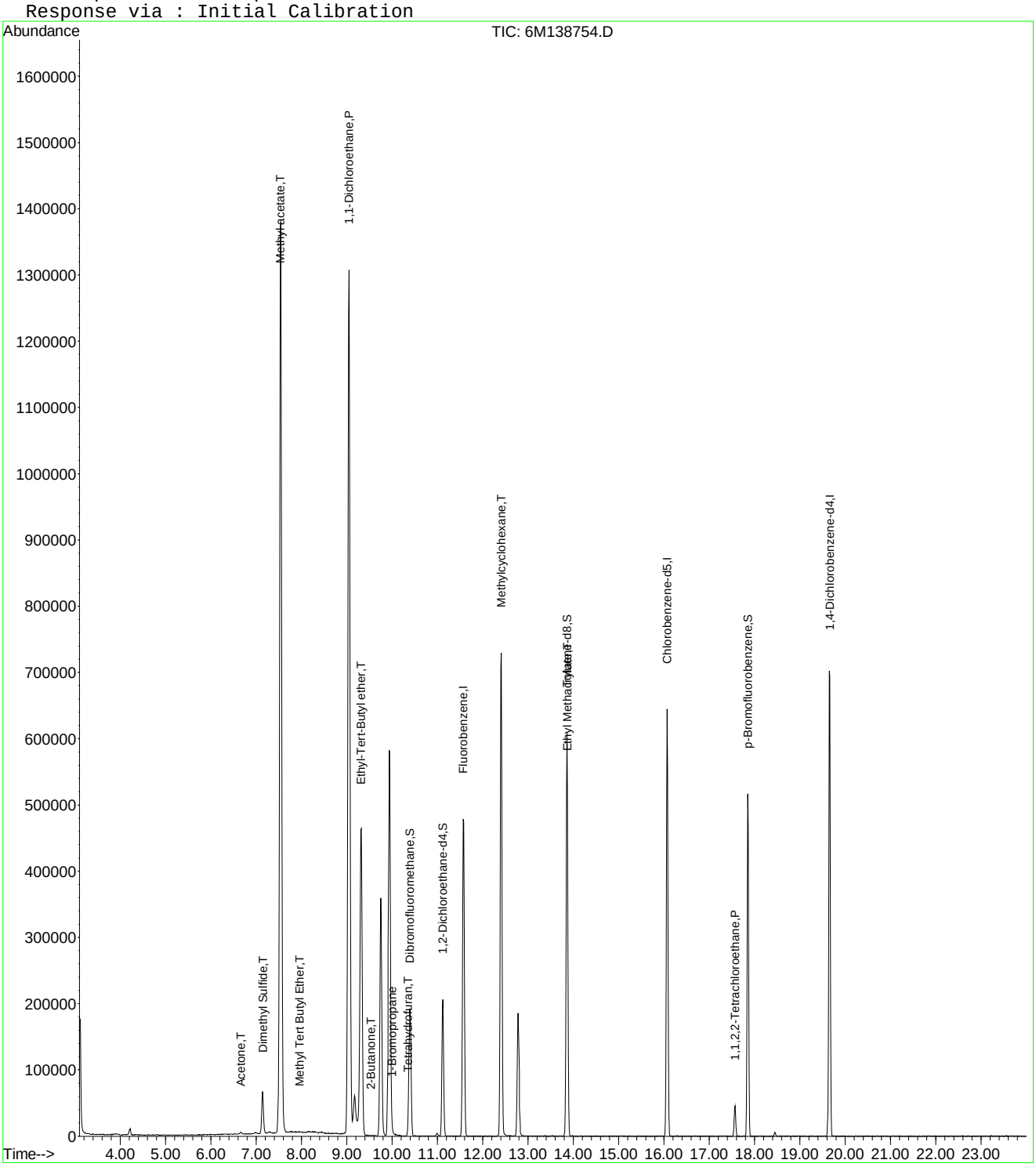
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.57	96	599121	25.00	ug/L	0.00
57) Chlorobenzene-d5	16.07	117	467316	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.66	152	255798	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.39	111	169577	27.6373	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 110.56%			
43) 1,2-Dichloroethane-d4	11.12	65	210119	28.2161	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 112.88%			
58) Toluene-d8	13.86	98	550953	26.1877	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 104.76%			
80) p-Bromofluorobenzene	17.85	95	239480	28.0420	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 112.16%			
Target Compounds						Qvalue
13) Acetone	6.66	43	6960	3.7463	ug/L	82
16) Dimethyl Sulfide	7.15	62	732	0.1448	ug/L #	1
18) Methyl acetate	7.53	43	1419	0.2750	ug/L #	1
22) Methyl Tert Butyl Ether	7.96	73	2141	0.1320	ug/L #	72
27) 1,1-Dichloroethane	9.05	63	20725	1.6328	ug/L #	42
28) Ethyl-Tert-Butyl ether	9.31	59	76666	3.7220	ug/L #	39
29) 2-Butanone	9.53	43	1176	0.4289	ug/L #	52
34) 1-Bromopropane	10.00	122	702	0.6817	ug/L #	1
36) Tetrahydrofuran	10.35	42	4425	2.4769	ug/L #	60
48) Methylcyclohexane	12.41	83	1461	0.1681	ug/L #	1
60) Ethyl Methacrylate	13.87	69	1083	0.1549	ug/L #	1
79) 1,1,2,2-Tetrachloroethane	17.57	83	1910	0.3066	ug/L #	18

(#) = qualifier out of range (m) = manual integration
6M138754.D 8260WTR.M Mon Apr 25 09:22:49 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138754.D Vial: 5
Acq On : 24 Apr 2016 18:36 Operator: JDS
Sample : WG566155-05 100ug/L STD 826-A Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 9:22 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138754.D Vial: 5
Acq On : 24 Apr 2016 18:36 Operator: JDS
Sample : WG566155-05 100ug/L STD 826-A Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:45:57 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

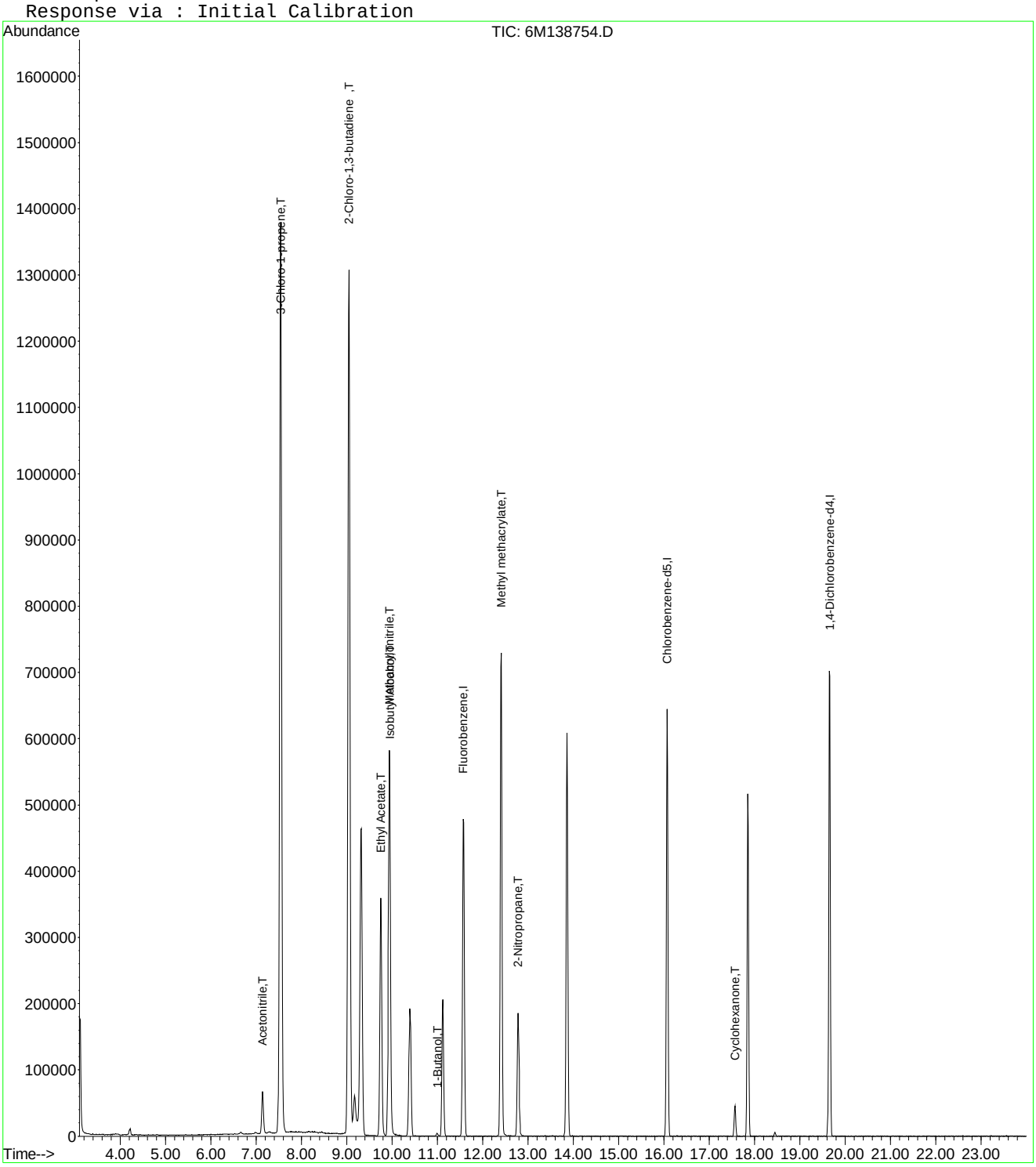
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	599121	25.00	ug/L		-0.03
11) Chlorobenzene-d5	16.07	117	467316	25.00	ug/L		-0.03
12) 1,4-Dichlorobenzene-d4	19.66	152	255798	25.00	ug/L		-0.02
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	90880	79.0019	ug/L		95
3) 3-Chloro-1-propene	7.54	41	1610716	100.3335	ug/L		93
4) 2-Chloro-1,3-butadiene	9.05	53	1413663	102.2884	ug/L		83
5) Ethyl Acetate	9.75	43	673221	106.5217	ug/L		93
6) Methacrylonitrile	9.94	67	237219	97.5895	ug/L	#	62
7) Isobutyl Alcohol	9.95	43	33897	97.4937	ug/L	#	85
8) 1-Butanol	11.00	41	2978	19.9099	ug/L	#	64
9) Methyl methacrylate	12.41	41	585839	93.0942	ug/L		80
10) 2-Nitropropane	12.78	43	197598	106.5074	ug/L		97
13) Cyclohexanone	17.57	55	27547	31.5338	ug/L		88

(#) = qualifier out of range (m) = manual integration
6M138754.D A9FOOWT.M Mon Apr 25 15:45:57 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138754.D Vial: 5
Acq On : 24 Apr 2016 18:36 Operator: JDS
Sample : WG566155-05 100ug/L STD 826-A Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:45 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138754.D Vial: 5
Acq On : 24 Apr 2016 18:36 Operator: JDS
Sample : WG566155-05 100ug/L STD 826-A Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:04:59 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

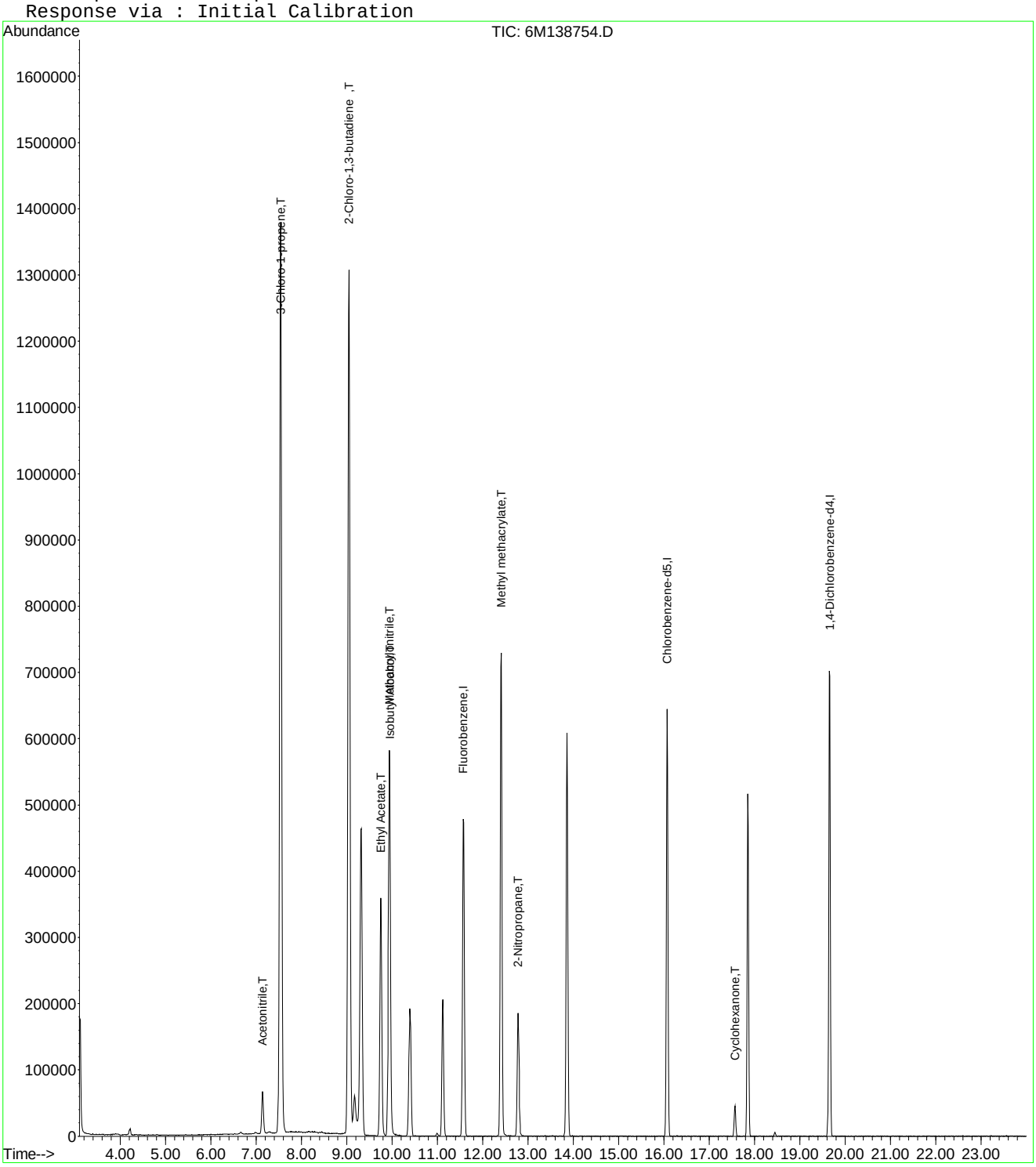
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	599121	25.00	ug/L		0.00
11) Chlorobenzene-d5	16.07	117	467316	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	19.66	152	255798	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	90880	101.2731	ug/L		95
3) 3-Chloro-1-propene	7.54	41	1610716	107.7041	ug/L		93
4) 2-Chloro-1,3-butadiene	9.05	53	1413663	110.1648	ug/L		83
5) Ethyl Acetate	9.75	43	673221	104.7898	ug/L		93
6) Methacrylonitrile	9.94	67	237219	107.1014	ug/L	#	62
7) Isobutyl Alcohol	9.95	43	33897	165.6613	ug/L	#	85
9) Methyl methacrylate	12.41	41	585839	108.4917	ug/L		80
10) 2-Nitropropane	12.78	43	197598	98.3932	ug/L		97
13) Cyclohexanone	17.57	55	27547	86.3902	ug/L		88

(#) = qualifier out of range (m) = manual integration
6M138754.D A9FOOWT.M Wed Apr 27 16:04:59 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138754.D Vial: 5
Acq On : 24 Apr 2016 18:36 Operator: JDS
Sample : WG566155-05 100ug/L STD 826-A Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:04 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration



6M138754.D A9FOOWT.M Wed Apr 27 16:05:00 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138755.D Vial: 6
Acq On : 24 Apr 2016 19:08 Operator: JDS
Sample : WG566155-06 200ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 09:22:50 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

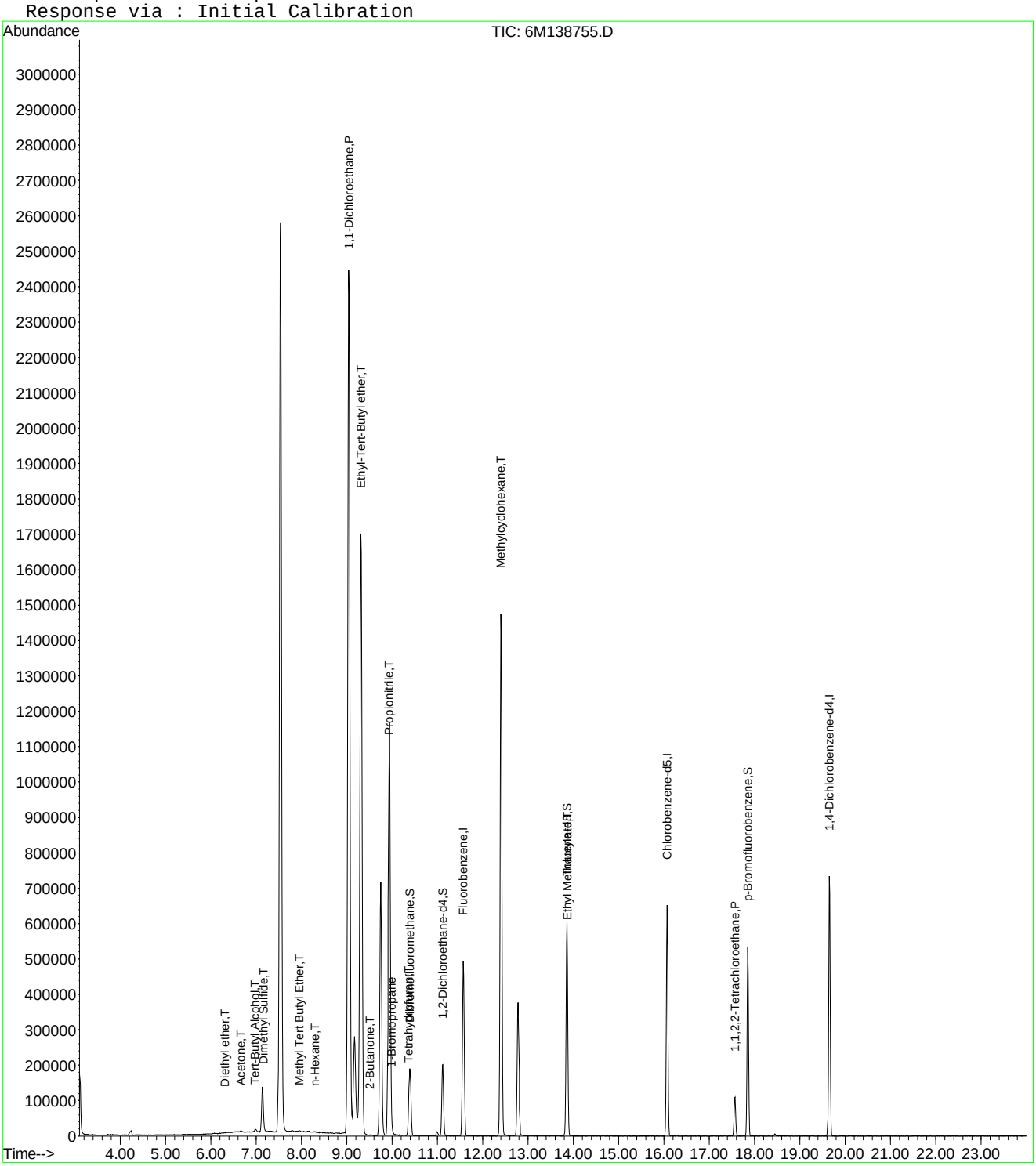
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	11.57	96	607157	25.00 ug/L	0.00
57) Chlorobenzene-d5	16.07	117	473187	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.65	152	259046	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	10.40	111	172341	27.7160 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 110.88%		
43) 1,2-Dichloroethane-d4	11.12	65	211249	27.9923 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 111.96%		
58) Toluene-d8	13.86	98	552831	25.9510 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 103.80%		
80) p-Bromofluorobenzene	17.85	95	247709	28.6419 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 114.56%		
Target Compounds					Qvalue
9) Diethyl ether	6.31	59	653	0.1225 ug/L #	12
13) Acetone	6.66	43	9406	4.9959 ug/L #	64
15) Tert-Butyl Alcohol	6.98	59	449	0.8301 ug/L #	1
16) Dimethyl Sulfide	7.16	62	680	0.1328 ug/L #	1
22) Methyl Tert Butyl Ether	7.96	73	3926	0.2388 ug/L	83
24) n-Hexane	8.30	57	1777	0.2040 ug/L	87
27) 1,1-Dichloroethane	9.05	63	41640	3.2372 ug/L #	47
28) Ethyl-Tert-Butyl ether	9.31	59	272648	13.0615 ug/L #	38
29) 2-Butanone	9.51	43	2992	1.0767 ug/L #	67
30) Propionitrile	9.93	54	258	0.3232 ug/L #	57
34) 1-Bromopropane	9.99	122	1417	1.3579 ug/L #	1
36) Tetrahydrofuran	10.37	42	4839	2.6728 ug/L #	62
48) Methylcyclohexane	12.40	83	2976	0.3378 ug/L #	1
60) Ethyl Methacrylate	13.87	69	1202	0.1698 ug/L #	1
79) 1,1,2,2-Tetrachloroethane	17.57	83	5192	0.8231 ug/L #	18

(#) = qualifier out of range (m) = manual integration
6M138755.D 8260WTR.M Mon Apr 25 09:22:50 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138755.D Vial: 6
Acq On : 24 Apr 2016 19:08 Operator: JDS
Sample : WG566155-06 200ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 9:22 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration



6M138755.D 8260WTR.M Mon Apr 25 09:22:50 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138755.D Vial: 6
Acq On : 24 Apr 2016 19:08 Operator: JDS
Sample : WG566155-06 200ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:45:58 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

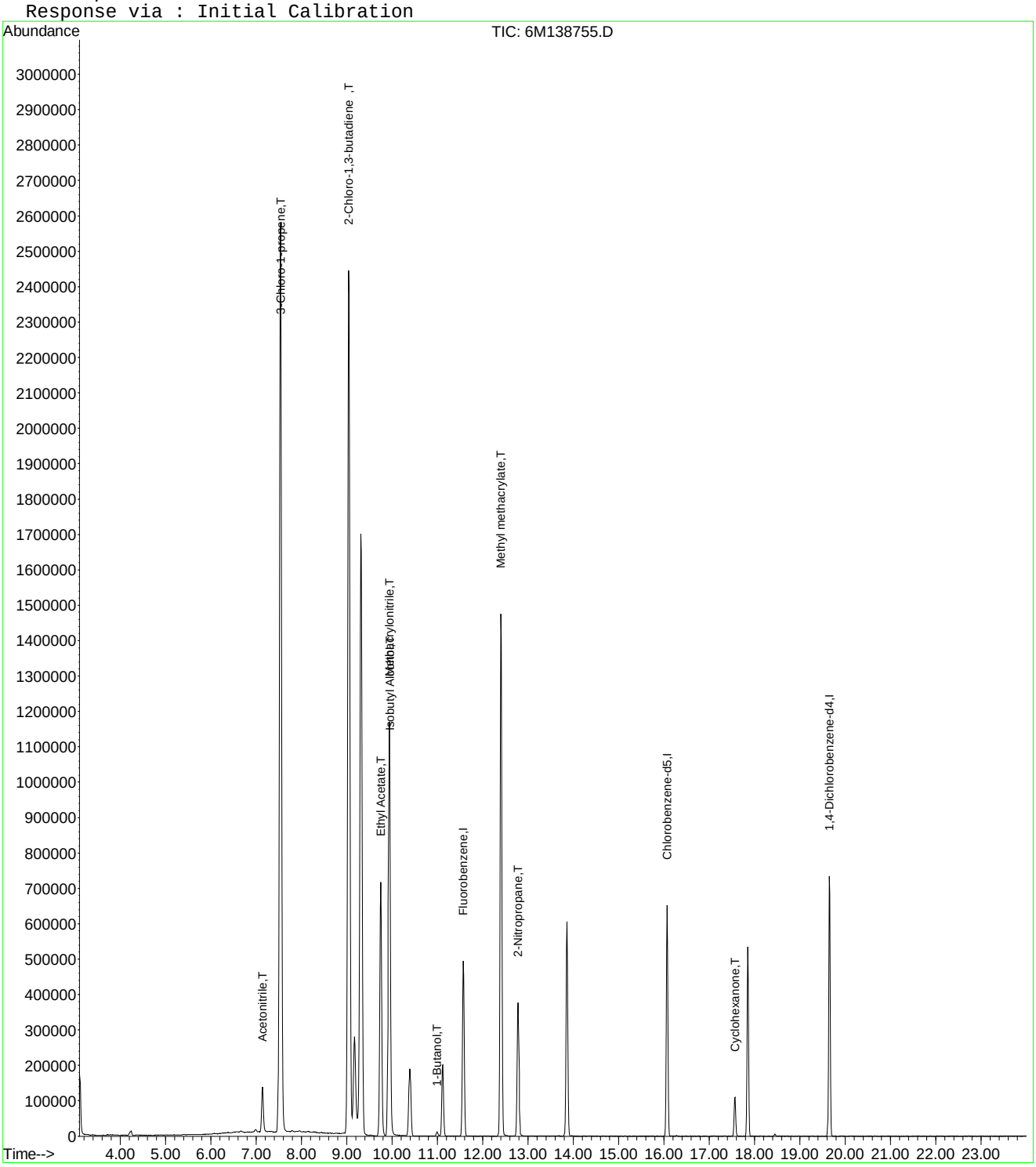
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	607157	25.00	ug/L		-0.03
11) Chlorobenzene-d5	16.07	117	473187	25.00	ug/L		-0.03
12) 1,4-Dichlorobenzene-d4	19.65	152	259046	25.00	ug/L		-0.03
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	183628	157.5150	ug/L		93
3) 3-Chloro-1-propene	7.54	41	3085939	189.6828	ug/L		93
4) 2-Chloro-1,3-butadiene	9.04	53	2709180	193.4336	ug/L		83
5) Ethyl Acetate	9.75	43	1346541	210.2391	ug/L		94
6) Methacrylonitrile	9.94	67	471538	191.4186	ug/L	#	64
7) Isobutyl Alcohol	9.95	43	72755	206.4864	ug/L	#	92
8) 1-Butanol	10.99	41	8815	58.1542	ug/L	#	64
9) Methyl methacrylate	12.40	41	1186381	186.0295	ug/L		80
10) 2-Nitropropane	12.79	43	410702	218.4428	ug/L		99
13) Cyclohexanone	17.57	55	67080	75.8254	ug/L		87

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

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138755.D Vial: 6
Acq On : 24 Apr 2016 19:08 Operator: JDS
Sample : WG566155-06 200ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:45 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration



6M138755.D A9FOOWT.M Mon Apr 25 15:45:59 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138755.D Vial: 6
Acq On : 24 Apr 2016 19:08 Operator: JDS
Sample : WG566155-06 200ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:05:00 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

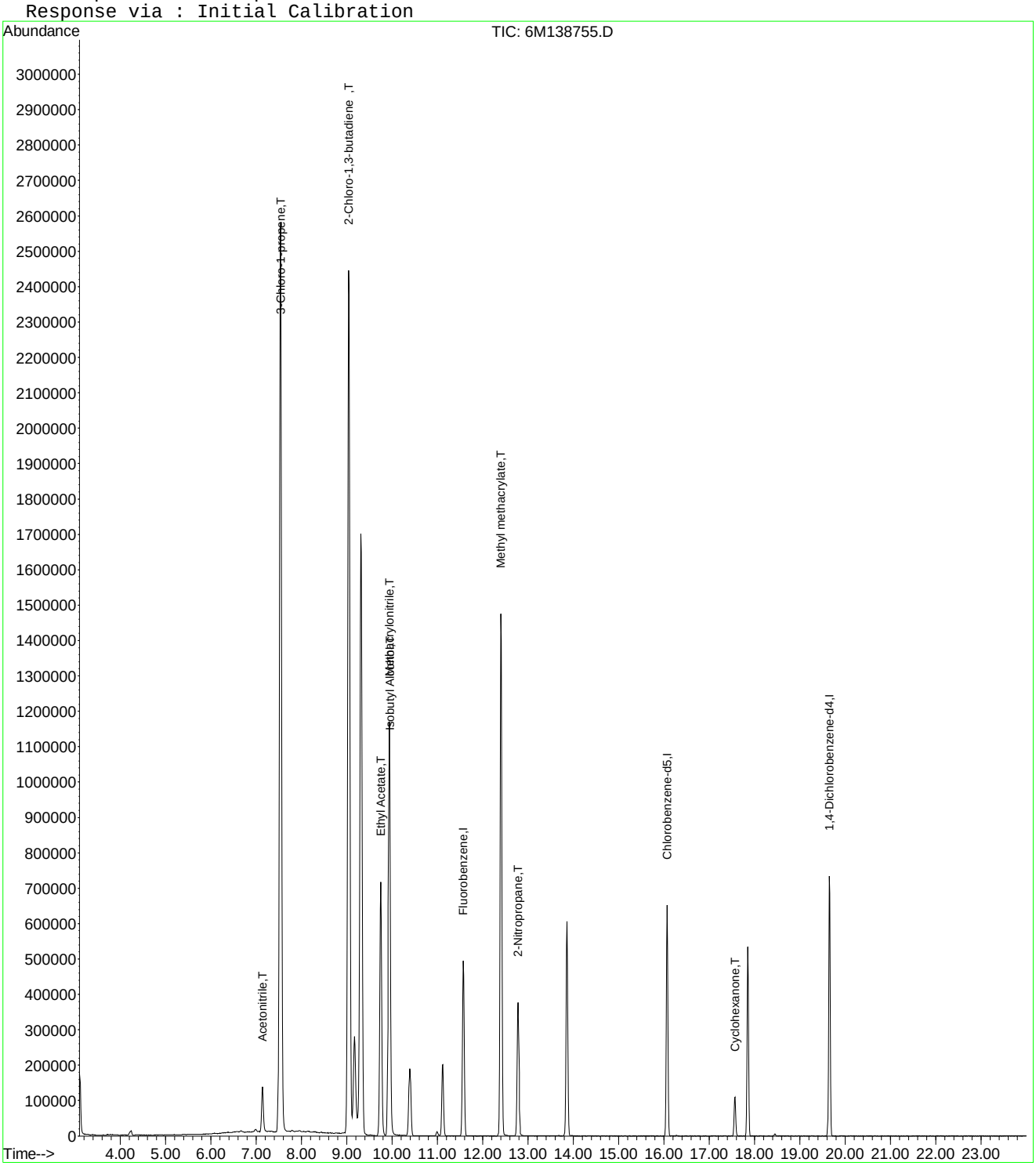
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	607157	25.00	ug/L		0.00
11) Chlorobenzene-d5	16.07	117	473187	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	19.65	152	259046	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	183628	201.9195	ug/L		93
3) 3-Chloro-1-propene	7.54	41	3085939	203.6170	ug/L		93
4) 2-Chloro-1,3-butadiene	9.04	53	2709180	208.3284	ug/L		83
5) Ethyl Acetate	9.75	43	1346541	206.8209	ug/L		94
6) Methacrylonitrile	9.94	67	471538	210.0757	ug/L	#	64
7) Isobutyl Alcohol	9.95	43	72755	350.8618	ug/L	#	92
9) Methyl methacrylate	12.40	41	1186381	216.7982	ug/L		80
10) 2-Nitropropane	12.79	43	410702	201.8008	ug/L		99
13) Cyclohexanone	17.57	55	67080	207.7320	ug/L		87

(#) = qualifier out of range (m) = manual integration
6M138755.D A9FOOWT.M Wed Apr 27 16:05:00 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138755.D Vial: 6
Acq On : 24 Apr 2016 19:08 Operator: JDS
Sample : WG566155-06 200ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:05 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138756.D Vial: 7
Acq On : 24 Apr 2016 19:40 Operator: JDS
Sample : WG566155-07 300ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 09:22:50 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

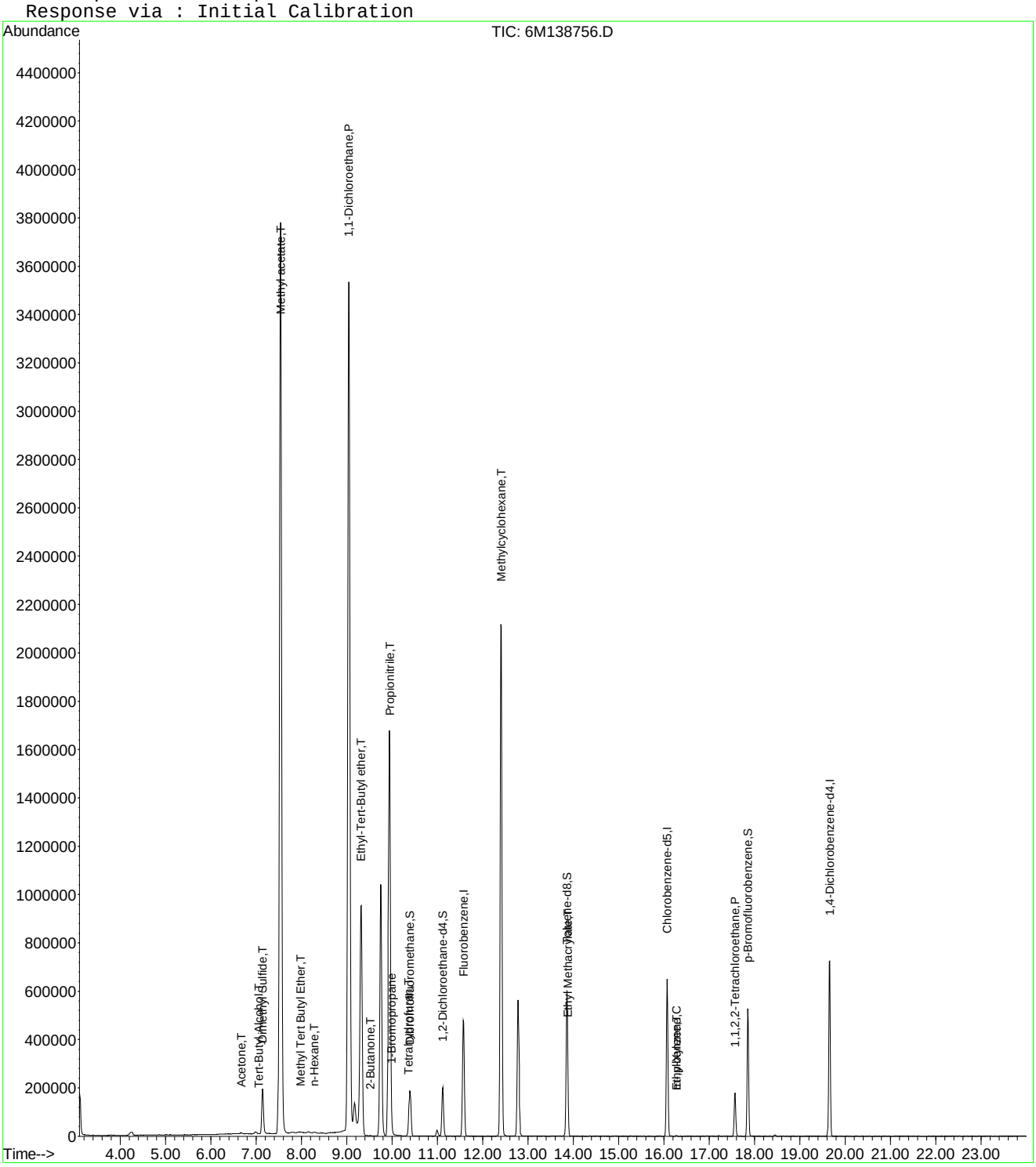
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.58	96	602356	25.00	ug/L	0.00
57) Chlorobenzene-d5	16.07	117	472685	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.66	152	264650	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.39	111	169983	27.5546	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 110.20%			
43) 1,2-Dichloroethane-d4	11.12	65	207199	27.6745	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 110.68%			
58) Toluene-d8	13.86	98	553023	25.9875	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 103.96%			
80) p-Bromofluorobenzene	17.85	95	247939	28.0615	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 112.24%			
Target Compounds						Qvalue
13) Acetone	6.67	43	13666	7.3164	ug/L #	77
15) Tert-Butyl Alcohol	7.06	59	467	0.8703	ug/L #	59
16) Dimethyl Sulfide	7.14	62	668	0.1315	ug/L #	1
18) Methyl acetate	7.54	43	3262	0.6289	ug/L #	1
22) Methyl Tert Butyl Ether	7.97	73	10591	0.6492	ug/L #	53
24) n-Hexane	8.28	57	3576	0.4138	ug/L #	56
27) 1,1-Dichloroethane	9.04	63	60743	4.7600	ug/L #	48
28) Ethyl-Tert-Butyl ether	9.31	59	155796	7.5231	ug/L #	39
29) 2-Butanone	9.52	43	4002	1.4516	ug/L	97
30) Propionitrile	9.95	54	1113	1.4052	ug/L #	1
34) 1-Bromopropane	9.99	122	1450	1.4006	ug/L #	1
36) Tetrahydrofuran	10.36	42	4902	2.7292	ug/L #	61
48) Methylcyclohexane	12.41	83	4626	0.5293	ug/L #	1
60) Ethyl Methacrylate	13.88	69	1599	0.2261	ug/L #	1
72) Ethylbenzene	16.28	106	1349	0.1427	ug/L	56
73) m-,p-Xylene	16.28	106	1349	0.1203	ug/L	81
79) 1,1,2,2-Tetrachloroethane	17.57	83	8744	1.3569	ug/L #	18

(#) = qualifier out of range (m) = manual integration
6M138756.D 8260WTR.M Mon Apr 25 09:22:51 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138756.D Vial: 7
Acq On : 24 Apr 2016 19:40 Operator: JDS
Sample : WG566155-07 300ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 9:22 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138756.D Vial: 7
Acq On : 24 Apr 2016 19:40 Operator: JDS
Sample : WG566155-07 300ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:45:59 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

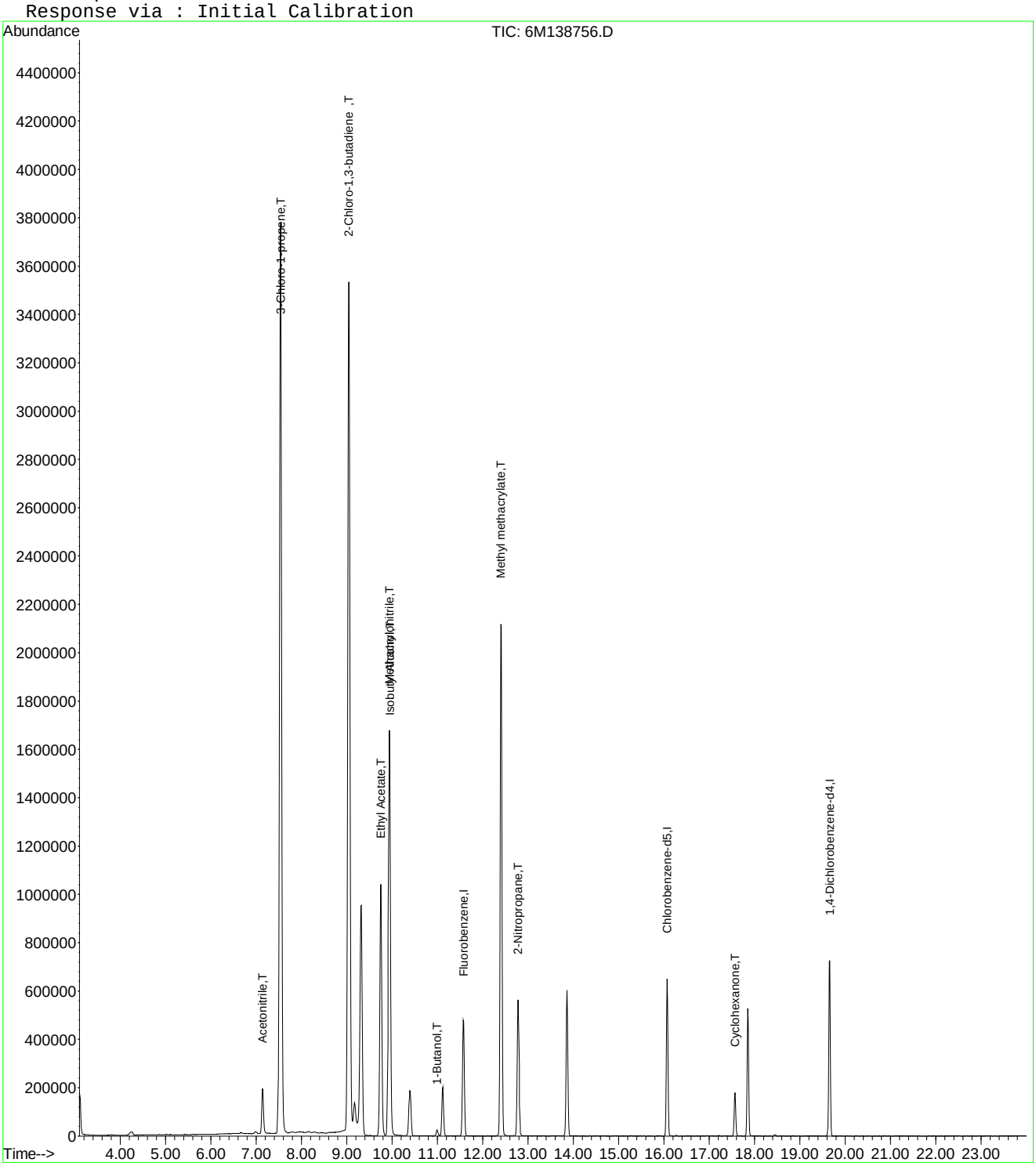
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.58	96	602356	25.00	ug/L		-0.02
11) Chlorobenzene-d5	16.07	117	472685	25.00	ug/L		-0.03
12) 1,4-Dichlorobenzene-d4	19.66	152	264650	25.00	ug/L		-0.02
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	273003	236.0468	ug/L		93
3) 3-Chloro-1-propene	7.54	41	4493022	278.3729	ug/L		93
4) 2-Chloro-1,3-butadiene	9.04	53	3994938	287.5093	ug/L		83
5) Ethyl Acetate	9.75	43	1967613	309.6573	ug/L		94
6) Methacrylonitrile	9.94	67	686612	280.9484	ug/L	#	63
7) Isobutyl Alcohol	9.95	43	121480	347.5212	ug/L	#	90
8) 1-Butanol	10.99	41	18116	120.4672	ug/L		69
9) Methyl methacrylate	12.40	41	1742413	275.3954	ug/L		81
10) 2-Nitropropane	12.78	43	613081	328.6824	ug/L		99
13) Cyclohexanone	17.57	55	106618	117.9661	ug/L		87

(#) = qualifier out of range (m) = manual integration
6M138756.D A9FOOWT.M Mon Apr 25 15:45:59 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138756.D Vial: 7
Acq On : 24 Apr 2016 19:40 Operator: JDS
Sample : WG566155-07 300ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:45 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138756.D Vial: 7
Acq On : 24 Apr 2016 19:40 Operator: JDS
Sample : WG566155-07 300ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:05:00 2016 Quant Results File: A9FOOWT.RES

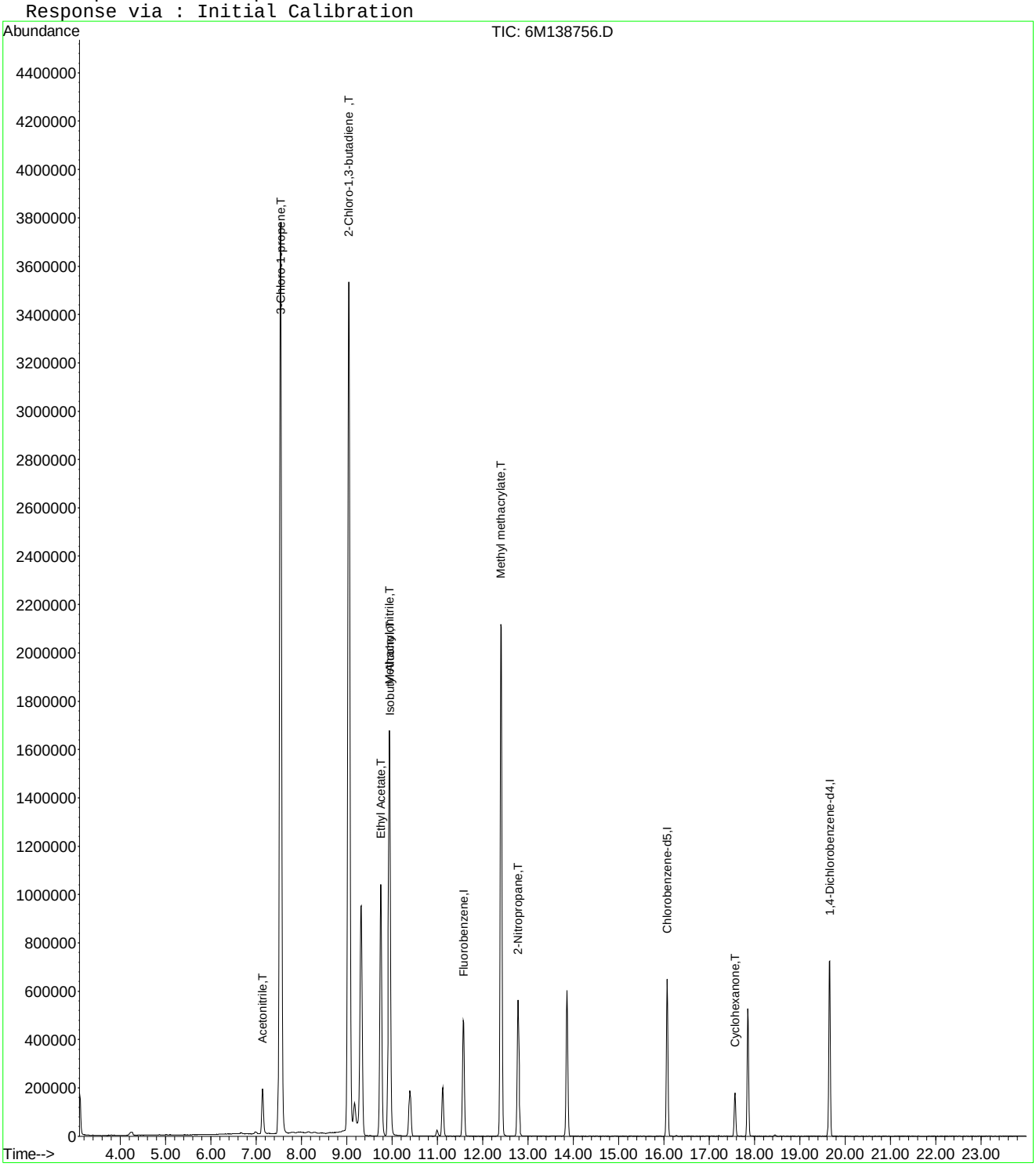
Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.58	96	602356	25.00	ug/L		0.01
11) Chlorobenzene-d5	16.07	117	472685	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	19.66	152	264650	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	273003	302.5900	ug/L		93
3) 3-Chloro-1-propene	7.54	41	4493022	298.8224	ug/L		93
4) 2-Chloro-1,3-butadiene	9.04	53	3994938	309.6481	ug/L		83
5) Ethyl Acetate	9.75	43	1967613	304.6228	ug/L		94
6) Methacrylonitrile	9.94	67	686612	308.3318	ug/L	#	63
7) Isobutyl Alcohol	9.95	43	121480	590.5081	ug/L	#	90
9) Methyl methacrylate	12.40	41	1742413	320.9449	ug/L		81
10) 2-Nitropropane	12.78	43	613081	303.6419	ug/L		99
13) Cyclohexanone	17.57	55	106618	323.1811	ug/L		87

(#) = qualifier out of range (m) = manual integration
6M138756.D A9FOOWT.M Wed Apr 27 16:05:00 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\042416\6M138756.D Vial: 7
Acq On : 24 Apr 2016 19:40 Operator: JDS
Sample : WG566155-07 300ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:05 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\042416\6M138757.D Vial: 8
Acq On : 24 Apr 2016 20:12 Operator: JDS
Sample : WG566155-08 400ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 09:22:51 2016 Quant Results File: 8260WTR.RES

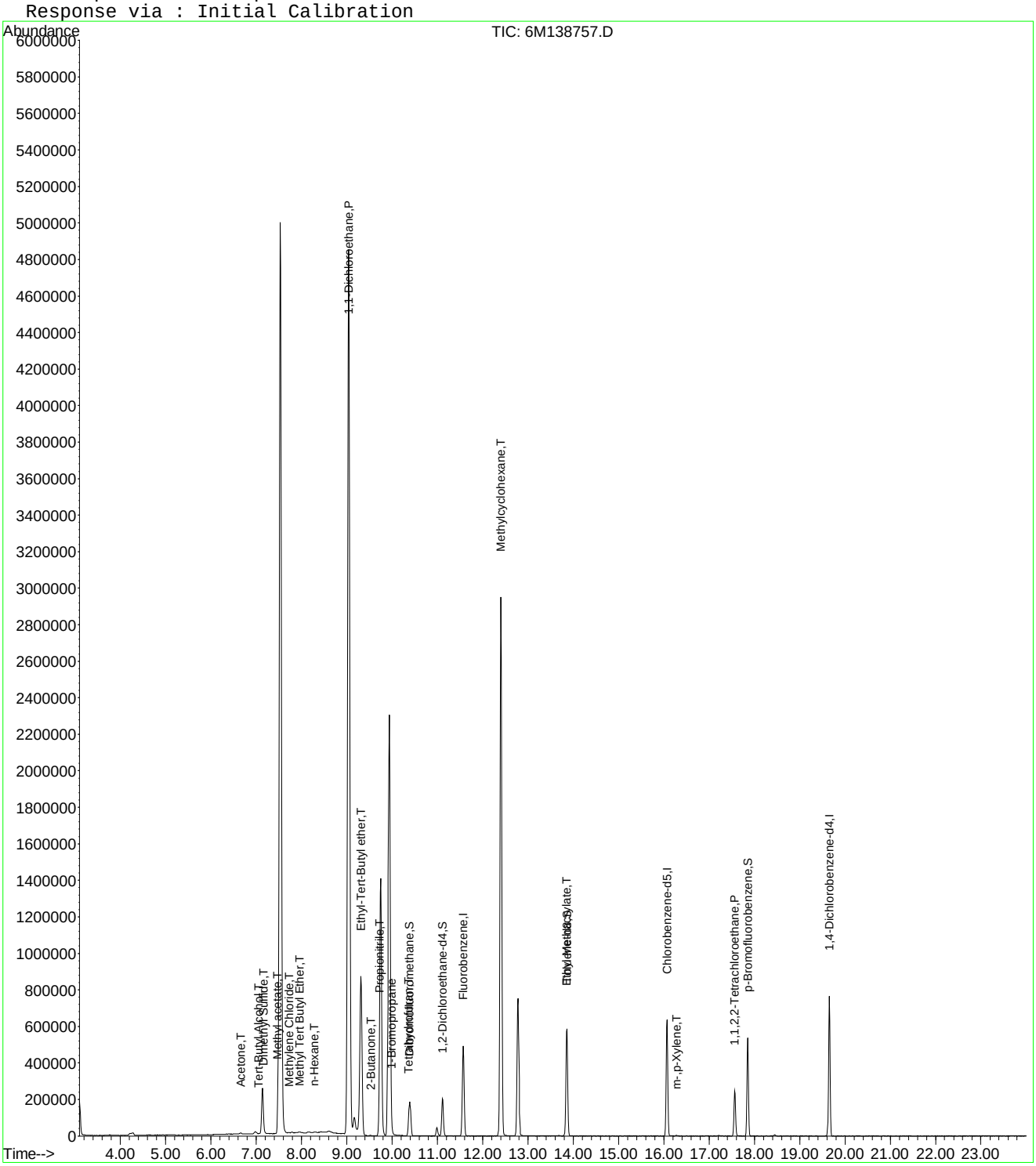
Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	602625	25.00	ug/L		0.00
57) Chlorobenzene-d5	16.08	117	475117	25.00	ug/L		0.00
78) 1,4-Dichlorobenzene-d4	19.65	152	264739	25.00	ug/L		0.00
System Monitoring Compounds							
37) Dibromofluoromethane	10.39	111	170708	27.6598	ug/L		0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 110.64%				
43) 1,2-Dichloroethane-d4	11.11	65	208757	27.8702	ug/L		0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 111.48%				
58) Toluene-d8	13.86	98	554316	25.9150	ug/L		0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 103.64%				
80) p-Bromofluorobenzene	17.85	95	246698	27.9116	ug/L		0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 111.64%				
Target Compounds							Qvalue
13) Acetone	6.66	43	14063	7.5256	ug/L		99
15) Tert-Butyl Alcohol	7.05	59	807	1.5033	ug/L	#	59
16) Dimethyl Sulfide	7.16	62	1034	0.2034	ug/L	#	1
18) Methyl acetate	7.48	43	1103	0.2125	ug/L	#	60
19) Methylene Chloride	7.73	84	1123	0.1699	ug/L	#	40
22) Methyl Tert Butyl Ether	7.97	73	18318	1.1224	ug/L	#	53
24) n-Hexane	8.28	57	5609	0.6488	ug/L		75
27) 1,1-Dichloroethane	9.04	63	82912	6.4943	ug/L	#	48
28) Ethyl-Tert-Butyl ether	9.32	59	139043	6.7111	ug/L	#	38
29) 2-Butanone	9.53	43	4129	1.4970	ug/L		86
30) Propionitrile	9.72	54	202	0.2549	ug/L	#	1
34) 1-Bromopropane	9.99	122	1978	1.9098	ug/L	#	1
36) Tetrahydrofuran	10.37	42	5444	3.0296	ug/L	#	63
48) Methylcyclohexane	12.40	83	6593	0.7540	ug/L	#	1
60) Ethyl Methacrylate	13.85	69	1165	0.1639	ug/L	#	1
73) m-,p-Xylene	16.28	106	1795	0.1593	ug/L		72
79) 1,1,2,2-Tetrachloroethane	17.57	83	12875	1.9973	ug/L	#	18

(#) = qualifier out of range (m) = manual integration
6M138757.D 8260WTR.M Mon Apr 25 09:22:51 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\042416\6M138757.D Vial: 8
Acq On : 24 Apr 2016 20:12 Operator: JDS
Sample : WG566155-08 400ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 9:22 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138757.D Vial: 8
Acq On : 24 Apr 2016 20:12 Operator: JDS
Sample : WG566155-08 400ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:46:00 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

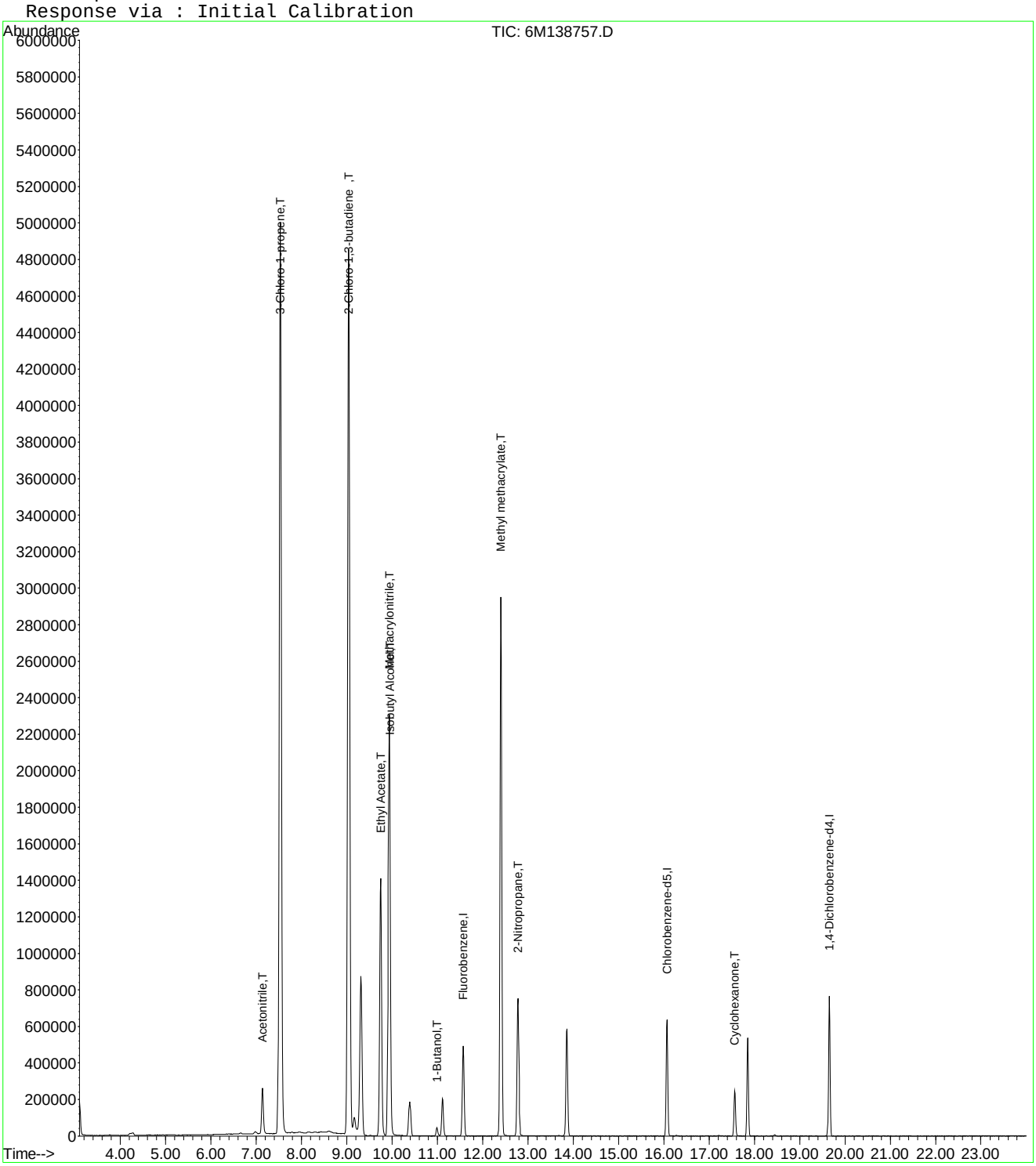
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	602625	25.00	ug/L		-0.03
11) Chlorobenzene-d5	16.08	117	475117	25.00	ug/L		-0.03
12) 1,4-Dichlorobenzene-d4	19.65	152	264739	25.00	ug/L		-0.03
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	368012	318.0524	ug/L		93
3) 3-Chloro-1-propene	7.53	41	5948883	368.4088	ug/L		94
4) 2-Chloro-1,3-butadiene	9.04	53	5359203	385.5211	ug/L		83
5) Ethyl Acetate	9.76	43	2690267	423.1975	ug/L		94
6) Methacrylonitrile	9.94	67	929265	380.0675	ug/L	#	62
7) Isobutyl Alcohol	9.95	43	192560	550.6158	ug/L	#	89
8) 1-Butanol	10.99	41	29815	198.1744	ug/L		75
9) Methyl methacrylate	12.40	41	2375132	375.2316	ug/L		81
10) 2-Nitropropane	12.79	43	849210	455.0717	ug/L		98
13) Cyclohexanone	17.57	55	149420	165.2683	ug/L		87

(#) = qualifier out of range (m) = manual integration
6M138757.D A9FOOWT.M Mon Apr 25 15:46:00 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138757.D Vial: 8
Acq On : 24 Apr 2016 20:12 Operator: JDS
Sample : WG566155-08 400ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:46 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138757.D Vial: 8
Acq On : 24 Apr 2016 20:12 Operator: JDS
Sample : WG566155-08 400ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:05:01 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

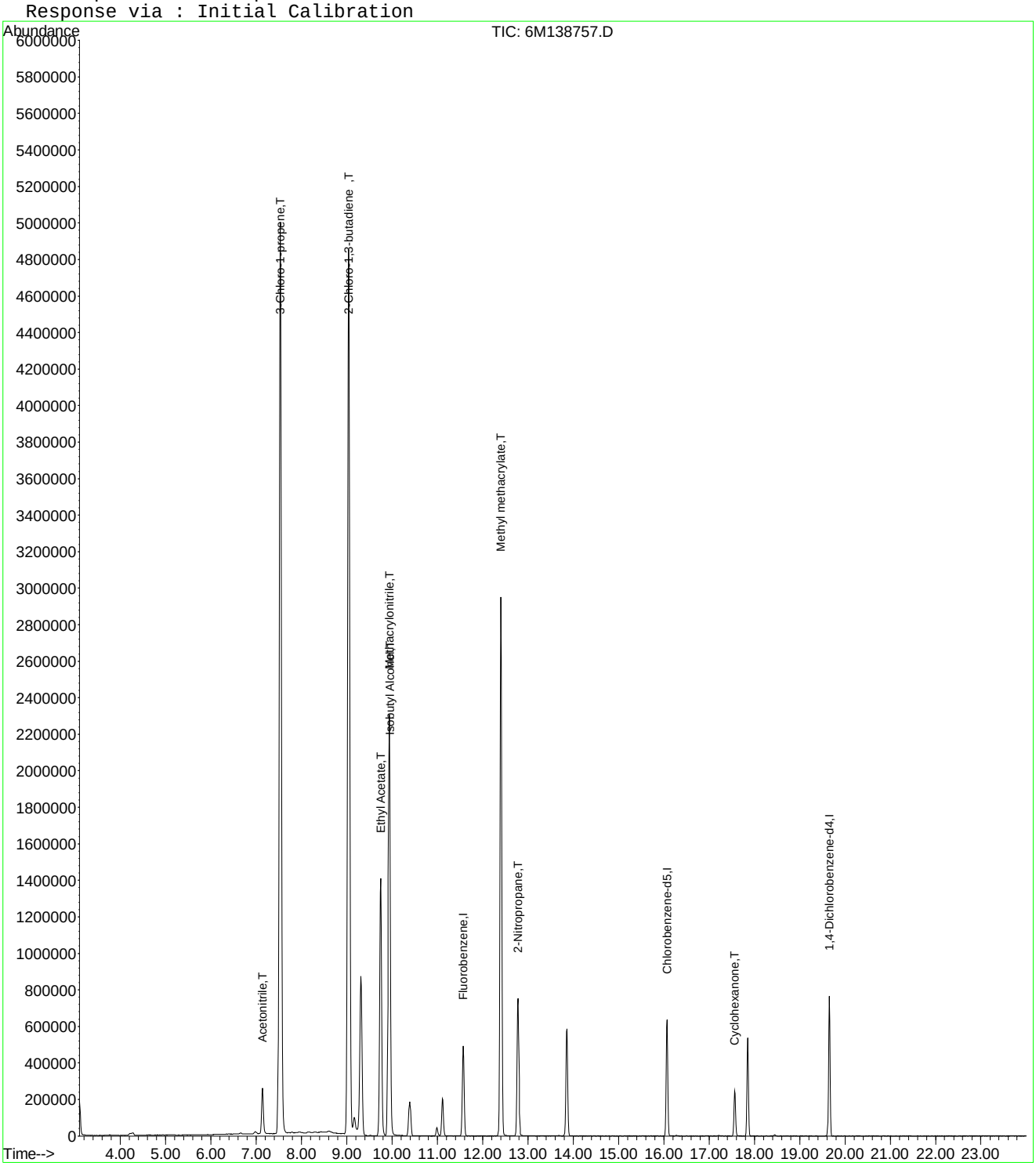
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	602625	25.00	ug/L		0.00
11) Chlorobenzene-d5	16.08	117	475117	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	19.65	152	264739	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	368012	407.7137	ug/L		93
3) 3-Chloro-1-propene	7.53	41	5948883	395.4723	ug/L		94
4) 2-Chloro-1,3-butadiene	9.04	53	5359203	415.2070	ug/L		83
5) Ethyl Acetate	9.76	43	2690267	416.3170	ug/L		94
6) Methacrylonitrile	9.94	67	929265	417.1119	ug/L	#	62
7) Isobutyl Alcohol	9.95	43	192560	935.6065	ug/L	#	89
9) Methyl methacrylate	12.40	41	2375132	437.2937	ug/L		81
10) 2-Nitropropane	12.79	43	849210	420.4022	ug/L		98
13) Cyclohexanone	17.57	55	149420	452.7705	ug/L		87

(#) = qualifier out of range (m) = manual integration
6M138757.D A9FOOWT.M Wed Apr 27 16:05:01 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138757.D Vial: 8
Acq On : 24 Apr 2016 20:12 Operator: JDS
Sample : WG566155-08 400ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:05 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138758.D Vial: 9
Acq On : 24 Apr 2016 20:44 Operator: JDS
Sample : WG566155-09 500ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 09:22:52 2016 Quant Results File: 8260WTR.RES

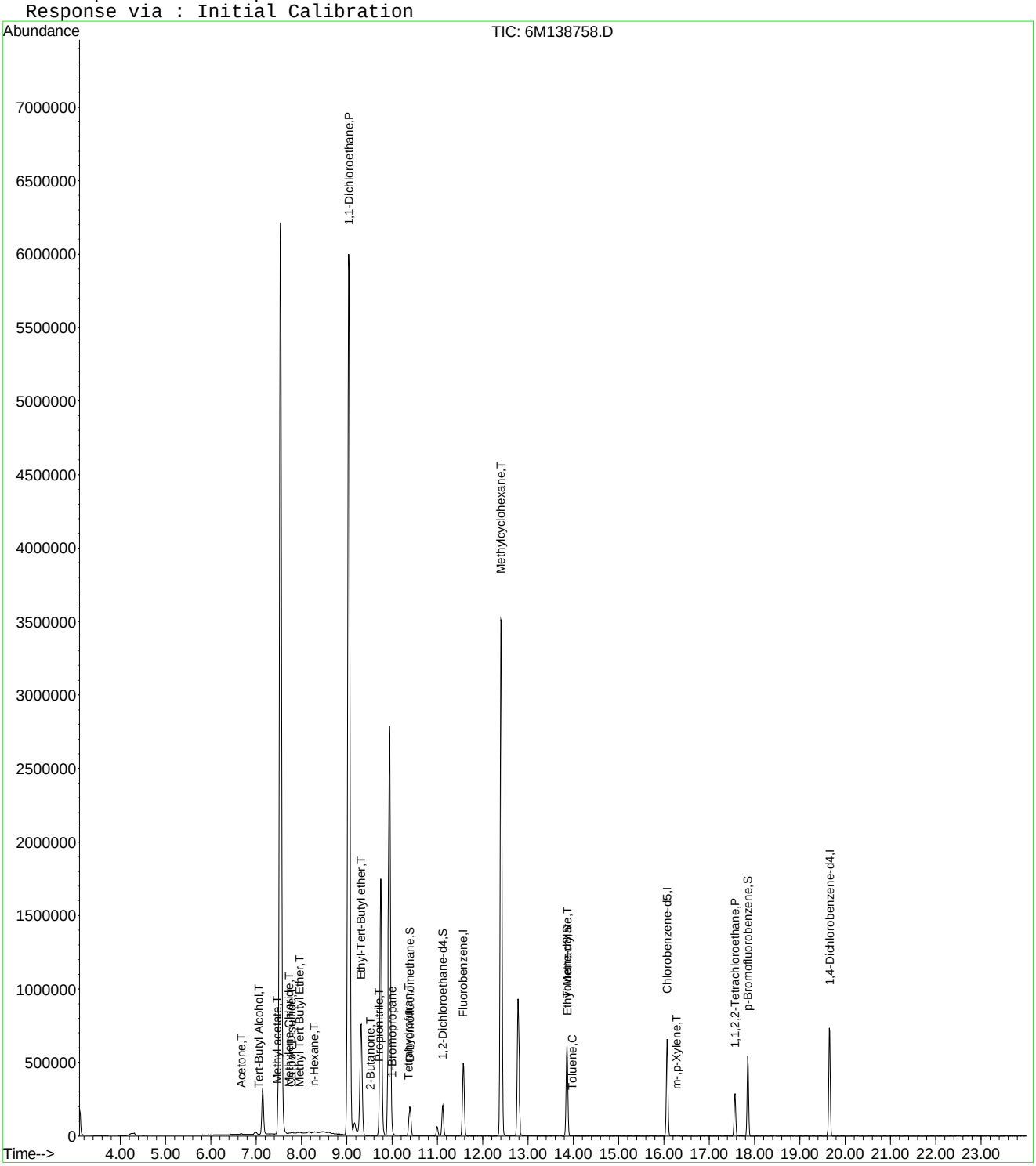
Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	11.57	96	616486	25.00 ug/L	0.00
57) Chlorobenzene-d5	16.07	117	485048	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.66	152	268890	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	10.39	111	175239	27.7556 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 111.04%		
43) 1,2-Dichloroethane-d4	11.12	65	210644	27.4898 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 109.96%		
58) Toluene-d8	13.86	98	563297	25.7957 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 103.20%		
80) p-Bromofluorobenzene	17.85	95	249406	27.7824 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 111.12%		
Target Compounds					Qvalue
13) Acetone	6.67	43	15233	7.9684 ug/L	89
15) Tert-Butyl Alcohol	7.06	59	370	0.6737 ug/L #	59
18) Methyl acetate	7.46	43	1079	0.2032 ug/L #	34
19) Methylene Chloride	7.73	84	1471	0.2176 ug/L	66
20) Carbon Disulfide	7.78	76	2765	0.1407 ug/L #	74
22) Methyl Tert Butyl Ether	7.96	73	25284	1.5144 ug/L #	53
24) n-Hexane	8.28	57	5266	0.5954 ug/L	97
27) 1,1-Dichloroethane	9.05	63	105121	8.0488 ug/L #	48
28) Ethyl-Tert-Butyl ether	9.31	59	124099	5.8551 ug/L #	39
29) 2-Butanone	9.52	43	4475	1.5860 ug/L #	72
30) Propionitrile	9.71	54	473	0.5835 ug/L #	1
34) 1-Bromopropane	10.00	122	2117	1.9980 ug/L #	1
36) Tetrahydrofuran	10.36	42	5652	3.0747 ug/L #	54
48) Methylcyclohexane	12.40	83	8011	0.8956 ug/L #	1
59) Toluene	13.98	91	3373	0.1249 ug/L	84
60) Ethyl Methacrylate	13.87	69	1585	0.2184 ug/L #	1
73) m-,p-Xylene	16.28	106	2521	0.2191 ug/L	79
79) 1,1,2,2-Tetrachloroethane	17.57	83	14350	2.1917 ug/L #	18

(#) = qualifier out of range (m) = manual integration
6M138758.D 8260WTR.M Mon Apr 25 09:22:52 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\042416\6M138758.D Vial: 9
Acq On : 24 Apr 2016 20:44 Operator: JDS
Sample : WG566155-09 500ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 9:22 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138758.D Vial: 9
Acq On : 24 Apr 2016 20:44 Operator: JDS
Sample : WG566155-09 500ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:46:00 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

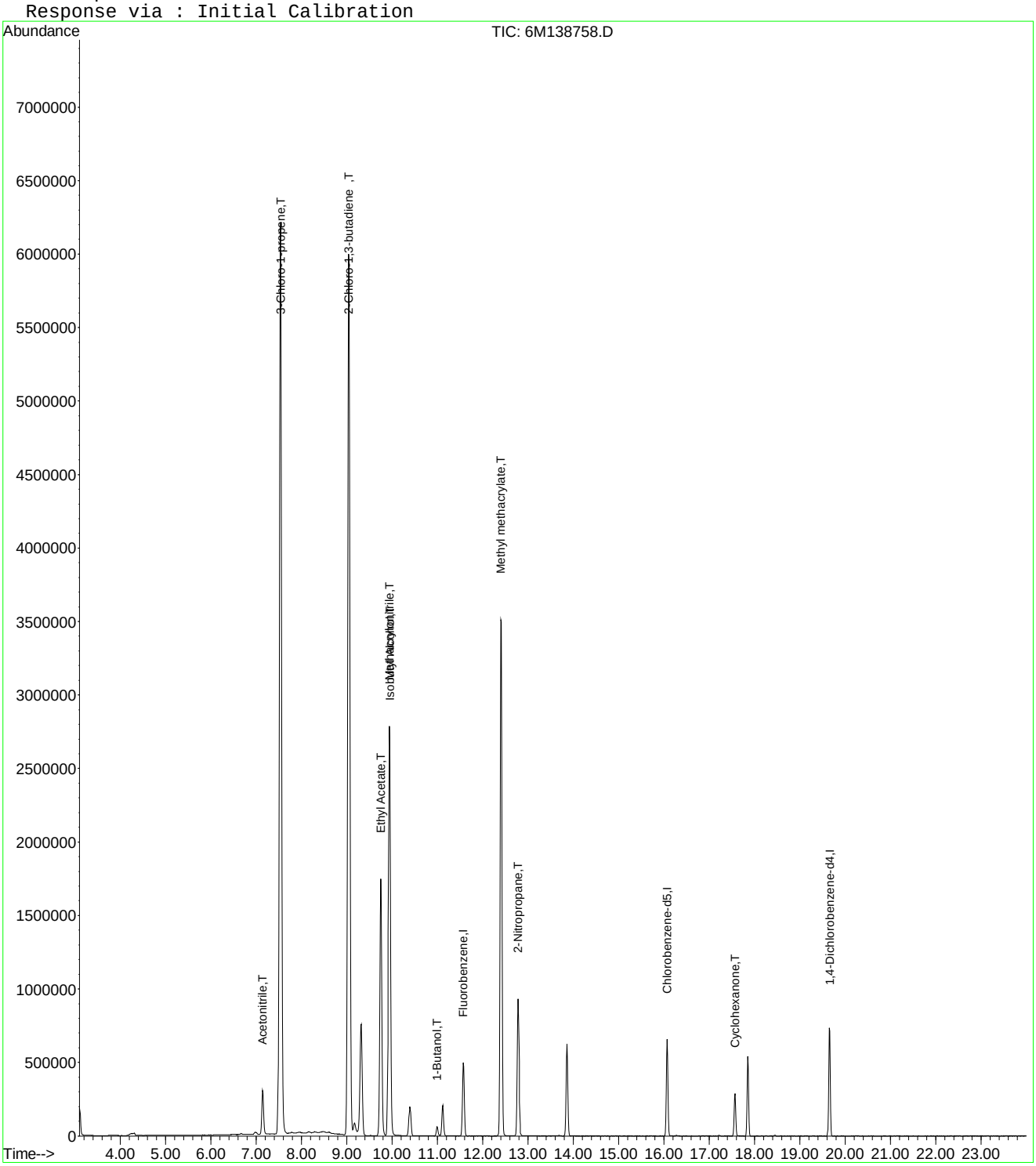
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	616486	25.00	ug/L		-0.03
11) Chlorobenzene-d5	16.07	117	485048	25.00	ug/L		-0.03
12) 1,4-Dichlorobenzene-d4	19.66	152	268890	25.00	ug/L		-0.02
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	449583	379.8136	ug/L		92
3) 3-Chloro-1-propene	7.54	41	7430577	449.8223	ug/L		94
4) 2-Chloro-1,3-butadiene	9.04	53	6752476	474.8265	ug/L		84
5) Ethyl Acetate	9.75	43	3307403	508.5794	ug/L		94
6) Methacrylonitrile	9.94	67	1145073	457.8027	ug/L	#	63
7) Isobutyl Alcohol	9.95	43	251034	701.6799	ug/L	#	90
8) 1-Butanol	10.99	41	42236	274.4224	ug/L		75
9) Methyl methacrylate	12.40	41	2914815	450.1389	ug/L		81
10) 2-Nitropropane	12.78	43	1036720	543.0629	ug/L		99
13) Cyclohexanone	17.57	55	176545	192.2558	ug/L		87

(#) = qualifier out of range (m) = manual integration
6M138758.D A9FOOWT.M Mon Apr 25 15:46:01 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138758.D Vial: 9
Acq On : 24 Apr 2016 20:44 Operator: JDS
Sample : WG566155-09 500ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:46 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138758.D Vial: 9
Acq On : 24 Apr 2016 20:44 Operator: JDS
Sample : WG566155-09 500ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:05:01 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

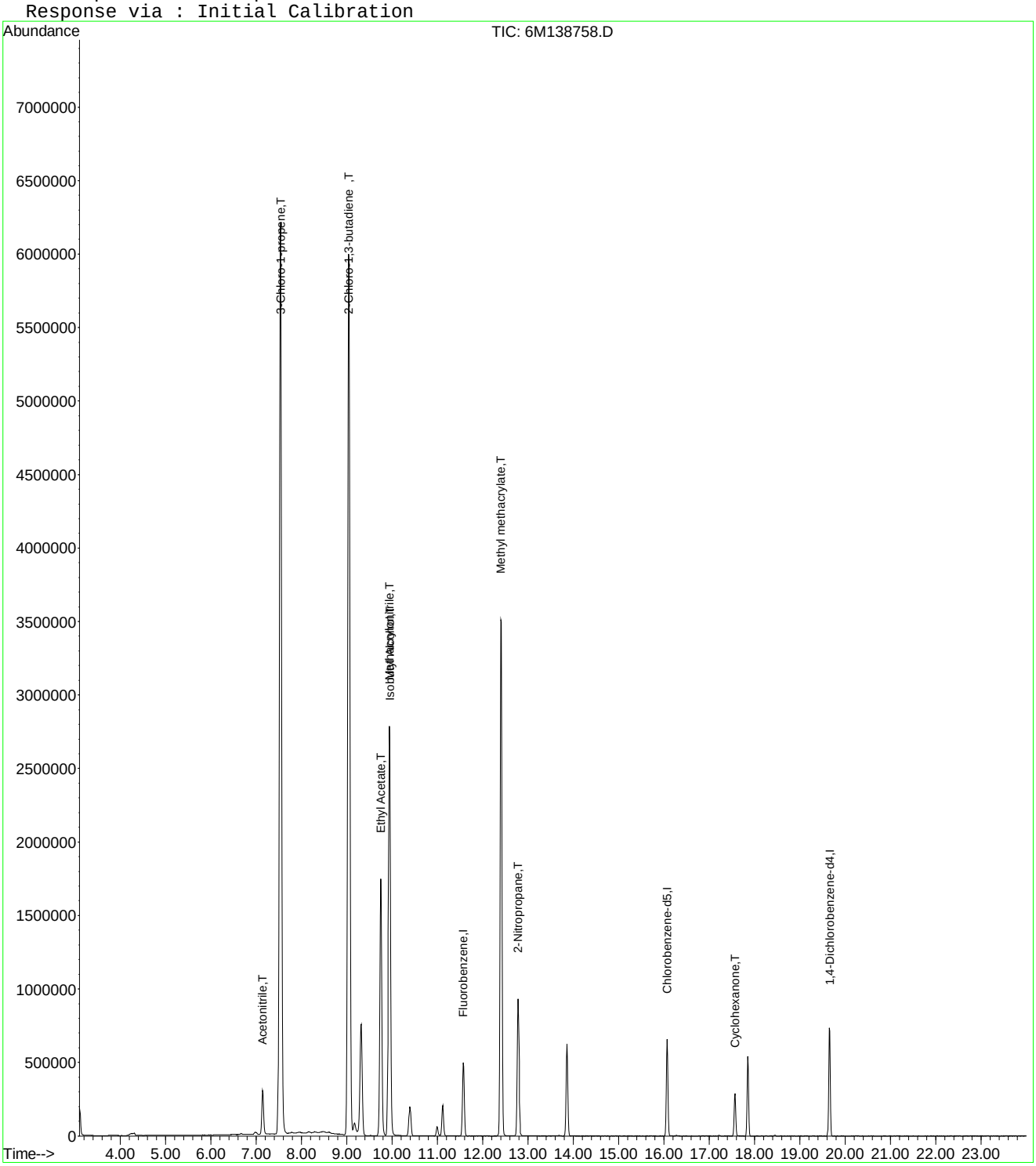
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	616486	25.00	ug/L		0.00
11) Chlorobenzene-d5	16.07	117	485048	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	19.66	152	268890	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	449583	486.8858	ug/L		92
3) 3-Chloro-1-propene	7.54	41	7430577	482.8665	ug/L		94
4) 2-Chloro-1,3-butadiene	9.04	53	6752476	511.3891	ug/L		84
5) Ethyl Acetate	9.75	43	3307403	500.3107	ug/L		94
6) Methacrylonitrile	9.94	67	1145073	502.4237	ug/L	#	63
7) Isobutyl Alcohol	9.95	43	251034	1192.2947	ug/L	#	90
9) Methyl methacrylate	12.40	41	2914815	524.5904	ug/L		81
10) 2-Nitropropane	12.78	43	1036720	501.6898	ug/L		99
13) Cyclohexanone	17.57	55	176545	526.7057	ug/L		87

(#) = qualifier out of range (m) = manual integration
6M138758.D A9FOOWT.M Wed Apr 27 16:05:01 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138758.D Vial: 9
Acq On : 24 Apr 2016 20:44 Operator: JDS
Sample : WG566155-09 500ug/L STD 826-A9 Inst : HPMS6
Misc : 1,1 STD75791 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:05 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138761.D Vial: 12
Acq On : 24 Apr 2016 22:21 Operator: JDS
Sample : WG566 Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 09:22:54 2016 Quant Results File: 8260WTR.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

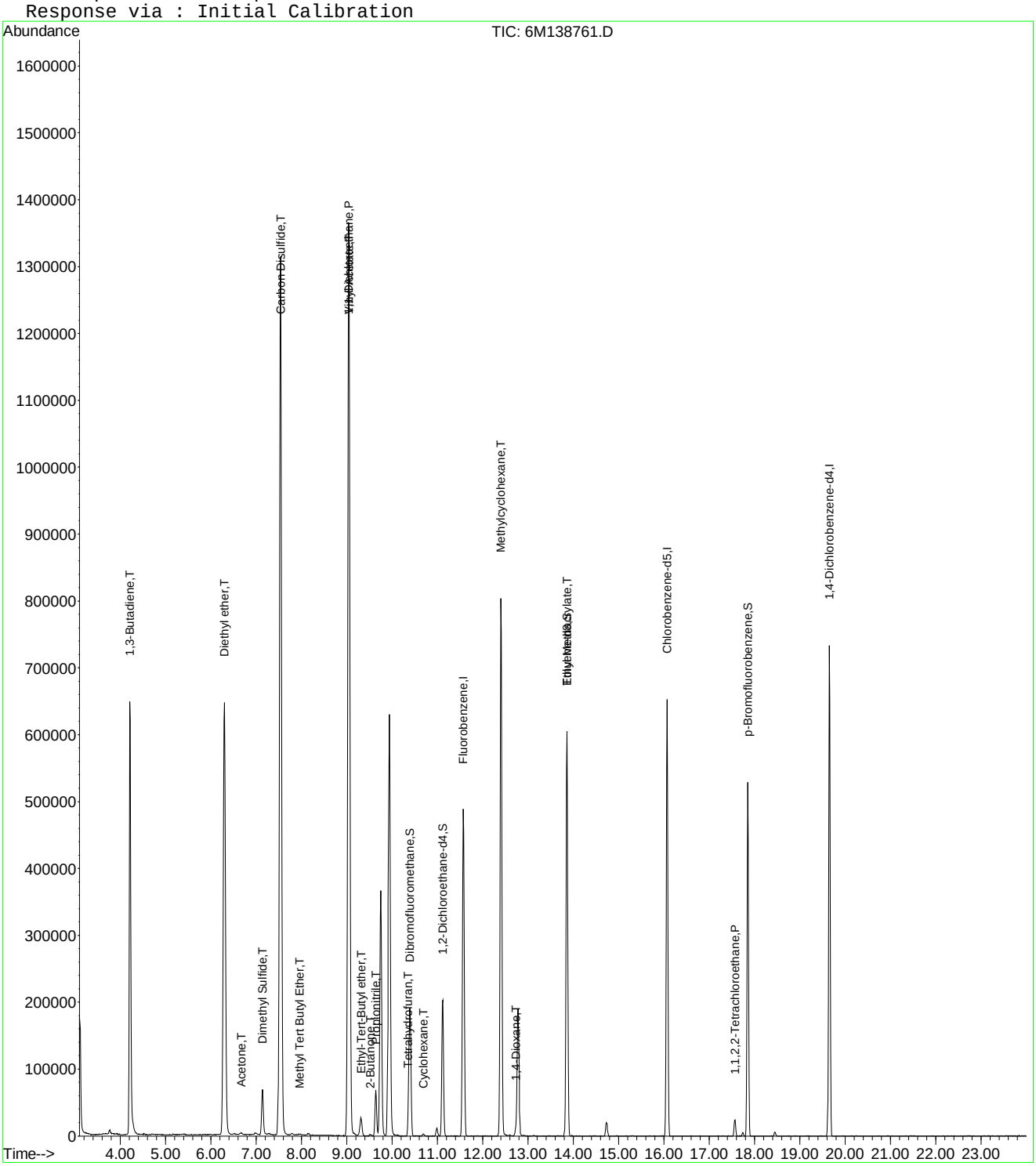
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	11.57	96	602884	25.00 ug/L	0.00
57) Chlorobenzene-d5	16.07	117	471639	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	19.65	152	256885	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	10.40	111	171708	27.8099 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 111.24%		
43) 1,2-Dichloroethane-d4	11.12	65	210067	28.0330 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 112.12%		
58) Toluene-d8	13.86	98	553825	26.0829 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 104.32%		
80) p-Bromofluorobenzene	17.85	95	243088	28.3441 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 113.36%		
Target Compounds					Qvalue
5) 1,3-Butadiene	4.21	54	367749	92.2302 ug/L	88
9) Diethyl ether	6.30	59	700386	132.3612 ug/L	92
13) Acetone	6.67	43	6570	3.5143 ug/L	81
16) Dimethyl Sulfide	7.14	62	2726	0.5361 ug/L #	1
20) Carbon Disulfide	7.54	76	432674	22.5096 ug/L #	36
22) Methyl Tert Butyl Ether	7.97	73	2916	0.1786 ug/L #	53
26) Vinyl Acetate	9.05	43	5230	0.5414 ug/L #	1
27) 1,1-Dichloroethane	9.04	63	22472	1.7594 ug/L #	42
28) Ethyl-Tert-Butyl ether	9.32	59	4063	0.1960 ug/L #	35
29) 2-Butanone	9.52	43	6076	2.2019 ug/L #	66
30) Propionitrile	9.64	54	91341	115.2239 ug/L	96
36) Tetrahydrofuran	10.36	42	4030	2.2418 ug/L #	52
39) Cyclohexane	10.69	56	2387	0.2138 ug/L	79
48) Methylcyclohexane	12.40	83	1353	0.1547 ug/L #	1
50) 1,4-Dioxane	12.73	88	9231	177.0935 ug/L	71
60) Ethyl Methacrylate	13.86	69	1222	0.1732 ug/L #	1
79) 1,1,2,2-Tetrachloroethane	17.57	83	1146	0.1832 ug/L #	18

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

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138761.D Vial: 12
Acq On : 24 Apr 2016 22:21 Operator: JDS
Sample : WG566 Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 25 9:22 2016 Quant Results File: 8260WTR.RES

Method : C:\MSDCHEM\1\METHODS\8260WTR.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 04-11-16 - HPMS6
Last Update : Tue Apr 12 15:28:54 2016
Response via : Initial Calibration



6M138761.D 8260WTR.M Mon Apr 25 09:22:54 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138761.D Vial: 12
Acq On : 24 Apr 2016 22:21 Operator: JDS
Sample : WG566 Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:46:01 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration
DataAcq Meth : 8260WTR

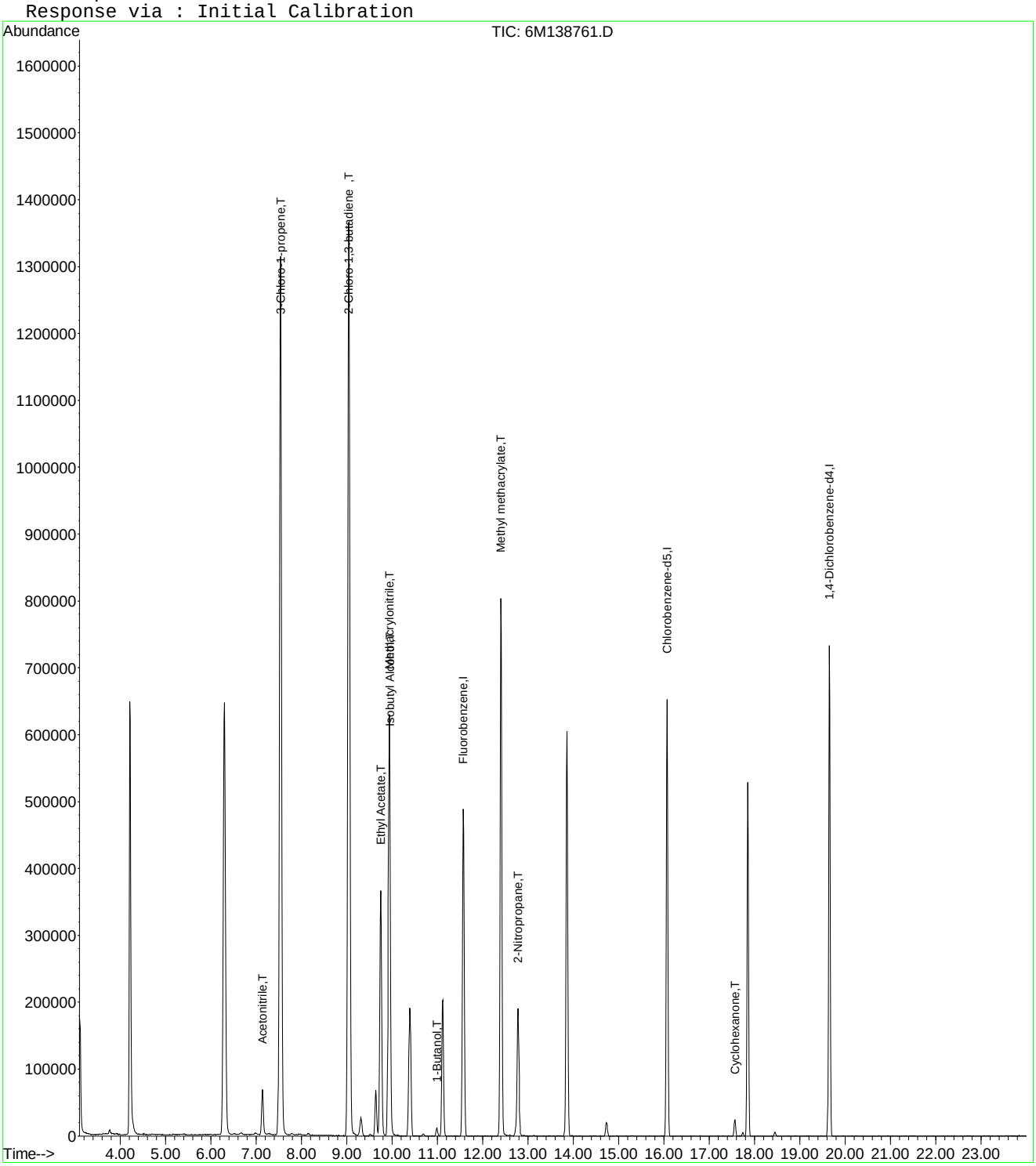
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	602884	25.00	ug/L		-0.03
11) Chlorobenzene-d5	16.07	117	471639	25.00	ug/L		-0.03
12) 1,4-Dichlorobenzene-d4	19.65	152	256885	25.00	ug/L		-0.03
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	96564	83.4191	ug/L		96
3) 3-Chloro-1-propene	7.54	41	1552115	96.0797	ug/L		93
4) 2-Chloro-1,3-butadiene	9.04	53	1512761	108.7756	ug/L		83
5) Ethyl Acetate	9.75	43	691566	108.7414	ug/L		93
6) Methacrylonitrile	9.94	67	252030	103.0355	ug/L	#	63
7) Isobutyl Alcohol	9.95	43	51165	146.2409	ug/L	#	93
8) 1-Butanol	10.99	41	7584	50.3877	ug/L		72
9) Methyl methacrylate	12.40	41	635574	100.3670	ug/L		81
10) 2-Nitropropane	12.79	43	211020	113.0321	ug/L		98
13) Cyclohexanone	17.57	55	15491	17.6579	ug/L		85

(#) = qualifier out of range (m) = manual integration
6M138761.D A9FOOWT.M Mon Apr 25 15:46:02 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138761.D Vial: 12
Acq On : 24 Apr 2016 22:21 Operator: JDS
Sample : WG566 Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 25 15:46 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042216 - HPMS6
Last Update : Wed Oct 07 14:05:31 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138761.D Vial: 12
Acq On : 24 Apr 2016 22:21 Operator: JDS
Sample : WG566 Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:05:02 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration
DataAcq Meth : 8260WTR

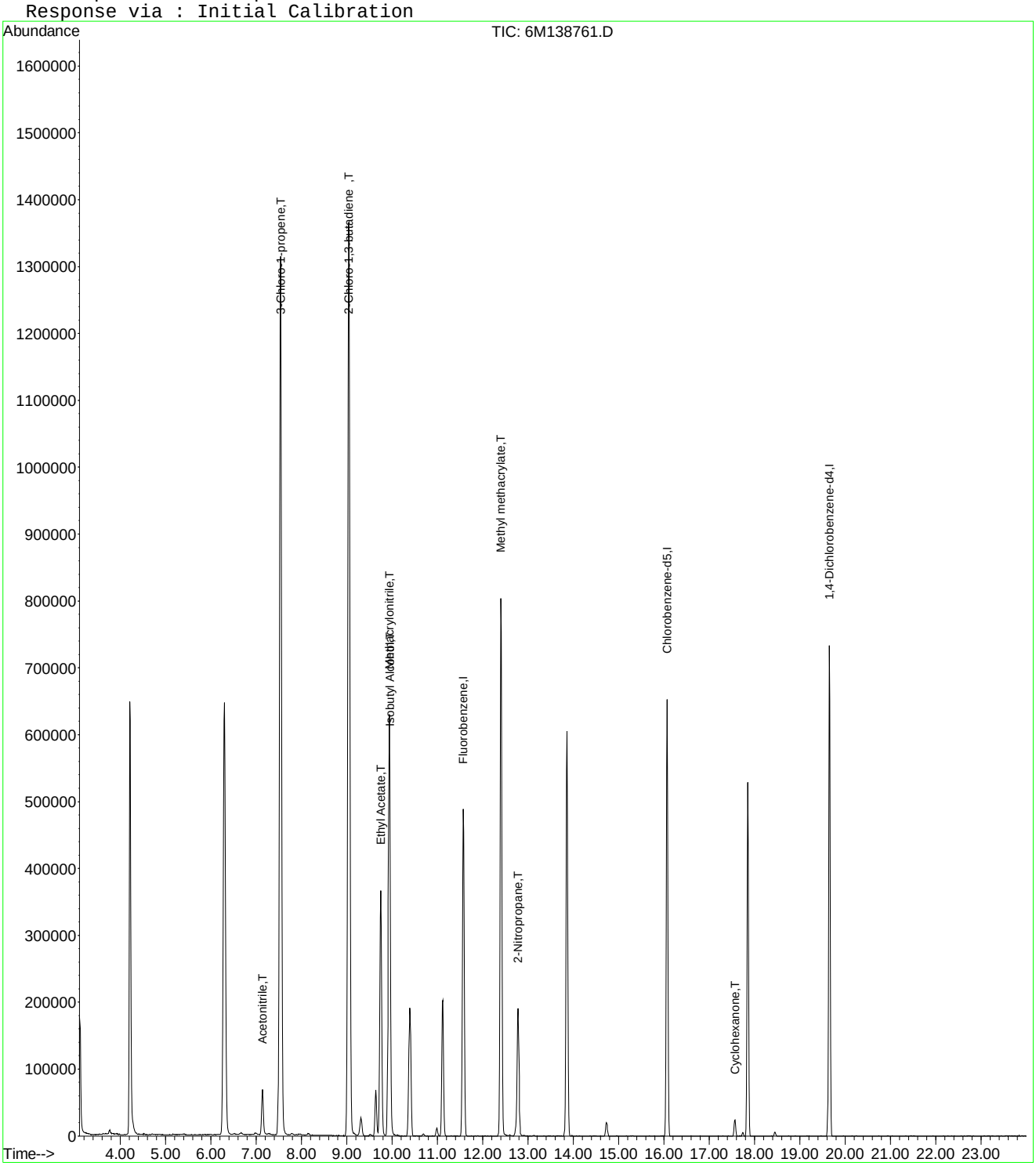
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	11.57	96	602884	25.00	ug/L		0.00
11) Chlorobenzene-d5	16.07	117	471639	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	19.65	152	256885	25.00	ug/L		0.00
Target Compounds							Qvalue
2) Acetonitrile	7.14	41	96564	106.9355	ug/L		96
3) 3-Chloro-1-propene	7.54	41	1552115	103.1378	ug/L		93
4) 2-Chloro-1,3-butadiene	9.04	53	1512761	117.1516	ug/L		83
5) Ethyl Acetate	9.75	43	691566	106.9734	ug/L		93
6) Methacrylonitrile	9.94	67	252030	113.0781	ug/L	#	63
7) Isobutyl Alcohol	9.95	43	51165	248.4926	ug/L	#	93
9) Methyl methacrylate	12.40	41	635574	116.9674	ug/L		81
10) 2-Nitropropane	12.79	43	211020	104.4208	ug/L		98
13) Cyclohexanone	17.57	55	15491	48.3758	ug/L		85

(#) = qualifier out of range (m) = manual integration
6M138761.D A9FOOWT.M Wed Apr 27 16:05:02 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\042416\6M138761.D Vial: 12
Acq On : 24 Apr 2016 22:21 Operator: JDS
Sample : WG566 Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Apr 27 16:05 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\042416\6M138761.D Vial: 12
Acq On : 24 Apr 2016 22:21 Operator: JDS
Sample : WG566 Inst : HPMS6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Wed Apr 27 16:03:33 2016
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	101	0.00
2	T	Acetonitrile	100.0000	106.9355	-6.9	106	0.00
3	T	3-Chloro-1-propene	100.0000	103.1378	-3.1	96	0.00
4	T	2-Chloro-1,3-butadiene	100.0000	117.1516	-17.2	107	0.00
5	T	Ethyl Acetate	100.0000	106.9734	-7.0	103	0.00
6	T	Methacrylonitrile	100.0000	113.0781	-13.1	106	0.00
7	T	Isobutyl Alcohol	200.0000	248.4926	-24.2	151	0.00
8	T	1-Butanol	-1.0000	0.0000	0.0	0	0.00
9	T	Methyl methacrylate	100.0000	116.9674	-17.0	108	0.00
10	T	2-Nitropropane	100.0000	104.4208	-4.4	107	0.00
11	I	Chlorobenzene-d5	25.0000	25.0000	0.0	101	0.00
12	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
13	T	Cyclohexanone	100.0000	48.3758	51.6	56	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M138761.D A9FOOWT.M Wed Apr 27 16:05:40 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111216\6M143417.D Vial: 3
Acq On : 12 Nov 2016 16:46 Operator: ADC
Sample : WG591426-02 0.3ug/L STD 8260 Inst : Hpms6
Misc : 1,1 STD78964 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:11:35 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.74	96	676258	25.00	ug/L	0.00
57) Chlorobenzene-d5	15.22	117	520474	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.77	152	278959	25.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	0.00	111	0	0.0000	ug/L	
Spiked Amount 25.000	Range 86 - 118		Recovery =	0.00%#		
43) 1,2-Dichloroethane-d4	0.00	65	0	0.0000	ug/L	
Spiked Amount 25.000	Range 80 - 120		Recovery =	0.00%#		
58) Toluene-d8	13.00	98	1458	0.0606	ug/L	-0.01
Spiked Amount 25.000	Range 88 - 110		Recovery =	0.24%#		
80) p-Bromofluorobenzene	16.99	95	190	0.0218	ug/L	-0.01
Spiked Amount 25.000	Range 86 - 115		Recovery =	0.08%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.94	85	3653	0.3110	ug/L #	64
3) Chloromethane	3.34	50	3356	0.3810	ug/L	79
4) Vinyl Chloride	3.55	62	2323	0.3159	ug/L	82
5) 1,3-Butadiene	3.59	54	2345	0.2520	ug/L #	61
6) Bromomethane	4.36	94	1137	0.3315	ug/L	96
7) Chloroethane	4.51	64	1103	0.2552	ug/L #	43
8) Trichlorofluoromethane	4.98	101	3576	0.2999	ug/L #	81
10) Isoprene	5.53	67	2727	0.2626	ug/L	85
12) 1,1,2-Trichloro-1,2,2-Trif	5.76	101	1282	0.1770	ug/L #	75
13) Acetone	5.88	43	1384	0.7939	ug/L #	48
14) 1,1-Dichloroethene	6.07	61	3421	0.3096	ug/L	86
16) Dimethyl Sulfide	6.36	62	1773	0.2518	ug/L	75
18) Methyl acetate	6.66	43	1262	0.2601	ug/L #	66
19) Methylene Chloride	6.91	84	2802	0.3817	ug/L	87
20) Carbon Disulfide	6.93	76	7656	0.3506	ug/L #	82
22) Methyl Tert Butyl Ether	7.16	73	4312	0.2754	ug/L #	49
23) trans-1,2-Dichloroethene	7.40	96	2008	0.2829	ug/L	91
24) n-Hexane	7.48	57	1916	0.2373	ug/L	94
26) Vinyl Acetate	8.06	43	1679	0.1398	ug/L #	78
27) 1,1-Dichloroethane	8.06	63	4108	0.3182	ug/L #	73
29) 2-Butanone	8.70	43	658	0.2524	ug/L #	57
31) 2,2-Dichloropropane	8.92	77	2278	0.2406	ug/L	89
32) cis-1,2-Dichloroethene	9.00	96	1892	0.2465	ug/L	94
33) Chloroform	9.24	83	4552	0.3409	ug/L	91
35) Bromochloromethane	9.49	130	1417	0.2748	ug/L	73
36) Tetrahydrofuran	9.52	42	5154	2.7396	ug/L	84
38) 1,1,1-Trichloroethane	9.82	97	3273	0.2896	ug/L	77
39) Cyclohexane	9.85	56	2481	0.2244	ug/L	93
40) 1,1-Dichloropropene	10.04	75	2451	0.2700	ug/L #	85
42) Carbon Tetrachloride	10.21	117	3078	0.2792	ug/L #	84
45) 1,2-Dichloroethane	10.42	62	2726	0.2930	ug/L #	64
46) Benzene	10.45	78	8893	0.3298	ug/L #	76
47) Trichloroethene	11.32	130	2549	0.3013	ug/L #	68
48) Methylcyclohexane	11.39	83	2267	0.2425	ug/L	88
49) 1,2-Dichloropropane	11.56	63	2415	0.3434	ug/L	77
51) Bromodichloromethane	11.90	83	2712	0.2820	ug/L	99
52) Dibromomethane	11.99	93	1202	0.2936	ug/L	86
53) 2-Chloroethyl Vinyl Ether	12.28	63	708	0.2125	ug/L #	41
55) cis-1,3-Dichloropropene	12.66	75	2921	0.2980	ug/L #	61
56) Dimethyl Disulfide	12.93	79	705	2.4224	ug/L #	47

(#) = qualifier out of range (m) = manual integration
6M143417.D 8260WT.M Tue Nov 15 10:11:38 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111216\6M143417.D Vial: 3
Acq On : 12 Nov 2016 16:46 Operator: ADC
Sample : WG591426-02 0.3ug/L STD 8260 Inst : Hpms6
Misc : 1,1 STD78964 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:11:35 2016 Quant Results File: 8260WT.RES

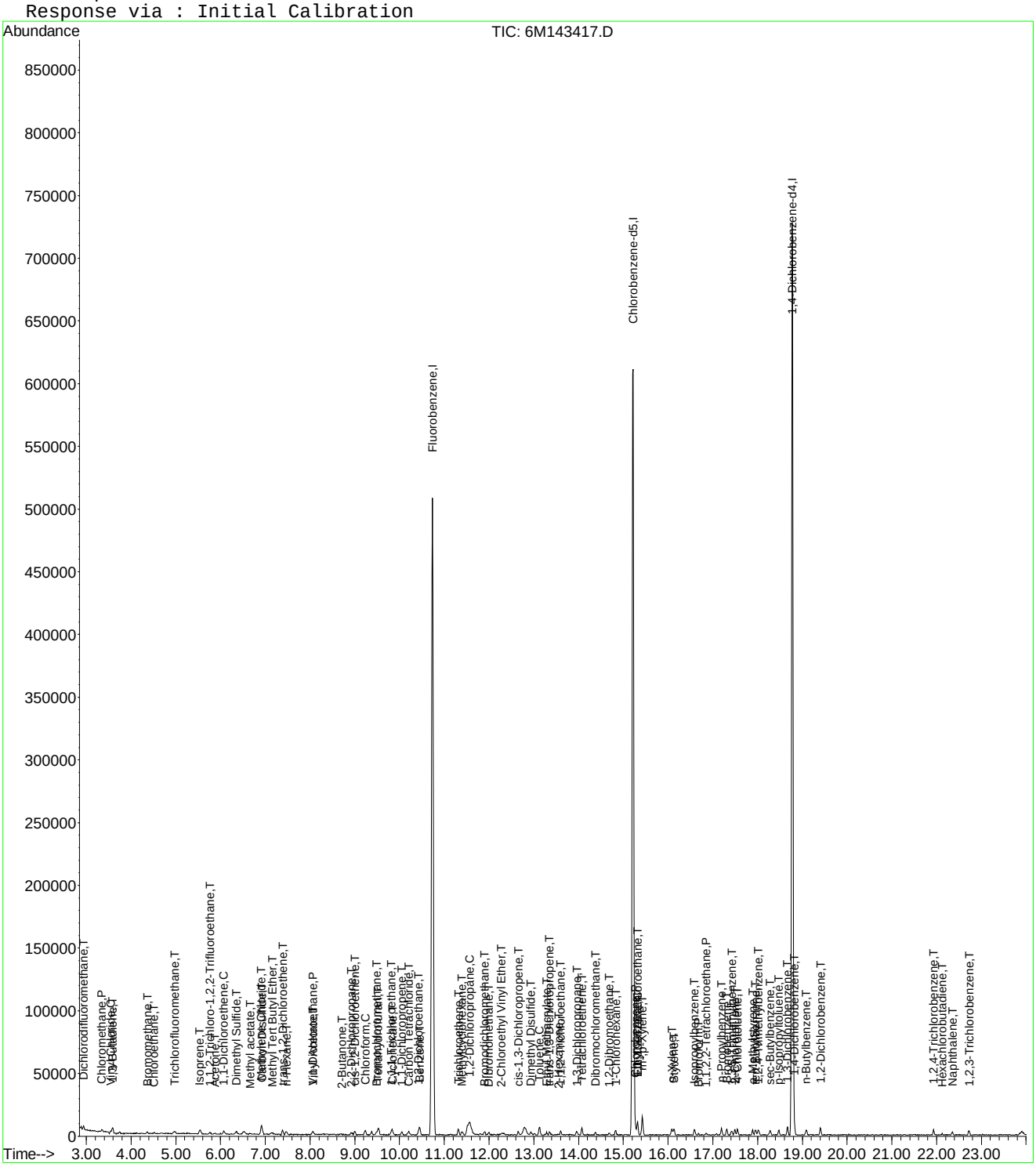
Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
59)	Toluene	13.13	91	8755	0.3261	ug/L		92
60)	Ethyl Methacrylate	13.29	69	1268	0.5691	ug/L		91
62)	trans-1,3-Dichloropropene	13.35	75	2357	0.2693	ug/L	#	51
63)	1,1,2-Trichloroethane	13.60	97	1459	0.2683	ug/L		90
64)	2-Hexanone	13.55	43	858	0.2273	ug/L	#	28
65)	1,3-Dichloropropane	13.96	76	2609	0.2995	ug/L		89
66)	Tetrachloroethene	14.08	166	2345	0.2853	ug/L		88
67)	Dibromochloromethane	14.38	129	2036	0.2698	ug/L		97
68)	1,2-Dibromoethane	14.68	107	1441	0.2599	ug/L		85
69)	1-Chlorohexane	14.83	91	1764	0.4582	ug/L		96
70)	Chlorobenzene	15.27	112	6776	0.3377	ug/L		91
71)	1,1,1,2-Tetrachloroethane	15.32	131	2139	0.2787	ug/L	#	82
72)	Ethylbenzene	15.32	106	2742	0.2741	ug/L		92
73)	m-,p-Xylene	15.42	106	6549	0.5595	ug/L		100
74)	o-Xylene	16.09	106	2963	0.2600	ug/L		93
75)	Styrene	16.13	104	4689	0.2443	ug/L		81
76)	Bromoform	16.68	173	913	0.1825	ug/L	#	77
77)	Isopropylbenzene	16.59	105	6672	0.2453	ug/L		97
79)	1,1,2,2-Tetrachloroethane	16.85	83	1425	0.2452	ug/L		86
83)	n-Propylbenzene	17.19	91	7365	0.2557	ug/L	#	96
84)	Bromobenzene	17.31	156	2452	0.2856	ug/L		90
85)	1,3,5-Trimethylbenzene	17.43	105	4746	0.2244	ug/L		95
86)	2-Chlorotoluene	17.50	91	5513	0.2739	ug/L	#	92
87)	4-Chlorotoluene	17.55	91	5499	0.2772	ug/L	#	90
88)	a-Methylstyrene	17.89	118	2780	0.1996	ug/L		94
89)	tert-Butylbenzene	17.96	134	1135	0.2261	ug/L		93
90)	1,2,4-Trimethylbenzene	18.02	105	5391	0.2323	ug/L		96
91)	sec-Butylbenzene	18.27	105	6038	0.2452	ug/L		93
92)	p-Isopropyltoluene	18.47	119	4733	0.2160	ug/L		95
93)	1,3-Dichlorobenzene	18.66	146	4786	0.3019	ug/L		100
94)	1,4-Dichlorobenzene	18.82	146	5398	0.3282	ug/L	#	58
95)	n-Butylbenzene	19.09	91	5191	0.2876	ug/L		94
96)	1,2-Dichlorobenzene	19.41	146	4664	0.3069	ug/L		88
98)	1,2,4-Trichlorobenzene	21.93	180	2811	0.2964	ug/L	#	90
99)	Hexachlorobutadiene	22.12	225	817	0.2265	ug/L	#	69
100)	Naphthalene	22.36	128	5042	0.2638	ug/L	#	79
101)	1,2,3-Trichlorobenzene	22.74	180	2495	0.2772	ug/L	#	92

(#) = qualifier out of range (m) = manual integration
6M143417.D 8260WT.M Tue Nov 15 10:11:38 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111216\6M143417.D Vial: 3
Acq On : 12 Nov 2016 16:46 Operator: ADC
Sample : WG591426-02 0.3ug/L STD 8260 Inst : Hpms6
Misc : 1,1 STD78964 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:11 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111216\6M143417.D Vial: 3
Acq On : 12 Nov 2016 16:46 Operator: ADC
Sample : WG591426-02 0.3ug/L STD 8260 Inst : Hpms6
Misc : 1,1 STD78964 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% 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	Dichlorodifluoromethane	-1.0000	0.3110	0.0	100	0.00
3	P	Chloromethane	-1.0000	0.3810	0.0	100	0.00
4	C	Vinyl Chloride	-1.0000	0.3159	0.0	100	0.02
5	T	1,3-Butadiene	-1.0000	0.2520	0.0	0	0.03
6	T	Bromomethane	-1.0000	0.3315	0.0	0	0.02
7	T	Chloroethane	-1.0000	0.2552	0.0	100	0.02
8	T	Trichlorofluoromethane	-1.0000	0.2999	0.0	100	0.02
9	T	Diethyl ether	-1.0000	0.0000	0.0	0	-5.52#
10	T	Isoprene	-1.0000	0.2626	0.0	100	0.00
11	T	Acrolein	-1.0000	0.0000	0.0	0	-5.76#
12	T	1,1,2-Trichloro-1,2,2-Trifl	-1.0000	0.1770	0.0	100	0.00
13	T	Acetone	-1.0000	0.7939	0.0	100	0.00
14	C	1,1-Dichloroethene	-1.0000	0.3096	0.0	100	0.00
15	T	Tert-Butyl Alcohol	-1.0000	0.0000	0.0	0	-6.24#
16	T	Dimethyl Sulfide	-1.0000	0.2518	0.0	100	0.00
17	T	Iodomethane	-1.0000	0.0000	0.0	0	-6.61#
18	T	Methyl acetate	-1.0000	0.2601	0.0	100	0.00
19	T	Methylene Chloride	-1.0000	0.3817	0.0	100	0.00
20	T	Carbon Disulfide	-1.0000	0.3506	0.0	100	0.00
21	T	Acrylonitrile	-1.0000	0.0000	0.0	0	-7.12#
22	T	Methyl Tert Butyl Ether	-1.0000	0.2754	0.0	100	0.00
23	T	trans-1,2-Dichloroethene	-1.0000	0.2829	0.0	100	0.00
24	T	n-Hexane	-1.0000	0.2373	0.0	100	0.00
25	T	Diisopropyl ether	-1.0000	0.0000	0.0	0	-7.87#
26	T	Vinyl Acetate	-1.0000	0.1398	0.0	0	0.00
27	P	1,1-Dichloroethane	-1.0000	0.3182	0.0	100	0.00
28	T	Ethyl-Tert-Butyl ether	-1.0000	0.0000	0.0	0	-8.50#
29	T	2-Butanone	-1.0000	0.2524	0.0	100	0.00
30	T	Propionitrile	-1.0000	0.0000	0.0	0	-8.83#
31	T	2,2-Dichloropropane	-1.0000	0.2406	0.0	100	0.00
32	T	cis-1,2-Dichloroethene	-1.0000	0.2465	0.0	100	0.00
33	C	Chloroform	0.3000	0.3409	-13.6	100	0.00
34		1-Bromopropane	-1.0000	0.0000	0.0	0	-9.38#
35	T	Bromochloromethane	-1.0000	0.2748	0.0	100	0.00
36	T	Tetrahydrofuran	-1.0000	2.7396	0.0	100	-0.01
37	S	Dibromofluoromethane	-1.0000	0.0000	0.0	0	-9.55#
38	T	1,1,1-Trichloroethane	-1.0000	0.2896	0.0	100	0.00
39	T	Cyclohexane	-1.0000	0.2244	0.0	100	0.00
40	T	1,1-Dichloropropene	-1.0000	0.2700	0.0	100	0.00
41	T	Tert-Amyl-Methyl ether	-1.0000	0.0000	0.0	0	-10.19#
42	T	Carbon Tetrachloride	-1.0000	0.2792	0.0	100	0.00
43	S	1,2-Dichloroethane-d4	-1.0000	0.0000	0.0	0	-10.28#
44		Heptane	-1.0000	0.0000	0.0	0	-10.19#
45	T	1,2-Dichloroethane	-1.0000	0.2930	0.0	100	0.00
46	T	Benzene	-1.0000	0.3298	0.0	100	0.00
47	T	Trichloroethene	-1.0000	0.3013	0.0	100	0.00
48	T	Methylcyclohexane	-1.0000	0.2425	0.0	100	0.00
49	C	1,2-Dichloropropane	-1.0000	0.3434	0.0	100	0.00
50	T	1,4-Dioxane	-1.0000	0.0000	0.0	0	-11.91#
51	T	Bromodichloromethane	-1.0000	0.2820	0.0	100	0.00
52	T	Dibromomethane	-1.0000	0.2936	0.0	100	0.00
53	T	2-Chloroethyl Vinyl Ether	-1.0000	0.2125	0.0	0	0.00
54	T	4-Methyl-2-Pentanone	-1.0000	0.0970	0.0	100	0.00

(#) = Out of Range
6M143417.D 8260WT.M Tue Nov 15 10:12:53 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111216\6M143417.D Vial: 3
Acq On : 12 Nov 2016 16:46 Operator: ADC
Sample : WG591426-02 0.3ug/L STD 8260 Inst : Hpms6
Misc : 1,1 STD78964 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	-1.0000	0.2980	0.0	100	0.00
56	T	Dimethyl Disulfide	-1.0000	2.4224	0.0	0	-0.01
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58	S	Toluene-d8	-1.0000	0.0606	0.0	100	-0.01
59	C	Toluene	-1.0000	0.3261	0.0	100	0.00
60	T	Ethyl Methacrylate	-1.0000	0.5691	0.0	0	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.13#
62	T	trans-1,3-Dichloropropene	-1.0000	0.2693	0.0	100	-0.01
63	T	1,1,2-Trichloroethane	-1.0000	0.2683	0.0	100	0.00
64	T	2-Hexanone	-1.0000	0.2273	0.0	100	0.00
65	T	1,3-Dichloropropane	-1.0000	0.2995	0.0	100	0.00
66	T	Tetrachloroethene	-1.0000	0.2853	0.0	100	0.00
67	T	Dibromochloromethane	-1.0000	0.2698	0.0	100	0.00
68	T	1,2-Dibromoethane	-1.0000	0.2599	0.0	100	0.00
69	T	1-Chlorohexane	-1.0000	0.4582	0.0	0	0.00
70	P	Chlorobenzene	-1.0000	0.3377	0.0	100	0.00
71	T	1,1,1,2-Tetrachloroethane	-1.0000	0.2787	0.0	100	0.00
72	C	Ethylbenzene	-1.0000	0.2741	0.0	100	0.00
73	T	m-,p-Xylene	-1.0000	0.5595	0.0	100	-0.01
74	T	o-Xylene	-1.0000	0.2600	0.0	100	0.00
75	T	Styrene	-1.0000	0.2443	0.0	100	0.00
76	P	Bromoform	-1.0000	0.1825	0.0	100	0.00
77	T	Isopropylbenzene	-1.0000	0.2453	0.0	100	-0.01
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	-0.01
79	P	1,1,2,2-Tetrachloroethane	-1.0000	0.2452	0.0	100	0.00
80	S	p-Bromofluorobenzene	-1.0000	0.0218	0.0	100	-0.01
81	T	1,2,3-Trichloropropane	-1.0000	0.1025	0.0	100	0.00
82	T	trans-1,4-Dichloro-2-Butene	-1.0000	0.0000	0.0	0	-17.15#
83	T	n-Propylbenzene	-1.0000	0.2557	0.0	100	0.00
84	T	Bromobenzene	0.3000	0.2856	4.8	100	0.00
85	T	1,3,5-Trimethylbenzene	-1.0000	0.2244	0.0	100	0.00
86	T	2-Chlorotoluene	-1.0000	0.2739	0.0	100	0.00
87	T	4-Chlorotoluene	-1.0000	0.2772	0.0	100	-0.01
88	T	a-Methylstyrene	-1.0000	0.1996	0.0	100	0.00
89	T	tert-Butylbenzene	-1.0000	0.2261	0.0	100	-0.01
90	T	1,2,4-Trimethylbenzene	-1.0000	0.2323	0.0	100	-0.01
91	T	sec-Butylbenzene	-1.0000	0.2452	0.0	100	-0.01
92	T	p-Isopropyltoluene	-1.0000	0.2160	0.0	100	-0.01
93	T	1,3-Dichlorobenzene	-1.0000	0.3019	0.0	100	-0.01
94	T	1,4-Dichlorobenzene	-1.0000	0.3282	0.0	100	0.00
95	T	n-Butylbenzene	-1.0000	0.2876	0.0	100	0.00
96	T	1,2-Dichlorobenzene	0.3000	0.3069	-2.3	100	0.00
97	T	1,2-Dibromo-3-Chloropropane	-1.0000	0.0000	0.0	0	-20.58#
98	T	1,2,4-Trichlorobenzene	0.3000	0.2964	1.2	100	0.00
99	T	Hexachlorobutadiene	-1.0000	0.2265	0.0	100	0.00
100	T	Naphthalene	-1.0000	0.2638	0.0	100	0.00
101	T	1,2,3-Trichlorobenzene	0.3000	0.2772	7.6	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M143417.D 8260WT.M Tue Nov 15 10:12:54 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111216\6M143418.D Vial: 4
Acq On : 12 Nov 2016 17:18 Operator: ADC
Sample : WG591426-03 0.4ug/L STD 8260 Inst : Hpms6
Misc : 1,1 STD78964 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:11:40 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.74	96	643353	25.00	ug/L	0.00
57) Chlorobenzene-d5	15.21	117	496529	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.78	152	266890	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	0.00	111	0	0.0000	ug/L	
Spiked Amount 25.000	Range 86 - 118		Recovery =	0.00%#		
43) 1,2-Dichloroethane-d4	0.00	65	0	0.0000	ug/L	
Spiked Amount 25.000	Range 80 - 120		Recovery =	0.00%#		
58) Toluene-d8	13.02	98	397	0.0173	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	0.08%#		
80) p-Bromofluorobenzene	0.00	95	0	0.0000	ug/L	
Spiked Amount 25.000	Range 86 - 115		Recovery =	0.00%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.94	85	4132	0.3698	ug/L #	78
3) Chloromethane	3.35	50	4103	0.4896	ug/L	89
4) Vinyl Chloride	3.54	62	3157	0.4513	ug/L #	75
5) 1,3-Butadiene	3.59	54	3200	0.4199	ug/L #	69
6) Bromomethane	4.36	94	1387	0.4251	ug/L	100
7) Chloroethane	4.51	64	1799	0.4374	ug/L #	63
8) Trichlorofluoromethane	4.98	101	4586	0.4042	ug/L #	88
10) Isoprene	5.53	67	3060	0.3098	ug/L	86
12) 1,1,2-Trichloro-1,2,2-Trif	5.75	101	903	0.1310	ug/L #	27
13) Acetone	5.88	43	1085	0.6542	ug/L #	48
14) 1,1-Dichloroethene	6.07	61	4365	0.4152	ug/L	97
16) Dimethyl Sulfide	6.36	62	2413	0.3603	ug/L	81
17) Iodomethane	6.62	142	192	0.6657	ug/L #	32
18) Methyl acetate	6.67	43	1753	0.3798	ug/L #	66
19) Methylene Chloride	6.91	84	3470	0.4968	ug/L	84
20) Carbon Disulfide	6.93	76	9690	0.4664	ug/L #	87
22) Methyl Tert Butyl Ether	7.15	73	5294	0.3555	ug/L #	63
23) trans-1,2-Dichloroethene	7.39	96	2544	0.3768	ug/L	96
24) n-Hexane	7.47	57	2265	0.2948	ug/L	95
26) Vinyl Acetate	8.05	43	2332	0.2040	ug/L #	78
27) 1,1-Dichloroethane	8.07	63	5056	0.4117	ug/L	81
29) 2-Butanone	8.71	43	494	0.1992	ug/L #	57
31) 2,2-Dichloropropane	8.92	77	3416	0.3792	ug/L	92
32) cis-1,2-Dichloroethene	8.99	96	2734	0.3744	ug/L	94
33) Chloroform	9.23	83	5897	0.4643	ug/L	94
35) Bromochloromethane	9.48	130	1623	0.3308	ug/L	94
36) Tetrahydrofuran	9.53	42	4974	2.7792	ug/L	87
38) 1,1,1-Trichloroethane	9.82	97	4471	0.4158	ug/L	84
39) Cyclohexane	9.86	56	3474	0.3303	ug/L	92
40) 1,1-Dichloropropene	10.05	75	3005	0.3479	ug/L	96
42) Carbon Tetrachloride	10.20	117	4294	0.4094	ug/L #	87
45) 1,2-Dichloroethane	10.41	62	3445	0.3893	ug/L #	84
46) Benzene	10.45	78	11401	0.4445	ug/L	87
47) Trichloroethene	11.31	130	3166	0.3933	ug/L	75
48) Methylcyclohexane	11.40	83	2679	0.3012	ug/L	91
49) 1,2-Dichloropropane	11.56	63	2568	0.3839	ug/L #	67
51) Bromodichloromethane	11.90	83	3771	0.4121	ug/L	91
52) Dibromomethane	12.01	93	1498	0.3847	ug/L	77
53) 2-Chloroethyl Vinyl Ether	12.28	63	441	0.1391	ug/L #	41
55) cis-1,3-Dichloropropene	12.65	75	3308	0.3547	ug/L #	80

(#) = qualifier out of range (m) = manual integration
6M143418.D 8260WT.M Tue Nov 15 10:11:43 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111216\6M143418.D Vial: 4
Acq On : 12 Nov 2016 17:18 Operator: ADC
Sample : WG591426-03 0.4ug/L STD 8260 Inst : Hpms6
Misc : 1,1 STD78964 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:11:40 2016 Quant Results File: 8260WT.RES

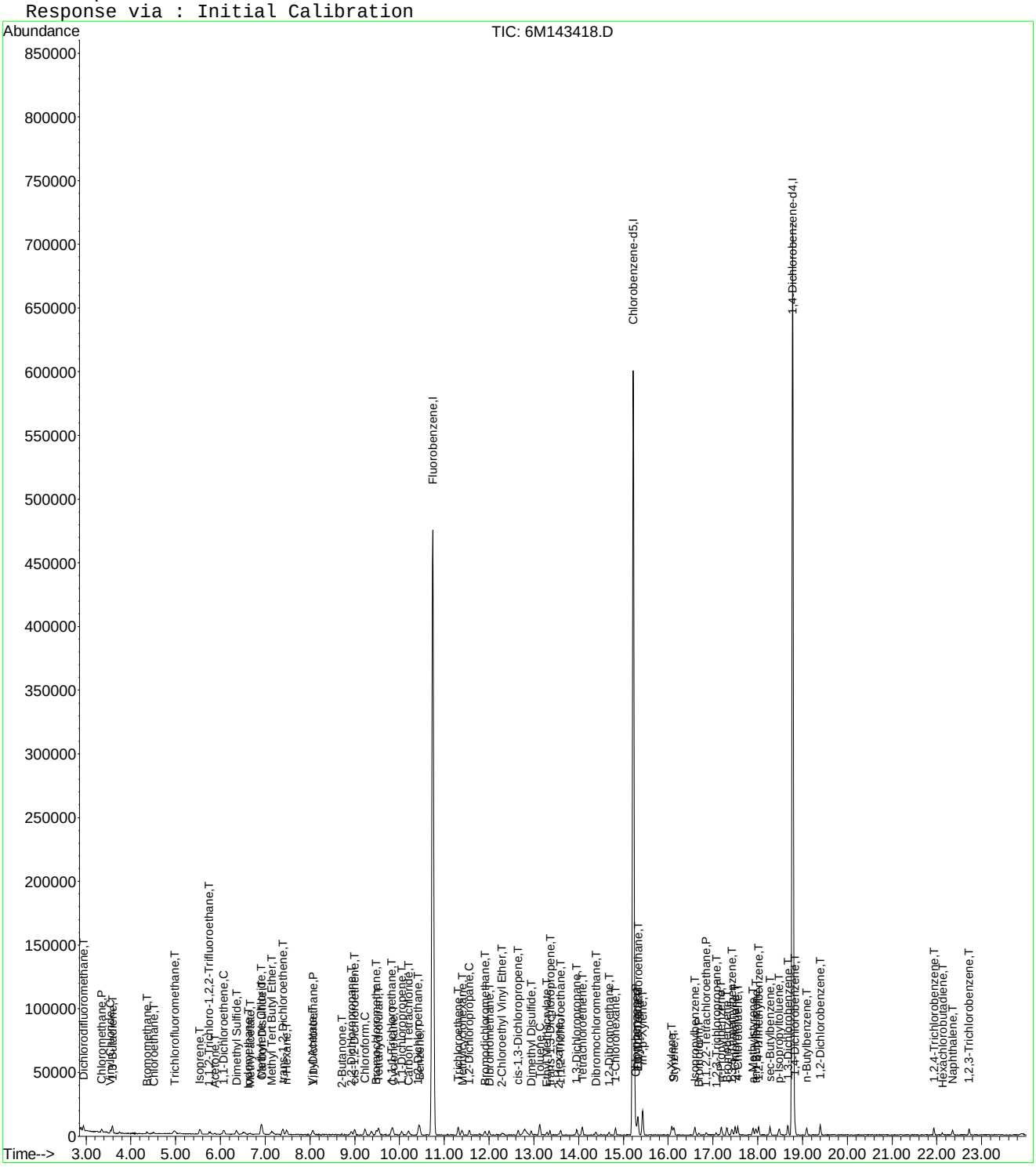
Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
56)	Dimethyl Disulfide	12.95	79	934	2.4649	ug/L	#	47
59)	Toluene	13.13	91	10518	0.4106	ug/L		93
60)	Ethyl Methacrylate	13.28	69	1901	0.6699	ug/L		83
62)	trans-1,3-Dichloropropene	13.36	75	2699	0.3232	ug/L		90
63)	1,1,2-Trichloroethane	13.60	97	2004	0.3863	ug/L		96
64)	2-Hexanone	13.56	43	1097	0.3046	ug/L	#	28
65)	1,3-Dichloropropane	13.96	76	3192	0.3841	ug/L		95
66)	Tetrachloroethene	14.08	166	3191	0.4069	ug/L		88
67)	Dibromochloromethane	14.39	129	2564	0.3561	ug/L		100
68)	1,2-Dibromoethane	14.68	107	1970	0.3725	ug/L		100
69)	1-Chlorohexane	14.82	91	2013	0.4984	ug/L		86
70)	Chlorobenzene	15.27	112	8363	0.4369	ug/L		84
71)	1,1,1,2-Tetrachloroethane	15.32	131	2985	0.4077	ug/L	#	88
72)	Ethylbenzene	15.31	106	3772	0.3952	ug/L		98
73)	m-,p-Xylene	15.43	106	8369	0.7495	ug/L		98
74)	o-Xylene	16.08	106	3634	0.3342	ug/L		99
75)	Styrene	16.13	104	5775	0.3153	ug/L		83
76)	Bromoform	16.68	173	1407	0.2948	ug/L	#	85
77)	Isopropylbenzene	16.59	105	8543	0.3292	ug/L		98
79)	1,1,2,2-Tetrachloroethane	16.85	83	2237	0.4023	ug/L		94
81)	1,2,3-Trichloropropane	17.08	110	471	0.2602	ug/L	#	41
83)	n-Propylbenzene	17.18	91	9497	0.3447	ug/L	#	96
84)	Bromobenzene	17.32	156	3113	0.3790	ug/L		89
85)	1,3,5-Trimethylbenzene	17.42	105	6615	0.3269	ug/L		98
86)	2-Chlorotoluene	17.49	91	7347	0.3815	ug/L	#	87
87)	4-Chlorotoluene	17.55	91	6927	0.3650	ug/L	#	90
88)	a-Methylstyrene	17.89	118	3452	0.2590	ug/L		99
89)	tert-Butylbenzene	17.96	134	1045	0.2176	ug/L	#	3
90)	1,2,4-Trimethylbenzene	18.02	105	7049	0.3175	ug/L		98
91)	sec-Butylbenzene	18.28	105	7597	0.3225	ug/L		93
92)	p-Isopropyltoluene	18.47	119	6367	0.3037	ug/L		91
93)	1,3-Dichlorobenzene	18.67	146	5924	0.3906	ug/L		87
94)	1,4-Dichlorobenzene	18.83	146	7153	0.4545	ug/L		88
95)	n-Butylbenzene	19.09	91	6296	0.3646	ug/L		90
96)	1,2-Dichlorobenzene	19.40	146	6253	0.4301	ug/L		88
98)	1,2,4-Trichlorobenzene	21.93	180	3187	0.3513	ug/L	#	84
99)	Hexachlorobutadiene	22.13	225	1259	0.3648	ug/L	#	51
100)	Naphthalene	22.35	128	6374	0.3485	ug/L		87
101)	1,2,3-Trichlorobenzene	22.72	180	3210	0.3728	ug/L		92

(#) = qualifier out of range (m) = manual integration
6M143418.D 8260WT.M Tue Nov 15 10:11:43 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111216\6M143418.D Vial: 4
Acq On : 12 Nov 2016 17:18 Operator: ADC
Sample : WG591426-03 0.4ug/L STD 8260 Inst : Hpms6
Misc : 1,1 STD78964 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:11 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111216\6M143418.D Vial: 4
Acq On : 12 Nov 2016 17:18 Operator: ADC
Sample : WG591426-03 0.4ug/L STD 8260 Inst : Hpms6
Misc : 1,1 STD78964 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% 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	Dichlorodifluoromethane	-1.0000	0.3698	0.0	100	0.01
3	P	Chloromethane	-1.0000	0.4896	0.0	100	0.00
4	C	Vinyl Chloride	0.4000	0.4513	-12.8	100	0.01
5	T	1,3-Butadiene	-1.0000	0.4199	0.0	0	0.03
6	T	Bromomethane	0.4000	0.4251	-6.3	100	0.01
7	T	Chloroethane	-1.0000	0.4374	0.0	100	0.02
8	T	Trichlorofluoromethane	0.4000	0.4042	-1.1	100	0.02
9	T	Diethyl ether	-1.0000	0.0000	0.0	0	-5.52#
10	T	Isoprene	-1.0000	0.3098	0.0	100	0.00
11	T	Acrolein	-1.0000	0.0000	0.0	0	-5.76#
12	T	1,1,2-Trichloro-1,2,2-Trifl	-1.0000	0.1310	0.0	100	0.00
13	T	Acetone	-1.0000	0.6542	0.0	100	0.00
14	C	1,1-Dichloroethene	0.4000	0.4152	-3.8	100	0.00
15	T	Tert-Butyl Alcohol	-1.0000	0.0000	0.0	0	-6.24#
16	T	Dimethyl Sulfide	-1.0000	0.3603	0.0	100	0.01
17	T	Iodomethane	-1.0000	0.6657	0.0	0	0.01
18	T	Methyl acetate	-1.0000	0.3798	0.0	100	0.01
19	T	Methylene Chloride	-1.0000	0.4968	0.0	100	0.01
20	T	Carbon Disulfide	-1.0000	0.4664	0.0	100	0.01
21	T	Acrylonitrile	-1.0000	0.0000	0.0	0	-7.12#
22	T	Methyl Tert Butyl Ether	-1.0000	0.3555	0.0	100	0.00
23	T	trans-1,2-Dichloroethene	0.4000	0.3768	5.8	100	0.00
24	T	n-Hexane	-1.0000	0.2948	0.0	100	0.00
25	T	Diisopropyl ether	-1.0000	0.0000	0.0	0	-7.87#
26	T	Vinyl Acetate	-1.0000	0.2040	0.0	0	0.00
27	P	1,1-Dichloroethane	0.4000	0.4117	-2.9	100	0.01
28	T	Ethyl-Tert-Butyl ether	-1.0000	0.0000	0.0	0	-8.50#
29	T	2-Butanone	-1.0000	0.1992	0.0	100	0.00
30	T	Propionitrile	-1.0000	0.0000	0.0	0	-8.83#
31	T	2,2-Dichloropropane	0.4000	0.3792	5.2	100	0.00
32	T	cis-1,2-Dichloroethene	0.4000	0.3744	6.4	100	0.00
33	C	Chloroform	0.4000	0.4643	-16.1	100	0.00
34		1-Bromopropane	-1.0000	0.0000	0.0	0	-9.38#
35	T	Bromochloromethane	0.4000	0.3308	17.3	100	0.00
36	T	Tetrahydrofuran	-1.0000	2.7792	0.0	100	0.00
37	S	Dibromofluoromethane	-1.0000	0.0000	0.0	0	-9.55#
38	T	1,1,1-Trichloroethane	0.4000	0.4158	-4.0	100	0.00
39	T	Cyclohexane	-1.0000	0.3303	0.0	100	0.02
40	T	1,1-Dichloropropene	-1.0000	0.3479	0.0	100	0.00
41	T	Tert-Amyl-Methyl ether	-1.0000	0.0000	0.0	0	-10.19#
42	T	Carbon Tetrachloride	0.4000	0.4094	-2.3	100	0.00
43	S	1,2-Dichloroethane-d4	-1.0000	0.0000	0.0	0	-10.28#
44		Heptane	-1.0000	0.0000	0.0	0	-10.19#
45	T	1,2-Dichloroethane	0.4000	0.3893	2.7	100	0.00
46	T	Benzene	0.4000	0.4445	-11.1	100	0.00
47	T	Trichloroethene	0.4000	0.3933	1.7	100	0.00
48	T	Methylcyclohexane	-1.0000	0.3012	0.0	100	0.01
49	C	1,2-Dichloropropane	0.4000	0.3839	4.0	100	0.00
50	T	1,4-Dioxane	-1.0000	0.0000	0.0	0	-11.91#
51	T	Bromodichloromethane	0.4000	0.4121	-3.0	100	0.00
52	T	Dibromomethane	0.4000	0.3847	3.8	100	0.01
53	T	2-Chloroethyl Vinyl Ether	-1.0000	0.1391	0.0	0	0.00
54	T	4-Methyl-2-Pentanone	-1.0000	0.0000	0.0	0	-12.32#

(#) = Out of Range
6M143418.D 8260WT.M Tue Nov 15 10:13:04 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111216\6M143418.D Vial: 4
Acq On : 12 Nov 2016 17:18 Operator: ADC
Sample : WG591426-03 0.4ug/L STD 8260 Inst : Hpms6
Misc : 1,1 STD78964 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	0.4000	0.3547	11.3	100	0.00
56	T	Dimethyl Disulfide	-1.0000	2.4649	0.0	0	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58	S	Toluene-d8	-1.0000	0.0173	0.0	100	0.00
59	C	Toluene	0.4000	0.4106	-2.7	100	0.00
60	T	Ethyl Methacrylate	-1.0000	0.6699	0.0	0	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	0	-13.13#
62	T	trans-1,3-Dichloropropene	-1.0000	0.3232	0.0	100	0.00
63	T	1,1,2-Trichloroethane	0.4000	0.3863	3.4	100	0.00
64	T	2-Hexanone	-1.0000	0.3046	0.0	100	0.00
65	T	1,3-Dichloropropane	0.4000	0.3841	4.0	100	0.00
66	T	Tetrachloroethene	0.4000	0.4069	-1.7	100	0.00
67	T	Dibromochloromethane	0.4000	0.3561	11.0	100	0.00
68	T	1,2-Dibromoethane	0.4000	0.3725	6.9	100	0.00
69	T	1-Chlorohexane	0.4000	0.4984	-24.6#	100	0.00
70	P	Chlorobenzene	0.4000	0.4369	-9.2	100	0.00
71	T	1,1,1,2-Tetrachloroethane	0.4000	0.4077	-1.9	100	0.00
72	C	Ethylbenzene	0.4000	0.3952	1.2	100	0.00
73	T	m-,p-Xylene	0.8000	0.7495	6.3	100	0.00
74	T	o-Xylene	-1.0000	0.3342	0.0	100	0.00
75	T	Styrene	0.4000	0.3153	21.2#	100	0.00
76	P	Bromoform	-1.0000	0.2948	0.0	100	0.00
77	T	Isopropylbenzene	0.4000	0.3292	17.7	100	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
79	P	1,1,2,2-Tetrachloroethane	0.4000	0.4023	-0.6	100	0.00
80	S	p-Bromofluorobenzene	-1.0000	0.0000	0.0	0	-17.00#
81	T	1,2,3-Trichloropropane	-1.0000	0.2602	0.0	100	0.00
82	T	trans-1,4-Dichloro-2-Butene	-1.0000	0.0000	0.0	0	-17.15#
83	T	n-Propylbenzene	0.4000	0.3447	13.8	100	0.00
84	T	Bromobenzene	0.4000	0.3790	5.2	100	0.00
85	T	1,3,5-Trimethylbenzene	0.4000	0.3269	18.3	100	0.00
86	T	2-Chlorotoluene	0.4000	0.3815	4.6	100	0.00
87	T	4-Chlorotoluene	0.4000	0.3650	8.7	100	0.00
88	T	a-Methylstyrene	-1.0000	0.2590	0.0	100	0.00
89	T	tert-Butylbenzene	-1.0000	0.2176	0.0	100	0.00
90	T	1,2,4-Trimethylbenzene	-1.0000	0.3175	0.0	100	0.00
91	T	sec-Butylbenzene	-1.0000	0.3225	0.0	100	0.00
92	T	p-Isopropyltoluene	-1.0000	0.3037	0.0	100	0.00
93	T	1,3-Dichlorobenzene	0.4000	0.3906	2.3	100	0.00
94	T	1,4-Dichlorobenzene	0.4000	0.4545	-13.6	100	0.00
95	T	n-Butylbenzene	-1.0000	0.3646	0.0	100	0.00
96	T	1,2-Dichlorobenzene	0.4000	0.4301	-7.5	100	0.00
97	T	1,2-Dibromo-3-Chloropropane	-1.0000	0.0000	0.0	0	-20.58#
98	T	1,2,4-Trichlorobenzene	0.4000	0.3513	12.2	100	0.00
99	T	Hexachlorobutadiene	0.4000	0.3648	8.8	100	0.00
100	T	Naphthalene	0.4000	0.3485	12.9	100	0.00
101	T	1,2,3-Trichlorobenzene	0.4000	0.3728	6.8	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M143418.D 8260WT.M Tue Nov 15 10:13:05 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111216\6M143419.D Vial: 5
Acq On : 12 Nov 2016 17:50 Operator: ADC
Sample : WG591426-04 1.0ug/L STD 8260 Inst : Hpms6
Misc : 1,1 STD78964 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:11:45 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.74	96	633808	25.00	ug/L		0.00
57) Chlorobenzene-d5	15.22	117	484204	25.00	ug/L		0.00
78) 1,4-Dichlorobenzene-d4	18.77	152	265689	25.00	ug/L		-0.01
System Monitoring Compounds							
37) Dibromofluoromethane	9.55	111	3441	0.4686	ug/L		0.00
Spiked Amount 25.000	Range 86 - 118		Recovery =	1.88%#			
43) 1,2-Dichloroethane-d4	10.28	65	3432	0.4712	ug/L		0.00
Spiked Amount 25.000	Range 80 - 120		Recovery =	1.88%#			
58) Toluene-d8	13.01	98	10747	0.4802	ug/L		0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	1.92%#			
80) p-Bromofluorobenzene	17.00	95	3783	0.4550	ug/L		0.00
Spiked Amount 25.000	Range 86 - 115		Recovery =	1.84%#			
Target Compounds							Qvalue
2) Dichlorodifluoromethane	2.94	85	9376	0.8517	ug/L		94
3) Chloromethane	3.34	50	7562	0.9159	ug/L		93
4) Vinyl Chloride	3.54	62	6309	0.9154	ug/L		100
5) 1,3-Butadiene	3.59	54	6713	1.0469	ug/L		77
6) Bromomethane	4.37	94	2995	0.9317	ug/L		98
7) Chloroethane	4.51	64	3790	0.9354	ug/L		81
8) Trichlorofluoromethane	4.99	101	10714	0.9586	ug/L	#	95
9) Diethyl ether	5.53	59	24058	4.8695	ug/L		94
10) Isoprene	5.55	67	8342	0.8572	ug/L		94
11) Acrolein	5.76	56	1259	1.8076	ug/L		87
12) 1,1,2-Trichloro-1,2,2-Trif	5.76	101	6296	0.9275	ug/L		96
13) Acetone	5.88	43	2329	1.4255	ug/L	#	48
14) 1,1-Dichloroethene	6.08	61	9176	0.8860	ug/L		91
15) Tert-Butyl Alcohol	6.22	59	3673	8.3879	ug/L	#	79
16) Dimethyl Sulfide	6.36	62	5292	0.8020	ug/L		96
17) Iodomethane	6.62	142	2426	0.9594	ug/L	#	71
18) Methyl acetate	6.66	43	3945	0.8675	ug/L	#	66
19) Methylene Chloride	6.91	84	7079	1.0288	ug/L		82
20) Carbon Disulfide	6.93	76	20055	0.9798	ug/L		96
21) Acrylonitrile	7.12	53	4566	2.2492	ug/L		93
22) Methyl Tert Butyl Ether	7.15	73	12309	0.8389	ug/L		92
23) trans-1,2-Dichloroethene	7.39	96	5898	0.8867	ug/L		87
24) n-Hexane	7.48	57	6006	0.7936	ug/L		95
25) Diisopropyl ether	7.88	45	105378	4.6603	ug/L		94
26) Vinyl Acetate	8.06	43	7393	0.6566	ug/L	#	78
27) 1,1-Dichloroethane	8.07	63	10876	0.8990	ug/L		99
28) Ethyl-Tert-Butyl ether	8.50	59	84246	4.6086	ug/L		96
29) 2-Butanone	8.71	43	2327	0.9523	ug/L	#	57
30) Propionitrile	8.83	54	3251	4.7256	ug/L	#	56
31) 2,2-Dichloropropane	8.92	77	7933	0.8939	ug/L		100
32) cis-1,2-Dichloroethene	9.00	96	6377	0.8865	ug/L		92
33) Chloroform	9.24	83	11979	0.9573	ug/L		96
34) 1-Bromopropane	9.37	122	1214	0.7881	ug/L		92
35) Bromochloromethane	9.49	130	4728	0.9783	ug/L		94
36) Tetrahydrofuran	9.53	42	11304	6.4111	ug/L		96
38) 1,1,1-Trichloroethane	9.82	97	9533	0.8999	ug/L		91
39) Cyclohexane	9.85	56	8243	0.7955	ug/L		93
40) 1,1-Dichloropropene	10.04	75	7134	0.8384	ug/L		95
41) Tert-Amyl-Methyl ether	10.19	73	64739	4.4422	ug/L		89
42) Carbon Tetrachloride	10.21	117	9270	0.8971	ug/L		96

(#) = qualifier out of range (m) = manual integration
6M143419.D 8260WT.M Tue Nov 15 10:11:48 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111216\6M143419.D Vial: 5
Acq On : 12 Nov 2016 17:50 Operator: ADC
Sample : WG591426-04 1.0ug/L STD 8260 Inst : Hpms6
Misc : 1,1 STD78964 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:11:45 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

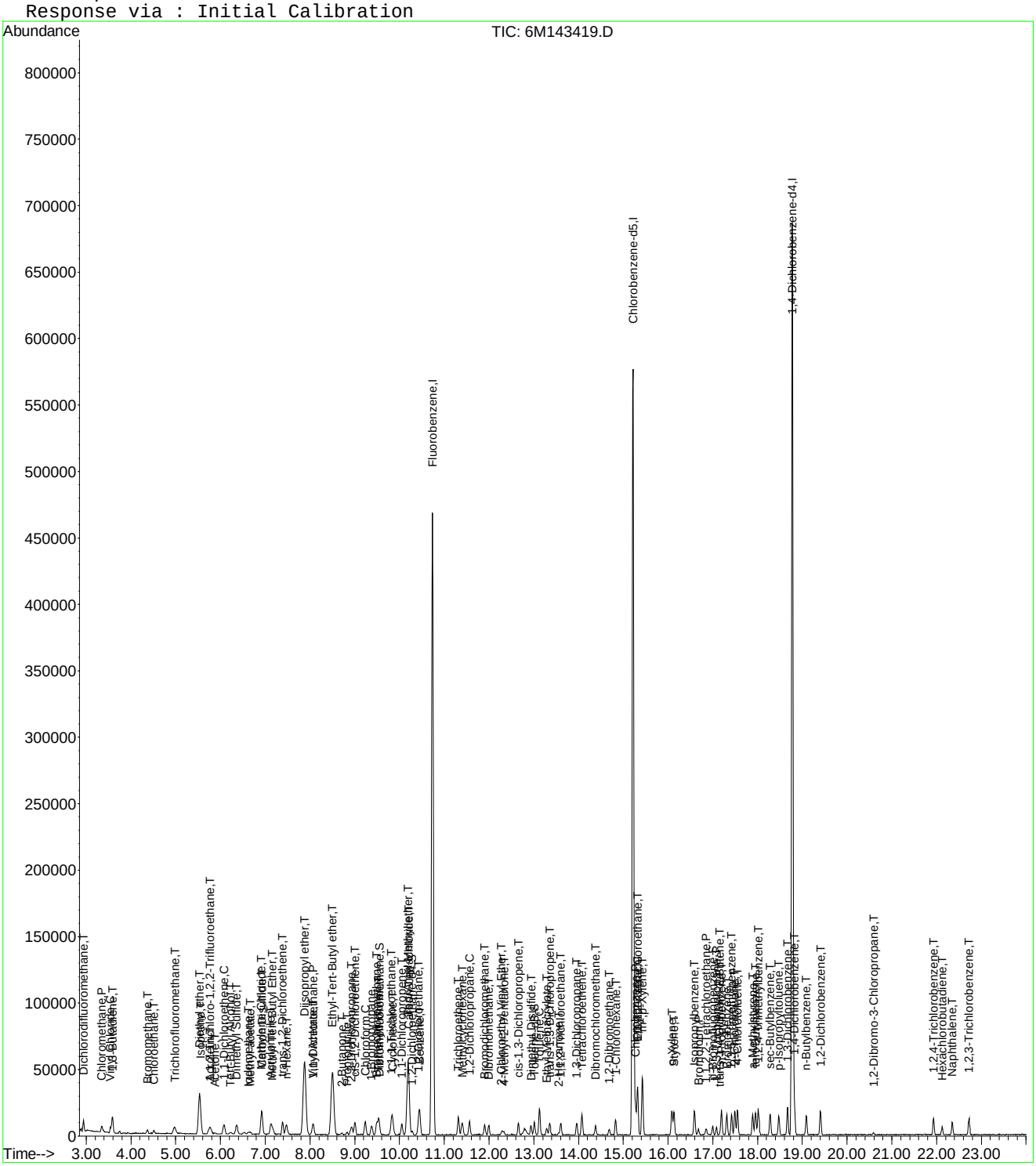
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
45)	1,2-Dichloroethane	10.42	62	8294	0.9513 ug/L	#	85
46)	Benzene	10.45	78	24049	0.9517 ug/L		92
47)	Trichloroethene	11.31	130	7340	0.9256 ug/L		83
48)	Methylcyclohexane	11.40	83	6377	0.7279 ug/L		96
49)	1,2-Dichloropropane	11.56	63	5951	0.9030 ug/L		98
51)	Bromodichloromethane	11.90	83	8174	0.9068 ug/L		92
52)	Dibromomethane	11.99	93	3426	0.8930 ug/L		96
53)	2-Chloroethyl Vinyl Ether	12.28	63	1685	0.5395 ug/L	#	61
54)	4-Methyl-2-Pentanone	12.33	58	1246	0.6579 ug/L	#	38
55)	cis-1,3-Dichloropropene	12.66	75	7097	0.7725 ug/L		93
56)	Dimethyl Disulfide	12.94	79	2910	2.7909 ug/L	#	73
59)	Toluene	13.13	91	23156	0.9271 ug/L		97
60)	Ethyl Methacrylate	13.29	69	4270	1.0313 ug/L		95
62)	trans-1,3-Dichloropropene	13.36	75	6638	0.8152 ug/L		95
63)	1,1,2-Trichloroethane	13.60	97	4701	0.9292 ug/L		94
64)	2-Hexanone	13.56	43	2606	0.7421 ug/L		72
65)	1,3-Dichloropropane	13.95	76	7348	0.9068 ug/L		97
66)	Tetrachloroethene	14.08	166	7260	0.9493 ug/L		91
67)	Dibromochloromethane	14.38	129	6495	0.9250 ug/L		95
68)	1,2-Dibromoethane	14.68	107	4482	0.8691 ug/L		98
69)	1-Chlorohexane	14.83	91	5136	0.8952 ug/L		98
70)	Chlorobenzene	15.27	112	18300	0.9803 ug/L		84
71)	1,1,1,2-Tetrachloroethane	15.32	131	6282	0.8798 ug/L		95
72)	Ethylbenzene	15.32	106	8423	0.9050 ug/L		93
73)	m-,p-Xylene	15.42	106	19326	1.7748 ug/L		98
74)	o-Xylene	16.09	106	8516	0.8032 ug/L		91
75)	Styrene	16.13	104	13650	0.7643 ug/L		94
76)	Bromoform	16.69	173	3553	0.7635 ug/L	#	81
77)	Isopropylbenzene	16.59	105	20944	0.8277 ug/L		99
79)	1,1,2,2-Tetrachloroethane	16.85	83	5160	0.9322 ug/L		96
81)	1,2,3-Trichloropropane	17.08	110	1746	0.9689 ug/L	#	82
82)	trans-1,4-Dichloro-2-Buten	17.15	53	441	1.1871 ug/L		76
83)	n-Propylbenzene	17.19	91	23175	0.8449 ug/L	#	98
84)	Bromobenzene	17.31	156	7376	0.9021 ug/L		89
85)	1,3,5-Trimethylbenzene	17.42	105	15738	0.7814 ug/L		100
86)	2-Chlorotoluene	17.49	91	17332	0.9041 ug/L		94
87)	4-Chlorotoluene	17.55	91	17672	0.9355 ug/L		96
88)	a-Methylstyrene	17.90	118	8619	0.6497 ug/L		98
89)	tert-Butylbenzene	17.96	134	3744	0.7832 ug/L		93
90)	1,2,4-Trimethylbenzene	18.02	105	18501	0.8371 ug/L		99
91)	sec-Butylbenzene	18.27	105	19371	0.8261 ug/L		99
92)	p-Isopropyltoluene	18.47	119	16058	0.7693 ug/L		99
93)	1,3-Dichlorobenzene	18.67	146	14329	0.9491 ug/L		94
94)	1,4-Dichlorobenzene	18.82	146	15084	0.9628 ug/L		96
95)	n-Butylbenzene	19.09	91	14047	0.8172 ug/L		98
96)	1,2-Dichlorobenzene	19.41	146	13449	0.9292 ug/L		92
97)	1,2-Dibromo-3-Chloropropan	20.59	75	393	0.4020 ug/L	#	24
98)	1,2,4-Trichlorobenzene	21.93	180	7810	0.8647 ug/L		95
99)	Hexachlorobutadiene	22.12	225	3060	0.8906 ug/L		96
100)	Naphthalene	22.35	128	13993	0.7686 ug/L		96
101)	1,2,3-Trichlorobenzene	22.73	180	7770	0.9064 ug/L		96

(#) = qualifier out of range (m) = manual integration
6M143419.D 8260WT.M Tue Nov 15 10:11:48 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111216\6M143419.D Vial: 5
Acq On : 12 Nov 2016 17:50 Operator: ADC
Sample : WG591426-04 1.0ug/L STD 8260 Inst : Hpms6
Misc : 1,1 STD78964 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:11 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111216\6M143419.D Vial: 5
Acq On : 12 Nov 2016 17:50 Operator: ADC
Sample : WG591426-04 1.0ug/L STD 8260 Inst : Hpms6
Misc : 1,1 STD78964 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% 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	Dichlorodifluoromethane	1.0000	0.8517	14.8	100	0.00
3	P	Chloromethane	1.0000	0.9159	8.4	100	0.00
4	C	Vinyl Chloride	1.0000	0.9154	8.5	100	0.00
5	T	1,3-Butadiene	-1.0000	1.0469	0.0	0	0.03
6	T	Bromomethane	1.0000	0.9317	6.8	100	0.02
7	T	Chloroethane	1.0000	0.9355	6.5	100	0.02
8	T	Trichlorofluoromethane	1.0000	0.9586	4.1	100	0.03
9	T	Diethyl ether	5.0000	4.8695	2.6	100	0.00
10	T	Isoprene	-1.0000	0.8572	0.0	100	0.02
11	T	Acrolein	-1.0000	1.8076	0.0	100	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	1.0000	0.9275	7.3	100	0.00
13	T	Acetone	-1.0000	1.4255	0.0	100	0.00
14	C	1,1-Dichloroethene	1.0000	0.8860	11.4	100	0.00
15	T	Tert-Butyl Alcohol	10.0000	8.3879	16.1	100	-0.02
16	T	Dimethyl Sulfide	-1.0000	0.8020	0.0	100	0.00
17	T	Iodomethane	1.0000	0.9594	4.1	100	0.00
18	T	Methyl acetate	-1.0000	0.8675	0.0	100	0.00
19	T	Methylene Chloride	1.0000	1.0288	-2.9	100	0.00
20	T	Carbon Disulfide	1.0000	0.9798	2.0	100	0.00
21	T	Acrylonitrile	2.5000	2.2492	10.0	100	0.00
22	T	Methyl Tert Butyl Ether	1.0000	0.8389	16.1	100	0.00
23	T	trans-1,2-Dichloroethene	1.0000	0.8867	11.3	100	0.00
24	T	n-Hexane	-1.0000	0.7936	0.0	100	0.00
25	T	Diisopropyl ether	5.0000	4.6603	6.8	100	0.00
26	T	Vinyl Acetate	-1.0000	0.6566	0.0	0	0.00
27	P	1,1-Dichloroethane	1.0000	0.8990	10.1	100	0.00
28	T	Ethyl-Tert-Butyl ether	5.0000	4.6086	7.8	100	0.00
29	T	2-Butanone	-1.0000	0.9523	0.0	100	0.00
30	T	Propionitrile	5.0000	4.7256	5.5	100	0.00
31	T	2,2-Dichloropropane	1.0000	0.8939	10.6	100	0.00
32	T	cis-1,2-Dichloroethene	1.0000	0.8865	11.4	100	0.00
33	C	Chloroform	1.0000	0.9573	4.3	100	0.00
34		1-Bromopropane	1.0000	0.7881	21.2#	100	-0.01
35	T	Bromochloromethane	1.0000	0.9783	2.2	100	0.00
36	T	Tetrahydrofuran	5.0000	6.4111	-28.2#	100	0.00
37	S	Dibromofluoromethane	0.5000	0.4686	6.3	100	0.00
38	T	1,1,1-Trichloroethane	1.0000	0.8999	10.0	100	0.00
39	T	Cyclohexane	1.0000	0.7955	20.5#	100	0.00
40	T	1,1-Dichloropropene	1.0000	0.8384	16.2	100	0.00
41	T	Tert-Amyl-Methyl ether	5.0000	4.4422	11.2	100	0.00
42	T	Carbon Tetrachloride	1.0000	0.8971	10.3	100	0.00
43	S	1,2-Dichloroethane-d4	-1.0000	0.4712	0.0	100	0.00
44		Heptane	-1.0000	0.0000	0.0	100	0.00
45	T	1,2-Dichloroethane	1.0000	0.9513	4.9	100	0.00
46	T	Benzene	1.0000	0.9517	4.8	100	0.00
47	T	Trichloroethene	1.0000	0.9256	7.4	100	0.00
48	T	Methylcyclohexane	-1.0000	0.7279	0.0	100	0.00
49	C	1,2-Dichloropropane	1.0000	0.9030	9.7	100	0.00
50	T	1,4-Dioxane	-1.0000	0.0000	0.0	0	-11.91#
51	T	Bromodichloromethane	1.0000	0.9068	9.3	100	0.00
52	T	Dibromomethane	1.0000	0.8930	10.7	100	0.00
53	T	2-Chloroethyl Vinyl Ether	-1.0000	0.5395	0.0	0	0.00
54	T	4-Methyl-2-Pentanone	-1.0000	0.6579	0.0	100	0.00

(#) = Out of Range
6M143419.D 8260WT.M Tue Nov 15 10:13:17 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111216\6M143419.D Vial: 5
Acq On : 12 Nov 2016 17:50 Operator: ADC
Sample : WG591426-04 1.0ug/L STD 8260 Inst : Hpms6
Misc : 1,1 STD78964 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	1.0000	0.7725	22.8#	100	0.00
56	T	Dimethyl Disulfide	-1.0000	2.7909	0.0	0	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58	S	Toluene-d8	0.5000	0.4802	4.0	100	0.00
59	C	Toluene	1.0000	0.9271	7.3	100	0.00
60	T	Ethyl Methacrylate	1.0000	1.0313	-3.1	100	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	100	0.00
62	T	trans-1,3-Dichloropropene	1.0000	0.8152	18.5	100	0.00
63	T	1,1,2-Trichloroethane	1.0000	0.9292	7.1	100	0.00
64	T	2-Hexanone	-1.0000	0.7421	0.0	100	0.00
65	T	1,3-Dichloropropane	1.0000	0.9068	9.3	100	-0.01
66	T	Tetrachloroethene	1.0000	0.9493	5.1	100	0.00
67	T	Dibromochloromethane	1.0000	0.9250	7.5	100	0.00
68	T	1,2-Dibromoethane	1.0000	0.8691	13.1	100	0.00
69	T	1-Chlorohexane	1.0000	0.8952	10.5	100	0.00
70	P	Chlorobenzene	1.0000	0.9803	2.0	100	0.00
71	T	1,1,1,2-Tetrachloroethane	1.0000	0.8798	12.0	100	0.00
72	C	Ethylbenzene	1.0000	0.9050	9.5	100	0.00
73	T	m-,p-Xylene	2.0000	1.7748	11.3	100	-0.01
74	T	o-Xylene	1.0000	0.8032	19.7	100	0.00
75	T	Styrene	1.0000	0.7643	23.6#	100	0.00
76	P	Bromoform	1.0000	0.7634	23.7#	100	0.00
77	T	Isopropylbenzene	1.0000	0.8277	17.2	100	-0.01
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	-0.01
79	P	1,1,2,2-Tetrachloroethane	1.0000	0.9322	6.8	100	0.00
80	S	p-Bromofluorobenzene	0.5000	0.4550	9.0	100	0.00
81	T	1,2,3-Trichloropropane	1.0000	0.9689	3.1	100	0.00
82	T	trans-1,4-Dichloro-2-Butene	1.0000	1.1871	-18.7	100	0.00
83	T	n-Propylbenzene	1.0000	0.8449	15.5	100	0.00
84	T	Bromobenzene	1.0000	0.9021	9.8	100	0.00
85	T	1,3,5-Trimethylbenzene	1.0000	0.7814	21.9#	100	-0.01
86	T	2-Chlorotoluene	1.0000	0.9041	9.6	100	-0.01
87	T	4-Chlorotoluene	1.0000	0.9355	6.5	100	-0.01
88	T	a-Methylstyrene	-1.0000	0.6497	0.0	100	0.00
89	T	tert-Butylbenzene	1.0000	0.7832	21.7#	100	-0.01
90	T	1,2,4-Trimethylbenzene	1.0000	0.8371	16.3	100	-0.01
91	T	sec-Butylbenzene	1.0000	0.8261	17.4	100	-0.01
92	T	p-Isopropyltoluene	1.0000	0.7693	23.1#	100	-0.01
93	T	1,3-Dichlorobenzene	1.0000	0.9492	5.1	100	0.00
94	T	1,4-Dichlorobenzene	1.0000	0.9628	3.7	100	0.00
95	T	n-Butylbenzene	1.0000	0.8172	18.3	100	0.00
96	T	1,2-Dichlorobenzene	1.0000	0.9292	7.1	100	0.00
97	T	1,2-Dibromo-3-Chloropropane	-1.0000	0.4020	0.0	100	0.00
98	T	1,2,4-Trichlorobenzene	1.0000	0.8647	13.5	100	0.00
99	T	Hexachlorobutadiene	1.0000	0.8906	10.9	100	0.00
100	T	Naphthalene	1.0000	0.7686	23.1#	100	0.00
101	T	1,2,3-Trichlorobenzene	1.0000	0.9064	9.4	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M143419.D 8260WT.M Tue Nov 15 10:13:18 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111216\6M143420.D Vial: 6
Acq On : 12 Nov 2016 18:22 Operator: ADC
Sample : WG591426-05 2.0ug/L STD 8260 Inst : Hpms6
Misc : 1,1 STD78964 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:11:50 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.74	96	638878	25.00	ug/L	0.00
57) Chlorobenzene-d5	15.22	117	491924	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.77	152	272003	25.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	9.55	111	7573	1.0231	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery =	4.08%#		
43) 1,2-Dichloroethane-d4	10.28	65	7687	1.0470	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery =	4.20%#		
58) Toluene-d8	13.01	98	23211	1.0208	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery =	4.08%#		
80) p-Bromofluorobenzene	17.00	95	8053	0.9461	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery =	3.80%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.94	85	20699	1.8654	ug/L	90
3) Chloromethane	3.34	50	16964	2.0383	ug/L	95
4) Vinyl Chloride	3.54	62	13779	1.9834	ug/L	99
5) 1,3-Butadiene	3.58	54	13257	2.1833	ug/L	82
6) Bromomethane	4.36	94	5365	1.6557	ug/L	100
7) Chloroethane	4.51	64	8051	1.9714	ug/L	95
8) Trichlorofluoromethane	4.97	101	22574	2.0036	ug/L	97
9) Diethyl ether	5.53	59	130841	26.2728	ug/L	98
10) Isoprene	5.54	67	18958	1.9326	ug/L	93
11) Acrolein	5.76	56	8601	12.2508	ug/L	98
12) 1,1,2-Trichloro-1,2,2-Trif	5.77	101	13958	2.0398	ug/L	96
13) Acetone	5.88	43	3967	2.4087	ug/L #	69
14) 1,1-Dichloroethene	6.08	61	20228	1.9375	ug/L	90
15) Tert-Butyl Alcohol	6.22	59	23380	52.9684	ug/L	90
16) Dimethyl Sulfide	6.36	62	11444	1.7206	ug/L	99
17) Iodomethane	6.61	142	8225	1.7122	ug/L	91
18) Methyl acetate	6.66	43	9396	2.0498	ug/L #	88
19) Methylene Chloride	6.91	84	14778	2.1307	ug/L	85
20) Carbon Disulfide	6.93	76	41037	1.9889	ug/L	99
21) Acrylonitrile	7.12	53	24304	11.8771	ug/L	91
22) Methyl Tert Butyl Ether	7.15	73	28848	1.9505	ug/L	92
23) trans-1,2-Dichloroethene	7.39	96	13298	1.9833	ug/L	88
24) n-Hexane	7.47	57	13448	1.7628	ug/L	97
25) Diisopropyl ether	7.87	45	579717	25.4341	ug/L	97
26) Vinyl Acetate	8.06	43	17405	1.5335	ug/L	96
27) 1,1-Dichloroethane	8.07	63	24714	2.0266	ug/L	97
28) Ethyl-Tert-Butyl ether	8.50	59	469177	25.4625	ug/L	96
29) 2-Butanone	8.71	43	5078	2.0617	ug/L #	75
30) Propionitrile	8.83	54	17462	25.1812	ug/L	99
31) 2,2-Dichloropropane	8.93	77	17915	2.0027	ug/L	99
32) cis-1,2-Dichloroethene	9.00	96	14242	1.9641	ug/L	90
33) Chloroform	9.24	83	25669	2.0351	ug/L	94
34) 1-Bromopropane	9.38	122	2863	1.8438	ug/L	91
35) Bromochloromethane	9.49	130	9904	2.0330	ug/L	98
36) Tetrahydrofuran	9.53	42	45351	25.5169	ug/L	98
38) 1,1,1-Trichloroethane	9.83	97	20297	1.9009	ug/L	97
39) Cyclohexane	9.84	56	19592	1.8757	ug/L	93
40) 1,1-Dichloropropene	10.05	75	16618	1.9375	ug/L	93
41) Tert-Amyl-Methyl ether	10.19	73	368697	25.0979	ug/L	92
42) Carbon Tetrachloride	10.21	117	20323	1.9511	ug/L	98

(#) = qualifier out of range (m) = manual integration
6M143420.D 8260WT.M Tue Nov 15 10:11:53 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111216\6M143420.D Vial: 6
Acq On : 12 Nov 2016 18:22 Operator: ADC
Sample : WG591426-05 2.0ug/L STD 8260 Inst : Hpms6
Misc : 1,1 STD78964 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:11:50 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

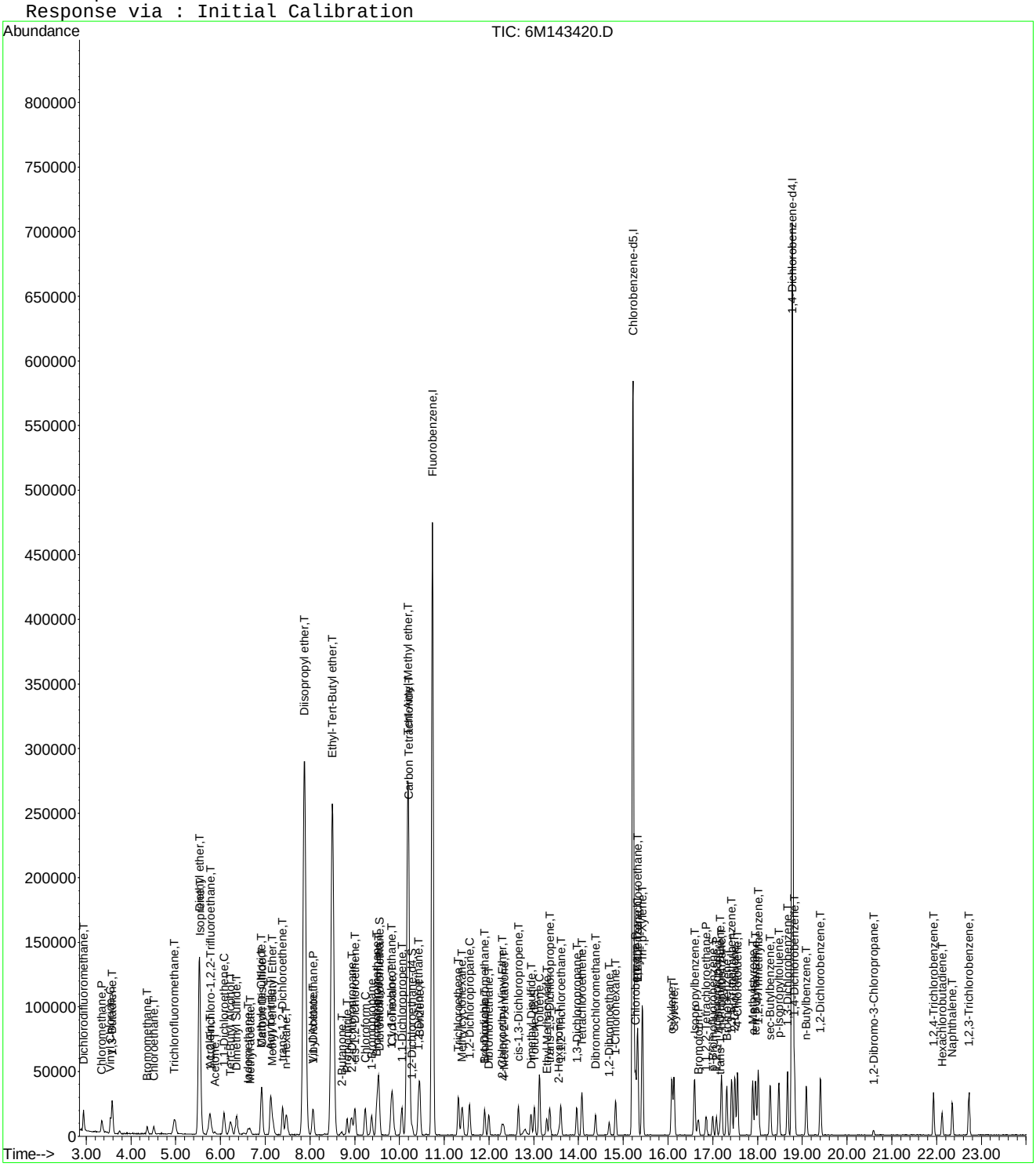
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45)	1,2-Dichloroethane	10.42	62	17889	2.0355	ug/L	94
46)	Benzene	10.45	78	52330	2.0544	ug/L	94
47)	Trichloroethene	11.31	130	16191	2.0255	ug/L	82
48)	Methylcyclohexane	11.39	83	13814	1.5642	ug/L	96
49)	1,2-Dichloropropane	11.56	63	13421	2.0203	ug/L	97
50)	1,4-Dioxane	11.90	88	1880	43.0416	ug/L	89
51)	Bromodichloromethane	11.90	83	17780	1.9568	ug/L	98
52)	Dibromomethane	11.99	93	7702	1.9917	ug/L	99
53)	2-Chloroethyl Vinyl Ether	12.29	63	4654	1.4783	ug/L	91
54)	4-Methyl-2-Pentanone	12.33	58	3056	1.6008	ug/L	87
55)	cis-1,3-Dichloropropene	12.66	75	16574	1.7897	ug/L	97
56)	Dimethyl Disulfide	12.94	79	6577	3.3830	ug/L	83
59)	Toluene	13.13	91	52068	2.0519	ug/L	97
60)	Ethyl Methacrylate	13.30	69	10593	1.9519	ug/L	97
62)	trans-1,3-Dichloropropene	13.36	75	14638	1.7695	ug/L	91
63)	1,1,2-Trichloroethane	13.61	97	11009	2.1420	ug/L	97
64)	2-Hexanone	13.56	43	6144	1.7222	ug/L	94
65)	1,3-Dichloropropane	13.96	76	16669	2.0248	ug/L	99
66)	Tetrachloroethene	14.08	166	15394	1.9812	ug/L	96
67)	Dibromochloromethane	14.38	129	13948	1.9553	ug/L	100
68)	1,2-Dibromoethane	14.68	107	10324	1.9704	ug/L	99
69)	1-Chlorohexane	14.82	91	11823	1.7083	ug/L	94
70)	Chlorobenzene	15.27	112	39768	2.0970	ug/L	98
71)	1,1,1,2-Tetrachloroethane	15.32	131	14010	1.9314	ug/L	95
72)	Ethylbenzene	15.32	106	18352	1.9408	ug/L	94
73)	m-,p-Xylene	15.42	106	45329	4.0974	ug/L	93
74)	o-Xylene	16.08	106	19091	1.7722	ug/L	94
75)	Styrene	16.13	104	34137	1.8814	ug/L	94
76)	Bromoform	16.68	173	8680	1.8358	ug/L	92
77)	Isopropylbenzene	16.60	105	48386	1.8822	ug/L	97
79)	1,1,2,2-Tetrachloroethane	16.85	83	11135	1.9649	ug/L	100
81)	1,2,3-Trichloropropane	17.08	110	3788	2.0532	ug/L	95
82)	trans-1,4-Dichloro-2-Buten	17.16	53	1995	2.0461	ug/L	90
83)	n-Propylbenzene	17.19	91	55479	1.9757	ug/L	97
84)	Bromobenzene	17.31	156	17077	2.0401	ug/L	87
85)	1,3,5-Trimethylbenzene	17.42	105	39180	1.9000	ug/L	98
86)	2-Chlorotoluene	17.49	91	40028	2.0395	ug/L	92
87)	4-Chlorotoluene	17.55	91	41464	2.1440	ug/L	98
88)	a-Methylstyrene	17.90	118	20646	1.5201	ug/L	93
89)	tert-Butylbenzene	17.96	134	9263	1.8928	ug/L	80
90)	1,2,4-Trimethylbenzene	18.02	105	44195	1.9533	ug/L	95
91)	sec-Butylbenzene	18.27	105	46194	1.9242	ug/L	100
92)	p-Isopropyltoluene	18.48	119	39161	1.8326	ug/L	97
93)	1,3-Dichlorobenzene	18.67	146	31630	2.0465	ug/L	94
94)	1,4-Dichlorobenzene	18.82	146	33166	2.0679	ug/L	92
95)	n-Butylbenzene	19.09	91	32790	1.8634	ug/L	99
96)	1,2-Dichlorobenzene	19.40	146	30657	2.0690	ug/L	94
97)	1,2-Dibromo-3-Chloropropan	20.59	75	1689	1.6877	ug/L	77
98)	1,2,4-Trichlorobenzene	21.93	180	17004	1.8390	ug/L	97
99)	Hexachlorobutadiene	22.12	225	7145	2.0313	ug/L	92
100)	Naphthalene	22.35	128	32014	1.7176	ug/L	99
101)	1,2,3-Trichlorobenzene	22.73	180	16923	1.9284	ug/L	96

(#) = qualifier out of range (m) = manual integration
6M143420.D 8260WT.M Tue Nov 15 10:11:53 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111216\6M143420.D Vial: 6
Acq On : 12 Nov 2016 18:22 Operator: ADC
Sample : WG591426-05 2.0ug/L STD 8260 Inst : Hpms6
Misc : 1,1 STD78964 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:11 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111216\6M143420.D Vial: 6
Acq On : 12 Nov 2016 18:22 Operator: ADC
Sample : WG591426-05 2.0ug/L STD 8260 Inst : Hpms6
Misc : 1,1 STD78964 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% 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	Dichlorodifluoromethane	2.0000	1.8654	6.7	100	0.00
3	P	Chloromethane	2.0000	2.0383	-1.9	100	0.00
4	C	Vinyl Chloride	2.0000	1.9834	0.8	100	0.00
5	T	1,3-Butadiene	2.0000	2.1833	-9.2	100	0.02
6	T	Bromomethane	2.0000	1.6557	17.2	100	0.01
7	T	Chloroethane	2.0000	1.9714	1.4	100	0.02
8	T	Trichlorofluoromethane	2.0000	2.0036	-0.2	100	0.00
9	T	Diethyl ether	25.0000	26.2728	-5.1	100	0.00
10	T	Isoprene	-1.0000	1.9326	0.0	100	0.00
11	T	Acrolein	12.5000	12.2508	2.0	100	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	2.0000	2.0398	-2.0	100	0.02
13	T	Acetone	-1.0000	2.4087	0.0	100	0.00
14	C	1,1-Dichloroethene	2.0000	1.9376	3.1	100	0.00
15	T	Tert-Butyl Alcohol	50.0000	52.9684	-5.9	100	-0.02
16	T	Dimethyl Sulfide	-1.0000	1.7206	0.0	100	0.00
17	T	Iodomethane	2.0000	1.7122	14.4	100	0.00
18	T	Methyl acetate	-1.0000	2.0498	0.0	100	0.00
19	T	Methylene Chloride	2.0000	2.1307	-6.5	100	0.00
20	T	Carbon Disulfide	2.0000	1.9889	0.6	100	0.00
21	T	Acrylonitrile	12.5000	11.8771	5.0	100	0.00
22	T	Methyl Tert Butyl Ether	2.0000	1.9505	2.5	100	0.00
23	T	trans-1,2-Dichloroethene	2.0000	1.9833	0.8	100	0.00
24	T	n-Hexane	-1.0000	1.7628	0.0	100	0.00
25	T	Diisopropyl ether	25.0000	25.4341	-1.7	100	0.00
26	T	Vinyl Acetate	-1.0000	1.5335	0.0	0	0.00
27	P	1,1-Dichloroethane	2.0000	2.0266	-1.3	100	0.00
28	T	Ethyl-Tert-Butyl ether	25.0000	25.4625	-1.8	100	0.00
29	T	2-Butanone	-1.0000	2.0617	0.0	100	0.00
30	T	Propionitrile	25.0000	25.1812	-0.7	100	0.00
31	T	2,2-Dichloropropane	2.0000	2.0027	-0.1	100	0.00
32	T	cis-1,2-Dichloroethene	2.0000	1.9641	1.8	100	0.00
33	C	Chloroform	2.0000	2.0351	-1.8	100	0.00
34		1-Bromopropane	2.0000	1.8438	7.8	100	0.00
35	T	Bromochloromethane	2.0000	2.0330	-1.7	100	0.00
36	T	Tetrahydrofuran	25.0000	25.5169	-2.1	100	0.00
37	S	Dibromofluoromethane	1.0000	1.0231	-2.3	100	0.00
38	T	1,1,1-Trichloroethane	2.0000	1.9009	5.0	100	0.00
39	T	Cyclohexane	2.0000	1.8757	6.2	100	0.00
40	T	1,1-Dichloropropene	2.0000	1.9375	3.1	100	0.00
41	T	Tert-Amyl-Methyl ether	25.0000	25.0979	-0.4	100	0.00
42	T	Carbon Tetrachloride	2.0000	1.9511	2.4	100	0.00
43	S	1,2-Dichloroethane-d4	1.0000	1.0470	-4.7	100	0.00
44		Heptane	-1.0000	0.0000	0.0	100	-0.01
45	T	1,2-Dichloroethane	2.0000	2.0355	-1.8	100	0.00
46	T	Benzene	2.0000	2.0544	-2.7	100	0.00
47	T	Trichloroethene	2.0000	2.0255	-1.3	100	0.00
48	T	Methylcyclohexane	-1.0000	1.5642	0.0	100	0.00
49	C	1,2-Dichloropropane	2.0000	2.0203	-1.0	100	0.00
50	T	1,4-Dioxane	-1.0000	43.0416	0.0	100	-0.01
51	T	Bromodichloromethane	2.0000	1.9568	2.2	100	0.00
52	T	Dibromomethane	2.0000	1.9917	0.4	100	0.00
53	T	2-Chloroethyl Vinyl Ether	2.0000	1.4783	26.1#	100	0.01
54	T	4-Methyl-2-Pentanone	-1.0000	1.6008	0.0	100	0.00

(#) = Out of Range
6M143420.D 8260WT.M Tue Nov 15 10:13:29 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111216\6M143420.D Vial: 6
Acq On : 12 Nov 2016 18:22 Operator: ADC
Sample : WG591426-05 2.0ug/L STD 8260 Inst : Hpms6
Misc : 1,1 STD78964 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	2.0000	1.7897	10.5	100	0.00
56	T	Dimethyl Disulfide	-1.0000	3.3830	0.0	0	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58	S	Toluene-d8	1.0000	1.0208	-2.1	100	0.00
59	C	Toluene	2.0000	2.0519	-2.6	100	0.00
60	T	Ethyl Methacrylate	2.0000	1.9519	2.4	100	0.01
61		Paraldehyde	-1.0000	0.0000	0.0	100	0.00
62	T	trans-1,3-Dichloropropene	2.0000	1.7695	11.5	100	0.00
63	T	1,1,2-Trichloroethane	2.0000	2.1420	-7.1	100	0.00
64	T	2-Hexanone	-1.0000	1.7222	0.0	100	0.00
65	T	1,3-Dichloropropane	2.0000	2.0248	-1.2	100	0.00
66	T	Tetrachloroethene	2.0000	1.9813	0.9	100	0.00
67	T	Dibromochloromethane	2.0000	1.9553	2.2	100	0.00
68	T	1,2-Dibromoethane	2.0000	1.9704	1.5	100	0.00
69	T	1-Chlorohexane	2.0000	1.7083	14.6	100	-0.01
70	P	Chlorobenzene	2.0000	2.0970	-4.8	100	0.00
71	T	1,1,1,2-Tetrachloroethane	2.0000	1.9314	3.4	100	0.00
72	C	Ethylbenzene	2.0000	1.9408	3.0	100	0.00
73	T	m-,p-Xylene	4.0000	4.0974	-2.4	100	-0.01
74	T	o-Xylene	2.0000	1.7722	11.4	100	-0.01
75	T	Styrene	2.0000	1.8814	5.9	100	0.00
76	P	Bromoform	2.0000	1.8358	8.2	100	0.00
77	T	Isopropylbenzene	2.0000	1.8822	5.9	100	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	-0.01
79	P	1,1,2,2-Tetrachloroethane	2.0000	1.9649	1.8	100	0.00
80	S	p-Bromofluorobenzene	1.0000	0.9461	5.4	100	0.00
81	T	1,2,3-Trichloropropane	2.0000	2.0532	-2.7	100	0.00
82	T	trans-1,4-Dichloro-2-Butene	2.0000	2.0461	-2.3	100	0.01
83	T	n-Propylbenzene	2.0000	1.9756	1.2	100	0.00
84	T	Bromobenzene	2.0000	2.0401	-2.0	100	0.00
85	T	1,3,5-Trimethylbenzene	2.0000	1.9001	5.0	100	-0.01
86	T	2-Chlorotoluene	2.0000	2.0395	-2.0	100	-0.01
87	T	4-Chlorotoluene	2.0000	2.1440	-7.2	100	-0.01
88	T	a-Methylstyrene	-1.0000	1.5201	0.0	100	0.00
89	T	tert-Butylbenzene	2.0000	1.8928	5.4	100	-0.01
90	T	1,2,4-Trimethylbenzene	2.0000	1.9533	2.3	100	-0.01
91	T	sec-Butylbenzene	2.0000	1.9242	3.8	100	-0.01
92	T	p-Isopropyltoluene	2.0000	1.8326	8.4	100	0.00
93	T	1,3-Dichlorobenzene	2.0000	2.0465	-2.3	100	0.00
94	T	1,4-Dichlorobenzene	2.0000	2.0679	-3.4	100	0.00
95	T	n-Butylbenzene	2.0000	1.8634	6.8	100	0.00
96	T	1,2-Dichlorobenzene	2.0000	2.0690	-3.5	100	-0.01
97	T	1,2-Dibromo-3-Chloropropane	2.0000	1.6877	15.6	100	0.00
98	T	1,2,4-Trichlorobenzene	2.0000	1.8390	8.1	100	0.00
99	T	Hexachlorobutadiene	2.0000	2.0313	-1.6	100	0.00
100	T	Naphthalene	2.0000	1.7176	14.1	100	0.00
101	T	1,2,3-Trichlorobenzene	2.0000	1.9284	3.6	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M143420.D 8260WT.M Tue Nov 15 10:13:29 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111216\6M143421.D Vial: 7
Acq On : 12 Nov 2016 18:54 Operator: ADC
Sample : WG591426-06 5.0ug/L STD 8260 Inst : Hpms6
Misc : 1,1 STD78964 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:11:55 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.74	96	635762	25.00	ug/L	0.00
57) Chlorobenzene-d5	15.21	117	495478	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.78	152	277398	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.56	111	18756	2.5463	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 10.20%#			
43) 1,2-Dichloroethane-d4	10.28	65	19481	2.6664	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 10.68%#			
58) Toluene-d8	13.02	98	59723	2.6077	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 10.44%#			
80) p-Bromofluorobenzene	16.99	95	21886	2.5213	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 10.08%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.93	85	51777	4.6889	ug/L	92
3) Chloromethane	3.35	50	41674	5.0320	ug/L	99
4) Vinyl Chloride	3.54	62	35293	5.1051	ug/L	100
5) 1,3-Butadiene	3.57	54	29918	5.1414	ug/L	93
6) Bromomethane	4.36	94	13305	4.1262	ug/L	96
7) Chloroethane	4.51	64	20588	5.0659	ug/L	100
8) Trichlorofluoromethane	4.98	101	59370	5.2954	ug/L	99
9) Diethyl ether	5.52	59	253944	51.2417	ug/L	97
10) Isoprene	5.54	67	47331	4.8487	ug/L	96
11) Acrolein	5.77	56	16859	24.1308	ug/L	97
12) 1,1,2-Trichloro-1,2,2-Trif	5.77	101	34683	5.0934	ug/L	96
13) Acetone	5.88	43	8502	5.1876	ug/L	95
14) 1,1-Dichloroethene	6.07	61	51478	4.9550	ug/L	89
15) Tert-Butyl Alcohol	6.23	59	44088	100.3728	ug/L	89
16) Dimethyl Sulfide	6.36	62	30817	4.6561	ug/L	98
17) Iodomethane	6.62	142	30310	4.6081	ug/L	98
18) Methyl acetate	6.66	43	23828	5.2238	ug/L	94
19) Methylene Chloride	6.91	84	35960	5.2102	ug/L	85
20) Carbon Disulfide	6.93	76	102579	4.9961	ug/L	100
21) Acrylonitrile	7.12	53	48623	23.8780	ug/L	94
22) Methyl Tert Butyl Ether	7.15	73	73662	5.0049	ug/L	97
23) trans-1,2-Dichloroethene	7.39	96	34257	5.1342	ug/L	87
24) n-Hexane	7.47	57	34741	4.5761	ug/L	94
25) Diisopropyl ether	7.87	45	1164530	51.3423	ug/L	97
26) Vinyl Acetate	8.06	43	48935	4.3326	ug/L	99
27) 1,1-Dichloroethane	8.08	63	62514	5.1514	ug/L	98
28) Ethyl-Tert-Butyl ether	8.50	59	933479	50.9087	ug/L	95
29) 2-Butanone	8.71	43	12108	4.9401	ug/L	91
30) Propionitrile	8.82	54	34797	50.4252	ug/L	100
31) 2,2-Dichloropropane	8.92	77	45083	5.0645	ug/L	99
32) cis-1,2-Dichloroethene	8.99	96	36511	5.0599	ug/L	99
33) Chloroform	9.23	83	62515	4.9806	ug/L	96
34) 1-Bromopropane	9.38	122	7426	4.8059	ug/L	97
35) Bromochloromethane	9.49	130	25907	5.3440	ug/L	97
36) Tetrahydrofuran	9.53	42	85320	48.2410	ug/L	98
38) 1,1,1-Trichloroethane	9.82	97	53825	5.0656	ug/L	92
39) Cyclohexane	9.84	56	51038	4.9102	ug/L	90
40) 1,1-Dichloropropene	10.05	75	43206	5.0620	ug/L	93
41) Tert-Amyl-Methyl ether	10.19	73	741910	50.7508	ug/L	93
42) Carbon Tetrachloride	10.20	117	52177	5.0338	ug/L	97

(#) = qualifier out of range (m) = manual integration
6M143421.D 8260WT.M Tue Nov 15 10:11:57 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111216\6M143421.D Vial: 7
Acq On : 12 Nov 2016 18:54 Operator: ADC
Sample : WG591426-06 5.0ug/L STD 8260 Inst : Hpms6
Misc : 1,1 STD78964 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:11:55 2016 Quant Results File: 8260WT.RES

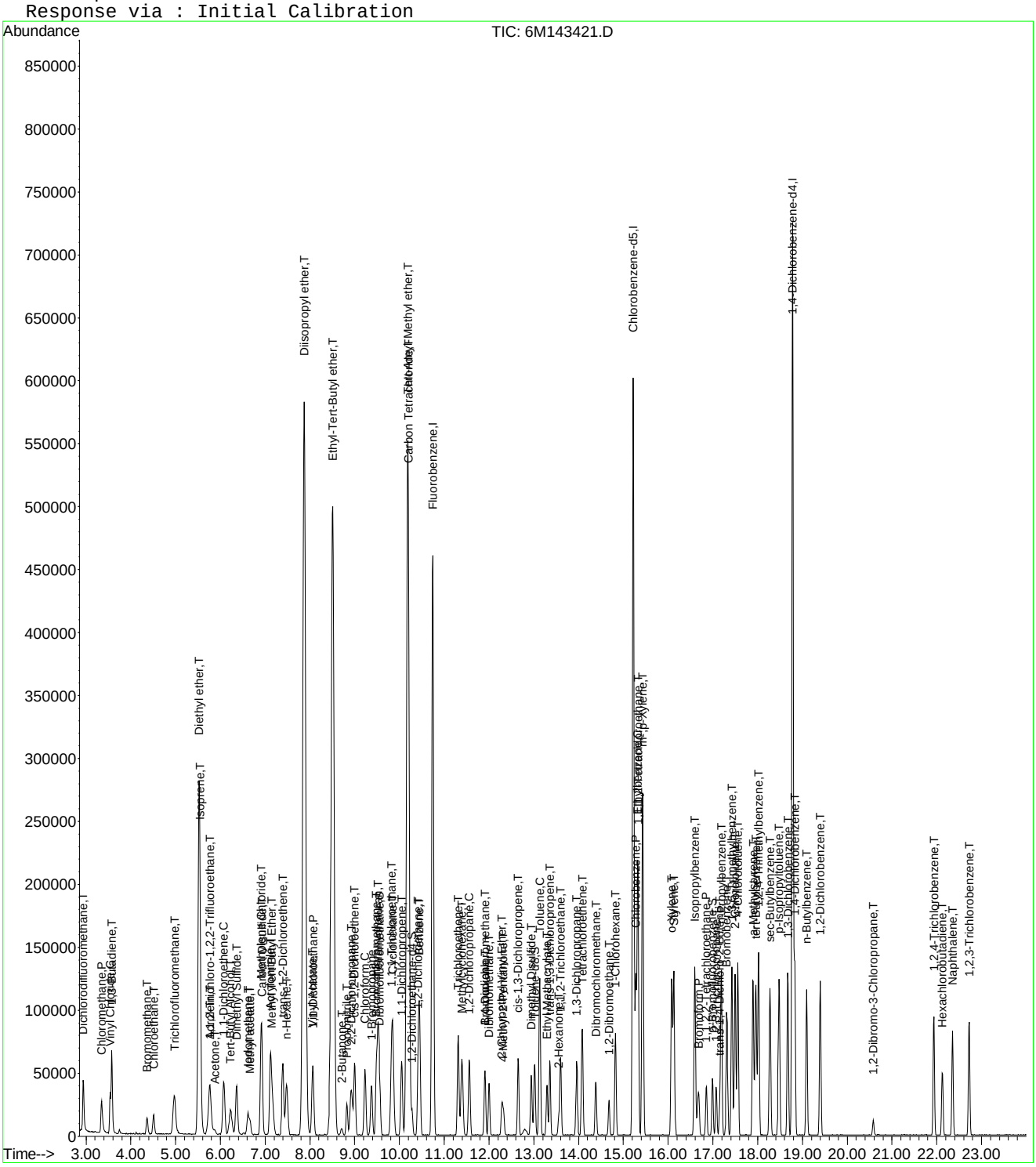
Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45)	1,2-Dichloroethane	10.41	62	44585	5.0980	ug/L	95
46)	Benzene	10.44	78	131054	5.1703	ug/L	93
47)	Trichloroethene	11.31	130	40840	5.1341	ug/L	82
48)	Methylcyclohexane	11.39	83	39819	4.5311	ug/L	93
49)	1,2-Dichloropropane	11.56	63	33105	5.0078	ug/L	96
50)	1,4-Dioxane	11.91	88	3748	86.2290	ug/L	97
51)	Bromodichloromethane	11.91	83	44389	4.9092	ug/L	100
52)	Dibromomethane	12.00	93	19359	5.0306	ug/L	96
53)	2-Chloroethyl Vinyl Ether	12.28	63	13145	4.1959	ug/L	96
54)	4-Methyl-2-Pentanone	12.31	58	8507	4.4779	ug/L	96
55)	cis-1,3-Dichloropropene	12.65	75	45197	4.9044	ug/L	98
56)	Dimethyl Disulfide	12.94	79	18799	5.3843	ug/L	94
59)	Toluene	13.13	91	135026	5.2828	ug/L	99
60)	Ethyl Methacrylate	13.29	69	29711	4.7346	ug/L	97
62)	trans-1,3-Dichloropropene	13.36	75	40662	4.8801	ug/L	93
63)	1,1,2-Trichloroethane	13.60	97	26898	5.1959	ug/L	98
64)	2-Hexanone	13.56	43	16477	4.5854	ug/L	86
65)	1,3-Dichloropropane	13.96	76	43726	5.2734	ug/L	94
66)	Tetrachloroethene	14.08	166	39917	5.1006	ug/L	96
67)	Dibromochloromethane	14.39	129	35527	4.9446	ug/L	98
68)	1,2-Dibromoethane	14.68	107	26668	5.0533	ug/L	100
69)	1-Chlorohexane	14.83	91	35679	4.6134	ug/L	96
70)	Chlorobenzene	15.28	112	98465	5.1548	ug/L	92
71)	1,1,1,2-Tetrachloroethane	15.33	131	36916	5.0526	ug/L	94
72)	Ethylbenzene	15.32	106	49340	5.1805	ug/L	92
73)	m-,p-Xylene	15.43	106	119934	10.7634	ug/L	91
74)	o-Xylene	16.08	106	53649	4.9446	ug/L	94
75)	Styrene	16.13	104	95213	5.2099	ug/L	92
76)	Bromoform	16.68	173	23315	4.8958	ug/L	95
77)	Isopropylbenzene	16.59	105	135896	5.2485	ug/L	98
79)	1,1,2,2-Tetrachloroethane	16.85	83	28982	5.0148	ug/L	98
81)	1,2,3-Trichloropropane	17.07	110	9743	5.1783	ug/L	93
82)	trans-1,4-Dichloro-2-Buten	17.15	53	6445	4.4528	ug/L	95
83)	n-Propylbenzene	17.19	91	158594	5.5378	ug/L	98
84)	Bromobenzene	17.31	156	44921	5.2621	ug/L	86
85)	1,3,5-Trimethylbenzene	17.42	105	113059	5.3762	ug/L	99
86)	2-Chlorotoluene	17.49	91	108237	5.4075	ug/L	94
87)	4-Chlorotoluene	17.55	91	105029	5.3251	ug/L	92
88)	a-Methylstyrene	17.90	118	61571	4.4451	ug/L	94
89)	tert-Butylbenzene	17.96	134	26111	5.2318	ug/L	81
90)	1,2,4-Trimethylbenzene	18.02	105	122773	5.3207	ug/L	95
91)	sec-Butylbenzene	18.28	105	127867	5.2227	ug/L	98
92)	p-Isopropyltoluene	18.47	119	112334	5.1546	ug/L	100
93)	1,3-Dichlorobenzene	18.68	146	82026	5.2040	ug/L	95
94)	1,4-Dichlorobenzene	18.83	146	83855	5.1267	ug/L	99
95)	n-Butylbenzene	19.09	91	92072	5.1306	ug/L	95
96)	1,2-Dichlorobenzene	19.40	146	77312	5.1163	ug/L	96
97)	1,2-Dibromo-3-Chloropropan	20.58	75	4919	4.8196	ug/L	96
98)	1,2,4-Trichlorobenzene	21.93	180	46674	4.9496	ug/L	98
99)	Hexachlorobutadiene	22.12	225	18227	5.0811	ug/L	97
100)	Naphthalene	22.35	128	94032	4.9469	ug/L	100
101)	1,2,3-Trichlorobenzene	22.73	180	45602	5.0953	ug/L	98

(#) = qualifier out of range (m) = manual integration
6M143421.D 8260WT.M Tue Nov 15 10:11:58 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111216\6M143421.D Vial: 7
Acq On : 12 Nov 2016 18:54 Operator: ADC
Sample : WG591426-06 5.0ug/L STD 8260 Inst : Hpms6
Misc : 1,1 STD78964 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:11 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111216\6M143421.D Vial: 7
Acq On : 12 Nov 2016 18:54 Operator: ADC
Sample : WG591426-06 5.0ug/L STD 8260 Inst : Hpms6
Misc : 1,1 STD78964 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% 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	Dichlorodifluoromethane	5.0000	4.6889	6.2	100	0.00
3	P	Chloromethane	5.0000	5.0320	-0.6	100	0.00
4	C	Vinyl Chloride	5.0000	5.1052	-2.1	100	0.01
5	T	1,3-Butadiene	5.0000	5.1414	-2.8	100	0.01
6	T	Bromomethane	5.0000	4.1262	17.5	100	0.01
7	T	Chloroethane	5.0000	5.0659	-1.3	100	0.02
8	T	Trichlorofluoromethane	5.0000	5.2954	-5.9	100	0.02
9	T	Diethyl ether	50.0000	51.2417	-2.5	100	0.00
10	T	Isoprene	5.0000	4.8487	3.0	100	0.01
11	T	Acrolein	25.0000	24.1308	3.5	100	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	5.0000	5.0934	-1.9	100	0.01
13	T	Acetone	5.0000	5.1876	-3.8	100	0.00
14	C	1,1-Dichloroethene	5.0000	4.9550	0.9	100	0.00
15	T	Tert-Butyl Alcohol	100.0000	100.3728	-0.4	100	-0.02
16	T	Dimethyl Sulfide	5.0000	4.6561	6.9	100	0.01
17	T	Iodomethane	5.0000	4.6081	7.8	100	0.00
18	T	Methyl acetate	5.0000	5.2238	-4.5	100	0.00
19	T	Methylene Chloride	5.0000	5.2102	-4.2	100	0.01
20	T	Carbon Disulfide	5.0000	4.9961	0.1	100	0.01
21	T	Acrylonitrile	25.0000	23.8780	4.5	100	0.00
22	T	Methyl Tert Butyl Ether	5.0000	5.0049	-0.1	100	0.00
23	T	trans-1,2-Dichloroethene	5.0000	5.1342	-2.7	100	0.00
24	T	n-Hexane	5.0000	4.5762	8.5	100	0.00
25	T	Diisopropyl ether	50.0000	51.3423	-2.7	100	0.00
26	T	Vinyl Acetate	5.0000	4.3326	13.3	100	0.00
27	P	1,1-Dichloroethane	5.0000	5.1514	-3.0	100	0.01
28	T	Ethyl-Tert-Butyl ether	50.0000	50.9087	-1.8	100	0.00
29	T	2-Butanone	5.0000	4.9401	1.2	100	0.00
30	T	Propionitrile	50.0000	50.4252	-0.9	100	0.00
31	T	2,2-Dichloropropane	5.0000	5.0645	-1.3	100	0.00
32	T	cis-1,2-Dichloroethene	5.0000	5.0599	-1.2	100	0.00
33	C	Chloroform	5.0000	4.9806	0.4	100	0.00
34		1-Bromopropane	5.0000	4.8059	3.9	100	0.00
35	T	Bromochloromethane	5.0000	5.3440	-6.9	100	0.00
36	T	Tetrahydrofuran	50.0000	48.2410	3.5	100	0.00
37	S	Dibromofluoromethane	2.5000	2.5463	-1.9	100	0.00
38	T	1,1,1-Trichloroethane	5.0000	5.0656	-1.3	100	0.00
39	T	Cyclohexane	5.0000	4.9102	1.8	100	0.00
40	T	1,1-Dichloropropene	5.0000	5.0620	-1.2	100	0.00
41	T	Tert-Amyl-Methyl ether	50.0000	50.7508	-1.5	100	0.00
42	T	Carbon Tetrachloride	5.0000	5.0338	-0.7	100	0.00
43	S	1,2-Dichloroethane-d4	2.5000	2.6664	-6.7	100	0.00
44		Heptane	-1.0000	0.0000	0.0	100	0.00
45	T	1,2-Dichloroethane	5.0000	5.0980	-2.0	100	0.00
46	T	Benzene	5.0000	5.1703	-3.4	100	0.00
47	T	Trichloroethene	5.0000	5.1341	-2.7	100	0.00
48	T	Methylcyclohexane	5.0000	4.5310	9.4	100	0.00
49	C	1,2-Dichloropropane	5.0000	5.0077	-0.2	100	0.00
50	T	1,4-Dioxane	100.0000	86.2290	13.8	100	0.00
51	T	Bromodichloromethane	5.0000	4.9092	1.8	100	0.00
52	T	Dibromomethane	5.0000	5.0306	-0.6	100	0.00
53	T	2-Chloroethyl Vinyl Ether	5.0000	4.1959	16.1	100	0.00
54	T	4-Methyl-2-Pentanone	5.0000	4.4779	10.4	100	0.00

(#) = Out of Range
6M143421.D 8260WT.M Tue Nov 15 10:13:41 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111216\6M143421.D Vial: 7
Acq On : 12 Nov 2016 18:54 Operator: ADC
Sample : WG591426-06 5.0ug/L STD 8260 Inst : Hpms6
Misc : 1,1 STD78964 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	5.0000	4.9044	1.9	100	0.00
56	T	Dimethyl Disulfide	5.0000	5.3843	-7.7	100	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58	S	Toluene-d8	2.5000	2.6077	-4.3	100	0.00
59	C	Toluene	5.0000	5.2828	-5.7	100	0.00
60	T	Ethyl Methacrylate	5.0000	4.7346	5.3	100	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	100	0.00
62	T	trans-1,3-Dichloropropene	5.0000	4.8801	2.4	100	0.00
63	T	1,1,2-Trichloroethane	5.0000	5.1959	-3.9	100	0.00
64	T	2-Hexanone	5.0000	4.5854	8.3	100	0.00
65	T	1,3-Dichloropropane	5.0000	5.2734	-5.5	100	0.00
66	T	Tetrachloroethene	5.0000	5.1006	-2.0	100	0.00
67	T	Dibromochloromethane	5.0000	4.9446	1.1	100	0.00
68	T	1,2-Dibromoethane	5.0000	5.0533	-1.1	100	0.00
69	T	1-Chlorohexane	5.0000	4.6134	7.7	100	0.00
70	P	Chlorobenzene	5.0000	5.1548	-3.1	100	0.00
71	T	1,1,1,2-Tetrachloroethane	5.0000	5.0526	-1.1	100	0.00
72	C	Ethylbenzene	5.0000	5.1805	-3.6	100	0.00
73	T	m-,p-Xylene	10.0000	10.7634	-7.6	100	0.00
74	T	o-Xylene	5.0000	4.9446	1.1	100	0.00
75	T	Styrene	5.0000	5.2099	-4.2	100	0.00
76	P	Bromoform	5.0000	4.8958	2.1	100	0.00
77	T	Isopropylbenzene	5.0000	5.2485	-5.0	100	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
79	P	1,1,2,2-Tetrachloroethane	5.0000	5.0149	-0.3	100	0.00
80	S	p-Bromofluorobenzene	2.5000	2.5213	-0.9	100	0.00
81	T	1,2,3-Trichloropropane	5.0000	5.1783	-3.6	100	0.00
82	T	trans-1,4-Dichloro-2-Butene	5.0000	4.4528	10.9	100	0.00
83	T	n-Propylbenzene	5.0000	5.5378	-10.8	100	0.00
84	T	Bromobenzene	5.0000	5.2621	-5.2	100	0.00
85	T	1,3,5-Trimethylbenzene	5.0000	5.3762	-7.5	100	0.00
86	T	2-Chlorotoluene	5.0000	5.4075	-8.2	100	0.00
87	T	4-Chlorotoluene	5.0000	5.3251	-6.5	100	0.00
88	T	a-Methylstyrene	5.0000	4.4451	11.1	100	0.00
89	T	tert-Butylbenzene	5.0000	5.2318	-4.6	100	0.00
90	T	1,2,4-Trimethylbenzene	5.0000	5.3207	-6.4	100	0.00
91	T	sec-Butylbenzene	5.0000	5.2227	-4.5	100	0.00
92	T	p-Isopropyltoluene	5.0000	5.1546	-3.1	100	0.00
93	T	1,3-Dichlorobenzene	5.0000	5.2040	-4.1	100	0.00
94	T	1,4-Dichlorobenzene	5.0000	5.1267	-2.5	100	0.00
95	T	n-Butylbenzene	5.0000	5.1306	-2.6	100	0.00
96	T	1,2-Dichlorobenzene	5.0000	5.1163	-2.3	100	0.00
97	T	1,2-Dibromo-3-Chloropropane	5.0000	4.8196	3.6	100	0.00
98	T	1,2,4-Trichlorobenzene	5.0000	4.9496	1.0	100	0.00
99	T	Hexachlorobutadiene	5.0000	5.0811	-1.6	100	0.00
100	T	Naphthalene	5.0000	4.9469	1.1	100	0.00
101	T	1,2,3-Trichlorobenzene	5.0000	5.0953	-1.9	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M143421.D 8260WT.M Tue Nov 15 10:13:42 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111216\6M143422.D Vial: 8
Acq On : 12 Nov 2016 19:26 Operator: ADC
Sample : WG591426-07 20.0ug/L STD 8260 Inst : Hpms6
Misc : 1,1 STD78964 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:12:00 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.74	96	636975	25.00	ug/L	0.00
57) Chlorobenzene-d5	15.21	117	503615	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.78	152	289914	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.56	111	75900	10.2847	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 41.12%#			
43) 1,2-Dichloroethane-d4	10.28	65	74392	10.1628	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 40.64%#			
58) Toluene-d8	13.02	98	244409	10.4994	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 42.00%#			
80) p-Bromofluorobenzene	16.99	95	93092	10.2615	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 41.04%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.93	85	246493	22.2798	ug/L	95
3) Chloromethane	3.35	50	178665	21.5320	ug/L	99
4) Vinyl Chloride	3.54	62	151613	21.8891	ug/L	100
5) 1,3-Butadiene	3.57	54	122403	21.8713	ug/L	95
6) Bromomethane	4.36	94	55500	17.1789	ug/L	100
7) Chloroethane	4.50	64	87257	21.4297	ug/L	99
8) Trichlorofluoromethane	4.97	101	243282	21.6577	ug/L	98
9) Diethyl ether	5.52	59	403832	81.3315	ug/L	97
10) Isoprene	5.54	67	206716	21.1361	ug/L	95
11) Acrolein	5.76	56	28282	40.4038	ug/L	100
12) 1,1,2-Trichloro-1,2,2-Trif	5.77	101	142669	20.9119	ug/L	95
13) Acetone	5.87	43	33416	20.3504	ug/L	98
14) 1,1-Dichloroethene	6.07	61	217645	20.9095	ug/L	88
15) Tert-Butyl Alcohol	6.23	59	69578	158.1028	ug/L	92
16) Dimethyl Sulfide	6.36	62	138193	20.8395	ug/L	97
17) Iodomethane	6.62	142	166536	22.3972	ug/L	99
18) Methyl acetate	6.66	43	94096	20.5894	ug/L	99
19) Methylene Chloride	6.91	84	142151	20.5570	ug/L	87
20) Carbon Disulfide	6.93	76	440223	21.4000	ug/L	100
21) Acrylonitrile	7.12	53	81108	39.7550	ug/L	95
22) Methyl Tert Butyl Ether	7.15	73	310494	21.0561	ug/L	97
23) trans-1,2-Dichloroethene	7.39	96	142675	21.3425	ug/L	87
24) n-Hexane	7.47	57	160880	21.1511	ug/L	98
25) Diisopropyl ether	7.87	45	1876176	82.5601	ug/L	97
26) Vinyl Acetate	8.06	43	242454	21.4256	ug/L	98
27) 1,1-Dichloroethane	8.07	63	255009	20.9737	ug/L	100
28) Ethyl-Tert-Butyl ether	8.50	59	1510138	82.2009	ug/L	95
29) 2-Butanone	8.71	43	49356	20.0990	ug/L	96
30) Propionitrile	8.82	54	55349	80.0549	ug/L	99
31) 2,2-Dichloropropane	8.92	77	186380	20.8977	ug/L	99
32) cis-1,2-Dichloroethene	8.99	96	156008	21.5792	ug/L	86
33) Chloroform	9.23	83	248573	19.7664	ug/L	97
34) 1-Bromopropane	9.38	122	33917	21.9081	ug/L	99
35) Bromochloromethane	9.49	130	102584	21.1205	ug/L	99
36) Tetrahydrofuran	9.53	42	133335	75.2457	ug/L	99
38) 1,1,1-Trichloroethane	9.82	97	223381	20.9828	ug/L	95
39) Cyclohexane	9.84	56	223174	21.4299	ug/L	92
40) 1,1-Dichloropropene	10.05	75	180617	21.1207	ug/L	93
41) Tert-Amyl-Methyl ether	10.19	73	1197968	81.7916	ug/L	94
42) Carbon Tetrachloride	10.20	117	216867	20.8827	ug/L	98

(#) = qualifier out of range (m) = manual integration
6M143422.D 8260WT.M Tue Nov 15 10:12:02 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111216\6M143422.D Vial: 8
Acq On : 12 Nov 2016 19:26 Operator: ADC
Sample : WG591426-07 20.0ug/L STD 8260 Inst : Hpms6
Misc : 1,1 STD78964 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:12:00 2016 Quant Results File: 8260WT.RES

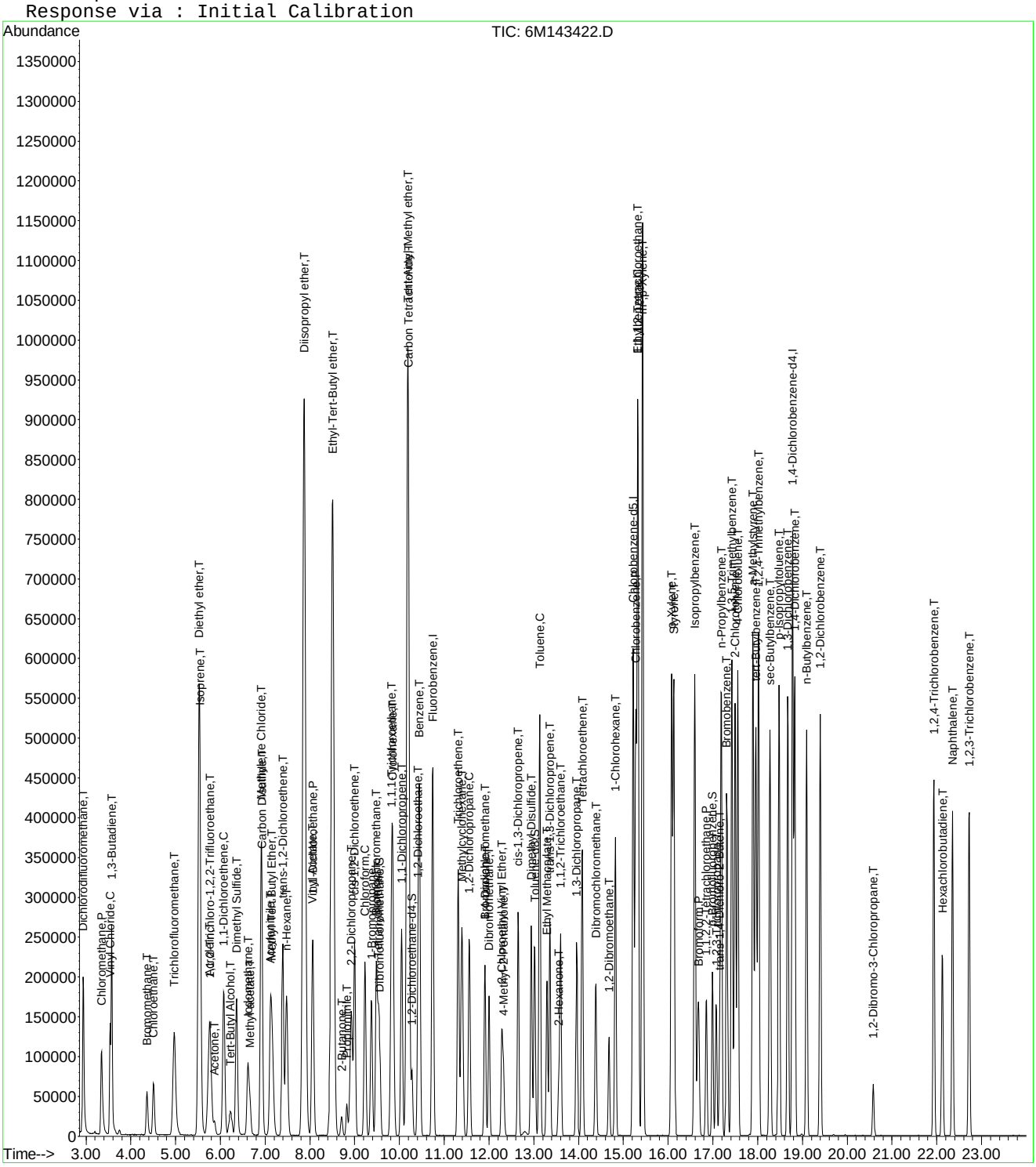
Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45)	1,2-Dichloroethane	10.41	62	180937	20.6494	ug/L	96
46)	Benzene	10.45	78	532134	20.9534	ug/L	95
47)	Trichloroethene	11.31	130	165085	20.7137	ug/L	83
48)	Methylcyclohexane	11.39	83	182611	20.7400	ug/L	92
49)	1,2-Dichloropropane	11.56	63	138121	20.8536	ug/L	96
50)	1,4-Dioxane	11.91	88	6590	151.3252	ug/L	93
51)	Bromodichloromethane	11.91	83	186869	20.6274	ug/L	99
52)	Dibromomethane	12.00	93	80976	21.0022	ug/L	97
53)	2-Chloroethyl Vinyl Ether	12.28	63	65605	20.9011	ug/L	99
54)	4-Methyl-2-Pentanone	12.32	58	37311	19.6025	ug/L	95
55)	cis-1,3-Dichloropropene	12.65	75	199909	21.6512	ug/L	98
56)	Dimethyl Disulfide	12.94	79	102605	19.0392	ug/L	94
59)	Toluene	13.13	91	559902	21.5520	ug/L	99
60)	Ethyl Methacrylate	13.29	69	138678	20.3313	ug/L	100
62)	trans-1,3-Dichloropropene	13.36	75	182215	21.5156	ug/L	94
63)	1,1,2-Trichloroethane	13.60	97	111708	21.2302	ug/L	98
64)	2-Hexanone	13.56	43	72476	19.8435	ug/L	94
65)	1,3-Dichloropropane	13.96	76	177334	21.0412	ug/L	96
66)	Tetrachloroethene	14.08	166	167212	21.0210	ug/L	96
67)	Dibromochloromethane	14.39	129	152832	20.9273	ug/L	100
68)	1,2-Dibromoethane	14.68	107	114022	21.2567	ug/L	100
69)	1-Chlorohexane	14.83	91	169651	20.6515	ug/L	92
70)	Chlorobenzene	15.28	112	402832	20.7481	ug/L	88
71)	1,1,1,2-Tetrachloroethane	15.32	131	157073	21.1510	ug/L	95
72)	Ethylbenzene	15.32	106	204847	21.1607	ug/L	94
73)	m-,p-Xylene	15.43	106	500777	44.2157	ug/L	91
74)	o-Xylene	16.08	106	243887	22.1148	ug/L	91
75)	Styrene	16.13	104	427816	23.0311	ug/L	93
76)	Bromoform	16.68	173	99800	20.6180	ug/L	98
77)	Isopropylbenzene	16.59	105	598109	22.7267	ug/L	97
79)	1,1,2,2-Tetrachloroethane	16.85	83	124169	20.5578	ug/L	99
81)	1,2,3-Trichloropropane	17.08	110	40145	20.4156	ug/L	95
82)	trans-1,4-Dichloro-2-Buten	17.15	53	34594	18.9985	ug/L	94
83)	n-Propylbenzene	17.19	91	682510	22.8032	ug/L	96
84)	Bromobenzene	17.31	156	192971	21.6289	ug/L	85
85)	1,3,5-Trimethylbenzene	17.42	105	501603	22.8226	ug/L	96
86)	2-Chlorotoluene	17.49	91	451358	21.5764	ug/L	93
87)	4-Chlorotoluene	17.55	91	444232	21.5507	ug/L	93
88)	a-Methylstyrene	17.89	118	303551	20.9685	ug/L	95
89)	tert-Butylbenzene	17.96	134	112412	21.5512	ug/L	81
90)	1,2,4-Trimethylbenzene	18.02	105	530340	21.9915	ug/L	95
91)	sec-Butylbenzene	18.28	105	564494	22.0612	ug/L	97
92)	p-Isopropyltoluene	18.47	119	510063	22.3946	ug/L	99
93)	1,3-Dichlorobenzene	18.67	146	352759	21.4142	ug/L	95
94)	1,4-Dichlorobenzene	18.83	146	353887	20.7019	ug/L	96
95)	n-Butylbenzene	19.09	91	412843	22.0118	ug/L	94
96)	1,2-Dichlorobenzene	19.40	146	330901	20.9527	ug/L	95
97)	1,2-Dibromo-3-Chloropropan	20.59	75	21404	20.0661	ug/L	81
98)	1,2,4-Trichlorobenzene	21.93	180	213665	21.6803	ug/L	99
99)	Hexachlorobutadiene	22.13	225	78369	20.9038	ug/L	100
100)	Naphthalene	22.35	128	460976	23.2044	ug/L	99
101)	1,2,3-Trichlorobenzene	22.73	180	203571	21.7637	ug/L	98

(#) = qualifier out of range (m) = manual integration
6M143422.D 8260WT.M Tue Nov 15 10:12:03 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111216\6M143422.D Vial: 8
Acq On : 12 Nov 2016 19:26 Operator: ADC
Sample : WG591426-07 20.0ug/L STD 8260 Inst : Hpms6
Misc : 1,1 STD78964 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:12 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111216\6M143423.D Vial: 9
Acq On : 12 Nov 2016 19:58 Operator: ADC
Sample : WG591426-08 50.0ug/L STD 8260 Inst : Hpms6
Misc : 1,1 STD78964 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:12:05 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.74	96	653160	25.00 ug/L	0.00
57) Chlorobenzene-d5	15.22	117	522661	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.78	152	301121	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.56	111	192209	25.3995 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 101.60%		
43) 1,2-Dichloroethane-d4	10.28	65	184810	24.6214 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 98.48%		
58) Toluene-d8	13.02	98	612793	25.3653 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 101.48%		
80) p-Bromofluorobenzene	16.99	95	243608	25.8534 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 103.40%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	2.93	85	612414	53.9827 ug/L	96
3) Chloromethane	3.35	50	416425	48.9423 ug/L	99
4) Vinyl Chloride	3.54	62	366378	51.5851 ug/L	99
5) 1,3-Butadiene	3.57	54	271844	49.2608 ug/L	98
6) Bromomethane	4.36	94	164727	49.7245 ug/L	99
7) Chloroethane	4.51	64	216115	51.7611 ug/L	100
8) Trichlorofluoromethane	4.97	101	597525	51.8753 ug/L	98
9) Diethyl ether	5.52	59	515418	101.2326 ug/L	96
10) Isoprene	5.54	67	520156	51.8664 ug/L	96
11) Acrolein	5.77	56	36783	51.2462 ug/L	97
12) 1,1,2-Trichloro-1,2,2-Trif	5.77	101	357608	51.1181 ug/L	94
13) Acetone	5.88	43	84153	49.9794 ug/L	100
14) 1,1-Dichloroethene	6.08	61	555439	52.0396 ug/L	89
15) Tert-Butyl Alcohol	6.23	59	92121	204.1405 ug/L	93
16) Dimethyl Sulfide	6.36	62	351729	51.7264 ug/L	98
17) Iodomethane	6.61	142	432038	55.6840 ug/L	98
18) Methyl acetate	6.67	43	236714	50.5125 ug/L	99
19) Methylene Chloride	6.91	84	352272	49.6810 ug/L	87
20) Carbon Disulfide	6.93	76	1096703	51.9915 ug/L	99
21) Acrylonitrile	7.12	53	109634	52.4054 ug/L	98
22) Methyl Tert Butyl Ether	7.16	73	790580	52.2846 ug/L	98
23) trans-1,2-Dichloroethene	7.39	96	360627	52.6088 ug/L	86
24) n-Hexane	7.47	57	406248	52.0864 ug/L	97
25) Diisopropyl ether	7.87	45	2408936	103.3772 ug/L	97
26) Vinyl Acetate	8.06	43	598205	51.5534 ug/L	97
27) 1,1-Dichloroethane	8.07	63	635068	50.9382 ug/L	100
28) Ethyl-Tert-Butyl ether	8.50	59	1943091	103.1468 ug/L	95
29) 2-Butanone	8.71	43	125663	49.9051 ug/L	99
30) Propionitrile	8.83	54	71915	101.4380 ug/L	99
31) 2,2-Dichloropropane	8.92	77	466094	50.9653 ug/L	97
32) cis-1,2-Dichloroethene	9.00	96	390055	52.6160 ug/L	99
33) Chloroform	9.24	83	621954	48.2318 ug/L	98
34) 1-Bromopropane	9.38	122	84392	53.1609 ug/L	96
35) Bromochloromethane	9.49	130	259493	52.1018 ug/L	100
36) Tetrahydrofuran	9.52	42	170032	93.5773 ug/L	99
38) 1,1,1-Trichloroethane	9.82	97	563776	51.6448 ug/L	94
39) Cyclohexane	9.85	56	573048	53.6623 ug/L	93
40) 1,1-Dichloropropene	10.05	75	464544	52.9761 ug/L	93
41) Tert-Amyl-Methyl ether	10.19	73	1559728	103.8521 ug/L	95
42) Carbon Tetrachloride	10.20	117	554490	52.0702 ug/L	98

(#) = qualifier out of range (m) = manual integration
6M143423.D 8260WT.M Tue Nov 15 10:12:07 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111216\6M143423.D Vial: 9
Acq On : 12 Nov 2016 19:58 Operator: ADC
Sample : WG591426-08 50.0ug/L STD 8260 Inst : Hpms6
Misc : 1,1 STD78964 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:12:05 2016 Quant Results File: 8260WT.RES

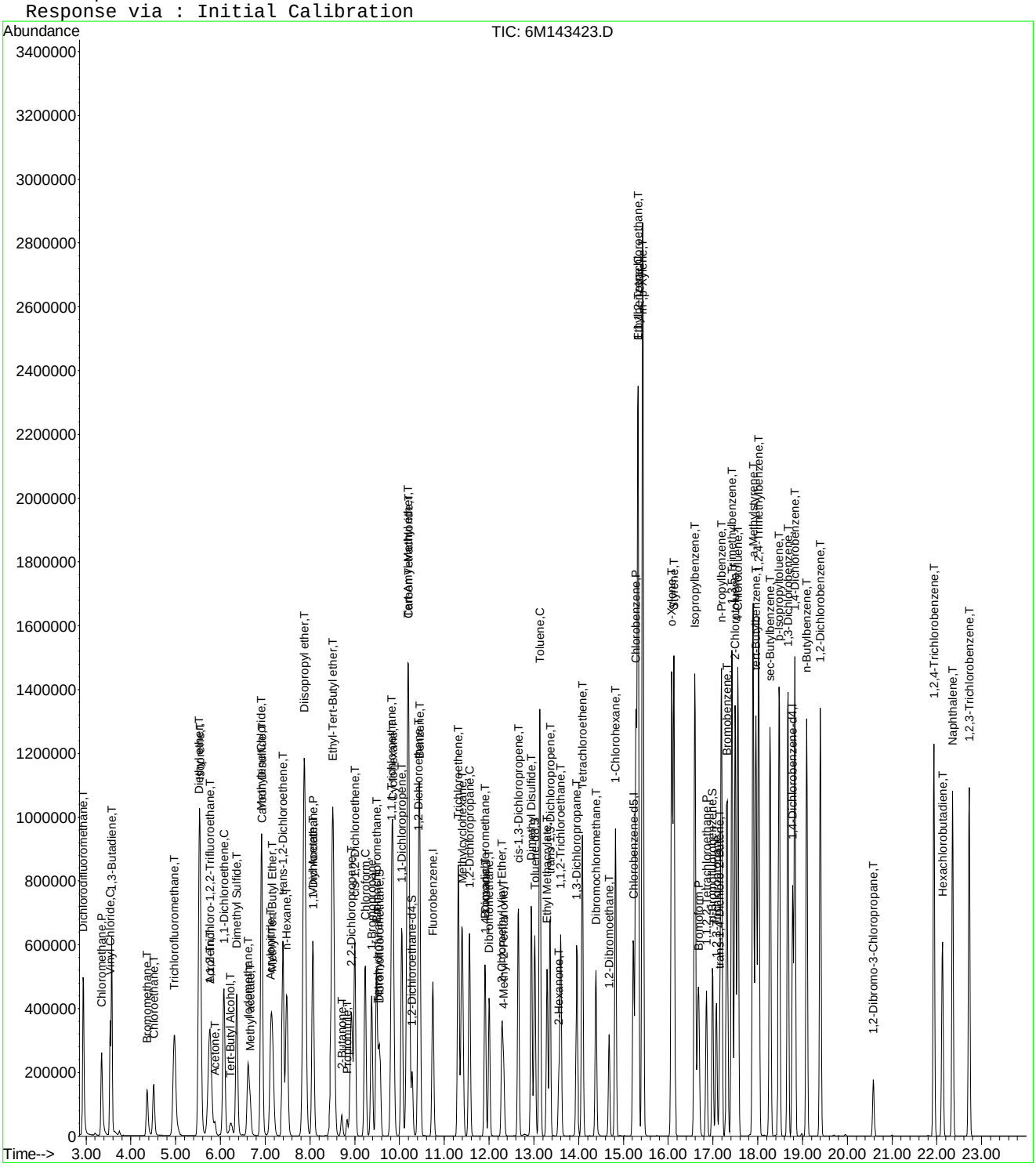
Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45)	1,2-Dichloroethane	10.42	62	455059	50.6467	ug/L	96
46)	Benzene	10.45	78	1315934	50.5325	ug/L	96
47)	Trichloroethene	11.31	130	423152	51.7785	ug/L	85
48)	Methylcyclohexane	11.40	83	472054	52.2848	ug/L	91
49)	1,2-Dichloropropane	11.57	63	351170	51.7061	ug/L	96
50)	1,4-Dioxane	11.91	88	9196	205.9337	ug/L	99
51)	Bromodichloromethane	11.90	83	476700	51.3164	ug/L	99
52)	Dibromomethane	12.00	93	204876	51.8207	ug/L	98
53)	2-Chloroethyl Vinyl Ether	12.28	63	179485	55.7652	ug/L	98
54)	4-Methyl-2-Pentanone	12.32	58	98043	50.2334	ug/L	93
55)	cis-1,3-Dichloropropene	12.66	75	522592	55.1971	ug/L	98
56)	Dimethyl Disulfide	12.94	79	290621	48.5128	ug/L	96
59)	Toluene	13.13	91	1398412	51.8669	ug/L	100
60)	Ethyl Methacrylate	13.29	69	367174	51.2598	ug/L	99
62)	trans-1,3-Dichloropropene	13.36	75	472460	53.7542	ug/L	94
63)	1,1,2-Trichloroethane	13.60	97	275842	50.5136	ug/L	99
64)	2-Hexanone	13.56	43	189769	50.0642	ug/L	98
65)	1,3-Dichloropropane	13.96	76	447613	51.1753	ug/L	95
66)	Tetrachloroethene	14.08	166	423844	51.3418	ug/L	96
67)	Dibromochloromethane	14.39	129	398799	52.6176	ug/L	99
68)	1,2-Dibromoethane	14.68	107	291811	52.4189	ug/L	100
69)	1-Chlorohexane	14.82	91	446913	52.0309	ug/L	90
70)	Chlorobenzene	15.27	112	1008748	50.0629	ug/L	88
71)	1,1,1,2-Tetrachloroethane	15.32	131	404492	52.4830	ug/L	96
72)	Ethylbenzene	15.32	106	523901	52.1468	ug/L	91
73)	m-,p-Xylene	15.43	106	1248922	106.2542	ug/L	91
74)	o-Xylene	16.08	106	619470	54.1244	ug/L	92
75)	Styrene	16.13	104	1084895	56.2762	ug/L	94
76)	Bromoform	16.68	173	266328	53.0165	ug/L	98
77)	Isopropylbenzene	16.59	105	1523584	55.7828	ug/L	97
79)	1,1,2,2-Tetrachloroethane	16.86	83	319862	50.9864	ug/L	99
81)	1,2,3-Trichloropropane	17.08	110	101614	49.7523	ug/L	92
82)	trans-1,4-Dichloro-2-Buten	17.15	53	94001	48.1902	ug/L	86
83)	n-Propylbenzene	17.19	91	1722414	55.4054	ug/L	95
84)	Bromobenzene	17.32	156	490731	52.9559	ug/L	84
85)	1,3,5-Trimethylbenzene	17.42	105	1270716	55.6648	ug/L	95
86)	2-Chlorotoluene	17.49	91	1103753	50.7993	ug/L	93
87)	4-Chlorotoluene	17.55	91	1140214	53.2557	ug/L	93
88)	a-Methylstyrene	17.90	118	798980	53.1373	ug/L	96
89)	tert-Butylbenzene	17.96	134	288202	53.1966	ug/L	82
90)	1,2,4-Trimethylbenzene	18.02	105	1342223	53.5862	ug/L	95
91)	sec-Butylbenzene	18.28	105	1438897	54.1412	ug/L	96
92)	p-Isopropyltoluene	18.47	119	1306132	55.2121	ug/L	98
93)	1,3-Dichlorobenzene	18.67	146	889799	52.0047	ug/L	95
94)	1,4-Dichlorobenzene	18.83	146	895257	50.4222	ug/L	96
95)	n-Butylbenzene	19.09	91	1060075	54.4171	ug/L	92
96)	1,2-Dichlorobenzene	19.40	146	839797	51.1970	ug/L	96
97)	1,2-Dibromo-3-Chloropropan	20.58	75	57893	52.2544	ug/L	81
98)	1,2,4-Trichlorobenzene	21.93	180	567516	55.4420	ug/L	98
99)	Hexachlorobutadiene	22.13	225	206568	53.0483	ug/L	99
100)	Naphthalene	22.35	128	1212991	58.7865	ug/L	99
101)	1,2,3-Trichlorobenzene	22.73	180	527723	54.3190	ug/L	98

(#) = qualifier out of range (m) = manual integration
6M143423.D 8260WT.M Tue Nov 15 10:12:08 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111216\6M143423.D Vial: 9
Acq On : 12 Nov 2016 19:58 Operator: ADC
Sample : WG591426-08 50.0ug/L STD 8260 Inst : Hpms6
Misc : 1,1 STD78964 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:12 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111216\6M143423.D Vial: 9
Acq On : 12 Nov 2016 19:58 Operator: ADC
Sample : WG591426-08 50.0ug/L STD 8260 Inst : Hpms6
Misc : 1,1 STD78964 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% 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	Dichlorodifluoromethane	50.0000	53.9827	-8.0	100	0.00
3	P	Chloromethane	50.0000	48.9423	2.1	100	0.00
4	C	Vinyl Chloride	50.0000	51.5851	-3.2	100	0.01
5	T	1,3-Butadiene	50.0000	49.2608	1.5	100	0.01
6	T	Bromomethane	50.0000	49.7245	0.6	100	0.01
7	T	Chloroethane	50.0000	51.7611	-3.5	100	0.02
8	T	Trichlorofluoromethane	50.0000	51.8753	-3.8	100	0.01
9	T	Diethyl ether	100.0000	101.2326	-1.2	100	0.00
10	T	Isoprene	50.0000	51.8664	-3.7	100	0.01
11	T	Acrolein	50.0000	51.2462	-2.5	100	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	51.1181	-2.2	100	0.01
13	T	Acetone	50.0000	49.9794	0.0	100	0.00
14	C	1,1-Dichloroethene	50.0000	52.0396	-4.1	100	0.01
15	T	Tert-Butyl Alcohol	200.0000	204.1405	-2.1	100	-0.02
16	T	Dimethyl Sulfide	50.0000	51.7264	-3.5	100	0.01
17	T	Iodomethane	50.0000	55.6840	-11.4	100	0.00
18	T	Methyl acetate	50.0000	50.5125	-1.0	100	0.01
19	T	Methylene Chloride	50.0000	49.6810	0.6	100	0.01
20	T	Carbon Disulfide	50.0000	51.9915	-4.0	100	0.01
21	T	Acrylonitrile	50.0000	52.4054	-4.8	100	0.00
22	T	Methyl Tert Butyl Ether	50.0000	52.2846	-4.6	100	0.00
23	T	trans-1,2-Dichloroethene	50.0000	52.6088	-5.2	100	0.00
24	T	n-Hexane	50.0000	52.0864	-4.2	100	0.00
25	T	Diisopropyl ether	100.0000	103.3772	-3.4	100	0.00
26	T	Vinyl Acetate	50.0000	51.5534	-3.1	100	0.00
27	P	1,1-Dichloroethane	50.0000	50.9382	-1.9	100	0.01
28	T	Ethyl-Tert-Butyl ether	100.0000	103.1468	-3.1	100	0.00
29	T	2-Butanone	50.0000	49.9051	0.2	100	0.00
30	T	Propionitrile	100.0000	101.4380	-1.4	100	0.00
31	T	2,2-Dichloropropane	50.0000	50.9653	-1.9	100	0.00
32	T	cis-1,2-Dichloroethene	50.0000	52.6160	-5.2	100	0.00
33	C	Chloroform	50.0000	48.2318	3.5	100	0.01
34		1-Bromopropane	50.0000	53.1609	-6.3	100	0.00
35	T	Bromochloromethane	50.0000	52.1018	-4.2	100	0.00
36	T	Tetrahydrofuran	100.0000	93.5773	6.4	100	0.00
37	S	Dibromofluoromethane	25.0000	25.3995	-1.6	100	0.00
38	T	1,1,1-Trichloroethane	50.0000	51.6448	-3.3	100	0.00
39	T	Cyclohexane	50.0000	53.6623	-7.3	100	0.01
40	T	1,1-Dichloropropene	50.0000	52.9761	-6.0	100	0.00
41	T	Tert-Amyl-Methyl ether	100.0000	103.8521	-3.9	100	0.00
42	T	Carbon Tetrachloride	50.0000	52.0702	-4.1	100	0.00
43	S	1,2-Dichloroethane-d4	25.0000	24.6214	1.5	100	0.00
44		Heptane	-1.0000	0.0000	0.0	100	0.00
45	T	1,2-Dichloroethane	50.0000	50.6467	-1.3	100	0.00
46	T	Benzene	50.0000	50.5325	-1.1	100	0.00
47	T	Trichloroethene	50.0000	51.7785	-3.6	100	0.00
48	T	Methylcyclohexane	50.0000	52.2848	-4.6	100	0.01
49	C	1,2-Dichloropropane	50.0000	51.7061	-3.4	100	0.00
50	T	1,4-Dioxane	200.0000	205.9338	-3.0	100	0.00
51	T	Bromodichloromethane	50.0000	51.3164	-2.6	100	0.00
52	T	Dibromomethane	50.0000	51.8207	-3.6	100	0.00
53	T	2-Chloroethyl Vinyl Ether	50.0000	55.7652	-11.5	100	0.00
54	T	4-Methyl-2-Pentanone	50.0000	50.2334	-0.5	100	0.00

(#) = Out of Range
6M143423.D 8260WT.M Tue Nov 15 10:14:10 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111216\6M143423.D Vial: 9
Acq On : 12 Nov 2016 19:58 Operator: ADC
Sample : WG591426-08 50.0ug/L STD 8260 Inst : Hpms6
Misc : 1,1 STD78964 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	50.0000	55.1971	-10.4	100	0.00
56	T	Dimethyl Disulfide	50.0000	48.5128	3.0	100	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58	S	Toluene-d8	25.0000	25.3653	-1.5	100	0.00
59	C	Toluene	50.0000	51.8669	-3.7	100	0.00
60	T	Ethyl Methacrylate	50.0000	51.2598	-2.5	100	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	100	0.00
62	T	trans-1,3-Dichloropropene	50.0000	53.7542	-7.5	100	0.00
63	T	1,1,2-Trichloroethane	50.0000	50.5136	-1.0	100	0.00
64	T	2-Hexanone	50.0000	50.0641	-0.1	100	0.00
65	T	1,3-Dichloropropane	50.0000	51.1753	-2.4	100	0.00
66	T	Tetrachloroethene	50.0000	51.3418	-2.7	100	0.00
67	T	Dibromochloromethane	50.0000	52.6176	-5.2	100	0.00
68	T	1,2-Dibromoethane	50.0000	52.4189	-4.8	100	0.00
69	T	1-Chlorohexane	50.0000	52.0309	-4.1	100	0.00
70	P	Chlorobenzene	50.0000	50.0629	-0.1	100	0.00
71	T	1,1,1,2-Tetrachloroethane	50.0000	52.4830	-5.0	100	0.00
72	C	Ethylbenzene	50.0000	52.1468	-4.3	100	0.00
73	T	m-,p-Xylene	100.0000	106.2542	-6.3	100	0.00
74	T	o-Xylene	50.0000	54.1244	-8.2	100	0.00
75	T	Styrene	50.0000	56.2762	-12.6	100	0.00
76	P	Bromoform	50.0000	53.0165	-6.0	100	0.00
77	T	Isopropylbenzene	50.0000	55.7828	-11.6	100	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	100	0.00
79	P	1,1,2,2-Tetrachloroethane	50.0000	50.9864	-2.0	100	0.00
80	S	p-Bromofluorobenzene	25.0000	25.8534	-3.4	100	0.00
81	T	1,2,3-Trichloropropane	50.0000	49.7523	0.5	100	0.00
82	T	trans-1,4-Dichloro-2-Butene	50.0000	48.1902	3.6	100	0.00
83	T	n-Propylbenzene	50.0000	55.4054	-10.8	100	0.00
84	T	Bromobenzene	50.0000	52.9560	-5.9	100	0.00
85	T	1,3,5-Trimethylbenzene	50.0000	55.6648	-11.3	100	0.00
86	T	2-Chlorotoluene	50.0000	50.7993	-1.6	100	0.00
87	T	4-Chlorotoluene	50.0000	53.2557	-6.5	100	0.00
88	T	a-Methylstyrene	50.0000	53.1373	-6.3	100	0.00
89	T	tert-Butylbenzene	50.0000	53.1966	-6.4	100	0.00
90	T	1,2,4-Trimethylbenzene	50.0000	53.5862	-7.2	100	0.00
91	T	sec-Butylbenzene	50.0000	54.1412	-8.3	100	0.00
92	T	p-Isopropyltoluene	50.0000	55.2121	-10.4	100	0.00
93	T	1,3-Dichlorobenzene	50.0000	52.0047	-4.0	100	0.00
94	T	1,4-Dichlorobenzene	50.0000	50.4222	-0.8	100	0.00
95	T	n-Butylbenzene	50.0000	54.4171	-8.8	100	0.00
96	T	1,2-Dichlorobenzene	50.0000	51.1970	-2.4	100	0.00
97	T	1,2-Dibromo-3-Chloropropane	50.0000	52.2544	-4.5	100	0.00
98	T	1,2,4-Trichlorobenzene	50.0000	55.4420	-10.9	100	0.00
99	T	Hexachlorobutadiene	50.0000	53.0483	-6.1	100	0.00
100	T	Naphthalene	50.0000	58.7865	-17.6	100	0.00
101	T	1,2,3-Trichlorobenzene	50.0000	54.3190	-8.6	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M143423.D 8260WT.M Tue Nov 15 10:14:10 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111216\6M143424.D Vial: 10
Acq On : 12 Nov 2016 20:31 Operator: ADC
Sample : WG591426-09 100.0ug/L STD 8260 Inst : Hpms6
Misc : 1,1 STD78964 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:12:10 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.74	96	674804	25.00 ug/L	0.00
57) Chlorobenzene-d5	15.22	117	542546	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.77	152	324534	25.00 ug/L	-0.01
System Monitoring Compounds					
37) Dibromofluoromethane	9.55	111	392915	50.2564 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 201.04%#		
43) 1,2-Dichloroethane-d4	10.28	65	381441	49.1878 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 196.76%#		
58) Toluene-d8	13.01	98	1245579	49.6684 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 198.68%#		
80) p-Bromofluorobenzene	16.99	95	518026	51.0104 ug/L	-0.01
Spiked Amount 25.000	Range 86 - 115		Recovery = 204.04%#		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	2.94	85	1240413	105.8322 ug/L	96
3) Chloromethane	3.34	50	864219	98.3135 ug/L	100
4) Vinyl Chloride	3.54	62	734668	100.1215 ug/L	99
5) 1,3-Butadiene	3.57	54	505572	94.4627 ug/L	97
6) Bromomethane	4.36	94	379405	110.8539 ug/L	100
7) Chloroethane	4.50	64	433855	100.5784 ug/L	99
8) Trichlorofluoromethane	4.97	101	1171269	98.4246 ug/L	99
9) Diethyl ether	5.52	59	1035157	196.7927 ug/L	98
10) Isoprene	5.54	67	1026100	99.0340 ug/L	96
11) Acrolein	5.76	56	74559	100.5442 ug/L	100
12) 1,1,2-Trichloro-1,2,2-Trif	5.76	101	722142	99.9153 ug/L	95
13) Acetone	5.88	43	174713	100.4358 ug/L	100
14) 1,1-Dichloroethene	6.08	61	1125671	102.0825 ug/L	90
15) Tert-Butyl Alcohol	6.23	59	190866	409.3935 ug/L	94
16) Dimethyl Sulfide	6.36	62	710898	101.1937 ug/L	98
17) Iodomethane	6.61	142	857573	106.3943 ug/L	99
18) Methyl acetate	6.66	43	487909	100.7756 ug/L	98
19) Methylene Chloride	6.91	84	707359	96.5592 ug/L	87
20) Carbon Disulfide	6.93	76	2192548	100.6085 ug/L	99
21) Acrylonitrile	7.12	53	224557	103.8962 ug/L	98
22) Methyl Tert Butyl Ether	7.15	73	1619159	103.6476 ug/L	98
23) trans-1,2-Dichloroethene	7.39	96	727026	102.6579 ug/L	86
24) n-Hexane	7.47	57	809993	100.5208 ug/L	97
25) Diisopropyl ether	7.87	45	4787199	198.8487 ug/L	97
26) Vinyl Acetate	8.06	43	1176344	98.1259 ug/L	97
27) 1,1-Dichloroethane	8.07	63	1282189	99.5445 ug/L	100
28) Ethyl-Tert-Butyl ether	8.50	59	3911035	200.9538 ug/L	95
29) 2-Butanone	8.71	43	264123	101.5279 ug/L	100
30) Propionitrile	8.83	54	148278	202.4416 ug/L	99
31) 2,2-Dichloropropane	8.92	77	969121	102.5702 ug/L	97
32) cis-1,2-Dichloroethene	9.00	96	789812	103.1236 ug/L	87
33) Chloroform	9.24	83	1252894	94.0441 ug/L	98
34) 1-Bromopropane	9.38	122	174670	106.5003 ug/L	98
35) Bromochloromethane	9.49	130	524135	101.8621 ug/L	99
36) Tetrahydrofuran	9.52	42	347712	185.2259 ug/L	100
38) 1,1,1-Trichloroethane	9.82	97	1144537	101.4826 ug/L	94
39) Cyclohexane	9.85	56	1155966	104.7769 ug/L	93
40) 1,1-Dichloropropene	10.04	75	930727	102.7348 ug/L	93
41) Tert-Amyl-Methyl ether	10.19	73	3168150	204.1804 ug/L	95
42) Carbon Tetrachloride	10.20	117	1116687	101.5006 ug/L	98

(#) = qualifier out of range (m) = manual integration
6M143424.D 8260WT.M Tue Nov 15 10:12:12 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111216\6M143424.D Vial: 10
Acq On : 12 Nov 2016 20:31 Operator: ADC
Sample : WG591426-09 100.0ug/L STD 8260 Inst : Hpms6
Misc : 1,1 STD78964 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:12:10 2016 Quant Results File: 8260WT.RES

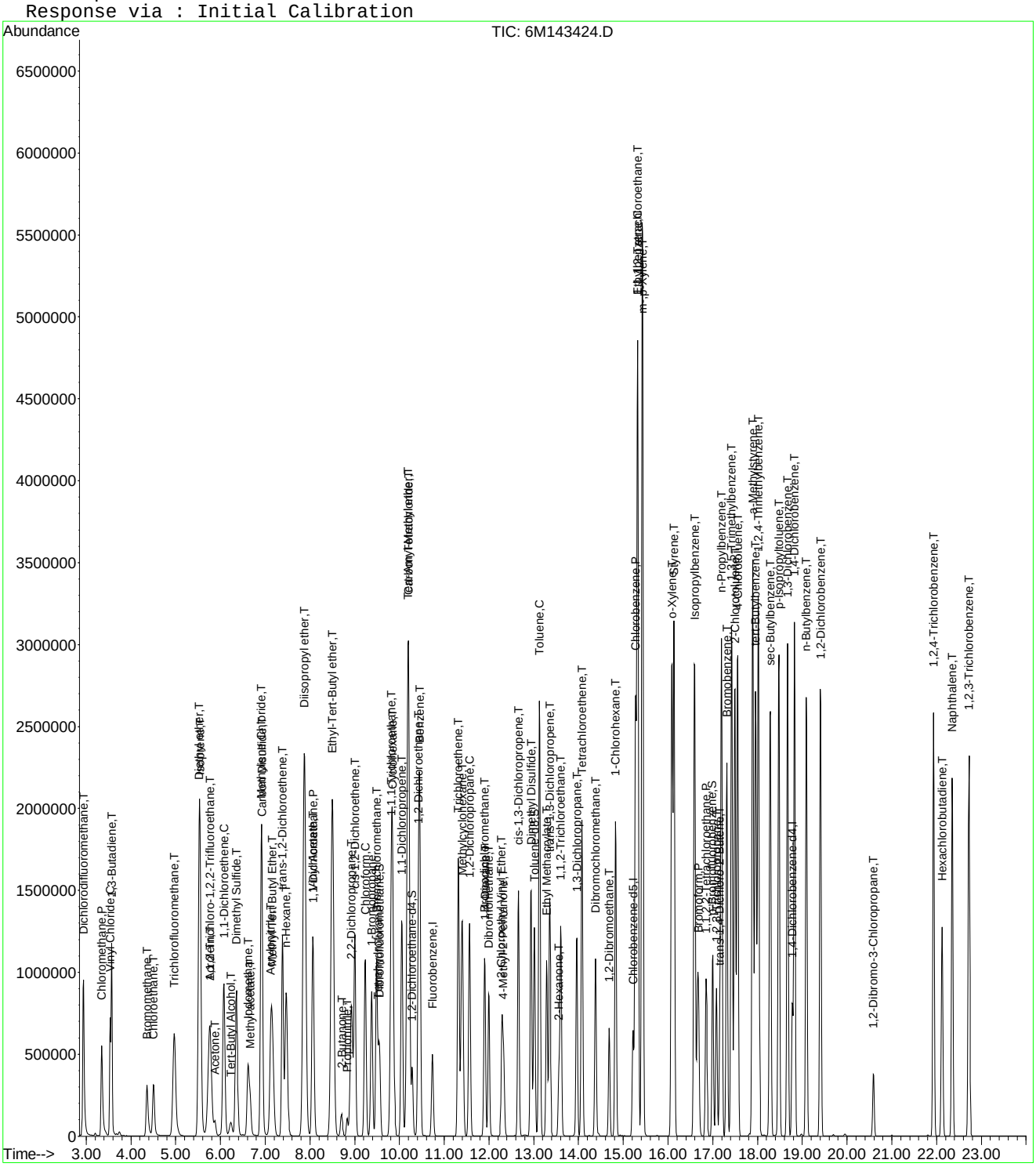
Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45)	1,2-Dichloroethane	10.42	62	936194	100.8537	ug/L	96
46)	Benzene	10.45	78	2641689	98.1885	ug/L	97
47)	Trichloroethene	11.31	130	861765	102.0667	ug/L	85
48)	Methylcyclohexane	11.40	83	947868	101.6186	ug/L	91
49)	1,2-Dichloropropane	11.56	63	715454	101.9642	ug/L	97
50)	1,4-Dioxane	11.91	88	19571	424.2125	ug/L	92
51)	Bromodichloromethane	11.90	83	976584	101.7566	ug/L	99
52)	Dibromomethane	11.99	93	419612	102.7310	ug/L	97
53)	2-Chloroethyl Vinyl Ether	12.28	63	373965	112.4626	ug/L	99
54)	4-Methyl-2-Pentanone	12.32	58	210927	104.6045	ug/L	95
55)	cis-1,3-Dichloropropene	12.66	75	1075666	109.9696	ug/L	99
56)	Dimethyl Disulfide	12.94	79	629486	99.1710	ug/L	95
59)	Toluene	13.13	91	2799457	100.0259	ug/L	100
60)	Ethyl Methacrylate	13.29	69	755912	101.2761	ug/L	100
62)	trans-1,3-Dichloropropene	13.36	75	973797	106.7331	ug/L	94
63)	1,1,2-Trichloroethane	13.60	97	560486	98.8772	ug/L	98
64)	2-Hexanone	13.56	43	411347	104.5426	ug/L	98
65)	1,3-Dichloropropane	13.96	76	919264	101.2468	ug/L	96
66)	Tetrachloroethene	14.08	166	860540	100.4199	ug/L	96
67)	Dibromochloromethane	14.38	129	825395	104.9113	ug/L	100
68)	1,2-Dibromoethane	14.68	107	603678	104.4660	ug/L	100
69)	1-Chlorohexane	14.82	91	909626	101.7769	ug/L	91
70)	Chlorobenzene	15.27	112	2040089	97.5363	ug/L	90
71)	1,1,1,2-Tetrachloroethane	15.32	131	823482	102.9310	ug/L	96
72)	Ethylbenzene	15.32	106	1065849	102.2016	ug/L	90
73)	m-,p-Xylene	15.43	106	2515593	206.1743	ug/L	90
74)	o-Xylene	16.09	106	1271379	107.0118	ug/L	91
75)	Styrene	16.13	104	2222871	111.0797	ug/L	95
76)	Bromoform	16.68	173	565238	108.3949	ug/L	98
77)	Isopropylbenzene	16.60	105	3102931	109.4434	ug/L	96
79)	1,1,2,2-Tetrachloroethane	16.85	83	670192	99.1224	ug/L	100
81)	1,2,3-Trichloropropane	17.08	110	215973	98.1160	ug/L	91
82)	trans-1,4-Dichloro-2-Buten	17.15	53	205217	96.6561	ug/L	83
83)	n-Propylbenzene	17.19	91	3513270	104.8593	ug/L	95
84)	Bromobenzene	17.31	156	999681	100.0953	ug/L	85
85)	1,3,5-Trimethylbenzene	17.42	105	2655737	107.9439	ug/L	95
86)	2-Chlorotoluene	17.50	91	2447194	104.5045	ug/L	92
87)	4-Chlorotoluene	17.56	91	2202995	95.4715	ug/L	92
88)	a-Methylstyrene	17.90	118	1657387	102.2747	ug/L	96
89)	tert-Butylbenzene	17.96	134	605942	103.7765	ug/L	97
90)	1,2,4-Trimethylbenzene	18.02	105	2773862	102.7528	ug/L	94
91)	sec-Butylbenzene	18.28	105	2975789	103.8918	ug/L	96
92)	p-Isopropyltoluene	18.48	119	2725103	106.8836	ug/L	98
93)	1,3-Dichlorobenzene	18.67	146	1841798	99.8789	ug/L	97
94)	1,4-Dichlorobenzene	18.82	146	1849476	96.6504	ug/L	97
95)	n-Butylbenzene	19.09	91	2198241	104.7021	ug/L	92
96)	1,2-Dichlorobenzene	19.41	146	1745675	98.7448	ug/L	97
97)	1,2-Dibromo-3-Chloropropan	20.58	75	125567	105.1606	ug/L	79
98)	1,2,4-Trichlorobenzene	21.93	180	1184207	107.3419	ug/L	99
99)	Hexachlorobutadiene	22.12	225	427199	101.7933	ug/L	99
100)	Naphthalene	22.35	128	2510466	112.8899	ug/L	100
101)	1,2,3-Trichlorobenzene	22.73	180	1101444	105.1935	ug/L	98

(#) = qualifier out of range (m) = manual integration
6M143424.D 8260WT.M Tue Nov 15 10:12:13 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111216\6M143424.D Vial: 10
Acq On : 12 Nov 2016 20:31 Operator: ADC
Sample : WG591426-09 100.0ug/L STD 8260 Inst : Hpms6
Misc : 1,1 STD78964 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:12 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111216\6M143425.D Vial: 11
Acq On : 12 Nov 2016 21:03 Operator: ADC
Sample : WG591426-10 200.0ug/L STD 8260 Inst : Hpms6
Misc : 1,1 STD78964 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:12:15 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.74	96	682287	25.00 ug/L	0.00
57) Chlorobenzene-d5	15.22	117	552634	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.78	152	332884	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.56	111	785370	99.3522 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 397.40%#		
43) 1,2-Dichloroethane-d4	10.28	65	748965	95.5217 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 382.08%#		
58) Toluene-d8	13.02	98	2485058	97.2847 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 389.12%#		
80) p-Bromofluorobenzene	16.99	95	1067123	102.4446 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 409.76%#		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	2.93	85	2490165	210.1311 ug/L	96
3) Chloromethane	3.35	50	1801473	202.6879 ug/L	100
4) Vinyl Chloride	3.53	62	1412284	190.3571 ug/L	99
5) 1,3-Butadiene	3.57	54	945235	208.3259 ug/L	97
6) Bromomethane	4.35	94	836598	241.7549 ug/L	100
7) Chloroethane	4.50	64	876199	200.8970 ug/L	99
8) Trichlorofluoromethane	4.97	101	2343607	194.7790 ug/L	99
9) Diethyl ether	5.52	59	672	0.1264 ug/L #	1
10) Isoprene	5.53	67	2097714	200.2403 ug/L	96
11) Acrolein	5.76	56	1781	2.3754 ug/L	84
12) 1,1,2-Trichloro-1,2,2-Trif	5.76	101	1479135	202.4080 ug/L	95
13) Acetone	5.88	43	340936	193.8415 ug/L	98
14) 1,1-Dichloroethene	6.07	61	2301644	206.4374 ug/L	90
15) Tert-Butyl Alcohol	6.26	59	10001	21.2161 ug/L #	91
16) Dimethyl Sulfide	6.36	62	1424041	200.4837 ug/L	98
17) Iodomethane	6.61	142	1680917	205.6533 ug/L	99
18) Methyl acetate	6.67	43	951101	194.2915 ug/L	97
19) Methylene Chloride	6.91	84	1421377	191.8995 ug/L	89
20) Carbon Disulfide	6.93	76	4346103	197.2404 ug/L	98
21) Acrylonitrile	7.15	53	39962	18.2865 ug/L #	35
22) Methyl Tert Butyl Ether	7.16	73	3290867	208.3486 ug/L	98
23) trans-1,2-Dichloroethene	7.39	96	1477530	206.3427 ug/L	87
24) n-Hexane	7.47	57	1651461	202.6999 ug/L	97
25) Diisopropyl ether	7.88	45	4420	0.1816 ug/L #	43
26) Vinyl Acetate	8.05	43	2545089	209.9727 ug/L	97
27) 1,1-Dichloroethane	8.06	63	2602169	199.8073 ug/L	99
29) 2-Butanone	8.71	43	524010	199.2184 ug/L	99
30) Propionitrile	8.83	54	2032	2.7438 ug/L #	56
31) 2,2-Dichloropropane	8.92	77	2009952	210.3969 ug/L	96
32) cis-1,2-Dichloroethene	9.00	96	1599883	206.6013 ug/L	88
33) Chloroform	9.23	83	2530892	187.8890 ug/L	98
34) 1-Bromopropane	9.38	122	354392	213.7111 ug/L	99
35) Bromochloromethane	9.49	130	1057912	203.3431 ug/L	99
36) Tetrahydrofuran	9.54	42	8539	4.4988 ug/L	93
38) 1,1,1-Trichloroethane	9.82	97	2338386	205.0635 ug/L	95
39) Cyclohexane	9.85	56	2365600	212.0666 ug/L	93
40) 1,1-Dichloropropene	10.05	75	1911633	208.6941 ug/L	94
42) Carbon Tetrachloride	10.20	117	2286298	205.5325 ug/L	98
45) 1,2-Dichloroethane	10.42	62	1886027	200.9483 ug/L	96
46) Benzene	10.45	78	5200328	191.1702 ug/L	98

(#) = qualifier out of range (m) = manual integration
6M143425.D 8260WT.M Tue Nov 15 10:12:17 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111216\6M143425.D Vial: 11
Acq On : 12 Nov 2016 21:03 Operator: ADC
Sample : WG591426-10 200.0ug/L STD 8260 Inst : Hpms6
Misc : 1,1 STD78964 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:12:15 2016 Quant Results File: 8260WT.RES

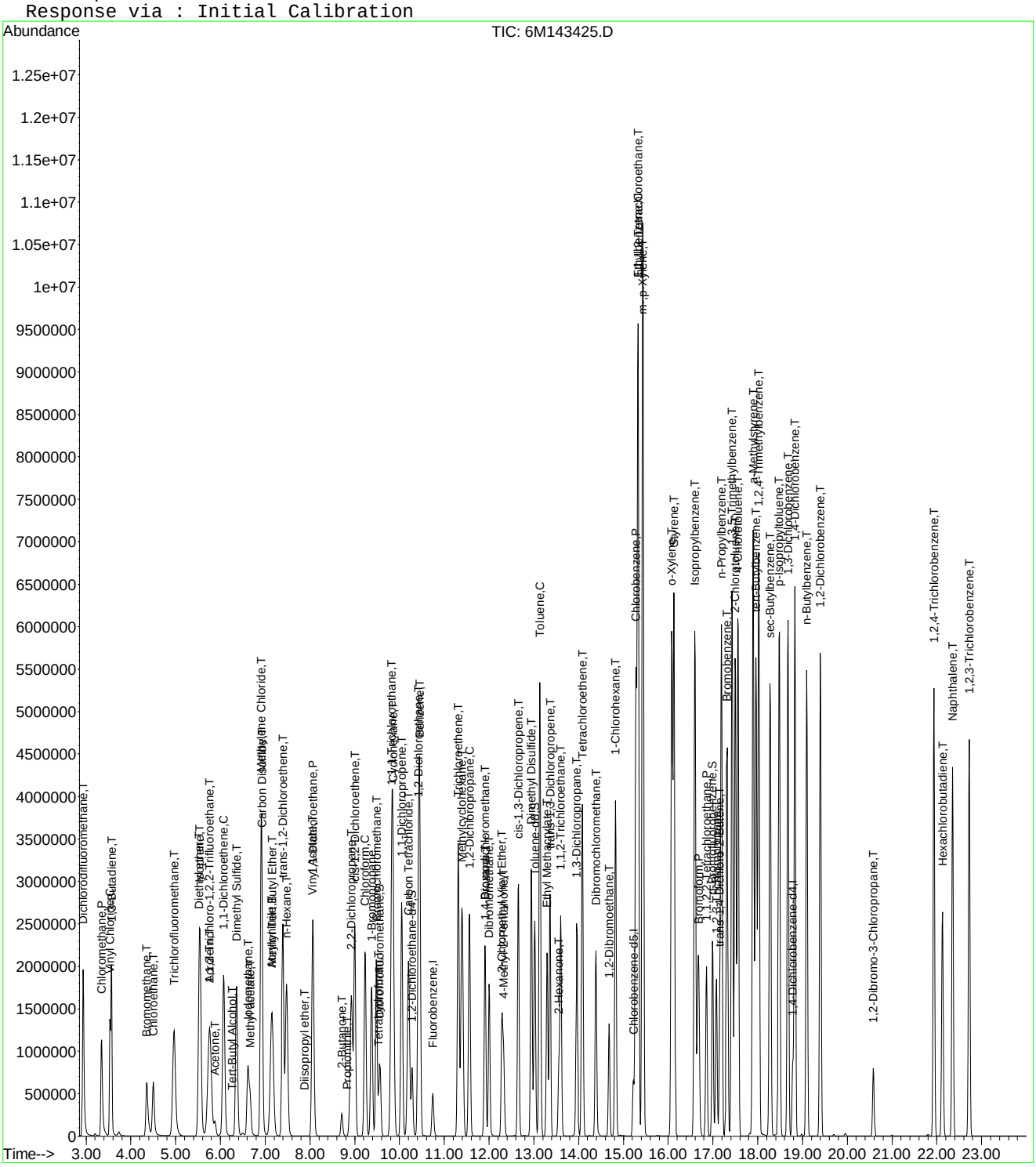
Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
47)	Trichloroethene	11.31	130	1726003	202.1843 ug/L	86
48)	Methylcyclohexane	11.39	83	1914638	203.0125 ug/L	91
49)	1,2-Dichloropropane	11.57	63	1459612	205.7378 ug/L	97
50)	1,4-Dioxane	11.91	88	5245	112.4415 ug/L #	61
51)	Bromodichloromethane	11.90	83	1995227	205.6154 ug/L	99
52)	Dibromomethane	12.00	93	844418	204.4663 ug/L	98
53)	2-Chloroethyl Vinyl Ether	12.28	63	730848	217.3776 ug/L	100
54)	4-Methyl-2-Pentanone	12.32	58	423703	207.8215 ug/L	94
55)	cis-1,3-Dichloropropene	12.66	75	2186205	221.0532 ug/L	99
56)	Dimethyl Disulfide	12.94	79	1297331	199.7408 ug/L	96
59)	Toluene	13.13	91	5499940	192.9281 ug/L	98
60)	Ethyl Methacrylate	13.29	69	1523243	199.9725 ug/L	100
62)	trans-1,3-Dichloropropene	13.36	75	1977078	212.7421 ug/L	94
63)	1,1,2-Trichloroethane	13.60	97	1130399	195.7771 ug/L	99
64)	2-Hexanone	13.56	43	827559	206.4824 ug/L	99
65)	1,3-Dichloropropane	13.96	76	1851321	200.1804 ug/L	97
66)	Tetrachloroethene	14.08	166	1737697	199.0772 ug/L	97
67)	Dibromochloromethane	14.39	129	1676779	209.2354 ug/L	100
68)	1,2-Dibromoethane	14.68	107	1218107	206.9445 ug/L	100
69)	1-Chlorohexane	14.82	91	1842358	202.1262 ug/L	91
70)	Chlorobenzene	15.27	112	4057905	190.4662 ug/L	92
71)	1,1,1,2-Tetrachloroethane	15.33	131	1665705	204.4038 ug/L	97
72)	Ethylbenzene	15.33	106	2171565	204.4248 ug/L	85
73)	m-,p-Xylene	15.43	106	4918685	395.7693 ug/L	83
74)	o-Xylene	16.08	106	2588590	213.9039 ug/L	89
75)	Styrene	16.13	104	4435816	217.6171 ug/L	98
76)	Bromoform	16.68	173	1167783	219.8562 ug/L	97
77)	Isopropylbenzene	16.59	105	6175076	213.8251 ug/L	94
79)	1,1,2,2-Tetrachloroethane	16.86	83	1408200	203.0506 ug/L	100
81)	1,2,3-Trichloropropane	17.08	110	445793	197.4427 ug/L	90
82)	trans-1,4-Dichloro-2-Buten	17.15	53	434431	198.4865 ug/L	82
83)	n-Propylbenzene	17.19	91	6893909	200.5988 ug/L	92
84)	Bromobenzene	17.32	156	2062823	201.3638 ug/L	86
85)	1,3,5-Trimethylbenzene	17.42	105	5359547	212.3774 ug/L	94
86)	2-Chlorotoluene	17.49	91	4555795	189.6697 ug/L	88
87)	4-Chlorotoluene	17.55	91	4828492	204.0042 ug/L	96
88)	a-Methylstyrene	17.90	118	3348431	201.4434 ug/L	95
89)	tert-Butylbenzene	17.96	134	1252207	209.0795 ug/L	87
90)	1,2,4-Trimethylbenzene	18.02	105	5561330	200.8422 ug/L	93
91)	sec-Butylbenzene	18.28	105	5964521	203.0121 ug/L	94
92)	p-Isopropyltoluene	18.48	119	5434823	207.8169 ug/L	96
93)	1,3-Dichlorobenzene	18.67	146	3717508	196.5401 ug/L	99
94)	1,4-Dichlorobenzene	18.83	146	3720702	189.5602 ug/L	99
95)	n-Butylbenzene	19.09	91	4447494	206.5203 ug/L	91
96)	1,2-Dichlorobenzene	19.40	146	3478203	191.8107 ug/L	99
97)	1,2-Dibromo-3-Chloropropan	20.58	75	257673	210.3844 ug/L	79
98)	1,2,4-Trichlorobenzene	21.93	180	2414774	213.3956 ug/L	99
99)	Hexachlorobutadiene	22.13	225	892255	207.2742 ug/L	99
100)	Naphthalene	22.35	128	4838261	212.1082 ug/L	98
101)	1,2,3-Trichlorobenzene	22.73	180	2209029	205.6816 ug/L	99

(#) = qualifier out of range (m) = manual integration
6M143425.D 8260WT.M Tue Nov 15 10:12:18 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111216\6M143425.D Vial: 11
Acq On : 12 Nov 2016 21:03 Operator: ADC
Sample : WG591426-10 200.0ug/L STD 8260 Inst : Hpms6
Misc : 1,1 STD78964 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:12 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111216\6M143426.D Vial: 12
Acq On : 12 Nov 2016 21:35 Operator: ADC
Sample : WG591426-11 300.0ug/L STD 8260 Inst : Hpms6
Misc : 1,1 STD78964 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:12:20 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.74	96	708418	25.00	ug/L	0.00
57) Chlorobenzene-d5	15.22	117	575043	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.78	152	332365	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.55	111	1204160	146.7117	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 586.84%#			
43) 1,2-Dichloroethane-d4	10.28	65	1155628	141.9503	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 567.80%#			
58) Toluene-d8	13.01	98	3767639	141.7472	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 567.00%#			
80) p-Bromofluorobenzene	17.00	95	1607406	154.5531	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 618.20%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.93	85	3594497	292.1311	ug/L	97
3) Chloromethane	3.34	50	2786540	301.9554	ug/L	100
4) Vinyl Chloride	3.53	62	1997869	259.3531	ug/L	99
5) 1,3-Butadiene	3.56	54	1186391	294.8126	ug/L	96
6) Bromomethane	4.35	94	1256591	349.7276	ug/L	99
7) Chloroethane	4.49	64	1288662	284.5688	ug/L	99
8) Trichlorofluoromethane	4.96	101	3340874	267.4207	ug/L	99
9) Diethyl ether	5.52	59	1552985	281.2277	ug/L	98
10) Isoprene	5.53	67	3082354	283.3774	ug/L	97
11) Acrolein	5.76	56	118437	152.1361	ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	5.75	101	2173379	286.4394	ug/L	95
13) Acetone	5.88	43	532412	291.5408	ug/L	98
14) 1,1-Dichloroethene	6.07	61	3393026	293.0995	ug/L	90
15) Tert-Butyl Alcohol	6.24	59	312983	639.4715	ug/L	97
16) Dimethyl Sulfide	6.35	62	2163683	293.3782	ug/L	98
17) Iodomethane	6.61	142	2379195	280.1150	ug/L	98
18) Methyl acetate	6.65	43	1427694	280.8922	ug/L	97
19) Methylene Chloride	6.90	84	2116120	275.1581	ug/L	89
20) Carbon Disulfide	6.92	76	6344833	277.3280	ug/L	98
21) Acrylonitrile	7.12	53	379183	167.1128	ug/L	97
22) Methyl Tert Butyl Ether	7.15	73	4960086	302.4453	ug/L	99
23) trans-1,2-Dichloroethene	7.39	96	2175312	292.5849	ug/L	88
24) n-Hexane	7.47	57	2453509	290.0350	ug/L	97
25) Diisopropyl ether	7.87	45	7307059	289.1159	ug/L	96
27) 1,1-Dichloroethane	8.06	63	3919538	289.8600	ug/L	99
28) Ethyl-Tert-Butyl ether	8.50	59	5993773	293.3546	ug/L	96
29) 2-Butanone	8.71	43	817321	299.2678	ug/L	99
30) Propionitrile	8.83	54	233413	303.5541	ug/L	99
31) 2,2-Dichloropropane	8.92	77	2981327	300.5667	ug/L	96
32) cis-1,2-Dichloroethene	9.00	96	2382949	296.3719	ug/L	89
33) Chloroform	9.23	83	3771973	269.6956	ug/L	98
34) 1-Bromopropane	9.38	122	535475	310.9996	ug/L	99
35) Bromochloromethane	9.49	130	1581508	292.7715	ug/L	99
36) Tetrahydrofuran	9.53	42	549722	278.9415	ug/L	99
38) 1,1,1-Trichloroethane	9.82	97	3462515	292.4431	ug/L	96
39) Cyclohexane	9.84	56	3585196	309.5432	ug/L	94
40) 1,1-Dichloropropene	10.04	75	2836395	298.2290	ug/L	94
41) Tert-Amyl-Methyl ether	10.19	73	4939671	303.2455	ug/L	96
42) Carbon Tetrachloride	10.20	117	3357259	290.6766	ug/L	98
45) 1,2-Dichloroethane	10.42	62	2863678	293.8583	ug/L	96

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

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111216\6M143426.D Vial: 12
Acq On : 12 Nov 2016 21:35 Operator: ADC
Sample : WG591426-11 300.0ug/L STD 8260 Inst : Hpms6
Misc : 1,1 STD78964 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:12:20 2016 Quant Results File: 8260WT.RES

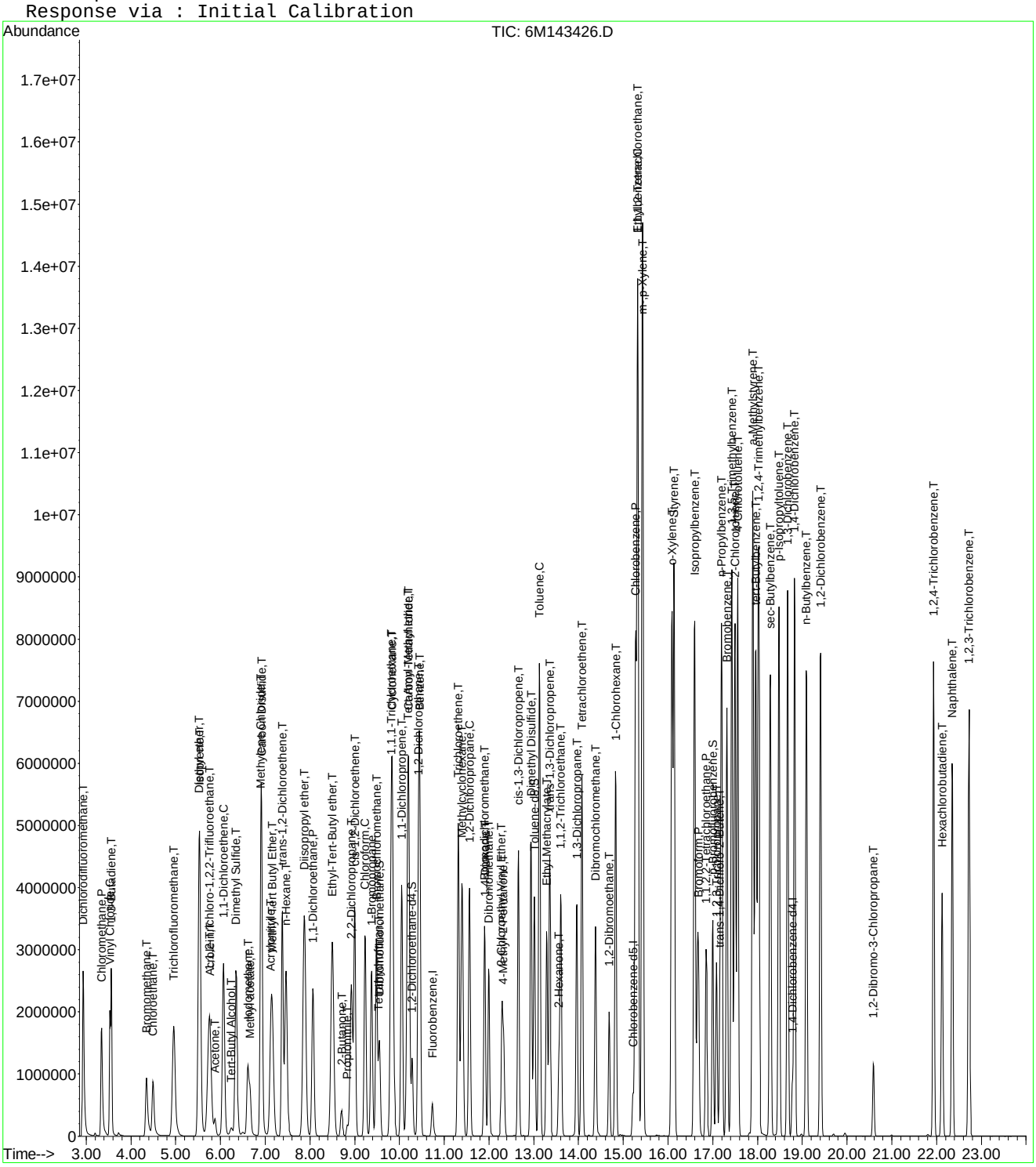
Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

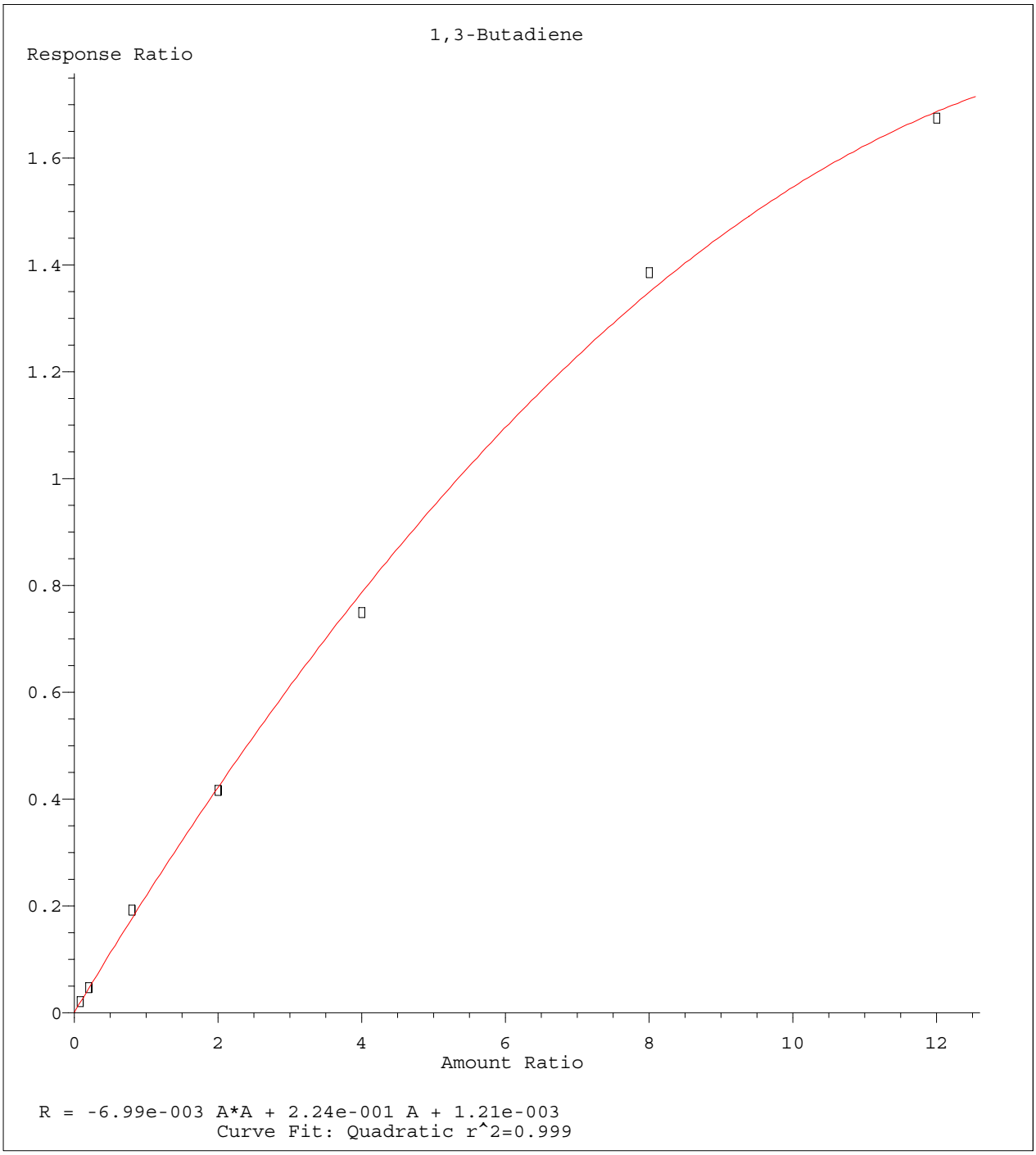
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46)	Benzene	10.45	78	7454780	263.9380	ug/L	100
47)	Trichloroethene	11.31	130	2522829	284.6237	ug/L	87
48)	Methylcyclohexane	11.39	83	2878500	293.9543	ug/L	92
49)	1,2-Dichloropropane	11.56	63	2211016	300.1553	ug/L	97
50)	1,4-Dioxane	11.91	88	32016	661.0368	ug/L	89
51)	Bromodichloromethane	11.90	83	3020471	299.7889	ug/L	99
52)	Dibromomethane	11.99	93	1295638	302.1520	ug/L	98
53)	2-Chloroethyl Vinyl Ether	12.28	63	1099419	314.9405	ug/L	100
54)	4-Methyl-2-Pentanone	12.32	58	656950	310.3407	ug/L	94
55)	cis-1,3-Dichloropropene	12.66	75	3307053	322.0509	ug/L	99
56)	Dimethyl Disulfide	12.94	79	2052578	303.1518	ug/L	97
59)	Toluene	13.13	91	7866728	265.1972	ug/L	96
60)	Ethyl Methacrylate	13.29	69	2359091	297.4425	ug/L	100
62)	trans-1,3-Dichloropropene	13.36	75	3023171	312.6293	ug/L	94
63)	1,1,2-Trichloroethane	13.60	97	1722016	286.6188	ug/L	99
64)	2-Hexanone	13.56	43	1265673	303.4889	ug/L	99
65)	1,3-Dichloropropane	13.96	76	2819964	293.0358	ug/L	98
66)	Tetrachloroethene	14.08	166	2575790	283.5929	ug/L	97
67)	Dibromochloromethane	14.38	129	2562104	307.2511	ug/L	100
68)	1,2-Dibromoethane	14.68	107	1861768	303.9704	ug/L	100
69)	1-Chlorohexane	14.83	91	2790475	294.0992	ug/L	93
70)	Chlorobenzene	15.27	112	5863553	264.4930	ug/L	96
71)	1,1,1,2-Tetrachloroethane	15.32	131	2457851	289.8570	ug/L	98
72)	Ethylbenzene	15.32	106	3168123	286.6158	ug/L	77
73)	m-,p-Xylene	15.43	106	6881259	532.1062	ug/L	75
74)	o-Xylene	16.09	106	3754809	298.1814	ug/L	86
75)	Styrene	16.13	104	6291334	296.6194	ug/L	98
76)	Bromoform	16.68	173	1765869	319.5011	ug/L	97
77)	Isopropylbenzene	16.60	105	8499304	282.8375	ug/L	91
79)	1,1,2,2-Tetrachloroethane	16.85	83	2124014	306.7432	ug/L	99
81)	1,2,3-Trichloropropane	17.08	110	665902	295.3900	ug/L	89
82)	trans-1,4-Dichloro-2-Buten	17.15	53	674170	307.9828	ug/L	80
83)	n-Propylbenzene	17.19	91	9245714	269.4517	ug/L	89
84)	Bromobenzene	17.31	156	2999350	293.2406	ug/L	87
85)	1,3,5-Trimethylbenzene	17.43	105	7409894	294.0830	ug/L	92
86)	2-Chlorotoluene	17.50	91	6854497	285.8163	ug/L	92
87)	4-Chlorotoluene	17.56	91	6363232	269.2669	ug/L	90
88)	a-Methylstyrene	17.90	118	4828789	290.9562	ug/L	94
89)	tert-Butylbenzene	17.97	134	1792787	299.8069	ug/L	90
90)	1,2,4-Trimethylbenzene	18.03	105	7622647	275.7146	ug/L	76
91)	sec-Butylbenzene	18.28	105	8161596	278.2269	ug/L	92
92)	p-Isopropyltoluene	18.48	119	7453951	285.4694	ug/L	93
93)	1,3-Dichlorobenzene	18.67	146	5200392	275.3676	ug/L	98
94)	1,4-Dichlorobenzene	18.83	146	5195182	265.0945	ug/L	99
95)	n-Butylbenzene	19.09	91	6169222	286.9164	ug/L	89
96)	1,2-Dichlorobenzene	19.41	146	4869929	268.9789	ug/L	99
97)	1,2-Dibromo-3-Chloropropan	20.58	75	381648	312.0939	ug/L	79
98)	1,2,4-Trichlorobenzene	21.93	180	3478623	307.8889	ug/L	99
99)	Hexachlorobutadiene	22.12	225	1295914	301.5158	ug/L	99
100)	Naphthalene	22.35	128	6740175	295.9490	ug/L	97
101)	1,2,3-Trichlorobenzene	22.73	180	3215073	299.8212	ug/L	99

(#) = qualifier out of range (m) = manual integration
6M143426.D 8260WT.M Tue Nov 15 10:12:23 2016 Page 2

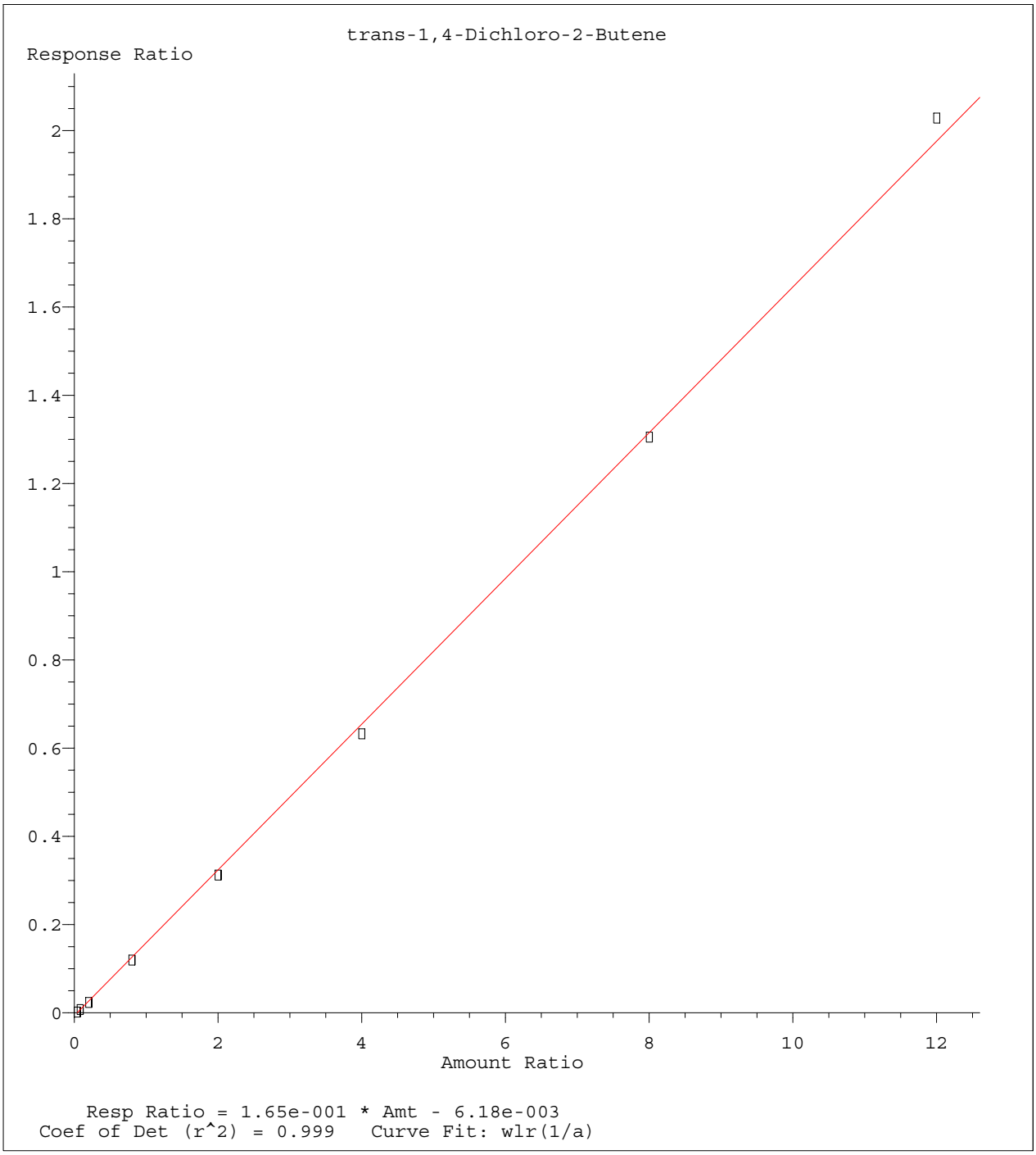
Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111216\6M143426.D Vial: 12
Acq On : 12 Nov 2016 21:35 Operator: ADC
Sample : WG591426-11 300.0ug/L STD 8260 Inst : Hpms6
Misc : 1,1 STD78964 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:12 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration

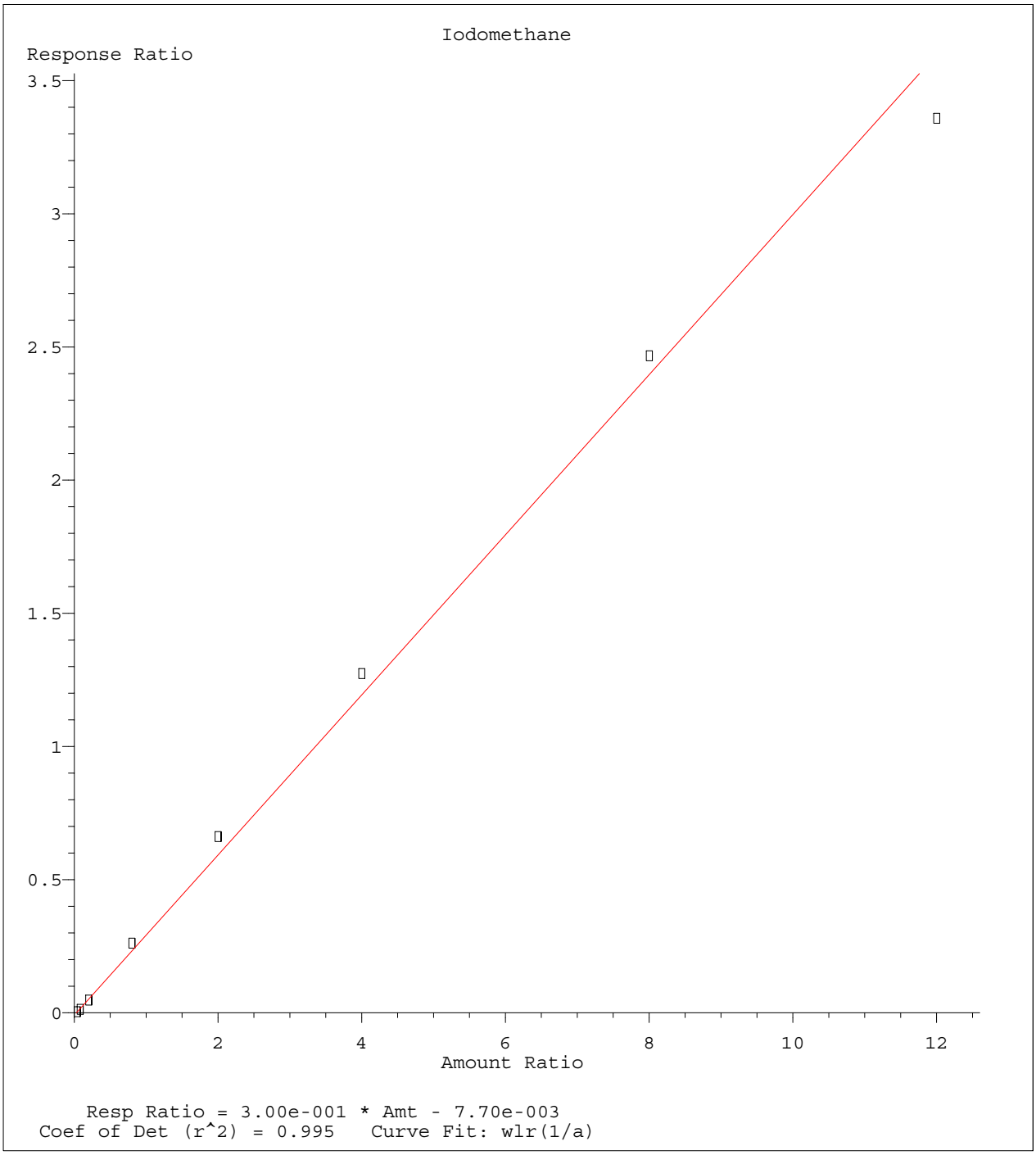




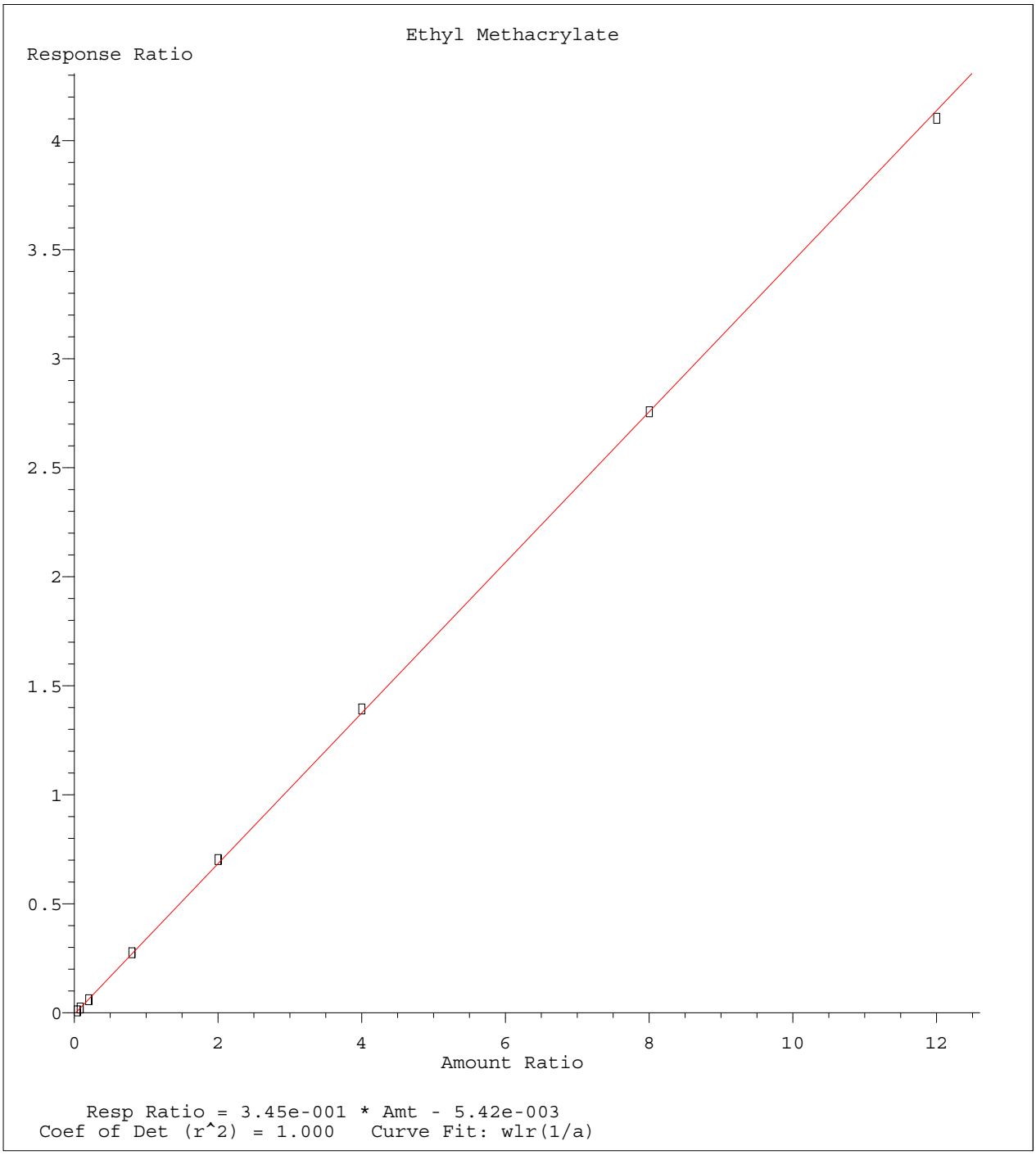
Method Name: K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M
Calibration Table Last Updated: Tue Nov 15 10:18:32 2016



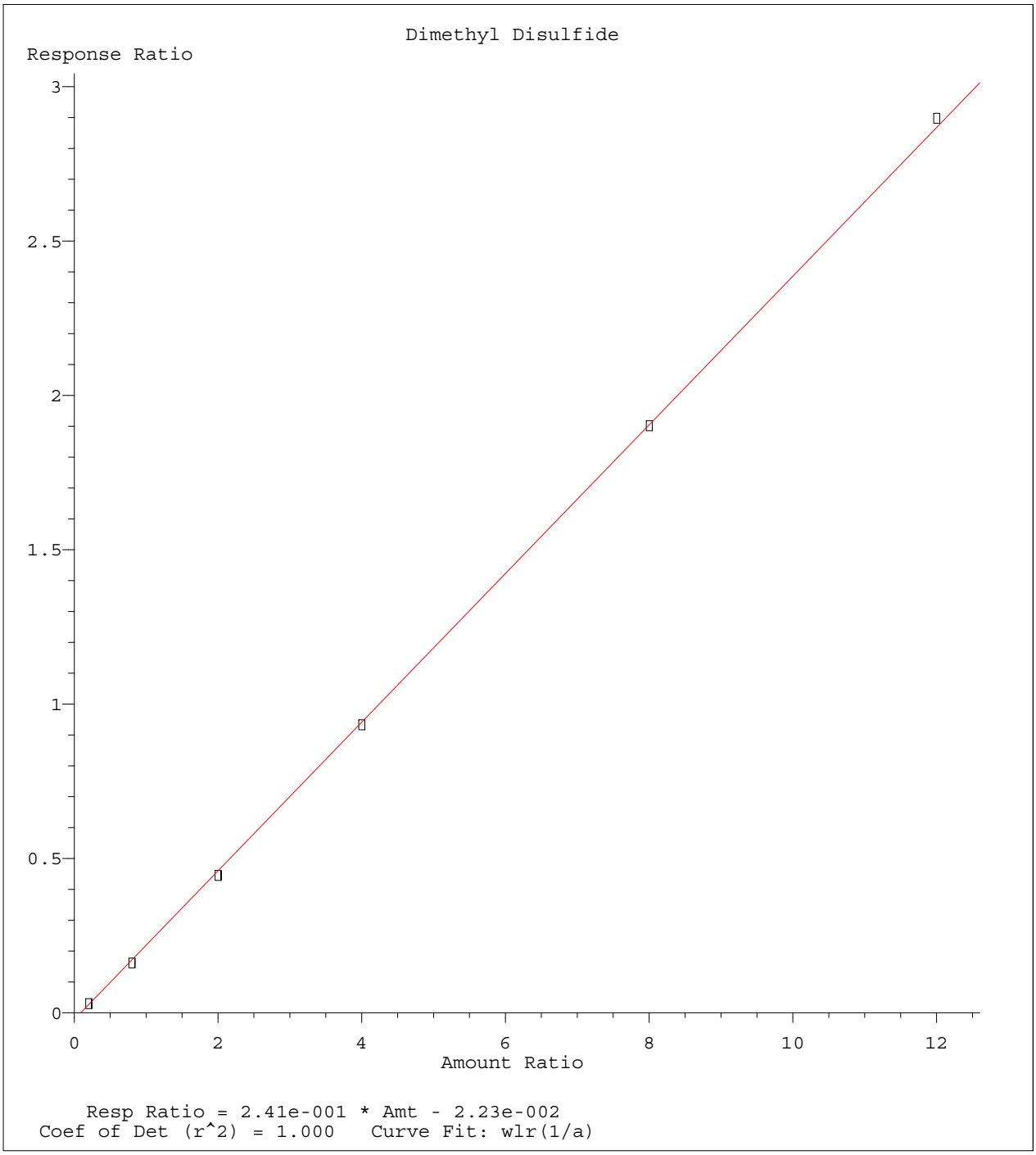
Method Name: K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M
Calibration Table Last Updated: Tue Nov 15 10:18:32 2016



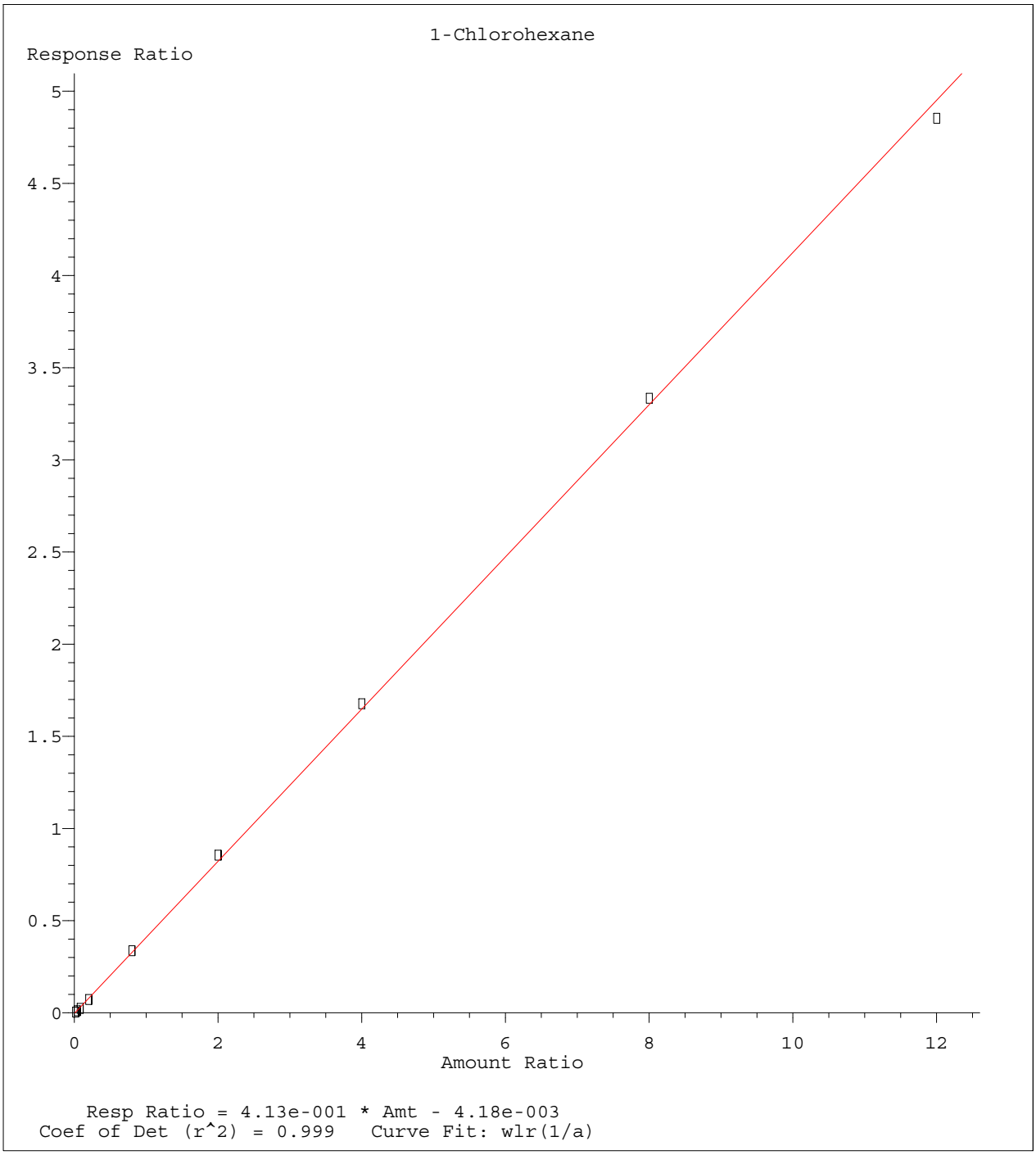
Method Name: K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M
Calibration Table Last Updated: Tue Nov 15 10:18:32 2016



Method Name: K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M
Calibration Table Last Updated: Tue Nov 15 10:18:32 2016



Method Name: K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M
Calibration Table Last Updated: Tue Nov 15 10:18:32 2016



Method Name: K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M
Calibration Table Last Updated: Tue Nov 15 10:18:32 2016

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143436.D Vial: 6
Acq On : 14 Nov 2016 18:51 Operator: TMB
Sample : WG591426-12 50ug/L ALT SRC STD 8260 Inst : Hpms6
Misc : 1,1 STD78998 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 08:28:34 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.74	96	665915	25.00 ug/L	0.00
57) Chlorobenzene-d5	15.22	117	529630	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.77	152	310375	25.00 ug/L	-0.01
System Monitoring Compounds					
37) Dibromofluoromethane	9.55	111	180179	23.3537 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 93.40%		
43) 1,2-Dichloroethane-d4	10.28	65	168553	22.0255 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 88.12%		
58) Toluene-d8	13.01	98	591784	24.1733 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 96.68%		
80) p-Bromofluorobenzene	16.99	95	240003	24.7114 ug/L	-0.01
Spiked Amount 25.000	Range 86 - 115		Recovery = 98.84%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	2.93	85	613177	53.0147 ug/L	95
3) Chloromethane	3.34	50	481983	55.5623 ug/L	100
4) Vinyl Chloride	3.53	62	340390	47.0080 ug/L	100
5) 1,3-Butadiene	3.57	54	189227	32.8719 ug/L	97
6) Bromomethane	4.35	94	163652	48.4538 ug/L	99
7) Chloroethane	4.50	64	214038	50.2817 ug/L	100
8) Trichlorofluoromethane	4.97	101	528197	44.9782 ug/L	99
9) Diethyl ether	5.52	59	528043	101.7257 ug/L	98
10) Isoprene	5.53	67	510870	49.9648 ug/L	95
11) Acrolein	5.76	56	60181	82.2385 ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	5.75	101	347126	48.6693 ug/L	94
13) Acetone	5.88	43	76558	44.5977 ug/L	99
14) 1,1-Dichloroethene	6.07	61	381198	35.0307 ug/L	89
15) Tert-Butyl Alcohol	6.24	59	77539	168.5355 ug/L	93
16) Dimethyl Sulfide	6.36	62	421132	60.7468 ug/L	97
17) Iodomethane	6.61	142	460822	58.2267 ug/L	96
18) Methyl acetate	6.66	43	211175	44.1996 ug/L	97
19) Methylene Chloride	6.91	84	297839	41.1997 ug/L	86
20) Carbon Disulfide	6.92	76	938517	43.6402 ug/L	100
21) Acrylonitrile	7.12	53	102948	48.2669 ug/L	99
22) Methyl Tert Butyl Ether	7.15	73	734216	47.6269 ug/L	97
23) trans-1,2-Dichloroethene	7.39	96	294423	42.1282 ug/L	85
24) n-Hexane	7.47	57	376550	47.3539 ug/L	98
25) Diisopropyl ether	7.88	45	2427271	102.1688 ug/L	97
26) Vinyl Acetate	8.06	43	657019	55.5375 ug/L	98
27) 1,1-Dichloroethane	8.07	63	537915	42.3192 ug/L	100
28) Ethyl-Tert-Butyl ether	8.50	59	1836016	95.5960 ug/L	95
29) 2-Butanone	8.71	43	118929	46.3261 ug/L	100
30) Propionitrile	8.83	54	67160	92.9164 ug/L	100
31) 2,2-Dichloropropane	8.92	77	417834	44.8132 ug/L	97
32) cis-1,2-Dichloroethene	9.00	96	344855	45.6278 ug/L	86
33) Chloroform	9.24	83	570459	43.3911 ug/L	97
34) 1-Bromopropane	9.38	122	75243	46.4898 ug/L	98
35) Bromochloromethane	9.49	130	231216	45.5351 ug/L	100
36) Tetrahydrofuran	9.53	42	159066	85.8654 ug/L	99
38) 1,1,1-Trichloroethane	9.82	97	497710	44.7195 ug/L	94
39) Cyclohexane	9.85	56	428798	39.3851 ug/L	93
40) 1,1-Dichloropropene	10.04	75	395633	44.2534 ug/L	92
41) Tert-Amyl-Methyl ether	10.19	73	1550443	101.2565 ug/L	95
42) Carbon Tetrachloride	10.20	117	471273	43.4079 ug/L	98

(#) = qualifier out of range (m) = manual integration
6M143436.D 8260WT.M Tue Nov 15 08:28:38 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143436.D Vial: 6
Acq On : 14 Nov 2016 18:51 Operator: TMB
Sample : WG591426-12 50ug/L ALT SRC STD 8260 Inst : Hpms6
Misc : 1,1 STD78998 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 08:28:34 2016 Quant Results File: 8260WT.RES

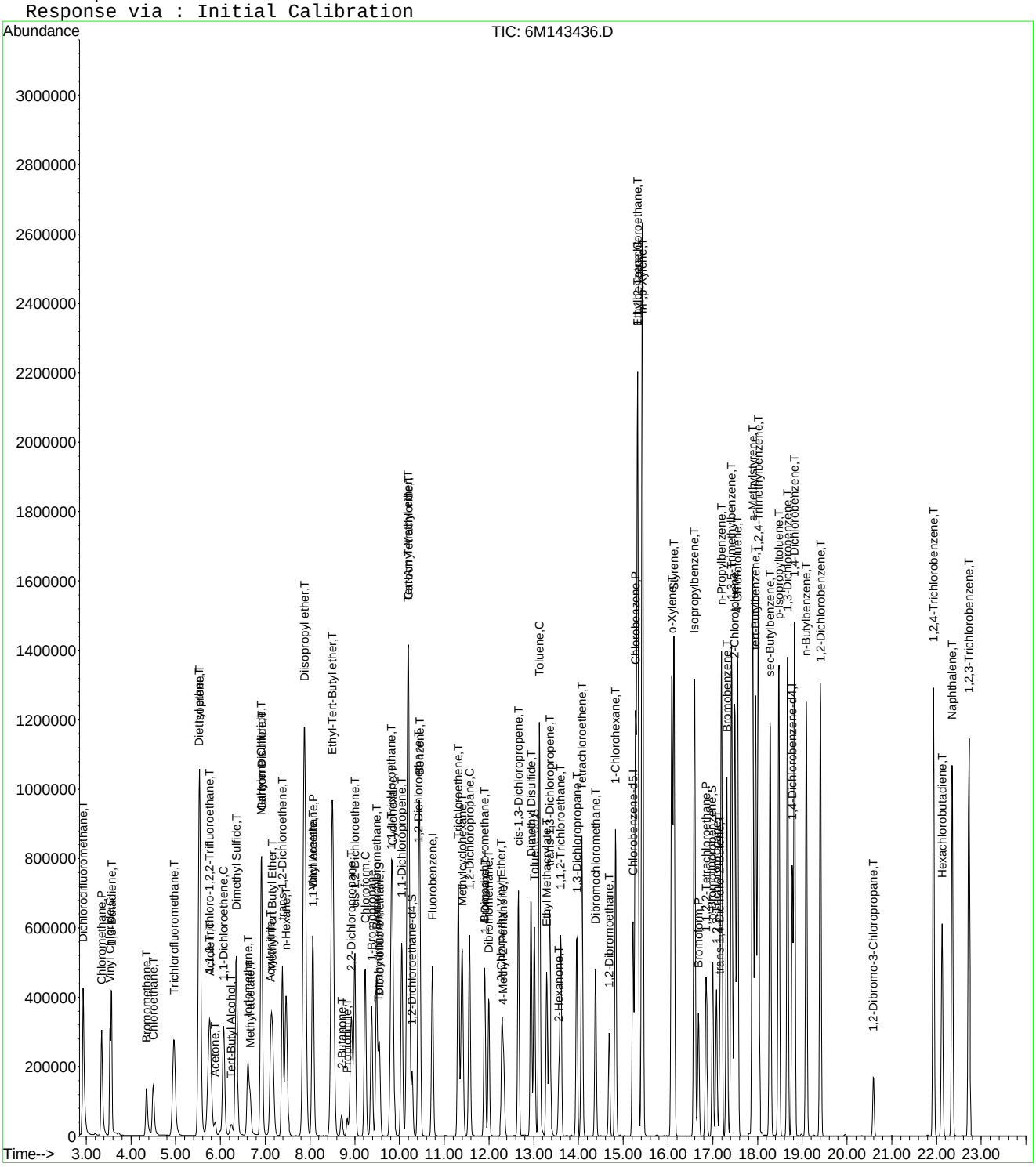
Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45)	1,2-Dichloroethane	10.42	62	403510	44.0493	ug/L	96
46)	Benzene	10.45	78	1151363	43.3661	ug/L	95
47)	Trichloroethene	11.31	130	368817	44.2655	ug/L	83
48)	Methylcyclohexane	11.40	83	385138	41.8409	ug/L	91
49)	1,2-Dichloropropane	11.56	63	322162	46.5264	ug/L	97
50)	1,4-Dioxane	11.91	88	6875	151.0087	ug/L	97
51)	Bromodichloromethane	11.90	83	431955	45.6090	ug/L	100
52)	Dibromomethane	11.99	93	188950	46.8770	ug/L	98
53)	2-Chloroethyl Vinyl Ether	12.28	63	173835	52.9753	ug/L	99
54)	4-Methyl-2-Pentanone	12.32	58	93629	47.0530	ug/L	94
55)	cis-1,3-Dichloropropene	12.66	75	512293	53.0729	ug/L	99
56)	Dimethyl Disulfide	12.94	79	280195	46.0023	ug/L	95
59)	Toluene	13.13	91	1270109	46.4883	ug/L	99
60)	Ethyl Methacrylate	13.29	69	340865	46.9937	ug/L	99
62)	trans-1,3-Dichloropropene	13.36	75	438605	49.2457	ug/L	94
63)	1,1,2-Trichloroethane	13.60	97	259520	46.8993	ug/L	98
64)	2-Hexanone	13.56	43	183359	47.7366	ug/L	98
65)	1,3-Dichloropropane	13.96	76	439446	49.5804	ug/L	95
66)	Tetrachloroethene	14.08	166	389577	46.5700	ug/L	95
67)	Dibromochloromethane	14.38	129	368891	48.0311	ug/L	99
68)	1,2-Dibromoethane	14.68	107	274427	48.6475	ug/L	100
69)	1-Chlorohexane	14.82	91	420963	48.3827	ug/L	90
70)	Chlorobenzene	15.27	112	939309	46.0034	ug/L	88
71)	1,1,1,2-Tetrachloroethane	15.32	131	372777	47.7315	ug/L	96
72)	Ethylbenzene	15.32	106	491560	48.2839	ug/L	90
73)	m-,p-Xylene	15.42	106	1172992	98.4812	ug/L	90
74)	o-Xylene	16.09	106	587030	50.6152	ug/L	91
75)	Styrene	16.13	104	1041590	53.3189	ug/L	93
76)	Bromoform	16.68	173	248465	48.8098	ug/L	98
77)	Isopropylbenzene	16.59	105	1427513	51.5776	ug/L	97
79)	1,1,2,2-Tetrachloroethane	16.85	83	324378	50.1646	ug/L	99
81)	1,2,3-Trichloropropane	17.08	110	101304	48.1217	ug/L	93
82)	trans-1,4-Dichloro-2-Buten	17.15	53	88898	44.2925	ug/L	83
83)	n-Propylbenzene	17.19	91	1641522	51.2290	ug/L	95
84)	Bromobenzene	17.31	156	465228	48.7070	ug/L	85
85)	1,3,5-Trimethylbenzene	17.42	105	1213687	51.5814	ug/L	95
86)	2-Chlorotoluene	17.49	91	1035982	46.2586	ug/L	89
87)	4-Chlorotoluene	17.55	91	1118021	50.6622	ug/L	96
88)	a-Methylstyrene	17.90	118	771831	49.8012	ug/L	96
89)	tert-Butylbenzene	17.96	134	278572	49.8860	ug/L	99
90)	1,2,4-Trimethylbenzene	18.02	105	1289109	49.9312	ug/L	94
91)	sec-Butylbenzene	18.27	105	1371793	50.0773	ug/L	97
92)	p-Isopropyltoluene	18.48	119	1287484	52.8012	ug/L	99
93)	1,3-Dichlorobenzene	18.67	146	860797	48.8097	ug/L	96
94)	1,4-Dichlorobenzene	18.83	146	884373	48.3241	ug/L	96
95)	n-Butylbenzene	19.09	91	1037520	51.6714	ug/L	93
96)	1,2-Dichlorobenzene	19.41	146	839166	49.6332	ug/L	96
97)	1,2-Dibromo-3-Chloropropan	20.58	75	57903	50.7051	ug/L	77
98)	1,2,4-Trichlorobenzene	21.93	180	598733	56.7477	ug/L	98
99)	Hexachlorobutadiene	22.12	225	205558	51.2150	ug/L	99
100)	Naphthalene	22.35	128	1237910	58.2054	ug/L	100
101)	1,2,3-Trichlorobenzene	22.73	180	546250	54.5496	ug/L	98

(#) = qualifier out of range (m) = manual integration
6M143436.D 8260WT.M Tue Nov 15 08:28:39 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143436.D Vial: 6
Acq On : 14 Nov 2016 18:51 Operator: TMB
Sample : WG591426-12 50ug/L ALT SRC STD 8260 Inst : Hpms6
Misc : 1,1 STD78998 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 8:28 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143436.D Vial: 6
Acq On : 14 Nov 2016 18:51 Operator: TMB
Sample : WG591426-12 50ug/L ALT SRC STD 8260 Inst : Hpms6
Misc : 1,1 STD78998 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	102	0.00
2	T	Dichlorodifluoromethane	50.0000	53.0147	-6.0	100	0.00
3	P	Chloromethane	50.0000	55.5623	-11.1	116	0.00
4	C	Vinyl Chloride	50.0000	47.0080	6.0	93	0.00
5	T	1,3-Butadiene	50.0000	32.8719	34.3#	70	0.01
6	T	Bromomethane	50.0000	48.4538	3.1	99	0.00
7	T	Chloroethane	50.0000	50.2817	-0.6	99	0.01
8	T	Trichlorofluoromethane	50.0000	44.9782	10.0	88	0.01
9	T	Diethyl ether	100.0000	101.7257	-1.7	102	0.00
10	T	Isoprene	50.0000	49.9648	0.1	98	0.00
11	T	Acrolein	50.0000	82.2385	-64.5#	164	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	48.6693	2.7	97	0.00
13	T	Acetone	50.0000	44.5977	10.8	91	0.00
14	C	1,1-Dichloroethene	50.0000	35.0307	29.9#	69	0.00
15	T	Tert-Butyl Alcohol	200.0000	168.5355	15.7	84	0.00
16	T	Dimethyl Sulfide	50.0000	60.7468	-21.5#	120	0.01
17	T	Iodomethane	50.0000	58.2267	-16.5	107	0.00
18	T	Methyl acetate	50.0000	44.1996	11.6	89	0.01
19	T	Methylene Chloride	50.0000	41.1997	17.6	85	0.01
20	T	Carbon Disulfide	50.0000	43.6402	12.7	86	0.00
21	T	Acrylonitrile	50.0000	48.2669	3.5	94	0.00
22	T	Methyl Tert Butyl Ether	50.0000	47.6269	4.7	93	0.00
23	T	trans-1,2-Dichloroethene	50.0000	42.1282	15.7	82	0.00
24	T	n-Hexane	50.0000	47.3539	5.3	93	0.00
25	T	Diisopropyl ether	100.0000	102.1688	-2.2	101	0.01
26	T	Vinyl Acetate	50.0000	55.5375	-11.1	110	0.00
27	P	1,1-Dichloroethane	50.0000	42.3192	15.4	85	0.01
28	T	Ethyl-Tert-Butyl ether	100.0000	95.5960	4.4	94	0.00
29	T	2-Butanone	50.0000	46.3261	7.3	95	0.00
30	T	Propionitrile	100.0000	92.9164	7.1	93	0.00
31	T	2,2-Dichloropropane	50.0000	44.8132	10.4	90	0.00
32	T	cis-1,2-Dichloroethene	50.0000	45.6278	8.7	88	0.00
33	C	Chloroform	50.0000	43.3911	13.2	92	0.01
34		1-Bromopropane	50.0000	46.4898	7.0	89	0.00
35	T	Bromochloromethane	50.0000	45.5351	8.9	89	0.00
36	T	Tetrahydrofuran	100.0000	85.8654	14.1	94	0.00
37	S	Dibromofluoromethane	25.0000	23.3537	6.6	94	0.00
38	T	1,1,1-Trichloroethane	50.0000	44.7195	10.6	88	0.00
39	T	Cyclohexane	50.0000	39.3851	21.2#	75	0.01
40	T	1,1-Dichloropropene	50.0000	44.2534	11.5	85	0.00
41	T	Tert-Amyl-Methyl ether	100.0000	101.2565	-1.3	99	0.00
42	T	Carbon Tetrachloride	50.0000	43.4079	13.2	85	0.00
43	S	1,2-Dichloroethane-d4	25.0000	22.0255	11.9	91	0.00
44		Heptane	-1.0000	0.0000	0.0	93	0.00
45	T	1,2-Dichloroethane	50.0000	44.0493	11.9	89	0.00
46	T	Benzene	50.0000	43.3661	13.3	87	0.00
47	T	Trichloroethene	50.0000	44.2655	11.5	87	0.00
48	T	Methylcyclohexane	50.0000	41.8409	16.3	82	0.01
49	C	1,2-Dichloropropane	50.0000	46.5264	6.9	92	0.00
50	T	1,4-Dioxane	200.0000	151.0087	24.5#	75	0.00
51	T	Bromodichloromethane	50.0000	45.6090	8.8	91	0.00
52	T	Dibromomethane	50.0000	46.8770	6.2	92	0.00
53	T	2-Chloroethyl Vinyl Ether	50.0000	52.9753	-6.0	97	0.00
54	T	4-Methyl-2-Pentanone	50.0000	47.0530	5.9	95	0.00

(#) = Out of Range
6M143436.D 8260WT.M Tue Nov 15 12:28:38 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143436.D Vial: 6
Acq On : 14 Nov 2016 18:51 Operator: TMB
Sample : WG591426-12 50ug/L ALT SRC STD 8260 Inst : Hpms6
Misc : 1,1 STD78998 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	50.0000	53.0729	-6.1	98	0.00
56	T	Dimethyl Disulfide	50.0000	46.0023	8.0	96	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	101	0.00
58	S	Toluene-d8	25.0000	24.1733	3.3	97	0.00
59	C	Toluene	50.0000	46.4883	7.0	91	0.00
60	T	Ethyl Methacrylate	50.0000	46.9937	6.0	93	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	89	0.00
62	T	trans-1,3-Dichloropropene	50.0000	49.2457	1.5	93	0.00
63	T	1,1,2-Trichloroethane	50.0000	46.8993	6.2	94	0.00
64	T	2-Hexanone	50.0000	47.7366	4.5	97	0.00
65	T	1,3-Dichloropropane	50.0000	49.5804	0.8	98	0.00
66	T	Tetrachloroethene	50.0000	46.5700	6.9	92	0.00
67	T	Dibromochloromethane	50.0000	48.0311	3.9	93	0.00
68	T	1,2-Dibromoethane	50.0000	48.6475	2.7	94	0.00
69	T	1-Chlorohexane	50.0000	48.3827	3.2	94	0.00
70	P	Chlorobenzene	50.0000	46.0034	8.0	93	0.00
71	T	1,1,1,2-Tetrachloroethane	50.0000	47.7315	4.5	92	0.00
72	C	Ethylbenzene	50.0000	48.2839	3.4	94	0.00
73	T	m-,p-Xylene	100.0000	98.4812	1.5	94	-0.01
74	T	o-Xylene	50.0000	50.6152	-1.2	95	0.00
75	T	Styrene	50.0000	53.3189	-6.6	96	0.00
76	P	Bromoform	50.0000	48.8098	2.4	93	0.00
77	T	Isopropylbenzene	50.0000	51.5776	-3.2	94	-0.01
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	103	-0.01
79	P	1,1,2,2-Tetrachloroethane	50.0000	50.1646	-0.3	101	0.00
80	S	p-Bromofluorobenzene	25.0000	24.7114	1.2	99	-0.01
81	T	1,2,3-Trichloropropane	50.0000	48.1217	3.8	100	0.00
82	T	trans-1,4-Dichloro-2-Butene	50.0000	44.2925	11.4	95	0.00
83	T	n-Propylbenzene	50.0000	51.2290	-2.5	95	0.00
84	T	Bromobenzene	50.0000	48.7070	2.6	95	0.00
85	T	1,3,5-Trimethylbenzene	50.0000	51.5814	-3.2	96	-0.01
86	T	2-Chlorotoluene	50.0000	46.2586	7.5	94	-0.01
87	T	4-Chlorotoluene	50.0000	50.6622	-1.3	98	-0.01
88	T	a-Methylstyrene	50.0000	49.8012	0.4	97	0.00
89	T	tert-Butylbenzene	50.0000	49.8860	0.2	97	-0.01
90	T	1,2,4-Trimethylbenzene	50.0000	49.9312	0.1	96	-0.01
91	T	sec-Butylbenzene	50.0000	50.0773	-0.2	95	-0.01
92	T	p-Isopropyltoluene	50.0000	52.8012	-5.6	99	0.00
93	T	1,3-Dichlorobenzene	50.0000	48.8097	2.4	97	0.00
94	T	1,4-Dichlorobenzene	50.0000	48.3241	3.4	99	0.00
95	T	n-Butylbenzene	50.0000	51.6714	-3.3	98	0.00
96	T	1,2-Dichlorobenzene	50.0000	49.6332	0.7	100	0.00
97	T	1,2-Dibromo-3-Chloropropane	50.0000	50.7051	-1.4	100	0.00
98	T	1,2,4-Trichlorobenzene	50.0000	56.7477	-13.5	106	0.00
99	T	Hexachlorobutadiene	50.0000	51.2150	-2.4	100	0.00
100	T	Naphthalene	50.0000	58.2054	-16.4	102	0.00
101	T	1,2,3-Trichlorobenzene	50.0000	54.5496	-9.1	104	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 1
6M143436.D 8260WT.M Tue Nov 15 12:28:39 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\data\111416\11M15195.D Vial: 1
Acq On : 14 Nov 2016 14:47 Operator: JDS
Sample : WG591570-02 50ug/Kg CCV Inst : hpms11
Misc : 1,1 STD78327 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 14 15:09:33 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.57	96	638654	25.00 ug/L	0.00
56) Chlorobenzene-d5	14.20	117	489762	25.00 ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.02	152	263590	25.00 ug/L	0.01
System Monitoring Compounds					
37) Dibromofluoromethane	9.57	111	192674	25.0799 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 100.32%		
43) 1,2-Dichloroethane-d4	10.18	65	206564	23.9494 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 95.80%		
57) Toluene-d8	12.43	98	653295	25.1712 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 100.68%		
78) p-Bromofluorobenzene	15.60	95	252552	23.9488 ug/L	0.01
Spiked Amount 25.000	Range 86 - 115		Recovery = 95.80%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.21	85	545198	50.3176 ug/L	95
3) Chloromethane	3.66	50	467876	39.3716 ug/L	99
4) Vinyl Chloride	3.89	62	462190	43.6158 ug/L	99
5) 1,3-Butadiene	3.94	54	374140	43.3725 ug/L	89
6) Bromomethane	4.79	94	226998	44.2087 ug/L	99
7) Chloroethane	4.94	64	298910	48.1479 ug/L	99
8) Trichlorofluoromethane	5.43	101	594084	48.1663 ug/L	99
9) Diethyl ether	5.95	59	646920	107.3028 ug/L	95
10) Isoprene	5.99	67	505501	44.9102 ug/L	96
11) Acrolein	6.18	56	53131	105.7693 ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	6.19	101	326268	49.1859 ug/L	98
13) Acetone	6.28	43	110123	44.4445 ug/L	97
14) 1,1-Dichloroethene	6.49	61	624986	47.4189 ug/L	97
15) Tert-Butyl Alcohol	6.60	59	125806	196.7167 ug/L	95
16) Dimethyl Sulfide	6.75	62	408582	45.2298 ug/L	94
17) Iodomethane	7.00	142	348514	39.7088 ug/L	99
18) Methyl acetate	7.01	43	335899	45.9693 ug/L	97
19) Methylene Chloride	7.26	84	349468	46.6394 ug/L	93
20) Carbon Disulfide	7.30	76	1009451	46.2066 ug/L	100
21) Acrylonitrile	7.43	53	162210	48.7279 ug/L	100
22) Methyl Tert Butyl Ether	7.47	73	887865	48.1931 ug/L	98
23) trans-1,2-Dichloroethene	7.69	96	346417	46.3809 ug/L	95
24) n-Hexane	7.77	57	597569	46.7858 ug/L	100
25) Diisopropyl ether	8.10	45	3397677	94.0583 ug/L	97
26) Vinyl Acetate	8.26	43	976344	50.5662 ug/L	99
27) 1,1-Dichloroethane	8.29	63	716045	46.7767 ug/L	100
28) Ethyl-Tert-Butyl ether	8.64	59	2515206	93.8899 ug/L	99
29) 2-Butanone	8.82	43	191317	45.9544 ug/L	98
30) Propionitrile	8.92	54	108095	93.7107 ug/L	98
31) 2,2-Dichloropropane	9.04	77	512920	49.1686 ug/L	99
32) cis-1,2-Dichloroethene	9.10	96	395410	48.0711 ug/L	96
33) Chloroform	9.30	83	614995	45.7888 ug/L	100
34) 1-Bromopropane	9.43	122	78997	56.0721 ug/L	98
35) Bromochloromethane	9.52	130	248488	46.8637 ug/L	92
36) Tetrahydrofuran	9.54	42	262224	92.9806 ug/L	93
38) 1,1,1-Trichloroethane	9.81	97	556773	47.0154 ug/L	95
39) Cyclohexane	9.84	56	771739	44.4556 ug/L	97
40) 1,1-Dichloropropene	10.00	75	458412	46.7604 ug/L	98
41) Carbon Tetrachloride	10.13	117	524947	47.4432 ug/L	99
42) Tert-Amyl-Methyl ether	10.09	73	1727793	95.2438 ug/L	95

(#) = qualifier out of range (m) = manual integration
11M15195.D 8260WT.M Mon Nov 14 15:09:34 2016 Page 1

Data File : C:\MSDchem\1\data\111416\11M15195.D Vial: 1
Acq On : 14 Nov 2016 14:47 Operator: JDS
Sample : WG591570-02 50ug/Kg CCV Inst : hpms11
Misc : 1,1 STD78327 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 14 15:09:33 2016 Quant Results File: 8260WT.RES

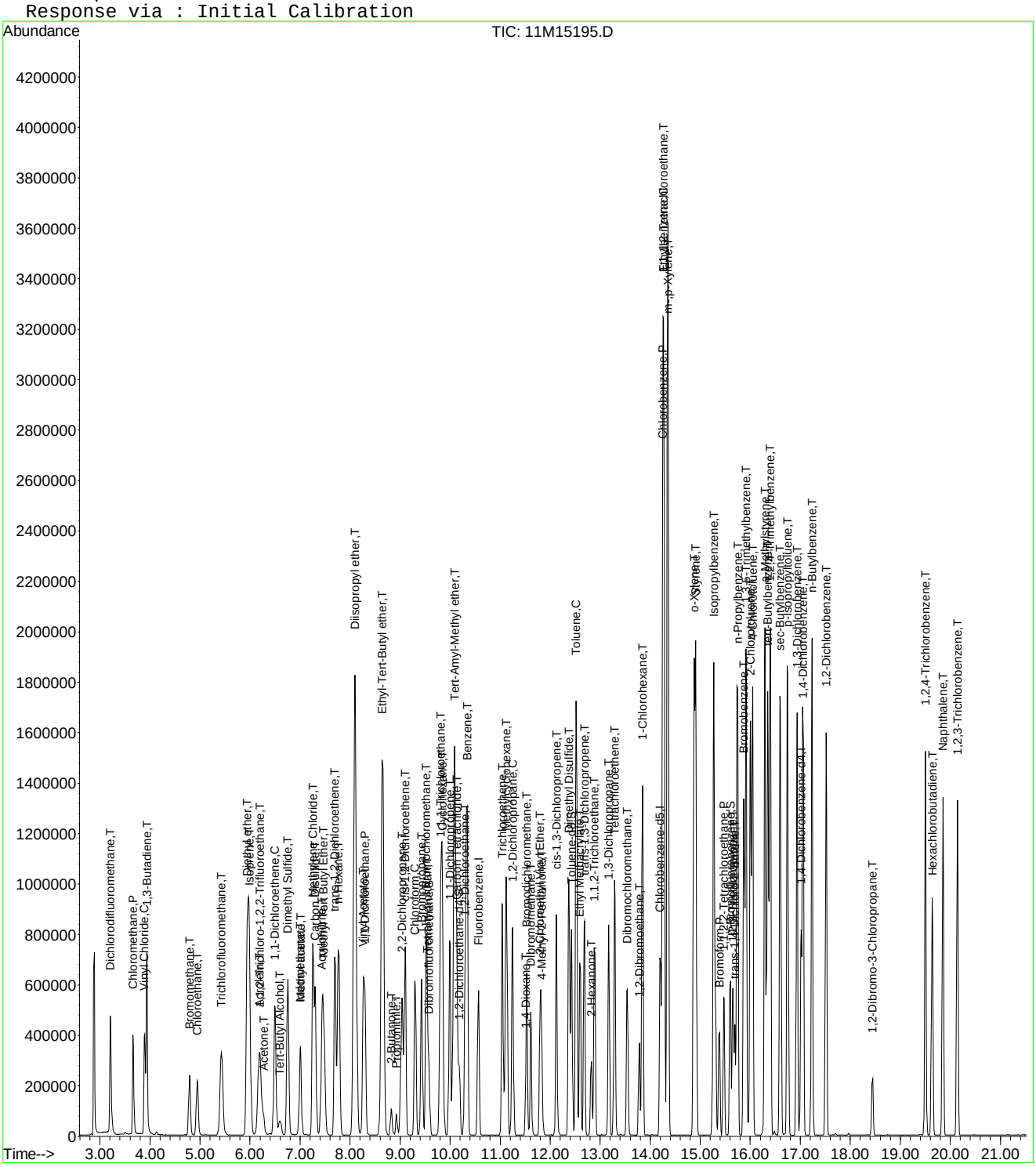
Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44)	1,2-Dichloroethane	10.30	62	544750	47.2125	ug/L	98
45)	Benzene	10.34	78	1358250	46.9031	ug/L	98
46)	Trichloroethene	11.04	130	387421	46.2556	ug/L	97
47)	Methylcyclohexane	11.13	83	527671	46.4736	ug/L	96
48)	1,2-Dichloropropane	11.25	63	404061	47.3367	ug/L	99
49)	1,4-Dioxane	11.51	88	12360	207.7257	ug/L	93
50)	Bromodichloromethane	11.53	83	476540	46.9569	ug/L	99
51)	Dibromomethane	11.61	93	212181	46.8831	ug/L	98
52)	2-Chloroethyl Vinyl Ether	11.80	63	223731	44.7482	ug/L	99
53)	4-Methyl-2-Pentanone	11.83	58	136979	44.6243	ug/L	99
54)	cis-1,3-Dichloropropene	12.13	75	545323	48.6158	ug/L	100
55)	Dimethyl Disulfide	12.38	79	322127	47.8495	ug/L	96
58)	Toluene	12.52	91	1480854	48.0163	ug/L	100
59)	Ethyl Methacrylate	12.59	69	384152	48.7326	ug/L	92
60)	trans-1,3-Dichloropropene	12.69	75	494548	48.9774	ug/L	98
61)	1,1,2-Trichloroethane	12.88	97	294685	49.1121	ug/L	99
62)	2-Hexanone	12.82	43	277296	42.8741	ug/L	96
63)	1,3-Dichloropropane	13.17	76	480479	47.6357	ug/L	87
64)	Tetrachloroethene	13.29	164	311158	46.4829	ug/L	100
65)	Dibromochloromethane	13.54	129	402057	49.9931	ug/L	99
66)	1,2-Dibromoethane	13.78	107	297055	48.0921	ug/L	98
67)	1-Chlorohexane	13.84	91	468613	47.0854	ug/L	93
68)	Chlorobenzene	14.25	112	1032155	47.1639	ug/L	99
69)	1,1,1,2-Tetrachloroethane	14.27	131	379652	48.6394	ug/L	99
70)	Ethylbenzene	14.27	106	528626	47.2405	ug/L	99
71)	m-,p-Xylene	14.35	106	1279432	97.0465	ug/L	100
72)	o-Xylene	14.88	106	627685	48.3997	ug/L	100
73)	Styrene	14.91	104	1082051	49.1528	ug/L	98
74)	Bromoform	15.39	173	256296	49.1427	ug/L	98
75)	Isopropylbenzene	15.27	105	1598886	48.1203	ug/L	100
77)	1,1,2,2-Tetrachloroethane	15.47	83	356213	47.9196	ug/L	100
79)	1,2,3-Trichloropropane	15.65	110	105743	46.9073	ug/L	93
80)	trans-1,4-Dichloro-2-Buten	15.69	53	144894	47.7232	ug/L	97
81)	n-Propylbenzene	15.75	91	1920191	48.9631	ug/L	99
82)	Bromobenzene	15.87	156	454486	45.2156	ug/L	95
83)	1,3,5-Trimethylbenzene	15.91	105	1360279	48.3587	ug/L	99
84)	2-Chlorotoluene	16.01	91	1321386	53.2466	ug/L	99
85)	4-Chlorotoluene	16.05	91	1056058	41.7823	ug/L	99
86)	a-Methylstyrene	16.30	118	802333	48.5273	ug/L	100
87)	tert-Butylbenzene	16.35	134	291292	47.3353	ug/L	95
88)	1,2,4-Trimethylbenzene	16.40	105	1396198	48.2498	ug/L	99
89)	sec-Butylbenzene	16.60	105	1700530	47.7400	ug/L	99
90)	p-Isopropyltoluene	16.75	119	1499940	48.3910	ug/L	99
91)	1,3-Dichlorobenzene	16.94	146	866405	46.7542	ug/L	99
92)	1,4-Dichlorobenzene	17.06	146	864096	45.5030	ug/L	99
93)	n-Butylbenzene	17.24	91	1394605	47.9557	ug/L	99
94)	1,2-Dichlorobenzene	17.52	146	826537	46.6919	ug/L	99
95)	1,2-Dibromo-3-Chloropropan	18.45	75	64966	45.4682	ug/L	92
96)	1,2,4-Trichlorobenzene	19.50	180	585476	44.5969	ug/L	100
97)	Hexachlorobutadiene	19.65	225	241825	47.0646	ug/L	98
98)	Naphthalene	19.85	128	1265665	46.3706	ug/L	99
99)	1,2,3-Trichlorobenzene	20.14	180	534125	42.1642	ug/L	100

(#) = qualifier out of range (m) = manual integration
11M15195.D 8260WT.M Mon Nov 14 15:09:34 2016 Page 2

Data File : C:\MSDchem\1\data\111416\11M15195.D Vial: 1
Acq On : 14 Nov 2016 14:47 Operator: JDS
Sample : WG591570-02 50ug/Kg CCV Inst : hpms11
Misc : 1,1 STD78327 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 14 15:09 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\111416\11M15195.D Vial: 1
Acq On : 14 Nov 2016 14:47 Operator: JDS
Sample : WG591570-02 50ug/Kg CCV Inst : hpms11
Misc : 1,1 STD78327 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 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	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.0000	1.0000	0.0	88	0.00
2	T	Dichlorodifluoromethane	0.4241	0.4268	-0.6	81	0.00
3	P	Chloromethane	0.4652	0.3663	21.3	72	0.00
4	C	Vinyl Chloride	0.4148	0.3619	12.8	74	-0.01
5	T	1,3-Butadiene	0.3377	0.2929	13.3	76	0.00
6	T	Bromomethane	0.2010	0.1777	11.6	80	-0.01
7	T	Chloroethane	0.2430	0.2340	3.7	82	-0.01
8	T	Trichlorofluoromethane	0.4828	0.4651	3.7	81	0.00
9	T	Diethyl ether	0.2360	0.2532	-7.3	93	0.00
10	T	Isoprene	0.4406	0.3957	10.2	78	0.00
11	T	Acrolein	0.0197	0.0416	-111.6#	199#	0.01
12	T	1,1,2-Trichloro-1,2,2-Trifl	0.2597	0.2554	1.6	82	0.00
13	T	Acetone	0.0970	0.0862	11.1	84	0.00
14	C	1,1-Dichloroethene	0.5159	0.4893	5.2	80	0.00
15	T	Tert-Butyl Alcohol	0.0250	0.0246	1.6	91	0.00
16	T	Dimethyl Sulfide	0.3536	0.3199	9.5	79	0.00
17	T	Iodomethane	0.2694	0.2728	-1.3	69	0.00
18	T	Methyl acetate	0.2860	0.2630	8.1	84	0.00
19	T	Methylene Chloride	0.2933	0.2736	6.7	81	0.00
20	T	Carbon Disulfide	0.8552	0.7903	7.6	80	-0.01
21	T	Acrylonitrile	0.1303	0.1270	2.5	83	0.00
22	T	Methyl Tert Butyl Ether	0.7212	0.6951	3.6	83	0.00
23	T	trans-1,2-Dichloroethene	0.2924	0.2712	7.2	80	-0.01
24	T	n-Hexane	0.5000	0.4678	6.4	80	0.00
25	T	Diisopropyl ether	1.4140	1.3300	5.9	81	0.00
26	T	Vinyl Acetate	0.7558	0.7644	-1.1	88	0.00
27	P	1,1-Dichloroethane	0.5992	0.5606	6.4	80	0.00
28	T	Ethyl-Tert-Butyl ether	1.0487	0.9846	6.1	82	0.00
29	T	2-Butanone	0.1630	0.1498	8.1	83	0.00
30	T	Propionitrile	0.0452	0.0423	6.3	84	0.00
31	T	2,2-Dichloropropane	0.4083	0.4016	1.7	85	0.00
32	T	cis-1,2-Dichloroethene	0.3220	0.3096	3.9	81	0.00
33	C	Chloroform	0.5258	0.4815	8.4	81	-0.01
34	T	1-Bromopropane	0.0551	0.0619	-12.1	97	0.00
35	T	Bromochloromethane	0.2076	0.1945	6.3	82	0.00
36	T	Tetrahydrofuran	0.1192	0.1027	13.9	84	0.00
37	S	Dibromofluoromethane	0.3007	0.3017	-0.3	87	0.00
38	T	1,1,1-Trichloroethane	0.4636	0.4359	6.0	80	0.00
39	T	Cyclohexane	0.6795	0.6042	11.1	76	0.00
40	T	1,1-Dichloropropene	0.3837	0.3589	6.5	80	0.00
41	T	Carbon Tetrachloride	0.4331	0.4110	5.1	79	0.00
42	T	Tert-Amyl-Methyl ether	0.7101	0.6763	4.8	83	0.00
43	S	1,2-Dichloroethane-d4	0.3376	0.3234	4.2	83	0.00
44	T	1,2-Dichloroethane	0.4517	0.4265	5.6	81	0.00
45	T	Benzene	1.1336	1.0634	6.2	80	0.00
46	T	Trichloroethene	0.3279	0.3033	7.5	80	0.00
47	T	Methylcyclohexane	0.4445	0.4131	7.1	80	0.00
48	C	1,2-Dichloropropane	0.3341	0.3163	5.3	81	0.00
49	T	1,4-Dioxane	0.0023	0.0024	-3.9	94	0.00
50	T	Bromodichloromethane	0.3973	0.3731	6.1	80	0.00
51	T	Dibromomethane	0.1772	0.1661	6.2	82	0.00
52	T	2-Chloroethyl Vinyl Ether	0.1957	0.1752	10.5	79	0.00
53	T	4-Methyl-2-Pentanone	0.1202	0.1072	10.8	82	0.00
54	T	cis-1,3-Dichloropropene	0.4391	0.4269	2.8	81	0.01

(#) = Out of Range
11M15195.D 8260WT.M Mon Nov 14 15:12:43 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\111416\11M15195.D Vial: 1
Acq On : 14 Nov 2016 14:47 Operator: JDS
Sample : WG591570-02 50ug/Kg CCV Inst : hpms11
Misc : 1,1 STD78327 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 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	AvgRF	CCRF	%Dev	Area%	Dev(min)
55	T	Dimethyl Disulfide	0.2635	0.2522	4.3	83	0.00
56	I	Chlorobenzene-d5	1.0000	1.0000	0.0	86	0.00
57	S	Toluene-d8	1.3248	1.3339	-0.7	85	0.00
58	C	Toluene	1.5743	1.5118	4.0	80	0.00
59	T	Ethyl Methacrylate	0.4024	0.3922	2.5	82	0.00
60	T	trans-1,3-Dichloropropene	0.5154	0.5049	2.0	81	0.01
61	T	1,1,2-Trichloroethane	0.3063	0.3009	1.8	82	0.00
62	T	2-Hexanone	0.3301	0.2831	14.3	79	0.00
63	T	1,3-Dichloropropane	0.5149	0.4905	4.7	82	0.00
64	T	Tetrachloroethene	0.3417	0.3177	7.0	81	0.00
65	T	Dibromochloromethane	0.4105	0.4105	0.0	84	0.01
66	T	1,2-Dibromoethane	0.3153	0.3033	3.8	82	0.00
67	T	1-Chlorohexane	0.5080	0.4784	5.8	79	0.00
68	P	Chlorobenzene	1.1171	1.0537	5.7	81	0.00
69	T	1,1,1,2-Tetrachloroethane	0.3984	0.3876	2.7	81	0.00
70	C	Ethylbenzene	0.5712	0.5397	5.5	79	0.00
71	T	m-,p-Xylene	0.6730	0.6531	3.0	81	0.00
72	T	o-Xylene	0.6620	0.6408	3.2	80	0.00
73	T	Styrene	1.1237	1.1047	1.7	79	0.00
74	P	Bromoform	0.2662	0.2616	1.7	82	0.01
75	T	Isopropylbenzene	1.6961	1.6323	3.8	79	0.00
76	I	1,4-Dichlorobenzene-d4	1.0000	1.0000	0.0	88	0.01
77	P	1,1,2,2-Tetrachloroethane	0.7050	0.6757	4.2	85	0.00
78	S	p-Bromofluorobenzene	1.0002	0.9581	4.2	84	0.01
79	T	1,2,3-Trichloropropane	0.2138	0.2006	6.2	82	0.00
80	T	trans-1,4-Dichloro-2-Butene	0.2880	0.2748	4.6	82	0.00
81	T	n-Propylbenzene	3.7195	3.6424	2.1	79	0.01
82	T	Bromobenzene	0.9533	0.8621	9.6	80	0.00
83	T	1,3,5-Trimethylbenzene	2.6679	2.5803	3.3	79	0.00
84	T	2-Chlorotoluene	2.3537	2.5065	-6.5	89	0.01
85	T	4-Chlorotoluene	2.3972	2.0032	16.4	69	0.01
86	T	a-Methylstyrene	1.5681	1.5219	2.9	81	0.01
87	T	tert-Butylbenzene	0.5837	0.5525	5.3	79	0.00
88	T	1,2,4-Trimethylbenzene	2.7445	2.6484	3.5	79	0.00
89	T	sec-Butylbenzene	3.3784	3.2257	4.5	78	0.00
90	T	p-Isopropyltoluene	2.9398	2.8452	3.2	79	0.01
91	T	1,3-Dichlorobenzene	1.7576	1.6435	6.5	81	0.00
92	T	1,4-Dichlorobenzene	1.8011	1.6391	9.0	80	0.01
93	T	n-Butylbenzene	2.7582	2.6454	4.1	79	0.01
94	T	1,2-Dichlorobenzene	1.6789	1.5679	6.6	82	0.00
95	T	1,2-Dibromo-3-Chloropropane	0.1355	0.1232	9.1	82	0.01
96	T	1,2,4-Trichlorobenzene	1.2451	1.1106	10.8	78	0.00
97	T	Hexachlorobutadiene	0.4873	0.4587	5.9	85	0.01
98	T	Naphthalene	2.5887	2.4008	7.3	76	0.00
99	T	1,2,3-Trichlorobenzene	1.2015	1.0132	15.7	77	0.00

Data File : C:\MSDCHEM\1\DATA\111416\11M15195.D Vial: 1
Acq On : 14 Nov 2016 14:47 Operator: JDS
Sample : WG591570-02 50ug/Kg CCV Inst : hpms11
Misc : 1,1 STD78327 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 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	88	0.00
2	T	Dichlorodifluoromethane	50.0000	50.3176	-0.6	81	0.00
3	P	Chloromethane	50.0000	39.3716	21.3	72	0.00
4	C	Vinyl Chloride	50.0000	43.6158	12.8	74	-0.01
5	T	1,3-Butadiene	50.0000	43.3725	13.3	76	0.00
6	T	Bromomethane	50.0000	44.2087	11.6	80	-0.01
7	T	Chloroethane	50.0000	48.1479	3.7	82	-0.01
8	T	Trichlorofluoromethane	50.0000	48.1663	3.7	81	0.00
9	T	Diethyl ether	100.0000	107.3028	-7.3	93	0.00
10	T	Isoprene	50.0000	44.9102	10.2	78	0.00
11	T	Acrolein	50.0000	105.7693	-111.5#	199	0.01
12	T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	49.1859	1.6	82	0.00
13	T	Acetone	50.0000	44.4445	11.1	84	0.00
14	C	1,1-Dichloroethene	50.0000	47.4189	5.2	80	0.00
15	T	Tert-Butyl Alcohol	200.0000	196.7167	1.6	91	0.00
16	T	Dimethyl Sulfide	50.0000	45.2298	9.5	79	0.00
17	T	Iodomethane	50.0000	39.7088	20.6	69	0.00
18	T	Methyl acetate	50.0000	45.9693	8.1	84	0.00
19	T	Methylene Chloride	50.0000	46.6394	6.7	81	0.00
20	T	Carbon Disulfide	50.0000	46.2066	7.6	80	-0.01
21	T	Acrylonitrile	50.0000	48.7280	2.5	83	0.00
22	T	Methyl Tert Butyl Ether	50.0000	48.1931	3.6	83	0.00
23	T	trans-1,2-Dichloroethene	50.0000	46.3809	7.2	80	-0.01
24	T	n-Hexane	50.0000	46.7858	6.4	80	0.00
25	T	Diisopropyl ether	100.0000	94.0583	5.9	81	0.00
26	T	Vinyl Acetate	50.0000	50.5662	-1.1	88	0.00
27	P	1,1-Dichloroethane	50.0000	46.7767	6.4	80	0.00
28	T	Ethyl-Tert-Butyl ether	100.0000	93.8899	6.1	82	0.00
29	T	2-Butanone	50.0000	45.9544	8.1	83	0.00
30	T	Propionitrile	100.0000	93.7107	6.3	84	0.00
31	T	2,2-Dichloropropane	50.0000	49.1686	1.7	85	0.00
32	T	cis-1,2-Dichloroethene	50.0000	48.0711	3.9	81	0.00
33	C	Chloroform	50.0000	45.7888	8.4	81	-0.01
34	T	1-Bromopropane	50.0000	56.0721	-12.1	97	0.00
35	T	Bromochloromethane	50.0000	46.8637	6.3	82	0.00
36	T	Tetrahydrofuran	100.0000	92.9806	7.0	84	0.00
37	S	Dibromofluoromethane	25.0000	25.0799	-0.3	87	0.00
38	T	1,1,1-Trichloroethane	50.0000	47.0154	6.0	80	0.00
39	T	Cyclohexane	50.0000	44.4556	11.1	76	0.00
40	T	1,1-Dichloropropene	50.0000	46.7604	6.5	80	0.00
41	T	Carbon Tetrachloride	50.0000	47.4432	5.1	79	0.00
42	T	Tert-Amyl-Methyl ether	100.0000	95.2438	4.8	83	0.00
43	S	1,2-Dichloroethane-d4	25.0000	23.9494	4.2	83	0.00
44	T	1,2-Dichloroethane	50.0000	47.2125	5.6	81	0.00
45	T	Benzene	50.0000	46.9031	6.2	80	0.00
46	T	Trichloroethene	50.0000	46.2556	7.5	80	0.00
47	T	Methylcyclohexane	50.0000	46.4736	7.1	80	0.00
48	C	1,2-Dichloropropane	50.0000	47.3367	5.3	81	0.00
49	T	1,4-Dioxane	200.0000	207.7257	-3.9	94	0.00
50	T	Bromodichloromethane	50.0000	46.9569	6.1	80	0.00
51	T	Dibromomethane	50.0000	46.8831	6.2	82	0.00
52	T	2-Chloroethyl Vinyl Ether	50.0000	44.7482	10.5	79	0.00
53	T	4-Methyl-2-Pentanone	50.0000	44.6243	10.8	82	0.00
54	T	cis-1,3-Dichloropropene	50.0000	48.6158	2.8	81	0.01

(#) = Out of Range
11M15195.D 8260WT.M Mon Nov 14 15:12:41 2016 Page 1

Data File : C:\MSDCHEM\1\DATA\111416\11M15195.D Vial: 1
Acq On : 14 Nov 2016 14:47 Operator: JDS
Sample : WG591570-02 50ug/Kg CCV Inst : hpms11
Misc : 1,1 STD78327 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 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	50.0000	47.8495	4.3	83	0.00
56	I	Chlorobenzene-d5	25.0000	25.0000	0.0	86	0.00
57	S	Toluene-d8	25.0000	25.1712	-0.7	85	0.00
58	C	Toluene	50.0000	48.0162	4.0	80	0.00
59	T	Ethyl Methacrylate	50.0000	48.7326	2.5	82	0.00
60	T	trans-1,3-Dichloropropene	50.0000	48.9774	2.0	81	0.01
61	T	1,1,2-Trichloroethane	50.0000	49.1121	1.8	82	0.00
62	T	2-Hexanone	50.0000	42.8741	14.3	79	0.00
63	T	1,3-Dichloropropane	50.0000	47.6357	4.7	82	0.00
64	T	Tetrachloroethene	50.0000	46.4829	7.0	81	0.00
65	T	Dibromochloromethane	50.0000	49.9931	0.0	84	0.01
66	T	1,2-Dibromoethane	50.0000	48.0921	3.8	82	0.00
67	T	1-Chlorohexane	50.0000	47.0854	5.8	79	0.00
68	P	Chlorobenzene	50.0000	47.1639	5.7	81	0.00
69	T	1,1,1,2-Tetrachloroethane	50.0000	48.6394	2.7	81	0.00
70	C	Ethylbenzene	50.0000	47.2405	5.5	79	0.00
71	T	m-,p-Xylene	100.0000	97.0465	3.0	81	0.00
72	T	o-Xylene	50.0000	48.3997	3.2	80	0.00
73	T	Styrene	50.0000	49.1528	1.7	79	0.00
74	P	Bromoform	50.0000	49.1427	1.7	82	0.01
75	T	Isopropylbenzene	50.0000	48.1203	3.8	79	0.00
76	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	88	0.01
77	P	1,1,2,2-Tetrachloroethane	50.0000	47.9196	4.2	85	0.00
78	S	p-Bromofluorobenzene	25.0000	23.9488	4.2	84	0.01
79	T	1,2,3-Trichloropropane	50.0000	46.9073	6.2	82	0.00
80	T	trans-1,4-Dichloro-2-Butene	50.0000	47.7232	4.6	82	0.00
81	T	n-Propylbenzene	50.0000	48.9631	2.1	79	0.01
82	T	Bromobenzene	50.0000	45.2156	9.6	80	0.00
83	T	1,3,5-Trimethylbenzene	50.0000	48.3587	3.3	79	0.00
84	T	2-Chlorotoluene	50.0000	53.2466	-6.5	89	0.01
85	T	4-Chlorotoluene	50.0000	41.7823	16.4	69	0.01
86	T	a-Methylstyrene	50.0000	48.5273	2.9	81	0.01
87	T	tert-Butylbenzene	50.0000	47.3353	5.3	79	0.00
88	T	1,2,4-Trimethylbenzene	50.0000	48.2498	3.5	79	0.00
89	T	sec-Butylbenzene	50.0000	47.7400	4.5	78	0.00
90	T	p-Isopropyltoluene	50.0000	48.3910	3.2	79	0.01
91	T	1,3-Dichlorobenzene	50.0000	46.7542	6.5	81	0.00
92	T	1,4-Dichlorobenzene	50.0000	45.5030	9.0	80	0.01
93	T	n-Butylbenzene	50.0000	47.9557	4.1	79	0.01
94	T	1,2-Dichlorobenzene	50.0000	46.6919	6.6	82	0.00
95	T	1,2-Dibromo-3-Chloropropane	50.0000	45.4682	9.1	82	0.01
96	T	1,2,4-Trichlorobenzene	50.0000	44.5969	10.8	78	0.00
97	T	Hexachlorobutadiene	50.0000	47.0646	5.9	85	0.01
98	T	Naphthalene	50.0000	46.3706	7.3	76	0.00
99	T	1,2,3-Trichlorobenzene	50.0000	42.1642	15.7	77	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
11M15195.D 8260WT.M Mon Nov 14 15:12:41 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143433.D Vial: 3
Acq On : 14 Nov 2016 17:16 Operator: TMB
Sample : WG591612-02 50ug/L CCV STD 8260 Inst : Hpms6
Misc : 1,1 STD78993 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 08:28:14 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.74	96	705058	25.00	ug/L	0.00
57) Chlorobenzene-d5	15.22	117	554862	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.77	152	320150	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.55	111	190374	23.3052	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 93.24%			
43) 1,2-Dichloroethane-d4	10.29	65	180367	22.2608	ug/L	0.01
Spiked Amount 25.000	Range 80 - 120		Recovery = 89.04%			
58) Toluene-d8	13.02	98	622074	24.2551	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 97.04%			
80) p-Bromofluorobenzene	16.99	95	250467	25.0014	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 100.00%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.94	85	618267	50.4871	ug/L	95
3) Chloromethane	3.35	50	449579	48.9495	ug/L	100
4) Vinyl Chloride	3.54	62	364293	47.5160	ug/L	100
5) 1,3-Butadiene	3.57	54	240227	39.8011	ug/L	97
6) Bromomethane	4.36	94	174075	48.6785	ug/L	100
7) Chloroethane	4.51	64	219233	48.6428	ug/L	99
8) Trichlorofluoromethane	4.98	101	572174	46.0180	ug/L	99
9) Diethyl ether	5.52	59	554964	100.9765	ug/L	97
10) Isoprene	5.54	67	530393	48.9943	ug/L	94
11) Acrolein	5.77	56	40612	52.4160	ug/L	97
12) 1,1,2-Trichloro-1,2,2-Trif	5.77	101	375869	49.7735	ug/L	95
13) Acetone	5.88	43	87714	48.2598	ug/L	98
14) 1,1-Dichloroethene	6.08	61	573428	49.7704	ug/L	89
15) Tert-Butyl Alcohol	6.22	59	97875	200.9264	ug/L	94
16) Dimethyl Sulfide	6.36	62	367925	50.1254	ug/L	96
17) Iodomethane	6.61	142	408193	48.8181	ug/L	97
18) Methyl acetate	6.66	43	253877	50.1872	ug/L	98
19) Methylene Chloride	6.91	84	377105	49.2685	ug/L	85
20) Carbon Disulfide	6.93	76	1120300	49.2008	ug/L	99
21) Acrylonitrile	7.12	53	117705	52.1219	ug/L	99
22) Methyl Tert Butyl Ether	7.15	73	864572	52.9692	ug/L	98
23) trans-1,2-Dichloroethene	7.39	96	378642	51.1710	ug/L	84
24) n-Hexane	7.48	57	439673	52.2225	ug/L	99
25) Diisopropyl ether	7.87	45	2471540	98.2566	ug/L	98
26) Vinyl Acetate	8.06	43	750741	59.9366	ug/L	97
27) 1,1-Dichloroethane	8.07	63	667984	49.6346	ug/L	100
28) Ethyl-Tert-Butyl ether	8.50	59	2008655	98.7785	ug/L	95
29) 2-Butanone	8.71	43	136484	50.2127	ug/L	100
30) Propionitrile	8.83	54	75463	98.6075	ug/L	99
31) 2,2-Dichloropropane	8.92	77	528566	53.5421	ug/L	96
32) cis-1,2-Dichloroethene	9.00	96	411894	51.4722	ug/L	99
33) Chloroform	9.24	83	646412	46.4386	ug/L	97
34) 1-Bromopropane	9.38	122	88638	51.7256	ug/L	99
35) Bromochloromethane	9.49	130	273404	50.8542	ug/L	99
36) Tetrahydrofuran	9.53	42	181273	92.4204	ug/L	100
38) 1,1,1-Trichloroethane	9.83	97	577592	49.0157	ug/L	93
39) Cyclohexane	9.85	56	589775	51.1634	ug/L	94
40) 1,1-Dichloropropene	10.04	75	477375	50.4322	ug/L	92
41) Tert-Amyl-Methyl ether	10.19	73	1612719	99.4763	ug/L	96
42) Carbon Tetrachloride	10.21	117	555756	48.3475	ug/L	98

(#) = qualifier out of range (m) = manual integration
6M143433.D 8260WT.M Tue Nov 15 08:28:18 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143433.D Vial: 3
Acq On : 14 Nov 2016 17:16 Operator: TMB
Sample : WG591612-02 50ug/L CCV STD 8260 Inst : Hpms6
Misc : 1,1 STD78993 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 08:28:14 2016 Quant Results File: 8260WT.RES

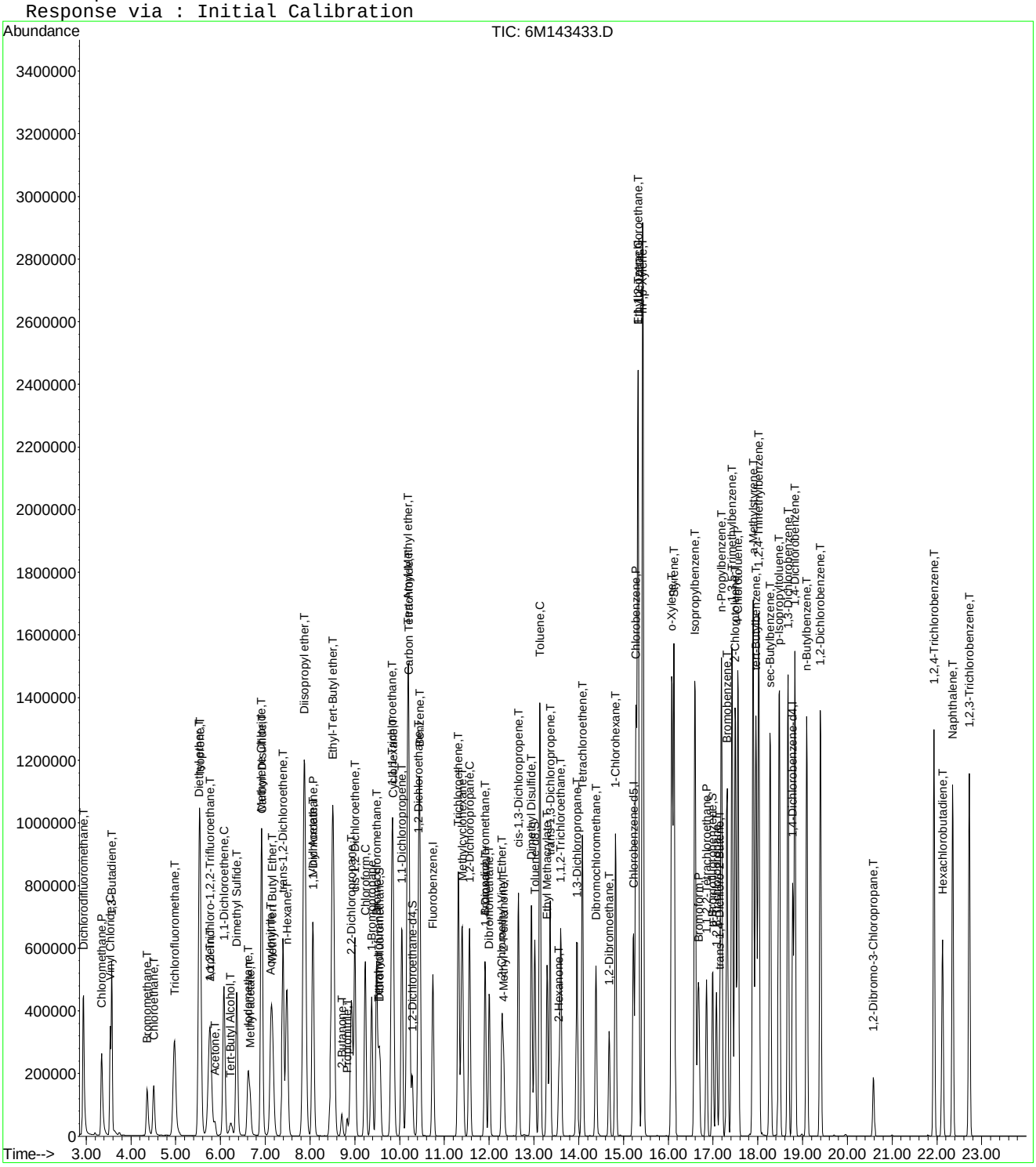
Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45)	1,2-Dichloroethane	10.42	62	474042	48.8760	ug/L	96
46)	Benzene	10.45	78	1384174	49.2405	ug/L	95
47)	Trichloroethene	11.31	130	429761	48.7164	ug/L	83
48)	Methylcyclohexane	11.40	83	489486	50.2248	ug/L	91
49)	1,2-Dichloropropane	11.57	63	371461	50.6678	ug/L	98
50)	1,4-Dioxane	11.91	88	10552	218.9062	ug/L	93
51)	Bromodichloromethane	11.90	83	498905	49.7535	ug/L	99
52)	Dibromomethane	11.99	93	217545	50.9748	ug/L	97
53)	2-Chloroethyl Vinyl Ether	12.28	63	194707	56.0417	ug/L	99
54)	4-Methyl-2-Pentanone	12.32	58	109186	51.8248	ug/L	96
55)	cis-1,3-Dichloropropene	12.66	75	563954	55.1813	ug/L	98
56)	Dimethyl Disulfide	12.94	79	309008	47.8200	ug/L	94
59)	Toluene	13.13	91	1458914	50.9706	ug/L	100
60)	Ethyl Methacrylate	13.29	69	392671	51.6350	ug/L	97
62)	trans-1,3-Dichloropropene	13.36	75	505467	54.1720	ug/L	94
63)	1,1,2-Trichloroethane	13.60	97	295264	50.9323	ug/L	98
64)	2-Hexanone	13.56	43	207557	51.5791	ug/L	98
65)	1,3-Dichloropropane	13.97	76	479760	51.6674	ug/L	94
66)	Tetrachloroethene	14.08	166	435132	49.6502	ug/L	96
67)	Dibromochloromethane	14.38	129	419050	52.0808	ug/L	99
68)	1,2-Dibromoethane	14.68	107	313857	53.1071	ug/L	100
69)	1-Chlorohexane	14.82	91	461016	50.5651	ug/L	90
70)	Chlorobenzene	15.27	112	1052611	49.2081	ug/L	88
71)	1,1,1,2-Tetrachloroethane	15.32	131	415337	50.7626	ug/L	96
72)	Ethylbenzene	15.32	106	543629	50.9702	ug/L	90
73)	m-,p-Xylene	15.43	106	1300661	104.2341	ug/L	91
74)	o-Xylene	16.08	106	649001	53.4138	ug/L	91
75)	Styrene	16.13	104	1131310	55.2782	ug/L	93
76)	Bromoform	16.68	173	282691	53.0080	ug/L	98
77)	Isopropylbenzene	16.59	105	1573654	54.2723	ug/L	97
79)	1,1,2,2-Tetrachloroethane	16.86	83	353365	52.9789	ug/L	99
81)	1,2,3-Trichloropropane	17.08	110	109842	50.5843	ug/L	91
82)	trans-1,4-Dichloro-2-Buten	17.15	53	101456	48.9064	ug/L	83
83)	n-Propylbenzene	17.19	91	1792638	54.2369	ug/L	95
84)	Bromobenzene	17.31	156	502929	51.0464	ug/L	85
85)	1,3,5-Trimethylbenzene	17.42	105	1326448	54.6525	ug/L	95
86)	2-Chlorotoluene	17.49	91	1130801	48.9507	ug/L	88
87)	4-Chlorotoluene	17.55	91	1199384	52.6896	ug/L	96
88)	a-Methylstyrene	17.90	118	806235	50.4328	ug/L	95
89)	tert-Butylbenzene	17.96	134	298960	51.9024	ug/L	98
90)	1,2,4-Trimethylbenzene	18.02	105	1388541	52.1404	ug/L	94
91)	sec-Butylbenzene	18.27	105	1485298	52.5653	ug/L	97
92)	p-Isopropyltoluene	18.48	119	1349852	53.6687	ug/L	98
93)	1,3-Dichlorobenzene	18.67	146	923185	50.7490	ug/L	96
94)	1,4-Dichlorobenzene	18.83	146	922758	48.8821	ug/L	97
95)	n-Butylbenzene	19.09	91	1106191	53.4093	ug/L	93
96)	1,2-Dichlorobenzene	19.40	146	869821	49.8755	ug/L	96
97)	1,2-Dibromo-3-Chloropropan	20.58	75	61998	52.6334	ug/L	78
98)	1,2,4-Trichlorobenzene	21.93	180	600375	55.1659	ug/L	99
99)	Hexachlorobutadiene	22.12	225	212573	51.3457	ug/L	99
100)	Naphthalene	22.35	128	1291863	58.8876	ug/L	100
101)	1,2,3-Trichlorobenzene	22.73	180	558386	54.0590	ug/L	99

(#) = qualifier out of range (m) = manual integration
6M143433.D 8260WT.M Tue Nov 15 08:28:19 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143433.D Vial: 3
Acq On : 14 Nov 2016 17:16 Operator: TMB
Sample : WG591612-02 50ug/L CCV STD 8260 Inst : Hpms6
Misc : 1,1 STD78993 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 8:28 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration



Continuing Calibration Area and RT check

Instrument: Hpms6
Initial cal date: 12 Nov 2016 19:58
CCV date: 14 Nov 2016 17:16
CCV Filename: 6M143433.D

	Fluorobenzene		Chlorobenzene-d5		1,4-Dichlorobenzene-d4	
	Amount	RT	Amount	RT	Amount	RT
InitCal	653160	10.74	522661	15.22	301121	18.78
CCV	705058	10.74	554862	15.22	320150	18.77

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143433.D Vial: 3
Acq On : 14 Nov 2016 17:16 Operator: TMB
Sample : WG591612-02 50ug/L CCV STD 8260 Inst : Hpms6
Misc : 1,1 STD78993 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.0000	1.0000	0.0	108	0.00
2	T	Dichlorodifluoromethane	0.4342	0.4385	-1.0	101	0.01
3	P	Chloromethane	0.3257	0.3188	2.1	108	0.00
4	C	Vinyl Chloride	0.2718	0.2583	5.0	99	0.01
5	T	1,3-Butadiene	0.2061	0.1704	17.4	88	0.01
6	T	Bromomethane	0.1268	0.1235	2.6	106	0.01
7	T	Chloroethane	0.1598	0.1555	2.7	101	0.02
8	T	Trichlorofluoromethane	0.4409	0.4058	8.0	96	0.02
9	T	Diethyl ether	0.1949	0.1968	-1.0	108	0.00
10	T	Isoprene	0.3839	0.3761	2.0	102	0.01
11	T	Acrolein	0.0275	0.0288	-4.8	110	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	0.2678	0.2666	0.5	105	0.01
13	T	Acetone	0.0644	0.0622	3.5	104	0.00
14	C	1,1-Dichloroethene	0.4085	0.4067	0.5	103	0.01
15	T	Tert-Butyl Alcohol	0.0173	0.0174	-0.5	106	-0.02
16	T	Dimethyl Sulfide	0.2603	0.2609	-0.2	105	0.01
17	T	Iodomethane	0.2574	0.2895	-12.5	94	0.00
18	T	Methyl acetate	0.1794	0.1800	-0.4	107	0.01
19	T	Methylene Chloride	0.2714	0.2674	1.5	107	0.01
20	T	Carbon Disulfide	0.8074	0.7945	1.6	102	0.01
21	T	Acrylonitrile	0.0801	0.0835	-4.2	107	0.00
22	T	Methyl Tert Butyl Ether	0.5787	0.6131	-5.9	109	0.00
23	T	trans-1,2-Dichloroethene	0.2624	0.2685	-2.3	105	0.00
24	T	n-Hexane	0.2985	0.3118	-4.4	108	0.01
25	T	Diisopropyl ether	0.8919	0.8764	1.7	103	0.00
26	T	Vinyl Acetate	0.4441	0.5324	-19.9	125	0.00
27	P	1,1-Dichloroethane	0.4772	0.4737	0.7	105	0.01
28	T	Ethyl-Tert-Butyl ether	0.7210	0.7122	1.2	103	0.00
29	T	2-Butanone	0.0964	0.0968	-0.4	109	0.00
30	T	Propionitrile	0.0271	0.0268	1.4	105	0.00
31	T	2,2-Dichloropropane	0.3500	0.3748	-7.1	113	0.00
32	T	cis-1,2-Dichloroethene	0.2837	0.2921	-2.9	106	0.00
33	C	Chloroform	0.4936	0.4584	7.1	104	0.01
34		1-Bromopropane	0.0608	0.0629	-3.5	105	0.00
35	T	Bromochloromethane	0.1906	0.1939	-1.7	105	0.00
36	T	Tetrahydrofuran	0.0696	0.0643	7.6	107	0.00
37	S	Dibromofluoromethane	0.2897	0.2700	6.8	99	0.00
38	T	1,1,1-Trichloroethane	0.4178	0.4096	2.0	102	0.01
39	T	Cyclohexane	0.4087	0.4183	-2.3	103	0.01
40	T	1,1-Dichloropropene	0.3356	0.3385	-0.9	103	0.00
41	T	Tert-Amyl-Methyl ether	0.5748	0.5718	0.5	103	0.00
42	T	Carbon Tetrachloride	0.4076	0.3941	3.3	100	0.01
43	S	1,2-Dichloroethane-d4	0.2873	0.2558	11.0	98	0.01
44		Heptane	0.0000	0.0000	0.0	100	0.00
45	T	1,2-Dichloroethane	0.3439	0.3362	2.2	104	0.00
46	T	Benzene	0.9967	0.9816	1.5	105	0.00
47	T	Trichloroethene	0.3128	0.3048	2.6	102	0.00
48	T	Methylcyclohexane	0.3456	0.3471	-0.4	104	0.01
49	C	1,2-Dichloropropane	0.2600	0.2634	-1.3	106	0.00
50	T	1,4-Dioxane	0.0017	0.0019	-9.4	115	0.00
51	T	Bromodichloromethane	0.3556	0.3538	0.5	105	0.00
52	T	Dibromomethane	0.1513	0.1543	-1.9	106	0.00
53	T	2-Chloroethyl Vinyl Ether	0.1232	0.1381	-12.1	108	0.00
54	T	4-Methyl-2-Pentanone	0.0747	0.0774	-3.7	111	0.00

(#) = Out of Range
6M143433.D 8260WT.M Tue Nov 15 08:33:54 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143433.D Vial: 3
Acq On : 14 Nov 2016 17:16 Operator: TMB
Sample : WG591612-02 50ug/L CCV STD 8260 Inst : Hpms6
Misc : 1,1 STD78993 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	0.3624	0.3999	-10.4	108	0.00
56	T	Dimethyl Disulfide	0.2140	0.2191	-2.4	106	0.00
57	I	Chlorobenzene-d5	1.0000	1.0000	0.0	106	0.00
58	S	Toluene-d8	1.1556	1.1211	3.0	102	0.00
59	C	Toluene	1.2896	1.3147	-1.9	104	0.00
60	T	Ethyl Methacrylate	0.3150	0.3539	-12.3	107	0.00
61		Paraldehyde	0.0000	0.0000	0.0	102	0.00
62	T	trans-1,3-Dichloropropene	0.4204	0.4555	-8.3	107	0.00
63	T	1,1,2-Trichloroethane	0.2612	0.2661	-1.9	107	0.00
64	T	2-Hexanone	0.1813	0.1870	-3.2	109	0.00
65	T	1,3-Dichloropropane	0.4184	0.4323	-3.3	107	0.00
66	T	Tetrachloroethene	0.3949	0.3921	0.7	103	0.00
67	T	Dibromochloromethane	0.3625	0.3776	-4.2	105	0.00
68	T	1,2-Dibromoethane	0.2663	0.2828	-6.2	108	0.00
69	T	1-Chlorohexane	0.3631	0.4154	-14.4	103	0.00
70	P	Chlorobenzene	0.9638	0.9485	1.6	104	0.00
71	T	1,1,1,2-Tetrachloroethane	0.3686	0.3743	-1.5	103	0.00
72	C	Ethylbenzene	0.4805	0.4899	-1.9	104	0.00
73	T	m-,p-Xylene	0.5622	0.5860	-4.2	104	0.00
74	T	o-Xylene	0.5474	0.5848	-6.8	105	0.00
75	T	Styrene	0.9221	1.0195	-10.6	104	0.00
76	P	Bromoform	0.2403	0.2547	-6.0	106	0.00
77	T	Isopropylbenzene	1.3064	1.4181	-8.5	103	0.00
78	I	1,4-Dichlorobenzene-d4	1.0000	1.0000	0.0	106	0.00
79	P	1,1,2,2-Tetrachloroethane	0.5208	0.5519	-6.0	110	0.00
80	S	p-Bromofluorobenzene	0.7823	0.7823	-0.0	103	0.00
81	T	1,2,3-Trichloropropane	0.1696	0.1716	-1.2	108	0.00
82	T	trans-1,4-Dichloro-2-Butene	0.1306	0.1585	-21.3#	108	0.00
83	T	n-Propylbenzene	2.5810	2.7997	-8.5	104	0.00
84	T	Bromobenzene	0.7694	0.7855	-2.1	102	0.00
85	T	1,3,5-Trimethylbenzene	1.8953	2.0716	-9.3	104	0.00
86	T	2-Chlorotoluene	1.8039	1.7660	2.1	102	0.00
87	T	4-Chlorotoluene	1.7775	1.8732	-5.4	105	0.00
88	T	a-Methylstyrene	1.2484	1.2592	-0.9	101	0.00
89	T	tert-Butylbenzene	0.4498	0.4669	-3.8	104	0.00
90	T	1,2,4-Trimethylbenzene	2.0796	2.1686	-4.3	103	0.00
91	T	sec-Butylbenzene	2.2065	2.3197	-5.1	103	0.00
92	T	p-Isopropyltoluene	1.9641	2.1082	-7.3	103	0.00
93	T	1,3-Dichlorobenzene	1.4205	1.4418	-1.5	104	0.00
94	T	1,4-Dichlorobenzene	1.4741	1.4411	2.2	103	0.00
95	T	n-Butylbenzene	1.6173	1.7276	-6.8	104	0.00
96	T	1,2-Dichlorobenzene	1.3619	1.3585	0.2	104	0.00
97	T	1,2-Dibromo-3-Chloropropane	0.0920	0.0968	-5.3	107	0.00
98	T	1,2,4-Trichlorobenzene	0.8498	0.9376	-10.3	106	0.00
99	T	Hexachlorobutadiene	0.3233	0.3320	-2.7	103	0.00
100	T	Naphthalene	1.7131	2.0176	-17.8	107	0.00
101	T	1,2,3-Trichlorobenzene	0.8066	0.8721	-8.1	106	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M143433.D 8260WT.M Tue Nov 15 08:33:55 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143433.D Vial: 3
Acq On : 14 Nov 2016 17:16 Operator: TMB
Sample : WG591612-02 50ug/L CCV STD 8260 Inst : Hpms6
Misc : 1,1 STD78993 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	108	0.00
2	T	Dichlorodifluoromethane	50.0000	50.4871	-1.0	101	0.01
3	P	Chloromethane	50.0000	48.9495	2.1	108	0.00
4	C	Vinyl Chloride	50.0000	47.5160	5.0	99	0.01
5	T	1,3-Butadiene	50.0000	39.8011	20.4#	88	0.01
6	T	Bromomethane	50.0000	48.6785	2.6	106	0.01
7	T	Chloroethane	50.0000	48.6428	2.7	101	0.02
8	T	Trichlorofluoromethane	50.0000	46.0180	8.0	96	0.02
9	T	Diethyl ether	100.0000	100.9765	-1.0	108	0.00
10	T	Isoprene	50.0000	48.9943	2.0	102	0.01
11	T	Acrolein	50.0000	52.4160	-4.8	110	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	49.7736	0.5	105	0.01
13	T	Acetone	50.0000	48.2598	3.5	104	0.00
14	C	1,1-Dichloroethene	50.0000	49.7704	0.5	103	0.01
15	T	Tert-Butyl Alcohol	200.0000	200.9264	-0.5	106	-0.02
16	T	Dimethyl Sulfide	50.0000	50.1254	-0.3	105	0.01
17	T	Iodomethane	50.0000	48.8181	2.4	94	0.00
18	T	Methyl acetate	50.0000	50.1872	-0.4	107	0.01
19	T	Methylene Chloride	50.0000	49.2685	1.5	107	0.01
20	T	Carbon Disulfide	50.0000	49.2008	1.6	102	0.01
21	T	Acrylonitrile	50.0000	52.1219	-4.2	107	0.00
22	T	Methyl Tert Butyl Ether	50.0000	52.9692	-5.9	109	0.00
23	T	trans-1,2-Dichloroethene	50.0000	51.1710	-2.3	105	0.00
24	T	n-Hexane	50.0000	52.2225	-4.4	108	0.01
25	T	Diisopropyl ether	100.0000	98.2566	1.7	103	0.00
26	T	Vinyl Acetate	50.0000	59.9366	-19.9	125	0.00
27	P	1,1-Dichloroethane	50.0000	49.6346	0.7	105	0.01
28	T	Ethyl-Tert-Butyl ether	100.0000	98.7785	1.2	103	0.00
29	T	2-Butanone	50.0000	50.2127	-0.4	109	0.00
30	T	Propionitrile	100.0000	98.6075	1.4	105	0.00
31	T	2,2-Dichloropropane	50.0000	53.5421	-7.1	113	0.00
32	T	cis-1,2-Dichloroethene	50.0000	51.4722	-2.9	106	0.00
33	C	Chloroform	50.0000	46.4386	7.1	104	0.01
34		1-Bromopropane	50.0000	51.7256	-3.5	105	0.00
35	T	Bromochloromethane	50.0000	50.8542	-1.7	105	0.00
36	T	Tetrahydrofuran	100.0000	92.4204	7.6	107	0.00
37	S	Dibromofluoromethane	25.0000	23.3052	6.8	99	0.00
38	T	1,1,1-Trichloroethane	50.0000	49.0157	2.0	102	0.01
39	T	Cyclohexane	50.0000	51.1634	-2.3	103	0.01
40	T	1,1-Dichloropropene	50.0000	50.4322	-0.9	103	0.00
41	T	Tert-Amyl-Methyl ether	100.0000	99.4763	0.5	103	0.00
42	T	Carbon Tetrachloride	50.0000	48.3475	3.3	100	0.01
43	S	1,2-Dichloroethane-d4	25.0000	22.2608	11.0	98	0.01
44		Heptane	-1.0000	0.0000	0.0	100	0.00
45	T	1,2-Dichloroethane	50.0000	48.8760	2.2	104	0.00
46	T	Benzene	50.0000	49.2405	1.5	105	0.00
47	T	Trichloroethene	50.0000	48.7164	2.6	102	0.00
48	T	Methylcyclohexane	50.0000	50.2249	-0.4	104	0.01
49	C	1,2-Dichloropropane	50.0000	50.6678	-1.3	106	0.00
50	T	1,4-Dioxane	200.0000	218.9062	-9.5	115	0.00
51	T	Bromodichloromethane	50.0000	49.7535	0.5	105	0.00
52	T	Dibromomethane	50.0000	50.9748	-1.9	106	0.00
53	T	2-Chloroethyl Vinyl Ether	50.0000	56.0417	-12.1	108	0.00
54	T	4-Methyl-2-Pentanone	50.0000	51.8248	-3.6	111	0.00

(#) = Out of Range
6M143433.D 8260WT.M Tue Nov 15 08:33:58 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143433.D Vial: 3
Acq On : 14 Nov 2016 17:16 Operator: TMB
Sample : WG591612-02 50ug/L CCV STD 8260 Inst : Hpms6
Misc : 1,1 STD78993 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	50.0000	55.1813	-10.4	108	0.00
56	T	Dimethyl Disulfide	50.0000	47.8200	4.4	106	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	106	0.00
58	S	Toluene-d8	25.0000	24.2551	3.0	102	0.00
59	C	Toluene	50.0000	50.9706	-1.9	104	0.00
60	T	Ethyl Methacrylate	50.0000	51.6350	-3.3	107	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	102	0.00
62	T	trans-1,3-Dichloropropene	50.0000	54.1720	-8.3	107	0.00
63	T	1,1,2-Trichloroethane	50.0000	50.9323	-1.9	107	0.00
64	T	2-Hexanone	50.0000	51.5791	-3.2	109	0.00
65	T	1,3-Dichloropropane	50.0000	51.6674	-3.3	107	0.00
66	T	Tetrachloroethene	50.0000	49.6502	0.7	103	0.00
67	T	Dibromochloromethane	50.0000	52.0808	-4.2	105	0.00
68	T	1,2-Dibromoethane	50.0000	53.1071	-6.2	108	0.00
69	T	1-Chlorohexane	50.0000	50.5651	-1.1	103	0.00
70	P	Chlorobenzene	50.0000	49.2081	1.6	104	0.00
71	T	1,1,1,2-Tetrachloroethane	50.0000	50.7626	-1.5	103	0.00
72	C	Ethylbenzene	50.0000	50.9702	-1.9	104	0.00
73	T	m-,p-Xylene	100.0000	104.2341	-4.2	104	0.00
74	T	o-Xylene	50.0000	53.4138	-6.8	105	0.00
75	T	Styrene	50.0000	55.2782	-10.6	104	0.00
76	P	Bromoform	50.0000	53.0080	-6.0	106	0.00
77	T	Isopropylbenzene	50.0000	54.2723	-8.5	103	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	106	0.00
79	P	1,1,2,2-Tetrachloroethane	50.0000	52.9789	-6.0	110	0.00
80	S	p-Bromofluorobenzene	25.0000	25.0014	-0.0	103	0.00
81	T	1,2,3-Trichloropropane	50.0000	50.5843	-1.2	108	0.00
82	T	trans-1,4-Dichloro-2-Butene	50.0000	48.9064	2.2	108	0.00
83	T	n-Propylbenzene	50.0000	54.2369	-8.5	104	0.00
84	T	Bromobenzene	50.0000	51.0464	-2.1	102	0.00
85	T	1,3,5-Trimethylbenzene	50.0000	54.6525	-9.3	104	0.00
86	T	2-Chlorotoluene	50.0000	48.9507	2.1	102	0.00
87	T	4-Chlorotoluene	50.0000	52.6896	-5.4	105	0.00
88	T	a-Methylstyrene	50.0000	50.4328	-0.9	101	0.00
89	T	tert-Butylbenzene	50.0000	51.9024	-3.8	104	0.00
90	T	1,2,4-Trimethylbenzene	50.0000	52.1404	-4.3	103	0.00
91	T	sec-Butylbenzene	50.0000	52.5653	-5.1	103	0.00
92	T	p-Isopropyltoluene	50.0000	53.6687	-7.3	103	0.00
93	T	1,3-Dichlorobenzene	50.0000	50.7490	-1.5	104	0.00
94	T	1,4-Dichlorobenzene	50.0000	48.8821	2.2	103	0.00
95	T	n-Butylbenzene	50.0000	53.4093	-6.8	104	0.00
96	T	1,2-Dichlorobenzene	50.0000	49.8755	0.2	104	0.00
97	T	1,2-Dibromo-3-Chloropropane	50.0000	52.6334	-5.3	107	0.00
98	T	1,2,4-Trichlorobenzene	50.0000	55.1660	-10.3	106	0.00
99	T	Hexachlorobutadiene	50.0000	51.3457	-2.7	103	0.00
100	T	Naphthalene	50.0000	58.8876	-17.8	107	0.00
101	T	1,2,3-Trichlorobenzene	50.0000	54.0590	-8.1	106	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M143433.D 8260WT.M Tue Nov 15 08:33:59 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143434.D Vial: 4
Acq On : 14 Nov 2016 17:48 Operator: TMB
Sample : WG591633-01 100ug/L A9 CCV STD 8260 Inst : Hpms6
Misc : 1,1 STD78971 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 08:28:21 2016 Quant Results File: 8260WT.RES

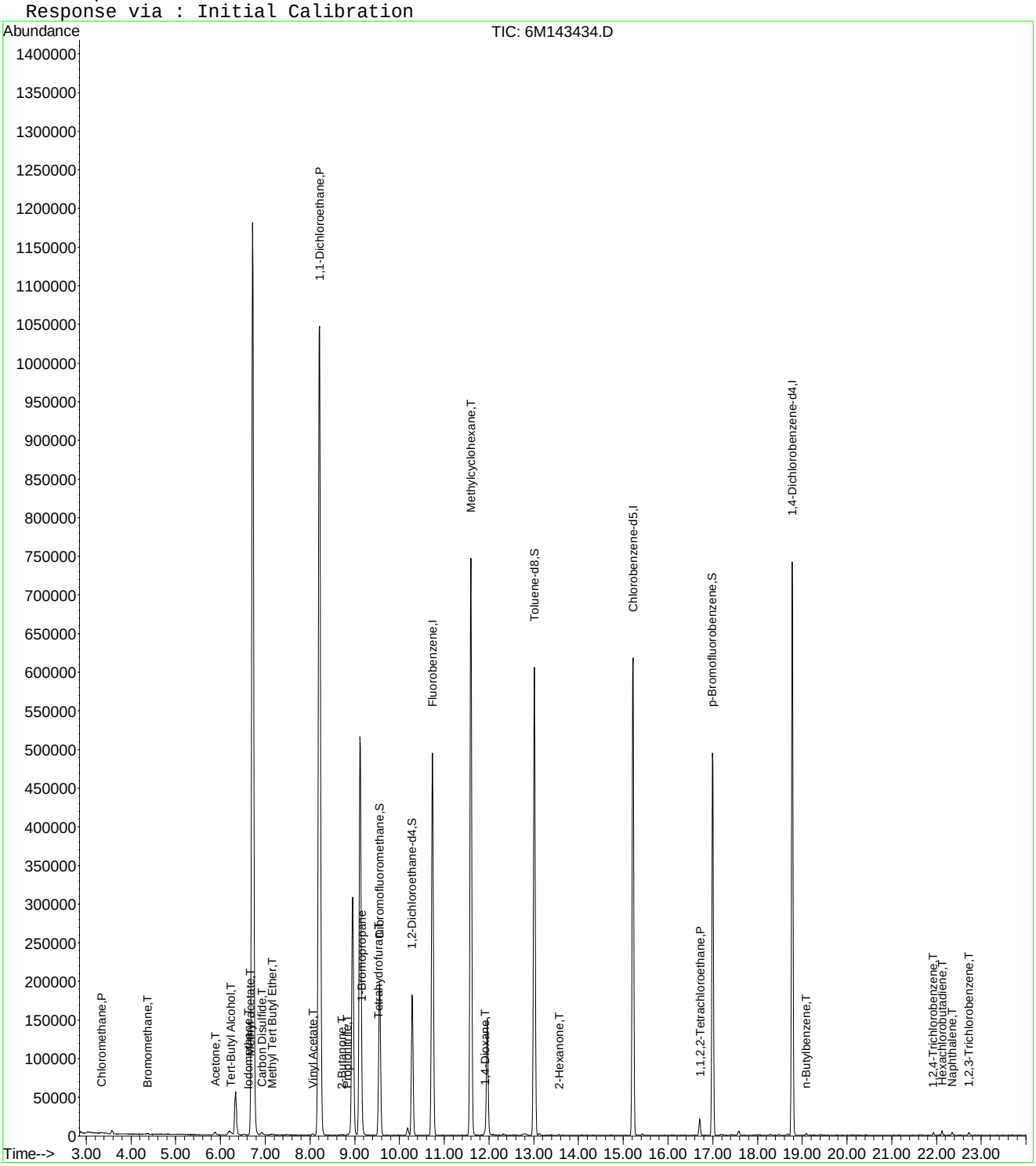
Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.74	96	677508	25.00	ug/L	0.00
57) Chlorobenzene-d5	15.22	117	528869	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.77	152	285491	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.55	111	183853	23.4221	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 93.68%			
43) 1,2-Dichloroethane-d4	10.28	65	172216	22.1191	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 88.48%			
58) Toluene-d8	13.02	98	593475	24.2773	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 97.12%			
80) p-Bromofluorobenzene	16.99	95	233011	26.0826	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 104.32%			
Target Compounds						Qvalue
3) Chloromethane	3.35	50	1614	0.1829	ug/L #	42
6) Bromomethane	4.37	94	1370	0.3987	ug/L	97
13) Acetone	5.89	43	7704	4.4111	ug/L	93
15) Tert-Butyl Alcohol	6.23	59	8909	19.0329	ug/L #	41
17) Iodomethane	6.62	142	381	0.6876	ug/L #	32
18) Methyl acetate	6.66	43	1786	0.3674	ug/L #	66
20) Carbon Disulfide	6.93	76	5618	0.2568	ug/L #	74
22) Methyl Tert Butyl Ether	7.15	73	3121	0.1990	ug/L #	49
26) Vinyl Acetate	8.06	43	4267	0.3545	ug/L #	78
27) 1,1-Dichloroethane	8.22	63	17902	1.3843	ug/L #	43
29) 2-Butanone	8.71	43	1905	0.7294	ug/L #	57
30) Propionitrile	8.83	54	893	1.2143	ug/L #	56
34) 1-Bromopropane	9.16	122	831	0.5047	ug/L #	1
36) Tetrahydrofuran	9.53	42	6728	3.5697	ug/L	91
48) Methylcyclohexane	11.60	83	1265	0.1351	ug/L #	1
50) 1,4-Dioxane	11.91	88	3017	65.1342	ug/L	78
64) 2-Hexanone	13.57	43	1077	0.2808	ug/L #	54
79) 1,1,2,2-Tetrachloroethane	16.72	83	892	0.1500	ug/L #	17
95) n-Butylbenzene	19.09	91	2542	0.1376	ug/L #	66
98) 1,2,4-Trichlorobenzene	21.92	180	2432	0.2506	ug/L	93
99) Hexachlorobutadiene	22.12	225	2803	0.7592	ug/L	96
100) Naphthalene	22.35	128	5847	0.2989	ug/L	88
101) 1,2,3-Trichlorobenzene	22.73	180	2967	0.3221	ug/L #	84

(#) = qualifier out of range (m) = manual integration
6M143434.D 8260WT.M Tue Nov 15 08:28:25 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143434.D Vial: 4
Acq On : 14 Nov 2016 17:48 Operator: TMB
Sample : WG591633-01 100ug/L A9 CCV STD 8260 Inst : Hpms6
Misc : 1,1 STD78971 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 8:28 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143434.D Vial: 4
Acq On : 14 Nov 2016 17:48 Operator: TMB
Sample : WG591633-01 100ug/L A9 CCV STD 8260 Inst : Hpms6
Misc : 1,1 STD78971 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 15 12:24:59 2016 Quant Results File: A9FOOWT.RES

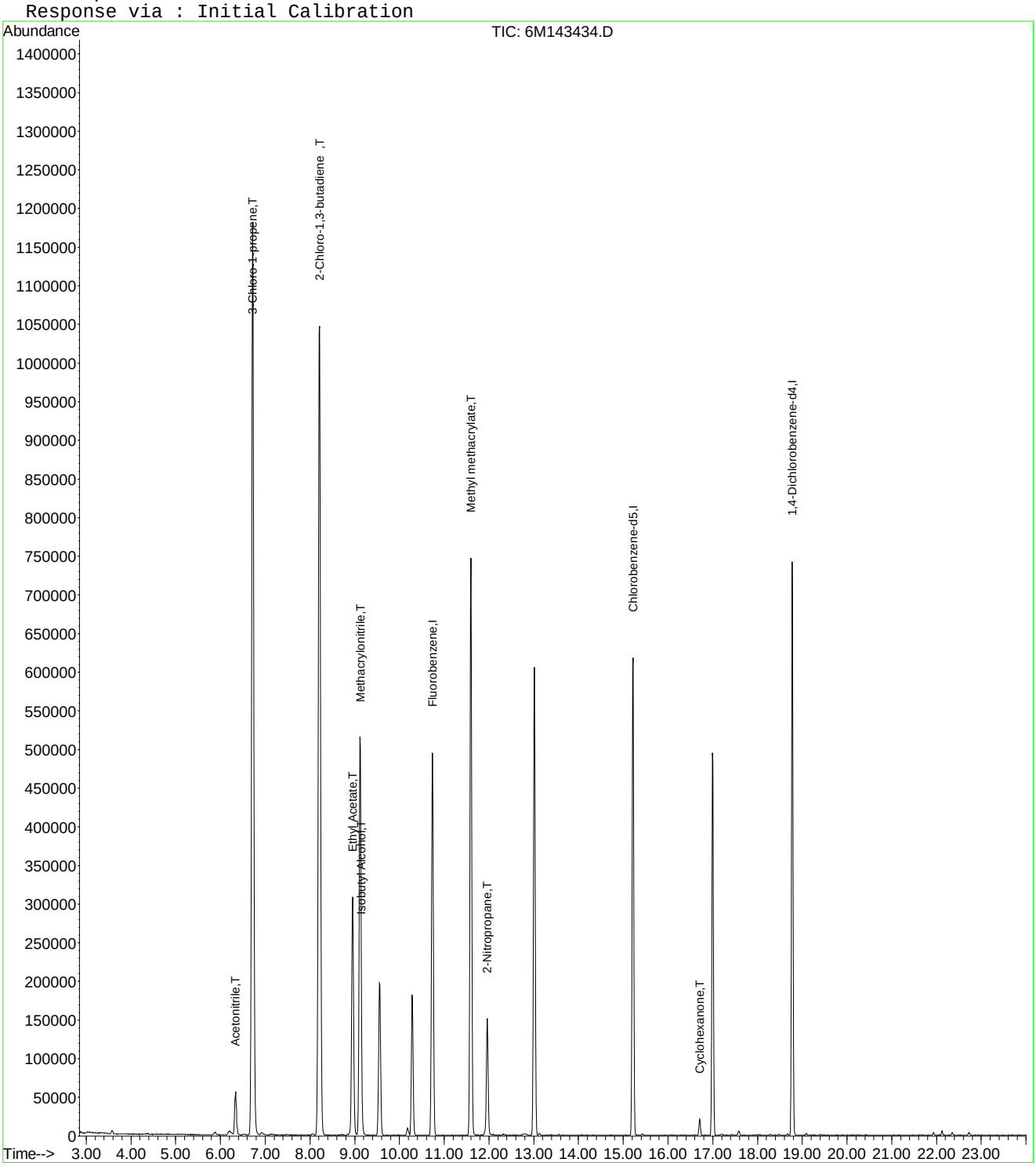
Quant Method : K:\ORGANICS\V...\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Fri Jul 15 09:42:27 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene	10.74	96	677508	25.00	ug/L		-0.02
11) Chlorobenzene-d5	15.22	117	528869	25.00	ug/L		0.00
12) 1,4-Dichlorobenzene-d4	18.77	152	285491	25.00	ug/L		-0.02
Target Compounds							Qvalue
2) Acetonitrile	6.34	41	79181	78.0274	ug/L		93
3) 3-Chloro-1-propene	6.71	41	1422754	84.1285	ug/L		96
4) 2-Chloro-1,3-butadiene	8.22	53	1143102	78.7739	ug/L		97
5) Ethyl Acetate	8.95	43	595768	82.0047	ug/L		95
6) Methacrylonitrile	9.12	67	228872	91.3773	ug/L		70
7) Isobutyl Alcohol	9.15	43	38835	167.8352	ug/L	#	93
9) Methyl methacrylate	11.60	41	590328	96.6744	ug/L		85
10) 2-Nitropropane	11.96	43	158867	69.9546	ug/L		96
13) Cyclohexanone	16.71	55	13005	36.5431	ug/L		89

(#) = qualifier out of range (m) = manual integration
6M143434.D A9FOOWT.M Tue Nov 15 12:25:00 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143434.D Vial: 4
Acq On : 14 Nov 2016 17:48 Operator: TMB
Sample : WG591633-01 100ug/L A9 CCV STD 8260 Inst : Hpms6
Misc : 1,1 STD78971 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 15 12:24 2016 Quant Results File: A9FOOWT.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Fri Jul 15 09:42:27 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143434.D Vial: 4
Acq On : 14 Nov 2016 17:48 Operator: TMB
Sample : WG591633-01 100ug/L A9 CCV STD 8260 Inst : Hpms6
Misc : 1,1 STD78971 Multiplr: 1.00
MS Integration Params: rteint.p

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Fri Jul 15 09:42:27 2016
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	113	-0.02
2	T	Acetonitrile	100.0000	78.0274	22.0	87	0.00
3	T	3-Chloro-1-propene	100.0000	84.1285	15.9	88	-0.01
4	T	2-Chloro-1,3-butadiene	100.0000	78.7739	21.2	81	-0.01
5	T	Ethyl Acetate	100.0000	82.0047	18.0	88	0.00
6	T	Methacrylonitrile	100.0000	91.3773	8.6	96	0.00
7	T	Isobutyl Alcohol	200.0000	167.8352	16.1	115	0.00
8	T	1-Butanol	-1.0000	0.0000	0.0	0	0.00
9	T	Methyl methacrylate	100.0000	96.6744	3.3	101	0.00
10	T	2-Nitropropane	100.0000	69.9546	30.0	80	-0.01
11	I	Chlorobenzene-d5	25.0000	25.0000	0.0	113	0.00
12	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	112	-0.02
13	T	Cyclohexanone	100.0000	36.5431	63.5	47	-0.05

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M143434.D A9FOOWT.M Tue Nov 15 12:25:04 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111516\6M143471.D Vial: 2
Acq On : 15 Nov 2016 15:47 Operator: TMB
Sample : WG591756-02 50ug /L CCV STD 8260 Inst : Hpms6
Misc : 1,1 STD78993 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 16:30:09 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.74	96	700992	25.00	ug/L	0.00
57) Chlorobenzene-d5	15.21	117	556029	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.78	152	322840	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.56	111	193285	23.7988	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 95.20%			
43) 1,2-Dichloroethane-d4	10.28	65	174293	21.6359	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 86.56%			
58) Toluene-d8	13.02	98	624965	24.3167	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 97.28%			
80) p-Bromofluorobenzene	16.99	95	252098	24.9545	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 99.80%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.93	85	613981	50.4279	ug/L	95
3) Chloromethane	3.34	50	420789	46.0806	ug/L	99
4) Vinyl Chloride	3.53	62	350740	46.0136	ug/L	100
5) 1,3-Butadiene	3.57	54	243628	40.6466	ug/L	97
6) Bromomethane	4.36	94	174579	49.1026	ug/L	99
7) Chloroethane	4.50	64	213702	47.6907	ug/L	99
8) Trichlorofluoromethane	4.97	101	583485	47.1999	ug/L	99
9) Diethyl ether	5.52	59	524272	95.9454	ug/L	97
10) Isoprene	5.54	67	508161	47.2129	ug/L	95
11) Acrolein	5.77	56	34270	44.4872	ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	5.76	101	368450	49.0741	ug/L	94
13) Acetone	5.87	43	81033	44.8425	ug/L	98
14) 1,1-Dichloroethene	6.07	61	565615	49.3771	ug/L	88
15) Tert-Butyl Alcohol	6.23	59	79736	164.6385	ug/L	91
16) Dimethyl Sulfide	6.36	62	353963	48.5030	ug/L	98
17) Iodomethane	6.62	142	445386	53.5127	ug/L	97
18) Methyl acetate	6.66	43	220917	43.9248	ug/L	98
19) Methylene Chloride	6.91	84	370372	48.6695	ug/L	85
20) Carbon Disulfide	6.93	76	1104783	48.8008	ug/L	99
21) Acrylonitrile	7.12	53	104520	46.5518	ug/L	99
22) Methyl Tert Butyl Ether	7.15	73	766026	47.2039	ug/L	98
23) trans-1,2-Dichloroethene	7.39	96	373276	50.7384	ug/L	85
24) n-Hexane	7.47	57	417608	49.8894	ug/L	99
25) Diisopropyl ether	7.87	45	2447571	97.8681	ug/L	97
26) Vinyl Acetate	8.06	43	618793	49.6889	ug/L	97
27) 1,1-Dichloroethane	8.07	63	654131	48.8871	ug/L	100
28) Ethyl-Tert-Butyl ether	8.50	59	1916278	94.7824	ug/L	95
29) 2-Butanone	8.71	43	115138	42.6052	ug/L	100
30) Propionitrile	8.82	54	66510	87.4127	ug/L	98
31) 2,2-Dichloropropane	8.92	77	502067	51.1528	ug/L	98
32) cis-1,2-Dichloroethene	8.99	96	407184	51.1787	ug/L	85
33) Chloroform	9.23	83	647106	46.7581	ug/L	97
34) 1-Bromopropane	9.38	122	88591	51.9980	ug/L	100
35) Bromochloromethane	9.48	130	268000	50.1382	ug/L	100
36) Tetrahydrofuran	9.53	42	153627	78.7797	ug/L	100
38) 1,1,1-Trichloroethane	9.82	97	565948	48.3062	ug/L	93
39) Cyclohexane	9.84	56	555503	48.4698	ug/L	93
40) 1,1-Dichloropropene	10.05	75	459586	48.8345	ug/L	92
41) Tert-Amyl-Methyl ether	10.19	73	1480516	91.8514	ug/L	94
42) Carbon Tetrachloride	10.20	117	524276	45.8735	ug/L	98

(#) = qualifier out of range (m) = manual integration
6M143471.D 8260WT.M Tue Nov 15 16:30:12 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111516\6M143471.D Vial: 2
Acq On : 15 Nov 2016 15:47 Operator: TMB
Sample : WG591756-02 50ug /L CCV STD 8260 Inst : Hpms6
Misc : 1,1 STD78993 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 16:30:09 2016 Quant Results File: 8260WT.RES

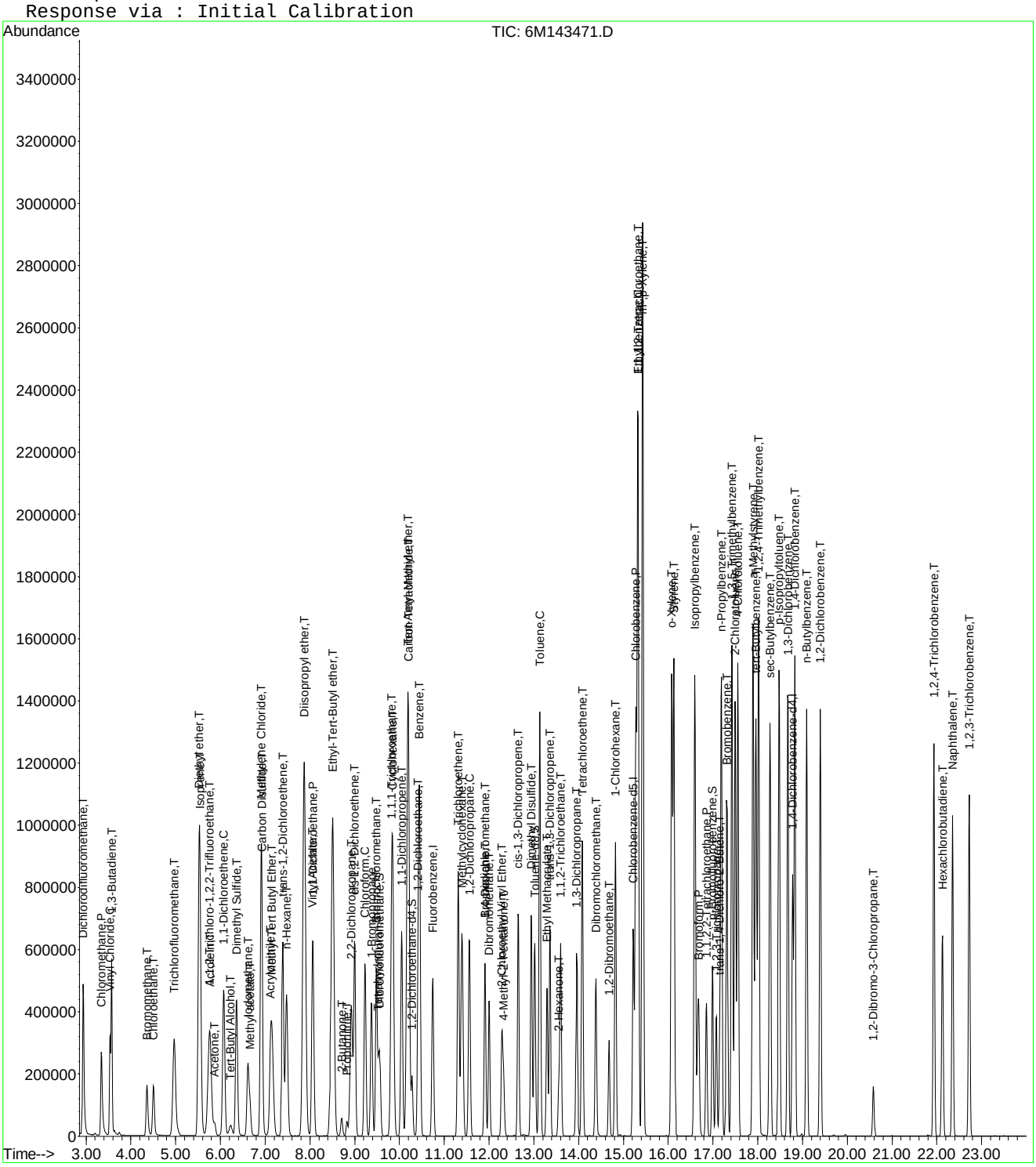
Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45)	1,2-Dichloroethane	10.41	62	455640	47.2511	ug/L	96
46)	Benzene	10.44	78	1353653	48.4341	ug/L	96
47)	Trichloroethene	11.31	130	428323	48.8350	ug/L	83
48)	Methylcyclohexane	11.39	83	466312	48.1246	ug/L	90
49)	1,2-Dichloropropane	11.57	63	357014	48.9797	ug/L	96
50)	1,4-Dioxane	11.90	88	9232	192.6331	ug/L	93
51)	Bromodichloromethane	11.90	83	484243	48.5714	ug/L	100
52)	Dibromomethane	12.00	93	201342	47.4518	ug/L	97
53)	2-Chloroethyl Vinyl Ether	12.28	63	171859	49.7524	ug/L	99
54)	4-Methyl-2-Pentanone	12.32	58	87287	41.6709	ug/L	94
55)	cis-1,3-Dichloropropene	12.65	75	527997	51.9627	ug/L	98
56)	Dimethyl Disulfide	12.94	79	281277	43.9764	ug/L	95
59)	Toluene	13.13	91	1426008	49.7164	ug/L	99
60)	Ethyl Methacrylate	13.29	69	338076	44.4180	ug/L	97
62)	trans-1,3-Dichloropropene	13.36	75	464816	49.7108	ug/L	94
63)	1,1,2-Trichloroethane	13.60	97	269774	46.4377	ug/L	98
64)	2-Hexanone	13.56	43	167399	41.5123	ug/L	96
65)	1,3-Dichloropropane	13.96	76	436896	46.9524	ug/L	95
66)	Tetrachloroethene	14.08	166	432178	49.2097	ug/L	95
67)	Dibromochloromethane	14.39	129	393587	48.8135	ug/L	100
68)	1,2-Dibromoethane	14.68	107	282124	47.6375	ug/L	100
69)	1-Chlorohexane	14.83	91	441978	48.3862	ug/L	90
70)	Chlorobenzene	15.27	112	1035748	48.3181	ug/L	88
71)	1,1,1,2-Tetrachloroethane	15.33	131	406685	49.6009	ug/L	96
72)	Ethylbenzene	15.33	106	534510	50.0100	ug/L	90
73)	m-,p-Xylene	15.43	106	1278896	102.2748	ug/L	90
74)	o-Xylene	16.08	106	640899	52.6363	ug/L	90
75)	Styrene	16.13	104	1111076	54.1756	ug/L	93
76)	Bromoform	16.68	173	258839	48.4336	ug/L	98
77)	Isopropylbenzene	16.59	105	1554930	53.5140	ug/L	97
79)	1,1,2,2-Tetrachloroethane	16.86	83	307081	45.6561	ug/L	99
81)	1,2,3-Trichloropropane	17.08	110	95488	43.6076	ug/L	92
82)	trans-1,4-Dichloro-2-Buten	17.15	53	87242	41.8420	ug/L	88
83)	n-Propylbenzene	17.19	91	1762210	52.8720	ug/L	95
84)	Bromobenzene	17.32	156	500035	50.3298	ug/L	84
85)	1,3,5-Trimethylbenzene	17.42	105	1319498	53.9131	ug/L	95
86)	2-Chlorotoluene	17.49	91	1136203	48.7748	ug/L	92
87)	4-Chlorotoluene	17.55	91	1170714	51.0016	ug/L	92
88)	a-Methylstyrene	17.90	118	811453	50.3362	ug/L	96
89)	tert-Butylbenzene	17.96	134	299584	51.5774	ug/L	84
90)	1,2,4-Trimethylbenzene	18.02	105	1381351	51.4382	ug/L	94
91)	sec-Butylbenzene	18.28	105	1486499	52.1695	ug/L	96
92)	p-Isopropyltoluene	18.47	119	1366396	53.8738	ug/L	98
93)	1,3-Dichlorobenzene	18.68	146	918745	50.0841	ug/L	96
94)	1,4-Dichlorobenzene	18.83	146	926624	48.6779	ug/L	96
95)	n-Butylbenzene	19.09	91	1110512	53.1712	ug/L	92
96)	1,2-Dichlorobenzene	19.40	146	853220	48.5159	ug/L	96
97)	1,2-Dibromo-3-Chloropropan	20.58	75	51268	43.1615	ug/L	76
98)	1,2,4-Trichlorobenzene	21.93	180	588168	53.5940	ug/L	98
99)	Hexachlorobutadiene	22.13	225	222952	53.4039	ug/L	100
100)	Naphthalene	22.35	128	1156826	52.2928	ug/L	99
101)	1,2,3-Trichlorobenzene	22.73	180	532838	51.1558	ug/L	98

(#) = qualifier out of range (m) = manual integration
6M143471.D 8260WT.M Tue Nov 15 16:30:13 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111516\6M143471.D Vial: 2
Acq On : 15 Nov 2016 15:47 Operator: TMB
Sample : WG591756-02 50ug /L CCV STD 8260 Inst : Hpms6
Misc : 1,1 STD78993 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 16:30 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration



Continuing Calibration Area and RT check

Instrument: Hpms6
Initial cal date: 12 Nov 2016 19:58
CCV date: 15 Nov 2016 15:47
CCV Filename: 6M143471.D

	Fluorobenzene		Chlorobenzene-d5		1,4-Dichlorobenzene-d4	
	Amount	RT	Amount	RT	Amount	RT
InitCal	653160	10.74	522661	15.22	301121	18.78
CCV	700992	10.74	556029	15.21	322840	18.78

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111516\6M143471.D Vial: 2
Acq On : 15 Nov 2016 15:47 Operator: TMB
Sample : WG591756-02 50ug /L CCV STD 8260 Inst : Hpms6
Misc : 1,1 STD78993 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.0000	1.0000	0.0	107	0.00
2	T	Dichlorodifluoromethane	0.4342	0.4379	-0.9	100	0.00
3	P	Chloromethane	0.3257	0.3001	7.8	101	0.00
4	C	Vinyl Chloride	0.2718	0.2502	8.0	96	0.00
5	T	1,3-Butadiene	0.2061	0.1738	15.7	90	0.01
6	T	Bromomethane	0.1268	0.1245	1.8	106	0.01
7	T	Chloroethane	0.1598	0.1524	4.6	99	0.01
8	T	Trichlorofluoromethane	0.4409	0.4162	5.6	98	0.01
9	T	Diethyl ether	0.1949	0.1870	4.1	102	0.00
10	T	Isoprene	0.3839	0.3625	5.6	98	0.01
11	T	Acrolein	0.0275	0.0244	11.0	93	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	0.2678	0.2628	1.8	103	0.00
13	T	Acetone	0.0644	0.0578	10.3	96	0.00
14	C	1,1-Dichloroethene	0.4085	0.4034	1.2	102	0.00
15	T	Tert-Butyl Alcohol	0.0173	0.0142	17.7	87	-0.02
16	T	Dimethyl Sulfide	0.2603	0.2525	3.0	101	0.01
17	T	Iodomethane	0.2574	0.3177	-23.4#	103	0.00
18	T	Methyl acetate	0.1794	0.1576	12.2	93	0.00
19	T	Methylene Chloride	0.2714	0.2642	2.7	105	0.01
20	T	Carbon Disulfide	0.8074	0.7880	2.4	101	0.01
21	T	Acrylonitrile	0.0801	0.0746	6.9	95	0.00
22	T	Methyl Tert Butyl Ether	0.5787	0.5464	5.6	97	0.00
23	T	trans-1,2-Dichloroethene	0.2624	0.2662	-1.5	104	0.00
24	T	n-Hexane	0.2985	0.2979	0.2	103	0.00
25	T	Diisopropyl ether	0.8919	0.8729	2.1	102	0.00
26	T	Vinyl Acetate	0.4441	0.4414	0.6	103	0.00
27	P	1,1-Dichloroethane	0.4772	0.4666	2.2	103	0.00
28	T	Ethyl-Tert-Butyl ether	0.7210	0.6834	5.2	99	0.00
29	T	2-Butanone	0.0964	0.0821	14.8	92	0.00
30	T	Propionitrile	0.0271	0.0237	12.6	92	0.00
31	T	2,2-Dichloropropane	0.3500	0.3581	-2.3	108	0.00
32	T	cis-1,2-Dichloroethene	0.2837	0.2904	-2.4	104	0.00
33	C	Chloroform	0.4936	0.4616	6.5	104	0.00
34		1-Bromopropane	0.0608	0.0632	-4.0	105	0.00
35	T	Bromochloromethane	0.1906	0.1912	-0.3	103	0.00
36	T	Tetrahydrofuran	0.0696	0.0548	21.2#	90	0.00
37	S	Dibromofluoromethane	0.2897	0.2757	4.8	101	0.00
38	T	1,1,1-Trichloroethane	0.4178	0.4037	3.4	100	0.00
39	T	Cyclohexane	0.4087	0.3962	3.1	97	0.00
40	T	1,1-Dichloropropene	0.3356	0.3278	2.3	99	0.00
41	T	Tert-Amyl-Methyl ether	0.5748	0.5280	8.1	95	0.00
42	T	Carbon Tetrachloride	0.4076	0.3740	8.3	95	0.00
43	S	1,2-Dichloroethane-d4	0.2873	0.2486	13.5	94	0.00
44		Heptane	0.0000	0.0000	0.0	92	0.00
45	T	1,2-Dichloroethane	0.3439	0.3250	5.5	100	0.00
46	T	Benzene	0.9967	0.9655	3.1	103	0.00
47	T	Trichloroethene	0.3128	0.3055	2.3	101	0.00
48	T	Methylcyclohexane	0.3456	0.3326	3.8	99	0.00
49	C	1,2-Dichloropropane	0.2600	0.2546	2.0	102	0.00
50	T	1,4-Dioxane	0.0017	0.0017	3.5	100	0.00
51	T	Bromodichloromethane	0.3556	0.3454	2.9	102	0.00
52	T	Dibromomethane	0.1513	0.1436	5.1	98	0.00
53	T	2-Chloroethyl Vinyl Ether	0.1232	0.1226	0.5	96	0.00
54	T	4-Methyl-2-Pentanone	0.0747	0.0623	16.7	89	0.00

(#) = Out of Range
6M143471.D 8260WT.M Tue Nov 15 16:30:19 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111516\6M143471.D Vial: 2
Acq On : 15 Nov 2016 15:47 Operator: TMB
Sample : WG591756-02 50ug /L CCV STD 8260 Inst : Hpms6
Misc : 1,1 STD78993 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	0.3624	0.3766	-3.9	101	0.00
56	T	Dimethyl Disulfide	0.2140	0.2006	6.2	97	0.00
57	I	Chlorobenzene-d5	1.0000	1.0000	0.0	106	0.00
58	S	Toluene-d8	1.1556	1.1240	2.7	102	0.00
59	C	Toluene	1.2896	1.2823	0.6	102	0.00
60	T	Ethyl Methacrylate	0.3150	0.3040	3.5	92	0.00
61		Paraldehyde	0.0000	0.0000	0.0	100	0.00
62	T	trans-1,3-Dichloropropene	0.4204	0.4180	0.6	98	0.00
63	T	1,1,2-Trichloroethane	0.2612	0.2426	7.1	98	0.00
64	T	2-Hexanone	0.1813	0.1505	17.0	88	0.00
65	T	1,3-Dichloropropane	0.4184	0.3929	6.1	98	0.00
66	T	Tetrachloroethene	0.3949	0.3886	1.6	102	0.00
67	T	Dibromochloromethane	0.3625	0.3539	2.4	99	0.00
68	T	1,2-Dibromoethane	0.2663	0.2537	4.7	97	0.00
69	T	1-Chlorohexane	0.3631	0.3974	-9.5	99	0.00
70	P	Chlorobenzene	0.9638	0.9314	3.4	103	0.00
71	T	1,1,1,2-Tetrachloroethane	0.3686	0.3657	0.8	101	0.00
72	C	Ethylbenzene	0.4805	0.4807	-0.0	102	0.00
73	T	m-,p-Xylene	0.5622	0.5750	-2.3	102	0.00
74	T	o-Xylene	0.5474	0.5763	-5.3	103	0.00
75	T	Styrene	0.9221	0.9991	-8.4	102	0.00
76	P	Bromoform	0.2403	0.2328	3.1	97	0.00
77	T	Isopropylbenzene	1.3064	1.3983	-7.0	102	0.00
78	I	1,4-Dichlorobenzene-d4	1.0000	1.0000	0.0	107	0.00
79	P	1,1,2,2-Tetrachloroethane	0.5208	0.4756	8.7	96	0.00
80	S	p-Bromofluorobenzene	0.7823	0.7809	0.2	103	0.00
81	T	1,2,3-Trichloropropane	0.1696	0.1479	12.8	94	0.00
82	T	trans-1,4-Dichloro-2-Butene	0.1306	0.1351	-3.5	93	0.00
83	T	n-Propylbenzene	2.5810	2.7292	-5.7	102	0.00
84	T	Bromobenzene	0.7694	0.7744	-0.7	102	0.00
85	T	1,3,5-Trimethylbenzene	1.8953	2.0436	-7.8	104	0.00
86	T	2-Chlorotoluene	1.8039	1.7597	2.5	103	0.00
87	T	4-Chlorotoluene	1.7775	1.8132	-2.0	103	0.00
88	T	a-Methylstyrene	1.2484	1.2567	-0.7	102	0.00
89	T	tert-Butylbenzene	0.4498	0.4640	-3.2	104	0.00
90	T	1,2,4-Trimethylbenzene	2.0796	2.1394	-2.9	103	0.00
91	T	sec-Butylbenzene	2.2065	2.3022	-4.3	103	0.00
92	T	p-Isopropyltoluene	1.9641	2.1162	-7.7	105	0.00
93	T	1,3-Dichlorobenzene	1.4205	1.4229	-0.2	103	0.00
94	T	1,4-Dichlorobenzene	1.4741	1.4351	2.6	104	0.00
95	T	n-Butylbenzene	1.6173	1.7199	-6.3	105	0.00
96	T	1,2-Dichlorobenzene	1.3619	1.3214	3.0	102	0.00
97	T	1,2-Dibromo-3-Chloropropane	0.0920	0.0794	13.7	89	0.00
98	T	1,2,4-Trichlorobenzene	0.8498	0.9109	-7.2	104	0.00
99	T	Hexachlorobutadiene	0.3233	0.3453	-6.8	108	0.00
100	T	Naphthalene	1.7131	1.7916	-4.6	95	0.00
101	T	1,2,3-Trichlorobenzene	0.8066	0.8252	-2.3	101	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M143471.D 8260WT.M Tue Nov 15 16:30:20 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111516\6M143471.D Vial: 2
Acq On : 15 Nov 2016 15:47 Operator: TMB
Sample : WG591756-02 50ug /L CCV STD 8260 Inst : Hpms6
Misc : 1,1 STD78993 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	25.0000	25.0000	0.0	107	0.00
2	T	Dichlorodifluoromethane	50.0000	50.4279	-0.9	100	0.00
3	P	Chloromethane	50.0000	46.0806	7.8	101	0.00
4	C	Vinyl Chloride	50.0000	46.0136	8.0	96	0.00
5	T	1,3-Butadiene	50.0000	40.6466	18.7	90	0.01
6	T	Bromomethane	50.0000	49.1026	1.8	106	0.01
7	T	Chloroethane	50.0000	47.6907	4.6	99	0.01
8	T	Trichlorofluoromethane	50.0000	47.1999	5.6	98	0.01
9	T	Diethyl ether	100.0000	95.9454	4.1	102	0.00
10	T	Isoprene	50.0000	47.2129	5.6	98	0.01
11	T	Acrolein	50.0000	44.4872	11.0	93	0.00
12	T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	49.0741	1.9	103	0.00
13	T	Acetone	50.0000	44.8425	10.3	96	0.00
14	C	1,1-Dichloroethene	50.0000	49.3771	1.2	102	0.00
15	T	Tert-Butyl Alcohol	200.0000	164.6385	17.7	87	-0.02
16	T	Dimethyl Sulfide	50.0000	48.5030	3.0	101	0.01
17	T	Iodomethane	50.0000	53.5127	-7.0	103	0.00
18	T	Methyl acetate	50.0000	43.9248	12.2	93	0.00
19	T	Methylene Chloride	50.0000	48.6695	2.7	105	0.01
20	T	Carbon Disulfide	50.0000	48.8008	2.4	101	0.01
21	T	Acrylonitrile	50.0000	46.5519	6.9	95	0.00
22	T	Methyl Tert Butyl Ether	50.0000	47.2039	5.6	97	0.00
23	T	trans-1,2-Dichloroethene	50.0000	50.7384	-1.5	104	0.00
24	T	n-Hexane	50.0000	49.8894	0.2	103	0.00
25	T	Diisopropyl ether	100.0000	97.8681	2.1	102	0.00
26	T	Vinyl Acetate	50.0000	49.6889	0.6	103	0.00
27	P	1,1-Dichloroethane	50.0000	48.8871	2.2	103	0.00
28	T	Ethyl-Tert-Butyl ether	100.0000	94.7824	5.2	99	0.00
29	T	2-Butanone	50.0000	42.6052	14.8	92	0.00
30	T	Propionitrile	100.0000	87.4127	12.6	92	0.00
31	T	2,2-Dichloropropane	50.0000	51.1528	-2.3	108	0.00
32	T	cis-1,2-Dichloroethene	50.0000	51.1787	-2.4	104	0.00
33	C	Chloroform	50.0000	46.7582	6.5	104	0.00
34		1-Bromopropane	50.0000	51.9980	-4.0	105	0.00
35	T	Bromochloromethane	50.0000	50.1382	-0.3	103	0.00
36	T	Tetrahydrofuran	100.0000	78.7797	21.2#	90	0.00
37	S	Dibromofluoromethane	25.0000	23.7988	4.8	101	0.00
38	T	1,1,1-Trichloroethane	50.0000	48.3062	3.4	100	0.00
39	T	Cyclohexane	50.0000	48.4698	3.1	97	0.00
40	T	1,1-Dichloropropene	50.0000	48.8345	2.3	99	0.00
41	T	Tert-Amyl-Methyl ether	100.0000	91.8514	8.1	95	0.00
42	T	Carbon Tetrachloride	50.0000	45.8735	8.3	95	0.00
43	S	1,2-Dichloroethane-d4	25.0000	21.6359	13.5	94	0.00
44		Heptane	-1.0000	0.0000	0.0	92	0.00
45	T	1,2-Dichloroethane	50.0000	47.2511	5.5	100	0.00
46	T	Benzene	50.0000	48.4341	3.1	103	0.00
47	T	Trichloroethene	50.0000	48.8350	2.3	101	0.00
48	T	Methylcyclohexane	50.0000	48.1245	3.8	99	0.00
49	C	1,2-Dichloropropane	50.0000	48.9797	2.0	102	0.00
50	T	1,4-Dioxane	200.0000	192.6331	3.7	100	0.00
51	T	Bromodichloromethane	50.0000	48.5714	2.9	102	0.00
52	T	Dibromomethane	50.0000	47.4518	5.1	98	0.00
53	T	2-Chloroethyl Vinyl Ether	50.0000	49.7524	0.5	96	0.00
54	T	4-Methyl-2-Pentanone	50.0000	41.6709	16.7	89	0.00

(#) = Out of Range
6M143471.D 8260WT.M Tue Nov 15 16:30:22 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111516\6M143471.D Vial: 2
Acq On : 15 Nov 2016 15:47 Operator: TMB
Sample : WG591756-02 50ug /L CCV STD 8260 Inst : Hpms6
Misc : 1,1 STD78993 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

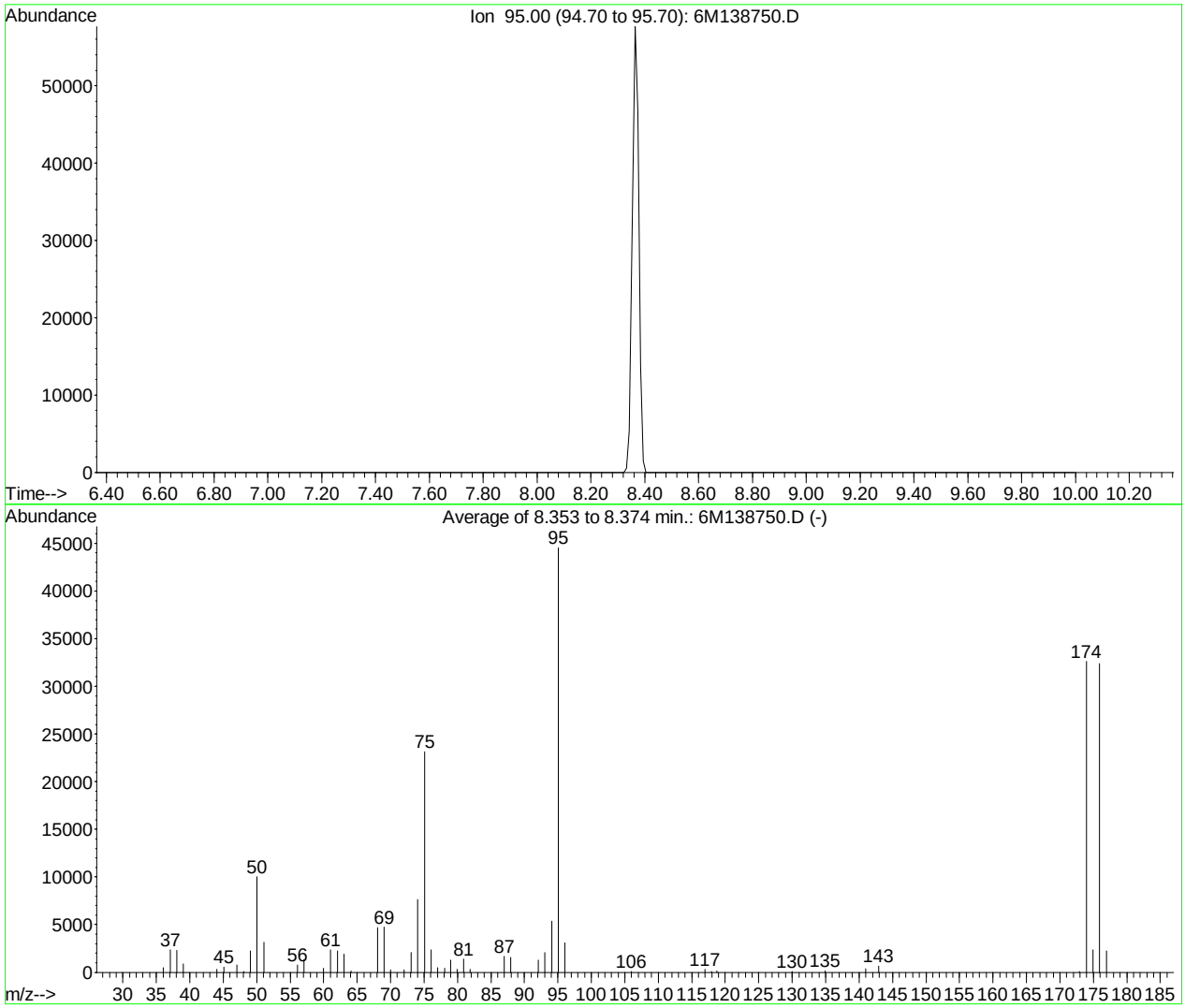
		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
55	T	cis-1,3-Dichloropropene	50.0000	51.9627	-3.9	101	0.00
56	T	Dimethyl Disulfide	50.0000	43.9764	12.0	97	0.00
57	I	Chlorobenzene-d5	25.0000	25.0000	0.0	106	0.00
58	S	Toluene-d8	25.0000	24.3166	2.7	102	0.00
59	C	Toluene	50.0000	49.7164	0.6	102	0.00
60	T	Ethyl Methacrylate	50.0000	44.4180	11.2	92	0.00
61		Paraldehyde	-1.0000	0.0000	0.0	100	0.00
62	T	trans-1,3-Dichloropropene	50.0000	49.7108	0.6	98	0.00
63	T	1,1,2-Trichloroethane	50.0000	46.4377	7.1	98	0.00
64	T	2-Hexanone	50.0000	41.5123	17.0	88	0.00
65	T	1,3-Dichloropropane	50.0000	46.9524	6.1	98	0.00
66	T	Tetrachloroethene	50.0000	49.2097	1.6	102	0.00
67	T	Dibromochloromethane	50.0000	48.8135	2.4	99	0.00
68	T	1,2-Dibromoethane	50.0000	47.6375	4.7	97	0.00
69	T	1-Chlorohexane	50.0000	48.3862	3.2	99	0.00
70	P	Chlorobenzene	50.0000	48.3182	3.4	103	0.00
71	T	1,1,1,2-Tetrachloroethane	50.0000	49.6009	0.8	101	0.00
72	C	Ethylbenzene	50.0000	50.0100	-0.0	102	0.00
73	T	m-,p-Xylene	100.0000	102.2748	-2.3	102	0.00
74	T	o-Xylene	50.0000	52.6363	-5.3	103	0.00
75	T	Styrene	50.0000	54.1756	-8.4	102	0.00
76	P	Bromoform	50.0000	48.4336	3.1	97	0.00
77	T	Isopropylbenzene	50.0000	53.5140	-7.0	102	0.00
78	I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	107	0.00
79	P	1,1,2,2-Tetrachloroethane	50.0000	45.6561	8.7	96	0.00
80	S	p-Bromofluorobenzene	25.0000	24.9545	0.2	103	0.00
81	T	1,2,3-Trichloropropane	50.0000	43.6076	12.8	94	0.00
82	T	trans-1,4-Dichloro-2-Butene	50.0000	41.8420	16.3	93	0.00
83	T	n-Propylbenzene	50.0000	52.8720	-5.7	102	0.00
84	T	Bromobenzene	50.0000	50.3298	-0.7	102	0.00
85	T	1,3,5-Trimethylbenzene	50.0000	53.9131	-7.8	104	0.00
86	T	2-Chlorotoluene	50.0000	48.7748	2.5	103	0.00
87	T	4-Chlorotoluene	50.0000	51.0016	-2.0	103	0.00
88	T	a-Methylstyrene	50.0000	50.3362	-0.7	102	0.00
89	T	tert-Butylbenzene	50.0000	51.5774	-3.2	104	0.00
90	T	1,2,4-Trimethylbenzene	50.0000	51.4382	-2.9	103	0.00
91	T	sec-Butylbenzene	50.0000	52.1695	-4.3	103	0.00
92	T	p-Isopropyltoluene	50.0000	53.8738	-7.7	105	0.00
93	T	1,3-Dichlorobenzene	50.0000	50.0841	-0.2	103	0.00
94	T	1,4-Dichlorobenzene	50.0000	48.6779	2.6	104	0.00
95	T	n-Butylbenzene	50.0000	53.1712	-6.3	105	0.00
96	T	1,2-Dichlorobenzene	50.0000	48.5159	3.0	102	0.00
97	T	1,2-Dibromo-3-Chloropropane	50.0000	43.1615	13.7	89	0.00
98	T	1,2,4-Trichlorobenzene	50.0000	53.5940	-7.2	104	0.00
99	T	Hexachlorobutadiene	50.0000	53.4039	-6.8	108	0.00
100	T	Naphthalene	50.0000	52.2928	-4.6	95	0.00
101	T	1,2,3-Trichlorobenzene	50.0000	51.1558	-2.3	101	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
6M143471.D 8260WT.M Tue Nov 15 16:30:22 2016 Page 2

2.1.1.5 Raw QC Data

BFB

Data File : C:\MSDCHEM\1\DATA\042416\6M138750.D Vial: 1
Acq On : 24 Apr 2016 16:33 Operator: JDS
Sample : WG566155-01 50ng BFB 826-A9 Inst : HPMS6
Misc : 1,1 STD75485 Multiplr: 1.00
MS Integration Params: rteint.p
Method : C:\MSDCHEM\1\METHODS\BFB.M (RTE Integrator)
Title : SOP: OVL MSV01



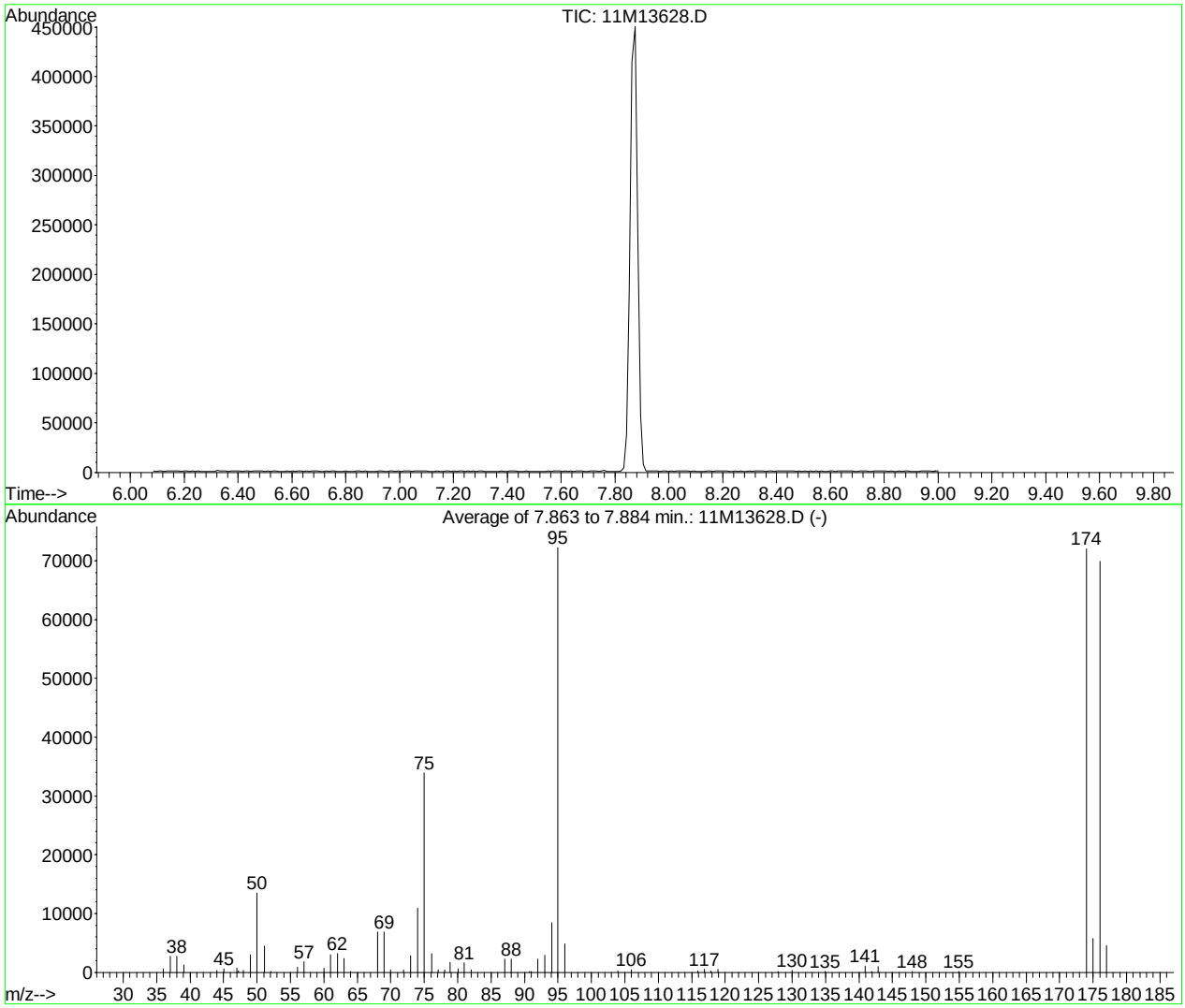
AutoFind: Scans 320, 321, 322; Background Corrected with Scan 315

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	22.5	10010	PASS
75	95	30	60	52.0	23152	PASS
95	95	100	100	100.0	44552	PASS
96	95	5	9	6.9	3085	PASS
173	174	0.00	2	0.3	113	PASS
174	95	50	100	73.2	32632	PASS
175	174	5	9	7.2	2336	PASS
176	174	95	101	99.2	32384	PASS
177	176	5	9	7.0	2251	PASS

6M138750.D BFB.M Mon Apr 25 09:21:54 2016

CLPBFB

Data File : C:\MSDCHEM\1\DATA\081516\11M13628.D Vial: 2
Acq On : 15 Aug 2016 14:52 Operator: JDS
Sample : WG580279-01 50ng BFB STD 8260 Inst : hpms11
Misc : 1,1 STD77509 Multiplr: 1.00
MS Integration Params: rteint.p
Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11



AutoFind: Scans 173, 174, 175; Background Corrected with Scan 167

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.7	13531	PASS
75	95	30	60	47.0	33928	PASS
95	95	100	100	100.0	72218	PASS
96	95	5	9	6.7	4803	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	99.7	72018	PASS
175	174	5	9	8.0	5730	PASS
176	174	95	101	97.1	69941	PASS
177	176	5	9	6.5	4520	PASS

11M13628.D A9FOOWT.M Tue Aug 16 08:54:32 2016

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13628.D Vial: 2
Acq On : 15 Aug 2016 14:52 Operator: JDS
Sample : WG580279-01 50ng BFB STD 8260 Inst : hpms11
Misc : 1,1 STD77509 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 09:05:15 2016 Quant Results File: A9FOOWT.RES

Quant Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration
DataAcq Meth : BFB

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	0.00	96	0	0.00	ug/L	-10.59
12) Chlorobenzene-d5	0.00	117	0	0.00	ug/L	-14.23
13) 1,4-Dichlorobenzene-d4	0.00	152	0	0.00	ug/L	-17.04

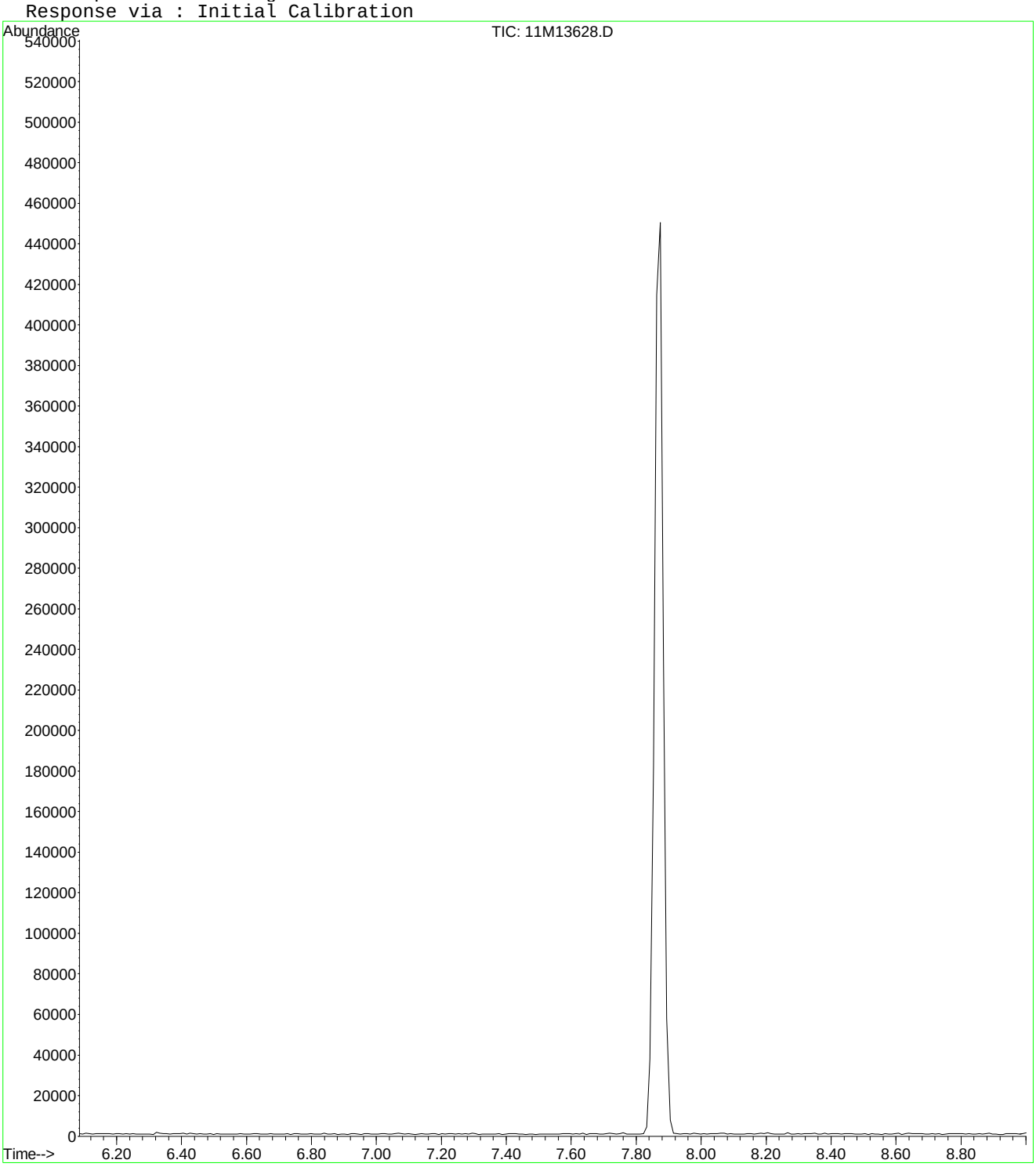
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
11M13628.D A9FOOWT.M Tue Aug 16 09:05:17 2016 Page 1

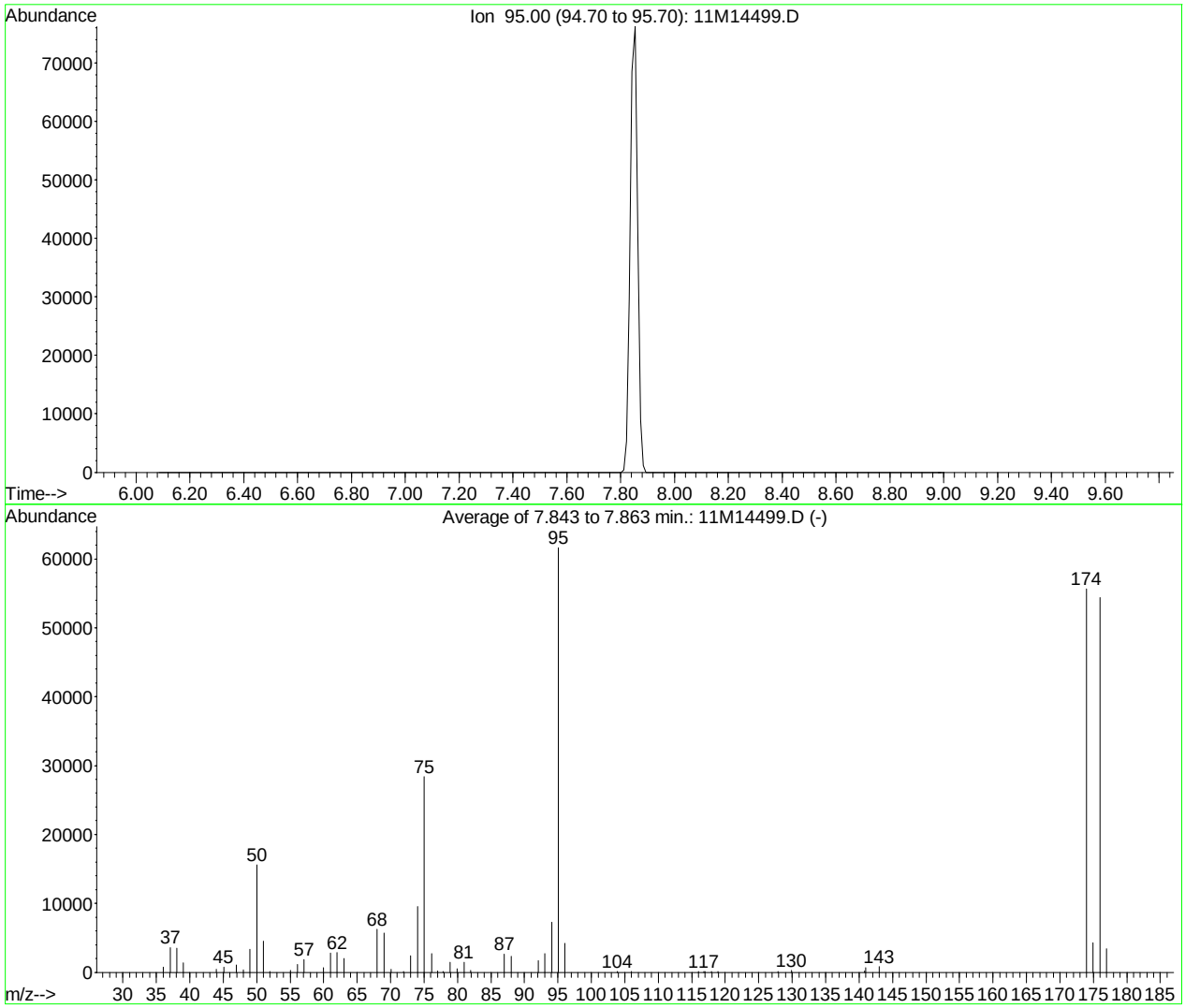
Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\081516\11M13628.D Vial: 2
Acq On : 15 Aug 2016 14:52 Operator: JDS
Sample : WG580279-01 50ng BFB STD 8260 Inst : hpms11
Misc : 1,1 STD77509 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Aug 16 9:05 2016 Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\101316\11M14499.D Vial: 1
Acq On : 13 Oct 2016 12:50 Operator: FJB
Sample : WG587480-01 BFB 50ng 8260 Inst : hpms11
Misc : 1,1 STD78474 Multiplr: 1.00
MS Integration Params: rteint.p
Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11

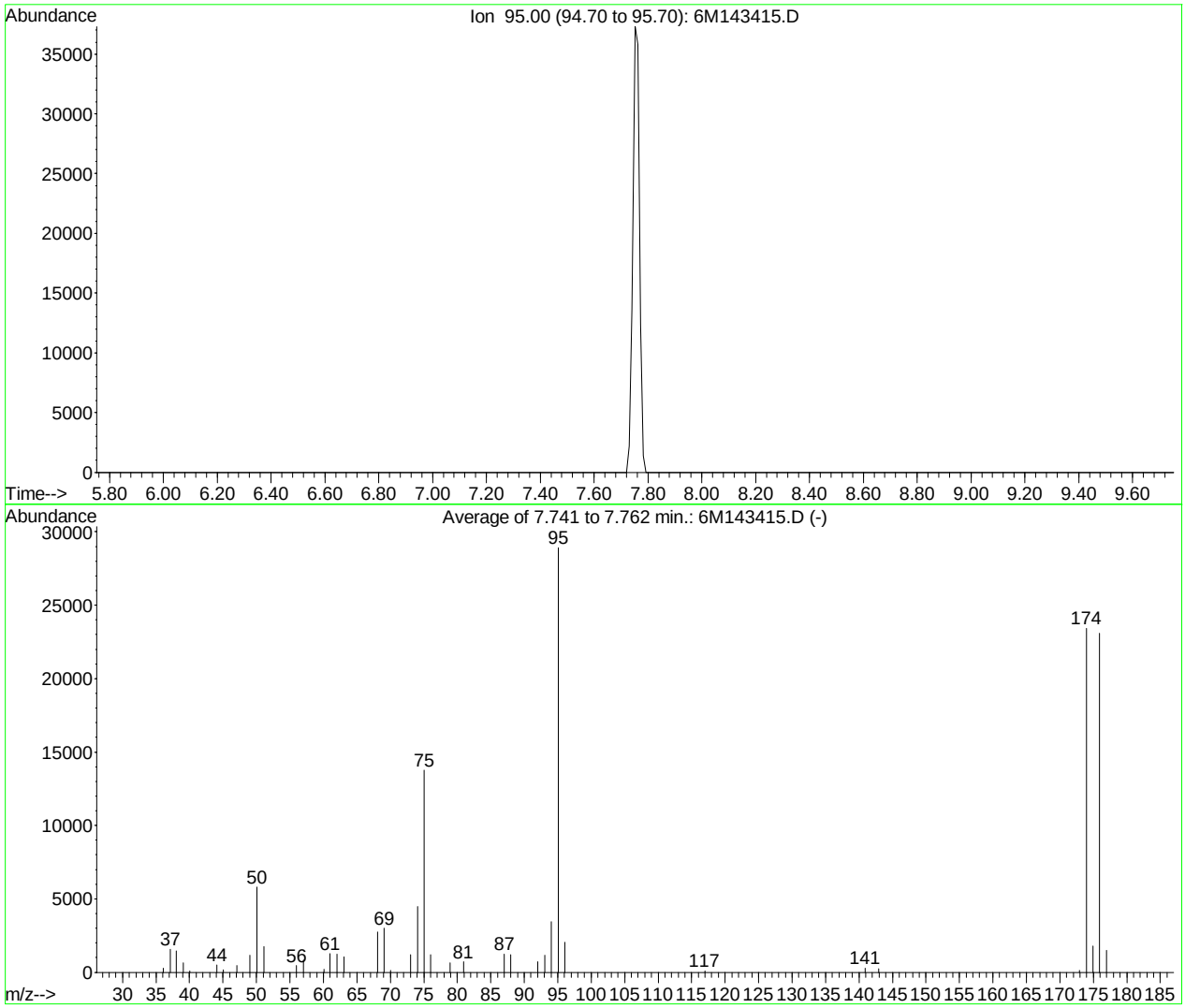


AutoFind: Scans 171, 172, 173; Background Corrected with Scan 165

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	25.3	15619	PASS
75	95	30	60	46.1	28389	PASS
95	95	100	100	100.0	61637	PASS
96	95	5	9	6.8	4166	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	90.3	55672	PASS
175	174	5	9	7.7	4260	PASS
176	174	95	101	97.7	54378	PASS
177	176	5	9	6.2	3381	PASS

11M14499.D 8260WT.M Fri Oct 14 09:26:00 2016

```
Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111216\6M143415.D Vial: 1
Acq On    : 12 Nov 2016  15:48                    Operator: ADC
Sample    : WG591426-01 50ng BFB STD 8260         Inst    : Hpms6
Misc      : 1,1 STD78474                          Multiplr: 1.00
MS Integration Params: RTEINT.P
Method    : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title     : 8260B/624_WATER SOP:MSV01  11-12-16 - HPMS6
```



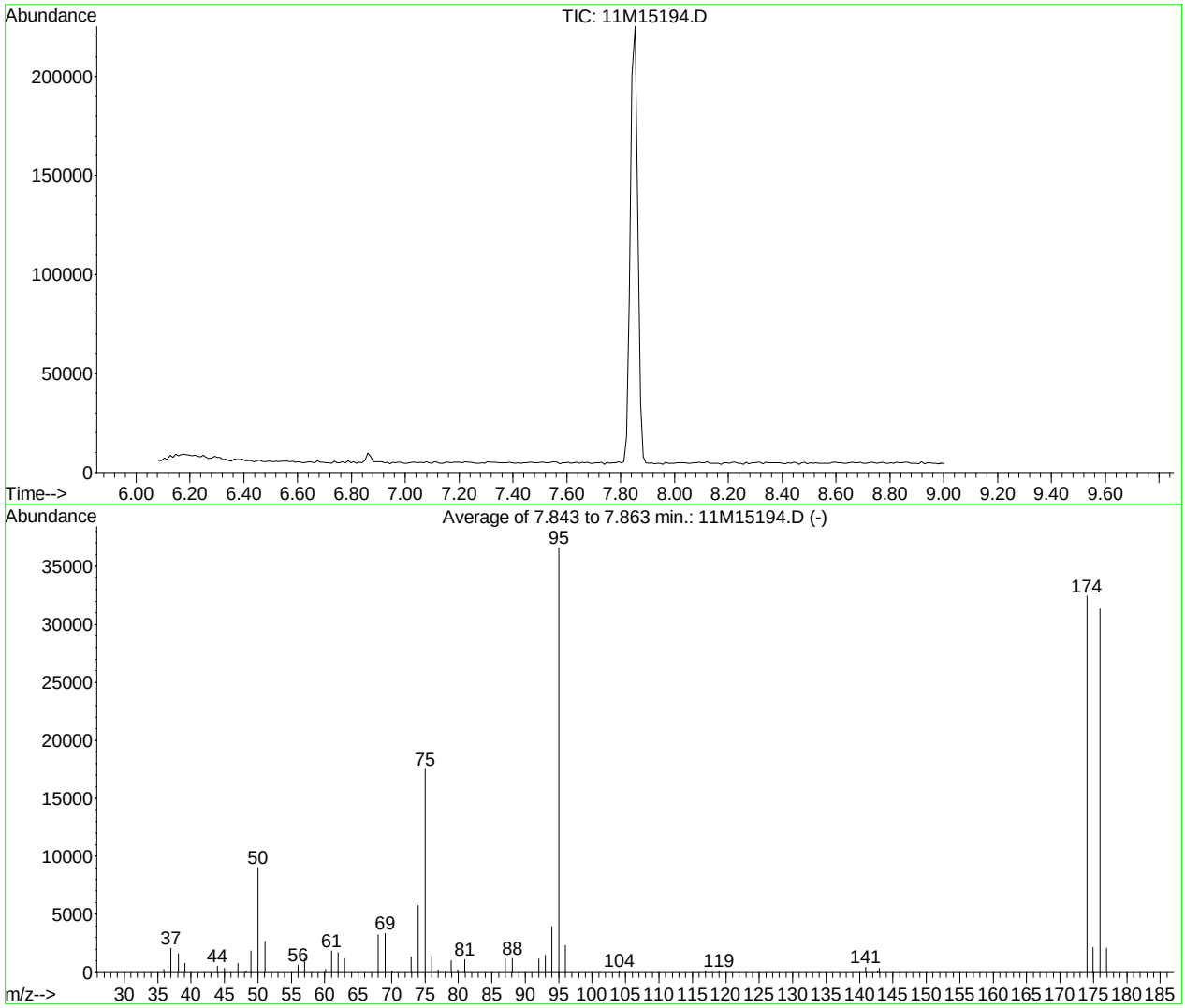
AutoFind: Scans 260, 261, 262; Background Corrected with Scan 256

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.1	5822	PASS
75	95	30	60	47.6	13780	PASS
95	95	100	100	100.0	28921	PASS
96	95	5	9	7.1	2061	PASS
173	174	0.00	2	0.5	113	PASS
174	95	50	100	80.9	23409	PASS
175	174	5	9	7.6	1779	PASS
176	174	95	101	98.6	23090	PASS
177	176	5	9	6.5	1512	PASS

6M143415.D 8260WT.M Tue Nov 15 10:18:14 2016

BFB

Data File : C:\MSDCHEM\1\DATA\111416\11M15194.D Vial: 1
Acq On : 14 Nov 2016 14:22 Operator: JDS
Sample : WG591570-01 50ng BFB Inst : hpms11
Misc : 1,1 STD78474 Multiplr: 1.00
MS Integration Params: rteint.p
Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11

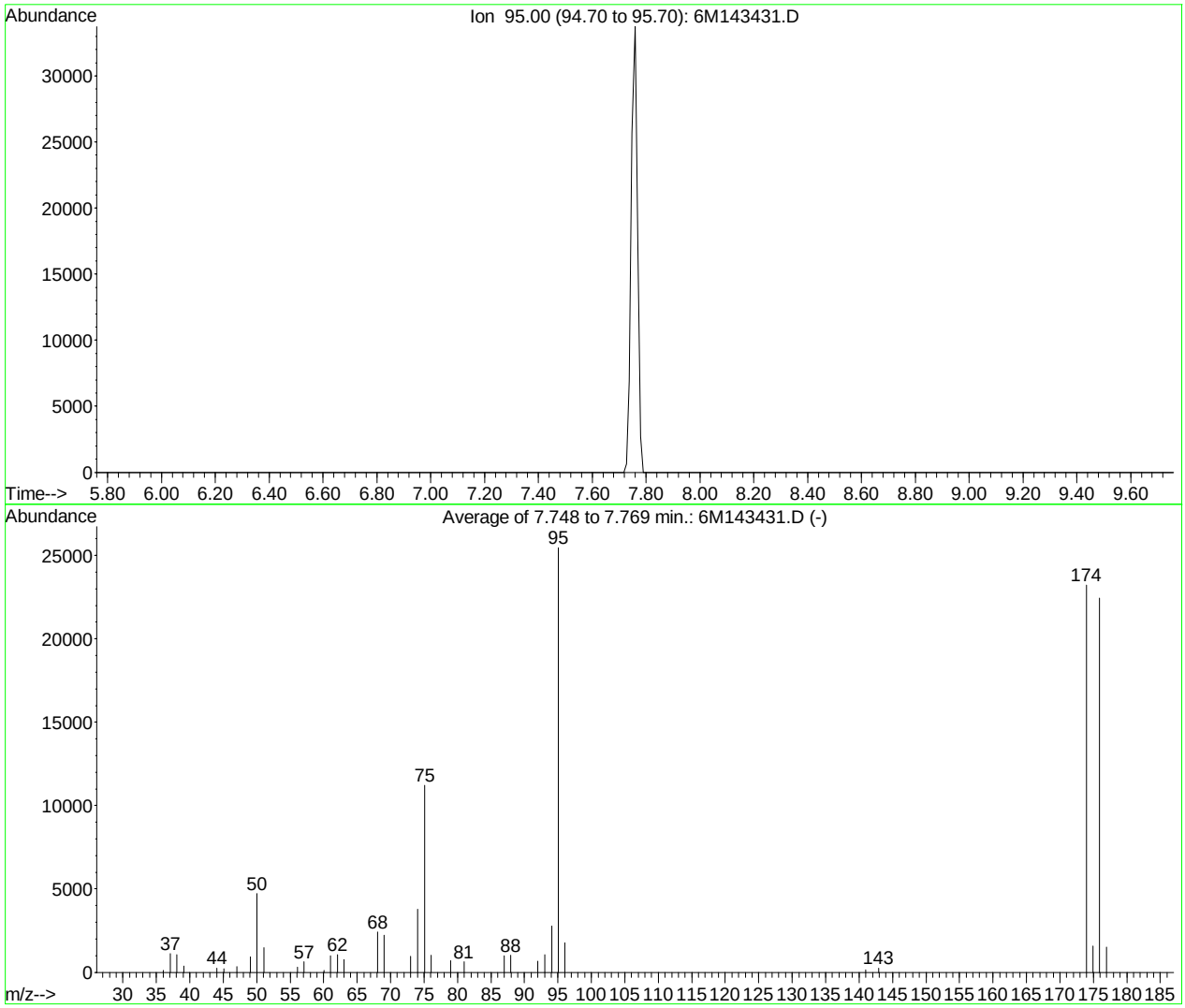


AutoFind: Scans 171, 172, 173; Background Corrected with Scan 165

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	24.7	9051	PASS
75	95	30	60	47.8	17505	PASS
95	95	100	100	100.0	36613	PASS
96	95	5	9	6.3	2324	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	88.6	32432	PASS
175	174	5	9	6.5	2121	PASS
176	174	95	101	96.6	31322	PASS
177	176	5	9	6.6	2058	PASS

11M15194.D 8260WT.M Mon Nov 14 15:13:00 2016

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143431.D Vial: 1
Acq On : 14 Nov 2016 16:17 Operator: TMB
Sample : WG591612-01 50ng BFB STD 8260 Inst : Hpms6
Misc : 1,1 STD78995 Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6



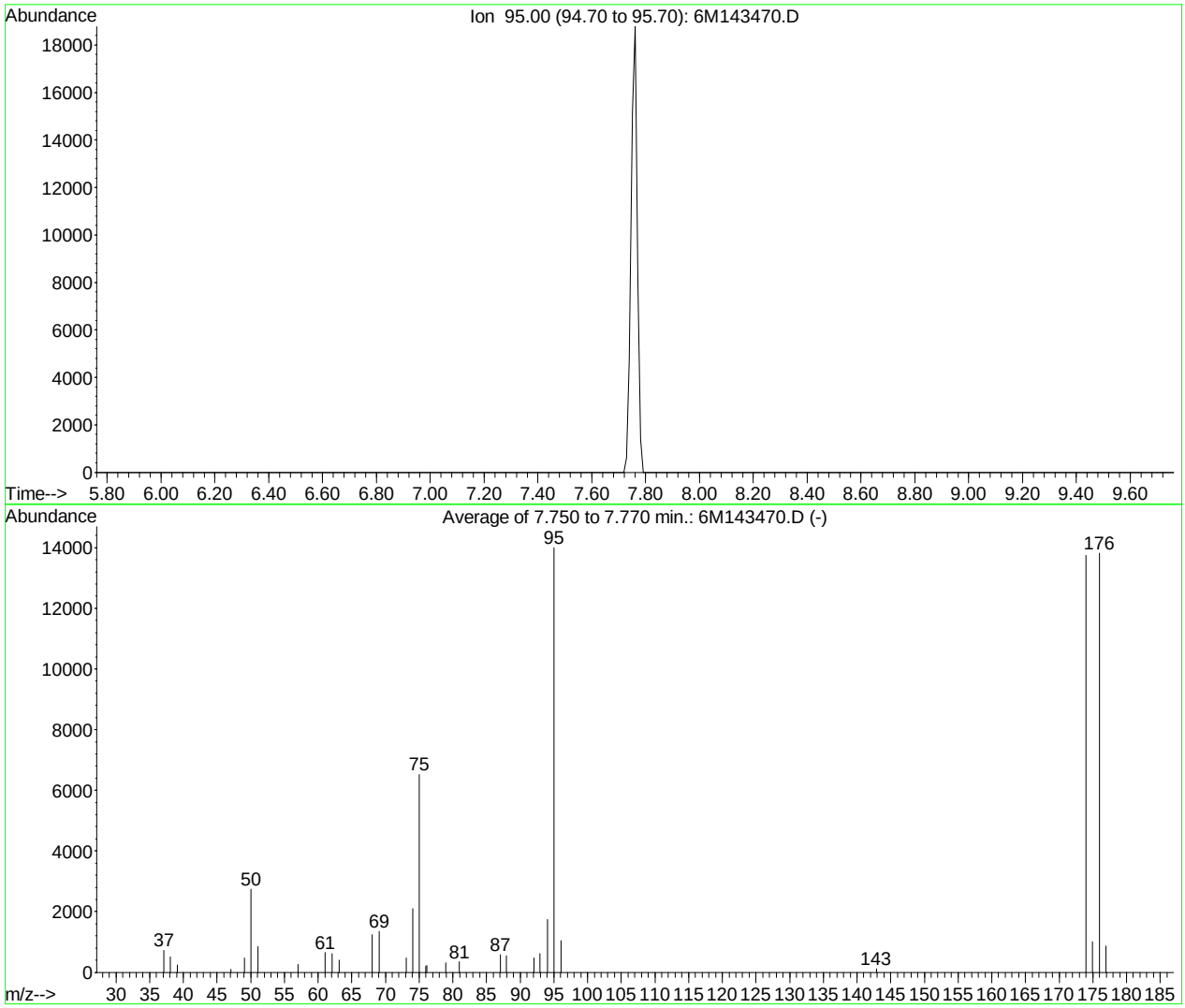
AutoFind: Scans 261, 262, 263; Background Corrected with Scan 256

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.5	4717	PASS
75	95	30	60	44.1	11223	PASS
95	95	100	100	100.0	25469	PASS
96	95	5	9	7.0	1779	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	91.1	23210	PASS
175	174	5	9	6.8	1582	PASS
176	174	95	101	96.7	22450	PASS
177	176	5	9	6.8	1523	PASS

6M143431.D 8260WT.M Tue Nov 15 12:24:37 2016

BFB

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111516\6M143470.D Vial: 3
Acq On : 15 Nov 2016 15:06 Operator: TMB
Sample : WG591756-01 50ng BFB STD 8260 Inst : Hpms6
Misc : 1,1 STD78995 Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6



AutoFind: Scans 261, 262, 263; Background Corrected with Scan 256

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.5	2735	PASS
75	95	30	60	46.6	6529	PASS
95	95	100	100	100.0	14000	PASS
96	95	5	9	7.5	1051	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	98.2	13744	PASS
175	174	5	9	7.3	1005	PASS
176	174	95	101	100.6	13823	PASS
177	176	5	9	6.3	870	PASS

6M143470.D 8260WT.M Tue Nov 15 16:29:58 2016

Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111416\11M15197.D Vial: 3
Acq On : 14 Nov 2016 15:49 Operator: JDS
Sample : WG591571-01 BLANK Inst : hpms11
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 16 13:27:17 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

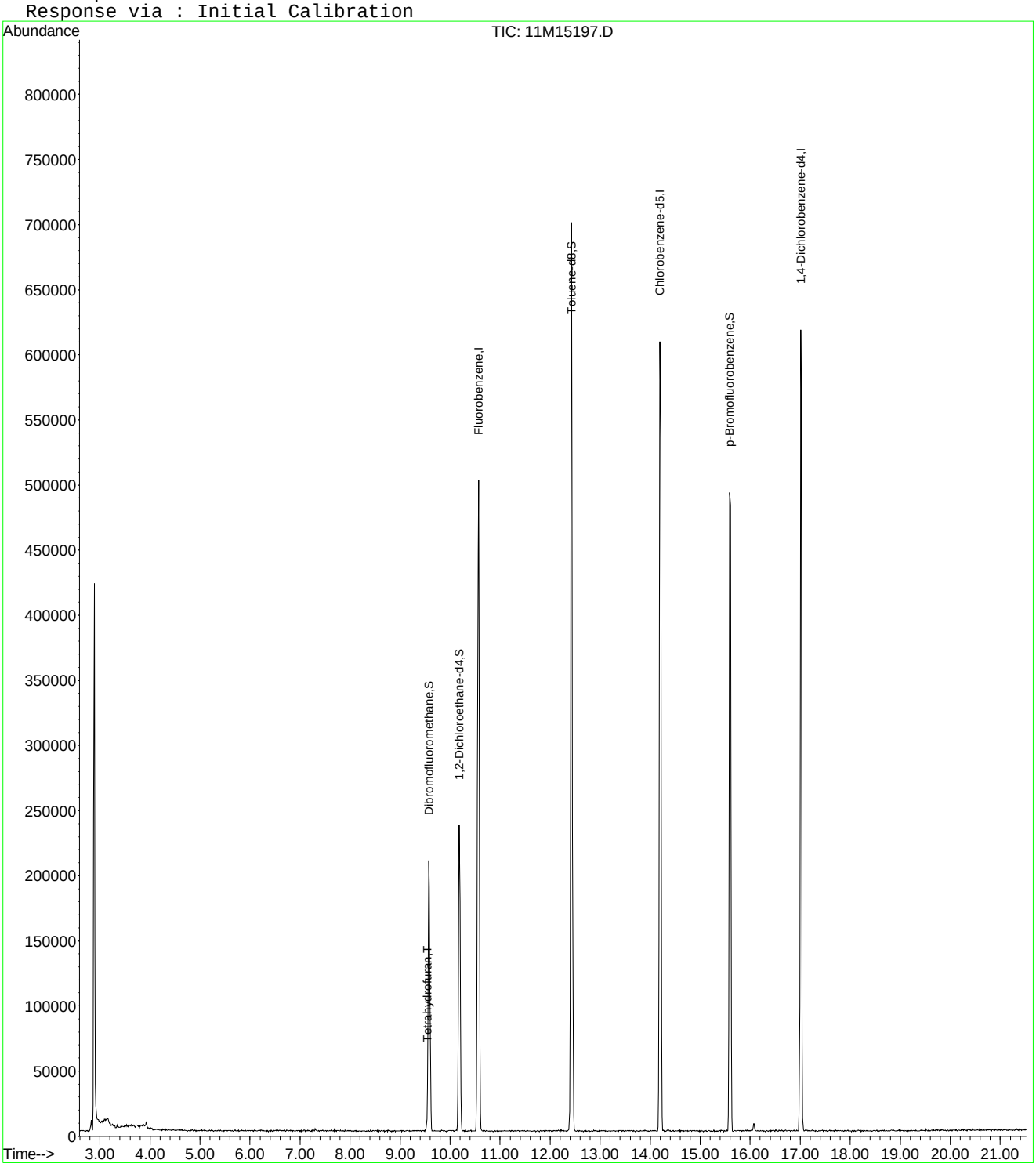
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.57	96	561781	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.20	117	415826	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	205917	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	166967	24.7077	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 98.84%			
43) 1,2-Dichloroethane-d4	10.18	65	184338	24.2971	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 97.20%			
57) Toluene-d8	12.43	98	556336	25.2467	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 101.00%			
78) p-Bromofluorobenzene	15.59	95	203824	24.7414	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 98.96%			
Target Compounds						Qvalue
36) Tetrahydrofuran	9.54	42	7519	0.4417	ug/L	96

(#) = qualifier out of range (m) = manual integration
11M15197.D 8260WT.M Wed Nov 16 13:27:18 2016 Page 1

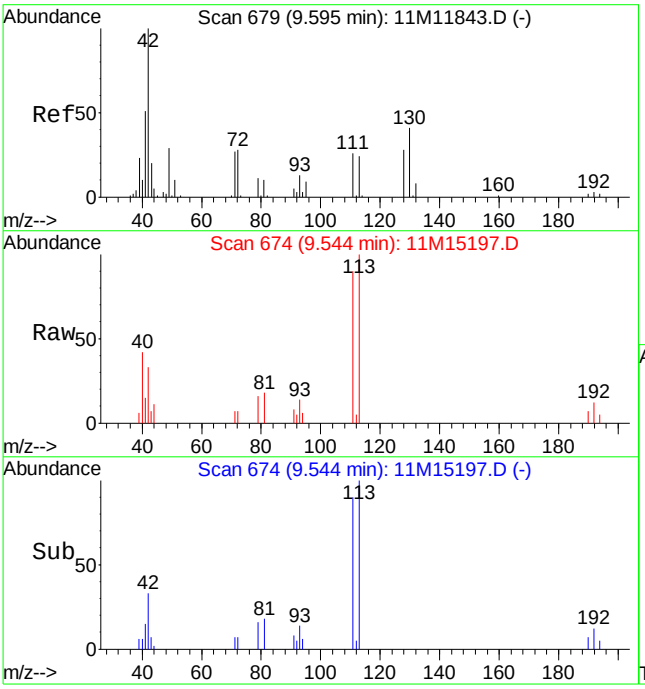
Quantitation Report (Not Reviewed)

Data File : C:\MSDCHEM\1\DATA\111416\11M15197.D Vial: 3
Acq On : 14 Nov 2016 15:49 Operator: JDS
Sample : WG591571-01 BLANK Inst : hpms11
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 16 13:27 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration



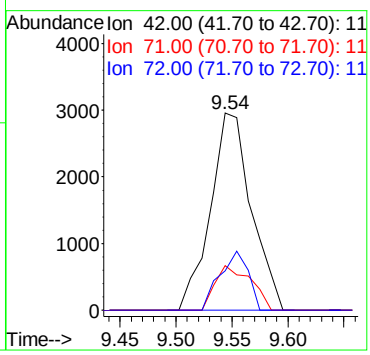
11M15197.D 8260WT.M Wed Nov 16 13:27:18 2016 Page 2



#36
Tetrahydrofuran
Concen: 0.44 ug/L
RT: 9.54 min Scan# 674
Delta R.T. 0.00 min
Lab File: 11M15197.D
Acq: 14 Nov 2016 15:49

Tgt Ion: 42 Resp: 7519

Ion	Ratio	Lower	Upper
42	100		
71	19.8	12.8	30.0
72	20.9	14.0	32.6



Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143435.D Vial: 5
Acq On : 14 Nov 2016 18:19 Operator: TMB
Sample : WG591615-01 VBLK1114 BLANK STD 8260 Inst : Hpms6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 12:33:19 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

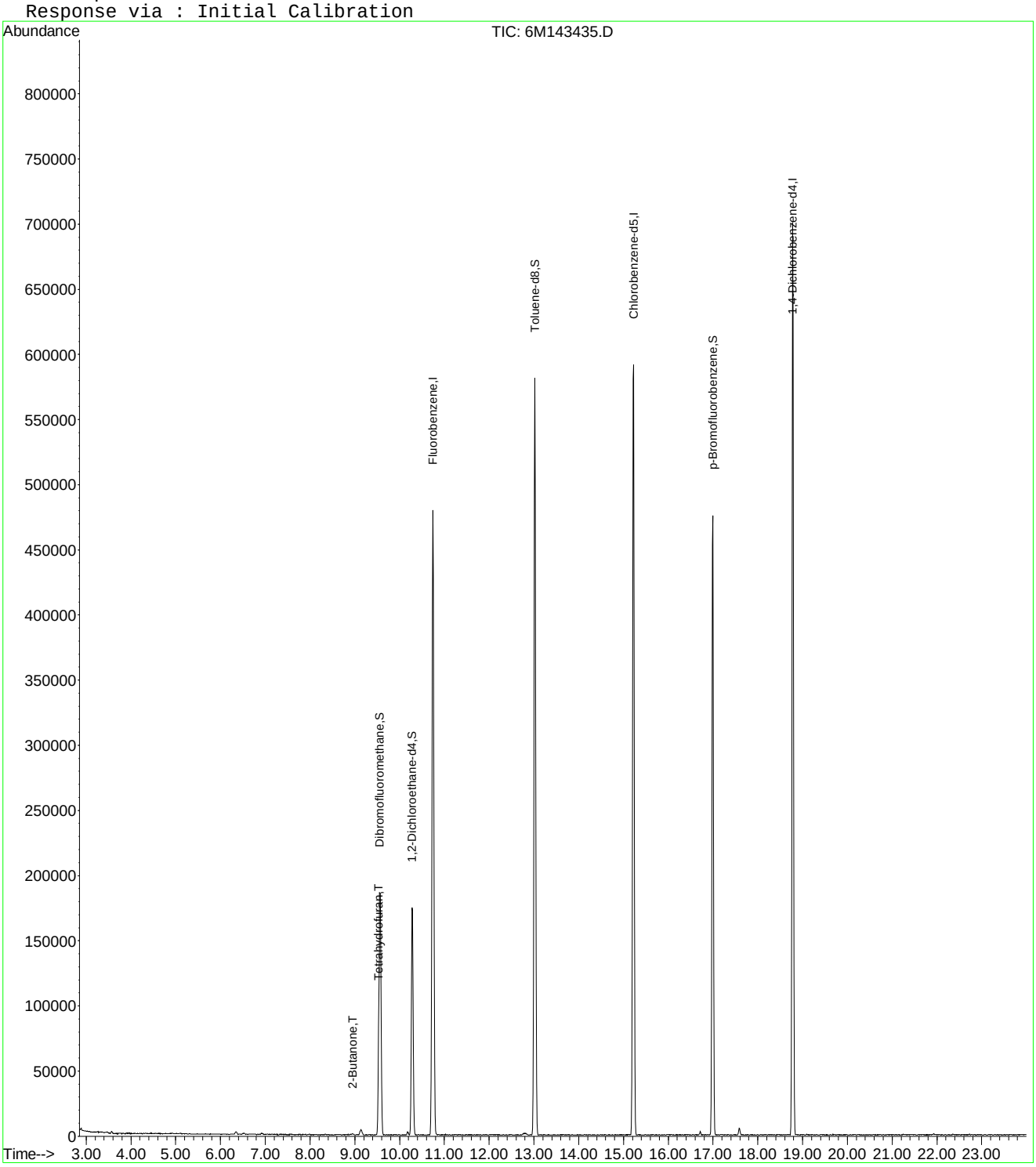
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.74	96	653913	25.00	ug/L	0.00
57) Chlorobenzene-d5	15.22	117	506877	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.77	152	272285	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.55	111	176569	23.3058	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 93.24%			
43) 1,2-Dichloroethane-d4	10.28	65	167702	22.3165	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 89.28%			
58) Toluene-d8	13.02	98	558595	23.8419	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 95.36%			
80) p-Bromofluorobenzene	17.00	95	221204	25.9619	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 103.84%			
Target Compounds						Qvalue
29) 2-Butanone	8.95	43	1349	0.5351	ug/L #	57
36) Tetrahydrofuran	9.53	42	4400	2.4188	ug/L #	83

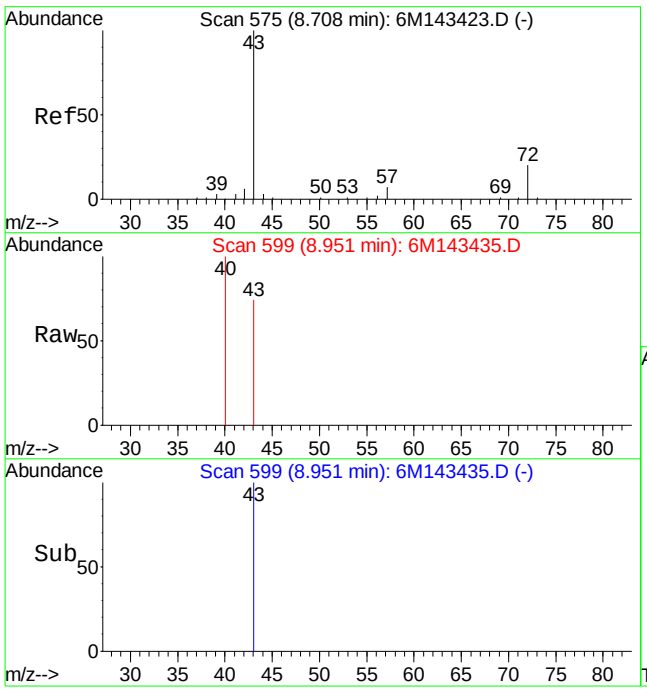
(#) = qualifier out of range (m) = manual integration
6M143435.D 8260WT.M Tue Nov 15 12:33:22 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143435.D Vial: 5
Acq On : 14 Nov 2016 18:19 Operator: TMB
Sample : WG591615-01 VBLK1114 BLANK STD 8260 Inst : Hpms6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 12:33 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration

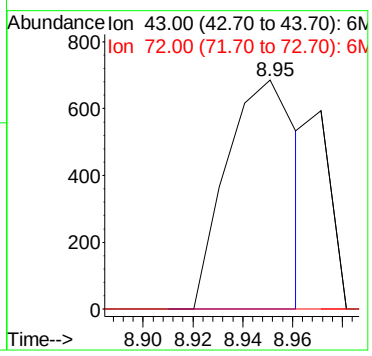


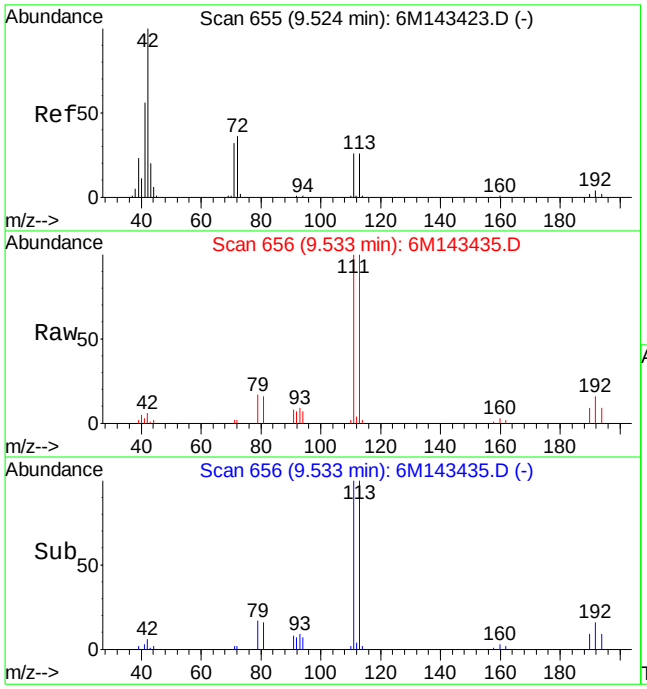


#29
2-Butanone
Concen: 0.54 ug/L
RT: 8.95 min Scan# 599
Delta R.T. 0.25 min
Lab File: 6M143435.D
Acq: 14 Nov 2016 18:19

Tgt Ion: 43 Resp: 1349

Ion	Ratio	Lower	Upper
43	100		
72	0.0	11.9	27.9#

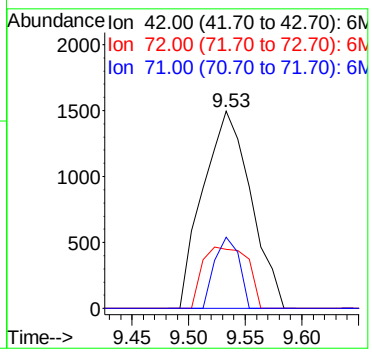




#36
Tetrahydrofuran
Concen: 2.42 ug/L
RT: 9.53 min Scan# 656
Delta R.T. 0.00 min
Lab File: 6M143435.D
Acq: 14 Nov 2016 18:19

Tgt Ion: 42 Resp: 4400

Ion	Ratio	Lower	Upper
42	100		
72	29.2	20.8	48.4
71	18.5	19.9	46.5#



Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143435.D Vial: 5
Acq On : 14 Nov 2016 18:19 Operator: TMB
Sample : WG591615-01 VBLK1114 BLANK STD 8260 Inst : Hpms6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 15 12:25:21 2016 Quant Results File: A9FOOWT.RES

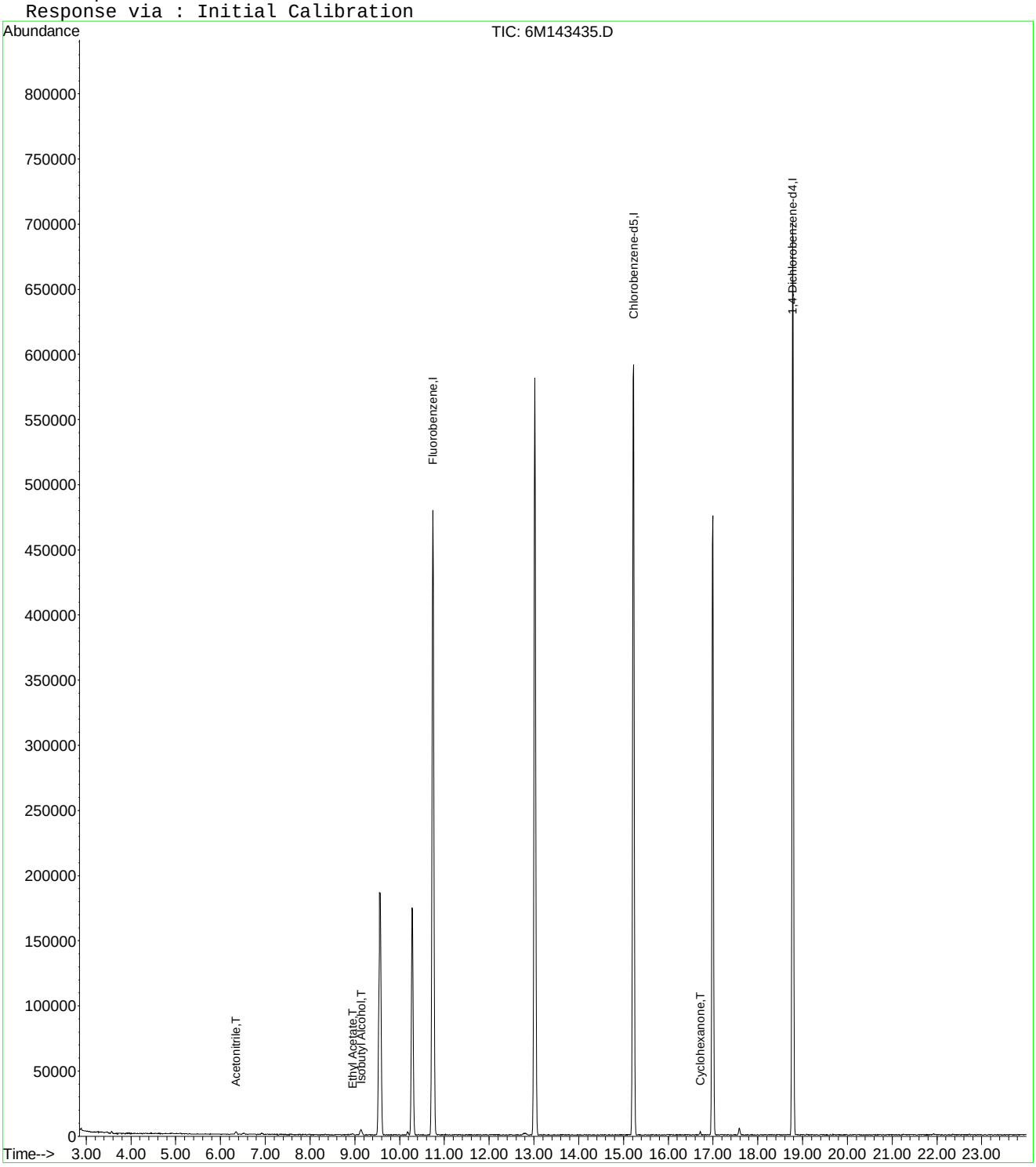
Quant Method : K:\ORGANICS\V...\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Fri Jul 15 09:42:27 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

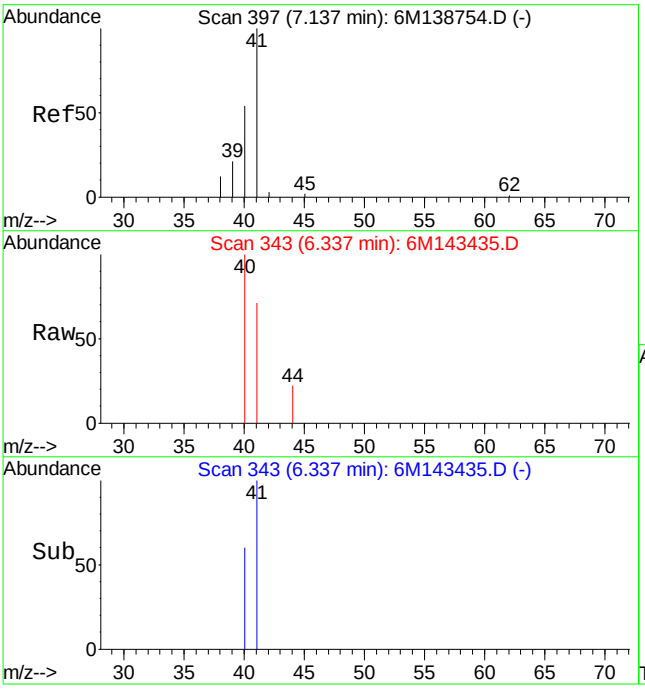
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.74	96	653913	25.00	ug/L	-0.02
11) Chlorobenzene-d5	15.22	117	506877	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	18.77	152	272285	25.00	ug/L	-0.02
Target Compounds						Qvalue
2) Acetonitrile	6.34	41	3123	3.1885	ug/L #	84
5) Ethyl Acetate	8.95	43	1713	0.2443	ug/L #	68
7) Isobutyl Alcohol	9.14	43	4061	18.1839	ug/L #	85
13) Cyclohexanone	16.71	55	1862	5.4858	ug/L	86

(#) = qualifier out of range (m) = manual integration
6M143435.D A9FOOWT.M Tue Nov 15 12:25:22 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143435.D Vial: 5
Acq On : 14 Nov 2016 18:19 Operator: TMB
Sample : WG591615-01 VBLK1114 BLANK STD 8260 Inst : Hpms6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 15 12:25 2016 Quant Results File: A9FOOWT.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water - IC: 042416 - HPMS6
Last Update : Fri Jul 15 09:42:27 2016
Response via : Initial Calibration

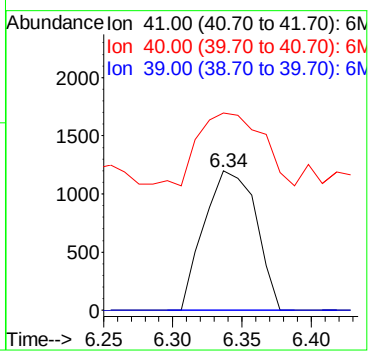


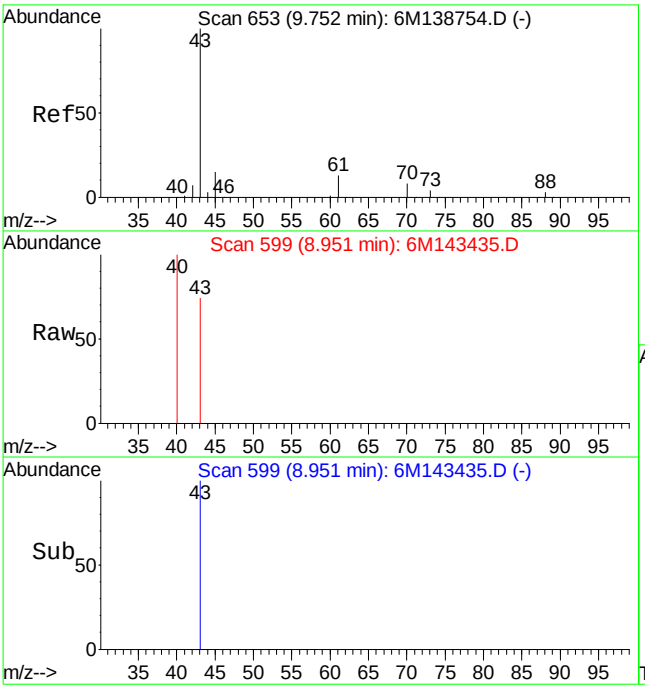


#2
Acetonitrile
Concen: 3.19 ug/L
RT: 6.34 min Scan# 343
Delta R.T. 0.01 min
Lab File: 6M143435.D
Acq: 14 Nov 2016 18:19

Tgt Ion: 41 Resp: 3123

Ion	Ratio	Lower	Upper
41	100		
40	66.4	19.8	99.8
39	0.0	0.0	57.7

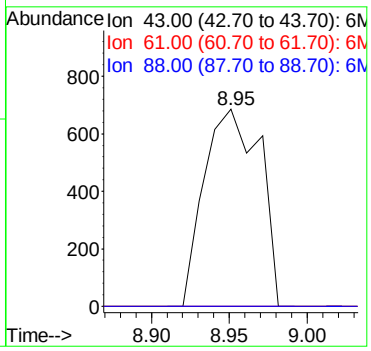


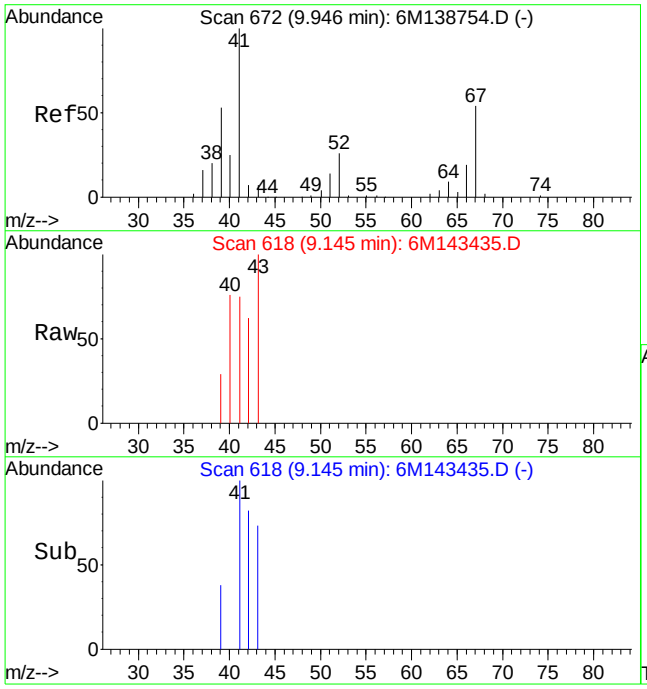


#5
Ethyl Acetate
Concen: 0.24 ug/L
RT: 8.95 min Scan# 599
Delta R.T. 0.01 min
Lab File: 6M143435.D
Acq: 14 Nov 2016 18:19

Tgt Ion: 43 Resp: 1713

Ion	Ratio	Lower	Upper
43	100		
61	0.0	9.5	22.1#
88	0.0	2.8	6.4#

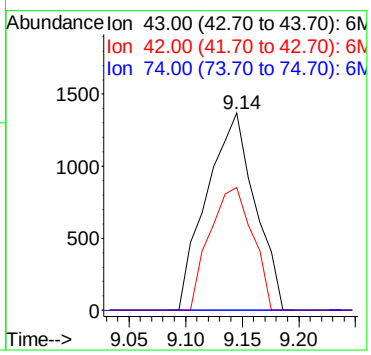


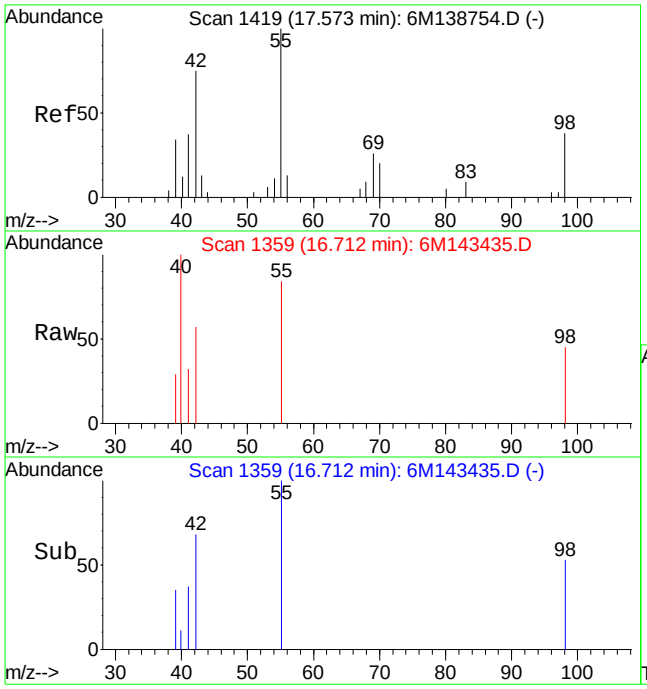


#7
Isobutyl Alcohol
Concen: 18.18 ug/L
RT: 9.14 min Scan# 618
Delta R.T. 0.01 min
Lab File: 6M143435.D
Acq: 14 Nov 2016 18:19

Tgt Ion: 43 Resp: 4061

Ion	Ratio	Lower	Upper
43	100		
42	55.4	0.0	40.0#
74	0.0	0.0	44.8

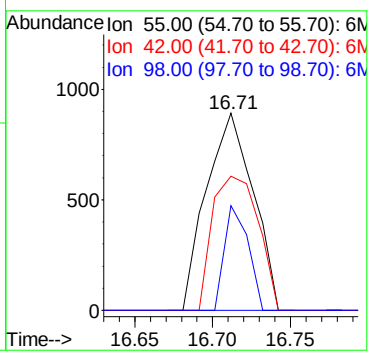




#13
Cyclohexanone
Concen: 5.49 ug/L
RT: 16.71 min Scan# 1359
Delta R.T. -0.05 min
Lab File: 6M143435.D
Acq: 14 Nov 2016 18:19

Tgt Ion: 55 Resp: 1862

Ion	Ratio	Lower	Upper
55	100		
42	66.9	37.1	86.7
98	26.9	25.3	58.9



Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143435.D Vial: 5
Acq On : 14 Nov 2016 18:19 Operator: TMB
Sample : WG591615-01 VBLK1114 BLANK STD 8260 Inst : Hpms6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
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

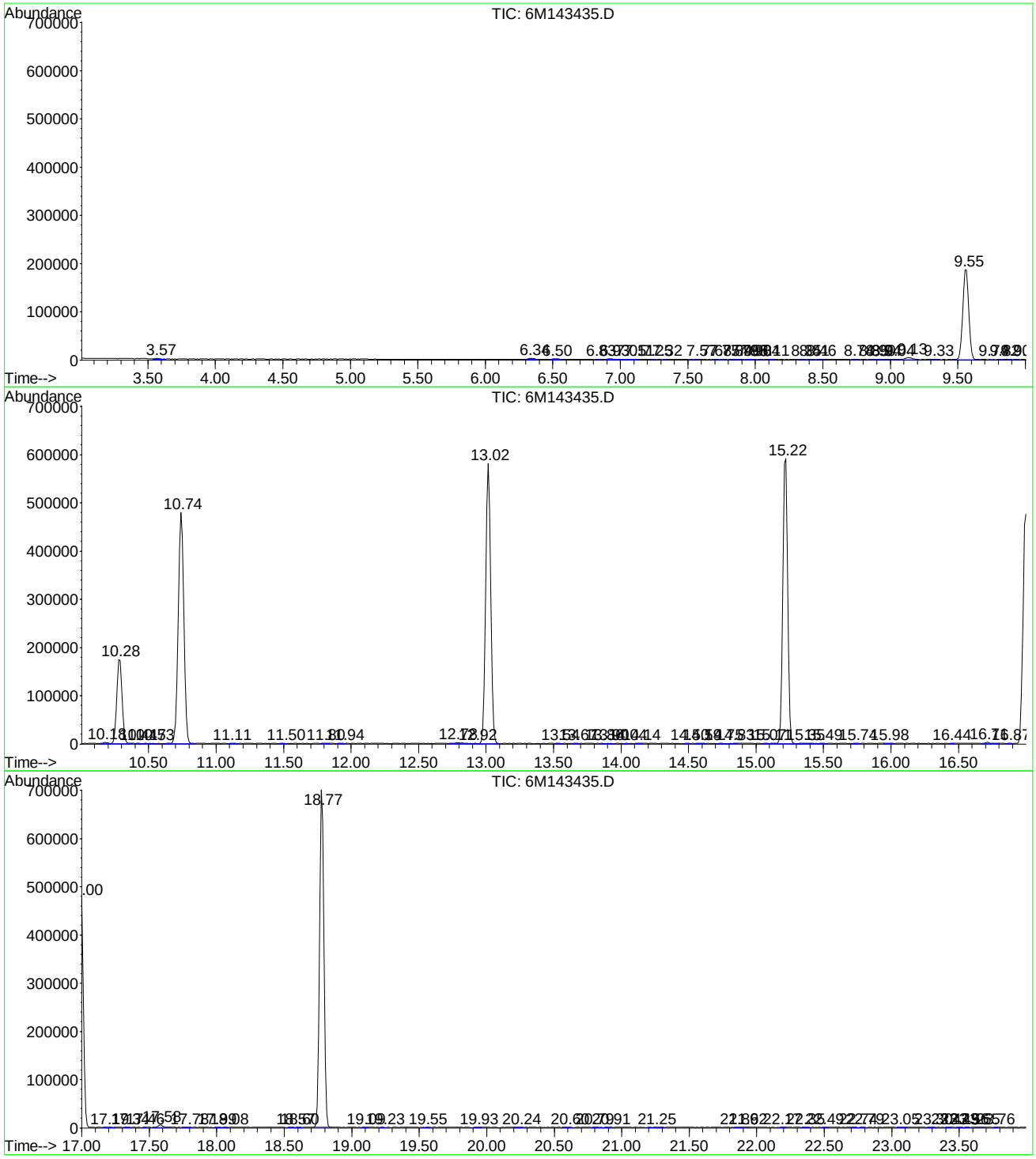
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.569	69	72	78	rVB3	1680	3971	0.25%	0.048%
2	6.337	340	343	348	rVB2	2203	6746	0.43%	0.082%
3	6.500	357	359	365	rVB2	966	3189	0.20%	0.039%
4	6.827	389	391	393	rBV	663	1142	0.07%	0.014%
5	6.929	397	401	409	rVB2	1206	4343	0.28%	0.053%
6	7.052	410	413	416	rVB2	479	1084	0.07%	0.013%
7	7.113	416	419	421	rBV2	359	794	0.05%	0.010%
8	7.246	431	432	434	rVB	643	755	0.05%	0.009%
9	7.317	438	439	441	rBV	578	962	0.06%	0.012%
10	7.572	458	464	465	rBV2	539	1432	0.09%	0.017%
11	7.685	474	475	480	rVB	508	1219	0.08%	0.015%
12	7.746	480	481	483	rBV	678	784	0.05%	0.010%
13	7.838	486	490	492	rVV	522	988	0.06%	0.012%
14	7.899	493	496	498	rVB2	467	1025	0.06%	0.012%
15	7.950	499	501	503	rVV	383	374	0.02%	0.005%
16	7.981	503	504	507	rVB	533	734	0.05%	0.009%
17	8.042	509	510	512	rVB	422	461	0.03%	0.006%
18	8.114	515	517	519	rVV	281	450	0.03%	0.005%
19	8.348	537	540	543	rVB	490	814	0.05%	0.010%
20	8.410	543	546	550	rVB	428	861	0.05%	0.010%
21	8.461	550	551	556	rBV	439	730	0.05%	0.009%
22	8.736	575	578	582	rVB	239	461	0.03%	0.006%
23	8.849	587	589	591	rVV	525	550	0.03%	0.007%
24	8.900	591	594	596	rVV	492	955	0.06%	0.012%
25	8.941	596	598	604	rVV2	982	2272	0.14%	0.028%
26	9.043	606	608	611	rVV	370	595	0.04%	0.007%
27	9.135	611	617	625	rVB2	4285	13551	0.86%	0.165%
28	9.329	633	636	640	rVB	387	504	0.03%	0.006%
29	9.553	648	658	669	rBV	185987	573192	36.34%	6.969%
30	9.737	675	676	678	rBV	478	373	0.02%	0.005%
31	9.819	681	684	686	rVV	439	541	0.03%	0.007%
32	9.901	689	692	698	rVB	382	838	0.05%	0.010%
33	9.992	698	701	703	rBV	445	743	0.05%	0.009%
34	10.176	715	719	723	rVV2	2402	5014	0.32%	0.061%
35	10.278	723	729	739	rVV	174420	479939	30.43%	5.835%
36	10.411	741	742	745	rVB	464	745	0.05%	0.009%
37	10.472	746	748	751	rVB	278	463	0.03%	0.006%
38	10.534	751	754	757	rBV	275	555	0.04%	0.007%
39	10.738	761	774	784	rBV	479641	1382309	87.64%	16.807%
40	11.105	808	810	816	rBV	250	584	0.04%	0.007%
41	11.504	845	849	851	rBV	248	474	0.03%	0.006%
42	11.800	875	878	882	rVV	340	581	0.04%	0.007%

43	11.943	887	892	894	rVV	466	634	0.04%	0.008%
44	12.780	968	974	985	rVB2	1429	7384	0.47%	0.090%
45	12.923	985	988	990	rBV	361	473	0.03%	0.006%
46	13.015	990	997	1005	rVB	581084	1513099	95.94%	18.397%
47	13.536	1045	1048	1051	rVB	268	435	0.03%	0.005%
48	13.669	1058	1061	1063	rBV	240	526	0.03%	0.006%
49	13.863	1078	1080	1083	rVB	309	460	0.03%	0.006%
50	13.903	1083	1084	1089	rBV	197	562	0.04%	0.007%
51	14.036	1095	1097	1100	rBV	293	411	0.03%	0.005%
52	14.138	1103	1107	1109	rBV	428	629	0.04%	0.008%
53	14.496	1139	1142	1144	rBV	192	387	0.02%	0.005%
54	14.588	1147	1151	1155	rBV	263	982	0.06%	0.012%
55	14.751	1163	1167	1171	rVB	333	735	0.05%	0.009%
56	14.833	1171	1175	1178	rBV	283	858	0.05%	0.010%
57	15.068	1196	1198	1201	rBV	256	516	0.03%	0.006%
58	15.108	1201	1202	1205	rVV	303	540	0.03%	0.007%
59	15.221	1205	1213	1222	rVB	591410	1480471	93.87%	18.000%
60	15.353	1222	1226	1236	rBV	325	1421	0.09%	0.017%
61	15.486	1236	1239	1243	rBV	177	452	0.03%	0.005%
62	15.742	1260	1264	1267	rVB	294	638	0.04%	0.008%
63	15.976	1284	1287	1292	rVB	225	652	0.04%	0.008%
64	16.436	1331	1332	1335	rBV	240	467	0.03%	0.006%
65	16.712	1355	1359	1368	rBV2	2764	5462	0.35%	0.066%
66	16.875	1373	1375	1378	rBV	394	567	0.04%	0.007%
67	16.997	1379	1387	1397	rVB	475296	1098643	69.66%	13.358%
68	17.192	1402	1406	1411	rBV	540	1717	0.11%	0.021%
69	17.345	1417	1421	1423	rVB	314	607	0.04%	0.007%
70	17.457	1431	1432	1434	rBV	290	380	0.02%	0.005%
71	17.580	1439	1444	1452	rVB	5051	11773	0.75%	0.143%
72	17.784	1460	1464	1467	rVB	249	425	0.03%	0.005%
73	17.988	1483	1484	1489	rVV	218	471	0.03%	0.006%
74	18.080	1489	1493	1494	rVB	254	425	0.03%	0.005%
75	18.570	1536	1541	1542	rVB	227	519	0.03%	0.006%
76	18.601	1542	1544	1547	rBV	236	461	0.03%	0.006%
77	18.774	1555	1561	1569	rBV	700411	1577196	100.00%	19.176%
78	19.091	1590	1592	1595	rBV	497	752	0.05%	0.009%
79	19.234	1603	1606	1608	rBV	264	440	0.03%	0.005%
80	19.550	1634	1637	1641	rVB	486	687	0.04%	0.008%
81	19.928	1671	1674	1677	rBV	277	658	0.04%	0.008%
82	20.245	1701	1705	1708	rVB	248	637	0.04%	0.008%
83	20.602	1736	1740	1743	rVB	224	672	0.04%	0.008%
84	20.786	1757	1758	1766	rVB	283	806	0.05%	0.010%
85	20.909	1766	1770	1771	rBV	233	574	0.04%	0.007%
86	21.245	1797	1803	1810	rBV	570	1361	0.09%	0.017%
87	21.858	1860	1863	1867	rBV	308	838	0.05%	0.010%
88	21.919	1867	1869	1872	rVB	731	1001	0.06%	0.012%
89	22.175	1893	1894	1898	rBV	241	510	0.03%	0.006%
90	22.348	1909	1911	1916	rVB	677	1067	0.07%	0.013%
91	22.491	1924	1925	1929	rBV	313	429	0.03%	0.005%
92	22.736	1945	1949	1951	rVB	747	1108	0.07%	0.013%
93	22.787	1951	1954	1956	rBV	257	383	0.02%	0.005%
94	23.053	1978	1980	1986	rBV	196	403	0.03%	0.005%
95	23.298	2000	2004	2007	rVB	295	542	0.03%	0.007%
96	23.421	2013	2016	2018	rBV	334	531	0.03%	0.006%
97	23.492	2021	2023	2027	rBV	213	429	0.03%	0.005%
98	23.563	2027	2030	2032	rBV	309	465	0.03%	0.006%
99	23.645	2035	2038	2042	rBV	214	563	0.04%	0.007%
100	23.757	2048	2049	2052	rBV	186	368	0.02%	0.004%

Sum of corrected areas: 8224699

LSC Report - Integrated Chromatogram

File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143435.D
Operator : TMB
Acquired : 14 Nov 2016 18:19 using AcqMethod 8260WT
Instrument : Hpms6
Sample Name: WG591615-01 VBLK1114 BLANK STD 8260
Misc Info : 1,1
Vial Number: 5
Quant File :8260WT.RES (RTE Integrator)



Operator ID: TMB Date Acquired: 14 Nov 2016 18:19
Data File: K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143435.D
Name: WG591615-01 VBLK1114 BLANK STD 8260
Misc: 1,1
Method: K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title: 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Library Searched: C:\DATABASE\NIST02.L

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

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111516\6M143473.D Vial: 4
Acq On : 15 Nov 2016 16:52 Operator: TMB
Sample : WG591757-01 VBLK1115 BLANK STD 8260 Inst : Hpms6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 08:33:06 2016 Quant Results File: 8260WT.RES

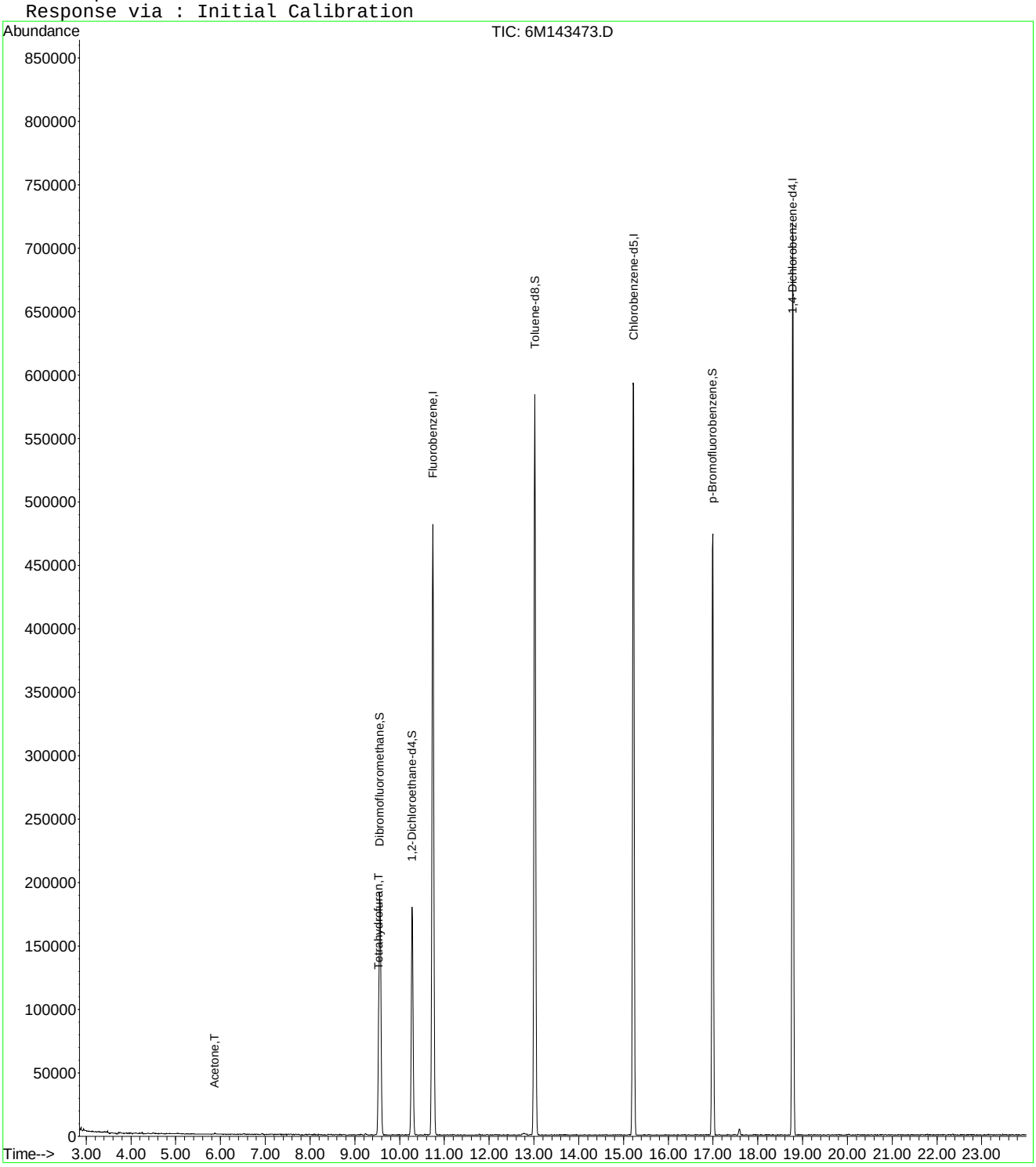
Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

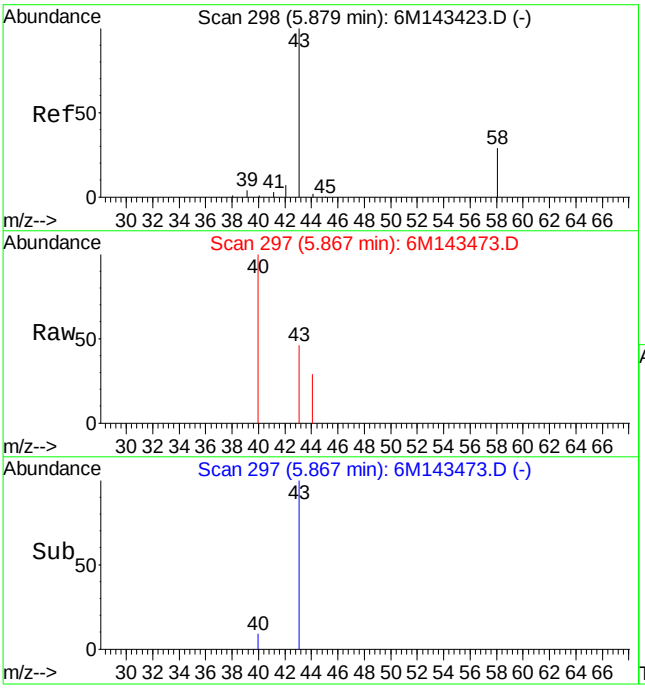
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.74	96	647941	25.00	ug/L	0.00
57) Chlorobenzene-d5	15.22	117	507278	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.77	152	280454	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.55	111	178055	23.7186	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 94.88%			
43) 1,2-Dichloroethane-d4	10.28	65	171951	23.0928	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 92.36%			
58) Toluene-d8	13.02	98	563655	24.0388	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 96.16%			
80) p-Bromofluorobenzene	16.99	95	218297	24.8745	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 99.48%			
Target Compounds						Qvalue
13) Acetone	5.87	43	1443	0.8639	ug/L #	48
36) Tetrahydrofuran	9.53	42	4157	2.3062	ug/L	89

(#) = qualifier out of range (m) = manual integration
6M143473.D 8260WT.M Wed Nov 16 08:33:09 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111516\6M143473.D Vial: 4
Acq On : 15 Nov 2016 16:52 Operator: TMB
Sample : WG591757-01 VBLK1115 BLANK STD 8260 Inst : Hpms6
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 8:33 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration

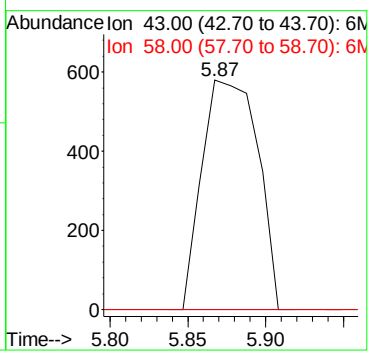


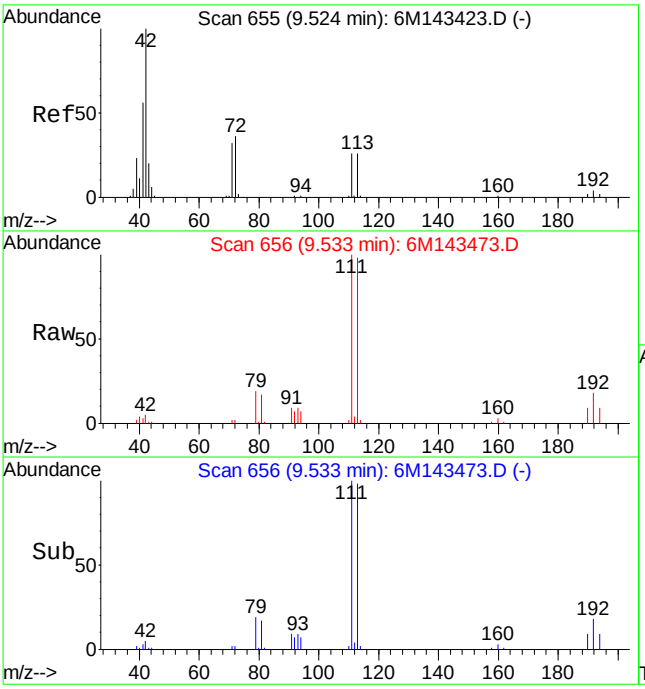


#13
Acetone
Concen: 0.86 ug/L
RT: 5.87 min Scan# 297
Delta R.T. -0.01 min
Lab File: 6M143473.D
Acq: 15 Nov 2016 16:52

Tgt Ion: 43 Resp: 1443

Ion	Ratio	Lower	Upper
43	100		
58	0.0	16.4	38.2#

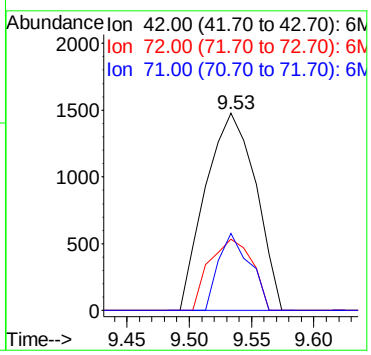




#36
Tetrahydrofuran
Concen: 2.31 ug/L
RT: 9.53 min Scan# 656
Delta R.T. 0.00 min
Lab File: 6M143473.D
Acq: 15 Nov 2016 16:52

Tgt Ion: 42 Resp: 4157

Ion	Ratio	Lower	Upper
42	100		
72	30.9	20.8	48.4
71	24.4	19.9	46.5



Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143455.D Vial: 25
Acq On : 15 Nov 2016 5:00 Operator: TMB
Sample : WG591615-06 VBLK1114 BLANK STD 624 Inst : Hpms6
Misc : 2,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:31:13 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Tue Nov 15 10:18:32 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

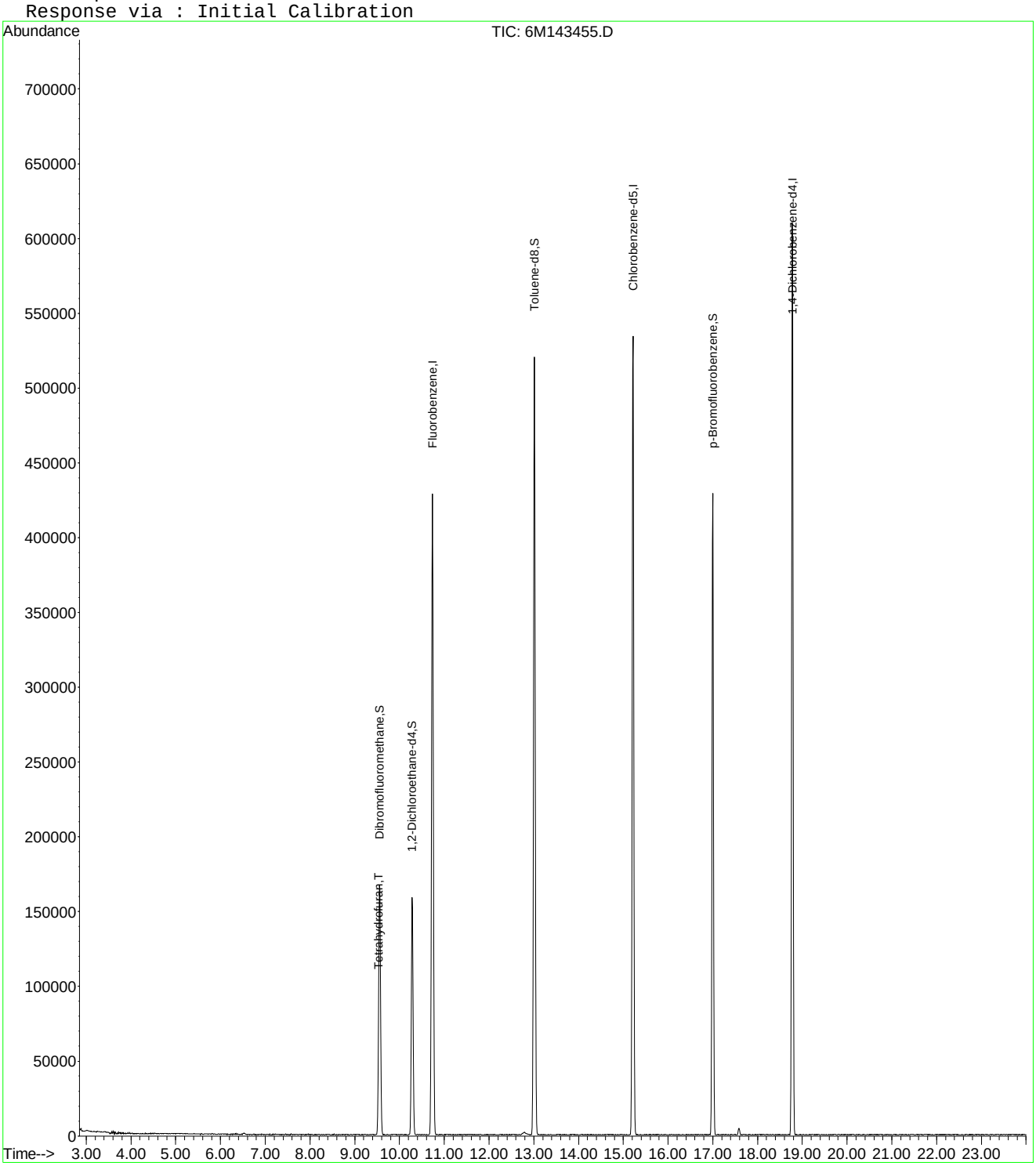
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.74	96	567913	25.00	ug/L	0.00
57) Chlorobenzene-d5	15.22	117	449125	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.78	152	244133	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.55	111	157955	24.0061	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 96.04%			
43) 1,2-Dichloroethane-d4	10.28	65	151354	23.1910	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 92.76%			
58) Toluene-d8	13.01	98	500804	24.1238	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 96.48%			
80) p-Bromofluorobenzene	17.00	95	191593	25.0796	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 100.32%			
Target Compounds						Qvalue
36) Tetrahydrofuran	9.53	42	3024	1.9141	ug/L #	71

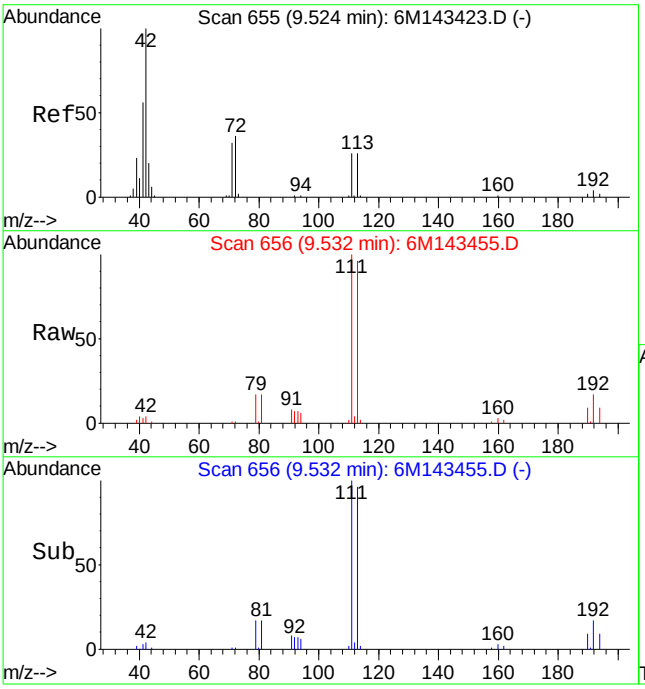
(#) = qualifier out of range (m) = manual integration
6M143455.D 8260WT.M Tue Nov 15 10:31:16 2016 Page 1

Quantitation Report (Not Reviewed)

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143455.D Vial: 25
Acq On : 15 Nov 2016 5:00 Operator: TMB
Sample : WG591615-06 VBLK1114 BLANK STD 624 Inst : Hpms6
Misc : 2,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 10:31 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Tue Nov 15 10:18:32 2016
Response via : Initial Calibration

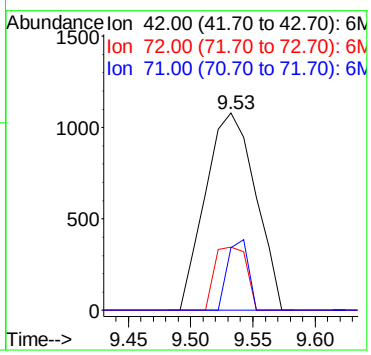




#36
Tetrahydrofuran
Concen: 1.91 ug/L
RT: 9.53 min Scan# 656
Delta R.T. -0.00 min
Lab File: 6M143455.D
Acq: 15 Nov 2016 5:00

Tgt Ion: 42 Resp: 3024

Ion	Ratio	Lower	Upper
42	100		
72	20.2	20.8	48.4#
71	14.8	19.9	46.5#



Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111516\6M143494.D Vial: 25
Acq On : 16 Nov 2016 4:06 Operator: TMB
Sample : WG591757-06 VBLK1115 BLANK STD 624 Inst : Hpms6
Misc : 2,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 08:35:00 2016 Quant Results File: 8260WT.RES

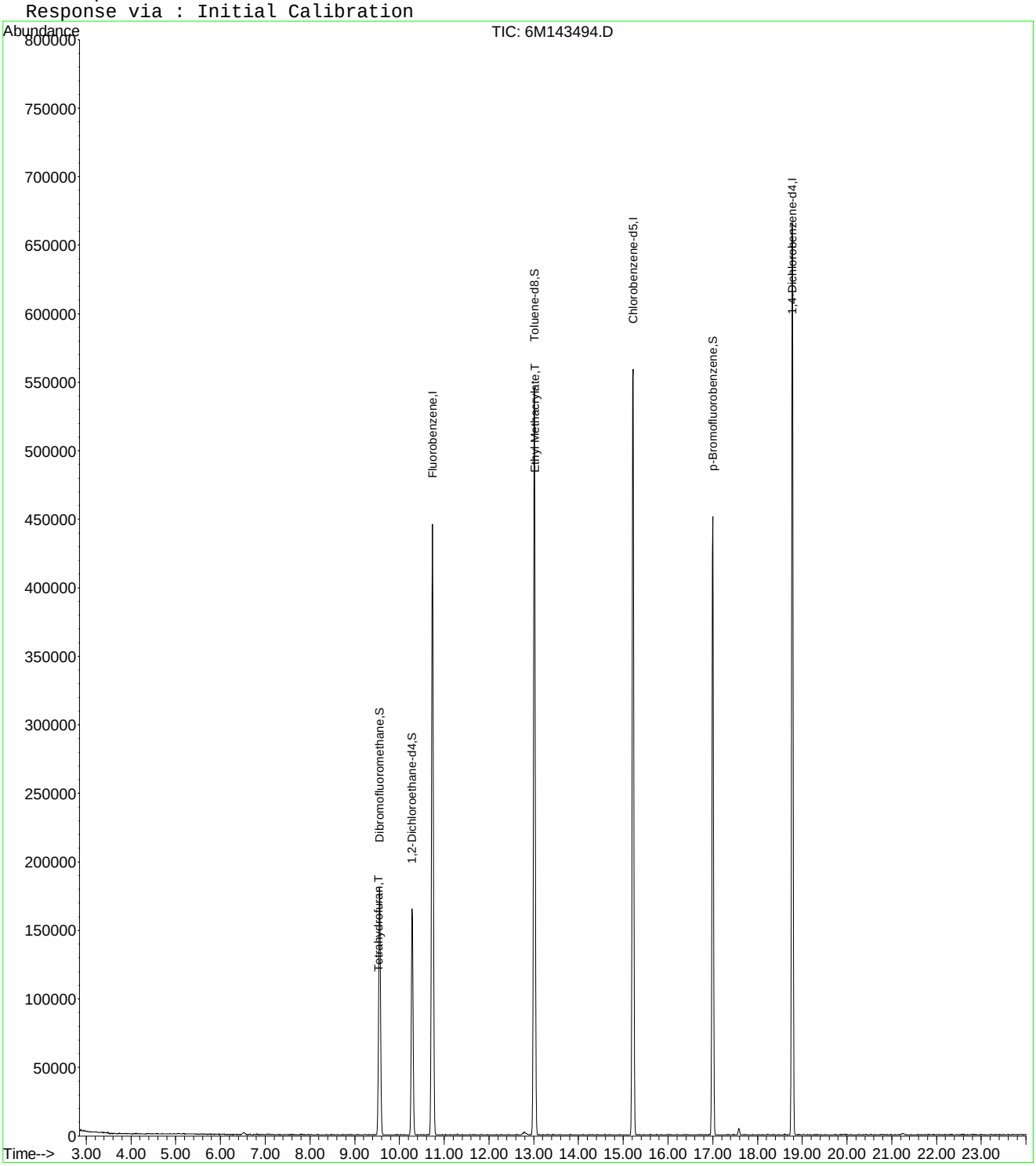
Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

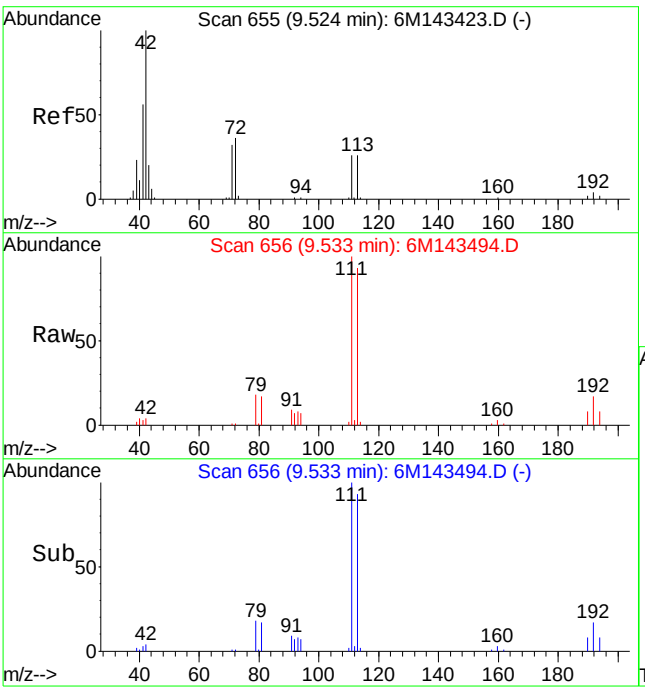
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.74	96	590346	25.00	ug/L	0.00
57) Chlorobenzene-d5	15.22	117	472248	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.77	152	259373	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.55	111	166725	24.3761	ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 97.52%			
43) 1,2-Dichloroethane-d4	10.28	65	160578	23.6694	ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 94.68%			
58) Toluene-d8	13.02	98	519640	23.8055	ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 95.24%			
80) p-Bromofluorobenzene	17.00	95	201692	24.8503	ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 99.40%			
Target Compounds						Qvalue
36) Tetrahydrofuran	9.53	42	3415	2.0794	ug/L #	68
60) Ethyl Methacrylate	13.03	69	498	0.4691	ug/L #	7

(#) = qualifier out of range (m) = manual integration
6M143494.D 8260WT.M Wed Nov 16 08:35:03 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111516\6M143494.D Vial: 25
Acq On : 16 Nov 2016 4:06 Operator: TMB
Sample : WG591757-06 VBLK1115 BLANK STD 624 Inst : Hpms6
Misc : 2,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 8:35 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration

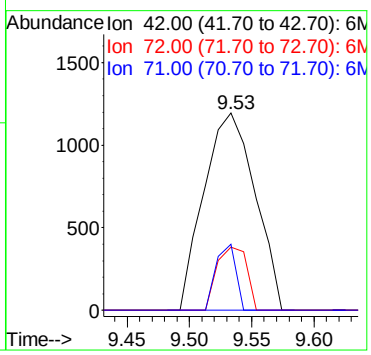


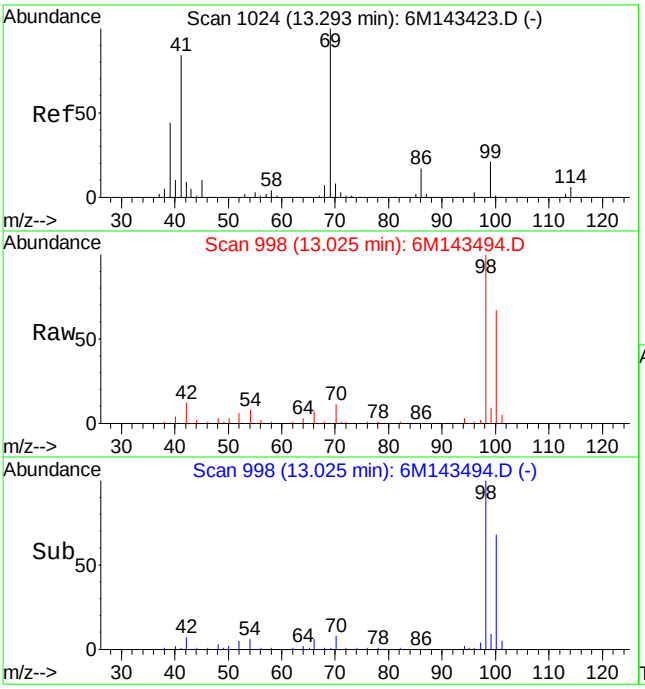


#36
Tetrahydrofuran
Concen: 2.08 ug/L
RT: 9.53 min Scan# 656
Delta R.T. 0.00 min
Lab File: 6M143494.D
Acq: 16 Nov 2016 4:06

Tgt Ion: 42 Resp: 3415

Ion	Ratio	Lower	Upper
42	100		
72	18.7	20.8	48.4#
71	13.0	19.9	46.5#

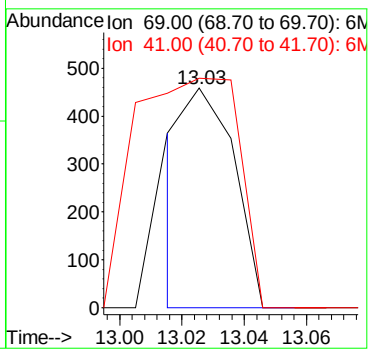




#60
Ethyl Methacrylate
Concen: 0.47 ug/L
RT: 13.03 min Scan# 998
Delta R.T. -0.26 min
Lab File: 6M143494.D
Acq: 16 Nov 2016 4:06

Tgt Ion: 69 Resp: 498

Ion	Ratio	Lower	Upper
69	100		
41	0.0	51.4	120.0#



Data File : C:\MSDchem\1\data\111416\11M15198.D Vial: 4
Acq On : 14 Nov 2016 16:18 Operator: JDS
Sample : WG591571-02 20ug/Kg LCS Inst : hpms11
Misc : 1,1 STD78758 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 14 16:40:40 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.57	96	572486	25.00 ug/L	0.00
56) Chlorobenzene-d5	14.20	117	438757	25.00 ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.02	152	222780	25.00 ug/L	0.01
System Monitoring Compounds					
37) Dibromofluoromethane	9.57	111	171801	24.9477 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 99.80%		
43) 1,2-Dichloroethane-d4	10.18	65	189131	24.4627 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 97.84%		
57) Toluene-d8	12.43	98	583974	25.1159 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 100.48%		
78) p-Bromofluorobenzene	15.59	95	220296	24.7168 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 98.88%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.21	85	208852	21.5033 ug/L	96
3) Chloromethane	3.67	50	189659	17.8044 ug/L	98
4) Vinyl Chloride	3.90	62	138593	14.5903 ug/L	98
5) 1,3-Butadiene	3.94	54	74655	9.6547 ug/L	93
6) Bromomethane	4.79	94	97166	21.1106 ug/L	100
7) Chloroethane	4.94	64	112161	20.1549 ug/L	99
8) Trichlorofluoromethane	5.43	101	209872	18.9824 ug/L	99
9) Diethyl ether	5.95	59	646529	119.6326 ug/L	95
10) Isoprene	5.99	67	191913	19.0208 ug/L	97
11) Acrolein	6.18	56	91813	203.8997 ug/L	97
12) 1,1,2-Trichloro-1,2,2-Trif	6.19	101	119605	20.1148 ug/L	98
13) Acetone	6.28	43	45596	20.5290 ug/L	96
14) 1,1-Dichloroethene	6.50	61	160540	13.5883 ug/L	96
15) Tert-Butyl Alcohol	6.60	59	110670	193.0504 ug/L	97
16) Dimethyl Sulfide	6.75	62	190055	23.4707 ug/L	92
17) Iodomethane	7.01	142	140413	18.0527 ug/L	99
18) Methyl acetate	7.01	43	136240	20.8001 ug/L	97
19) Methylene Chloride	7.26	84	114188	17.0007 ug/L	91
20) Carbon Disulfide	7.31	76	330285	16.8658 ug/L	99
21) Acrylonitrile	7.43	53	63986	21.4430 ug/L	100
22) Methyl Tert Butyl Ether	7.47	73	327740	19.8458 ug/L	99
23) trans-1,2-Dichloroethene	7.70	96	106464	15.9017 ug/L	96
24) n-Hexane	7.78	57	199178	17.3967 ug/L	99
25) Diisopropyl ether	8.10	45	3329377	102.8203 ug/L	97
26) Vinyl Acetate	8.26	43	337694	19.5111 ug/L	98
27) 1,1-Dichloroethane	8.29	63	237083	17.2779 ug/L	99
28) Ethyl-Tert-Butyl ether	8.64	59	2358642	98.2219 ug/L	99
29) 2-Butanone	8.83	43	77481	20.7620 ug/L	98
30) Propionitrile	8.93	54	109972	106.3571 ug/L	97
31) 2,2-Dichloropropane	9.04	77	169199	18.0941 ug/L	99
32) cis-1,2-Dichloroethene	9.10	96	134491	18.2402 ug/L	96
33) Chloroform	9.31	83	219200	18.2066 ug/L	99
34) 1-Bromopropane	9.43	122	28035	22.1992 ug/L	96
35) Bromochloromethane	9.52	130	87314	18.3703 ug/L	93
36) Tetrahydrofuran	9.54	42	263206	104.4363 ug/L	93
38) 1,1,1-Trichloroethane	9.81	97	194649	18.3364 ug/L	94
39) Cyclohexane	9.84	56	231330	14.8658 ug/L	99
40) 1,1-Dichloropropene	9.99	75	150087	17.0791 ug/L	99
41) Carbon Tetrachloride	10.13	117	177958	17.9423 ug/L	98
42) Tert-Amyl-Methyl ether	10.09	73	1738677	106.9214 ug/L	95

(#) = qualifier out of range (m) = manual integration
11M15198.D 8260WT.M Mon Nov 14 16:40:41 2016 Page 1

Data File : C:\MSDchem\1\data\111416\11M15198.D Vial: 4
Acq On : 14 Nov 2016 16:18 Operator: JDS
Sample : WG591571-02 20ug/Kg LCS Inst : hpms11
Misc : 1,1 STD78758 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 14 16:40:40 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

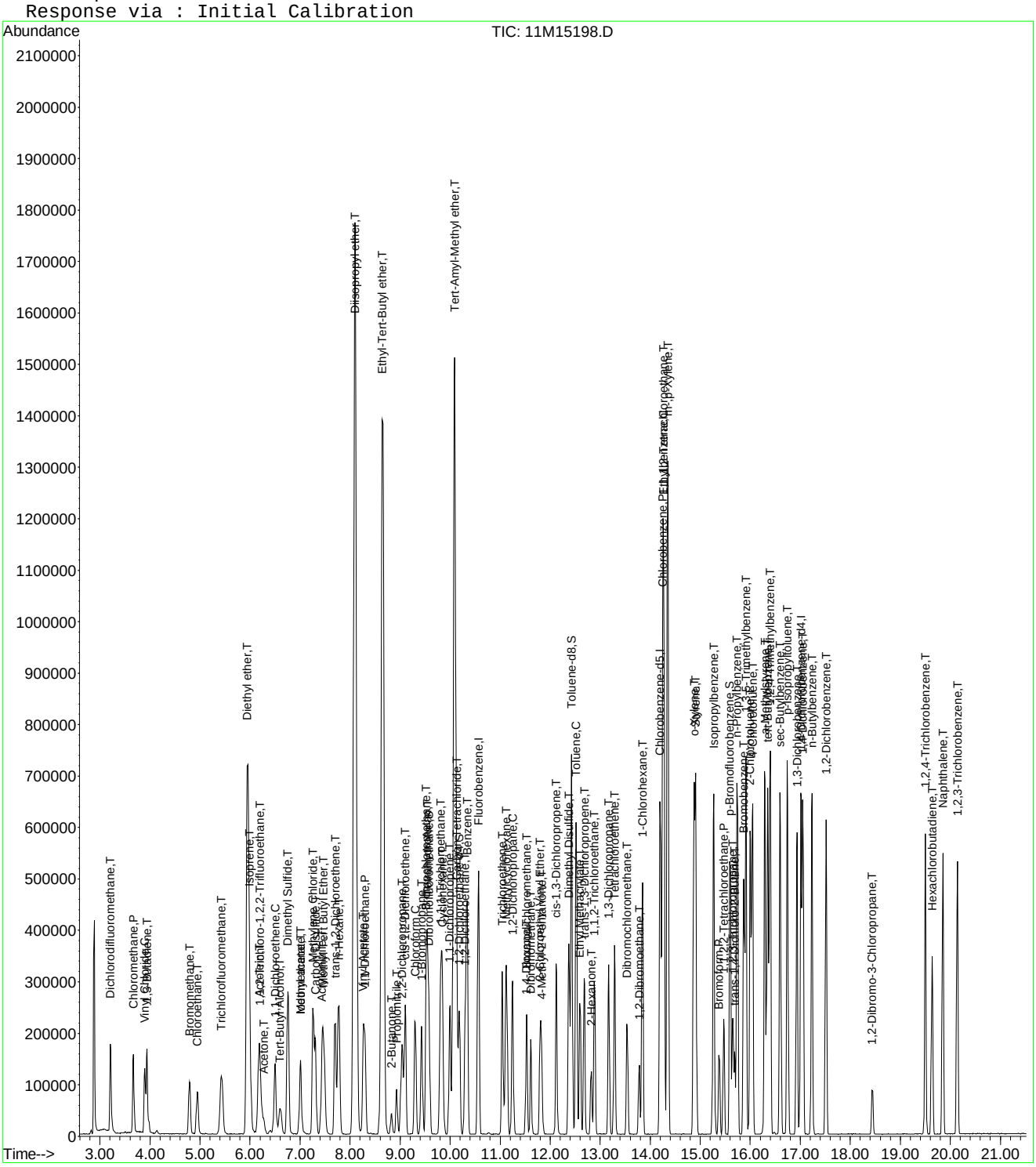
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
44)	1,2-Dichloroethane	10.30	62	192886	18.6493 ug/L	96
45)	Benzene	10.34	78	465661	17.9388 ug/L	99
46)	Trichloroethene	11.04	130	134435	17.9058 ug/L	97
47)	Methylcyclohexane	11.13	83	172516	16.9501 ug/L	96
48)	1,2-Dichloropropane	11.25	63	143739	18.7857 ug/L	99
49)	1,4-Dioxane	11.52	88	7921	148.5089 ug/L	97
50)	Bromodichloromethane	11.53	83	170813	18.7768 ug/L	100
51)	Dibromomethane	11.61	93	79116	19.5018 ug/L	100
52)	2-Chloroethyl Vinyl Ether	11.80	63	87188	19.4539 ug/L	98
53)	4-Methyl-2-Pentanone	11.83	58	55351	20.1161 ug/L	99
54)	cis-1,3-Dichloropropene	12.12	75	202982	20.1875 ug/L	100
55)	Dimethyl Disulfide	12.38	79	116876	19.3676 ug/L	92
58)	Toluene	12.52	91	528438	19.1263 ug/L	100
59)	Ethyl Methacrylate	12.59	69	146684	20.7712 ug/L	88
60)	trans-1,3-Dichloropropene	12.69	75	172921	19.1159 ug/L	97
61)	1,1,2-Trichloroethane	12.88	97	113014	21.0244 ug/L	98
62)	2-Hexanone	12.82	43	113032	19.5081 ug/L	96
63)	1,3-Dichloropropane	13.17	76	188303	20.8390 ug/L	87
64)	Tetrachloroethene	13.29	164	110242	18.3832 ug/L	98
65)	Dibromochloromethane	13.53	129	145437	20.1864 ug/L	99
66)	1,2-Dibromoethane	13.78	107	109891	19.8591 ug/L	100
67)	1-Chlorohexane	13.84	91	166776	18.7054 ug/L	94
68)	Chlorobenzene	14.25	112	370161	18.8806 ug/L	100
69)	1,1,1,2-Tetrachloroethane	14.27	131	136756	19.5573 ug/L	99
70)	Ethylbenzene	14.27	106	197256	19.6769 ug/L	98
71)	m-,p-Xylene	14.35	106	467740	39.6030 ug/L	99
72)	o-Xylene	14.88	106	232270	19.9919 ug/L	100
73)	Styrene	14.91	104	394256	19.9912 ug/L	98
74)	Bromoform	15.38	173	96462	20.6459 ug/L	100
75)	Isopropylbenzene	15.27	105	584881	19.6490 ug/L	99
77)	1,1,2,2-Tetrachloroethane	15.47	83	144434	22.9893 ug/L	100
79)	1,2,3-Trichloropropane	15.65	110	45225	23.7367 ug/L	93
80)	trans-1,4-Dichloro-2-Buten	15.69	53	50122	19.5326 ug/L	85
81)	n-Propylbenzene	15.74	91	708659	21.3803 ug/L	100
82)	Bromobenzene	15.87	156	169077	19.9024 ug/L	95
83)	1,3,5-Trimethylbenzene	15.91	105	503894	21.1953 ug/L	99
84)	2-Chlorotoluene	16.00	91	420411	20.0442 ug/L	87
85)	4-Chlorotoluene	16.05	91	459986	21.5328 ug/L	89
86)	a-Methylstyrene	16.30	118	286788	20.5232 ug/L	100
87)	tert-Butylbenzene	16.35	134	112486	21.6276 ug/L	90
88)	1,2,4-Trimethylbenzene	16.40	105	526689	21.5355 ug/L	100
89)	sec-Butylbenzene	16.60	105	625541	20.7782 ug/L	99
90)	p-Isopropyltoluene	16.74	119	560399	21.3915 ug/L	99
91)	1,3-Dichlorobenzene	16.94	146	316165	20.1867 ug/L	96
92)	1,4-Dichlorobenzene	17.05	146	321128	20.0083 ug/L	100
93)	n-Butylbenzene	17.24	91	488719	19.8839 ug/L	100
94)	1,2-Dichlorobenzene	17.52	146	315340	21.0771 ug/L	100
95)	1,2-Dibromo-3-Chloropropan	18.44	75	25908	21.4540 ug/L	90
96)	1,2,4-Trichlorobenzene	19.50	180	220883	19.9072 ug/L	99
97)	Hexachlorobutadiene	19.64	225	89236	20.5488 ug/L	97
98)	Naphthalene	19.85	128	519140	22.5041 ug/L	100
99)	1,2,3-Trichlorobenzene	20.14	180	212756	19.8717 ug/L	100

(#) = qualifier out of range (m) = manual integration
11M15198.D 8260WT.M Mon Nov 14 16:40:41 2016 Page 2

Quantitation Report (Not Reviewed)

Data File : C:\MSDchem\1\data\111416\11M15198.D Vial: 4
Acq On : 14 Nov 2016 16:18 Operator: JDS
Sample : WG591571-02 20ug/Kg LCS Inst : hpms11
Misc : 1,1 STD78758 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 14 16:40 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143437.D Vial: 7
Acq On : 14 Nov 2016 19:23 Operator: TMB
Sample : WG591615-02 20ug/L LCS STD 8260 Inst : Hpms6
Misc : 1,1 STD78998 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 08:28:41 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.74	96	665614	25.00 ug/L	0.00
57) Chlorobenzene-d5	15.21	117	524682	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.78	152	303796	25.00 ug/L	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	9.56	111	181480	23.5330 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 94.12%		
43) 1,2-Dichloroethane-d4	10.28	65	169470	22.1553 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 88.64%		
58) Toluene-d8	13.02	98	588537	24.2674 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 97.08%		
80) p-Bromofluorobenzene	16.99	95	236013	24.8268 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 99.32%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	2.93	85	255804	22.1266 ug/L	95
3) Chloromethane	3.35	50	206180	23.7789 ug/L	99
4) Vinyl Chloride	3.53	62	142669	19.7116 ug/L	99
5) 1,3-Butadiene	3.56	54	88257	14.9157 ug/L	97
6) Bromomethane	4.35	94	69677	20.6392 ug/L	100
7) Chloroethane	4.50	64	89415	21.0148 ug/L	98
8) Trichlorofluoromethane	4.96	101	215381	18.3489 ug/L	99
9) Diethyl ether	5.52	59	533381	102.8006 ug/L	98
10) Isoprene	5.53	67	206860	20.2407 ug/L	96
11) Acrolein	5.76	56	61464	84.0297 ug/L	100
12) 1,1,2-Trichloro-1,2,2-Trif	5.76	101	141158	19.8002 ug/L	94
13) Acetone	5.88	43	34099	19.8729 ug/L	100
14) 1,1-Dichloroethene	6.07	61	154283	14.1845 ug/L	88
15) Tert-Butyl Alcohol	6.24	59	82199	178.7451 ug/L	92
16) Dimethyl Sulfide	6.35	62	172655	24.9161 ug/L	97
17) Iodomethane	6.61	142	181067	23.2778 ug/L	97
18) Methyl acetate	6.66	43	90536	18.9580 ug/L	99
19) Methylene Chloride	6.90	84	126409	17.4939 ug/L	85
20) Carbon Disulfide	6.92	76	379344	17.6471 ug/L	100
21) Acrylonitrile	7.11	53	42350	19.8647 ug/L	98
22) Methyl Tert Butyl Ether	7.15	73	304023	19.7302 ug/L	96
23) trans-1,2-Dichloroethene	7.39	96	120788	17.2910 ug/L	87
24) n-Hexane	7.47	57	150591	18.9465 ug/L	98
25) Diisopropyl ether	7.87	45	2440950	102.7911 ug/L	97
26) Vinyl Acetate	8.05	43	254356	21.5103 ug/L	98
27) 1,1-Dichloroethane	8.06	63	224767	17.6910 ug/L	99
28) Ethyl-Tert-Butyl ether	8.50	59	1855044	96.6304 ug/L	95
29) 2-Butanone	8.71	43	50833	19.8098 ug/L	100
30) Propionitrile	8.82	54	68376	94.6415 ug/L	99
31) 2,2-Dichloropropane	8.92	77	169788	18.2182 ug/L	97
32) cis-1,2-Dichloroethene	8.99	96	143819	19.0373 ug/L	97
33) Chloroform	9.23	83	237161	18.0474 ug/L	97
34) 1-Bromopropane	9.38	122	30872	19.0833 ug/L	99
35) Bromochloromethane	9.48	130	96662	19.0450 ug/L	98
36) Tetrahydrofuran	9.52	42	161407	87.1685 ug/L	99
38) 1,1,1-Trichloroethane	9.82	97	205811	18.5006 ug/L	93
39) Cyclohexane	9.84	56	171871	15.7935 ug/L	93
40) 1,1-Dichloropropene	10.05	75	160563	17.9678 ug/L	93
41) Tert-Amyl-Methyl ether	10.19	73	1563167	102.1337 ug/L	95
42) Carbon Tetrachloride	10.20	117	189939	17.5028 ug/L	98

(#) = qualifier out of range (m) = manual integration
6M143437.D 8260WT.M Tue Nov 15 08:28:46 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143437.D Vial: 7
Acq On : 14 Nov 2016 19:23 Operator: TMB
Sample : WG591615-02 20ug/L LCS STD 8260 Inst : Hpms6
Misc : 1,1 STD78998 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 08:28:41 2016 Quant Results File: 8260WT.RES

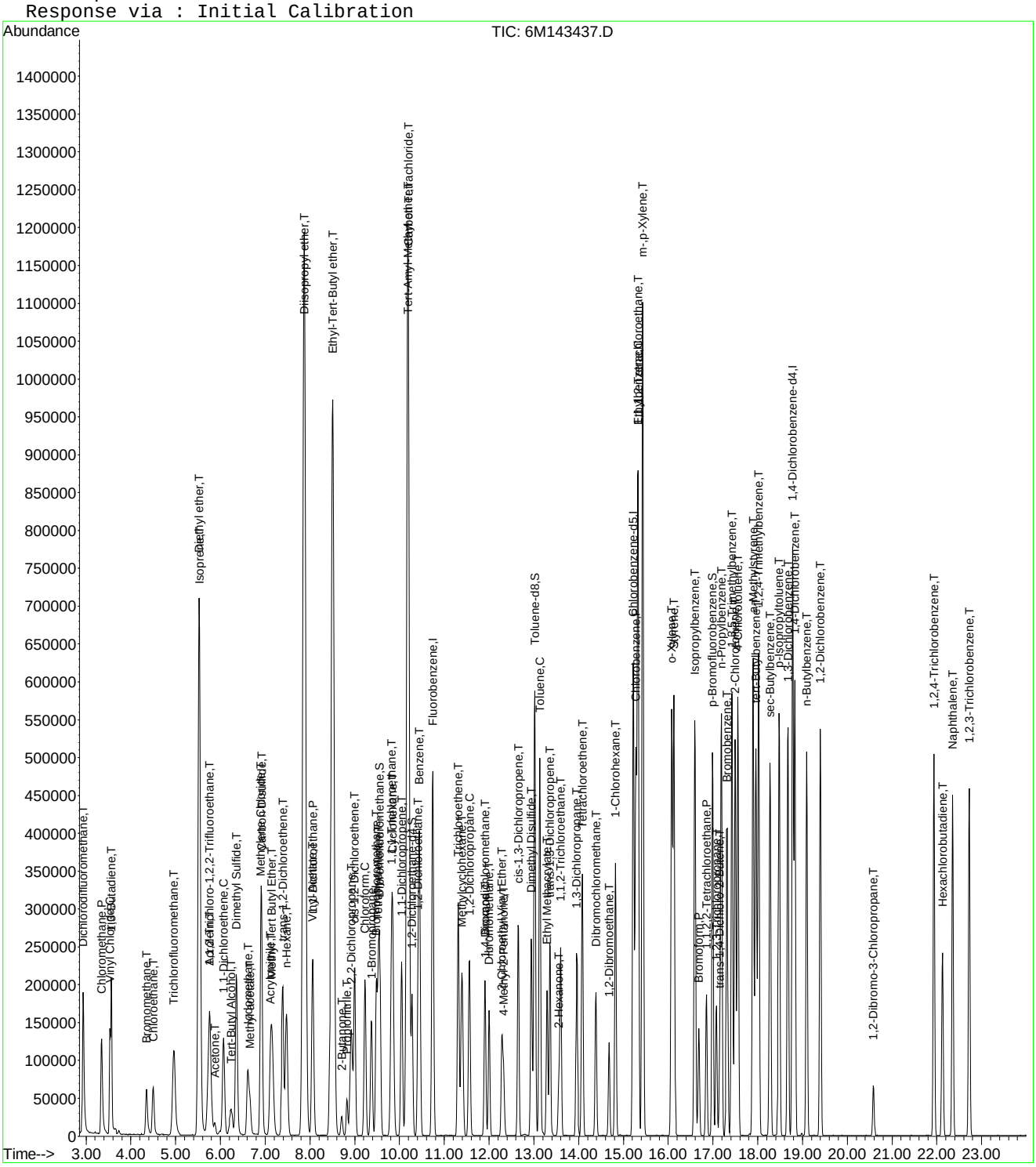
Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
45)	1,2-Dichloroethane	10.41	62	165286	18.0517 ug/L	96
46)	Benzene	10.44	78	485201	18.2834 ug/L	94
47)	Trichloroethene	11.31	130	154473	18.5483 ug/L	83
48)	Methylcyclohexane	11.39	83	154890	16.8347 ug/L	92
49)	1,2-Dichloropropane	11.57	63	132074	19.0826 ug/L	96
50)	1,4-Dioxane	11.91	88	8959	196.8726 ug/L	92
51)	Bromodichloromethane	11.90	83	177255	18.7243 ug/L	99
52)	Dibromomethane	12.00	93	78729	19.5409 ug/L	98
53)	2-Chloroethyl Vinyl Ether	12.28	63	68287	20.8195 ug/L	99
54)	4-Methyl-2-Pentanone	12.32	58	38272	19.2422 ug/L	94
55)	cis-1,3-Dichloropropene	12.66	75	207147	21.4699 ug/L	98
56)	Dimethyl Disulfide	12.94	79	104939	18.6837 ug/L	94
59)	Toluene	13.13	91	528381	19.5221 ug/L	99
60)	Ethyl Methacrylate	13.29	69	137811	19.4111 ug/L	98
62)	trans-1,3-Dichloropropene	13.35	75	178636	20.2460 ug/L	95
63)	1,1,2-Trichloroethane	13.60	97	108501	19.7927 ug/L	98
64)	2-Hexanone	13.56	43	74542	19.5896 ug/L	98
65)	1,3-Dichloropropane	13.96	76	182716	20.8093 ug/L	94
66)	Tetrachloroethene	14.08	166	160287	19.3414 ug/L	95
67)	Dibromochloromethane	14.39	129	151437	19.9037 ug/L	98
68)	1,2-Dibromoethane	14.68	107	111294	19.9151 ug/L	98
69)	1-Chlorohexane	14.82	91	168158	19.6602 ug/L	90
70)	Chlorobenzene	15.27	112	388986	19.2305 ug/L	89
71)	1,1,1,2-Tetrachloroethane	15.32	131	152655	19.7307 ug/L	94
72)	Ethylbenzene	15.32	106	200235	19.8537 ug/L	91
73)	m-,p-Xylene	15.43	106	486006	41.1885 ug/L	91
74)	o-Xylene	16.08	106	239885	20.8785 ug/L	92
75)	Styrene	16.13	104	427194	22.0743 ug/L	92
76)	Bromoform	16.68	173	97925	19.4183 ug/L	97
77)	Isopropylbenzene	16.59	105	579269	21.1270 ug/L	97
79)	1,1,2,2-Tetrachloroethane	16.86	83	130125	20.5594 ug/L	99
81)	1,2,3-Trichloropropane	17.08	110	42133	20.4475 ug/L	93
82)	trans-1,4-Dichloro-2-Buten	17.15	53	32222	16.9912 ug/L	87
83)	n-Propylbenzene	17.19	91	671670	21.4156 ug/L	96
84)	Bromobenzene	17.32	156	190585	20.3854 ug/L	85
85)	1,3,5-Trimethylbenzene	17.42	105	493457	21.4260 ug/L	96
86)	2-Chlorotoluene	17.49	91	430008	19.6165 ug/L	93
87)	4-Chlorotoluene	17.55	91	453323	20.9868 ug/L	93
88)	a-Methylstyrene	17.90	118	304235	20.0554 ug/L	96
89)	tert-Butylbenzene	17.96	134	112804	20.6381 ug/L	84
90)	1,2,4-Trimethylbenzene	18.02	105	526509	20.8350 ug/L	95
91)	sec-Butylbenzene	18.28	105	554047	20.6635 ug/L	97
92)	p-Isopropyltoluene	18.47	119	514730	21.5668 ug/L	98
93)	1,3-Dichlorobenzene	18.67	146	348813	20.2070 ug/L	96
94)	1,4-Dichlorobenzene	18.83	146	361799	20.1976 ug/L	96
95)	n-Butylbenzene	19.09	91	412137	20.9701 ug/L	94
96)	1,2-Dichlorobenzene	19.40	146	338713	20.4673 ug/L	96
97)	1,2-Dibromo-3-Chloropropan	20.58	75	22855	20.4473 ug/L	82
98)	1,2,4-Trichlorobenzene	21.93	180	237222	22.9707 ug/L	97
99)	Hexachlorobutadiene	22.13	225	82738	21.0607 ug/L	100
100)	Naphthalene	22.35	128	506055	24.3095 ug/L	99
101)	1,2,3-Trichlorobenzene	22.73	180	222796	22.7307 ug/L	98

(#) = qualifier out of range (m) = manual integration
6M143437.D 8260WT.M Tue Nov 15 08:28:46 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111416\6M143437.D Vial: 7
Acq On : 14 Nov 2016 19:23 Operator: TMB
Sample : WG591615-02 20ug/L LCS STD 8260 Inst : Hpms6
Misc : 1,1 STD78998 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 15 8:28 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration



6M143437.D 8260WT.M Tue Nov 15 08:28:48 2016 Page 3

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111516\6M143474.D Vial: 5
Acq On : 15 Nov 2016 17:24 Operator: TMB
Sample : WG591757-02 20ug/L LCS STD 8260 Inst : Hpms6
Misc : 1,1 STD79035 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 08:22:01 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.74	96	666859	25.00 ug/L	0.00
57) Chlorobenzene-d5	15.22	117	531952	25.00 ug/L	0.00
78) 1,4-Dichlorobenzene-d4	18.77	152	312539	25.00 ug/L	-0.01
System Monitoring Compounds					
37) Dibromofluoromethane	9.55	111	184038	23.8201 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 95.28%		
43) 1,2-Dichloroethane-d4	10.28	65	173871	22.6882 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 90.76%		
58) Toluene-d8	13.01	98	591495	24.0560 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 96.24%		
80) p-Bromofluorobenzene	17.00	95	239498	24.4887 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 97.96%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	2.93	85	250101	21.5929 ug/L	95
3) Chloromethane	3.34	50	192302	22.1369 ug/L	100
4) Vinyl Chloride	3.54	62	148865	20.5292 ug/L	99
5) 1,3-Butadiene	3.57	54	93931	15.8728 ug/L	97
6) Bromomethane	4.34	94	67656	20.0031 ug/L	99
7) Chloroethane	4.50	64	89662	21.0335 ug/L	100
8) Trichlorofluoromethane	4.97	101	228335	19.4161 ug/L	99
9) Diethyl ether	5.52	59	557282	107.2066 ug/L	97
10) Isoprene	5.54	67	205666	20.0863 ug/L	96
11) Acrolein	5.76	56	105131	143.4601 ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	5.75	101	144684	20.2569 ug/L	95
13) Acetone	5.89	43	38100	22.1632 ug/L	99
14) 1,1-Dichloroethene	6.07	61	211323	19.3923 ug/L	90
15) Tert-Butyl Alcohol	6.24	59	104149	226.0535 ug/L	92
16) Dimethyl Sulfide	6.36	62	172107	24.7907 ug/L	98
17) Iodomethane	6.61	142	186678	23.9357 ug/L	98
18) Methyl acetate	6.66	43	91613	19.1477 ug/L	98
19) Methylene Chloride	6.91	84	142675	19.7081 ug/L	86
20) Carbon Disulfide	6.93	76	380302	17.6587 ug/L	100
21) Acrylonitrile	7.12	53	43645	20.4339 ug/L	99
22) Methyl Tert Butyl Ether	7.15	73	302185	19.5743 ug/L	97
23) trans-1,2-Dichloroethene	7.39	96	140911	20.1340 ug/L	86
24) n-Hexane	7.47	57	150615	18.9141 ug/L	97
25) Diisopropyl ether	7.87	45	2555752	107.4246 ug/L	97
26) Vinyl Acetate	8.05	43	262018	22.1169 ug/L	98
27) 1,1-Dichloroethane	8.06	63	250698	19.6952 ug/L	100
28) Ethyl-Tert-Butyl ether	8.50	59	1926847	100.1833 ug/L	95
29) 2-Butanone	8.70	43	52755	20.5204 ug/L	100
30) Propionitrile	8.83	54	78012	107.7775 ug/L	100
31) 2,2-Dichloropropane	8.92	77	193767	20.7523 ug/L	98
32) cis-1,2-Dichloroethene	9.00	96	154805	20.4533 ug/L	86
33) Chloroform	9.24	83	253767	19.2751 ug/L	98
34) 1-Bromopropane	9.38	122	35326	21.7957 ug/L	100
35) Bromochloromethane	9.49	130	106741	20.9915 ug/L	99
36) Tetrahydrofuran	9.53	42	175420	94.5594 ug/L	99
38) 1,1,1-Trichloroethane	9.82	97	224089	20.1060 ug/L	95
39) Cyclohexane	9.85	56	168938	15.4950 ug/L	91
40) 1,1-Dichloropropene	10.04	75	177581	19.8351 ug/L	93
41) Tert-Amyl-Methyl ether	10.19	73	1623520	105.8789 ug/L	95
42) Carbon Tetrachloride	10.20	117	198882	18.2926 ug/L	97

(#) = qualifier out of range (m) = manual integration
6M143474.D 8260WT.M Wed Nov 16 08:22:04 2016 Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111516\6M143474.D Vial: 5
Acq On : 15 Nov 2016 17:24 Operator: TMB
Sample : WG591757-02 20ug/L LCS STD 8260 Inst : Hpms6
Misc : 1,1 STD79035 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 08:22:01 2016 Quant Results File: 8260WT.RES

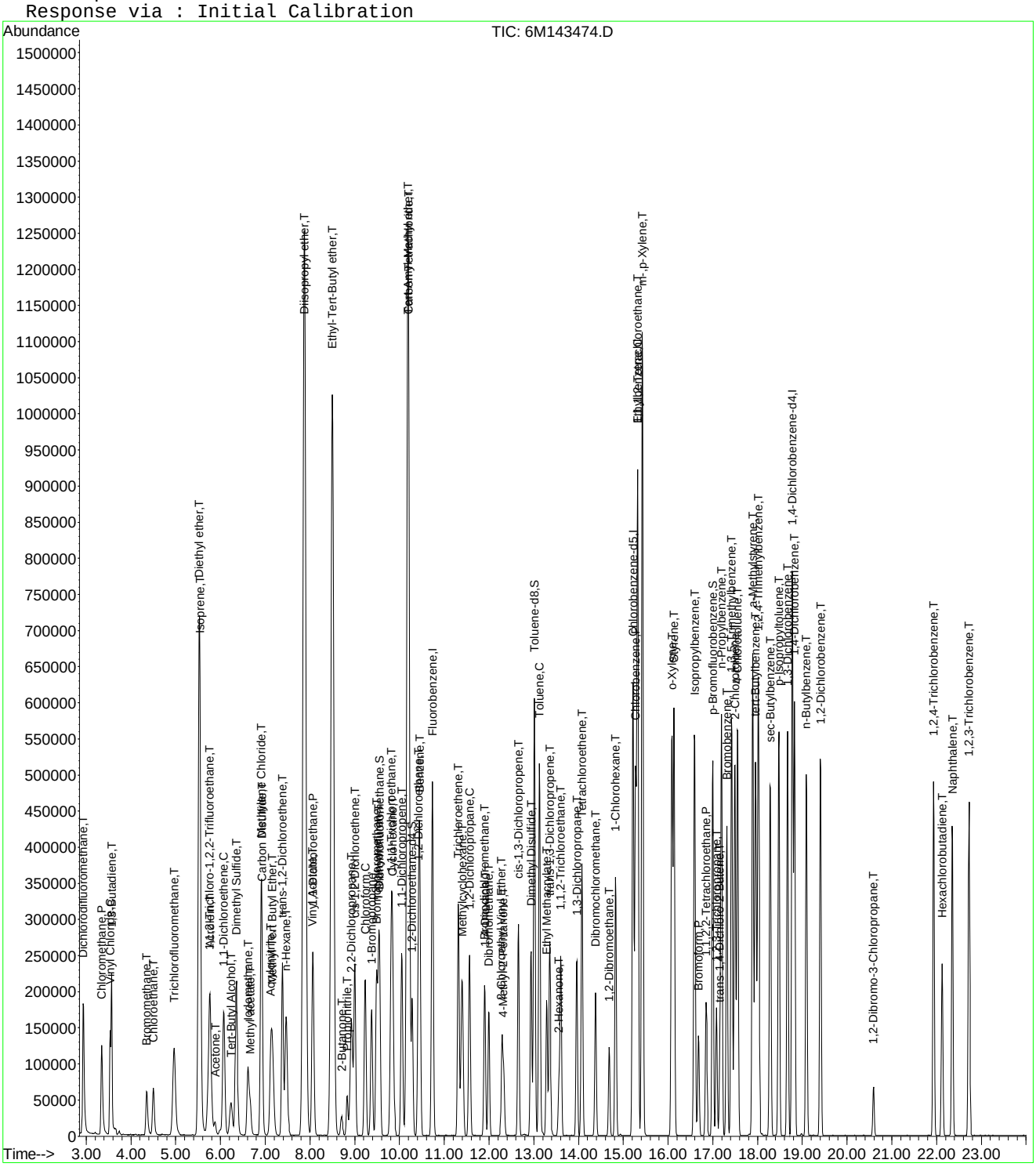
Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45)	1,2-Dichloroethane	10.42	62	180142	19.6374	ug/L	96
46)	Benzene	10.45	78	523091	19.6743	ug/L	95
47)	Trichloroethene	11.31	130	163521	19.5980	ug/L	83
48)	Methylcyclohexane	11.40	83	153474	16.6496	ug/L	91
49)	1,2-Dichloropropane	11.56	63	137710	19.8598	ug/L	97
50)	1,4-Dioxane	11.91	88	11230	246.3167	ug/L	97
51)	Bromodichloromethane	11.90	83	182924	19.2871	ug/L	100
52)	Dibromomethane	11.99	93	82638	20.4728	ug/L	97
53)	2-Chloroethyl Vinyl Ether	12.28	63	69659	21.1982	ug/L	98
54)	4-Methyl-2-Pentanone	12.32	58	38117	19.1285	ug/L	94
55)	cis-1,3-Dichloropropene	12.66	75	211400	21.8698	ug/L	98
56)	Dimethyl Disulfide	12.94	79	102395	18.2570	ug/L	96
59)	Toluene	13.13	91	551909	20.1127	ug/L	99
60)	Ethyl Methacrylate	13.29	69	134076	18.6427	ug/L	100
62)	trans-1,3-Dichloropropene	13.36	75	176762	19.7599	ug/L	94
63)	1,1,2-Trichloroethane	13.60	97	110343	19.8536	ug/L	99
64)	2-Hexanone	13.56	43	76333	19.7862	ug/L	96
65)	1,3-Dichloropropane	13.96	76	185333	20.8189	ug/L	95
66)	Tetrachloroethene	14.08	166	170520	20.2950	ug/L	96
67)	Dibromochloromethane	14.38	129	150695	19.5354	ug/L	100
68)	1,2-Dibromoethane	14.68	107	114505	20.2096	ug/L	100
69)	1-Chlorohexane	14.82	91	166622	19.2201	ug/L	91
70)	Chlorobenzene	15.27	112	401972	19.6009	ug/L	87
71)	1,1,1,2-Tetrachloroethane	15.32	131	153768	19.6030	ug/L	95
72)	Ethylbenzene	15.32	106	206104	20.1564	ug/L	91
73)	m-,p-Xylene	15.42	106	499238	41.7317	ug/L	91
74)	o-Xylene	16.09	106	243358	20.8913	ug/L	92
75)	Styrene	16.13	104	429320	21.8809	ug/L	93
76)	Bromoform	16.68	173	99702	19.5005	ug/L	97
77)	Isopropylbenzene	16.60	105	589722	21.2143	ug/L	97
79)	1,1,2,2-Tetrachloroethane	16.85	83	129675	19.9152	ug/L	99
81)	1,2,3-Trichloropropane	17.08	110	42268	19.9392	ug/L	88
82)	trans-1,4-Dichloro-2-Buten	17.15	53	33705	17.2604	ug/L	91
83)	n-Propylbenzene	17.19	91	681723	21.1281	ug/L	95
84)	Bromobenzene	17.31	156	194558	20.2282	ug/L	84
85)	1,3,5-Trimethylbenzene	17.42	105	501369	21.1605	ug/L	96
86)	2-Chlorotoluene	17.50	91	467438	20.7275	ug/L	92
87)	4-Chlorotoluene	17.55	91	425481	19.1468	ug/L	92
88)	a-Methylstyrene	17.90	118	312601	20.0305	ug/L	95
89)	tert-Butylbenzene	17.96	134	114962	20.4446	ug/L	99
90)	1,2,4-Trimethylbenzene	18.02	105	532289	20.4745	ug/L	94
91)	sec-Butylbenzene	18.28	105	558753	20.2561	ug/L	97
92)	p-Isopropyltoluene	18.48	119	522711	21.2885	ug/L	99
93)	1,3-Dichlorobenzene	18.67	146	353763	19.9205	ug/L	94
94)	1,4-Dichlorobenzene	18.82	146	361039	19.5914	ug/L	96
95)	n-Butylbenzene	19.09	91	413437	20.4477	ug/L	92
96)	1,2-Dichlorobenzene	19.41	146	339036	19.9137	ug/L	95
97)	1,2-Dibromo-3-Chloropropan	20.58	75	23359	20.3136	ug/L	82
98)	1,2,4-Trichlorobenzene	21.93	180	233299	21.9589	ug/L	98
99)	Hexachlorobutadiene	22.12	225	80082	19.8144	ug/L	99
100)	Naphthalene	22.36	128	500776	23.3830	ug/L	99
101)	1,2,3-Trichlorobenzene	22.73	180	221682	21.9843	ug/L	98

(#) = qualifier out of range (m) = manual integration
6M143474.D 8260WT.M Wed Nov 16 08:22:05 2016 Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS6\DATA\111516\6M143474.D Vial: 5
Acq On : 15 Nov 2016 17:24 Operator: TMB
Sample : WG591757-02 20ug/L LCS STD 8260 Inst : Hpms6
Misc : 1,1 STD79035 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 16 8:22 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS6\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624_WATER SOP:MSV01 11-12-16 - HPMS6
Last Update : Mon Nov 14 16:02:48 2016
Response via : Initial Calibration



Data File : C:\MSDchem\1\data\111416\11M15199.D Vial: 5
Acq On : 14 Nov 2016 16:48 Operator: JDS
Sample : WG591571-03 20ug/Kg LCS2 Inst : hpms11
Misc : 1,1 STD78758 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 14 17:09:55 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	10.57	96	574852	25.00 ug/L	0.00
56) Chlorobenzene-d5	14.20	117	447441	25.00 ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.02	152	223926	25.00 ug/L	0.01
System Monitoring Compounds					
37) Dibromofluoromethane	9.57	111	172930	25.0082 ug/L	0.00
Spiked Amount 25.000	Range 86 - 118		Recovery = 100.04%		
43) 1,2-Dichloroethane-d4	10.18	65	192050	24.7380 ug/L	0.00
Spiked Amount 25.000	Range 80 - 120		Recovery = 98.96%		
57) Toluene-d8	12.43	98	602895	25.4264 ug/L	0.00
Spiked Amount 25.000	Range 88 - 110		Recovery = 101.72%		
78) p-Bromofluorobenzene	15.59	95	226191	25.2483 ug/L	0.00
Spiked Amount 25.000	Range 86 - 115		Recovery = 101.00%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	3.21	85	207037	21.2287 ug/L	95
3) Chloromethane	3.67	50	189348	17.7020 ug/L	98
4) Vinyl Chloride	3.90	62	152580	15.9967 ug/L	99
5) 1,3-Butadiene	3.94	54	75673	9.7461 ug/L	89
6) Bromomethane	4.79	94	95912	20.7524 ug/L	97
7) Chloroethane	4.94	64	111161	19.8930 ug/L	98
8) Trichlorofluoromethane	5.43	101	210657	18.9750 ug/L	100
9) Diethyl ether	5.95	59	659675	121.5627 ug/L	94
10) Isoprene	5.99	67	190090	18.7625 ug/L	98
11) Acrolein	6.17	56	90081	199.2299 ug/L	100
12) 1,1,2-Trichloro-1,2,2-Trif	6.19	101	116749	19.5537 ug/L	97
13) Acetone	6.28	43	45491	20.3974 ug/L	94
14) 1,1-Dichloroethene	6.49	61	161754	13.6347 ug/L	95
15) Tert-Butyl Alcohol	6.61	59	118428	205.7330 ug/L	95
16) Dimethyl Sulfide	6.75	62	187356	23.0421 ug/L	92
17) Iodomethane	7.00	142	161773	20.6217 ug/L	99
18) Methyl acetate	7.01	43	133405	20.2834 ug/L	96
19) Methylene Chloride	7.26	84	114330	16.9518 ug/L	91
20) Carbon Disulfide	7.30	76	327200	16.6395 ug/L	100
21) Acrylonitrile	7.43	53	64253	21.4439 ug/L	98
22) Methyl Tert Butyl Ether	7.47	73	325805	19.6474 ug/L	98
23) trans-1,2-Dichloroethene	7.69	96	106441	15.8328 ug/L	96
24) n-Hexane	7.77	57	201858	17.5583 ug/L	100
25) Diisopropyl ether	8.10	45	3354654	103.1745 ug/L	98
26) Vinyl Acetate	8.26	43	328704	18.9135 ug/L	99
27) 1,1-Dichloroethane	8.29	63	235891	17.1202 ug/L	99
28) Ethyl-Tert-Butyl ether	8.64	59	2391406	99.1764 ug/L	99
29) 2-Butanone	8.83	43	76794	20.4932 ug/L	99
30) Propionitrile	8.92	54	111704	107.5875 ug/L	98
31) 2,2-Dichloropropane	9.04	77	167298	17.8172 ug/L	99
32) cis-1,2-Dichloroethene	9.10	96	135069	18.2432 ug/L	96
33) Chloroform	9.30	83	220441	18.2343 ug/L	99
34) 1-Bromopropane	9.43	122	26908	21.2191 ug/L	95
35) Bromochloromethane	9.52	130	87342	18.3005 ug/L	91
36) Tetrahydrofuran	9.54	42	264027	104.3282 ug/L	92
38) 1,1,1-Trichloroethane	9.81	97	193412	18.1449 ug/L	96
39) Cyclohexane	9.84	56	228562	14.6275 ug/L	98
40) 1,1-Dichloropropene	9.99	75	148701	16.8518 ug/L	98
41) Carbon Tetrachloride	10.13	117	179278	18.0009 ug/L	98
42) Tert-Amyl-Methyl ether	10.09	73	1763416	107.9964 ug/L	95

(#) = qualifier out of range (m) = manual integration
11M15199.D 8260WT.M Mon Nov 14 17:09:57 2016 Page 1

Data File : C:\MSDchem\1\data\111416\11M15199.D Vial: 5
Acq On : 14 Nov 2016 16:48 Operator: JDS
Sample : WG591571-03 20ug/Kg LCS2 Inst : hpms11
Misc : 1,1 STD78758 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 14 17:09:55 2016 Quant Results File: 8260WT.RES

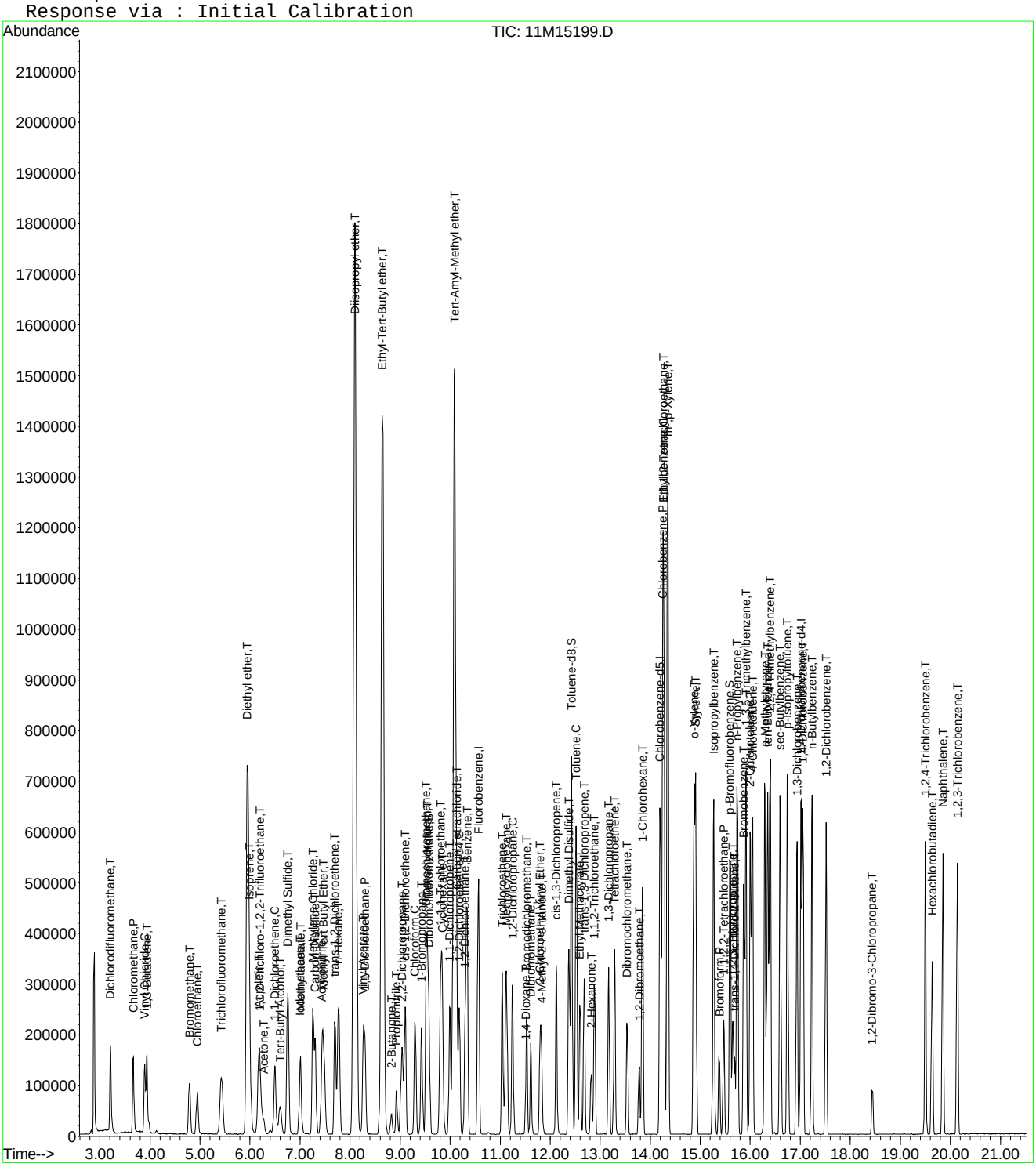
Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration
DataAcq Meth : 8260WT

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
44)	1,2-Dichloroethane	10.30	62	189878	18.2829 ug/L	97
45)	Benzene	10.34	78	471124	18.0745 ug/L	97
46)	Trichloroethene	11.04	130	133123	17.6581 ug/L	99
47)	Methylcyclohexane	11.13	83	168606	16.4978 ug/L	96
48)	1,2-Dichloropropane	11.25	63	143552	18.6840 ug/L	99
49)	1,4-Dioxane	11.51	88	8719	162.7976 ug/L	97
50)	Bromodichloromethane	11.53	83	171408	18.7647 ug/L	100
51)	Dibromomethane	11.61	93	79317	19.4709 ug/L	99
52)	2-Chloroethyl Vinyl Ether	11.80	63	83223	18.4928 ug/L	98
53)	4-Methyl-2-Pentanone	11.83	58	53549	19.3811 ug/L	98
54)	cis-1,3-Dichloropropene	12.12	75	205445	20.3483 ug/L	100
55)	Dimethyl Disulfide	12.38	79	116112	19.1618 ug/L	91
58)	Toluene	12.52	91	529373	18.7883 ug/L	99
59)	Ethyl Methacrylate	12.59	69	148168	20.5741 ug/L	86
60)	trans-1,3-Dichloropropene	12.68	75	173912	18.8524 ug/L	98
61)	1,1,2-Trichloroethane	12.88	97	112605	20.5417 ug/L	100
62)	2-Hexanone	12.82	43	112915	19.1096 ug/L	97
63)	1,3-Dichloropropane	13.17	76	189280	20.5406 ug/L	87
64)	Tetrachloroethene	13.29	164	109054	17.8321 ug/L	97
65)	Dibromochloromethane	13.53	129	146418	19.9281 ug/L	99
66)	1,2-Dibromoethane	13.78	107	112462	19.9293 ug/L	98
67)	1-Chlorohexane	13.84	91	166703	18.3343 ug/L	91
68)	Chlorobenzene	14.25	112	372621	18.6372 ug/L	98
69)	1,1,1,2-Tetrachloroethane	14.27	131	141412	19.8307 ug/L	96
70)	Ethylbenzene	14.27	106	192225	18.8029 ug/L	99
71)	m-,p-Xylene	14.35	106	466367	38.7204 ug/L	98
72)	o-Xylene	14.88	106	232372	19.6125 ug/L	100
73)	Styrene	14.91	104	394952	19.6379 ug/L	99
74)	Bromoform	15.39	173	94354	19.8028 ug/L	97
75)	Isopropylbenzene	15.27	105	589429	19.4174 ug/L	100
77)	1,1,2,2-Tetrachloroethane	15.47	83	139785	22.1355 ug/L	100
79)	1,2,3-Trichloropropane	15.65	110	43412	22.6685 ug/L	99
80)	trans-1,4-Dichloro-2-Buten	15.69	53	50841	19.7114 ug/L	90
81)	n-Propylbenzene	15.74	91	706146	21.1955 ug/L	100
82)	Bromobenzene	15.87	156	172324	20.1808 ug/L	92
83)	1,3,5-Trimethylbenzene	15.91	105	504491	21.1118 ug/L	100
84)	2-Chlorotoluene	16.00	91	505707	23.9875 ug/L	99
85)	4-Chlorotoluene	16.05	91	374922	17.4610 ug/L	100
86)	a-Methylstyrene	16.30	118	291135	20.7277 ug/L	99
87)	tert-Butylbenzene	16.35	134	111210	21.2728 ug/L	98
88)	1,2,4-Trimethylbenzene	16.40	105	517632	21.0569 ug/L	99
89)	sec-Butylbenzene	16.60	105	633487	20.9344 ug/L	99
90)	p-Isopropyltoluene	16.74	119	559764	21.2579 ug/L	100
91)	1,3-Dichlorobenzene	16.94	146	310666	19.7341 ug/L	99
92)	1,4-Dichlorobenzene	17.05	146	319185	19.7854 ug/L	99
93)	n-Butylbenzene	17.24	91	488840	19.7870 ug/L	99
94)	1,2-Dichlorobenzene	17.52	146	312644	20.7899 ug/L	98
95)	1,2-Dibromo-3-Chloropropan	18.44	75	27050	22.2850 ug/L	94
96)	1,2,4-Trichlorobenzene	19.50	180	221846	19.8917 ug/L	99
97)	Hexachlorobutadiene	19.63	225	87153	19.9664 ug/L	99
98)	Naphthalene	19.85	128	532194	22.9519 ug/L	98
99)	1,2,3-Trichlorobenzene	20.14	180	211609	19.6635 ug/L	100

(#) = qualifier out of range (m) = manual integration
11M15199.D 8260WT.M Mon Nov 14 17:09:57 2016 Page 2

Data File : C:\MSDchem\1\data\111416\11M15199.D Vial: 5
Acq On : 14 Nov 2016 16:48 Operator: JDS
Sample : WG591571-03 20ug/Kg LCS2 Inst : hpms11
Misc : 1,1 STD78758 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 14 17:09 2016 Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration



2.2 General Chromatography Data

2.2.1 6850 LC/MS Data

2.2.1.1 Summary Data

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110321-01	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	50WW09-110316	**Prep Method:**	6850	**Prep Date:**	11/10/2016 10:30
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	05/03/2016 17:18
Workgroup #:	WG591037	**Analyst:**	JWR	**Run Date:**	11/10/2016 13:30
Collect Date:	11/03/2016 08:15	**Dilution:**	1	**File ID:**	1LM.LM37583
Sample Tag:	01	**Units:**	ug/L		

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

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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110321-02	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	50WW10-110316	**Prep Method:**	6850	**Prep Date:**	11/10/2016 10:30
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	05/03/2016 17:18
Workgroup #:	WG591037	**Analyst:**	JWR	**Run Date:**	11/10/2016 13:49
Collect Date:	11/03/2016 09:10	**Dilution:**	1	**File ID:**	1LM.LM37584
Sample Tag:	01	**Units:**	ug/L		

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

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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110321-03	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	50WW10FD-110316	**Prep Method:**	6850	**Prep Date:**	11/10/2016 10:30
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	05/03/2016 17:18
Workgroup #:	WG591037	**Analyst:**	JWR	**Run Date:**	11/10/2016 14:08
Collect Date:	11/03/2016 09:10	**Dilution:**	1	**File ID:**	1LM.LM37585
Sample Tag:	01	**Units:**	ug/L		

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

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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110321-04	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	50WW05-110316	**Prep Method:**	6850	**Prep Date:**	11/10/2016 10:30
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	05/03/2016 17:18
Workgroup #:	WG591037	**Analyst:**	JWR	**Run Date:**	11/10/2016 12:33
Collect Date:	11/03/2016 10:20	**Dilution:**	1	**File ID:**	1LM.LM37580
Sample Tag:	01	**Units:**	ug/L		

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

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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110321-05	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	50WW05MS-110316	**Prep Method:**	6850	**Prep Date:**	11/10/2016 10:30
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	05/03/2016 17:18
Workgroup #:	WG591037	**Analyst:**	JWR	**Run Date:**	11/10/2016 12:52
Collect Date:	11/03/2016 10:20	**Dilution:**	1	**File ID:**	1LM.LM37581
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	0.197	J	0.400	0.200	0.100

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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110321-06	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	50WW05MSD-110316	**Prep Method:**	6850	**Prep Date:**	11/10/2016 10:30
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	05/03/2016 17:18
Workgroup #:	WG591037	**Analyst:**	JWR	**Run Date:**	11/10/2016 13:11
Collect Date:	11/03/2016 10:20	**Dilution:**	1	**File ID:**	1LM.LM37582
Sample Tag:	01	**Units:**	ug/L		

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

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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110321-07	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	50WW21-110316	**Prep Method:**	6850	**Prep Date:**	11/10/2016 10:30
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	05/03/2016 17:18
Workgroup #:	WG591037	**Analyst:**	JWR	**Run Date:**	11/10/2016 14:27
Collect Date:	11/03/2016 11:25	**Dilution:**	1	**File ID:**	1LM.LM37586
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	0.581		0.400	0.200	0.100

Certificate of Analysis

Sample #:	L16110321-08	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	50WW24-110316	**Prep Method:**	6850	**Prep Date:**	11/10/2016 10:30
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	05/03/2016 17:18
Workgroup #:	WG591037	**Analyst:**	JWR	**Run Date:**	11/10/2016 15:42
Collect Date:	11/03/2016 13:25	**Dilution:**	1	**File ID:**	1LM.LM37590
Sample Tag:	01	**Units:**	ug/L		

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

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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110321-09	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	50WW18-110316	**Prep Method:**	6850	**Prep Date:**	11/10/2016 10:30
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	05/03/2016 17:18
Workgroup #:	WG591037	**Analyst:**	JWR	**Run Date:**	11/10/2016 16:20
Collect Date:	11/03/2016 14:30	**Dilution:**	1	**File ID:**	1LM.LM37592
Sample Tag:	01	**Units:**	ug/L		

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

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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110321-10	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	50WW19-110416	**Prep Method:**	6850	**Prep Date:**	11/10/2016 10:30
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	05/03/2016 17:18
Workgroup #:	WG591037	**Analyst:**	JWR	**Run Date:**	11/10/2016 16:39
Collect Date:	11/04/2016 08:15	**Dilution:**	1	**File ID:**	1LM.LM37593
Sample Tag:	01	**Units:**	ug/L		

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

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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16110321-11	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	50WW17-110416	**Prep Method:**	6850	**Prep Date:**	11/10/2016 10:30
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	05/03/2016 17:18
Workgroup #:	WG591037	**Analyst:**	JWR	**Run Date:**	11/10/2016 16:58
Collect Date:	11/04/2016 09:15	**Dilution:**	1	**File ID:**	1LM.LM37594
Sample Tag:	01	**Units:**	ug/L		

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

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

Microbac

Lab Report #: L16110321
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

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) = Rx/Ristd

x = amount ratio = concentration analyte/concentration internal standard (IS) = Cx / Cistd

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 Cx

Cx = (Cis)(x) = (5 ug/L)(0.040119) = 0.200594 ug/L

Example Calculation - Water:

Slope from curve, m:	1.45
Intercept from curve, b:	-0.00242
Response of analyte, Rx:	12600
Response of Internal Standard , Ristd:	226000
Concentration of IS, Cistd (ug/L):	5.00
Response Ratio:	0.05575
Amount Ratio:	0.04012
Analyte Concentration, Cx (ug/L) :	0.200594

Example Calculation - Soil:

Analyte Concentration, Cx (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: 1402 /1410 µs/cm

Working MCT Level: 10,000 µs/cm

Sample	Conductivity (µs/cm)	Pretreatment or Dilution Needed
MCT	10,010.	
Blank	0.36	
LCS	0.48	
L16110321-01	2,770.	
-02	1,311.	
-03	1,309.	
-04 RS	1,549.	
-05 MS	1,563.	
-06 MSD	1,561.	
-07	8,800.	
-08	1,976.	
-09	3,670.	
-10	1,115.	
-11	2,680.	
L16110420-01	1,997.	
-02 RS	5,970.	
-03 MS	6,020.	
-04 MSD	6,040.	
-05	6,540.	
-06	6,530.	
L16110421-01	2,360.	

Analyst: John Richards

Date/Time: 11/10/16 / 1400

DCN#122114

Microbac Laboratories Inc.

Instrument Run Log

Instrument: LCMS1 Dataset: 050316_JWR.TXT
Analyst1: JWR Analyst2: NA
Method: 6850 SOP: HPLC06 Rev: 8

Maintenance Log ID: Syringe Filter Lot#: 151125254
Eluent ID#:

Workgroups: Column 1 ID: KP-RPPX250 Column 2 ID: NA
Analytical WG567013 (soils)
Internal STD: COA18071 Surrogate STD: NA Calibration STD STD75510 (05/03/2016)
CCV STD: STD75510 LCS STD: STD75512 MS/MSD STD: STD75512

Comments: ICAL WG567320 : Alternate Source STD75512
Analytical Column : RPPX 5um (250x4.6mm)
K'Prime S/N RPPX250-02115

Samples L16041363(-05 and -10) were analyzed at dilutions based on their pre-run screen results.

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	1LM.LM34686	WG567320-01 CCB	1	1		05/03/16 15:06
2	1LM.LM34687	WG567320-02 STD (0.1 ug/L)	1	1	STD75510	05/03/16 15:25
3	1LM.LM34688	WG567320-03 STD (0.2 ug/L)	1	1	STD75510	05/03/16 15:43
4	1LM.LM34689	WG567320-04 STD (0.5 ug/L)	1	1	STD75510	05/03/16 16:02
5	1LM.LM34690	WG567320-05 STD (1.0 ug/L)	1	1	STD75510	05/03/16 16:21
6	1LM.LM34691	WG567320-06 STD (2.0 ug/L)	1	1	STD75510	05/03/16 16:40
7	1LM.LM34692	WG567320-07 STD (5.0 ug/L)	1	1	STD75510	05/03/16 16:59
8	1LM.LM34693	WG567320-08 STD (10 ug/L)	1	1	STD75510	05/03/16 17:18
9	1LM.LM34694	WG567320-09 SSCV (1.0 ug/L)	1	1	STD75512	05/03/16 17:37
10	1LM.LM34695	WG567321-01 CCB	1	1		05/03/16 17:56
11	1LM.LM34696	WG567321-02 CCV (1.0ug/L)	1	1	STD75510	05/03/16 18:15
12	1LM.LM34697	WG567013-07 MRL (2.0ug/kg)	7	1	STD75510	05/03/16 18:34
13	1LM.LM34698	WG567013-01 MCT (2.0ug/kg)	7	1	STD75512	05/03/16 18:53
14	1LM.LM34699	WG567013-02 BLANK	7	1		05/03/16 19:12
15	1LM.LM34700	WG567013-03 LCS (2.0ug/kg)	7	1	STD75512	05/03/16 19:31
16	1LM.LM34701	L16041363-07 RS	7	1		05/03/16 19:50
17	1LM.LM34702	L16041363-08 MS	7	1	STD75512	05/03/16 20:09
18	1LM.LM34703	L16041363-09 MSD	7	1	STD75512	05/03/16 20:28
19	1LM.LM34704	L16041363-01	7	1		05/03/16 20:46
20	1LM.LM34705	L16041363-02	7	1		05/03/16 21:05
21	1LM.LM34706	L16041363-03	7	1		05/03/16 21:24
22	1LM.LM34707	L16041363-04	7	1		05/03/16 21:43
23	1LM.LM34708	WG567321-03 CCV (1.0ug/L)	1	1	STD75510	05/03/16 22:02
24	1LM.LM34709	WG567013-08 MRL (2.0ug/kg)	7	1	STD75510	05/03/16 22:21
25	1LM.LM34710	WG567321-04 CCB	1	1		05/03/16 22:40
26	1LM.LM34711	L16041363-05 (5x)	7	5		05/03/16 22:59
27	1LM.LM34712	L16041363-06	7	1		05/03/16 23:18
28	1LM.LM34713	L16041363-10 (5x)	7	5		05/03/16 23:37
29	1LM.LM34714	WG567321-05 CCV (1.0ug/L)	1	1	STD75510	05/03/16 23:56
30	1LM.LM34715	WG567013-09 MRL (2.0ug/kg)	7	1	STD75510	05/04/16 00:15
31	1LM.LM34716	WG567321-06 CCB	1	1		05/04/16 00:34

Comments

Page: 1 Approved: 05-MAY-16

Microbac

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: 111016_JWR.TXT
Analyst1: JWR Analyst2: NA
Method: 6850 SOP: HPLC06 Rev: 8

Maintenance Log ID: Syringe Filter Lot#: 160109254
Eluent ID#:

Workgroups: Column 1 ID: KP-RPPX250 Column 2 ID: NA
Analytical WG591037 (waters)

Internal STD: STD18071 Surrogate STD: NA Calibration STD STD75510 (05/03/2016)
CCV STD: STD78249 LCS STD: STD78251 MS/MSD STD: STD78251

Comments: Sample L16110421-01 was analyzed at a dilution based on its historical results.

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	1LM.LM37574	WG591040-01 CCB	1	1		11/10/16 10:39
2	1LM.LM37575	WG591040-02 CCV (1.0ug/L)	1	1	STD78249	11/10/16 10:58
3	1LM.LM37576	WG591037-10 MRL (0.2ug/L)	1	1	STD78249	11/10/16 11:17
4	1LM.LM37577	WG591037-01 MCT (0.2ug/L)	1	1	STD78251	11/10/16 11:36
5	1LM.LM37578	WG591037-02 BLANK	1	1		11/10/16 11:55
6	1LM.LM37579	WG591037-03 LCS (0.2ug/L)	1	1	STD78251	11/10/16 12:14
7	1LM.LM37580	L16110321-04 RS	1	1		11/10/16 12:33
8	1LM.LM37581	L16110321-05 MS	1	1	STD78251	11/10/16 12:52
9	1LM.LM37582	L16110321-06 MSD	1	1	STD78251	11/10/16 13:11
10	1LM.LM37583	L16110321-01	1	1		11/10/16 13:30
11	1LM.LM37584	L16110321-02	1	1		11/10/16 13:49
12	1LM.LM37585	L16110321-03	1	1		11/10/16 14:08
13	1LM.LM37586	L16110321-07	1	1		11/10/16 14:27
14	1LM.LM37587	WG591040-03 CCV (1.0ug/L)	1	1	STD78249	11/10/16 14:46
15	1LM.LM37588	WG591037-11 MRL (0.2ug/L)	1	1	STD78249	11/10/16 15:04
16	1LM.LM37589	WG591040-04 CCB	1	1		11/10/16 15:23
17	1LM.LM37590	L16110321-08	1	1		11/10/16 15:42
18	1LM.LM37591	L16110321-08 10x (NR)	1	10		11/10/16 16:01
19	1LM.LM37592	L16110321-09	1	1		11/10/16 16:20
20	1LM.LM37593	L16110321-10	1	1		11/10/16 16:39
21	1LM.LM37594	L16110321-11	1	1		11/10/16 16:58
22	1LM.LM37595	L16110421-01 (10,000x)	1	10000		11/10/16 17:17
23	1LM.LM37596	L16110420-01	1	1		11/10/16 17:36
24	1LM.LM37597	L16110420-05	1	1		11/10/16 17:55
25	1LM.LM37598	L16110420-06	1	1		11/10/16 18:14
26	1LM.LM37599	WG591040-05 CCV (1.0ug/L)	1	1	STD78249	11/10/16 18:33
27	1LM.LM37600	WG591037-12 MRL (0.2ug/L)	1	1	STD78249	11/10/16 18:52
28	1LM.LM37601	WG591040-06 CCB	1	1		11/10/16 19:11
29	1LM.LM37602	L16110420-02 RS	1	1		11/10/16 19:30
30	1LM.LM37603	L16110420-03 MS	1	1	STD78251	11/10/16 19:49
31	1LM.LM37604	L16110420-04 MSD	1	1	STD78251	11/10/16 20:07
32	1LM.LM37605	WG591040-07 CCV (1.0ug/L)	1	1	STD78249	11/10/16 20:26
33	1LM.LM37606	WG591037-13 MRL (0.2ug/L)	1	1	STD78249	11/10/16 20:45

Page: 1 Approved: 11-NOV-16



Microbac

Microbac Laboratories Inc.

Instrument Run Log

Instrument: LCMS1 Dataset: 111016_JWR.TXT

Analyst1: JWR Analyst2: NA

Method: 6850 SOP: HPLC06 Rev: 8

Maintenance Log ID: Syringe Filter Lot#: 160109254

Eluent ID#:

Column 1 ID: KP-RPPX250 Column 2 ID: NA

Workgroups: Analytical WG591037 (waters)

Internal STD: STD18071 Surrogate STD: NA STD75510 (05/03/2016)

CCV STD: STD78249 LCS STD: STD78251 STD78251

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
34	1LM.LM37607	WG591040-08 CCB	1	1		11/10/16 21:04

Comments

Seq.	Rerun	Dil.	Reason	Analytes
18			Analyzed too dilute	
	L16110321-08 10x (NR) : The results for this sample dilution are not needed.			

Approved: 11-NOV-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

CHECKLIST1 - Modified 03/05/2008
Generated: MAY-05-2016 16:23:46

Microbac Laboratories Inc.

Data Checklist

Date: 10-NOV-2016
Analyst: JWR
Analyst: NA
Method: 6850
Instrument: LCMS1
Curve Workgroup: NA
Runlog ID: 78656
Analytical Workgroups: L16110321, L16110420, L16110421

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	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	ECL

Primary Reviewer:
11-NOV-2016
John Richards

Secondary Reviewer:
11-NOV-2016
Eric C. Zimmerman

CHECKLIST1 - Modified 03/05/2008
Generated: NOV-11-2016 16:20:24

Microbac

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 6850 AAB#: WG591037

Login Number: L16110321

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
50WW09-110316	01	11/03/16					11/10/2016	7.1	28		11/10/16	.1	28	
50WW10-110316	02	11/03/16					11/10/2016	7.1	28		11/10/16	.1	28	
50WW10FD-110316	03	11/03/16					11/10/2016	7.1	28		11/10/16	.2	28	
50WW05-110316	04	11/03/16					11/10/2016	7	28		11/10/16	.1	28	
50WW05MS-110316	05	11/03/16					11/10/2016	7	28		11/10/16	.1	28	
50WW05MSD-110316	06	11/03/16					11/10/2016	7	28		11/10/16	.1	28	
50WW21-110316	07	11/03/16					11/10/2016	7	28		11/10/16	.2	28	
50WW24-110316	08	11/03/16					11/10/2016	6.9	28		11/10/16	.2	28	
50WW18-110316	09	11/03/16					11/10/2016	6.8	28		11/10/16	.2	28	
50WW19-110416	10	11/04/16					11/10/2016	6.1	28		11/10/16	.3	28	
50WW17-110416	11	11/04/16					11/10/2016	6.1	28		11/10/16	.3	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 5019440
Report generated 11/16/2016 08:13

METHOD BLANK SUMMARY

Login Number: L16110321
Work Group: WG591037
Blank File ID: 1LM.LM37578
Blank Sample ID: WG591037-02
Prep Date: 11/10/16 10:30
Instrument ID: LCMS1
Analyzed Date: 11/10/16 11:55
Method: 6850
Analyst: JWR

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
QCMRL	WG591037-10	1LM.LM37576	11/10/16 11:17	01
MCT	WG591037-01	1LM.LM37577	11/10/16 11:36	01
LCS	WG591037-03	1LM.LM37579	11/10/16 12:14	01
50WW05-110316	L16110321-04	1LM.LM37580	11/10/16 12:33	01
50WW05MS-110316	L16110321-05	1LM.LM37581	11/10/16 12:52	01
50WW05MSD-110316	L16110321-06	1LM.LM37582	11/10/16 13:11	01
50WW09-110316	L16110321-01	1LM.LM37583	11/10/16 13:30	01
50WW10-110316	L16110321-02	1LM.LM37584	11/10/16 13:49	01
50WW10FD-110316	L16110321-03	1LM.LM37585	11/10/16 14:08	01
50WW21-110316	L16110321-07	1LM.LM37586	11/10/16 14:27	01
QCMRL	WG591037-11	1LM.LM37588	11/10/16 15:04	01
50WW24-110316	L16110321-08	1LM.LM37590	11/10/16 15:42	01
50WW18-110316	L16110321-09	1LM.LM37592	11/10/16 16:20	01
50WW19-110416	L16110321-10	1LM.LM37593	11/10/16 16:39	01
50WW17-110416	L16110321-11	1LM.LM37594	11/10/16 16:58	01
QCMRL	WG591037-12	1LM.LM37600	11/10/16 18:52	01
QCMRL	WG591037-13	1LM.LM37606	11/10/16 20:45	01

Report Name: BLANK_SUMMARY
PDF File ID: 5019441
Report generated 11/16/2016 08:13

Microbac Laboratories Inc.
METHOD BLANK REPORT

Login Number: L16110321 Prep Date: 11/10/16 10:30 Sample ID: WG591037-02
Instrument ID: LCMS1 Run Date: 11/10/16 11:55 Prep Method: 6850
File ID: 1LM.LM37578 Analyst: JWR Method: 6850
Workgroup (AAB#): WG591037 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: 5019442
16-NOV-2016 08:13

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16110321 **Run Date:** 11/10/2016 **Sample ID:** WG591037-03
Instrument ID: LCMS1 **Run Time:** 12:14 **Prep Method:** 6850
File ID: 1LM.LM37579 **Analyst:** JWR **Method:** 6850
Workgroup (AAB#): WG591037 **Matrix:** Water **Units:** ug/L
QC Key: DOD4 **Lot#:** STD78251 **Cal ID:** LCMS1-03-MAY-16

Analytes	Expected	Found	% Rec	LCS Limits	Q
Perchlorate	0.200	0.192	96.0	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 5019443
Report generated: 11/16/2016 08:13

Microbac Laboratories Inc.

MS/MSD REPORT

Loginnum:L16110321 Cal ID:LCMS1- 03-MAY-16 Worknum:WG591037

Instrument ID:LCMS1 Contract #: Prep Method:6850

Parent ID:L16110321-04 File ID:1LM.LM37580 Dil:1 Method:6850

Sample ID:L16110321-05 MS File ID:1LM.LM37581 Dil:1 Matrix:Water

Sample ID:L16110321-06 MSD File ID:1LM.LM37582 Dil:1 Units:ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Perchlorate	U	0.200	0.197	98.5	0.200	0.200	100	1.51	80 - 120	15	

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS_MSD - Modified 03/06/2008

PDF File ID: 5019444

Report generated 11/16/2016 08:13

Microbac Laboratories Inc.
INITIAL CALIBRATION SUMMARY

Login Number: L16110321
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
R^2 = Coefficient of determination; 0.99 minimum

INT_CAL - Modified 03/06/2008
PDF File ID: 5025171
Report generated 11/16/2016 08:13

Login Number: L16110321
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: 5025171
Report generated 11/16/2016 08:13

Microbac Laboratories Inc.
INITIAL CALIBRATION DATA

Login Number: L16110321
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: 5025171
Report generated 11/16/2016 08:13

Login Number: L16110321
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: 5025171
Report generated 11/16/2016 08:13

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L16110321 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

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 5025172
Report generated 11/16/2016 08:13

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number:	L16110321	Run Date:	11/10/2016	Sample ID:	WG591040-01
Instrument ID:	LCMS1	Run Time:	10:39	Method:	6850
File ID:	1LM.LM37574	Analyst:	JWR	Units:	ug/L
Workgroup (AAB#):	WG591037	Cal ID:	LCMS1 - 03-MAY-16		
Matrix:	WATER	QAPP:	DOD4		

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.400	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 5019447
Report generated 11/16/2016 08:14

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number: L16110321 | Run Date: 11/10/2016 | Sample ID: WG591040-04
Instrument ID: LCMS1 | Run Time: 15:23 | Method: 6850
File ID: 1LM.LM37589 | Analyst: JWR | Units: ug/L
Workgroup (AAB#): WG591037 | Cal ID: LCMS1 - 03-MAY-16
Matrix: WATER | QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.400	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 5019447
Report generated 11/16/2016 08:14

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number:	L16110321	**Run Date:**	11/10/2016	**Sample ID:**	WG591040-06
Instrument ID:	LCMS1	**Run Time:**	19:11	**Method:**	6850
File ID:	1LM.LM37601	**Analyst:**	JWR	**Units:**	ug/L
Workgroup (AAB#):	WG591037	**Cal ID:**	LCMS1 - 03-MAY-16		
Matrix:	WATER	**QAPP:**	DOD4		

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.400	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 5019447
Report generated 11/16/2016 08:14

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L16110321 Run Date: 11/10/2016 Sample ID: WG591040-08
Instrument ID: LCMS1 Run Time: 21:04 Method: 6850
File ID: 1LM.LM37607 Analyst: JWR Units: ug/L
Workgroup (AAB#): WG591037 Cal ID: LCMS1 - 03-MAY-16
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.400	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 5019447
Report generated 11/16/2016 08:14

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16110321 Run Date: 11/10/2016 Sample ID: WG591040-02

Instrument ID: LCMS1 Run Time: 10:58 Method: 6850

File ID: 1LM.LM37575 Analyst: JWR QC Key: DOD4

Workgroup (AAB#): WG591037 Cal ID: LCMS1 - 03-MAY-16

Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate		1.00	0.982	ug/L	1.66	1.80	15	

* Exceeds %D Criteria

CCV - Modified 03/05/2008

PDF File ID: 5019446

Report generated 11/16/2016 08:13

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16110321 Run Date: 11/10/2016 Sample ID: WG591040-03
Instrument ID: LCMS1 Run Time: 14:46 Method: 6850
File ID: 1LM.LM37587 Analyst: JWR QC Key: DOD4
Workgroup (AAB#): WG591037 Cal ID: LCMS1 - 03-MAY-16
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate		1.00	0.946	ug/L	1.60	5.40	15	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 5019446
Report generated 11/16/2016 08:13

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16110321 Run Date: 11/10/2016 Sample ID: WG591040-05

Instrument ID: LCMS1 Run Time: 18:33 Method: 6850

File ID: 1LM.LM37599 Analyst: JWR QC Key: DOD4

Workgroup (AAB#): WG591037 Cal ID: LCMS1 - 03-MAY-16

Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate		1.00	0.960	ug/L	1.62	4.00	15	

* Exceeds %D Criteria

CCV - Modified 03/05/2008

PDF File ID: 5019446

Report generated 11/16/2016 08:13

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16110321 Run Date: 11/10/2016 Sample ID: WG591040-07

Instrument ID: LCMS1 Run Time: 20:26 Method: 6850

File ID: 1LM.LM37605 Analyst: JWR QC Key: DOD4

Workgroup (AAB#): WG591037 Cal ID: LCMS1 - 03-MAY-16

Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate		1.00	0.960	ug/L	1.62	4.00	15	

* Exceeds %D Criteria

CCV - Modified 03/05/2008

PDF File ID: 5019446

Report generated 11/16/2016 08:13

Login Number: L16110321 Run Date: 11/10/2016 Sample ID: WG591037-10
Instrument ID: LCMS1 Run Time: 11:17 Prep Method: 6850
File ID: 1LM.LM37576 Analyst: JWR Method: 6850
Workgroup (AAB#): WG591037 Matrix: Water Units: ug/L
Contract #: Cal ID: LCMS1-03-MAY-16

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	0.200	0.199	99.5	70 - 130	

QCMRL - Modified 03/06/2007
PDF File ID: 5019445
Report generated 11/16/2016 08:13

Login Number: L16110321 Run Date: 11/10/2016 Sample ID: WG591037-11
Instrument ID: LCMS1 Run Time: 15:04 Prep Method: 6850
File ID: 1LM.LM37588 Analyst: JWR Method: 6850
Workgroup (AAB#): WG591037 Matrix: Water Units: ug/L
Contract #: Cal ID: LCMS1-03-MAY-16

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	0.200	0.202	101	70 - 130	

QCMRL - Modified 03/06/2007
PDF File ID: 5019445
Report generated 11/16/2016 08:13

Login Number: L16110321 Run Date: 11/10/2016 Sample ID: WG591037-12
Instrument ID: LCMS1 Run Time: 18:52 Prep Method: 6850
File ID: 1LM.LM37600 Analyst: JWR Method: 6850
Workgroup (AAB#): WG591037 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	

QCMRL - Modified 03/06/2007
PDF File ID: 5019445
Report generated 11/16/2016 08:13

Login Number: L16110321 Run Date: 11/10/2016 Sample ID: WG591037-13
Instrument ID: LCMS1 Run Time: 20:45 Prep Method: 6850
File ID: 1LM.LM37606 Analyst: JWR Method: 6850
Workgroup (AAB#): WG591037 Matrix: Water Units: ug/L
Contract #: Cal ID: LCMS1-03-MAY-16

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	0.200	0.201	101	70 - 130	

QCMRL - Modified 03/06/2007
PDF File ID: 5019445
Report generated 11/16/2016 08:13

Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO AVERAGE OF ICAL)

Login Number:L16110321
Instrument ID:LCMS1
Workgroup (AAB#):WG591037

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
L16110321-01	1.00	01	332000
L16110321-02	1.00	01	269000
L16110321-03	1.00	01	264000
L16110321-04	1.00	01	333000
L16110321-05	1.00	01	332000
L16110321-06	1.00	01	333000
L16110321-07	1.00	01	351000
L16110321-08	1.00	01	361000
L16110321-09	1.00	01	346000
L16110321-10	1.00	01	357000
L16110321-11	1.00	01	353000
WG591037-02	1.00	01	424000
WG591037-03	1.00	01	425000

IS-1 - O18LP

Underline = Response outside limits

INTERNAL_STD_AVG_ICAL - Modified 03/10/2010
PDF File ID: 5019452
Report generated 11/16/2016 08:14

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16110321	**Prep Method:**	6850	**Samplenum:**	L16110321-01
Instrument:	LCMS1	**Prep Date:**	11/10/2016 10:30	**File ID:**	1LM.LM37583
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG591037	**Analysis Date:**	11/10/2016 13:30	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	1970	1220	1.61	2.3	3.8	*

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16110321	**Prep Method:**	6850	**Samplenum:**	L16110321-02
Instrument:	LCMS1	**Prep Date:**	11/10/2016 10:30	**File ID:**	1LM.LM37584
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG591037	**Analysis Date:**	11/10/2016 13:49	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	8160	2620	3.11	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16110321	**Prep Method:**	6850	**Samplenum:**	L16110321-03
Instrument:	LCMS1	**Prep Date:**	11/10/2016 10:30	**File ID:**	1LM.LM37585
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG591037	**Analysis Date:**	11/10/2016 14:08	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	8580	3270	2.62	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16110321	**Prep Method:**	6850	**Samplenum:**	L16110321-04
Instrument:	LCMS1	**Prep Date:**	11/10/2016 10:30	**File ID:**	1LM.LM37580
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG591037	**Analysis Date:**	11/10/2016 12:33	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	3390	1090	3.11	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16110321	**Prep Method:**	6850	**Samplenum:**	L16110321-05
Instrument:	LCMS1	**Prep Date:**	11/10/2016 10:30	**File ID:**	1LM.LM37581
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG591037	**Analysis Date:**	11/10/2016 12:52	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	22400	7680	2.92	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16110321	**Prep Method:**	6850	**Samplenum:**	L16110321-06
Instrument:	LCMS1	**Prep Date:**	11/10/2016 10:30	**File ID:**	1LM.LM37582
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG591037	**Analysis Date:**	11/10/2016 13:11	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	22700	8140	2.79	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16110321	**Prep Method:**	6850	**Samplenum:**	L16110321-07
Instrument:	LCMS1	**Prep Date:**	11/10/2016 10:30	**File ID:**	1LM.LM37586
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG591037	**Analysis Date:**	11/10/2016 14:27	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	69100	23700	2.92	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16110321	**Prep Method:**	6850	**Samplenum:**	L16110321-08
Instrument:	LCMS1	**Prep Date:**	11/10/2016 10:30	**File ID:**	1LM.LM37590
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG591037	**Analysis Date:**	11/10/2016 15:42	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	5350	2340	2.29	2.3	3.8	*

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16110321	**Prep Method:**	6850	**Samplenum:**	L16110321-09
Instrument:	LCMS1	**Prep Date:**	11/10/2016 10:30	**File ID:**	1LM.LM37592
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG591037	**Analysis Date:**	11/10/2016 16:20	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	2350	949	2.48	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16110321	**Prep Method:**	6850	**Samplenum:**	L16110321-10
Instrument:	LCMS1	**Prep Date:**	11/10/2016 10:30	**File ID:**	1LM.LM37593
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG591037	**Analysis Date:**	11/10/2016 16:39	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	1040	603	1.72	2.3	3.8	*

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16110321	**Prep Method:**	6850	**Samplenum:**	L16110321-11
Instrument:	LCMS1	**Prep Date:**	11/10/2016 10:30	**File ID:**	1LM.LM37594
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG591037	**Analysis Date:**	11/10/2016 16:58	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	2010	629	3.20	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16110321	**Prep Method:**		**Samplenum:**	WG567320-02
Instrument:	LCMS1	**Prep Date:**	05/03/2016 15:25	**File ID:**	1LM.LM34687
Analyst:	WTD	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG591037	**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 #:	L16110321	**Prep Method:**		**Samplenum:**	WG567320-03
Instrument:	LCMS1	**Prep Date:**	05/03/2016 15:43	**File ID:**	1LM.LM34688
Analyst:	WTD	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG591037	**Analysis Date:**	05/03/2016 15:43	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	34100	11900	2.87	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16110321	**Prep Method:**		**Samplenum:**	WG567320-04
Instrument:	LCMS1	**Prep Date:**	05/03/2016 16:02	**File ID:**	1LM.LM34689
Analyst:	WTD	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG591037	**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 #:	L16110321	**Prep Method:**		**Samplenum:**	WG567320-05
Instrument:	LCMS1	**Prep Date:**	05/03/2016 16:21	**File ID:**	1LM.LM34690
Analyst:	WTD	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG591037	**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 #:	L16110321	**Prep Method:**		**Samplenum:**	WG567320-06
Instrument:	LCMS1	**Prep Date:**	05/03/2016 16:40	**File ID:**	1LM.LM34691
Analyst:	WTD	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG591037	**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 #:	L16110321	**Prep Method:**		**Samplenum:**	WG567320-07
Instrument:	LCMS1	**Prep Date:**	05/03/2016 16:59	**File ID:**	1LM.LM34692
Analyst:	WTD	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG591037	**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 #:	L16110321	**Prep Method:**		**Samplenum:**	WG567320-08
Instrument:	LCMS1	**Prep Date:**	05/03/2016 17:18	**File ID:**	1LM.LM34693
Analyst:	WTD	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG591037	**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 #:	L16110321	**Prep Method:**		**Samplenum:**	WG567320-09
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM34694
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG591037	**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 #:	L16110321	**Prep Method:**	6850	**Samplenum:**	WG591037-01
Instrument:	LCMS1	**Prep Date:**	11/10/2016 10:30	**File ID:**	1LM.LM37577
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG591037	**Analysis Date:**	11/10/2016 11:36	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	27900	8870	3.15	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16110321	**Prep Method:**	6850	**Samplenum:**	WG591037-02
Instrument:	LCMS1	**Prep Date:**	11/10/2016 10:30	**File ID:**	1LM.LM37578
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG591037	**Analysis Date:**	11/10/2016 11:55	**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 #:	L16110321	**Prep Method:**	6850	**Samplenum:**	WG591037-03
Instrument:	LCMS1	**Prep Date:**	11/10/2016 10:30	**File ID:**	1LM.LM37579
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG591037	**Analysis Date:**	11/10/2016 12:14	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	28000	9640	2.90	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16110321	**Prep Method:**	6850	**Samplenum:**	WG591037-10
Instrument:	LCMS1	**Prep Date:**	11/10/2016 10:30	**File ID:**	1LM.LM37576
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG591037	**Analysis Date:**	11/10/2016 11:17	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	27900	9610	2.90	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16110321	**Prep Method:**	6850	**Samplenum:**	WG591037-11
Instrument:	LCMS1	**Prep Date:**	11/10/2016 10:30	**File ID:**	1LM.LM37588
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG591037	**Analysis Date:**	11/10/2016 15:04	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	32800	11500	2.85	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16110321	**Prep Method:**	6850	**Samplenum:**	WG591037-12
Instrument:	LCMS1	**Prep Date:**	11/10/2016 10:30	**File ID:**	1LM.LM37600
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG591037	**Analysis Date:**	11/10/2016 18:52	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	34300	11900	2.88	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16110321	**Prep Method:**	6850	**Samplenum:**	WG591037-13
Instrument:	LCMS1	**Prep Date:**	11/10/2016 10:30	**File ID:**	1LM.LM37606
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG591037	**Analysis Date:**	11/10/2016 20:45	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	34400	11900	2.89	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16110321	**Prep Method:**		**Samplenum:**	WG591040-01
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM37574
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG591037	**Analysis Date:**	11/10/2016 10:39	**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 #:	L16110321	**Prep Method:**		**Samplenum:**	WG591040-02
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM37575
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG591037	**Analysis Date:**	11/10/2016 10:58	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	135000	46500	2.90	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16110321	**Prep Method:**		**Samplenum:**	WG591040-03
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM37587
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG591037	**Analysis Date:**	11/10/2016 14:46	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	147000	50300	2.92	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16110321	**Prep Method:**		**Samplenum:**	WG591040-04
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM37589
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG591037	**Analysis Date:**	11/10/2016 15:23	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	0.000	380	0.000	2.3	3.8	*

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16110321	**Prep Method:**		**Samplenum:**	WG591040-05
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM37599
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG591037	**Analysis Date:**	11/10/2016 18:33	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	152000	50800	2.99	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16110321	**Prep Method:**		**Samplenum:**	WG591040-06
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM37601
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG591037	**Analysis Date:**	11/10/2016 19:11	**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 #:	L16110321	**Prep Method:**		**Samplenum:**	WG591040-07
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM37605
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG591037	**Analysis Date:**	11/10/2016 20:26	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	155000	52400	2.96	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16110321	**Prep Method:**		**Samplenum:**	WG591040-08
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM37607
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG591037	**Analysis Date:**	11/10/2016 21:04	**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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Data File	LM37583.wiff	**Result Table**	111016_JWR.rdb
Acquisition Date	11/10/2016 1:30:20 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

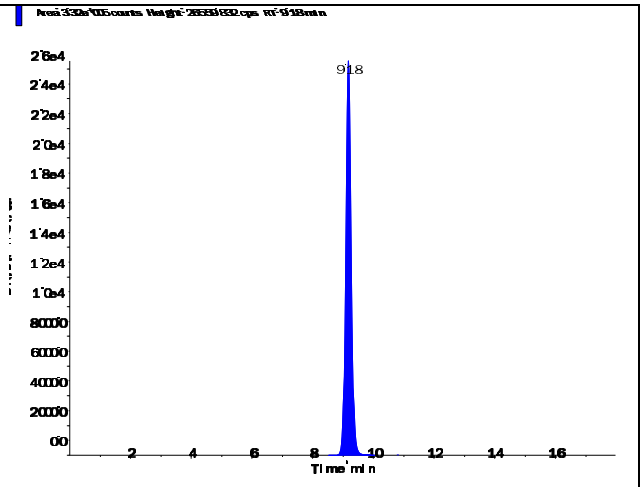
Sample Name	L16110321-01	**Injection Vial**	10.00
Data File	LM37583.wiff	**Injection Volume**	10.00
Acquisition Date	11/10/2016 1:30:20 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	111016_JWR.rdb
Sample ID	L16110321-01	**Dilution Factor**	1.00
Sample Comment	1,1 (Hist)	**Weight to Volume**	0.00

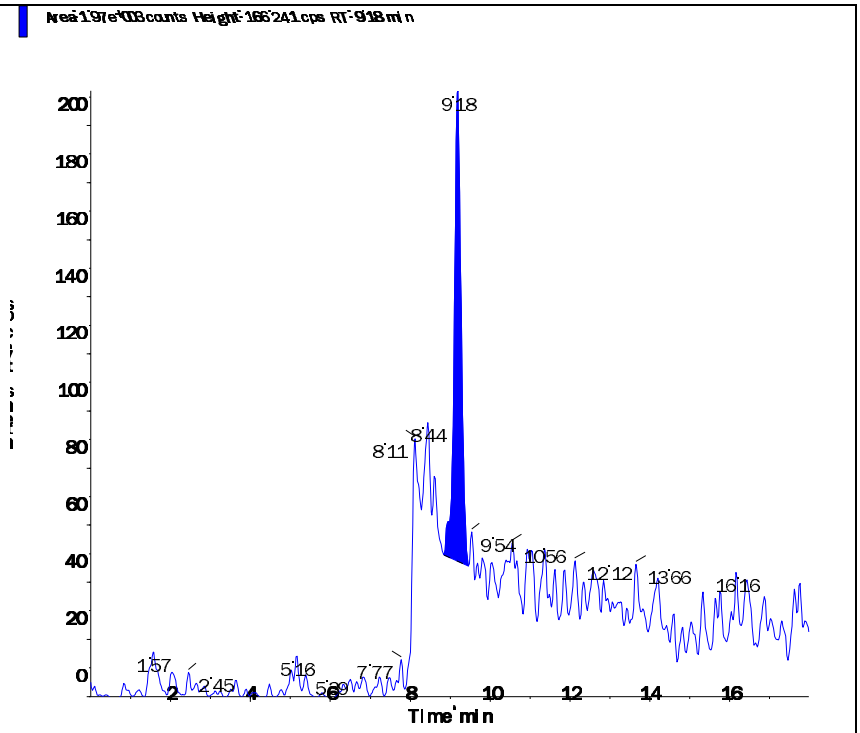
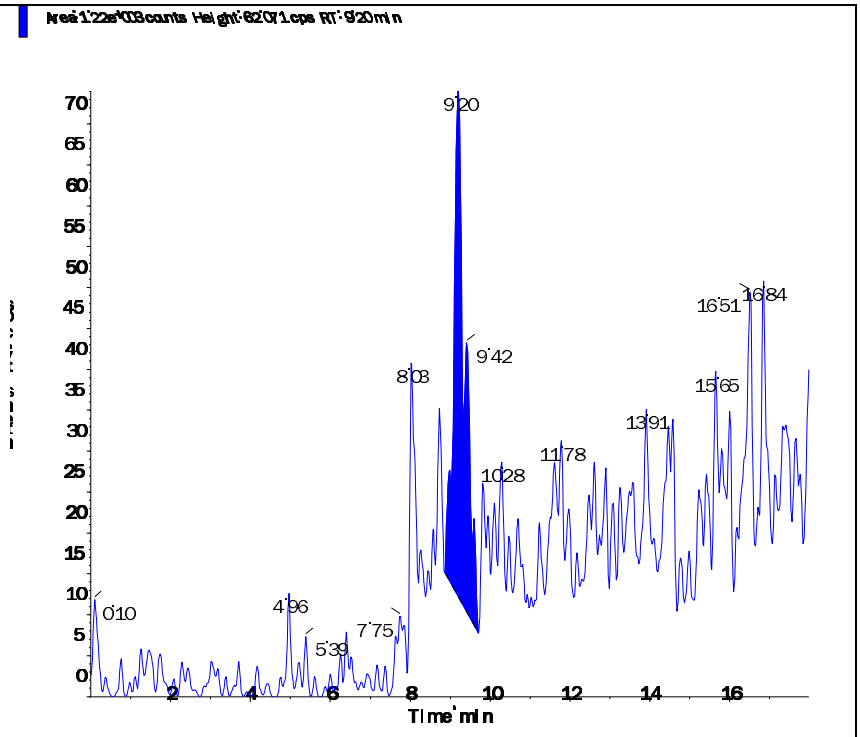
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	3.320e+05	9.18	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.970e+03	9.18	N/A	0.0138
Perchlorate conf	1.220e+03	9.20	N/A	0.0124

O18LP (Internal Standard)

RT (Exp. RT): 9.18(9.84) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.18 (9.84) min Calculated conc: 0.0138 ng/ml Area Ratio: 0.006 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.20 (9.84) min Calculated conc: 0.0124 ng/ml Area Ratio: 0.004 Sample Type: (Unknown)	

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Data File	LM37584.wiff	**Result Table**	111016_JWR.rdb
Acquisition Date	11/10/2016 1:49:16 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

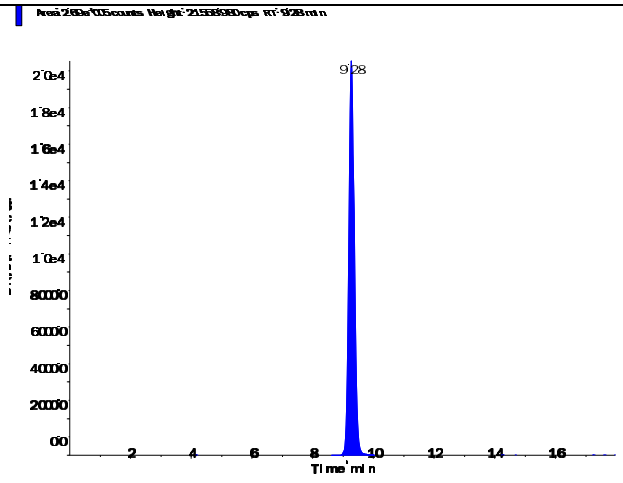
Sample Name	L16110321-02	**Injection Vial**	11.00
Data File	LM37584.wiff	**Injection Volume**	10.00
Acquisition Date	11/10/2016 1:49:16 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	111016_JWR.rdb
Sample ID	L16110321-02	**Dilution Factor**	1.00
Sample Comment	1,1 (Hist)	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	2.690e+05	9.28	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	8.160e+03	9.29	N/A	0.0863
Perchlorate conf	2.620e+03	9.29	N/A	0.0668

O18LP (Internal Standard)

RT (Exp. RT): 9.28(9.84) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



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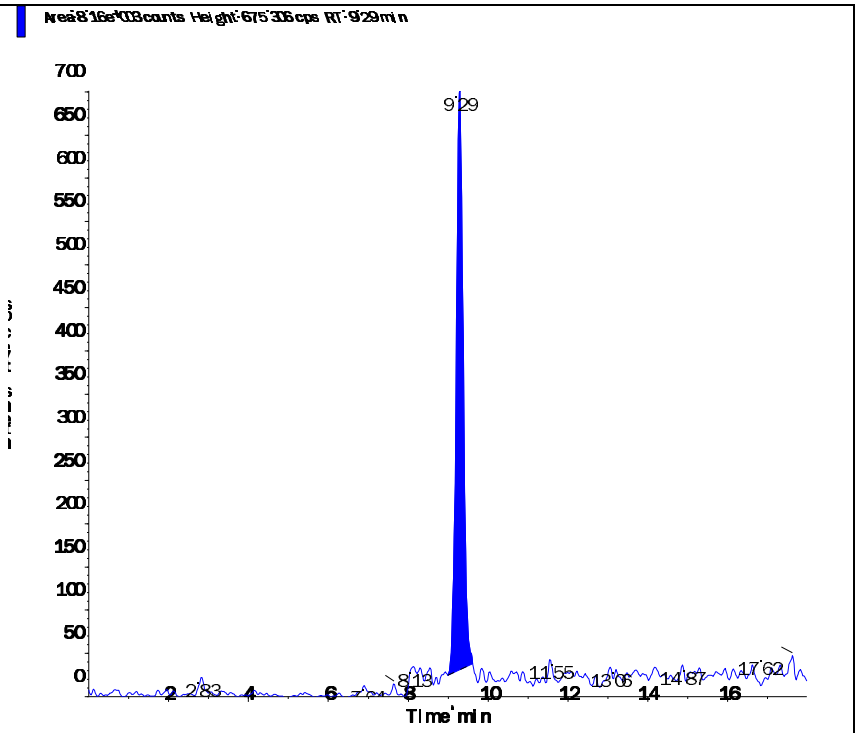
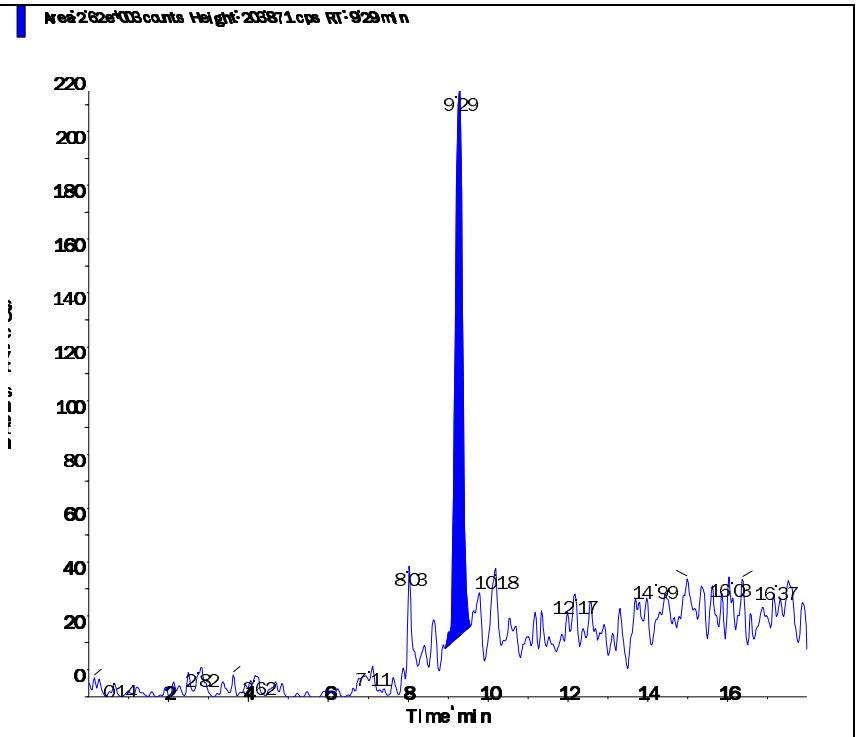
Printed: 11/11/2016 11:31 AM

Perchlorate (98.8/83.3 amu)	
RT (Exp. RT):	9.29 (9.84) min
Calculated conc:	0.0863 ng/ml
Area Ratio:	0.03
Sample Type:	(Unknown)



Perchlorate conf (100.8/85.2 amu)	
RT (Exp. RT):	9.29 (9.84) min
Calculated conc:	0.0668 ng/ml
Area Ratio:	0.01
Sample Type:	(Unknown)



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Printed: 11/11/2016 11:32 AM

Data File	LM37585.wiff	**Result Table**	111016_JWR.rdb
Acquisition Date	11/10/2016 2:08:13 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

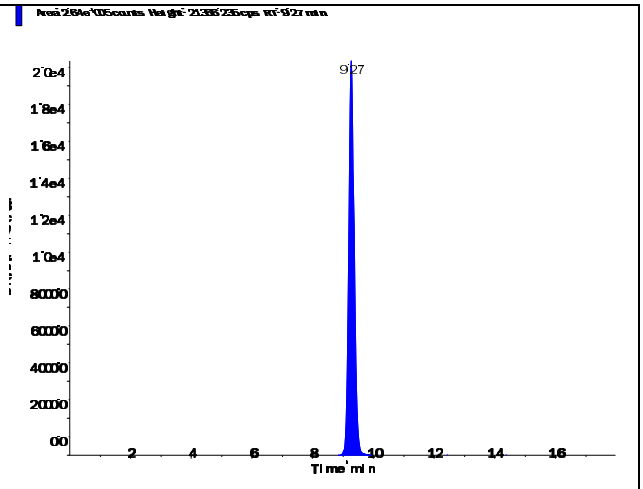
Sample Name	L16110321-03	**Injection Vial**	12.00
Data File	LM37585.wiff	**Injection Volume**	10.00
Acquisition Date	11/10/2016 2:08:13 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	111016_JWR.rdb
Sample ID	L16110321-03	**Dilution Factor**	1.00
Sample Comment	1,1 (Hist)	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	2.640e+05	9.27	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	8.580e+03	9.28	N/A	0.093
Perchlorate conf	3.270e+03	9.25	N/A	0.0906

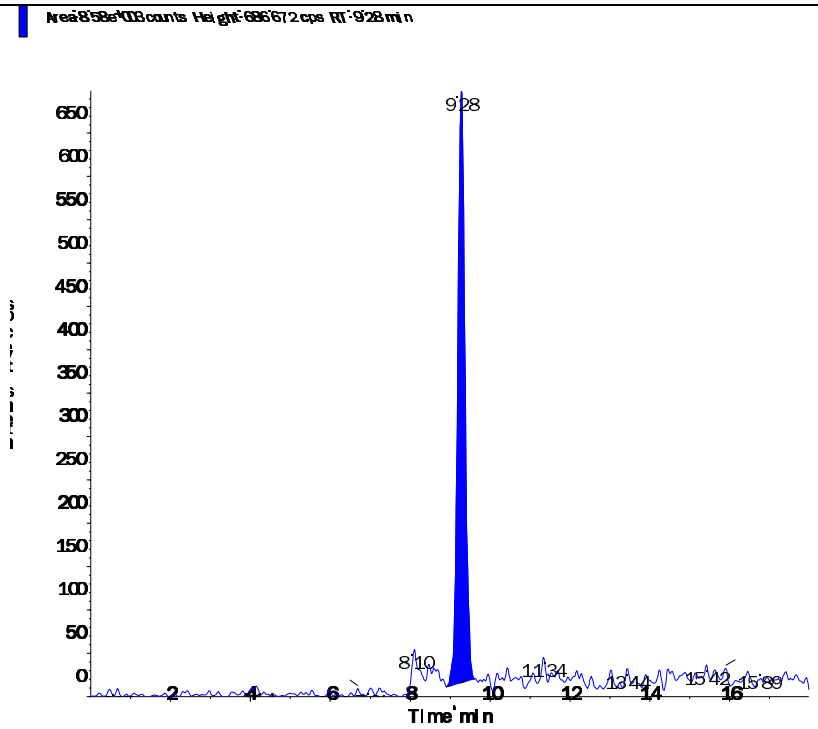
O18LP (Internal Standard)

RT (Exp. RT): 9.27(9.84) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



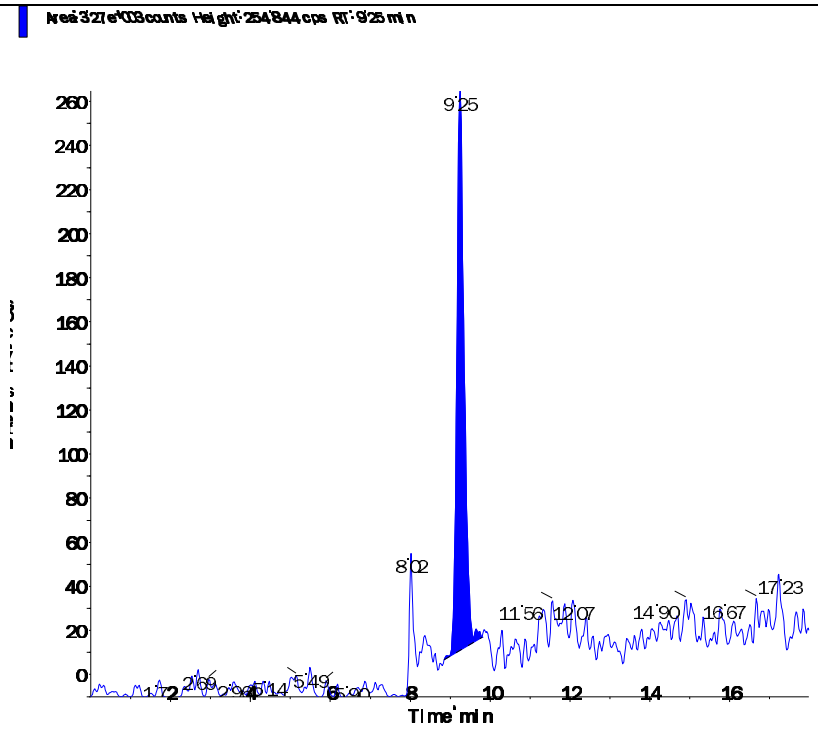
Perchlorate (98.8/83.3 amu)

RT (Exp. RT):	9.28 (9.84) min
Calculated conc:	0.093 ng/ml
Area Ratio:	0.033
Sample Type:	(Unknown)



Perchlorate conf (100.8/85.2 amu)

RT (Exp. RT):	9.25 (9.84) min
Calculated conc:	0.0906 ng/ml
Area Ratio:	0.012
Sample Type:	(Unknown)



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Data File	LM37580.wiff	**Result Table**	111016_JWR.rdb
Acquisition Date	11/10/2016 12:33:28 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

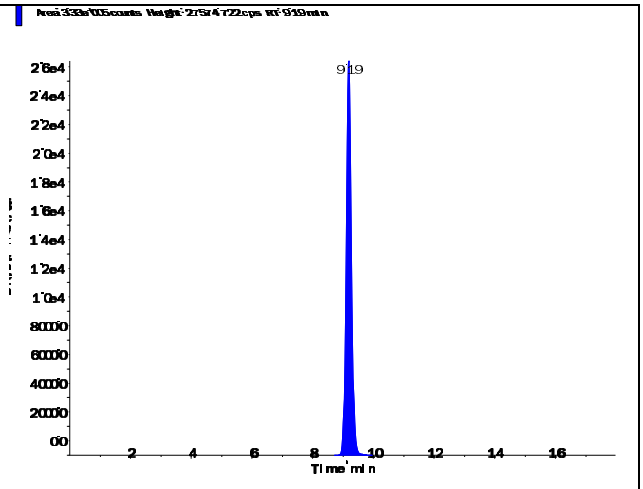
Sample Name	L16110321-04 RS	**Injection Vial**	7.00
Data File	LM37580.wiff	**Injection Volume**	10.00
Acquisition Date	11/10/2016 12:33:28 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	111016_JWR.rdb
Sample ID	WG591037-04	**Dilution Factor**	1.00
Sample Comment	1,1 (Hist)	**Weight to Volume**	0.00

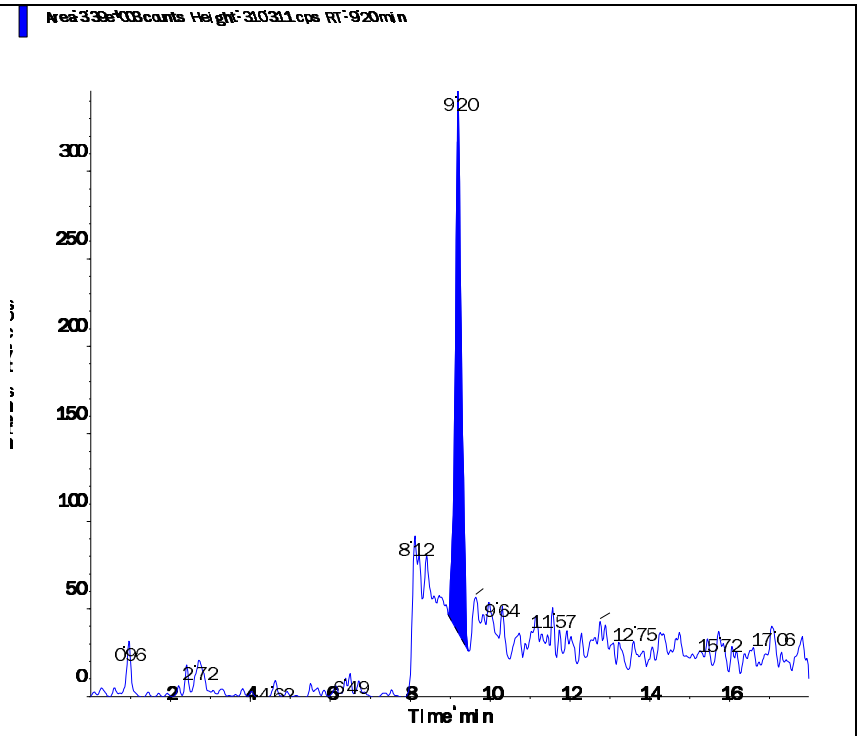
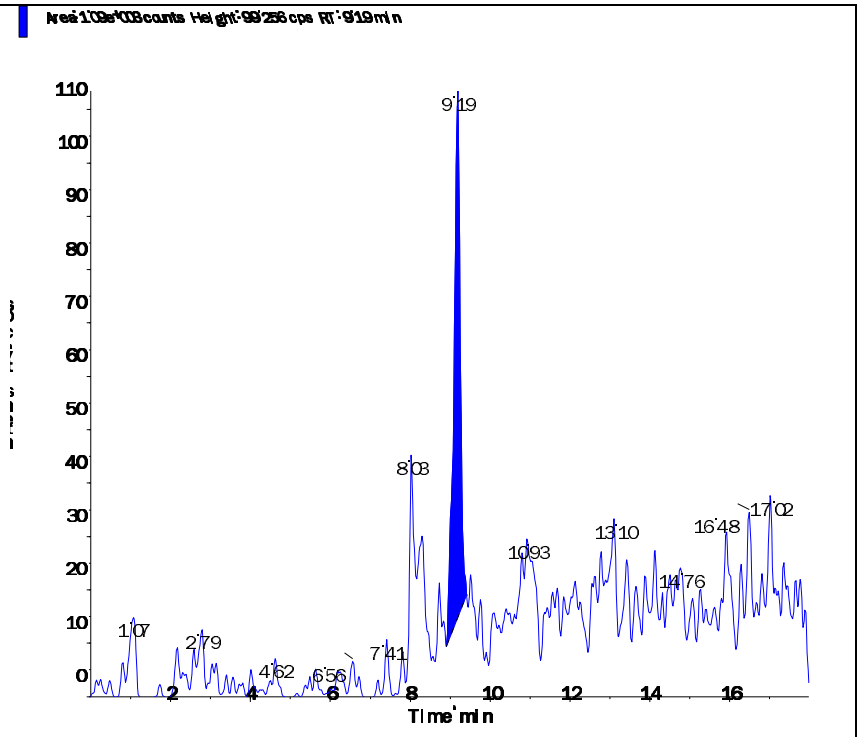
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	3.330e+05	9.19	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	3.390e+03	9.20	N/A	0.0264
Perchlorate conf	1.090e+03	9.19	N/A	0.009

O18LP (Internal Standard)

RT (Exp. RT): 9.19(9.84) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.20 (9.84) min Calculated conc: 0.0264 ng/ml Area Ratio: 0.01 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.19 (9.84) min Calculated conc: 0.009 ng/ml Area Ratio: 0.003 Sample Type: (Unknown)	

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Printed: 11/11/2016 11:30 AM

Data File	LM37581.wiff	**Result Table**	111016_JWR.rdb
Acquisition Date	11/10/2016 12:52:24 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

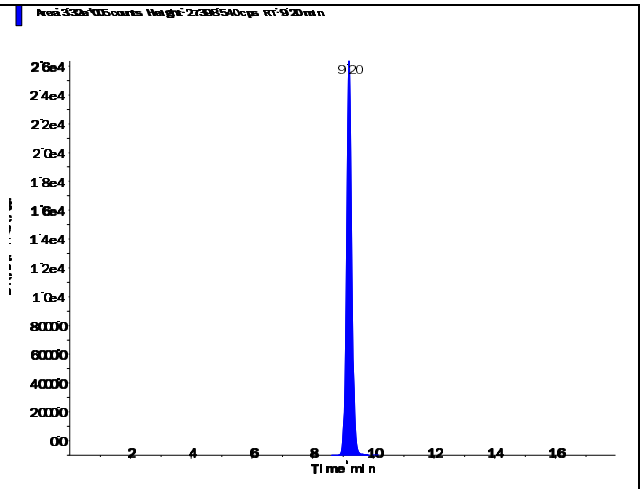
Sample Name	L16110321-05 MS	**Injection Vial**	8.00
Data File	LM37581.wiff	**Injection Volume**	10.00
Acquisition Date	11/10/2016 12:52:24 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	111016_JWR.rdb
Sample ID	WG591037-05	**Dilution Factor**	1.00
Sample Comment	1,1 STD78251	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	3.320e+05	9.20	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	2.240e+04	9.21	N/A	0.197
Perchlorate conf	7.680e+03	9.19	N/A	0.187

O18LP (Internal Standard)

RT (Exp. RT): 9.20(9.84) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



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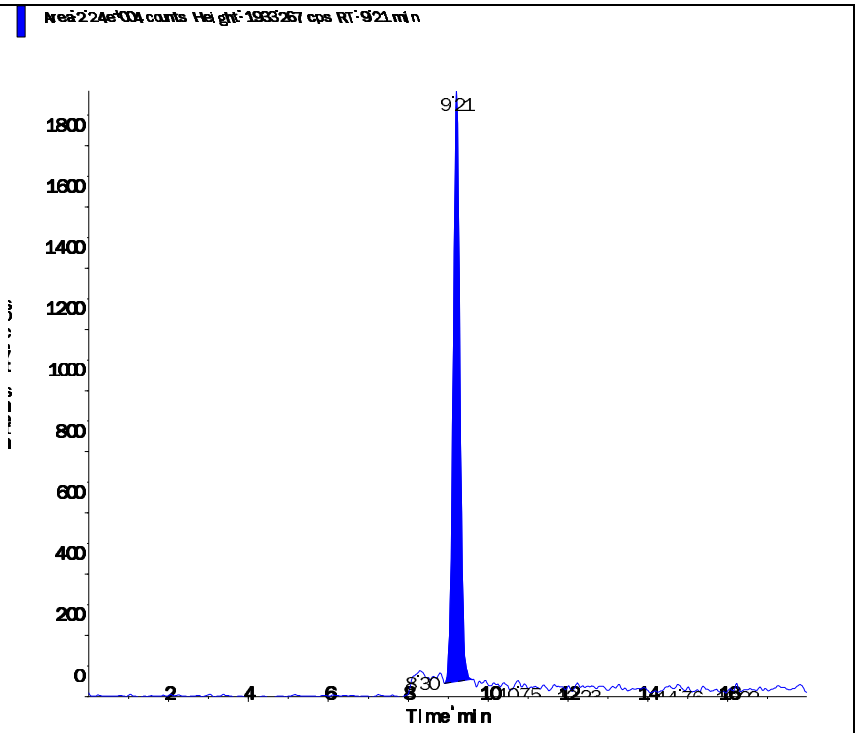
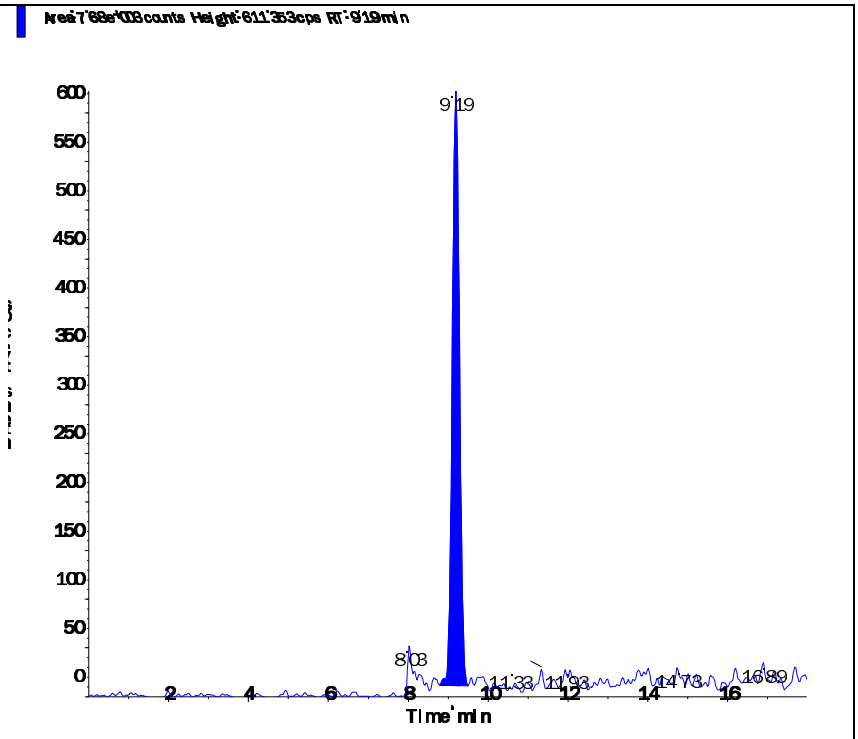
Perchlorate (98.8/83.3 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	 9.21 (9.84) min 0.197 ng/ml 0.068 (Unknown)



Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	 9.19 (9.84) min 0.187 ng/ml 0.023 (Unknown)



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Printed: 11/11/2016 11:31 AM

Data File	LM37582.wiff	**Result Table**	111016_JWR.rdb
Acquisition Date	11/10/2016 1:11:21 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

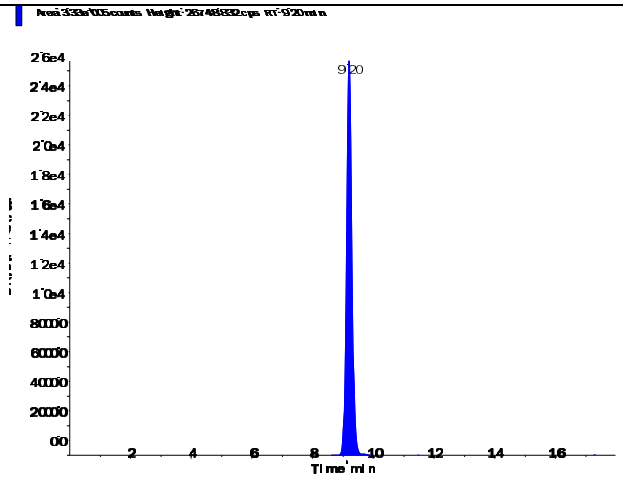
Sample Name	L16110321-06 MSD	**Injection Vial**	9.00
Data File	LM37582.wiff	**Injection Volume**	10.00
Acquisition Date	11/10/2016 1:11:21 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	111016_JWR.rdb
Sample ID	WG591037-06	**Dilution Factor**	1.00
Sample Comment	1,1 STD78251	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	3.330e+05	9.20	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	2.270e+04	9.21	N/A	0.20
Perchlorate conf	8.140e+03	9.20	N/A	0.199

O18LP (Internal Standard)

RT (Exp. RT): 9.20(9.84) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



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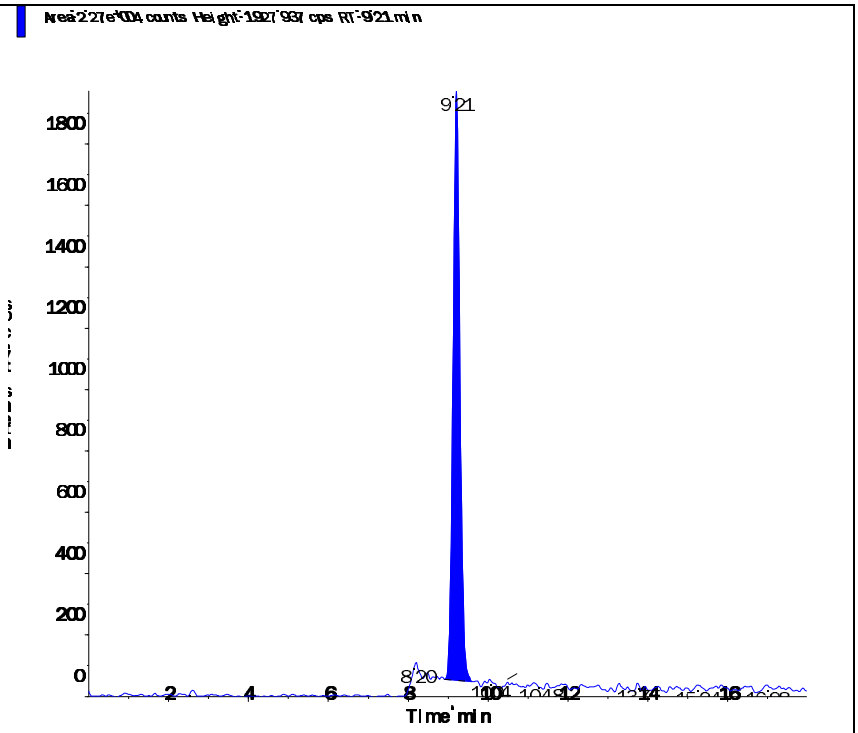
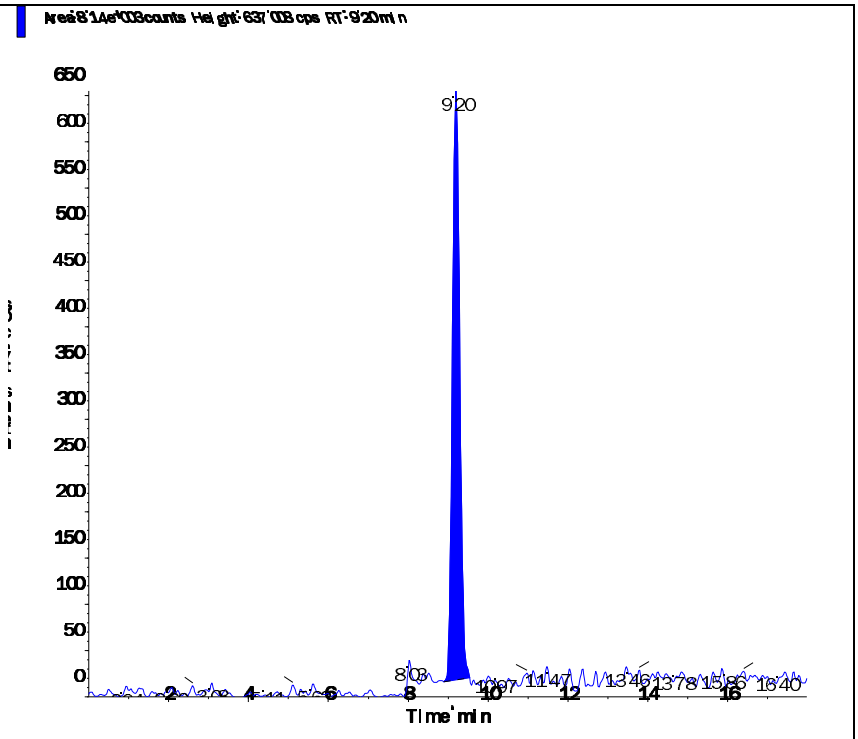
Printed: 11/11/2016 11:31 AM

Perchlorate (98.8/83.3 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	9.21 (9.84) min 0.20 ng/ml 0.068 (Unknown)



Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	9.20 (9.84) min 0.199 ng/ml 0.024 (Unknown)



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Created with Analyst Reporter
Printed: 11/11/2016 11:32 AM

Data File	LM37586.wiff	**Result Table**	111016_JWR.rdb
Acquisition Date	11/10/2016 2:27:07 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

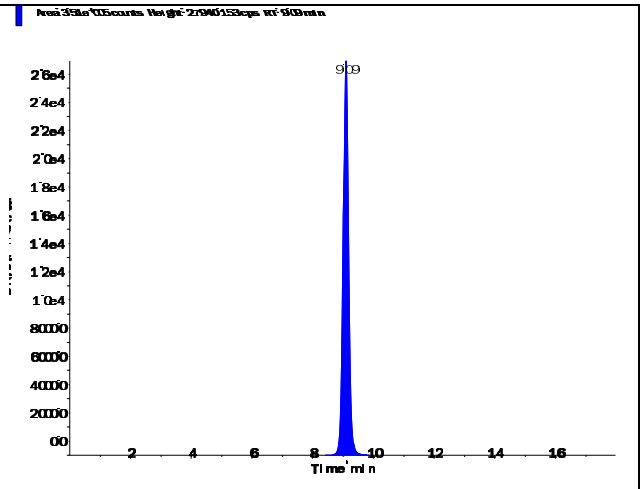
Sample Name	L16110321-07	**Injection Vial**	13.00
Data File	LM37586.wiff	**Injection Volume**	10.00
Acquisition Date	11/10/2016 2:27:07 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	111016_JWR.rdb
Sample ID	L16110321-07	**Dilution Factor**	1.00
Sample Comment	1,1 (Hist)	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	3.510e+05	9.09	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	6.910e+04	9.10	N/A	0.581
Perchlorate conf	2.370e+04	9.09	N/A	0.585

O18LP (Internal Standard)

RT (Exp. RT): 9.09(9.84) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



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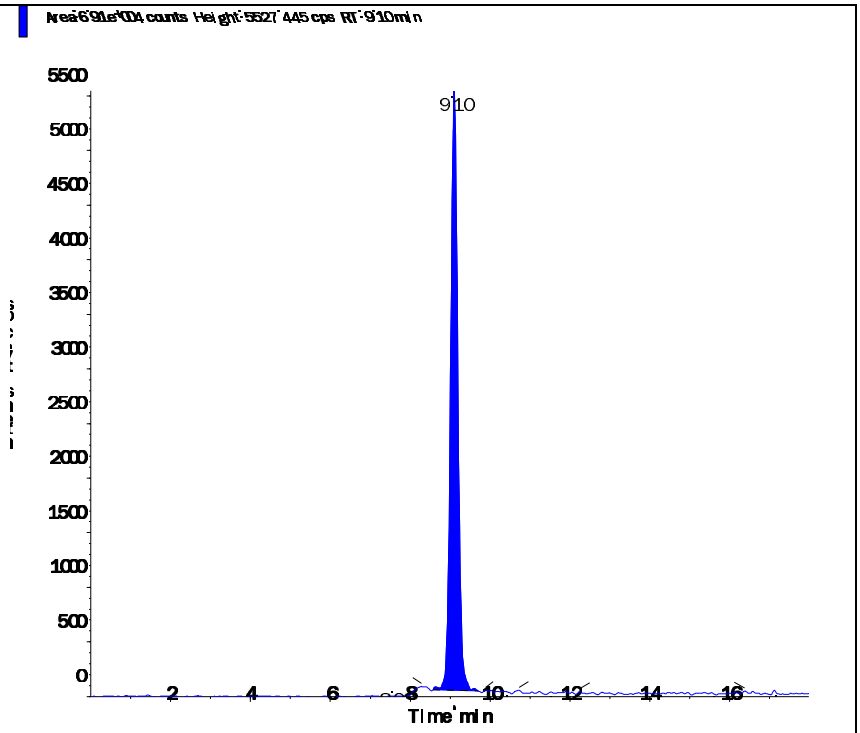
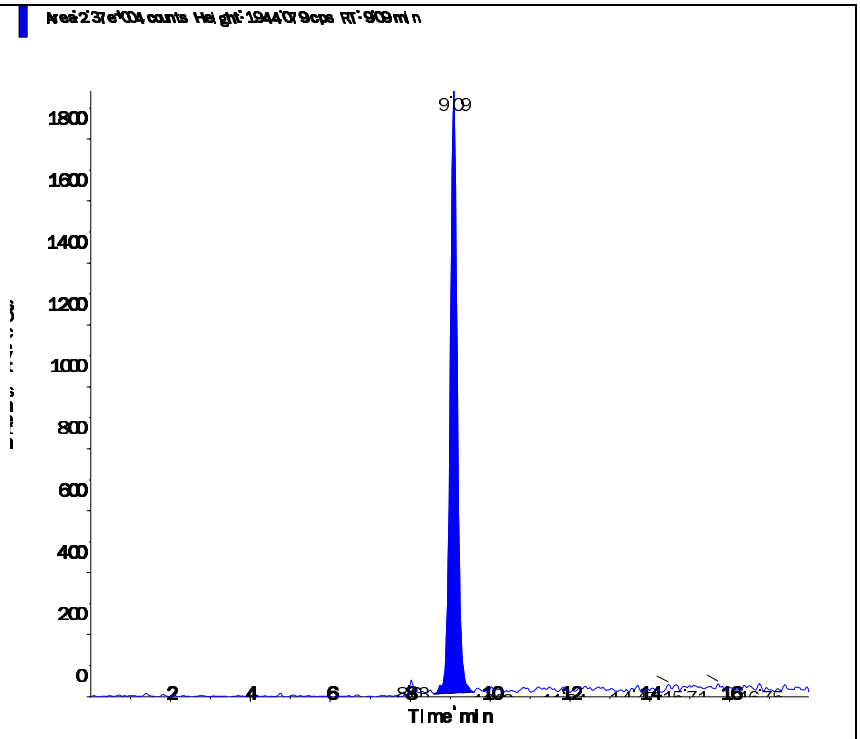
Printed: 11/11/2016 11:32 AM

Perchlorate (98.8/83.3 amu)	
RT (Exp. RT):	9.10 (9.84) min
Calculated conc:	0.581 ng/ml
Area Ratio:	0.197
Sample Type:	(Unknown)



Perchlorate conf (100.8/85.2 amu)	
RT (Exp. RT):	9.09 (9.84) min
Calculated conc:	0.585 ng/ml
Area Ratio:	0.068
Sample Type:	(Unknown)



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Printed: 11/11/2016 11:33 AM

Data File	LM37590.wiff	**Result Table**	111016_JWR.rdb
Acquisition Date	11/10/2016 3:42:51 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

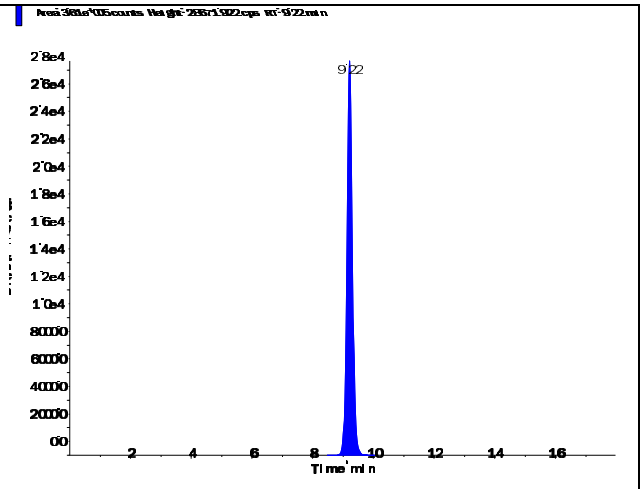
Sample Name	L16110321-08	**Injection Vial**	14.00
Data File	LM37590.wiff	**Injection Volume**	10.00
Acquisition Date	11/10/2016 3:42:51 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	111016_JWR.rdb
Sample ID	L16110321-08	**Dilution Factor**	1.00
Sample Comment	1,1 (Hist)	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	3.610e+05	9.22	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	5.350e+03	9.23	N/A	0.0402
Perchlorate conf	2.340e+03	9.22	N/A	0.0376

O18LP (Internal Standard)

RT (Exp. RT): 9.22(9.84) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



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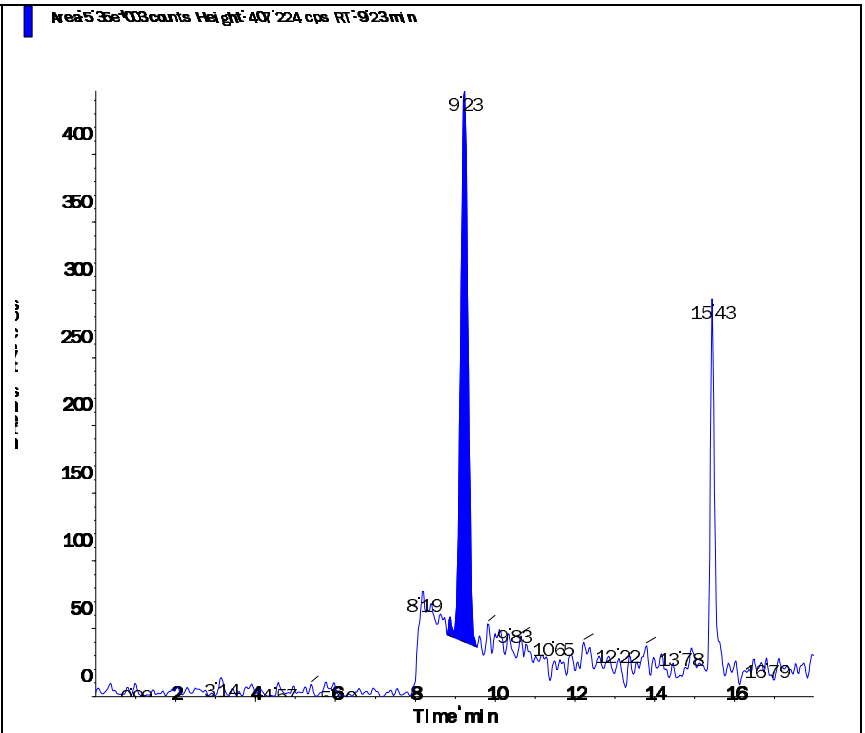
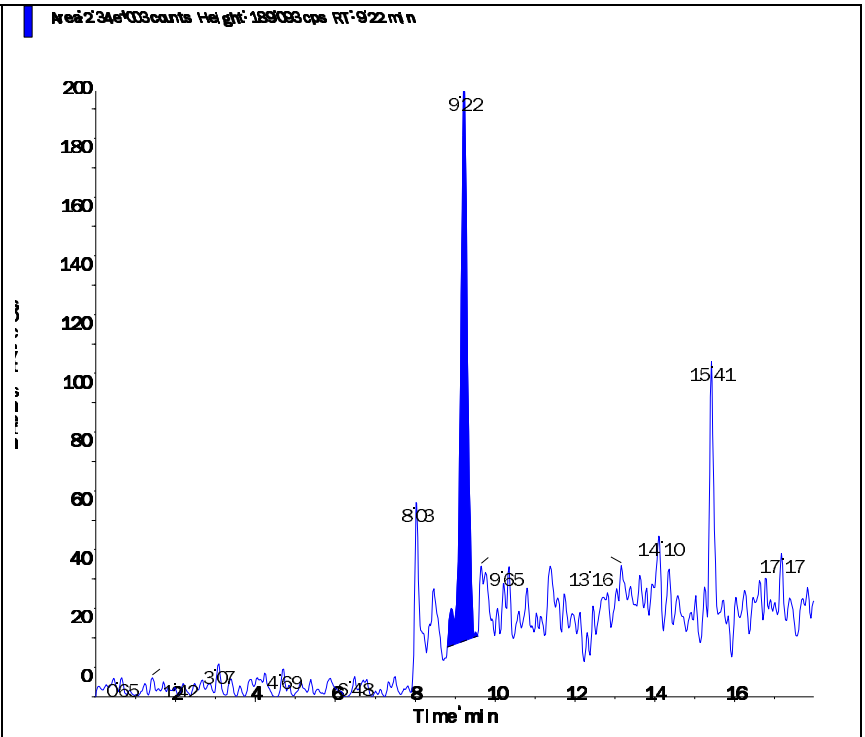
Printed: 11/11/2016 11:33 AM

Perchlorate (98.8/83.3 amu)	
RT (Exp. RT): 9.23 (9.84) min Calculated conc: 0.0402 ng/ml Area Ratio: 0.015 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu)	
RT (Exp. RT): 9.22 (9.84) min Calculated conc: 0.0376 ng/ml Area Ratio: 0.006 Sample Type: (Unknown)	

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Printed: 11/11/2016 11:34 AM

Data File	LM37592.wiff	**Result Table**	111016_JWR.rdb
Acquisition Date	11/10/2016 4:20:43 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

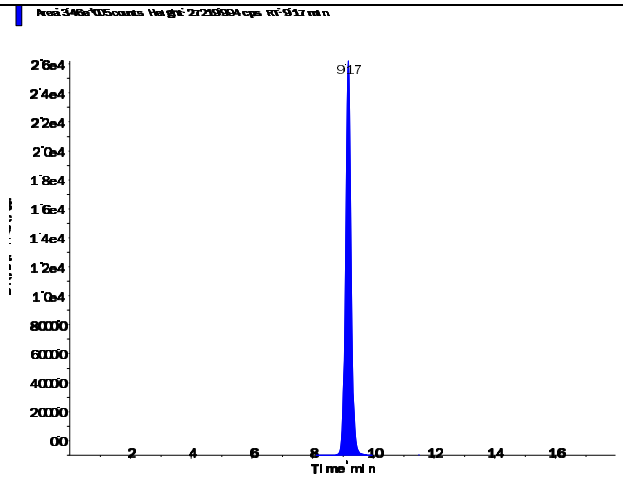
Sample Name	L16110321-09	**Injection Vial**	16.00
Data File	LM37592.wiff	**Injection Volume**	10.00
Acquisition Date	11/10/2016 4:20:43 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	111016_JWR.rdb
Sample ID	L16110321-09	**Dilution Factor**	1.00
Sample Comment	1,1 (Hist)	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	3.460e+05	9.17	5.00	-

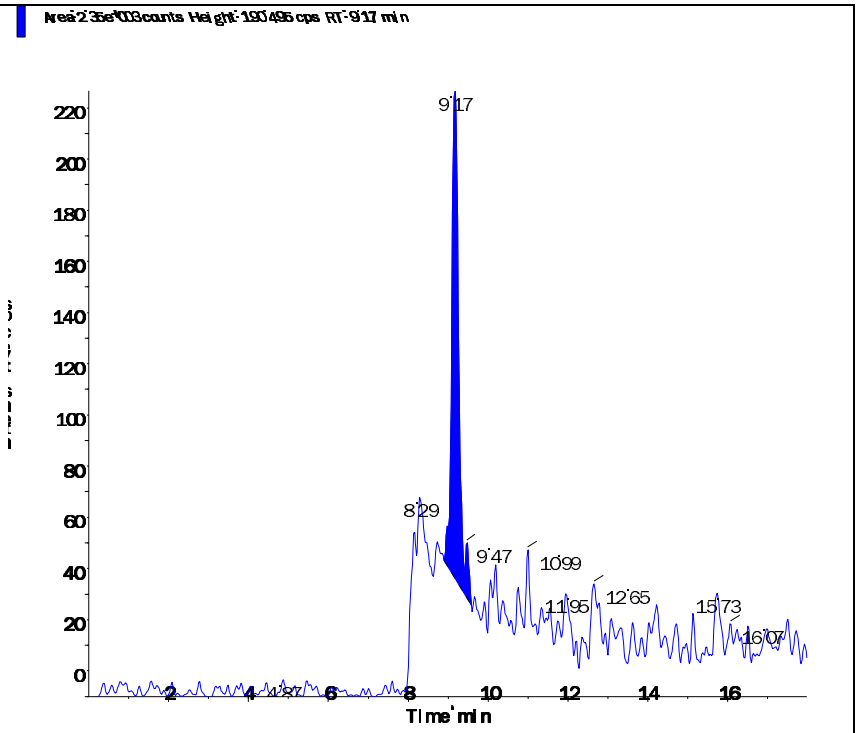
Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	2.350e+03	9.17	N/A	0.0164
Perchlorate conf	9.490e+02	9.17	N/A	0.0042

O18LP (Internal Standard)

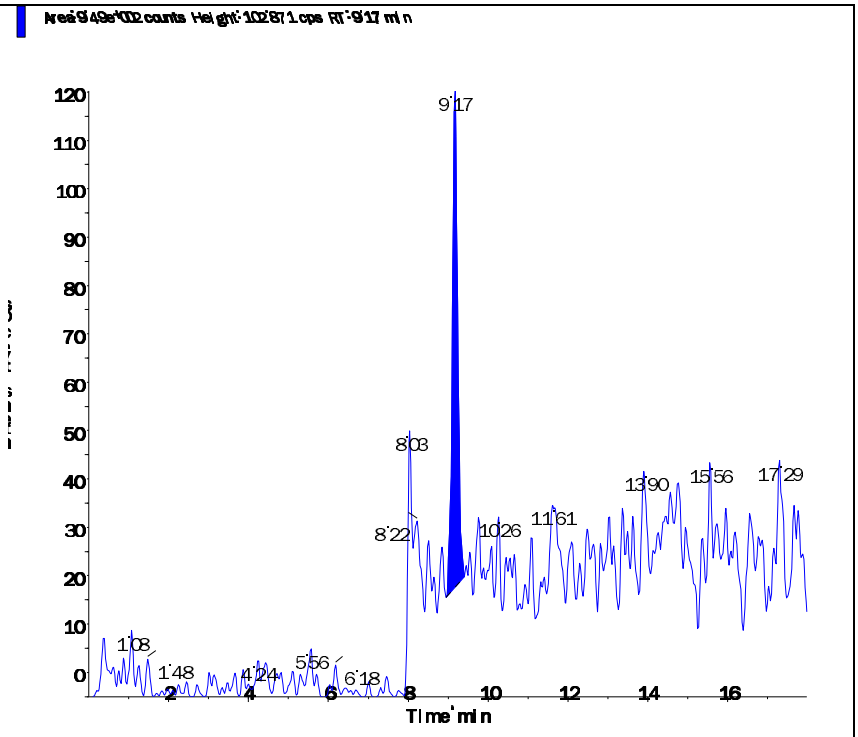
RT (Exp. RT): 9.17(9.84) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	9.17 (9.84) min 0.0164 ng/ml 0.007 (Unknown)



Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	9.17 (9.84) min 0.0042 ng/ml 0.003 (Unknown)



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Data File	LM37593.wiff	**Result Table**	111016_JWR.rdb
Acquisition Date	11/10/2016 4:39:40 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

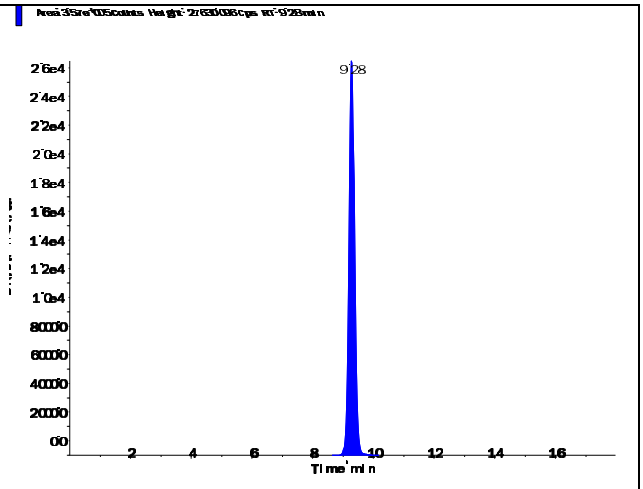
Sample Name	L16110321-10	**Injection Vial**	17.00
Data File	LM37593.wiff	**Injection Volume**	10.00
Acquisition Date	11/10/2016 4:39:40 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	111016_JWR.rdb
Sample ID	L16110321-10	**Dilution Factor**	1.00
Sample Comment	1,1 (Hist)	**Weight to Volume**	0.00

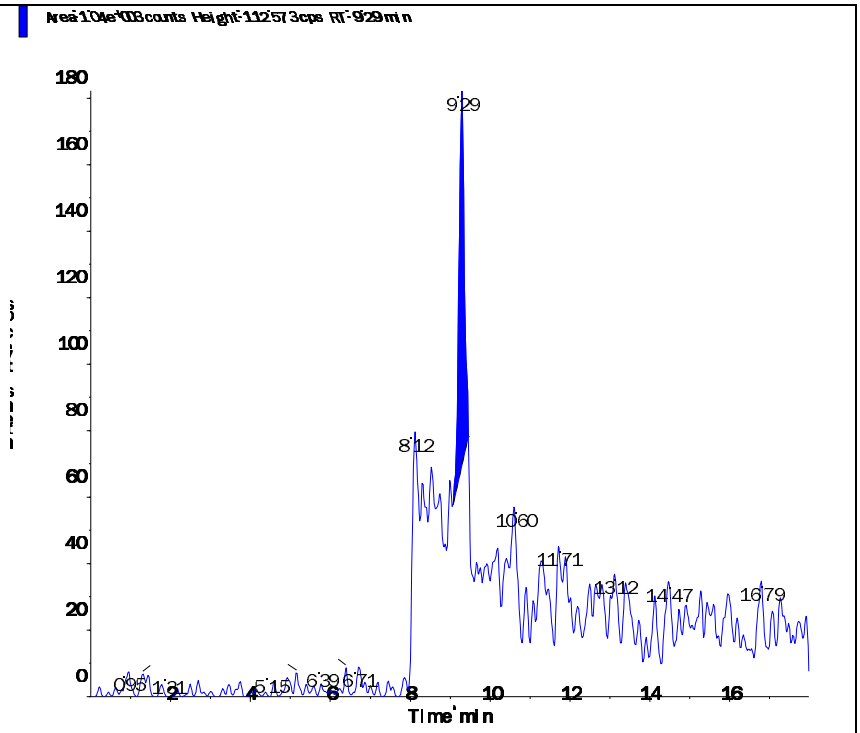
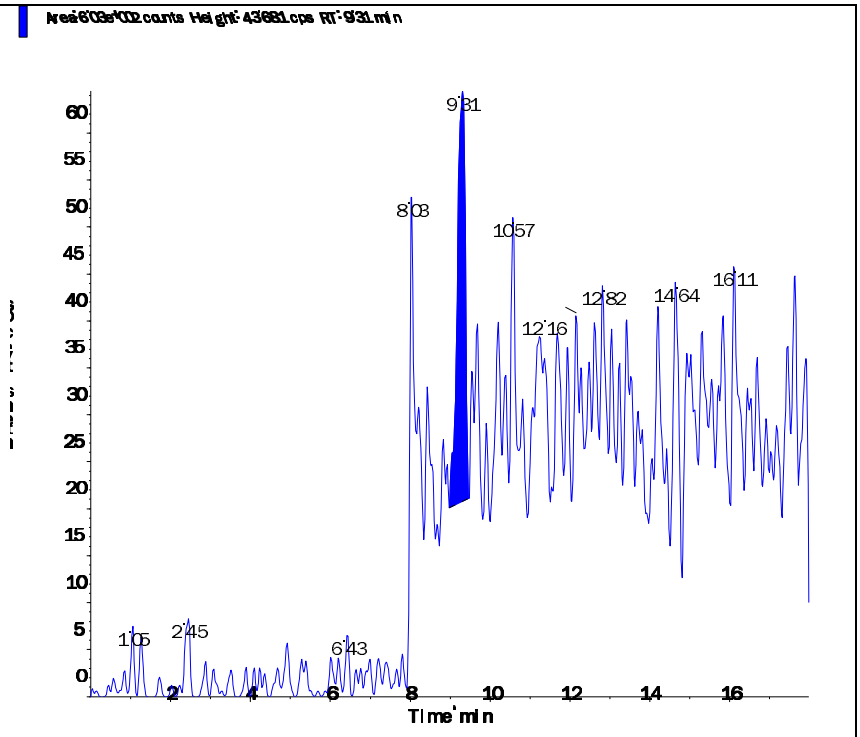
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	3.570e+05	9.28	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.040e+03	9.29	N/A	0.0049
Perchlorate conf	6.030e+02	9.31	N/A	< 0

O18LP (Internal Standard)

RT (Exp. RT): 9.28(9.84) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.29 (9.84) min Calculated conc: 0.0049 ng/ml Area Ratio: 0.003 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.31 (9.84) min Calculated conc: < 0 ng/ml Area Ratio: 0.002 Sample Type: (Unknown)	

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Data File	LM37594.wiff	**Result Table**	111016_JWR.rdb
Acquisition Date	11/10/2016 4:58:34 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

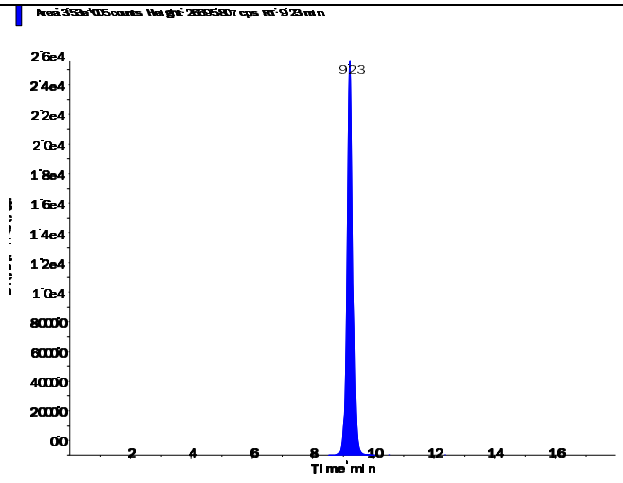
Sample Name	L16110321-11	**Injection Vial**	18.00
Data File	LM37594.wiff	**Injection Volume**	10.00
Acquisition Date	11/10/2016 4:58:34 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	111016_JWR.rdb
Sample ID	L16110321-11	**Dilution Factor**	1.00
Sample Comment	1,1 (Hist)	**Weight to Volume**	0.00

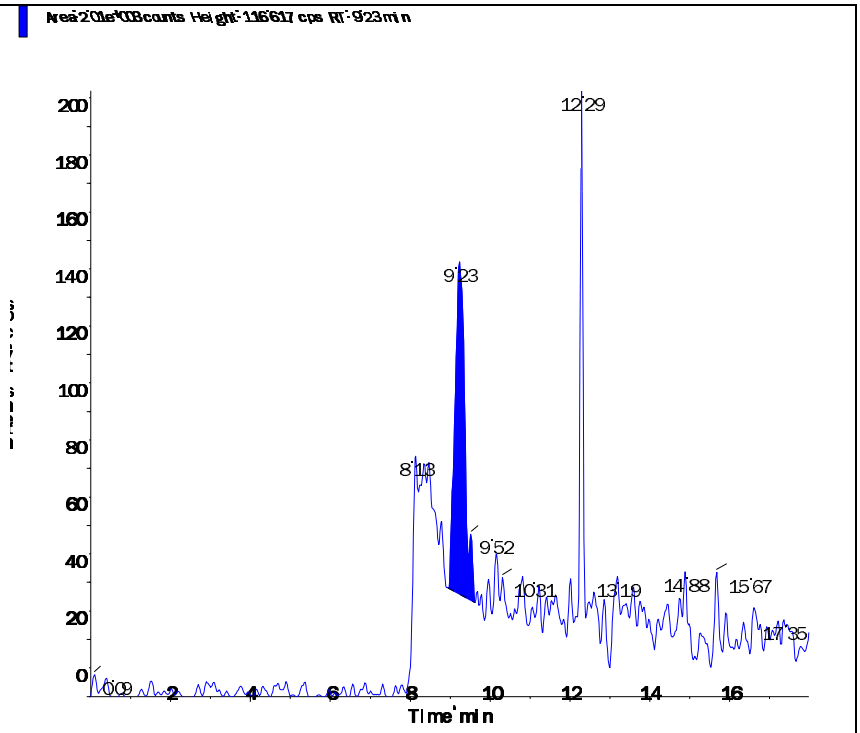
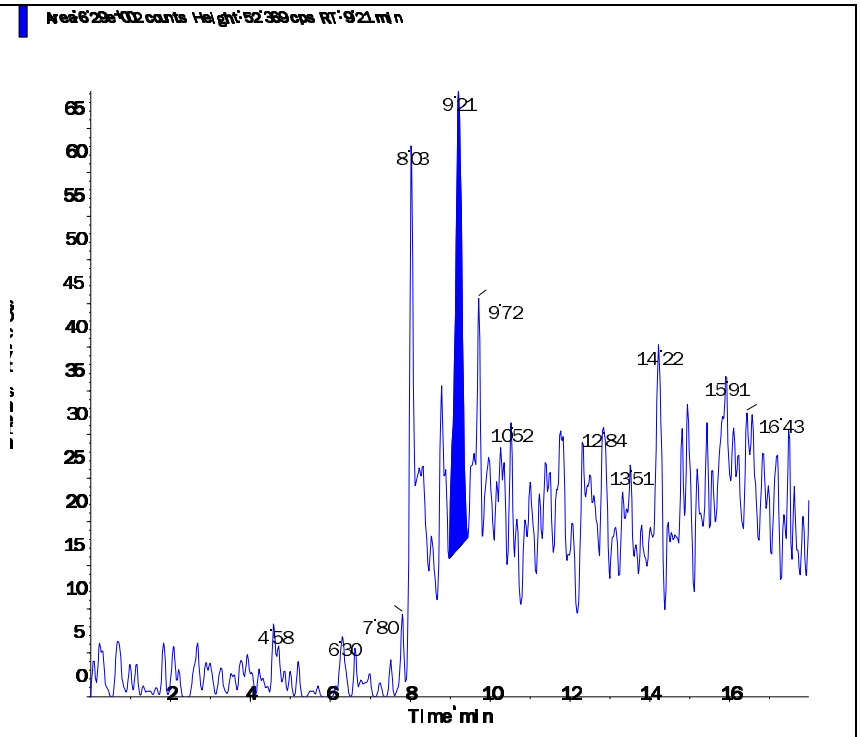
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	3.530e+05	9.23	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	2.010e+03	9.23	N/A	0.0131
Perchlorate conf	6.290e+02	9.21	N/A	< 0

O18LP (Internal Standard)

RT (Exp. RT): 9.23(9.84) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.23 (9.84) min Calculated conc: 0.0131 ng/ml Area Ratio: 0.006 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.21 (9.84) min Calculated conc: < 0 ng/ml Area Ratio: 0.002 Sample Type: (Unknown)	

2.2.1.4 Standards Data

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Data File	LM34686.wiff	**Result Table**	111016_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		

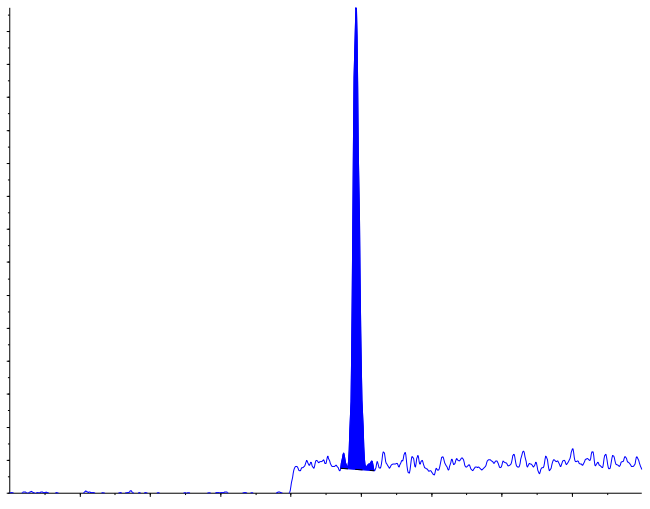
Sample Name	WG567320-01 CCB	**Injection Vial**	1.00
Data File	LM34686.wiff	**Injection Volume**	10.00
Acquisition Date	5/3/2016 3:06:05 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	111016_JWR.rdb
Sample ID	WG567320-01	**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

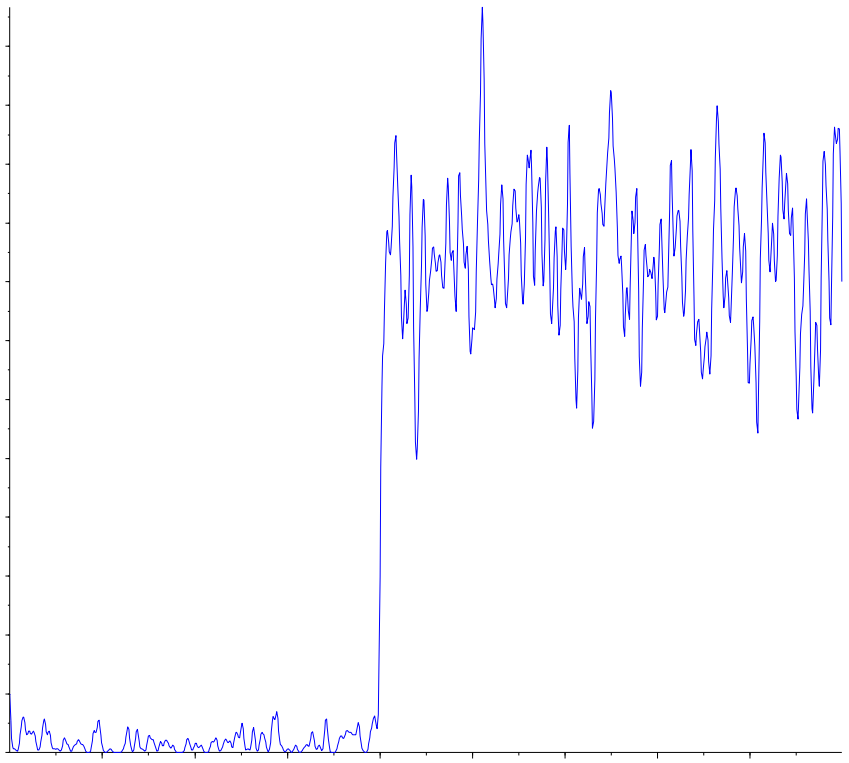
O18LP (Internal Standard)

RT (Exp. RT): 9.84(9.84) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



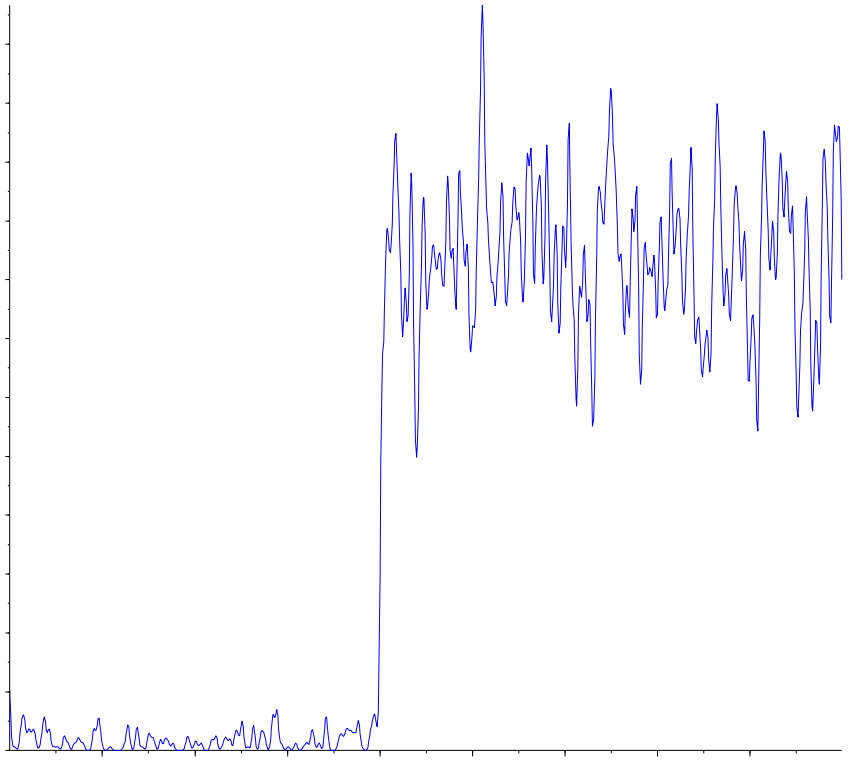
Perchlorate (98.8/83.3 amu)

RT (Exp. RT):	0.00 (9.84) min
Calculated conc:	No Peak ng/ml
Area Ratio:	0.00
Sample Type:	(Unknown)



Perchlorate conf (100.8/85.2 amu)

RT (Exp. RT):	0.00 (9.84) min
Calculated conc:	No Peak ng/ml
Area Ratio:	0.00
Sample Type:	(Unknown)



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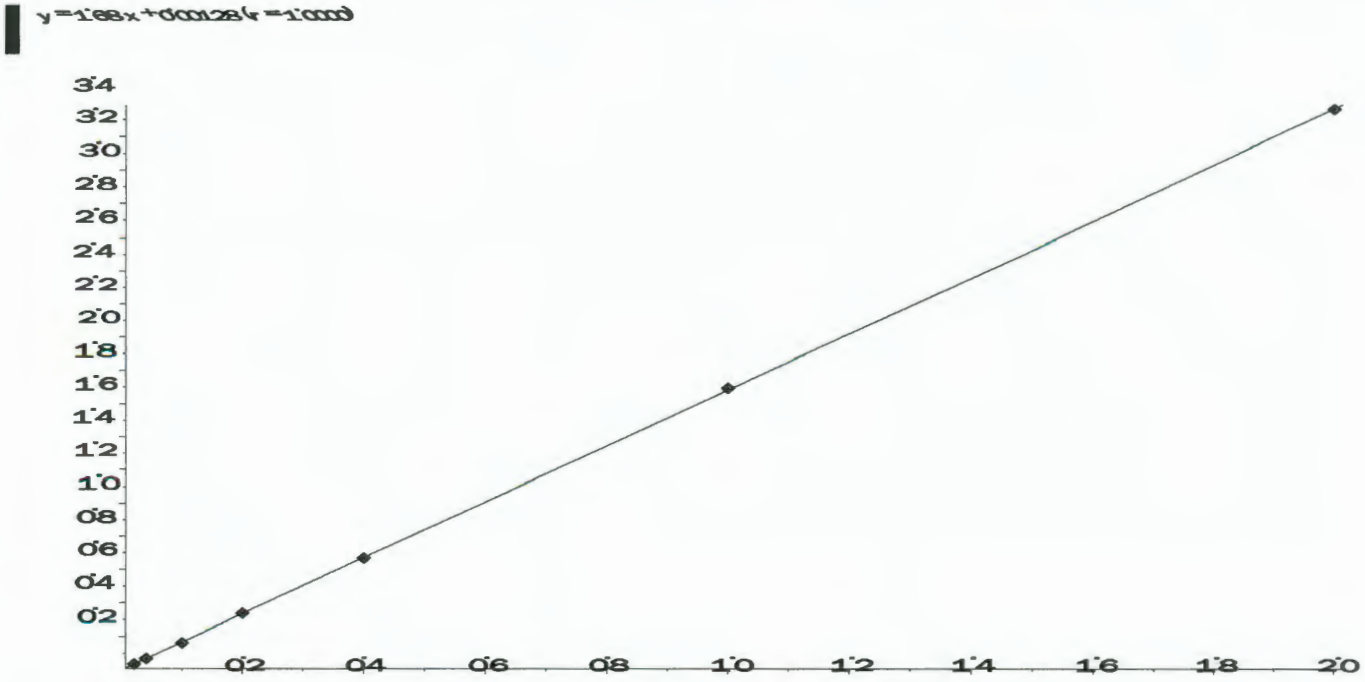
Analyte Name: **Perchlorate**
Internal Standard: O18LP

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 = 1.68 x + 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



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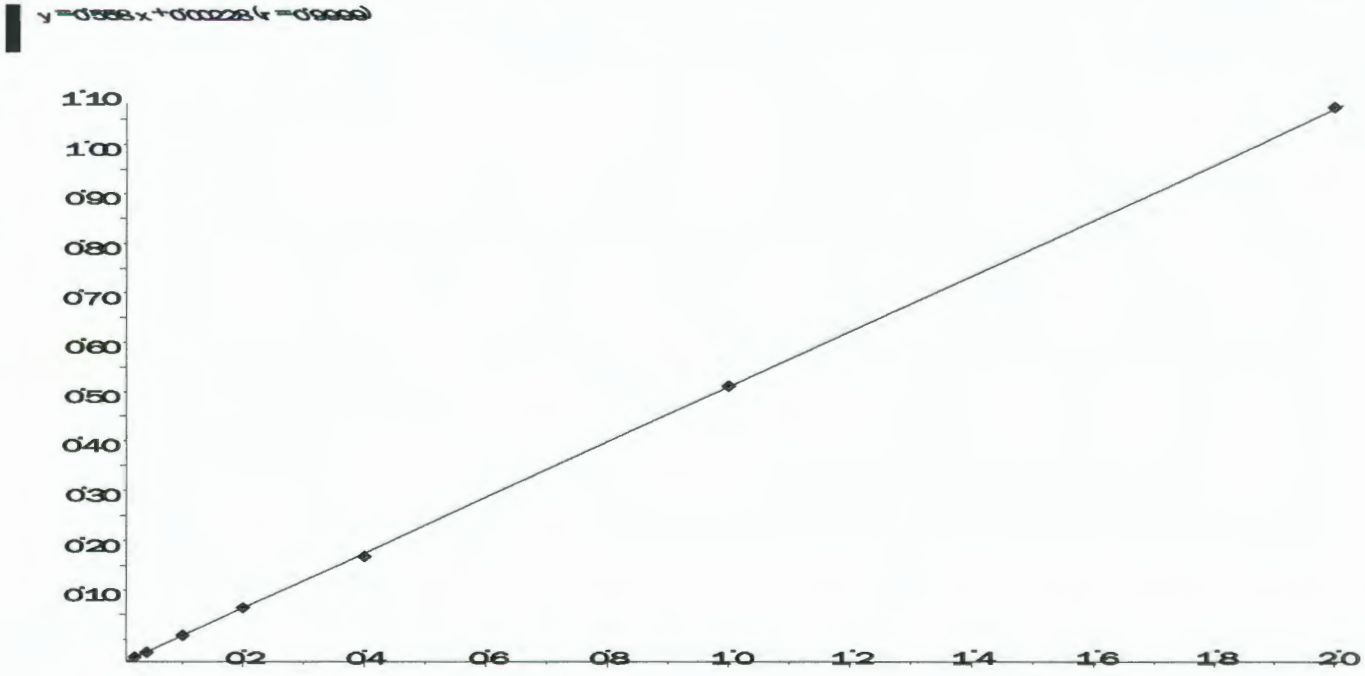
Printed: 5/4/2016 1:20 PM

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 = 0.558 x + 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



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Created with Analyst Reporter
Printed: 11/11/2016 11:25 AM

Data File	LM34687.wiff	**Result Table**	111016_JWR.rdb
Acquisition Date	5/3/2016 3:25:04 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

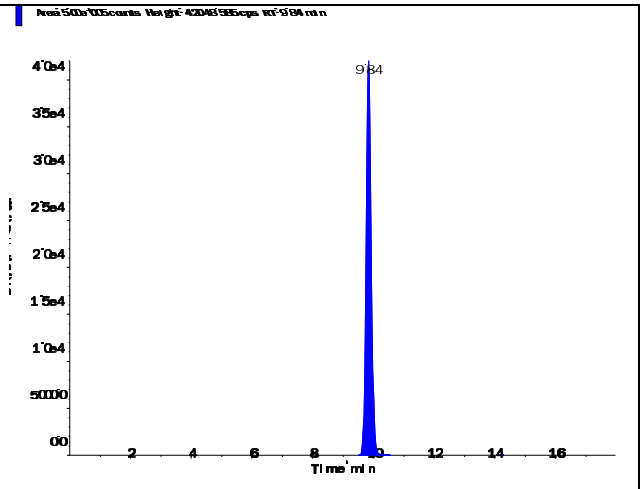
Sample Name	WG567320-02 STD (0.1 ug/L)	**Injection Vial**	2.00
Data File	LM34687.wiff	**Injection Volume**	10.00
Acquisition Date	5/3/2016 3:25:04 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Standard
Instrument Name	API 4000	**Result Table**	111016_JWR.rdb
Sample ID	WG567320-02	**Dilution Factor**	1.00
Sample Comment	1,1 STD75510	**Weight to Volume**	0.00

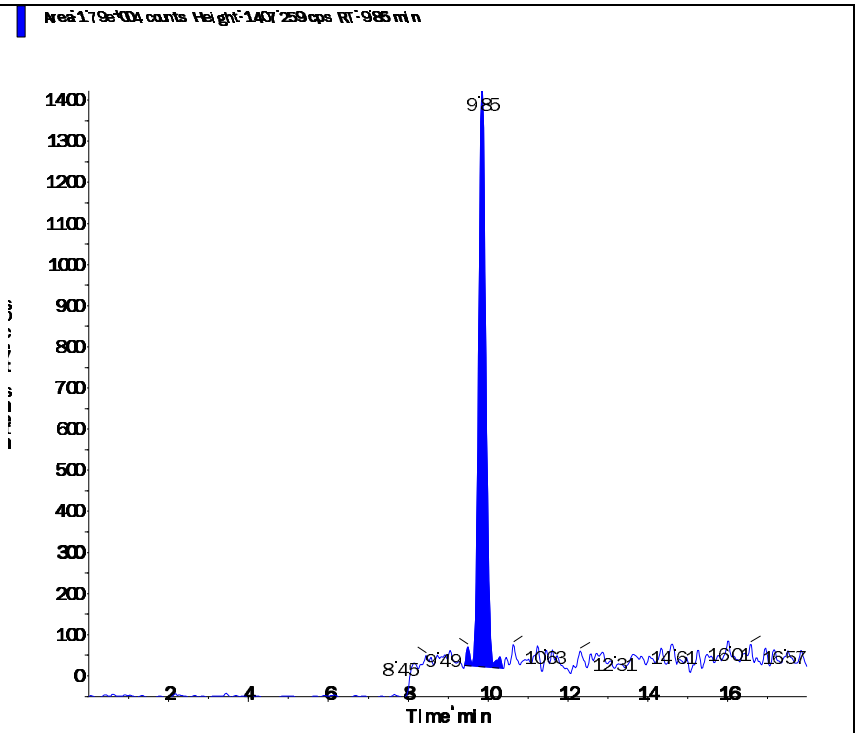
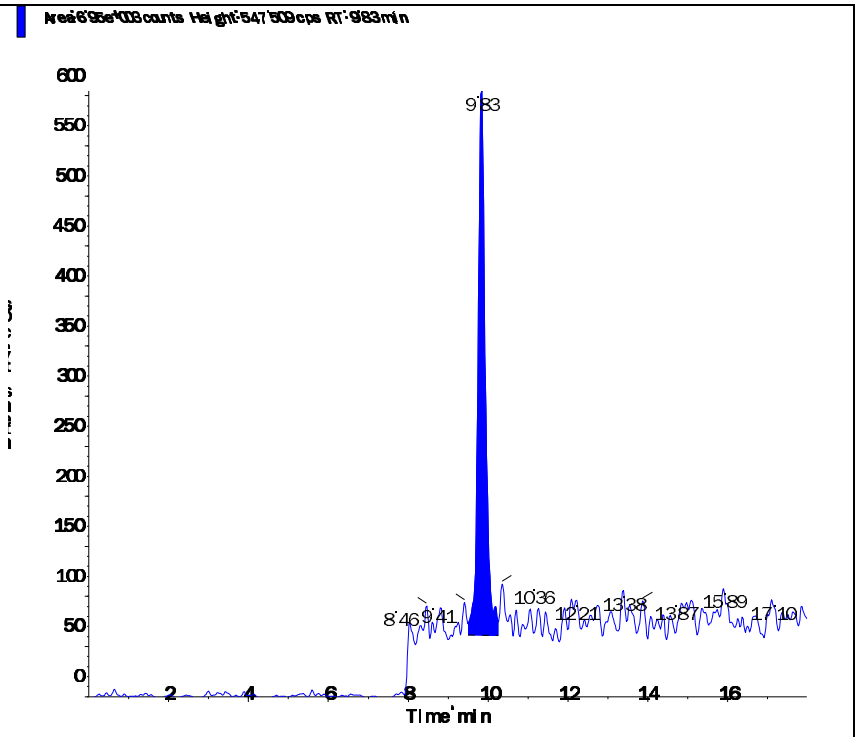
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	5.000e+05	9.84	5.00	-

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

O18LP (Internal Standard)

RT (Exp. RT): 9.84(9.84) min
Concentration: 5.00 ug/L
Sample Type: (Standard)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.85 (9.84) min Calculated conc: 0.103 ng/ml Area Ratio: 0.036 Sample Type: (Standard)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.83 (9.84) min Calculated conc: 0.104 ng/ml Area Ratio: 0.014 Sample Type: (Standard)	

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Data File	LM34688.wiff	**Result Table**	111016_JWR.rdb
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		

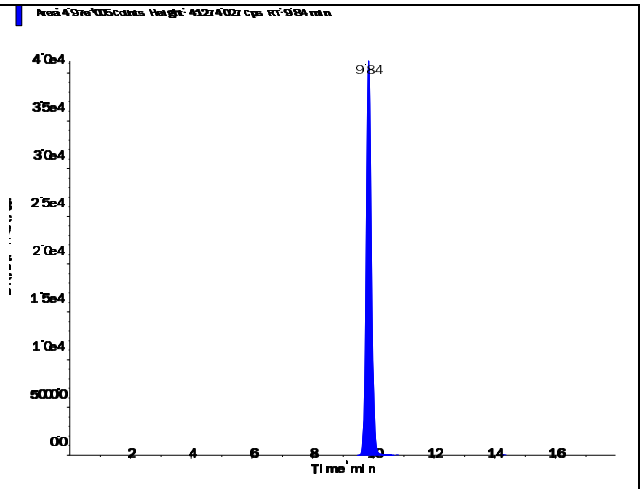
Sample Name	WG567320-03 STD (0.2 ug/L)	**Injection Vial**	3.00
Data File	LM34688.wiff	**Injection Volume**	10.00
Acquisition Date	5/3/2016 3:43:59 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Standard
Instrument Name	API 4000	**Result Table**	111016_JWR.rdb
Sample 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

O18LP (Internal Standard)

RT (Exp. RT): 9.84(9.84) min
Concentration: 5.00 ug/L
Sample Type: (Standard)



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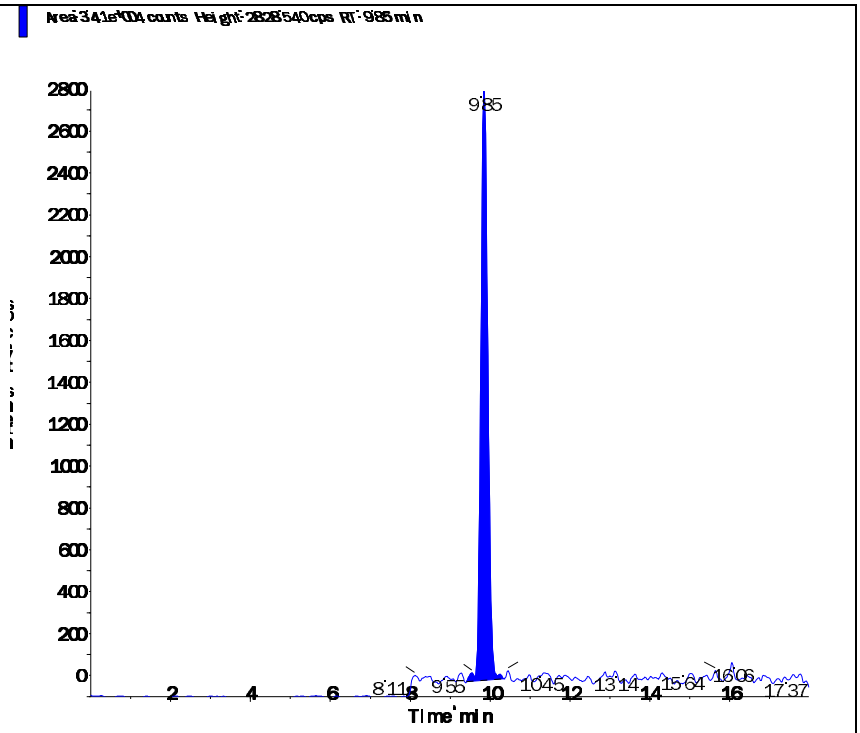
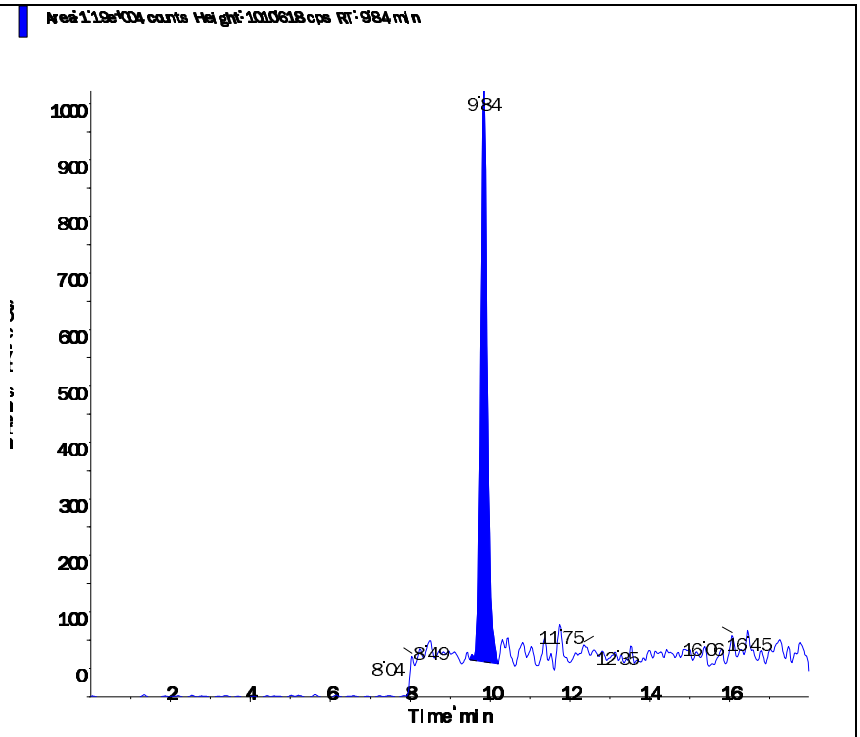
Perchlorate (98.8/83.3 amu)	
RT (Exp. RT):	9.85 (9.84) min
Calculated conc:	0.201 ng/ml
Area Ratio:	0.069
Sample Type:	(Standard)



Perchlorate conf (100.8/85.2 amu)	
RT (Exp. RT):	9.84 (9.84) min
Calculated conc:	0.194 ng/ml
Area Ratio:	0.024
Sample Type:	(Standard)



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Data File	LM34689.wiff	**Result Table**	111016_JWR.rdb
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		

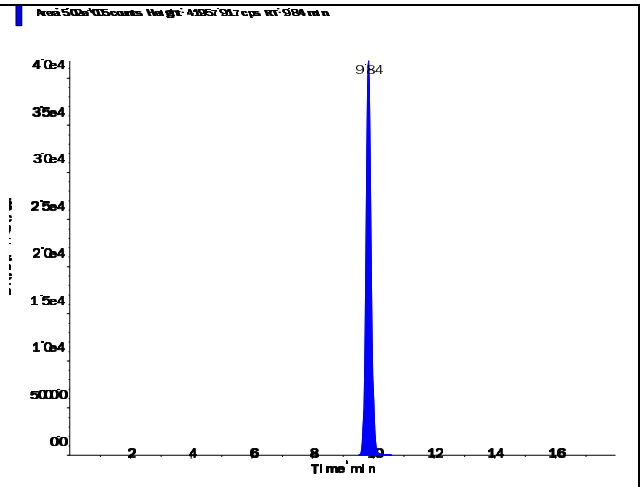
Sample Name	WG567320-04 STD (0.5 ug/L)	**Injection Vial**	4.00
Data File	LM34689.wiff	**Injection Volume**	10.00
Acquisition Date	5/3/2016 4:02:52 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Standard
Instrument Name	API 4000	**Result Table**	111016_JWR.rdb
Sample 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

O18LP (Internal Standard)

RT (Exp. RT): 9.84(9.84) min
Concentration: 5.00 ug/L
Sample Type: (Standard)



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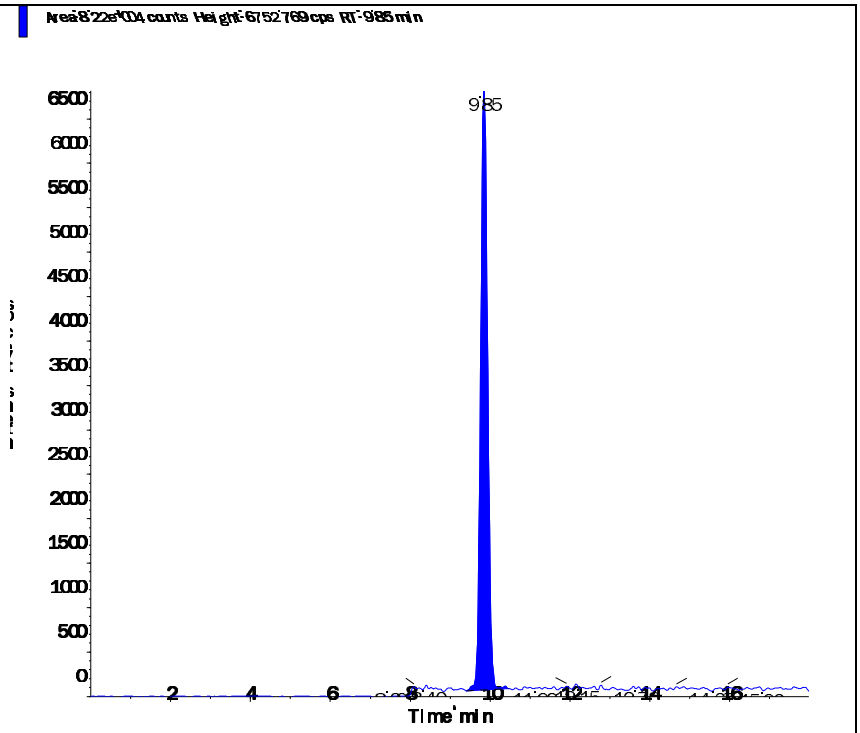
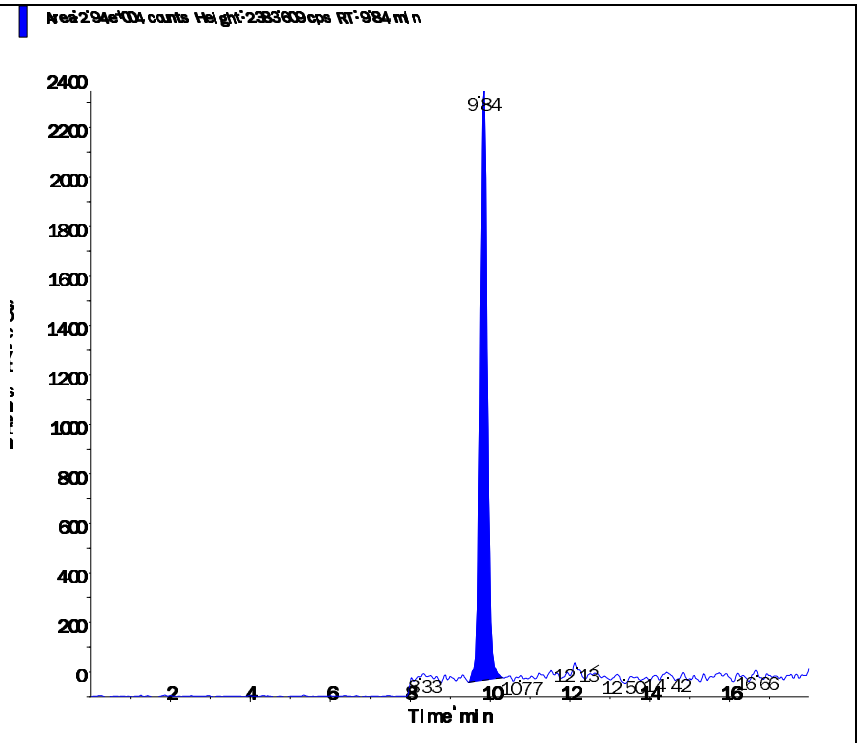
Perchlorate (98.8/83.3 amu)	
RT (Exp. RT):	9.85 (9.84) min
Calculated conc:	0.483 ng/ml
Area Ratio:	0.164
Sample Type:	(Standard)



Perchlorate conf (100.8/85.2 amu)	
RT (Exp. RT):	9.84 (9.84) min
Calculated conc:	0.503 ng/ml
Area Ratio:	0.058
Sample Type:	(Standard)



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Data File	LM34690.wiff	**Result Table**	111016_JWR.rdb
Acquisition Date	5/3/2016 4:21:49 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

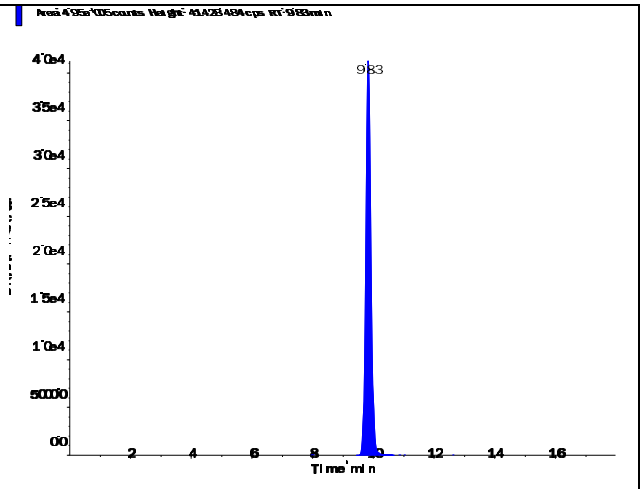
Sample Name	WG567320-05 STD (1.0 ug/L)	**Injection Vial**	5.00
Data File	LM34690.wiff	**Injection Volume**	10.00
Acquisition Date	5/3/2016 4:21:49 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Standard
Instrument Name	API 4000	**Result Table**	111016_JWR.rdb
Sample ID	WG567320-05	**Dilution Factor**	1.00
Sample Comment	1,1 STD75510	**Weight to Volume**	0.00

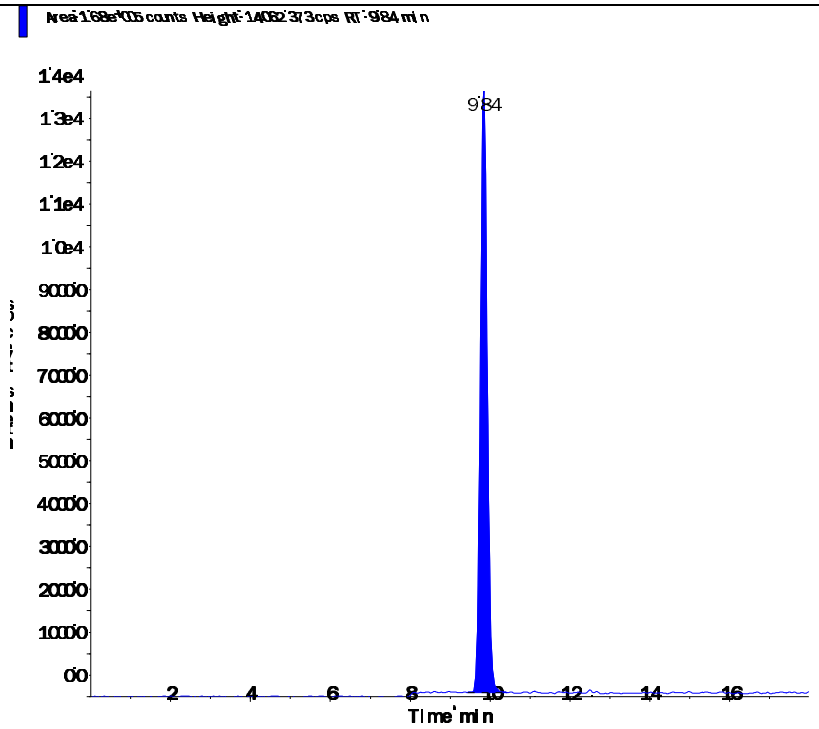
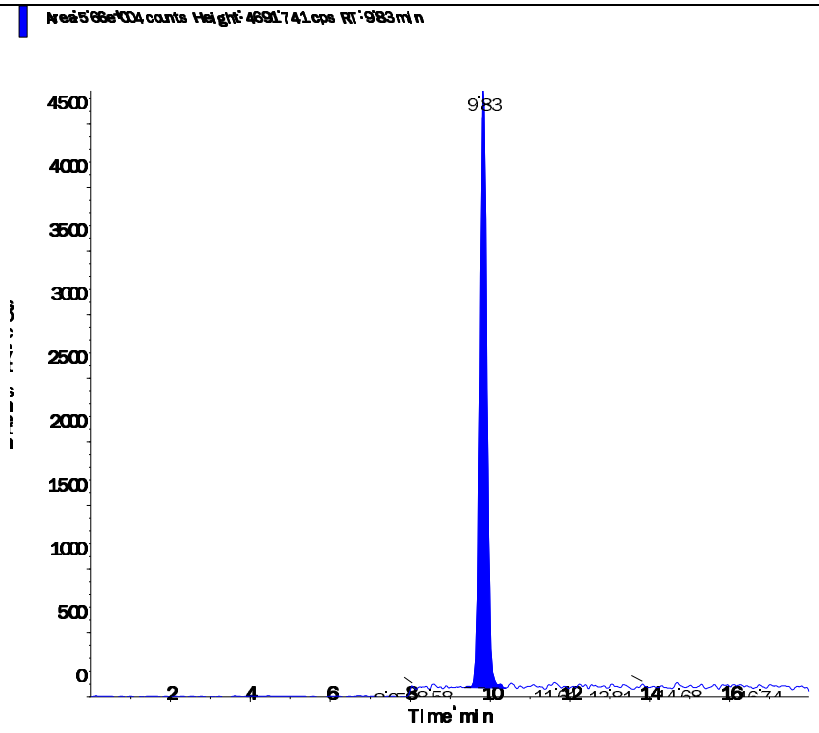
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.950e+05	9.83	5.00	-

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

O18LP (Internal Standard)

RT (Exp. RT): 9.83(9.84) min
Concentration: 5.00 ug/L
Sample Type: (Standard)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.84 (9.84) min Calculated conc: 1.01 ng/ml Area Ratio: 0.339 Sample Type: (Standard)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.83 (9.84) min Calculated conc: 1.00 ng/ml Area Ratio: 0.114 Sample Type: (Standard)	

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Data File	LM34691.wiff	**Result Table**	111016_JWR.rdb
Acquisition Date	5/3/2016 4:40:45 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

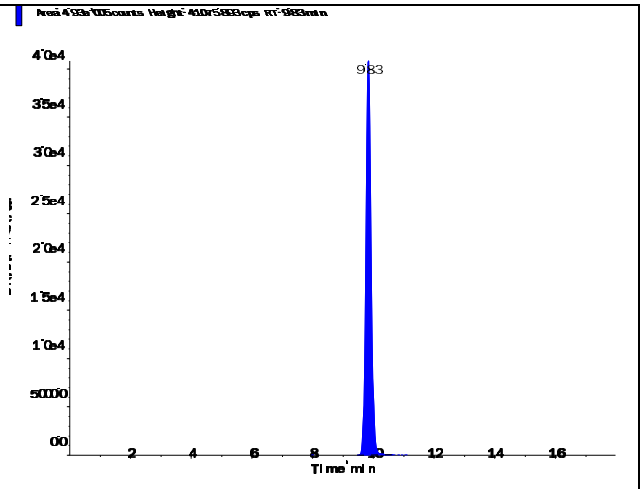
Sample Name	WG567320-06 STD (2.0 ug/L)	**Injection Vial**	6.00
Data File	LM34691.wiff	**Injection Volume**	10.00
Acquisition Date	5/3/2016 4:40:45 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Standard
Instrument Name	API 4000	**Result Table**	111016_JWR.rdb
Sample ID	WG567320-06	**Dilution Factor**	1.00
Sample Comment	1,1 STD75510	**Weight to Volume**	0.00

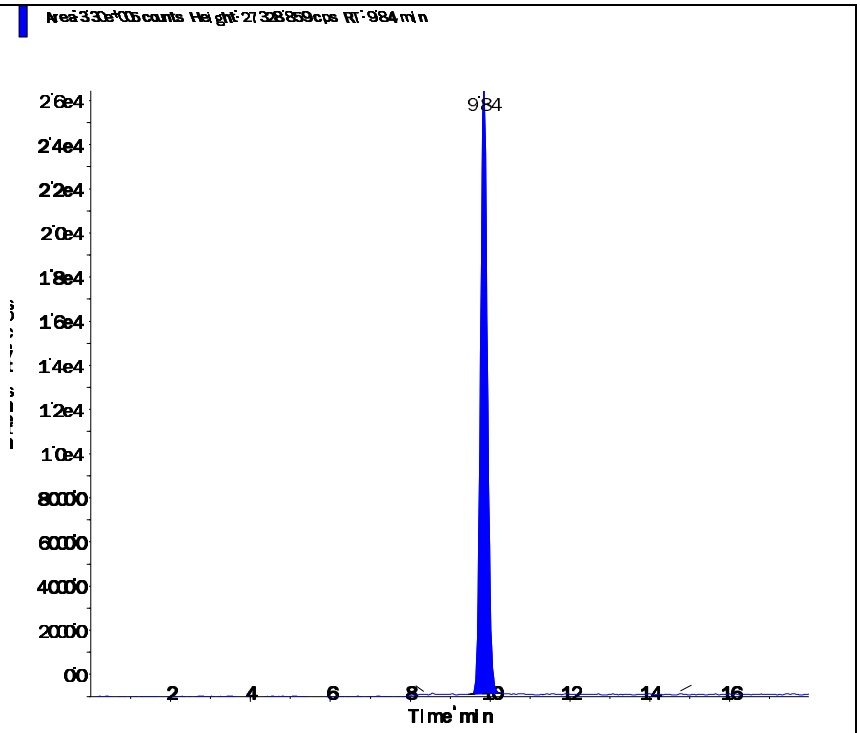
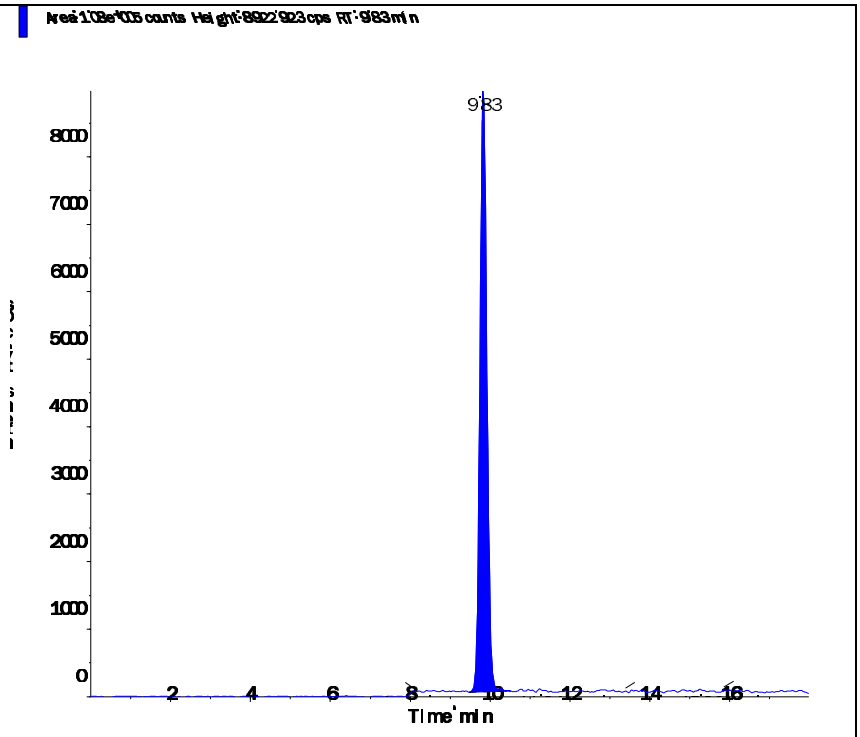
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.930e+05	9.83	5.00	-

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

O18LP (Internal Standard)

RT (Exp. RT): 9.83(9.84) min
Concentration: 5.00 ug/L
Sample Type: (Standard)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.84 (9.84) min Calculated conc: 1.99 ng/ml Area Ratio: 0.669 Sample Type: (Standard)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.83 (9.84) min Calculated conc: 1.94 ng/ml Area Ratio: 0.219 Sample Type: (Standard)	

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Data File	LM34692.wiff	**Result Table**	111016_JWR.rdb
Acquisition Date	5/3/2016 4:59:42 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

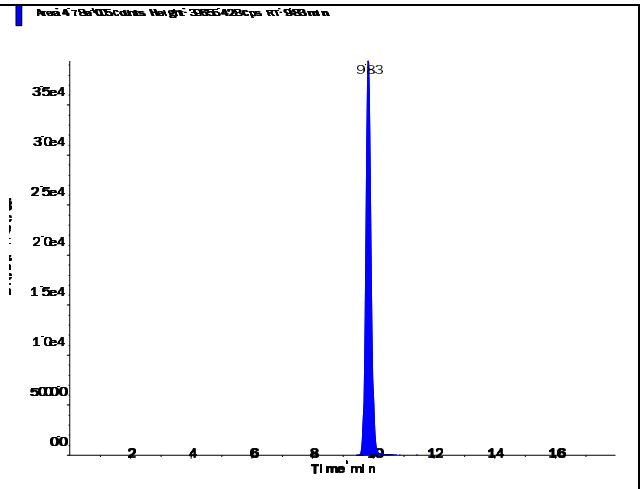
Sample Name	WG567320-07 STD (5.0 ug/L)	**Injection Vial**	7.00
Data File	LM34692.wiff	**Injection Volume**	10.00
Acquisition Date	5/3/2016 4:59:42 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Standard
Instrument Name	API 4000	**Result Table**	111016_JWR.rdb
Sample ID	WG567320-07	**Dilution Factor**	1.00
Sample Comment	1,1 STD75510	**Weight to Volume**	0.00

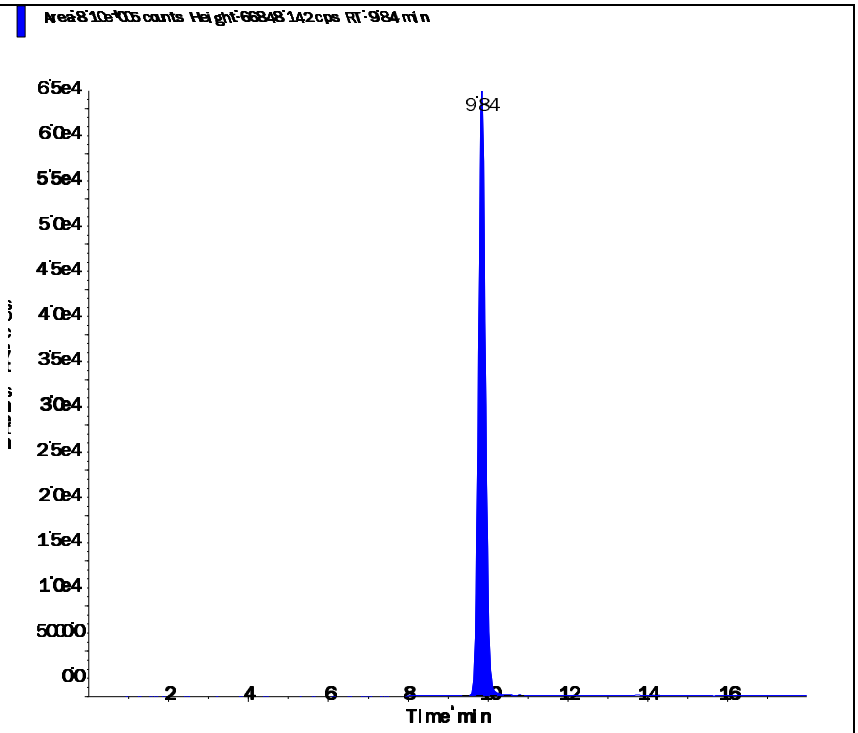
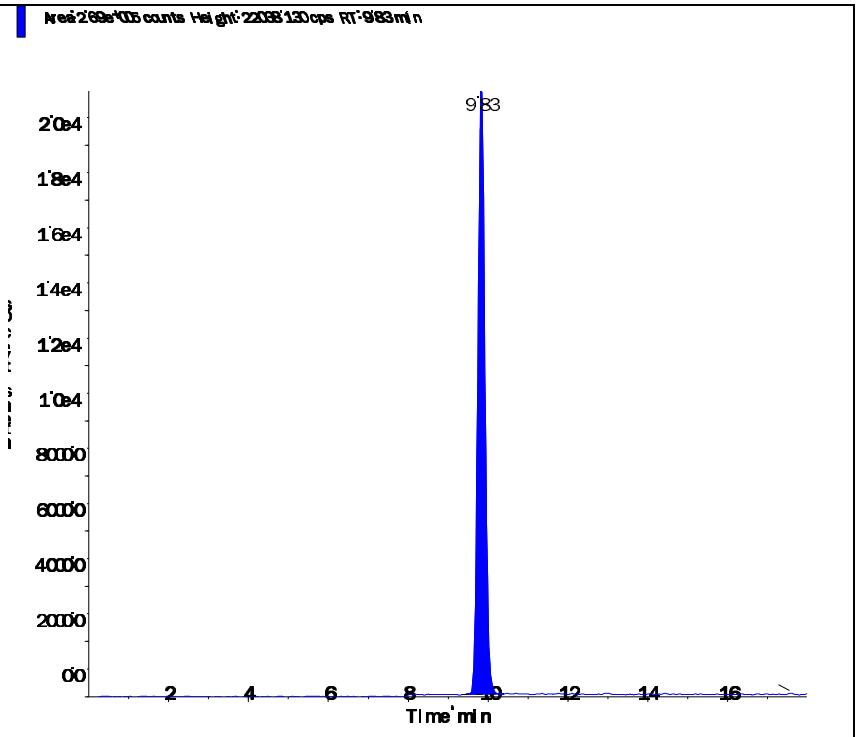
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.780e+05	9.83	5.00	-

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

O18LP (Internal Standard)

RT (Exp. RT): 9.83(9.84) min
Concentration: 5.00 ug/L
Sample Type: (Standard)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.84 (9.84) min Calculated conc: 5.04 ng/ml Area Ratio: 1.695 Sample Type: (Standard)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.83 (9.84) min Calculated conc: 5.02 ng/ml Area Ratio: 0.562 Sample Type: (Standard)	

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Data File	LM34693.wiff	**Result Table**	111016_JWR.rdb
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		

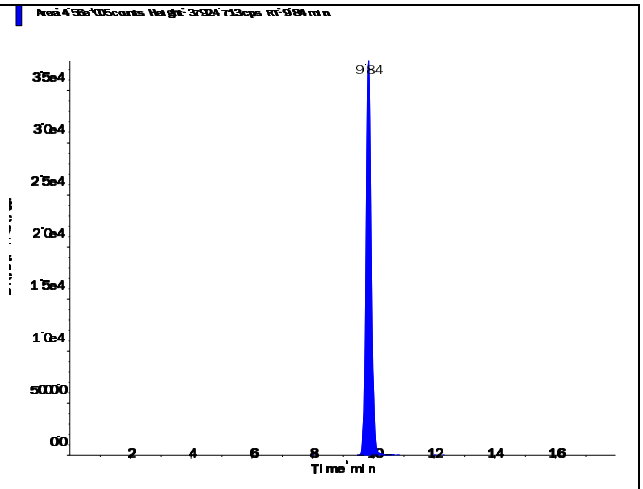
Sample Name	WG567320-08 STD (10 ug/L)	**Injection Vial**	8.00
Data File	LM34693.wiff	**Injection Volume**	10.00
Acquisition Date	5/3/2016 5:18:37 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Standard
Instrument Name	API 4000	**Result Table**	111016_JWR.rdb
Sample ID	WG567320-08	**Dilution Factor**	1.00
Sample Comment	1,1 STD75510	**Weight to Volume**	0.00

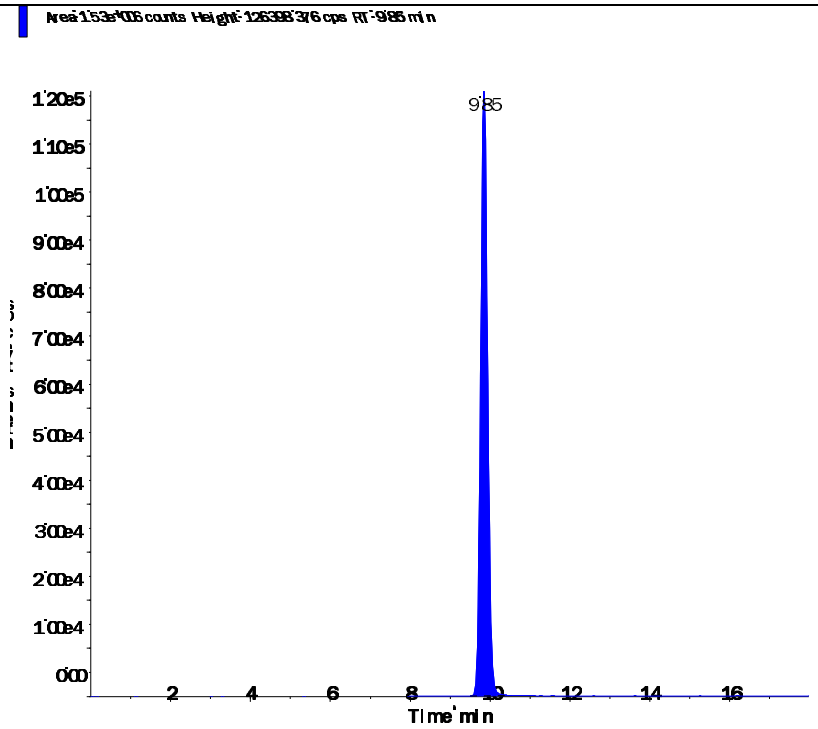
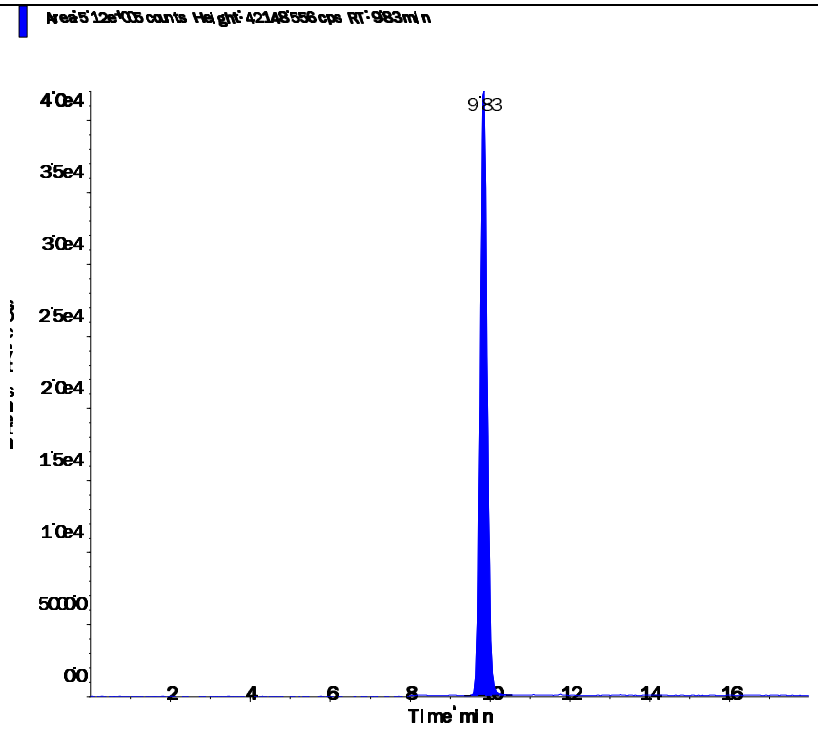
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.560e+05	9.84	5.00	-

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

O18LP (Internal Standard)

RT (Exp. RT): 9.84(9.84) min
Concentration: 5.00 ug/L
Sample Type: (Standard)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.85 (9.84) min Calculated conc: 9.99 ng/ml Area Ratio: 3.36 Sample Type: (Standard)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.83 (9.84) min Calculated conc: 10.00 ng/ml Area Ratio: 1.122 Sample Type: (Standard)	

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Data File	LM34694.wiff	**Result Table**	050316_JWR.rdb
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		

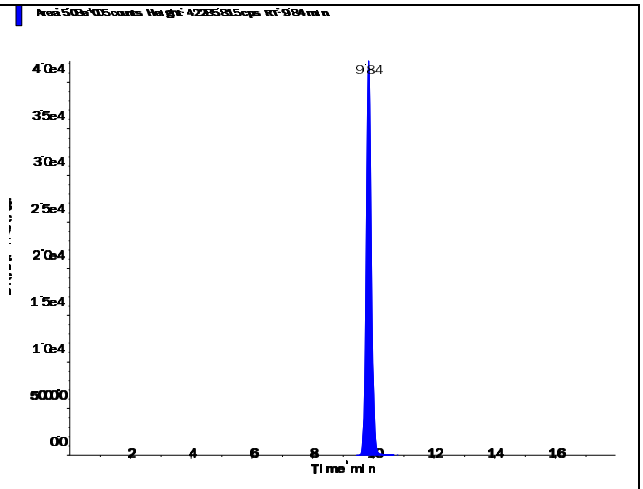
Sample Name	WG567320-09 SSCV (1.0 ug/L)	**Injection Vial**	9.00
Data File	LM34694.wiff	**Injection Volume**	10.00
Acquisition Date	5/3/2016 5:37:34 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Quality Control
Instrument Name	API 4000	**Result Table**	050316_JWR.rdb
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

O18LP (Internal Standard)

RT (Exp. RT): 9.84(9.84) min
Concentration: 5.00 ug/L
Sample Type: (Quality Control)



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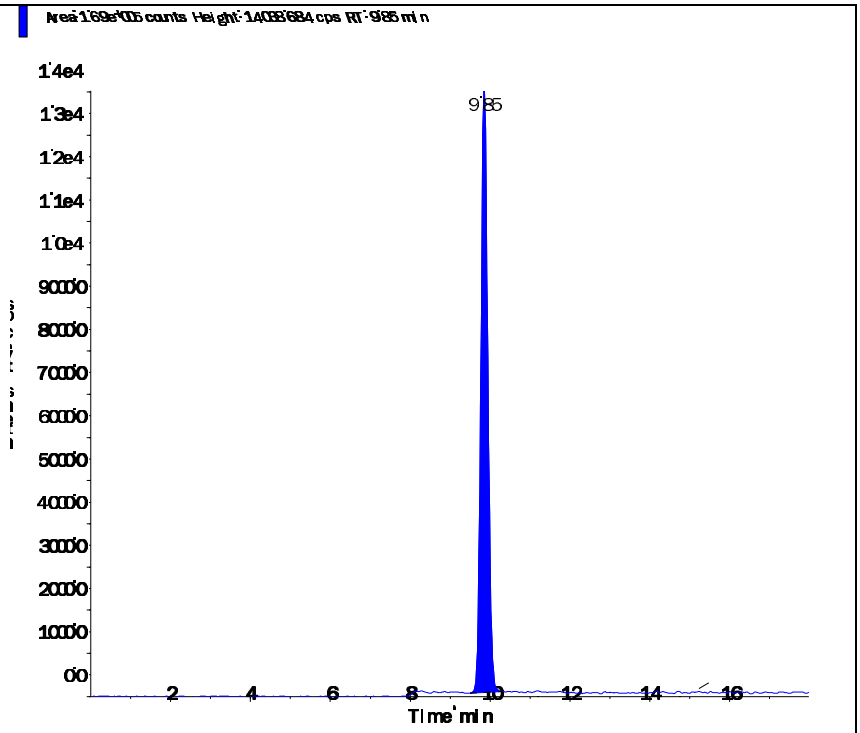
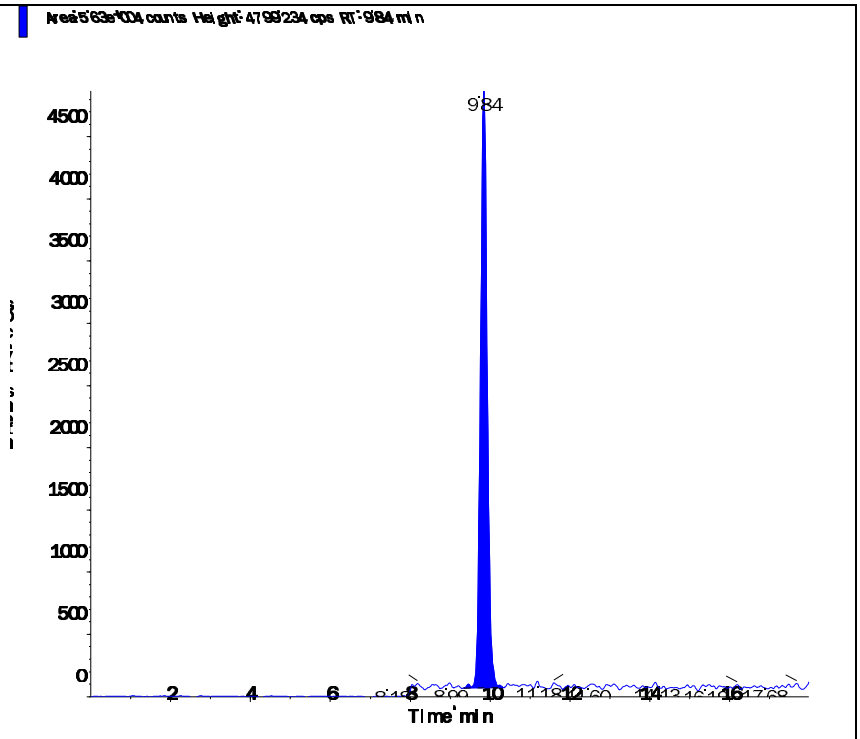
Printed: 5/4/2016 1:23 PM

Perchlorate (98.8/83.3 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	9.85 (9.84) min 0.985 ng/ml 0.332 (Quality Control)



Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	9.84 (9.84) min 0.973 ng/ml 0.111 (Quality Control)



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Created with Analyst Reporter
Printed: 11/11/2016 11:28 AM

Data File	LM37575.wiff	**Result Table**	111016_JWR.rdb
Acquisition Date	11/10/2016 10:58:48 AM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

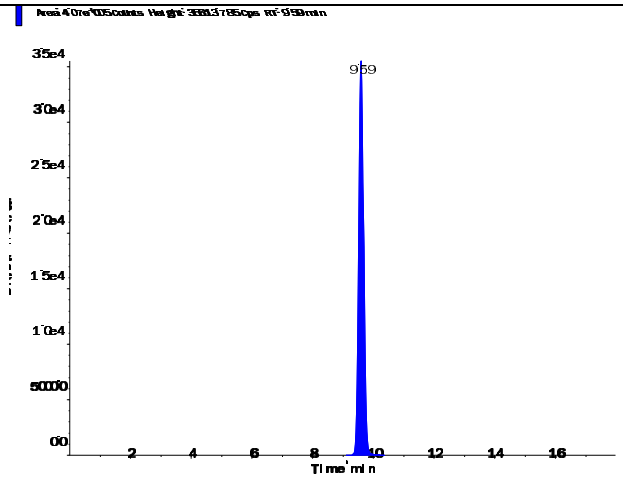
Sample Name	WG591040-02 CCV (1.0ug/L)	**Injection Vial**	3.00
Data File	LM37575.wiff	**Injection Volume**	10.00
Acquisition Date	11/10/2016 10:58:48 AM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Quality Control
Instrument Name	API 4000	**Result Table**	111016_JWR.rdb
Sample ID	WG591040-02	**Dilution Factor**	1.00
Sample Comment	1,1 STD78249	**Weight to Volume**	0.00

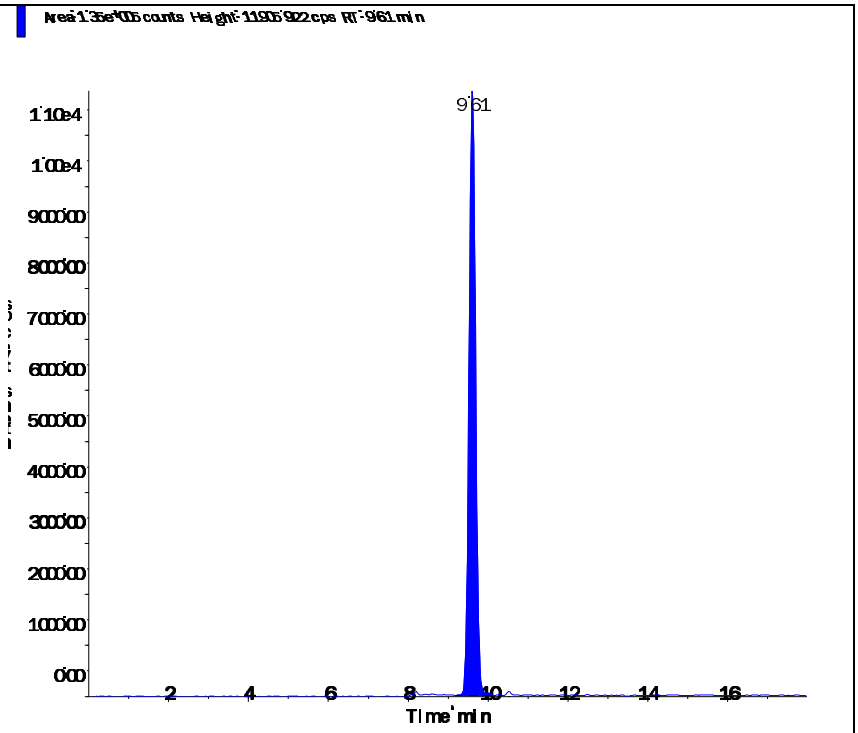
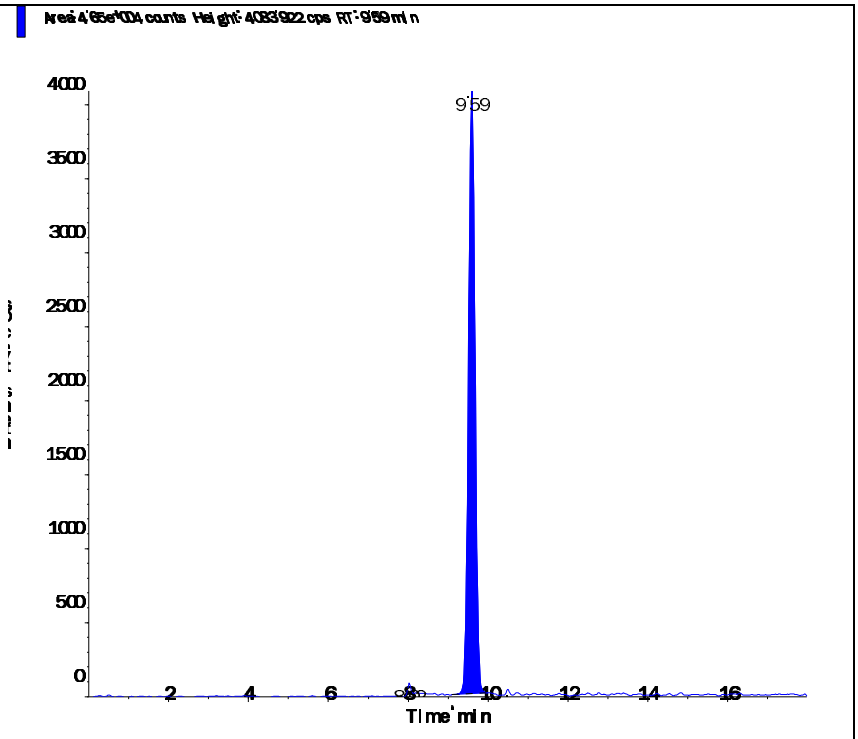
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.070e+05	9.59	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.350e+05	9.61	1.00	0.982
Perchlorate conf	4.650e+04	9.59	1.00	1.00

O18LP (Internal Standard)

RT (Exp. RT): 9.59(9.84) min
Concentration: 5.00 ug/L
Sample Type: (Quality Control)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.61 (9.84) min Calculated conc: 0.982 ng/ml Area Ratio: 0.332 Sample Type: (Quality Control)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.59 (9.84) min Calculated conc: 1.00 ng/ml Area Ratio: 0.114 Sample Type: (Quality Control)	

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Created with Analyst Reporter
Printed: 11/11/2016 11:32 AM

Data File	LM37587.wiff	**Result Table**	111016_JWR.rdb
Acquisition Date	11/10/2016 2:46:03 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

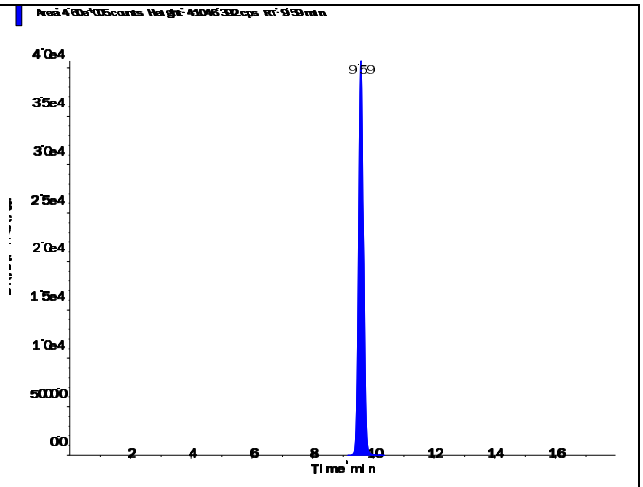
Sample Name	WG591040-03 CCV (1.0ug/L)	**Injection Vial**	3.00
Data File	LM37587.wiff	**Injection Volume**	10.00
Acquisition Date	11/10/2016 2:46:03 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Quality Control
Instrument Name	API 4000	**Result Table**	111016_JWR.rdb
Sample ID	WG591040-03	**Dilution Factor**	1.00
Sample Comment	1,1 STD78249	**Weight to Volume**	0.00

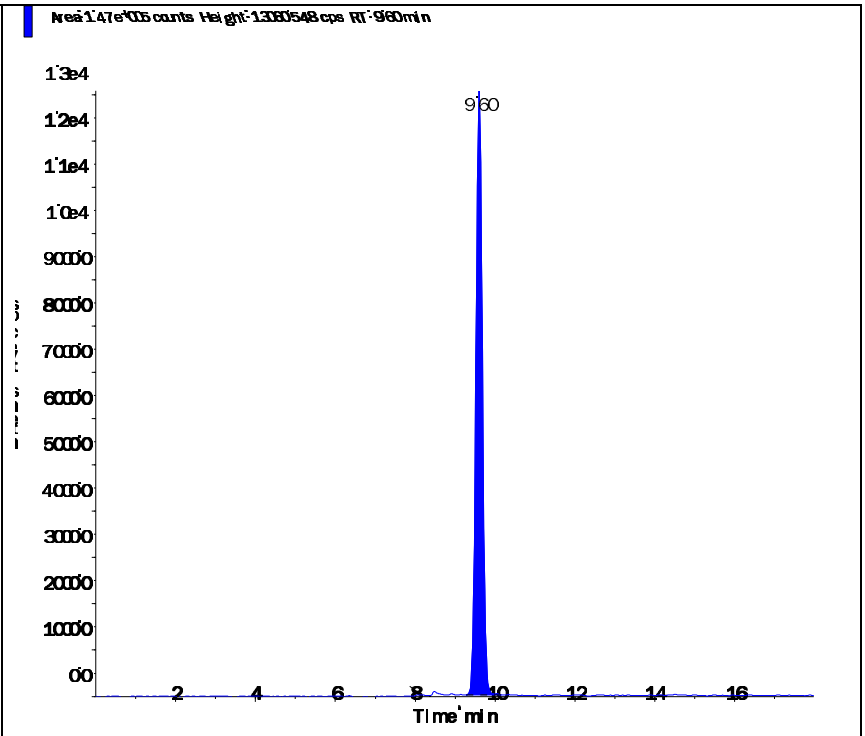
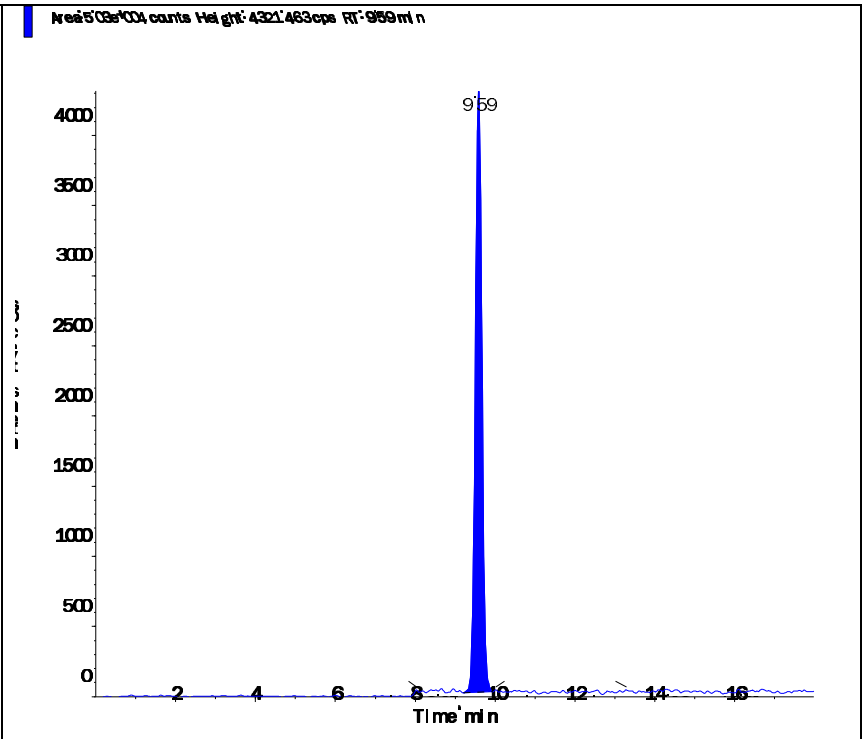
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.600e+05	9.59	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.470e+05	9.60	1.00	0.946
Perchlorate conf	5.030e+04	9.59	1.00	0.958

O18LP (Internal Standard)

RT (Exp. RT): 9.59(9.84) min
Concentration: 5.00 ug/L
Sample Type: (Quality Control)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.60 (9.84) min Calculated conc: 0.946 ng/ml Area Ratio: 0.319 Sample Type: (Quality Control)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.59 (9.84) min Calculated conc: 0.958 ng/ml Area Ratio: 0.109 Sample Type: (Quality Control)	

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Printed: 11/11/2016 11:36 AM

Data File	LM37599.wiff	**Result Table**	111016_JWR.rdb
Acquisition Date	11/10/2016 6:33:20 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

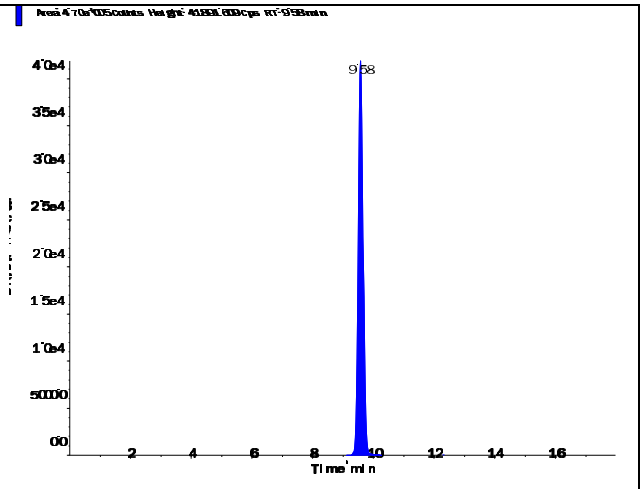
Sample Name	WG591040-05 CCV (1.0ug/L)	**Injection Vial**	3.00
Data File	LM37599.wiff	**Injection Volume**	10.00
Acquisition Date	11/10/2016 6:33:20 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Quality Control
Instrument Name	API 4000	**Result Table**	111016_JWR.rdb
Sample ID	WG591040-05	**Dilution Factor**	1.00
Sample Comment	1,1 STD78249	**Weight to Volume**	0.00

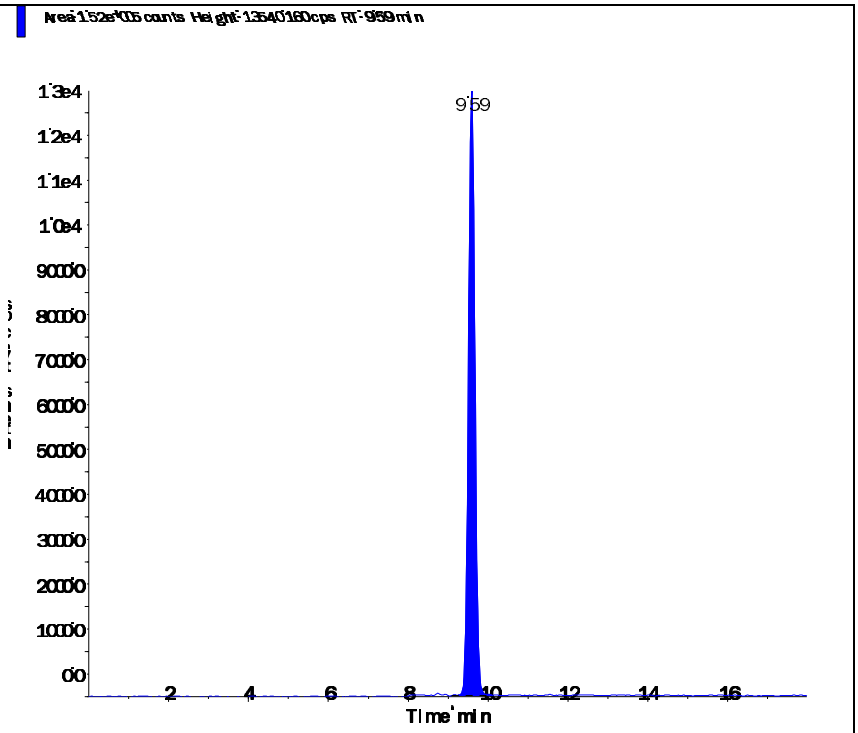
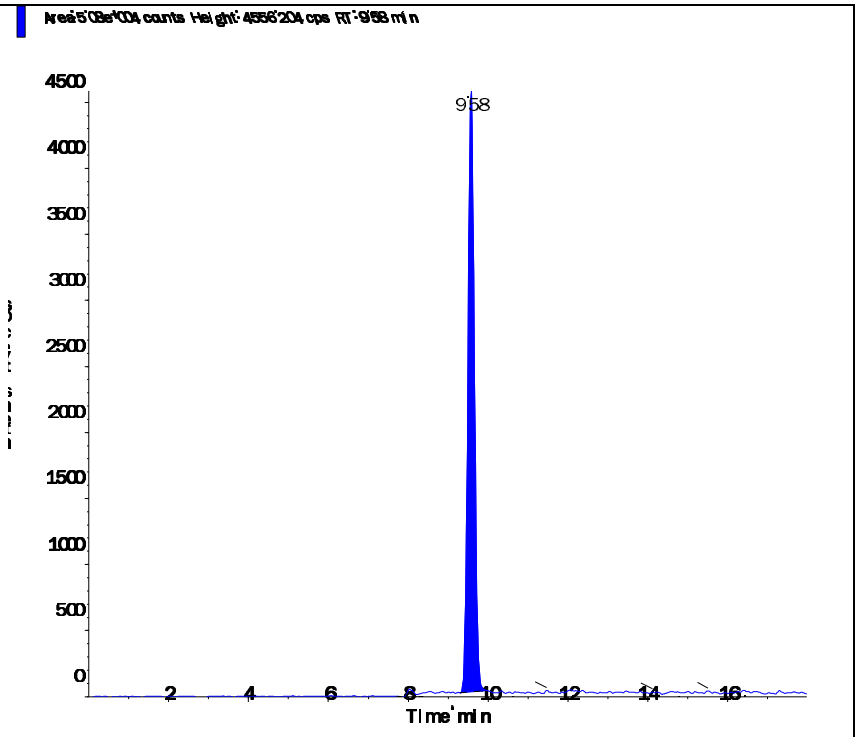
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.700e+05	9.58	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.520e+05	9.59	1.00	0.96
Perchlorate conf	5.080e+04	9.58	1.00	0.948

O18LP (Internal Standard)

RT (Exp. RT): 9.58(9.84) min
Concentration: 5.00 ug/L
Sample Type: (Quality Control)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.59 (9.84) min Calculated conc: 0.96 ng/ml Area Ratio: 0.324 Sample Type: (Quality Control)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.58 (9.84) min Calculated conc: 0.948 ng/ml Area Ratio: 0.108 Sample Type: (Quality Control)	

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Printed: 11/11/2016 11:39 AM

Data File	LM37605.wiff	**Result Table**	111016_JWR.rdb
Acquisition Date	11/10/2016 8:26:54 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

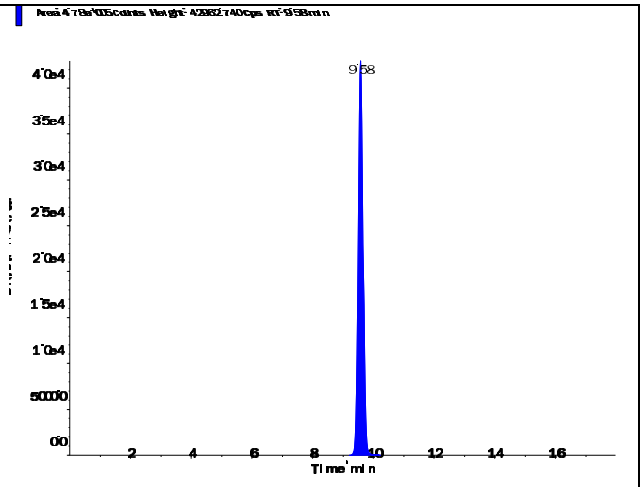
Sample Name	WG591040-07 CCV (1.0ug/L)	**Injection Vial**	3.00
Data File	LM37605.wiff	**Injection Volume**	10.00
Acquisition Date	11/10/2016 8:26:54 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Quality Control
Instrument Name	API 4000	**Result Table**	111016_JWR.rdb
Sample ID	WG591040-07	**Dilution Factor**	1.00
Sample Comment	1,1 STD78249	**Weight to Volume**	0.00

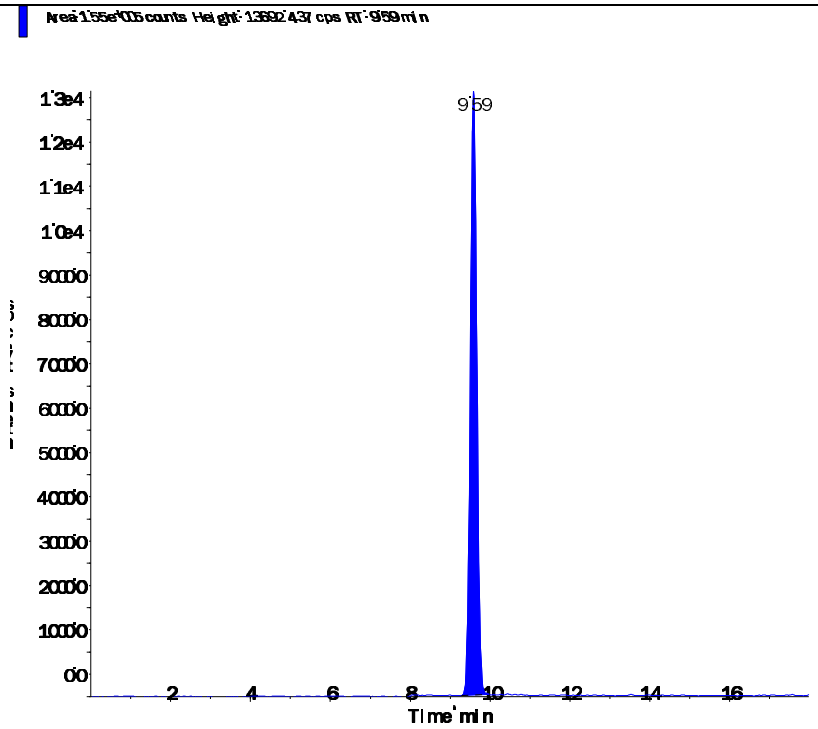
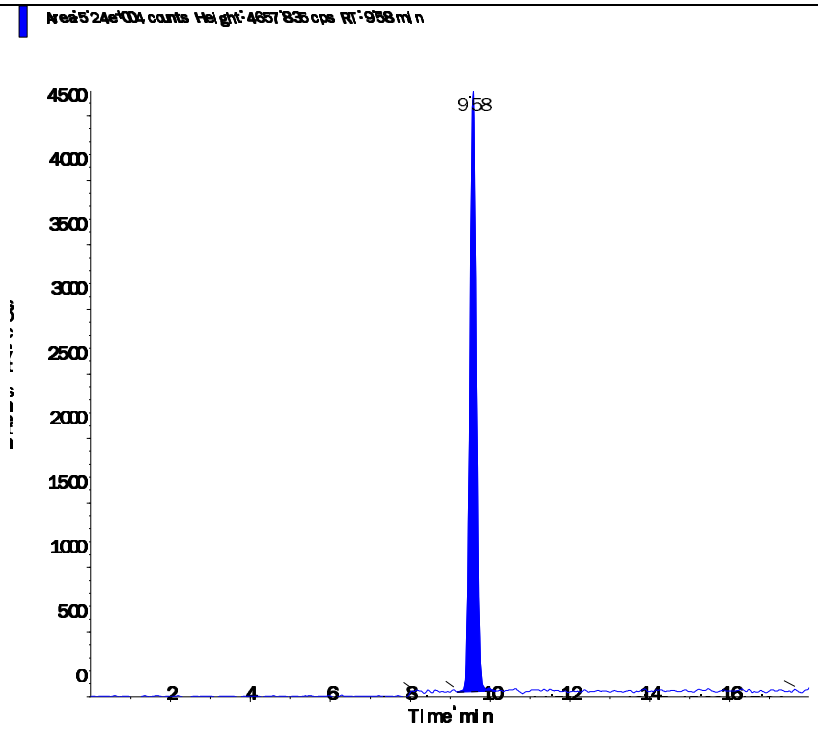
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.780e+05	9.58	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.550e+05	9.59	1.00	0.96
Perchlorate conf	5.240e+04	9.58	1.00	0.962

O18LP (Internal Standard)

RT (Exp. RT): 9.58(9.84) min
Concentration: 5.00 ug/L
Sample Type: (Quality Control)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.59 (9.84) min Calculated conc: 0.96 ng/ml Area Ratio: 0.324 Sample Type: (Quality Control)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.58 (9.84) min Calculated conc: 0.962 ng/ml Area Ratio: 0.11 Sample Type: (Quality Control)	

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Printed: 11/11/2016 11:28 AM

Data File	LM37576.wiff	**Result Table**	111016_JWR.rdb
Acquisition Date	11/10/2016 11:17:44 AM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

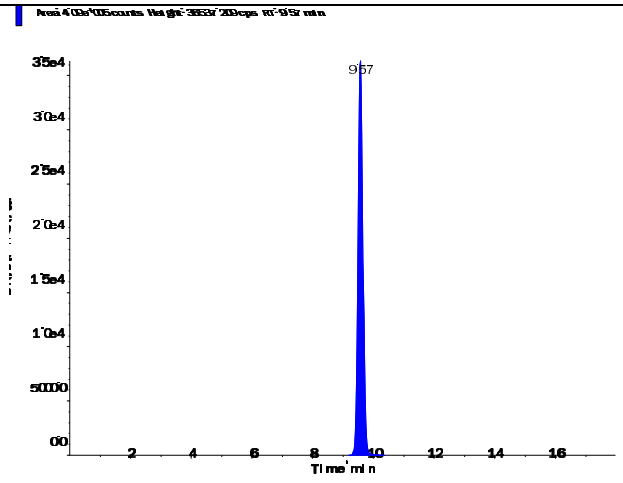
Sample Name	WG591037-10 MRL (0.2ug/L)	**Injection Vial**	2.00
Data File	LM37576.wiff	**Injection Volume**	10.00
Acquisition Date	11/10/2016 11:17:44 AM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	111016_JWR.rdb
Sample ID	WG591037-10	**Dilution Factor**	1.00
Sample Comment	1,1 STD78249	**Weight to Volume**	0.00

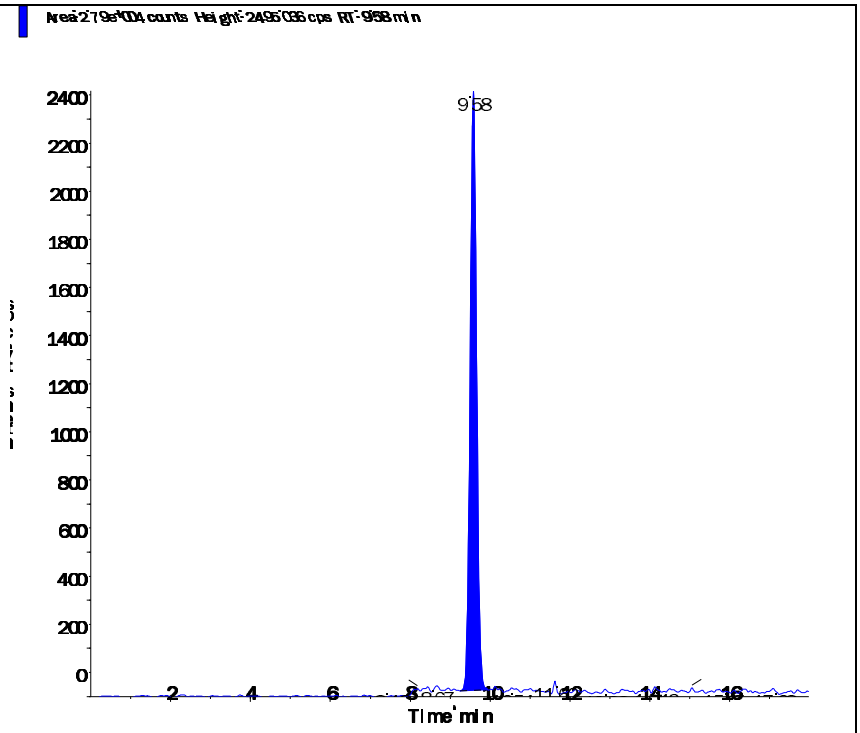
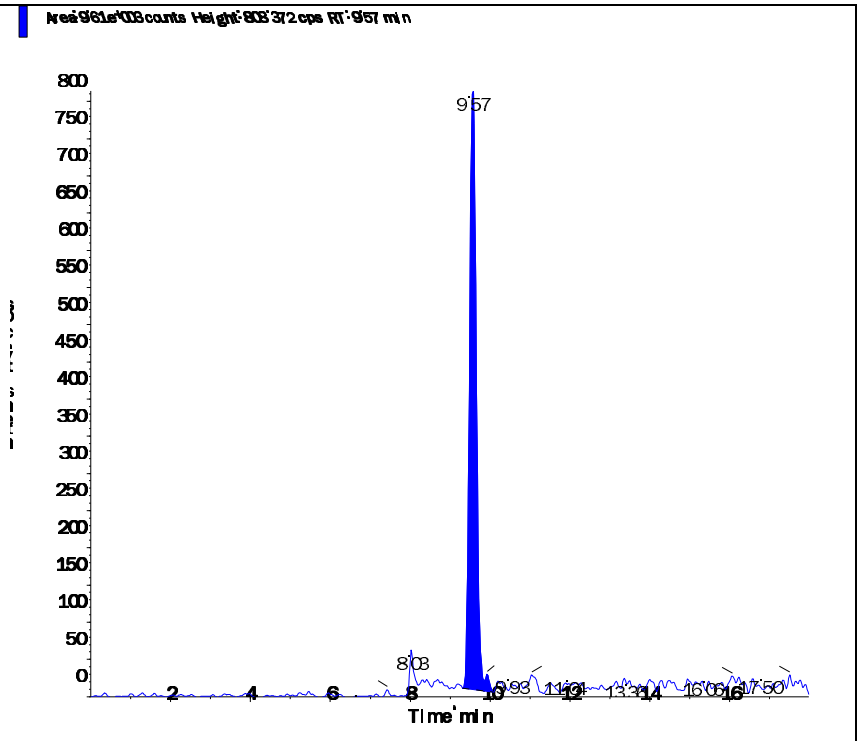
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.090e+05	9.57	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	2.790e+04	9.58	N/A	0.199
Perchlorate conf	9.610e+03	9.57	N/A	0.19

O18LP (Internal Standard)

RT (Exp. RT): 9.57(9.84) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.58 (9.84) min Calculated conc: 0.199 ng/ml Area Ratio: 0.068 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.57 (9.84) min Calculated conc: 0.19 ng/ml Area Ratio: 0.023 Sample Type: (Unknown)	

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Printed: 11/11/2016 11:33 AM

Data File	LM37588.wiff	**Result Table**	111016_JWR.rdb
Acquisition Date	11/10/2016 3:04:58 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

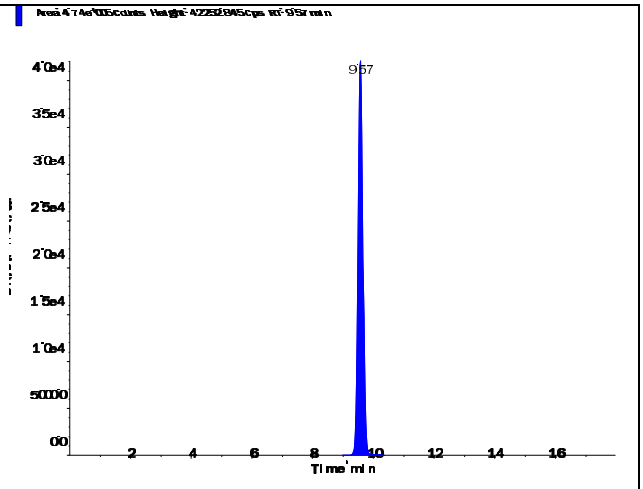
Sample Name	WG591037-11 MRL (0.2ug/L)	**Injection Vial**	2.00
Data File	LM37588.wiff	**Injection Volume**	10.00
Acquisition Date	11/10/2016 3:04:58 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	111016_JWR.rdb
Sample ID	WG591037-11	**Dilution Factor**	1.00
Sample Comment	1,1 STD78249	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.740e+05	9.57	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	3.280e+04	9.58	N/A	0.202
Perchlorate conf	1.150e+04	9.57	N/A	0.198

O18LP (Internal Standard)

RT (Exp. RT): 9.57(9.84) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



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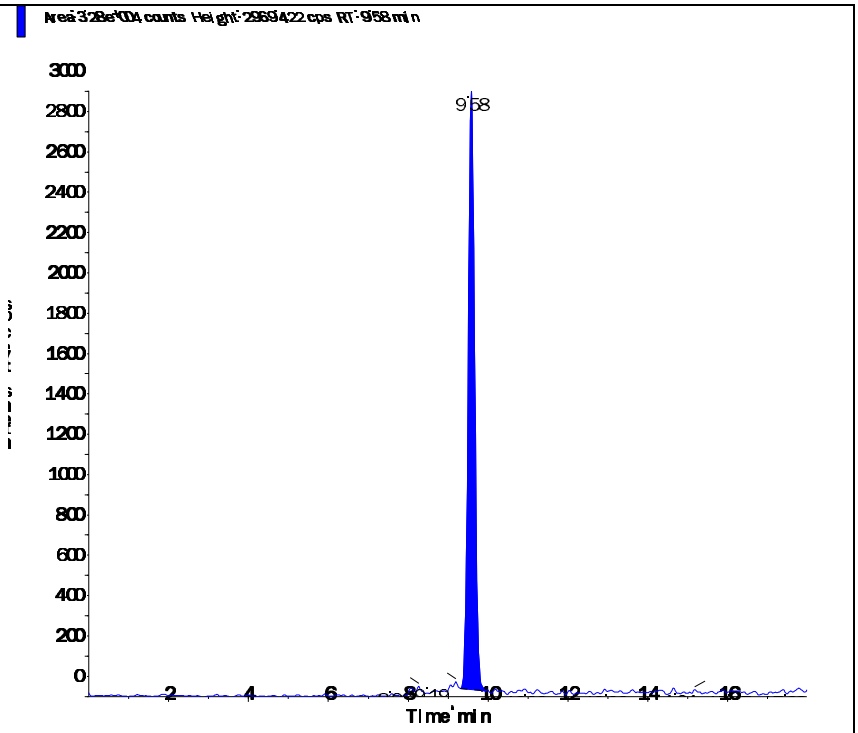
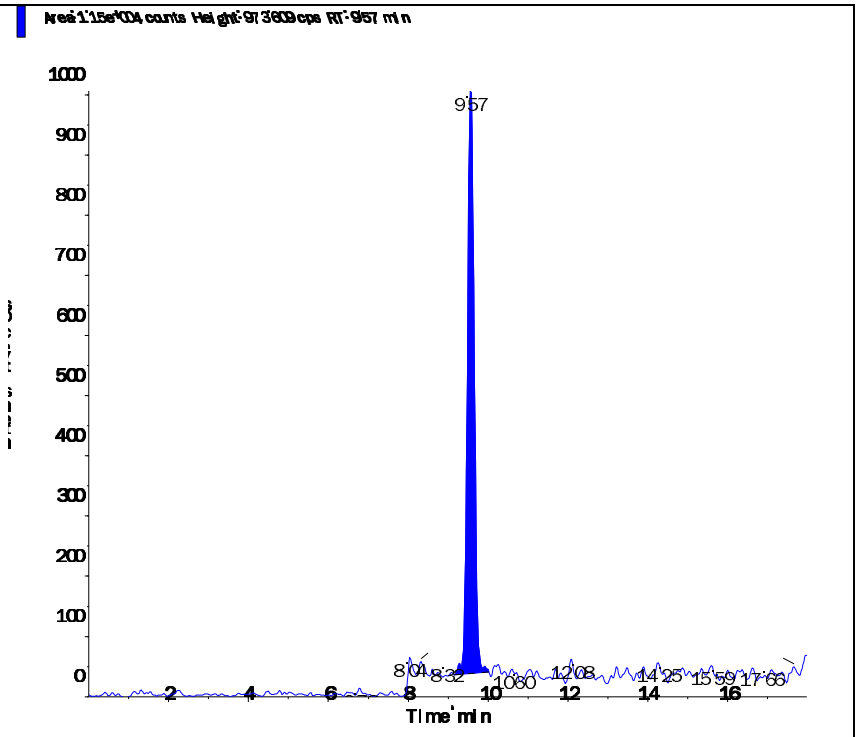
Printed: 11/11/2016 11:33 AM

Perchlorate (98.8/83.3 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	9.58 (9.84) min 0.202 ng/ml 0.069 (Unknown)



Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	9.57 (9.84) min 0.198 ng/ml 0.024 (Unknown)



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Printed: 11/11/2016 11:37 AM

Data File	LM37600.wiff	**Result Table**	111016_JWR.rdb
Acquisition Date	11/10/2016 6:52:15 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

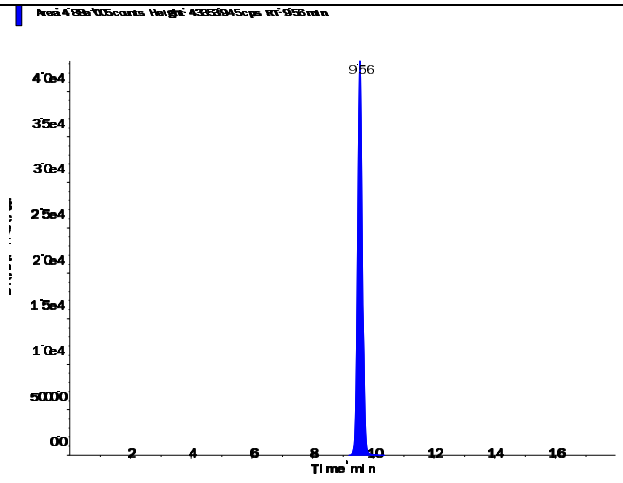
Sample Name	WG591037-12 MRL (0.2ug/L)	**Injection Vial**	2.00
Data File	LM37600.wiff	**Injection Volume**	10.00
Acquisition Date	11/10/2016 6:52:15 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	111016_JWR.rdb
Sample ID	WG591037-12	**Dilution Factor**	1.00
Sample Comment	1,1 STD78249	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.880e+05	9.56	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	3.430e+04	9.57	N/A	0.205
Perchlorate conf	1.190e+04	9.56	N/A	0.199

O18LP (Internal Standard)

RT (Exp. RT): 9.56(9.84) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



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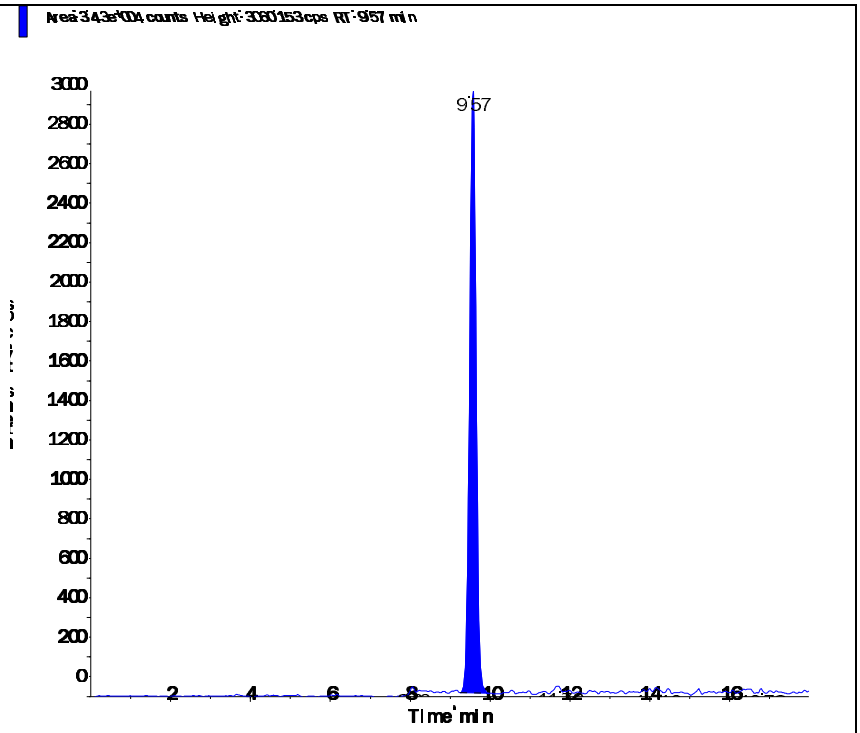
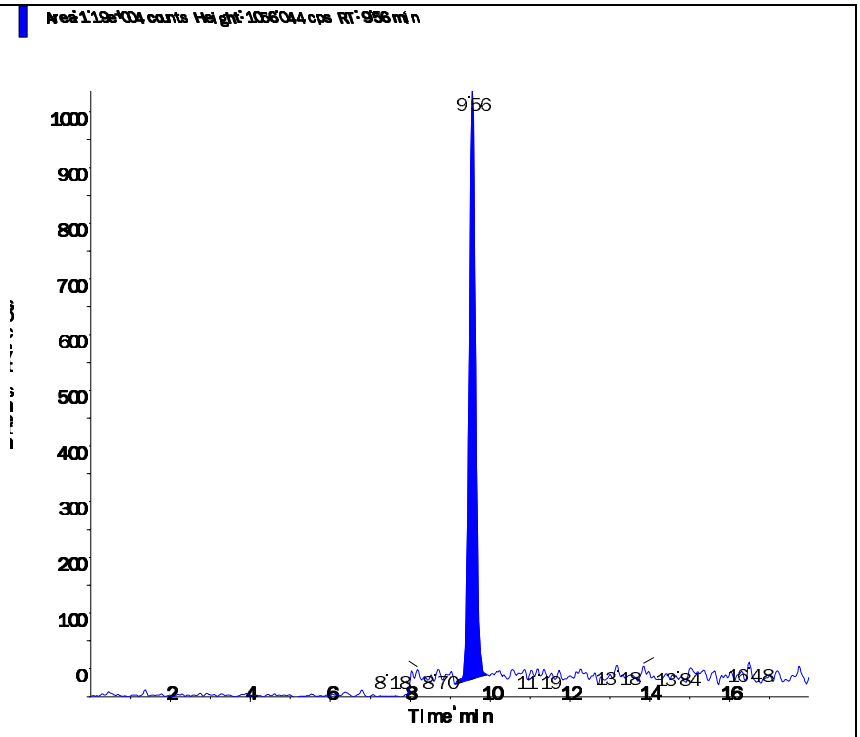
Perchlorate (98.8/83.3 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	 9.57 (9.84) min 0.205 ng/ml 0.07 (Unknown)



Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	 9.56 (9.84) min 0.199 ng/ml 0.024 (Unknown)



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Printed: 11/11/2016 11:39 AM

Data File	LM37606.wiff	**Result Table**	111016_JWR.rdb
Acquisition Date	11/10/2016 8:45:49 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

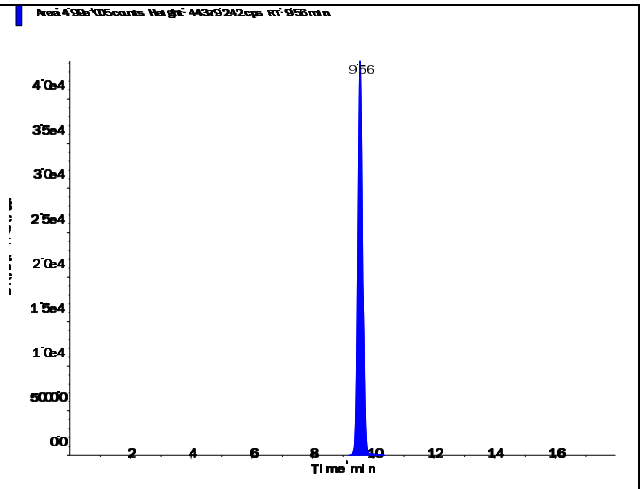
Sample Name	WG591037-13 MRL (0.2ug/L)	**Injection Vial**	2.00
Data File	LM37606.wiff	**Injection Volume**	10.00
Acquisition Date	11/10/2016 8:45:49 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	111016_JWR.rdb
Sample ID	WG591037-13	**Dilution Factor**	1.00
Sample Comment	1,1 STD78249	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.990e+05	9.56	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	3.440e+04	9.58	N/A	0.201
Perchlorate conf	1.190e+04	9.56	N/A	0.194

O18LP (Internal Standard)

RT (Exp. RT): 9.56(9.84) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



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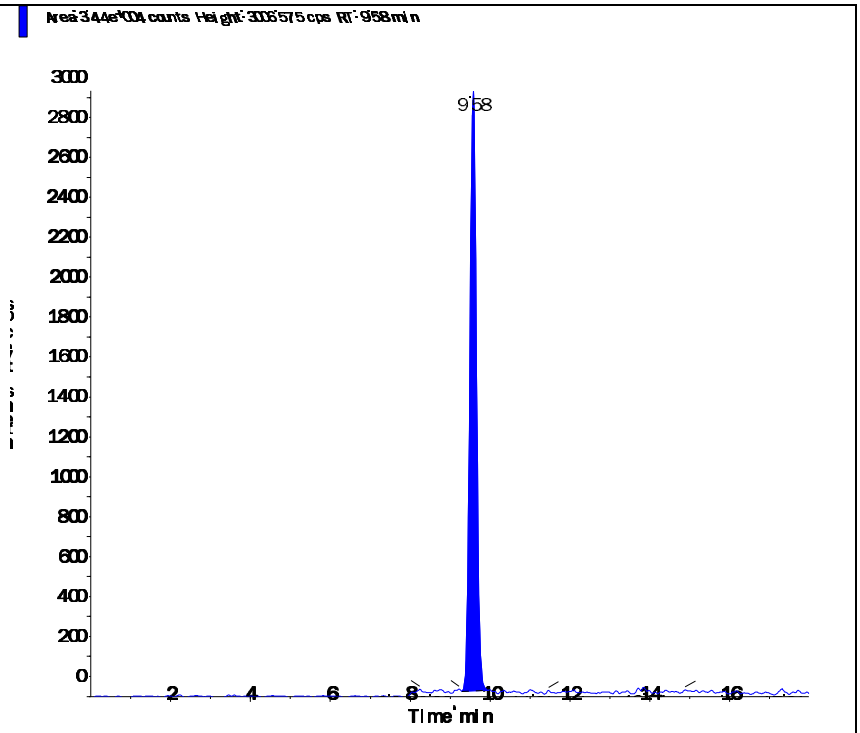
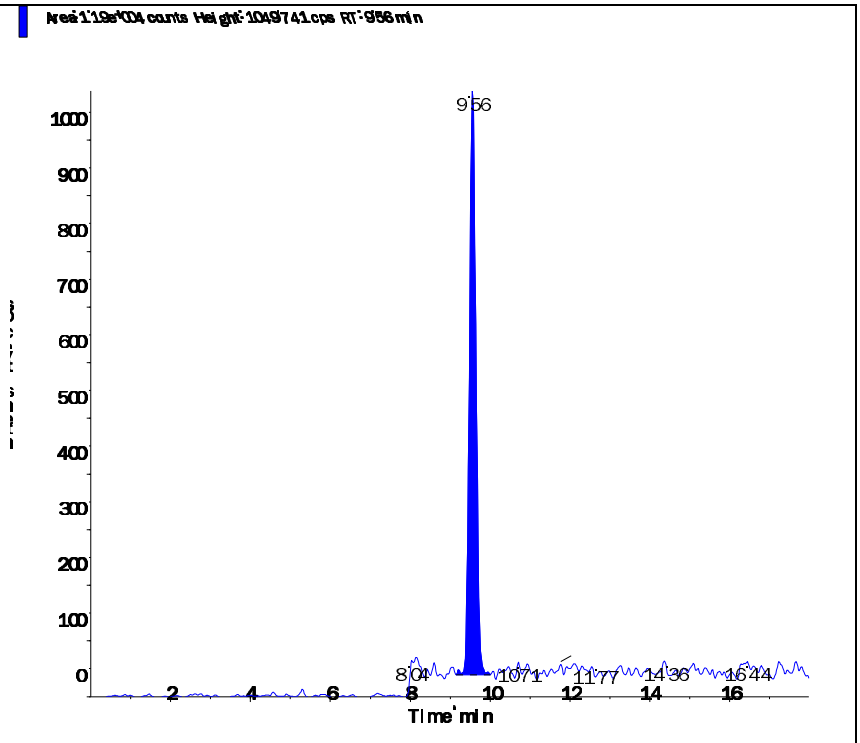
Created with Analyst Reporter
Printed: 11/11/2016 11:39 AM

Perchlorate (98.8/83.3 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	 9.58 (9.84) min 0.201 ng/ml 0.069 (Unknown)



Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	 9.56 (9.84) min 0.194 ng/ml 0.024 (Unknown)



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Created with Analyst Reporter
Printed: 11/11/2016 11:28 AM

Data File	LM37574.wiff	**Result Table**	111016_JWR.rdb
Acquisition Date	11/10/2016 10:39:53 AM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

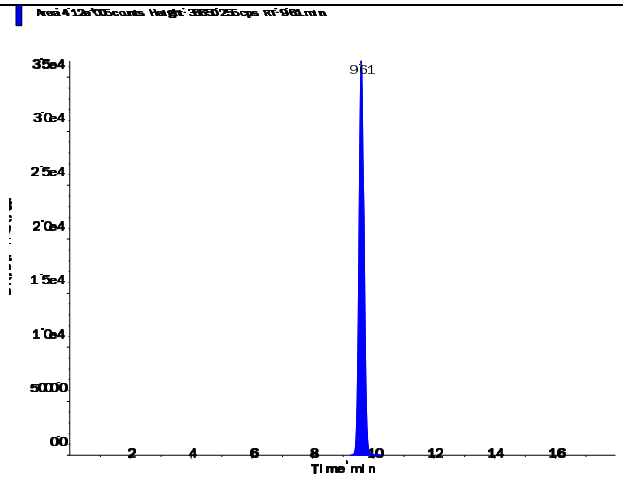
Sample Name	WG591040-01 CCB	**Injection Vial**	1.00
Data File	LM37574.wiff	**Injection Volume**	10.00
Acquisition Date	11/10/2016 10:39:53 AM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	111016_JWR.rdb
Sample ID	WG591040-01	**Dilution Factor**	1.00
Sample Comment	11.00	**Weight to Volume**	0.00

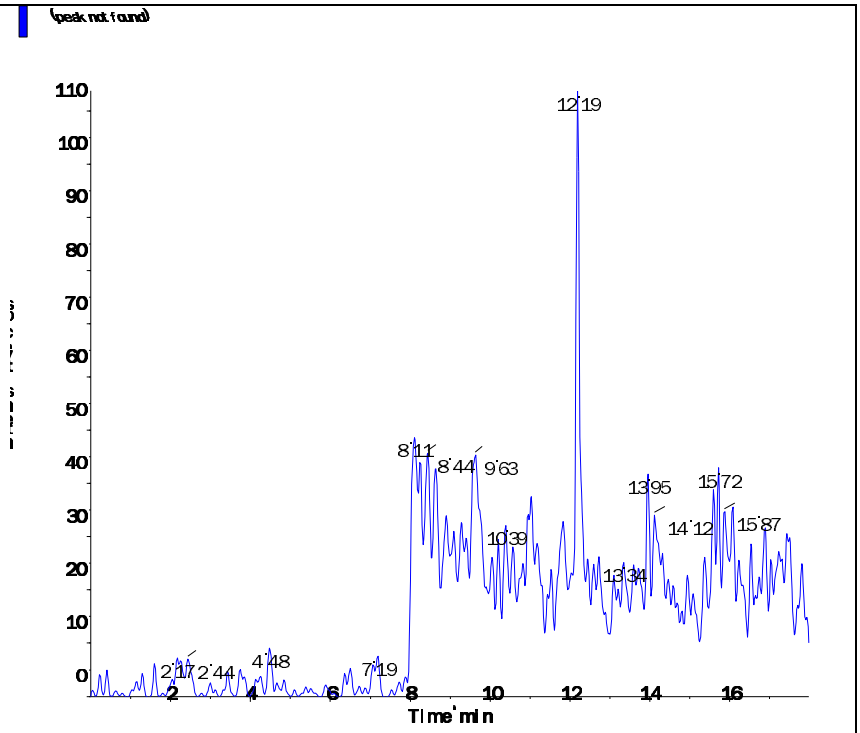
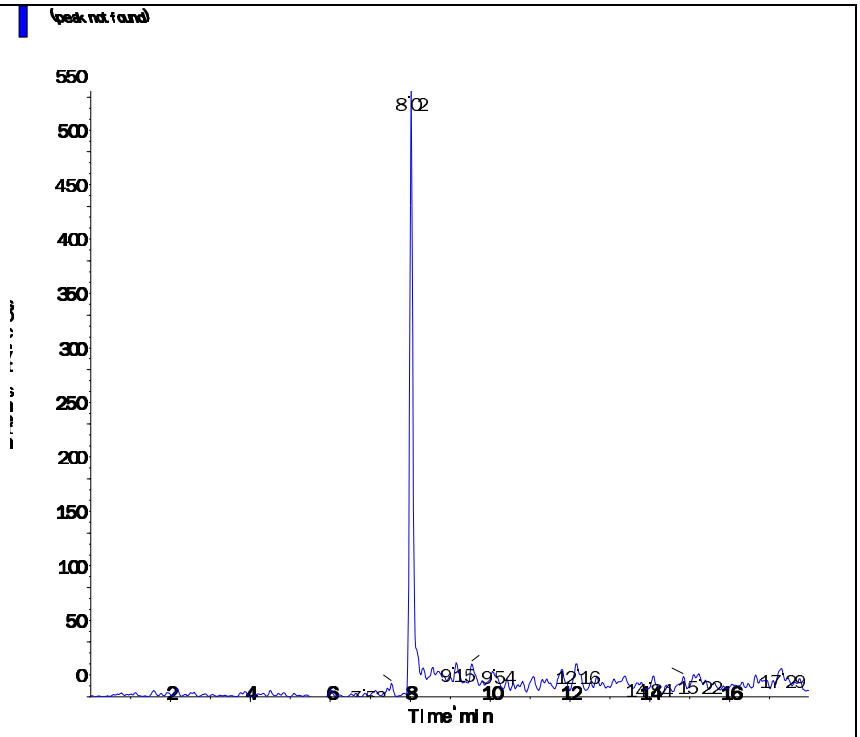
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.120e+05	9.61	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	0.000e+00	0.00	N/A	No Peak
Perchlorate conf	0.000e+00	0.00	N/A	No Peak

O18LP (Internal Standard)

RT (Exp. RT): 9.61(9.84) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 0.00 (9.84) min Calculated conc: No Peak ng/ml Area Ratio: 0.00 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 0.00 (9.84) min Calculated conc: No Peak ng/ml Area Ratio: 0.00 Sample Type: (Unknown)	

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Printed: 11/11/2016 11:33 AM

Data File	LM37589.wiff	**Result Table**	111016_JWR.rdb
Acquisition Date	11/10/2016 3:23:54 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

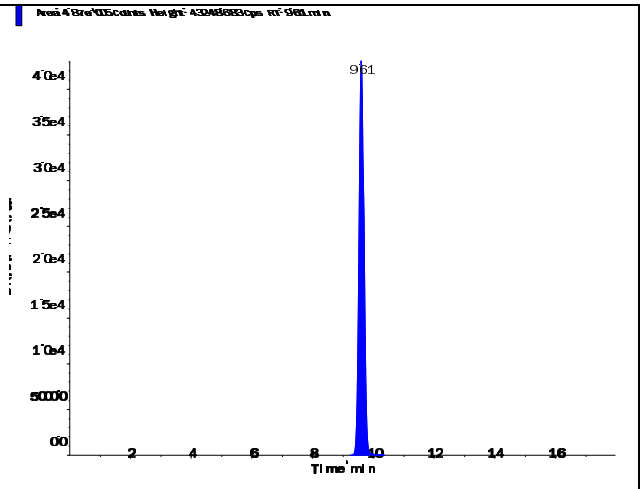
Sample Name	WG591040-04 CCB	**Injection Vial**	1.00
Data File	LM37589.wiff	**Injection Volume**	10.00
Acquisition Date	11/10/2016 3:23:54 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	111016_JWR.rdb
Sample ID	WG591040-04	**Dilution Factor**	1.00
Sample Comment	11.00	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.870e+05	9.61	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	0.000e+00	0.00	N/A	No Peak
Perchlorate conf	3.800e+02	9.56	N/A	< 0

O18LP (Internal Standard)

RT (Exp. RT): 9.61(9.84) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



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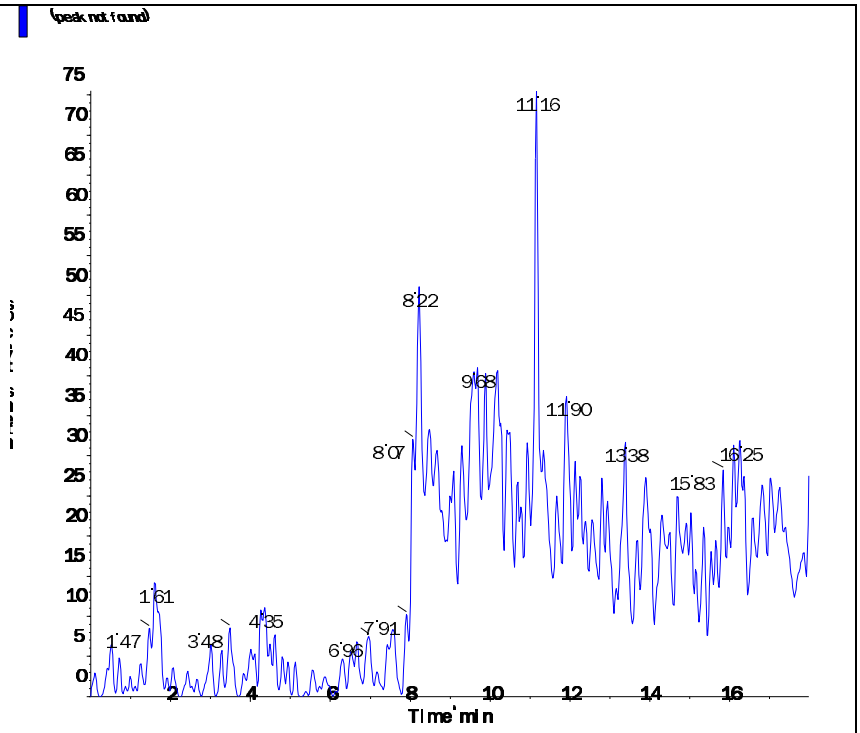
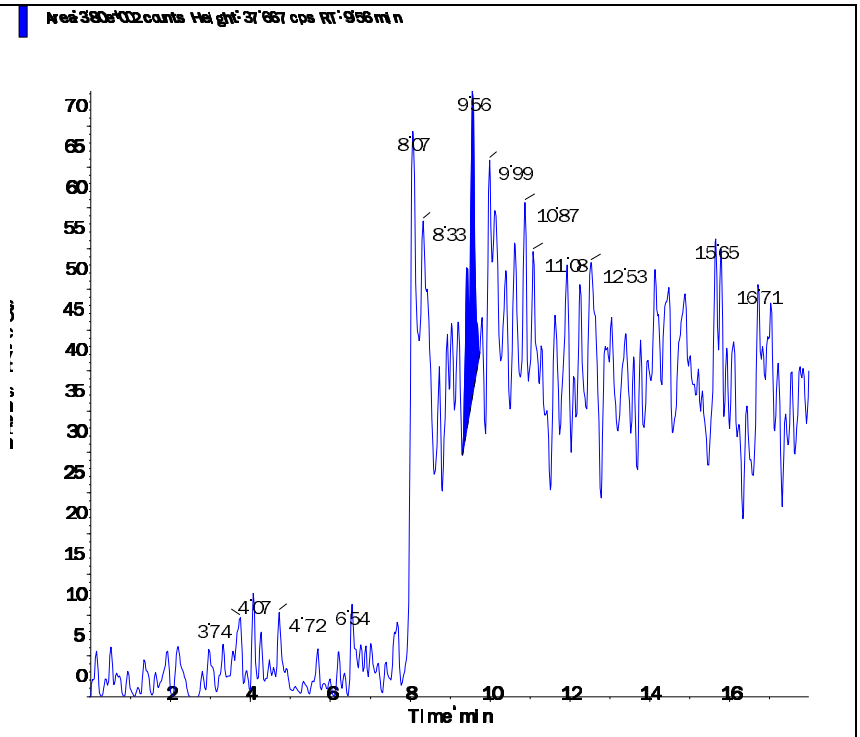
Created with Analyst Reporter
Printed: 11/11/2016 11:33 AM

Perchlorate (98.8/83.3 amu)	
RT (Exp. RT): 0.00 (9.84) min Calculated conc: No Peak ng/ml Area Ratio: 0.00 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu)	
RT (Exp. RT): 9.56 (9.84) min Calculated conc: < 0 ng/ml Area Ratio: 0.001 Sample Type: (Unknown)	

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Created with Analyst Reporter
Printed: 11/11/2016 11:37 AM

Data File	LM37601.wiff	**Result Table**	111016_JWR.rdb
Acquisition Date	11/10/2016 7:11:11 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

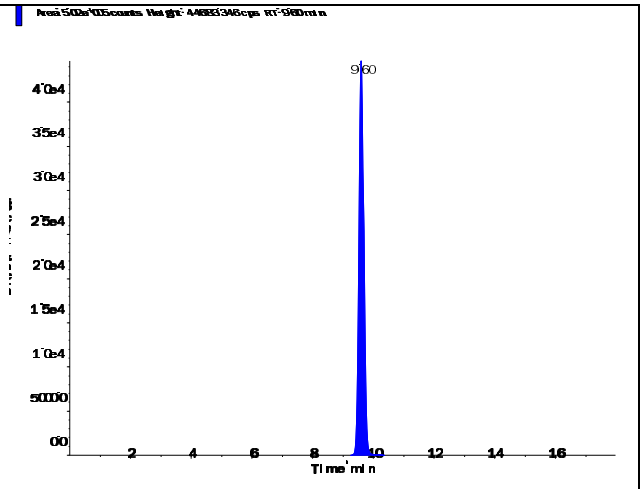
Sample Name	WG591040-06 CCB	**Injection Vial**	1.00
Data File	LM37601.wiff	**Injection Volume**	10.00
Acquisition Date	11/10/2016 7:11:11 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	111016_JWR.rdb
Sample ID	WG591040-06	**Dilution Factor**	1.00
Sample Comment	11.00	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	5.020e+05	9.60	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	0.000e+00	0.00	N/A	No Peak
Perchlorate conf	0.000e+00	0.00	N/A	No Peak

O18LP (Internal Standard)

RT (Exp. RT): 9.60(9.84) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



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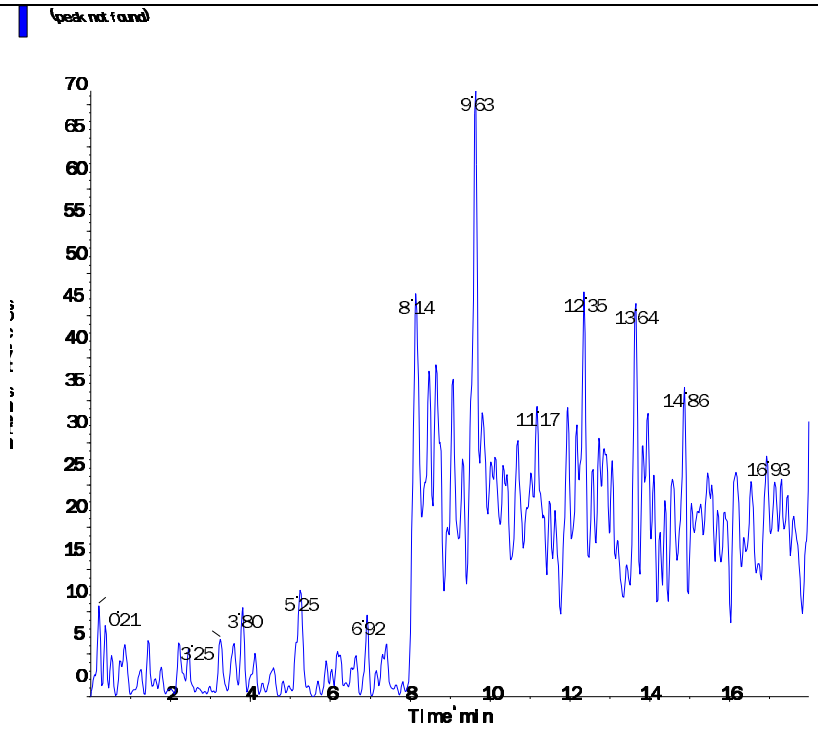
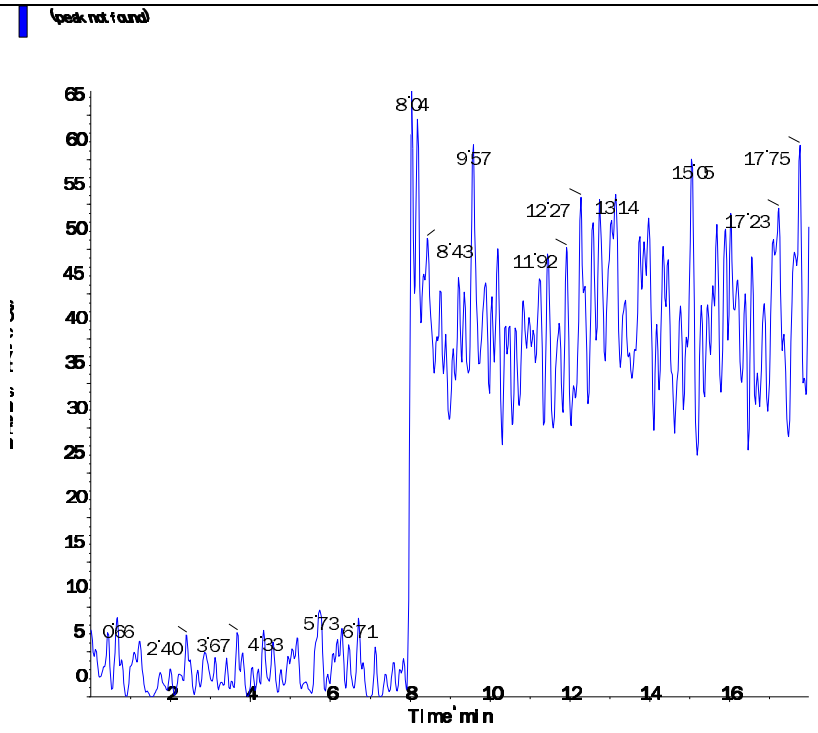
Created with Analyst Reporter
Printed: 11/11/2016 11:37 AM

Perchlorate (98.8/83.3 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	 0.00 (9.84) min No Peak ng/ml 0.00 (Unknown)



Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	 0.00 (9.84) min No Peak ng/ml 0.00 (Unknown)



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Created with Analyst Reporter
Printed: 11/11/2016 11:39 AM

Data File	LM37607.wiff	**Result Table**	111016_JWR.rdb
Acquisition Date	11/10/2016 9:04:45 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

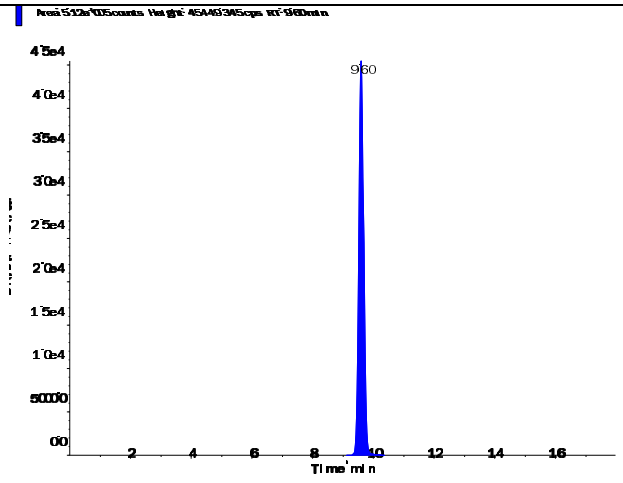
Sample Name	WG591040-08 CCB	**Injection Vial**	1.00
Data File	LM37607.wiff	**Injection Volume**	10.00
Acquisition Date	11/10/2016 9:04:45 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	111016_JWR.rdb
Sample ID	WG591040-08	**Dilution Factor**	1.00
Sample Comment	11.00	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	5.120e+05	9.60	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	0.000e+00	0.00	N/A	No Peak
Perchlorate conf	0.000e+00	0.00	N/A	No Peak

O18LP (Internal Standard)

RT (Exp. RT): 9.60(9.84) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



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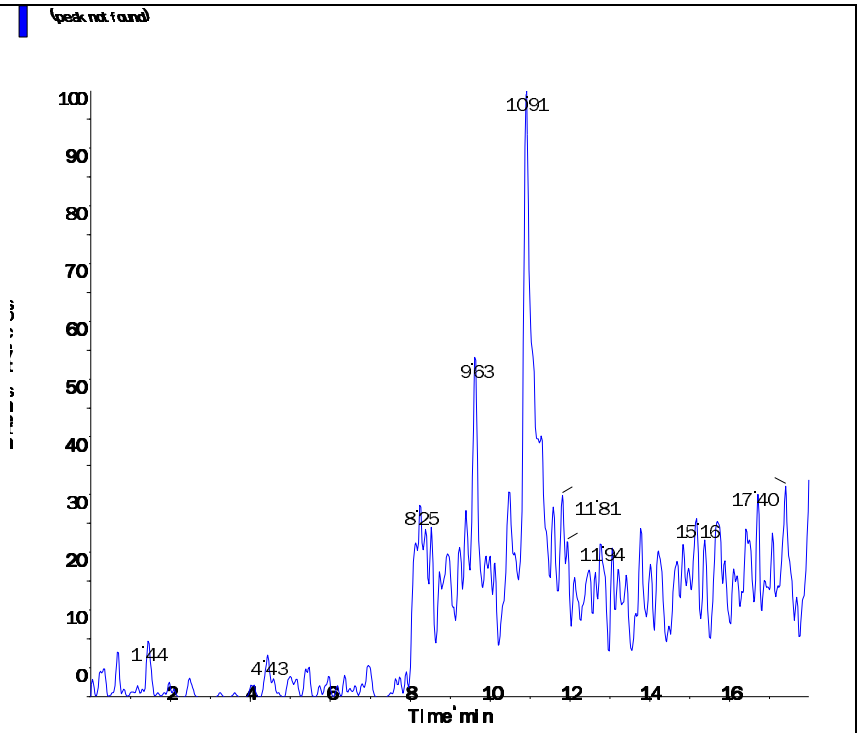
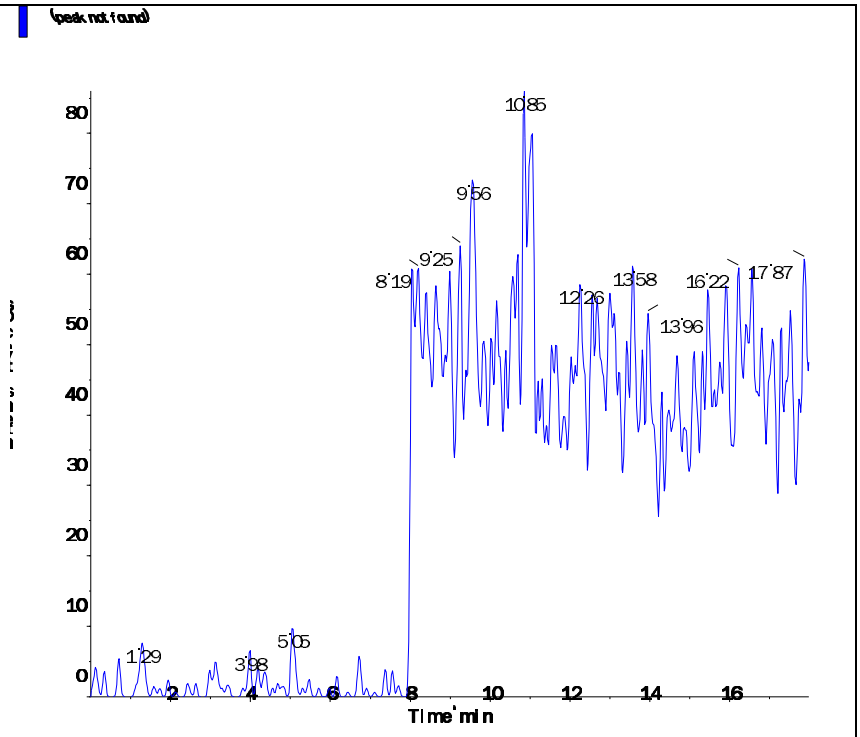
Printed: 11/11/2016 11:39 AM

Perchlorate (98.8/83.3 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	0.00 (9.84) min No Peak ng/ml 0.00 (Unknown)



Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	0.00 (9.84) min No Peak ng/ml 0.00 (Unknown)



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Created with Analyst Reporter
Printed: 11/11/2016 11:29 AM

Data File	LM37577.wiff	**Result Table**	111016_JWR.rdb
Acquisition Date	11/10/2016 11:36:40 AM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

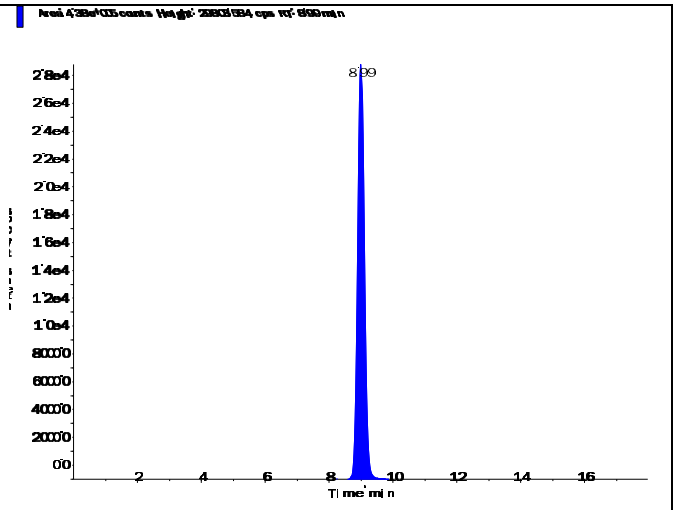
Sample Name	WG591037-01 MCT (0.2ug/L)	**Injection Vial**	4.00
Data File	LM37577.wiff	**Injection Volume**	10.00
Acquisition Date	11/10/2016 11:36:40 AM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	111016_JWR.rdb
Sample ID	WG591037-01	**Dilution Factor**	1.00
Sample Comment	1,1 STD78251	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.380e+05	8.99	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	2.790e+04	9.00	N/A	0.186
Perchlorate conf	8.870e+03	8.99	N/A	0.161

O18LP (Internal Standard)

RT (Exp. RT): 8.99(9.84) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



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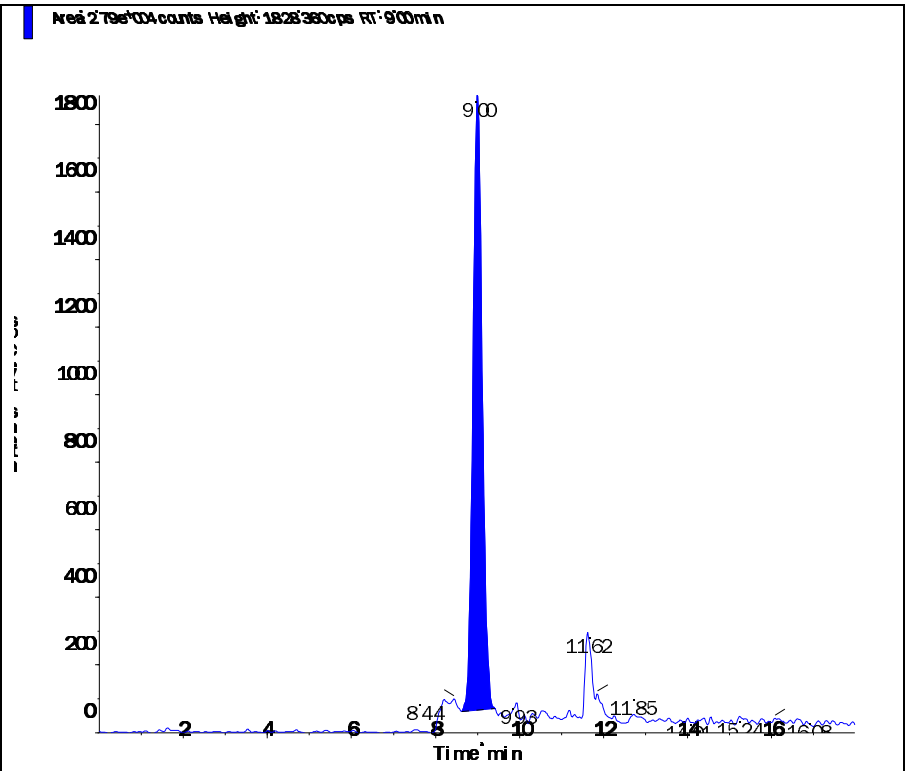
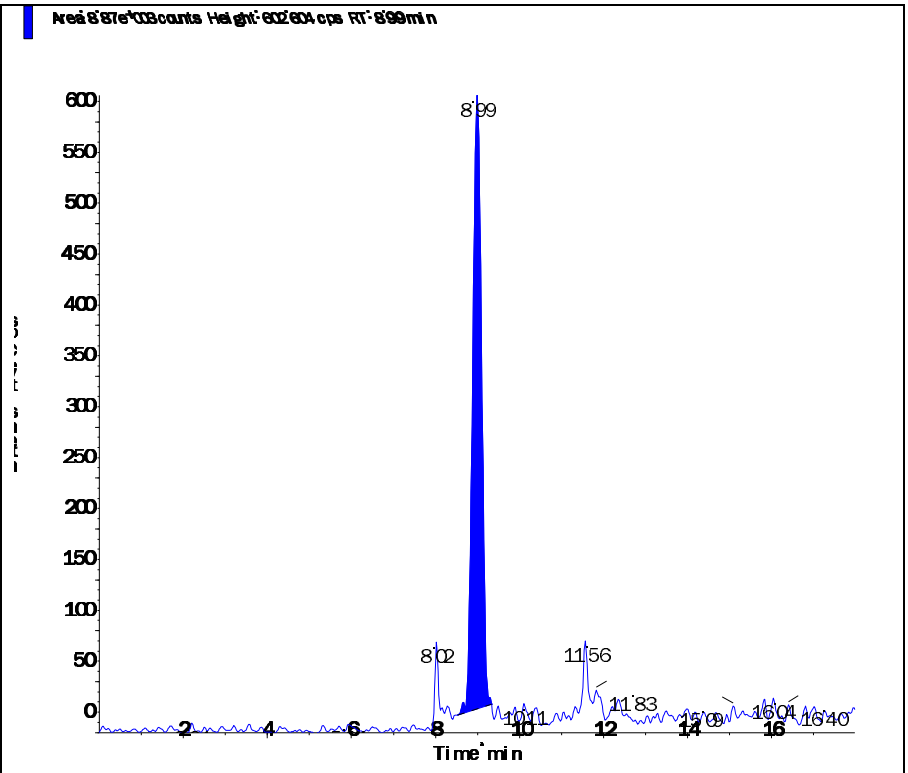
Printed: 11/11/2016 11:29 AM

Perchlorate (98.8/83.3 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	9.00 (9.84) min 0.186 ng/ml 0.064 (Unknown)



Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	8.99 (9.84) min 0.161 ng/ml 0.02 (Unknown)



2.2.1.5 Raw QC Data

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Created with Analyst Reporter
Printed: 11/11/2016 11:29 AM

Data File	LM37578.wiff	**Result Table**	111016_JWR.rdb
Acquisition Date	11/10/2016 11:55:37 AM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

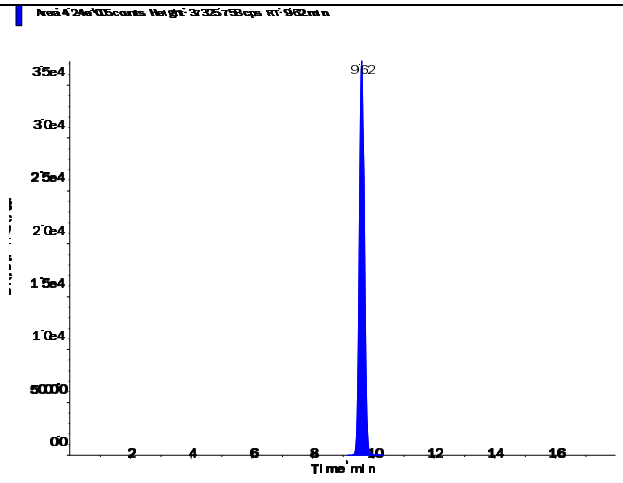
Sample Name	WG591037-02 BLANK	**Injection Vial**	5.00
Data File	LM37578.wiff	**Injection Volume**	10.00
Acquisition Date	11/10/2016 11:55:37 AM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	111016_JWR.rdb
Sample ID	WG591037-02	**Dilution Factor**	1.00
Sample Comment	11.00	**Weight to Volume**	0.00

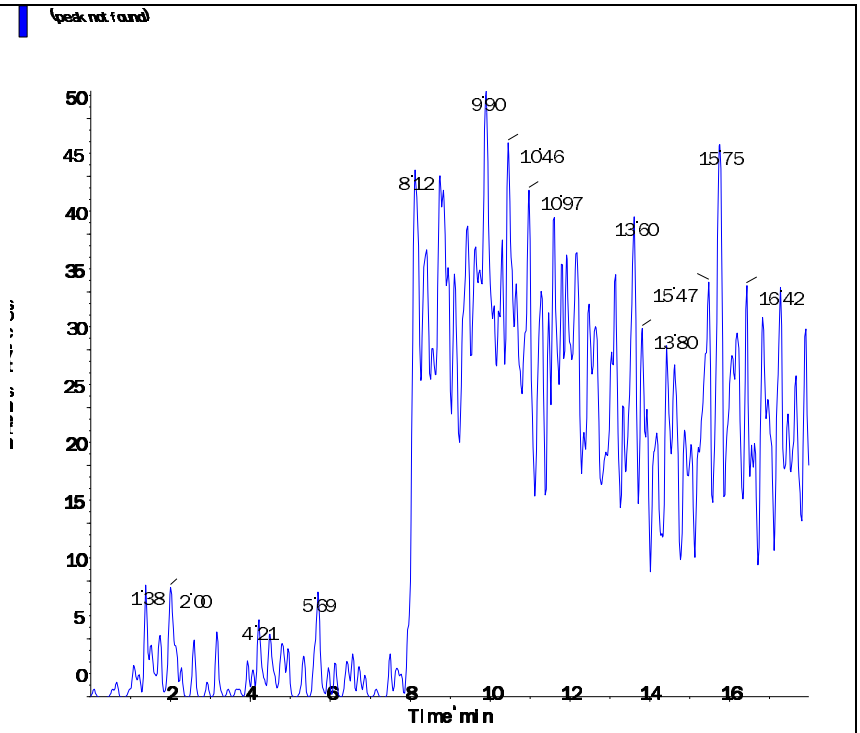
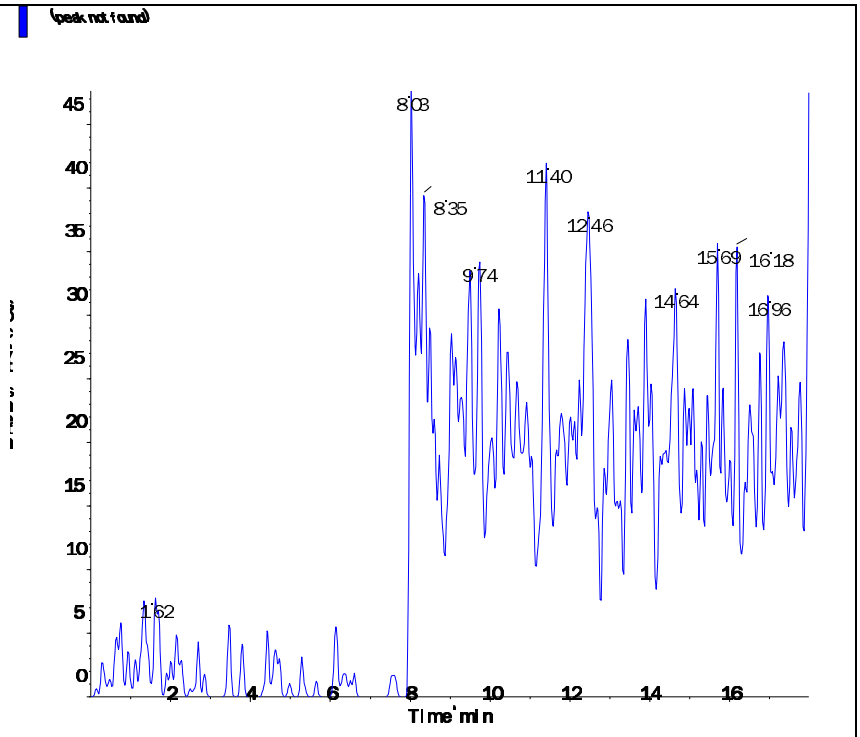
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.240e+05	9.62	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	0.000e+00	0.00	N/A	No Peak
Perchlorate conf	0.000e+00	0.00	N/A	No Peak

O18LP (Internal Standard)

RT (Exp. RT): 9.62(9.84) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 0.00 (9.84) min Calculated conc: No Peak ng/ml Area Ratio: 0.00 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 0.00 (9.84) min Calculated conc: No Peak ng/ml Area Ratio: 0.00 Sample Type: (Unknown)	

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Printed: 11/11/2016 11:29 AM

Data File	LM37579.wiff	**Result Table**	111016_JWR.rdb
Acquisition Date	11/10/2016 12:14:33 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

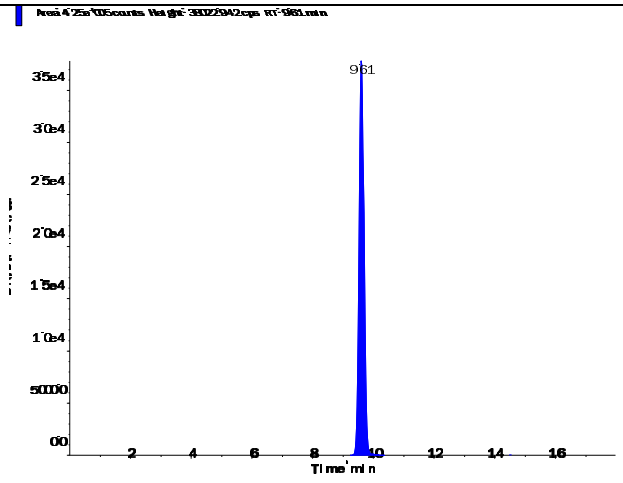
Sample Name	WG591037-03 LCS (0.2ug/L)	**Injection Vial**	6.00
Data File	LM37579.wiff	**Injection Volume**	10.00
Acquisition Date	11/10/2016 12:14:33 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	111016_JWR.rdb
Sample ID	WG591037-03	**Dilution Factor**	1.00
Sample Comment	1,1 STD78251	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	4.250e+05	9.61	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	2.800e+04	9.62	N/A	0.192
Perchlorate conf	9.640e+03	9.60	N/A	0.183

O18LP (Internal Standard)

RT (Exp. RT): 9.61(9.84) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



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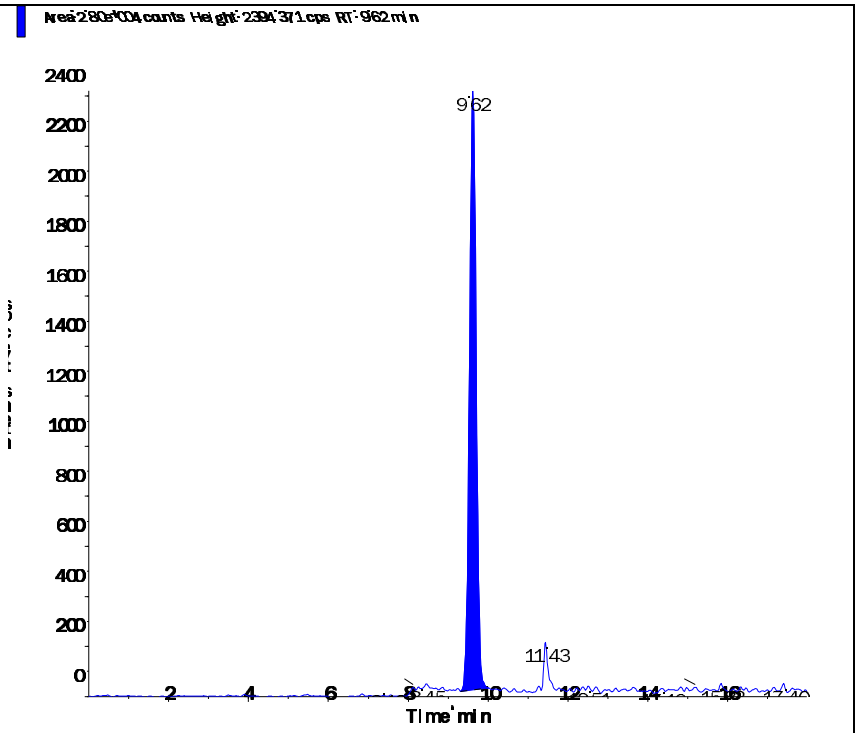
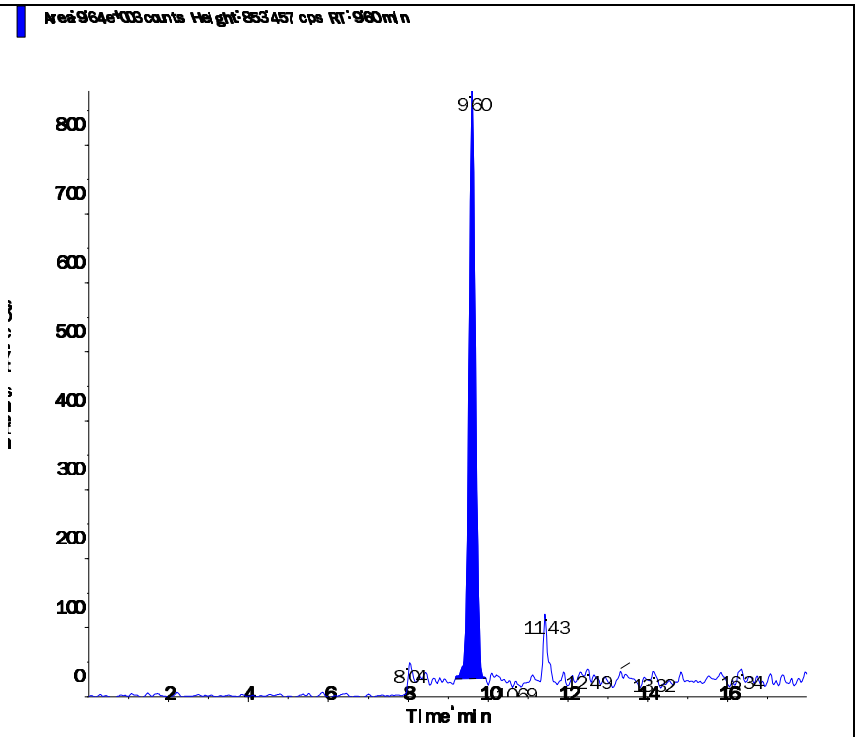
Printed: 11/11/2016 11:29 AM

Perchlorate (98.8/83.3 amu)	
RT (Exp. RT):	9.62 (9.84) min
Calculated conc:	0.192 ng/ml
Area Ratio:	0.066
Sample Type:	(Unknown)



Perchlorate conf (100.8/85.2 amu)	
RT (Exp. RT):	9.60 (9.84) min
Calculated conc:	0.183 ng/ml
Area Ratio:	0.023
Sample Type:	(Unknown)



3.0 Attachments

Microbac Laboratories Inc.
Ohio Valley Division Analyst List
November 18, 2016

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001 – BIO-CHEM TESTING WVDEP 220	002 – REIC Consultants, Inc. WVDEP 060
003 – Sturm Environmental	004 – MICROBAC PITTSBURGH
005 – ES LABORATORIES	006 – ALCOSAN LABORATORIES
007 – ALS LABORATORIES	008 – BENCHMARK LABORATORIES
010 – MICROBAC CHICAGOLAND	AC – AMBER R. CARMICHAEL
ADC – ANTHONY D. CANTER	ADG – APRIL D. GREENE
AED – ALLEN E. DAVIS	ALS – ADRIANE L. STEED
AMA – ALEXANDRA M. ALFRED	AWE – ANDREW W. ESSIG
AZH – AFTER HOURS	BJO – BRIAN J. OGDEN
BKT – BRENDAN TORRENCE	BLG – BRENDA L. GREENWALT
BNB – Brandi N. Bentley	BRG – BRENDA R. GREGORY
CAA – CASSIE A. AUGENSTEIN	CAF – CHERYL A. FLOWERS
CAS – Craig A. Smith	CEB – CHAD E. BARNES
CJQ – Cameron J. Quick	CLC – CHRYS L. CRAWFORD
CLS – CARA L. STRICKLER	CLW – CHARISSA L. WINTERS
CPD – CHAD P. DAVIS	CRW – CHRISTINA R. WILSON
CSH – CHRIS S. HILL	CV – Carl Volkman
DAK – DEAN A. KETELSEN	DCM – DAVID C. MERCKLE
DEV – DAVID E. VANDENBERG	DIH – DEANNA I. HESSON
DLB – DAVID L. BUMGARNER	DLP – DOROTHY L. PAYNE
DSM – DAVID S. MOSSOR	DTG – DOMINIC T. GEHRET
ECL – ERIC C. LAWSON	EMW – ERIC M. WILKEN
ENY – EMILY N. YOAK	ERP – ERIN R. PORTER
FJB – FRANCES J. BOLDEN	HDD – HANAH D. DAWKINS
JDH – JUSTIN D. HESSON	JDS – JARED D. SMITH
JKP – JACQUELINE K. PARSONS	JLD – JESSICA L. DELONG
JLL – JOHN L. LENT	JMW – JEANA M. WHITE
JTP – JOSHUA T. PEMBERTON	JWR – JOHN W. RICHARDS
JWS – JACK W. SHEAVES	JYH – JI Y. HU
KAK – KATHY A. KIRBY	KAT – KATHY A. TUCKER
KDD – Katelyn D. Daley	KDW – KATHRYN D. WELCH
KEB – KATIE E. BARNES	KHR – KIM H. RHODES
KKB – KERRI K. BUCK	KRA – KATHY R. ALBERTSON
KRB – KAELY R. BECKER	KRP – KATHY R. PARSONS
LJH – Lacey J. Hendershot	LKN – LINDA K. NEDEFF
LLS – LARRY L. STEPHENS	LSB – LESLIE S. BUCINA
LSJ – LAURA S. JONES	MAP – MARLA A. PORTER
MBK – MORGAN B. KNOWLTON	MDA – MIKE D. ALBERTSON
MDC – MIKE D. COCHRAN	MES – MARY E. SCHILLING
MMB – MAREN M. BEERY	MRT – MICHELLE R. TAYLOR
MSW – MATT S. WILSON	NPH – Natalie P. Hart
PDM – PIERCE D. MORRIS	PIT – MICROBAC WARRENDALE
QX – QIN XU	RAH – ROY A. HALSTEAD
REK – BOB E. KYER	RLB – BOB BUCHANAN
RNP – RICK N. PETTY	SAV – SARAH A. VANDENBERG
SCB – SARAH C. BOGOLIN	SDC – SHALYN D. CONLEY
SLM – STEPHANIE L. MOSSBURG	SLP – SHERI L. PFALZGRAF
TB – TODD BOYLE	TGF – TIM G. FELTON
TMB – TIFFANY M. BAILEY	TMM – TAMMY M. MORRIS
VC – VICKI COLLIER	WJB – WILL J. BEASLEY
WTD – WADE T. DELONG	XXX – UNAVAILABLE OR SUBCONTRACT

Microbac Laboratories Inc.
List of Valid Qualifiers
November 18, 2016

Qualkey: DOD

Qualifier	Description
*	Surrogate or spike compound out of range
+	Correlation coefficient for the MSA is less than 0.995
<	Result is less than the associated numerical value.
>	Greater than
>,H1	Result is greater than the associated numerical value. Sample analysis performed past holding time.
A	See the report narrative
B	The reported result is associated with a contaminated method blank.
B,H1	Analyte present in method blank. Sample analysis performed past holding time.
B1	Target analyte detected in method blank at or above the method reporting limit
B3	Target analyte detected in calibration blank at or above the method reporting limit
B4	The BOD unseeded dilution water blank exceeded 0.2 mg/L
C	Confirmed by GC/MS
CG	Confluent growth
CT1	Cooler temperature at sample reciept exceeded regulatory limit.
DL	Surrogate or spike compound was diluted out
E	Estimated concentration due to sample matrix interference
E,CT1	Estimated results. The cooler temperature at receipt exceeded regulatory guidelines for requested testing.
EDL	Elevated sample reporting limits, presence of non-target analytes
EMPC	Estimated Maximum Possible Concentration
F, S	Estimated result below quantitation limit; method of standard additions(MSA)
F,CT1	Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula
FL	Free Liquid
FP1	Did not ignite.
H1	Sample analysis performed past holding time.
H1,CT1	Sample analysis performed past holding time. The cooler temperature at receipt exceeded regulatory guidelines for reque
I	Semiquantitative result (out of instrument calibration range)
J	Estimated concentration; sample matrix interference.
J	Estimated value ; the analyte concentration was greater than the highest standard
J	Estimated value ; the analyte concentration was less than the LOQ.
J	The reported result is an estimated value.
J,B	Analyte detected in both the method blank and sample above the MDL.
J,CT1	Estimated value ; the analyte concentration was less than the LOQ. Cooler temperature at sample reciept exceeded regu
J,H1	Estimated value ; the analyte concentration was less than the LOQ. Sample analysis performed past holding time.
J,H1	The reported result is an estimated value. Sample was analyzed past holding time.
J,P	Estimate; columns don't agree to within 40%
J,S	Estimated concentration; analyzed by method of standard addition (MSA)
JB	The reported result is an estimated value. The reported result is also associated with a contaminated method blank.
JQ	The reported result is an estimated value and one or more quality control criteria failed. See narrative.
L	Sample reporting limits elevated due to matrix interference
L1	The associated blank spike (LCS) recovery was above the laboratory acceptance limits.
L2	The associated blank spike (LCS) recovery was below the laboratory acceptance limits.
M	Matrix effect; the concentration is an estimate due to matrix effect.
N	Nontarget analyte; the analyte is a tentativlely identified compound (TIC) by GC/MS
NA	Not applicable
ND	Not detected at or above the reporting limit (RL)
ND, B	Not detected at or above the reporting limit (RL). Analyte present in method blank.
ND, CT1	Analyte was not detected. The concentration is below the reported LOD. The cooler temperature at receipt exceeded reg
ND, L	Not detected; sample reporting limit (RL) elevated due to interference
ND, S	Not detected; analyzed by method of standard addition (MSA)
ND,H1	Not detected; Sample analysis performed past holding time.
ND,H1,CT1	Not detected; Sample analysis performed past holding time. The cooler temperature at receipt exceeded regulatory guide
NF	Not found by library search
NFL	No free liquid
NI	Non-ignitable
NR	Analyte is not required to be analyzed
NS	Not spiked
P	Concentrations >40% difference between the two GC columns
Q	One or more quality control criteria failed. See narrative.
Q,H1	One or more quality control criteria failed. Sample analyzed past holding time. See narrative.
QNS	Quantity of sample not sufficient to perform analysis
RA	Reanalysis confirms reported results
RE	Reanalysis confirms sample matrix interference
S	Analyzed by method of standard addition (MSA)
SMI	Sample matrix interference on surrogate
SP	Reported results are for spike compounds only
T5	Laboratory not licensed for this parameter
TIC	Library Search Compound

Microbac Laboratories Inc.
List of Valid Qualifiers
November 18, 2016

Qualkey: DOD

TNTC	Too numerous to count
TNTC, B	Too numerous to count. Analyte present in method blank.
TNTC,CT1	Too numerous to count. The cooler temperature at receipt exceeded regulatory guidelines for requested testing.
TNTC,H1	Too numerous to count. Sample analysis performed past holding time.
U	Analyte was not detected. The concentration is below the reported LOD.
U,CT1	Analyte was not detected. The concentration is below the reported LOD. Cooler temperature at sample reciept exceeded
U,H1	Not detected; Sample analysis performed past holding time.
UJ	Undetected; the MDL and RL are estimated due to quality control discrepancies.
UQ	Undetected; the analyte was analyzed for, but not detected.
W	Post-digestion spike for furnace AA out of control limits
X	Exceeds regulatory limit
X, S	Exceeds regulatory limit; method of standard additions (MSA)
Z	Cannot be resolved from isomer - see below

L16110321 / Revision: 0 / 678 total pages

AECOM

Chain of Custody Record

COC Number:

Laboratory:	Microbac POC: Stephanie Mossburg	Project Manager:	Debra Richmann
Address:	158 Starlite Drive	Phone/Fax Number:	210-296-2000
	Marietta, OH 45750	Sampler (print):	Scott Beesinger
Phone:	1-800-373-4071	Signature:	Scott Beesinger
Client:	AECOM		
Address:	112 East Pecan Ste. 400		
	San Antonio, TX 78205		
Turn Around Time:	STANDARD		
Project Name/Location:	Longhorn		
Project Number:	60256135.0002GA		

Mail to: Linda Raabe, 112 East Pecan STE. 400, San Antonio, TX 78205, 210-296-2000

Fed Ex Airbill No:

Program:

ERPIMS REQUIRED FIELDS

Site Name	Sample ID/Location ID	SBD	SED	Date	Time	Comp-	Grab	Matrix	Number of Containers	VOC	Perchlorate	SA CODE	Cooler ID	LOT CONTROL NUMBERS ABLOT	EBLOT	TBLOT
SITE 50	50WW09-110316			11/3/16	0815		X	W	4	X	X					
	50WW10-110316			11/3/16	0910		X	W	4	X	X					
	50WW10FD-110316			11/3/16	0910		X	W	4	X	X					
	50WW05-110316			11/3/16	1020		X	W	4	X	X					
	50WW05MS-110316			11/3/16	1020		X	W	4	X	X					
	50WW05MSD-110316			11/3/16	1020		X	W	4	X	X					
	50WW21-110316			11/3/16	1125		X	W	4	X	X					
	50WW24-110316			11/3/16	1325		X	W	4	X	X					
	50WW18-110316			11/3/16	1430		X	W	4	X	X					
	50WW19-110416			11/4/16	0815		X	W	4	X	X					
	50WW17-110416			11/4/16	0915		X	W	4	X	X					
	TRIP BLANK			11/4/16			X	W	2	X						

Comments: **STANDARD TAT**

Relinquished by: (Signature)	Date	Time	Relinquished by: (Signature)	Date	Time
Scott Beesinger	11/4/16	1400			
Relinquished by: (Signature)	Date	Time	Relinquished by: (Signature)	Date	Time

Microbac OVD
Received: 11/05/2016 10:50
By: BRENDA GREENWALT
221000093168

Brenda Greenwalt

Remarks:

*Homogenize all composite samples prior to analysis

Distribution: White to Laboratory, Canary to Project Manager, Pink QA/QC Manager

Generated: 11/18/2016 15:34

MICROBAC

COOLER TEMP >6° C LOG

Cooler ID 3168

SAMPLE ID	Bottle 1 °C	Bottle 2 °C	Bottle 3 °C	Bottle 4 °C	Bottle 5 °C	Bottle 6 °C

11-5-16 BJG

pH Exceptions

pH Lot # HC681919

SAMPLE ID	Bottle 1	Bottle 2	Bottle 3	Bottle 4	Bottle 5	Bottle 6

11-5-16 BJG

PRESERVATIVE EXCEPTIONS
NONE
AS NOTED

Document Control # 1957
Last 10-07-2016

Bjg 11-5-16

Issued to: Document Master File

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16110321
Account: 2551
Project: 2551.096
Samples: 12
Due Date: 18-NOV-2016

Samplenum	Container ID	Products
L16110321-01	826280	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-NOV-2016 10:54	BRG		
2	ANALYZ	V1	ORG4	07-NOV-2016 14:52	AWE	CLS	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-NOV-2016 10:54	BRG		
2	ANALYZ	V1	ORG4	07-NOV-2016 14:52	AWE	CLS	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-NOV-2016 10:54	BRG		
2	ANALYZ	V1	ORG4	07-NOV-2016 14:52	AWE	CLS	

Samplenum	Container ID	Products
L16110321-01	826281	6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	07-NOV-2016 10:54	BRG		
2	ANALYZ	W1	SEM	09-NOV-2016 15:01	JWR	BRG	
3	STORE	SEM	A1	11-NOV-2016 16:36	BRG	JWR	

Samplenum	Container ID	Products
L16110321-02	826282	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-NOV-2016 10:54	BRG		
2	ANALYZ	V1	ORG4	07-NOV-2016 14:52	AWE	CLS	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-NOV-2016 10:54	BRG		
2	ANALYZ	V1	ORG4	07-NOV-2016 14:52	AWE	CLS	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-NOV-2016 10:54	BRG		
2	ANALYZ	V1	ORG4	07-NOV-2016 14:52	AWE	CLS	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16110321
Account: 2551
Project: 2551.096
Samples: 12
Due Date: 18-NOV-2016

Samplenum	Container ID	Products
L16110321-02	826283	6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	07-NOV-2016 10:54	BRG		
2	ANALYZ	W1	SEM	09-NOV-2016 15:01	JWR	BRG	
3	STORE	SEM	A1	11-NOV-2016 16:36	BRG	JWR	

Samplenum	Container ID	Products
L16110321-03	826284	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-NOV-2016 10:54	BRG		
2	ANALYZ	V1	ORG4	07-NOV-2016 14:52	AWE	CLS	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-NOV-2016 10:54	BRG		
2	ANALYZ	V1	ORG4	07-NOV-2016 14:52	AWE	CLS	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-NOV-2016 10:54	BRG		
2	ANALYZ	V1	ORG4	07-NOV-2016 14:52	AWE	CLS	

Samplenum	Container ID	Products
L16110321-03	826285	6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	07-NOV-2016 10:54	BRG		
2	ANALYZ	W1	SEM	09-NOV-2016 15:01	JWR	BRG	
3	STORE	SEM	A1	11-NOV-2016 16:36	BRG	JWR	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16110321
Account: 2551
Project: 2551.096
Samples: 12
Due Date: 18-NOV-2016

Samplenum	Container ID	Products
L16110321-04	826286	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-NOV-2016 10:54	BRG		
2	ANALYZ	V1	ORG4	07-NOV-2016 14:52	AWE	CLS	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-NOV-2016 10:54	BRG		
2	ANALYZ	V1	ORG4	07-NOV-2016 14:52	AWE	CLS	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-NOV-2016 10:54	BRG		
2	ANALYZ	V1	ORG4	07-NOV-2016 14:52	AWE	CLS	

Samplenum	Container ID	Products
L16110321-04	826287	6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	07-NOV-2016 10:54	BRG		
2	ANALYZ	W1	SEM	09-NOV-2016 15:01	JWR	BRG	
3	STORE	SEM	A1	11-NOV-2016 16:36	BRG	JWR	

Samplenum	Container ID	Products
L16110321-05	826288	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-NOV-2016 10:54	BRG		
2	ANALYZ	V1	ORG4	07-NOV-2016 14:52	AWE	CLS	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-NOV-2016 10:54	BRG		
2	ANALYZ	V1	ORG4	07-NOV-2016 14:52	AWE	CLS	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-NOV-2016 10:54	BRG		
2	ANALYZ	V1	ORG4	07-NOV-2016 14:52	AWE	CLS	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16110321
Account: 2551
Project: 2551.096
Samples: 12
Due Date: 18-NOV-2016

Samplenum	Container ID	Products
L16110321-05	826289	6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	07-NOV-2016 10:54	BRG		
2	ANALYZ	W1	SEM	09-NOV-2016 15:01	JWR	BRG	
3	STORE	SEM	A1	11-NOV-2016 16:36	BRG	JWR	

Samplenum	Container ID	Products
L16110321-06	826290	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-NOV-2016 10:54	BRG		
2	ANALYZ	V1	ORG4	07-NOV-2016 14:52	AWE	CLS	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-NOV-2016 10:54	BRG		
2	ANALYZ	V1	ORG4	07-NOV-2016 14:52	AWE	CLS	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-NOV-2016 10:54	BRG		
2	ANALYZ	V1	ORG4	07-NOV-2016 14:52	AWE	CLS	

Samplenum	Container ID	Products
L16110321-06	826291	6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	07-NOV-2016 10:54	BRG		
2	ANALYZ	W1	SEM	09-NOV-2016 15:01	JWR	BRG	
3	STORE	SEM	A1	11-NOV-2016 16:36	BRG	JWR	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16110321
Account: 2551
Project: 2551.096
Samples: 12
Due Date: 18-NOV-2016

Samplenum	Container ID	Products
L16110321-07	826292	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-NOV-2016 10:54	BRG		
2	ANALYZ	V1	ORG4	07-NOV-2016 14:52	AWE	CLS	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-NOV-2016 10:54	BRG		
2	ANALYZ	V1	ORG4	07-NOV-2016 14:52	AWE	CLS	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-NOV-2016 10:54	BRG		
2	ANALYZ	V1	ORG4	07-NOV-2016 14:52	AWE	CLS	

Samplenum	Container ID	Products
L16110321-07	826293	6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	07-NOV-2016 10:54	BRG		
2	ANALYZ	W1	SEM	09-NOV-2016 15:01	JWR	BRG	
3	STORE	SEM	A1	11-NOV-2016 16:36	BRG	JWR	

Samplenum	Container ID	Products
L16110321-08	826294	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-NOV-2016 10:54	BRG		
2	ANALYZ	V1	ORG4	07-NOV-2016 14:51	AWE	CLS	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-NOV-2016 10:54	BRG		
2	ANALYZ	V1	ORG4	07-NOV-2016 14:51	AWE	CLS	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-NOV-2016 10:54	BRG		
2	ANALYZ	V1	ORG4	07-NOV-2016 14:51	AWE	CLS	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16110321
Account: 2551
Project: 2551.096
Samples: 12
Due Date: 18-NOV-2016

Samplenum	Container ID	Products
L16110321-08	826295	6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	07-NOV-2016 10:54	BRG		
2	ANALYZ	W1	SEM	09-NOV-2016 15:01	JWR	BRG	
3	STORE	SEM	A1	11-NOV-2016 16:36	BRG	JWR	

Samplenum	Container ID	Products
L16110321-09	826296	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-NOV-2016 10:54	BRG		
2	ANALYZ	V1	ORG4	07-NOV-2016 14:51	AWE	CLS	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-NOV-2016 10:54	BRG		
2	ANALYZ	V1	ORG4	07-NOV-2016 14:51	AWE	CLS	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-NOV-2016 10:54	BRG		
2	ANALYZ	V1	ORG4	07-NOV-2016 14:51	AWE	CLS	

Samplenum	Container ID	Products
L16110321-09	826297	6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	07-NOV-2016 10:54	BRG		
2	ANALYZ	W1	SEM	09-NOV-2016 15:01	JWR	BRG	
3	STORE	SEM	A1	11-NOV-2016 16:36	BRG	JWR	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16110321
Account: 2551
Project: 2551.096
Samples: 12
Due Date: 18-NOV-2016

Samplenum	Container ID	Products
L16110321-10	826298	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-NOV-2016 10:54	BRG		
2	ANALYZ	V1	ORG4	07-NOV-2016 14:51	AWE	CLS	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-NOV-2016 10:54	BRG		
2	ANALYZ	V1	ORG4	07-NOV-2016 14:51	AWE	CLS	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-NOV-2016 10:54	BRG		
2	ANALYZ	V1	ORG4	07-NOV-2016 14:51	AWE	CLS	

Samplenum	Container ID	Products
L16110321-10	826299	6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	07-NOV-2016 10:54	BRG		
2	ANALYZ	W1	SEM	09-NOV-2016 15:01	JWR	BRG	
3	STORE	SEM	A1	11-NOV-2016 16:36	BRG	JWR	

Samplenum	Container ID	Products
L16110321-11	826300	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-NOV-2016 10:54	BRG		
2	ANALYZ	V1	ORG4	07-NOV-2016 14:51	AWE	CLS	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-NOV-2016 10:54	BRG		
2	ANALYZ	V1	ORG4	07-NOV-2016 14:51	AWE	CLS	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-NOV-2016 10:54	BRG		
2	ANALYZ	V1	ORG4	07-NOV-2016 14:51	AWE	CLS	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16110321
Account: 2551
Project: 2551.096
Samples: 12
Due Date: 18-NOV-2016

Samplenum	Container ID	Products
L16110321-11	826301	6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	07-NOV-2016 10:54	BRG		
2	ANALYZ	W1	SEM	09-NOV-2016 15:01	JWR	BRG	
3	STORE	SEM	A1	11-NOV-2016 16:36	BRG	JWR	

Samplenum	Container ID	Products
L16110321-12	826302	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-NOV-2016 10:54	BRG		
2	ANALYZ	V1	ORG4	07-NOV-2016 14:51	AWE	CLS	
3	STORE	ORG4	A1	17-NOV-2016 07:22	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-NOV-2016 10:54	BRG		
2	ANALYZ	V1	ORG4	07-NOV-2016 14:51	AWE	CLS	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

NELAP Addendum - January 4, 2016

Non-NELAP LIMS Product and Description

The following is a list of those tests that are not included in the Microbac – OVD NELAP Scope of Accreditation:

Heat of Combustion (BTU)
Total Halide by Bomb Combustion (TX)
Particle Sizing - 200 Mesh (PS200)
Specific Gravity/Density (SPGRAV)
Total Residual Chlorine (CL-TRL)
Total Volatile Solids (all forms) (TVS)
Total Coliform Bacteria (all methods)
Fecal Coliform Bacteria (all methods)
Sulfite (SO3)
Propionaldehyde (HPLC-UV)

SOLID AND HAZARDOUS CHEMICALS
Nitrogen, Ammonia by Method 350.1
Chromium, Hexavalent, Leachable by SM3500 Cr-B 2009
Phenolics, Total by Method 420.1
ASTM D3987-06

NELAP Accreditation by Laboratory SOP

NONPOTABLE WATER

OVD HPLC02/HPLC-UV

Nitroglycerin
Acetic acid
Butyric acid
Lactic acid
Propionic acid
Pyruvic acid

OVD MSS01/GC-MS

1,4-Phenylenediamine
1-Methylnaphthalene
1,4-Dioxane
Atrazine
Benzaldehyde
Biphenyl
Caprolactam
Hexamethylphosphoramide (HMPA)
Pentachlorobenzene
Pentachloroethane

NELAP Accreditation by Laboratory SOP

NONPOTABLE WATER

OVD MSV01/GC-MS

1, 1, 2-Trichloro-1,2,2-trifluoroethane
1,3-Butadiene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Methylacetate
Methylcyclohexane
T-amylmethylether (TAME)
Tetrahydrofuran (THF)

OVD HPLC07/HPLC-MS-MS

Hexamethylphosphoramide (XMPA-LCMS)

OVD HPLC12/HPLC/UV

Acetate
Formate

OVD RSK01/GC-FID

Acetylene
Propane

OVD K9305/ISE

Fluoroborate

SOLID AND HAZARDOUS CHEMICALS

OVD MSS0I/GC-MS

1-Methylnaphthalene
Benzaldehyde
Biphenyl
Caprolactam
Pentachloroethane

NELAP Accreditation by Laboratory SOP

SOLID AND HAZARDOUS CHEMICALS

OVD MSV0I/GC-MS

1.3-Butadiene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Methylacetate
Methylcyclohexane
n-Hexane
T-amylmethylether (TAME)

Microbac

Laboratory Report Number: L16111326

Kayla Teague
AECOM Technical Services, Inc.
1950 N Stemmons FWY
Dallas, TX 75207

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac's Ohio Valley Division (OVD). If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed below.

Laboratory Contact:
Adriane Steed – Client Services Specialist
(740) 373-4071
Adriane.Steed@microbac.com

I certify that all test results meet all of the requirements of the DoD QSM and other applicable contract terms and conditions. Any exceptions are attached to this cover page or addressed in the method narratives presented in the report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories, DoD ELAP certification number 2936.01. The reported results are related only to the samples analyzed as received.

This report was certified on December 19 2016

Leslie Bucina – Managing Director

State of Origin: TX
Accrediting Authority: Texas Commission on Environmental Quality ID:T104704252-07-TX
QAPP: DOD Ver 4.1

Microbac

Lab Report #: L16111326
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Record of Sample Receipt and Inspection

Comments/Discrepancies

This is the record of the shipment conditions and the inspection records for the samples received and reported as a sample delivery group (SDG). All of the samples were inspected and observed to conform to our receipt policies, except as noted below.

The following discrepancies were noted:

Discrepancy	Resolution
Sample ID per COC: GPW 1-112916 (11/29 @ 08:58). Time on label reads: 09:10. BRG Sample ID per COC: GPW 3-112916 (11/29 @ 09:10). Time on label reads: 08:58. BRG	Per the client please log per the labels ALS

Coolers

Cooler #	Temperature Gun	Temperature	COC #	Airbill #	Temp Required?
00114110	I	2.0		J4616883031	X

Inspection Checklist

#	Question	Result
1	Were shipping coolers sealed?	Yes
2	Were custody seals intact?	Yes
3	Were cooler temperatures in range of 0-6?	Yes
4	Was ice present?	Yes
5	Were COC's received/information complete/signed and dated?	Yes
6	Were sample containers intact and match COC?	Yes
7	Were sample labels intact and match COC?	No
8	Were the correct containers and volumes received?	Yes
9	Were samples received within EPA hold times?	Yes
10	Were correct preservatives used? (water only)	Yes
11	Were pH ranges acceptable? (voa's excluded)	Yes
12	Were VOA samples free of headspace (less than 6mm)?	NA

Microbac

Lab Report #: L16111326
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Samples Received

Client ID	Laboratory ID	Date Collected	Date Received
HBW 7 - 112916	L16111326-01	11/29/2016 08:13	11/30/2016 09:32
HBW 10 - 112916	L16111326-02	11/29/2016 08:27	11/30/2016 09:32
HBW 1 - 112916	L16111326-03	11/29/2016 08:35	11/30/2016 09:32
GPW 1 - 112916	L16111326-04	11/29/2016 09:10	11/30/2016 09:32
GPW 3 - 112916	L16111326-05	11/29/2016 08:58	11/30/2016 09:32

Microbac REPORT L16111326
PREPARED FOR AECOM Technical Services, Inc.
WORK ID:

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1.0 Summary Data

1.1 Narratives

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16111326
Project Name:		**Method:**	6850
Prep Batch Number(s):	WG595135	**Reviewer Name:**	Eric Lawson
LRC Date:	2016-12-19 00:00:00		

Laboratory Data Package Cover Page

	R1	Field chain-of-custody documentation;
	R2	Sample identification cross-reference;
	R3	Test reports (analytical data sheets) for each environmental sample that includes: (a) Items consistent with NELAC Chapter 5, (b) dilution factors, (c) preparation methods, (d) cleanup methods, and (e) a.if required for the project, tentatively identified compounds (TICs).
	R4	Surrogate recovery data including: (a) Calculated recovery (%R), and (b) the laboratory's surrogate QC limits.
	R5	Test reports/summary forms for blank samples;
	R6	Test reports/summary forms for laboratory control samples (LCSs) including: (a) LCS spiking amounts, (b) calculated %R for each analyte, and (c) the laboratory's LCS QC limits.
	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including: (a) samples associated with the MS/MSD clearly identified, (b) MS/MSD spiking compounds, (c) concentration of each MS/MSD analyte measured in the parent and spiked samples, (d) calculated %Rs and relative percent differences (RPDs), and (e) the laboratory's MS/MSD QC limits.
	R8	Laboratory analytical duplicate (if applicable) recovery and precision: (a) the amount of analyte measured in the duplicate, (b) the calculated RPD, and (c) the laboratory's QC limits for analytical duplicates.
	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
	R10	Other problems or anomalies.

Name (Printed)	Signature	Official Title (Printed)	Date
Eric Lawson		Chemist III	2016-12-19 16:25:53

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16111326
Project Name:		**Method:**	6850
Prep Batch Number(s):	WG595135	**Reviewer Name:**	Eric Lawson
LRC Date:	2016-12-19 00:00:00		

Description	Yes	No	NA	NR	ER#
Chain-of-custody (C-O-C)					
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
Were all departures from standard conditions described in an exception report?	X				
Sample and quality control (QC) identification	X				
Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
Test reports					
Were all samples prepared and analyzed within holding times?	X				
Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
Were calculations checked by a peer or supervisor?	X				
Were all analyte identifications checked by a peer or supervisor?	X				
Were sample detection limits reported for all analytes not detected?	X				
Were all results for soil and sediment samples reported on a dry weight basis?			X		
Were % moisture (or solids) reported for all soil and sediment samples?			X		
Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
If required for the project, are TICs reported?			X		
Surrogate recovery data					
Were surrogates added prior to extraction?			X		
Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
Test reports/summary forms for blank samples	X				
Were appropriate type(s) of blanks analyzed?	X				
Were blanks analyzed at the appropriate frequency?	X				
Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
Were blank concentrations < MQL?	X				
Laboratory control samples (LCS):					
Were all COCs included in the LCS?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16111326
Project Name:		**Method:**	6850
Prep Batch Number(s):	WG595135	**Reviewer Name:**	Eric Lawson
LRC Date:	2016-12-19 00:00:00		

Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?			X		
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?			X		
Were MS/MSD analyzed at the appropriate frequency?			X		
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			X		
Were MS/MSD RPDs within laboratory QC limits?			X		
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?			X		
Were analytical duplicates analyzed at the appropriate frequency?			X		
Were RPDs or relative standard deviations within the laboratory QC limits?			X		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	X				
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC limits?	X				
Were percent RSDs or correlation coefficient criteria met?	X				

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16111326
Project Name:		**Method:**	6850
Prep Batch Number(s):	WG595135	**Reviewer Name:**	Eric Lawson
LRC Date:	2016-12-19 00:00:00		

Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?	X				
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	X				
Were percent differences for each analyte within the method-required QC limits?	X				
Was the ICAL curve verified for each analyte?	X				
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X		
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?	X				
Were ion abundance data within the method-required QC limits?	X				
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?	X				
Raw data (NELAC Section 5.5.10)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?	X				
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?			X		
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
Method detection limit (MDL) studies					

Microbac

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16111326
Project Name:		**Method:**	6850
Prep Batch Number(s):	WG595135	**Reviewer Name:**	Eric Lawson
LRC Date:	2016-12-19 00:00:00		

Was a MDL study performed for each reported analyte?	X				
Is the MDL either adjusted or supported by the analysis of DCSs?	X				
Proficiency test reports					
Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
Standards documentation					
Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
Compound/analyte identification procedures					
Are the procedures for compound/analyte identification documented?	X				
Demonstration of analyst competency (DOC)					
Was DOC conducted consistent with NELAC Chapter 5?	X				
Is documentation of the analyst's competency up-to-date and on file?	X				
Verification/validation documentation for methods (NELAC Chapter 5)					
Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
Laboratory standard operating procedures (SOPs)					
Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter “R” must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter “S” should be retained and made available upon request for the appropriate retention period;

2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);

3. NA = Not applicable;

4. NR = Not reviewed;

5. ER# = Exception Report identification number (an Exception Report should be completed for an item if “NR” or “No” is checked).

The Exception Report for each “No” or “Not Reviewed (NR)” item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature

Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	**Laboratory Log Number:**	L16111326
Project Name:		**Method:**	6850
Prep Batch Number(s):	WG595135	**Reviewer Name:**	Eric Lawson
LRC Date:	2016-12-19 00:00:00		

below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [ ] This laboratory meets an exception under 30 TAC §25.6 and was last inspection by [ ] TCEQ or [ ] _____ on **(enter date of last inspection**). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Exceptions Report

There are no exceptions.

1.2 Certificate of Analysis

Microbac

Lab Report #: L16111326
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16111326-01	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	HBW 7 - 112916	**Prep Method:**	6850	**Prep Date:**	12/16/2016 18:00
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	12/16/2016 23:37
Workgroup #:	WG595135	**Analyst:**	JWR	**Run Date:**	12/17/2016 02:09
Collect Date:	11/29/2016 08:13	**Dilution:**	1	**File ID:**	1LM.LM37780
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	0.318	J	0.400	0.200	0.100

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

Microbac

Lab Report #: L16111326
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16111326-02	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	HBW 10 - 112916	**Prep Method:**	6850	**Prep Date:**	12/16/2016 18:00
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	12/16/2016 23:37
Workgroup #:	WG595135	**Analyst:**	JWR	**Run Date:**	12/17/2016 02:28
Collect Date:	11/29/2016 08:27	**Dilution:**	1	**File ID:**	1LM.LM37781
Sample Tag:	01	**Units:**	ug/L		

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

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

Microbac

Lab Report #: L16111326
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16111326-03	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	HBW 1 - 112916	**Prep Method:**	6850	**Prep Date:**	12/16/2016 18:00
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	12/16/2016 23:37
Workgroup #:	WG595135	**Analyst:**	JWR	**Run Date:**	12/17/2016 02:47
Collect Date:	11/29/2016 08:35	**Dilution:**	1	**File ID:**	1LM.LM37782
Sample Tag:	01	**Units:**	ug/L		

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

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

Microbac

Lab Report #: L16111326
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16111326-04	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	GPW 1 - 112916	**Prep Method:**	6850	**Prep Date:**	12/16/2016 18:00
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	12/16/2016 23:37
Workgroup #:	WG595135	**Analyst:**	JWR	**Run Date:**	12/17/2016 03:05
Collect Date:	11/29/2016 09:10	**Dilution:**	1	**File ID:**	1LM.LM37783
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	0.301	J	0.400	0.200	0.100

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

Microbac

Lab Report #: L16111326
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16111326-05	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	GPW 3 - 112916	**Prep Method:**	6850	**Prep Date:**	12/16/2016 18:00
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	12/16/2016 23:37
Workgroup #:	WG595135	**Analyst:**	JWR	**Run Date:**	12/17/2016 03:24
Collect Date:	11/29/2016 08:58	**Dilution:**	1	**File ID:**	1LM.LM37784
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	0.563		0.400	0.200	0.100

2.0 Full Sample Data Package

2.1 General Chromatography Data

2.1.1 6850 LC/MS Data

2.1.1.1 Summary Data

Microbac

Lab Report #: L16111326
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16111326-01	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	HBW 7 - 112916	**Prep Method:**	6850	**Prep Date:**	12/16/2016 18:00
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	12/16/2016 23:37
Workgroup #:	WG595135	**Analyst:**	JWR	**Run Date:**	12/17/2016 02:09
Collect Date:	11/29/2016 08:13	**Dilution:**	1	**File ID:**	1LM.LM37780
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	0.318	J	0.400	0.200	0.100

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

Microbac

Lab Report #: L16111326
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16111326-02	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	HBW 10 - 112916	**Prep Method:**	6850	**Prep Date:**	12/16/2016 18:00
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	12/16/2016 23:37
Workgroup #:	WG595135	**Analyst:**	JWR	**Run Date:**	12/17/2016 02:28
Collect Date:	11/29/2016 08:27	**Dilution:**	1	**File ID:**	1LM.LM37781
Sample Tag:	01	**Units:**	ug/L		

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

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

Microbac

Lab Report #: L16111326
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16111326-03	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	HBW 1 - 112916	**Prep Method:**	6850	**Prep Date:**	12/16/2016 18:00
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	12/16/2016 23:37
Workgroup #:	WG595135	**Analyst:**	JWR	**Run Date:**	12/17/2016 02:47
Collect Date:	11/29/2016 08:35	**Dilution:**	1	**File ID:**	1LM.LM37782
Sample Tag:	01	**Units:**	ug/L		

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

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

Microbac

Lab Report #: L16111326
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16111326-04	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	GPW 1 - 112916	**Prep Method:**	6850	**Prep Date:**	12/16/2016 18:00
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	12/16/2016 23:37
Workgroup #:	WG595135	**Analyst:**	JWR	**Run Date:**	12/17/2016 03:05
Collect Date:	11/29/2016 09:10	**Dilution:**	1	**File ID:**	1LM.LM37783
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	0.301	J	0.400	0.200	0.100

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

Microbac

Lab Report #: L16111326
Lab Project #: 2551.096
Project Name: Longhorn Army Ammunition
Lab Contact: Adriane Steed

Certificate of Analysis

Sample #:	L16111326-05	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	GPW 3 - 112916	**Prep Method:**	6850	**Prep Date:**	12/16/2016 18:00
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	12/16/2016 23:37
Workgroup #:	WG595135	**Analyst:**	JWR	**Run Date:**	12/17/2016 03:24
Collect Date:	11/29/2016 08:58	**Dilution:**	1	**File ID:**	1LM.LM37784
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	0.563		0.400	0.200	0.100

2.1.1.2 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) = Rx/Ristd

x = amount ratio = concentration analyte/concentration internal standard (IS) = Cx / Cistd

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 Cx

Cx = (Cis)(x) = (5 ug/L)(0.040119) = 0.200594 ug/L

Example Calculation - Water:

Slope from curve, m:	1.45
Intercept from curve, b:	-0.00242
Response of analyte, Rx:	12600
Response of Internal Standard , Ristd:	226000
Concentration of IS, Cistd (ug/L):	5.00
Response Ratio:	0.05575
Amount Ratio:	0.04012
Analyte Concentration, Cx (ug/L) :	0.200594

Example Calculation - Soil:

Analyte Concentration, Cx (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: 1402 /1410 µs/cm

Working MCT Level: 10,000 µs/cm

Sample	Conductivity (µs/cm)	Pretreatment or Dilution Needed
WG595135-01 MCT	9,950.	
-02 Blk	0.32	
-03 LCS	0.29	
L16111326-01	149.7	
-02	105.8	
-03	105.8	
-04	53.5	
-05	52.9	
L16120274-01	2,650.	
L16120275-01	1,635.	
L16120281-01 RS	89.3	
-02 MS	89.6	
-03 MSD	89.5	
-04	173.3	
-05	175.9	

Analyst: John Richards

Date/Time: 12/17/16 1720

DCN#122798

Microbac Laboratories Inc.

Instrument Run Log

Instrument: LCMS1 Dataset: 121716_JWR.TXT
Analyst1: JWR Analyst2: NA
Method: 6850 SOP: HPLC06 Rev: 8

Maintenance Log ID: Syringe Filter Lot#: 160109254
Eluent ID#:

Workgroups: Column 1 ID: KP-RPPX250 Column 2 ID: NA
Analytical WG595135 (waters)
Internal STD: STD18071 Surrogate STD: NA Calibration STD STD78249 (12/16/2016)
CCV STD: STD78249 LCS STD: STD78251 MS/MSD STD: STD78251

Comments: ICAL WG595346 : Alternate Source STD78251
Analytical Column : RPPX 5um (250x4.6mm)
K'Prime S/N RPPX250-02115

Sample L16120275-01 was analyzed at a dilution based on its historical results.

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	1LM.LM37765	WG595346-01 CCB	1	1		12/16/16 21:25
2	1LM.LM37766	WG595346-02 STD (0.1 ug/L)	1	1	STD78249	12/16/16 21:44
3	1LM.LM37767	WG595346-03 STD (0.2 ug/L)	1	1	STD78249	12/16/16 22:02
4	1LM.LM37768	WG595346-04 STD (0.5 ug/L)	1	1	STD78249	12/16/16 22:21
5	1LM.LM37769	WG595346-05 STD (1.0 ug/L)	1	1	STD78249	12/16/16 22:40
6	1LM.LM37770	WG595346-06 STD (2.0 ug/L)	1	1	STD78249	12/16/16 22:59
7	1LM.LM37771	WG595346-07 STD (5.0 ug/L)	1	1	STD78249	12/16/16 23:18
8	1LM.LM37772	WG595346-08 STD (10 ug/L)	1	1	STD78249	12/16/16 23:37
9	1LM.LM37773	WG595346-09 SSCV (1.0 ug/L)	1	1	STD78251	12/16/16 23:56
10	1LM.LM37774	WG595142-01 CCB	1	1		12/17/16 00:15
11	1LM.LM37775	WG595142-02 CCV (1.0ug/L)	1	1	STD78249	12/17/16 00:34
12	1LM.LM37776	WG595135-07 MRL (0.2ug/L)	1	1	STD78249	12/17/16 00:53
13	1LM.LM37777	WG595135-01 MCT (0.2ug/L)	1	1	STD78251	12/17/16 01:12
14	1LM.LM37778	WG595135-02 BLANK	1	1		12/17/16 01:31
15	1LM.LM37779	WG595135-03 LCS (0.2ug/L)	1	1	STD78251	12/17/16 01:50
16	1LM.LM37780	L16111326-01	1	1		12/17/16 02:09
17	1LM.LM37781	L16111326-02	1	1		12/17/16 02:28
18	1LM.LM37782	L16111326-03	1	1		12/17/16 02:47
19	1LM.LM37783	L16111326-04	1	1		12/17/16 03:05
20	1LM.LM37784	L16111326-05	1	1		12/17/16 03:24
21	1LM.LM37785	L16120274-01	1	1		12/17/16 03:43
22	1LM.LM37786	L16120274-01 (100x) (NR)	1	100		12/17/16 04:02
23	1LM.LM37787	WG595142-03 CCV (1.0ug/L)	1	1	STD78249	12/17/16 04:21
24	1LM.LM37788	WG595135-08 MRL (0.2ug/L)	1	1	STD78249	12/17/16 04:40
25	1LM.LM37789	WG595142-04 CCB	1	1		12/17/16 04:59
26	1LM.LM37790	L16120281-01 RS	1	1		12/17/16 05:18
27	1LM.LM37791	L16120281-02 MS	1	1	STD78251	12/17/16 05:37
28	1LM.LM37792	L16120281-03 MSD	1	1	STD78251	12/17/16 05:56
29	1LM.LM37793	L16120281-04	1	1		12/17/16 06:15
30	1LM.LM37794	L16120281-05	1	1		12/17/16 06:34
31	1LM.LM37795	L16120275-01 (10,000x)	1	10000		12/17/16 06:53
32	1LM.LM37796	WG595142-05 CCV (1.0ug/L)	1	1	STD78249	12/17/16 07:12

Page: 1 Approved: 19-DEC-16



Microbac Laboratories Inc.

Instrument Run Log

Instrument: LCMS1 Dataset: 121716_JWR.TXT

Analyst1: JWR Analyst2: NA

Method: 6850 SOP: HPLC06 Rev: 8

Maintenance Log ID: Syringe Filter Lot#: 160109254

Eluent ID#:

Column 1 ID: KP-RPPX250 Column 2 ID: NA

Workgroups: Analytical WG595135 (waters)

Internal STD: STD18071 Surrogate STD: NA STD78249 (12/16/2016)

CCV STD: STD78249 LCS STD: STD78251 STD78251

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
33	1LM.LM37797	WG595135-09 MRL (0.2ug/L)	1	1	STD78249	12/17/16 07:31
34	1LM.LM37798	WG595142-06 CCB	1	1		12/17/16 07:49

Comments

Seq.	Rerun	Dil.	Reason	Analytes

Page: 2 Approved: 19-DEC-16

Microbac Laboratories Inc.

Data Checklist

Date: 17-DEC-2016
Analyst: JWR
Analyst: NA
Method: 6850
Instrument: LCMS1
Curve Workgroup: WG595346
Runlog ID: 79296
Analytical Workgroups: L16111326 L16120274, 0275, 0281 (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	16-DEC-2016 @23:37
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	MCT-ONLY
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	
Check for completeness	X
Primary Reviewer	JWR
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	MES

Primary Reviewer: 17-DEC-2016 John Richards

Secondary Reviewer: 19-DEC-2016 Mary Schilling

CHECKLIST1 - Modified 03/05/2008
Generated: DEC-19-2016 09:45:36

Microbac

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 6850 AAB#: WG595135

Login Number: L16111326

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
HBW 7 - 112916	01	11/29/16					12/16/2016	17.4	28		12/17/16	.3	28	
HBW 10 - 112916	02	11/29/16					12/16/2016	17.4	28		12/17/16	.4	28	
HBW 1 - 112916	03	11/29/16					12/16/2016	17.4	28		12/17/16	.4	28	
GPW 1 - 112916	04	11/29/16					12/16/2016	17.4	28		12/17/16	.4	28	
GPW 3 - 112916	05	11/29/16					12/16/2016	17.4	28		12/17/16	.4	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 5069824
Report generated 12/19/2016 10:10

METHOD BLANK SUMMARY

Login Number: L16111326
Blank File ID: 1LM.LM37778
Prep Date: 12/16/16 18:00
Analyzed Date: 12/17/16 01:31
Analyst: JWR

Work Group: WG595135
Blank Sample ID: WG595135-02
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	WG595135-07	1LM.LM37776	12/17/16 00:53	01
MCT	WG595135-01	1LM.LM37777	12/17/16 01:12	01
LCS	WG595135-03	1LM.LM37779	12/17/16 01:50	01
HBW 7 - 112916	L16111326-01	1LM.LM37780	12/17/16 02:09	01
HBW 10 - 112916	L16111326-02	1LM.LM37781	12/17/16 02:28	01
HBW 1 - 112916	L16111326-03	1LM.LM37782	12/17/16 02:47	01
GPW 1 - 112916	L16111326-04	1LM.LM37783	12/17/16 03:05	01
GPW 3 - 112916	L16111326-05	1LM.LM37784	12/17/16 03:24	01
QCMRL	WG595135-08	1LM.LM37788	12/17/16 04:40	01
QCMRL	WG595135-09	1LM.LM37797	12/17/16 07:31	01

Report Name: BLANK_SUMMARY
PDF File ID: 5069825
Report generated 12/19/2016 10:10

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L16111326 Prep Date: 12/16/16 18:00 Sample ID: WG595135-02
Instrument ID: LCMS1 Run Date: 12/17/16 01:31 Prep Method: 6850
File ID: 1LM.LM37778 Analyst: JWR Method: 6850
Workgroup (AAB#): WG595135 Matrix: Water Units: ug/L
Contract #: Cal ID: LCMS1-16-DEC-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: 5069826
19-DEC-2016 10:10

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16111326 **Run Date:** 12/17/2016 **Sample ID:** WG595135-03
Instrument ID: LCMS1 **Run Time:** 01:50 **Prep Method:** 6850
File ID: 1LM.LM37779 **Analyst:** JWR **Method:** 6850
Workgroup (AAB#): WG595135 **Matrix:** Water **Units:** ug/L
QC Key: DOD4 **Lot#:** STD78251 **Cal ID:** LCMS1-16-DEC-16

Analytes	Expected	Found	% Rec	LCS Limits	Q
Perchlorate	0.200	0.200	100	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 5069827
Report generated: 12/19/2016 10:10

Microbac Laboratories Inc.
INITIAL CALIBRATION SUMMARY

Login Number: L16111326
Analytical Method: 6850
ICAL Workgroup: WG595346

Instrument ID: LCMS1
Initial Calibration Date: 16-DEC-16 23:37
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R^2)
Perchlorate		1.691	3.94	1.00000	

R = Correlation coefficient; 0.995 minimum
R^2 = Coefficient of determination; 0.99 minimum

INT_CAL - Modified 03/06/2008
PDF File ID: 5069829
Report generated 12/19/2016 10:10

Login Number: L16111326
Analytical Method: 6850
Instrument ID: LCMS1
Initial Calibration Date: 16-DEC-16 23:37
Column ID: F

Analyte	WG595346-02			WG595346-03			WG595346-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Perchlorate	0.100	10900.0000	1.729	0.200	21400.0000	1.692	0.500	54100.0000	1.728

INT_CAL - Modified 03/06/2008
PDF File ID: 5069829
Report generated 12/19/2016 10:10

Login Number: L16111326
Analytical Method: 6850
Instrument ID: LCMS1
Initial Calibration Date: 16-DEC-16 23:37
Column ID: F

Analyte	WG595346-05			WG595346-06			WG595346-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Perchlorate	1.00	106000.000	1.685	2.00	206000.000	1.675	5.00	505000.000	1.663

INT_CAL - Modified 03/06/2008
PDF File ID: 5069829
Report generated 12/19/2016 10:10

Login Number: L16111326
Analytical Method: 6850
Instrument ID: LCMS1
Initial Calibration Date: 16-DEC-16 23:37
Column ID: F

Analyte	WG595346-08		
	CONC	RESP	RF
Perchlorate	10.0	978000.000	1.668

INT_CAL - Modified 03/06/2008
PDF File ID: 5069829
Report generated 12/19/2016 10:10

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L16111326 Run Date: 12/16/2016 Sample ID: WG595346-09
Instrument ID: LCMS1 Run Time: 23:56 Method: 6850
File ID: 1LM.LM37773 Analyst: JWR QC Key: DOD4
ICal Workgroup: WG595346 Cal ID: LCMS1 - 16-DEC-16

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Perchlorate		1.00	1.04	ug/L	1.74	4.00	15	

* Exceeds %D Limit

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 5069830
Report generated 12/19/2016 10:10

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number:	L16111326	Run Date:	12/17/2016	Sample ID:	WG595142-01
Instrument ID:	LCMS1	Run Time:	00:15	Method:	6850
File ID:	1LM.LM37774	Analyst:	JWR	Units:	ug/L
Workgroup (AAB#):	WG595135	Cal ID:	LCMS1 - 16-DEC-16		
Matrix:	WATER	QAPP:	DOD4		

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.400	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 5069832
Report generated 12/19/2016 10:10

Microbac Laboratories Inc.
CONTINUING CALIBRATION BLANK (CCB)

Login Number:	L16111326	Run Date:	12/17/2016	Sample ID:	WG595142-04
Instrument ID:	LCMS1	Run Time:	04:59	Method:	6850
File ID:	1LM.LM37789	Analyst:	JWR	Units:	ug/L
Workgroup (AAB#):	WG595135	Cal ID:	LCMS1 - 16-DEC-16		
Matrix:	WATER	QAPP:	DOD4		

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.400	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 5069832
Report generated 12/19/2016 10:10

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L16111326 Run Date: 12/17/2016 Sample ID: WG595142-06
Instrument ID: LCMS1 Run Time: 07:49 Method: 6850
File ID: 1LM.LM37798 Analyst: JWR Units: ug/L
Workgroup (AAB#): WG595135 Cal ID: LCMS1 - 16-DEC-16
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.400	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 5069832
Report generated 12/19/2016 10:10

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16111326 Run Date: 12/17/2016 Sample ID: WG595142-02
Instrument ID: LCMS1 Run Time: 00:34 Method: 6850
File ID: 1LM.LM37775 Analyst: JWR QC Key: DOD4
Workgroup (AAB#): WG595135 Cal ID: LCMS1 - 16-DEC-16
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate		1.00	0.981	ug/L	1.64	1.90	15	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 5069831
Report generated 12/19/2016 10:10

Login Number: L16111326 Run Date: 12/17/2016 Sample ID: WG595142-03
Instrument ID: LCMS1 Run Time: 04:21 Method: 6850
File ID: 1LM.LM37787 Analyst: JWR QC Key: DOD4
Workgroup (AAB#): WG595135 Cal ID: LCMS1 - 16-DEC-16
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate		1.00	0.970	ug/L	1.63	3.00	15	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 5069831
Report generated 12/19/2016 10:10

Login Number: L16111326 Run Date: 12/17/2016 Sample ID: WG595142-05
Instrument ID: LCMS1 Run Time: 07:12 Method: 6850
File ID: 1LM.LM37796 Analyst: JWR QC Key: DOD4
Workgroup (AAB#): WG595135 Cal ID: LCMS1 - 16-DEC-16
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate		1.00	0.996	ug/L	1.67	0.400	15	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 5069831
Report generated 12/19/2016 10:10

Login Number: L16111326 Run Date: 12/17/2016 Sample ID: WG595135-07
Instrument ID: LCMS1 Run Time: 00:53 Prep Method: 6850
File ID: 1LM.LM37776 Analyst: JWR Method: 6850
Workgroup (AAB#): WG595135 Matrix: Water Units: ug/L
Contract #: Cal ID: LCMS1-16-DEC-16

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	0.200	0.199	99.5	70 - 130	

QCMRL - Modified 03/06/2007
PDF File ID: 5069828
Report generated 12/19/2016 10:10

Login Number: L16111326 Run Date: 12/17/2016 Sample ID: WG595135-08
Instrument ID: LCMS1 Run Time: 04:40 Prep Method: 6850
File ID: 1LM.LM37788 Analyst: JWR Method: 6850
Workgroup (AAB#): WG595135 Matrix: Water Units: ug/L
Contract #: Cal ID: LCMS1-16-DEC-16

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	0.200	0.196	98.0	70 - 130	

QCMRL - Modified 03/06/2007
PDF File ID: 5069828
Report generated 12/19/2016 10:10

Login Number: L16111326 Run Date: 12/17/2016 Sample ID: WG595135-09
Instrument ID: LCMS1 Run Time: 07:31 Prep Method: 6850
File ID: 1LM.LM37797 Analyst: JWR Method: 6850
Workgroup (AAB#): WG595135 Matrix: Water Units: ug/L
Contract #: Cal ID: LCMS1-16-DEC-16

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	0.200	0.193	96.5	70 - 130	

QCMRL - Modified 03/06/2007
PDF File ID: 5069828
Report generated 12/19/2016 10:10

Microbac Laboratories Inc.

INTERNAL STANDARD AREA SUMMARY
(COMPARED TO AVERAGE OF ICAL)

Login Number: L16111326
Instrument ID: LCMS1
Workgroup (AAB#): WG595135

ICAL CCV Number: WG595346-05
CAL ID: LCMS1-16-DEC-16
Matrix: WATER

Sample Number	Dilution	Tag	IS-1
WG595346	NA	NA	309000
Upper Limit	NA	NA	463500
Lower Limit	NA	NA	154500
WG595135-03	1.00	01	330000

IS-1 - O18LP

Underline = Response outside limits

INTERNAL_STD_AVG_ICAL - Modified 03/10/2010
PDF File ID: 5069833
Report generated 12/19/2016 10:10

Microbac Laboratories Inc.
INTERNAL STANDARD AREA SUMMARY
(COMPARED TO AVERAGE OF ICAL)

Login Number: L16111326
Instrument ID: LCMS1
Workgroup (AAB#): WG595135

ICAL CCV Number: WG595346-05
CAL ID: LCMS1-16-DEC-16
Matrix: WATER

Sample Number	Dilution	Tag	IS-1
WG595346	NA	NA	309000
Upper Limit	NA	NA	463500
Lower Limit	NA	NA	154500
L16111326-01	1.00	01	245000
L16111326-02	1.00	01	289000
L16111326-03	1.00	01	304000
L16111326-04	1.00	01	307000
L16111326-05	1.00	01	313000
WG595135-02	1.00	01	338000

IS-1 - O18LP

Underline = Response outside limits

INTERNAL_STD_AVG_ICAL - Modified 03/10/2010
PDF File ID: 5069833
Report generated 12/19/2016 10:10

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16111326	**Prep Method:**	6850	**Samplenum:**	L16111326-01
Instrument:	LCMS1	**Prep Date:**	12/16/2016 18:00	**File ID:**	1LM.LM37780
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG595135	**Analysis Date:**	12/17/2016 02:09	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	26400	8730	3.02	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16111326	**Prep Method:**	6850	**Samplenum:**	L16111326-02
Instrument:	LCMS1	**Prep Date:**	12/16/2016 18:00	**File ID:**	1LM.LM37781
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG595135	**Analysis Date:**	12/17/2016 02:28	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	5030	1620	3.10	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16111326	**Prep Method:**	6850	**Samplenum:**	L16111326-03
Instrument:	LCMS1	**Prep Date:**	12/16/2016 18:00	**File ID:**	1LM.LM37782
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG595135	**Analysis Date:**	12/17/2016 02:47	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	5140	1600	3.21	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16111326	**Prep Method:**	6850	**Samplenum:**	L16111326-04
Instrument:	LCMS1	**Prep Date:**	12/16/2016 18:00	**File ID:**	1LM.LM37783
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG595135	**Analysis Date:**	12/17/2016 03:05	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	31400	11200	2.80	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16111326	**Prep Method:**	6850	**Samplenum:**	L16111326-05
Instrument:	LCMS1	**Prep Date:**	12/16/2016 18:00	**File ID:**	1LM.LM37784
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG595135	**Analysis Date:**	12/17/2016 03:24	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	59200	19800	2.99	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16111326	**Prep Method:**	6850	**Samplenum:**	WG595135-01
Instrument:	LCMS1	**Prep Date:**	12/16/2016 18:00	**File ID:**	1LM.LM37777
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG595135	**Analysis Date:**	12/17/2016 01:12	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	20500	7290	2.81	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16111326	**Prep Method:**	6850	**Samplenum:**	WG595135-02
Instrument:	LCMS1	**Prep Date:**	12/16/2016 18:00	**File ID:**	1LM.LM37778
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG595135	**Analysis Date:**	12/17/2016 01:31	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	0.000	199	0.000	2.3	3.8	*

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16111326	**Prep Method:**	6850	**Samplenum:**	WG595135-03
Instrument:	LCMS1	**Prep Date:**	12/16/2016 18:00	**File ID:**	1LM.LM37779
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG595135	**Analysis Date:**	12/17/2016 01:50	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	22600	8110	2.79	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16111326	**Prep Method:**	6850	**Samplenum:**	WG595135-07
Instrument:	LCMS1	**Prep Date:**	12/16/2016 18:00	**File ID:**	1LM.LM37776
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG595135	**Analysis Date:**	12/17/2016 00:53	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	21500	7030	3.06	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16111326	**Prep Method:**	6850	**Samplenum:**	WG595135-08
Instrument:	LCMS1	**Prep Date:**	12/16/2016 18:00	**File ID:**	1LM.LM37788
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG595135	**Analysis Date:**	12/17/2016 04:40	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	21700	8020	2.71	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16111326	**Prep Method:**	6850	**Samplenum:**	WG595135-09
Instrument:	LCMS1	**Prep Date:**	12/16/2016 18:00	**File ID:**	1LM.LM37797
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG595135	**Analysis Date:**	12/17/2016 07:31	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	22500	7620	2.95	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16111326	**Prep Method:**		**Samplenum:**	WG595142-01
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM37774
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG595135	**Analysis Date:**	12/17/2016 00:15	**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 #:	L16111326	**Prep Method:**		**Samplenum:**	WG595142-02
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM37775
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG595135	**Analysis Date:**	12/17/2016 00:34	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	100000	33400	2.99	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16111326	**Prep Method:**		**Samplenum:**	WG595142-03
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM37787
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG595135	**Analysis Date:**	12/17/2016 04:21	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	106000	37100	2.86	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16111326	**Prep Method:**		**Samplenum:**	WG595142-04
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM37789
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG595135	**Analysis Date:**	12/17/2016 04:59	**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 #:	L16111326	**Prep Method:**		**Samplenum:**	WG595142-05
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM37796
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG595135	**Analysis Date:**	12/17/2016 07:12	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	109000	37700	2.89	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16111326	**Prep Method:**		**Samplenum:**	WG595142-06
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM37798
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG595135	**Analysis Date:**	12/17/2016 07:49	**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 #:	L16111326	**Prep Method:**		**Samplenum:**	WG595346-02
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM37766
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG595135	**Analysis Date:**	12/16/2016 21:44	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	10900	3720	2.93	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16111326	**Prep Method:**		**Samplenum:**	WG595346-03
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM37767
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG595135	**Analysis Date:**	12/16/2016 22:02	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	21400	7850	2.73	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16111326	**Prep Method:**		**Samplenum:**	WG595346-04
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM37768
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG595135	**Analysis Date:**	12/16/2016 22:21	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	54100	19300	2.80	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16111326	**Prep Method:**		**Samplenum:**	WG595346-05
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM37769
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG595135	**Analysis Date:**	12/16/2016 22:40	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	106000	36100	2.94	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16111326	**Prep Method:**		**Samplenum:**	WG595346-06
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM37770
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG595135	**Analysis Date:**	12/16/2016 22:59	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	206000	70700	2.91	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16111326	**Prep Method:**		**Samplenum:**	WG595346-07
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM37771
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG595135	**Analysis Date:**	12/16/2016 23:18	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	505000	170000	2.97	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16111326	**Prep Method:**		**Samplenum:**	WG595346-08
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM37772
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG595135	**Analysis Date:**	12/16/2016 23:37	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	978000	326000	3.00	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16111326	**Prep Method:**		**Samplenum:**	WG595346-09
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM37773
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG595135	**Analysis Date:**	12/16/2016 23:56	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	107000	36700	2.92	2.3	3.8	

2.1.1.3 Sample Data

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Printed: 12/17/2016 2:16 PM

Data File	LM37780.wiff	**Result Table**	121716_JWR.rdb
Acquisition Date	12/17/2016 2:09:07 AM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

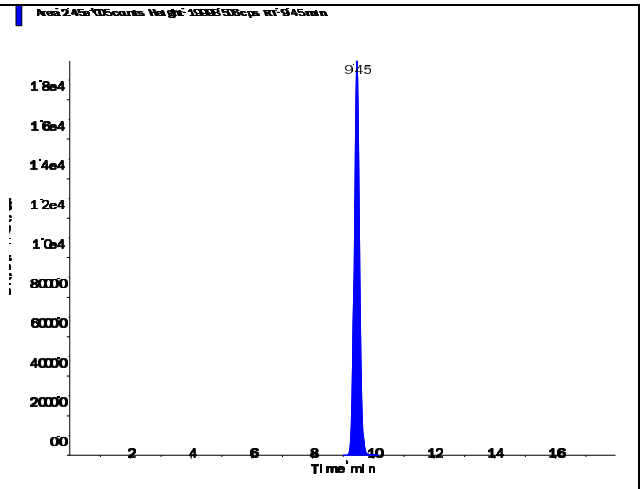
Sample Name	L16111326-01	**Injection Vial**	13.00
Data File	LM37780.wiff	**Injection Volume**	10.00
Acquisition Date	12/17/2016 2:09:07 AM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	121716_JWR.rdb
Sample ID	L16111326-01	**Dilution Factor**	1.00
Sample Comment	1,1 (Hist)	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	2.450e+05	9.45	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	2.640e+04	9.47	N/A	0.318
Perchlorate conf	8.730e+03	9.45	N/A	0.302

O18LP (Internal Standard)

RT (Exp. RT): 9.45(9.56) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



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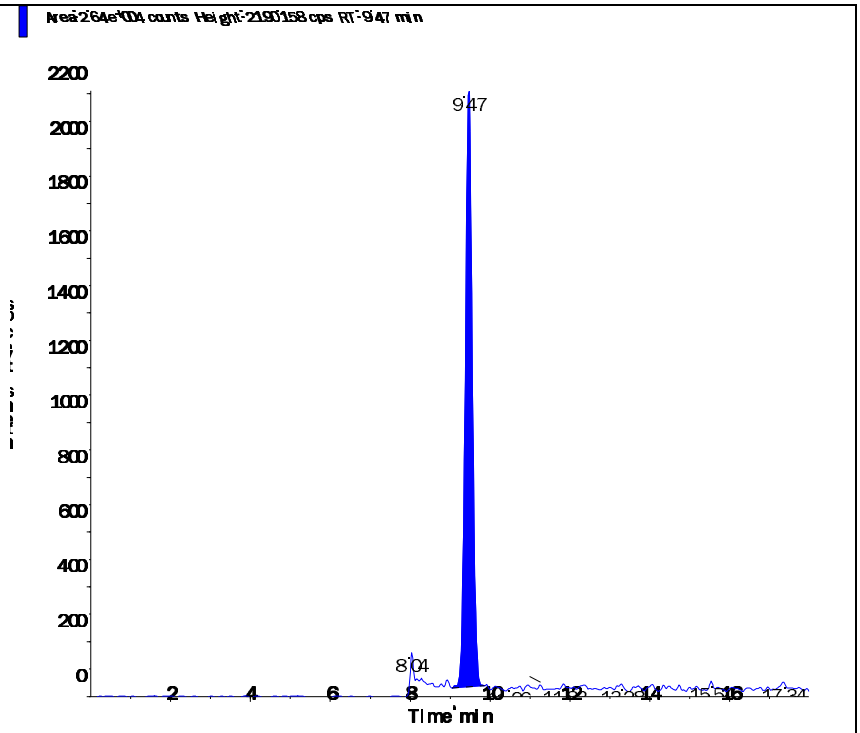
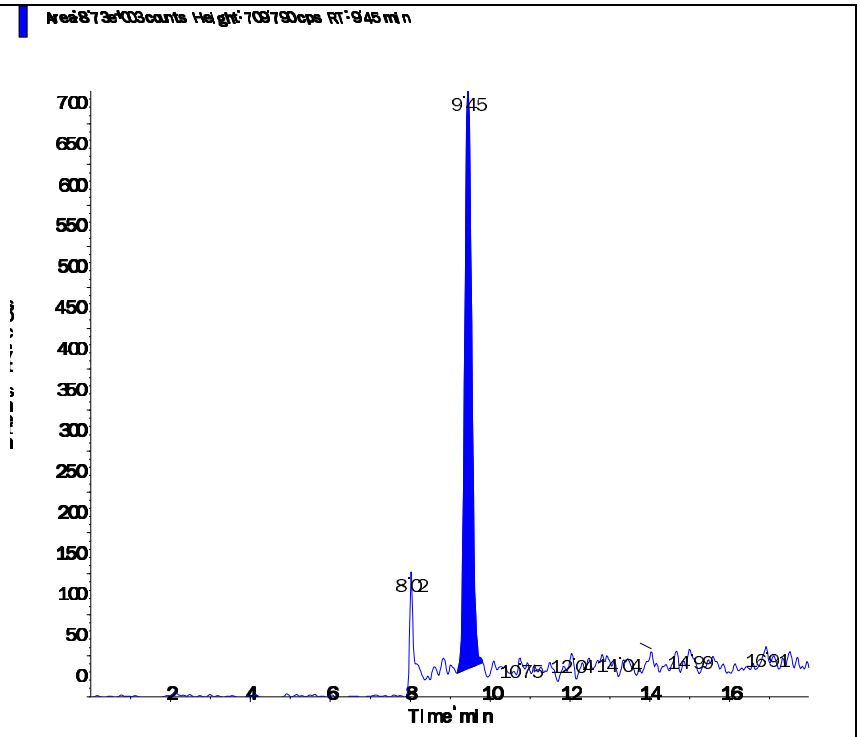
Created with Analyst Reporter
Printed: 12/17/2016 2:16 PM

Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.47 (9.56) min Calculated conc: 0.318 ng/ml Area Ratio: 0.108 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.45 (9.56) min Calculated conc: 0.302 ng/ml Area Ratio: 0.036 Sample Type: (Unknown)	

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Created with Analyst Reporter
Printed: 12/17/2016 2:17 PM

Data File	LM37781.wiff	**Result Table**	121716_JWR.rdb
Acquisition Date	12/17/2016 2:28:03 AM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

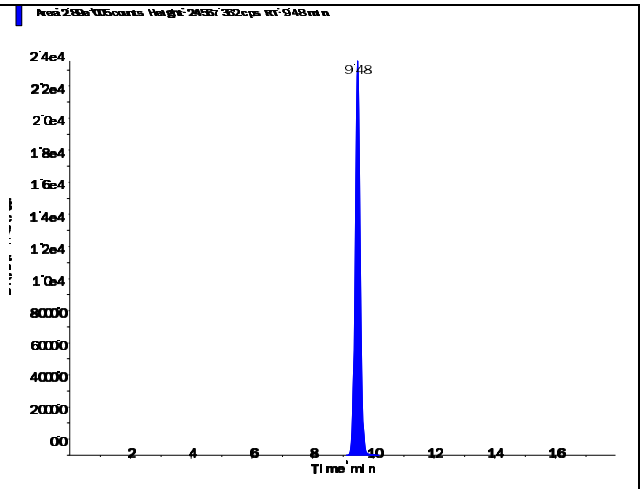
Sample Name	L16111326-02	**Injection Vial**	14.00
Data File	LM37781.wiff	**Injection Volume**	10.00
Acquisition Date	12/17/2016 2:28:03 AM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	121716_JWR.rdb
Sample ID	L16111326-02	**Dilution Factor**	1.00
Sample Comment	1,1 (Hist)	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	2.890e+05	9.48	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	5.030e+03	9.49	N/A	0.0468
Perchlorate conf	1.620e+03	9.48	N/A	0.0332

O18LP (Internal Standard)

RT (Exp. RT): 9.48(9.56) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



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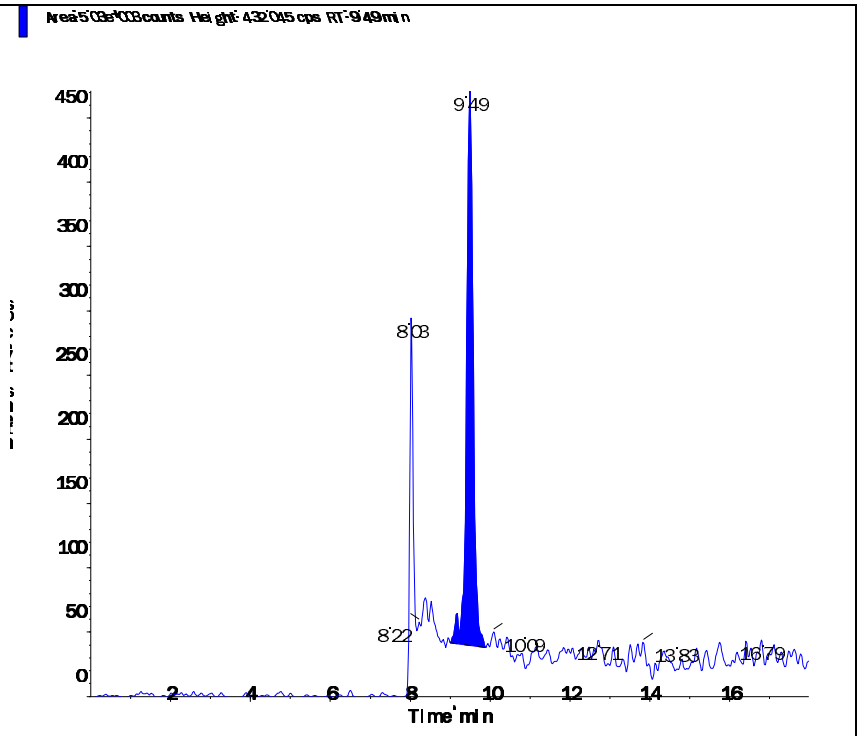
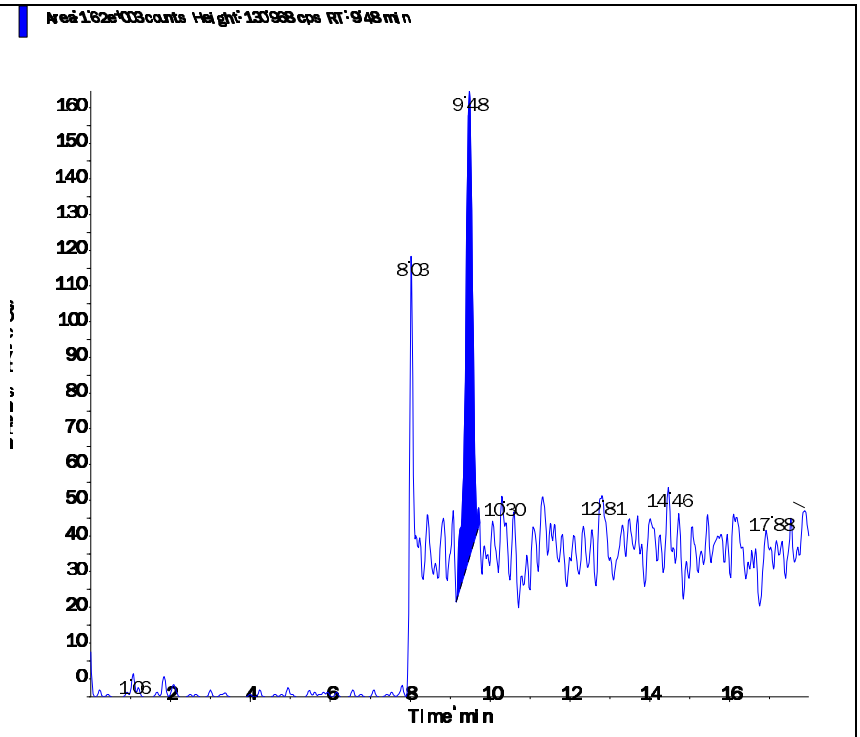
Printed: 12/17/2016 2:17 PM

Perchlorate (98.8/83.3 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	 9.49 (9.56) min 0.0468 ng/ml 0.017 (Unknown)



Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	 9.48 (9.56) min 0.0332 ng/ml 0.006 (Unknown)



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Printed: 12/17/2016 2:17 PM

Data File	LM37782.wiff	**Result Table**	121716_JWR.rdb
Acquisition Date	12/17/2016 2:47:00 AM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

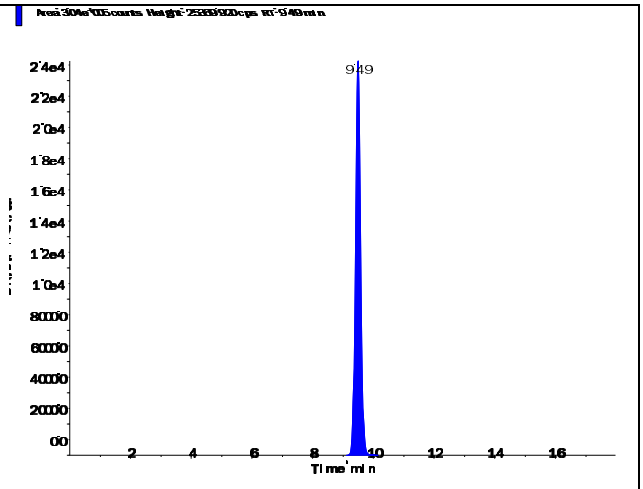
Sample Name	L16111326-03	**Injection Vial**	15.00
Data File	LM37782.wiff	**Injection Volume**	10.00
Acquisition Date	12/17/2016 2:47:00 AM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	121716_JWR.rdb
Sample ID	L16111326-03	**Dilution Factor**	1.00
Sample Comment	1,1 (Hist)	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	3.040e+05	9.49	5.00	-

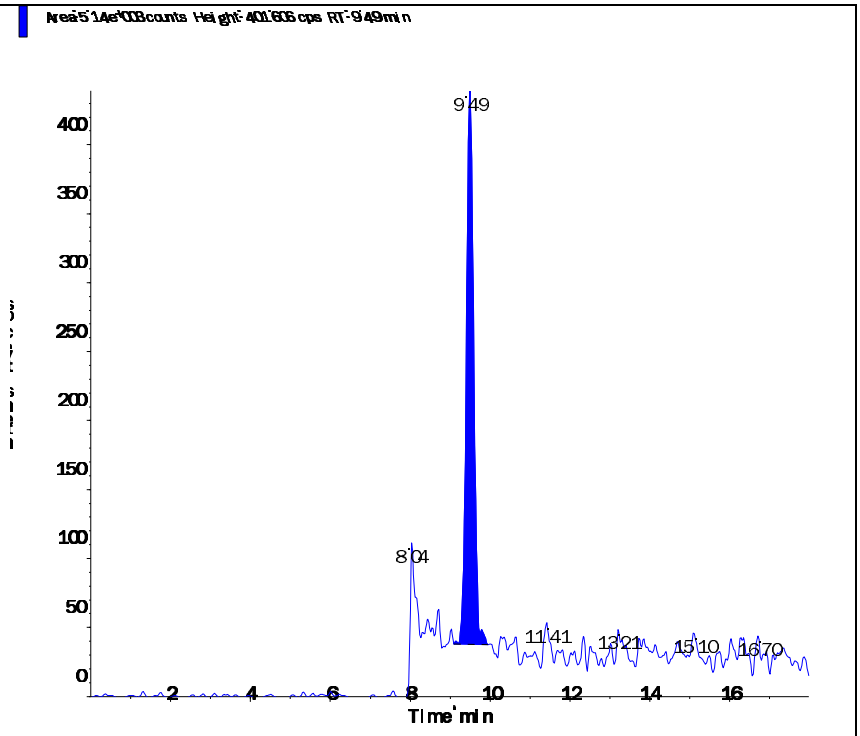
Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	5.140e+03	9.49	N/A	0.0452
Perchlorate conf	1.600e+03	9.48	N/A	0.0301

O18LP (Internal Standard)

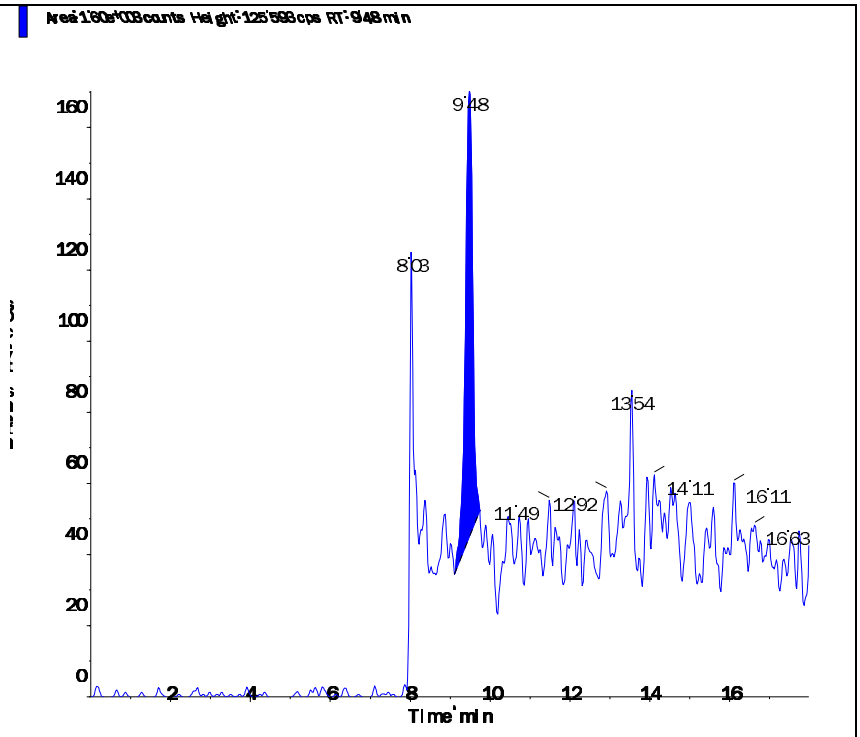
RT (Exp. RT): 9.49(9.56) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	9.49 (9.56) min 0.0452 ng/ml 0.017 (Unknown)



Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	9.48 (9.56) min 0.0301 ng/ml 0.005 (Unknown)



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Printed: 12/17/2016 2:17 PM

Data File	LM37783.wiff	**Result Table**	121716_JWR.rdb
Acquisition Date	12/17/2016 3:05:55 AM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

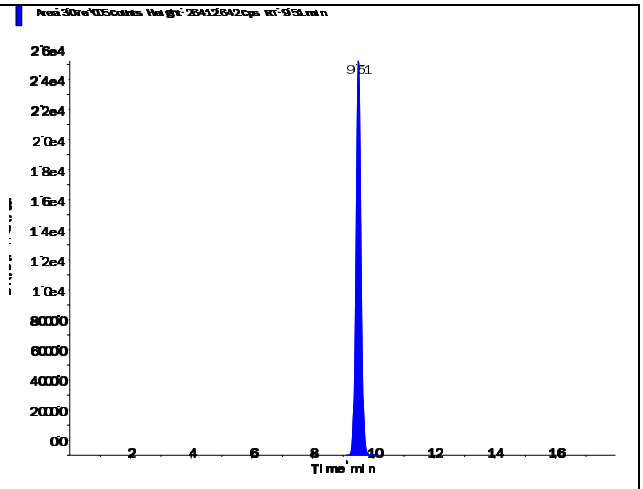
Sample Name	L16111326-04	**Injection Vial**	16.00
Data File	LM37783.wiff	**Injection Volume**	10.00
Acquisition Date	12/17/2016 3:05:55 AM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	121716_JWR.rdb
Sample ID	L16111326-04	**Dilution Factor**	1.00
Sample Comment	1,1 (Hist)	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	3.070e+05	9.51	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	3.140e+04	9.52	N/A	0.301
Perchlorate conf	1.120e+04	9.50	N/A	0.311

O18LP (Internal Standard)

RT (Exp. RT): 9.51(9.56) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



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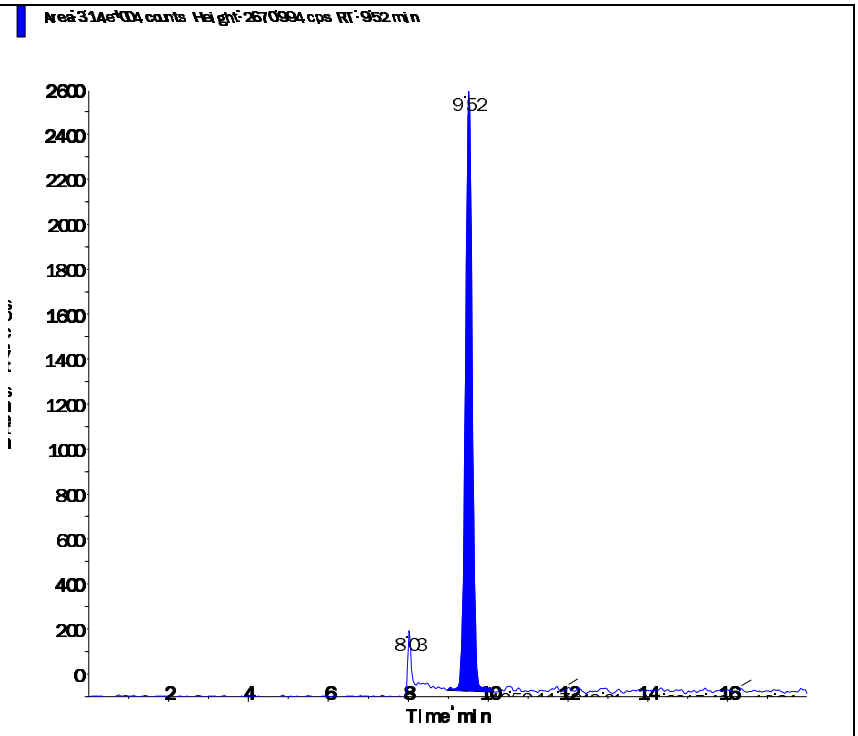
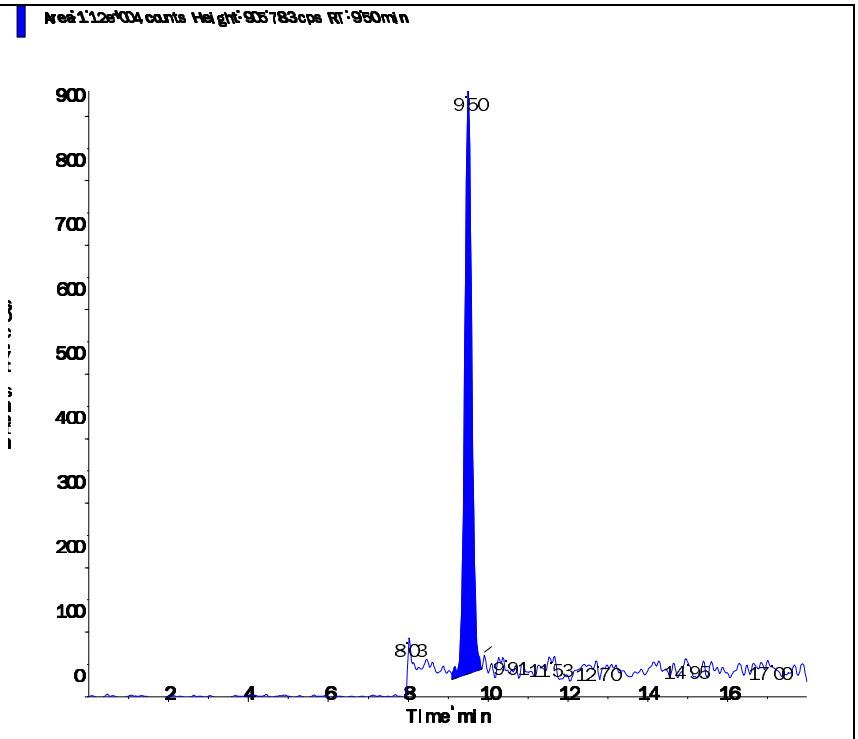
Perchlorate (98.8/83.3 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	 9.52 (9.56) min 0.301 ng/ml 0.102 (Unknown)



Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	 9.50 (9.56) min 0.311 ng/ml 0.037 (Unknown)



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Data File	LM37784.wiff	**Result Table**	121716_JWR.rdb
Acquisition Date	12/17/2016 3:24:51 AM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

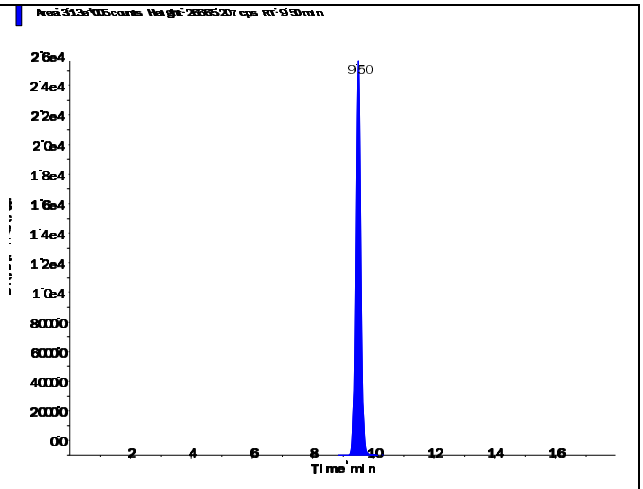
Sample Name	L16111326-05	**Injection Vial**	17.00
Data File	LM37784.wiff	**Injection Volume**	10.00
Acquisition Date	12/17/2016 3:24:51 AM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	121716_JWR.rdb
Sample ID	L16111326-05	**Dilution Factor**	1.00
Sample Comment	1,1 (Hist)	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	3.130e+05	9.50	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	5.920e+04	9.52	N/A	0.563
Perchlorate conf	1.980e+04	9.50	N/A	0.549

O18LP (Internal Standard)

RT (Exp. RT): 9.50(9.56) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



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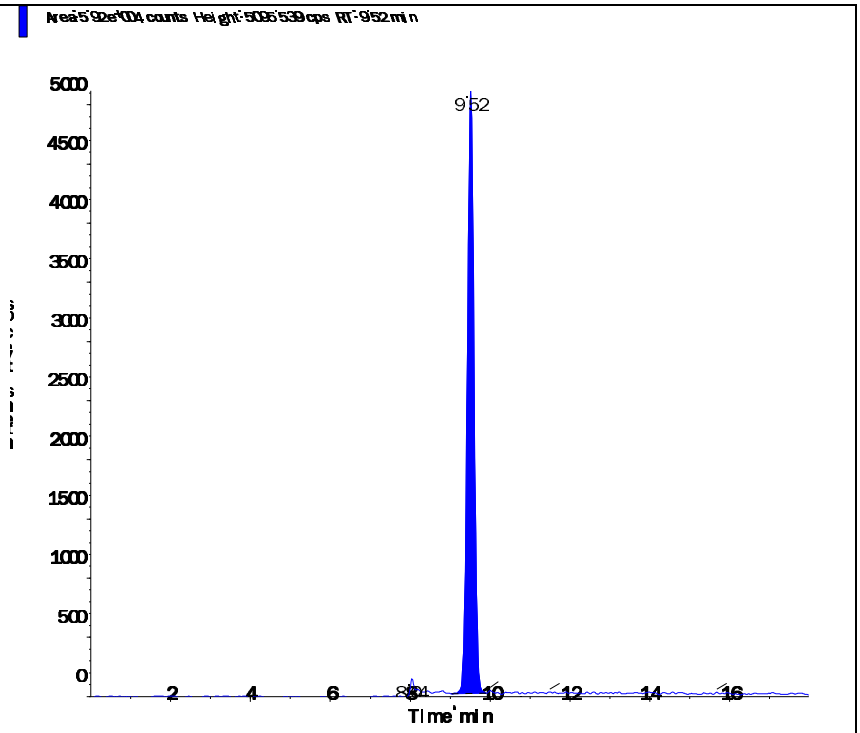
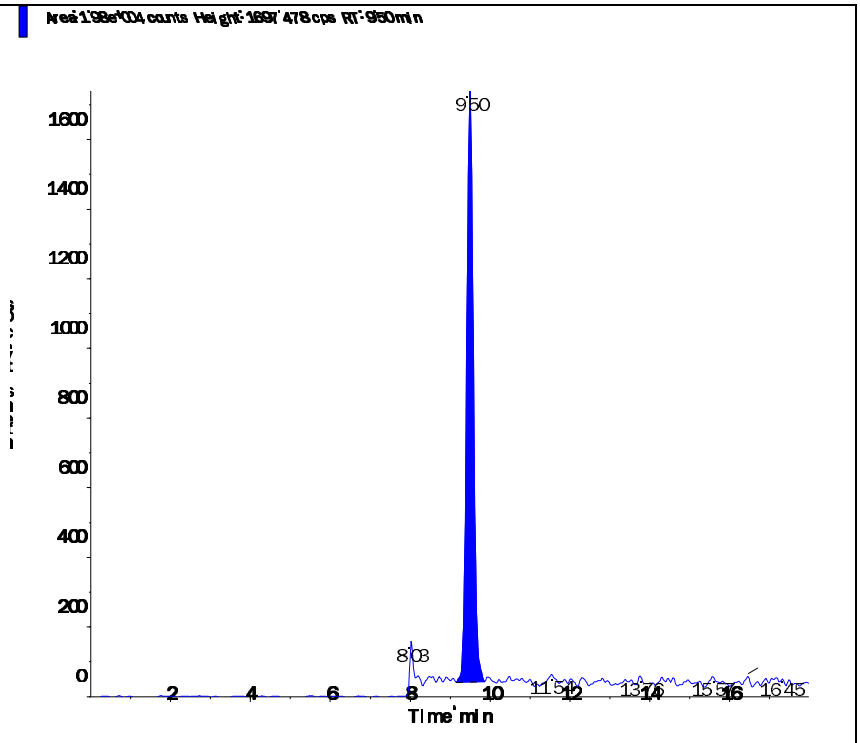
Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.52 (9.56) min Calculated conc: 0.563 ng/ml Area Ratio: 0.189 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.50 (9.56) min Calculated conc: 0.549 ng/ml Area Ratio: 0.063 Sample Type: (Unknown)	

2.1.1.4 Standards Data

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Data File	LM37765.wiff	**Result Table**	121716_JWR.rdb
Acquisition Date	12/16/2016 9:25:07 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

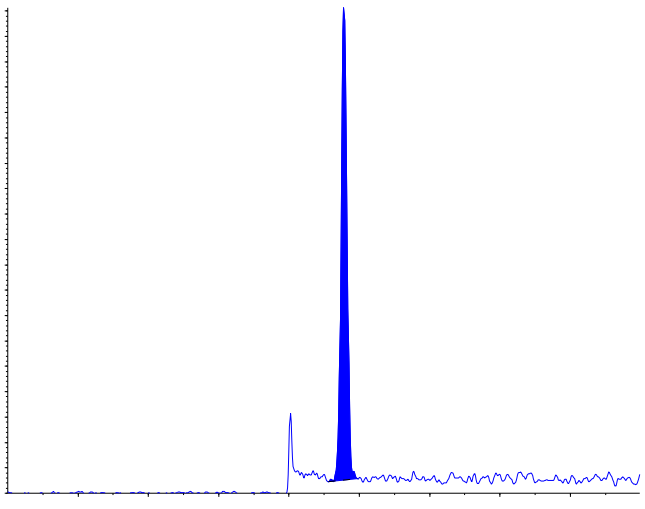
Sample Name	WG595346-01 CCB	**Injection Vial**	1.00
Data File	LM37765.wiff	**Injection Volume**	10.00
Acquisition Date	12/16/2016 9:25:07 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	121716_JWR.rdb
Sample ID	WG595346-01	**Dilution Factor**	1.00
Sample Comment	11.00	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	3.090e+05	9.56	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	0.000e+00	0.00	N/A	No Peak
Perchlorate conf	0.000e+00	0.00	N/A	No Peak

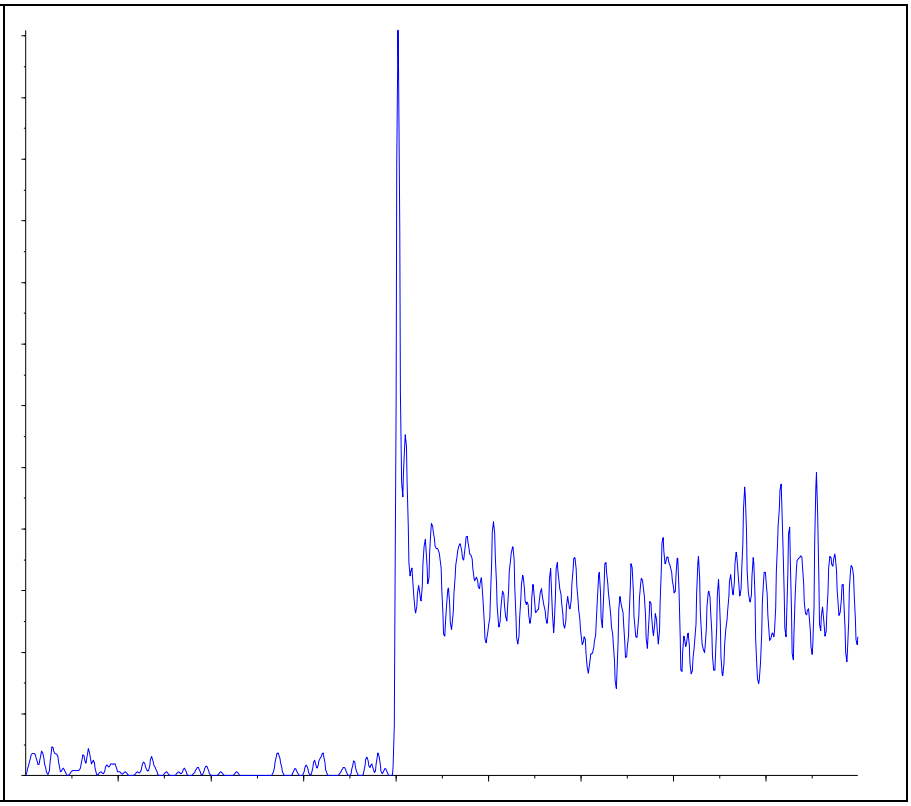
O18LP (Internal Standard)

RT (Exp. RT): 9.56(9.56) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



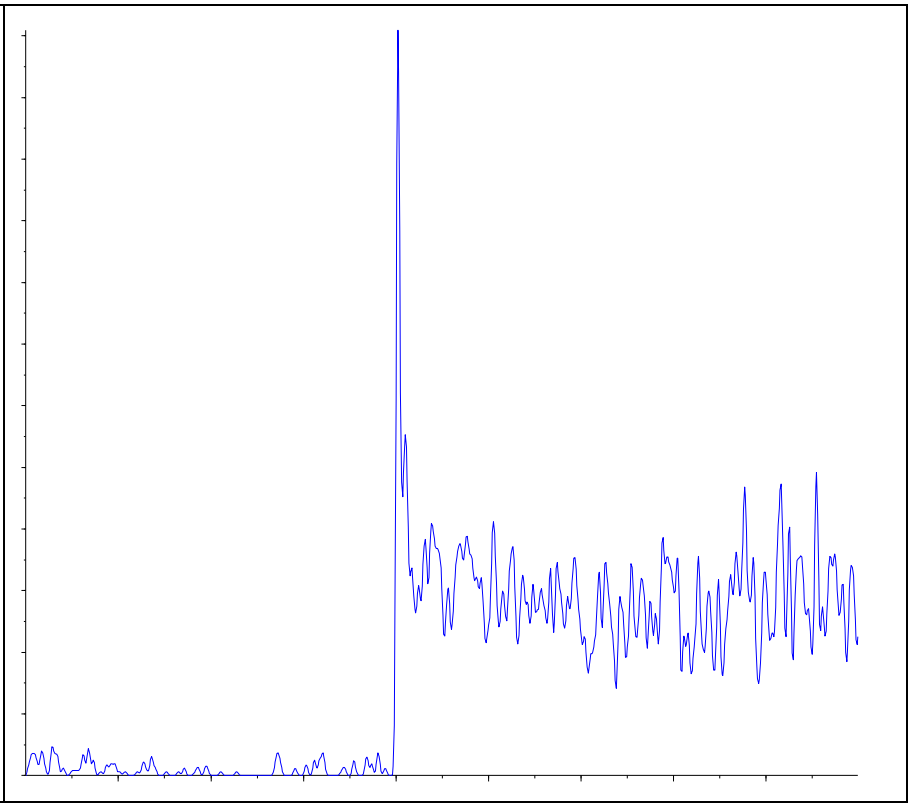
Perchlorate (98.8/83.3 amu)

RT (Exp. RT):	0.00 (9.56) min
Calculated conc:	No Peak ng/ml
Area Ratio:	0.00
Sample Type:	(Unknown)



Perchlorate conf (100.8/85.2 amu)

RT (Exp. RT):	0.00 (9.56) min
Calculated conc:	No Peak ng/ml
Area Ratio:	0.00
Sample Type:	(Unknown)



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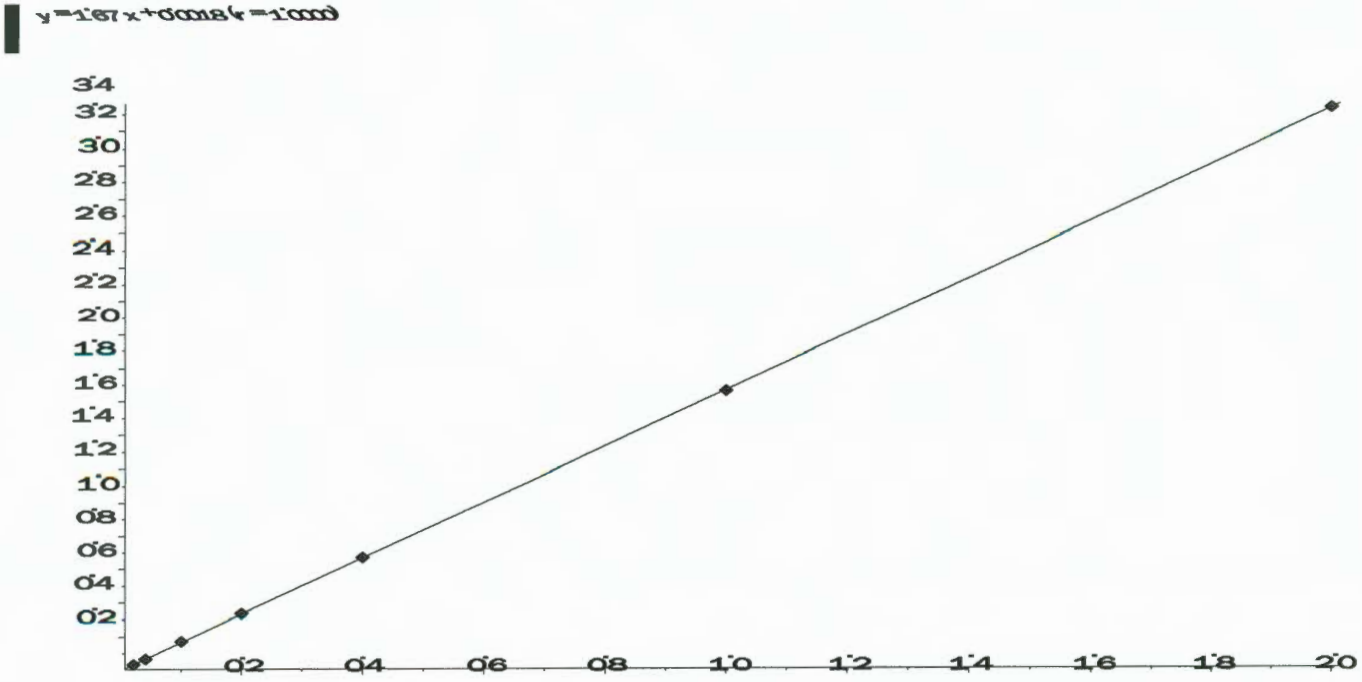
Analyte Name: **Perchlorate**
Internal Standard: O18LP

Data File	LM37765.wiff	**Result Table**	121716_JWR.rdb
Acquisition Date	12/16/2016 9:25:07 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

Regression Equation: y = 1.67 x + 0.0018 (r = 1.0000)

Expected Concentration	Number of Values	Mean Calculated Concentration	% Accuracy	Std. Deviation	%CV
0.10	1	0.10	98.3	N/A	N/A
0.20	1	0.20	98.8	N/A	N/A
0.50	1	0.51	102.5	N/A	N/A
1.00	1	1.01	100.5	N/A	N/A
2.00	1	2.00	100.2	N/A	N/A
5.00	1	4.98	99.6	N/A	N/A
10.00	1	10.00	100.0	N/A	N/A



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Created with Analyst Reporter
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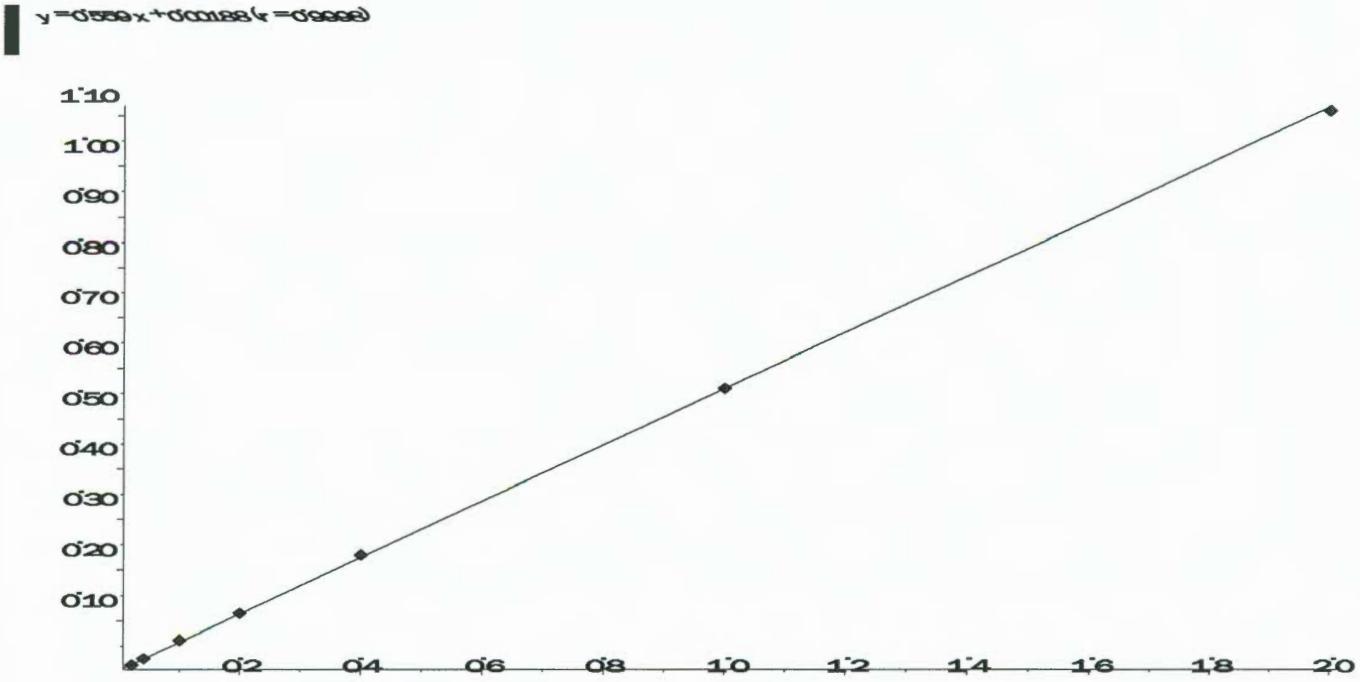
Analyte Name: **Perchlorate conf**
Internal Standard: O18LP

Data File	LM37765.wiff	**Result Table**	121716_JWR.rdb
Acquisition Date	12/16/2016 9:25:07 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

Regression Equation: y = 0.559 x + 0.00188 (r = 0.9998)

Expected Concentration	Number of Values	Mean Calculated Concentration	% Accuracy	Std. Deviation	%CV
0.10	1	0.09	88.5	N/A	N/A
0.20	1	0.21	102.5	N/A	N/A
0.50	1	0.53	106.8	N/A	N/A
1.00	1	1.01	100.9	N/A	N/A
2.00	1	2.04	102.0	N/A	N/A
5.00	1	5.00	100.1	N/A	N/A
10.00	1	9.92	99.2	N/A	N/A



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Data File	LM37766.wiff	**Result Table**	121716_JWR.rdb
Acquisition Date	12/16/2016 9:44:02 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

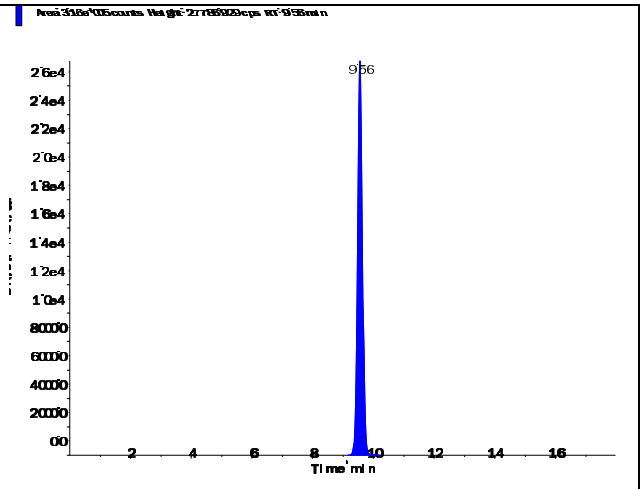
Sample Name	WG595346-02 STD (0.1 ug/L)	**Injection Vial**	2.00
Data File	LM37766.wiff	**Injection Volume**	10.00
Acquisition Date	12/16/2016 9:44:02 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Standard
Instrument Name	API 4000	**Result Table**	121716_JWR.rdb
Sample ID	WG595346-02	**Dilution Factor**	1.00
Sample Comment	1,1 STD78249	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	3.160e+05	9.56	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.090e+04	9.56	0.10	0.0983
Perchlorate conf	3.720e+03	9.55	0.10	0.0885

O18LP (Internal Standard)

RT (Exp. RT): 9.56(9.56) min
Concentration: 5.00 ug/L
Sample Type: (Standard)



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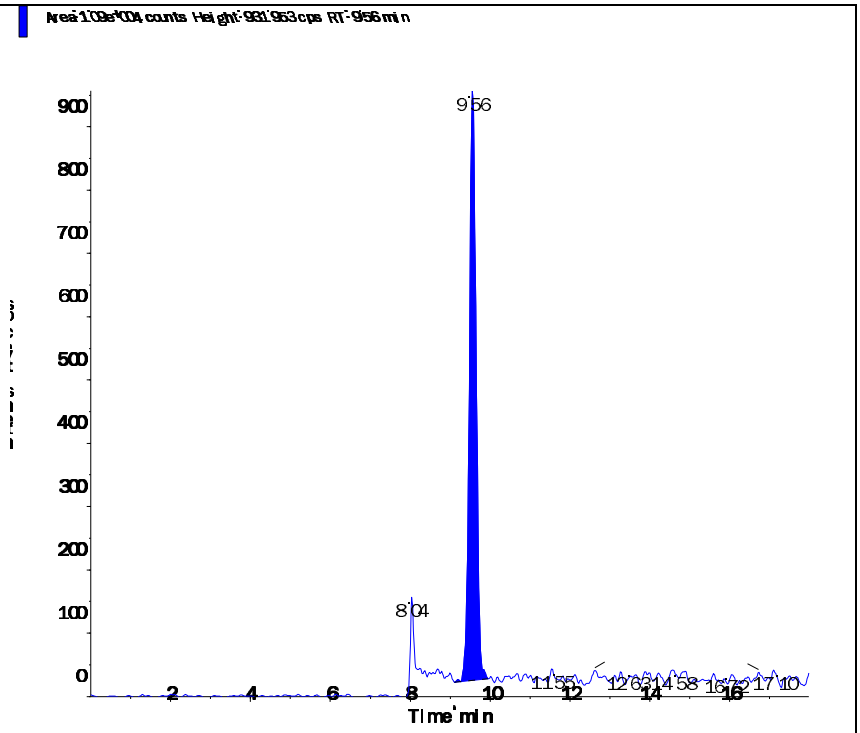
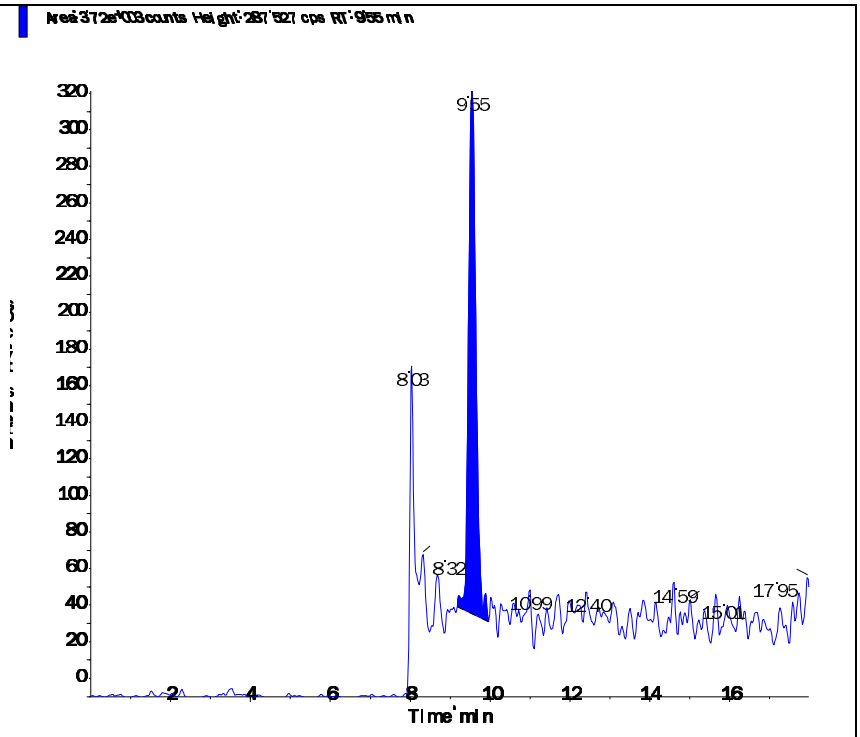
Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.56 (9.56) min Calculated conc: 0.0983 ng/ml Area Ratio: 0.035 Sample Type: (Standard)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.55 (9.56) min Calculated conc: 0.0885 ng/ml Area Ratio: 0.012 Sample Type: (Standard)	

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Data File	LM37767.wiff	**Result Table**	121716_JWR.rdb
Acquisition Date	12/16/2016 10:02:59 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

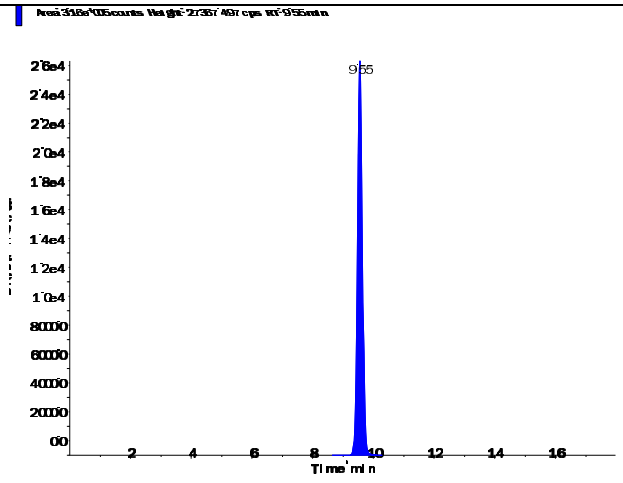
Sample Name	WG595346-03 STD (0.2 ug/L)	**Injection Vial**	3.00
Data File	LM37767.wiff	**Injection Volume**	10.00
Acquisition Date	12/16/2016 10:02:59 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Standard
Instrument Name	API 4000	**Result Table**	121716_JWR.rdb
Sample ID	WG595346-03	**Dilution Factor**	1.00
Sample Comment	1,1 STD78249	**Weight to Volume**	0.00

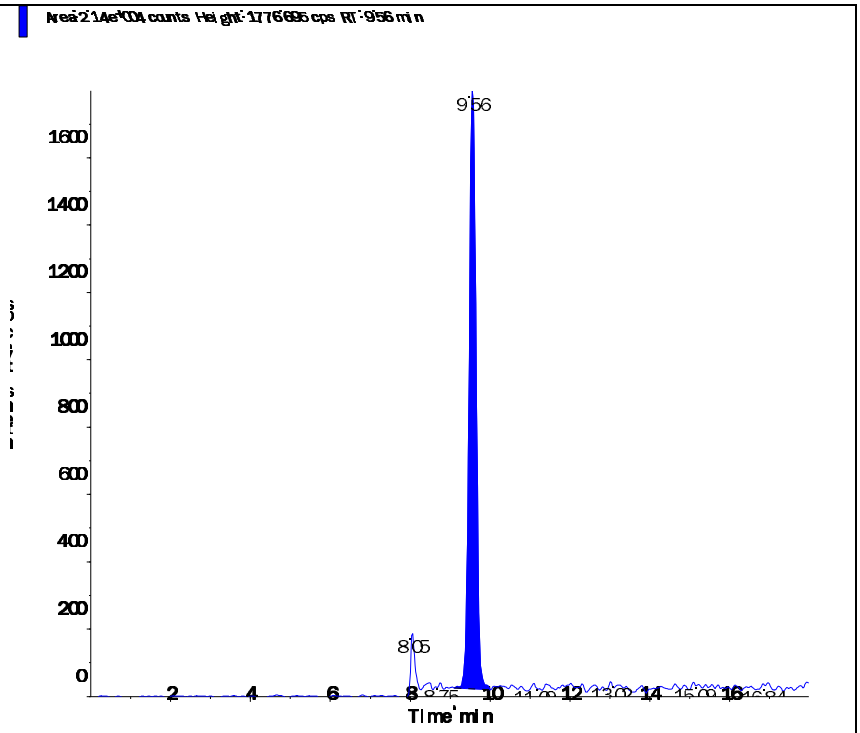
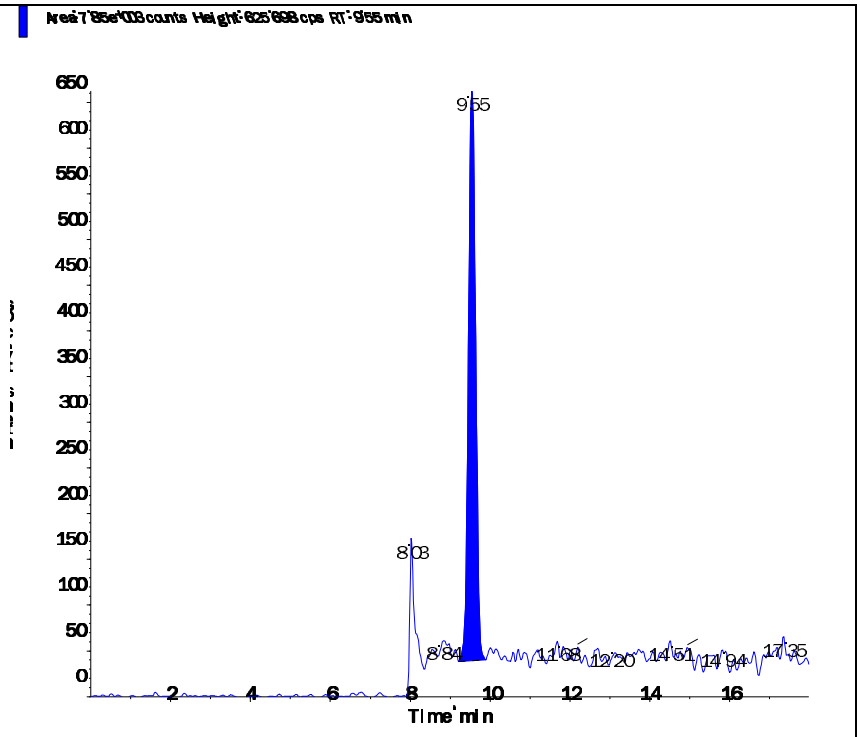
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	3.160e+05	9.55	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	2.140e+04	9.56	0.20	0.198
Perchlorate conf	7.850e+03	9.55	0.20	0.205

O18LP (Internal Standard)

RT (Exp. RT): 9.55(9.56) min
Concentration: 5.00 ug/L
Sample Type: (Standard)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.56 (9.56) min Calculated conc: 0.198 ng/ml Area Ratio: 0.068 Sample Type: (Standard)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.55 (9.56) min Calculated conc: 0.205 ng/ml Area Ratio: 0.025 Sample Type: (Standard)	

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Data File	LM37768.wiff	**Result Table**	121716_JWR.rdb
Acquisition Date	12/16/2016 10:21:55 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

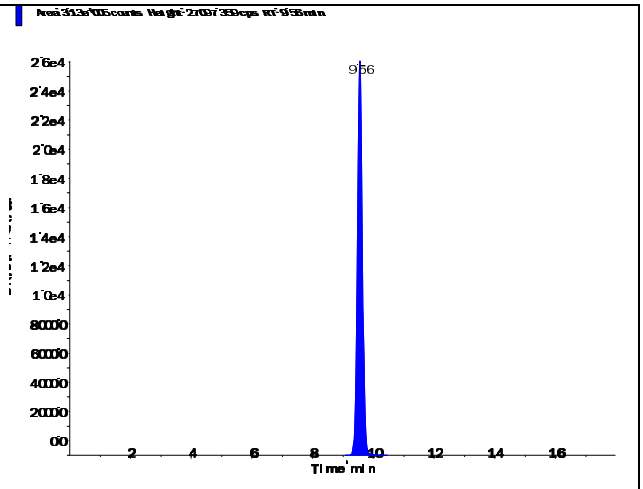
Sample Name	WG595346-04 STD (0.5 ug/L)	**Injection Vial**	4.00
Data File	LM37768.wiff	**Injection Volume**	10.00
Acquisition Date	12/16/2016 10:21:55 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Standard
Instrument Name	API 4000	**Result Table**	121716_JWR.rdb
Sample ID	WG595346-04	**Dilution Factor**	1.00
Sample Comment	1,1 STD78249	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	3.130e+05	9.56	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	5.410e+04	9.57	0.50	0.513
Perchlorate conf	1.930e+04	9.55	0.50	0.534

O18LP (Internal Standard)

RT (Exp. RT): 9.56(9.56) min
Concentration: 5.00 ug/L
Sample Type: (Standard)



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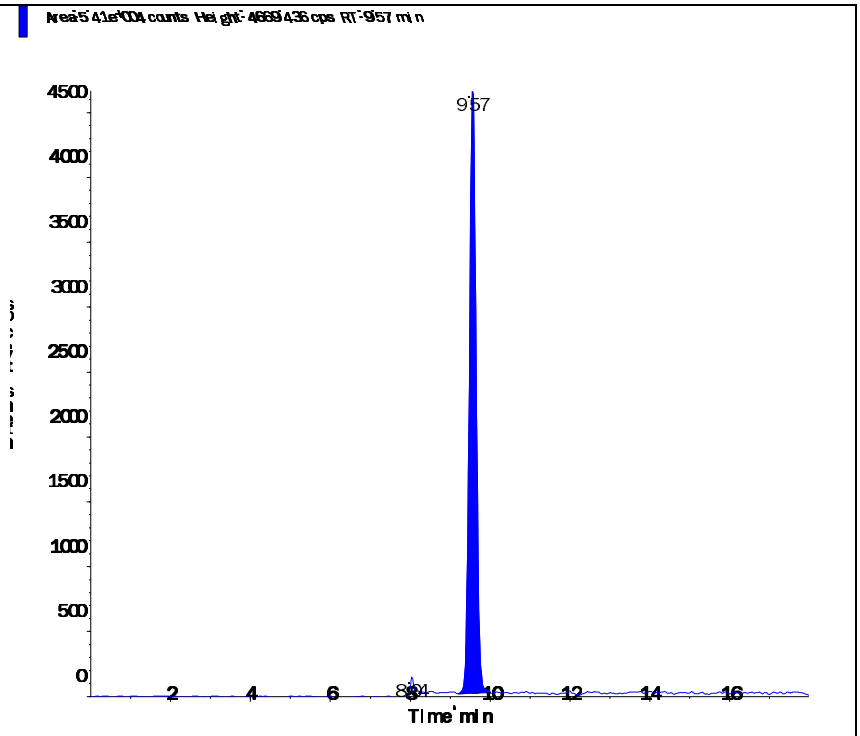
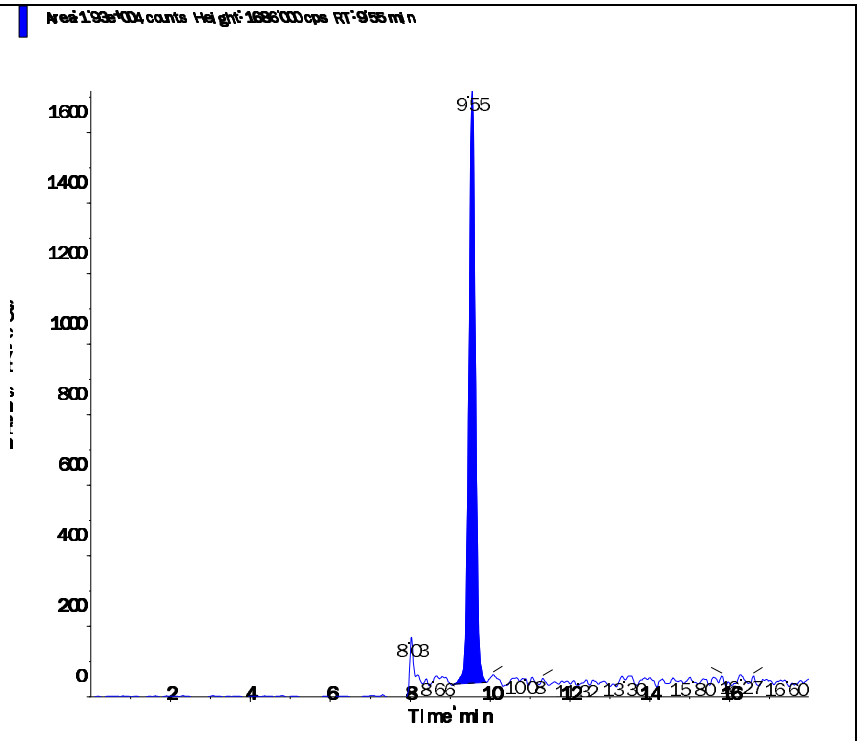
Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.57 (9.56) min Calculated conc: 0.513 ng/ml Area Ratio: 0.173 Sample Type: (Standard)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.55 (9.56) min Calculated conc: 0.534 ng/ml Area Ratio: 0.062 Sample Type: (Standard)	

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Data File	LM37769.wiff	**Result Table**	121716_JWR.rdb
Acquisition Date	12/16/2016 10:40:50 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

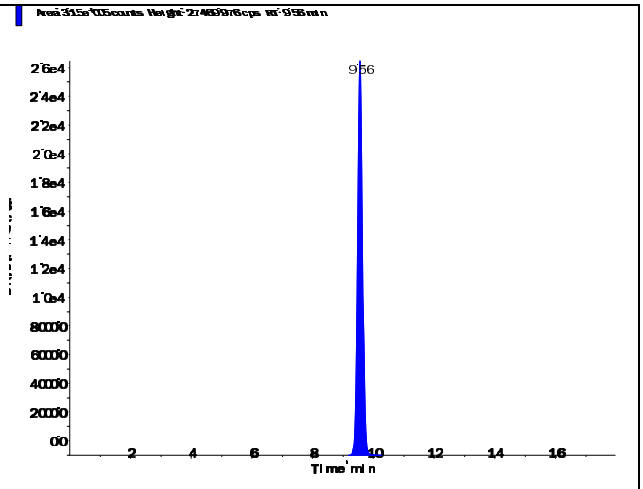
Sample Name	WG595346-05 STD (1.0 ug/L)	**Injection Vial**	5.00
Data File	LM37769.wiff	**Injection Volume**	10.00
Acquisition Date	12/16/2016 10:40:50 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Standard
Instrument Name	API 4000	**Result Table**	121716_JWR.rdb
Sample ID	WG595346-05	**Dilution Factor**	1.00
Sample Comment	1,1 STD78249	**Weight to Volume**	0.00

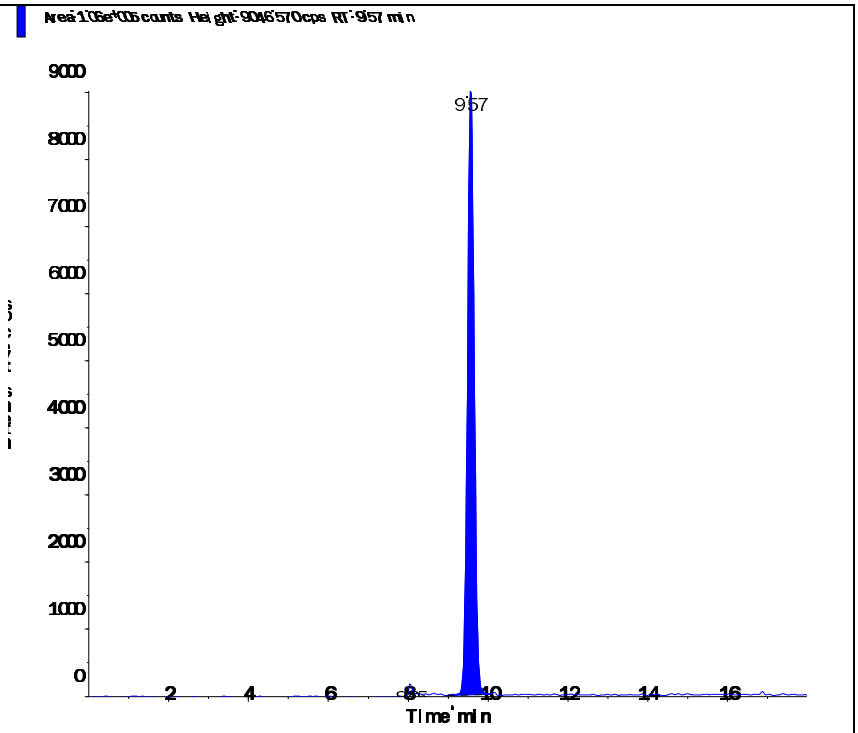
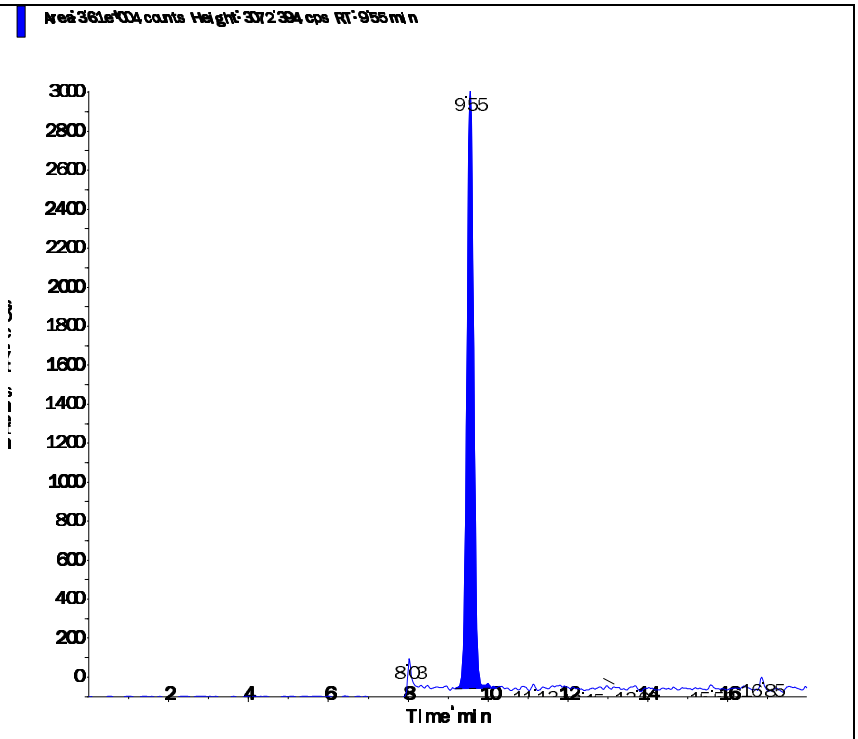
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	3.150e+05	9.56	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.060e+05	9.57	1.00	1.01
Perchlorate conf	3.610e+04	9.55	1.00	1.01

O18LP (Internal Standard)

RT (Exp. RT): 9.56(9.56) min
Concentration: 5.00 ug/L
Sample Type: (Standard)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.57 (9.56) min Calculated conc: 1.01 ng/ml Area Ratio: 0.337 Sample Type: (Standard)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.55 (9.56) min Calculated conc: 1.01 ng/ml Area Ratio: 0.115 Sample Type: (Standard)	

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Data File	LM37770.wiff	**Result Table**	121716_JWR.rdb
Acquisition Date	12/16/2016 10:59:46 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

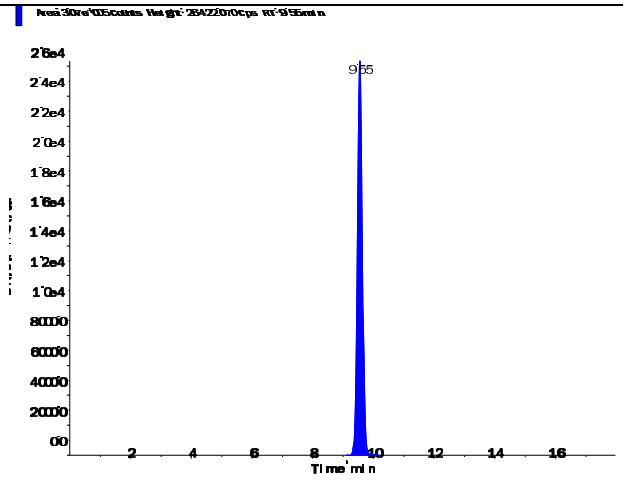
Sample Name	WG595346-06 STD (2.0 ug/L)	**Injection Vial**	6.00
Data File	LM37770.wiff	**Injection Volume**	10.00
Acquisition Date	12/16/2016 10:59:46 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Standard
Instrument Name	API 4000	**Result Table**	121716_JWR.rdb
Sample ID	WG595346-06	**Dilution Factor**	1.00
Sample Comment	1,1 STD78249	**Weight to Volume**	0.00

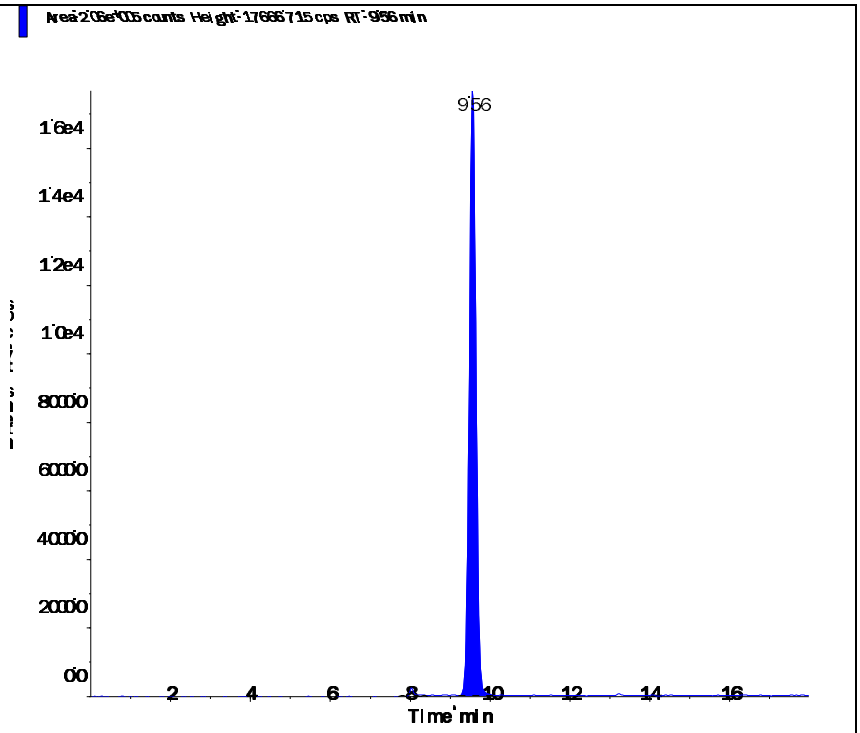
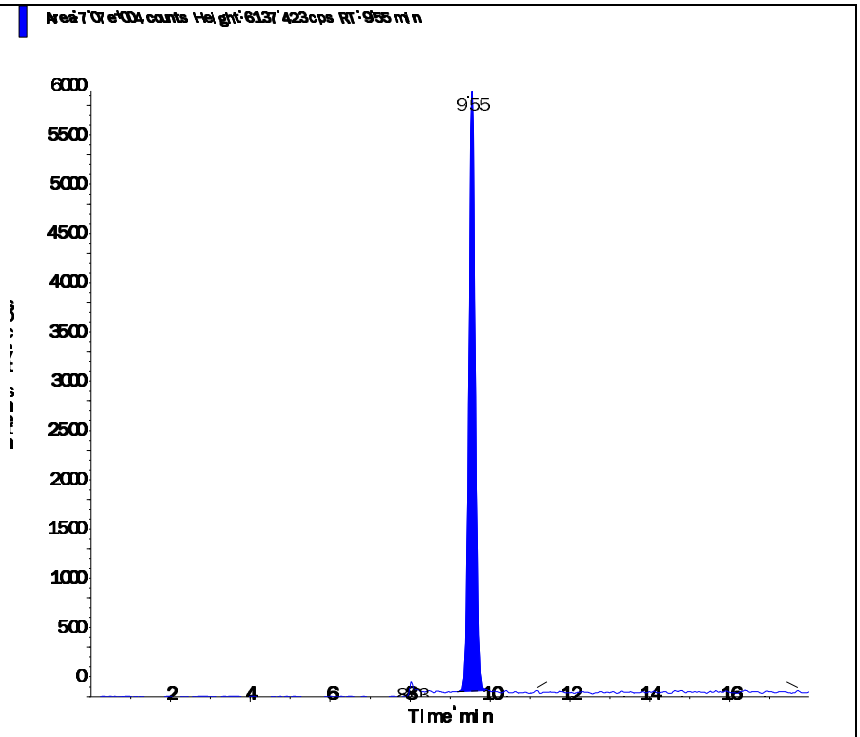
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	3.070e+05	9.55	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	2.060e+05	9.56	2.00	2.00
Perchlorate conf	7.070e+04	9.55	2.00	2.04

O18LP (Internal Standard)

RT (Exp. RT): 9.55(9.56) min
Concentration: 5.00 ug/L
Sample Type: (Standard)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.56 (9.56) min Calculated conc: 2.00 ng/ml Area Ratio: 0.67 Sample Type: (Standard)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.55 (9.56) min Calculated conc: 2.04 ng/ml Area Ratio: 0.23 Sample Type: (Standard)	

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Printed: 12/17/2016 2:14 PM

Data File	LM37771.wiff	**Result Table**	121716_JWR.rdb
Acquisition Date	12/16/2016 11:18:41 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

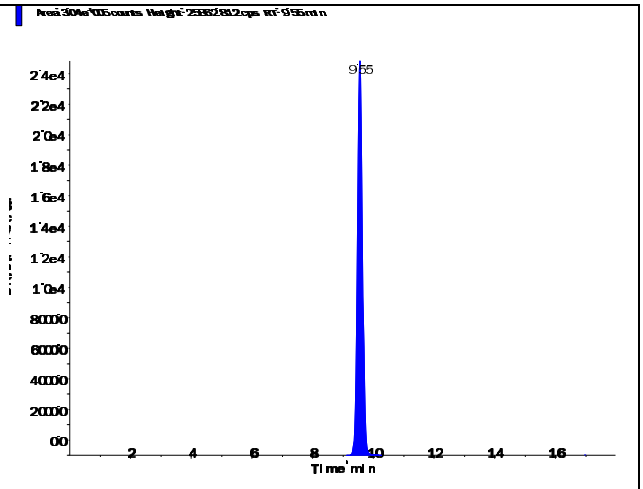
Sample Name	WG595346-07 STD (5.0 ug/L)	**Injection Vial**	7.00
Data File	LM37771.wiff	**Injection Volume**	10.00
Acquisition Date	12/16/2016 11:18:41 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Standard
Instrument Name	API 4000	**Result Table**	121716_JWR.rdb
Sample ID	WG595346-07	**Dilution Factor**	1.00
Sample Comment	1,1 STD78249	**Weight to Volume**	0.00

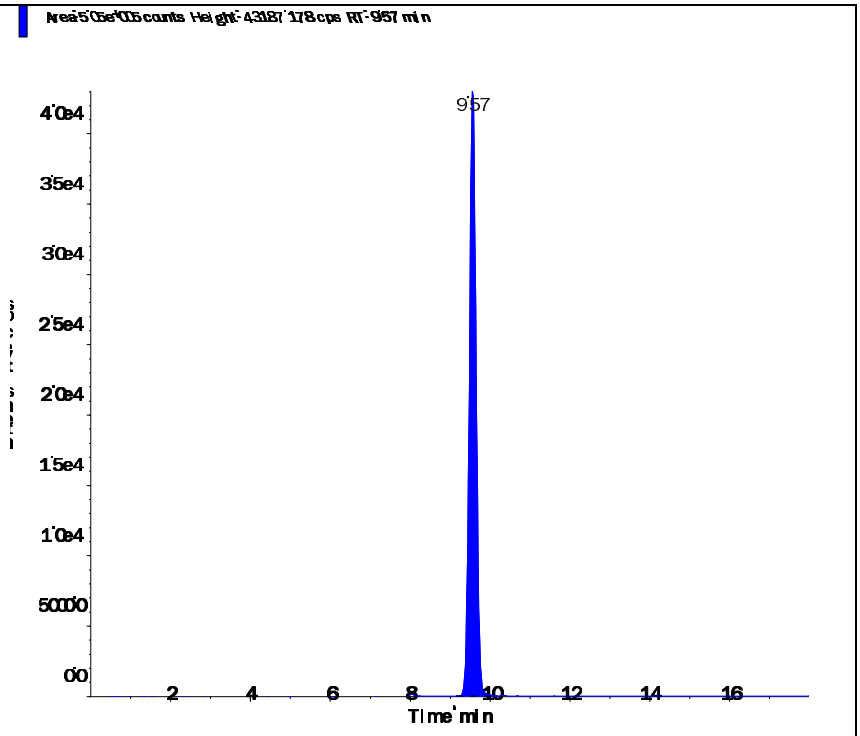
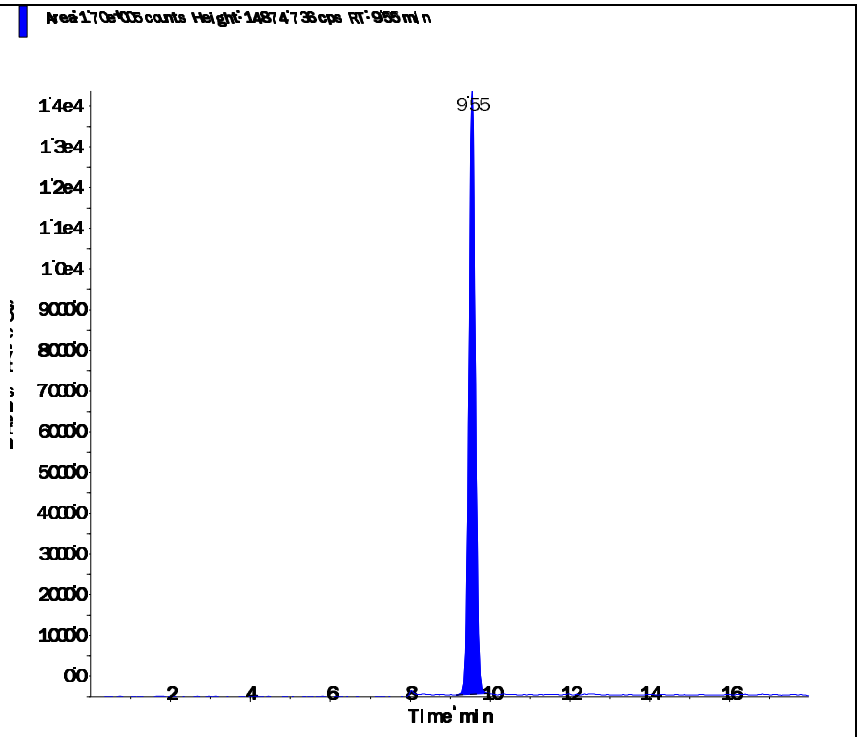
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	3.040e+05	9.55	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	5.050e+05	9.57	5.00	4.98
Perchlorate conf	1.700e+05	9.55	5.00	5.00

O18LP (Internal Standard)

RT (Exp. RT): 9.55(9.56) min
Concentration: 5.00 ug/L
Sample Type: (Standard)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.57 (9.56) min Calculated conc: 4.98 ng/ml Area Ratio: 1.663 Sample Type: (Standard)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.55 (9.56) min Calculated conc: 5.00 ng/ml Area Ratio: 0.561 Sample Type: (Standard)	

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Data File	LM37772.wiff	**Result Table**	121716_JWR.rdb
Acquisition Date	12/16/2016 11:37:36 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

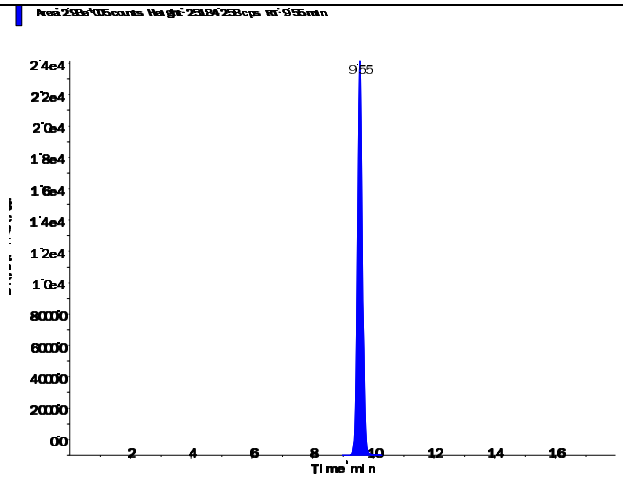
Sample Name	WG595346-08 STD (10 ug/L)	**Injection Vial**	8.00
Data File	LM37772.wiff	**Injection Volume**	10.00
Acquisition Date	12/16/2016 11:37:36 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Standard
Instrument Name	API 4000	**Result Table**	121716_JWR.rdb
Sample ID	WG595346-08	**Dilution Factor**	1.00
Sample Comment	1,1 STD78249	**Weight to Volume**	0.00

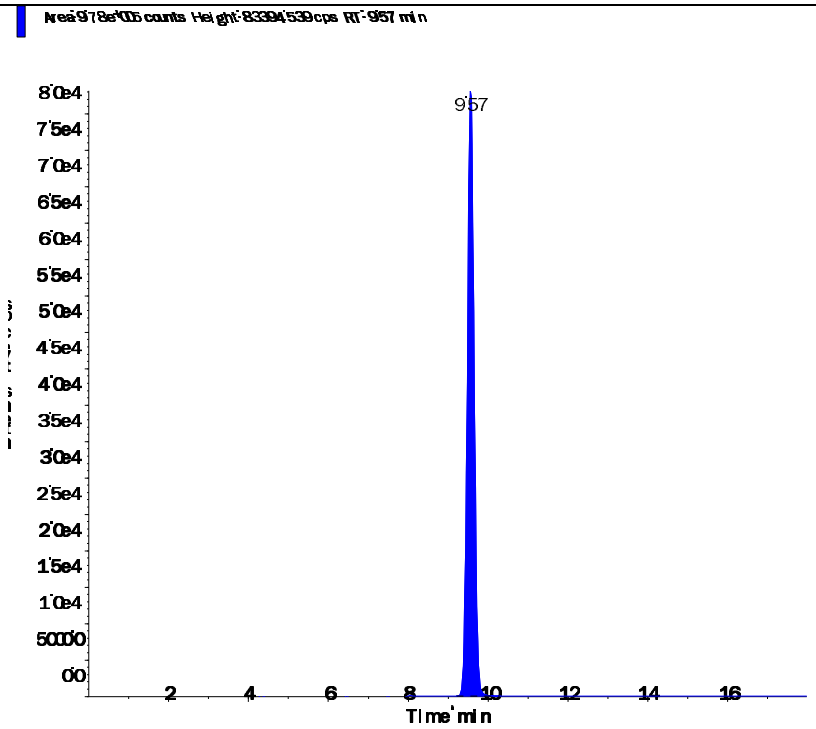
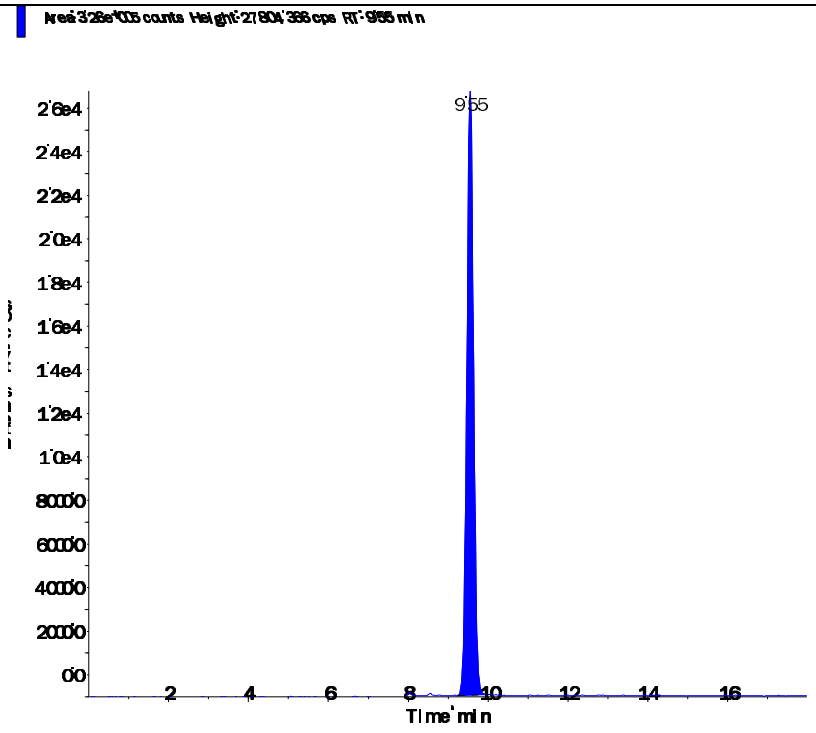
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	2.930e+05	9.55	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	9.780e+05	9.57	10.00	10.00
Perchlorate conf	3.260e+05	9.55	10.00	9.92

O18LP (Internal Standard)

RT (Exp. RT): 9.55(9.56) min
Concentration: 5.00 ug/L
Sample Type: (Standard)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.57 (9.56) min Calculated conc: 10.00 ng/ml Area Ratio: 3.336 Sample Type: (Standard)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.55 (9.56) min Calculated conc: 9.92 ng/ml Area Ratio: 1.111 Sample Type: (Standard)	

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Data File	LM37773.wiff	**Result Table**	121716_JWR.rdb
Acquisition Date	12/16/2016 11:56:32 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

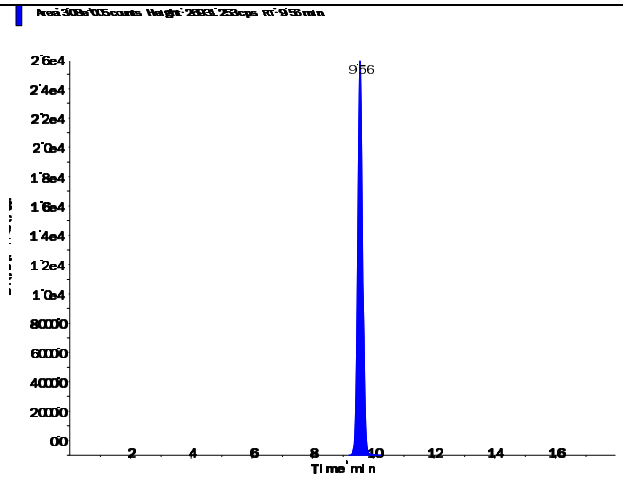
Sample Name	WG595346-09 SSCV (1.0 ug/L)	**Injection Vial**	9.00
Data File	LM37773.wiff	**Injection Volume**	10.00
Acquisition Date	12/16/2016 11:56:32 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Quality Control
Instrument Name	API 4000	**Result Table**	121716_JWR.rdb
Sample ID	WG595346-09	**Dilution Factor**	1.00
Sample Comment	1,1 STD78251	**Weight to Volume**	0.00

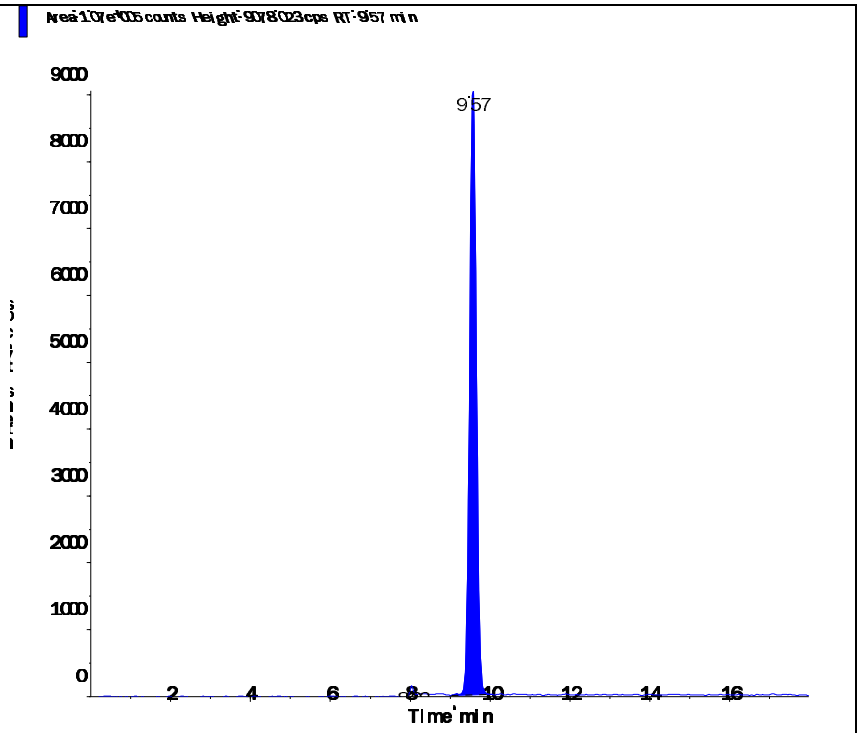
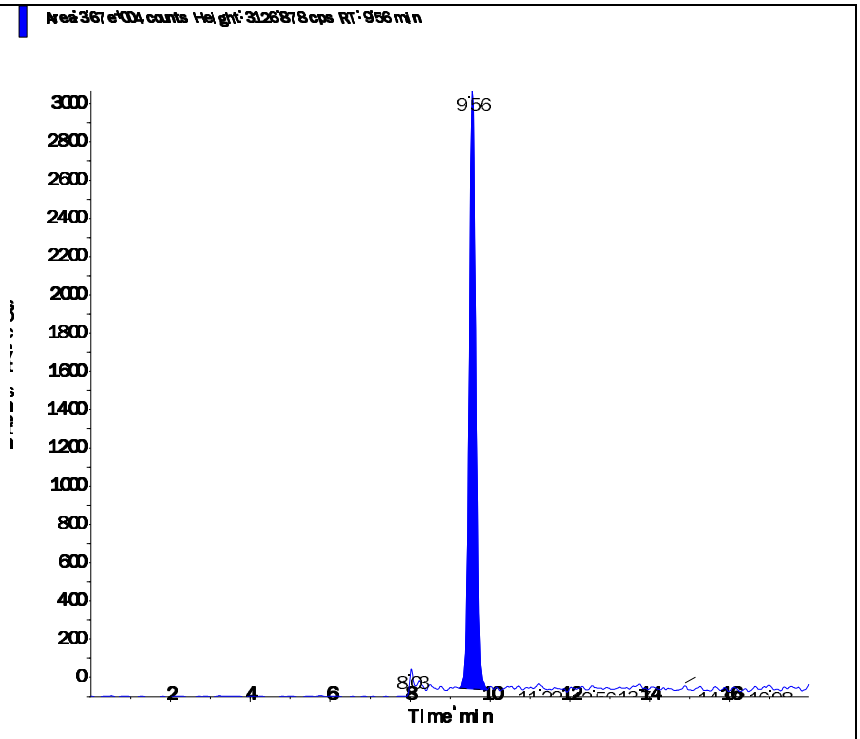
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	3.080e+05	9.56	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.070e+05	9.57	1.00	1.04
Perchlorate conf	3.670e+04	9.56	1.00	1.05

O18LP (Internal Standard)

RT (Exp. RT): 9.56(9.56) min
Concentration: 5.00 ug/L
Sample Type: (Quality Control)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.57 (9.56) min Calculated conc: 1.04 ng/ml Area Ratio: 0.348 Sample Type: (Quality Control)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.56 (9.56) min Calculated conc: 1.05 ng/ml Area Ratio: 0.119 Sample Type: (Quality Control)	

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Data File	LM37775.wiff	**Result Table**	121716_JWR.rdb
Acquisition Date	12/17/2016 12:34:25 AM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG595142-02 CCV (1.0ug/L)	**Injection Vial**	5.00
Data File	LM37775.wiff	**Injection Volume**	10.00
Acquisition Date	12/17/2016 12:34:25 AM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Quality Control
Instrument Name	API 4000	**Result Table**	121716_JWR.rdb
Sample ID	WG595142-02	**Dilution Factor**	1.00
Sample Comment	1,1 STD78249	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	3.050e+05	9.55	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.000e+05	9.56	1.00	0.981
Perchlorate conf	3.340e+04	9.55	1.00	0.964

O18LP (Internal Standard)

RT (Exp. RT): 9.55(9.56) min
Concentration: 5.00 ug/L
Sample Type: (Quality Control)

