

**LONGHORN ARMY
AMMUNITION PLANT
KARNACK, TEXAS**

**ADMINISTRATIVE
RECORD**

Volume 22

2018

Bate Stamp Numbers

00868397 - 00870228

Prepared for

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

1976 – 2018

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

VOLUME 22

2018

- A. Title: Report (cont'd) - Draft Final 3rd Annual Remedial Action Operation Report (March to October 2016) LHAAP-35A (58), Shops Area, Longhorn Army Ammunition Plant, Karnack, Texas, Revised March 2018
Author(s): Bhate Environmental Associates, Inc.
Recipient: All Stakeholders
Date: March 8, 2018
Bate Stamp: 00868397 – 00870157
- B. Title: Final Meeting Minutes – Longhorn Army Ammunition Plant, Monthly Managers' Meeting Minutes (MMM), March 15, 2018
Author(s): Bhate Environmental Associates, Inc.
Recipient: All Parties
Date: April 19, 2018
Bate Stamp: 00870158 – 00870196
- C. Title: Report – Final Explanation of Significant Differences Record of Decision (ROD) for Western Plume Contingency Remedy at LHAAP-35A (58), Shops Area, Longhorn Army Ammunition Plant, Karnack, Texas
Author(s): Bhate Environmental Associates, Inc.
Recipient: All Stakeholders
Date: April 26, 2018
Bate Stamp: 00870197 – 00870228

Sample Name: L1610033603 Acquired: 10/13/2016 16:27:09 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00045	.00334	3.6118	.00034	.12821	-.00649	-.00196
Stddev	.00200	.00650	.0026	.00017	.00079	.00141	.00296
%RSD	441.60	194.95	.07282	48.256	.61666	21.647	151.26

#1	-.00121	-.00309	3.6139	.00034	.12731	-.00804	-.00498
#2	-.00011	.00318	3.6088	.00018	.12882	-.00530	-.00182
#3	.00268	.00991	3.6125	.00051	.12849	-.00614	.00093

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00080	.01379	F -.48584
Stddev	.00036	.00014	.75210
%RSD	45.256	.98400	154.81

#1	.00062	.01364	-1.1233
#2	.00122	.01391	.34365
#3	.00057	.01381	-.67782

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10256.	115370.	12142.
Stddev	39.	1207.	323.
%RSD	.37738	1.0466	2.6581

#1	10295.	114350.	12449.
#2	10218.	115050.	12171.
#3	10254.	116710.	11805.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034101 Acquired: 10/13/2016 16:30:53 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG586780-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00110	.00408	.00102	.03369	.19446	-0.00004	49.148	.00003
Stddev	.00120	.00363	.00203	.00186	.00044	.00005	.219	.00041
%RSD	109.37	88.936	199.69	5.5089	.22538	131.20	.44572	1240.0

#1	-0.00073	-0.00009	.00285	.03367	.19473	.00001	49.094	.00032
#2	-0.00244	.00653	.00137	.03555	.19470	-0.00004	48.961	.00022
#3	-0.00012	.00578	-0.00117	.03184	.19396	-0.00009	49.389	-0.00044

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00022	.00062	.01498	.03070	1.3102	.01934	16.246	.00142
Stddev	.00010	.00083	.00102	.00290	.0349	.00134	.177	.00171
%RSD	42.662	133.69	6.8046	9.4293	2.6651	6.9188	1.0919	120.75

#1	-0.00030	.00150	.01381	.03359	1.3207	.02074	16.146	-0.00028
#2	-0.00012	-0.00015	.01545	.02780	1.2713	.01919	16.142	.00314
#3	-0.00025	.00051	.01569	.03072	1.3387	.01807	16.451	.00139

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00127	11.014	.00091	-0.01297	.00359	-0.00033	.00971	8.6646
Stddev	.00012	.039	.00095	.00652	.00259	.00279	.00809	.0073
%RSD	9.3136	.35015	103.96	50.257	72.210	847.87	83.286	.08368

#1	.00117	10.988	.00171	-0.00991	.00221	.00054	.00092	8.6688
#2	.00124	10.996	.00116	-0.00854	.00658	-0.00345	.01139	8.6562
#3	.00140	11.059	-0.00014	-0.02045	.00198	.00193	.01683	8.6688

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034101 Acquired: 10/13/2016 16:30:53 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG586780-01

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00004	.50562	-.00867	-.00258	.00049	.03495	-.01488
Stddev	.00081	.00174	.00154	.00142	.00079	.00021	.64599
%RSD	1940.0	.34503	17.808	55.110	162.71	.61199	4340.4

#1	.00075	.50559	-.00701	-.00421	-.00043	.03516	-.74806
#2	.00022	.50389	-.01006	-.00163	.00096	.03473	.23278
#3	-.00084	.50738	-.00893	-.00189	.00093	.03495	.47064

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10420.	117160.	12180.
Stddev	31.	107.	267.
%RSD	.29915	.09128	2.1950

#1	10384.	117170.	12118.
#2	10433.	117050.	12473.
#3	10443.	117260.	11949.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034101MS Acquired: 10/13/2016 16:34:37 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG586780-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.15275	5.0362	-0.00007	.03484	.18675	.02419	51.875
Stddev	.00100	.0291	.00236	.00082	.00001	.00005	.087
%RSD	.65331	.57788	3171.6	2.3559	.00774	.21670	.16767

#1	.15160	5.0056	-.00270	.03579	.18674	.02415	51.951
#2	.15327	5.0393	.00186	.03445	.18674	.02417	51.780
#3	.15337	5.0636	.00062	.03429	.18677	.02425	51.894

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00016	-0.00007	.00090	.01510	1.9379	25.067	.01655
Stddev	.00010	.00034	.00061	.00041	.0245	.106	.00461
%RSD	63.183	453.47	68.643	2.7302	1.2645	.42211	27.861

#1	.00012	.00021	.00149	.01527	1.9236	25.169	.01491
#2	.00008	.00002	.00093	.01463	1.9239	24.958	.01299
#3	.00027	-.00045	.00027	.01540	1.9662	25.075	.02176

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	20.328	.24459	.00138	34.148	.00143	-.00916	.00218
Stddev	.029	.00103	.00012	.016	.00019	.00671	.00148
%RSD	.14300	.42049	8.7631	.04644	13.301	73.286	67.887

#1	20.339	.24378	.00127	34.130	.00123	-.00410	.00309
#2	20.295	.24424	.00136	34.160	.00146	-.01677	.00296
#3	20.350	.24575	.00151	34.156	.00161	-.00660	.00047

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

K: K Buck

Sample Name: L1610034101MS Acquired: 10/13/2016 16:34:37 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG586780-04

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00199	.00788	8.4625	.00070	.48534	-.00358	.00135
Stddev	.00183	.00168	.0054	.00028	.00066	.00542	.00278
%RSD	91.912	21.351	.06434	40.174	.13553	151.45	205.84

#1	.00303	.00889	8.4631	.00038	.48521	.00017	.00422
#2	.00307	.00594	8.4676	.00081	.48606	-.00111	.00115
#3	-.00012	.00881	8.4568	.00090	.48477	-.00979	-.00132

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00016	.03413	F -.15257
Stddev	.00144	.00015	.28299
%RSD	910.28	.45174	185.48

#1	.00167	.03408	-.42721
#2	-.00119	.03431	.13808
#3	-.00000	.03401	-.16860

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10343.	114550.	12310.
Stddev	15.	1127.	290.
%RSD	.14178	.98345	2.3526

#1	10326.	115640.	12169.
#2	10353.	114600.	12644.
#3	10349.	113390.	12119.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034101MSD Acquired: 10/13/2016 16:38:20 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG586780-05

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.15039	5.0004	.00330	.03389	.18746	.02399	51.945	.00022
Stddev	.00205	.0081	.00141	.00159	.00048	.00016	.074	.00003
%RSD	1.3602	.16193	42.899	4.6929	.25714	.65681	.14244	13.583

#1	.15010	4.9916	.00299	.03545	.18700	.02386	51.910	.00020
#2	.15257	5.0076	.00206	.03228	.18796	.02417	51.896	.00022
#3	.14851	5.0019	.00484	.03395	.18743	.02395	52.030	.00026

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00005	.00092	.01565	1.9405	24.728	.01522	20.282	.24590
Stddev	.00023	.00106	.00064	.0073	.069	.00390	.072	.00162
%RSD	412.45	115.36	4.0704	.37600	.27958	25.607	.35657	.65992

#1	-.00004	.00212	.01595	1.9431	24.689	.01806	20.200	.24490
#2	-.00010	.00014	.01492	1.9323	24.686	.01077	20.335	.24504
#3	.00031	.00049	.01608	1.9462	24.808	.01682	20.312	.24778

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00089	33.939	.00023	-.01260	.00393	-.00315	.00193	8.4541
Stddev	.00048	.041	.00072	.00160	.00208	.00314	.00259	.0067
%RSD	53.664	.11977	318.02	12.696	52.923	99.568	134.16	.07938

#1	.00040	33.899	.00074	-.01258	.00158	.00016	.00472	8.4504
#2	.00091	33.981	.00055	-.01101	.00465	-.00609	.00146	8.4501
#3	.00135	33.938	-.00060	-.01421	.00555	-.00353	-.00039	8.4619

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034101MSD Acquired: 10/13/2016 16:38:20 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG586780-05

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00060	.48671	-.00718	.00043	.00020	.03431	1.3644
Stddev	.00064	.00027	.00255	.00255	.00027	.00012	1.8284
%RSD	105.94	.05534	35.558	591.89	135.68	.36149	134.01

#1	.00035	.48665	-.00579	-.00198	.00039	.03426	.25849
#2	.00013	.48648	-.01012	.00017	.00031	.03423	3.4749
#3	.00133	.48701	-.00562	.00310	-.00011	.03446	.35991

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10342.	113700.	12284.
Stddev	6.	579.	181.
%RSD	.06075	.50938	1.4697

#1	10346.	114050.	12205.
#2	10335.	113030.	12491.
#3	10345.	114020.	12157.

Approved: October 14, 2016

K. K. Buck

Sample Name: CCV Acquired: 10/13/2016 16:42:06 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.39123	10.010	.39428	.48876	.96515	.04808	9.7413
Stddev	.00171	.069	.00343	.00529	.00330	.00028	.0455
%RSD	.43828	.69157	.87110	1.0826	.34206	.58804	.46700

#1	.38966	10.000	.39169	.48685	.96896	.04819	9.7938
#2	.39097	9.9463	.39818	.48469	.96319	.04776	9.7152
#3	.39306	10.084	.39298	.49474	.96331	.04829	9.7148

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04958	.19801	.48999	.49585	3.8824	46.388	.92781
Stddev	.00024	.00019	.00057	.00071	.0375	.305	.00434
%RSD	.47536	.09506	.11657	.14285	.96620	.65709	.46813

#1	.04982	.19820	.49053	.49506	3.9256	46.712	.93243
#2	.04957	.19783	.48939	.49644	3.8580	46.108	.92718
#3	.04935	.19801	.49004	.49604	3.8636	46.343	.92381

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.7536	.48077	.98335	46.676	.49565	9.8151	.49533
Stddev	.1470	.00234	.00061	.245	.00070	.0047	.00134
%RSD	1.5067	.48708	.06234	.52579	.14109	.04760	.27061

#1	9.9157	.48270	.98403	46.911	.49593	9.8139	.49548
#2	9.6290	.48144	.98284	46.421	.49617	9.8112	.49391
#3	9.7161	.47816	.98319	46.696	.49486	9.8203	.49658

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: October 14, 2016

K: K Buck

Sample Name: CCV Acquired: 10/13/2016 16:42:06 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.1846	.39673	4.9849	.99103	.97918	.97329	.49877
Stddev	.0026	.00462	.0069	.00148	.00275	.00815	.00127
%RSD	.21603	1.1637	.13871	.14926	.28091	.83740	.25417

#1	1.1871	.39354	4.9903	.98971	.98232	.98238	.49966
#2	1.1820	.39463	4.9771	.99263	.97805	.97084	.49933
#3	1.1847	.40202	4.9873	.99074	.97719	.96664	.49732

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.97847	.98187	F 1.2967
Stddev	.00150	.00016	1.0245
%RSD	.15366	.01677	79.007

#1	.97681	.98189	2.2798
#2	.97974	.98203	1.3750
#3	.97887	.98170	.23531

Check ?	Chk Pass	Chk Pass	Chk Fail
Value			1.0000
Range			10.000%

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9898.5	109850.	11973.
Stddev	22.1	548.	309.
%RSD	.22342	.49879	2.5780

#1	9912.4	110410.	11737.
#2	9873.0	109820.	12322.
#3	9910.1	109320.	11859.

Approved: October 14, 2016

K. K. Buck

Sample Name: CCB Acquired: 10/13/2016 16:45:33 Type: Blank
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00040	-.00531	.00108	.00031	-.00079	-.00004	.00273
Stddev	.00056	.00283	.00225	.00242	.00026	.00003	.00178
%RSD	139.26	53.227	207.73	776.24	32.877	64.773	65.402

#1	.00104	-.00676	.00302	-.00248	-.00050	-.00006	.00459
#2	.00022	-.00205	-.00139	.00182	-.00099	-.00006	.00256
#3	-.00004	-.00712	.00162	.00159	-.00089	-.00001	.00103

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00019	.00004	-.00005	-.00179	-.00920	-.02144	.00633
Stddev	.00027	.00005	.00061	.00021	.00242	.06419	.00358
%RSD	142.16	106.87	1312.4	11.532	26.282	299.38	56.478

#1	-.00001	-.00001	-.00074	-.00156	-.00937	-.04150	.00356
#2	-.00006	.00006	.00027	-.00195	-.00670	.05038	.01037
#3	-.00050	.00008	.00033	-.00187	-.01152	-.07320	.00507

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.08451	.00186	.00028	.03360	.00129	-.00450	.00103
Stddev	.02414	.00107	.00024	.04405	.00082	.00471	.00234
%RSD	28.569	57.437	84.889	131.13	63.730	104.52	226.68

#1	-.10904	.00250	.00034	.00618	.00062	-.00993	-.00166
#2	-.06077	.00063	.00048	.08441	.00221	-.00207	.00227
#3	-.08372	.00246	.00002	.01019	.00104	-.00151	.00249

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

K: K Buck

Sample Name: CCB Acquired: 10/13/2016 16:45:33 Type: Blank
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00060	.00423	.00211	-0.00045	.00006	.00135	.00013
Stddev	.00163	.00390	.00137	.00035	.00031	.00210	.00457
%RSD	270.20	92.142	65.061	78.740	512.34	155.09	3421.9

#1	.00019	.00457	.00072	-0.0004	-0.00019	.00091	-.00344
#2	-.00247	.00018	.00346	-0.00060	-0.00004	.00364	.00528
#3	.00048	.00796	.00215	-0.00070	.00041	-.00049	-.00144

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00028	-0.00017	F .50604
Stddev	.00091	.00015	1.1648
%RSD	322.22	86.062	230.17

#1	-.00076	-.00033	1.8298
#2	.00094	-.00015	-.36173
#3	.00066	-.00003	.05001

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.04000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10116.	113650.	11833.
Stddev	20.	318.	302.
%RSD	.20206	.27955	2.5548

#1	10096.	113790.	12110.
#2	10137.	113290.	11879.
#3	10116.	113870.	11510.

Approved: October 14, 2016

K: K Buck

Sample Name: PBW ZB Acquired: 10/13/2016 16:49:21 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587059-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00164	-0.00082	-0.00070	-0.00129	-0.00070	-0.00006	.01773	.00007
Stddev	.00077	.00093	.00301	.00155	.00058	.00003	.01084	.00016
%RSD	46.947	113.54	432.29	119.78	82.342	57.638	61.100	232.19

#1	.00078	-0.00183	.00236	-0.00132	-0.00049	-0.00010	.02447	.00025
#2	.00188	-0.00000	-0.00366	-0.00283	-0.00135	-0.00004	.02350	-0.00007
#3	.00227	-0.00062	-0.00079	.00027	-0.00026	-0.00004	.00523	.00003

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00031	.00068	-0.00065	.00522	-0.04590	.00429	.02380	.00042
Stddev	.00013	.00050	.00018	.02574	.04259	.00299	.08611	.00146
%RSD	43.405	73.155	28.435	492.95	92.771	69.736	361.72	347.19

#1	.00041	.00057	-0.00064	.03085	-0.02685	.00114	.08613	.00009
#2	.00016	.00122	-0.00047	.00546	-0.01617	.00464	.05974	-0.00085
#3	.00036	.00024	-0.00084	-0.02064	-0.09469	.00709	-0.07445	.00202

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00020	.00493	.00114	-0.01109	.00263	-0.00251	.00776	.00422
Stddev	.00051	.03047	.00046	.00391	.00081	.00320	.00337	.00286
%RSD	252.08	618.16	40.404	35.272	30.991	127.72	43.505	67.892

#1	-0.00036	-0.01409	.00128	-0.00758	.00323	-0.00212	.00908	.00461
#2	.00065	-0.01119	.00152	-0.01531	.00295	.00049	.00392	.00687
#3	.00032	.04007	.00063	-0.01039	.00170	-0.00588	.01027	.00118

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: PBW ZB Acquired: 10/13/2016 16:49:21 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587059-02

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0010	-0.0015	-0.00134	-0.00252	.00040	.00084	8.1722
Stddev	.00038	.00009	.00251	.00235	.00021	.00021	.8908
%RSD	397.41	59.179	186.88	93.036	52.240	25.489	10.900

#1	.00022	-.00019	.00017	.00015	.00020	.00106	9.0308
#2	-.00052	-.00005	.00004	-.00423	.00061	.00081	7.2525
#3	.00001	-.00021	-.00424	-.00349	.00038	.00064	8.2332

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10305.	120230.	12218.
Stddev	90.	671.	247.
%RSD	.87510	.55775	2.0254

#1	10397.	120930.	11936.
#2	10301.	119590.	12397.
#3	10217.	120160.	12322.

Approved: October 14, 2016

K. K. Buck

Sample Name: LCSW ZB Acquired: 10/13/2016 16:53:07 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000(
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587059-03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19343	4.9824	.19397	.90384	.47580	.02322	4.7789	.02402
Stddev	.00129	.0117	.00282	.00313	.00130	.00006	.0128	.00027
%RSD	.66853	.23434	1.4551	.34610	.27251	.27075	.26854	1.1396

#1	.19490	4.9820	.19522	.90657	.47431	.02324	4.7931	.02408
#2	.19250	4.9709	.19596	.90043	.47648	.02327	4.7758	.02372
#3	.19288	4.9942	.19074	.90453	.47662	.02315	4.7680	.02426

Check ? **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass**
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.09800	.23979	.24399	1.9006	22.830	.46261	4.7698	.23907
Stddev	.00024	.00096	.00013	.0217	.120	.00545	.0469	.00141
%RSD	.24948	.40199	.05213	1.1403	.52760	1.1791	.98367	.58876

#1	.09800	.23898	.24412	1.9000	22.739	.46192	4.7185	.23936
#2	.09775	.23952	.24386	1.8792	22.785	.45754	4.7803	.23754
#3	.09824	.24085	.24400	1.9225	22.967	.46838	4.8106	.24031

Check ? **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass**
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.48772	23.117	.24580	4.6487	.24558	.57470	.18548	2.4188
Stddev	.00016	.082	.00118	.0060	.00303	.00515	.00339	.0069
%RSD	.03196	.35507	.47876	.12938	1.2326	.89689	1.8282	.28697

#1	.48770	23.041	.24639	4.6550	.24295	.57150	.18909	2.4205
#2	.48788	23.106	.24656	4.6481	.24490	.57194	.18499	2.4112
#3	.48758	23.204	.24444	4.6430	.24889	.58064	.18236	2.4248

Check ? **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass**
 High Limit
 Low Limit

Approved: October 14, 2016

K. K. Buck

Sample Name: LCSW ZB Acquired: 10/13/2016 16:53:07 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587059-03

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.48884	.48253	.47140	.24913	.47962	.47834	8.6141
Stddev	.00070	.00063	.00239	.00276	.00089	.00042	1.2284
%RSD	.14375	.13044	.50793	1.1074	.18532	.08852	14.260
#1	.48809	.48210	.47082	.25082	.47924	.47845	7.5398
#2	.48892	.48325	.47404	.25063	.48064	.47788	8.3492
#3	.48949	.48223	.46936	.24595	.47900	.47870	9.9533

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10316.	116500.	12305.
Stddev	15.	394.	303.
%RSD	.14714	.33796	2.4654
#1	10318.	116950.	12366.
#2	10300.	116340.	12573.
#3	10331.	116210.	11975.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610033701 Acquired: 10/13/2016 16:56:41 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00073	.01648	.00231	.02945	.05660	-.00005	64.132
Stddev	.00109	.00081	.00277	.00019	.00074	.00006	.045
%RSD	148.85	4.9329	119.76	.64703	1.3129	102.25	.07091

#1	-.00195	.01555	.00265	.02967	.05589	-.00011	64.158
#2	.00015	.01694	.00491	.02940	.05653	-.00006	64.079
#3	-.00039	.01697	-.00061	.02930	.05737	.00000	64.158

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00032	-.00016	.00073	-.00046	.04965	1.1696	.01138
Stddev	.00016	.00037	.00074	.00135	.01410	.0557	.00387
%RSD	50.523	232.15	102.43	293.38	28.402	4.7616	34.024

#1	.00014	-.00012	.00154	-.00122	.06220	1.1867	.01202
#2	.00045	.00019	.00008	.00110	.03439	1.1073	.01489
#3	.00037	-.00055	.00055	-.00126	.05235	1.2147	.00723

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.9070	.01051	.00090	18.566	.00153	-.00522	.00229
Stddev	.1117	.00171	.00017	.047	.00034	.00086	.00296
%RSD	1.1269	16.275	19.172	.25581	22.446	16.498	129.33

#1	9.8744	.01249	.00103	18.606	.00114	-.00460	.00534
#2	9.8153	.00952	.00096	18.578	.00165	-.00620	-.00057
#3	10.031	.00953	.00070	18.513	.00179	-.00485	.00209

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610033701 Acquired: 10/13/2016 16:56:41 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00053	.00826	3.9154	.00095	.39518	-0.00885	-0.00436
Stddev	.00345	.00294	.0080	.00040	.00122	.00088	.00212
%RSD	657.50	35.623	.20436	42.137	.30973	9.9397	48.512

#1	-.00339	.00901	3.9243	.00063	.39377	-.00813	-.00584
#2	-.00149	.00502	3.9089	.00140	.39594	-.00860	-.00194
#3	.00331	.01076	3.9130	.00081	.39583	-.00983	-.00531

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00097	.02115	F -.45565
Stddev	.00024	.00012	.71871
%RSD	24.320	.57773	157.73

#1	.00109	.02113	.36804
#2	.00113	.02128	-.95517
#3	.00070	.02104	-.77982

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10240.	115600.	12306.
Stddev	5.	510.	165.
%RSD	.04826	.44078	1.3449

#1	10242.	115340.	12265.
#2	10243.	115280.	12487.
#3	10234.	116190.	12164.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610033702 Acquired: 10/13/2016 17:00:25 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00020	1.3927	.00249	.01097	.08749	.00010	76.373	.00015
Stddev	.00013	.0120	.00273	.00157	.00080	.00003	.292	.00018
%RSD	64.997	.86217	109.63	14.291	.91821	25.833	.38254	114.64

#1	.00007	1.3893	-.00040	.01156	.08841	.00008	76.462	.00024
#2	.00020	1.4061	.00503	.00920	.08693	.00008	76.047	.00027
#3	.00033	1.3828	.00283	.01216	.08713	.00013	76.611	-.00005

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00158	.00253	.00426	2.4335	1.9705	.01535	7.3992	.42211
Stddev	.00004	.00062	.00093	.0166	.0211	.00192	.0166	.00311
%RSD	2.4390	24.683	21.764	.68385	1.0714	12.482	.22450	.73605

#1	.00155	.00240	.00329	2.4509	1.9898	.01716	7.3969	.42210
#2	.00156	.00321	.00436	2.4316	1.9480	.01334	7.3839	.41901
#3	.00162	.00198	.00513	2.4178	1.9737	.01554	7.4168	.42523

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00098	6.8411	.00427	.13462	.00898	-.00278	.00472	5.3906
Stddev	.00043	.0469	.00115	.00639	.00167	.00086	.00650	.0133
%RSD	43.417	.68486	26.855	4.7490	18.603	30.843	137.81	.24676

#1	.00057	6.8470	.00544	.13802	.00948	-.00282	.01203	5.3874
#2	.00096	6.7915	.00314	.13859	.01034	-.00362	.00250	5.3792
#3	.00142	6.8847	.00422	.12724	.00712	-.00190	-.00039	5.4052

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610033702 Acquired: 10/13/2016 17:00:25 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00084	.23987	.01169	-.00052	.00312	.01074	1.9066
Stddev	.00023	.00095	.00346	.00309	.00029	.00011	.7567
%RSD	27.494	.39514	29.619	595.33	9.1799	1.0423	39.688

#1	.00095	.24062	.01144	.00305	.00279	.01086	2.7182
#2	.00099	.23880	.00835	-.00238	.00329	.01071	1.7810
#3	.00057	.24018	.01526	-.00223	.00329	.01064	1.2205

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10239.	116540.	12377.
Stddev	109.	778.	239.
%RSD	1.0639	.66726	1.9348

#1	10154.	117370.	12252.
#2	10201.	115820.	12654.
#3	10362.	116430.	12227.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610033901 Acquired: 10/13/2016 17:04:09 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00020	.02106	.00010	.00990	.04393	-.00004	61.806	.00012
Stddev	.00123	.00362	.00195	.00012	.00039	.00004	.112	.00012
%RSD	611.05	17.178	2010.9	1.2375	.88518	106.96	.18200	101.01

#1	-.00070	.01768	.00108	.00985	.04389	-.00007	61.875	-.00001
#2	.00160	.02488	.00136	.01003	.04357	-.00006	61.868	.00023
#3	-.00029	.02062	-.00215	.00980	.04435	.00001	61.677	.00013

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00010	.00085	.00106	.01169	.61091	.00840	5.2521	-.00016
Stddev	.00032	.00055	.00072	.00478	.09401	.00301	.0615	.00211
%RSD	329.08	64.685	67.901	40.894	15.388	35.788	1.1705	1334.3

#1	.00032	.00140	.00077	.00770	.71426	.00797	5.2847	-.00249
#2	-.00027	.00029	.00189	.01699	.58801	.01161	5.2905	.00161
#3	.00025	.00087	.00054	.01038	.53048	.00564	5.1812	.00040

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00040	3.6122	.00112	-.00376	.00290	-.00220	.00535	3.3871
Stddev	.00038	.0087	.00118	.00204	.00170	.00247	.00225	.0152
%RSD	95.009	.24135	106.04	54.321	58.733	111.96	42.064	.44901

#1	.00062	3.6210	.00030	-.00162	.00322	-.00328	.00782	3.3762
#2	-.00004	3.6119	.00247	-.00568	.00442	-.00394	.00477	3.3807
#3	.00063	3.6036	.00058	-.00397	.00106	.00062	.00344	3.4045

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610033901 Acquired: 10/13/2016 17:04:09 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00009	.20076	-0.00791	-0.00090	.00032	.00138	.90796
Stddev	.00105	.00022	.00086	.00021	.00094	.00008	.68750
%RSD	1166.5	.10803	10.833	23.388	291.35	5.6848	75.719

#1	-0.00078	.20095	-0.00876	-0.00112	-0.00062	.00130	1.6906
#2	.00125	.20080	-0.00705	-0.00070	.00032	.00145	.63159
#3	-0.00020	.20052	-0.00792	-0.00088	.00126	.00141	.40166

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10324.	117210.	12424.
Stddev	60.	131.	159.
%RSD	.57823	.11211	1.2776

#1	10376.	117250.	12340.
#2	10336.	117060.	12607.
#3	10259.	117320.	12325.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610033902 Acquired: 10/13/2016 17:07:54 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00137	21.450	.00961	.02716	.32223	.00144	81.239	.00095
Stddev	.00119	.114	.00289	.00180	.00075	.00006	.237	.00014
%RSD	87.058	.53248	30.081	6.6123	.23430	3.9134	.29169	14.677

#1	-0.00013	21.320	.01294	.02621	.32285	.00146	81.420	.00092
#2	-0.00148	21.534	.00791	.02923	.32139	.00137	80.970	.00110
#3	-0.00251	21.496	.00797	.02603	.32246	.00148	81.325	.00083

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01098	.02825	.02569	44.175	4.3005	.03611	10.397	1.2210
Stddev	.00011	.00089	.00130	.262	.0878	.00031	.042	.0045
%RSD	1.0154	3.1605	5.0564	.59420	2.0418	.84488	.39923	.36790

#1	.01105	.02926	.02712	44.147	4.2785	.03645	10.415	1.2252
#2	.01105	.02757	.02538	43.928	4.2259	.03599	10.350	1.2216
#3	.01086	.02792	.02458	44.451	4.3973	.03588	10.427	1.2163

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00160	15.556	.02592	1.6567	.03462	-.00279	.00513	30.159
Stddev	.00018	.065	.00103	.0089	.00168	.00200	.00121	.048
%RSD	11.336	.41510	3.9730	.53649	4.8620	71.942	23.506	.15807

#1	.00181	15.589	.02659	1.6550	.03294	-.00495	.00500	30.106
#2	.00148	15.481	.02643	1.6664	.03631	-.00241	.00399	30.197
#3	.00150	15.597	.02473	1.6488	.03462	-.00100	.00639	30.176

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610033902 Acquired: 10/13/2016 17:07:54 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00181	.23022	.21132	.00052	.03420	.16510	2.1255
Stddev	.00048	.00063	.00408	.00134	.00028	.00043	.4806
%RSD	26.677	.27288	1.9290	259.37	.80500	.25764	22.609

#1	.00221	.22954	.20796	.00184	.03390	.16481	1.5746
#2	.00127	.23034	.21016	-.00084	.03444	.16558	2.4587
#3	.00194	.23077	.21586	.00056	.03426	.16489	2.3433

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10591.	119150.	12748.
Stddev	40.	237.	238.
%RSD	.37626	.19916	1.8654

#1	10618.	119420.	12483.
#2	10609.	119030.	12817.
#3	10545.	119000.	12943.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034001 Acquired: 10/13/2016 17:11:34 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00138	.89803	.00141	.22312	.11601	-.00001	39.792	.00028
Stddev	.00117	.00353	.00373	.00226	.00049	.00005	.131	.00021
%RSD	84.374	.39347	264.32	1.0135	.42283	364.31	.32982	74.930

#1	.00243	.90062	-.00085	.22569	.11601	-.00000	39.663	.00027
#2	.00159	.89400	-.00064	.22144	.11651	.00003	39.925	.00048
#3	.00013	.89945	.00572	.22223	.11552	-.00007	39.788	.00007

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00147	.00236	.00237	1.6063	7.8529	.01113	4.3515	2.8473
Stddev	.00054	.00040	.00063	.0368	.1128	.00237	.0679	.0021
%RSD	36.570	16.713	26.408	2.2935	1.4364	21.256	1.5604	.07357

#1	.00089	.00241	.00296	1.5638	7.7740	.01249	4.2833	2.8449
#2	.00195	.00273	.00171	1.6284	7.8025	.00840	4.4191	2.8482
#3	.00156	.00195	.00244	1.6267	7.9821	.01251	4.3521	2.8488

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00179	4.6031	.00473	.80954	.00238	-.00053	.00540	4.4910
Stddev	.00023	.0192	.00126	.00179	.00039	.00194	.00428	.0071
%RSD	12.602	.41679	26.621	.22132	16.301	362.81	79.319	.15789

#1	.00182	4.5916	.00441	.81135	.00202	-.00068	.00066	4.4977
#2	.00155	4.6252	.00612	.80951	.00279	-.00240	.00899	4.4917
#3	.00200	4.5924	.00366	.80777	.00233	.00147	.00655	4.4836

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034001 Acquired: 10/13/2016 17:11:34 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00075	.12711	.00692	-.00239	.00206	.04349	2.4971
Stddev	.00041	.00016	.00057	.00391	.00014	.00011	.5858
%RSD	54.542	.12224	8.1942	163.63	7.0132	.25181	23.461

#1	.00103	.12702	.00716	-.00676	.00220	.04362	3.1645
#2	.00028	.12729	.00732	-.00115	.00191	.04346	2.2591
#3	.00094	.12701	.00627	.00075	.00206	.04341	2.0677

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10435.	118010.	12865.
Stddev	188.	462.	103.
%RSD	1.8053	.39106	.80221

#1	10331.	118500.	12845.
#2	10322.	117960.	12977.
#3	10653.	117580.	12774.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034201 Acquired: 10/13/2016 17:15:17 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00049	.10412	.00234	.00736	.06537	-.00002	54.258	.00002
Stddev	.00070	.00102	.00163	.00074	.00075	.00007	.099	.00013
%RSD	142.99	.97604	69.712	10.007	1.1446	373.72	.18262	732.50

#1	.00004	.10341	.00351	.00667	.06543	.00002	54.348	.00013
#2	.00013	.10367	.00303	.00728	.06609	-.00010	54.274	-.00012
#3	.00129	.10529	.00048	.00814	.06460	.00003	54.152	.00005

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00033	.00015	.00072	.07723	.64144	.01143	5.5020	.00703
Stddev	.00024	.00062	.00060	.01277	.06102	.00189	.0658	.00065
%RSD	72.391	401.86	82.974	16.536	9.5128	16.546	1.1954	9.2135

#1	.00035	.00019	.00058	.09194	.71117	.00979	5.5175	.00689
#2	.00008	-.00048	.00021	.06899	.59783	.01350	5.5587	.00646
#3	.00055	.00075	.00138	.07075	.61531	.01100	5.4299	.00773

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00053	1.8975	.00091	-.00743	.00270	-.00046	.00307	3.6046
Stddev	.00042	.0102	.00037	.00471	.00110	.00421	.00578	.0058
%RSD	79.189	.53820	40.148	63.439	40.574	907.60	188.10	.16036

#1	.00005	1.8858	.00077	-.00935	.00146	-.00171	.00036	3.6113
#2	.00078	1.9031	.00132	-.00206	.00311	.00423	-.00085	3.6011
#3	.00078	1.9038	.00063	-.01088	.00354	-.00392	.00971	3.6015

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034201 Acquired: 10/13/2016 17:15:17 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00026	.13991	-0.00707	-0.00294	.00036	.00148	3.6146
Stddev	.00055	.00027	.00404	.00155	.00085	.00025	.6393
%RSD	213.86	.19322	57.183	52.653	234.96	17.159	17.687

#1	.00085	.14006	-.01138	-.00396	-.00025	.00176	3.0018
#2	-.00023	.13960	-.00337	-.00116	.00000	.00127	4.2775
#3	.00015	.14007	-.00645	-.00369	.00133	.00141	3.5644

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10211.	117330.	12749.
Stddev	42.	407.	107.
%RSD	.41355	.34720	.83533

#1	10194.	116890.	12681.
#2	10260.	117700.	12872.
#3	10181.	117410.	12694.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034201PS Acquired: 10/13/2016 17:19:01 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587461-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19384	4.9378	.19199	.92471	.53317	.02354	53.055	.02411
Stddev	.00093	.0161	.00227	.00187	.00102	.00007	.069	.00007
%RSD	.47725	.32577	1.1836	.20215	.19182	.31041	.12929	.30423

#1	.19453	4.9561	.19402	.92683	.53284	.02362	52.999	.02411
#2	.19420	4.9316	.18953	.92330	.53432	.02350	53.131	.02403
#3	.19279	4.9257	.19242	.92399	.53236	.02349	53.033	.02418

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.09604	.23990	.24014	1.9631	23.250	.46315	9.6718	.24231
Stddev	.00063	.00056	.00125	.0351	.125	.00795	.0666	.00116
%RSD	.65383	.23256	.51995	1.7862	.53790	1.7168	.68862	.47886

#1	.09630	.24047	.24148	1.9238	23.124	.45397	9.6242	.24275
#2	.09649	.23987	.23992	1.9913	23.374	.46762	9.7479	.24100
#3	.09532	.23935	.23901	1.9743	23.254	.46787	9.6431	.24320

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.48432	24.729	.24161	4.6855	.24106	.56822	.18531	5.6348
Stddev	.00136	.083	.00205	.0075	.00250	.00601	.00195	.0183
%RSD	.27996	.33497	.84749	.15981	1.0354	1.0568	1.0537	.32514

#1	.48544	24.769	.24393	4.6941	.23840	.56628	.18738	5.6545
#2	.48471	24.634	.24006	4.6806	.24141	.57496	.18349	5.6316
#3	.48281	24.784	.24084	4.6817	.24336	.56343	.18506	5.6183

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034201PS Acquired: 10/13/2016 17:19:01 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587461-01

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.48158	.60514	.47300	.24769	.48487	.47379	3.2957
Stddev	.00074	.00173	.00308	.00506	.00134	.00165	.8332
%RSD	.15374	.28639	.65040	2.0417	.27693	.34911	25.283
#1	.48243	.60327	.47342	.24231	.48633	.47516	3.5662
#2	.48108	.60669	.47585	.25234	.48459	.47425	3.9601
#3	.48122	.60545	.46974	.24843	.48369	.47195	2.3608

Check ? **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass**
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10072.	114620.	12505.
Stddev	42.	451.	115.
%RSD	.41596	.39320	.92013
#1	10091.	114400.	12421.
#2	10024.	114320.	12636.
#3	10100.	115140.	12457.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034201SDL Acquired: 10/13/2016 17:22:34 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment: WG587461-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00140	.02057	-0.00089	.00192	.01359	-0.00005	11.367	-0.00013
Stddev	.00123	.00375	.00096	.00138	.00049	.00008	.017	.00032
%RSD	87.659	18.214	107.70	71.936	3.6025	183.62	.15230	239.69

#1	-0.00038	.01709	-0.00176	.00194	.01304	-0.00009	11.361	.00021
#2	-0.00106	.02009	-0.00105	.00053	.01400	.00005	11.386	-0.00020
#3	-0.00277	.02453	.00014	.00329	.01372	-0.00009	11.353	-0.00042

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00002	-0.00031	.00019	.01448	.11984	.00932	1.1707	.00122
Stddev	.00033	.00030	.00083	.02015	.04602	.00238	.0727	.00083
%RSD	2001.9	95.315	435.99	139.13	38.398	25.546	6.2063	68.391

#1	-0.00018	-0.00017	-0.00060	.00806	.15361	.01182	1.2117	.00069
#2	.00036	-0.00065	.00011	.03706	.13848	.00707	1.2136	.00079
#3	-0.00024	-0.00011	.00105	-.00167	.06743	.00906	1.0868	.00218

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00043	.37543	-0.00000	-.00324	.00308	.00079	.00279	.75415
Stddev	.00058	.04037	.00167	.00301	.00242	.00136	.00213	.00225
%RSD	133.70	10.752	72095.	92.871	78.516	172.12	76.525	.29821

#1	.00012	.34819	-0.00065	.00023	.00062	.00154	.00086	.75559
#2	.00008	.35629	-0.00125	-.00517	.00317	.00162	.00508	.75531
#3	.00109	.42180	.00189	-.00477	.00545	-.00078	.00242	.75156

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K: K Buck

Sample Name: L1610034201SDL Acquired: 10/13/2016 17:22:34 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment: WG587461-02

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00005	.02850	-0.00340	.00010	.00027	.00097	.65096
Stddev	.00044	.00031	.00259	.00311	.00124	.00020	.67921
%RSD	843.62	1.0899	76.184	3156.0	466.67	20.165	104.34

#1	.00037	.02884	-.00522	.00274	-.00110	.00095	.98397
#2	-.00001	.02823	-.00453	.00088	.00133	.00079	1.0994
#3	-.00052	.02844	-.00043	-.00332	.00056	.00118	-.13049

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10469.	115180.	11912.
Stddev	27.	749.	231.
%RSD	.25903	.64987	1.9374

#1	10497.	116010.	11828.
#2	10466.	114560.	12173.
#3	10443.	114960.	11735.

Approved: October 14, 2016

K. K. Buck

Sample Name: CCV Acquired: 10/13/2016 17:26:22 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.39139	9.8908	.39288	.49049	.95378	.04798	9.6003
Stddev	.00366	.0707	.00321	.00232	.00390	.00025	.0697
%RSD	.93547	.71451	.81578	.47247	.40838	.51449	.72565

#1	.39086	9.8386	.38921	.49027	.95371	.04798	9.6496
#2	.39529	9.9713	.39512	.49291	.94991	.04822	9.5206
#3	.38802	9.8627	.39431	.48829	.95770	.04773	9.6307

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04978	.19763	.48424	.49232	3.7927	45.546	.90851
Stddev	.00036	.00053	.00192	.00261	.0358	.230	.00760
%RSD	.72724	.26670	.39702	.53063	.94352	.50486	.83644

#1	.04988	.19707	.48619	.49017	3.8067	45.530	.91422
#2	.04938	.19772	.48234	.49523	3.7521	45.325	.89989
#3	.05008	.19811	.48418	.49156	3.8195	45.784	.91142

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.5306	.47347	.98260	45.898	.49500	9.7968	.49797
Stddev	.0691	.00402	.00381	.287	.00256	.0350	.00494
%RSD	.72451	.84858	.38727	.62498	.51816	.35725	.99278

#1	9.5831	.47593	.97829	45.994	.49303	9.7565	.49565
#2	9.4524	.46883	.98404	45.575	.49407	9.8142	.50365
#3	9.5562	.47564	.98548	46.124	.49790	9.8198	.49461

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: October 14, 2016

K: K Buck

Sample Name: CCV Acquired: 10/13/2016 17:26:22 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000(
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.1821	.39689	4.9841	.98758	.96749	.95535	.49705
Stddev	.0086	.00135	.0263	.00665	.00200	.00544	.00336
%RSD	.72636	.34050	.52853	.67344	.20678	.56897	.67690

#1	1.1726	.39716	4.9554	.98009	.96726	.95488	.49320
#2	1.1893	.39543	4.9899	.98985	.96561	.95016	.49944
#3	1.1844	.39809	5.0071	.99280	.96959	.96100	.49850

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.96727	.98033	F 2.0463
Stddev	.00479	.00505	1.2599
%RSD	.49483	.51557	61.571

#1	.97217	.97473	3.3511
#2	.96703	.98171	1.9509
#3	.96260	.98455	.83672

Check ?	Chk Pass	Chk Pass	Chk Fail
Value			1.0000
Range			10.000%

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10079.	111740.	12189.
Stddev	31.	83.	266.
%RSD	.30424	.07410	2.1808

#1	10045.	111710.	12061.
#2	10103.	111680.	12495.
#3	10090.	111840.	12011.

Approved: October 14, 2016

K. K. Buck

Sample Name: CCB Acquired: 10/13/2016 17:29:51 Type: Blank
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00003	-.01223	.00245	.00076	-.00058	-.00004	-.00682
Stddev	.00174	.00610	.00334	.00098	.00027	.00004	.01263
%RSD	5425.5	49.894	136.20	128.86	46.447	96.159	185.32

#1	.00089	-.01605	.00536	.00125	-.00052	-.00007	.00777
#2	-.00197	-.01545	.00318	.00140	-.00035	.00000	-.01383
#3	.00117	-.00519	-.00119	-.00037	-.00088	-.00007	-.01439

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00013	.00001	.00059	-.00017	-.01079	-.00290	.00718
Stddev	.00023	.00012	.00073	.00096	.01039	.02991	.00428
%RSD	176.38	1846.5	122.10	564.65	96.317	1030.5	59.596

#1	-.00025	.00006	.00044	-.00051	-.01149	.03070	.01212
#2	-.00028	.00009	.00138	-.00092	-.00007	-.02661	.00488
#3	.00014	-.00013	-.00004	.00092	-.02081	-.01280	.00454

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.08745	.00059	-.00016	.00799	.00083	-.00663	.00232
Stddev	.03415	.00050	.00034	.01422	.00114	.00221	.00195
%RSD	39.052	84.295	209.03	177.94	137.01	33.305	84.230

#1	-.10615	.00031	-.00008	.01113	.00214	-.00409	.00007
#2	-.10818	.00116	-.00013	-.00753	.00011	-.00767	.00327
#3	-.04804	.00030	-.00053	.02037	.00024	-.00812	.00361

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

K: K Buck

Sample Name: CCB Acquired: 10/13/2016 17:29:51 Type: Blank
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00003	.00208	-0.00025	.00019	-0.00025	-0.00342	-0.00121
Stddev	.00522	.00202	.00115	.00038	.00009	.00118	.00198
%RSD	19539.	97.029	458.81	199.06	37.303	34.496	162.91

#1	.00159	-0.00025	.00101	.00058	-0.00027	-0.00206	-0.00146
#2	-0.00586	.00314	-0.00052	-0.00017	-0.00014	-0.00406	.00087
#3	.00419	.00334	-0.00124	.00016	-0.00032	-0.00416	-0.00306

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00005	-0.00020	F 1.3458
Stddev	.00019	.00017	.9207
%RSD	365.69	84.117	68.412

#1	.00020	-0.00019	.46673
#2	-0.00016	-0.00037	2.3030
#3	.00011	-0.00003	1.2675

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.04000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10269.	116350.	12245.
Stddev	12.	130.	169.
%RSD	.12057	.11191	1.3817

#1	10284.	116480.	12111.
#2	10262.	116220.	12435.
#3	10262.	116340.	12189.

Approved: October 14, 2016

K: K Buck

Sample Name: L1610034202 Acquired: 10/13/2016 17:33:39 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00010	.42223	.00178	.01727	.03734	-.00006	33.015	.00028
Stddev	.00029	.00225	.00255	.00028	.00033	.00011	.166	.00025
%RSD	301.46	.53246	143.50	1.6109	.89071	183.81	.50189	87.645

#1	-.00003	.42268	.00322	.01740	.03773	.00003	33.151	.00016
#2	.00043	.42423	-.00117	.01695	.03713	-.00018	32.831	.00057
#3	-.00011	.41980	.00329	.01746	.03718	-.00002	33.063	.00012

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00019	.00027	.00095	.47531	1.2574	.00794	4.2852	.01390
Stddev	.00010	.00082	.00050	.00989	.0280	.00185	.0482	.00066
%RSD	49.472	299.54	52.927	2.0811	2.2278	23.324	1.1251	4.7331

#1	.00029	.00110	.00152	.48603	1.2889	.00585	4.2677	.01454
#2	.00020	.00026	.00059	.46654	1.2354	.00858	4.3398	.01323
#3	.00010	-.00054	.00074	.47335	1.2478	.00939	4.2483	.01392

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00067	4.8178	.00153	.04882	.00275	-.00035	.00052	3.9173
Stddev	.00019	.0576	.00065	.00454	.00429	.00642	.00719	.0121
%RSD	27.756	1.1962	42.669	9.2904	155.66	1854.8	1391.0	.30844

#1	.00070	4.8472	.00102	.04388	.00522	.00371	.00457	3.9152
#2	.00084	4.7514	.00227	.05280	.00524	.00299	-.00778	3.9303
#3	.00047	4.8548	.00131	.04978	-.00220	-.00774	.00477	3.9065

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034202 Acquired: 10/13/2016 17:33:39 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00056	.12085	-0.00046	-0.00125	.00198	.00263	.71037
Stddev	.00024	.00083	.00376	.00343	.00123	.00010	.57223
%RSD	41.806	.68583	822.55	274.30	61.967	3.7240	80.554

#1	.00036	.12129	.00074	.00220	.00159	.00273	.80306
#2	.00052	.11989	.00256	-.00129	.00099	.00254	.09746
#3	.00082	.12136	-.00467	-.00466	.00336	.00263	1.2306

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10266.	117670.	12429.
Stddev	93.	524.	277.
%RSD	.90207	.44518	2.2277

#1	10308.	118140.	12172.
#2	10160.	117780.	12722.
#3	10329.	117110.	12395.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034203 Acquired: 10/13/2016 17:37:25 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00079	.33320	.00120	.01375	.03506	-.00005	37.100	.00013
Stddev	.00022	.00475	.00080	.00073	.00086	.00002	.075	.00029
%RSD	27.401	1.4246	66.754	5.3238	2.4552	38.847	.20159	221.97

#1	.00070	.33147	.00212	.01443	.03590	-.00007	37.186	.00046
#2	.00104	.33856	.00086	.01298	.03418	-.00003	37.063	-.00006
#3	.00064	.32955	.00063	.01385	.03509	-.00006	37.050	-.00002

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00013	.00071	.00066	.37471	.82128	.00901	7.1285	.02126
Stddev	.00031	.00050	.00129	.02089	.03036	.00014	.0457	.00184
%RSD	233.50	71.125	193.97	5.5753	3.6963	1.6066	.64176	8.6387

#1	.00044	.00061	.00209	.35282	.84874	.00918	7.1042	.02029
#2	-.00017	.00026	.00030	.37688	.78868	.00895	7.0999	.02011
#3	.00013	.00126	-.00040	.39443	.82643	.00891	7.1812	.02338

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00063	4.4839	.00108	-.00211	.00537	-.00237	.00432	4.4174
Stddev	.00035	.0150	.00091	.00443	.00283	.00449	.00230	.0184
%RSD	55.935	.33409	84.307	209.79	52.834	189.60	53.205	.41599

#1	.00104	4.4717	.00185	.00042	.00623	.00272	.00210	4.4335
#2	.00042	4.5006	.00131	-.00722	.00767	-.00577	.00418	4.4215
#3	.00043	4.4794	.00008	.00048	.00220	-.00406	.00669	4.3974

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034203 Acquired: 10/13/2016 17:37:25 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00015	.20639	.00397	-0.00095	.00144	.00162	1.4095
Stddev	.00064	.00041	.00868	.00419	.00061	.00012	.9272
%RSD	429.73	.20077	218.93	441.68	41.906	7.4510	65.785

#1	.00059	.20614	-0.00330	.00347	.00157	.00168	.89875
#2	-0.00055	.20687	.00162	-0.00487	.00198	.00148	2.4798
#3	-0.00049	.20617	.01358	-0.00144	.00079	.00170	.84993

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10310.	117310.	12206.
Stddev	71.	458.	444.
%RSD	.68737	.39051	3.6383

#1	10376.	117680.	11721.
#2	10236.	116800.	12592.
#3	10319.	117450.	12305.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034204 Acquired: 10/13/2016 17:41:09 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00021	1.0142	.00107	.00983	.12987	.00004	42.872	.00004
Stddev	.00075	.0027	.00090	.00071	.00075	.00001	.205	.00011
%RSD	363.44	.26110	84.808	7.2031	.57796	24.909	.47805	274.73

#1	-0.00018	1.0122	.00163	.00916	.13074	.00004	43.108	-0.00007
#2	-0.00097	1.0172	.00002	.01057	.12936	.00005	42.774	.00015
#3	.00053	1.0132	.00154	.00975	.12953	.00003	42.735	.00004

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00111	.00141	.00198	1.6092	1.7959	.00816	2.8928	.41384
Stddev	.00007	.00110	.00044	.0126	.0630	.00146	.0702	.00278
%RSD	6.2433	77.547	22.063	.78390	3.5061	17.864	2.4253	.67181

#1	.00111	.00138	.00213	1.6139	1.8377	.00984	2.9660	.41252
#2	.00105	.00253	.00233	1.6189	1.7235	.00730	2.8262	.41198
#3	.00119	.00033	.00149	1.5950	1.8265	.00733	2.8860	.41704

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00152	1.5990	.00270	.02062	.00293	-.00109	.00233	4.7730
Stddev	.00032	.0119	.00071	.00605	.00145	.00074	.00449	.0145
%RSD	21.138	.74158	26.293	29.326	49.392	67.558	192.99	.30391

#1	.00122	1.5868	.00238	.01571	.00368	-.00159	.00748	4.7676
#2	.00185	1.6105	.00221	.01877	.00126	-.00144	-.00076	4.7619
#3	.00149	1.5996	.00351	.02738	.00384	-.00024	.00027	4.7894

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034204 Acquired: 10/13/2016 17:41:09 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0000	.08509	.00503	-0.00004	.00234	.01834	2.0161
Stddev	.00047	.00009	.00469	.00278	.00084	.00001	1.6575
%RSD	19107.	.11155	93.237	6918.0	36.041	.05379	82.214

#1	-0.00018	.08510	.00242	.00271	.00233	.01833	2.9069
#2	.00053	.08499	.00223	.00002	.00319	.01835	3.0376
#3	-0.00036	.08518	.01044	-0.00285	.00150	.01833	.10366

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10325.	117790.	12374.
Stddev	125.	347.	360.
%RSD	1.2142	.29455	2.9072

#1	10294.	117390.	12038.
#2	10218.	118030.	12753.
#3	10463.	117950.	12332.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034205 Acquired: 10/13/2016 17:44:54 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00144	.03172	.00200	.02270	.08844	-0.00003	28.495	.00017
Stddev	.00119	.00117	.00234	.00119	.00049	.00002	.061	.00009
%RSD	82.767	3.6867	116.84	5.2346	.54869	72.459	.21287	51.398

#1	-0.00210	.03286	-0.00064	.02188	.08893	-0.00004	28.549	.00019
#2	-0.00006	.03179	.00284	.02216	.08796	-0.00003	28.429	.00025
#3	-0.00215	.03052	.00381	.02407	.08843	-0.00001	28.505	.00008

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00035	.00039	-0.00008	.02923	1.4092	.00700	6.2257	.00463
Stddev	.00023	.00035	.00094	.00863	.0123	.00147	.0919	.00103
%RSD	65.322	88.587	1110.2	29.516	.87266	21.076	1.4766	22.133

#1	.00062	.00031	.00085	.03307	1.4140	.00800	6.1396	.00345
#2	.00022	.00077	-0.00103	.01935	1.4185	.00769	6.3225	.00531
#3	.00022	.00009	-0.00007	.03527	1.3953	.00530	6.2148	.00514

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00018	2.2862	.00123	.01815	.00247	-0.00204	.00339	3.6839
Stddev	.00032	.0156	.00083	.00128	.00094	.00134	.00887	.0066
%RSD	178.13	.68397	67.321	7.0569	38.307	65.538	262.10	.17821

#1	-0.00008	2.2999	.00131	.01779	.00200	-0.00089	-0.00671	3.6877
#2	.00008	2.2691	.00036	.01957	.00355	-0.00173	.00996	3.6877
#3	.00054	2.2895	.00201	.01709	.00184	-0.00351	.00690	3.6763

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034205 Acquired: 10/13/2016 17:44:54 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00066	.12154	.00092	-.00171	.00079	.00594	1.7600
Stddev	.00087	.00025	.00167	.00060	.00046	.00013	1.2360
%RSD	131.56	.20232	182.14	35.191	58.031	2.2279	70.227

#1	.00100	.12179	.00243	-.00143	.00078	.00594	.50582
#2	-.00033	.12153	.00119	-.00239	.00034	.00581	1.7972
#3	.00131	.12130	-.00087	-.00129	.00126	.00607	2.9770

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10383.	117420.	12390.
Stddev	28.	487.	153.
%RSD	.27311	.41498	1.2350

#1	10409.	116980.	12505.
#2	10385.	117940.	12447.
#3	10353.	117320.	12216.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034206 Acquired: 10/13/2016 17:48:38 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00109	-0.00108	.00234	.05048	.64426	-0.00006	13.634	.00021
Stddev	.00113	.00737	.00065	.00123	.00098	.00002	.049	.00004
%RSD	103.52	682.55	27.730	2.4392	.15220	35.365	.35940	20.867

#1	-0.00061	-0.00690	.00184	.05178	.64536	-0.00005	13.626	.00016
#2	-0.00028	-0.00354	.00308	.04933	.64348	-0.00009	13.590	.00023
#3	-0.00239	.00720	.00211	.05033	.64394	-0.00005	13.686	.00023

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00012	.00069	-0.00049	.86714	.68641	.00996	3.1414	.02655
Stddev	.00014	.00032	.00108	.01311	.05888	.00423	.0820	.00083
%RSD	114.62	46.816	219.94	1.5124	8.5785	42.473	2.6108	3.1259

#1	.00022	.00085	-0.00097	.85667	.72897	.00712	3.2070	.02559
#2	.00018	.00090	-0.00124	.86290	.61921	.00794	3.1678	.02707
#3	-0.00004	.00032	.00074	.88185	.71106	.01483	3.0495	.02699

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00046	34.367	.00268	.01299	.00328	-0.00145	.00125	4.6374
Stddev	.00068	.049	.00077	.00505	.00073	.00291	.00392	.0039
%RSD	149.08	.14321	28.910	38.835	22.283	200.74	314.23	.08329

#1	-0.00033	34.414	.00355	.01320	.00315	.00171	.00342	4.6407
#2	.00080	34.316	.00207	.01793	.00407	-0.00204	-0.00327	4.6385
#3	.00090	34.370	.00242	.00785	.00263	-0.00402	.00359	4.6332

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034206 Acquired: 10/13/2016 17:48:38 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00008	.64558	-0.00054	-0.00180	-0.00004	.00106	.13536
Stddev	.00080	.00104	.00181	.00075	.00099	.00021	.91485
%RSD	1011.4	.16137	334.08	41.475	2262.7	19.674	675.88

#1	-0.00085	.64677	.00153	-.00227	-0.00004	.00101	.88212
#2	.00047	.64486	-.00136	-.00220	.00094	.00089	-.88511
#3	.00061	.64511	-.00180	-.00094	-.00103	.00130	.40907

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10371.	117650.	12582.
Stddev	10.	352.	90.
%RSD	.09901	.29919	.71374

#1	10380.	118040.	12594.
#2	10373.	117370.	12666.
#3	10360.	117540.	12487.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034301 Acquired: 10/13/2016 17:52:23 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00006	.03070	.00199	.01483	.14066	-0.00008	61.973	.00038
Stddev	.00021	.00389	.00092	.00206	.00095	.00003	.027	.00023
%RSD	336.02	12.685	46.020	13.877	.67854	33.032	.04431	60.109

#1	-0.00023	.03361	.00238	.01717	.14026	-0.00007	62.005	.00014
#2	-0.00013	.02627	.00264	.01398	.14175	-0.00007	61.962	.00059
#3	.00017	.03221	.00094	.01333	.13997	-0.00012	61.953	.00042

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00012	.00073	.00137	.03954	1.3818	.01031	10.550	.01306
Stddev	.00028	.00050	.00141	.00885	.0225	.00059	.006	.00142
%RSD	238.59	68.697	103.50	22.374	1.6282	5.7638	.05384	10.846

#1	-0.00009	.00048	-0.00022	.03248	1.3713	.00980	10.556	.01461
#2	.00000	.00041	.00184	.04946	1.4076	.01096	10.545	.01184
#3	.00044	.00131	.00248	.03668	1.3665	.01016	10.548	.01274

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00015	17.709	.00170	.01468	.00103	-0.00087	.00224	3.7995
Stddev	.00021	.069	.00141	.00154	.00486	.00123	.00522	.0100
%RSD	137.73	.39231	83.127	10.465	470.36	140.69	232.76	.26320

#1	.00002	17.751	.00107	.01310	.00655	-0.00216	.00675	3.8103
#2	.00039	17.629	.00331	.01477	-0.00260	-0.00074	.00346	3.7977
#3	.00004	17.747	.00071	.01617	-0.00085	.00029	-0.00348	3.7906

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034301 Acquired: 10/13/2016 17:52:23 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00035	.17307	-0.00633	.00197	.00026	.00994	.01225
Stddev	.00028	.00065	.00240	.00242	.00090	.00008	1.0856
%RSD	79.311	.37631	37.855	122.70	351.18	.80850	8861.5

#1	.00003	.17325	-0.00356	.00297	.00007	.00999	1.1831
#2	.00050	.17361	-0.00766	-0.00079	-0.00054	.00985	-1.18543
#3	.00051	.17235	-0.00777	.00374	.00123	.00998	-0.96093

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10225.	115760.	12515.
Stddev	46.	368.	167.
%RSD	.44906	.31832	1.3370

#1	10266.	116170.	12364.
#2	10232.	115630.	12695.
#3	10175.	115470.	12486.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034302 Acquired: 10/13/2016 17:56:07 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00077	.17173	.00235	.01960	.14824	-.00001	61.082	.00023
Stddev	.00187	.00437	.00084	.00045	.00065	.00008	.033	.00016
%RSD	243.85	2.5443	35.782	2.2754	.43987	1217.4	.05350	68.996

#1	-.00139	.17662	.00150	.02007	.14767	-.00004	61.095	.00041
#2	.00192	.16819	.00237	.01918	.14895	.00009	61.105	.00011
#3	.00177	.17039	.00318	.01956	.14810	-.00006	61.044	.00017

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00030	.00145	-.00067	.18454	1.5812	.01220	12.034	.02285
Stddev	.00031	.00063	.00124	.01379	.0553	.00364	.042	.00192
%RSD	100.69	43.197	185.78	7.4748	3.4983	29.826	.35087	8.3838

#1	.00024	.00161	-.00204	.19750	1.6415	.01131	11.992	.02300
#2	.00003	.00198	-.00035	.18607	1.5328	.01620	12.032	.02470
#3	.00063	.00076	.00039	.17004	1.5693	.00909	12.077	.02087

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00061	20.389	.00169	.01016	.00275	-.00127	.00510	4.2407
Stddev	.00017	.060	.00086	.00340	.00332	.00367	.00279	.0171
%RSD	27.885	.29552	50.977	33.428	120.60	288.24	54.780	.40424

#1	.00080	20.454	.00098	.00689	.00107	.00284	.00230	4.2587
#2	.00049	20.377	.00144	.01367	.00658	-.00246	.00512	4.2387
#3	.00053	20.335	.00265	.00993	.00061	-.00420	.00788	4.2246

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034302 Acquired: 10/13/2016 17:56:07 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00054	.24211	-0.00704	-0.00234	.00058	.00410	1.6443
Stddev	.00031	.00091	.00382	.00341	.00054	.00004	1.0133
%RSD	57.684	.37587	54.201	145.70	93.435	.91529	61.625

#1	.00033	.24214	-0.00637	.00061	-0.00005	.00414	1.4139
#2	.00090	.24301	-0.00361	-0.00607	.00090	.00409	2.7529
#3	.00039	.24119	-0.01115	-0.00156	.00088	.00407	.76598

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10177.	115670.	12490.
Stddev	65.	320.	312.
%RSD	.63390	.27637	2.5001

#1	10252.	115570.	12582.
#2	10146.	116030.	12747.
#3	10134.	115410.	12143.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034303 Acquired: 10/13/2016 17:59:52 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00038	1.7378	.00158	.01150	.08796	.00008	55.292	.00027
Stddev	.00030	.0170	.00314	.00203	.00105	.00002	.224	.00005
%RSD	79.843	.97741	198.99	17.660	1.1940	27.043	.40449	18.973

#1	.00050	1.7574	.00187	.01367	.08848	.00006	55.549	.00024
#2	.00059	1.7284	-.00170	.00964	.08675	.00007	55.143	.00024
#3	.00003	1.7276	.00456	.01119	.08865	.00010	55.184	.00033

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00151	.00285	.00366	2.6935	1.0301	.01431	10.402	.06345
Stddev	.00031	.00041	.00093	.0286	.0574	.00087	.165	.00199
%RSD	20.841	14.521	25.285	1.0625	5.5680	6.1018	1.5847	3.1334

#1	.00141	.00328	.00270	2.7111	1.0321	.01504	10.568	.06563
#2	.00125	.00282	.00374	2.7090	.97178	.01456	10.400	.06297
#3	.00186	.00246	.00455	2.6605	1.0864	.01334	10.239	.06174

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00079	3.9491	.00359	.10766	.00613	.00116	.00834	6.2812
Stddev	.00007	.0208	.00181	.00817	.00284	.00219	.00379	.0194
%RSD	8.6531	.52663	50.464	7.5881	46.268	187.73	45.415	.30973

#1	.00087	3.9516	.00486	.09891	.00476	-.00134	.00409	6.2602
#2	.00074	3.9272	.00439	.11509	.00939	.00266	.01134	6.2848
#3	.00076	3.9685	.00152	.10898	.00424	.00218	.00959	6.2986

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034303 Acquired: 10/13/2016 17:59:52 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00041	.21985	.01128	-.00023	.00322	.02783	1.7023
Stddev	.00095	.00097	.00293	.00359	.00060	.00012	.7166
%RSD	233.35	.44014	25.952	1583.4	18.762	.43982	42.097

#1	.00085	.22096	.00977	-.00406	.00343	.02793	2.3816
#2	.00105	.21920	.01465	.00307	.00368	.02769	1.7720
#3	-.00068	.21939	.00941	.00031	.00253	.02785	.95342

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10370.	116480.	12420.
Stddev	58.	557.	217.
%RSD	.56222	.47821	1.7505

#1	10304.	115860.	12276.
#2	10388.	116950.	12670.
#3	10417.	116620.	12313.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034401 Acquired: 10/13/2016 18:03:36 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00027	.00673	.00151	.01751	.11628	-.00007	29.165	.00007
Stddev	.00027	.00156	.00043	.00058	.00082	.00006	.062	.00006
%RSD	100.36	23.217	28.553	3.3016	.70163	81.633	.21221	82.845

#1	.00002	.00541	.00132	.01741	.11546	-.00009	29.094	.00008
#2	.00056	.00633	.00121	.01699	.11628	-.00011	29.188	.00001
#3	.00023	.00845	.00200	.01813	.11709	-.00000	29.212	.00013

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00013	.00132	.12805	.06587	1.4756	.01444	10.043	.02700
Stddev	.00051	.00118	.00022	.01442	.0090	.00443	.184	.00100
%RSD	400.56	89.396	.17399	21.897	.61248	30.664	1.8331	3.6989

#1	.00046	.00019	.12804	.06792	1.4652	.00962	9.8590	.02737
#2	-.00049	.00253	.12783	.05054	1.4805	.01537	10.043	.02775
#3	-.00035	.00122	.12828	.07917	1.4812	.01833	10.227	.02586

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00072	92.898	.00460	-.03680	.01396	.00492	-.00040	3.1294
Stddev	.00070	.446	.00092	.00120	.00384	.00119	.00356	.0117
%RSD	96.904	.48054	20.044	3.2659	27.496	24.177	897.11	.37517

#1	.00110	92.494	.00553	-.03548	.01209	.00547	.00117	3.1161
#2	-.00009	92.822	.00368	-.03711	.01837	.00574	.00211	3.1382
#3	.00114	93.377	.00460	-.03782	.01141	.00356	-.00447	3.1339

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034401 Acquired: 10/13/2016 18:03:36 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00106	.28164	-0.00474	-0.00111	.00056	.18611	1.9893
Stddev	.00083	.00015	.00279	.00115	.00058	.00129	1.0252
%RSD	78.298	.05384	58.832	104.34	104.43	.69238	51.538

#1	.00196	.28181	-0.00462	.00021	-.00010	.18465	1.5069
#2	.00032	.28151	-0.00759	-.00158	.00075	.18711	3.1667
#3	.00090	.28161	-0.00202	-.00195	.00102	.18655	1.2942

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10027.	113340.	12504.
Stddev	78.	217.	331.
%RSD	.77617	.19135	2.6454

#1	10111.	113550.	12807.
#2	9957.7	113120.	12554.
#3	10012.	113340.	12151.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034701 Acquired: 10/13/2016 18:07:18 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00046	.00810	.00006	.01623	.00088	-0.00003	.15573	-0.00002
Stddev	.00120	.00446	.00227	.00045	.00056	.00003	.00905	.00014
%RSD	263.46	55.133	3980.1	2.7764	63.695	92.354	5.8112	682.61

#1	-0.00085	.01195	-0.00256	.01579	.00040	-0.00002	.16157	-0.00017
#2	.00089	.00321	.00124	.01669	.00074	-0.00007	.16032	.00002
#3	-0.00141	.00913	.00149	.01621	.00149	-0.00001	.14531	.00009

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00019	.00174	.03494	.01005	.01214	.00842	-0.00249	-0.00008
Stddev	.00027	.00079	.00044	.01522	.05505	.00471	.01277	.00147
%RSD	141.03	45.134	1.2478	151.43	453.61	55.919	513.87	1760.2

#1	-0.00032	.00232	.03500	-.00672	.07566	.00346	-.01629	-.00149
#2	-0.00037	.00206	.03534	.02298	-.01754	.00898	.00892	.00145
#3	.00012	.00085	.03447	.01389	-.02171	.01282	-0.00009	-.00021

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00040	69.624	.00101	.02282	.00624	-0.00033	-0.00109	3.0275
Stddev	.00032	.180	.00058	.00058	.00110	.00067	.00244	.0006
%RSD	81.486	.25824	57.345	2.5475	17.564	205.02	223.97	.01922

#1	.00054	69.417	.00119	.02275	.00716	-0.00084	-.00109	3.0282
#2	.00003	69.747	.00148	.02344	.00503	.00043	.00135	3.0272
#3	.00063	69.707	.00036	.02228	.00654	-0.00057	-.00353	3.0272

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034701 Acquired: 10/13/2016 18:07:18 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00127	.00101	-.00173	-.00364	.00072	.03186	1.0210
Stddev	.00089	.00006	.00176	.00516	.00029	.00030	.7985
%RSD	70.429	5.5986	101.81	141.74	40.644	.93614	78.209

#1	.00029	.00095	-.00026	-.00926	.00100	.03152	.21864
#2	.00204	.00106	-.00368	.00089	.00074	.03208	1.0288
#3	.00148	.00103	-.00125	-.00256	.00041	.03197	1.8157

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10308.	116490.	12681.
Stddev	17.	388.	173.
%RSD	.16500	.33278	1.3677

#1	10308.	116130.	12757.
#2	10291.	116440.	12803.
#3	10325.	116900.	12482.

Approved: October 14, 2016

K. K. Buck

Sample Name: CCV Acquired: 10/13/2016 18:11:05 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.39140	10.025	.39117	.48873	.95385	.04815	9.6424
Stddev	.00167	.015	.00284	.00168	.00205	.00012	.0376
%RSD	.42586	.15158	.72478	.34315	.21504	.25810	.39037

#1	.39051	10.014	.39257	.48895	.95617	.04801	9.6855
#2	.39037	10.018	.38791	.49029	.95308	.04826	9.6255
#3	.39332	10.042	.39303	.48696	.95229	.04818	9.6161

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04949	.19622	.48624	.49136	3.7935	45.284	.90914
Stddev	.00032	.00058	.00110	.00159	.0241	.247	.00594
%RSD	.64885	.29368	.22588	.32448	.63526	.54468	.65348

#1	.04914	.19682	.48497	.49252	3.7987	45.566	.91511
#2	.04978	.19567	.48683	.48954	3.8146	45.111	.90907
#3	.04955	.19619	.48692	.49201	3.7672	45.174	.90323

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.5982	.47231	.97727	46.193	.49110	9.7468	.49375
Stddev	.0696	.00392	.00252	.285	.00111	.0116	.00269
%RSD	.72522	.83044	.25771	.61749	.22530	.11927	.54554

#1	9.6542	.47627	.97855	46.485	.49221	9.7334	.49069
#2	9.6200	.47223	.97890	45.915	.49000	9.7521	.49479
#3	9.5202	.46843	.97437	46.180	.49110	9.7548	.49577

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: October 14, 2016

K. K. Buck

Sample Name: CCV Acquired: 10/13/2016 18:11:05 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.1770	.38478	4.9575	.98029	.97075	.96429	.50019
Stddev	.0045	.00379	.0043	.00057	.00297	.00154	.00227
%RSD	.38379	.98542	.08656	.05791	.30636	.15997	.45393

#1	1.1797	.38873	4.9615	.98084	.97376	.96267	.49805
#2	1.1718	.38118	4.9579	.97971	.97069	.96446	.50257
#3	1.1796	.38443	4.9530	.98033	.96781	.96574	.49995

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.97208	.97760	F .45096
Stddev	.00116	.00214	.74922
%RSD	.11894	.21858	166.14

#1	.97097	.97994	1.2952
#2	.97199	.97711	-.13476
#3	.97328	.97575	.19244

Check ?	Chk Pass	Chk Pass	Chk Fail
Value			1.0000
Range			-10.000%

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9941.3	110240.	11959.
Stddev	35.8	375.	257.
%RSD	.35966	.33982	2.1480

#1	9928.1	110670.	11757.
#2	9914.1	110070.	12248.
#3	9981.8	109970.	11872.

Approved: October 14, 2016

K. K. Buck

Sample Name: CCB Acquired: 10/13/2016 18:14:33 Type: Blank
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0126	-0.00349	.00320	-0.00102	.00045	-0.00003	-0.01002
Stddev	.00224	.00274	.00060	.00185	.00056	.00003	.01005
%RSD	177.62	78.373	18.710	182.12	125.24	106.79	100.26

#1	-0.00164	-0.00092	.00258	.00112	-0.00018	-0.00003	.00043
#2	-0.00330	-0.00319	.00377	-0.00205	.00063	.00000	-0.01962
#3	.00114	-0.00637	.00324	-0.00212	.00089	-0.00006	-0.01088

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00013	.00001	.00059	-0.00079	.00065	-0.01840	.00507
Stddev	.00050	.00022	.00077	.00028	.01233	.02609	.00176
%RSD	383.74	2663.6	132.15	35.443	1898.4	141.78	34.648

#1	-0.00069	.00027	.00142	-0.00071	.00967	-0.04005	.00372
#2	.00028	-0.00013	.00045	-0.00056	.00567	-0.02572	.00706
#3	.00001	-0.00011	-0.00011	-0.00110	-0.01340	.01057	.00444

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.05089	.00039	-0.00007	.03958	-0.00004	-0.00222	.00266
Stddev	.04595	.00163	.00050	.01122	.00123	.00287	.00368
%RSD	90.292	416.50	680.32	28.348	3173.0	129.50	138.37

#1	-0.00603	.00095	.00002	.02733	.00032	-0.00491	.00230
#2	-0.04878	.00167	-0.00062	.04205	.00097	.00081	.00651
#3	-0.09786	-0.00144	.00037	.04936	-0.00141	-0.00255	-0.00082

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

K: K Buck

Sample Name: CCB Acquired: 10/13/2016 18:14:33 Type: Blank
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00206	.00056	.00036	.00030	-0.00010	-0.00360	-0.00129
Stddev	.00254	.00527	.00206	.00049	.00020	.00256	.00240
%RSD	123.11	936.64	580.08	164.52	199.20	71.266	185.84

#1	.00049	.00475	.00258	.00025	-0.00011	-.00500	-.00176
#2	-.00210	-.00535	-.00001	.00082	-.00029	-.00516	.00131
#3	-.00459	.00229	-.00150	-.00017	.00010	-.00064	-.00343

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00046	-0.00017	F .76155
Stddev	.00027	.00006	1.3288
%RSD	59.948	34.575	174.49

#1	.00053	-.00015	1.9357
#2	.00015	-.00023	1.0299
#3	.00068	-.00012	-.68098

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.04000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10083.	113430.	11838.
Stddev	11.	139.	240.
%RSD	.10895	.12286	2.0284

#1	10095.	113340.	12107.
#2	10077.	113370.	11762.
#3	10076.	113590.	11645.

Approved: October 14, 2016

K: K Buck

Sample Name: L1610034702 Acquired: 10/13/2016 18:18:22 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0092	.81008	-0.0011	.01778	.06327	-0.0001	39.711	.00021
Stddev	.00118	.00457	.00155	.00017	.00019	.00001	.079	.00004
%RSD	127.92	.56416	1427.0	.95570	.29734	97.606	.19871	16.384

#1	-0.00223	.80856	.00164	.01761	.06330	-0.00003	39.720	.00018
#2	-0.00058	.81521	-0.00067	.01780	.06307	-0.00001	39.786	.00020
#3	.00005	.80645	-0.00130	.01794	.06344	-0.00000	39.629	.00025

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00060	.00116	.00160	.98764	2.2062	.00834	4.6471	.14800
Stddev	.00031	.00038	.00076	.01867	.0497	.00182	.0369	.00076
%RSD	52.542	33.002	47.473	1.8905	2.2516	21.795	.79399	.51141

#1	.00052	.00076	.00084	1.0030	2.2504	.01011	4.6752	.14871
#2	.00033	.00121	.00160	.96684	2.2158	.00842	4.6053	.14721
#3	.00095	.00152	.00236	.99311	2.1524	.00648	4.6607	.14807

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00099	4.5580	.00172	.04917	.00283	-0.00098	.00773	4.4002
Stddev	.00029	.0138	.00127	.00622	.00397	.00168	.00270	.0071
%RSD	29.774	.30392	74.001	12.642	140.27	170.68	34.932	.16084

#1	.00093	4.5580	.00057	.05210	.00197	-0.00147	.00680	4.4082
#2	.00131	4.5441	.00150	.04203	-0.00064	-0.00237	.01078	4.3949
#3	.00073	4.5718	.00309	.05338	.00717	.00088	.00562	4.3974

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034702 Acquired: 10/13/2016 18:18:22 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00023	.14216	.00755	-0.00275	.00222	.00422	2.9477
Stddev	.00074	.00026	.00518	.00258	.00025	.00013	.4351
%RSD	323.48	.18092	68.672	93.791	11.444	3.0681	14.760

#1	.00057	.14245	.00800	.00010	.00245	.00407	2.9773
#2	-0.00037	.14207	.01249	-0.00341	.00227	.00425	3.3672
#3	-0.00089	.14196	.00215	-0.00493	.00195	.00433	2.4986

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10377.	118240.	12925.
Stddev	7.	1113.	46.
%RSD	.07108	.94129	.35472

#1	10372.	119460.	12888.
#2	10386.	117970.	12976.
#3	10374.	117280.	12912.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034703 Acquired: 10/13/2016 18:22:06 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00081	.04983	-0.00039	.00960	.05423	-0.00002	41.307	.00013
Stddev	.00168	.00454	.00103	.00140	.00022	.00005	.022	.00021
%RSD	206.57	9.1038	261.53	14.628	.41161	192.99	.05351	153.93

#1	.00103	.05291	-0.00042	.00808	.05424	-0.00005	41.327	.00024
#2	-0.00122	.05195	.00065	.00988	.05401	-0.00006	41.283	.00027
#3	-0.00224	.04462	-0.00141	.01085	.05445	.00003	41.310	-0.00010

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00023	.00120	-0.00001	.03404	.51834	.00949	4.7896	.00566
Stddev	.00016	.00061	.00117	.00608	.02223	.00168	.0277	.00147
%RSD	70.063	50.982	22202.	17.871	4.2896	17.690	.57901	26.009

#1	-0.00010	.00103	-0.00069	.02707	.50349	.00818	4.8104	.00416
#2	-0.00041	.00070	-0.00067	.03830	.54391	.00891	4.7581	.00572
#3	-0.00018	.00189	.00134	.03675	.50764	.01138	4.8002	.00710

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00055	2.2566	.00083	-0.00198	.00110	-0.00386	.00562	3.2976
Stddev	.00034	.0183	.00018	.00777	.00311	.00196	.00527	.0207
%RSD	61.707	.81279	21.340	392.26	282.57	50.698	93.793	.62867

#1	.00073	2.2566	.00084	.00699	.00407	-0.00546	-0.00044	3.2924
#2	.00016	2.2382	.00100	-0.00628	.00137	-0.00168	.00915	3.2800
#3	.00077	2.2749	.00065	-0.00665	-0.00213	-0.00445	.00813	3.3204

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034703 Acquired: 10/13/2016 18:22:06 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00015	.12963	-0.00243	.00147	.00077	.00104	3.2071
Stddev	.00043	.00035	.00394	.00144	.00050	.00010	.7910
%RSD	292.44	.26946	162.08	97.696	64.190	9.8111	24.666

#1	-0.00024	.12939	.00041	.00236	.00020	.00096	4.0439
#2	.00007	.13003	-0.00693	.00223	.00106	.00115	2.4715
#3	.00061	.12946	-0.00078	-0.00019	.00107	.00099	3.1059

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10293.	116630.	12537.
Stddev	14.	341.	218.
%RSD	.14056	.29246	1.7399

#1	10306.	116260.	12577.
#2	10295.	116680.	12733.
#3	10277.	116940.	12302.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034704 Acquired: 10/13/2016 18:25:50 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00058	.82255	.00277	.02763	.07439	-.00000	33.416	.00000
Stddev	.00242	.00267	.00173	.00180	.00041	.00005	.040	.00011
%RSD	414.01	.32480	62.405	6.5232	.55412	1135.1	.11927	11553.

#1	-.00314	.82544	.00241	.02663	.07393	-.00007	33.389	-.00010
#2	.00167	.82205	.00125	.02656	.07452	.00002	33.462	.00012
#3	-.00029	.82016	.00466	.02971	.07473	.00003	33.396	-.00001

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00046	.00148	.00265	1.3154	1.9805	.00837	4.0382	.43058
Stddev	.00053	.00062	.00086	.0119	.0080	.00349	.0709	.00211
%RSD	114.15	42.200	32.639	.90210	.40344	41.697	1.7560	.48929

#1	.00106	.00092	.00170	1.3035	1.9893	.00592	3.9566	.43118
#2	.00006	.00215	.00339	1.3273	1.9785	.00683	4.0844	.42823
#3	.00027	.00136	.00284	1.3153	1.9737	.01237	4.0737	.43231

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00094	2.5585	.00178	.04955	.00324	-.00265	.00537	4.1638
Stddev	.00037	.0122	.00138	.00465	.00206	.00398	.00692	.0333
%RSD	39.017	.47607	77.254	9.3894	63.625	150.19	129.01	.79867

#1	.00129	2.5474	.00334	.04418	.00102	-.00316	.00393	4.1332
#2	.00056	2.5566	.00074	.05222	.00360	-.00635	.01289	4.1992
#3	.00096	2.5716	.00126	.05225	.00509	.00156	-.00073	4.1590

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034704 Acquired: 10/13/2016 18:25:50 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00074	.11196	.00757	-.00025	.00173	.00335	3.4455
Stddev	.00018	.00014	.00301	.00356	.00037	.00010	1.0688
%RSD	24.894	.12870	39.740	1402.4	21.383	3.0989	31.020

#1	.00073	.11188	.01099	.00180	.00191	.00342	2.9883
#2	.00056	.11186	.00633	-.00436	.00131	.00323	4.6669
#3	.00093	.11212	.00537	.00181	.00198	.00340	2.6815

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10256.	118870.	13010.
Stddev	197.	737.	19.
%RSD	1.9216	.62013	.14635

#1	10476.	118940.	13031.
#2	10096.	119570.	12993.
#3	10196.	118100.	13007.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034705 Acquired: 10/13/2016 18:29:35 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587059-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00125	.30236	.00191	.02545	.06003	-.00005	36.127	-.00022
Stddev	.00078	.00134	.00430	.00129	.00058	.00004	.254	.00009
%RSD	62.536	.44308	225.39	5.0494	.97276	94.740	.70383	40.850

#1	.00125	.30276	-.00303	.02690	.06055	-.00003	36.143	-.00015
#2	.00202	.30346	.00388	.02445	.05940	-.00010	35.865	-.00033
#3	.00047	.30087	.00488	.02500	.06013	-.00001	36.372	-.00019

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00015	.00196	.00104	.86614	1.8235	.00909	4.8364	.10070
Stddev	.00007	.00062	.00105	.02697	.0642	.00306	.0219	.00087
%RSD	48.562	31.739	100.98	3.1137	3.5230	33.695	.45199	.86024

#1	.00017	.00186	.00153	.86476	1.7526	.00846	4.8443	.09972
#2	.00020	.00262	-.00017	.83989	1.8398	.01242	4.8532	.10102
#3	.00007	.00139	.00175	.89377	1.8780	.00639	4.8117	.10137

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00073	7.2638	.00129	.05564	.00268	-.00190	.00828	3.9349
Stddev	.00062	.0245	.00047	.00883	.00229	.00212	.00580	.0096
%RSD	85.768	.33737	36.347	15.872	85.561	111.64	70.123	.24290

#1	.00044	7.2710	.00086	.06477	.00009	-.00397	.01126	3.9400
#2	.00144	7.2365	.00179	.05500	.00351	.00026	.01198	3.9407
#3	.00030	7.2839	.00122	.04714	.00444	-.00198	.00159	3.9238

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034705 Acquired: 10/13/2016 18:29:35 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587059-01

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00020	.13441	.00244	-.00648	.00154	.00384	2.4530
Stddev	.00033	.00102	.00186	.00201	.00066	.00020	.7040
%RSD	161.06	.76167	76.423	31.043	43.190	5.3161	28.700

#1	.00020	.13409	.00449	-.00801	.00230	.00362	1.6893
#2	.00053	.13359	.00086	-.00722	.00109	.00403	3.0760
#3	-.00012	.13556	.00197	-.00420	.00122	.00388	2.5937

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10539.	119160.	12488.
Stddev	31.	464.	396.
%RSD	.29218	.38911	3.1720

#1	10508.	119570.	12589.
#2	10542.	118660.	12823.
#3	10569.	119270.	12051.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034705MS Acquired: 10/13/2016 18:33:20 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587059-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19159	5.1534	.19191	.92548	.53082	.02336	41.358	.02371
Stddev	.00066	.0154	.00041	.00260	.00086	.00008	.168	.00001
%RSD	.34366	.29794	.21110	.28091	.16266	.33843	.40573	.04618

#1	.19129	5.1478	.19229	.92436	.53178	.02336	41.340	.02372
#2	.19113	5.1707	.19148	.92845	.53012	.02344	41.200	.02371
#3	.19234	5.1416	.19195	.92363	.53054	.02328	41.534	.02370

Check ? **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass**
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.09576	.23811	.23945	2.7774	24.083	.45493	9.5519	.33489
Stddev	.00047	.00070	.00109	.0236	.142	.00591	.0543	.00352
%RSD	.49226	.29445	.45681	.84957	.58795	1.2982	.56827	1.0506

#1	.09604	.23888	.24067	2.7980	24.061	.44824	9.5578	.33728
#2	.09601	.23751	.23912	2.7516	23.953	.45943	9.4949	.33085
#3	.09521	.23794	.23855	2.7825	24.234	.45711	9.6030	.33655

Check ? **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass**
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.48148	30.050	.23969	4.6938	.24405	.56376	.18310	6.5085
Stddev	.00234	.086	.00137	.0199	.00316	.00153	.00248	.0263
%RSD	.48693	.28580	.57015	.42463	1.2964	.27133	1.3527	.40415

#1	.48328	30.056	.24126	4.7158	.24675	.56226	.18130	6.5255
#2	.48234	29.962	.23901	4.6886	.24484	.56532	.18593	6.5219
#3	.47883	30.133	.23879	4.6769	.24057	.56370	.18208	6.4782

Check ? **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass**
 High Limit
 Low Limit

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034705MS Acquired: 10/13/2016 18:33:20 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587059-04

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.47856	.61453	.48038	.24178	.47805	.47163	8.5236
Stddev	.00270	.00152	.00039	.00183	.00068	.00218	.6898
%RSD	.56473	.24726	.08101	.75671	.14294	.46278	8.0930
#1	.48130	.61412	.48064	.24026	.47841	.47329	8.6315
#2	.47848	.61326	.48055	.24127	.47726	.47244	9.1531
#3	.47590	.61621	.47993	.24381	.47847	.46916	7.7862

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10350.	117050.	12821.
Stddev	23.	392.	213.
%RSD	.21973	.33522	1.6593
#1	10327.	117110.	12798.
#2	10350.	116630.	13044.
#3	10372.	117410.	12620.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034705MSD Acquired: 10/13/2016 18:36:53 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587059-05

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19428	5.2173	.19290	.94056	.54204	.02386	42.372	.02407
Stddev	.00146	.0408	.00200	.00507	.00179	.00006	.149	.00018
%RSD	.75177	.78133	1.0368	.53924	.32933	.26098	.35088	.74592

#1	.19398	5.2552	.19364	.94608	.53999	.02381	42.233	.02424
#2	.19587	5.2224	.19063	.93950	.54319	.02393	42.353	.02410
#3	.19300	5.1742	.19441	.93610	.54296	.02383	42.529	.02388

Check ? **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass**
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.09692	.24266	.24300	2.8195	24.619	.46348	9.7745	.34058
Stddev	.00028	.00041	.00180	.0389	.244	.00403	.1452	.00092
%RSD	.28957	.16832	.74109	1.3778	.99165	.86921	1.4856	.27134

#1	.09694	.24265	.24478	2.7759	24.340	.45939	9.6072	.33952
#2	.09718	.24225	.24304	2.8320	24.723	.46360	9.8683	.34100
#3	.09662	.24307	.24117	2.8505	24.794	.46744	9.8480	.34122

Check ? **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass**
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.48927	30.766	.24314	4.7565	.24454	.56749	.18764	6.5870
Stddev	.00057	.221	.00057	.0122	.00283	.00208	.01173	.0036
%RSD	.11563	.71943	.23313	.25698	1.1574	.36736	6.2509	.05390

#1	.48950	30.599	.24271	4.7625	.24230	.56880	.19327	6.5848
#2	.48863	30.682	.24293	4.7647	.24361	.56509	.17416	6.5851
#3	.48969	31.017	.24378	4.7425	.24772	.56858	.19550	6.5911

Check ? **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass**
 High Limit
 Low Limit

Approved: October 14, 2016

K: K Buck

Sample Name: L1610034705MSD Acquired: 10/13/2016 18:36:53 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587059-05

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.48267	.62714	.49065	.24658	.48741	.47788	9.2501
Stddev	.00127	.00171	.00852	.00139	.00214	.00010	.5140
%RSD	.26265	.27235	1.7357	.56208	.43978	.02084	5.5569
#1	.48177	.62638	.48547	.24501	.48950	.47776	9.6250
#2	.48213	.62909	.50048	.24764	.48522	.47794	8.6642
#3	.48412	.62594	.48600	.24709	.48750	.47793	9.4613

Check ? **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass**
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10359.	116230.	12469.
Stddev	28.	1236.	551.
%RSD	.26863	1.0634	4.4191
#1	10388.	114810.	12752.
#2	10359.	117010.	12820.
#3	10332.	116880.	11834.

Approved: October 14, 2016

K. K. Buck

Sample Name: CCV Acquired: 10/13/2016 18:40:27 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.39055	9.9495	.39109	.48873	.94860	.04805	9.5439
Stddev	.00299	.0813	.00208	.00258	.00268	.00026	.0305
%RSD	.76564	.81719	.53064	.52824	.28205	.54967	.31946

#1	.39018	9.8801	.39155	.48707	.94948	.04800	9.5321
#2	.38776	9.9294	.38883	.48742	.94560	.04782	9.5211
#3	.39370	10.039	.39290	.49170	.95073	.04834	9.5785

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04914	.19677	.48521	.49117	3.7945	F 44.819	.90167
Stddev	.00005	.00079	.00317	.00164	.0088	.143	.00458
%RSD	.10314	.40388	.65411	.33350	.23160	.32011	.50814

#1	.04919	.19769	.48317	.49276	3.7976	44.967	.90366
#2	.04909	.19632	.48358	.48949	3.7846	44.680	.89642
#3	.04915	.19630	.48886	.49127	3.8013	44.811	.90491

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
Value						50.000	
Range						-10.000%	

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.5449	.47325	.97541	45.751	.49057	9.8018	.49752
Stddev	.0754	.00246	.00155	.212	.00117	.0112	.00226
%RSD	.78957	.52068	.15858	.46243	.23913	.11440	.45439

#1	9.5706	.47041	.97718	45.788	.49192	9.8134	.50005
#2	9.4601	.47454	.97430	45.523	.48979	9.7910	.49683
#3	9.6041	.47480	.97476	45.942	.48999	9.8010	.49569

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: October 14, 2016

K: K Buck

Sample Name: CCV Acquired: 10/13/2016 18:40:27 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.1816	.39523	4.9708	.98386	.96571	.96194	.50102
Stddev	.0008	.01022	.0088	.00163	.00227	.00363	.00666
%RSD	.07150	2.5861	.17642	.16604	.23523	.37734	1.3301

#1	1.1811	.40601	4.9715	.98566	.96674	.96141	.49368
#2	1.1811	.38567	4.9617	.98344	.96310	.95860	.50667
#3	1.1826	.39400	4.9792	.98248	.96727	.96580	.50272

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.97084	.98300	F 3.5696
Stddev	.00900	.00111	.1206
%RSD	.92712	.11246	3.3777

#1	.96532	.98427	3.4489
#2	.96597	.98228	3.5699
#3	.98122	.98245	3.6900

Check ?	Chk Pass	Chk Pass	Chk Fail
Value			1.0000
Range			10.000%

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10031.	113290.	12962.
Stddev	36.	1679.	33.
%RSD	.35398	1.4818	.25628

#1	10046.	114690.	13001.
#2	10056.	113730.	12942.
#3	9990.0	111430.	12944.

Approved: October 14, 2016

K. K. Buck

Sample Name: CCB Acquired: 10/13/2016 18:43:56 Type: Blank
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00097	-.00756	.00065	.00023	-.00070	-.00001	.00489
Stddev	.00039	.00782	.00271	.00131	.00027	.00006	.01035
%RSD	39.988	103.53	414.39	572.63	39.148	1238.5	211.57

#1	.00122	-.01502	-.00049	.00002	-.00038	-.00007	.01640
#2	.00117	-.00823	-.00130	.00163	-.00082	-.00001	.00195
#3	.00052	.00058	.00375	-.00097	-.00089	.00006	-.00367

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00034	-.00031	.00088	-.00143	-.01053	-.09048	.00880
Stddev	.00009	.00026	.00025	.00106	.01421	.03422	.00259
%RSD	26.246	85.163	28.867	74.296	135.01	37.823	29.443

#1	-.00027	-.00046	.00074	-.00074	.00573	-.07548	.00697
#2	-.00044	-.00046	.00072	-.00266	-.01670	-.06633	.01176
#3	-.00030	-.00001	.00117	-.00090	-.02061	-.12965	.00766

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.01186	-.00054	-.00003	-.00322	.00172	-.00349	.00053
Stddev	.08055	.00156	.00014	.03385	.00140	.00218	.00489
%RSD	679.03	289.51	437.32	1049.8	81.830	62.266	928.84

#1	.06725	-.00069	.00011	-.04231	.00289	-.00111	.00459
#2	-.09378	-.00202	-.00004	.01662	.00016	-.00400	-.00490
#3	-.00906	.00109	-.00017	.01602	.00209	-.00537	.00189

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

K: K Buck

Sample Name: CCB Acquired: 10/13/2016 18:43:56 Type: Blank
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00183	.00241	-0.00061	-0.00061	-0.00004	.00453	-0.00183
Stddev	.00497	.00253	.00147	.00041	.00013	.00466	.00269
%RSD	272.16	105.34	241.77	67.297	335.57	102.92	146.73

#1	-0.00390	.00265	.00025	-0.00022	-0.00018	.00974	-0.00129
#2	.00437	-0.00024	.00023	-0.00058	.00007	.00076	.00054
#3	.00501	.00481	-0.00230	-0.00104	-0.00000	.00309	-0.00475

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00052	-0.00014	F .66346
Stddev	.00043	.00012	.16109
%RSD	82.948	82.117	24.280

#1	.00005	-0.00001	.57078
#2	.00090	-0.00023	.57014
#3	.00061	-0.00018	.84947

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.04000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10307.	116950.	12792.
Stddev	36.	490.	65.
%RSD	.35104	.41885	.50523

#1	10297.	116930.	12774.
#2	10348.	117440.	12864.
#3	10278.	116460.	12738.

Approved: October 14, 2016

K: K Buck

Sample Name: PBW 1A Acquired: 10/13/2016 18:47:43 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587116-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00074	.03291	.00043	.00541	-0.00064	-0.00006	.09709	-0.00017
Stddev	.00110	.00485	.00045	.00318	.00101	.00003	.01532	.00013
%RSD	147.15	14.745	105.30	58.798	156.38	46.117	15.781	74.602

#1	-0.00186	.03060	.00091	.00225	-0.00177	-0.00004	.11456	-0.00021
#2	.00033	.03849	.00034	.00536	-0.00033	-0.00005	.09078	-0.00028
#3	-0.00070	.02965	.00003	.00861	.00017	-0.00009	.08593	-0.00003

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00012	.00059	-0.00068	-0.00561	-.13447	.00987	-.04393	.00050
Stddev	.00028	.00082	.00085	.00888	.08211	.00219	.04839	.00070
%RSD	224.86	140.52	124.74	158.41	61.064	22.162	110.15	140.21

#1	-0.00015	.00060	-0.00111	-0.01481	-0.05548	.01228	-0.00043	-0.00031
#2	.00017	.00140	.00030	.00292	-.21938	.00801	-.03532	.00089
#3	-0.00039	-.00024	-0.00124	-0.00494	-.12853	.00932	-.09604	.00091

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00024	.03095	.00256	-.01245	.00192	.00015	.00583	.00078
Stddev	.00023	.02434	.00106	.00475	.00217	.00571	.00213	.00307
%RSD	93.740	78.638	41.297	38.183	113.26	3780.7	36.462	393.35

#1	.00001	.03659	.00168	-0.00697	.00168	-0.00573	.00828	.00049
#2	.00046	.00429	.00374	-0.01543	-0.00012	.00568	.00440	.00399
#3	.00026	.05198	.00227	-0.01496	.00419	.00050	.00483	-0.00213

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: PBW 1A Acquired: 10/13/2016 18:47:43 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587116-02

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00007	.00175	-0.00175	-0.00435	.00065	.00216	.59885
Stddev	.00084	.00022	.00039	.00191	.00067	.00007	.28273
%RSD	1165.2	12.512	22.144	43.925	104.20	3.4551	47.213

#1	.00070	.00195	-.00157	-.00644	.00040	.00210	.80537
#2	.00005	.00178	-.00220	-.00270	.00141	.00225	.27661
#3	-.00097	.00152	-.00149	-.00391	.00013	.00214	.71456

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10567.	119780.	12463.
Stddev	56.	816.	508.
%RSD	.53278	.68107	4.0746

#1	10506.	120520.	12962.
#2	10579.	118910.	12480.
#3	10616.	119920.	11946.

Approved: October 14, 2016

K. K. Buck

Sample Name: LCSW 1A Acquired: 10/13/2016 18:51:31 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587116-03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19077	4.9991	.18723	.90528	.46501	.02295	4.7748	.02360
Stddev	.00092	.0477	.00187	.00599	.00089	.00015	.0335	.00023
%RSD	.48100	.95353	.99702	.66135	.19097	.64653	.70062	.98734

#1	.19140	5.0529	.18698	.90722	.46481	.02306	4.7647	.02385
#2	.19119	4.9622	.18921	.89857	.46423	.02278	4.7476	.02339
#3	.18972	4.9820	.18550	.91006	.46598	.02301	4.8121	.02355

Check ? **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass**
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.09710	.23636	.24066	1.8696	21.819	.44712	4.6625	.23226
Stddev	.00017	.00123	.00088	.0173	.019	.00173	.1503	.00103
%RSD	.17413	.51936	.36709	.92456	.08844	.38606	3.2237	.44377

#1	.09718	.23662	.24168	1.8506	21.823	.44910	4.4954	.23146
#2	.09691	.23502	.24018	1.8843	21.798	.44594	4.7053	.23343
#3	.09722	.23744	.24012	1.8740	21.837	.44632	4.7867	.23190

Check ? **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass**
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.48126	22.586	.24405	4.5844	.24315	.56612	.18438	2.3795
Stddev	.00030	.043	.00080	.0076	.00112	.00108	.00154	.0054
%RSD	.06136	.18839	.32622	.16565	.45938	.19107	.83507	.22801

#1	.48115	22.539	.24426	4.5914	.24430	.56489	.18556	2.3809
#2	.48159	22.599	.24317	4.5764	.24309	.56653	.18264	2.3736
#3	.48103	22.621	.24472	4.5855	.24207	.56693	.18495	2.3841

Check ? **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass**
 High Limit
 Low Limit

Approved: October 14, 2016

K: K Buck

Sample Name: LCSW 1A Acquired: 10/13/2016 18:51:31 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587116-03

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.48165	.47520	.46993	.24511	.47219	.47378	1.5506
Stddev	.00059	.00155	.00211	.00435	.00083	.00034	.8937
%RSD	.12250	.32703	.44920	1.7765	.17499	.07149	57.639
#1	.48175	.47349	.47209	.24842	.47249	.47417	.59877
#2	.48101	.47556	.46788	.24018	.47126	.47352	2.3719
#3	.48218	.47653	.46983	.24674	.47283	.47366	1.6810

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10414.	116130.	12747.
Stddev	52.	236.	61.
%RSD	.50220	.20288	.48176
#1	10364.	115860.	12721.
#2	10410.	116300.	12817.
#3	10469.	116220.	12702.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034501 Acquired: 10/13/2016 18:55:04 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00107	.21150	.00240	.02131	.04812	-0.00002	27.685	-0.00009
Stddev	.00136	.00549	.00083	.00087	.00043	.00005	.093	.00015
%RSD	126.67	2.5963	34.398	4.0926	.88827	184.92	.33726	167.74

#1	-0.00166	.21088	.00150	.02052	.04828	.00002	27.787	-0.00005
#2	-0.00203	.20635	.00260	.02225	.04763	-0.00002	27.604	.00004
#3	.00048	.21728	.00311	.02117	.04844	-0.00007	27.662	-0.00026

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00003	.00095	.00157	.49326	1.4291	.00642	3.2748	.06176
Stddev	.00018	.00051	.00075	.01333	.0537	.00087	.0462	.00036
%RSD	603.02	54.208	47.837	2.7025	3.7550	13.484	1.4105	.58920

#1	.00001	.00036	.00086	.50850	1.3761	.00563	3.3061	.06172
#2	-0.00014	.00122	.00236	.48377	1.4834	.00627	3.2218	.06141
#3	.00021	.00127	.00149	.48751	1.4278	.00734	3.2966	.06214

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00086	1.4539	.00124	.01736	.00301	-0.00229	.00218	3.1409
Stddev	.00033	.0342	.00093	.00397	.00130	.00296	.00525	.0067
%RSD	38.100	2.3530	75.123	22.846	43.107	129.48	240.46	.21257

#1	.00082	1.4785	.00017	.01762	.00167	-0.00543	-0.00293	3.1466
#2	.00121	1.4148	.00169	.02119	.00310	-0.00188	.00192	3.1424
#3	.00056	1.4683	.00186	.01327	.00427	.00045	.00756	3.1336

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034501 Acquired: 10/13/2016 18:55:04 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00031	.07953	.00227	-.00139	.00143	.00307	1.4988
Stddev	.00019	.00036	.00500	.00410	.00051	.00013	.8027
%RSD	60.666	.45414	220.02	295.82	36.043	4.2624	53.559

#1	.00009	.07969	.00649	-.00263	.00142	.00316	1.7857
#2	.00042	.07979	-.00326	-.00471	.00194	.00292	.59202
#3	.00043	.07912	.00359	.00319	.00091	.00314	2.1187

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10575.	119320.	12495.
Stddev	50.	248.	198.
%RSD	.47026	.20747	1.5818

#1	10538.	119270.	12706.
#2	10555.	119100.	12466.
#3	10631.	119590.	12314.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034502 Acquired: 10/13/2016 18:58:49 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00019	.16571	.00069	.02008	.07408	-0.00003	51.833	.00002
Stddev	.00100	.00437	.00222	.00213	.00026	.00001	.178	.00011
%RSD	530.92	2.6356	321.24	10.603	.34538	43.539	.34308	465.91

#1	.00094	.16921	-.00184	.02115	.07425	-.00002	51.760	.00013
#2	-.00093	.16710	.00157	.01763	.07420	-.00003	52.035	-.00009
#3	-.00058	.16082	.00235	.02146	.07378	-.00005	51.703	.00003

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00029	.00118	.00041	.51816	1.0850	.00852	5.8152	.13592
Stddev	.00020	.00118	.00190	.01944	.1137	.00237	.0273	.00136
%RSD	69.667	100.24	467.09	3.7522	10.480	27.816	.46959	1.0004

#1	.00046	.00026	.00238	.50622	.97262	.00598	5.8052	.13563
#2	.00034	.00076	.00025	.54060	1.2000	.00891	5.7943	.13740
#3	.00007	.00251	-.00141	.50767	1.0824	.01067	5.8461	.13473

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00080	5.7426	.00093	.04227	.00119	.00205	.00554	3.9380
Stddev	.00014	.0133	.00090	.00435	.00466	.00210	.00616	.0121
%RSD	17.550	.23217	95.867	10.282	391.45	102.16	111.30	.30859

#1	.00096	5.7293	.00047	.04216	-.00418	.00153	-.00049	3.9500
#2	.00074	5.7560	.00037	.04666	.00420	.00026	.00528	3.9383
#3	.00070	5.7425	.00197	.03797	.00355	.00436	.01182	3.9257

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034502 Acquired: 10/13/2016 18:58:49 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0022	.15526	-0.00279	-0.00681	.00031	.00283	.80403
Stddev	.00031	.00034	.00135	.00152	.00019	.00006	.28488
%RSD	140.30	.22054	48.344	22.397	63.308	2.1050	35.431

#1	-0.0003	.15543	-0.00209	-0.00682	.00045	.00288	.72139
#2	-0.0005	.15549	-0.00435	-0.00527	.00009	.00276	1.1211
#3	-0.0058	.15487	-0.00194	-0.00832	.00039	.00284	.56961

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10445.	117310.	13011.
Stddev	95.	1911.	53.
%RSD	.91180	1.6292	.40541

#1	10544.	116370.	13072.
#2	10437.	116040.	12981.
#3	10354.	119510.	12981.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034503 Acquired: 10/13/2016 19:02:33 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.01256	20.067	.10915	-.05231	.74849	.00211	31.899
Stddev	.00088	.158	.00051	.00256	.00497	.00003	.226
%RSD	6.9731	.78907	.46941	4.8874	.66458	1.5092	.70943

#1	-.01299	19.913	.10974	-.05011	.75421	.00212	32.159
#2	-.01313	20.059	.10893	-.05172	.74598	.00207	31.742
#3	-.01155	20.230	.10879	-.05512	.74526	.00213	31.797

Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	9.0000						
Low Limit	-.00400						

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00005	.05486	.01516	.07013	397.66	3.6371	.02487
Stddev	.00035	.00013	.00073	.00509	3.47	.0277	.00203
%RSD	707.59	.23702	4.8257	7.2602	.87154	.76155	8.1793

#1	.00007	.05483	.01474	.06514	401.57	3.6126	.02459
#2	.00039	.05501	.01472	.06994	396.43	3.6671	.02703
#3	-.00031	.05475	.01600	.07532	394.97	3.6316	.02299

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.1067	6.4638	.00171	1.8359	.04746	8.2170	.05686
Stddev	.0818	.0426	.00060	.0048	.00178	.0203	.00201
%RSD	1.3396	.65871	34.781	.25903	3.7424	.24757	3.5262

#1	6.0229	6.5123	.00110	1.8361	.04596	8.1936	.05487
#2	6.1109	6.4325	.00229	1.8405	.04942	8.2305	.05888
#3	6.1864	6.4466	.00175	1.8310	.04699	8.2269	.05685

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034503 Acquired: 10/13/2016 19:02:33 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00303	.00679	24.738	.00412	.12895	.33405	.00483
Stddev	.00155	.00820	.016	.00080	.00079	.00704	.00221
%RSD	51.019	120.82	.06662	19.422	.61284	2.1081	45.883

#1	.00141	.00141	24.725	.00444	.12985	.34122	.00233
#2	.00318	.00273	24.757	.00471	.12836	.32714	.00656
#3	.00450	.01623	24.732	.00321	.12865	.33379	.00559

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.02956	.20321	F -84.975
Stddev	.00066	.00012	.405
%RSD	2.2205	.05902	.47628

#1	.02881	.20317	-84.593
#2	.03003	.20335	-84.932
#3	.02985	.20312	-85.399

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10697.	119110.	13100.
Stddev	27.	925.	137.
%RSD	.25641	.77650	1.0454

#1	10727.	119780.	13082.
#2	10673.	119500.	13245.
#3	10691.	118060.	12973.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034504 Acquired: 10/13/2016 19:06:09 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00073	.89662	.00131	.00766	.08961	.00009	31.215	.00032
Stddev	.00146	.00917	.00190	.00362	.00086	.00002	.075	.00003
%RSD	200.43	1.0223	144.68	47.198	.96203	24.874	.24046	8.3485

#1	.00098	.89125	.00184	.01154	.09060	.00007	31.247	.00034
#2	-.00084	.89141	.00289	.00437	.08919	.00008	31.129	.00029
#3	.00204	.90720	-.00079	.00709	.08903	.00011	31.269	.00032

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00090	.00223	.00189	2.6918	.83709	.00718	4.1924	.05684
Stddev	.00014	.00016	.00191	.0188	.06118	.00251	.0134	.00243
%RSD	15.600	6.9993	101.36	.69712	7.3086	34.954	.31962	4.2737

#1	.00083	.00229	.00337	2.6969	.89256	.00437	4.2079	.05874
#2	.00081	.00205	-.00027	2.7075	.77147	.00795	4.1841	.05410
#3	.00107	.00234	.00256	2.6710	.84723	.00921	4.1853	.05768

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00049	1.6052	.00334	.18071	.00381	-.00151	.00487	4.3026
Stddev	.00028	.0127	.00039	.00446	.00030	.00135	.00292	.0052
%RSD	57.517	.78817	11.520	2.4707	7.7879	89.862	60.018	.12009

#1	.00051	1.5907	.00357	.18557	.00375	-.00307	.00191	4.2995
#2	.00076	1.6139	.00356	.17977	.00355	-.00070	.00776	4.2997
#3	.00020	1.6111	.00290	.17679	.00413	-.00075	.00495	4.3085

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034504 Acquired: 10/13/2016 19:06:09 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00043	.08953	.00881	-.00234	.00180	.03319	1.0793
Stddev	.00076	.00032	.00177	.00418	.00065	.00019	.4935
%RSD	178.57	.36180	20.099	178.54	35.927	.55811	45.722

#1	.00116	.08934	.01075	-.00390	.00106	.03340	.51350
#2	.00047	.08990	.00841	-.00552	.00225	.03313	1.4208
#3	-.00035	.08935	.00728	.00239	.00208	.03305	1.3036

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10596.	119800.	12729.
Stddev	2.	272.	117.
%RSD	.01981	.22747	.91682

#1	10593.	119480.	12662.
#2	10596.	119960.	12864.
#3	10597.	119940.	12662.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034505 Acquired: 10/13/2016 19:09:53 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00017	2.2948	.00329	.01205	.14272	.00042	44.037	.00012
Stddev	.00105	.0170	.00253	.00143	.00135	.00003	.148	.00016
%RSD	628.91	.73898	76.724	11.832	.94525	7.4400	.33608	141.72

#1	.00015	2.2810	.00038	.01368	.14428	.00039	44.201	.00005
#2	-.00087	2.3137	.00460	.01140	.14203	.00041	43.996	-.00001
#3	.00122	2.2896	.00490	.01107	.14186	.00045	43.913	.00030

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00496	.00219	.00555	6.9248	1.0995	.01071	5.5234	.50169
Stddev	.00018	.00111	.00061	.0412	.0844	.00440	.0343	.00139
%RSD	3.5567	50.536	11.024	.59462	7.6724	41.137	.62167	.27649

#1	.00477	.00091	.00490	6.9566	1.1964	.01241	5.5258	.50325
#2	.00499	.00281	.00612	6.9394	1.0425	.01400	5.5565	.50059
#3	.00512	.00285	.00562	6.8783	1.0596	.00570	5.4879	.50122

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00049	4.7744	.00541	.09321	.02149	.00147	.00498	5.0619
Stddev	.00057	.0060	.00101	.00325	.00075	.00351	.00476	.0087
%RSD	118.23	.12618	18.670	3.4880	3.4757	238.42	95.558	.17129

#1	.00111	4.7744	.00436	.09258	.02157	.00429	-.00048	5.0629
#2	.00037	4.7804	.00638	.09673	.02071	-.00246	.00821	5.0700
#3	-.00002	4.7683	.00550	.09032	.02220	.00258	.00721	5.0528

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034505 Acquired: 10/13/2016 19:09:53 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00075	.13563	.01396	-.00396	.00633	.03971	2.2243
Stddev	.00076	.00067	.00228	.00297	.00060	.00017	.2324
%RSD	101.65	.49604	16.330	75.171	9.4243	.43774	10.449

#1	.00071	.13639	.01659	-.00169	.00618	.03974	2.1369
#2	.00153	.13536	.01265	-.00286	.00581	.03952	2.0483
#3	.00001	.13513	.01263	-.00732	.00698	.03986	2.4878

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10511.	119010.	12866.
Stddev	33.	347.	111.
%RSD	.31098	.29116	.86316

#1	10540.	119080.	12865.
#2	10519.	118630.	12977.
#3	10476.	119310.	12755.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034506 Acquired: 10/13/2016 19:13:38 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00037	.44282	-0.00075	.01699	.06610	-0.00001	45.076	.00013
Stddev	.00178	.00724	.00222	.00062	.00010	.00003	.239	.00016
%RSD	486.82	1.6357	296.95	3.6767	.14448	207.57	.53017	119.20

#1	.00143	.43936	-.00210	.01740	.06610	-.00004	45.132	.00018
#2	-.00040	.45115	.00182	.01627	.06620	-.00001	44.813	-.00004
#3	-.00213	.43796	-.00197	.01731	.06601	.00001	45.281	.00027

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00038	.00168	.00159	.79697	1.1938	.00933	5.1737	.10963
Stddev	.00027	.00091	.00099	.01462	.0069	.00505	.0628	.00146
%RSD	71.104	53.952	62.349	1.8347	.57387	54.122	1.2140	1.3344

#1	.00018	.00266	.00269	.78038	1.1995	.01237	5.1700	.11024
#2	.00069	.00088	.00078	.80799	1.1956	.00350	5.1127	.11070
#3	.00028	.00149	.00129	.80254	1.1862	.01212	5.2382	.10796

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00085	5.4120	.00202	.02211	.00411	-.00074	.00418	3.8696
Stddev	.00014	.0222	.00088	.00378	.00310	.00332	.00189	.0118
%RSD	17.008	.41067	43.869	17.075	75.351	446.90	45.143	.30628

#1	.00095	5.4234	.00201	.02389	.00738	.00278	.00481	3.8832
#2	.00068	5.3864	.00113	.02467	.00373	-.00383	.00206	3.8644
#3	.00091	5.4263	.00290	.01778	.00122	-.00118	.00567	3.8612

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034506 Acquired: 10/13/2016 19:13:38 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00059	.14025	.00403	.00018	.00097	.00387	2.4528
Stddev	.00033	.00064	.00274	.00413	.00050	.00008	.8174
%RSD	54.993	.45988	68.023	2313.8	51.633	2.1368	33.325
#1	.00022	.14033	.00425	-.00331	.00042	.00394	1.5599
#2	.00079	.13957	.00666	-.00090	.00141	.00378	3.1641
#3	.00077	.14085	.00119	.00474	.00109	.00389	2.6344

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10463.	115570.	12859.
Stddev	21.	748.	264.
%RSD	.19668	.64679	2.0496
#1	10468.	116230.	13054.
#2	10440.	114760.	12965.
#3	10480.	115740.	12559.

Approved: October 14, 2016

K: K Buck

Sample Name: L1610034506PS Acquired: 10/13/2016 19:17:23 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587463-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19479	5.3282	.19470	.93663	.53013	.02365	44.904	.02387
Stddev	.00146	.0313	.00171	.00467	.00062	.00004	.181	.00012
%RSD	.75187	.58778	.88076	.49865	.11738	.16806	.40327	.51429

#1	.19363	5.2924	.19473	.93161	.53008	.02362	44.822	.02374
#2	.19431	5.3419	.19640	.93742	.52953	.02364	44.778	.02398
#3	.19644	5.3504	.19297	.94085	.53077	.02369	45.111	.02387

Check ? **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass**
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.09742	.23974	.24135	2.5881	23.086	.45379	9.2412	.33081
Stddev	.00006	.00050	.00228	.0173	.143	.00242	.0367	.00133
%RSD	.05966	.21028	.94401	.66642	.62040	.53250	.39676	.40270

#1	.09735	.23972	.23885	2.5821	22.935	.45463	9.2306	.33139
#2	.09745	.24025	.24330	2.5747	23.102	.45567	9.2821	.32928
#3	.09745	.23925	.24191	2.6076	23.221	.45106	9.2111	.33174

Check ? **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass**
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.48394	27.503	.24268	4.7551	.24450	.57076	.19492	5.9314
Stddev	.00130	.139	.00045	.0117	.00002	.00641	.00892	.0135
%RSD	.26786	.50539	.18579	.24648	.01001	1.1234	4.5740	.22812

#1	.48250	27.566	.24317	4.7587	.24447	.57751	.18595	5.9233
#2	.48502	27.344	.24229	4.7420	.24450	.57000	.19502	5.9240
#3	.48431	27.600	.24257	4.7646	.24452	.56476	.20379	5.9471

Check ? **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass**
 High Limit
 Low Limit

Approved: October 14, 2016

K: K Buck

Sample Name: L1610034506PS Acquired: 10/13/2016 19:17:23 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587463-01

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.48455	.60347	.48166	.24267	.48038	.48170	1.3551
Stddev	.00161	.00104	.00015	.00337	.00076	.00107	.2209
%RSD	.33299	.17302	.03177	1.3867	.15745	.22249	16.303
#1	.48570	.60344	.48160	.24470	.47953	.48065	1.5235
#2	.48271	.60243	.48183	.23879	.48096	.48165	1.4369
#3	.48525	.60452	.48155	.24453	.48066	.48279	1.1050

Check ? **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass**
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10131.	113360.	12956.
Stddev	9.	376.	114.
%RSD	.09131	.33132	.87731
#1	10137.	113130.	13011.
#2	10136.	113800.	13032.
#3	10121.	113160.	12826.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034506SDL Acquired: 10/13/2016 19:20:56 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment: WG587463-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00058	.08775	.00154	.00459	.01229	-.00001	9.3098	-.00033
Stddev	.00098	.00167	.00109	.00242	.00067	.00002	.0262	.00029
%RSD	169.71	1.9018	71.051	52.676	5.4900	176.49	.28138	85.573

#1	.00060	.08684	.00280	.00650	.01220	-.00001	9.2811	-.00017
#2	-.00041	.08673	.00085	.00540	.01167	-.00003	9.3162	-.00066
#3	.00155	.08968	.00097	.00187	.01301	.00000	9.3323	-.00017

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00040	.00038	.00013	.14523	.20107	.00699	1.0157	.02234
Stddev	.00030	.00045	.00102	.02593	.01579	.00394	.0753	.00130
%RSD	73.616	118.07	798.98	17.853	7.8532	56.316	7.4111	5.8229

#1	.00017	.00003	.00078	.14768	.21357	.00245	.96604	.02224
#2	.00074	.00023	-.00104	.11816	.20631	.00914	.97885	.02368
#3	.00030	.00089	.00064	.16984	.18332	.00938	1.1024	.02109

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00024	1.0693	.00092	.00855	.00222	-.00227	.00553	.79680
Stddev	.00029	.0204	.00164	.00460	.00350	.00090	.00439	.00468
%RSD	118.19	1.9110	178.31	53.801	158.07	39.394	79.327	.58730

#1	.00031	1.0829	.00164	.00380	-.00148	-.00322	.00761	.79238
#2	.00049	1.0792	-.00096	.01298	.00549	-.00216	.00049	.80170
#3	-.00007	1.0458	.00208	.00885	.00264	-.00144	.00849	.79630

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034506SDL Acquired: 10/13/2016 19:20:56 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment: WG587463-02

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00044	.02834	.00023	.00054	-.00015	.00121	.67150
Stddev	.00013	.00019	.00148	.00492	.00115	.00016	1.8181
%RSD	29.981	.68374	631.17	919.92	788.87	13.568	270.75

#1	.00059	.02815	.00031	.00601	-.00085	.00122	2.6877
#2	.00038	.02833	-.00128	-.00089	-.00077	.00136	-.84322
#3	.00034	.02853	.00168	-.00352	.00118	.00104	.17006

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10398.	116170.	12908.
Stddev	51.	124.	138.
%RSD	.49052	.10661	1.0664

#1	10445.	116270.	13018.
#2	10405.	116210.	12953.
#3	10344.	116030.	12754.

Approved: October 14, 2016

K. K. Buck

Sample Name: CCV Acquired: 10/13/2016 19:24:43 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.38961	9.9490	.39098	.48870	.95617	.04785	9.6078
Stddev	.00101	.0264	.00190	.00115	.00287	.00010	.0462
%RSD	.25945	.26506	.48530	.23613	.30041	.21675	.48092

#1	.39057	9.9676	.39317	.48998	.95752	.04786	9.6282
#2	.38972	9.9606	.38977	.48776	.95287	.04795	9.5549
#3	.38855	9.9189	.39002	.48834	.95811	.04774	9.6403

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04912	.19630	.48499	.49061	3.8238	F 44.948	F .89763
Stddev	.00063	.00082	.00200	.00320	.0394	.294	.00494
%RSD	1.2808	.41536	.41284	.65134	1.0299	.65346	.55042

#1	.04984	.19715	.48415	.49394	3.7990	45.052	.90060
#2	.04867	.19622	.48354	.49031	3.8032	44.617	.89193
#3	.04886	.19553	.48727	.48757	3.8692	45.176	.90036

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Fail
Value						50.000	1.0000
Range						-10.000%	-10.000%

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.5670	.47036	.97307	45.707	.49061	9.7326	.49248
Stddev	.1140	.00293	.00263	.358	.00234	.0404	.00212
%RSD	1.1919	.62373	.27004	.78337	.47752	.41478	.43120

#1	9.4977	.47103	.97609	45.954	.49322	9.7753	.49472
#2	9.5046	.46714	.97173	45.296	.48869	9.7273	.49223
#3	9.6986	.47289	.97137	45.870	.48992	9.6951	.49050

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: October 14, 2016

K. K. Buck

Sample Name: CCV Acquired: 10/13/2016 19:24:43 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.1694	.39687	4.9342	.97891	.97289	.96507	.49757
Stddev	.0101	.00863	.0168	.00439	.00343	.00831	.00249
%RSD	.86590	2.1743	.34133	.44820	.35241	.86115	.50081

#1	1.1802	.39060	4.9487	.98374	.97241	.97417	.49902
#2	1.1681	.40671	4.9383	.97783	.96973	.95790	.49899
#3	1.1601	.39329	4.9157	.97516	.97654	.96313	.49469

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.96840	.97248	F 1.3623
Stddev	.00108	.00451	.7778
%RSD	.11151	.46327	57.091

#1	.96826	.97720	2.0467
#2	.96740	.97201	1.5237
#3	.96955	.96823	.51654

Check ?	Chk Pass	Chk Pass	Chk Fail
Value			1.0000
Range			10.000%

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10147.	113260.	12418.
Stddev	9.	171.	463.
%RSD	.09139	.15070	3.7321

#1	10147.	113090.	12219.
#2	10138.	113430.	12947.
#3	10157.	113270.	12087.

Approved: October 14, 2016

K: K Buck

Sample Name: CCB Acquired: 10/13/2016 19:28:12 Type: Blank
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00082	-.00851	-.00091	.00175	-.00080	-.00004	.01310
Stddev	.00163	.00305	.00196	.00101	.00018	.00003	.01978
%RSD	197.82	35.845	216.38	57.495	22.165	72.649	150.99

#1	.00248	-.00875	.00128	.00069	-.00060	-.00002	.00039
#2	-.00078	-.00535	-.00251	.00269	-.00089	-.00002	.03589
#3	.00078	-.01144	-.00148	.00187	-.00092	-.00007	.00302

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00042	.00016	.00018	.00018	.00422	-.04312	.00762
Stddev	.00025	.00016	.00076	.00299	.00778	.06618	.00119
%RSD	59.809	101.59	417.73	1690.4	184.09	153.49	15.675

#1	-.00025	.00011	.00011	-.00303	.01218	-.11712	.00740
#2	-.00070	.00034	.00098	.00068	.00385	-.02268	.00891
#3	-.00030	.00003	-.00054	.00289	-.00336	.01043	.00655

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.01385	.00127	.00020	.03669	.00141	-.00257	.00079
Stddev	.03268	.00108	.00038	.00833	.00098	.00095	.00202
%RSD	236.00	84.650	187.57	22.704	69.789	37.085	256.55

#1	-.05157	.00186	.00060	.02745	.00223	-.00163	-.00044
#2	.00445	.00193	-.00017	.04362	.00032	-.00254	-.00032
#3	.00558	.00003	.00018	.03901	.00167	-.00354	.00311

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

K: K Buck

Sample Name: CCB Acquired: 10/13/2016 19:28:12 Type: Blank
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00016	.00285	.00241	.00028	-0.00013	-0.00063	-0.00231
Stddev	.00066	.00070	.00181	.00044	.00042	.00374	.00416
%RSD	408.86	24.538	74.974	159.05	315.02	592.95	180.10

#1	-0.0023	.00260	.00260	-0.0023	-0.0061	-0.0109	-0.0676
#2	.00093	.00364	.00412	.00056	.00018	.00332	-0.0162
#3	-0.0022	.00231	.00052	.00050	.00004	-0.0412	.00146

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00057	-0.00013	F 1.3387
Stddev	.00033	.00023	.7004
%RSD	57.644	178.97	52.317

#1	.00047	-0.00039	2.1455
#2	.00031	-0.00008	.98302
#3	.00094	.00007	.88751

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.04000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10390.	117870.	12872.
Stddev	83.	848.	134.
%RSD	.80053	.71918	1.0378

#1	10448.	116910.	13014.
#2	10428.	118190.	12748.
#3	10295.	118520.	12854.

Approved: October 14, 2016

K: K Buck

Sample Name: L1610034601 Acquired: 10/13/2016 19:31:59 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00007	.04377	.00077	.00921	.05198	.00000	39.986	.00012
Stddev	.00056	.00119	.00208	.00111	.00059	.00002	.189	.00013
%RSD	766.84	2.7101	270.60	12.074	1.1305	657.94	.47335	107.04

#1	-.00047	.04460	-.00065	.00917	.05249	-.00000	39.797	.00021
#2	.00064	.04241	.00315	.00811	.05212	-.00001	39.987	.00018
#3	.00005	.04429	-.00020	.01033	.05134	.00002	40.175	-.00003

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00013	.00170	.00008	.02753	.47096	.00841	4.5250	.00524
Stddev	.00028	.00078	.00011	.00800	.06280	.00165	.0358	.00066
%RSD	213.60	45.986	136.03	29.071	13.335	19.639	.79108	12.525

#1	-.00021	.00260	.00008	.02249	.44537	.01003	4.5621	.00576
#2	.00018	.00119	.00019	.03676	.54251	.00846	4.5222	.00545
#3	-.00036	.00131	-.00003	.02334	.42499	.00673	4.4906	.00450

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00055	2.2719	.00070	-.00069	.00392	-.00186	.00297	3.2416
Stddev	.00035	.0181	.00020	.00245	.00094	.00227	.00202	.0100
%RSD	63.958	.79848	28.280	357.65	23.883	121.95	67.985	.30821

#1	.00025	2.2928	.00053	-.00213	.00465	-.00348	.00510	3.2502
#2	.00094	2.2628	.00092	-.00207	.00286	-.00284	.00274	3.2440
#3	.00046	2.2600	.00066	.00215	.00424	.00073	.00108	3.2307

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034601 Acquired: 10/13/2016 19:31:59 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00050	.12619	-0.00335	-0.00227	.00067	.00153	.92535
Stddev	.00052	.00056	.00126	.00092	.00030	.00008	.54523
%RSD	104.08	.44170	37.510	40.613	45.174	4.9875	58.922

#1	.00108	.12558	-0.00354	-0.00332	.00052	.00160	.34845
#2	.00032	.12667	-0.00450	-0.00162	.00102	.00145	.99548
#3	.00010	.12633	-0.00201	-0.00187	.00047	.00154	1.4321

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10231.	114440.	12606.
Stddev	11.	244.	401.
%RSD	.11092	.21316	3.1794

#1	10244.	114380.	12716.
#2	10224.	114700.	12940.
#3	10226.	114220.	12161.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034602 Acquired: 10/13/2016 19:35:44 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00051	.16722	.00222	.02534	.05844	-.00007	36.655	-.00004
Stddev	.00088	.00469	.00143	.00329	.00045	.00002	.176	.00018
%RSD	171.04	2.8073	64.621	12.987	.77509	21.522	.48026	408.42

#1	-.00031	.16360	.00084	.02619	.05815	-.00007	36.578	-.00024
#2	.00144	.16554	.00370	.02812	.05820	-.00009	36.531	-.00002
#3	.00041	.17252	.00212	.02171	.05896	-.00006	36.856	.00012

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00013	.00062	.00073	.40892	2.2639	.00752	3.9073	.19660
Stddev	.00006	.00025	.00126	.02239	.0329	.00560	.0012	.00138
%RSD	46.620	40.321	174.04	5.4752	1.4518	74.496	.03103	.69964

#1	.00016	.00049	-.00000	.43429	2.2404	.00493	3.9070	.19515
#2	.00016	.00091	-.00000	.40053	2.3014	.00368	3.9063	.19676
#3	.00006	.00046	.00218	.39193	2.2498	.01395	3.9087	.19789

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00129	4.3011	.00187	.01200	-.00059	-.00377	.00454	3.7231
Stddev	.00016	.0251	.00017	.00374	.00072	.00146	.00517	.0043
%RSD	12.586	.58389	9.2015	31.128	122.81	38.708	113.82	.11404

#1	.00148	4.2748	.00167	.01612	-.00143	-.00545	-.00124	3.7206
#2	.00118	4.3037	.00196	.01106	-.00017	-.00294	.00873	3.7280
#3	.00121	4.3248	.00198	.00882	-.00018	-.00291	.00614	3.7208

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034602 Acquired: 10/13/2016 19:35:44 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00023	.11648	.00096	-0.00001	.00113	.00169	.75899
Stddev	.00054	.00069	.00169	.00136	.00012	.00013	1.0751
%RSD	237.97	.59600	176.39	10840.	10.554	7.8281	141.65

#1	-0.00008	.11580	-0.00052	-0.00105	.00101	.00179	1.9888
#2	-0.00083	.11718	.00059	-0.00052	.00125	.00175	.29117
#3	.00023	.11645	.00281	.00153	.00114	.00154	-0.00297

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10460.	115830.	12394.
Stddev	32.	315.	238.
%RSD	.30860	.27191	1.9189

#1	10432.	115820.	12319.
#2	10454.	116160.	12660.
#3	10495.	115530.	12202.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034603 Acquired: 10/13/2016 19:39:29 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00112	.49431	.00097	.02851	.07348	-.00005	33.867	.00016
Stddev	.00153	.00937	.00341	.00158	.00032	.00001	.079	.00002
%RSD	136.57	1.8961	352.37	5.5374	.42965	29.683	.23284	12.272

#1	.00002	.48686	-.00256	.03019	.07317	-.00005	33.867	.00019
#2	.00048	.49124	.00426	.02705	.07347	-.00006	33.788	.00015
#3	.00288	.50483	.00120	.02830	.07380	-.00003	33.945	.00015

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00038	.00139	.00041	1.0895	1.8863	.00724	4.0363	.43563
Stddev	.00011	.00098	.00121	.0058	.0586	.00265	.0296	.00191
%RSD	29.701	71.002	292.56	.53264	3.1057	36.515	.73346	.43838

#1	.00052	.00194	.00180	1.0939	1.8363	.00559	4.0516	.43723
#2	.00031	.00025	-.00015	1.0917	1.9507	.00585	4.0022	.43351
#3	.00033	.00197	-.00041	1.0829	1.8718	.01029	4.0552	.43615

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00065	2.5828	.00329	.03862	.00535	-.00341	.00518	3.7068
Stddev	.00021	.0094	.00050	.00275	.00034	.00349	.00375	.0162
%RSD	32.274	.36451	15.253	7.1315	6.3279	102.22	72.380	.43758

#1	.00084	2.5852	.00382	.03643	.00549	.00061	.00596	3.7036
#2	.00068	2.5909	.00283	.03772	.00497	-.00536	.00848	3.7245
#3	.00043	2.5725	.00321	.04171	.00560	-.00550	.00110	3.6925

Check ? High Limit Low Limit
 Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034603 Acquired: 10/13/2016 19:39:29 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00031	.11293	.00450	-0.00457	.00108	.00327	1.8620
Stddev	.00058	.00030	.00274	.00271	.00037	.00013	.9154
%RSD	185.62	.26462	60.920	59.386	34.462	3.8935	49.161

#1	-0.00027	.11326	.00353	-0.00740	.00067	.00326	2.8057
#2	.00025	.11284	.00237	-0.00430	.00118	.00341	1.8023
#3	-0.00091	.11268	.00759	-0.00200	.00139	.00315	.97790

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10303.	116910.	12730.
Stddev	66.	828.	336.
%RSD	.64368	.70855	2.6385

#1	10298.	117780.	12670.
#2	10240.	116800.	13092.
#3	10372.	116140.	12429.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034604 Acquired: 10/13/2016 19:43:13 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00008	.16113	.00252	.02837	.06603	-.00004	37.760	.00007
Stddev	.00234	.00163	.00131	.00222	.00060	.00005	.025	.00011
%RSD	2763.4	1.0090	51.901	7.8295	.90903	142.83	.06717	143.06

#1	.00255	.16210	.00346	.02988	.06598	-.00000	37.758	-.00004
#2	-.00210	.16204	.00103	.02940	.06666	-.00001	37.786	.00010
#3	-.00020	.15926	.00307	.02582	.06546	-.00009	37.736	.00017

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00010	.00075	.00120	.66522	1.7728	.01385	5.1524	.10167
Stddev	.00006	.00109	.00143	.01449	.0899	.00359	.0720	.00280
%RSD	67.029	145.06	118.89	2.1784	5.0705	25.890	1.3967	2.7516

#1	.00016	-.00034	-.00044	.68106	1.8522	.01722	5.0747	.10150
#2	.00003	.00075	.00218	.65262	1.7910	.01008	5.2167	.10454
#3	.00010	.00185	.00186	.66198	1.6752	.01426	5.1660	.09896

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00046	7.0475	.00219	.04317	.00199	-.00191	.00427	3.9007
Stddev	.00017	.0143	.00118	.00418	.00110	.00553	.00401	.0060
%RSD	36.723	.20240	54.004	9.6815	55.082	289.91	93.763	.15314

#1	.00030	7.0413	.00189	.04094	.00320	-.00828	.00815	3.8980
#2	.00044	7.0639	.00350	.04058	.00172	.00097	.00452	3.9075
#3	.00064	7.0375	.00119	.04799	.00106	.00159	.00015	3.8964

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034604 Acquired: 10/13/2016 19:43:13 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00011	.14310	-0.00087	-0.00082	.00079	.00313	1.3835
Stddev	.00025	.00045	.00130	.00256	.00051	.00011	1.9450
%RSD	238.52	.31322	149.87	311.42	64.339	3.6281	140.59

#1	.00036	.14267	-.00159	-.00373	.00030	.00315	-.23512
#2	.00010	.14356	.00063	.00020	.00131	.00324	3.5411
#3	-.00015	.14307	-.00165	.00107	.00077	.00301	.84444

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10268.	115690.	13070.
Stddev	23.	128.	35.
%RSD	.22170	.11084	.26697

#1	10242.	115570.	13040.
#2	10275.	115820.	13063.
#3	10286.	115670.	13109.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034605 Acquired: 10/13/2016 19:46:58 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00016	.14111	.00060	.02310	.05705	-.00003	41.429	.00009
Stddev	.00250	.00301	.00207	.00141	.00039	.00004	.076	.00017
%RSD	1583.9	2.1322	344.55	6.1180	.68673	140.05	.18319	183.98

#1	-.00252	.14050	-.00119	.02149	.05662	-.00001	41.350	-.00002
#2	.00243	.13845	.00012	.02414	.05739	-.00008	41.436	.00029
#3	.00056	.14437	.00287	.02366	.05713	-.00000	41.501	.00001

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00009	.00105	.00044	.19119	1.8681	.01123	4.7692	.04182
Stddev	.00018	.00071	.00098	.01029	.0875	.00291	.0488	.00124
%RSD	194.20	67.440	219.69	5.3840	4.6820	25.952	1.0241	2.9587

#1	.00008	.00039	.00141	.20275	1.7836	.01439	4.7286	.04065
#2	-.00008	.00097	.00046	.18778	1.8626	.00867	4.7556	.04311
#3	-.00027	.00180	-.00054	.18303	1.9582	.01062	4.8234	.04170

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00142	4.7635	.00157	.01985	.00130	.00230	.00472	3.7590
Stddev	.00042	.0195	.00052	.00417	.00380	.00273	.00215	.0185
%RSD	29.616	.40955	32.796	20.985	293.30	118.52	45.624	.49079

#1	.00114	4.7534	.00114	.02445	.00392	.00371	.00233	3.7801
#2	.00190	4.7860	.00215	.01632	-.00306	.00404	.00650	3.7511
#3	.00120	4.7511	.00144	.01880	.00303	-.00084	.00533	3.7458

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034605 Acquired: 10/13/2016 19:46:58 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00018	.14860	-0.00292	-0.00466	.00102	.00174	.89304
Stddev	.00098	.00075	.00220	.00141	.00026	.00016	1.5428
%RSD	544.96	.50577	75.615	30.243	25.816	9.1984	172.76

#1	-0.00088	.14837	-0.00269	-0.00529	.00089	.00193	1.5045
#2	.00106	.14945	-0.00523	-0.00563	.00132	.00167	2.0364
#3	.00036	.14800	-0.00083	-0.00304	.00084	.00163	-.86180

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10278.	115620.	12748.
Stddev	67.	185.	392.
%RSD	.65643	.15993	3.0783

#1	10355.	115730.	12912.
#2	10230.	115400.	13033.
#3	10249.	115710.	12301.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034606 Acquired: 10/13/2016 19:50:43 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00008	.25320	.00149	.01290	.06687	-0.00004	47.008	.00013
Stddev	.00075	.00992	.00093	.00330	.00093	.00003	.268	.00012
%RSD	985.84	3.9181	62.623	25.583	1.3854	90.818	.57072	92.631

#1	-0.00094	.24573	.00201	.00962	.06769	-0.00004	47.037	.00026
#2	.00025	.26446	.00041	.01623	.06586	-0.00007	46.726	.00005
#3	.00046	.24943	.00204	.01286	.06704	-0.00000	47.260	.00007

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00031	.00124	-0.00049	.34013	.89931	.00827	5.1778	.04071
Stddev	.00023	.00146	.00097	.03164	.10934	.00162	.0722	.00218
%RSD	74.324	117.50	198.10	9.3014	12.158	19.624	1.3936	5.3639

#1	.00007	.00119	-0.00103	.32096	.79083	.00644	5.1317	.04149
#2	.00032	-0.00019	.00063	.37665	1.0095	.00886	5.1406	.03824
#3	.00054	.00272	-0.00107	.32279	.89760	.00952	5.2609	.04240

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00052	3.1687	.00203	.01775	.00264	.00227	.00336	3.7525
Stddev	.00019	.0258	.00228	.01142	.00287	.00447	.00432	.0171
%RSD	36.436	.81564	112.66	64.350	108.83	196.92	128.56	.45474

#1	.00072	3.1721	.00205	.02960	.00178	.00085	-0.00162	3.7341
#2	.00049	3.1413	-0.00027	.01684	.00029	.00727	.00571	3.7557
#3	.00034	3.1926	.00430	.00681	.00584	-0.00132	.00599	3.7678

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610034606 Acquired: 10/13/2016 19:50:43 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000(
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00084	.16530	.00035	-.00304	.00125	.00233	.63355
Stddev	.00056	.00098	.00131	.00175	.00068	.00014	1.1290
%RSD	66.086	.59026	377.28	57.412	54.934	6.0880	178.20

#1	.00100	.16440	-.00006	-.00142	.00203	.00240	-.66840
#2	.00022	.16518	.00181	-.00488	.00081	.00243	1.2270
#3	.00129	.16634	-.00071	-.00282	.00089	.00217	1.3420

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10152.	116790.	12705.
Stddev	63.	531.	336.
%RSD	.61978	.45476	2.6440

#1	10225.	117340.	12823.
#2	10114.	116290.	12966.
#3	10118.	116730.	12326.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610042601 Acquired: 10/13/2016 19:54:27 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00002	.00209	-0.00007	.00698	.06143	-0.00004	96.439	.00044
Stddev	.00126	.00297	.00139	.00046	.00039	.00003	.145	.00039
%RSD	5549.7	141.68	1901.3	6.5377	.63023	83.432	.15025	88.167

#1	.00146	.00462	-0.00070	.00648	.06140	-0.00003	96.356	.00082
#2	-0.00051	-0.00117	-0.00103	.00737	.06184	-0.00007	96.353	.00047
#3	-0.00089	.00284	.00152	.00709	.06106	-0.00001	96.606	.00004

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00022	.00111	.00210	.01660	.59681	.01626	5.6206	.00277
Stddev	.00006	.00076	.00099	.02733	.01487	.00167	.0757	.00223
%RSD	25.995	68.392	47.006	164.69	2.4913	10.285	1.3476	80.742

#1	.00027	.00027	.00182	-.01200	.58774	.01812	5.5802	.00443
#2	.00023	.00176	.00128	.01933	.58871	.01577	5.5737	.00023
#3	.00016	.00131	.00320	.04246	.61397	.01489	5.7080	.00365

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00052	6.8623	.00058	-0.00775	.00456	-0.00149	.00530	4.2907
Stddev	.00058	.0416	.00107	.00310	.00207	.00142	.00725	.0058
%RSD	111.95	.60646	185.78	39.982	45.312	95.087	136.75	.13518

#1	.00040	6.8605	.00109	-0.00700	.00218	-0.00270	.00072	4.2889
#2	.00001	6.8216	-0.00065	-0.00510	.00590	-0.00184	.01366	4.2972
#3	.00114	6.9048	.00130	-0.01116	.00560	.00007	.00153	4.2861

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610042601 Acquired: 10/13/2016 19:54:27 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00014	.24958	-.01139	-.00225	.00043	.00181	1.6913
Stddev	.00029	.00063	.00390	.00212	.00096	.00005	.5386
%RSD	207.51	.25119	34.227	94.051	223.36	2.9722	31.849

#1	-.00011	.25013	-.01075	-.00064	.00054	.00182	2.0745
#2	.00046	.24971	-.00785	-.00465	-.00058	.00186	1.9239
#3	.00007	.24890	-.01556	-.00147	.00133	.00176	1.0754

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10297.	116520.	12818.
Stddev	24.	294.	157.
%RSD	.23479	.25253	1.2258

#1	10304.	116240.	12884.
#2	10317.	116490.	12930.
#3	10270.	116820.	12638.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610042602 Acquired: 10/13/2016 19:58:12 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00053	.00685	.00102	.02900	.06909	-0.00003	130.87	.00028
Stddev	.00169	.00454	.00121	.00098	.00015	.00002	.26	.00024
%RSD	320.74	66.171	118.61	3.3923	.21511	73.124	.19635	85.502

#1	.00139	.00199	.00148	.02959	.06894	-0.00001	130.65	.00046
#2	-0.00116	.01097	.00194	.02787	.06908	-0.00005	130.80	.00001
#3	-0.00181	.00760	-0.00035	.02955	.06924	-0.00002	131.15	.00037

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00013	.00140	.00149	.03389	1.2982	.03361	17.552	.00085
Stddev	.00020	.00056	.00109	.01570	.1107	.00215	.013	.00032
%RSD	149.27	39.861	73.433	46.324	8.5262	6.4081	.07632	38.077

#1	-0.00036	.00155	.00223	.01576	1.2905	.03587	17.551	.00056
#2	-0.00007	.00187	.00023	.04281	1.4125	.03158	17.539	.00079
#3	.00003	.00078	.00200	.04309	1.1915	.03339	17.566	.00120

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00040	16.211	.00115	-0.00522	.00297	.00075	.00117	7.0202
Stddev	.00010	.019	.00056	.00485	.00257	.00227	.00626	.0379
%RSD	26.127	.11825	48.680	92.842	86.343	302.00	535.58	.53921

#1	.00042	16.190	.00158	-0.00776	.00001	.00334	.00780	7.0433
#2	.00050	16.218	.00052	-0.00826	.00453	-0.00090	-0.00465	7.0408
#3	.00029	16.226	.00134	.00037	.00438	-0.00019	.00036	6.9765

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610042602 Acquired: 10/13/2016 19:58:12 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00057	.76212	-.01675	.00003	.00016	.00608	.57323
Stddev	.00058	.00086	.00262	.00265	.00088	.00011	.49166
%RSD	102.06	.11315	15.664	7710.0	545.83	1.7749	85.771

#1	.00110	.76244	-.01912	-.00295	-.00069	.00608	.65172
#2	.00064	.76114	-.01720	.00095	.00108	.00598	.04704
#3	-.00005	.76277	-.01393	.00210	.00010	.00620	1.0209

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10233.	114280.	13006.
Stddev	79.	171.	67.
%RSD	.77064	.14985	.51843

#1	10267.	114470.	13081.
#2	10289.	114220.	12988.
#3	10143.	114140.	12950.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610042603 Acquired: 10/13/2016 20:01:56 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00053	.00819	.00120	.02750	.13326	-.00006	91.625	.00024
Stddev	.00041	.00317	.00064	.00162	.00064	.00005	.293	.00009
%RSD	77.379	38.702	53.296	5.9089	.47732	82.663	.31929	37.449

#1	.00092	.00528	.00093	.02863	.13265	-.00006	91.289	.00034
#2	.00059	.00772	.00074	.02823	.13392	-.00011	91.763	.00017
#3	.00010	.01156	.00193	.02564	.13321	-.00001	91.823	.00021

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00009	.00190	.00099	.12788	.86806	.01858	14.041	.02037
Stddev	.00049	.00075	.00145	.01307	.04255	.00404	.116	.00036
%RSD	524.39	39.613	146.41	10.218	4.9013	21.742	.82477	1.7861

#1	.00043	.00266	.00151	.11296	.87781	.01461	13.912	.02006
#2	-.00017	.00191	-.00065	.13335	.90488	.02268	14.072	.02028
#3	-.00053	.00115	.00212	.13732	.82148	.01843	14.138	.02077

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00080	14.185	.00010	-.00653	.00053	.00557	.00469	5.5699
Stddev	.00046	.030	.00130	.00376	.00444	.00310	.00579	.0133
%RSD	57.090	.21396	1333.2	57.581	829.61	55.617	123.54	.23833

#1	.00027	14.151	.00151	-.00575	-.00204	.00413	.00914	5.5848
#2	.00107	14.196	-.00018	-.00322	.00566	.00912	-.00186	5.5658
#3	.00106	14.208	-.00104	-.01061	-.00201	.00345	.00679	5.5592

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610042603 Acquired: 10/13/2016 20:01:56 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000(
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00056	.50356	-0.01040	-0.00254	.00042	.00210	.35623
Stddev	.00030	.00145	.00295	.00326	.00064	.00006	.82106
%RSD	53.587	.28773	28.352	128.35	151.86	2.8707	230.48

#1	.00084	.50188	-.01249	-.00212	.00017	.00209	.95894
#2	.00024	.50438	-.01167	.00049	-.00006	.00204	.68867
#3	.00061	.50441	-.00702	-.00599	.00115	.00216	-.57892

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10207.	114800.	12928.
Stddev	77.	255.	314.
%RSD	.75626	.22181	2.4255

#1	10123.	115080.	13084.
#2	10225.	114590.	13132.
#3	10275.	114720.	12567.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610042605 Acquired: 10/13/2016 20:05:42 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00059	.00538	.00089	.01416	.15265	-.00003	66.243	.00031
Stddev	.00114	.00199	.00177	.00179	.00114	.00006	.110	.00018
%RSD	194.75	36.906	200.35	12.660	.74920	165.55	.16544	59.720

#1	.00053	.00467	.00103	.01618	.15243	-.00010	66.149	.00042
#2	-.00175	.00763	.00258	.01275	.15388	.00000	66.364	.00010
#3	-.00054	.00385	-.00096	.01356	.15163	-.00000	66.217	.00041

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00004	.00145	.00115	.03000	2.2777	.01358	18.970	.00707
Stddev	.00010	.00020	.00097	.02002	.1022	.00403	.093	.00042
%RSD	262.71	13.534	84.110	66.752	4.4846	29.665	.48927	5.9588

#1	-.00003	.00148	.00227	.02902	2.2261	.01406	18.908	.00688
#2	.00016	.00163	.00061	.01048	2.3953	.00933	18.926	.00755
#3	-.00001	.00124	.00058	.05050	2.2116	.01735	19.077	.00677

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00062	5.0186	.00177	.01423	.00121	.00193	.00676	4.2828
Stddev	.00035	.0041	.00084	.00116	.00053	.00223	.01002	.0126
%RSD	57.207	.08118	47.419	8.1322	43.833	115.35	148.29	.29522

#1	.00022	5.0161	.00254	.01411	.00169	-.00000	-.00118	4.2850
#2	.00089	5.0233	.00188	.01314	.00064	.00437	.01802	4.2692
#3	.00075	5.0165	.00088	.01545	.00129	.00143	.00343	4.2941

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610042605 Acquired: 10/13/2016 20:05:42 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00042	.25672	-0.00562	-0.00195	.00055	.00196	1.1752
Stddev	.00111	.00080	.00191	.00273	.00069	.00014	.5539
%RSD	263.00	.31064	34.037	140.28	123.89	7.1136	47.133

#1	-.00086	.25595	-.00760	-.00504	.00039	.00189	.93704
#2	.00106	.25754	-.00379	.00012	.00131	.00212	.78026
#3	.00106	.25667	-.00547	-.00092	-.00004	.00187	1.8084

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10142.	116030.	12977.
Stddev	96.	62.	56.
%RSD	.94708	.05342	.43219

#1	10220.	116060.	12918.
#2	10170.	116070.	13029.
#3	10035.	115960.	12986.

Approved: October 14, 2016

K. K. Buck

Sample Name: CCV Acquired: 10/13/2016 20:09:27 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.39078	9.9630	.39743	.48847	.95291	.04804	9.6348
Stddev	.00075	.0674	.00135	.00238	.00147	.00008	.0309
%RSD	.19088	.67691	.33844	.48638	.15445	.16547	.32086

#1	.39083	9.8997	.39593	.49043	.95459	.04795	9.6590
#2	.39001	10.034	.39781	.48916	.95184	.04808	9.6000
#3	.39150	9.9553	.39854	.48583	.95229	.04809	9.6454

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04950	.19729	.48464	.49234	3.7698	F 44.554	F .89253
Stddev	.00012	.00130	.00127	.00342	.0163	.038	.00201
%RSD	.23831	.65985	.26140	.69369	.43357	.08545	.22549

#1	.04939	.19665	.48520	.49180	3.7885	44.537	.89477
#2	.04963	.19643	.48319	.48922	3.7628	44.597	.89191
#3	.04949	.19879	.48553	.49598	3.7581	44.527	.89089

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Fail
Value						50.000	1.0000
Range						-10.000%	-10.000%

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.4920	.46984	.97901	45.350	.49230	9.8185	.49354
Stddev	.0965	.00276	.00575	.164	.00254	.0503	.00158
%RSD	1.0168	.58816	.58707	.36126	.51631	.51228	.31958

#1	9.5508	.46895	.97802	45.503	.49172	9.8075	.49486
#2	9.3807	.47293	.97382	45.177	.49009	9.7747	.49180
#3	9.5446	.46762	.98519	45.371	.49508	9.8734	.49397

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: October 14, 2016

K. K. Buck

Sample Name: CCV Acquired: 10/13/2016 20:09:27 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.1807	.39830	4.9673	.99031	.97127	.95936	.49922
Stddev	.0138	.01601	.0228	.00681	.00061	.00432	.00217
%RSD	1.1716	4.0206	.45957	.68776	.06324	.45043	.43376

#1	1.1762	.38519	4.9654	.98877	.97074	.96195	.50124
#2	1.1698	.39356	4.9455	.98439	.97112	.95437	.49947
#3	1.1963	.41614	4.9910	.99775	.97194	.96175	.49693

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.96986	.97933	F 1.6130
Stddev	.00306	.00584	.2127
%RSD	.31547	.59681	13.190

#1	.97065	.97846	1.4530
#2	.96649	.97396	1.8544
#3	.97245	.98556	1.5315

Check ?	Chk Pass	Chk Pass	Chk Fail
Value			1.0000
Range			10.000%

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10323.	115780.	13078.
Stddev	54.	154.	55.
%RSD	.52755	.13322	.42121

#1	10330.	115950.	13019.
#2	10265.	115700.	13128.
#3	10374.	115680.	13085.

Approved: October 14, 2016

K: K Buck

Sample Name: CCB Acquired: 10/13/2016 20:12:57 Type: Blank
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00084	-.00752	-.00092	-.00002	-.00046	-.00007	.00810
Stddev	.00135	.00367	.00093	.00086	.00045	.00005	.01451
%RSD	160.72	48.836	101.24	3595.1	97.239	70.655	179.22

#1	-.00072	-.01142	-.00128	.00071	-.00026	-.00009	-.00850
#2	.00158	-.00413	.00014	.00018	-.00097	-.00001	.01436
#3	.00165	-.00700	-.00162	-.00096	-.00015	-.00009	.01842

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00028	.00000	.00041	-.00153	-.01274	-.06019	.00814
Stddev	.00010	.00039	.00032	.00028	.01704	.02711	.00391
%RSD	33.930	16211.	78.009	18.298	133.71	45.045	48.046

#1	-.00024	.00034	.00062	-.00129	.00163	-.07122	.00402
#2	-.00039	-.00042	.00056	-.00184	-.03156	-.08005	.01180
#3	-.00022	.00009	.00004	-.00147	-.00830	-.02930	.00860

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00768	.00022	.00013	.01180	.00123	.00025	-.00123
Stddev	.01195	.00164	.00064	.01834	.00043	.00667	.00415
%RSD	155.58	744.74	510.88	155.36	34.903	2673.9	336.15

#1	.00345	.00050	.00062	-.00537	.00141	-.00733	-.00600
#2	-.02031	-.00154	.00036	.03112	.00154	.00287	.00075
#3	-.00619	.00171	-.00060	.00966	.00074	.00520	.00155

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

K: K Buck

Sample Name: CCB Acquired: 10/13/2016 20:12:57 Type: Blank
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00342	.00208	.00308	-0.00005	-0.00010	-0.00480	-0.00190
Stddev	.00251	.00201	.00118	.00026	.00002	.00476	.00398
%RSD	73.266	96.535	38.303	580.03	22.247	99.194	208.99

#1	-0.00123	.00336	.00284	-0.00005	-0.00012	-0.01029	-0.00548
#2	-0.00287	-0.00023	.00203	-0.00030	-0.00008	-0.00181	-0.00262
#3	-0.00615	.00313	.00436	.00022	-0.00012	-0.00230	.00238

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-0.00029	-0.00026	F -0.05731
Stddev	.00090	.00011	.18654
%RSD	312.00	43.293	325.46

#1	-0.00088	-0.00025	-.13678
#2	.00075	-0.00015	.15580
#3	-0.00074	-0.00038	-.19096

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.04000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10508.	118960.	12777.
Stddev	22.	1272.	278.
%RSD	.20994	1.0690	2.1773

#1	10533.	120060.	12520.
#2	10502.	119260.	13072.
#3	10490.	117570.	12737.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610042606 Acquired: 10/13/2016 20:16:45 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00041	.00279	-0.00039	.00996	.10471	-0.00008	41.189	.00001
Stddev	.00102	.00349	.00317	.00188	.00083	.00001	.198	.00026
%RSD	248.78	125.11	803.86	18.875	.79308	16.191	.48131	3510.7

#1	.00076	-0.00046	.00265	.01052	.10399	-0.00008	41.036	-0.00000
#2	.00121	.00648	-0.00016	.01150	.10452	-0.00007	41.117	-0.00025
#3	-0.00074	.00235	-0.00368	.00786	.10562	-0.00009	41.413	.00027

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00014	.00120	.00113	.01574	.65040	.01610	10.947	.00231
Stddev	.00048	.00081	.00015	.01338	.05486	.00577	.110	.00080
%RSD	351.07	67.320	13.272	85.027	8.4347	35.843	1.0046	34.692

#1	.00002	.00079	.00106	.01764	.58795	.01069	10.834	.00321
#2	.00066	.00214	.00131	.00150	.67243	.01543	10.953	.00204
#3	-0.00027	.00068	.00104	.02806	.69082	.02217	11.053	.00168

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00018	2.6688	.00012	-0.00898	.00345	.00083	.00464	3.6048
Stddev	.00038	.0411	.00058	.00183	.00063	.00421	.00305	.0106
%RSD	209.28	1.5382	475.25	20.344	18.112	509.79	65.807	.29471

#1	.00017	2.6620	.00047	-0.00896	.00398	.00482	.00203	3.5983
#2	-0.00020	2.6315	-0.00055	-0.01082	.00361	.00123	.00799	3.5990
#3	.00057	2.7128	.00045	-0.00717	.00276	-0.00357	.00389	3.6170

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610042606 Acquired: 10/13/2016 20:16:45 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0031	.15801	-0.00461	-0.00288	.00071	.00133	1.3307
Stddev	.00070	.00061	.00208	.00104	.00087	.00004	.8557
%RSD	222.97	.38801	45.153	36.026	121.80	2.9295	64.300

#1	-0.0014	.15776	-0.00288	-0.00397	-0.0015	.00132	.56557
#2	-0.00109	.15755	-0.00404	-0.00277	.00158	.00131	1.1720
#3	.00028	.15870	-0.00692	-0.00190	.00070	.00138	2.2546

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10509.	117360.	12988.
Stddev	11.	1081.	436.
%RSD	.10154	.92134	3.3579

#1	10515.	117160.	13155.
#2	10515.	116400.	13316.
#3	10497.	118530.	12493.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610042607 Acquired: 10/13/2016 20:20:30 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00025	.03966	-.00064	.01877	.03665	-.00008	41.677	.00002
Stddev	.00096	.00281	.00262	.00135	.00026	.00003	.172	.00005
%RSD	380.53	7.0739	409.21	7.1951	.71001	38.622	.41278	218.72

#1	.00109	.03652	-.00016	.01801	.03658	-.00010	41.599	.00005
#2	.00045	.04056	-.00346	.01797	.03642	-.00004	41.558	.00005
#3	-.00079	.04191	.00171	.02033	.03693	-.00009	41.875	-.00003

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00002	.00111	.00053	.04031	1.1501	.00777	4.2514	.00327
Stddev	.00014	.00057	.00201	.00502	.0240	.00301	.0996	.00142
%RSD	652.79	51.503	375.65	12.452	2.0849	38.713	2.3437	43.516

#1	.00018	.00113	.00284	.03747	1.1365	.01120	4.3648	.00371
#2	-.00003	.00053	-.00046	.03736	1.1359	.00648	4.1776	.00168
#3	-.00009	.00168	-.00078	.04611	1.1777	.00561	4.2119	.00443

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00040	4.9195	.00073	.01448	.00429	-.00076	.00333	4.5427
Stddev	.00022	.0296	.00067	.00782	.00148	.00288	.00493	.0185
%RSD	56.022	.60159	91.634	54.042	34.450	377.83	147.86	.40638

#1	.00045	4.9350	.00059	.02282	.00552	-.00184	.00331	4.5292
#2	.00060	4.9382	.00014	.00731	.00471	.00250	-.00158	4.5351
#3	.00016	4.8854	.00146	.01329	.00265	-.00295	.00828	4.5637

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610042607 Acquired: 10/13/2016 20:20:30 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00030	.10273	-0.00190	-0.00309	.00067	.00169	1.3683
Stddev	.00066	.00015	.00349	.00433	.00063	.00000	.6189
%RSD	220.36	.14519	183.67	140.08	93.614	.05240	45.230

#1	-0.00039	.10276	-0.00541	-0.00122	.00131	.00169	2.0330
#2	.00093	.10286	-0.00185	-0.00001	.00066	.00169	.80868
#3	.00036	.10257	.00156	-0.00805	.00005	.00169	1.2632

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10523.	120650.	13167.
Stddev	68.	532.	180.
%RSD	.65010	.44127	1.3659

#1	10492.	121230.	13180.
#2	10475.	120180.	13340.
#3	10601.	120550.	12981.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610042608 Acquired: 10/13/2016 20:24:14 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00118	.00259	.00082	.02834	.08715	-.00008	62.140	.00024
Stddev	.00091	.00100	.00304	.00012	.00009	.00005	.112	.00020
%RSD	77.543	38.745	371.51	.43097	.10308	60.548	.17945	84.021

#1	.00223	.00156	.00002	.02838	.08705	-.00012	62.263	.00041
#2	.00064	.00265	-.00174	.02820	.08716	-.00010	62.044	.00027
#3	.00067	.00357	.00418	.02843	.08723	-.00003	62.114	.00002

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00011	.00134	.00171	.02327	.93992	.00971	10.680	.00569
Stddev	.00023	.00051	.00080	.00791	.01261	.00226	.041	.00226
%RSD	215.56	37.957	46.863	34.006	1.3413	23.323	.38249	39.712

#1	.00036	.00094	.00203	.01439	.94514	.01185	10.672	.00405
#2	-.00009	.00117	.00230	.02959	.94908	.00734	10.645	.00826
#3	.00005	.00192	.00080	.02581	.92554	.00994	10.725	.00475

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00023	8.1545	.00158	.00789	.00323	-.00008	.00718	4.4134
Stddev	.00030	.0207	.00108	.00544	.00188	.00808	.00265	.0160
%RSD	132.47	.25340	67.932	68.958	58.117	10168.	36.908	.36328

#1	.00005	8.1319	.00274	.00537	.00401	-.00937	.00725	4.4073
#2	.00006	8.1724	.00061	.01413	.00109	.00391	.00450	4.4316
#3	.00058	8.1593	.00141	.00416	.00459	.00522	.00980	4.4012

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610042608 Acquired: 10/13/2016 20:24:14 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00001	.61812	-0.00560	-0.00224	.00084	.00443	.00593
Stddev	.00051	.00126	.00179	.00282	.00044	.00003	.88625
%RSD	9963.7	.20378	31.960	126.14	51.824	.57256	14954.

#1	-0.00058	.61949	-0.00467	.00084	.00113	.00441	.93745
#2	.00025	.61701	-0.00446	-0.00472	.00034	.00441	-.09290
#3	.00035	.61786	-0.00766	-0.00284	.00105	.00446	-.82677

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10640.	118460.	13134.
Stddev	30.	850.	268.
%RSD	.28342	.71735	2.0388

#1	10638.	119150.	13278.
#2	10611.	118730.	13300.
#3	10671.	117510.	12825.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610042609 Acquired: 10/13/2016 20:27:59 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587116-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00120	.01099	.00111	.01068	.07277	-.00009	36.091	-.00004
Stddev	.00047	.01009	.00127	.00227	.00050	.00005	.067	.00020
%RSD	39.405	91.784	114.23	21.291	.68987	59.174	.18697	557.44

#1	.00162	.02177	-.00003	.00847	.07269	-.00009	36.140	-.00023
#2	.00069	.00179	.00247	.01301	.07232	-.00014	36.014	.00016
#3	.00130	.00941	.00088	.01056	.07331	-.00003	36.119	-.00003

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00001	.00072	.00103	.00737	.79946	.01060	4.6566	.00056
Stddev	.00007	.00095	.00091	.01482	.04752	.00383	.0888	.00117
%RSD	1214.2	132.41	88.927	201.01	5.9436	36.097	1.9075	208.11

#1	.00009	.00129	-.00002	.02404	.77765	.00790	4.7590	.00185
#2	-.00004	.00124	.00168	.00242	.76675	.01498	4.6110	.00028
#3	-.00003	-.00038	.00142	-.00433	.85396	.00892	4.5999	-.00044

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00038	5.5377	.00063	-.00668	.00236	-.00226	.00198	5.4072
Stddev	.00016	.0060	.00036	.00176	.00326	.00157	.00864	.0236
%RSD	40.474	.10746	57.117	26.308	137.98	69.609	436.77	.43705

#1	.00051	5.5347	.00021	-.00729	-.00133	-.00140	-.00615	5.4328
#2	.00021	5.5445	.00085	-.00805	.00483	-.00131	.00104	5.4026
#3	.00043	5.5337	.00082	-.00470	.00360	-.00407	.01105	5.3862

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610042609 Acquired: 10/13/2016 20:27:59 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587116-01

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00038	.12700	-0.00414	-0.00183	.00018	.00124	.42755
Stddev	.00061	.00039	.00228	.00145	.00024	.00003	.50652
%RSD	161.17	.30944	55.227	79.146	136.20	2.1450	118.47

#1	-0.00032	.12733	-0.00159	-0.00060	.00004	.00123	.65782
#2	.00080	.12656	-0.00601	-0.00343	.00045	.00127	-.15319
#3	.00065	.12710	-0.00481	-0.00147	.00004	.00122	.77803

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10539.	119430.	13058.
Stddev	45.	2076.	308.
%RSD	.43110	1.7383	2.3571

#1	10548.	117030.	12804.
#2	10580.	120660.	13400.
#3	10490.	120590.	12970.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610042609MS Acquired: 10/13/2016 20:31:43 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587116-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19393	4.8979	.19711	.92554	.54494	.02328	39.596	.02438
Stddev	.00145	.0159	.00248	.00308	.00256	.00010	.125	.00019
%RSD	.74835	.32505	1.2589	.33268	.46921	.43826	.31651	.76057

#1	.19531	4.9053	.19811	.92909	.54773	.02340	39.701	.02452
#2	.19406	4.8796	.19428	.92366	.54436	.02323	39.457	.02445
#3	.19241	4.9087	.19893	.92387	.54272	.02321	39.629	.02417

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.09795	.24083	.24260	1.9091	23.035	.45044	9.1774	.23565
Stddev	.00022	.00043	.00057	.0092	.081	.00308	.1188	.00235
%RSD	.22646	.17758	.23526	.48120	.35242	.68472	1.2949	.99684

#1	.09772	.24035	.24209	1.9131	23.125	.45171	9.2738	.23779
#2	.09816	.24100	.24322	1.8986	22.969	.44692	9.0446	.23603
#3	.09798	.24115	.24249	1.9155	23.010	.45268	9.2138	.23314

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.49109	27.867	.24421	4.7481	.24486	.57561	.19327	7.7078
Stddev	.00284	.161	.00163	.0153	.00208	.00408	.00250	.0208
%RSD	.57928	.57894	.66801	.32164	.84901	.70902	1.2912	.27035

#1	.48849	27.993	.24503	4.7347	.24507	.57153	.19224	7.6969
#2	.49064	27.685	.24233	4.7449	.24682	.57969	.19144	7.6948
#3	.49413	27.921	.24527	4.7647	.24268	.57562	.19611	7.7319

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Approved: October 14, 2016

K: K Buck

Sample Name: L1610042609MS Acquired: 10/13/2016 20:31:43 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587116-04

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.49172	.60450	.47356	.24176	.48173	.47915	.38134
Stddev	.00125	.00205	.00389	.00356	.00179	.00226	.44887
%RSD	.25509	.33913	.82151	1.4745	.37208	.47222	117.71
#1	.49087	.60687	.47282	.23855	.48173	.47691	.77741
#2	.49114	.60347	.47009	.24113	.47993	.47909	-.10623
#3	.49316	.60318	.47776	.24559	.48352	.48144	.47283

Check ? **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass**
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10338.	116300.	12860.
Stddev	110.	826.	237.
%RSD	1.0615	.71053	1.8417
#1	10465.	115350.	12957.
#2	10269.	116660.	13034.
#3	10281.	116880.	12590.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610042609MSD Acquired: 10/13/2016 20:35:15 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587116-05

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19068	4.8013	.19217	.91160	.54032	.02290	40.194	.02407
Stddev	.00105	.0192	.00228	.00038	.00105	.00002	.044	.00015
%RSD	.54917	.40078	1.1890	.04221	.19516	.07012	.10974	.64350

#1	.19185	4.7819	.19036	.91203	.53941	.02288	40.146	.02422
#2	.18983	4.8017	.19140	.91129	.54148	.02290	40.233	.02408
#3	.19036	4.8204	.19474	.91148	.54008	.02291	40.204	.02391

Check ? **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass**
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.09635	.23698	.23931	1.8789	22.894	.44689	9.1818	.23130
Stddev	.00033	.00077	.00075	.0263	.166	.00355	.0531	.00234
%RSD	.34248	.32651	.31454	1.3974	.72432	.79497	.57808	1.0112

#1	.09628	.23637	.23990	1.8899	22.771	.44540	9.1220	.22957
#2	.09607	.23785	.23846	1.8490	22.828	.44432	9.2233	.23037
#3	.09671	.23673	.23956	1.8979	23.082	.45094	9.2002	.23396

Check ? **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass**
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.48503	27.686	.23973	4.6712	.24206	.56821	.18490	7.7598
Stddev	.00136	.044	.00039	.0135	.00298	.00196	.00330	.0232
%RSD	.27946	.15992	.16379	.28884	1.2325	.34436	1.7836	.29900

#1	.48384	27.657	.23938	4.6600	.24424	.56729	.18809	7.7433
#2	.48475	27.737	.24016	4.6675	.24327	.57045	.18511	7.7497
#3	.48651	27.664	.23966	4.6862	.23866	.56688	.18150	7.7863

Check ? **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass**
 High Limit
 Low Limit

Approved: October 14, 2016

K: K Buck

Sample Name: L1610042609MSD Acquired: 10/13/2016 20:35:15 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587116-05

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.48355	.60041	.47096	.23923	.47682	.47143	1.8157
Stddev	.00134	.00050	.00169	.00248	.00099	.00117	.8704
%RSD	.27713	.08292	.35987	1.0380	.20692	.24912	47.937
#1	.48368	.60057	.46928	.23998	.47786	.47061	2.4826
#2	.48215	.59986	.47094	.23646	.47591	.47090	2.1332
#3	.48482	.60081	.47267	.24125	.47668	.47277	.83108

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10371.	117420.	12748.
Stddev	24.	44.	300.
%RSD	.22817	.03705	2.3552
#1	10346.	117370.	12827.
#2	10376.	117450.	13000.
#3	10392.	117430.	12416.

Approved: October 14, 2016

K. K. Buck

Sample Name: CCV Acquired: 10/13/2016 20:38:48 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.38904	9.9879	.39683	.49196	.94758	.04774	9.6051
Stddev	.00334	.0981	.00408	.00642	.00015	.00025	.0096
%RSD	.85884	.98185	1.0278	1.3050	.01610	.52109	.09955

#1	.38681	9.8927	.39955	.48608	.94759	.04746	9.6021
#2	.38743	9.9823	.39879	.49100	.94773	.04794	9.6158
#3	.39289	10.089	.39214	.49881	.94743	.04781	9.5975

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.04973	.19735	.48296	.49134	3.8105	F 44.277	F .89074
Stddev	.00033	.00059	.00189	.00024	.0497	.098	.00190
%RSD	.65665	.29767	.39172	.04851	1.3053	.22093	.21281

#1	.04956	.19786	.48114	.49115	3.8282	44.245	.88980
#2	.04953	.19748	.48491	.49160	3.7543	44.200	.89292
#3	.05011	.19670	.48282	.49126	3.8490	44.387	.88949

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Fail
Value						50.000	1.0000
Range						-10.000%	-10.000%

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.4473	.46910	.97762	45.108	.49460	9.8801	.49764
Stddev	.0382	.00125	.00347	.035	.00131	.0138	.00337
%RSD	.40426	.26604	.35498	.07812	.26585	.13966	.67707

#1	9.4820	.47039	.97932	45.085	.49436	9.8798	.49778
#2	9.4535	.46904	.97990	45.149	.49342	9.8940	.50094
#3	9.4064	.46789	.97362	45.091	.49602	9.8664	.49421

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: October 14, 2016

K: K Buck

Sample Name: CCV Acquired: 10/13/2016 20:38:48 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000(
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.1809	.39678	4.9831	.99166	.96653	.96049	.50322
Stddev	.0011	.00677	.0135	.00387	.00112	.00372	.00378
%RSD	.09655	1.7073	.26992	.39060	.11628	.38699	.75153

#1	1.1796	.39092	4.9951	.99278	.96771	.96082	.49896
#2	1.1813	.40420	4.9856	.99486	.96547	.96403	.50455
#3	1.1818	.39523	4.9685	.98735	.96642	.95662	.50616

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.96333	.98132	F 1.6030
Stddev	.00323	.00198	1.0286
%RSD	.33539	.20157	64.167

#1	.95997	.98101	1.7986
#2	.96360	.98343	2.5197
#3	.96641	.97951	.49064

Check ?	Chk Pass	Chk Pass	Chk Fail
Value			1.0000
Range			10.000%

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10429.	115990.	13069.
Stddev	60.	374.	24.
%RSD	.57863	.32223	.17986

#1	10451.	116420.	13087.
#2	10476.	115730.	13077.
#3	10361.	115810.	13042.

Approved: October 14, 2016

K: K Buck

Sample Name: CCB Acquired: 10/13/2016 20:42:17 Type: Blank
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00101	-0.00874	.00378	.00207	-0.00153	-0.00006	.01148
Stddev	.00104	.00457	.00077	.00051	.00020	.00002	.00720
%RSD	102.36	52.303	20.282	24.781	13.174	24.875	62.746

#1	.00010	-.00787	.00290	.00197	-.00176	-.00006	.01768
#2	-.00196	-.00467	.00411	.00162	-.00145	-.00008	.01318
#3	-.00118	-.01369	.00432	.00263	-.00138	-.00005	.00358

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00020	-0.00003	.00063	-0.00019	.00769	-1.1629	.00630
Stddev	.00041	.00030	.00054	.00026	.02943	.06589	.00059
%RSD	207.46	1033.8	85.177	132.99	382.45	56.661	9.3124

#1	.00025	-.00030	.00001	-.00034	.02779	-.04432	.00651
#2	-.00029	.00029	.00095	-.00034	.02138	-.17364	.00564
#3	-.00055	-.00008	.00092	.00010	-.02609	-.13090	.00675

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.06611	.00035	.00016	.00568	.00114	-0.00309	.00122
Stddev	.01514	.00152	.00043	.03056	.00053	.00203	.00125
%RSD	22.901	438.11	262.60	537.97	46.403	65.752	102.55

#1	-.04907	.00174	.00017	.03964	.00139	-.00160	.00166
#2	-.07123	-.00128	-.00027	-.01961	.00053	-.00227	-.00019
#3	-.07802	.00058	.00059	-.00299	.00150	-.00540	.00218

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

K: K Buck

Sample Name: CCB Acquired: 10/13/2016 20:42:17 Type: Blank
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00062	.00025	.00139	-0.00006	-0.00009	-0.00227	-0.00215
Stddev	.00532	.00869	.00089	.00072	.00032	.00118	.00465
%RSD	855.73	3424.6	63.939	1130.4	370.44	51.832	216.13

#1	.00276	-.00926	.00151	-.00085	.00027	-.00171	.00256
#2	.00213	.00226	.00221	.00010	-.00016	-.00147	-.00673
#3	-.00675	.00776	.00045	.00056	-.00036	-.00362	-.00228

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00039	-.00025	F -.28150
Stddev	.00032	.00002	1.0087
%RSD	84.081	9.2201	358.32

#1	.00062	-.00023	.84007
#2	.00002	-.00024	-.57031
#3	.00052	-.00028	-1.1143

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.04000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10358.	118660.	12888.
Stddev	117.	696.	54.
%RSD	1.1256	.58631	.41811

#1	10489.	118380.	12875.
#2	10267.	118150.	12947.
#3	10318.	119450.	12842.

Approved: October 14, 2016

K. K. Buck

Sample Name: LLCCV Acquired: 10/13/2016 20:46:04 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00908	.17119	.01018	.07890	.00741	.00149	.47678
Stddev	.00132	.00197	.00097	.00031	.00055	.00004	.02656
%RSD	14.542	1.1484	9.5333	.38729	7.4590	2.7992	5.5702

#1	.00762	.17288	.01106	.07855	.00680	.00146	.49179
#2	.01019	.17165	.00914	.07912	.00756	.00147	.49242
#3	.00942	.16903	.01034	.07903	.00788	.00154	.44611

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00078	.00426	.00504	.00345	.07089	.68059	.08220
Stddev	.00015	.00008	.00099	.00149	.00697	.07366	.00130
%RSD	19.772	1.8092	19.619	43.209	9.8346	10.824	1.5846

#1	.00066	.00418	.00400	.00174	.07244	.62118	.08145
#2	.00074	.00433	.00597	.00444	.07695	.65758	.08145
#3	.00096	.00426	.00515	.00419	.06327	.76301	.08371

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.40578	.00813	.00843	.38538	.01751	.79824	.00998
Stddev	.04888	.00145	.00033	.02611	.00094	.00670	.00191
%RSD	12.046	17.814	3.8701	6.7740	5.3711	.83953	19.178

#1	.35781	.00741	.00875	.41550	.01684	.80332	.00785
#2	.45552	.00980	.00846	.36934	.01710	.80075	.01056
#3	.40402	.00718	.00810	.37129	.01859	.79064	.01154

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

K: K Buck

Sample Name: LLCCV Acquired: 10/13/2016 20:46:04 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.08587	.01839	.79871	.41831	.04124	.01934	.16708
Stddev	.00207	.00273	.00298	.00106	.00054	.00591	.00338
%RSD	2.4157	14.845	.37285	.25245	1.3117	30.579	2.0245

#1	.08823	.01548	.80104	.41720	.04066	.01778	.17081
#2	.08434	.02090	.79536	.41844	.04172	.02587	.16622
#3	.08504	.01878	.79974	.41930	.04135	.01435	.16421

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00833	.01966	F 166.97
Stddev	.00115	.00008	2.11
%RSD	13.790	.39247	1.2625

#1	.00917	.01969	168.52
#2	.00702	.01972	167.81
#3	.00881	.01957	164.57

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10456.	118810.	12903.
Stddev	4.	891.	120.
%RSD	.03384	.75019	.92734

#1	10457.	119830.	12967.
#2	10458.	118170.	12765.
#3	10452.	118430.	12977.

Approved: October 14, 2016

K: K Buck

Sample Name: LLCCV Acquired: 10/13/2016 20:49:49 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01087	.21580	.01099	.09573	.00951	.00186	.57774
Stddev	.00105	.00261	.00187	.00039	.00077	.00003	.01090
%RSD	9.7013	1.2116	17.048	.40736	8.0552	1.8283	1.8866

#1	.01146	.21542	.01053	.09618	.00899	.00182	.57700
#2	.00965	.21339	.01304	.09548	.00916	.00186	.56724
#3	.01150	.21858	.00938	.09553	.01039	.00189	.58900

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00093	.00524	.00564	.00459	.08967	.87316	.10077
Stddev	.00030	.00020	.00075	.00076	.02582	.04875	.00059
%RSD	32.855	3.8582	13.271	16.578	28.797	5.5836	.58135

#1	.00115	.00547	.00607	.00546	.11806	.85314	.10050
#2	.00058	.00513	.00478	.00416	.08336	.92874	.10144
#3	.00105	.00510	.00608	.00413	.06759	.83761	.10036

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.44288	.01086	.01014	.46663	.02339	1.0008	.01223
Stddev	.01216	.00208	.00034	.00900	.00116	.0140	.00235
%RSD	2.7447	19.195	3.3398	1.9281	4.9696	1.4019	19.186

#1	.43098	.01240	.01013	.47498	.02473	1.0024	.01138
#2	.44238	.00849	.01049	.46780	.02267	.98603	.01488
#3	.45527	.01168	.00981	.45710	.02276	1.0140	.01042

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

K: K Buck

Sample Name: LLCCV Acquired: 10/13/2016 20:49:49 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.10797	.02570	1.0076	.52482	.05087	.02887	.20749
Stddev	.00214	.00288	.0021	.00089	.00040	.00189	.00300
%RSD	1.9863	11.208	.21204	.16998	.79612	6.5451	1.4458

#1	.10647	.02764	1.0094	.52565	.05134	.03063	.20403
#2	.10703	.02706	1.0052	.52388	.05068	.02687	.20941
#3	.11043	.02239	1.0081	.52494	.05059	.02911	.20902

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.01011	.02307	F 219.02
Stddev	.00042	.00008	5.75
%RSD	4.1695	.33450	2.6262

#1	.00964	.02303	217.86
#2	.01023	.02316	213.94
#3	.01045	.02301	225.27

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10320.	119120.	12358.
Stddev	21.	468.	353.
%RSD	.20340	.39261	2.8576

#1	10296.	119490.	12541.
#2	10336.	119270.	12583.
#3	10327.	118590.	11951.

Approved: October 14, 2016

K: K Buck

Sample Name: PBW 57 Acquired: 10/13/2016 20:53:33 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587230-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00132	-.01144	.00042	-.00107	-.00111	-.00004	.00990	.00000
Stddev	.00114	.00300	.00122	.00050	.00035	.00003	.01343	.00007
%RSD	86.374	26.234	288.01	46.544	31.268	78.599	135.66	10360.

#1	.00227	-.00859	.00171	-.00067	-.00090	-.00003	.00080	.00000
#2	.00006	-.01116	-.00071	-.00163	-.00092	-.00002	.00358	.00007
#3	.00162	-.01458	.00027	-.00092	-.00152	-.00008	.02533	-.00007

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00021	.00100	.00014	-.00122	-.09878	.00730	.00914	.00046
Stddev	.00018	.00054	.00079	.00406	.02959	.00122	.05430	.00024
%RSD	84.819	53.903	544.64	334.10	29.962	16.672	594.24	52.661

#1	-.00015	.00045	-.00011	-.00481	-.12115	.00810	.05185	.00062
#2	-.00008	.00102	-.00048	-.00202	-.06522	.00790	-.05197	.00018
#3	-.00042	.00153	.00103	.00319	-.10996	.00590	.02754	.00057

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00045	-.00367	.00155	-.01227	.00319	.00071	.00529	-.00019
Stddev	.00041	.03400	.00069	.00021	.00186	.00295	.00203	.00087
%RSD	90.634	926.24	44.824	1.7144	58.361	414.67	38.367	460.89

#1	.00053	-.04021	.00088	-.01246	.00281	.00280	.00446	-.00106
#2	.00081	.02703	.00227	-.01232	.00154	-.00266	.00380	.00069
#3	.00001	.00217	.00150	-.01204	.00520	.00199	.00760	-.00020

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: PBW 57 Acquired: 10/13/2016 20:53:33 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587230-02

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00001	-.00007	-.00111	-.00258	.00090	.00074	1.1146
Stddev	.00067	.00011	.00223	.00186	.00062	.00003	.8721
%RSD	7015.7	170.79	201.52	72.048	68.854	4.5491	78.247

#1	-.00065	-.00009	-.00028	-.00410	.00140	.00077	1.5228
#2	-.00001	.00006	.00059	-.00051	.00021	.00075	.11321
#3	.00069	-.00017	-.00364	-.00314	.00109	.00071	1.7077

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10696.	122300.	13079.
Stddev	96.	464.	138.
%RSD	.89915	.37967	1.0537

#1	10710.	121970.	13015.
#2	10593.	122100.	13238.
#3	10784.	122830.	12986.

Approved: October 14, 2016

K. K. Buck

Sample Name: LCSW 57 Acquired: 10/13/2016 20:57:20 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587230-03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19671	5.1626	.19603	.93143	.47669	.02347	4.7905	.02435
Stddev	.00058	.0369	.00123	.00670	.00027	.00009	.0344	.00018
%RSD	.29533	.71571	.62847	.71905	.05699	.37671	.71800	.72657

#1	.19662	5.1515	.19744	.92778	.47674	.02352	4.7654	.02454
#2	.19733	5.2038	.19517	.93916	.47639	.02352	4.7764	.02434
#3	.19617	5.1324	.19548	.92735	.47693	.02337	4.8297	.02418

Check ? **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass**
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.09944	.24398	.24570	1.9333	22.060	.44887	4.7503	.23887
Stddev	.00016	.00134	.00065	.0084	.105	.00388	.0589	.00021
%RSD	.15667	.54974	.26569	.43248	.47401	.86338	1.2405	.08718

#1	.09957	.24516	.24512	1.9240	21.997	.44513	4.7387	.23873
#2	.09927	.24427	.24641	1.9355	22.003	.44860	4.8141	.23911
#3	.09948	.24252	.24556	1.9403	22.181	.45287	4.6980	.23877

Check ? **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass**
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.49102	22.686	.25009	4.7626	.24883	.57876	.19887	2.5702
Stddev	.00067	.175	.00092	.0109	.00060	.00266	.00431	.0075
%RSD	.13676	.77191	.36797	.22909	.23977	.46032	2.1676	.29332

#1	.49031	22.519	.24903	4.7724	.24836	.57577	.20385	2.5621
#2	.49164	22.669	.25069	4.7646	.24863	.58089	.19630	2.5770
#3	.49112	22.868	.25054	4.7509	.24950	.57962	.19647	2.5714

Check ? **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass**
 High Limit
 Low Limit

Approved: October 14, 2016

K: K Buck

Sample Name: LCSW 57 Acquired: 10/13/2016 20:57:20 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587230-03

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.49808	.48501	.47875	.24564	.48448	.48740	2.1277
Stddev	.00106	.00025	.00244	.00293	.00199	.00007	1.8757
%RSD	.21349	.05238	.51064	1.1910	.41086	.01487	88.155
#1	.49723	.48525	.47613	.24526	.48480	.48734	3.8340
#2	.49927	.48504	.47914	.24292	.48236	.48738	2.4297
#3	.49773	.48474	.48098	.24874	.48630	.48748	.11931

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10337.	114020.	12851.
Stddev	116.	380.	657.
%RSD	1.1259	.33322	5.1102
#1	10203.	114450.	13345.
#2	10410.	113720.	13102.
#3	10399.	113900.	12106.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610035801 Acquired: 10/13/2016 21:00:53 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00003	.02655	-0.00035	.01004	.00033	-0.00009	.61917	.00011
Stddev	.00041	.00258	.00229	.00121	.00074	.00008	.01466	.00017
%RSD	1602.8	9.7282	657.13	12.074	222.19	88.335	2.3671	153.82

#1	.00032	.02360	-0.00155	.01140	.00089	-0.00018	.60268	-0.00006
#2	-0.00044	.02839	.00229	.00967	.00061	-0.00002	.62410	.00012
#3	.00020	.02765	-0.00178	.00906	-0.00050	-0.00008	.63072	.00028

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00014	.00108	.06007	.02885	-0.07865	.00787	.04293	.00136
Stddev	.00027	.00045	.00132	.01229	.08133	.00365	.04007	.00199
%RSD	189.34	41.359	2.1929	42.604	103.41	46.355	93.344	145.97

#1	-0.00017	.00103	.05924	.03907	-.17117	.01201	.07786	.00366
#2	.00025	.00155	.06159	.01521	-.04636	.00510	-0.00082	.00014
#3	.00035	.00066	.05939	.03228	-.01842	.00650	.05175	.00029

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00038	.07972	.00166	-0.01905	-0.00041	-0.00044	.00525	.08233
Stddev	.00049	.02300	.00134	.00447	.00087	.00340	.00470	.00140
%RSD	129.01	28.851	80.508	23.451	212.18	764.78	89.491	1.7064

#1	.00091	.10592	.00320	-0.01724	.00008	-0.00261	.00901	.08302
#2	-0.00006	.07033	.00101	-0.01576	-0.00142	-0.00219	.00676	.08327
#3	.00029	.06290	.00078	-0.02413	.00011	.00347	-0.00002	.08072

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610035801 Acquired: 10/13/2016 21:00:53 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0019	.00185	.00067	-0.00582	-0.00040	.01102	.84825
Stddev	.00032	.00025	.00258	.00066	.00050	.00017	1.1160
%RSD	169.12	13.669	385.94	11.287	126.44	1.5522	131.57

#1	.00017	.00202	.00153	-.00593	-.00028	.01082	.99864
#2	-.00030	.00156	.00271	-.00641	-.00095	.01112	1.8815
#3	-.00044	.00197	-.00223	-.00511	.00003	.01111	-.33534

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10542.	119930.	12640.
Stddev	22.	763.	415.
%RSD	.20682	.63615	3.2855

#1	10555.	119590.	12744.
#2	10517.	119410.	12994.
#3	10555.	120810.	12183.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610036301 Acquired: 10/13/2016 21:04:39 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00079	.01694	.00250	.13584	.01462	-.00004	225.88
Stddev	.00026	.00515	.00155	.00107	.00047	.00003	1.12
%RSD	32.377	30.391	62.152	.78964	3.2425	72.235	.49627

#1	-.00050	.01100	.00196	.13473	.01407	-.00005	225.05
#2	-.00089	.01971	.00425	.13592	.01481	-.00001	225.44
#3	-.00098	.02010	.00128	.13688	.01496	-.00007	227.16

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.10822	.00778	.00133	.88785	.20685	4.1511	.05658
Stddev	.00011	.00038	.00071	.00021	.01822	.0688	.00051
%RSD	.10395	4.8792	53.015	.02352	8.8092	1.6567	.90029

#1	.10834	.00759	.00061	.88763	.18732	4.0876	.05712
#2	.10812	.00821	.00137	.88804	.22339	4.1416	.05611
#3	.10820	.00753	.00202	.88790	.20986	4.2242	.05651

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	38.217	1.7170	.00592	16.018	.03080	F -.19575	.22069
Stddev	.032	.0034	.00055	.030	.00042	.00559	.00370
%RSD	.08381	.20004	9.3045	.18588	1.3607	2.8544	1.6762

#1	38.225	1.7170	.00631	16.048	.03040	-.19875	.21844
#2	38.182	1.7204	.00616	15.989	.03124	-.19919	.21867
#3	38.244	1.7135	.00529	16.017	.03077	-.18930	.22495

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						180.00	
Low Limit						-.10000	

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610036301 Acquired: 10/13/2016 21:04:39 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00171	.00076	7.8883	.13544	.90165	-0.02609	-0.00278
Stddev	.00591	.00096	.0111	.00060	.00219	.00102	.00432
%RSD	346.52	126.82	.14064	.44286	.24328	3.8952	155.29

#1	.00511	.00030	7.8972	.13511	.90261	-.02722	-.00515
#2	-.00543	.00186	7.8919	.13613	.90321	-.02580	-.00539
#3	-.00480	.00011	7.8759	.13507	.89914	-.02525	.00220

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00067	24.832	1.1738
Stddev	.00041	.006	1.2342
%RSD	60.780	.02604	105.15

#1	.00084	24.825	1.8668
#2	.00021	24.838	1.9059
#3	.00097	24.833	-.25116

Check ?	Chk Pass	Chk Pass	Chk Pass
High Limit			
Low Limit			

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10018.	112760.	12508.
Stddev	22.	476.	406.
%RSD	.22433	.42215	3.2442

#1	10010.	112420.	12836.
#2	10044.	112560.	12633.
#3	10001.	113300.	12054.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610036302 Acquired: 10/13/2016 21:08:18 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00063	.00749	.00165	.13256	.01424	-.00003	218.66
Stddev	.00121	.00518	.00030	.00087	.00022	.00005	.83
%RSD	193.24	69.124	18.193	.65958	1.5204	178.43	.38007

#1	.00144	.00284	.00199	.13326	.01402	-.00006	219.35
#2	.00120	.01307	.00156	.13158	.01423	.00003	217.74
#3	-.00076	.00656	.00141	.13282	.01446	-.00005	218.89

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.10580	.00761	.00102	.77474	.00124	3.9798	.05461
Stddev	.00022	.00016	.00052	.00332	.00902	.0336	.00454
%RSD	.20423	2.0708	50.902	.42882	729.58	.84469	8.3104

#1	.10561	.00775	.00123	.77700	-.00880	3.9978	.04954
#2	.10603	.00744	.00043	.77093	.00384	3.9410	.05603
#3	.10576	.00762	.00141	.77630	.00867	4.0006	.05828

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	37.375	1.6782	.00552	15.643	.03030	F -.15569	.10514
Stddev	.028	.0099	.00030	.089	.00181	.00250	.00173
%RSD	.07406	.59087	5.4698	.57120	5.9712	1.6052	1.6470

#1	37.385	1.6849	.00539	15.741	.02862	-.15291	.10342
#2	37.344	1.6668	.00531	15.567	.03222	-.15642	.10510
#3	37.396	1.6828	.00587	15.621	.03006	-.15775	.10689

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						180.00	
Low Limit						-.10000	

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610036302 Acquired: 10/13/2016 21:08:18 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00375	.00395	7.6712	.00062	.88625	-.02865	.00107
Stddev	.00464	.00144	.0360	.00038	.00274	.00156	.00337
%RSD	123.78	36.618	.46869	60.934	.30894	5.4363	315.23

#1	-.00399	.00534	7.6986	.00050	.88861	-.03040	.00288
#2	-.00826	.00404	7.6305	.00031	.88325	-.02815	.00315
#3	.00101	.00246	7.6846	.00104	.88689	-.02741	-.00282

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00062	24.254	2.1853
Stddev	.00073	.076	1.0601
%RSD	118.30	.31461	48.510

#1	.00145	24.293	1.1097
#2	.00005	24.166	2.2170
#3	.00036	24.303	3.2292

Check ?	Chk Pass	Chk Pass	Chk Pass
High Limit			
Low Limit			

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9956.3	111890.	13040.
Stddev	93.7	815.	84.
%RSD	.94070	.72842	.64461

#1	10063.	111510.	13119.
#2	9915.0	111330.	13050.
#3	9890.3	112820.	12951.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610040801 Acquired: 10/13/2016 21:11:56 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00180	.04110	.00023	.02330	.02251	-0.00005	55.191	.00038
Stddev	.00065	.01029	.00075	.00117	.00064	.00014	.119	.00033
%RSD	36.230	25.039	327.40	5.0365	2.8289	272.85	.21486	86.521

#1	-0.00135	.04752	-0.00045	.02205	.02299	-0.00013	55.126	.00061
#2	-0.00255	.02923	.00103	.02437	.02179	.00011	55.327	.00000
#3	-0.00150	.04654	.00011	.02348	.02275	-0.00014	55.118	.00054

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00165	.00104	.00032	.11585	.25342	.09675	42.092	.22359
Stddev	.00017	.00128	.00030	.01412	.07138	.00360	.119	.00079
%RSD	10.357	123.74	92.888	12.191	28.168	3.7229	.28351	.35491

#1	.00162	.00144	.00016	.12619	.33313	.10079	42.122	.22406
#2	.00184	-0.00040	.00014	.12162	.19537	.09389	41.960	.22404
#3	.00150	.00207	.00067	.09976	.23177	.09556	42.193	.22268

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00033	175.55	.00484	.09660	.00225	-0.00129	.00698	23.388
Stddev	.00066	.12	.00069	.00358	.00142	.00522	.00288	.079
%RSD	202.77	.06695	14.279	3.7083	62.849	404.40	41.307	.33932

#1	.00109	175.42	.00409	.09256	.00359	.00196	.00461	23.436
#2	-0.00001	175.64	.00498	.09782	.00242	-0.00731	.01019	23.432
#3	-0.00010	175.59	.00544	.09941	.00076	.00148	.00614	23.296

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610040801 Acquired: 10/13/2016 21:11:56 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00042	1.3875	-0.00530	-0.00186	.00045	.00385	.48493
Stddev	.00041	.0058	.00311	.00348	.00086	.00012	.17121
%RSD	97.603	.41485	58.692	186.59	192.07	3.0990	35.306

#1	-.00001	1.3831	-.00226	-.00349	.00025	.00399	.32215
#2	.00081	1.3940	-.00516	.00213	-.00030	.00381	.66348
#3	.00047	1.3853	-.00847	-.00424	.00139	.00376	.46915

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9927.9	103850.	12881.
Stddev	86.8	11660.	381.
%RSD	.87380	11.227	2.9608

#1	9992.4	110730.	12573.
#2	9962.1	90390.	13307.
#3	9829.3	110430.	12762.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610040802 Acquired: 10/13/2016 21:15:40 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00054	.04686	.00223	.02144	.02141	-.00013	53.526	.00042
Stddev	.00071	.00747	.00186	.00134	.00061	.00006	.192	.00007
%RSD	130.95	15.937	83.303	6.2430	2.8561	42.775	.35802	17.453

#1	-.00006	.04487	.00064	.02279	.02211	-.00008	53.592	.00043
#2	.00036	.04058	.00178	.02011	.02116	-.00019	53.310	.00049
#3	.00133	.05512	.00427	.02142	.02097	-.00013	53.676	.00034

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00155	.00147	-.00142	.14251	.20713	.09886	40.437	.21423
Stddev	.00017	.00028	.00049	.01559	.04618	.00279	.269	.00233
%RSD	10.647	18.857	34.515	10.943	22.295	2.8221	.66599	1.0855

#1	.00155	.00118	-.00162	.15884	.15524	.10198	40.585	.21595
#2	.00139	.00150	-.00179	.12777	.24370	.09660	40.126	.21516
#3	.00172	.00173	-.00086	.14092	.22246	.09800	40.600	.21159

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00073	168.62	.00423	.10325	.00304	-.00185	.00089	22.188
Stddev	.00028	.69	.00180	.00224	.00118	.00210	.00205	.151
%RSD	38.190	.40652	42.549	2.1707	38.707	113.33	230.99	.67962

#1	.00100	168.94	.00215	.10139	.00417	-.00417	.00271	22.344
#2	.00076	167.83	.00516	.10574	.00182	-.00010	.00129	22.176
#3	.00044	169.08	.00537	.10263	.00312	-.00128	-.00134	22.043

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610040802 Acquired: 10/13/2016 21:15:40 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.00000(
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00053	1.3399	-0.00310	-0.00173	.00142	.00236	.26593
Stddev	.00002	.0041	.00101	.00171	.00038	.00006	.64276
%RSD	3.5450	.30267	32.611	98.645	26.758	2.5465	241.70

#1	.00051	1.3435	-0.00422	-0.00109	.00185	.00241	-.25966
#2	.00052	1.3405	-0.00227	-0.00366	.00113	.00237	.98255
#3	.00055	1.3355	-0.00279	-0.00043	.00129	.00229	.07490

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10016.	112200.	12840.
Stddev	109.	893.	337.
%RSD	1.0929	.79597	2.6270

#1	9937.5	112890.	12635.
#2	9968.4	112520.	13230.
#3	10141.	111190.	12657.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610040803 Acquired: 10/13/2016 21:19:24 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00003	.05293	.00113	.02191	.02106	-.00005	53.054	.00038
Stddev	.00113	.00505	.00187	.00114	.00056	.00005	.157	.00045
%RSD	3873.1	9.5338	165.80	5.2250	2.6361	86.576	.29592	118.37

#1	.00133	.04712	.00195	.02174	.02112	-.00010	53.003	.00057
#2	-.00057	.05622	.00245	.02087	.02047	-.00001	52.929	-.00013
#3	-.00067	.05544	-.00101	.02313	.02158	-.00005	53.230	.00071

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00160	.00116	.00051	.13096	.25901	.09231	39.969	.21430
Stddev	.00043	.00029	.00135	.01349	.03676	.00095	.180	.00153
%RSD	26.939	25.118	266.15	10.299	14.194	1.0318	.45058	.71594

#1	.00210	.00107	.00200	.13822	.26204	.09156	40.060	.21566
#2	.00128	.00093	.00013	.11540	.29416	.09338	39.762	.21264
#3	.00143	.00149	-.00061	.13925	.22082	.09198	40.087	.21460

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00046	169.31	.00394	.10379	.00299	-.00135	-.00147	22.666
Stddev	.00065	.16	.00037	.00662	.00255	.00401	.00265	.107
%RSD	140.46	.09582	9.3221	6.3740	85.408	296.91	180.03	.47057

#1	.00040	169.13	.00389	.11087	.00505	-.00590	-.00304	22.547
#2	-.00015	169.40	.00359	.10272	.00013	.00170	-.00295	22.698
#3	.00115	169.41	.00432	.09777	.00379	.00014	.00158	22.753

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610040803 Acquired: 10/13/2016 21:19:24 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00105	1.3252	-0.00522	-0.00399	.00111	.00222	1.5138
Stddev	.00068	.0019	.00240	.00161	.00057	.00003	.2709
%RSD	64.284	.14460	45.955	40.433	51.242	1.4973	17.897

#1	.00114	1.3232	-0.00485	-0.00514	.00153	.00222	1.8249
#2	.00168	1.3254	-0.00303	-0.00215	.00135	.00225	1.3867
#3	.00033	1.3271	-0.00778	-0.00467	.00046	.00218	1.3298

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10145.	113550.	12779.
Stddev	68.	286.	363.
%RSD	.67373	.25154	2.8436

#1	10072.	113220.	12647.
#2	10155.	113750.	13190.
#3	10208.	113680.	12500.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610040804 Acquired: 10/13/2016 21:23:07 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00008	.10394	-.00132	.02198	.02174	-.00007	54.259	.00042
Stddev	.00306	.00562	.00116	.00064	.00025	.00003	.066	.00011
%RSD	3652.4	5.4054	87.713	2.9033	1.1392	49.295	.12075	24.912

#1	-.00341	.09922	-.00105	.02131	.02186	-.00003	54.321	.00039
#2	.00227	.10244	-.00032	.02204	.02146	-.00008	54.267	.00054
#3	.00139	.11016	-.00259	.02259	.02191	-.00010	54.190	.00034

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00175	.00182	-.00002	.14287	.22598	.09935	41.164	.22055
Stddev	.00022	.00011	.00109	.01580	.05582	.00530	.114	.00192
%RSD	12.634	5.8059	4742.5	11.061	24.702	5.3326	.27604	.86929

#1	.00176	.00177	.00117	.12491	.29042	.09335	41.118	.22244
#2	.00197	.00175	-.00028	.15466	.19523	.10336	41.294	.22060
#3	.00153	.00194	-.00096	.14902	.19230	.10135	41.081	.21861

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00062	173.30	.00526	.09880	-.00067	.00150	.00240	23.600
Stddev	.00021	.40	.00099	.00380	.00247	.00111	.00981	.008
%RSD	33.121	.23350	18.859	3.8422	370.06	73.771	408.39	.03324

#1	.00084	173.36	.00595	.10196	-.00345	.00277	.01370	23.591
#2	.00059	173.67	.00571	.09459	.00017	.00098	-.00388	23.605
#3	.00043	172.87	.00412	.09985	.00128	.00074	-.00261	23.604

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610040804 Acquired: 10/13/2016 21:23:07 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00019	1.3622	-0.00481	-0.00367	.00089	.00213	1.9488
Stddev	.00030	.0042	.00244	.00253	.00106	.00007	1.1272
%RSD	159.88	.30837	50.728	69.029	118.91	3.2591	57.840

#1	-0.00007	1.3598	-0.00761	-0.00113	.00191	.00208	2.9873
#2	.00051	1.3670	-0.00317	-0.00367	-0.00020	.00211	.75011
#3	.00012	1.3597	-0.00364	-0.00620	.00095	.00221	2.1088

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10138.	112580.	12898.
Stddev	41.	598.	428.
%RSD	.40894	.53098	3.3185

#1	10169.	112980.	12554.
#2	10154.	112870.	13377.
#3	10091.	111890.	12762.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610042401 Acquired: 10/13/2016 21:26:51 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00047	.00048	.00047	.03977	1.1487	-0.00010	27.799	.00011
Stddev	.00097	.00376	.00173	.00140	.0083	.00007	.205	.00016
%RSD	205.91	784.20	368.38	3.5103	.72114	66.823	.73649	144.96

#1	.00133	-.00073	-.00098	.04137	1.1578	-.00007	28.035	.00025
#2	.00065	-.00253	.00001	.03879	1.1467	-.00017	27.686	-.00007
#3	-.00058	.00469	.00238	.03915	1.1417	-.00005	27.675	.00015

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00034	.00081	-.00041	.11596	1.1579	.01459	6.5165	.01525
Stddev	.00043	.00028	.00075	.01732	.0321	.00180	.0916	.00097
%RSD	124.91	34.510	182.90	14.939	2.7702	12.364	1.4050	6.3484

#1	.00069	.00056	-.00085	.10414	1.1587	.01322	6.5959	.01431
#2	-.00014	.00111	.00046	.13585	1.1254	.01664	6.5372	.01625
#3	.00047	.00077	-.00085	.10790	1.1895	.01391	6.4163	.01519

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00033	18.493	-.00002	.02141	.00109	-.00316	-.00051	6.9459
Stddev	.00009	.196	.00062	.00470	.00222	.00268	.00603	.0312
%RSD	27.160	1.0588	3270.6	21.952	204.17	84.830	1177.6	.44846

#1	.00037	18.712	.00069	.02172	.00033	-.00495	.00269	6.9439
#2	.00040	18.334	-.00035	.02594	-.00065	-.00008	-.00747	6.9779
#3	.00023	18.434	-.00040	.01656	.00359	-.00447	.00324	6.9157

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610042401 Acquired: 10/13/2016 21:26:51 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00120	.84497	-0.00023	-0.00179	.00001	.00129	.36674
Stddev	.00044	.00504	.00102	.00190	.00075	.00010	.50968
%RSD	36.502	.59605	435.46	106.14	6178.0	8.0673	138.98

#1	.00146	.85013	-0.00074	-0.00165	-0.00019	.00122	.87088
#2	.00069	.84470	-0.00089	-0.00375	.00084	.00141	-.14831
#3	.00144	.84007	.00094	.00004	-0.00062	.00125	.37766

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10345.	116700.	12922.
Stddev	195.	1940.	410.
%RSD	1.8886	1.6621	3.1691

#1	10444.	114730.	12630.
#2	10119.	116750.	13390.
#3	10470.	118610.	12746.

Approved: October 14, 2016

K. K. Buck

Sample Name: CCV Acquired: 10/13/2016 21:30:36 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.38958	9.9326	.39659	.48931	.95679	.04749	9.6350
Stddev	.00266	.0433	.00267	.00148	.00365	.00024	.0569
%RSD	.68294	.43581	.67438	.30236	.38109	.50525	.59094

#1	.38784	9.9165	.39496	.48896	.96030	.04740	9.6822
#2	.39264	9.9816	.39512	.49093	.95302	.04776	9.5717
#3	.38825	9.8997	.39967	.48803	.95706	.04731	9.6510

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05000	.19811	.48584	.49467	3.7561	F 44.681	F .88970
Stddev	.00054	.00210	.00216	.00216	.0278	.292	.00411
%RSD	1.0844	1.0601	.44491	.43732	.74036	.65415	.46205

#1	.04948	.19670	.48729	.49409	3.7471	44.919	.89324
#2	.04996	.19709	.48688	.49285	3.7340	44.355	.88519
#3	.05056	.20052	.48336	.49706	3.7873	44.769	.89067

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Fail
Value						50.000	1.0000
Range						-10.000%	-10.000%

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.4923	.47085	.98306	F 44.823	.49722	9.8690	.49531
Stddev	.0624	.00490	.00811	.183	.00379	.0502	.00362
%RSD	.65743	1.0409	.82460	.40914	.76246	.50827	.73130

#1	9.5642	.47577	.97746	45.010	.49530	9.8390	.49315
#2	9.4614	.47079	.97936	44.643	.49477	9.8410	.49328
#3	9.4515	.46597	.99235	44.816	.50159	9.9269	.49949

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
Value				50.000			
Range				-10.000%			

Approved: October 14, 2016

K. K. Buck

Sample Name: CCV Acquired: 10/13/2016 21:30:36 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.1831	.39930	4.9976	.99607	.97361	.95328	.49651
Stddev	.0137	.00625	.0365	.00806	.00346	.00190	.00286
%RSD	1.1601	1.5656	.72948	.80890	.35586	.19968	.57664

#1	1.1686	.39315	4.9853	.99072	.97528	.95248	.49518
#2	1.1849	.39912	4.9689	.99215	.96963	.95190	.49456
#3	1.1959	.40565	5.0386	1.0053	.97592	.95545	.49980

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.97001	.98189	F .64801
Stddev	.00393	.00652	1.1518
%RSD	.40469	.66437	177.74

#1	.97433	.97943	.44734
#2	.96903	.97695	-.39026
#3	.96666	.98928	1.8869

Check ?	Chk Pass	Chk Pass	Chk Fail
Value			1.0000
Range			-10.000%

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10145.	114280.	12587.
Stddev	113.	144.	517.
%RSD	1.1161	.12576	4.1070

#1	10188.	114310.	12015.
#2	10230.	114410.	13022.
#3	10017.	114120.	12722.

Approved: October 14, 2016

K: K Buck

Sample Name: CCB Acquired: 10/13/2016 21:34:05 Type: Blank
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00014	-.01140	.00300	.00352	-.00085	-.00005	.00559
Stddev	.00056	.00416	.00059	.00183	.00079	.00008	.02021
%RSD	409.71	36.501	19.525	51.848	93.540	166.64	361.79

#1	.00063	-.00724	.00302	.00159	-.00080	-.00007	-.01748
#2	-.00048	-.01139	.00241	.00521	-.00166	-.00011	.01406
#3	.00026	-.01556	.00358	.00377	-.00008	.00004	.02018

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00016	-.00007	.00088	-.00127	-.01445	-.08299	.00793
Stddev	.00017	.00004	.00035	.00051	.00374	.02180	.00224
%RSD	105.23	52.686	39.539	39.706	25.860	26.270	28.288

#1	-.00008	-.00003	.00057	-.00070	-.01287	-.07586	.01040
#2	-.00036	-.00009	.00125	-.00164	-.01871	-.06565	.00733
#3	-.00005	-.00008	.00081	-.00148	-.01176	-.10747	.00604

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.01731	.00070	.00006	.01073	.00035	-.00032	-.00068
Stddev	.04286	.00250	.00039	.02192	.00175	.00465	.00030
%RSD	247.54	355.40	660.18	204.37	498.87	1460.6	44.137

#1	.02173	-.00045	.00030	.00119	-.00078	.00131	-.00047
#2	-.01050	-.00102	.00027	.03580	-.00053	.00330	-.00103
#3	-.06317	.00358	-.00039	-.00481	.00237	-.00556	-.00055

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

K: K Buck

Sample Name: CCB Acquired: 10/13/2016 21:34:05 Type: Blank
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00043	-0.00361	.00160	.00012	-0.00023	-0.00195	-0.00093
Stddev	.00041	.00642	.00378	.00056	.00041	.00361	.00320
%RSD	94.553	177.84	236.36	452.14	180.40	184.74	346.45

#1	-0.00039	-0.00619	-0.00233	-0.00022	.00010	.00211	-0.00038
#2	-0.00085	.00370	.00191	-0.00018	-0.00069	-0.00478	-0.00437
#3	-0.00004	-0.00835	.00521	.00077	-0.00009	-0.00319	.00197

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00082	-0.00025	F 1.5655
Stddev	.00025	.00018	.9432
%RSD	30.314	69.036	60.246

#1	.00073	-0.00005	1.6499
#2	.00110	-0.00034	2.4637
#3	.00063	-0.00037	.58302

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.04000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10368.	118380.	12588.
Stddev	88.	918.	404.
%RSD	.85182	.77536	3.2061

#1	10407.	119400.	12933.
#2	10431.	118110.	12687.
#3	10267.	117630.	12144.

Approved: October 14, 2016

K: K Buck

Sample Name: L1610042701 Acquired: 10/13/2016 21:37:55 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00208	.04202	.00063	.01682	.03100	-.00010	29.321	.00011
Stddev	.00083	.00139	.00071	.00104	.00065	.00005	.107	.00010
%RSD	39.885	3.3082	113.47	6.2112	2.0955	48.747	.36483	85.107

#1	.00299	.04142	.00077	.01695	.03163	-.00006	29.348	.00012
#2	.00191	.04102	-.00015	.01572	.03033	-.00008	29.203	.00021
#3	.00135	.04360	.00126	.01779	.03104	-.00015	29.412	.00001

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00008	.00138	-.00088	.02068	.78466	.00991	6.8856	-.00071
Stddev	.00009	.00046	.00118	.00795	.08330	.00346	.0618	.00031
%RSD	108.36	33.310	134.04	38.448	10.616	34.977	.89698	43.972

#1	-.00013	.00178	-.00011	.02722	.88077	.00948	6.9010	-.00037
#2	-.00013	.00088	-.00223	.01183	.73329	.01356	6.8176	-.00077
#3	.00002	.00147	-.00029	.02298	.73993	.00667	6.9382	-.00098

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00127	10.153	-.00020	.00035	-.00177	.00110	.00417	4.0142
Stddev	.00069	.071	.00106	.00374	.00165	.00288	.00562	.0257
%RSD	54.388	.70300	536.53	1069.0	93.205	262.60	134.67	.63987

#1	.00162	10.218	-.00141	-.00193	-.00326	.00440	.00039	4.0419
#2	.00172	10.077	.00059	.00467	.00001	-.00084	.00149	4.0095
#3	.00047	10.164	.00022	-.00169	-.00207	-.00027	.01063	3.9912

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610042701 Acquired: 10/13/2016 21:37:55 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0019	.21390	.00099	-0.0102	.00087	.00095	.56029
Stddev	.00043	.00015	.00384	.00365	.00083	.00011	2.1475
%RSD	221.69	.07124	387.66	358.03	94.462	11.031	383.29

#1	-0.0021	.21399	-0.0217	-0.0150	.00012	.00102	1.2709
#2	.00024	.21372	.00526	.00285	.00176	.00101	2.2625
#3	-0.0062	.21398	-0.0012	-0.0441	.00074	.00083	-1.8525

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10401.	115670.	12836.
Stddev	190.	288.	382.
%RSD	1.8248	.24926	2.9792

#1	10238.	115370.	12924.
#2	10356.	115700.	13167.
#3	10609.	115940.	12418.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610042801 Acquired: 10/13/2016 21:41:39 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00077	.04275	.00119	.01951	.03711	-.00009	33.467	.00002
Stddev	.00108	.00321	.00161	.00086	.00049	.00008	.076	.00018
%RSD	140.07	7.5111	135.85	4.4276	1.3090	90.155	.22572	753.12

#1	.00013	.04054	.00303	.02038	.03713	-.00012	33.411	.00006
#2	.00017	.04644	.00046	.01947	.03662	.00000	33.437	.00018
#3	.00202	.04128	.00007	.01866	.03759	-.00015	33.553	-.00017

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00014	.00133	.00092	.11375	.98739	.00842	4.7833	.00228
Stddev	.00009	.00085	.00139	.01145	.04992	.00254	.0794	.00067
%RSD	64.735	64.025	151.43	10.064	5.0555	30.146	1.6589	29.179

#1	.00004	.00176	.00016	.11719	.98224	.00917	4.7472	.00299
#2	.00019	.00189	.00253	.12308	.94026	.00559	4.7284	.00167
#3	.00020	.00035	.00007	.10097	1.0397	.01049	4.8743	.00219

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00084	7.4217	.00091	.03567	.00375	.00163	.00170	3.7349
Stddev	.00024	.0285	.00077	.00554	.00507	.00241	.00331	.0155
%RSD	28.926	.38377	83.828	15.531	135.28	148.34	194.68	.41574

#1	.00110	7.4491	.00003	.02996	.00946	.00420	-.00171	3.7240
#2	.00061	7.4237	.00135	.04103	-.00019	.00125	.00491	3.7281
#3	.00083	7.3922	.00136	.03603	.00197	-.00057	.00191	3.7527

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610042801 Acquired: 10/13/2016 21:41:39 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00119	.12448	-0.00481	-0.00155	.00070	.00395	.20205
Stddev	.00051	.00097	.00151	.00108	.00014	.00006	.19403
%RSD	42.925	.77690	31.414	69.401	19.820	1.4882	96.032

#1	.00113	.12344	-0.00654	-0.00074	.00075	.00397	.32381
#2	.00071	.12465	-0.00374	-0.00115	.00055	.00399	-.02171
#3	.00173	.12535	-0.00416	-0.00278	.00082	.00388	.30405

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10341.	114550.	13067.
Stddev	143.	355.	257.
%RSD	1.3861	.31026	1.9688

#1	10207.	114420.	13162.
#2	10323.	114270.	13264.
#3	10492.	114950.	12776.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610042901 Acquired: 10/13/2016 21:45:24 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00061	.00413	.00098	.03433	.06677	-.00011	13.324
Stddev	.00122	.00722	.00223	.00001	.00034	.00001	.033
%RSD	198.83	175.04	227.79	.02383	.50441	6.7799	.24483

#1	-.00061	.01136	.00030	.03432	.06688	-.00011	13.288
#2	.00063	-.00308	.00347	.03433	.06639	-.00012	13.333
#3	.00182	.00410	-.00083	.03434	.06704	-.00011	13.352

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00006	-.00008	.00063	.02514	.00080	.64077	.01448
Stddev	.00045	.00032	.00080	.00180	.00409	.06651	.00369
%RSD	711.89	381.26	127.07	7.1734	512.47	10.380	25.493

#1	.00038	.00004	.00108	.02706	-.00391	.71442	.01310
#2	-.00006	-.00045	-.00029	.02349	.00290	.62280	.01168
#3	-.00051	.00016	.00110	.02486	.00341	.58509	.01867

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.4030	.00026	.00128	65.004	.00045	-.00345	.00190
Stddev	.0234	.00182	.00017	.024	.00062	.00594	.00278
%RSD	.68803	708.29	13.054	.03745	139.29	172.32	146.23

#1	3.4022	.00056	.00141	65.030	-.00027	.00063	.00070
#2	3.4268	.00191	.00109	64.982	.00089	-.01026	-.00008
#3	3.3800	-.00169	.00133	64.999	.00072	-.00071	.00507

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

K: K Buck

Sample Name: L1610042901 Acquired: 10/13/2016 21:45:24 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00201	.00092	2.9633	.00010	.20263	.00114	-.00190
Stddev	.00290	.00596	.0056	.00046	.00051	.00293	.00119
%RSD	143.94	646.87	.18995	457.29	.25393	257.90	62.530

#1	-.00116	.00661	2.9634	.00015	.20243	-.00223	-.00126
#2	.00269	.00142	2.9689	.00054	.20225	.00256	-.00327
#3	.00452	-.00527	2.9577	-.00038	.20322	.00309	-.00117

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00074	.01964	F -.60241
Stddev	.00026	.00006	1.3439
%RSD	35.634	.32641	223.09

#1	.00048	.01970	.54775
#2	.00100	.01958	-.27529
#3	.00074	.01963	-2.0797

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10224.	115200.	12726.
Stddev	119.	1477.	295.
%RSD	1.1670	1.2822	2.3205

#1	10341.	114230.	12840.
#2	10102.	114460.	12948.
#3	10228.	116900.	12391.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610042902 Acquired: 10/13/2016 21:49:08 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00007	-.00641	.00271	.03007	.08554	-.00008	26.249
Stddev	.00025	.00272	.00116	.00182	.00035	.00006	.065
%RSD	356.56	42.425	42.753	6.0676	.41308	67.825	.24649

#1	.00017	-.00896	.00357	.03117	.08553	-.00009	26.271
#2	.00026	-.00672	.00316	.03108	.08590	-.00014	26.176
#3	-.00021	-.00355	.00139	.02797	.08520	-.00002	26.300

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00024	.00023	.00085	.00020	.01101	.63067	.00931
Stddev	.00021	.00043	.00090	.00201	.00623	.07339	.00293
%RSD	88.945	182.85	105.25	1014.7	56.578	11.637	31.421

#1	-.00048	.00070	.00171	.00206	.00587	.61572	.01084
#2	-.00009	.00013	-.00008	-.00193	.01793	.71039	.01116
#3	-.00014	-.00013	.00093	.00046	.00922	.56592	.00594

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.5129	.00286	.00139	17.971	.00030	.02315	.00198
Stddev	.0817	.00137	.00035	.042	.00096	.00659	.00182
%RSD	2.3267	47.927	24.959	.23255	314.81	28.486	91.784

#1	3.5854	.00164	.00177	18.018	-.00022	.01561	.00407
#2	3.5290	.00434	.00110	17.937	.00141	.02600	.00079
#3	3.4244	.00261	.00129	17.959	-.00028	.02783	.00108

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

K: K Buck

Sample Name: L1610042902 Acquired: 10/13/2016 21:49:08 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0018	.00171	4.1848	.00011	.22657	-0.00167	-0.00194
Stddev	.00384	.00086	.0157	.00037	.00055	.00251	.00473
%RSD	2119.8	50.369	.37573	319.82	.24249	150.69	243.76

#1	-0.00209	.00117	4.1673	-0.00028	.22622	-0.00130	.00125
#2	.00423	.00271	4.1894	.00045	.22720	-0.00435	-0.00738
#3	-0.00269	.00126	4.1977	.00017	.22630	.00064	.00031

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00035	.00692	F -.11043
Stddev	.00106	.00007	.89148
%RSD	307.06	1.0580	807.26

#1	.00124	.00686	.43509
#2	.00063	.00691	.37281
#3	-0.00083	.00700	-1.1392

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-0.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10331.	118150.	12931.
Stddev	97.	487.	274.
%RSD	.93768	.41243	2.1180

#1	10226.	118590.	12724.
#2	10351.	117620.	13242.
#3	10417.	118220.	12828.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610043001 Acquired: 10/13/2016 21:52:52 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00155	.13042	-.00108	.02104	.04050	-.00007	38.902	-.00009
Stddev	.00101	.00134	.00260	.00068	.00015	.00007	.036	.00017
%RSD	64.962	1.0273	241.87	3.2097	.37801	102.87	.09248	192.78

#1	.00148	.13110	.00020	.02033	.04044	.00001	38.861	-.00017
#2	.00259	.13129	.00064	.02167	.04068	-.00011	38.916	-.00020
#3	.00058	.12888	-.00407	.02113	.04039	-.00011	38.928	.00011

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00014	.00102	.00065	.09236	.42820	.01158	6.0653	.00533
Stddev	.00035	.00030	.00073	.00956	.03175	.00182	.0454	.00042
%RSD	244.47	29.016	112.73	10.355	7.4140	15.740	.74816	7.8813

#1	.00046	.00081	.00086	.08798	.40263	.01013	6.0266	.00514
#2	.00019	.00089	-.00016	.08578	.41822	.01363	6.1152	.00504
#3	-.00023	.00136	.00126	.10333	.46373	.01099	6.0540	.00582

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00002	2.6469	.00165	-.00537	.00189	-.00008	.01097	3.8791
Stddev	.00016	.0275	.00050	.00355	.00279	.00060	.00681	.0073
%RSD	880.93	1.0398	30.379	66.071	147.42	736.04	62.094	.18817

#1	.00016	2.6220	.00128	-.00505	-.00058	.00031	.01025	3.8805
#2	-.00007	2.6424	.00222	-.00199	.00134	.00022	.00455	3.8711
#3	-.00014	2.6765	.00146	-.00906	.00492	-.00077	.01812	3.8855

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610043001 Acquired: 10/13/2016 21:52:52 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00005	.08251	-0.00041	-0.00184	.00035	.00129	.40821
Stddev	.00023	.00065	.00170	.00239	.00037	.00010	1.7394
%RSD	444.71	.79366	418.93	130.32	106.25	7.9170	426.12

#1	-0.00013	.08327	-0.00193	-0.00131	.00012	.00118	1.3125
#2	-0.00003	.08216	.00142	.00025	.00015	.00138	1.5092
#3	.00031	.08210	-0.00071	-0.00445	.00079	.00132	-1.5971

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10421.	119760.	13240.
Stddev	188.	68.	488.
%RSD	1.8082	.05662	3.6893

#1	10610.	119750.	13539.
#2	10422.	119840.	13504.
#3	10233.	119700.	12676.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610043101 Acquired: 10/13/2016 21:56:37 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00058	.00867	.00040	.05509	.45334	-.00009	16.097
Stddev	.00145	.00061	.00241	.00073	.00229	.00003	.062
%RSD	251.10	7.0820	598.88	1.3229	.50554	29.974	.38384

#1	.00151	.00803	.00297	.05482	.45127	-.00009	16.027
#2	-.00109	.00926	.00004	.05591	.45580	-.00012	16.121
#3	.00132	.00871	-.00180	.05452	.45294	-.00006	16.143

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00004	-.00025	.00038	.00498	.49279	.47912	.00991
Stddev	.00022	.00030	.00079	.00219	.01938	.02821	.00560
%RSD	639.80	119.10	206.81	44.019	3.9320	5.8886	56.563

#1	-.00029	-.00060	.00008	.00366	.50086	.44923	.01248
#2	.00004	-.00004	-.00021	.00377	.50683	.50530	.00348
#3	.00014	-.00012	.00127	.00751	.47069	.48282	.01376

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.4169	.03430	.00604	67.595	.00135	-.00176	.00374
Stddev	.0554	.00045	.00009	.166	.00040	.00370	.00428
%RSD	2.2922	1.3105	1.4228	.24550	29.381	210.95	114.64

#1	2.4735	.03482	.00594	67.408	.00178	-.00288	.00820
#2	2.3627	.03410	.00607	67.727	.00100	.00238	-.00034
#3	2.4145	.03399	.00610	67.648	.00126	-.00476	.00336

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

K: K Buck

Sample Name: L1610043101 Acquired: 10/13/2016 21:56:37 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00458	.00037	2.8396	.00013	.13662	-0.00264	-0.00203
Stddev	.00402	.00783	.0103	.00046	.00048	.00120	.00279
%RSD	87.665	2099.6	.36111	345.89	.35400	45.482	137.33

#1	-0.00871	.00939	2.8281	-0.0027	.13669	-0.00135	-0.00524
#2	-0.00069	-0.00359	2.8478	.00064	.13706	-0.00373	-0.00062
#3	-0.00435	-0.00469	2.8429	.00003	.13610	-0.00283	-0.00023

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00097	.00215	F -.13343
Stddev	.00069	.00003	.36766
%RSD	70.900	1.4775	275.54

#1	.00157	.00212	.25386
#2	.00022	.00218	-.17647
#3	.00111	.00215	-.47768

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10217.	116450.	13080.
Stddev	138.	819.	312.
%RSD	1.3476	.70358	2.3864

#1	10228.	116980.	13072.
#2	10074.	115500.	13397.
#3	10348.	116860.	12773.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610043301 Acquired: 10/13/2016 22:00:21 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00231	.12926	.00048	.01564	.03891	-.00007	29.748	-.00012
Stddev	.00060	.00609	.00208	.00040	.00070	.00006	.036	.00016
%RSD	26.140	4.7128	429.19	2.5564	1.7928	85.323	.12223	126.58

#1	.00301	.12437	.00024	.01600	.03828	-.00013	29.715	.00003
#2	.00198	.12732	.00267	.01521	.03966	-.00001	29.743	-.00011
#3	.00194	.13608	-.00146	.01572	.03879	-.00006	29.787	-.00029

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00006	.00066	.00069	.09177	.68073	.00781	6.3907	.00286
Stddev	.00012	.00022	.00058	.00203	.04699	.00309	.1236	.00082
%RSD	206.39	32.950	84.023	2.2161	6.9027	39.627	1.9343	28.647

#1	-.00014	.00079	.00101	.09392	.64670	.01137	6.2503	.00349
#2	-.00013	.00078	.00103	.08988	.73435	.00584	6.4832	.00316
#3	.00008	.00041	.00002	.09151	.66116	.00621	6.4386	.00193

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00031	5.2260	.00039	.00018	-.00018	.00143	.00535	3.9316
Stddev	.00029	.0093	.00072	.00465	.00266	.00165	.00193	.0136
%RSD	92.168	.17717	186.20	2602.3	1506.4	115.23	36.052	.34553

#1	.00034	5.2177	.00092	.00553	-.00288	-.00038	.00735	3.9415
#2	.00059	5.2360	-.00043	-.00218	.00244	.00286	.00521	3.9373
#3	.00001	5.2244	.00067	-.00282	-.00009	.00181	.00350	3.9161

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610043301 Acquired: 10/13/2016 22:00:21 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00009	.14308	-0.00050	-0.00370	.00016	.00128	1.0748
Stddev	.00055	.00025	.00108	.00298	.00060	.00011	.9761
%RSD	630.26	.17202	216.04	80.577	375.42	8.5957	90.816

#1	.00024	.14279	.00004	-.00578	.00026	.00115	2.1973
#2	.00055	.14319	.00020	-.00504	.00070	.00136	.42499
#3	-.00053	.14325	-.00175	-.00028	-.00048	.00131	.60218

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10509.	117350.	13099.
Stddev	41.	794.	287.
%RSD	.39445	.67699	2.1943

#1	10484.	117990.	13000.
#2	10557.	116460.	13423.
#3	10487.	117610.	12875.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610043302 Acquired: 10/13/2016 22:04:05 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00116	.04171	.00187	.01299	.03225	-.00008	32.924	-.00006
Stddev	.00130	.00607	.00074	.00072	.00080	.00005	.095	.00041
%RSD	112.18	14.554	39.293	5.5153	2.4833	63.680	.28878	712.83

#1	.00139	.04677	.00218	.01272	.03151	-.00003	32.905	-.00035
#2	-.00024	.04338	.00103	.01246	.03310	-.00013	32.841	-.00023
#3	.00234	.03498	.00240	.01381	.03215	-.00010	33.028	.00041

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00009	.00146	-.00040	.03467	.59684	.00841	6.2547	.00187
Stddev	.00059	.00047	.00120	.01309	.04847	.00258	.1296	.00094
%RSD	691.84	32.085	302.36	37.767	8.1203	30.692	2.0715	50.060

#1	-.00016	.00113	-.00094	.02720	.61403	.00961	6.1950	.00228
#2	-.00035	.00199	.00098	.04978	.54212	.01017	6.4034	.00254
#3	.00076	.00125	-.00123	.02701	.63436	.00545	6.1658	.00080

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00036	3.5139	.00094	.00161	.00291	-.00016	.00572	4.0577
Stddev	.00051	.0318	.00094	.00204	.00242	.00137	.00860	.0141
%RSD	141.65	.90485	99.695	126.79	83.316	877.97	150.45	.34813

#1	.00007	3.4774	.00027	.00397	.00398	.00015	-.00358	4.0418
#2	.00095	3.5288	.00053	.00036	.00461	.00104	.01339	4.0689
#3	.00006	3.5355	.00201	.00050	.00013	-.00166	.00735	4.0623

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610043302 Acquired: 10/13/2016 22:04:05 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00076	.10042	-0.00377	-0.00379	.00045	.00189	.80779
Stddev	.00048	.00018	.00528	.00352	.00027	.00014	.87757
%RSD	63.567	.18048	139.88	92.923	59.411	7.4266	108.64

#1	.00045	.10021	.00011	-.00059	.00036	.00182	.96028
#2	.00051	.10050	-.00165	-.00321	.00024	.00181	1.5991
#3	.00131	.10054	-.00979	-.00756	.00076	.00206	-.13603

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10427.	118540.	12937.
Stddev	30.	79.	344.
%RSD	.28797	.06682	2.6619

#1	10403.	118550.	12889.
#2	10418.	118610.	13303.
#3	10461.	118460.	12619.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610043303 Acquired: 10/13/2016 22:07:50 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00137	6.7443	.00607	.01456	.15540	.00034	41.512	.00039
Stddev	.00044	.0170	.00245	.00025	.00029	.00003	.163	.00019
%RSD	32.173	.25226	40.376	1.7214	.18742	10.130	.39205	49.399

#1	.00087	6.7626	.00401	.01463	.15555	.00035	41.580	.00059
#2	.00153	6.7289	.00878	.01477	.15507	.00031	41.326	.00036
#3	.00170	6.7416	.00542	.01428	.15559	.00038	41.629	.00021

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00776	.00873	.01058	13.069	4.6321	.01895	7.5308	2.8460
Stddev	.00042	.00020	.00044	.059	.1015	.00257	.0901	.0073
%RSD	5.4415	2.3321	4.1166	.44954	2.1921	13.549	1.1965	.25569

#1	.00785	.00895	.01010	13.128	4.7432	.02095	7.5818	2.8533
#2	.00812	.00855	.01096	13.010	4.5441	.01984	7.4268	2.8388
#3	.00730	.00869	.01066	13.068	4.6091	.01605	7.5839	2.8460

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00121	4.4655	.01127	.30951	.01236	-.00106	.00045	9.9193
Stddev	.00052	.0352	.00126	.00668	.00108	.00304	.00088	.0478
%RSD	42.618	.78763	11.205	2.1567	8.7636	285.96	195.22	.48157

#1	.00117	4.5003	.01017	.31698	.01192	-.00421	.00000	9.9734
#2	.00072	4.4300	.01265	.30741	.01359	.00186	-.00012	9.8828
#3	.00174	4.4663	.01099	.30413	.01156	-.00084	.00146	9.9018

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610043303 Acquired: 10/13/2016 22:07:50 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00100	.13199	.05466	.00036	.01038	.07362	1.4941
Stddev	.00044	.00062	.00397	.00364	.00085	.00020	.7145
%RSD	43.440	.46705	7.2709	1015.6	8.2382	.27437	47.818

#1	.00138	.13174	.05515	.00109	.01078	.07381	1.5145
#2	.00111	.13153	.05836	.00358	.00939	.07341	2.1982
#3	.00052	.13269	.05046	-.00359	.01096	.07363	.76969

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10541.	120800.	13147.
Stddev	116.	726.	391.
%RSD	1.1047	.60089	2.9759

#1	10676.	120010.	12883.
#2	10479.	120980.	13597.
#3	10469.	121430.	12962.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610043501 Acquired: 10/13/2016 22:11:30 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00034	.21464	.00203	.01564	.03130	-.00010	36.627	-.00029
Stddev	.00262	.00433	.00241	.00075	.00072	.00004	.125	.00017
%RSD	761.22	2.0152	119.12	4.7978	2.2940	40.421	.34167	58.339

#1	-.00001	.21551	.00344	.01477	.03159	-.00005	36.594	-.00027
#2	-.00208	.20994	-.00076	.01608	.03049	-.00013	36.766	-.00047
#3	.00312	.21846	.00340	.01607	.03183	-.00012	36.522	-.00013

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00010	.00150	-.00071	.15959	.74861	.00903	8.5497	.00432
Stddev	.00025	.00082	.00102	.00887	.06134	.00076	.0520	.00107
%RSD	261.45	55.158	144.08	5.5593	8.1943	8.4557	.60861	24.877

#1	-.00002	.00218	-.00139	.14936	.80465	.00984	8.4914	.00488
#2	.00011	.00173	.00046	.16419	.68307	.00833	8.5664	.00308
#3	-.00038	.00058	-.00120	.16521	.75811	.00892	8.5914	.00500

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00091	4.3178	.00130	.00758	.00211	-.00132	.00482	3.8603
Stddev	.00023	.0369	.00070	.00521	.00318	.00359	.00144	.0107
%RSD	24.991	.85479	54.117	68.708	150.73	271.75	29.950	.27718

#1	.00102	4.3178	.00141	.00893	-.00119	-.00443	.00495	3.8521
#2	.00107	4.3546	.00194	.01198	.00515	.00261	.00332	3.8564
#3	.00065	4.2808	.00055	.00183	.00236	-.00214	.00620	3.8724

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610043501 Acquired: 10/13/2016 22:11:30 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00024	.11975	-0.00019	-0.00498	.00029	.00130	1.4209
Stddev	.00109	.00083	.00037	.00286	.00053	.00021	1.3770
%RSD	447.33	.69454	191.06	57.419	184.59	16.534	96.909

#1	.00058	.11971	.00023	-.00203	.00045	.00143	2.6436
#2	.00112	.12060	-.00042	-.00517	-.00030	.00105	1.6898
#3	-.00097	.11893	-.00040	-.00774	.00071	.00140	-.07068

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10558.	117620.	13185.
Stddev	40.	1392.	331.
%RSD	.38323	1.1835	2.5121

#1	10590.	117150.	13240.
#2	10571.	116520.	13485.
#3	10512.	119180.	12829.

Approved: October 14, 2016

K. K. Buck

Sample Name: CCV Acquired: 10/13/2016 22:15:18 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.39077	9.9379	.40199	.49360	.95787	.04758	9.6608
Stddev	.00126	.0305	.00251	.00291	.00429	.00037	.0437
%RSD	.32338	.30698	.62544	.59010	.44817	.77840	.45201

#1	.39125	9.9611	.40359	.49650	.96085	.04793	9.6812
#2	.39172	9.9493	.40328	.49068	.95295	.04763	9.6106
#3	.38934	9.9034	.39909	.49361	.95980	.04720	9.6905

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05005	.19950	.48663	.49483	3.7779	F 44.641	F .88122
Stddev	.00041	.00068	.00311	.00164	.0111	.390	.00607
%RSD	.82221	.34089	.63886	.33097	.29272	.87333	.68904

#1	.05034	.19980	.48673	.49294	3.7671	44.979	.88334
#2	.04958	.19873	.48969	.49589	3.7773	44.215	.87437
#3	.05022	.19999	.48347	.49565	3.7892	44.728	.88595

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Fail
Value						50.000	1.0000
Range						-10.000%	-10.000%

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.5079	.46876	.98223	F 44.781	.49850	9.9913	.50124
Stddev	.0648	.00434	.00315	.259	.00134	.0223	.00403
%RSD	.68124	.92514	.32093	.57735	.26888	.22364	.80324

#1	9.5827	.47180	.98007	44.962	.49781	9.9673	.50584
#2	9.4727	.46379	.98077	44.485	.50004	9.9950	.49952
#3	9.4684	.47068	.98584	44.896	.49764	10.012	.49836

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
Value				50.000			
Range				-10.000%			

Approved: October 14, 2016

K. K. Buck

Sample Name: CCV Acquired: 10/13/2016 22:15:18 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.1906	.40168	5.0256	1.0032	.97547	.95158	.50049
Stddev	.0049	.00346	.0158	.0028	.00378	.01010	.00054
%RSD	.41018	.86150	.31437	.27707	.38747	1.0609	.10730

#1	1.1876	.40558	5.0106	1.0025	.97750	.96052	.50077
#2	1.1962	.40051	5.0241	1.0009	.97111	.94063	.49987
#3	1.1879	.39896	5.0421	1.0063	.97781	.95359	.50084

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.97089	.98990	.93571
Stddev	.00754	.00350	.90039
%RSD	.77618	.35328	96.225

#1	.97802	.98852	.39634
#2	.97166	.98730	.43565
#3	.96301	.99387	1.9751

Check ?	Chk Pass	Chk Pass	Chk Pass
Value			
Range			

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10218.	113790.	12471.
Stddev	67.	867.	496.
%RSD	.65819	.76187	3.9781

#1	10159.	114730.	12025.
#2	10203.	113600.	13005.
#3	10291.	113030.	12382.

Approved: October 14, 2016

K. K. Buck

Sample Name: CCB Acquired: 10/13/2016 22:18:46 Type: Blank
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00096	-.01587	.00154	.00146	-.00096	-.00002	.00250
Stddev	.00102	.00354	.00153	.00097	.00015	.00007	.01375
%RSD	105.73	22.297	99.358	66.769	15.253	349.04	549.13

#1	-.00017	-.01204	.00003	.00039	-.00090	-.00009	.01305
#2	.00181	-.01903	.00151	.00170	-.00113	-.00000	.00750
#3	.00126	-.01653	.00309	.00229	-.00086	.00004	-.01304

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00034	.00030	.00085	-.00146	-.00474	-.15268	.00888
Stddev	.00025	.00029	.00017	.00152	.00742	.05302	.00307
%RSD	72.760	97.800	20.042	104.10	156.55	34.728	34.608

#1	-.00028	.00044	.00086	-.00039	.00375	-.14559	.00642
#2	-.00013	.00049	.00068	-.00320	-.00999	-.10356	.00790
#3	-.00062	-.00004	.00102	-.00078	-.00797	-.20889	.01233

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.04098	.00032	.00003	.00842	.00111	-.00224	.00028
Stddev	.00852	.00124	.00035	.01223	.00063	.00504	.00248
%RSD	20.784	384.48	1234.0	145.20	56.670	224.45	878.34

#1	-.03227	.00149	.00043	-.00229	.00047	-.00734	-.00198
#2	-.04140	.00045	-.00012	.02174	.00173	.00274	.00294
#3	-.04929	-.00098	-.00022	.00582	.00113	-.00214	-.00012

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

K: K Buck

Sample Name: CCB Acquired: 10/13/2016 22:18:46 Type: Blank
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00102	.00149	.00533	.00032	.00017	-.00070	-.00106
Stddev	.00120	.00630	.00978	.00007	.00019	.00408	.00053
%RSD	117.60	424.18	183.57	22.093	107.30	580.79	49.836

#1	.00172	.00049	.00032	.00025	.00022	.00287	-.00165
#2	.00171	-.00426	.01660	.00039	-.00003	-.00515	-.00086
#3	-.00037	.00823	-.00093	.00031	.00033	.00018	-.00066

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-.00018	.00028	F -.04666
Stddev	.00048	.00095	.63760
%RSD	260.30	332.72	1366.5

#1	.00037	.00008	-.39147
#2	-.00049	.00132	-.43760
#3	-.00043	-.00054	.68909

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.04000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10225.	118160.	12874.
Stddev	120.	116.	357.
%RSD	1.1755	.09821	2.7737

#1	10201.	118020.	12729.
#2	10356.	118230.	13281.
#3	10119.	118220.	12612.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610052301 Acquired: 10/13/2016 22:22:36 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00019	.00664	-.00094	.00949	-.00015	-.00005	.17014	-.00008
Stddev	.00107	.00304	.00018	.00159	.00036	.00002	.01429	.00014
%RSD	562.96	45.836	18.916	16.745	234.26	46.626	8.3978	171.29

#1	-.00073	.00768	-.00075	.00837	.00011	-.00007	.18607	.00005
#2	.00137	.00903	-.00098	.01131	-.00056	-.00003	.15847	-.00023
#3	-.00007	.00321	-.00111	.00880	-.00001	-.00005	.16586	-.00007

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00006	.00394	.04257	.38939	-.06403	.00671	-.00455	.00387
Stddev	.00023	.00040	.00082	.00552	.06051	.00500	.00620	.00059
%RSD	356.30	10.043	1.9352	1.4173	94.511	74.544	136.20	15.144

#1	-.00016	.00418	.04351	.38537	-.12507	.00102	.00070	.00350
#2	.00020	.00348	.04220	.38711	-.06296	.00873	-.00297	.00454
#3	-.00022	.00416	.04199	.39568	-.00405	.01039	-.01138	.00356

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00056	.05379	.00146	-.01803	.00211	.00127	.00021	.03861
Stddev	.00008	.00431	.00137	.00317	.00057	.00586	.00439	.00279
%RSD	13.528	8.0205	93.988	17.591	26.827	461.80	2103.6	7.2353

#1	.00065	.05147	.00027	-.01782	.00163	-.00070	.00063	.04180
#2	.00053	.05114	.00115	-.01496	.00273	-.00336	-.00437	.03742
#3	.00051	.05877	.00296	-.02130	.00196	.00786	.00437	.03661

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610052301 Acquired: 10/13/2016 22:22:36 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00139	.00031	.00205	-.00073	.00008	.01146	1.4335
Stddev	.00038	.00009	.00328	.00419	.00012	.00005	.8082
%RSD	27.075	30.590	159.75	575.32	160.21	.47844	56.382

#1	.00098	.00039	-.00041	.00387	.00013	.01144	1.5929
#2	.00148	.00032	.00578	-.00434	.00016	.01142	2.1501
#3	.00171	.00021	.00079	-.00172	-.00006	.01152	.55742

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10381.	119950.	12917.
Stddev	40.	424.	211.
%RSD	.38640	.35332	1.6350

#1	10410.	120330.	12678.
#2	10398.	120030.	12997.
#3	10335.	119490.	13076.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610052302 Acquired: 10/13/2016 22:26:23 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587230-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00068	.00314	.00154	.00955	-.00127	-.00012	.14837	-.00005
Stddev	.00120	.00219	.00224	.00223	.00026	.00009	.00694	.00026
%RSD	176.94	69.836	145.32	23.392	20.217	80.389	4.6797	531.59

#1	.00138	.00270	.00078	.00761	-.00154	-.00006	.14366	.00013
#2	.00137	.00120	.00407	.00904	-.00103	-.00022	.14511	-.00034
#3	-.00071	.00551	-.00022	.01199	-.00123	-.00006	.15635	.00006

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00016	.00451	.00707	.23748	-.06670	.00566	.03548	.00229
Stddev	.00063	.00038	.00135	.00606	.00799	.00179	.01587	.00076
%RSD	407.03	8.4004	19.071	2.5529	11.976	31.649	44.722	32.964

#1	.00088	.00491	.00633	.23113	-.05793	.00472	.01725	.00224
#2	-.00024	.00416	.00625	.24321	-.06861	.00454	.04617	.00307
#3	-.00018	.00447	.00863	.23810	-.07356	.00773	.04303	.00156

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00067	.12147	.00066	-.01468	.00013	-.00664	.00422	.03301
Stddev	.00028	.01750	.00064	.00562	.00423	.00482	.00686	.00055
%RSD	42.472	14.409	96.646	38.307	3232.3	72.585	162.31	1.6804

#1	.00055	.10382	.00107	-.01965	-.00416	-.00722	.00921	.03362
#2	.00099	.12178	.00099	-.00857	.00026	-.01113	.00706	.03253
#3	.00046	.13882	-.00007	-.01581	.00429	-.00155	-.00359	.03288

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610052302 Acquired: 10/13/2016 22:26:23 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587230-01

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00011	.00042	-0.00035	-0.00205	.00025	.00421	1.1823
Stddev	.00057	.00012	.00179	.00386	.00068	.00008	1.0098
%RSD	533.66	29.330	516.35	187.91	271.48	1.8412	85.410

#1	.00076	.00029	.00142	-.00561	-.00052	.00421	2.0414
#2	-.00023	.00054	-.00216	.00205	.00050	.00413	.06997
#3	-.00021	.00044	-.00031	-.00261	.00077	.00429	1.4356

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10479.	121650.	12832.
Stddev	61.	145.	138.
%RSD	.58433	.11942	1.0743

#1	10409.	121560.	12942.
#2	10520.	121820.	12877.
#3	10508.	121570.	12677.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610052302PS Acquired: 10/13/2016 22:30:10 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587464-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19507	5.0136	.19816	.92924	.47064	.02320	4.8827	.02491
Stddev	.00092	.0322	.00196	.00460	.00163	.00002	.0232	.00025
%RSD	.47148	.64263	.98784	.49490	.34689	.08724	.47523	1.0136

#1	.19589	4.9784	.19961	.92398	.47128	.02321	4.8808	.02479
#2	.19524	5.0209	.19594	.93123	.46878	.02317	4.8606	.02474
#3	.19408	5.0416	.19894	.93251	.47184	.02320	4.9069	.02520

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.10013	.24483	.25336	2.0880	21.856	.44091	4.6757	.23470
Stddev	.00045	.00121	.00086	.0295	.153	.00135	.0920	.00193
%RSD	.44884	.49556	.33986	1.4139	.70095	.30540	1.9669	.82090

#1	.09990	.24388	.25237	2.0897	21.946	.44171	4.5981	.23325
#2	.09985	.24441	.25384	2.0576	21.679	.44166	4.6517	.23397
#3	.10065	.24619	.25388	2.1166	21.943	.43935	4.7773	.23689

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.49284	22.381	.25038	4.7896	.25319	.57997	.19500	2.4663
Stddev	.00072	.097	.00156	.0164	.00187	.00248	.00497	.0094
%RSD	.14572	.43560	.62315	.34347	.73694	.42744	2.5470	.38126

#1	.49333	22.474	.25215	4.7856	.25402	.57767	.19008	2.4687
#2	.49202	22.279	.24978	4.7755	.25105	.57963	.19489	2.4559
#3	.49319	22.390	.24921	4.8077	.25450	.58259	.20002	2.4742

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Approved: October 14, 2016

K: K Buck

Sample Name: L1610052302PS Acquired: 10/13/2016 22:30:10 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587464-01

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.50183	.48021	.47006	.25198	.48227	.49549	1.3329
Stddev	.00136	.00157	.00331	.00248	.00148	.00125	2.0118
%RSD	.27171	.32694	.70429	.98240	.30676	.25219	150.93
#1	.50032	.48096	.46935	.25471	.48174	.49573	2.2594
#2	.50221	.47841	.46717	.25135	.48114	.49413	2.7146
#3	.50296	.48126	.47367	.24988	.48395	.49659	-.97519

Check ? **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass**
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10128.	116610.	12943.
Stddev	28.	1576.	226.
%RSD	.27340	1.3512	1.7497
#1	10104.	117620.	12875.
#2	10159.	117430.	13196.
#3	10123.	114800.	12758.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610052302SDL Acquired: 10/13/2016 22:33:44 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment: WG587464-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00068	.00126	.00041	.00222	-0.00059	-0.00014	.04176
Stddev	.00089	.00159	.00219	.00022	.00055	.00005	.01563
%RSD	131.72	125.62	534.40	10.003	93.675	32.830	37.431

#1	-0.00062	-0.00056	-0.00155	.00239	-0.00093	-0.00009	.03834
#2	.00018	.00235	.00000	.00197	.00005	-0.00014	.02812
#3	-0.00159	.00200	.00278	.00230	-0.00089	-0.00018	.05882

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00026	.00003	.00170	-0.00015	.04174	-1.0678	.00647
Stddev	.00032	.00025	.00064	.00025	.00927	.01337	.00272
%RSD	124.34	922.85	37.400	164.51	22.219	12.525	42.013

#1	.00004	.00028	.00197	.00012	.05242	-.11877	.00446
#2	-0.00059	-0.00022	.00097	-0.00021	.03708	-.09236	.00956
#3	-0.00021	.00002	.00216	-0.00037	.03573	-.10921	.00539

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.05015	.00202	.00020	.02977	.00064	-0.00121	.00099
Stddev	.04892	.00181	.00059	.02343	.00108	.00286	.00050
%RSD	97.548	89.502	301.97	78.719	167.99	236.84	50.037

#1	-0.01595	.00092	.00049	.01480	.00155	-0.00053	.00046
#2	-0.02832	.00411	-0.00048	.01773	-0.00055	.00126	.00106
#3	-.10619	.00104	.00059	.05677	.00094	-0.00435	.00144

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

K: K Buck

Sample Name: L1610052302SDL Acquired: 10/13/2016 22:33:44 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment: WG587464-02

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00092	.00547	.00193	.00012	-.00016	-.00222	.00076
Stddev	.00273	.00425	.00119	.00072	.00035	.00238	.00124
%RSD	296.53	77.618	61.434	610.57	222.82	107.16	164.53

#1	.00407	.00942	.00057	.00086	-.00056	-.00029	.00204
#2	-.00056	.00601	.00250	.00009	.00002	-.00148	-.00044
#3	-.00075	.00098	.00272	-.00059	.00007	-.00487	.00067

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-.00016	.00270	F -.06660
Stddev	.00044	.00007	1.2452
%RSD	265.68	2.5365	1869.6

#1	-.00014	.00278	.48709
#2	-.00061	.00265	.80572
#3	.00026	.00268	-1.4926

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10378.	117680.	12777.
Stddev	57.	740.	510.
%RSD	.55115	.62863	3.9930

#1	10431.	117390.	13294.
#2	10318.	117130.	12762.
#3	10384.	118520.	12274.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610052302MS Acquired: 10/13/2016 22:37:31 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587230-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.18921	4.8979	.19354	.90391	.47007	.02244	4.8718	.02401
Stddev	.00102	.0320	.00388	.00436	.00130	.00016	.0098	.00011
%RSD	.53871	.65244	2.0028	.48242	.27638	.69533	.20106	.46320

#1	.19038	4.9120	.19741	.90634	.47075	.02256	4.8785	.02390
#2	.18852	4.8613	.18966	.89888	.47090	.02227	4.8762	.02413
#3	.18874	4.9204	.19356	.90652	.46858	.02250	4.8605	.02401

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.09809	.23866	.24858	2.1053	21.889	.43783	4.6531	.23200
Stddev	.00061	.00083	.00092	.0089	.098	.00387	.0549	.00042
%RSD	.61832	.34637	.36923	.42116	.44960	.88460	1.1806	.18283

#1	.09811	.23771	.24963	2.1042	21.868	.44001	4.7036	.23247
#2	.09748	.23913	.24818	2.1147	21.802	.43335	4.5946	.23166
#3	.09869	.23914	.24793	2.0971	21.996	.44011	4.6610	.23186

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.48612	22.195	.24628	4.6274	.24656	.57050	.18694	2.4419
Stddev	.00128	.071	.00079	.0046	.00391	.00214	.00548	.0048
%RSD	.26360	.32000	.32031	.10008	1.5868	.37480	2.9328	.19635

#1	.48557	22.175	.24695	4.6291	.24511	.56834	.18797	2.4464
#2	.48521	22.136	.24541	4.6222	.24358	.57261	.18101	2.4425
#3	.48759	22.274	.24648	4.6310	.25099	.57054	.19183	2.4368

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610052302MS Acquired: 10/13/2016 22:37:31 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587230-04

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.48709	.47874	.46418	.24337	.47149	.47847	.69142
Stddev	.00163	.00105	.00302	.00078	.00221	.00067	1.2392
%RSD	.33508	.21890	.65040	.32021	.46774	.13951	179.23
#1	.48702	.47870	.46765	.24396	.47245	.47895	-.70421
#2	.48549	.47980	.46219	.24367	.47304	.47770	1.6629
#3	.48875	.47771	.46269	.24249	.46896	.47875	1.1156

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10407.	118330.	13094.
Stddev	19.	302.	348.
%RSD	.18557	.25545	2.6600
#1	10398.	118160.	12981.
#2	10429.	118680.	13485.
#3	10393.	118140.	12817.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610052302MSD Acquired: 10/13/2016 22:41:04 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587230-05

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.18984	4.8681	.19148	.90297	.46829	.02253	4.8469	.02404
Stddev	.00078	.0184	.00322	.00325	.00124	.00007	.0316	.00046
%RSD	.41285	.37844	1.6831	.35963	.26414	.30134	.65272	1.8945

#1	.19052	4.8704	.18808	.90643	.46830	.02251	4.8587	.02396
#2	.19002	4.8853	.19449	.90251	.46705	.02260	4.8111	.02453
#3	.18899	4.8487	.19187	.89998	.46952	.02247	4.8710	.02363

Check ? **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass**
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.09782	.23935	.24768	2.0893	21.767	.43885	4.6126	.23402
Stddev	.00045	.00147	.00140	.0265	.059	.00204	.0431	.00200
%RSD	.45852	.61412	.56691	1.2662	.27306	.46482	.93462	.85610

#1	.09782	.24105	.24925	2.1185	21.712	.44120	4.6264	.23633
#2	.09827	.23840	.24724	2.0671	21.759	.43749	4.5643	.23290
#3	.09738	.23861	.24655	2.0822	21.830	.43787	4.6472	.23283

Check ? **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass**
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.48153	22.143	.24376	4.6198	.24336	.56524	.18890	2.4220
Stddev	.00088	.010	.00074	.0149	.00190	.00612	.00759	.0076
%RSD	.18362	.04498	.30371	.32209	.78122	1.0824	4.0186	.31564

#1	.48159	22.153	.24308	4.6029	.24435	.56884	.19287	2.4292
#2	.48062	22.133	.24365	4.6311	.24456	.55818	.18015	2.4228
#3	.48239	22.144	.24455	4.6254	.24116	.56872	.19369	2.4140

Check ? **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass**
 High Limit
 Low Limit

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610052302MSD Acquired: 10/13/2016 22:41:04 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587230-05

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.48636	.47615	.46951	.24337	.47232	.47712	1.2688
Stddev	.00150	.00070	.00232	.00286	.00389	.00107	.5351
%RSD	.30774	.14660	.49335	1.1748	.82347	.22445	42.175
#1	.48665	.47680	.47199	.24477	.47404	.47600	1.2841
#2	.48769	.47541	.46740	.24527	.47505	.47814	1.7961
#3	.48474	.47624	.46914	.24009	.46786	.47722	.72619

Check ? **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass**
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10520.	119700.	13092.
Stddev	111.	233.	348.
%RSD	1.0533	.19485	2.6554
#1	10509.	119530.	12946.
#2	10415.	119600.	13489.
#3	10635.	119970.	12842.

Approved: October 14, 2016

K. K. Buck

Sample Name: CCV Acquired: 10/13/2016 22:44:38 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.38994	9.8920	.39931	.49423	.94461	.04746	9.4962
Stddev	.00216	.0060	.00555	.00178	.00316	.00013	.0434
%RSD	.55275	.06032	1.3890	.35958	.33474	.26876	.45748

#1	.38924	9.8882	.40571	.49373	.94751	.04739	9.5462
#2	.38822	9.8890	.39579	.49275	.94508	.04739	9.4674
#3	.39236	9.8989	.39644	.49620	.94124	.04761	9.4750

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05004	.19784	.48387	.49233	3.7211	F 43.907	F .86930
Stddev	.00025	.00089	.00304	.00082	.0159	.120	.00298
%RSD	.50810	.44743	.62862	.16671	.42718	.27352	.34245

#1	.05028	.19870	.48310	.49305	3.7394	44.045	.86740
#2	.05007	.19693	.48130	.49251	3.7127	43.824	.87273
#3	.04977	.19788	.48723	.49143	3.7112	43.852	.86777

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Fail
Value						50.000	1.0000
Range						-10.000%	-10.000%

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.3717	.46308	.97698	F 44.188	.49647	9.9228	.49918
Stddev	.0427	.00006	.00433	.106	.00081	.0223	.00351
%RSD	.45515	.01242	.44271	.23916	.16384	.22441	.70369

#1	9.4138	.46307	.98170	44.308	.49683	9.9410	.50310
#2	9.3285	.46303	.97321	44.108	.49554	9.8980	.49630
#3	9.3729	.46314	.97603	44.149	.49705	9.9296	.49814

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
Value				50.000			
Range				-10.000%			

Approved: October 14, 2016

K: K Buck

Sample Name: CCV Acquired: 10/13/2016 22:44:38 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.1819	.40051	4.9962	.99626	.96226	.94582	.49764
Stddev	.0070	.00568	.0188	.00274	.00373	.00694	.00385
%RSD	.59140	1.4187	.37665	.27475	.38768	.73334	.77424

#1	1.1885	.39762	5.0145	.99942	.96656	.95323	.50082
#2	1.1746	.40706	4.9769	.99483	.95994	.93948	.49335
#3	1.1826	.39686	4.9974	.99453	.96027	.94476	.49873

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.96585	.98382	F .53919
Stddev	.00342	.00234	.35278
%RSD	.35383	.23750	65.428

#1	.96658	.98620	.26939
#2	.96213	.98153	.93839
#3	.96885	.98373	.40977

Check ?	Chk Pass	Chk Pass	Chk Fail
Value			1.0000
Range			-10.000%

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10181.	114290.	13125.
Stddev	104.	411.	311.
%RSD	1.0242	.35933	2.3667

#1	10301.	114380.	13461.
#2	10129.	114650.	13068.
#3	10112.	113840.	12848.

Approved: October 14, 2016

K: K Buck

Sample Name: CCB Acquired: 10/13/2016 22:48:06 Type: Blank
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00031	-0.01491	.00186	.00166	-0.00121	-0.00004	-0.01504
Stddev	.00077	.00329	.00305	.00159	.00070	.00004	.01739
%RSD	251.42	22.043	164.52	96.080	57.604	88.923	115.65

#1	-0.00103	-0.01218	.00373	.00022	-0.00196	-0.00002	-0.00252
#2	-0.00040	-0.01856	-0.00167	.00337	-0.00059	-0.00002	-0.03489
#3	.00050	-0.01399	.00351	.00138	-0.00108	-0.00008	-0.00770

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00004	.00022	.00110	-0.00191	.00133	-0.11132	.00934
Stddev	.00022	.00033	.00065	.00049	.00866	.06570	.00384
%RSD	604.83	151.03	59.389	25.496	653.33	59.021	41.073

#1	-0.00019	-0.00004	.00085	-0.00135	.01132	-.18207	.01253
#2	.00006	.00059	.00061	-0.00222	-0.00409	-0.09964	.00509
#3	.00024	.00010	.00184	-0.00216	-0.00325	-0.05224	.01041

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.03035	.00020	.00021	-0.00020	-0.00009	-0.00300	.00108
Stddev	.08172	.00141	.00052	.00429	.00072	.00670	.00271
%RSD	269.27	699.93	254.15	2111.8	791.68	223.51	251.25

#1	.00762	-0.00025	.00070	.00069	-0.00076	.00199	-0.00043
#2	.02548	.00178	-0.00034	.00357	.00066	-0.01061	-0.00054
#3	-.12414	-0.00093	.00026	-0.00487	-0.00017	-0.00038	.00421

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

K: K Buck

Sample Name: CCB Acquired: 10/13/2016 22:48:06 Type: Blank
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00076	-0.00233	.00128	-0.00052	-0.00025	.00135	-0.00003
Stddev	.00179	.00453	.00130	.00002	.00023	.00439	.00125
%RSD	234.95	194.20	101.63	3.2660	89.702	325.45	3624.3

#1	-0.00117	.00284	.00162	-0.00050	-0.00009	.00626	-0.00134
#2	.00120	-0.00557	-0.00016	-0.00053	-0.00016	.00001	.00009
#3	-0.00231	-0.00427	.00237	-0.00053	-0.00051	-0.00222	.00115

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00026	-0.00022	F .54984
Stddev	.00041	.00006	.87059
%RSD	156.63	28.342	158.33

#1	.00022	-0.00024	-0.43554
#2	-0.00013	-0.00015	.87020
#3	.00070	-0.00028	1.2149

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.04000
Low Limit			-0.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10333.	115340.	12861.
Stddev	55.	409.	308.
%RSD	.53179	.35430	2.3926

#1	10271.	114900.	13105.
#2	10375.	115700.	12963.
#3	10352.	115420.	12516.

Approved: October 14, 2016

K: K Buck

Sample Name: LLCCV Acquired: 10/13/2016 22:51:56 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01014	.17950	.00970	.08103	.00761	.00154	.48470
Stddev	.00043	.00260	.00196	.00174	.00029	.00004	.01267
%RSD	4.2767	1.4483	20.261	2.1504	3.8393	2.8622	2.6134

#1	.01048	.18131	.00823	.08272	.00769	.00157	.47971
#2	.00965	.17652	.00893	.07924	.00786	.00156	.49910
#3	.01029	.18068	.01193	.08115	.00729	.00149	.47529

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00052	.00428	.00479	.00404	.07828	.58670	.08457
Stddev	.00024	.00046	.00076	.00032	.01600	.06589	.00235
%RSD	45.306	10.834	15.839	7.8494	20.437	11.230	2.7737

#1	.00070	.00460	.00558	.00372	.06059	.58356	.08331
#2	.00061	.00375	.00474	.00436	.09172	.52244	.08313
#3	.00025	.00448	.00406	.00405	.08254	.65410	.08728

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.35023	.00928	.00802	.37431	.01834	.80938	.01009
Stddev	.01122	.00027	.00023	.00771	.00076	.00678	.00228
%RSD	3.2035	2.8964	2.8801	2.0596	4.1414	.83818	22.590

#1	.36144	.00955	.00779	.36768	.01780	.81541	.01258
#2	.33900	.00901	.00825	.38277	.01921	.81070	.00811
#3	.35026	.00927	.00802	.37249	.01802	.80204	.00957

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

K: K Buck

Sample Name: LLCCV Acquired: 10/13/2016 22:51:56 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.08889	.02052	.80958	.42305	.04098	.02111	.16256
Stddev	.00173	.00406	.00265	.00246	.00027	.00381	.00129
%RSD	1.9507	19.776	.32704	.58086	.66289	18.033	.79396

#1	.08905	.02409	.81212	.42567	.04126	.01680	.16134
#2	.09054	.01611	.80684	.42080	.04095	.02399	.16391
#3	.08708	.02135	.80979	.42267	.04072	.02256	.16244

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00822	.01871	F 172.81
Stddev	.00031	.00020	6.36
%RSD	3.8116	1.0609	3.6805

#1	.00813	.01848	179.07
#2	.00857	.01879	166.35
#3	.00797	.01885	172.99

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10244.	115200.	12099.
Stddev	39.	100.	463.
%RSD	.38017	.08723	3.8306

#1	10200.	115080.	11618.
#2	10257.	115240.	12543.
#3	10275.	115270.	12135.

Approved: October 14, 2016

K: K Buck

Sample Name: LLCCV Acquired: 10/13/2016 22:55:39 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01127	.21734	.01012	.10023	.00908	.00192	.61633
Stddev	.00088	.00322	.00065	.00186	.00059	.00005	.01430
%RSD	7.7799	1.4813	6.4521	1.8573	6.5036	2.4099	2.3202

#1	.01206	.22071	.01031	.09993	.00840	.00188	.62271
#2	.01033	.21704	.01065	.09854	.00937	.00191	.59995
#3	.01143	.21429	.00939	.10222	.00947	.00197	.62633

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00100	.00562	.00675	.00483	.15313	.84639	.10616
Stddev	.00025	.00021	.00009	.00022	.00903	.02269	.00503
%RSD	24.833	3.7785	1.3437	4.5105	5.8965	2.6804	4.7398

#1	.00071	.00569	.00676	.00458	.14305	.87167	.10702
#2	.00116	.00578	.00665	.00494	.16047	.83971	.10076
#3	.00113	.00538	.00683	.00497	.15588	.82780	.11071

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.47679	.01184	.01348	.50858	.02201	1.0264	.01253
Stddev	.05784	.00259	.00037	.00680	.00026	.0080	.00059
%RSD	12.131	21.866	2.7741	1.3378	1.1595	.78429	4.6981

#1	.50802	.01290	.01375	.50073	.02196	1.0354	.01266
#2	.51231	.01373	.01365	.51254	.02229	1.0200	.01304
#3	.41005	.00889	.01306	.51248	.02179	1.0238	.01188

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

K: K Buck

Sample Name: LLCCV Acquired: 10/13/2016 22:55:39 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v113) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.11050	.02183	1.0291	.53739	.05253	.02981	.20746
Stddev	.00578	.00563	.0045	.00042	.00016	.00420	.00495
%RSD	5.2278	25.791	.43959	.07804	.31250	14.097	2.3836

#1	.11583	.02807	1.0261	.53787	.05234	.03465	.21158
#2	.10436	.01713	1.0269	.53708	.05257	.02769	.20197
#3	.11131	.02030	1.0343	.53722	.05266	.02709	.20882

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00990	.02415	F 215.84
Stddev	.00042	.00022	4.27
%RSD	4.2271	.91862	1.9802

#1	.01035	.02403	220.74
#2	.00952	.02441	213.84
#3	.00982	.02403	212.92

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10501.	118940.	12739.
Stddev	37.	65.	195.
%RSD	.34978	.05448	1.5289

#1	10513.	118950.	12538.
#2	10460.	119010.	12927.
#3	10530.	118880.	12753.

Approved: October 14, 2016

K. K. Buck

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)
Ag 328.068 {103}	10/14/2016 12:48:59	10/14/2016 12:48:59	Linear	1/Conc	-0.000327	0.045212	0.000000	1.000000
Al 308.215 {109}	10/14/2016 12:48:59	10/14/2016 12:48:59	Linear	1/Conc	0.000670	0.009169	0.000000	1.000000
As 189.042 {478}	10/14/2016 12:48:59	10/14/2016 12:48:59	Linear	1/Conc	0.000005	0.024684	0.000000	1.000000
B 249.678 {135}	10/14/2016 12:48:59	10/14/2016 12:48:59	Linear	1/Conc	0.000202	0.016035	0.000000	1.000000
Ba 455.403 {74}	10/14/2016 12:48:59	10/14/2016 12:48:59	Linear	1/Conc	0.008141	1.139806	0.000000	1.000000
Be 313.107 {108}	10/14/2016 12:48:59	10/14/2016 12:48:59	Linear	1/Conc	-0.000006	0.667978	0.000000	1.000000
Ca 422.673 {80}	10/14/2016 12:48:59	10/14/2016 12:48:59	Linear	1/Conc	-0.000289	0.027359	0.000000	1.000000
Cd 228.802 {447}	10/14/2016 12:48:59	10/14/2016 12:48:59	Linear	1/Conc	0.000509	0.389595	0.000000	1.000000
Co 228.616 {44}	10/14/2016 12:48:59	10/14/2016 12:48:59	Linear	1/Conc	-0.000023	0.301197	0.000000	1.000000
Cr 267.716 {126}	10/14/2016 12:48:59	10/14/2016 12:48:59	Linear	1/Conc	-0.000029	0.041689	0.000000	1.000000
Cu 224.700 {450}	10/14/2016 12:48:59	10/14/2016 12:48:59	Linear	1/Conc	-0.000424	0.094892	0.000000	1.000000
Fe 261.187 {129}	10/14/2016 12:48:59	10/14/2016 12:48:59	Linear	1/Conc	0.000055	0.010514	0.000000	1.000000
K 766.490 {44}	10/14/2016 12:48:59	10/14/2016 12:48:59	Linear	1/Conc	0.007432	0.016296	0.000000	1.000000
Li 670.784 {50}	10/14/2016 12:48:59	10/14/2016 12:48:59	Linear	1/Conc	-0.003462	0.320354	0.000000	1.000000
Mg 279.079 {121}	10/14/2016 12:48:59	10/14/2016 12:48:59	Linear	1/Conc	-0.000100	0.002847	0.000000	1.000000
Mn 257.610 {131}	10/14/2016 12:48:59	10/14/2016 12:48:59	Linear	1/Conc	0.000249	0.117202	0.000000	1.000000
Mo 202.030 {467}	10/14/2016 12:48:59	10/14/2016 12:48:59	Linear	1/Conc	0.000042	0.122648	0.000000	1.000000
Na 589.592 {57}	10/14/2016 12:48:59	10/14/2016 12:48:59	Linear	1/Conc	-0.003202	0.048170	0.000000	1.000000
Ni 231.604 {446}	10/14/2016 12:48:59	10/14/2016 12:48:59	Linear	1/Conc	-0.000785	0.082978	0.000000	1.000000
P 214.914 {457}	10/14/2016 12:48:59	10/14/2016 12:48:59	Linear	1/Conc	-0.000042	0.010927	0.000000	1.000000
Pb 220.353 {453}	10/14/2016 12:48:59	10/14/2016 12:48:59	Linear	1/Conc	-0.000532	0.054090	0.000000	1.000000
Sb 206.833 {463}	10/14/2016 12:48:59	10/14/2016 12:48:59	Linear	1/Conc	0.000224	0.023952	0.000000	1.000000
Se 196.090 {472}	10/14/2016 12:48:59	10/14/2016 12:48:59	Linear	1/Conc	-0.000235	0.012901	0.000000	1.000000
Si 212.412 {459}	10/14/2016 12:48:59	10/14/2016 12:48:59	Linear	1/Conc	0.000300	0.026484	0.000000	1.000000
Sn 189.989 {477}	10/14/2016 12:48:59	10/14/2016 12:48:59	Linear	1/Conc	0.000099	0.072474	0.000000	1.000000
Sr 407.771 {83}	10/14/2016 12:48:59	10/14/2016 12:48:59	Linear	1/Conc	0.002312	2.137763	0.000000	1.000000
Ti 337.280 {100}	10/14/2016 12:48:59	10/14/2016 12:48:59	Linear	1/Conc	-0.000876	0.077652	0.000000	1.000000
Tl 190.856 {477}	10/14/2016 12:48:59	10/14/2016 12:48:59	Linear	1/Conc	-0.000152	0.019310	0.000000	1.000000
V 292.402 {115}	10/14/2016 12:48:59	10/14/2016 12:48:59	Linear	1/Conc	0.000023	0.053834	0.000000	1.000000
Y 224.306 {450}* Y 360.073 {94}* Y 377.433 {89}*	<not fit> <not fit> <not fit>	<Never Calibrated> <Never Calibrated> <Never Calibrated>	Linear Linear Linear	1/Conc 1/Conc 1/Conc	0.000000 0.000000 0.000000	0.000000 0.000000 0.000000	0.000000 0.000000 0.000000	1.000000 1.000000 1.000000
Zn 206.200 {463}	10/14/2016 12:48:59	10/14/2016 12:48:59	Linear	1/Conc	0.000373	0.427203	0.000000	1.000000
Zr 339.198 {99}	10/14/2016 12:48:59	10/14/2016 12:48:59	Linear	1/Conc	-0.004055	0.000130	0.000000	1.000000

Approved: October 14, 2016

K. K. Buck

Element, Wavelength and Order	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Reslope		QC Norm	
						Slope	Y-int	Slope factor	Offset
Ag 328.068 {103}	0.999917	0.000001	0.001633	0.005443	OK.	1.000000	0.000000	1	0
Al 308.215 {109}	0.999812	0.000011	0.005703	0.019011	OK.	1.000000	0.000000	1	0
As 189.042 {478}	0.999908	0.000001	0.003095	0.010315	OK.	1.000000	0.000000	1	0
B 249.678 {135}	0.999962	0.000001	0.002278	0.007593	OK.	1.000000	0.000000	1	0
Ba 455.403 {74}	0.999994	0.000026	0.000689	0.002297	OK.	1.000000	0.000000	1	0
Be 313.107 {108}	0.999974	0.000002	0.000067	0.000225	OK.	1.000000	0.000000	1	0
Ca 422.673 {80}	0.999968	0.000014	0.022549	0.075164	OK.	1.000000	0.000000	1	0
Cd 228.802 {447}	0.999925	0.000002	0.000306	0.001021	OK.	1.000000	0.000000	1	0
Co 228.616 {447}	0.999926	0.000005	0.000460	0.001535	OK.	1.000000	0.000000	1	0
Cr 267.716 {126}	0.999949	0.000001	0.001040	0.003466	OK.	1.000000	0.000000	1	0
Cu 224.700 {450}	0.999899	0.000004	0.001644	0.005479	OK.	1.000000	0.000000	1	0
Fe 261.187 {129}	0.999634	0.000007	0.016863	0.056210	OK.	1.000000	0.000000	1	0
K 766.490 {44}	0.999956	0.000049	0.091382	0.304606	OK.	1.000000	0.000000	1	0
Li 670.784 {50}	0.999992	0.000012	0.004874	0.016248	OK.	1.000000	0.000000	1	0
Mg 279.079 {121}	0.999989	0.000001	0.069019	0.230065	OK.	1.000000	0.000000	1	0
Mn 257.610 {131}	0.998800	0.000018	0.001969	0.006564	OK.	1.000000	0.000000	1	0
Mo 202.030 {467}	0.999983	0.000004	0.000572	0.001906	OK.	1.000000	0.000000	1	0
Na 589.592 {57}	0.999984	0.000087	0.030586	0.101953	OK.	1.000000	0.000000	1	0
Ni 231.604 {446}	0.999949	0.000003	0.001542	0.005141	OK.	1.000000	0.000000	1	0
P 214.914 {457}	0.999954	0.000007	0.007904	0.026347	OK.	1.000000	0.000000	1	0
Pb 220.353 {453}	0.999658	0.000005	0.003774	0.012580	OK.	1.000000	0.000000	1	0
Sb 206.833 {463}	0.999728	0.000004	0.005152	0.017174	OK.	1.000000	0.000000	1	0
Se 196.090 {472}	0.999878	0.000001	0.007721	0.025737	OK.	1.000000	0.000000	1	0
Si 212.412 {459}	0.999983	0.000005	0.003077	0.010257	OK.	1.000000	0.000000	1	0
Sn 189.989 {477}	0.999997	0.000001	0.000880	0.002932	OK.	1.000000	0.000000	1	0
Sr 407.771 {83}	0.999993	0.000052	0.000299	0.000998	OK.	1.000000	0.000000	1	0
Ti 337.280 {100}	0.999904	0.000007	0.004695	0.015650	OK.	1.000000	0.000000	1	0
Tl 190.856 {477}	0.999820	0.000002	0.004177	0.013923	OK.	1.000000	0.000000	1	0
V 292.402 {115}	0.999973	0.000002	0.000864	0.002881	OK.	1.000000	0.000000	1	0
Y 224.306 {450}	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
Y 360.073 {94}	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
Y 377.433 {89}	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
Zn 206.200 {463}	0.999997	0.000007	0.000199	0.000663	OK.	1.000000	0.000000	1	0
Zr 339.198 {99}	0.079700	0.000010	4.494852	14.982841	OK.	1.000000	0.000000	1	0

Approved: October 14, 2016

K. K. Buck

Sample Name: S0 Acquired: 10/14/2016 12:30:44 Type: Cal
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: IR Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-0.00033	.00067	.00000	.00020	.00814	-0.00001	-0.00029
Stddev	.00008	.00004	.00004	.00002	.00035	.00005	.00059
%RSD	25.640	6.4554	782.06	10.153	4.3199	784.93	203.63

#1	-0.00039	.00071	-0.00002	.00019	.00854	-0.00006	-0.00096
#2	-0.00023	.00067	-0.00002	.00020	.00788	.00004	-0.00005
#3	-0.00036	.00062	.00005	.00023	.00801	.00000	.00014

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00051	-0.00002	-0.00003	-0.00042	.00006	.00743	-0.00346
Stddev	.00006	.00009	.00001	.00021	.00012	.00076	.00108
%RSD	11.686	387.52	43.012	49.430	219.27	10.276	31.327

#1	.00055	.00002	-0.00002	-0.00066	-0.00002	.00786	-0.00257
#2	.00053	-0.00012	-0.00004	-0.00036	.00019	.00789	-0.00314
#3	.00044	.00004	-0.00003	-0.00025	-0.00001	.00655	-0.00467

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-0.00010	.00025	.00004	-0.00320	-0.00079	-0.00004	-0.00053
Stddev	.00024	.00020	.00004	.00159	.00002	.00001	.00004
%RSD	235.22	79.034	101.55	49.657	3.0181	29.425	8.3504

#1	-0.00034	.00043	.00007	-0.00420	-0.00079	-0.00004	-0.00058
#2	-0.00009	.00027	.00006	-0.00137	-0.00076	-0.00005	-0.00049
#3	.00013	.00004	-0.00001	-0.00404	-0.00081	-0.00003	-0.00053

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00022	-0.00023	.00030	.00010	.00231	-0.00088	-0.00015
Stddev	.00008	.00003	.00003	.00001	.00013	.00016	.00001
%RSD	36.481	12.558	8.7025	10.993	5.8069	17.845	6.4630

#1	.00032	-0.00020	.00028	.00009	.00220	-0.00077	-0.00016
#2	.00020	-0.00026	.00030	.00011	.00227	-0.00080	-0.00016
#3	.00016	-0.00025	.00033	.00009	.00246	-0.00106	-0.00014

Approved: October 14, 2016

K. K. Buck

Sample Name: S0 Acquired: 10/14/2016 12:30:44 Type: Cal
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: IR Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	V_2924	Zn2062	Zr3391
Units	Cts/S	Cts/S	Cts/S
Avg	.00002	.00037	-.00405
Stddev	.00003	.00007	.00022
%RSD	132.78	17.660	5.4107

#1	-.00001	.00044	-.00429
#2	.00003	.00031	-.00402
#3	.00005	.00037	-.00386

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10127.	118180.	11758.
Stddev	147.	130.	180.
%RSD	1.4525	.11023	1.5280

#1	10296.	118290.	11578.
#2	10053.	118210.	11938.
#3	10031.	118030.	11757.

Approved: October 14, 2016

K. K. Buck

Sample Name: S1 Acquired: 10/14/2016 12:34:31 Type: Cal
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: IR Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	Ba4554	Be3131	Ca4226	Cd2288	Co2286
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-.00019	.00142	.01714	.00028	.00209	.00066	.00051
Stddev	.00004	.00012	.00046	.00003	.00060	.00007	.00019
%RSD	22.220	8.3319	2.6713	11.647	28.553	10.612	37.742

#1	-.00015	.00130	.01717	.00025	.00274	.00070	.00046
#2	-.00019	.00144	.01667	.00028	.00157	.00058	.00035
#3	-.00024	.00154	.01758	.00032	.00195	.00071	.00073

Elem	Cr2677	Cu2247	Fe2611	K_7664	Mn2576	Mo2020	Na5895
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00013	.00005	.00022	.01278	.00097	.00108	.01644
Stddev	.00001	.00016	.00004	.00140	.00015	.00007	.00134
%RSD	8.2367	298.13	19.768	10.935	15.671	6.3585	8.1737

#1	.00014	.00007	.00026	.01122	.00108	.00102	.01796
#2	.00012	.00020	.00017	.01320	.00079	.00115	.01539
#3	.00012	-.00011	.00022	.01392	.00103	.00106	.01598

Elem	Ni2316	P_2149	Pb2203	Sb2068	Si2124	Sn1899	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-.00047	.00073	-.00020	.00048	.00141	.00067	.01905
Stddev	.00016	.00003	.00015	.00009	.00003	.00007	.00015
%RSD	34.461	3.8627	71.850	19.180	1.8520	10.664	.78940

#1	-.00029	.00074	-.00028	.00037	.00138	.00069	.01887
#2	-.00050	.00075	-.00004	.00052	.00143	.00059	.01914
#3	-.00061	.00070	-.00030	.00054	.00142	.00073	.01913

Elem	Ti3372	V_2924	Zn2062	Zr3391
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-.00042	.00043	.00389	-.00430
Stddev	.00014	.00006	.00003	.00039
%RSD	33.458	14.816	.65070	9.0561

#1	-.00043	.00039	.00386	-.00475
#2	-.00055	.00040	.00389	-.00415
#3	-.00027	.00050	.00391	-.00402

Approved: October 14, 2016

K: K Buck

Sample Name: S1 Acquired: 10/14/2016 12:34:31 Type: Cal
Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: IR Corr. Factor: 1.000000
User: KKB Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10256.	120130.	11747.
Stddev	180.	8047.	52.
%RSD	1.7505	6.6990	.44575
#1	10051.	128430.	11695.
#2	10333.	119580.	11800.
#3	10385.	112370.	11747.

Approved: October 14, 2016

K. K. Buck

Sample Name: S2 Acquired: 10/14/2016 12:38:18 Type: Cal
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: IR Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00001	.00245	.00019	.00032	.02683	.00055	.00448
Stddev	.00003	.00001	.00007	.00002	.00116	.00001	.00051
%RSD	275.63	.49703	35.168	5.8558	4.3172	1.8900	11.315

#1	.00002	.00246	.00012	.00033	.02550	.00055	.00392
#2	.00003	.00243	.00025	.00030	.02749	.00056	.00490
#3	-.00002	.00245	.00019	.00031	.02751	.00054	.00463

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00079	.00107	.00034	.00040	.00070	.02052	.00159
Stddev	.00009	.00009	.00004	.00015	.00014	.00100	.00065
%RSD	11.493	8.4209	11.297	36.559	19.696	4.8697	41.159

#1	.00090	.00100	.00038	.00049	.00084	.02119	.00142
#2	.00074	.00104	.00034	.00023	.00057	.01937	.00103
#3	.00074	.00117	.00031	.00048	.00068	.02099	.00231

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00034	.00171	.00213	.03739	-.00003	.00161	-.00008
Stddev	.00020	.00019	.00003	.00116	.00011	.00007	.00015
%RSD	59.583	11.200	1.3960	3.1050	334.04	4.2976	187.27

#1	.00046	.00188	.00212	.03734	.00004	.00157	.00006
#2	.00047	.00150	.00216	.03625	-.00016	.00158	-.00007
#3	.00011	.00175	.00210	.03857	.00003	.00169	-.00024

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00082	-.00014	.00258	.00130	.03785	.00036	-.00004
Stddev	.00002	.00006	.00010	.00003	.00060	.00038	.00012
%RSD	2.7514	41.081	3.8595	2.4110	1.5897	103.93	321.53

#1	.00081	-.00016	.00255	.00132	.03759	.00024	-.00017
#2	.00084	-.00017	.00250	.00126	.03854	.00078	.00005
#3	.00080	-.00007	.00269	.00131	.03742	.00006	.00001

Approved: October 14, 2016

K: K Buck

Sample Name: S2 Acquired: 10/14/2016 12:38:18 Type: Cal
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: IR Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	V_2924	Zn2062	Zr3391
Units	Cts/S	Cts/S	Cts/S
Avg	.00090	.00729	-.00410
Stddev	.00004	.00008	.00034
%RSD	4.7857	1.1127	8.3768

#1	.00085	.00720	-.00443
#2	.00094	.00731	-.00375
#3	.00090	.00737	-.00412

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10072.	113910.	11776.
Stddev	53.	916.	111.
%RSD	.52410	.80377	.94378

#1	10015.	114950.	11716.
#2	10120.	113540.	11905.
#3	10079.	113230.	11709.

Approved: October 14, 2016

K. K. Buck

Sample Name: S3 Acquired: 10/14/2016 12:42:07 Type: Cal
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: IR Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.01767	.09473	.00970	.00818	1.1430	.03373	.27306
Stddev	.00008	.00044	.00008	.00002	.0028	.00010	.00052
%RSD	.42661	.46622	.83509	.27003	.24271	.30551	.19053

#1	.01768	.09427	.00965	.00819	1.1458	.03364	.27349
#2	.01774	.09477	.00979	.00815	1.1402	.03370	.27248
#3	.01759	.09515	.00965	.00819	1.1431	.03384	.27320

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.02174	.06036	.02066	.04733	.04217	.82061	.31861
Stddev	.00013	.00028	.00004	.00006	.00021	.00199	.00258
%RSD	.58016	.46559	.21366	.12271	.50183	.24293	.81063

#1	.02177	.06024	.02070	.04740	.04203	.82283	.32153
#2	.02185	.06068	.02068	.04730	.04241	.82000	.31767
#3	.02160	.06016	.02061	.04730	.04207	.81899	.31662

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.02847	.05865	.12226	2.4181	.04080	.10859	.02672
Stddev	.00013	.00021	.00035	.0135	.00020	.00021	.00017
%RSD	.44139	.35404	.28626	.55857	.48139	.19522	.63972

#1	.02860	.05874	.12246	2.4288	.04095	.10859	.02689
#2	.02846	.05842	.12248	2.4029	.04086	.10880	.02674
#3	.02835	.05881	.12186	2.4226	.04058	.10838	.02655

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.02841	.00488	.13298	.07247	2.1326	.07646	.00887
Stddev	.00013	.00006	.00043	.00016	.0071	.00017	.00010
%RSD	.47252	1.2702	.32690	.22652	.33234	.21776	1.1452

#1	.02856	.00490	.13264	.07258	2.1408	.07638	.00897
#2	.02836	.00481	.13347	.07255	2.1285	.07665	.00887
#3	.02831	.00494	.13285	.07229	2.1286	.07635	.00877

Approved: October 14, 2016

K. K. Buck

Sample Name: S3 Acquired: 10/14/2016 12:42:07 Type: Cal
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: IR Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	V_2924	Zn2062	Zr3391
Units	Cts/S	Cts/S	Cts/S
Avg	.05323	.42617	-.00395
Stddev	.00007	.00050	.00051
%RSD	.12703	.11843	12.791

#1	.05324	.42611	-.00361
#2	.05329	.42670	-.00453
#3	.05316	.42569	-.00372

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9932.0	111940.	11715.
Stddev	104.1	1370.	190.
%RSD	1.0478	1.2241	1.6254

#1	9870.1	113250.	11624.
#2	9873.7	112040.	11934.
#3	10052.	110520.	11587.

Approved: October 14, 2016

K. K. Buck

Sample Name: S4 Acquired: 10/14/2016 12:45:35 Type: Cal
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: IR Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.03571	.18380	.01972	.01623	2.2924	.06840	.54655
Stddev	.00020	.00079	.00005	.00011	.0050	.00035	.00208
%RSD	.56610	.42710	.23562	.67708	.21920	.51832	.38106

#1	.03549	.18295	.01977	.01612	2.2866	.06808	.54441
#2	.03579	.18396	.01969	.01623	2.2946	.06832	.54665
#3	.03587	.18450	.01969	.01634	2.2958	.06878	.54858

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.04320	.11983	.04183	.09485	.08429	1.6398	.63561
Stddev	.00006	.00030	.00011	.00007	.00068	.0038	.00221
%RSD	.13134	.24793	.26778	.07651	.80108	.23253	.34841

#1	.04318	.12017	.04182	.09484	.08351	1.6359	.63364
#2	.04315	.11964	.04172	.09493	.08468	1.6435	.63517
#3	.04326	.11967	.04195	.09479	.08469	1.6400	.63801

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.05652	.11690	.24555	4.7986	.08202	.22021	.05374
Stddev	.00029	.00008	.00014	.0153	.00002	.00030	.00008
%RSD	.50563	.06512	.05526	.31957	.02658	.13779	.15647

#1	.05656	.11682	.24570	4.7816	.08203	.22019	.05367
#2	.05621	.11695	.24546	4.8025	.08204	.21991	.05372
#3	.05678	.11695	.24547	4.8115	.08200	.22052	.05384

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.05655	.01014	.26615	.14470	4.2846	.15469	.01739
Stddev	.00008	.00009	.00021	.00036	.0130	.00064	.00004
%RSD	.13818	.85597	.07832	.24864	.30369	.41239	.25217

#1	.05652	.01012	.26598	.14508	4.2743	.15420	.01741
#2	.05664	.01006	.26638	.14465	4.2803	.15541	.01742
#3	.05649	.01024	.26610	.14436	4.2992	.15446	.01734

Approved: October 14, 2016

K. K. Buck

Sample Name: S4 Acquired: 10/14/2016 12:45:35 Type: Cal
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: IR Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	V_2924	Zn2062	Zr3391
Units	Cts/S	Cts/S	Cts/S
Avg	.10795	.85526	-.00347
Stddev	.00005	.00094	.00035
%RSD	.04845	.11013	10.164

#1	.10801	.85570	-.00307
#2	.10794	.85590	-.00364
#3	.10790	.85418	-.00371

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9998.9	110980.	11776.
Stddev	7.8	145.	152.
%RSD	.07835	.13065	1.2946

#1	9997.6	111130.	11941.
#2	9991.7	110850.	11746.
#3	10007.	110940.	11641.

Approved: October 14, 2016

K. K. Buck

Sample Name: ICV Acquired: 10/14/2016 12:49:05 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.41182	10.211	.41930	.51430	1.0182	.05129	10.294
Stddev	.00141	.033	.00338	.00075	.0031	.00001	.055
%RSD	.34245	.32017	.80510	.14639	.30318	.02606	.53050

#1	.41041	10.230	.42308	.51479	1.0148	.05130	10.235
#2	.41323	10.173	.41658	.51467	1.0208	.05128	10.343
#3	.41181	10.230	.41824	.51343	1.0192	.05130	10.304

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05191	.20537	.50462	.51542	4.0723	51.205	1.0224
Stddev	.00023	.00073	.00165	.00229	.0373	.147	.0012
%RSD	.44678	.35601	.32648	.44429	.91542	.28627	.11632

#1	.05215	.20617	.50355	.51661	4.0312	51.178	1.0236
#2	.05169	.20519	.50379	.51686	4.1039	51.363	1.0225
#3	.05188	.20474	.50651	.51278	4.0818	51.074	1.0212

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.144	.50760	.96406	51.324	.50910	10.145	.51320
Stddev	.061	.00332	.00246	.064	.00207	.024	.00603
%RSD	.59961	.65497	.25552	.12410	.40650	.23548	1.1742

#1	10.087	.50622	.96478	51.251	.50912	10.163	.50937
#2	10.208	.50518	.96608	51.360	.51117	10.153	.52014
#3	10.138	.51139	.96131	51.361	.50703	10.118	.51008

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: October 14, 2016

K. K. Buck

Sample Name: ICV Acquired: 10/14/2016 12:49:05 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.00000(
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.2414	.41036	5.0390	F 1.0506	1.0198	1.0133	.51603
Stddev	.0082	.00515	.0171	.0028	.0040	.0048	.00309
%RSD	.66227	1.2560	.33944	.27070	.39392	.47734	.59873

#1	1.2421	.41416	5.0441	1.0520	1.0153	1.0079	.51675
#2	1.2493	.41243	5.0530	1.0525	1.0213	1.0148	.51870
#3	1.2329	.40449	5.0200	1.0473	1.0229	1.0173	.51265

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
Value				1.0000			
Range				5.0000%			

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	1.0030	1.0219	F -4.4535
Stddev	.0008	.0036	1.0943
%RSD	.08255	.35466	24.572

#1	1.0021	1.0223	-5.2740
#2	1.0033	1.0253	-3.2110
#3	1.0037	1.0181	-4.8755

Check ?	Chk Pass	Chk Pass	Chk Fail
Value			1.0000
Range			-5.0000%

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9840.4	112260.	11777.
Stddev	85.3	96.	58.
%RSD	.86683	.08537	.48844

#1	9937.6	112370.	11727.
#2	9778.2	112200.	11840.
#3	9805.3	112210.	11762.

Approved: October 14, 2016

K. K. Buck

Sample Name: ICB Acquired: 10/14/2016 12:57:32 Type: Blank
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00056	-.00380	.00150	.00295	-.00014	.00002	-.00017
Stddev	.00094	.00241	.00203	.00206	.00055	.00004	.00781
%RSD	167.62	63.529	135.59	69.753	403.37	209.43	4576.3

#1	.00051	-.00451	.00365	.00177	-.00040	.00003	-.00905
#2	-.00096	-.00578	-.00038	.00532	-.00051	-.00002	.00562
#3	-.00123	-.00111	.00122	.00175	.00050	.00005	.00291

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00004	.00018	.00049	.00033	.00302	-.00570	.00442
Stddev	.00020	.00010	.00091	.00101	.01436	.06117	.00506
%RSD	502.94	54.926	185.58	303.73	475.56	1073.0	114.56

#1	-.00008	.00030	.00054	-.00081	.00040	-.00033	.00762
#2	-.00022	.00013	-.00044	.00068	.01850	.05261	-.00142
#3	.00018	.00012	.00138	.00113	-.00985	-.06937	.00705

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02975	.00364	.00060	-.03443	.00054	-.00419	-.00103
Stddev	.06050	.00073	.00058	.00621	.00126	.00874	.00263
%RSD	203.37	19.923	97.366	18.025	235.07	208.38	254.59

#1	-.02896	.00316	.00009	-.02771	.00066	.00307	-.00234
#2	.09190	.00447	.00123	-.03994	-.00078	-.01389	-.00275
#3	.02631	.00329	.00047	-.03563	.00173	-.00176	.00199

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

K: K Buck

Sample Name: ICB Acquired: 10/14/2016 12:57:32 Type: Blank
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00224	.00109	.00027	-.00023	-.00030	.00381	.00118
Stddev	.00229	.00651	.00239	.00075	.00011	.00356	.00161
%RSD	102.07	596.95	880.43	327.37	37.816	93.320	136.85

#1	.00140	.00358	.00274	-.00075	-.00018	.00243	.00010
#2	.00049	-.00630	.00010	.00063	-.00030	.00785	.00303
#3	.00483	.00599	-.00202	-.00057	-.00040	.00115	.00040

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00016	.00044	F -5.5187
Stddev	.00037	.00011	3.7095
%RSD	232.12	24.101	67.217

#1	-.00010	.00050	-7.6370
#2	-.00000	.00032	-7.6838
#3	.00058	.00050	-1.2354

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.04000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10110.	115440.	11542.
Stddev	25.	1168.	522.
%RSD	.24306	1.0119	4.5197

#1	10131.	116760.	10976.
#2	10115.	115020.	12004.
#3	10083.	114540.	11645.

Approved: October 14, 2016

K. K. Buck

Sample Name: LLICV Acquired: 10/14/2016 13:01:20 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01157	.23612	.00907	.09739	.01065	.00192	.53362
Stddev	.00061	.00297	.00107	.00197	.00034	.00005	.00996
%RSD	5.2329	1.2596	11.784	2.0241	3.1919	2.8103	1.8666

#1	.01226	.23272	.00990	.09550	.01104	.00187	.54156
#2	.01119	.23738	.00786	.09724	.01052	.00197	.52244
#3	.01124	.23825	.00945	.09944	.01040	.00193	.53685

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00100	.00530	.00527	.00798	.10437	.91560	.10758
Stddev	.00009	.00008	.00102	.00112	.00946	.05160	.00201
%RSD	9.0680	1.5112	19.337	14.009	9.0680	5.6352	1.8712

#1	.00100	.00538	.00469	.00743	.11330	.86255	.10611
#2	.00110	.00530	.00467	.00724	.10537	.96560	.10675
#3	.00092	.00522	.00645	.00926	.09445	.91864	.10987

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.51912	.01295	.01073	.53194	.02073	.99342	.01137
Stddev	.05509	.00281	.00024	.00774	.00033	.00359	.00331
%RSD	10.612	21.676	2.1994	1.4544	1.5743	.36169	29.091

#1	.58257	.01194	.01094	.52763	.02067	.98937	.01143
#2	.48351	.01612	.01048	.54088	.02044	.99622	.00804
#3	.49128	.01078	.01079	.52733	.02109	.99468	.01465

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

K: K Buck

Sample Name: LLICV Acquired: 10/14/2016 13:01:20 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.10401	.02131	.99786	.51920	.05174	.02932	.20964
Stddev	.00451	.00802	.00409	.00176	.00008	.00845	.00629
%RSD	4.3340	37.614	.40993	.33907	.16294	28.816	2.9990

#1	.09933	.01271	.99317	.51735	.05180	.02523	.21359
#2	.10437	.02266	.99976	.51939	.05179	.03904	.21295
#3	.10832	.02857	1.0007	.52085	.05165	.02370	.20239

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00981	.02496	F 711.18
Stddev	.00015	.00025	13.80
%RSD	1.5082	.99082	1.9402

#1	.00987	.02477	726.45
#2	.00965	.02487	699.61
#3	.00993	.02524	707.47

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10426.	116580.	11709.
Stddev	61.	538.	242.
%RSD	.58955	.46180	2.0651

#1	10496.	117190.	11438.
#2	10402.	116390.	11902.
#3	10380.	116170.	11786.

Approved: October 14, 2016

K: K Buck

Sample Name: LLICV Acquired: 10/14/2016 13:05:05 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02181	.46735	.01940	.19432	.02108	.00403	1.0722
Stddev	.00113	.00212	.00131	.00108	.00029	.00003	.0096
%RSD	5.1914	.45284	6.7301	.55673	1.3618	.83554	.89782

#1	.02097	.46665	.01816	.19307	.02082	.00399	1.0617
#2	.02136	.46973	.02076	.19503	.02139	.00406	1.0746
#3	.02310	.46567	.01926	.19485	.02103	.00403	1.0805

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00233	.01070	.01040	.01180	.20445	2.0247	.22223
Stddev	.00028	.00007	.00032	.00094	.01128	.0613	.00430
%RSD	11.876	.67500	3.0959	7.9409	5.5164	3.0276	1.9368

#1	.00216	.01064	.01072	.01193	.21635	1.9987	.22268
#2	.00218	.01078	.01007	.01267	.19392	2.0947	.21772
#3	.00265	.01068	.01040	.01081	.20308	1.9807	.22629

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.0527	.02546	.02044	1.1158	.04281	2.0215	.01961
Stddev	.0737	.00127	.00054	.0091	.00099	.0085	.00117
%RSD	7.0016	4.9998	2.6501	.81853	2.3120	.41972	5.9555

#1	1.0483	.02676	.02097	1.1061	.04167	2.0282	.01831
#2	1.1286	.02421	.01989	1.1171	.04329	2.0244	.01996
#3	.98134	.02540	.02046	1.1242	.04346	2.0120	.02056

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

K: K Buck

Sample Name: LLICV Acquired: 10/14/2016 13:05:05 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.21977	.04156	2.0293	1.0504	.10546	.06214	.42191
Stddev	.00362	.00129	.0020	.0013	.00020	.00675	.00275
%RSD	1.6493	3.0997	.09855	.12111	.19283	10.858	.65163

#1	.22383	.04291	2.0303	1.0495	.10559	.06743	.42370
#2	.21685	.04140	2.0307	1.0499	.10522	.05454	.42329
#3	.21863	.04035	2.0270	1.0519	.10556	.06444	.41875

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.01949	.04689	F 1443.7
Stddev	.00026	.00009	34.6
%RSD	1.3514	.19589	2.3971

#1	.01920	.04694	1470.9
#2	.01956	.04678	1404.7
#3	.01971	.04695	1455.3

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10041.	115690.	11634.
Stddev	18.	331.	278.
%RSD	.18107	.28630	2.3914

#1	10060.	116000.	11448.
#2	10039.	115740.	11954.
#3	10024.	115340.	11500.

Approved: October 14, 2016

K. K. Buck

Sample Name: ICSA Acquired: 10/14/2016 13:08:46 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00281	251.10	.00511	.00938	-0.00018	.00001	224.95
Stddev	.00104	4.31	.00409	.00231	.00008	.00002	.53
%RSD	36.957	1.7154	79.887	24.672	43.369	163.62	.23580

#1	-0.00398	247.53	.00394	.00676	-0.00024	.00002	225.56
#2	-0.00201	249.87	.00174	.01023	-0.00009	.00002	224.70
#3	-0.00244	255.88	.00966	.01115	-0.00021	-0.00001	224.60

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00011	-0.00065	-0.00203	-0.00359	99.703	-0.02048	.01115
Stddev	.00027	.00061	.00028	.00069	.171	.05594	.00227
%RSD	242.22	94.524	13.969	19.305	.17171	273.17	20.362

#1	.00042	-0.00107	-0.00234	-0.00379	99.895	.04243	.01360
#2	-0.00005	-0.00093	-0.00178	-0.00417	99.568	-0.03925	.01071
#3	-0.00004	.00005	-0.00197	-0.00282	99.645	-0.06462	.00912

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	252.54	.00280	.00058	.03996	-0.00364	.03176	.00044
Stddev	.37	.00127	.00094	.02786	.00018	.00549	.00174
%RSD	.14677	45.258	161.75	69.707	5.0032	17.295	396.68

#1	252.80	.00409	.00165	.01436	-0.00351	.03748	.00067
#2	252.12	.00156	-0.00013	.03590	-0.00356	.02653	.00205
#3	252.70	.00275	.00022	.06963	-0.00385	.03125	-.00141

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

K: K Buck

Sample Name: ICSA Acquired: 10/14/2016 13:08:46 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00263	-0.00155	.26041	-0.00149	.00112	.00729	.00205
Stddev	.00392	.00504	.00147	.00031	.00029	.00319	.00171
%RSD	149.25	324.65	.56446	20.916	25.524	43.750	83.538

#1	-0.00713	-0.00190	.26162	-0.00174	.00141	.00574	.00398
#2	.00002	.00365	.25877	-0.00114	.00083	.00517	.00145
#3	-0.00077	-0.00641	.26083	-0.00160	.00112	.01096	.00072

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00269	-0.00451	F -72.569
Stddev	.00063	.00019	2.845
%RSD	23.378	4.2938	3.9205

#1	.00326	-0.00447	-73.371
#2	.00202	-0.00473	-74.927
#3	.00281	-0.00435	-69.409

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.02000
Low Limit			-.02000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9275.2	104040.	11537.
Stddev	40.1	1514.	157.
%RSD	.43271	1.4547	1.3602

#1	9246.6	105250.	11501.
#2	9321.0	104540.	11708.
#3	9257.8	102340.	11401.

Approved: October 14, 2016

K. K. Buck

Sample Name: ICSAB Acquired: 10/14/2016 13:12:38 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.52518	249.58	.25688	-.01374	.25769	.26528	229.01
Stddev	.00106	1.75	.00387	.00136	.00184	.00077	.11
%RSD	.20164	.70264	1.5065	9.9245	.71378	.29066	.04673

#1	.52543	249.06	.26134	-.01217	.25561	.26482	229.05
#2	.52609	248.14	.25497	-.01465	.25912	.26617	229.08
#3	.52402	251.53	.25434	-.01440	.25834	.26486	228.88

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.47435	.24276	.25213	.24686	100.80	5.4901	.00884
Stddev	.00059	.00064	.00244	.00112	.18	.0786	.00068
%RSD	.12508	.26335	.96891	.45343	.17698	1.4318	7.6782

#1	.47382	.24246	.24975	.24558	100.65	5.4653	.00811
#2	.47499	.24349	.25200	.24740	100.74	5.4268	.00945
#3	.47423	.24232	.25463	.24761	101.00	5.5781	.00898

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	254.05	.25101	-.00036	5.4196	.48408	-.02194	.49005
Stddev	.87	.00236	.00004	.0183	.00150	.00478	.00418
%RSD	.34408	.93937	10.478	.33779	.31010	21.782	.85303

#1	253.04	.24919	-.00032	5.4044	.48531	-.02624	.49091
#2	254.51	.25018	-.00036	5.4399	.48451	-.01680	.49374
#3	254.61	.25367	-.00040	5.4146	.48241	-.02277	.48551

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

K. K. Buck

Sample Name: ICSAB Acquired: 10/14/2016 13:12:38 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.49803	.24874	.01105	.00023	.00118	.00182	.45893
Stddev	.00632	.00665	.00136	.00152	.00010	.00388	.00296
%RSD	1.2689	2.6729	12.286	654.48	8.8331	213.49	.64529

#1	.49079	.24346	.01068	-.00040	.00129	.00099	.45845
#2	.50086	.25621	.00992	.00196	.00117	.00605	.46211
#3	.50244	.24656	.01256	-.00087	.00109	-.00159	.45624

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.26061	.48566	F -84.098
Stddev	.00092	.00124	2.200
%RSD	.35279	.25461	2.6156

#1	.25994	.48447	-85.890
#2	.26166	.48694	-84.760
#3	.26023	.48557	-81.643

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.02500
Low Limit			-.02500

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9277.6	102290.	11043.
Stddev	34.6	532.	241.
%RSD	.37326	.51964	2.1826

#1	9264.0	102860.	10785.
#2	9251.9	102220.	11262.
#3	9317.0	101800.	11083.

Approved: October 14, 2016

K. K. Buck

Sample Name: CCV Acquired: 10/14/2016 13:16:23 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.40065	10.247	.40144	.50196	.99851	.05045	9.9922
Stddev	.00033	.070	.00104	.00083	.00688	.00023	.0693
%RSD	.08254	.68073	.25861	.16532	.68889	.44828	.69306

#1	.40054	10.206	.40242	.50254	.99238	.05019	10.002
#2	.40102	10.327	.40156	.50233	.99720	.05063	9.9187
#3	.40039	10.207	.40035	.50101	1.0059	.05052	10.056

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05041	.20135	.50247	.50542	3.9735	50.146	1.0071
Stddev	.00010	.00014	.00321	.00076	.0368	.529	.0033
%RSD	.20472	.06910	.63876	.15050	.92511	1.0553	.32550

#1	.05050	.20151	.50036	.50515	3.9331	49.674	1.0046
#2	.05030	.20128	.50089	.50628	3.9825	50.047	1.0057
#3	.05042	.20126	.50616	.50484	4.0049	50.718	1.0108

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.9517	.49498	.99890	50.284	.50449	9.9611	.50792
Stddev	.0961	.00149	.00231	.142	.00190	.0075	.00056
%RSD	.96609	.30015	.23109	.28284	.37630	.07510	.11080

#1	10.052	.49467	.99641	50.313	.50514	9.9574	.50729
#2	9.8606	.49368	1.0010	50.130	.50597	9.9563	.50809
#3	9.9423	.49660	.99932	50.410	.50235	9.9698	.50838

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: October 14, 2016

K. K. Buck

Sample Name: CCV Acquired: 10/14/2016 13:16:23 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.1990	.40087	5.0663	1.0031	.99922	.98769	.51622
Stddev	.0045	.00067	.0108	.0020	.00762	.00500	.00580
%RSD	.37183	.16598	.21355	.20344	.76240	.50597	1.1240

#1	1.1942	.40030	5.0566	1.0054	.99176	.98223	.51503
#2	1.1998	.40073	5.0643	1.0024	.99890	.99204	.51110
#3	1.2030	.40160	5.0779	1.0015	1.0070	.98880	.52252

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	1.0030	1.0066	F -.10010
Stddev	.0017	.0007	5.2026
%RSD	.16447	.06751	5197.2

#1	1.0016	1.0058	-3.0721
#2	1.0026	1.0068	-3.1355
#3	1.0048	1.0071	5.9072

Check ?	Chk Pass	Chk Pass	Chk Fail
Value			1.0000
Range			-10.000%

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9955.6	110410.	11263.
Stddev	23.3	22.	219.
%RSD	.23402	.01981	1.9483

#1	9953.1	110390.	11053.
#2	9933.6	110410.	11245.
#3	9980.0	110430.	11491.

Approved: October 14, 2016

K. K. Buck

Sample Name: CCB Acquired: 10/14/2016 13:19:52 Type: Blank
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00129	.00927	.00089	.00418	.00028	.00002	-.00141
Stddev	.00093	.01857	.00205	.00048	.00042	.00004	.00925
%RSD	72.377	200.32	229.87	11.560	146.62	247.89	655.46

#1	.00022	-.00442	.00165	.00464	.00016	-.00003	-.00970
#2	.00174	.03041	.00245	.00422	-.00006	.00004	.00856
#3	.00191	.00182	-.00143	.00367	.00075	.00004	-.00310

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00013	-.00010	.00009	.00033	-.01156	.01238	.00058
Stddev	.00022	.00033	.00062	.00084	.01580	.02607	.00427
%RSD	177.95	323.50	685.10	253.95	136.68	210.62	731.77

#1	-.00020	.00003	-.00030	.00012	.00655	.03314	.00041
#2	-.00030	-.00047	.00080	-.00038	-.01868	.02086	.00494
#3	.00013	.00014	-.00023	.00126	-.02256	-.01688	-.00360

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.01383	.00228	.00050	-.03314	.00028	F -.01028	-.00021
Stddev	.04753	.00080	.00022	.03220	.00039	.00534	.00126
%RSD	343.61	34.930	44.286	97.148	137.44	51.911	591.17

#1	.01249	.00306	.00045	-.01000	.00019	-.00914	-.00139
#2	.01471	.00146	.00074	-.01951	.00071	-.01609	-.00036
#3	-.06870	.00233	.00031	-.06991	-.00005	-.00561	.00111

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit						.01000	
Low Limit						-.01000	

Approved: October 14, 2016

K. K. Buck

Sample Name: CCB Acquired: 10/14/2016 13:19:52 Type: Blank
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00141	.00102	.00310	.00002	.00003	.00106	-.00130
Stddev	.00168	.00779	.00141	.00021	.00023	.00584	.00226
%RSD	118.81	763.03	45.402	1390.5	747.97	551.27	174.43

#1	.00315	-.00436	.00473	.00023	.00018	.00771	-.00380
#2	-.00020	-.00252	.00233	.00001	.00014	-.00130	-.00070
#3	.00129	.00995	.00225	-.00019	-.00023	-.00323	.00061

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00060	-.00026	F -1.4443
Stddev	.00083	.00006	.7582
%RSD	137.49	23.873	52.494

#1	.00021	-.00019	-1.7018
#2	.00005	-.00028	-2.0402
#3	.00156	-.00031	-.59090

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.04000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10069.	113380.	11468.
Stddev	70.	748.	218.
%RSD	.69712	.65934	1.9046

#1	10011.	114210.	11279.
#2	10147.	113180.	11707.
#3	10048.	112760.	11418.

Approved: October 14, 2016

K. K. Buck

Sample Name: PBW 6P Acquired: 10/14/2016 14:17:15 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587099-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00011	.00137	-.00014	.00029	-.00037	.00001	.00660
Stddev	.00062	.00191	.00223	.00103	.00058	.00007	.01905
%RSD	556.81	140.05	1593.5	352.45	155.40	1332.5	288.58

#1	-.00056	.00031	-.00085	.00090	-.00076	.00008	.01986
#2	.00066	.00021	-.00193	.00087	.00029	.00000	.01517
#3	.00023	.00358	.00236	-.00090	-.00065	-.00006	-.01523

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00019	.00012	.00017	-.00011	-.00292	-.13588	.00021
Stddev	.00003	.00041	.00022	.00072	.02311	.05920	.00277
%RSD	13.841	341.28	132.27	673.64	792.49	43.569	1290.1

#1	-.00016	-.00021	-.00005	-.00046	-.02022	-.13237	.00095
#2	-.00021	-.00001	.00016	-.00057	.02332	-.19676	.00254
#3	-.00020	.00058	.00040	.00072	-.01185	-.07851	-.00285

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.03829	.00314	.00037	-.02568	.00209	-.01659	.00047
Stddev	.00863	.00180	.00012	.02855	.00116	.00220	.00382
%RSD	22.527	57.153	30.880	111.18	55.484	13.269	808.01

#1	.02978	.00287	.00024	.00125	.00311	-.01746	-.00217
#2	.04702	.00506	.00046	-.05561	.00083	-.01822	-.00126
#3	.03807	.00150	.00041	-.02267	.00232	-.01408	.00485

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

K. K. Buck

Sample Name: PBW 6P Acquired: 10/14/2016 14:17:15 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587099-02

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00254	-.00039	.00370	-.00003	.00003	-.00168	-.00300
Stddev	.00173	.00483	.00468	.00077	.00015	.00277	.00091
%RSD	67.958	1252.6	126.49	3024.0	527.88	165.19	30.216

#1	.00448	.00335	.00359	-.00087	.00020	-.00452	-.00261
#2	.00202	-.00584	.00844	.00063	-.00008	-.00153	-.00235
#3	.00114	.00134	-.00092	.00017	-.00004	.00101	-.00403

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-.00023	.00143	F -1.1362
Stddev	.00023	.00015	1.8607
%RSD	99.344	10.523	163.76

#1	.00003	.00152	.57996
#2	-.00038	.00152	-3.1137
#3	-.00034	.00126	-.87484

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10215.	116700.	11332.
Stddev	164.	2861.	257.
%RSD	1.6095	2.4516	2.2655

#1	10266.	113400.	11076.
#2	10032.	118230.	11590.
#3	10349.	118470.	11331.

Approved: October 14, 2016

K. K. Buck

Sample Name: LCSW 6P Acquired: 10/14/2016 14:21:02 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.00000(
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587099-03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19916	5.1168	.19428	.92185	.49937	.02398	4.9966	.02431
Stddev	.00160	.0201	.00233	.00127	.00159	.00011	.0288	.00019
%RSD	.80108	.39278	1.2013	.13771	.31771	.45694	.57577	.76772

#1	.19846	5.1320	.19394	.92182	.50042	.02400	5.0155	.02451
#2	.19803	5.1243	.19214	.92314	.49754	.02408	4.9635	.02426
#3	.20098	5.0940	.19677	.92060	.50014	.02386	5.0108	.02415

Check ? **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass**
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.09951	.24500	.24771	1.9967	24.814	.50525	4.9780	.24847
Stddev	.00034	.00095	.00015	.0084	.094	.00525	.0222	.00162
%RSD	.34467	.38574	.05938	.42117	.37903	1.0391	.44674	.65245

#1	.09977	.24597	.24786	2.0047	24.908	.50667	5.0036	.24768
#2	.09965	.24496	.24771	1.9879	24.720	.49944	4.9637	.24739
#3	.09912	.24408	.24757	1.9973	24.814	.50964	4.9666	.25033

Check ? **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass**
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.49419	25.227	.24926	4.7206	.24943	.58498	.19192	2.4576
Stddev	.00131	.151	.00245	.0134	.00297	.00552	.00498	.0055
%RSD	.26415	.59671	.98223	.28364	1.1897	.94350	2.5933	.22373

#1	.49570	25.401	.25002	4.7334	.24879	.58935	.18891	2.4636
#2	.49337	25.133	.25124	4.7218	.24683	.58680	.19766	2.4566
#3	.49351	25.148	.24652	4.7067	.25267	.57878	.18918	2.4527

Check ? **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass**
 High Limit
 Low Limit

Approved: October 14, 2016

K: K Buck

Sample Name: LCSW 6P Acquired: 10/14/2016 14:21:02 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587099-03

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.49266	.49855	.49127	.25197	.49050	.48699	20.392
Stddev	.00190	.00196	.00407	.00462	.00059	.00148	3.519
%RSD	.38506	.39260	.82886	1.8328	.12068	.30373	17.259
#1	.49472	.50062	.49593	.25639	.49118	.48855	18.352
#2	.49227	.49673	.48945	.24717	.49015	.48681	18.368
#3	.49099	.49829	.48843	.25234	.49017	.48561	24.456

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10267.	115520.	11749.
Stddev	24.	495.	223.
%RSD	.23533	.42811	1.9005
#1	10240.	114970.	11534.
#2	10274.	115930.	11980.
#3	10287.	115650.	11731.

Approved: October 14, 2016

K. K. Buck

Sample Name: FBLK1 Acquired: 10/14/2016 14:24:34 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG586884-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00048	.00886	.00086	.00260	-.00011	-.00001	.00693
Stddev	.00037	.00477	.00153	.00182	.00039	.00003	.01480
%RSD	76.606	53.804	177.61	70.010	339.06	296.45	213.63

#1	.00065	.00352	.00167	.00239	-.00048	.00003	-.00327
#2	.00006	.01267	.00182	.00090	.00029	-.00004	.02391
#3	.00074	.01039	-.00090	.00453	-.00015	-.00002	.00015

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00016	.00025	.00041	.00187	.01770	-.07210	.00810
Stddev	.00015	.00009	.00043	.00058	.00333	.04410	.00152
%RSD	91.850	36.312	105.22	31.084	18.795	61.159	18.819

#1	-.00023	.00018	.00008	.00204	.01577	-.07210	.00969
#2	.00001	.00035	.00089	.00122	.01579	-.11620	.00797
#3	-.00026	.00022	.00025	.00235	.02154	-.02800	.00665

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.02146	.00302	.00048	84.197	.00003	-.01466	.00060
Stddev	.04495	.00195	.00015	.107	.00083	.00184	.00255
%RSD	209.47	64.711	31.717	.12762	2520.6	12.569	422.79

#1	-.06057	.00437	.00064	84.306	.00037	-.01502	-.00234
#2	-.03144	.00078	.00033	84.091	.00064	-.01267	.00200
#3	.02764	.00391	.00047	84.193	-.00091	-.01630	.00214

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

K: K Buck

Sample Name: FBLK1 Acquired: 10/14/2016 14:24:34 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG586884-01

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00254	.00091	.00714	.00059	-.00001	.00191	.00136
Stddev	.00449	.00523	.00216	.00047	.00018	.00500	.00244
%RSD	176.98	576.94	30.272	78.534	3160.1	261.26	179.31

#1	-.00102	.00039	.00939	.00065	.00003	.00267	.00023
#2	.00758	.00637	.00696	.00010	.00015	.00650	-.00031
#3	.00104	-.00404	.00508	.00103	-.00020	-.00342	.00417

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-.00061	.00309	F -1.6028
Stddev	.00055	.00011	3.7521
%RSD	90.546	3.7125	234.10

#1	-.00081	.00315	-5.8072
#2	-.00103	.00317	-.40613
#3	.00002	.00296	1.4050

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10135.	114570.	11836.
Stddev	8.	230.	238.
%RSD	.07623	.20077	2.0109

#1	10143.	114560.	11704.
#2	10135.	114340.	12111.
#3	10127.	114800.	11694.

Approved: October 14, 2016

K. K. Buck

Sample Name: FBLK2 Acquired: 10/14/2016 14:28:21 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG586884-02

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00030	-.00438	-.00055	.00283	.00097	-.00004	.00903	-.00006
Stddev	.00121	.00227	.00058	.00185	.00009	.00005	.01303	.00007
%RSD	404.04	51.791	106.05	65.174	9.4648	108.47	144.36	122.86

#1	.00049	-.00177	-.00119	.00263	.00102	-.00007	.00554	.00002
#2	.00141	-.00583	-.00041	.00477	.00103	-.00007	-.00191	-.00009
#3	-.00099	-.00554	-.00005	.00110	.00086	.00001	.02345	-.00010

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00030	.00016	.00164	-.00299	-.09454	.00365	-.02080	.00166
Stddev	.00040	.00050	.00042	.01895	.08235	.00219	.02646	.00039
%RSD	132.17	308.30	25.834	633.98	87.100	59.837	127.24	23.205

#1	.00073	.00063	.00139	-.01672	-.07831	.00123	-.05024	.00170
#2	-.00005	-.00036	.00139	.01863	-.02153	.00547	.00101	.00126
#3	.00021	.00021	.00212	-.01089	-.18380	.00427	-.01316	.00203

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00043	.01771	.00092	-.01277	.00063	.00314	.00187	.00445
Stddev	.00009	.01799	.00068	.00049	.00096	.00340	.00452	.00171
%RSD	21.157	101.60	73.503	3.8742	152.42	108.29	242.28	38.402

#1	.00039	-.00073	.00016	-.01332	.00144	.00698	.00426	.00552
#2	.00053	.03522	.00146	-.01236	-.00043	.00054	.00469	.00537
#3	.00036	.01863	.00116	-.01262	.00089	.00189	-.00335	.00248

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: FBLK2 Acquired: 10/14/2016 14:28:21 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG586884-02

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00011	-.00004	.00042	-.00520	.00021	.00253	.66851
Stddev	.00035	.00018	.00136	.00241	.00059	.00017	3.5093
%RSD	304.92	511.40	321.61	46.342	274.84	6.8601	524.94

#1	.00048	.00003	.00170	-.00252	.00076	.00248	1.4501
#2	.00009	-.00024	-.00101	-.00720	.00028	.00238	3.7211
#3	-.00022	.00011	.00059	-.00587	-.00041	.00272	-3.1656

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10483.	118860.	11725.
Stddev	23.	221.	282.
%RSD	.21572	.18575	2.4086

#1	10467.	118770.	11518.
#2	10474.	118710.	12047.
#3	10509.	119120.	11611.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610031101 Acquired: 10/14/2016 14:32:09 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587099-01

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00088	.02512	.02164	.25364	.00374	-.00004	16.818
Stddev	.00065	.00358	.00204	.00414	.00015	.00005	.049
%RSD	74.079	14.265	9.4076	1.6323	3.9037	127.69	.29350

#1	-.00161	.02339	.02362	.25303	.00369	.00002	16.765
#2	-.00035	.02273	.02174	.24984	.00390	-.00007	16.825
#3	-.00068	.02924	.01956	.25805	.00362	-.00005	16.863

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00034	.00019	.00077	.00133	-.00407	127.56	.01329
Stddev	.00017	.00004	.00078	.00017	.01360	.33	.00123
%RSD	51.304	21.126	101.14	12.485	334.47	.25615	9.2342

#1	.00045	.00022	.00009	.00152	-.00705	127.29	.01220
#2	.00014	.00021	.00162	.00128	-.01592	127.48	.01304
#3	.00042	.00014	.00060	.00120	.01077	127.93	.01462

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	17.382	.01090	.01007	140.25	-.00027	31.708	.00211
Stddev	.026	.00030	.00051	.36	.00066	.014	.00116
%RSD	.14853	2.7789	5.0154	.25759	249.41	.04374	54.822

#1	17.359	.01084	.01028	139.84	-.00091	31.696	.00124
#2	17.410	.01062	.01044	140.52	-.00031	31.705	.00167
#3	17.378	.01122	.00949	140.39	.00042	31.723	.00343

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

K: K Buck

Sample Name: L1610031101 Acquired: 10/14/2016 14:32:09 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587099-01

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01237	.00001	12.623	.00044	.02139	.00026	-.00052
Stddev	.00562	.00621	.028	.00111	.00020	.00282	.00252
%RSD	45.455	54817.	.22158	254.58	.95345	1102.7	488.61

#1	.01817	.00302	12.632	-.00068	.02116	.00008	.00076
#2	.01198	-.00713	12.645	.00045	.02154	-.00247	-.00342
#3	.00695	.00414	12.591	.00153	.02148	.00316	.00111

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00442	.00636	F -1.4283
Stddev	.00043	.00007	1.0310
%RSD	9.8152	1.1171	72.184

#1	.00398	.00644	-1.4395
#2	.00444	.00636	-.39175
#3	.00485	.00629	-2.4537

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9999.7	111070.	12152.
Stddev	8.9	856.	149.
%RSD	.08927	.77085	1.2283

#1	9992.6	110790.	12195.
#2	10010.	110380.	12275.
#3	9996.7	112030.	11986.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610031101MS Acquired: 10/14/2016 14:35:52 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587099-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19769	4.7277	.22100	1.2006	.49275	.02493	21.671	.02480
Stddev	.00027	.0021	.00165	.0031	.00026	.00005	.074	.00024
%RSD	.13707	.04388	.74794	.25777	.05221	.19224	.34104	.95185

#1	.19784	4.7287	.22021	1.2020	.49247	.02498	21.657	.02484
#2	.19737	4.7290	.22290	1.1970	.49297	.02489	21.605	.02454
#3	.19784	4.7253	.21988	1.2027	.49280	.02491	21.751	.02501

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.09752	.24395	.24614	1.9278	150.31	.50286	22.035	.24655
Stddev	.00043	.00113	.00145	.0166	.72	.00204	.076	.00247
%RSD	.43975	.46129	.58951	.85958	.47857	.40595	.34644	1.0031

#1	.09735	.24504	.24452	1.9415	150.82	.50344	21.991	.24693
#2	.09801	.24279	.24733	1.9325	149.49	.50454	21.991	.24391
#3	.09721	.24400	.24657	1.9094	150.63	.50059	22.123	.24881

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.50189	162.70	.24455	36.653	.24345	.59426	.18740	15.064
Stddev	.00172	.16	.00095	.135	.00361	.00298	.00549	.052
%RSD	.34341	.09529	.38916	.36813	1.4841	.50200	2.9276	.34449

#1	.50031	162.72	.24494	36.585	.24526	.59579	.18383	15.040
#2	.50373	162.53	.24525	36.808	.24581	.59082	.19372	15.124
#3	.50163	162.83	.24346	36.566	.23929	.59615	.18466	15.028

Check ? **Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass**
 High Limit
 Low Limit

Approved: October 14, 2016

K: K Buck

Sample Name: L1610031101MS Acquired: 10/14/2016 14:35:52 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587099-04

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.48412	.51264	.49422	.23693	.49678	.49993	23.021
Stddev	.00122	.00022	.00523	.00129	.00041	.00236	.531
%RSD	.25263	.04236	1.0575	.54332	.08163	.47238	2.3061
#1	.48271	.51255	.48866	.23552	.49725	.49815	23.622
#2	.48490	.51289	.49496	.23723	.49658	.50261	22.824
#3	.48476	.51249	.49903	.23803	.49652	.49903	22.617

Check ? **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass**
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9870.6	110080.	11901.
Stddev	87.1	318.	421.
%RSD	.88289	.28883	3.5365
#1	9801.1	109710.	11471.
#2	9842.3	110290.	12312.
#3	9968.3	110230.	11919.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610031101MSD Acquired: 10/14/2016 14:39:26 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587099-05

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19786	4.7239	.22301	1.2090	.49488	.02513	21.682	.02462
Stddev	.00326	.0062	.00170	.0039	.00159	.00013	.068	.00027
%RSD	1.6458	.13060	.76392	.32222	.32028	.52231	.31284	1.0999

#1	.19670	4.7250	.22484	1.2053	.49344	.02505	21.659	.02443
#2	.20154	4.7295	.22270	1.2131	.49462	.02528	21.628	.02449
#3	.19534	4.7173	.22148	1.2085	.49657	.02505	21.758	.02493

Check ? **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass**
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.09744	.24719	.24566	1.9448	150.80	.50203	22.028	.24965
Stddev	.00050	.00213	.00098	.0254	.77	.00489	.114	.00144
%RSD	.51612	.86010	.39905	1.3061	.50782	.97472	.51910	.57593

#1	.09789	.24963	.24523	1.9442	150.99	.50032	22.061	.25108
#2	.09689	.24575	.24496	1.9197	149.96	.49822	21.901	.24820
#3	.09753	.24619	.24678	1.9705	151.45	.50755	22.122	.24967

Check ? **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass**
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.50136	162.60	.24591	36.614	.24004	.59205	.19546	15.045
Stddev	.00231	.44	.00147	.097	.00146	.00293	.00518	.052
%RSD	.46126	.27116	.59674	.26470	.60673	.49413	2.6501	.34688

#1	.50274	162.42	.24618	36.715	.24167	.59436	.19055	15.076
#2	.49869	162.28	.24432	36.521	.23887	.58876	.19496	14.985
#3	.50265	163.10	.24722	36.607	.23959	.59304	.20087	15.075

Check ? **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass**
 High Limit
 Low Limit

Approved: October 14, 2016

K: K Buck

Sample Name: L1610031101MSD Acquired: 10/14/2016 14:39:26 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587099-05

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.48345	.51475	.49051	.23795	.50197	.49954	18.587
Stddev	.00126	.00183	.00395	.00094	.00123	.00137	4.463
%RSD	.26019	.35547	.80472	.39546	.24442	.27421	24.013
#1	.48489	.51289	.48701	.23903	.50211	.50062	19.105
#2	.48258	.51480	.49479	.23736	.50068	.49800	22.769
#3	.48287	.51655	.48973	.23745	.50312	.49999	13.888

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9944.6	110860.	12079.
Stddev	79.1	413.	253.
%RSD	.79555	.37282	2.0950
#1	9988.7	110860.	11864.
#2	9853.3	110440.	12358.
#3	9991.8	111270.	12015.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610038801 Acquired: 10/14/2016 14:42:59 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00159	.01403	.00072	.04215	.05331	.00000	34.178	.00002
Stddev	.00105	.00847	.00377	.00151	.00029	.00008	.079	.00015
%RSD	65.770	60.354	523.66	3.5933	.54222	8913.3	.23148	777.41

#1	.00239	.01914	.00074	.04337	.05298	.00009	34.126	-.00009
#2	.00041	.00426	-.00306	.04046	.05348	-.00002	34.138	.00020
#3	.00198	.01870	.00448	.04263	.05347	-.00007	34.269	-.00005

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00046	.00116	.00178	.00310	.56472	.00578	1.1543	.74447
Stddev	.00022	.00038	.00125	.01084	.04674	.00643	.0381	.00298
%RSD	47.752	32.817	70.119	350.12	8.2762	111.40	3.2980	.40093

#1	.00055	.00083	.00303	.01362	.51173	.01055	1.1862	.74640
#2	.00021	.00106	.00176	-.00803	.58237	-.00154	1.1121	.74104
#3	.00061	.00157	.00054	.00370	.60006	.00831	1.1644	.74599

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00119	77.754	.00139	-.01335	.00097	.00141	.00028	.47571
Stddev	.00044	.211	.00053	.00557	.00164	.00101	.00311	.00437
%RSD	37.153	.27173	38.094	41.756	168.97	71.740	1108.4	.91763

#1	.00075	77.721	.00109	-.01359	.00160	.00045	-.00300	.47152
#2	.00163	77.560	.00201	-.00766	.00220	.00132	.00066	.48023
#3	.00118	77.979	.00108	-.01880	-.00089	.00246	.00318	.47537

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610038801 Acquired: 10/14/2016 14:42:59 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00002	.10242	.00083	-0.00311	.00060	.00325	1.8497
Stddev	.00028	.00025	.00144	.00158	.00097	.00009	3.5501
%RSD	1308.6	.23933	173.00	50.773	161.19	2.7658	191.92

#1	-0.00015	.10243	.00135	-.00487	.00119	.00316	4.4528
#2	.00030	.10266	-.00080	-.00266	-.00052	.00325	3.2907
#3	-.00022	.10217	.00193	-.00181	.00113	.00334	-2.1942

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10129.	114300.	12231.
Stddev	68.	80.	153.
%RSD	.67022	.07013	1.2530

#1	10164.	114330.	12128.
#2	10173.	114210.	12407.
#3	10051.	114360.	12157.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610038801PS Acquired: 10/14/2016 14:46:45 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587330-03

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.19903	4.9812	.20160	.99317	.54705	.02489	35.510	.02462
Stddev	.00125	.0116	.00146	.00216	.00053	.00010	.072	.00015
%RSD	.62891	.23306	.72459	.21798	.09676	.41186	.20170	.60125

#1	.20035	4.9888	.19995	.99564	.54715	.02501	35.525	.02450
#2	.19786	4.9679	.20274	.99229	.54753	.02482	35.431	.02478
#3	.19889	4.9870	.20210	.99158	.54648	.02483	35.572	.02457

Check ? **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass**
 High Limit
 Low Limit

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.10001	.24905	.25027	1.9482	25.123	.49801	5.9273	.90818
Stddev	.00043	.00059	.00003	.0073	.095	.00288	.1035	.00185
%RSD	.42897	.23674	.01157	.37267	.37908	.57929	1.7461	.20348

#1	.09951	.24868	.25024	1.9554	25.023	.49538	5.9202	.91031
#2	.10025	.24874	.25030	1.9409	25.212	.50110	5.8276	.90692
#3	.10027	.24973	.25027	1.9483	25.133	.49756	6.0342	.90732

Check ? **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass**
 High Limit
 Low Limit

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.50368	93.583	.25056	4.9227	.24996	.60008	.19405	2.9143
Stddev	.00187	.208	.00168	.0084	.00282	.00117	.00663	.0005
%RSD	.37062	.22176	.66923	.17153	1.1290	.19530	3.4189	.01807

#1	.50293	93.620	.24863	4.9158	.25293	.59887	.19183	2.9138
#2	.50581	93.359	.25166	4.9202	.24732	.60017	.20152	2.9148
#3	.50231	93.769	.25140	4.9321	.24963	.60121	.18882	2.9143

Check ? **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass** **Chk Pass**
 High Limit
 Low Limit

Approved: October 14, 2016

K: K Buck

Sample Name: L1610038801PS Acquired: 10/14/2016 14:46:45 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment: WG587330-03

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.49692	.59355	.49876	.24914	.50119	.50234	3.8215
Stddev	.00139	.00125	.00044	.00518	.00188	.00089	.8005
%RSD	.27899	.20990	.08844	2.0801	.37465	.17673	20.948
#1	.49716	.59241	.49837	.25464	.50169	.50313	3.7112
#2	.49817	.59335	.49867	.24844	.50276	.50138	3.0818
#3	.49543	.59488	.49924	.24434	.49911	.50250	4.6714

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
 High Limit
 Low Limit

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10085.	112960.	12477.
Stddev	24.	619.	90.
%RSD	.23961	.54807	.72062
#1	10100.	113230.	12576.
#2	10057.	113390.	12401.
#3	10098.	112250.	12455.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610038801SDL Acquired: 10/14/2016 14:50:19 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment: WG587330-04

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00030	.00113	.00095	.01224	.01085	-.00008	7.1291
Stddev	.00122	.00116	.00205	.00077	.00031	.00003	.0141
%RSD	409.25	102.35	215.16	6.3294	2.8641	35.634	.19750

#1	-.00072	.00059	-.00122	.01209	.01118	-.00006	7.1337
#2	-.00004	.00034	.00122	.01308	.01080	-.00011	7.1134
#3	.00165	.00246	.00285	.01155	.01057	-.00006	7.1404

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00005	.00033	.00026	.00156	F -.02023	.13678	.00591
Stddev	.00009	.00030	.00030	.00110	.00716	.03071	.00188
%RSD	174.11	89.856	117.82	70.586	35.406	22.453	31.800

#1	-.00006	.00005	.00058	.00037	-.02722	.17164	.00406
#2	.00004	.00030	-.00001	.00176	-.02058	.11371	.00782
#3	-.00014	.00064	.00020	.00254	-.01290	.12499	.00586

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass
High Limit					720.00		
Low Limit					-.02000		

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.28815	.15567	.00045	16.316	.00051	.00063	.00294
Stddev	.06302	.00447	.00013	.092	.00084	.00887	.00236
%RSD	21.871	2.8739	29.174	.56534	164.06	1412.2	80.042

#1	.24509	.15051	.00032	16.287	.00146	-.00066	.00520
#2	.25886	.15830	.00058	16.241	-.00014	.01007	.00050
#3	.36048	.15822	.00046	16.419	.00022	-.00753	.00313

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

K: K Buck

Sample Name: L1610038801SDL Acquired: 10/14/2016 14:50:19 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 5 Custom ID2: Custom ID3:
 Comment: WG587330-04

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00085	-.00808	.09739	-.00084	.02087	.00140	-.00192
Stddev	.00601	.00489	.00303	.00051	.00026	.00280	.00195
%RSD	705.65	60.578	3.1120	60.883	1.2558	199.18	101.48

#1	-.00309	-.00243	.09505	-.00121	.02085	-.00146	-.00395
#2	-.00213	-.01075	.09630	-.00026	.02062	.00413	-.00006
#3	.00777	-.01106	.10082	-.00105	.02114	.00154	-.00176

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-.00015	.00176	F -1.5609
Stddev	.00018	.00009	4.1583
%RSD	118.15	5.0550	266.41

#1	-.00036	.00176	-1.5000
#2	-.00002	.00168	-5.7492
#3	-.00009	.00186	2.5666

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10241.	116470.	12253.
Stddev	102.	77.	104.
%RSD	.99361	.06636	.84912

#1	10335.	116440.	12161.
#2	10254.	116420.	12234.
#3	10133.	116560.	12366.

Approved: October 14, 2016

K. K. Buck

Sample Name: CCV Acquired: 10/14/2016 14:54:06 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.39922	10.140	.39693	.49830	.98902	.04976	9.9176
Stddev	.00271	.046	.00246	.00274	.00407	.00021	.0908
%RSD	.67960	.45187	.62013	.54908	.41128	.41427	.91549

#1	.39732	10.125	.39951	.50139	.98500	.04993	9.8375
#2	.40233	10.103	.39461	.49618	.98895	.04953	9.8992
#3	.39802	10.191	.39667	.49734	.99313	.04983	10.016

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05053	.20140	.50170	.50557	3.8549	48.617	.97944
Stddev	.00023	.00059	.00061	.00155	.0153	.278	.00739
%RSD	.46438	.29462	.12228	.30598	.39675	.57162	.75440

#1	.05031	.20200	.50170	.50680	3.8376	48.401	.97292
#2	.05049	.20138	.50109	.50383	3.8601	48.518	.97793
#3	.05078	.20081	.50232	.50607	3.8668	48.930	.98747

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.6699	.47725	1.0010	49.194	.50281	9.9454	.50515
Stddev	.1405	.00070	.0005	.093	.00104	.0092	.00487
%RSD	1.4532	.14689	.05247	.18967	.20612	.09240	.96478

#1	9.5440	.47648	1.0014	49.122	.50379	9.9390	.51012
#2	9.6443	.47744	1.0012	49.161	.50291	9.9413	.50495
#3	9.8215	.47784	1.0004	49.299	.50172	9.9560	.50038

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: October 14, 2016

K: K Buck

Sample Name: CCV Acquired: 10/14/2016 14:54:06 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.2109	.40037	5.0730	1.0019	.99340	.98007	.51386
Stddev	.0074	.00318	.0068	.0022	.00419	.00062	.00395
%RSD	.60899	.79465	.13479	.21571	.42222	.06288	.76869

#1	1.2159	.40347	5.0807	1.0043	.98883	.97991	.51466
#2	1.2024	.39711	5.0708	1.0010	.99429	.97955	.51735
#3	1.2144	.40052	5.0675	1.0002	.99707	.98075	.50957

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.99742	1.0046	F -1.2476
Stddev	.00128	.0024	3.8184
%RSD	.12823	.23756	306.05

#1	.99810	1.0063	-5.5199
#2	.99595	1.0019	-.05524
#3	.99822	1.0058	1.8323

Check ?	Chk Pass	Chk Pass	Chk Fail
Value			1.0000
Range			-10.000%

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9669.9	109680.	11897.
Stddev	94.3	394.	143.
%RSD	.97519	.35938	1.2032

#1	9766.8	109840.	12036.
#2	9664.5	109970.	11904.
#3	9578.4	109230.	11750.

Approved: October 14, 2016

K. K. Buck

Sample Name: CCB Acquired: 10/14/2016 14:57:34 Type: Blank
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00036	.00196	-0.00043	.00453	-0.00059	.00007	-0.01279
Stddev	.00039	.00196	.00368	.00051	.00019	.00005	.03118
%RSD	107.68	99.804	844.93	11.155	31.438	73.902	243.86

#1	-0.00070	.00404	.00275	.00401	-0.00050	.00011	-.03238
#2	.00006	.00015	.00040	.00502	-0.00047	.00001	.02317
#3	-0.00045	.00171	-0.00446	.00457	-0.00080	.00009	-.02914

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00012	-0.00002	-0.00010	.00098	-0.00172	.00312	.00594
Stddev	.00029	.00034	.00108	.00086	.00640	.11177	.00119
%RSD	250.98	1604.0	1098.9	87.821	371.99	3586.7	20.030

#1	.00043	.00022	-.00116	.00052	.00432	.01387	.00486
#2	-.00015	-.00041	.00100	.00198	-.00105	-.11364	.00575
#3	.00006	.00013	-.00013	.00045	-.00844	.10912	.00722

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.01248	.00287	.00047	-0.00299	.00023	-0.00548	-0.00069
Stddev	.02164	.00260	.00038	.02373	.00053	.00738	.00311
%RSD	173.43	90.471	80.771	794.65	234.44	134.50	451.81

#1	-.00520	.00292	.00064	.00482	.00031	-.01399	-.00155
#2	.00458	.00545	.00004	.01585	.00072	-.00168	.00276
#3	-.03682	.00025	.00074	-.02963	-.00034	-.00079	-.00328

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

K: K Buck

Sample Name: CCB Acquired: 10/14/2016 14:57:34 Type: Blank
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00026	-.00508	.00071	-.00010	-.00024	-.00071	-.00076
Stddev	.00221	.00689	.00200	.00029	.00013	.00321	.00134
%RSD	839.95	135.64	281.64	284.81	52.982	455.58	175.77

#1	-.00216	-.00891	.00298	.00002	-.00029	-.00161	-.00084
#2	.00078	-.00920	-.00079	.00011	-.00010	.00286	-.00205
#3	.00217	.00287	-.00006	-.00043	-.00034	-.00337	.00062

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-.00049	-.00018	F 1.5601
Stddev	.00048	.00025	1.7420
%RSD	97.890	137.78	111.66

#1	-.00001	.00001	2.8819
#2	-.00097	-.00046	2.2124
#3	-.00050	-.00009	-.41385

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.04000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10133.	114600.	11972.
Stddev	16.	666.	356.
%RSD	.16062	.58090	2.9770

#1	10152.	115350.	12256.
#2	10127.	114380.	12089.
#3	10121.	114070.	11572.

Approved: October 14, 2016

K: K Buck

Sample Name: L1610040401 Acquired: 10/14/2016 15:01:24 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00092	.03939	.00078	.05927	.08205	-.00005	11.262
Stddev	.00073	.00429	.00159	.00171	.00030	.00005	.055
%RSD	79.330	10.882	204.22	2.8818	.36439	99.883	.48598

#1	-.00009	.04267	.00204	.06097	.08203	.00000	11.325
#2	-.00144	.04095	-.00101	.05928	.08177	-.00011	11.223
#3	-.00124	.03454	.00130	.05755	.08236	-.00006	11.239

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00008	.00092	.01148	.00174	.00627	11.113	.00627
Stddev	.00003	.00033	.00020	.00199	.02560	.013	.00431
%RSD	30.128	35.999	1.7460	113.90	408.24	.11582	68.752

#1	.00011	.00125	.01168	-.00013	-.02058	11.114	.00358
#2	.00006	.00059	.01128	.00153	.03042	11.125	.00399
#3	.00009	.00093	.01148	.00383	.00897	11.100	.01125

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.52530	.21970	.00639	80.938	.01475	-.01041	-.00044
Stddev	.05678	.00147	.00031	.196	.00080	.00781	.00371
%RSD	10.810	.66712	4.7951	.24178	5.4043	74.983	845.30

#1	.56556	.22126	.00629	81.155	.01528	-.00262	-.00338
#2	.46035	.21948	.00673	80.774	.01383	-.01824	.00373
#3	.54999	.21836	.00614	80.886	.01514	-.01038	-.00166

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

K: K Buck

Sample Name: L1610040401 Acquired: 10/14/2016 15:01:24 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00117	-.00344	.39659	.00030	.02828	.00030	.00028
Stddev	.00466	.00503	.00421	.00067	.00017	.00216	.00130
%RSD	396.60	146.44	1.0623	219.14	.58742	717.36	464.59

#1	-.00408	-.00893	.40138	.00083	.02810	.00279	.00024
#2	.00479	.00095	.39348	-.00044	.02828	-.00091	.00159
#3	.00282	-.00232	.39490	.00053	.02844	-.00098	-.00100

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	-.00053	.00744	F -2.0317
Stddev	.00026	.00014	3.9547
%RSD	48.167	1.9378	194.65

#1	-.00036	.00749	-6.5304
#2	-.00083	.00756	-.46134
#3	-.00041	.00728	.89657

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10079.	114060.	12237.
Stddev	20.	519.	226.
%RSD	.20195	.45466	1.8430

#1	10059.	113480.	12008.
#2	10077.	114500.	12459.
#3	10100.	114190.	12245.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610041201 Acquired: 10/14/2016 15:05:10 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00044	3.2978	.00197	.04682	2.6583	-0.00009	32.413	.00032
Stddev	.00044	.0064	.00097	.00119	.0024	.00005	.040	.00018
%RSD	98.255	.19458	49.196	2.5349	.08837	57.050	.12420	54.642

#1	-0.00081	3.2935	.00259	.04748	2.6610	-0.00012	32.384	.00030
#2	.00004	3.3052	.00085	.04545	2.6566	-0.00012	32.397	.00016
#3	-0.00056	3.2947	.00245	.04753	2.6573	-0.00003	32.459	.00050

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00112	-0.00019	.00207	.00368	.14334	.00529	.06835	.00174
Stddev	.00046	.00031	.00170	.01301	.07013	.00323	.02659	.00097
%RSD	41.108	160.01	81.861	353.48	48.927	61.070	38.909	55.907

#1	.00104	-0.00012	.00148	.00189	.07486	.00178	.04002	.00140
#2	.00162	.00007	.00075	-.00834	.14014	.00594	.07225	.00284
#3	.00071	-0.00053	.00399	.01749	.21502	.00815	.09278	.00099

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00094	78.051	-0.00014	-0.00420	.00210	.00209	.00379	.04339
Stddev	.00045	.138	.00078	.00861	.00256	.00259	.00427	.00340
%RSD	47.439	.17726	553.60	205.00	122.23	124.21	112.91	7.8329

#1	.00060	78.158	-0.00016	-.00105	.00244	-0.00075	-.00114	.04700
#2	.00145	77.895	.00065	-.01394	-.00062	.00433	.00594	.04291
#3	.00079	78.099	-0.00091	.00239	.00447	.00268	.00655	.04025

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610041201 Acquired: 10/14/2016 15:05:10 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00024	.16461	-0.00201	-0.00113	.00039	.00366	2.0608
Stddev	.00041	.00036	.00212	.00142	.00084	.00006	6.8689
%RSD	171.63	.21622	105.51	125.56	212.31	1.6937	333.31

#1	.00009	.16501	-.00403	-.00229	.00106	.00363	4.2016
#2	-.00069	.16449	-.00219	.00045	.00067	.00361	7.6044
#3	-.00010	.16434	.00019	-.00154	-.00055	.00373	-5.6236

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10026.	112420.	12226.
Stddev	146.	794.	235.
%RSD	1.4526	.70667	1.9230

#1	9858.6	112430.	11984.
#2	10123.	111610.	12453.
#3	10097.	113200.	12242.

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610019402 Acquired: 10/14/2016 15:08:56 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 10 Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00046	.05990	.01745	.01502	.02947	-0.00004	21.015
Stddev	.00151	.00338	.00075	.00241	.00047	.00003	.074
%RSD	330.28	5.6401	4.2906	16.034	1.5967	82.592	.35282

#1	-0.00078	.06375	.01700	.01779	.02962	-0.00003	21.016
#2	-0.00177	.05740	.01831	.01384	.02985	-0.00001	21.089
#3	.00118	.05856	.01704	.01343	.02894	-0.00008	20.941

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00016	.00374	.00620	.00497	2.6608	.06671	.00639
Stddev	.00015	.00027	.00086	.00153	.0122	.02590	.00432
%RSD	96.281	7.2419	13.830	30.838	.45908	38.828	67.703

#1	-0.00020	.00404	.00523	.00666	2.6624	.03996	.00911
#2	.00001	.00354	.00651	.00367	2.6479	.06851	.00140
#3	-0.00029	.00363	.00686	.00457	2.6722	.09167	.00865

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	20.471	.60533	.00085	198.42	.00883	.40722	.00090
Stddev	.072	.00575	.00066	.99	.00090	.00397	.00366
%RSD	.35402	.95024	78.294	.49649	10.192	.97378	409.32

#1	20.553	.61013	.00013	198.58	.00782	.40845	.00073
#2	20.444	.60691	.00143	199.31	.00954	.41043	.00464
#3	20.416	.59896	.00098	197.36	.00915	.40279	-.00268

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

K: K Buck

Sample Name: L1610019402 Acquired: 10/14/2016 15:08:56 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 10 Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00173	-.00497	1.3770	-.00011	.54026	.01793	-.00158
Stddev	.00531	.00354	.0039	.00044	.00118	.00193	.00254
%RSD	307.84	71.229	.28143	393.39	.21802	10.756	160.69

#1	-.00435	-.00563	1.3730	-.00044	.53890	.01954	.00090
#2	.00549	-.00812	1.3773	.00039	.54087	.01579	-.00418
#3	.00404	-.00114	1.3807	-.00028	.54101	.01845	-.00147

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.01404	.00559	F 76.575
Stddev	.00061	.00016	2.167
%RSD	4.3762	2.8471	2.8304

#1	.01392	.00541	76.862
#2	.01471	.00572	78.585
#3	.01350	.00565	74.278

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10025.	112200.	12660.
Stddev	16.	262.	102.
%RSD	.15883	.23366	.80937

#1	10010.	111950.	12587.
#2	10042.	112480.	12616.
#3	10022.	112180.	12777.

Approved: October 14, 2016

K: K Buck

Sample Name: L1610019404 Acquired: 10/14/2016 15:12:40 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 10 Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226	Cd2288
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00015	.01123	.00879	.00991	.01156	-0.00006	16.713	-0.00029
Stddev	.00151	.00375	.00374	.00141	.00052	.00006	.035	.00003
%RSD	980.27	33.441	42.533	14.258	4.5301	91.147	.21015	11.795

#1	-0.00029	.01544	.01071	.00837	.01206	.00000	16.723	-0.00031
#2	-0.00159	.01003	.01118	.01115	.01101	-0.00009	16.742	-0.00030
#3	.00142	.00822	.00448	.01021	.01160	-0.00011	16.674	-0.00025

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00287	.00140	.00276	3.7203	.03553	.01017	11.390	.63822
Stddev	.00035	.00019	.00066	.0098	.00334	.00449	.082	.00275
%RSD	12.134	13.841	24.059	.26282	9.4103	44.145	.71935	.43118

#1	.00246	.00120	.00314	3.7248	.03833	.01471	11.459	.63727
#2	.00307	.00141	.00314	3.7091	.03183	.01007	11.299	.64132
#3	.00307	.00159	.00199	3.7270	.03642	.00573	11.411	.63606

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo2020	Na5895	Ni2316	P_2149	Pb2203	Sb2068	Se1960	Si2124
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00106	95.211	.00377	.36275	-0.00165	.00645	-0.00378	1.6016
Stddev	.00015	.145	.00159	.00810	.00386	.00221	.00859	.0069
%RSD	14.178	.15193	42.075	2.2326	234.18	34.271	227.45	.43034

#1	.00097	95.311	.00397	.35340	.00179	.00818	.00024	1.5984
#2	.00097	95.276	.00525	.36718	-0.00582	.00396	-.01364	1.5968
#3	.00123	95.045	.00210	.36767	-0.00091	.00720	.00207	1.6095

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Approved: October 14, 2016

K. K. Buck

Sample Name: L1610019404 Acquired: 10/14/2016 15:12:40 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: 10 Custom ID2: Custom ID3:
 Comment:

Elem	Sn1899	Sr4077	Ti3372	Ti1908	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00036	.35997	.00499	-0.00010	.00455	.00373	9.1618
Stddev	.00076	.00094	.00144	.00258	.00016	.00027	1.5458
%RSD	210.69	.26193	28.797	2573.1	3.4922	7.2711	16.872

#1	-0.00022	.35888	.00584	-0.00280	.00473	.00342	10.427
#2	-0.00118	.36042	.00333	.00234	.00448	.00392	9.6197
#3	.00032	.36060	.00580	.00016	.00444	.00384	7.4388

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10047.	113370.	12602.
Stddev	42.	223.	23.
%RSD	.42104	.19660	.18321

#1	10061.	113580.	12578.
#2	9999.2	113140.	12624.
#3	10080.	113390.	12606.

Approved: October 14, 2016

K. K. Buck

Sample Name: CCV Acquired: 10/14/2016 15:16:26 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.40406	10.209	.39781	.50229	1.0025	.04998	9.9661
Stddev	.00136	.038	.00175	.00106	.0008	.00010	.0063
%RSD	.33769	.37466	.43881	.21175	.07780	.20974	.06340

#1	.40305	10.213	.39981	.50107	1.0032	.04987	9.9612
#2	.40351	10.169	.39657	.50274	1.0027	.05000	9.9638
#3	.40561	10.245	.39706	.50305	1.0016	.05008	9.9732

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05013	.19979	.50129	.50188	3.8316	48.568	.97486
Stddev	.00031	.00025	.00069	.00190	.0318	.136	.00167
%RSD	.62367	.12444	.13809	.37829	.82892	.28029	.17118

#1	.05036	.19998	.50145	.50327	3.8287	48.463	.97314
#2	.05026	.19988	.50188	.50266	3.8014	48.721	.97498
#3	.04978	.19951	.50053	.49972	3.8647	48.519	.97647

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.6866	.47521	.99384	49.039	.50095	9.9521	.50058
Stddev	.0539	.00261	.00209	.177	.00280	.0399	.00324
%RSD	.55646	.54945	.21039	.36116	.55859	.40095	.64696

#1	9.6303	.47221	.99623	48.868	.50092	9.9910	.49980
#2	9.6919	.47703	.99235	49.027	.50376	9.9540	.50414
#3	9.7377	.47637	.99295	49.221	.49816	9.9112	.49780

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: October 14, 2016

K: K Buck

Sample Name: CCV Acquired: 10/14/2016 15:16:26 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.2100	4.0024	5.0568	.99604	1.0075	.98404	.51440
Stddev	.0104	.00516	.0197	.00347	.0006	.00420	.00431
%RSD	.85869	1.2900	.38868	.34864	.05555	.42649	.83752

#1	1.2205	.40041	5.0774	1.0000	1.0069	.98416	.51913
#2	1.2099	.40532	5.0548	.99374	1.0080	.97978	.51071
#3	1.1997	.39500	5.0382	.99435	1.0077	.98817	.51335

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.99941	.99992	F 3.3274
Stddev	.00143	.00396	1.1596
%RSD	.14325	.39585	34.851

#1	.99796	1.0036	4.4139
#2	1.0008	1.0004	3.4621
#3	.99944	.99574	2.1063

Check ?	Chk Pass	Chk Pass	Chk Fail
Value			1.0000
Range			10.000%

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10059.	113230.	12690.
Stddev	46.	118.	61.
%RSD	.45853	.10389	.48295

#1	10106.	113120.	12754.
#2	10014.	113360.	12631.
#3	10056.	113220.	12686.

Approved: October 14, 2016

K: K Buck

Sample Name: CCB Acquired: 10/14/2016 15:19:54 Type: Blank
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00077	-.00116	.00234	.00203	-.00093	.00002	-.00759
Stddev	.00144	.00288	.00258	.00089	.00074	.00004	.02227
%RSD	186.30	249.23	110.05	43.915	79.614	170.33	293.48

#1	.00062	-.00375	.00316	.00101	-.00124	-.00002	.01435
#2	-.00226	-.00167	.00442	.00244	-.00145	.00006	-.03019
#3	-.00067	.00195	-.00055	.00264	-.00008	.00003	-.00693

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00037	.00015	-.00013	.00045	.00305	-.04670	.00697
Stddev	.00010	.00024	.00029	.00048	.00868	.06469	.00187
%RSD	26.854	158.34	231.14	105.69	284.94	138.52	26.887

#1	-.00048	-.00004	-.00046	.00093	-.00479	-.00234	.00913
#2	-.00031	.00043	.00009	-.00003	.00155	-.12092	.00578
#3	-.00031	.00008	-.00001	.00047	.01237	-.01684	.00600

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.03161	.00274	.00067	.01459	.00049	-.00434	.00052
Stddev	.05383	.00090	.00045	.01281	.00104	.00269	.00201
%RSD	170.32	32.807	67.992	87.801	209.38	62.009	384.90

#1	.03033	.00279	.00016	-.00011	-.00069	-.00164	-.00162
#2	-.05797	.00182	.00079	.02334	.00124	-.00437	.00236
#3	-.06718	.00361	.00105	.02055	.00093	-.00702	.00083

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

K: K Buck

Sample Name: CCB Acquired: 10/14/2016 15:19:54 Type: Blank
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00473	.00107	.00261	-.00016	-.00008	-.00133	-.00001
Stddev	.00256	.00449	.00273	.00044	.00017	.00265	.00197
%RSD	54.185	419.58	104.70	271.12	223.60	199.95	26487.

#1	.00181	-.00324	.00165	.00029	-.00024	-.00366	-.00178
#2	.00577	.00073	.00570	-.00020	-.00009	.00156	-.00034
#3	.00661	.00572	.00049	-.00058	.00010	-.00188	.00211

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00048	-.00013	F -.54078
Stddev	.00070	.00014	1.8169
%RSD	144.61	107.88	335.97

#1	.00085	-.00017	-2.4384
#2	-.00032	.00003	-.36671
#3	.00092	-.00024	1.1828

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.04000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10157.	116010.	12471.
Stddev	117.	415.	170.
%RSD	1.1486	.35802	1.3655

#1	10048.	116070.	12559.
#2	10142.	116390.	12579.
#3	10280.	115570.	12275.

Approved: October 14, 2016

K. K. Buck

Sample Name: LLCCV Acquired: 10/14/2016 15:23:44 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01136	.23260	.00938	.10053	.01010	.00207	.54051
Stddev	.00096	.00556	.00437	.00085	.00038	.00001	.00738
%RSD	8.4538	2.3921	46.606	.84910	3.7902	.50996	1.3648

#1	.01035	.22905	.01075	.10151	.00966	.00206	.54877
#2	.01147	.22973	.00449	.10013	.01036	.00208	.53817
#3	.01226	.23901	.01290	.09995	.01028	.00207	.53459

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00095	.00551	.00608	.00688	.09528	1.0071	.10566
Stddev	.00038	.00037	.00088	.00083	.01213	.0451	.00757
%RSD	39.690	6.6542	14.484	11.992	12.728	4.4795	7.1598

#1	.00120	.00558	.00576	.00712	.08742	1.0058	.10210
#2	.00113	.00511	.00541	.00596	.10924	1.0528	.10053
#3	.00052	.00584	.00708	.00756	.08917	.96264	.11435

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.49264	.01455	.01029	.59659	.02271	1.0099	.00934
Stddev	.01728	.00182	.00032	.04961	.00026	.0062	.00201
%RSD	3.5071	12.479	3.1437	8.3153	1.1621	.61508	21.565

#1	.47517	.01324	.01038	.64091	.02249	1.0103	.01092
#2	.49303	.01662	.00994	.54300	.02264	1.0158	.00707
#3	.50972	.01378	.01057	.60586	.02300	1.0034	.01004

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

K: K Buck

Sample Name: LLCCV Acquired: 10/14/2016 15:23:44 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.11184	.01797	1.0244	.52693	.05319	.03144	.21172
Stddev	.00327	.00405	.0037	.00292	.00042	.00173	.00173
%RSD	2.9211	22.549	.35859	.55327	.78924	5.4872	.81520

#1	.10807	.01844	1.0211	.52463	.05367	.03021	.21000
#2	.11379	.01370	1.0238	.53021	.05297	.03341	.21345
#3	.11365	.02176	1.0283	.52595	.05292	.03070	.21171

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.01016	.02581	F 681.57
Stddev	.00049	.00026	8.76
%RSD	4.7947	1.0025	1.2846

#1	.01000	.02554	671.96
#2	.00977	.02606	689.09
#3	.01071	.02582	683.66

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10285.	115850.	12530.
Stddev	125.	1000.	245.
%RSD	1.2133	.86329	1.9556

#1	10141.	116810.	12787.
#2	10355.	115940.	12502.
#3	10359.	114810.	12300.

Approved: October 14, 2016

K. K. Buck

Sample Name: LLCCV Acquired: 10/14/2016 15:27:29 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02278	.45656	.01924	.19550	.02042	.00406	1.0652
Stddev	.00170	.00242	.00075	.00051	.00033	.00005	.0050
%RSD	7.4587	.53102	3.8904	.26168	1.6137	1.1276	.47342

#1	.02352	.45385	.02006	.19520	.02008	.00409	1.0708
#2	.02398	.45851	.01905	.19521	.02044	.00408	1.0639
#3	.02083	.45733	.01860	.19609	.02074	.00401	1.0609

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00213	.01091	.01093	.01200	.19302	1.9493	.21160
Stddev	.00033	.00065	.00020	.00060	.01340	.0632	.00538
%RSD	15.569	5.9476	1.8444	5.0241	6.9402	3.2421	2.5408

#1	.00249	.01017	.01098	.01256	.19336	1.8880	.21330
#2	.00183	.01136	.01071	.01209	.20625	1.9456	.20558
#3	.00208	.01120	.01110	.01136	.17946	2.0142	.21592

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.96951	.02305	.02025	1.0403	.04306	2.0155	.02254
Stddev	.04341	.00168	.00037	.0157	.00066	.0077	.00138
%RSD	4.4773	7.2844	1.8060	1.5052	1.5298	.38162	6.1056

#1	.97326	.02491	.02005	1.0364	.04233	2.0082	.02122
#2	.92435	.02261	.02067	1.0575	.04360	2.0146	.02396
#3	1.0109	.02164	.02002	1.0268	.04326	2.0236	.02244

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

K: K Buck

Sample Name: LLCCV Acquired: 10/14/2016 15:27:29 Type: Unk
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.22152	.03584	2.0364	1.0457	.10478	.06090	.41973
Stddev	.00545	.00186	.0112	.0032	.00092	.00393	.00258
%RSD	2.4602	5.2025	.54751	.30959	.87335	6.4568	.61455

#1	.21854	.03685	2.0274	1.0427	.10402	.05886	.41741
#2	.22781	.03698	2.0489	1.0491	.10452	.06543	.42251
#3	.21822	.03369	2.0328	1.0451	.10580	.05840	.41926

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.01983	.04597	F 1375.6
Stddev	.00048	.00017	27.5
%RSD	2.4372	.36676	2.0005

#1	.02018	.04600	1377.8
#2	.01928	.04611	1347.0
#3	.02004	.04578	1401.9

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			45.000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10204.	118470.	12613.
Stddev	143.	350.	217.
%RSD	1.3998	.29577	1.7193

#1	10349.	118700.	12598.
#2	10199.	118640.	12836.
#3	10063.	118060.	12403.

Approved: October 14, 2016

K: K Buck

Sample Name: ICSA Acquired: 10/14/2016 15:31:09 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00258	251.72	.00557	.00726	-0.00015	.00003	224.82
Stddev	.00180	3.84	.00153	.00153	.00031	.00004	.66
%RSD	69.798	1.5263	27.464	21.085	204.64	126.71	.29281

#1	-0.00389	255.78	.00381	.00724	.00012	.00004	224.06
#2	-0.00332	251.24	.00649	.00574	-0.00048	.00008	225.14
#3	-0.00053	248.14	.00642	.00880	-0.00008	-0.00001	225.26

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00009	-0.00051	-0.00184	.00382	96.000	.04164	.00922
Stddev	.00032	.00043	.00107	.00166	.313	.02065	.00329
%RSD	344.98	85.170	57.959	43.419	.32616	49.598	35.687

#1	.00008	-0.00001	-0.00274	.00328	95.780	.01961	.01292
#2	.00011	-0.00082	-0.00213	.00249	96.358	.06057	.00812
#3	-0.00047	-0.00069	-0.00066	.00568	95.861	.04474	.00662

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	243.75	.00175	-0.00002	.05744	-0.00172	.03999	.00004
Stddev	.50	.00239	.00027	.03511	.00076	.00184	.00126
%RSD	.20511	136.43	1466.3	61.128	43.983	4.6086	3474.3

#1	243.61	-0.00018	-0.00024	.09075	-0.00197	.03980	.00088
#2	244.30	.00443	-0.00009	.02077	-0.00087	.03824	.00064
#3	243.33	.00101	.00027	.06080	-0.00233	.04191	-.00141

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

K: K Buck

Sample Name: ICSA Acquired: 10/14/2016 15:31:09 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00196	-0.00495	.26612	.00098	.00119	.00444	.00159
Stddev	.00564	.00280	.00555	.00035	.00011	.00519	.00191
%RSD	287.37	56.533	2.0873	35.219	8.9016	116.84	120.14

#1	-0.00440	-0.00206	.26126	.00095	.00107	.00462	.00131
#2	.00449	-0.00514	.27218	.00065	.00127	.00953	.00362
#3	-0.00598	-0.00765	.26493	.00134	.00124	-0.00084	-0.00017

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00429	-0.00631	F -67.311
Stddev	.00070	.00019	3.332
%RSD	16.381	2.9960	4.9502

#1	.00405	-0.00653	-70.643
#2	.00375	-0.00616	-67.310
#3	.00509	-0.00625	-63.979

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.02000
Low Limit			-.02000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9346.1	103300.	12377.
Stddev	6.9	363.	91.
%RSD	.07378	.35176	.73275

#1	9351.3	103680.	12468.
#2	9338.3	103270.	12375.
#3	9348.7	102950.	12287.

Approved: October 14, 2016

K. K. Buck

Sample Name: ICSAB Acquired: 10/14/2016 15:35:01 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.52381	248.91	.25765	-.01501	.25463	.26396	224.56
Stddev	.00194	2.61	.00323	.00105	.00031	.00109	.83
%RSD	.37124	1.0475	1.2522	7.0209	.12250	.41483	.36808

#1	.52587	248.17	.26125	-.01553	.25461	.26522	224.46
#2	.52357	251.81	.25670	-.01570	.25432	.26327	223.79
#3	.52200	246.76	.25501	-.01380	.25494	.26338	225.43

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.47011	.23879	.24972	.25084	96.339	5.1698	.01257
Stddev	.00201	.00124	.00093	.00239	.225	.0880	.00283
%RSD	.42846	.52079	.37202	.95444	.23383	1.7025	22.534

#1	.47216	.23981	.25036	.25212	96.545	5.1747	.01583
#2	.47005	.23914	.24865	.25233	96.098	5.0794	.01119
#3	.46813	.23740	.25015	.24808	96.374	5.2552	.01070

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	244.49	.24254	.00022	5.2682	.47767	-.00775	.48148
Stddev	.97	.00378	.00058	.0291	.00174	.01044	.00277
%RSD	.39613	1.5605	266.51	.55334	.36439	134.68	.57596

#1	245.21	.24048	-.00030	5.2586	.47968	-.00207	.48464
#2	243.39	.24023	.00084	5.2450	.47678	-.01981	.47948
#3	244.87	.24691	.00010	5.3009	.47655	-.00138	.48031

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

K: K Buck

Sample Name: ICSAB Acquired: 10/14/2016 15:35:01 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.49578	.24825	.00898	.00133	.00100	.00319	.45582
Stddev	.00069	.00811	.00350	.00015	.00011	.00098	.00387
%RSD	.13878	3.2653	38.993	11.511	11.332	30.744	.84946

#1	.49616	.24616	.01231	.00116	.00087	.00298	.45968
#2	.49619	.25720	.00533	.00140	.00106	.00427	.45193
#3	.49498	.24139	.00929	.00144	.00107	.00234	.45585

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.25967	.47847	F -72.795
Stddev	.00065	.00235	1.626
%RSD	.25120	.49061	2.2336

#1	.25917	.48108	-71.308
#2	.26040	.47782	-74.531
#3	.25943	.47652	-72.544

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.02500
Low Limit			-.02500

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	9550.0	106570.	12541.
Stddev	58.4	357.	114.
%RSD	.61150	.33506	.90787

#1	9532.3	106600.	12477.
#2	9502.4	106910.	12673.
#3	9615.1	106200.	12474.

Approved: October 14, 2016

K. K. Buck

Sample Name: CCV Acquired: 10/14/2016 15:38:46 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.40200	10.285	.39648	.50087	.99843	.04981	9.9715
Stddev	.00026	.017	.00309	.00318	.00286	.00021	.0241
%RSD	.06517	.16171	.77857	.63576	.28659	.42816	.24137

#1	.40218	10.288	.39372	.50083	.99549	.04972	9.9731
#2	.40170	10.300	.39981	.49770	1.0012	.04965	9.9947
#3	.40212	10.267	.39591	.50407	.99860	.05005	9.9466

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05053	.19991	.49788	.50237	3.8414	48.412	.96866
Stddev	.00023	.00026	.00143	.00113	.0119	.104	.00686
%RSD	.44677	.13164	.28693	.22506	.30988	.21469	.70865

#1	.05034	.19961	.49731	.50320	3.8375	48.293	.96091
#2	.05078	.20007	.49682	.50108	3.8319	48.486	.97109
#3	.05047	.20006	.49950	.50282	3.8548	48.457	.97397

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.7048	.47775	.99719	49.035	.50304	9.9650	.50335
Stddev	.0493	.00307	.00221	.300	.00206	.0216	.00175
%RSD	.50849	.64158	.22135	.61259	.40984	.21686	.34860

#1	9.7243	.47815	.99925	48.689	.50541	9.9567	.50403
#2	9.7414	.47451	.99486	49.206	.50208	9.9895	.50135
#3	9.6486	.48060	.99745	49.212	.50165	9.9487	.50466

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Approved: October 14, 2016

K: K Buck

Sample Name: CCV Acquired: 10/14/2016 15:38:46 Type: QC
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.2138	.40189	5.0897	.99638	1.0036	.97772	.51900
Stddev	.0018	.00678	.0051	.00263	.0017	.00621	.00135
%RSD	.15092	1.6867	.10030	.26417	.16642	.63533	.25989

#1	1.2118	.40636	5.0918	.99456	1.0017	.97081	.51837
#2	1.2141	.40523	5.0839	.99517	1.0042	.98284	.52055
#3	1.2154	.39409	5.0934	.99940	1.0048	.97952	.51809

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.99282	1.0016	F 2.7131
Stddev	.00382	.0006	5.3599
%RSD	.38502	.06371	197.55

#1	.99335	1.0024	3.1209
#2	.98876	1.0013	7.8575
#3	.99635	1.0012	-2.8390

Check ?	Chk Pass	Chk Pass	Chk Fail
Value			1.0000
Range			10.000%

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10113.	111080.	12190.
Stddev	31.	743.	76.
%RSD	.30738	.66896	.62212

#1	10123.	110260.	12217.
#2	10078.	111250.	12104.
#3	10137.	111720.	12249.

Approved: October 14, 2016

K. K. Buck

Sample Name: CCB Acquired: 10/14/2016 15:42:15 Type: Blank
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Ag3280	Al3082	As1890	B_2496	Ba4554	Be3131	Ca4226
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00041	-0.00268	.00273	.00270	-0.00071	.00005	.01216
Stddev	.00108	.00540	.00129	.00032	.00029	.00003	.01959
%RSD	262.10	201.44	47.301	11.955	40.643	65.803	161.08

#1	.00069	-.00469	.00337	.00235	-.00101	.00008	.02821
#2	-.00045	.00343	.00124	.00278	-.00068	.00004	.01794
#3	-.00148	-.00678	.00358	.00298	-.00043	.00002	-.00967

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Cd2288	Co2286	Cr2677	Cu2247	Fe2611	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00040	.00051	-0.00071	-0.00027	-0.00566	-.11549	-0.00331
Stddev	.00030	.00008	.00016	.00048	.01184	.06238	.00246
%RSD	74.111	15.824	22.764	176.40	209.28	54.010	74.337

#1	-.00070	.00054	-.00052	-.00081	-.00448	-.04666	-.00055
#2	-.00010	.00057	-.00082	.00012	.00555	-.13153	-.00526
#3	-.00042	.00042	-.00079	-.00013	-.01803	-.16829	-.00412

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	P_2149	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00069	.00301	.00037	-0.01558	-0.00013	-0.00227	-0.00168
Stddev	.03331	.00146	.00047	.01134	.00122	.00711	.00320
%RSD	4828.3	48.502	126.39	72.776	931.35	312.63	190.18

#1	-.03267	.00351	.00091	-.02435	.00121	.00188	.00197
#2	.03395	.00136	.00014	-.01963	-.00045	.00179	-.00303
#3	.00079	.00415	.00006	-.00277	-.00115	-.01048	-.00400

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Approved: October 14, 2016

K: K Buck

Sample Name: CCB Acquired: 10/14/2016 15:42:15 Type: Blank
 Method: ICP-THERMO4_6010_200.7WATER_3YLINES(v114) Mode: CONC Corr. Factor: 1.000000
 User: KKB Custom ID1: Custom ID2: Custom ID3:
 Comment:

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3372	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.00085	.00001	.00534	.00030	-0.00013	.00675	-0.00279
Stddev	.00201	.00848	.00334	.00069	.00016	.00338	.00215
%RSD	237.08	66745.	62.541	233.06	123.91	50.126	77.183

#1	.00050	.00797	.00637	.00099	.00005	.00643	-.00428
#2	-.00316	-.00891	.00804	.00029	-.00019	.01028	-.00377
#3	.00012	.00098	.00161	-.00039	-.00024	.00354	-.00032

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Elem	V_2924	Zn2062	Zr3391
Units	ppm	ppm	ppm
Avg	.00021	.00010	F 2.9411
Stddev	.00035	.00011	2.6427
%RSD	165.68	110.15	89.857

#1	-.00012	.00021	4.8763
#2	.00057	.00008	-.06990
#3	.00018	.00000	4.0168

Check ?	Chk Pass	Chk Pass	Chk Fail
High Limit			.04000
Low Limit			-.04000

Int. Std.	Y_2243	Y_3600	Y_3774
Units	Cts/S	Cts/S	Cts/S
Avg	10066.	116530.	12695.
Stddev	75.	247.	52.
%RSD	.74747	.21210	.40718

#1	10151.	116330.	12690.
#2	10008.	116810.	12749.
#3	10038.	116440.	12646.

Approved: October 14, 2016

K: K Buck

2.3.2 Metals ICP-MS Data

2.3.2.1 Summary Data

Certificate of Analysis

Sample #: L16100194-02	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 35AWW08F-100416	Prep Method: 3015	Prep Date: 10/07/2016 08:27
Matrix: Water	Analytical Method: 6020A	Cal Date: 10/19/2016 09:04
Workgroup #: WG586896	Analyst: JYH	Run Date: 10/19/2016 09:46
Collect Date: 10/04/2016 07:40	Dilution: 100	File ID: NI.101916.094620
Sample Tag: DL02	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Manganese, Total	7439-96-5	7.97		0.400	0.200	0.100

Certificate of Analysis

Sample #: L16100194-04	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 03WW01F-100416	Prep Method: 3015	Prep Date: 10/07/2016 08:27
Matrix: Water	Analytical Method: 6020A	Cal Date: 10/19/2016 09:04
Workgroup #: WG586896	Analyst: JYH	Run Date: 10/19/2016 09:49
Collect Date: 10/04/2016 08:20	Dilution: 100	File ID: NI.101916.094919
Sample Tag: DL02	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Manganese, Total	7439-96-5	8.31		0.400	0.200	0.100

Certificate of Analysis

Sample #: L16100194-05	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 35AWW20-100416	Prep Method: 3015	Prep Date: 10/07/2016 08:27
Matrix: Water	Analytical Method: 6020A	Cal Date: 10/19/2016 09:04
Workgroup #: WG586896	Analyst: JYH	Run Date: 10/19/2016 09:52
Collect Date: 10/04/2016 09:35	Dilution: 50	File ID: NI.101916.095218
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Manganese, Total	7439-96-5	1.95		0.200	0.100	0.0500

Certificate of Analysis

Lab Report #: L16100194

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Adriane Steed

Sample #: L16100194-06	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: LHSMW07-100416	Prep Method: 3015	Prep Date: 10/07/2016 08:27
Matrix: Water	Analytical Method: 6020A	Cal Date: 10/12/2016 14:22
Workgroup #: WG586896	Analyst: BKT	Run Date: 10/12/2016 17:50
Collect Date: 10/04/2016 10:40	Dilution: 1	File ID: NI.101216.175005
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Manganese, Total	7439-96-5	0.137		0.00400	0.00200	0.00100

Certificate of Analysis

Sample #: L16100194-13	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 35AWW08FF-100416	Prep Method: 3015	Prep Date: 10/07/2016 08:27
Matrix: Water	Analytical Method: 6020A	Cal Date: 10/19/2016 09:04
Workgroup #: WG586896	Analyst: JYH	Run Date: 10/19/2016 09:55
Collect Date: 10/04/2016 07:40	Dilution: 100	File ID: NI.101916.095517
Sample Tag: DL02	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Manganese, Dissolved	7439-96-5	9.38		0.400	0.200	0.100

Certificate of Analysis

Sample #: L16100194-15	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 03WW01FF-100416	Prep Method: 3015	Prep Date: 10/07/2016 08:27
Matrix: Water	Analytical Method: 6020A	Cal Date: 10/19/2016 09:04
Workgroup #: WG586896	Analyst: JYH	Run Date: 10/19/2016 10:04
Collect Date: 10/04/2016 08:20	Dilution: 100	File ID: NI.101916.100416
Sample Tag: DL02	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Manganese, Dissolved	7439-96-5	8.47		0.400	0.200	0.100

Certificate of Analysis

Lab Report #: L16100194

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Adriane Steed

Sample #: L16100194-16	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: 35AWW20FF-100416	Prep Method: 3015	Prep Date: 10/07/2016 08:27
Matrix: Water	Analytical Method: 6020A	Cal Date: 10/19/2016 09:04
Workgroup #: WG586896	Analyst: JYH	Run Date: 10/19/2016 10:07
Collect Date: 10/04/2016 09:35	Dilution: 50	File ID: NI.101916.100716
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Manganese, Dissolved	7439-96-5	1.91		0.200	0.100	0.0500

Certificate of Analysis

Sample #: L16100194-17	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: LHSMW07FF-100416	Prep Method: 3015	Prep Date: 10/07/2016 08:27
Matrix: Water	Analytical Method: 6020A	Cal Date: 10/12/2016 14:22
Workgroup #: WG586896	Analyst: BKT	Run Date: 10/12/2016 18:08
Collect Date: 10/04/2016 10:40	Dilution: 1	File ID: NI.101216.180804
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Manganese, Dissolved	7439-96-5	0.144		0.00400	0.00200	0.00100

2.3.2.2 QC Summary Data

Example 6020 Calculations
Perkin Elmer NexION 300X

1.0 Initial Calibration (ICAL) Parameters

The system performs linear regression from data consisting of a blank and three standards.

2.0 Calculating the concentration (C) of an element in water using data from prep log, run log, and quantitation report (note:the data system performs this calculation automatically when correction factors have been entered):

$$C_x = C_s \times \frac{V_f}{V_i} \times D$$

Where:

C_s = Concentration computed by the data system (ug/L)

V_f = Final volume

V_i = Initial volume

D = Dilution factor as a multiplier (10X = 10)

C_x = Concentration of element in (ug/L)

Example:

0.1

100

40

1

0.25

3.0 Calculating the concentration (C) of an element in soil using data from prep log, run log, and quantitation report (note: the data system performs this calculation automatically when correction factors have been entered):

$$C_x = C_s \times \frac{V_f}{V_i} \times D$$

Where:

C_s = Concentration computed by the data system (ug/L)

V_f = Final volume

V_i = Initial volume

D = Dilution factor as a multiplier (10X = 10)

C_x = Concentration of element in (ug/kg)

Example:

0.1

200

0.5

1

40

4.0 Adjusting the concentration to dry weight:

$$C_{dry} = \frac{C_x \times 100}{P_x}$$

Where:

C_x = Concentration calculated as received (wet basis)

P_x = Percent solids of sample (%wt)

C_{dry} = Concentration calculated as dry weight (ug/kg)

Example:

40

80

50

50 ug/kg = 0.050 mg/kg

Perkin Elmer NexION ICP/MS

STANDARDS KEY

QC Std 1 - ICV

QC Std 2 - ICB

QC Std 3 - LLICV

QC Std 4 - ICSA

QC Std 5 - ICSAB

QC Std 6 - CCV

QC Std 7 - CCB

QC Std 8 - LLCCV

Calibration Solutions

Analyte	Stock Conc. (mg/L)	S1 (mg/L)	S2 (mg/L)	S3 (mg/L)	S4 (mg/L)
Al	10	0	0.00005	0.05	0.1
Sb	10	0	0.00005	0.05	0.1
As	10	0	0.00005	0.05	0.1
Ba	10	0	0.00005	0.05	0.1
Be	10	0	0.00005	0.05	0.1
Ca	1000	0	0.005	5	10
Cd	10	0	0.0005	0.05	0.1
Cr	10	0	0.0005	0.05	0.1
Co	10	0	0.0005	0.05	0.1
Cu	10	0	0.0005	0.05	0.1
Fe	1000	0	0.005	5	10
Pb	10	0	0.00005	0.05	0.1
Mg	1000	0	0.005	5	10
Mn	10	0	0.00005	0.05	0.1
Ni	10	0	0.00005	0.05	0.1
K	1000	0	0.005	5	10
Se	10	0	0.00005	0.05	0.1
Ag	10	0	0.00005	0.05	0.1
Na	1000	0	0.005	5	10
Tl	10	0	0.00005	0.05	0.1
V	10	0	0.00005	0.05	0.1
U	1000	0	0.00005	0.05	0.1
Zn	10	0	0.00005	0.05	0.1

Workgroup: WG586668
 Analyst: VC
 Spike Analyst: VC
 Run Date: 10/07/2016 08:27
 Method: 3015
 Balance: BAL016
 Instrument: MW-3
 Instrument Start: 10/07/2016 08:35

SOP: ME407 Revision 19
 Spike Solution: STD78216
 Spike Witness: ERP
 40 & 50 ML. DIGESTION TU_{COA}18987
 HNO₃ Lot #: COA19196
 MS Filters- fisher-Lot#RRGT37258
 ICP-MS Water MDL SOLUTSTD78399

SAMPLE #	Type	Matrix	Initial Amount	Final Volume	Initial Vessel Wt	Final Vessel Wt	Spike Amount	Due Date
1	WG586668-02	BLANK	1	20 mL	50 mL	184.616 g	184.624 g	
2	WG586668-04	FLT_BLK	1	20 mL	50 mL	183.811 g	183.805 g	
3	WG586668-03	LCS	1	20 mL	50 mL	184.828 g	184.828 g	.25 mL
4	L16100002-01	ML01	1	20 mL	50 mL	184.257 g	184.243 g	5 mL
5	L16100004-01	ML01	1	20 mL	50 mL	183.934 g	183.908 g	10 mL
6	L16100004-09	ML09	1	20 mL	50 mL	182.356 g	182.331 g	10 mL
7	L16100101-02	SAMP	1	20 mL	50 mL	182.388 g	182.365 g	
8	L16100101-04	SAMP	1	20 mL	50 mL	184.505 g	184.492 g	
9	L16100101-06	SAMP	1	20 mL	50 mL	182.416 g	182.421 g	
10	WG586668-01	REF	1	20 mL	50 mL	183.859 g	183.849 g	
11	L16100101-08	SAMP	1	20 mL	50 mL	183.859 g	183.849 g	
12	L16100101-10	SAMP	1	20 mL	50 mL	182.06 g	182.039 g	
13	L16100194-02	SAMP	1	20 mL	50 mL	183.998 g	183.917 g	
14	L16100194-04	SAMP	1	20 mL	50 mL	183.828 g	183.799 g	
15	L16100194-05	SAMP	1	20 mL	50 mL	182.807 g	182.799 g	
16	L16100194-06	SAMP	1	20 mL	50 mL	181.098 g	181.095 g	
17	L16100194-13	SAMP	1	20 mL	50 mL	185.514 g	185.483 g	
18	L16100194-15	SAMP	1	20 mL	50 mL	184.997 g	184.982 g	
19	L16100194-16	SAMP	1	20 mL	50 mL	183.815 g	183.806 g	
20	L16100194-17	SAMP	1	20 mL	50 mL	184.069 g	184.08 g	
21	L16100319-02	SAMP	1	20 mL	50 mL	183.046 g	183.057 g	
22	WG586668-05	MS	1	20 mL	50 mL	184.086 g	184.069 g	.25 mL
23	WG586668-06	MSD	1	20 mL	50 mL	184.544 g	184.535 g	.25 mL

L16100194-02	ph adj
L16100194-04	ph adj
L16100194-13	ph adj
L16100194-15	pg adj
L16100319-02	FILTERED DIGESTATE

Analyst: Vicki Collier

Reviewer: Erin Patten



Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-MS2 Dataset: 101216A.REP
 Analyst1: BKT Analyst2: N/A
 Method: 6020/6020A SOP: ME700A Rev: 3
 Maintenance Log ID: _____

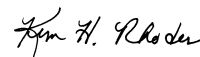
Calibration Std: STD78212 ICV Std: STD78221 Post Spike: STD76567
 ICSA: STD77875 ICSAB: STD77876 Int. Std: RGT38092
 CCV: STD78220 LLCCV: STD77873 Tuning Sol : STD77874
 Stannous : _____ Hydroxylamine : _____

Workgroups: 586830,586896,587381,586888

Comments:

Seq.	File ID	Sample	ID	Prep	Dil	Reference	Date/Time
1	NI.101216.141046	Blank	Blank		1		10/12/16 14:10
2	NI.101216.141347	WG587473-01	Calibration Point		1		10/12/16 14:13
3	NI.101216.141646	WG587473-02	Calibration Point		1		10/12/16 14:16
4	NI.101216.141946	WG587473-03	Calibration Point		1		10/12/16 14:19
5	NI.101216.142245	WG587473-04	Calibration Point		1		10/12/16 14:22
6	NI.101216.142546	WG587473-05	Initial Calibration Verification		1		10/12/16 14:25
7	NI.101216.142847	WG587473-06	Initial Calib Blank		1		10/12/16 14:28
8	NI.101216.143157	WG587473-07	Low Level Initial Calibration V		1		10/12/16 14:31
9	NI.101216.143504	WG587473-08	Interference Check		1		10/12/16 14:35
10	NI.101216.143803	WG587473-09	Interference Check		1		10/12/16 14:38
11	NI.101216.144103	WG587473-10	CCV		1		10/12/16 14:41
12	NI.101216.144403	WG587473-11	CCB		1		10/12/16 14:44
13	NI.101216.144703	WG586277-02	Method/Prep Blank	20/50	1		10/12/16 14:47
14	NI.101216.150956	WG586277-03	Laboratory Control S	20/50	1		10/12/16 15:09
15	NI.101216.151255	WG586277-01	Reference Sample		1	L16100148-02	10/12/16 15:12
16	NI.101216.151554	WG586277-04	Matrix Spike	20/50	1	L16100148-02	10/12/16 15:15
17	NI.101216.151854	WG586277-05	Matrix Spike Duplica	20/50	1	L16100148-02	10/12/16 15:18
18	NI.101216.152155	L16100095-01	LH18/24-SP650-6398-GRAB	20/50	1		10/12/16 15:21
19	NI.101216.152454	L16100095-02	LH18/24-SP650-6398-COMP	20/50	1		10/12/16 15:24
20	NI.101216.152753	WG586830-03	Post Digestion Spike		1	L16100095-02	10/12/16 15:27
21	NI.101216.153052	WG586830-04	Serial Dilution		5	L16100095-02	10/12/16 15:30
22	NI.101216.153351	WG586830-04	Serial Dilution		25	L16100095-02	10/12/16 15:33
23	NI.101216.153652	WG587473-12	CCV		1		10/12/16 15:36
24	NI.101216.153952	WG587473-13	CCB		1		10/12/16 15:39
25	NI.101216.154253	L16100111-01	DP005MW0507-008	20/50	1		10/12/16 15:42
26	NI.101216.154553	L16100113-01	DP005MW0519-008	20/50	1		10/12/16 15:45
27	NI.101216.154933	L16100114-01	DP005MW0506-008	20/50	1		10/12/16 15:49
28	NI.101216.155232	L16100123-02	35AWW09F-100316	20/50	1		10/12/16 15:52
29	NI.101216.155532	L16100123-04	35AWW10F-100316	20/50	1		10/12/16 15:55
30	NI.101216.155831	L16100123-06	35AWW11F-100316	20/50	1		10/12/16 15:58
31	NI.101216.160130	L16100123-07	35AWW06-100316	20/50	1		10/12/16 16:01
32	NI.101216.160430	L16100123-10	35AWW09FF-100316	20/50	1		10/12/16 16:04
33	NI.101216.160729	L16100123-12	35AWW10-100316	20/50	1		10/12/16 16:07
34	NI.101216.161028	L16100123-14	35AWW11FF-100316	20/50	1		10/12/16 16:10

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Instrument Run Log

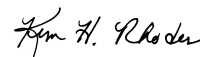
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 Analyst1: BKT Analyst2: N/A
 Method: 6020/6020A SOP: ME700A Rev: 3
 Maintenance Log ID: _____
 Calibration Std: STD78212 ICV Std: STD78221 Post Spike: STD76567
 ICSA: STD77875 ICSAB: STD77876 Int. Std: RGT38092
 CCV: STD78220 LLCCV: STD77873 Tuning Sol : STD77874
 Stannous : _____ Hydroxylamine : _____

Workgroups: 586830,586896,587381,586888

Comments:

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35	NI.101216.161329	WG587473-14	CCV		1		10/12/16 16:13
36	NI.101216.161628	WG587473-15	CCB		1		10/12/16 16:16
37	NI.101216.161929	L16100123-15	35AWW06FF-100316	20/50	1		10/12/16 16:19
38	NI.101216.162230	WG587473-16	CCV		1		10/12/16 16:22
39	NI.101216.162530	WG587473-17	CCB		1		10/12/16 16:25
40	NI.101216.162831	WG586668-02	Method/Prep Blank	20/50	1		10/12/16 16:28
41	NI.101216.163130	WG586668-03	Laboratory Control S	20/50	1		10/12/16 16:31
42	NI.101216.163429	WG586668-01	Reference Sample		1	L16100101-08	10/12/16 16:34
43	NI.101216.163729	WG586668-05	Matrix Spike	20/50	1	L16100101-08	10/12/16 16:37
44	NI.101216.164029	WG586668-06	Matrix Spike Duplica	20/50	1	L16100101-08	10/12/16 16:40
45	NI.101216.164328	L16100101-02	V6J0092-02	20/50	1		10/12/16 16:43
46	NI.101216.164628	L16100101-04	V6J0092-04	20/50	1		10/12/16 16:46
47	NI.101216.164928	WG586896-01	Post Digestion Spike		1	L16100101-04	10/12/16 16:49
48	NI.101216.171410	WG586896-02	Serial Dilution		5	L16100101-04	10/12/16 17:14
49	NI.101216.171709	WG586896-02	Serial Dilution		25	L16100101-04	10/12/16 17:17
50	NI.101216.172010	WG587473-18	CCV		1		10/12/16 17:20
51	NI.101216.172309	WG587473-19	CCB		1		10/12/16 17:23
52	NI.101216.172610	L16100002-01	MDL-1	20/50	1		10/12/16 17:26
53	NI.101216.172910	L16100004-01	LOQ-1	20/50	1		10/12/16 17:29
54	NI.101216.173208	L16100004-09	LOQ-9	20/50	1		10/12/16 17:32
55	NI.101216.173508	L16100101-06	V6J0092-06	20/50	1		10/12/16 17:35
56	NI.101216.173807	L16100101-10	V6J0092-10	20/50	1		10/12/16 17:38
57	NI.101216.174107	L16100194-02	35AWW08F-100416	20/50	10		10/12/16 17:41
58	NI.101216.174407	L16100194-04	03WW01F-100416	20/50	10		10/12/16 17:44
59	NI.101216.174705	L16100194-05	35AWW20-100416	20/50	1		10/12/16 17:47
60	NI.101216.175005	L16100194-06	LHSMW07-100416	20/50	1		10/12/16 17:50
61	NI.101216.175305	L16100194-13	35AWW08FF-100416	20/50	10		10/12/16 17:53
62	NI.101216.175605	WG587473-20	CCV		1		10/12/16 17:56
63	NI.101216.175905	WG587473-21	CCB		1		10/12/16 17:59
64	NI.101216.180205	L16100194-15	03WW01FF-100416	20/50	10		10/12/16 18:02
65	NI.101216.180505	L16100194-16	35AWW20FF-100416	20/50	1		10/12/16 18:05
66	NI.101216.180804	L16100194-17	LHSMW07FF-100416	20/50	1		10/12/16 18:08
67	NI.101216.181104	L16100319-02	INS-WL01-100516	20/50	1		10/12/16 18:11
68	NI.101216.181404	L16100123-06	35AWW11F-100316	20/50	10		10/12/16 18:14

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Instrument Run Log

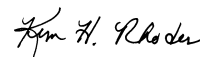
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 ICSA: STD77875 ICSAB: STD77876 Int. Std: RGT38092
 CCV: STD78220 LLCCV: STD77873 Tuning Sol : STD77874
 Stannous : _____ Hydroxylamine : _____

Workgroups: 586830,586896,587381,586888

Comments:

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69	NI.101216.181703	L16100123-07	35AWW06-100316	20/50	10		10/12/16 18:17
70	NI.101216.182002	L16100123-14	35AWW11FF-100316	20/50	10		10/12/16 18:20
71	NI.101216.182302	L16100123-15	35AWW06FF-100316	20/50	10		10/12/16 18:23
72	NI.101216.182602	WG587473-22	CCV		1		10/12/16 18:26
73	NI.101216.182901	WG587473-23	CCB		1		10/12/16 18:29
74	NI.101216.183202	WG587473-24	Low Level Continuing Calibra		1		10/12/16 18:32
75	NI.101216.183503	WG586863-02	Method/Prep Blank	.25/100	1		10/12/16 18:35
76	NI.101216.183802	WG586863-03	Laboratory Control S	.25/100	1		10/12/16 18:38
77	NI.101216.184101	WG586863-01	Reference Sample		1	L16100319-03	10/12/16 18:41
78	NI.101216.184401	WG586863-04	Matrix Spike	.251/100	1	L16100319-03	10/12/16 18:44
79	NI.101216.184700	WG586863-05	Matrix Spike Duplica	.255/100	1	L16100319-03	10/12/16 18:47
80	NI.101216.185000	L16100389-02	BFB-16-058	.252/100	1		10/12/16 18:50
81	NI.101216.185259	L16100389-04	BFB-16-059	.257/100	1		10/12/16 18:52
82	NI.101216.185558	WG587381-01	Post Digestion Spike		1	L16100389-04	10/12/16 18:55
83	NI.101216.185858	WG587381-02	Serial Dilution		5	L16100389-04	10/12/16 18:58
84	NI.101216.190157	WG587381-02	Serial Dilution		25	L16100389-04	10/12/16 19:01
85	NI.101216.190458	WG587473-25	CCV		1		10/12/16 19:04
86	NI.101216.190758	WG587473-26	CCB		1		10/12/16 19:07
87	NI.101216.191059	L16100003-01	MDL-1	.25/100	1		10/12/16 19:10
88	NI.101216.191358	L16100005-01	LOQ-1	.25/100	1		10/12/16 19:13
89	NI.101216.191657	L16100005-10	LOQ-14	.25/100	1		10/12/16 19:16
90	NI.101216.191957	L16100389-06	BFB-16-060	.252/100	1		10/12/16 19:19
91	NI.101216.192256	L16100389-08	BFB-16-061	.256/100	1		10/12/16 19:22
92	NI.101216.192556	L16100389-10	BFB-16-062	.254/100	1		10/12/16 19:25
93	NI.101216.192855	L16100389-12	BFB-16-063	.25/100	1		10/12/16 19:28
94	NI.101216.193154	L16100389-14	BFB-16-064	.257/100	1		10/12/16 19:31
95	NI.101216.193454	L16100389-16	BFB-16-065	.253/100	1		10/12/16 19:34
96	NI.101216.193753	L16100389-18	BFB-16-066	.255/100	1		10/12/16 19:37
97	NI.101216.194054	WG587473-27	CCV		1		10/12/16 19:40
98	NI.101216.194354	WG587473-28	CCB		1		10/12/16 19:43
99	NI.101216.194654	L16100389-20	BFB-16-067	.25/100	1		10/12/16 19:46
100	NI.101216.194954	L16100389-22	BFB-16-068	.25/100	1		10/12/16 19:49
101	NI.101216.195253	L16100389-24	BFB-16-069	.258/100	1		10/12/16 19:52
102	NI.101216.195553	L16100389-26	BFB-16-070	.258/100	1		10/12/16 19:55

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Instrument Run Log

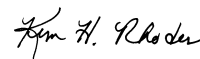
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 Method: 6020/6020A SOP: ME700A Rev: 3
 Maintenance Log ID: _____
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 ICSA: STD77875 ICSAB: STD77876 Int. Std: RGT38092
 CCV: STD78220 LLCCV: STD77873 Tuning Sol : STD77874
 Stannous : _____ Hydroxylamine : _____

Workgroups: 586830,586896,587381,586888

Comments:

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103	NI.101216.195853	L16100389-28	BFB-16-071	.259/100	1		10/12/16 19:58
104	NI.101216.200152	L16100389-30	BFB-16-072	.254/100	1		10/12/16 20:01
105	NI.101216.200452	L16100389-32	BFB-16-073	.25/100	1		10/12/16 20:04
106	NI.101216.200752	WG587473-29	Interference Check		1		10/12/16 20:07
107	NI.101216.201052	WG587473-30	Interference Check		1		10/12/16 20:10
108	NI.101216.201353	WG587473-31	CCV		1		10/12/16 20:13
109	NI.101216.201653	WG587473-32	CCB		1		10/12/16 20:16
110	NI.101216.201954	WG586713-02	Method/Prep Blank	40/50	50		10/12/16 20:19
111	NI.101216.202253	WG586713-03	Laboratory Control S	40/50	50		10/12/16 20:22
112	NI.101216.202553	L16100222-01	ALAN 14 BAGS		50	WG586713-01	10/12/16 20:25
113	NI.101216.202852	WG586713-04	Matrix Spike	5/50	50	L16100222-01	10/12/16 20:28
114	NI.101216.203152	WG586713-05	Matrix Spike Duplica	5/50	50	L16100222-01	10/12/16 20:31
115	NI.101216.203452	WG586888-01	Post Digestion Spike		50	L16100222-01	10/12/16 20:34
116	NI.101216.203751	WG586888-02	Serial Dilution		250	L16100222-01	10/12/16 20:37
117	NI.101216.204052	WG587473-33	CCV		1		10/12/16 20:40
118	NI.101216.204352	WG587473-34	CCB		1		10/12/16 20:43

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: ICP-MS2 Dataset: 101916B.REP
 Analyst1: JYH Analyst2: N/A
 Method: 200.8 SOP: ME700A Rev: 3
 Maintenance Log ID: _____
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 ICSA: STD78569 ICSAB: STD78570 Int. Std: RG738094
 CCV: STD78220 LLCCV: STD78575 Tuning Sol : STD77874
 Stannous : _____ Hydroxylamine : _____

Workgroups: 586829,586896,587692,588224

Comments:

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1	NI.101916.085223	Blank	Blank		1		10/19/16 08:52
2	NI.101916.085522	WG588269-01	Calibration Point		1		10/19/16 08:55
3	NI.101916.085822	WG588269-02	Calibration Point		1		10/19/16 08:58
4	NI.101916.090122	WG588269-03	Calibration Point		1		10/19/16 09:01
5	NI.101916.090421	WG588269-04	Calibration Point		1		10/19/16 09:04
6	NI.101916.090723	WG588269-05	Initial Calibration Verification		1		10/19/16 09:07
7	NI.101916.091024	WG588269-06	Initial Calib Blank		1		10/19/16 09:10
8	NI.101916.091325	WG588269-07	Low Level Initial Calibration V		1		10/19/16 09:13
9	NI.101916.091624	WG588269-08	Interference Check		1		10/19/16 09:16
10	NI.101916.091923	WG588269-09	Interference Check		1		10/19/16 09:19
11	NI.101916.092224	WG588269-10	CCV		1		10/19/16 09:22
12	NI.101916.092524	WG588269-11	CCB		1		10/19/16 09:25
13	NI.101916.092825	L16091351-09	AG4595	20/50	1		10/19/16 09:28
14	NI.101916.093123	L16091351-10	AG4596	20/50	1		10/19/16 09:31
15	NI.101916.093423	L16091351-11	AG4597	20/50	1		10/19/16 09:34
16	NI.101916.093722	L16091351-14	AG4600	20/50	1		10/19/16 09:37
17	NI.101916.094021	L16091351-15	AG4601	20/50	1		10/19/16 09:40
18	NI.101916.094321	L16091351-16	AG4602	20/50	1		10/19/16 09:43
19	NI.101916.094620	L16100194-02	35AWW08F-100416	20/50	100		10/19/16 09:46
20	NI.101916.094919	L16100194-04	03WW01F-100416	20/50	100		10/19/16 09:49
21	NI.101916.095218	L16100194-05	35AWW20-100416	20/50	50		10/19/16 09:52
22	NI.101916.095517	L16100194-13	35AWW08FF-100416	20/50	100		10/19/16 09:55
23	NI.101916.095817	WG588269-12	CCV		1		10/19/16 09:58
24	NI.101916.100116	WG588269-13	CCB		1		10/19/16 10:01
25	NI.101916.100416	L16100194-15	03WW01FF-100416	20/50	100		10/19/16 10:04
26	NI.101916.100716	L16100194-16	35AWW20FF-100416	20/50	50		10/19/16 10:07
27	NI.101916.101017	WG588269-14	CCV		1		10/19/16 10:10
28	NI.101916.101317	WG588269-15	CCB		1		10/19/16 10:13
29	NI.101916.101705	WG588269-16	Low Level Continuing Calibra		1		10/19/16 10:17
30	NI.101916.102131	WG586939-02	Method/Prep Blank	.25/100	1		10/19/16 10:21
31	NI.101916.102431	WG586939-03	Laboratory Control S	.25/100	1		10/19/16 10:24
32	NI.101916.102730	WG586939-01	Reference Sample		1	L16100420-14	10/19/16 10:27
33	NI.101916.103030	WG586939-04	Matrix Spike	.254/100	1	L16100420-14	10/19/16 10:30
34	NI.101916.103329	WG586939-05	Matrix Spike Duplica	.252/100	1	L16100420-14	10/19/16 10:33

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Sam H. Rhodes

Microbac Laboratories Inc.

Instrument Run Log

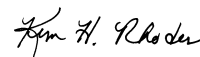
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 ICSA: STD78569 ICSAB: STD78570 Int. Std: RGT38094
 CCV: STD78220 LLCCV: STD78575 Tuning Sol : STD77874
 Stannous : _____ Hydroxylamine : _____

Workgroups: 586829,586896,587692,588224

Comments:

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36	NI.101916.103927	L16100420-10	GP-1 4-6'	.253/100	1		10/19/16 10:39
37	NI.101916.104227	WG587692-03	Post Digestion Spike		1	L16100420-10	10/19/16 10:42
38	NI.101916.104527	WG587692-04	Serial Dilution		5	L16100420-10	10/19/16 10:45
39	NI.101916.104826	WG587692-04	Serial Dilution		25	L16100420-10	10/19/16 10:48
40	NI.101916.105127	WG588269-17	CCV		1		10/19/16 10:51
41	NI.101916.105427	WG588269-18	CCB		1		10/19/16 10:54
42	NI.101916.105728	L16100420-11	GP-2 0-2'	.252/100	1		10/19/16 10:57
43	NI.101916.110027	L16100420-12	GP-2 4-6'	.25/100	1		10/19/16 11:00
44	NI.101916.110326	L16100420-13	GP-3 2-4'	.256/100	1		10/19/16 11:03
45	NI.101916.110627	WG588269-19	CCV		1		10/19/16 11:06
46	NI.101916.110927	WG588269-20	CCB		1		10/19/16 11:09
47	NI.101916.113542	WG587410-02	Method/Prep Blank	.25/100	1		10/19/16 11:35
48	NI.101916.113841	WG587410-03	Laboratory Control S	.25/100	1		10/19/16 11:38
49	NI.101916.114140	L16100401-01	ED-240-HB13-S02	.254/100	1		10/19/16 11:41
50	NI.101916.114439	L16100401-02	ED-240-HB13-S02/DUP		1	WG587410-01	10/19/16 11:44
51	NI.101916.114739	WG587410-04	Matrix Spike	.254/100	1	L16100401-02	10/19/16 11:47
52	NI.101916.115039	WG587410-05	Matrix Spike Duplica	.253/100	1	L16100401-02	10/19/16 11:50
53	NI.101916.115338	L16100420-01	IS-1A	.253/100	1		10/19/16 11:53
54	NI.101916.115637	WG588224-01	Post Digestion Spike		1	L16100420-01	10/19/16 11:56
55	NI.101916.115937	WG588224-02	Serial Dilution		5	L16100420-01	10/19/16 11:59
56	NI.101916.120236	WG588224-02	Serial Dilution		25	L16100420-01	10/19/16 12:02
57	NI.101916.120537	WG588269-21	CCV		1		10/19/16 12:05
58	NI.101916.120836	WG588269-22	CCB		1		10/19/16 12:08
59	NI.101916.121136	L16100420-02	IS-1B	.251/100	1		10/19/16 12:11
60	NI.101916.121436	L16100420-03	IS-1C	.252/100	1		10/19/16 12:14
61	NI.101916.121735	L16100420-06	IS-2	.252/100	1		10/19/16 12:17
62	NI.101916.122035	L16100420-07	IS-3	.25/100	1		10/19/16 12:20
63	NI.101916.122336	WG588269-23	CCV		1		10/19/16 12:23
64	NI.101916.122635	WG588269-24	CCB		1		10/19/16 12:26

Page: 2 Approved: October 20, 2016



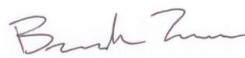

Microbac Laboratories Inc.

Data Checklist

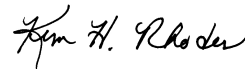
Date: 12-OCT-2016
 Analyst: BKT
 Analyst: NA
 Method: 6020/6020A
 Instrument: ICP-MS2
 Curve Workgroup: 587473
 Runlog ID: 78039
 Analytical Workgroups: 586830,586896,587381,586888

STD ID#s on Runlog	X
Calibration/Linearity	X
ICV/CCV	X
ICV RSD < 3% (EPA 200.7 only)	
ICB/CCB	X
ICSA/ICSAB	X
CRI	
Blank/LCS	X
MS/MSD	X
Post Spike/Serial Dilution	X
Upload Results	X
Data Qualifiers	
Generate PDF Instrument Data	X
Sign/Annotate PDF Data	X
Upload Curve Data	X
Workgroup Forms	X
Case Narrative	X
Client Forms	X
Level X	
Level 3	
Level 4	
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	BKT
Secondary Reviewer	KHR
Comments	

Primary Reviewer:
13-OCT-2016



Secondary Reviewer:
13-OCT-2016




Microbac Laboratories Inc.

Data Checklist

Date: 19-OCT-2016
 Analyst: JYH
 Analyst: NA
 Method: 200.8
 Instrument: ICP-MS2
 Curve Workgroup: 588269
 Runlog ID: 78164
 Analytical Workgroups: 586829,586896,587692,588224

STD ID#s on Runlog	X
Calibration/Linearity	X
ICV/CCV	X
ICV RSD < 3% (EPA 200.7 only)	
ICB/CCB	X
ICSA/ICSAB	X
CRI	
Blank/LCS	X
MS/MSD	X
Post Spike/Serial Dilution	X
Upload Results	X
Data Qualifiers	
Generate PDF Instrument Data	X
Sign/Annotate PDF Data	X
Upload Curve Data	X
Workgroup Forms	X
Case Narrative	X
Client Forms	X
Level X	
Level 3	
Level 4	194,401
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	JYH
Secondary Reviewer	KHR
Comments	

Primary Reviewer:

Secondary Reviewer:
20-OCT-2016



Analytical Method:6020A
Login Number:L16100194

AAB#:WG586896

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
35AWW08F-100416	02	10/04/16					10/07/2016	3	180		10/19/16	15.1	180	
03WW01F-100416	04	10/04/16					10/07/2016	3	180		10/19/16	15.1	180	
35AWW20-100416	05	10/04/16					10/07/2016	3	180		10/19/16	15	180	
LHSMW07-100416	06	10/04/16					10/07/2016	2.9	180		10/12/16	8.3	180	
35AWW08FF-100416	13	10/04/16					10/07/2016	3	180		10/19/16	15.1	180	
03WW01FF-100416	15	10/04/16					10/07/2016	3	180		10/19/16	15.1	180	
35AWW20FF-100416	16	10/04/16					10/07/2016	3	180		10/19/16	15	180	
LHSMW07FF-100416	17	10/04/16					10/07/2016	2.9	180		10/12/16	8.3	180	

* = SEE PROJECT QAPP REQUIREMENTS



METHOD BLANK SUMMARY

Login Number: L16100194 Work Group: WG586896
 Blank File ID: NI.101216.162831 Blank Sample ID: WG586668-02
 Prep Date: 10/07/16 08:27 Instrument ID: ICP-MS2
 Analyzed Date: 10/12/16 16:28 Method: 6020A
 Analyst: BKT

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG586668-03	NI.101216.163130	10/12/16 16:31	01
LHSMW07-100416	L16100194-06	NI.101216.175005	10/12/16 17:50	01
LHSMW07FF-100416	L16100194-17	NI.101216.180804	10/12/16 18:08	01
35AWW08F-100416	L16100194-02	NI.101916.094620	10/19/16 09:46	DL02
03WW01F-100416	L16100194-04	NI.101916.094919	10/19/16 09:49	DL02
35AWW20-100416	L16100194-05	NI.101916.095218	10/19/16 09:52	DL01
35AWW08FF-100416	L16100194-13	NI.101916.095517	10/19/16 09:55	DL02
03WW01FF-100416	L16100194-15	NI.101916.100416	10/19/16 10:04	DL02
35AWW20FF-100416	L16100194-16	NI.101916.100716	10/19/16 10:07	DL01

Report Name: BLANK_SUMMARY
 PDF File ID: 4973759
 Report generated 10/20/2016 09:16



Login Number: L16100194 Prep Date: 10/07/16 08:27 Sample ID: WG586668-02
Instrument ID: ICP-MS2 Run Date: 10/12/16 16:28 Prep Method: 3015
File ID: NI.101216.162831 Analyst: BKT Method: 6020A
Workgroup (AAB#): WG586896 Matrix: Water Units: mg/L
Contract #: _____ Cal ID: ICP-MS - 12-OCT-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Manganese, Total	0.00100	0.00400	0.00100	1	U

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

Report Name: BLANK
PDF ID: 4973760
20-OCT-2016 09:16



Login Number: L16100194 Run Date: 10/12/2016 Sample ID: WG586668-03
Instrument ID: ICP-MS2 Run Time: 16:31 Prep Method: 3015
File ID: NI.101216.163130 Analyst: BKT Method: 6020A
Workgroup (AAB#): WG586896 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD78216 Cal ID: ICP-MS - 12-OCT-16

Analytes	Expected	Found	% Rec	LCS Limits	Q
Manganese, Total	0.125	0.121	96.5	80 - 120	

LCS - Modified 03/06/2008
PDF File ID: 4973761
Report generated: 10/20/2016 09:16



Loginnum: L16100194 Cal ID: ICP-MS2- Worknum: WG586896
 Instrument ID: ICP-MS2 Contract #: _____ Method: 6020A
 Parent ID: WG586668-01 File ID: NI.101216.163429 Dil: 1 Matrix: WATER
 Sample ID: WG586668-05 MS File ID: NI.101216.163729 Dil: 1 Units: mg/L
 Sample ID: WG586668-06 MSD File ID: NI.101216.164029 Dil: 1

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Manganese	6.65	0.125	6.40	-196	0.125	6.52	-102	1.81	80 - 120	20	*

* FAILS %REC LIMIT

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

Microbac Laboratories Inc.
Serial Dilution Report

Login: L16100194 **Worknum:** WG586896
Instrument: ICP-MS2 **Method:** 6020A
Serial Dil: WG586896-02 **File ID:** NI.101216.171410 **Dil:** 5 **Units:** ug/L
Sample: L16100101-04 **File ID:** NI.101216.164628 **Dil:** 1

Analyte	Sample	Qual	Serial Dil	Qual	% Diff	Q
Manganese	1350		1360		1.06	

U = Result is below MDL.

F = Result is greater than or equal to MDL and less than the RL.

X = Result is greater than or equal to RL and less than 100 times the MDL.

E = %D exceeds control limit of 10% and initial sample result is greater than or equal to 100 times the MDL.

SERIAL_DIL - Modified 09/22/2008

PDF File ID: 4973756

10/20/2016 09:16



Sample Login ID: L16100194 Worknum: WG586896
 Instrument ID: ICP-MS2 Method: 6020A
 Post Spike ID: WG586896-01 File ID: NI.101216.164928 Dil: 1 Units: ug/L
 Sample ID: L16100101-04 File ID: NI.101216.164628 Dil: 1 Matrix: Water

Analyte	Post Spike Result	C	Sample Result	C	Spike Added(SA)	% R	Control Limit %R	Q
MANGANESE	1380		1350		50	66.3	75 - 125	N

N = % Recovery exceeds control limits

F = Result is between MDL and RL

U = Sample result is below MDL. A value of zero is used in the calculation



Microbac Laboratories Inc.
Initial Calibration Summary

00868708

Login: L16100194 Workgroup (AAB#): WG586896
 Analytical Method: 6020A Instrument ID: ICP-MS2
 ICAL Worknum: WG587473 Initial Calibration Date: 12-OCT-2016 14:22

	WG587473-01		WG587473-02		WG587473-03		WG587473-04		R	Q
	Conc	INT	Conc	INT	Conc	INT	Conc	INT		
MANGANESE	0	1020	.4	2030	50	482000	100	928000	.999968	

INT = Instrument intensity
 R = Coefficient of correlation
 Q = Data Qualifier
 * = Out of Compliance; R < 0.995



Microbac Laboratories Inc.
Initial Calibration Summary

00868709

Login: L16100194 Workgroup (AAB#): WG586896
 Analytical Method: 6020A Instrument ID: ICP-MS2
 ICAL Worknum: WG588269 Initial Calibration Date: 19-OCT-2016 09:04

	WG588269-01		WG588269-02		WG588269-03		WG588269-04		R	Q
	Conc	INT	Conc	INT	Conc	INT	Conc	INT		
MANGANESE	0	1040	.4	1360	50	494000	100	999000	.999981	

INT = Instrument intensity
 R = Coefficient of correlation
 Q = Data Qualifier
 * = Out of Compliance; R < 0.995



Login Number: L16100194 Run Date: 10/12/2016 Sample ID: WG587473-06
Instrument ID: ICP-MS2 Run Time: 14:28 Method: 6020A
File ID: NI.101216.142847 Analyst: BKT Units: ug/L
Workgroup (AAB#): WG586896 Cal ID: ICP-MS2 - 12-OCT-16
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
MANGANESE	.4	1.6	.4	U

U = Result is less than 2 x MDL
F = Result is between MDL and 2 x MDL
* = Result is above 2 x MDL



Login Number: L16100194 Run Date: 10/19/2016 Sample ID: WG588269-06
Instrument ID: ICP-MS2 Run Time: 09:10 Method: 6020A
File ID: NI.101916.091024 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG586896 Cal ID: ICP-MS2 - 19-OCT-16
Matrix: WATER

Analytes	MDL	RDL	Concentration	Qualifier
MANGANESE	.4	1.6	.4	U

U = Result is less than 2 x MDL
F = Result is between MDL and 2 x MDL
* = Result is above 2 x MDL



Login Number: L16100194 Run Date: 10/12/2016 Sample ID: WG587473-11
 Instrument ID: ICP-MS2 Run Time: 14:44 Method: 6020A
 File ID: NI.101216.144403 Analyst: BKT Units: ug/L
 Workgroup (AAB#): WG586896 Cal ID: ICP-MS - 12-OCT-16
 Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Manganese	0.400	1.60	0.400	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.



Login Number: L16100194 Run Date: 10/12/2016 Sample ID: WG587473-17
 Instrument ID: ICP-MS2 Run Time: 16:25 Method: 6020A
 File ID: NI.101216.162530 Analyst: BKT Units: ug/L
 Workgroup (AAB#): WG586896 Cal ID: ICP-MS - 12-OCT-16
 Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Manganese	0.400	1.60	0.400	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.

CCB - Modified 03/05/2008
 PDF File ID: 4973771
 Report generated 10/20/2016 09:17



Login Number: L16100194 Run Date: 10/12/2016 Sample ID: WG587473-19
Instrument ID: ICP-MS2 Run Time: 17:23 Method: 6020A
File ID: NI.101216.172309 Analyst: BKT Units: ug/L
Workgroup (AAB#): WG586896 Cal ID: ICP-MS - 12-OCT-16
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Manganese	0.400	1.60	0.400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.



Login Number: L16100194 Run Date: 10/12/2016 Sample ID: WG587473-21
Instrument ID: ICP-MS2 Run Time: 17:59 Method: 6020A
File ID: NI.101216.175905 Analyst: BKT Units: ug/L
Workgroup (AAB#): WG586896 Cal ID: ICP-MS - 12-OCT-16
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Manganese	0.400	1.60	0.400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.



Login Number: L16100194 Run Date: 10/12/2016 Sample ID: WG587473-23
Instrument ID: ICP-MS2 Run Time: 18:29 Method: 6020A
File ID: NI.101216.182901 Analyst: BKT Units: ug/L
Workgroup (AAB#): WG586896 Cal ID: ICP-MS - 12-OCT-16
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Manganese	0.400	1.60	0.400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.



Login Number: L16100194 Run Date: 10/12/2016 Sample ID: WG587473-28
Instrument ID: ICP-MS2 Run Time: 19:43 Method: 6020A
File ID: NI.101216.194354 Analyst: BKT Units: ug/L
Workgroup (AAB#): WG586896 Cal ID: ICP-MS - 12-OCT-16
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Manganese	0.400	1.60	0.400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.



Login Number: L16100194 Run Date: 10/12/2016 Sample ID: WG587473-32
Instrument ID: ICP-MS2 Run Time: 20:16 Method: 6020A
File ID: NI.101216.201653 Analyst: BKT Units: ug/L
Workgroup (AAB#): WG586896 Cal ID: ICP-MS - 12-OCT-16
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Manganese	0.400	1.60	0.400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.



Login Number: L16100194 Run Date: 10/19/2016 Sample ID: WG588269-11
Instrument ID: ICP-MS2 Run Time: 09:25 Method: 6020A
File ID: NI.101916.092524 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG586896 Cal ID: ICP-MS - 19-OCT-16
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Manganese	0.400	1.60	0.400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.



Login Number: L16100194 Run Date: 10/19/2016 Sample ID: WG588269-13
Instrument ID: ICP-MS2 Run Time: 10:01 Method: 6020A
File ID: NI.101916.100116 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG586896 Cal ID: ICP-MS - 19-OCT-16
Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Manganese	0.400	1.60	0.400	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.



Login Number: L16100194 Run Date: 10/19/2016 Sample ID: WG588269-15
 Instrument ID: ICP-MS2 Run Time: 10:13 Method: 6020A
 File ID: NI.101916.101317 Analyst: JYH Units: ug/L
 Workgroup (AAB#): WG586896 Cal ID: ICP-MS - 19-OCT-16
 Matrix: WATER QAPP: DOD4

Analytes	MDL	RDL	Concentration	Qualifier
Manganese	0.400	1.60	0.400	U

U = Result is less than MDL.
 F = Result is between MDL and RL.
 * = Result is above RL.



Login Number: L16100194 Run Date: 10/12/2016 Sample ID: WG587473-05
Instrument ID: ICP-MS2 Run Time: 14:25 Method: 6020A
File ID: NI.101216.142546 Analyst: BKT Units: ug/L
Workgroup (AAB#): WG586896 Cal ID: ICP-MS - 12-OCT-16
QC Key: DOD4

Analyte	Expected	Found	%REC	LIMITS	Q
Manganese	50	49.4	98.8	90 - 110	

* Exceeds LIMITS Limit



Login Number: L16100194 Run Date: 10/19/2016 Sample ID: WG588269-05
Instrument ID: ICP-MS2 Run Time: 09:07 Method: 6020A
File ID: NI.101916.090723 Analyst: JYH Units: ug/L
Workgroup (AAB#): WG586896 Cal ID: ICP-MS - 19-OCT-16
QC Key: DOD4

Analyte	Expected	Found	%REC	LIMITS	Q
Manganese	50	50.0	100	90 - 110	

* Exceeds LIMITS Limit



Login Number: L16100194 Run Date: 10/12/2016 Sample ID: WG587473-10
 Instrument ID: ICP-MS2 Run Time: 14:41 Method: 6020A
 File ID: NI.101216.144103 Analyst: BKT QC Key: DOD4
 Workgroup (AAB#): WG586896 Cal ID: ICP-MS - 12-OCT-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Manganese	0.0500	0.0499	mg/L	99.8	90 - 110	

* Exceeds LIMITS Criteria



Login Number: L16100194 Run Date: 10/12/2016 Sample ID: WG587473-16
 Instrument ID: ICP-MS2 Run Time: 16:22 Method: 6020A
 File ID: NI.101216.162230 Analyst: BKT QC Key: DOD4
 Workgroup (AAB#): WG586896 Cal ID: ICP-MS - 12-OCT-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Manganese	0.0500	0.0504	mg/L	101	90 - 110	

* Exceeds LIMITS Criteria



Login Number: L16100194 Run Date: 10/12/2016 Sample ID: WG587473-18
 Instrument ID: ICP-MS2 Run Time: 17:20 Method: 6020A
 File ID: NI.101216.172010 Analyst: BKT QC Key: DOD4
 Workgroup (AAB#): WG586896 Cal ID: ICP-MS - 12-OCT-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Manganese	0.0500	0.0498	mg/L	99.6	90 - 110	

* Exceeds LIMITS Criteria



Login Number: L16100194 Run Date: 10/12/2016 Sample ID: WG587473-20
 Instrument ID: ICP-MS2 Run Time: 17:56 Method: 6020A
 File ID: NI.101216.175605 Analyst: BKT QC Key: DOD4
 Workgroup (AAB#): WG586896 Cal ID: ICP-MS - 12-OCT-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Manganese	0.0500	0.0508	mg/L	102	90 - 110	

* Exceeds LIMITS Criteria



Login Number: L16100194 Run Date: 10/12/2016 Sample ID: WG587473-22
Instrument ID: ICP-MS2 Run Time: 18:26 Method: 6020A
File ID: NI.101216.182602 Analyst: BKT QC Key: DOD4
Workgroup (AAB#): WG586896 Cal ID: ICP-MS - 12-OCT-16
Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Manganese	0.0500	0.0498	mg/L	99.6	90 - 110	

* Exceeds LIMITS Criteria



Login Number: L16100194 Run Date: 10/12/2016 Sample ID: WG587473-27
 Instrument ID: ICP-MS2 Run Time: 19:40 Method: 6020A
 File ID: NI.101216.194054 Analyst: BKT QC Key: DOD4
 Workgroup (AAB#): WG586896 Cal ID: ICP-MS - 12-OCT-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Manganese	0.0500	0.0485	mg/L	96.9	90 - 110	

* Exceeds LIMITS Criteria



Login Number: L16100194 Run Date: 10/12/2016 Sample ID: WG587473-31
 Instrument ID: ICP-MS2 Run Time: 20:13 Method: 6020A
 File ID: NI.101216.201353 Analyst: BKT QC Key: DOD4
 Workgroup (AAB#): WG586896 Cal ID: ICP-MS - 12-OCT-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Manganese	0.0500	0.0491	mg/L	98.2	90 - 110	

* Exceeds LIMITS Criteria



Login Number: L16100194 Run Date: 10/19/2016 Sample ID: WG588269-10
 Instrument ID: ICP-MS2 Run Time: 09:22 Method: 6020A
 File ID: NI.101916.092224 Analyst: JYH QC Key: DOD4
 Workgroup (AAB#): WG586896 Cal ID: ICP-MS - 19-OCT-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Manganese	0.0500	0.0497	mg/L	99.4	90 - 110	

* Exceeds LIMITS Criteria



Login Number: L16100194 Run Date: 10/19/2016 Sample ID: WG588269-12
 Instrument ID: ICP-MS2 Run Time: 09:58 Method: 6020A
 File ID: NI.101916.095817 Analyst: JYH QC Key: DOD4
 Workgroup (AAB#): WG586896 Cal ID: ICP-MS - 19-OCT-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Manganese	0.0500	0.0508	mg/L	102	90 - 110	

* Exceeds LIMITS Criteria



Login Number: L16100194 Run Date: 10/19/2016 Sample ID: WG588269-14
 Instrument ID: ICP-MS2 Run Time: 10:10 Method: 6020A
 File ID: NI.101916.101017 Analyst: JYH QC Key: DOD4
 Workgroup (AAB#): WG586896 Cal ID: ICP-MS - 19-OCT-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Manganese	0.0500	0.0517	mg/L	103	90 - 110	

* Exceeds LIMITS Criteria



Login Number: L16100194 Run Date: 10/12/2016 Sample ID: WG587473-07
 Instrument ID: ICP-MS2 Run Time: 14:31 Method: 6020A
 File ID: NI.101216.143157 Analyst: BKT QC Key: DOD4
 Workgroup (AAB#): WG586896 Cal ID: ICP-MS - 12-OCT-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Manganese	0.500	0.391	ug/L	78.2	70 - 130	

* Exceeds LIMITS Criteria



Login Number: L16100194 Run Date: 10/12/2016 Sample ID: WG587473-24
 Instrument ID: ICP-MS2 Run Time: 18:32 Method: 6020A
 File ID: NI.101216.183202 Analyst: BKT QC Key: DOD4
 Workgroup (AAB#): WG586896 Cal ID: ICP-MS - 12-OCT-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Manganese	0.500	0.408	ug/L	81.6	70 - 130	

* Exceeds LIMITS Criteria



Login Number: L16100194 Run Date: 10/19/2016 Sample ID: WG588269-07
 Instrument ID: ICP-MS2 Run Time: 09:13 Method: 6020A
 File ID: NI.101916.091325 Analyst: JYH QC Key: DOD4
 Workgroup (AAB#): WG586896 Cal ID: ICP-MS - 19-OCT-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Manganese	0.500	0.511	ug/L	102	70 - 130	

* Exceeds LIMITS Criteria



Login Number: L16100194 Run Date: 10/19/2016 Sample ID: WG588269-16
 Instrument ID: ICP-MS2 Run Time: 10:17 Method: 6020A
 File ID: NI.101916.101705 Analyst: JYH QC Key: DOD4
 Workgroup (AAB#): WG586896 Cal ID: ICP-MS - 19-OCT-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	%REC	LIMITS	Q
Manganese	0.500	0.519	ug/L	104	70 - 130	

* Exceeds LIMITS Criteria



Login number: L16100194
 Instrument ID: ICP-MS2
 Sol. A : WG587473-08
 Sol. AB : WG587473-09

File ID: NI.101216.143504
 File ID: NI.101216.143803

Workgroup (AAB#): WG586896
 Method: 6020A
 Units: ug/L
 Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Manganese	NS	-0.0206	NS	100	99.8	99.8	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.



Login number: L16100194
Instrument ID: ICP-MS2
Sol. A : WG587473-29
Sol. AB : WG587473-30

File ID: NI.101216.200752
File ID: NI.101216.201052

Workgroup (AAB#): WG586896
Method: 6020A
Units: ug/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Manganese	NS	0.00580	NS	100	98.9	98.9	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.



Login number: L16100194
Instrument ID: ICP-MS2
Sol. A: WG588269-08
Sol. AB: WG588269-09

File ID: NI.101916.091624
File ID: NI.101916.091923

Workgroup (AAB#): WG586896
Method: 6020A
Units: ug/L
Matrix: Water

ANALYTE	Sol. A			Sol. AB			Q
	True	Found	%Recovery	True	Found	%Recovery	
Manganese	NS	0.0413	NS	100	98.3	98.3	

NS = Not spiked

* = Recovery of spiked element is outside acceptance limit of 80% - 120% of true value.

= Result for unspiked element is outside the acceptance limits of (+/-) the project reporting limit (RL).

+ = Result for unspiked element is outside the acceptance limits of (+/-) 2 times the project method detection limit (MDL). This criteria is only applicable to specific QAPPs.



INTERNAL STANDARD REPORT

Login: L16100194 Analytical Method: 6020
 Analytical Workgroup: WG586896 Matrix: 1
 Instrument: ICP-MS2 Analyst: BKT
 ICAL Date: 12-OCT-2016 14:13

Sample	Type	Run Date	BISMUTH	GERMANIUM	INDIUM
			% Rec	% Rec	% Rec
L16100101-04	SAMP	12-OCT-2016 16:46	96.021	93.038	104.99
L16100194-06	SAMP	12-OCT-2016 17:50	60.387	78.42	81.194
L16100194-17	SAMP	12-OCT-2016 18:08	58.859	76.343	81.272
WG586668-02	BLANK	12-OCT-2016 16:28	96.174	87.688	100.052
WG586668-03	LCS	12-OCT-2016 16:31	96.528	90.738	105.661
WG586896-01	PSPK	12-OCT-2016 16:49	95.468	92.607	105.501
WG586896-02	SERIAL	12-OCT-2016 17:14	97.164	93.113	99.518
WG587473-05	ICV	12-OCT-2016 14:25	91.055	92.647	95.515
WG587473-06	ICB	12-OCT-2016 14:28	94.128	93.662	99.444
WG587473-07	LLICV	12-OCT-2016 14:31	90.953	91.414	93.28
WG587473-08	ICS	12-OCT-2016 14:35	84.502	86.937	85.837
WG587473-09	ICS	12-OCT-2016 14:38	95.008	95.348	104.029
WG587473-10	CCV	12-OCT-2016 14:41	95.978	95.178	103.482
WG587473-11	CCB	12-OCT-2016 14:44	98.923	95.835	104.387
WG587473-16	CCV	12-OCT-2016 16:22	95.009	87.195	102.626
WG587473-17	CCB	12-OCT-2016 16:25	96.234	87.548	101.144
WG587473-18	CCV	12-OCT-2016 17:20	90.794	88.611	95.269
WG587473-19	CCB	12-OCT-2016 17:23	91.939	88.819	96.425
WG587473-20	CCV	12-OCT-2016 17:56	95.09	86.134	100.873
WG587473-21	CCB	12-OCT-2016 17:59	99.84	91.481	107.718
WG587473-22	CCV	12-OCT-2016 18:26	95.675	84.236	103.256
WG587473-23	CCB	12-OCT-2016 18:29	97.643	86.715	109.391
WG587473-24	LLCCV	12-OCT-2016 18:32	91.482	83.18	101.097
WG587473-27	CCV	12-OCT-2016 19:40	<u>78.801</u>	81.553	81.62
WG587473-28	CCB	12-OCT-2016 19:43	84.904	85.747	87.926
WG587473-29	ICS	12-OCT-2016 20:07	71.361	76.023	67.757
WG587473-30	ICS	12-OCT-2016 20:10	82.029	84.551	80.738
WG587473-31	CCV	12-OCT-2016 20:13	<u>77.88</u>	80.122	<u>79.267</u>
WG587473-32	CCB	12-OCT-2016 20:16	<u>77.408</u>	<u>78.212</u>	<u>76.491</u>

Acceptance criteria: 30% - 120% Underlined recoveries are out of range
 Acceptance criteria for CCVs and CCBs for method SW846-6020: 80% - 120%

INT_STD_ICPMS - Modified 07/28/2010
 PDF File ID: 4973764
 Report generated: 10/20/2016 09:16



INTERNAL STANDARD REPORT

Login: L16100194 Analytical Method: 6020
 Analytical Workgroup: WG586896 Matrix: 1
 Instrument: ICP-MS2 Analyst: JYH
 ICAL Date: 19-OCT-2016 08:55

Sample	Type	Run Date	BISMUTH	GERMANIUM	INDIUM
			% Rec	% Rec	% Rec
L16100194-02	SAMP	19-OCT-2016 09:46	85.011	86.818	83.047
L16100194-04	SAMP	19-OCT-2016 09:49	89.091	90.526	86.008
L16100194-05	SAMP	19-OCT-2016 09:52	81.807	84.695	79.348
L16100194-13	SAMP	19-OCT-2016 09:55	86.911	88.919	84.108
L16100194-15	SAMP	19-OCT-2016 10:04	83.676	84.637	81.199
L16100194-16	SAMP	19-OCT-2016 10:07	85.7	87.202	82.423
WG588269-05	ICV	19-OCT-2016 09:07	92.637	95.46	93.218
WG588269-06	ICB	19-OCT-2016 09:10	90.764	90.235	87.573
WG588269-07	LLICV	19-OCT-2016 09:13	92.578	92.56	91.316
WG588269-08	ICS	19-OCT-2016 09:16	83.103	87.397	79.765
WG588269-09	ICS	19-OCT-2016 09:19	95.532	100.317	98.921
WG588269-10	CCV	19-OCT-2016 09:22	94.388	97.351	96.365
WG588269-11	CCB	19-OCT-2016 09:25	92.507	93.204	91.176
WG588269-12	CCV	19-OCT-2016 09:58	94.08	96.572	95.479
WG588269-13	CCB	19-OCT-2016 10:01	99.691	99.115	97.997
WG588269-14	CCV	19-OCT-2016 10:10	93.916	95.645	94.545
WG588269-15	CCB	19-OCT-2016 10:13	92.733	93.007	88.75
WG588269-16	LLCCV	19-OCT-2016 10:17	97.293	95.603	94.655

Acceptance criteria: 30% - 120% Underlined recoveries are out of range
 Acceptance criteria for CCVs and CCBs for method SW846-6020: 80% - 120%

INT_STD_ICPMS - Modified 07/28/2010
 PDF File ID: 4973764
 Report generated: 10/20/2016 09:16



Login Number: L16100194 Date: 07/08/2016
Instrument ID: ICP-MS2 Method: 6020A

Analyte	Integration Time (Sec.)	Concentration (ug/L)
Antimony	1.00	100.0
Arsenic	1.00	100.0
Barium	1.00	100.0
Cadmium	1.00	100.0
Chromium	1.00	100.0
Cobalt	1.00	100.0
Copper	1.00	100.0
Lead	1.00	100.0
Manganese	1.00	100.0
Nickel	1.00	100.0
Selenium	1.00	100.0
Silver	1.00	100.0
Thallium	1.00	100.0
Uranium	1.00	100.0
Vanadium	1.00	100.0
Zinc	1.00	100.0

Comments:

All analytes passed acceptance criteria at the specified concentration.



2.3.2.3 Raw Data

MassCal File Name

Mass Calibration File Name Default.tun
 MassCal File Path C:\NexIONData\MassCal\Default.tun
 Peak Search Window: 1.00

Sample Information

Sample Date/Time: Wednesday, October 12, 2016 13:58:52

Mass Calibration and Resolution

Analyte	E Mass	Meas Mass	Mass C DAC Val	Res DAC Value	Meas Peak	WCustome Res
Li	7.016	7.025	1342	2024	0.709	
Mg	23.985	23.975	4502	2020	0.687	
Co	58.933	58.925	11688	2022	0.694	
In	114.904	114.875	22857	2028	0.685	
U	238.050	238.075	47457	2042	0.716	

Relative Std. Dev.

Mass	Meas. Intens.	RSD
5.525		2.898
5.575		3.178
5.625		2.090
5.675		2.449
5.725		1.647
5.775		2.235
5.825		3.289
5.875		3.344
5.925		2.373
5.975		1.763
6.025		1.758
6.075		3.214
6.125		0.664
6.175		6.571
6.225		44.756
6.275		54.294
6.325		52.973
6.375		68.117
6.425		13.303
6.475		8.532
6.525		5.478
6.575		3.648
6.625		2.958
6.675		2.771
6.725		1.918
6.775		2.156
6.825		3.224

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Bank Z...

6.875	3.136
6.925	1.931
6.975	2.566
7.025	1.882
7.075	2.366
7.125	0.522
7.175	3.291
7.225	3.361
7.275	14.020
7.325	51.349
7.375	67.748
7.425	60.111
7.475	58.330
7.525	40.825
7.575	15.215
7.625	52.705
7.675	52.705
7.725	46.351
7.775	57.334
7.825	74.536
7.875	76.697
7.925	31.044
7.975	60.111
8.025	15.215
8.075	33.535
8.125	57.601
8.175	39.460
8.225	34.401
8.275	44.605
8.325	37.268
8.375	117.260
8.425	79.466
8.475	40.825
22.525	223.607
22.575	28.828
22.625	21.114
22.675	36.377
22.725	61.237
22.775	49.739
22.825	47.507
22.875	37.417
22.925	37.029
22.975	23.697
23.025	39.491
23.075	20.494
23.125	44.231
23.175	50.508

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Bank Zinn

23.225	28.671
23.275	54.427
23.325	28.135
23.375	21.651
23.425	18.254
23.475	21.740
23.525	8.860
23.575	5.708
23.625	2.449
23.675	1.128
23.725	2.144
23.775	1.783
23.825	1.684
23.875	1.911
23.925	0.756
23.975	1.597
24.025	0.654
24.075	0.957
24.125	1.360
24.175	0.874
24.225	0.978
24.275	2.817
24.325	28.671
24.375	48.990
24.425	27.114
24.475	4.737
24.525	2.425
24.575	2.074
24.625	0.946
24.675	1.057
24.725	0.874
24.775	1.648
24.825	1.035
24.875	0.959
24.925	1.067
24.975	1.803
25.025	1.284
25.075	0.805
25.125	1.021
25.175	1.436
25.225	1.606
25.275	11.732
25.325	35.545
25.375	15.309
25.425	27.332
25.475	5.998
57.525	3.369

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Bank Z...

57.575	2.445
57.625	2.429
57.675	0.955
57.725	3.192
57.775	2.875
57.825	1.055
57.875	2.136
57.925	2.125
57.975	2.586
58.025	0.193
58.075	2.673
58.125	1.587
58.175	1.211
58.225	4.627
58.275	9.056
58.325	31.533
58.375	62.361
58.425	27.288
58.475	9.254
58.525	9.906
58.575	2.899
58.625	1.322
58.675	2.461
58.725	1.802
58.775	1.624
58.825	2.824
58.875	0.778
58.925	1.552
58.975	1.137
59.025	1.778
59.075	2.220
59.125	2.422
59.175	2.458
59.225	2.442
59.275	6.801
59.325	34.401
59.375	51.349
59.425	52.705
59.475	32.165
59.525	18.555
59.575	6.418
59.625	3.601
59.675	4.226
59.725	6.904
59.775	2.597
59.825	3.558
59.875	4.768

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Bank Zinn

59.925	3.061
59.975	2.536
60.025	1.251
60.075	5.897
60.125	3.473
60.175	0.858
60.225	8.058
60.275	39.606
60.325	39.529
60.375	47.075
60.425	37.268
60.475	66.069
113.525	9.109
113.575	4.815
113.625	3.233
113.675	3.200
113.725	1.799
113.775	2.446
113.825	2.313
113.875	2.379
113.925	2.920
113.975	3.994
114.025	1.827
114.075	3.660
114.125	2.499
114.175	2.260
114.225	13.918
114.275	11.416
114.325	19.245
114.375	21.679
114.425	7.275
114.475	8.801
114.525	4.596
114.575	2.383
114.625	3.023
114.675	1.588
114.725	1.914
114.775	1.620
114.825	2.135
114.875	0.961
114.925	1.382
114.975	2.041
115.025	0.995
115.075	0.873
115.125	0.647
115.175	1.759
115.225	1.955

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Bank Z...

115.275	7.369
115.325	14.425
115.375	40.074
115.425	19.563
115.475	6.869
115.525	20.012
115.575	9.345
115.625	4.969
115.675	7.496
115.725	4.899
115.775	2.679
115.825	3.707
115.875	4.089
115.925	4.281
115.975	5.536
116.025	3.322
116.075	6.202
116.125	5.829
116.175	9.230
116.225	16.635
116.275	21.872
116.325	11.907
116.375	22.822
116.425	24.495
116.475	43.853
236.525	223.607
236.575	53.420
236.625	31.044
236.675	20.412
236.725	28.037
236.775	14.671
236.825	23.598
236.875	26.461
236.925	35.415
236.975	19.569
237.025	21.126
237.075	18.087
237.125	30.540
237.175	28.917
237.225	35.110
237.275	9.421
237.325	26.216
237.375	20.166
237.425	20.195
237.475	22.237
237.525	21.694
237.575	6.383

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Bank Z...

237.625	5.052
237.675	1.897
237.725	2.959
237.775	0.835
237.825	2.142
237.875	0.753
237.925	0.828
237.975	0.921
238.025	1.894
238.075	1.483
238.125	1.433
238.175	1.237
238.225	0.863
238.275	1.730
238.325	1.401
238.375	2.308
238.425	2.949
238.475	5.452
238.525	12.152
238.575	24.190
238.625	18.468
238.675	24.491
238.725	26.394
238.775	27.285
238.825	19.543
238.875	14.851
238.925	35.241
238.975	16.318
239.025	13.280
239.075	20.195
239.125	10.879
239.175	13.324
239.225	19.921
239.275	13.243
239.325	24.088
239.375	11.318
239.425	11.641
239.475	28.713

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Bank Z...

SmartTune Wizard - Summary

Optimization Summary

SmartTune file: C:\NexIONData\Wizard\SmartTune\ESI SmartTune Fullmicrobac.swz

Start Time: 10/12/2016 2:03:01 PM

End Time: 10/12/2016 2:05:24 PM

Daily Performance Check - [Passed] Optimum value(s): N/A

Obtained Intensity (Be 9.0122): 14488.32

Obtained Intensity (Mg 23.985): 91245.26

Obtained Intensity (In 114.904): 93962.53

Obtained Intensity (U 238.05): 119374.21

Obtained Intensity (Bkgd 220): 1.00

Obtained Formula (CeO 155.9 / Ce 139.905): 0.016 (=6072.62 / 378485.73)

Obtained Formula (Ce++ 69.9527 / Ce 139.905): 0.003 (=1187.31 / 378485.73)

Report Date/Time: Wednesday, October 12, 2016 14:05:24

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SmartTune Wizard - Details

Optimization Details

SmartTune file: C:\NexIONData\Wizard\SmartTune\ESI SmartTune Fullmicrobac.swz

Optimization Status

Start Time: 10/12/2016 2:03:01 PM

Daily Performance Check

Optimization Settings:

Method: C:\NexIONData\Method\ESI Daily Performance.mth.
Intensity Criterion: Be 9.0122 > 2000
Intensity Criterion: Mg 23.985 > 15000
Intensity Criterion: In 114.904 > 40000
Intensity Criterion: U 238.05 > 30000
Intensity Criterion: Bkgd 220 <= 5
Formula Criterion: CeO 155.9 / Ce 139.905 <= 0.025
Formula Criterion: Ce++ 69.9527 / Ce 139.905 <= 0.03

Optimization Results:

Initial Try

Obtained Intensity (Be 9.0122): 14488.32
Obtained Intensity (Mg 23.985): 91245.26
Obtained Intensity (In 114.904): 93962.53
Obtained Intensity (U 238.05): 119374.21
Obtained Intensity (Bkgd 220): 1.00
Obtained Formula (CeO 155.9 / Ce 139.905): 0.016 (=6072.62 / 378485.73)
Obtained Formula (Ce++ 69.9527 / Ce 139.905): 0.003 (=1187.31 / 378485.73)

[Passed] Optimum value(s): N/A

End Time: 10/12/2016 2:05:24 PM

Report Date/Time: Wednesday, October 12, 2016 14:05:24

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Method 6020 - Summary Report

Sample ID: Blank

Sample Date/Time: Wednesday, October 12, 2016 14:10:46

Number of Replicates: 3

Autosampler Position: 1

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	72553.4	2.4				ug/L		Standard
|	Be	9	10.0	100.0				ug/L		Standard
|	Al	27	231.7	9.0				ug/L		Standard
|	Sc	45	23513.2	1.6				ug/L		Standard
|	Ti	47	36.3	18.3				ug/L		Standard
|	V	51	1387.2	12.6				ug/L		Standard
|	Cr	52	7812.7	2.2				ug/L		Standard
|	Cr	53	1410.1	4.6				ug/L		Standard
|	Mn	55	1043.0	4.5				ug/L		Standard
|	Co	59	197.7	24.7				ug/L		Standard
|	Ni	60	63.7	22.9				ug/L		Standard
|	Cu	65	122.0	2.5				ug/L		Standard
|	Zn	66	209.3	3.8				ug/L		Standard
>	Ge	72	618040.5	0.9				ug/L		Standard
|	As	75	11.1	60.5				ug/L		Standard
|	Se	82	21.3	30.9				ug/L		Standard
|	Se-1	77	86.3	10.5				ug/L		Standard
>	Ga	71	13.3	78.1				mg/L		Standard
|	Rb	85	18.3	126.0				ug/L		Standard
|	Y	89	463757.1	2.0				ug/L		Standard
>	Rh	103	11.7	65.5				ug/L		Standard
|	Mo	98	28.9	39.5				ug/L		Standard
|	Ag	107	101.3	9.9				ug/L		Standard
|	Cd	111	9.3	22.5				mg/L		Standard
|	Cd	114	47.2	23.6				ug/L		Standard
>	In	115	765457.5	0.7				ug/L		Standard
|	Sn	118	168.0	19.4				ug/L		Standard
|	Sb	123	332.1	15.8				ug/L		Standard
|	Ba	135	37.3	27.9				ug/L		Standard
|	Ce	140	895.0	19.8				ug/L		Standard
>	Tb	159	1511047.3	1.8				ug/L		Standard
|	Ho	165	21.7	35.3				ug/L		Standard
|	Tl	203	13.7	25.7				ug/L		Standard
|	Tl	205	26.7	75.8				ug/L		Standard
|	Pb	206	557.3	4.6				ug/L		Standard
|	Pb	207	432.0	8.8				ug/L		Standard
|	Pb	208	2118.4	3.8				ug/L		Standard
|	U	238	78.3	40.7				ug/L		Standard
>	Bi	209	791816.9	0.9				ug/L		Standard

Sample ID: Blank

Report Date/Time: Wednesday, October 12, 2016 14:12:51

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Blank Z...

Na	23	5.0	100.0	mg/L	Standard
Mg	24	48.3	43.1	mg/L	Standard
K	39	3.3	86.6	mg/L	Standard
Ca	43	61.7	24.8	mg/L	Standard
Fe	54	139.4	12.5	mg/L	Standard
Fe	57	83.3	25.0	mg/L	Standard
Sc-1	45	23513.2	1.6	mg/L	Standard
Cl	35	3.3	69.3	ug/L	Standard
Kr	83	1.7	124.9	ug/L	Standard
Br	81	910.0	14.3	ug/L	Standard
P	31	85.0	21.2	ug/L	Standard
S	34	48.3	39.2	ug/L	Standard
Sr	88	71.7	24.5	ug/L	Standard
C	12	226.7	16.7	mg/L	Standard
N	14	0.0		mg/L	Standard
Hg	202	6.7	86.6	mg/L	Standard
Dy	164	22.2	26.6	mg/L	Standard
Ho-1	165	21.7	35.3	mg/L	Standard
Er	166	23.3	24.7	mg/L	Standard
I	127	4240.6	4.4	mg/L	Standard

QC Calculated Values

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

Sample ID: Blank

Report Date/Time: Wednesday, October 12, 2016 14:12:51

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Blank Z...

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

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: Blank

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Blank Zinn

Method 6020 - Summary Report

Sample ID: Standard 1

Sample Date/Time: Wednesday, October 12, 2016 14:13:47

Number of Replicates: 3

Autosampler Position: 1

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	71295.7	1.2				ug/L	72553	Standard
|	Be	9	3.3	173.2				ug/L	10	Standard
|	Al	27	165.0	13.9				ug/L	232	Standard
|	Sc	45	23339.6	2.4				ug/L	23513	Standard
|	Ti	47	46.3	11.9				ug/L	36	Standard
|	V	51	1285.2	7.3				ug/L	1387	Standard
|	Cr	52	7457.8	3.1				ug/L	7813	Standard
|	Cr	53	1305.1	11.8				ug/L	1410	Standard
|	Mn	55	1020.7	5.1				ug/L	1043	Standard
|	Co	59	134.0	13.6				ug/L	198	Standard
|	Ni	60	56.3	2.7				ug/L	64	Standard
|	Cu	65	102.3	6.9				ug/L	122	Standard
|	Zn	66	199.0	4.0				ug/L	209	Standard
>	Ge	72	611985.2	1.8				ug/L	618040	Standard
|	As	75	-7.9	305.3				ug/L	11	Standard
|	Se	82	20.9	57.5				ug/L	21	Standard
|	Se-1	77	85.3	10.0				ug/L	86	Standard
>	Ga	71	16.7	124.9				mg/L	13	Standard
|	Rb	85	15.0	88.2				ug/L	18	Standard
|	Y	89	449703.1	2.9				ug/L	463757	Standard
>	Rh	103	11.7	65.5				ug/L	12	Standard
|	Mo	98	14.5	28.7				ug/L	29	Standard
|	Ag	107	98.3	3.6				ug/L	101	Standard
|	Cd	111	6.6	62.7				mg/L	9	Standard
|	Cd	114	21.9	77.8				ug/L	47	Standard
>	In	115	774181.2	0.6				ug/L	765457	Standard
|	Sn	118	114.7	9.0				ug/L	168	Standard
|	Sb	123	97.5	31.0				ug/L	332	Standard
|	Ba	135	27.3	17.3				ug/L	37	Standard
|	Ce	140	423.3	26.4				ug/L	895	Standard
>	Tb	159	1517855.2	2.1				ug/L	1511047	Standard
|	Ho	165	21.7	58.1				ug/L	22	Standard
|	Tl	203	4.7	49.5				ug/L	14	Standard
|	Tl	205	11.7	89.2				ug/L	27	Standard
|	Pb	206	524.0	7.9				ug/L	557	Standard
|	Pb	207	434.3	6.2				ug/L	432	Standard
|	Pb	208	2014.1	3.8				ug/L	2118	Standard
	U	238	20.3	54.2				ug/L	78	Standard
>	Bi	209	777237.6	1.9				ug/L	791817	Standard

Sample ID: Standard 1

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Brink Z...

Na	23	6.7	173.2	mg/L	5	Standard
Mg	24	56.7	25.5	mg/L	48	Standard
K	39	13.3	21.7	mg/L	3	Standard
Ca	43	41.7	48.5	mg/L	62	Standard
Fe	54	131.1	2.2	mg/L	139	Standard
Fe	57	110.0	4.5	mg/L	83	Standard
Sc-1	45	23339.6	2.4	mg/L	23513	Standard
Cl	35	2.7	86.6	ug/L	3	Standard
Kr	83	2.3	24.7	ug/L	2	Standard
Br	81	1080.0	13.1	ug/L	910	Standard
P	31	58.3	27.6	ug/L	85	Standard
S	34	46.7	37.6	ug/L	48	Standard
Sr	88	90.0	45.5	ug/L	72	Standard
C	12	210.0	17.2	mg/L	227	Standard
N	14	0.0		mg/L	0	Standard
Hg	202	3.3	173.2	mg/L	7	Standard
Dy	164	19.2	137.3	mg/L	22	Standard
Ho-1	165	21.7	58.1	mg/L	22	Standard
Er	166	16.7	34.6	mg/L	23	Standard
I	127	4075.5	4.4	mg/L	4241	Standard

QC Calculated Values

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

Sample ID: Standard 1

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Brink Z...

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

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: Standard 1

Report Date/Time: Wednesday, October 12, 2016 14:15:51

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Approved: October 13, 2016

Bank Z...

Method 6020 - Summary Report

Sample ID: Standard 2

Sample Date/Time: Wednesday, October 12, 2016 14:16:46

Number of Replicates: 3

Autosampler Position: 2

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	71841.6	1.7				ug/L	72553	Standard
|	Be	9	60.0	38.2				ug/L	10	Standard
|	Al	27	5359.3	1.9				ug/L	232	Standard
|	Sc	45	24256.1	1.8				ug/L	23513	Standard
|	Ti	47	58.3	21.7				ug/L	36	Standard
|	V	51	1586.7	9.3				ug/L	1387	Standard
|	Cr	52	7708.6	1.1				ug/L	7813	Standard
|	Cr	53	1433.4	6.9				ug/L	1410	Standard
|	Mn	55	2028.1	5.2				ug/L	1043	Standard
|	Co	59	603.0	0.7				ug/L	198	Standard
|	Ni	60	169.0	5.7				ug/L	64	Standard
|	Cu	65	304.0	13.4				ug/L	122	Standard
|	Zn	66	910.7	3.0				ug/L	209	Standard
>	Ge	72	613768.3	2.3				ug/L	618040	Standard
|	As	75	10.1	247.4				ug/L	11	Standard
|	Se	82	19.3	15.2				ug/L	21	Standard
|	Se-1	77	96.0	18.1				ug/L	86	Standard
>	Ga	71	23.3	24.7				mg/L	13	Standard
|	Rb	85	16.7	17.3				ug/L	18	Standard
|	Y	89	458180.9	2.6				ug/L	463757	Standard
>	Rh	103	5.0	0.0				ug/L	12	Standard
|	Mo	98	396.6	4.5				ug/L	29	Standard
|	Ag	107	437.3	3.4				ug/L	101	Standard
|	Cd	111	117.8	5.6				mg/L	9	Standard
|	Cd	114	283.3	13.9				ug/L	47	Standard
>	In	115	779156.0	1.9				ug/L	765457	Standard
|	Sn	118	248.0	4.7				ug/L	168	Standard
|	Sb	123	270.0	17.6				ug/L	332	Standard
|	Ba	135	201.3	3.3				ug/L	37	Standard
|	Ce	140	285.0	6.3				ug/L	895	Standard
>	Tb	159	1509641.5	0.5				ug/L	1511047	Standard
|	Ho	165	18.3	31.5				ug/L	22	Standard
|	Tl	203	558.7	2.0				ug/L	14	Standard
|	Tl	205	1358.4	10.2				ug/L	27	Standard
|	Pb	206	1071.7	4.6				ug/L	557	Standard
|	Pb	207	910.4	0.9				ug/L	432	Standard
|	Pb	208	4224.6	1.5				ug/L	2118	Standard
	U	238	1517.7	1.3				ug/L	78	Standard
>	Bi	209	777211.1	2.4				ug/L	791817	Standard

Sample ID: Standard 2

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Brank Z...

Na	23	1.7	173.2	mg/L	5	Standard
Mg	24	45.0	19.2	mg/L	48	Standard
K	39	3.3	86.6	mg/L	3	Standard
Ca	43	53.3	5.4	mg/L	62	Standard
Fe	54	129.2	21.9	mg/L	139	Standard
Fe	57	136.7	34.8	mg/L	83	Standard
Sc-1	45	24256.1	1.8	mg/L	23513	Standard
Cl	35	0.7	173.2	ug/L	3	Standard
Kr	83	3.0	57.7	ug/L	2	Standard
Br	81	1096.7	10.0	ug/L	910	Standard
P	31	58.3	32.5	ug/L	85	Standard
S	34	40.0	21.7	ug/L	48	Standard
Sr	88	78.3	32.8	ug/L	72	Standard
C	12	233.3	32.5	mg/L	227	Standard
N	14	0.0		mg/L	0	Standard
Hg	202	0.0		mg/L	7	Standard
Dy	164	12.4	118.4	mg/L	22	Standard
Ho-1	165	18.3	31.5	mg/L	22	Standard
Er	166	20.0	86.6	mg/L	23	Standard
I	127	4197.2	3.3	mg/L	4241	Standard

QC Calculated Values

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

Sample ID: Standard 2

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Brink Z...

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

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: Standard 2

Report Date/Time: Wednesday, October 12, 2016 14:18:51

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Approved: October 13, 2016

Bank Z...

Method 6020 - Summary Report

Sample ID: Standard 3

Sample Date/Time: Wednesday, October 12, 2016 14:19:46

Number of Replicates: 3

Autosampler Position: 3

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	66544.2	1.5				ug/L	72553	Standard
|	Be	9	42461.1	2.6	50.0000	1.528	3.1	ug/L	10	Standard
|	Al	27	4672986.7	4.5	50.0000	2.999	6.0	ug/L	232	Standard
|	Sc	45	23282.9	1.3				ug/L	23513	Standard
|	Ti	47	16876.1	0.7	100.0000	0.567	0.6	ug/L	36	Standard
|	V	51	300943.3	0.1	50.0000	0.623	1.2	ug/L	1387	Standard
|	Cr	52	289769.8	1.0	50.0000	0.871	1.7	ug/L	7813	Standard
|	Cr	53	38034.4	1.4	50.0000	0.504	1.0	ug/L	1410	Standard
|	Mn	55	482490.2	2.2	50.0000	1.108	2.2	ug/L	1043	Standard
|	Co	59	424952.2	1.6	50.0000	1.196	2.4	ug/L	198	Standard
|	Ni	60	92966.7	0.8	50.0000	0.230	0.5	ug/L	64	Standard
|	Cu	65	96127.3	1.2	50.0000	0.313	0.6	ug/L	122	Standard
|	Zn	66	51297.4	1.0	50.0000	0.098	0.2	ug/L	209	Standard
>	Ge	72	591888.9	1.2				ug/L	618040	Standard
|	As	75	54015.9	0.5	50.0000	0.530	1.1	ug/L	11	Standard
|	Se	82	5041.0	1.5	50.0000	0.766	1.5	ug/L	21	Standard
|	Se-1	77	3409.1	1.6	50.0000	0.201	0.4	ug/L	86	Standard
>	Ga	71	75.0	40.0				mg/L	13	Standard
|	Rb	85	570.0	15.0				ug/L	18	Standard
|	Y	89	443838.4	4.4				ug/L	463757	Standard
>	Rh	103	18.3	56.8				ug/L	12	Standard
|	Mo	98	365359.6	0.9	100.0000	0.868	0.9	ug/L	29	Standard
|	Ag	107	329285.2	1.9	50.0000	1.260	2.5	ug/L	101	Standard
|	Cd	111	104876.7	1.6	50.0000	1.335	2.7	mg/L	9	Standard
|	Cd	114	271841.3	1.3	50.0000	1.392	2.8	ug/L	47	Standard
>	In	115	762155.9	1.5				ug/L	765457	Standard
|	Sn	118	60501.9	1.9	50.0000	1.712	3.4	ug/L	168	Standard
|	Sb	123	280086.8	0.2	50.0000	0.665	1.3	ug/L	332	Standard
|	Ba	135	132055.8	1.7	50.0000	1.563	3.1	ug/L	37	Standard
|	Ce	140	348.3	10.2				ug/L	895	Standard
>	Tb	159	1463326.6	2.8				ug/L	1511047	Standard
|	Ho	165	53.3	5.4				ug/L	22	Standard
|	Tl	203	534001.2	1.3	50.0000	1.372	2.7	ug/L	14	Standard
|	Tl	205	1238907.6	0.5	50.0000	1.146	2.3	ug/L	27	Standard
|	Pb	206	407058.3	0.7	50.0000	1.104	2.2	ug/L	557	Standard
|	Pb	207	357576.1	0.8	50.0000	1.213	2.4	ug/L	432	Standard
|	Pb	208	1625450.7	0.5	50.0000	1.112	2.2	ug/L	2118	Standard
	U	238	1463386.1	0.5	50.0000	1.123	2.2	ug/L	78	Standard
>	Bi	209	751006.0	1.8				ug/L	791817	Standard

Sample ID: Standard 3

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Brink Z...

Na	23	13.3	21.7	5.0000	1.283	25.7	mg/L	5	Standard
Mg	24	2521.9	6.2	5.0000	0.246	4.9	mg/L	48	Standard
K	39	358.3	2.9	5.0000	0.172	3.4	mg/L	3	Standard
Ca	43	53.3	14.3	5.0000	17.299	346.0	mg/L	62	Standard
Fe	54	5050.5	4.1	5.0000	0.278	5.6	mg/L	139	Standard
Fe	57	1525.1	4.7	5.0000	0.328	6.6	mg/L	83	Standard
Sc-1	45	23282.9	1.3				mg/L	23513	Standard
Cl	35	2.0	100.0				ug/L	3	Standard
Kr	83	4.7	61.9				ug/L	2	Standard
Br	81	1050.0	10.7				ug/L	910	Standard
P	31	95.0	29.3				ug/L	85	Standard
S	34	38.3	39.8				ug/L	48	Standard
Sr	88	61.7	28.5				ug/L	72	Standard
C	12	246.7	16.9				mg/L	227	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	7	Standard
Dy	164	46.3	32.8				mg/L	22	Standard
Ho-1	165	53.3	5.4				mg/L	22	Standard
Er	166	6.7	173.2				mg/L	23	Standard
I	127	4642.4	2.2				mg/L	4241	Standard

QC Calculated Values

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

Sample ID: Standard 3

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Frank Z...

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

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: Standard 3

Report Date/Time: Wednesday, October 12, 2016 14:21:50

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Bank Z...

Method 6020 - Summary Report

Sample ID: Standard 4

Sample Date/Time: Wednesday, October 12, 2016 14:22:45

Number of Replicates: 3

Autosampler Position: 4

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	64269.5	3.5				ug/L	72553	Standard
|	Be	9	78141.1	2.5	97.6300	4.836	5.0	ug/L	10	Standard
|	Al	27	8881559.2	2.1	99.2016	3.877	3.9	ug/L	232	Standard
|	Sc	45	22197.9	1.3				ug/L	23513	Standard
|	Ti	47	32663.8	0.6	198.9868	4.291	2.2	ug/L	36	Standard
|	V	51	581064.9	0.8	99.4093	1.764	1.8	ug/L	1387	Standard
|	Cr	52	552427.4	1.4	99.2793	1.199	1.2	ug/L	7813	Standard
|	Cr	53	70790.0	0.2	98.3432	2.136	2.2	ug/L	1410	Standard
|	Mn	55	928390.8	1.4	99.2069	0.893	0.9	ug/L	1043	Standard
|	Co	59	828806.6	0.7	99.8171	1.585	1.6	ug/L	198	Standard
|	Ni	60	180414.1	0.4	99.5875	2.248	2.3	ug/L	64	Standard
|	Cu	65	185415.7	1.1	99.3092	1.306	1.3	ug/L	122	Standard
|	Zn	66	100602.9	1.0	100.4978	1.298	1.3	ug/L	209	Standard
>	Ge	72	579467.5	2.3				ug/L	618040	Standard
|	As	75	105520.4	1.4	99.8684	1.393	1.4	ug/L	11	Standard
|	Se	82	9950.0	1.6	100.4767	1.820	1.8	ug/L	21	Standard
|	Se-1	77	6633.5	2.5	100.3679	3.368	3.4	ug/L	86	Standard
>	Ga	71	90.0	33.8				mg/L	13	Standard
|	Rb	85	1115.0	5.9				ug/L	18	Standard
|	Y	89	432677.1	1.7				ug/L	463757	Standard
>	Rh	103	26.7	21.7				ug/L	12	Standard
|	Mo	98	716914.8	1.6	201.2340	3.878	1.9	ug/L	29	Standard
|	Ag	107	639007.1	1.3	100.0607	0.978	1.0	ug/L	101	Standard
|	Cd	111	205483.7	0.7	100.5340	0.883	0.9	mg/L	9	Standard
|	Cd	114	541730.8	1.5	101.3761	1.322	1.3	ug/L	47	Standard
>	In	115	738591.8	0.6				ug/L	765457	Standard
|	Sn	118	119358.7	1.8	100.9492	2.330	2.3	ug/L	168	Standard
|	Sb	123	558152.3	1.1	101.3819	1.270	1.3	ug/L	332	Standard
|	Ba	135	256396.7	1.0	100.0847	0.651	0.7	ug/L	37	Standard
|	Ce	140	448.3	6.1				ug/L	895	Standard
>	Tb	159	1404177.7	3.5				ug/L	1511047	Standard
|	Ho	165	81.7	9.4				ug/L	22	Standard
|	Tl	203	1037975.5	0.4	100.7791	1.253	1.2	ug/L	14	Standard
|	Tl	205	2379314.2	3.1	100.1923	4.322	4.3	ug/L	27	Standard
|	Pb	206	781837.5	1.1	100.2236	1.662	1.7	ug/L	557	Standard
|	Pb	207	690716.6	1.1	100.5048	1.634	1.6	ug/L	432	Standard
|	Pb	208	3118703.8	1.4	100.1670	1.440	1.4	ug/L	2118	Standard
	U	238	2841976.5	0.5	100.7354	0.961	1.0	ug/L	78	Standard
>	Bi	209	718454.3	1.2				ug/L	791817	Standard

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Brink Z...

Na	23	45.0	19.2	13.1837	2.505	19.0	mg/L	5	Standard
Mg	24	4935.8	0.9	10.1749	0.159	1.6	mg/L	48	Standard
K	39	601.7	13.8	9.3841	1.346	14.3	mg/L	3	Standard
Ca	43	96.7	19.6	18.4126	7.181	39.0	mg/L	62	Standard
Fe	54	9889.0	3.0	10.1932	0.417	4.1	mg/L	139	Standard
Fe	57	2846.9	6.2	10.1112	0.545	5.4	mg/L	83	Standard
Sc-1	45	22197.9	1.3				mg/L	23513	Standard
Cl	35	1.3	86.6				ug/L	3	Standard
Kr	83	4.7	65.5				ug/L	2	Standard
Br	81	923.4	9.5				ug/L	910	Standard
P	31	63.3	25.4				ug/L	85	Standard
S	34	43.3	24.0				ug/L	48	Standard
Sr	88	66.7	11.5				ug/L	72	Standard
C	12	266.7	30.5				mg/L	227	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	13.3	43.3				mg/L	7	Standard
Dy	164	35.9	58.2				mg/L	22	Standard
Ho-1	165	81.7	9.4				mg/L	22	Standard
Er	166	16.7	91.7				mg/L	23	Standard
I	127	5252.6	0.6				mg/L	4241	Standard

QC Calculated Values

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

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Brink Z...

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

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Corr. Coef.	Na	23	Correlation coefficient < 0.998
Corr. Coef.	Ca	43	Correlation coefficient < 0.998

Sample ID: Standard 4

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Bank Z...

Method 6020 - Summary Report

Sample ID: QC Std 1

Sample Date/Time: Wednesday, October 12, 2016 14:25:46

Number of Replicates: 3

Autosampler Position: 201

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	62704.8	5.8				ug/L	72553	Standard
|	Be	9	40367.0	0.6	51.7355	2.655	5.1	ug/L	10	Standard
|	Al	27	4390910.5	3.2	50.2765	1.286	2.6	ug/L	232	Standard
|	Sc	45	21800.7	0.9				ug/L	23513	Standard
|	Ti	47	16275.7	2.5	100.1893	1.617	1.6	ug/L	36	Standard
|	V	51	292001.2	1.6	50.4469	0.941	1.9	ug/L	1387	Standard
|	Cr	52	281545.1	2.0	50.5826	0.904	1.8	ug/L	7813	Standard
|	Cr	53	35954.3	2.2	49.6291	1.112	2.2	ug/L	1410	Standard
|	Mn	55	457506.0	1.3	49.3986	0.921	1.9	ug/L	1043	Standard
|	Co	59	411116.8	1.2	50.0922	0.807	1.6	ug/L	198	Standard
|	Ni	60	90617.5	1.0	50.5947	1.010	2.0	ug/L	64	Standard
|	Cu	65	92875.5	0.8	50.2860	0.554	1.1	ug/L	122	Standard
|	Zn	66	50745.8	0.4	50.8990	0.638	1.3	ug/L	209	Standard
>	Ge	72	572592.9	1.6				ug/L	618040	Standard
|	As	75	52237.4	0.7	50.0531	0.818	1.6	ug/L	11	Standard
|	Se	82	4913.9	0.5	50.1509	1.055	2.1	ug/L	21	Standard
|	Se-1	77	3365.0	2.6	50.8599	1.187	2.3	ug/L	86	Standard
>	Ga	71	16.7	62.4				mg/L	13	Standard
|	Rb	85	755.0	10.7				ug/L	18	Standard
|	Y	89	428254.7	0.4				ug/L	463757	Standard
>	Rh	103	30.0	28.9				ug/L	12	Standard
|	Mo	98	356352.5	1.7	101.0475	2.132	2.1	ug/L	29	Standard
|	Ag	107	320521.8	0.6	50.6967	0.207	0.4	ug/L	101	Standard
|	Cd	111	104434.5	0.5	51.6153	0.367	0.7	mg/L	9	Standard
|	Cd	114	269658.5	2.0	50.9750	0.639	1.3	ug/L	47	Standard
>	In	115	731130.5	1.0				ug/L	765457	Standard
|	Sn	118	60356.3	1.8	51.4887	0.468	0.9	ug/L	168	Standard
|	Sb	123	290160.7	1.7	53.2403	0.395	0.7	ug/L	332	Standard
|	Ba	135	130097.9	0.9	51.2930	0.584	1.1	ug/L	37	Standard
|	Ce	140	181.7	14.1				ug/L	895	Standard
>	Tb	159	1384868.1	1.5				ug/L	1511047	Standard
|	Ho	165	16.7	34.6				ug/L	22	Standard
|	Tl	203	525714.9	0.2	50.8617	0.455	0.9	ug/L	14	Standard
|	Tl	205	1219374.2	1.6	51.1471	0.451	0.9	ug/L	27	Standard
|	Pb	206	396489.5	1.1	50.6045	0.220	0.4	ug/L	557	Standard
|	Pb	207	353213.9	1.5	51.1730	0.279	0.5	ug/L	432	Standard
|	Pb	208	1592445.7	1.1	50.9275	0.248	0.5	ug/L	2118	Standard
	U	238	1445088.1	0.4	51.0415	0.469	0.9	ug/L	78	Standard
>	Bi	209	720986.3	1.1				ug/L	791817	Standard

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Brink Z...

Na	23	10.0	100.0	2.6311	3.072	116.7	mg/L	5	Standard
Mg	24	2375.2	3.2	4.9444	0.174	3.5	mg/L	48	Standard
K	39	291.7	23.7	4.6033	1.068	23.2	mg/L	3	Standard
Ca	43	75.0	20.0	10.5859	5.675	53.6	mg/L	62	Standard
Fe	54	4893.3	2.2	5.0762	0.152	3.0	mg/L	139	Standard
Fe	57	1433.4	8.3	4.9607	0.419	8.4	mg/L	83	Standard
Sc-1	45	21800.7	0.9				mg/L	23513	Standard
Cl	35	0.7	173.2				ug/L	3	Standard
Kr	83	3.0	115.5				ug/L	2	Standard
Br	81	930.0	17.9				ug/L	910	Standard
P	31	83.3	33.0				ug/L	85	Standard
S	34	53.3	43.3				ug/L	48	Standard
Sr	88	101.7	11.4				ug/L	72	Standard
C	12	263.3	9.6				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	7	Standard
Dy	164	13.0	118.3				mg/L	22	Standard
Ho-1	165	16.7	34.6				mg/L	22	Standard
Er	166	6.7	173.2				mg/L	23	Standard
I	127	2360.2	0.9				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	103.471		
Al	27	100.553		
Sc	45			
Ti	47	100.189		
V	51	100.894		
Cr	52	101.165		
Cr	53			
Mn	55	98.797		
Co	59	100.184		
Ni	60	101.189		
Cu	65	100.572		
Zn	66	101.798		
Ge	72		92.647	
As	75	100.106		
Se	82	100.302		
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	101.048	
[Ag	107	101.393	
[Cd	111	103.231	
[Cd	114		
>	In	115		95.515
[	Sn	118	102.977	
[	Sb	123	106.481	
[	Ba	135	102.586	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	101.723	
[	Tl	205		
[	Pb	206	101.209	
[	Pb	207	102.346	
[	Pb	208	101.855	
[	U	238	102.083	
>	Bi	209		91.055
[	Na	23	52.621	
[	Mg	24	98.888	
[	K	39	92.065	
[	Ca	43	211.718	
[	Fe	54	101.525	
[	Fe	57	99.214	
>	Sc-1	45		
[	Cl	35		
[	Kr	83		
[	Br	81		
[	P	31		
[	S	34		
[	Sr	88		
[	C	12		
[	N	14		
[	Hg	202		
[	Dy	164		
[	Ho-1	165		
[	Er	166		
[	I	127		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 1	Na	23	
QC Std 1	K	39	
QC Std 1	Ca	43	

Sample ID: QC Std 1

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Bank Z...

Method 6020 - Summary Report

Sample ID: QC Std 2

Sample Date/Time: Wednesday, October 12, 2016 14:28:47

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	64843.7	4.6				ug/L	72553	Standard
|	Be	9	10.0	86.6	-0.0043	0.011	249.3	ug/L	10	Standard
|	Al	27	541.7	77.5	0.0026	0.005	193.6	ug/L	232	Standard
|	Sc	45	22291.4	2.0				ug/L	23513	Standard
|	Ti	47	36.7	20.7	-0.0122	0.049	400.3	ug/L	36	Standard
|	V	51	868.7	11.0	-0.0576	0.019	32.5	ug/L	1387	Standard
|	Cr	52	5912.2	1.7	-0.1977	0.032	16.2	ug/L	7813	Standard
|	Cr	53	1320.1	1.0	0.0045	0.045	1008.3	ug/L	1410	Standard
|	Mn	55	927.7	5.7	-0.0555	0.007	12.5	ug/L	1043	Standard
|	Co	59	164.7	21.9	0.0013	0.005	352.7	ug/L	198	Standard
|	Ni	60	55.3	19.2	-0.0074	0.006	85.4	ug/L	64	Standard
|	Cu	65	143.0	8.5	-0.0273	0.007	27.0	ug/L	122	Standard
|	Zn	66	176.7	11.4	-0.6374	0.023	3.6	ug/L	209	Standard
>	Ge	72	578867.0	1.6				ug/L	618040	Standard
|	As	75	-37.0	50.4	0.0059	0.018	303.0	ug/L	11	Standard
|	Se	82	18.0	28.6	0.0473	0.054	114.3	ug/L	21	Standard
|	Se-1	77	85.0	10.5	-0.0343	0.124	359.9	ug/L	86	Standard
>	Ga	71	16.7	45.8				mg/L	13	Standard
|	Rb	85	25.0	52.9				ug/L	18	Standard
|	Y	89	431916.0	1.9				ug/L	463757	Standard
>	Rh	103	11.7	65.5				ug/L	12	Standard
|	Mo	98	275.5	35.6	0.0694	0.026	37.8	ug/L	29	Standard
|	Ag	107	132.0	18.4	0.0051	0.004	70.4	ug/L	101	Standard
|	Cd	111	15.3	41.4	0.0026	0.003	112.8	mg/L	9	Standard
|	Cd	114	90.3	77.6	0.0161	0.013	78.7	ug/L	47	Standard
>	In	115	761203.2	0.9				ug/L	765457	Standard
|	Sn	118	237.3	37.5	0.0456	0.072	157.8	ug/L	168	Standard
|	Sb	123	1336.9	55.6	0.2385	0.130	54.4	ug/L	332	Standard
|	Ba	135	32.0	55.3	-0.0124	0.007	53.3	ug/L	37	Standard
|	Ce	140	120.0	11.0				ug/L	895	Standard
>	Tb	159	1436064.5	0.2				ug/L	1511047	Standard
|	Ho	165	25.0	60.0				ug/L	22	Standard
|	Tl	203	85.7	91.4	0.0079	0.007	94.2	ug/L	14	Standard
|	Tl	205	156.7	96.3	0.0034	0.006	181.1	ug/L	27	Standard
|	Pb	206	545.3	9.2	-0.0096	0.007	71.0	ug/L	557	Standard
|	Pb	207	446.3	4.6	-0.0099	0.003	32.6	ug/L	432	Standard
|	Pb	208	2107.7	6.0	-0.0102	0.004	44.0	ug/L	2118	Standard
	U	238	194.3	94.5	0.0069	0.006	91.8	ug/L	78	Standard
>	Bi	209	745324.0	1.1				ug/L	791817	Standard

Sample ID: QC Std 2

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Brink Z...

Na	23	0.0		-0.4577	0.000	0.0	mg/L	5	Standard
Mg	24	46.7	43.3	0.0160	0.041	255.9	mg/L	48	Standard
K	39	10.0	100.0	0.1123	0.153	136.3	mg/L	3	Standard
Ca	43	43.3	17.6	-2.1689	2.848	131.3	mg/L	62	Standard
Fe	54	94.6	27.5	-0.0202	0.027	133.3	mg/L	139	Standard
Fe	57	81.7	24.7	-0.1568	0.073	46.4	mg/L	83	Standard
Sc-1	45	22291.4	2.0				mg/L	23513	Standard
Cl	35	2.7	114.6				ug/L	3	Standard
Kr	83	4.7	32.7				ug/L	2	Standard
Br	81	953.4	23.1				ug/L	910	Standard
P	31	63.3	43.5				ug/L	85	Standard
S	34	56.7	10.2				ug/L	48	Standard
Sr	88	76.7	10.0				ug/L	72	Standard
C	12	220.0	25.3				mg/L	227	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	7	Standard
Dy	164	19.5	88.8				mg/L	22	Standard
Ho-1	165	25.0	60.0				mg/L	22	Standard
Er	166	10.0	100.0				mg/L	23	Standard
I	127	4018.9	0.7				mg/L	4241	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		93.662	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: QC Std 2

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	99.444
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	94.128
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 2	Sb	123	
QC Std 2	Na	23	
QC Std 2	K	39	

Sample ID: QC Std 2

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QC Std 2	Ca	43
QC Std 2	Fe	57

Sample ID: QC Std 2

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Bank Zuo

Method 6020 - Summary Report

Sample ID: QC Std 3

Sample Date/Time: Wednesday, October 12, 2016 14:31:57

Number of Replicates: 3

Autosampler Position: 202

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	60698.1	4.0				ug/L	72553	Standard
|	Be	9	176.7	10.7	0.2169	0.026	12.1	ug/L	10	Standard
|	Al	27	271.7	1.1	-0.0003	0.000	42.9	ug/L	232	Standard
|	Sc	45	21667.2	3.5				ug/L	23513	Standard
|	Ti	47	30.0	23.3	-0.0482	0.047	96.8	ug/L	36	Standard
|	V	51	3022.0	4.9	0.3248	0.034	10.6	ug/L	1387	Standard
|	Cr	52	9634.7	1.7	0.5243	0.070	13.3	ug/L	7813	Standard
|	Cr	53	1783.4	6.7	0.7255	0.223	30.7	ug/L	1410	Standard
|	Mn	55	4972.8	0.7	0.3910	0.008	2.1	ug/L	1043	Standard
|	Co	59	3215.7	2.1	0.3788	0.014	3.6	ug/L	198	Standard
|	Ni	60	2755.3	1.6	1.5222	0.024	1.6	ug/L	64	Standard
|	Cu	65	1560.7	1.6	0.7545	0.032	4.2	ug/L	122	Standard
|	Zn	66	6984.9	2.4	6.4025	0.328	5.1	ug/L	209	Standard
>	Ge	72	564973.5	2.2				ug/L	618040	Standard
|	As	75	355.7	5.0	0.3860	0.011	2.9	ug/L	11	Standard
|	Se	82	49.7	13.8	0.3814	0.082	21.4	ug/L	21	Standard
|	Se-1	77	108.0	11.2	0.3624	0.216	59.7	ug/L	86	Standard
>	Ga	71	21.7	87.4				mg/L	13	Standard
|	Rb	85	25.0	34.6				ug/L	18	Standard
|	Y	89	417454.1	1.9				ug/L	463757	Standard
>	Rh	103	13.3	57.3				ug/L	12	Standard
|	Mo	98	73.4	27.4	0.0158	0.006	38.2	ug/L	29	Standard
|	Ag	107	2488.5	2.0	0.3882	0.005	1.3	ug/L	101	Standard
|	Cd	111	485.6	5.2	0.2413	0.016	6.7	mg/L	9	Standard
|	Cd	114	1318.8	3.4	0.2551	0.012	4.8	ug/L	47	Standard
>	In	115	714017.4	1.7				ug/L	765457	Standard
|	Sn	118	107.3	14.0	-0.0549	0.015	26.7	ug/L	168	Standard
|	Sb	123	2437.3	5.9	0.4617	0.033	7.1	ug/L	332	Standard
|	Ba	135	1900.8	5.0	0.7438	0.051	6.9	ug/L	37	Standard
|	Ce	140	88.3	31.2				ug/L	895	Standard
>	Tb	159	1382324.7	4.3				ug/L	1511047	Standard
|	Ho	165	20.0	25.0				ug/L	22	Standard
|	Tl	203	815.7	1.6	0.0788	0.001	1.0	ug/L	14	Standard
|	Tl	205	1750.1	5.9	0.0706	0.005	7.6	ug/L	27	Standard
|	Pb	206	2056.8	2.1	0.1862	0.006	3.0	ug/L	557	Standard
|	Pb	207	1655.8	3.6	0.1681	0.013	7.8	ug/L	432	Standard
|	Pb	208	7777.8	1.7	0.1739	0.007	3.9	ug/L	2118	Standard
	U	238	10828.9	3.4	0.3834	0.019	5.0	ug/L	78	Standard
>	Bi	209	720182.4	2.5				ug/L	791817	Standard

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Brink Z...

Na	23	1.7	173.2	0.0705	0.915	1297.7	mg/L	5	Standard
Mg	24	43.3	6.7	0.0118	0.005	44.9	mg/L	48	Standard
K	39	3.3	86.6	0.0118	0.047	401.4	mg/L	3	Standard
Ca	43	40.0	21.7	-2.9459	3.760	127.6	mg/L	62	Standard
Fe	54	81.1	14.2	-0.0320	0.009	28.6	mg/L	139	Standard
Fe	57	106.7	7.2	-0.0524	0.034	65.8	mg/L	83	Standard
Sc-1	45	21667.2	3.5				mg/L	23513	Standard
Cl	35	4.0	50.0				ug/L	3	Standard
Kr	83	4.3	13.3				ug/L	2	Standard
Br	81	810.0	9.6				ug/L	910	Standard
P	31	66.7	34.6				ug/L	85	Standard
S	34	28.3	27.0				ug/L	48	Standard
Sr	88	63.3	19.9				ug/L	72	Standard
C	12	296.7	36.0				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	6.7	173.2				mg/L	7	Standard
Dy	164	32.5	46.3				mg/L	22	Standard
Ho-1	165	20.0	25.0				mg/L	22	Standard
Er	166	16.7	34.6				mg/L	23	Standard
I	127	1353.4	6.7				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	108.453		
Al	27	-0.032		
Sc	45			
Ti	47			
V	51	81.196		
Cr	52	65.544		
Cr	53			
Mn	55	78.203		
Co	59	94.695		
Ni	60	95.135		
Cu	65	94.311		
Zn	66	102.439		
Ge	72		91.414	
As	75	96.511		
Se	82	95.360		
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98		
	Ag	107	97.049	
	Cd	111	100.541	
	Cd	114		
>	In	115		93.280
	Sn	118		
	Sb	123	115.431	
[	Ba	135	99.168	
[	Ce	140		
>	Tb	159		
[	Ho	165		
	Tl	203	98.551	
	Tl	205		
	Pb	206		
	Pb	207		
	Pb	208	86.970	
	U	238	95.849	
>	Bi	209		90.953
[	Na	23		
[	Mg	24		
	K	39		
	Ca	43		
	Fe	54		
	Fe	57		
>	Sc-1	45		
	Cl	35		
	Kr	83		
	Br	81		
	P	31		
	S	34		
	Sr	88		
	C	12		
	N	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	Cr	52	

Sample ID: QC Std 3

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Bank Z...

Method 6020 - Summary Report

Sample ID: QC Std 4

Sample Date/Time: Wednesday, October 12, 2016 14:35:04

Number of Replicates: 3

Autosampler Position: 203

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	55325.9	3.0				ug/L	72553	Standard
|	Be	9	5.0	100.0	-0.0095	0.007	74.6	ug/L	10	Standard
|	Al	27	3787656.1	3.4	49.1068	0.938	1.9	ug/L	232	Standard
|	Sc	45	20305.3	1.0				ug/L	23513	Standard
|	Ti	47	2322.5	3.3	15.0465	0.810	5.4	ug/L	36	Standard
|	V	51	670.9	21.1	-0.0825	0.028	34.5	ug/L	1387	Standard
|	Cr	52	4605.0	1.5	-0.3712	0.011	3.0	ug/L	7813	Standard
|	Cr	53	2031.8	4.3	1.2356	0.140	11.3	ug/L	1410	Standard
|	Mn	55	1163.7	2.6	-0.0206	0.002	7.5	ug/L	1043	Standard
|	Co	59	201.0	5.3	0.0075	0.002	20.1	ug/L	198	Standard
|	Ni	60	396.0	6.5	0.1979	0.018	9.2	ug/L	64	Standard
|	Cu	65	282.3	3.4	0.0591	0.003	4.4	ug/L	122	Standard
|	Zn	66	1246.7	3.3	0.5379	0.018	3.3	ug/L	209	Standard
>	Ge	72	537303.3	2.0				ug/L	618040	Standard
|	As	75	-33.1	37.6	0.0073	0.013	175.3	ug/L	11	Standard
|	Se	82	19.1	4.9	0.0730	0.008	11.4	ug/L	21	Standard
|	Se-1	77	227.0	9.7	2.4117	0.305	12.7	ug/L	86	Standard
>	Ga	71	45.0	19.2				mg/L	13	Standard
|	Rb	85	2143.5	7.6				ug/L	18	Standard
|	Y	89	383715.7	1.7				ug/L	463757	Standard
>	Rh	103	15.0	57.7				ug/L	12	Standard
|	Mo	98	240230.7	3.4	75.8335	3.740	4.9	ug/L	29	Standard
|	Ag	107	135.3	0.4	0.0089	0.000	4.1	ug/L	101	Standard
|	Cd	111	-10.2	141.7	-0.0103	0.008	78.2	mg/L	9	Standard
|	Cd	114	627.8	11.6	0.1317	0.014	10.4	ug/L	47	Standard
>	In	115	657045.1	1.9				ug/L	765457	Standard
|	Sn	118	84.0	26.8	-0.0692	0.021	30.5	ug/L	168	Standard
|	Sb	123	749.6	34.9	0.1559	0.051	32.5	ug/L	332	Standard
|	Ba	135	51.3	5.6	-0.0020	0.002	83.6	ug/L	37	Standard
|	Ce	140	1436.7	3.3				ug/L	895	Standard
>	Tb	159	1280409.3	0.5				ug/L	1511047	Standard
|	Ho	165	20.0	86.6				ug/L	22	Standard
|	Tl	203	91.7	6.2	0.0094	0.000	5.1	ug/L	14	Standard
|	Tl	205	208.3	14.7	0.0064	0.001	19.0	ug/L	27	Standard
|	Pb	206	857.0	1.8	0.0411	0.004	8.7	ug/L	557	Standard
|	Pb	207	751.0	4.8	0.0449	0.006	13.0	ug/L	432	Standard
|	Pb	208	3391.5	0.6	0.0416	0.002	5.9	ug/L	2118	Standard
	U	238	20.3	23.2	0.0010	0.000	15.8	ug/L	78	Standard
>	Bi	209	669099.6	2.6				ug/L	791817	Standard

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Brink Z...

Na	23	31.7	24.1	10.0670	2.647	26.3	mg/L	5	Standard
Mg	24	4979.2	2.8	11.2269	0.219	2.0	mg/L	48	Standard
K	39	268.3	17.3	4.5461	0.755	16.6	mg/L	3	Standard
Ca	43	95.0	21.1	21.1358	8.024	38.0	mg/L	62	Standard
Fe	54	2928.3	1.8	3.2193	0.093	2.9	mg/L	139	Standard
Fe	57	1036.7	2.7	3.7511	0.138	3.7	mg/L	83	Standard
Sc-1	45	20305.3	1.0				mg/L	23513	Standard
Cl	35	2.7	43.3				ug/L	3	Standard
Kr	83	4.3	26.6				ug/L	2	Standard
Br	81	940.0	15.7				ug/L	910	Standard
P	31	23.3	32.7				ug/L	85	Standard
S	34	28.3	56.7				ug/L	48	Standard
Sr	88	80.0	22.5				ug/L	72	Standard
C	12	313.3	15.1				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	7	Standard
Dy	164	15.5	93.0				mg/L	22	Standard
Ho-1	165	20.0	86.6				mg/L	22	Standard
Er	166	23.3	99.0				mg/L	23	Standard
I	127	3685.4	4.4				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9			
Al	27	0.982		
Sc	45			
Ti	47	15.046		
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		86.937	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	75.833	
[Ag	107		
[Cd	111		
[Cd	114		
>	In	115		85.837
[Sn	118		
[Sb	123		
[	Ba	135		
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203		
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208		
[	U	238		
>	Bi	209		84.502
[	Na	23	80.536	
[	Mg	24	224.538	
[	K	39	90.922	
[	Ca	43	140.905	
[	Fe	54	25.754	
[	Fe	57	30.009	
>	Sc-1	45		
[	Cl	35		
[	Kr	83		
[	Br	81		
[	P	31		
[	S	34		
[	Sr	88		
[	C	12		
[	N	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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Bank Z...

QC Std 4	Mg	24
QC Std 4	Ca	43
QC Std 4	Fe	54
QC Std 4	Fe	57

Sample ID: QC Std 4

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Bank Z...

Method 6020 - Summary Report

Sample ID: QC Std 5

Sample Date/Time: Wednesday, October 12, 2016 14:38:03

Number of Replicates: 3

Autosampler Position: 204

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	67354.4	1.0				ug/L	72553	Standard
|	Be	9	85772.1	1.7	102.1522	1.365	1.3	ug/L	10	Standard
|	Al	27	4980548.7	3.1	53.0356	1.355	2.6	ug/L	232	Standard
|	Sc	45	22461.6	2.4				ug/L	23513	Standard
|	Ti	47	18356.1	1.1	109.8291	1.906	1.7	ug/L	36	Standard
|	V	51	603736.7	1.8	101.5574	2.521	2.5	ug/L	1387	Standard
|	Cr	52	576638.6	1.8	101.9339	2.599	2.5	ug/L	7813	Standard
|	Cr	53	74573.1	1.6	101.9054	1.376	1.3	ug/L	1410	Standard
|	Mn	55	950231.2	1.0	99.8449	1.692	1.7	ug/L	1043	Standard
|	Co	59	837978.5	0.8	99.2233	1.470	1.5	ug/L	198	Standard
|	Ni	60	184578.1	2.1	100.1685	2.824	2.8	ug/L	64	Standard
|	Cu	65	190615.6	2.2	100.3892	2.929	2.9	ug/L	122	Standard
|	Zn	66	104294.8	1.4	102.4561	2.147	2.1	ug/L	209	Standard
>	Ge	72	589286.7	0.7				ug/L	618040	Standard
|	As	75	109166.9	1.4	101.5899	2.135	2.1	ug/L	11	Standard
|	Se	82	10198.8	0.6	101.2598	1.292	1.3	ug/L	21	Standard
|	Se-1	77	6987.3	1.3	103.9808	1.848	1.8	ug/L	86	Standard
>	Ga	71	105.0	21.8				mg/L	13	Standard
|	Rb	85	825.0	4.8				ug/L	18	Standard
|	Y	89	447453.2	1.1				ug/L	463757	Standard
>	Rh	103	58.3	21.6				ug/L	12	Standard
|	Mo	98	385911.8	0.1	100.4760	1.330	1.3	ug/L	29	Standard
|	Ag	107	611292.3	1.5	88.8037	2.402	2.7	ug/L	101	Standard
|	Cd	111	223599.3	0.5	101.4765	1.221	1.2	mg/L	9	Standard
|	Cd	114	563697.7	1.7	97.8576	2.372	2.4	ug/L	47	Standard
>	In	115	796298.6	1.2				ug/L	765457	Standard
|	Sn	118	271.0	10.6	0.0637	0.020	31.9	ug/L	168	Standard
|	Sb	123	608660.5	1.5	102.5608	2.586	2.5	ug/L	332	Standard
|	Ba	135	266890.0	1.4	96.6407	1.787	1.8	ug/L	37	Standard
|	Ce	140	163.3	20.8				ug/L	895	Standard
>	Tb	159	1449038.0	2.3				ug/L	1511047	Standard
|	Ho	165	8.3	124.9				ug/L	22	Standard
|	Tl	203	1085828.5	0.1	100.6820	1.133	1.1	ug/L	14	Standard
|	Tl	205	2510643.6	1.6	100.9342	1.442	1.4	ug/L	27	Standard
|	Pb	206	837952.7	0.7	102.5825	0.951	0.9	ug/L	557	Standard
|	Pb	207	715701.6	0.7	99.4545	1.364	1.4	ug/L	432	Standard
|	Pb	208	3286949.2	1.1	100.8186	0.560	0.6	ug/L	2118	Standard
	U	238	2987155.4	1.7	101.1080	0.871	0.9	ug/L	78	Standard
>	Bi	209	752291.1	1.1				ug/L	791817	Standard

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Brank Z...

Na	23	51.7	24.4	15.0265	3.712	24.7	mg/L	5	Standard
Mg	24	6221.3	3.8	12.6908	0.272	2.1	mg/L	48	Standard
K	39	325.0	18.1	4.9834	0.870	17.5	mg/L	3	Standard
Ca	43	93.3	6.2	16.7357	2.411	14.4	mg/L	62	Standard
Fe	54	12563.4	1.9	12.8304	0.455	3.5	mg/L	139	Standard
Fe	57	3765.5	6.5	13.3604	0.805	6.0	mg/L	83	Standard
Sc-1	45	22461.6	2.4				mg/L	23513	Standard
Cl	35	1.3	86.6				ug/L	3	Standard
Kr	83	2.3	65.5				ug/L	2	Standard
Br	81	1063.4	17.4				ug/L	910	Standard
P	31	61.7	26.1				ug/L	85	Standard
S	34	36.7	34.3				ug/L	48	Standard
Sr	88	75.0	29.1				ug/L	72	Standard
C	12	570.0	28.2				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	13.3	114.6				mg/L	7	Standard
Dy	164	18.4	97.2				mg/L	22	Standard
Ho-1	165	8.3	124.9				mg/L	22	Standard
Er	166	33.3	45.8				mg/L	23	Standard
I	127	3875.5	6.7				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	102.152		
Al	27	1.061		
Sc	45			
Ti	47	109.829		
V	51	101.557		
Cr	52	101.934		
Cr	53			
Mn	55	99.845		
Co	59	99.223		
Ni	60	100.169		
Cu	65	100.389		
Zn	66	102.456		
Ge	72		95.348	
As	75	101.590		
Se	82	101.260		
Se-1	77			
Ga	71			

Sample ID: QC Std 5

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Brink Z...

[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	100.476	
[Ag	107	88.804	
[Cd	111	101.477	
[Cd	114		
>	In	115		104.029
[	Sn	118		
[	Sb	123	102.561	
[	Ba	135	96.641	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	100.682	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	100.819	
[	U	238	101.108	
>	Bi	209		95.008
[	Na	23	120.212	
[	Mg	24	253.816	
[	K	39	99.667	
[	Ca	43	111.571	
[	Fe	54	102.643	
[	Fe	57	106.883	
>	Sc-1	45		
[	Cl	35		
[	Kr	83		
[	Br	81		
[	P	31		
[	S	34		
[	Sr	88		
[	C	12		
[	N	14		
[	Hg	202		
[	Dy	164		
[	Ho-1	165		
[	Er	166		
[	I	127		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 5	Al	27	
QC Std 5	Na	23	
QC Std 5	Mg	24	

Sample ID: QC Std 5

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Brink Z...

Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Wednesday, October 12, 2016 14:41:03

Number of Replicates: 3

Autosampler Position: 101

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	68605.0	1.2				ug/L	72553	Standard
|	Be	9	42972.5	0.9	50.2399	0.353	0.7	ug/L	10	Standard
|	Al	27	4545586.9	0.6	47.5266	0.326	0.7	ug/L	232	Standard
|	Sc	45	22713.7	1.6				ug/L	23513	Standard
|	Ti	47	16515.3	1.5	98.9581	1.105	1.1	ug/L	36	Standard
|	V	51	298977.0	1.1	50.2712	0.403	0.8	ug/L	1387	Standard
|	Cr	52	288992.1	0.7	50.5354	0.190	0.4	ug/L	7813	Standard
|	Cr	53	37912.4	2.2	50.9830	0.961	1.9	ug/L	1410	Standard
|	Mn	55	474660.8	1.8	49.8805	0.699	1.4	ug/L	1043	Standard
|	Co	59	423244.4	1.4	50.1935	0.795	1.6	ug/L	198	Standard
|	Ni	60	92992.9	1.4	50.5332	0.943	1.9	ug/L	64	Standard
|	Cu	65	96103.2	1.1	50.6470	0.723	1.4	ug/L	122	Standard
|	Zn	66	50496.3	0.1	49.2701	0.222	0.5	ug/L	209	Standard
>	Ge	72	588237.5	0.4				ug/L	618040	Standard
|	As	75	53468.9	1.1	49.8630	0.572	1.1	ug/L	11	Standard
|	Se	82	5087.7	0.4	50.5344	0.316	0.6	ug/L	21	Standard
|	Se-1	77	3479.4	1.2	51.1959	0.392	0.8	ug/L	86	Standard
>	Ga	71	31.7	18.2				mg/L	13	Standard
|	Rb	85	758.4	14.6				ug/L	18	Standard
|	Y	89	433346.7	2.3				ug/L	463757	Standard
>	Rh	103	40.0	45.1				ug/L	12	Standard
|	Mo	98	369039.2	0.5	96.5870	1.279	1.3	ug/L	29	Standard
|	Ag	107	334936.6	1.2	48.8954	0.183	0.4	ug/L	101	Standard
|	Cd	111	112049.3	0.9	51.1131	0.138	0.3	mg/L	9	Standard
|	Cd	114	294049.8	2.3	51.3076	1.017	2.0	ug/L	47	Standard
>	In	115	792113.3	0.8				ug/L	765457	Standard
|	Sn	118	64438.1	1.0	50.7387	0.242	0.5	ug/L	168	Standard
|	Sb	123	314677.1	2.3	53.2926	0.866	1.6	ug/L	332	Standard
|	Ba	135	135962.4	1.5	49.4736	0.374	0.8	ug/L	37	Standard
|	Ce	140	151.7	33.0				ug/L	895	Standard
>	Tb	159	1465627.8	1.6				ug/L	1511047	Standard
|	Ho	165	13.3	21.7				ug/L	22	Standard
|	Tl	203	550864.9	1.1	50.5593	0.181	0.4	ug/L	14	Standard
|	Tl	205	1281424.7	0.4	51.0007	0.809	1.6	ug/L	27	Standard
|	Pb	206	411869.2	1.3	49.8718	0.537	1.1	ug/L	557	Standard
|	Pb	207	360069.0	0.6	49.4942	0.614	1.2	ug/L	432	Standard
|	Pb	208	1640720.7	1.0	49.7796	0.231	0.5	ug/L	2118	Standard
	U	238	1513677.3	1.9	50.7159	0.271	0.5	ug/L	78	Standard
>	Bi	209	759972.1	1.4				ug/L	791817	Standard

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Brink Z...

Na	23	20.0	25.0	5.4652	1.412	25.8	mg/L	5	Standard
Mg	24	2438.5	6.6	4.8698	0.296	6.1	mg/L	48	Standard
K	39	281.7	13.8	4.2740	0.656	15.3	mg/L	3	Standard
Ca	43	83.3	21.1	12.6387	7.062	55.9	mg/L	62	Standard
Fe	54	5070.6	4.0	5.0462	0.128	2.5	mg/L	139	Standard
Fe	57	1483.4	9.5	4.9214	0.424	8.6	mg/L	83	Standard
Sc-1	45	22713.7	1.6				mg/L	23513	Standard
Cl	35	3.3	34.6				ug/L	3	Standard
Kr	83	3.7	15.7				ug/L	2	Standard
Br	81	856.7	8.4				ug/L	910	Standard
P	31	45.0	29.4				ug/L	85	Standard
S	34	25.0	34.6				ug/L	48	Standard
Sr	88	80.0	27.2				ug/L	72	Standard
C	12	303.3	16.6				mg/L	227	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	0.0					mg/L	7	Standard
Dy	164	12.5	96.5				mg/L	22	Standard
Ho-1	165	13.3	21.7				mg/L	22	Standard
Er	166	16.7	69.3				mg/L	23	Standard
I	127	3760.5	3.6				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	100.480		
Al	27	95.053		
Sc	45			
Ti	47	98.958		
V	51	100.542		
Cr	52	101.071		
Cr	53			
Mn	55	99.761		
Co	59	100.387		
Ni	60	101.066		
Cu	65	101.294		
Zn	66	98.540		
Ge	72		95.178	
As	75	99.726		
Se	82	101.069		
Se-1	77			
Ga	71			

Sample ID: QC Std 6

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Brink Z...

[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	96.587	
[Ag	107	97.791	
[Cd	111	102.226	
[Cd	114		
>	In	115		103.482
[	Sn	118	101.477	
[	Sb	123	106.585	
[	Ba	135	98.947	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	101.119	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	99.559	
[	U	238	101.432	
>	Bi	209		95.978
[	Na	23		
[	Mg	24		
[	K	39		
[	Ca	43		
[	Fe	54		
[	Fe	57		
>	Sc-1	45		
[	Cl	35		
[	Kr	83		
[	Br	81		
[	P	31		
[	S	34		
[	Sr	88		
[	C	12		
[	N	14		
[	Hg	202		
[	Dy	164		
[	Ho-1	165		
[	Er	166		
[I	127		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 6

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Bank Z...

Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Wednesday, October 12, 2016 14:44:03

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	70200.6	1.9				ug/L	72553	Standard
|	Be	9	10.0	86.6	-0.0055	0.010	175.0	ug/L	10	Standard
|	Al	27	283.3	4.1	-0.0006	0.000	14.2	ug/L	232	Standard
|	Sc	45	22735.4	4.6				ug/L	23513	Standard
|	Ti	47	35.0	11.4	-0.0270	0.030	111.8	ug/L	36	Standard
|	V	51	844.4	18.3	-0.0653	0.025	38.3	ug/L	1387	Standard
|	Cr	52	6069.2	0.9	-0.1938	0.036	18.6	ug/L	7813	Standard
|	Cr	53	1495.1	7.3	0.2023	0.096	47.3	ug/L	1410	Standard
|	Mn	55	877.4	4.0	-0.0629	0.006	10.1	ug/L	1043	Standard
|	Co	59	137.3	4.2	-0.0024	0.000	16.0	ug/L	198	Standard
|	Ni	60	45.0	15.6	-0.0137	0.005	33.2	ug/L	64	Standard
|	Cu	65	129.0	4.1	-0.0364	0.004	12.1	ug/L	122	Standard
|	Zn	66	186.0	6.1	-0.6325	0.007	1.1	ug/L	209	Standard
>	Ge	72	592296.5	3.0				ug/L	618040	Standard
|	As	75	-10.6	358.6	0.0310	0.035	111.8	ug/L	11	Standard
|	Se	82	20.1	8.7	0.0636	0.012	19.2	ug/L	21	Standard
|	Se-1	77	95.7	6.1	0.0993	0.128	128.6	ug/L	86	Standard
>	Ga	71	25.0	34.6				mg/L	13	Standard
|	Rb	85	21.7	35.3				ug/L	18	Standard
|	Y	89	444152.5	4.0				ug/L	463757	Standard
>	Rh	103	13.3	43.3				ug/L	12	Standard
|	Mo	98	357.6	32.4	0.0876	0.031	35.8	ug/L	29	Standard
|	Ag	107	103.7	7.3	0.0001	0.001	2470.2	ug/L	101	Standard
|	Cd	111	6.5	32.9	-0.0017	0.001	55.7	mg/L	9	Standard
|	Cd	114	37.4	18.8	0.0062	0.001	21.2	ug/L	47	Standard
>	In	115	799039.3	1.4				ug/L	765457	Standard
|	Sn	118	159.0	16.6	-0.0244	0.022	90.9	ug/L	168	Standard
|	Sb	123	1390.4	53.7	0.2381	0.129	54.0	ug/L	332	Standard
|	Ba	135	23.0	13.0	-0.0162	0.001	6.4	ug/L	37	Standard
|	Ce	140	70.0	21.4				ug/L	895	Standard
>	Tb	159	1477996.1	3.5				ug/L	1511047	Standard
|	Ho	165	20.0	25.0				ug/L	22	Standard
|	Tl	203	38.7	32.7	0.0033	0.001	36.3	ug/L	14	Standard
|	Tl	205	91.7	42.4	0.0006	0.002	264.8	ug/L	27	Standard
|	Pb	206	533.3	4.8	-0.0143	0.003	20.1	ug/L	557	Standard
|	Pb	207	437.0	1.8	-0.0142	0.001	7.1	ug/L	432	Standard
|	Pb	208	2071.7	2.2	-0.0145	0.001	6.7	ug/L	2118	Standard
	U	238	67.0	32.3	0.0024	0.001	30.5	ug/L	78	Standard
>	Bi	209	783289.3	2.4				ug/L	791817	Standard

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Brank Z...

Na	23	3.3	86.6	0.5564	0.878	157.9	mg/L	5	Standard
Mg	24	38.3	37.7	-0.0034	0.025	742.9	mg/L	48	Standard
K	39	8.3	91.7	0.0877	0.119	135.7	mg/L	3	Standard
Ca	43	36.7	7.9	-5.0053	0.475	9.5	mg/L	62	Standard
Fe	54	129.6	13.4	0.0132	0.012	87.6	mg/L	139	Standard
Fe	57	98.3	28.0	-0.1044	0.082	78.9	mg/L	83	Standard
Sc-1	45	22735.4	4.6				mg/L	23513	Standard
Cl	35	2.7	114.6				ug/L	3	Standard
Kr	83	2.3	49.5				ug/L	2	Standard
Br	81	983.4	4.1				ug/L	910	Standard
P	31	78.3	25.8				ug/L	85	Standard
S	34	38.3	60.2				ug/L	48	Standard
Sr	88	73.3	61.9				ug/L	72	Standard
C	12	233.3	6.5				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	7	Standard
Dy	164	35.7	86.0				mg/L	22	Standard
Ho-1	165	20.0	25.0				mg/L	22	Standard
Er	166	20.0	50.0				mg/L	23	Standard
I	127	4225.6	4.1				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		95.835	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	104.387
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	98.923
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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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Bank Z...

Method 6020 - Summary Report

Sample ID: PBW 74 WG586277-02

Sample Date/Time: Wednesday, October 12, 2016 14:47:03

Number of Replicates: 3

Autosampler Position: 301

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	68290.3	2.9				ug/L	72553	Standard
|	Be	9	13.3	57.3	-0.0010	0.009	947.5	ug/L	10	Standard
|	Al	27	16786.0	1.3	0.1728	0.003	1.7	ug/L	232	Standard
|	Sc	45	22284.7	3.2				ug/L	23513	Standard
|	Ti	47	35.0	19.8	-0.0285	0.043	150.8	ug/L	36	Standard
|	V	51	948.4	13.9	-0.0487	0.022	44.7	ug/L	1387	Standard
|	Cr	52	11222.2	2.2	0.7128	0.047	6.6	ug/L	7813	Standard
|	Cr	53	2115.1	5.5	1.0473	0.158	15.1	ug/L	1410	Standard
|	Mn	55	1607.1	1.7	0.0125	0.001	10.3	ug/L	1043	Standard
|	Co	59	203.0	12.2	0.0052	0.003	51.9	ug/L	198	Standard
|	Ni	60	353.0	7.4	0.1517	0.015	10.2	ug/L	64	Standard
|	Cu	65	175.7	1.3	-0.0124	0.001	11.2	ug/L	122	Standard
|	Zn	66	1278.7	3.0	0.4376	0.043	9.8	ug/L	209	Standard
>	Ge	72	595364.2	1.0				ug/L	618040	Standard
|	As	75	-40.0	39.3	0.0041	0.015	359.0	ug/L	11	Standard
|	Se	82	18.4	6.4	0.0463	0.012	26.7	ug/L	21	Standard
|	Se-1	77	105.7	2.4	0.2390	0.053	22.3	ug/L	86	Standard
>	Ga	71	43.3	17.6				mg/L	13	Standard
|	Rb	85	70.0	12.4				ug/L	18	Standard
|	Y	89	442511.4	1.4				ug/L	463757	Standard
>	Rh	103	15.0	33.3				ug/L	12	Standard
|	Mo	98	161.1	37.9	0.0372	0.016	43.9	ug/L	29	Standard
|	Ag	107	114.7	5.5	0.0020	0.001	46.8	ug/L	101	Standard
|	Cd	111	9.1	33.0	-0.0004	0.001	337.8	mg/L	9	Standard
|	Cd	114	63.2	32.4	0.0109	0.004	33.8	ug/L	47	Standard
>	In	115	782888.4	0.5				ug/L	765457	Standard
|	Sn	118	127.7	12.1	-0.0471	0.013	26.7	ug/L	168	Standard
|	Sb	123	609.6	47.5	0.1081	0.050	46.3	ug/L	332	Standard
|	Ba	135	104.7	15.8	0.0140	0.006	42.2	ug/L	37	Standard
|	Ce	140	90.0	24.2				ug/L	895	Standard
>	Tb	159	1475250.4	1.2				ug/L	1511047	Standard
|	Ho	165	18.3	41.7				ug/L	22	Standard
|	Tl	203	38.7	24.9	0.0033	0.001	26.6	ug/L	14	Standard
|	Tl	205	100.0	30.0	0.0010	0.001	123.9	ug/L	27	Standard
|	Pb	206	634.7	2.8	-0.0010	0.001	125.0	ug/L	557	Standard
|	Pb	207	525.0	2.0	-0.0012	0.002	164.5	ug/L	432	Standard
|	Pb	208	2438.1	2.9	-0.0024	0.001	56.4	ug/L	2118	Standard
	U	238	76.7	24.5	0.0028	0.001	22.7	ug/L	78	Standard
>	Bi	209	769542.8	1.0				ug/L	791817	Standard

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Na	23	1.7	173.2	0.0317	0.848	2677.3	mg/L	5	Standard
Mg	24	56.7	25.5	0.0370	0.031	82.6	mg/L	48	Standard
K	39	11.7	49.5	0.1408	0.094	66.4	mg/L	3	Standard
Ca	43	43.3	46.6	-2.2342	7.345	328.8	mg/L	62	Standard
Fe	54	112.2	17.0	-0.0014	0.024	1658.5	mg/L	139	Standard
Fe	57	125.0	12.0	0.0053	0.070	1334.5	mg/L	83	Standard
Sc-1	45	22284.7	3.2				mg/L	23513	Standard
Cl	35	2.7	86.6				ug/L	3	Standard
Kr	83	4.3	26.6				ug/L	2	Standard
Br	81	940.0	8.4				ug/L	910	Standard
P	31	71.7	35.8				ug/L	85	Standard
S	34	45.0	40.1				ug/L	48	Standard
Sr	88	63.3	27.7				ug/L	72	Standard
C	12	333.3	15.1				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	10.0					mg/L	7	Standard
Dy	164	28.6	65.0				mg/L	22	Standard
Ho-1	165	18.3	41.7				mg/L	22	Standard
Er	166	30.0	88.2				mg/L	23	Standard
I	127	4038.9	2.7				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		94.124	
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		96.331	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: PBW 74 WG586277-02

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	102.277
[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	97.187
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: PBW 74 WG586277-02

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Bank Z...

Method 6020 - Summary Report

Sample ID: LCSW 74 WG586277-03

Sample Date/Time: Wednesday, October 12, 2016 15:09:56

Number of Replicates: 3

Autosampler Position: 302

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	68509.6	3.3				ug/L	72553	Standard
|	Be	9	43679.5	1.2	51.1799	2.076	4.1	ug/L	10	Standard
|	Al	27	17525.1	2.6	0.1800	0.004	2.3	ug/L	232	Standard
|	Sc	45	22950.7	2.3				ug/L	23513	Standard
|	Ti	47	48.7	5.2	0.0461	0.012	26.4	ug/L	36	Standard
|	V	51	314765.1	0.5	51.1783	0.834	1.6	ug/L	1387	Standard
|	Cr	52	311847.9	0.5	52.7887	1.311	2.5	ug/L	7813	Standard
|	Cr	53	40375.4	2.2	52.5644	1.888	3.6	ug/L	1410	Standard
|	Mn	55	495253.5	0.6	50.3308	1.254	2.5	ug/L	1043	Standard
|	Co	59	439287.6	0.5	50.3697	0.735	1.5	ug/L	198	Standard
|	Ni	60	98104.7	2.7	51.5299	0.584	1.1	ug/L	64	Standard
|	Cu	65	101295.5	1.0	51.6128	0.552	1.1	ug/L	122	Standard
|	Zn	66	54129.5	1.0	51.0934	0.691	1.4	ug/L	209	Standard
>	Ge	72	608499.0	1.9				ug/L	618040	Standard
|	As	75	53877.8	0.5	48.5812	0.707	1.5	ug/L	11	Standard
|	Se	82	5172.6	0.9	49.6789	1.250	2.5	ug/L	21	Standard
|	Se-1	77	3540.1	2.6	50.3305	0.573	1.1	ug/L	86	Standard
>	Ga	71	36.7	43.8				mg/L	13	Standard
|	Rb	85	56.7	31.0				ug/L	18	Standard
|	Y	89	453316.1	1.8				ug/L	463757	Standard
>	Rh	103	30.0	33.3				ug/L	12	Standard
|	Mo	98	183.7	33.0	0.0440	0.016	36.4	ug/L	29	Standard
|	Ag	107	330846.2	1.2	49.8821	0.788	1.6	ug/L	101	Standard
|	Cd	111	109572.6	1.5	51.6174	0.492	1.0	mg/L	9	Standard
|	Cd	114	278412.4	2.5	50.1647	0.827	1.6	ug/L	47	Standard
>	In	115	767033.7	1.0				ug/L	765457	Standard
|	Sn	118	187.7	13.9	0.0039	0.020	525.3	ug/L	168	Standard
|	Sb	123	293636.1	1.3	51.3635	0.977	1.9	ug/L	332	Standard
|	Ba	135	137180.2	0.8	51.5557	0.721	1.4	ug/L	37	Standard
|	Ce	140	143.3	28.2				ug/L	895	Standard
>	Tb	159	1477068.4	0.5				ug/L	1511047	Standard
|	Ho	165	8.3	34.6				ug/L	22	Standard
|	Tl	203	561084.5	0.8	50.2262	0.262	0.5	ug/L	14	Standard
|	Tl	205	1304465.9	0.9	50.6367	1.021	2.0	ug/L	27	Standard
|	Pb	206	432816.5	0.9	51.1180	0.666	1.3	ug/L	557	Standard
|	Pb	207	366042.5	0.5	49.0732	0.741	1.5	ug/L	432	Standard
|	Pb	208	1695221.2	0.3	50.1660	0.515	1.0	ug/L	2118	Standard
	U	238	1520496.2	0.6	49.6918	0.326	0.7	ug/L	78	Standard
>	Bi	209	779199.5	1.1				ug/L	791817	Standard

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Brink Z...

Na	23	0.0		-0.4577	0.000	0.0	mg/L	5	Standard
Mg	24	35.0	24.7	-0.0102	0.016	160.7	mg/L	48	Standard
K	39	3.3	86.6	0.0070	0.043	613.7	mg/L	3	Standard
Ca	43	61.7	12.4	4.1530	2.431	58.5	mg/L	62	Standard
Fe	54	120.1	4.9	0.0027	0.003	129.4	mg/L	139	Standard
Fe	57	138.3	5.5	0.0385	0.031	79.6	mg/L	83	Standard
Sc-1	45	22950.7	2.3				mg/L	23513	Standard
Cl	35	2.0	100.0				ug/L	3	Standard
Kr	83	4.3	35.3				ug/L	2	Standard
Br	81	1080.0	8.1				ug/L	910	Standard
P	31	58.3	26.2				ug/L	85	Standard
S	34	23.3	12.4				ug/L	48	Standard
Sr	88	75.0	37.1				ug/L	72	Standard
C	12	313.3	32.0				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	20.0	50.0				mg/L	7	Standard
Dy	164	11.4	58.0				mg/L	22	Standard
Ho-1	165	8.3	34.6				mg/L	22	Standard
Er	166	40.0	50.0				mg/L	23	Standard
I	127	4659.1	7.6				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		94.427	
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		98.456	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: LCSW 74 WG586277-03

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	100.206
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	98.407
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: LCSW 74 WG586277-03

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610014802 WG586277-01

Sample Date/Time: Wednesday, October 12, 2016 15:12:55

Number of Replicates: 3

Autosampler Position: 303

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	68802.7	4.3				ug/L	72553	Standard
|	Be	9	11.7	49.5	-0.0032	0.007	208.0	ug/L	10	Standard
|	Al	27	3579092.3	1.1	37.3556	1.603	4.3	ug/L	232	Standard
|	Sc	45	23207.8	2.9				ug/L	23513	Standard
|	Ti	47	138.3	8.1	0.5877	0.062	10.5	ug/L	36	Standard
|	V	51	1931.6	14.6	0.1165	0.045	38.5	ug/L	1387	Standard
|	Cr	52	11769.2	1.4	0.8182	0.013	1.6	ug/L	7813	Standard
|	Cr	53	2523.5	5.2	1.6234	0.154	9.5	ug/L	1410	Standard
|	Mn	55	712015.2	1.4	74.3181	1.423	1.9	ug/L	1043	Standard
|	Co	59	1150.4	1.9	0.1168	0.004	3.1	ug/L	198	Standard
|	Ni	60	1089.4	2.0	0.5497	0.008	1.5	ug/L	64	Standard
|	Cu	65	876.0	1.1	0.3549	0.002	0.5	ug/L	122	Standard
|	Zn	66	3228.3	1.5	2.3615	0.071	3.0	ug/L	209	Standard
>	Ge	72	592907.0	0.8				ug/L	618040	Standard
|	As	75	2329.9	1.3	2.1952	0.046	2.1	ug/L	11	Standard
|	Se	82	80.6	1.6	0.6611	0.013	2.0	ug/L	21	Standard
|	Se-1	77	187.3	7.8	1.4696	0.236	16.0	ug/L	86	Standard
>	Ga	71	38.3	65.7				mg/L	13	Standard
|	Rb	85	30515.7	1.3				ug/L	18	Standard
|	Y	89	439003.2	2.5				ug/L	463757	Standard
>	Rh	103	40.0	45.1				ug/L	12	Standard
|	Mo	98	2947.0	1.3	0.7912	0.031	4.0	ug/L	29	Standard
|	Ag	107	131.0	6.2	0.0048	0.002	34.6	ug/L	101	Standard
|	Cd	111	37.5	5.4	0.0131	0.001	10.8	mg/L	9	Standard
|	Cd	114	118.9	17.3	0.0211	0.003	15.8	ug/L	47	Standard
>	In	115	767441.2	2.7				ug/L	765457	Standard
|	Sn	118	164.3	6.0	-0.0151	0.007	49.1	ug/L	168	Standard
|	Sb	123	2506.2	41.3	0.4417	0.184	41.6	ug/L	332	Standard
|	Ba	135	133195.7	1.5	50.0456	1.263	2.5	ug/L	37	Standard
|	Ce	140	2193.5	1.4				ug/L	895	Standard
>	Tb	159	1475551.3	1.9				ug/L	1511047	Standard
|	Ho	165	63.3	19.9				ug/L	22	Standard
|	Tl	203	206.0	5.6	0.0191	0.001	5.0	ug/L	14	Standard
|	Tl	205	478.3	11.3	0.0164	0.002	13.1	ug/L	27	Standard
|	Pb	206	2338.2	1.7	0.2113	0.006	2.9	ug/L	557	Standard
|	Pb	207	1927.5	1.6	0.1972	0.006	3.1	ug/L	432	Standard
|	Pb	208	9028.4	0.7	0.2035	0.004	1.9	ug/L	2118	Standard
	U	238	3778.1	2.6	0.1290	0.003	2.2	ug/L	78	Standard
>	Bi	209	747317.3	0.7				ug/L	791817	Standard

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Brink Z...

Na	23	71.7	17.6	20.4256	4.230	20.7	mg/L	5	Standard
Mg	24	19327.3	3.5	38.3469	1.749	4.6	mg/L	48	Standard
K	39	138.3	40.6	2.0181	0.785	38.9	mg/L	3	Standard
Ca	43	123.3	28.8	26.4072	11.889	45.0	mg/L	62	Standard
Fe	54	3841.2	3.2	3.7133	0.155	4.2	mg/L	139	Standard
Fe	57	1281.7	3.7	4.0949	0.130	3.2	mg/L	83	Standard
Sc-1	45	23207.8	2.9				mg/L	23513	Standard
Cl	35	1.3	173.2				ug/L	3	Standard
Kr	83	3.3	17.3				ug/L	2	Standard
Br	81	8188.9	7.2				ug/L	910	Standard
P	31	91.7	22.7				ug/L	85	Standard
S	34	31.7	32.9				ug/L	48	Standard
Sr	88	115.0	15.7				ug/L	72	Standard
C	12	396.7	11.9				mg/L	227	Standard
N	14	16.7	34.6				mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	7	Standard
Dy	164	65.1	18.0				mg/L	22	Standard
Ho-1	165	63.3	19.9				mg/L	22	Standard
Er	166	33.3	17.3				mg/L	23	Standard
I	127	97090.0	12.6				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		94.831	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		95.933	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	100.259
[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	94.380
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1610014802 WG586277-01

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610014802S WG586277-04

Sample Date/Time: Wednesday, October 12, 2016 15:15:54

Number of Replicates: 3

Autosampler Position: 304

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	66388.5	1.2				ug/L	72553	Standard
|	Be	9	43128.0	3.5	52.1194	2.318	4.4	ug/L	10	Standard
|	Al	27	3762007.4	1.1	40.6458	0.324	0.8	ug/L	232	Standard
|	Sc	45	22573.5	0.8				ug/L	23513	Standard
|	Ti	47	130.0	9.4	0.5417	0.082	15.1	ug/L	36	Standard
|	V	51	304870.6	1.1	51.0533	1.407	2.8	ug/L	1387	Standard
|	Cr	52	295521.2	0.6	51.4839	1.195	2.3	ug/L	7813	Standard
|	Cr	53	39431.3	1.9	52.8830	2.106	4.0	ug/L	1410	Standard
|	Mn	55	1204298.0	0.8	126.2591	2.536	2.0	ug/L	1043	Standard
|	Co	59	417258.0	0.8	49.2765	1.300	2.6	ug/L	198	Standard
|	Ni	60	94261.3	1.3	50.9973	0.700	1.4	ug/L	64	Standard
|	Cu	65	96989.1	0.6	50.8937	0.840	1.7	ug/L	122	Standard
|	Zn	66	55561.0	1.1	54.0605	1.269	2.3	ug/L	209	Standard
>	Ge	72	590884.0	1.9				ug/L	618040	Standard
|	As	75	58413.9	1.0	54.2361	0.873	1.6	ug/L	11	Standard
|	Se	82	5169.7	1.2	51.1243	0.419	0.8	ug/L	21	Standard
|	Se-1	77	3603.1	2.7	52.8201	0.916	1.7	ug/L	86	Standard
>	Ga	71	66.7	28.4				mg/L	13	Standard
|	Rb	85	31023.4	1.4				ug/L	18	Standard
|	Y	89	446782.8	4.3				ug/L	463757	Standard
>	Rh	103	61.7	20.4				ug/L	12	Standard
|	Mo	98	3077.8	1.7	0.8310	0.019	2.3	ug/L	29	Standard
|	Ag	107	310197.0	1.0	47.0263	0.774	1.6	ug/L	101	Standard
|	Cd	111	110122.5	1.4	52.1658	0.906	1.7	mg/L	9	Standard
|	Cd	114	274685.1	1.1	49.7693	0.222	0.4	ug/L	47	Standard
>	In	115	762824.6	0.7				ug/L	765457	Standard
|	Sn	118	165.7	13.3	-0.0133	0.017	128.9	ug/L	168	Standard
|	Sb	123	309970.5	0.4	54.5152	0.188	0.3	ug/L	332	Standard
|	Ba	135	272658.1	0.5	103.0571	0.960	0.9	ug/L	37	Standard
|	Ce	140	2463.5	6.1				ug/L	895	Standard
>	Tb	159	1470708.8	0.5				ug/L	1511047	Standard
|	Ho	165	46.7	16.4				ug/L	22	Standard
|	Tl	203	540706.1	1.2	50.9818	0.600	1.2	ug/L	14	Standard
|	Tl	205	1250131.1	1.8	51.1077	0.859	1.7	ug/L	27	Standard
|	Pb	206	417658.1	1.6	51.9557	0.780	1.5	ug/L	557	Standard
|	Pb	207	353584.3	2.1	49.9263	1.012	2.0	ug/L	432	Standard
|	Pb	208	1631086.1	1.7	50.8392	0.814	1.6	ug/L	2118	Standard
	U	238	1488573.0	1.3	51.2404	0.600	1.2	ug/L	78	Standard
>	Bi	209	739749.2	0.1				ug/L	791817	Standard

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Brink Z...

Na	23	50.0	10.0	14.4692	1.536	10.6	mg/L	5	Standard
Mg	24	20153.4	2.5	41.0883	0.737	1.8	mg/L	48	Standard
K	39	175.0	17.8	2.6545	0.499	18.8	mg/L	3	Standard
Ca	43	108.3	14.1	22.2065	5.658	25.5	mg/L	62	Standard
Fe	54	3977.2	2.0	3.9591	0.112	2.8	mg/L	139	Standard
Fe	57	1265.1	8.3	4.1599	0.349	8.4	mg/L	83	Standard
Sc-1	45	22573.5	0.8				mg/L	23513	Standard
Cl	35	3.3	124.9				ug/L	3	Standard
Kr	83	3.0	57.7				ug/L	2	Standard
Br	81	9369.6	9.0				ug/L	910	Standard
P	31	81.7	27.6				ug/L	85	Standard
S	34	40.0	43.3				ug/L	48	Standard
Sr	88	151.7	5.0				ug/L	72	Standard
C	12	446.7	14.4				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	13.3	43.3				mg/L	7	Standard
Dy	164	60.9	24.4				mg/L	22	Standard
Ho-1	165	46.7	16.4				mg/L	22	Standard
Er	166	50.0	60.0				mg/L	23	Standard
I	127	98167.7	6.0				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		91.503	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		95.606	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1610014802S WG586277-04

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	99.656
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	93.424
[	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
Mn 55 Upper, S, EEE	Mn	55	
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1610014802S WG586277-04

Report Date/Time: Wednesday, October 12, 2016 15:17:59

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610014802SD WG586277-05

Sample Date/Time: Wednesday, October 12, 2016 15:18:54

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: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	66577.6	1.4				ug/L	72553	Standard
|	Be	9	42257.2	1.2	50.9101	0.656	1.3	ug/L	10	Standard
|	Al	27	3743640.4	0.3	40.3371	0.645	1.6	ug/L	232	Standard
|	Sc	45	22832.2	1.9				ug/L	23513	Standard
|	Ti	47	146.3	14.0	0.6444	0.149	23.1	ug/L	36	Standard
|	V	51	301714.7	1.1	50.7033	1.956	3.9	ug/L	1387	Standard
|	Cr	52	292782.8	0.4	51.1764	1.613	3.2	ug/L	7813	Standard
|	Cr	53	37675.1	1.5	50.6342	2.469	4.9	ug/L	1410	Standard
|	Mn	55	1200690.4	1.4	126.3664	5.789	4.6	ug/L	1043	Standard
|	Co	59	419670.9	0.8	49.7316	1.582	3.2	ug/L	198	Standard
|	Ni	60	93403.7	1.0	50.7225	1.895	3.7	ug/L	64	Standard
|	Cu	65	95306.8	0.5	50.1850	1.437	2.9	ug/L	122	Standard
|	Zn	66	54446.3	0.1	53.1512	1.825	3.4	ug/L	209	Standard
>	Ge	72	589072.5	3.3				ug/L	618040	Standard
|	As	75	57871.7	0.8	53.9184	1.344	2.5	ug/L	11	Standard
|	Se	82	5122.3	0.9	50.8388	1.559	3.1	ug/L	21	Standard
|	Se-1	77	3547.4	1.0	52.1756	1.248	2.4	ug/L	86	Standard
>	Ga	71	50.0	26.5				mg/L	13	Standard
|	Rb	85	31656.4	0.6				ug/L	18	Standard
|	Y	89	437795.5	2.4				ug/L	463757	Standard
>	Rh	103	58.3	19.8				ug/L	12	Standard
|	Mo	98	3100.8	0.8	0.8339	0.012	1.5	ug/L	29	Standard
|	Ag	107	311421.3	0.8	47.0237	0.568	1.2	ug/L	101	Standard
|	Cd	111	110700.8	2.3	52.2244	0.736	1.4	mg/L	9	Standard
|	Cd	114	275333.3	1.3	49.6906	0.586	1.2	ug/L	47	Standard
>	In	115	765888.3	1.3				ug/L	765457	Standard
|	Sn	118	168.3	8.0	-0.0117	0.010	81.5	ug/L	168	Standard
|	Sb	123	311807.5	1.3	54.6197	0.501	0.9	ug/L	332	Standard
|	Ba	135	272582.7	1.4	102.6119	0.448	0.4	ug/L	37	Standard
|	Ce	140	2683.6	13.8				ug/L	895	Standard
>	Tb	159	1464858.2	0.9				ug/L	1511047	Standard
|	Ho	165	56.7	35.7				ug/L	22	Standard
|	Tl	203	538501.0	1.5	50.9489	1.232	2.4	ug/L	14	Standard
|	Tl	205	1230051.0	0.9	50.4629	1.240	2.5	ug/L	27	Standard
|	Pb	206	413007.9	0.9	51.5596	1.451	2.8	ug/L	557	Standard
|	Pb	207	347698.2	1.1	49.2701	1.462	3.0	ug/L	432	Standard
|	Pb	208	1613965.6	0.7	50.4814	1.224	2.4	ug/L	2118	Standard
	U	238	1493710.7	1.2	51.5912	0.914	1.8	ug/L	78	Standard
>	Bi	209	737388.8	1.9				ug/L	791817	Standard

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Na	23	63.3	12.1	18.2448	2.373	13.0	mg/L	5	Standard
Mg	24	19841.3	0.8	40.0072	1.007	2.5	mg/L	48	Standard
K	39	133.3	9.4	1.9856	0.162	8.1	mg/L	3	Standard
Ca	43	111.7	31.4	22.8718	12.589	55.0	mg/L	62	Standard
Fe	54	3849.6	6.6	3.7807	0.187	5.0	mg/L	139	Standard
Fe	57	1173.4	1.5	3.7799	0.141	3.7	mg/L	83	Standard
Sc-1	45	22832.2	1.9				mg/L	23513	Standard
Cl	35	2.0	100.0				ug/L	3	Standard
Kr	83	3.0	57.7				ug/L	2	Standard
Br	81	9092.7	3.4				ug/L	910	Standard
P	31	90.0	33.8				ug/L	85	Standard
S	34	43.3	17.6				ug/L	48	Standard
Sr	88	126.7	34.0				ug/L	72	Standard
C	12	423.3	17.7				mg/L	227	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	7	Standard
Dy	164	76.0	26.4				mg/L	22	Standard
Ho-1	165	56.7	35.7				mg/L	22	Standard
Er	166	83.3	27.7				mg/L	23	Standard
I	127	109633.0	10.3				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		91.764	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		95.313	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1610014802SD WG586277-05

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	100.056
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	93.126
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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	
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1610014802SD WG586277-05

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610009501

Sample Date/Time: Wednesday, October 12, 2016 15:21:55

Number of Replicates: 3

Autosampler Position: 306

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	68859.5	2.0				ug/L	72553	Standard
|	Be	9	18.3	63.0	0.0044	0.013	300.2	ug/L	10	Standard
|	Al	27	16969090.0	1.9	176.8120	4.796	2.7	ug/L	232	Standard
|	Sc	45	22810.5	4.6				ug/L	23513	Standard
|	Ti	47	325.7	2.6	1.7582	0.045	2.6	ug/L	36	Standard
|	V	51	425.5	67.9	-0.1336	0.049	36.8	ug/L	1387	Standard
|	Cr	52	16170.3	1.4	1.6822	0.105	6.2	ug/L	7813	Standard
|	Cr	53	7528.6	18.4	8.8505	2.051	23.2	ug/L	1410	Standard
|	Mn	55	150450.1	1.6	16.0260	0.663	4.1	ug/L	1043	Standard
|	Co	59	4146.2	3.7	0.4834	0.030	6.3	ug/L	198	Standard
|	Ni	60	2948.0	2.4	1.5975	0.074	4.7	ug/L	64	Standard
|	Cu	65	1077.0	3.2	0.4758	0.008	1.8	ug/L	122	Standard
|	Zn	66	4194.6	2.6	3.4296	0.215	6.3	ug/L	209	Standard
>	Ge	72	576949.5	2.4				ug/L	618040	Standard
|	As	75	652.3	14.1	0.6613	0.091	13.8	ug/L	11	Standard
|	Se	82	198.7	10.2	1.8861	0.241	12.8	ug/L	21	Standard
|	Se-1	77	583.3	7.6	7.6489	0.764	10.0	ug/L	86	Standard
>	Ga	71	60.0	22.0				mg/L	13	Standard
|	Rb	85	7870.4	3.5				ug/L	18	Standard
|	Y	89	427082.4	3.7				ug/L	463757	Standard
>	Rh	103	151.7	13.7				ug/L	12	Standard
|	Mo	98	457.9	7.6	0.1236	0.007	5.9	ug/L	29	Standard
|	Ag	107	151.7	22.0	0.0089	0.005	54.4	ug/L	101	Standard
|	Cd	111	51.1	33.6	0.0204	0.008	38.6	mg/L	9	Standard
|	Cd	114	135.7	46.3	0.0252	0.011	45.5	ug/L	47	Standard
>	In	115	734951.6	2.7				ug/L	765457	Standard
|	Sn	118	99.7	6.8	-0.0642	0.006	10.1	ug/L	168	Standard
|	Sb	123	699.0	26.8	0.1311	0.033	25.5	ug/L	332	Standard
|	Ba	135	371451.0	2.1	145.8324	6.375	4.4	ug/L	37	Standard
|	Ce	140	550.0	4.2				ug/L	895	Standard
>	Tb	159	1419542.0	4.6				ug/L	1511047	Standard
|	Ho	165	43.3	48.0				ug/L	22	Standard
|	Tl	203	194.0	11.8	0.0192	0.002	10.5	ug/L	14	Standard
|	Tl	205	491.7	7.4	0.0184	0.001	6.8	ug/L	27	Standard
|	Pb	206	660.7	8.4	0.0102	0.006	55.7	ug/L	557	Standard
|	Pb	207	546.3	5.3	0.0094	0.004	39.4	ug/L	432	Standard
|	Pb	208	2548.8	4.4	0.0089	0.002	25.8	ug/L	2118	Standard
	U	238	4289.9	1.4	0.1570	0.002	1.1	ug/L	78	Standard
>	Bi	209	697152.7	2.1				ug/L	791817	Standard

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Brink Z...

Na	23	63.3	39.7	18.1308	6.755	37.3	mg/L	5	Standard
Mg	24	88643.7	3.1	179.5295	13.216	7.4	mg/L	48	Standard
K	39	40.0	62.5	0.5613	0.359	64.0	mg/L	3	Standard
Ca	43	101.7	24.3	19.0875	7.453	39.0	mg/L	62	Standard
Fe	54	177.2	14.3	0.0611	0.021	34.3	mg/L	139	Standard
Fe	57	168.3	11.2	0.1522	0.093	61.1	mg/L	83	Standard
Sc-1	45	22810.5	4.6				mg/L	23513	Standard
Cl	35	5.3	94.4				ug/L	3	Standard
Kr	83	4.0	66.1				ug/L	2	Standard
Br	81	53353.8	3.2				ug/L	910	Standard
P	31	108.3	9.6				ug/L	85	Standard
S	34	30.0	33.3				ug/L	48	Standard
Sr	88	240.0	16.5				ug/L	72	Standard
C	12	796.7	5.1				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	7	Standard
Dy	164	54.3	36.0				mg/L	22	Standard
Ho-1	165	43.3	48.0				mg/L	22	Standard
Er	166	50.0	52.9				mg/L	23	Standard
I	127	720657.8	9.6				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		94.909	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		93.351	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	96.015
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	88.045
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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	

Sample ID: L1610009501

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610009502

Sample Date/Time: Wednesday, October 12, 2016 15:24:54

Number of Replicates: 3

Autosampler Position: 307

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	69820.7	4.7				ug/L	72553	Standard
|	Be	9	10.0	50.0	-0.0051	0.006	120.4	ug/L	10	Standard
|	Al	27	16229792.6	1.0	167.0010	8.555	5.1	ug/L	232	Standard
|	Sc	45	22730.4	4.5				ug/L	23513	Standard
|	Ti	47	351.7	4.2	1.9229	0.108	5.6	ug/L	36	Standard
|	V	51	-845.1	53.9	-0.3543	0.082	23.1	ug/L	1387	Standard
|	Cr	52	17891.2	0.3	2.0043	0.112	5.6	ug/L	7813	Standard
|	Cr	53	10462.0	8.4	13.0701	1.696	13.0	ug/L	1410	Standard
|	Mn	55	143527.6	0.7	15.3155	0.579	3.8	ug/L	1043	Standard
|	Co	59	4519.7	1.1	0.5297	0.022	4.2	ug/L	198	Standard
|	Ni	60	3430.7	0.7	1.8692	0.059	3.2	ug/L	64	Standard
|	Cu	65	1226.0	1.4	0.5580	0.029	5.2	ug/L	122	Standard
|	Zn	66	5900.5	0.4	5.1680	0.206	4.0	ug/L	209	Standard
>	Ge	72	575754.9	3.2				ug/L	618040	Standard
|	As	75	623.0	18.3	0.6345	0.112	17.7	ug/L	11	Standard
|	Se	82	213.0	2.7	2.0352	0.121	5.9	ug/L	21	Standard
|	Se-1	77	758.7	7.5	10.3916	1.223	11.8	ug/L	86	Standard
>	Ga	71	48.3	43.1				mg/L	13	Standard
|	Rb	85	8112.2	1.5				ug/L	18	Standard
|	Y	89	425573.4	3.4				ug/L	463757	Standard
>	Rh	103	143.3	23.7				ug/L	12	Standard
|	Mo	98	559.8	3.3	0.1532	0.011	7.3	ug/L	29	Standard
|	Ag	107	126.0	1.6	0.0049	0.001	12.6	ug/L	101	Standard
|	Cd	111	48.6	13.7	0.0194	0.003	18.0	mg/L	9	Standard
|	Cd	114	146.4	15.7	0.0274	0.005	18.7	ug/L	47	Standard
>	In	115	732451.8	3.7				ug/L	765457	Standard
|	Sn	118	134.7	3.0	-0.0340	0.005	13.4	ug/L	168	Standard
|	Sb	123	601.8	16.3	0.1143	0.022	19.3	ug/L	332	Standard
|	Ba	135	360098.0	1.7	141.9341	7.365	5.2	ug/L	37	Standard
|	Ce	140	628.3	8.1				ug/L	895	Standard
>	Tb	159	1409057.2	1.2				ug/L	1511047	Standard
|	Ho	165	46.7	49.5				ug/L	22	Standard
|	Tl	203	140.7	7.0	0.0141	0.001	9.3	ug/L	14	Standard
|	Tl	205	368.3	9.6	0.0132	0.002	12.7	ug/L	27	Standard
|	Pb	206	863.4	3.1	0.0387	0.001	2.5	ug/L	557	Standard
|	Pb	207	715.0	4.4	0.0364	0.008	21.8	ug/L	432	Standard
|	Pb	208	3325.5	1.3	0.0362	0.003	7.7	ug/L	2118	Standard
	U	238	3969.2	2.4	0.1473	0.002	1.4	ug/L	78	Standard
>	Bi	209	687561.7	3.1				ug/L	791817	Standard

Sample ID: L1610009502

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Brink Z...

Na	23	40.0	57.3	11.2137	6.174	55.1	mg/L	5	Standard
Mg	24	82447.2	3.1	167.5645	12.466	7.4	mg/L	48	Standard
K	39	51.7	14.8	0.7499	0.139	18.5	mg/L	3	Standard
Ca	43	65.0	58.1	6.0794	15.204	250.1	mg/L	62	Standard
Fe	54	176.7	4.4	0.0616	0.009	14.0	mg/L	139	Standard
Fe	57	188.3	12.5	0.2275	0.113	49.7	mg/L	83	Standard
Sc-1	45	22730.4	4.5				mg/L	23513	Standard
Cl	35	5.3	43.3				ug/L	3	Standard
Kr	83	2.3	65.5				ug/L	2	Standard
Br	81	54494.6	4.2				ug/L	910	Standard
P	31	115.0	11.5				ug/L	85	Standard
S	34	33.3	70.9				ug/L	48	Standard
Sr	88	183.3	9.6				ug/L	72	Standard
C	12	753.4	17.9				mg/L	227	Standard
N	14	6.7	86.6				mg/L	0	Standard
Hg	202	0.0					mg/L	7	Standard
Dy	164	23.3	129.8				mg/L	22	Standard
Ho-1	165	46.7	49.5				mg/L	22	Standard
Er	166	70.0	28.6				mg/L	23	Standard
I	127	726607.3	9.1				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		96.234	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		93.158	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1610009502

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	95.688
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	86.833
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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	

Sample ID: L1610009502

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610009502PS WG586830-03

Sample Date/Time: Wednesday, October 12, 2016 15:27:53

Number of Replicates: 3

Autosampler Position: 308

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	70721.4	1.8				ug/L	72553	Standard
|	Be	9	43766.5	2.2	49.6482	1.564	3.2	ug/L	10	Standard
|	Al	27	15900533.5	2.1	161.2907	3.493	2.2	ug/L	232	Standard
|	Sc	45	22553.4	1.2				ug/L	23513	Standard
|	Ti	47	344.0	5.9	1.9052	0.130	6.8	ug/L	36	Standard
|	V	51	292128.6	1.2	50.9140	0.659	1.3	ug/L	1387	Standard
|	Cr	52	289010.4	0.4	52.4286	0.367	0.7	ug/L	7813	Standard
|	Cr	53	46715.3	1.9	65.6265	0.880	1.3	ug/L	1410	Standard
|	Mn	55	598426.3	0.2	65.2293	0.253	0.4	ug/L	1043	Standard
|	Co	59	401442.7	0.3	49.3428	0.361	0.7	ug/L	198	Standard
|	Ni	60	89659.2	0.4	50.4964	0.464	0.9	ug/L	64	Standard
|	Cu	65	90897.8	0.4	49.6462	0.164	0.3	ug/L	122	Standard
|	Zn	66	55792.2	1.0	56.5383	0.206	0.4	ug/L	209	Standard
>	Ge	72	567552.7	0.6				ug/L	618040	Standard
|	As	75	53233.5	0.4	51.4525	0.389	0.8	ug/L	11	Standard
|	Se	82	5022.1	1.1	51.7018	0.258	0.5	ug/L	21	Standard
|	Se-1	77	4096.6	1.8	62.7674	0.873	1.4	ug/L	86	Standard
>	Ga	71	81.7	14.1				mg/L	13	Standard
|	Rb	85	7997.1	1.5				ug/L	18	Standard
|	Y	89	424505.7	1.7				ug/L	463757	Standard
>	Rh	103	165.0	23.7				ug/L	12	Standard
|	Mo	98	585.3	6.3	0.1616	0.010	6.2	ug/L	29	Standard
|	Ag	107	282759.2	0.9	45.0335	0.415	0.9	ug/L	101	Standard
|	Cd	111	101769.2	1.1	50.6475	0.560	1.1	mg/L	9	Standard
|	Cd	114	253922.3	1.1	48.3368	0.368	0.8	ug/L	47	Standard
>	In	115	726062.3	0.4				ug/L	765457	Standard
|	Sn	118	174.7	13.4	0.0015	0.021	1433.3	ug/L	168	Standard
|	Sb	123	280585.0	0.9	51.8445	0.235	0.5	ug/L	332	Standard
|	Ba	135	488183.8	0.6	193.8769	0.905	0.5	ug/L	37	Standard
|	Ce	140	610.0	5.1				ug/L	895	Standard
>	Tb	159	1426277.3	1.8				ug/L	1511047	Standard
|	Ho	165	41.7	45.4				ug/L	22	Standard
|	Tl	203	508301.8	0.6	50.8515	0.499	1.0	ug/L	14	Standard
|	Tl	205	1172623.4	1.7	50.8654	0.965	1.9	ug/L	27	Standard
|	Pb	206	388713.2	0.5	51.3044	0.267	0.5	ug/L	557	Standard
|	Pb	207	330248.4	0.8	49.4763	0.449	0.9	ug/L	432	Standard
|	Pb	208	1525146.3	0.3	50.4376	0.350	0.7	ug/L	2118	Standard
|	U	238	1453229.4	1.2	53.0773	0.790	1.5	ug/L	78	Standard
>	Bi	209	697218.8	0.4				ug/L	791817	Standard

Sample ID: L1610009502PS WG586830-03

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Brink Z...

Na	23	36.7	20.8	10.4786	2.142	20.4	mg/L	5	Standard
Mg	24	83031.9	0.7	169.7121	1.982	1.2	mg/L	48	Standard
K	39	56.7	25.5	0.8293	0.216	26.0	mg/L	3	Standard
Ca	43	70.0	18.9	7.7437	5.049	65.2	mg/L	62	Standard
Fe	54	182.0	10.3	0.0682	0.017	25.4	mg/L	139	Standard
Fe	57	173.3	15.9	0.1756	0.107	60.8	mg/L	83	Standard
Sc-1	45	22553.4	1.2				mg/L	23513	Standard
Cl	35	3.3	69.3				ug/L	3	Standard
Kr	83	4.7	12.4				ug/L	2	Standard
Br	81	57027.1	1.4				ug/L	910	Standard
P	31	105.0	47.6				ug/L	85	Standard
S	34	25.0	20.0				ug/L	48	Standard
Sr	88	190.0	11.5				ug/L	72	Standard
C	12	740.0	13.7				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	7	Standard
Dy	164	21.4	71.3				mg/L	22	Standard
Ho-1	165	41.7	45.4				mg/L	22	Standard
Er	166	40.0					mg/L	23	Standard
I	127	735949.5	9.2				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		97.475	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		91.831	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1610009502PS WG586830-03

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	94.853
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	88.053
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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	

Sample ID: L1610009502PS WG586830-03

Report Date/Time: Wednesday, October 12, 2016 15:29:58

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610009502SDL WG586830-04

Sample Date/Time: Wednesday, October 12, 2016 15:30:52

Number of Replicates: 3

Autosampler Position: 309

Sample Description: 5

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	73670.4	1.6				ug/L	72553	Standard
|	Be	9	18.3	83.3	0.0030	0.016	539.6	ug/L	10	Standard
|	Al	27	3509827.6	1.0	34.1777	0.699	2.0	ug/L	232	Standard
|	Sc	45	22306.4	3.1				ug/L	23513	Standard
|	Ti	47	88.3	10.7	0.2951	0.050	16.9	ug/L	36	Standard
|	V	51	1028.3	27.8	-0.0324	0.051	158.2	ug/L	1387	Standard
|	Cr	52	9946.9	1.2	0.5126	0.024	4.7	ug/L	7813	Standard
|	Cr	53	4202.3	5.0	4.0035	0.183	4.6	ug/L	1410	Standard
|	Mn	55	31631.3	1.9	3.1874	0.002	0.1	ug/L	1043	Standard
|	Co	59	1088.4	1.7	0.1109	0.005	4.2	ug/L	198	Standard
|	Ni	60	806.4	4.2	0.4018	0.026	6.5	ug/L	64	Standard
|	Cu	65	1110.7	1.4	0.4839	0.004	0.7	ug/L	122	Standard
|	Zn	66	3172.7	1.5	2.3390	0.058	2.5	ug/L	209	Standard
>	Ge	72	586861.5	1.9				ug/L	618040	Standard
|	As	75	113.6	44.7	0.1477	0.050	33.6	ug/L	11	Standard
|	Se	82	63.8	16.5	0.5038	0.118	23.4	ug/L	21	Standard
|	Se-1	77	232.7	5.7	2.1840	0.201	9.2	ug/L	86	Standard
>	Ga	71	26.7	60.3				mg/L	13	Standard
|	Rb	85	1803.4	10.4				ug/L	18	Standard
|	Y	89	436378.1	3.5				ug/L	463757	Standard
>	Rh	103	35.0	14.3				ug/L	12	Standard
|	Mo	98	141.2	9.7	0.0325	0.002	7.2	ug/L	29	Standard
|	Ag	107	212.0	32.2	0.0172	0.012	68.8	ug/L	101	Standard
|	Cd	111	33.8	72.0	0.0116	0.012	106.8	mg/L	9	Standard
|	Cd	114	100.2	69.4	0.0181	0.014	75.1	ug/L	47	Standard
>	In	115	769847.1	4.3				ug/L	765457	Standard
|	Sn	118	177.3	3.4	-0.0049	0.003	54.6	ug/L	168	Standard
|	Sb	123	2179.7	41.0	0.3793	0.141	37.2	ug/L	332	Standard
|	Ba	135	76770.0	1.2	28.7653	1.144	4.0	ug/L	37	Standard
|	Ce	140	166.7	12.1				ug/L	895	Standard
>	Tb	159	1468827.0	2.8				ug/L	1511047	Standard
|	Ho	165	31.7	32.9				ug/L	22	Standard
|	Tl	203	197.0	42.0	0.0185	0.009	46.6	ug/L	14	Standard
|	Tl	205	433.3	37.5	0.0148	0.007	49.9	ug/L	27	Standard
|	Pb	206	674.3	7.5	0.0064	0.010	148.4	ug/L	557	Standard
|	Pb	207	579.7	11.3	0.0089	0.012	136.1	ug/L	432	Standard
|	Pb	208	2676.8	7.8	0.0075	0.010	127.9	ug/L	2118	Standard
	U	238	1113.0	21.2	0.0384	0.010	25.0	ug/L	78	Standard
>	Bi	209	746549.8	3.8				ug/L	791817	Standard

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Brank Z...

Na	23	10.0		2.5647	0.095	3.7	mg/L	5	Standard
Mg	24	17333.3	4.1	35.7477	0.471	1.3	mg/L	48	Standard
K	39	13.3	21.7	0.1643	0.040	24.5	mg/L	3	Standard
Ca	43	65.0	35.3	5.9554	8.074	135.6	mg/L	62	Standard
Fe	54	174.2	12.2	0.0628	0.028	43.9	mg/L	139	Standard
Fe	57	135.0	22.2	0.0395	0.102	259.4	mg/L	83	Standard
Sc-1	45	22306.4	3.1				mg/L	23513	Standard
Cl	35	4.0	86.6				ug/L	3	Standard
Kr	83	2.7	21.7				ug/L	2	Standard
Br	81	13028.9	5.5				ug/L	910	Standard
P	31	71.7	26.4				ug/L	85	Standard
S	34	41.7	25.0				ug/L	48	Standard
Sr	88	100.0	22.9				ug/L	72	Standard
C	12	370.0	23.6				mg/L	227	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	6.7	86.6				mg/L	7	Standard
Dy	164	34.9	43.5				mg/L	22	Standard
Ho-1	165	31.7	32.9				mg/L	22	Standard
Er	166	36.7	41.7				mg/L	23	Standard
I	127	179587.4	3.9				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		101.540	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		94.955	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1610009502SDL WG586830-04

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	100.573
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	94.283
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1610009502SDL WG586830-04

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610009502SDL WG586830-04

Sample Date/Time: Wednesday, October 12, 2016 15:33:51

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: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	74010.4	2.2				ug/L	72553	Standard
|	Be	9	5.0	100.0	-0.0113	0.005	48.1	ug/L	10	Standard
|	Al	27	702437.5	0.5	6.8073	0.183	2.7	ug/L	232	Standard
|	Sc	45	22720.4	1.4				ug/L	23513	Standard
|	Ti	47	50.0	0.0	0.0570	0.002	4.2	ug/L	36	Standard
|	V	51	1306.9	12.6	0.0087	0.027	313.9	ug/L	1387	Standard
|	Cr	52	8298.9	1.3	0.1785	0.025	14.2	ug/L	7813	Standard
|	Cr	53	1911.8	2.2	0.7379	0.069	9.4	ug/L	1410	Standard
|	Mn	55	7633.9	0.8	0.6313	0.001	0.2	ug/L	1043	Standard
|	Co	59	313.7	3.8	0.0178	0.001	7.1	ug/L	198	Standard
|	Ni	60	226.3	10.5	0.0822	0.012	14.7	ug/L	64	Standard
|	Cu	65	211.7	2.6	0.0051	0.003	57.5	ug/L	122	Standard
|	Zn	66	1623.4	2.4	0.7573	0.026	3.4	ug/L	209	Standard
>	Ge	72	602123.3	0.8				ug/L	618040	Standard
|	As	75	17.4	319.4	0.0570	0.051	89.0	ug/L	11	Standard
|	Se	82	28.7	25.9	0.1450	0.074	51.3	ug/L	21	Standard
|	Se-1	77	113.3	10.5	0.3346	0.182	54.4	ug/L	86	Standard
>	Ga	71	18.3	31.5				mg/L	13	Standard
|	Rb	85	358.3	10.5				ug/L	18	Standard
|	Y	89	440105.4	0.3				ug/L	463757	Standard
>	Rh	103	13.3	43.3				ug/L	12	Standard
|	Mo	98	54.7	5.1	0.0088	0.001	11.9	ug/L	29	Standard
|	Ag	107	117.7	7.9	0.0022	0.001	57.1	ug/L	101	Standard
|	Cd	111	9.9	17.5	-0.0001	0.001	609.6	mg/L	9	Standard
|	Cd	114	50.8	34.4	0.0085	0.003	34.8	ug/L	47	Standard
>	In	115	793735.0	2.3				ug/L	765457	Standard
|	Sn	118	155.0	6.2	-0.0269	0.007	27.6	ug/L	168	Standard
|	Sb	123	631.3	49.6	0.1095	0.050	46.1	ug/L	332	Standard
|	Ba	135	15692.1	2.1	5.6775	0.094	1.7	ug/L	37	Standard
|	Ce	140	65.0	35.3				ug/L	895	Standard
>	Tb	159	1492640.7	1.6				ug/L	1511047	Standard
|	Ho	165	20.0	25.0				ug/L	22	Standard
|	Tl	203	87.3	24.9	0.0077	0.002	25.5	ug/L	14	Standard
|	Tl	205	216.7	5.8	0.0054	0.000	9.1	ug/L	27	Standard
|	Pb	206	604.3	7.1	-0.0055	0.005	95.2	ug/L	557	Standard
|	Pb	207	531.3	1.3	-0.0012	0.001	86.4	ug/L	432	Standard
|	Pb	208	2382.1	2.3	-0.0049	0.002	36.4	ug/L	2118	Standard
|	U	238	176.7	4.4	0.0060	0.000	4.0	ug/L	78	Standard
>	Bi	209	778927.0	0.3				ug/L	791817	Standard

Sample ID: L1610009502SDL WG586830-04

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Brank Z...

Na	23	1.7	173.2	0.0421	0.866	2054.9	mg/L	5	Standard
Mg	24	3632.1	4.7	7.2958	0.448	6.1	mg/L	48	Standard
K	39	10.0	100.0	0.1093	0.151	138.0	mg/L	3	Standard
Ca	43	46.7	24.7	-1.2132	4.411	363.6	mg/L	62	Standard
Fe	54	115.6	5.0	-0.0006	0.007	1248.7	mg/L	139	Standard
Fe	57	116.7	21.1	-0.0352	0.091	258.2	mg/L	83	Standard
Sc-1	45	22720.4	1.4				mg/L	23513	Standard
Cl	35	3.3	91.7				ug/L	3	Standard
Kr	83	4.7	61.9				ug/L	2	Standard
Br	81	3710.5	2.7				ug/L	910	Standard
P	31	60.0	43.3				ug/L	85	Standard
S	34	38.3	7.5				ug/L	48	Standard
Sr	88	110.0	16.4				ug/L	72	Standard
C	12	323.3	8.9				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	7	Standard
Dy	164	32.7	47.4				mg/L	22	Standard
Ho-1	165	20.0	25.0				mg/L	22	Standard
Er	166	13.3	43.3				mg/L	23	Standard
I	127	45698.8	1.8				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		102.008	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		97.425	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1610009502SDL WG586830-04

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	103.694
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	98.372
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1610009502SDL WG586830-04

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Bank Z...

Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Wednesday, October 12, 2016 15:36:52

Number of Replicates: 3

Autosampler Position: 101

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	69892.6	3.0				ug/L	72553	Standard
|	Be	9	43763.1	2.1	50.2596	2.200	4.4	ug/L	10	Standard
|	Al	27	4654116.5	3.3	47.7617	0.559	1.2	ug/L	232	Standard
|	Sc	45	22166.2	0.5				ug/L	23513	Standard
|	Ti	47	16576.4	1.6	100.3768	2.571	2.6	ug/L	36	Standard
|	V	51	299338.9	0.4	50.8650	1.000	2.0	ug/L	1387	Standard
|	Cr	52	283505.8	1.3	50.0896	1.315	2.6	ug/L	7813	Standard
|	Cr	53	37621.7	2.1	51.1409	1.918	3.8	ug/L	1410	Standard
|	Mn	55	459968.5	2.2	48.8416	1.285	2.6	ug/L	1043	Standard
|	Co	59	412099.0	1.3	49.3866	1.265	2.6	ug/L	198	Standard
|	Ni	60	91074.9	0.6	50.0069	0.831	1.7	ug/L	64	Standard
|	Cu	65	93634.8	1.4	49.8574	0.829	1.7	ug/L	122	Standard
|	Zn	66	49910.1	1.3	49.2045	0.791	1.6	ug/L	209	Standard
>	Ge	72	582225.3	1.5				ug/L	618040	Standard
|	As	75	52807.9	1.8	49.7680	1.484	3.0	ug/L	11	Standard
|	Se	82	4985.4	1.2	50.0389	1.238	2.5	ug/L	21	Standard
|	Se-1	77	3292.0	1.0	48.8888	0.911	1.9	ug/L	86	Standard
>	Ga	71	23.3	53.9				mg/L	13	Standard
|	Rb	85	756.7	5.3				ug/L	18	Standard
|	Y	89	439904.1	2.6				ug/L	463757	Standard
>	Rh	103	41.7	30.2				ug/L	12	Standard
|	Mo	98	363734.0	1.5	97.0578	2.127	2.2	ug/L	29	Standard
|	Ag	107	328275.0	1.1	48.8618	0.782	1.6	ug/L	101	Standard
|	Cd	111	108977.3	1.0	50.6906	1.217	2.4	mg/L	9	Standard
|	Cd	114	286257.1	1.5	50.9291	1.141	2.2	ug/L	47	Standard
>	In	115	777126.2	2.7				ug/L	765457	Standard
|	Sn	118	62000.6	1.7	49.7709	0.938	1.9	ug/L	168	Standard
|	Sb	123	301989.7	1.4	52.1456	0.697	1.3	ug/L	332	Standard
|	Ba	135	133367.1	0.5	49.4904	1.369	2.8	ug/L	37	Standard
|	Ce	140	83.3	6.9				ug/L	895	Standard
>	Tb	159	1462648.2	1.0				ug/L	1511047	Standard
|	Ho	165	8.3	34.6				ug/L	22	Standard
|	Tl	203	545385.6	0.5	50.2148	0.892	1.8	ug/L	14	Standard
|	Tl	205	1267197.3	2.3	50.5797	0.887	1.8	ug/L	27	Standard
|	Pb	206	409747.9	2.0	49.7674	1.066	2.1	ug/L	557	Standard
|	Pb	207	361783.8	1.3	49.8830	0.973	1.9	ug/L	432	Standard
|	Pb	208	1639616.2	1.1	49.9008	0.817	1.6	ug/L	2118	Standard
	U	238	1496583.7	1.2	50.3039	0.876	1.7	ug/L	78	Standard
>	Bi	209	757740.4	2.1				ug/L	791817	Standard

Sample ID: QC Std 6

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Brank Z...

Na	23	16.7	45.8	4.6057	2.317	50.3	mg/L	5	Standard
Mg	24	2421.9	5.4	4.9584	0.277	5.6	mg/L	48	Standard
K	39	388.3	29.0	6.0418	1.740	28.8	mg/L	3	Standard
Ca	43	68.3	33.8	7.5612	8.897	117.7	mg/L	62	Standard
Fe	54	4897.9	6.8	4.9939	0.335	6.7	mg/L	139	Standard
Fe	57	1430.1	9.9	4.8620	0.551	11.3	mg/L	83	Standard
Sc-1	45	22166.2	0.5				mg/L	23513	Standard
Cl	35	2.0	173.2				ug/L	3	Standard
Kr	83	1.7	91.7				ug/L	2	Standard
Br	81	1183.4	10.2				ug/L	910	Standard
P	31	83.3	12.5				ug/L	85	Standard
S	34	65.0	7.7				ug/L	48	Standard
Sr	88	81.7	14.1				ug/L	72	Standard
C	12	303.3	25.0				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	7	Standard
Dy	164	18.6	110.3				mg/L	22	Standard
Ho-1	165	8.3	34.6				mg/L	22	Standard
Er	166	30.0	33.3				mg/L	23	Standard
I	127	8927.7	12.0				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6			
Be	9	100.519		
Al	27	95.523		
Sc	45			
Ti	47	100.377		
V	51	101.730		
Cr	52	100.179		
Cr	53			
Mn	55	97.683		
Co	59	98.773		
Ni	60	100.014		
Cu	65	99.715		
Zn	66	98.409		
> Ge	72		94.205	
As	75	99.536		
Se	82	100.078		
Se-1	77			
> Ga	71			

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Brink Z...

[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	97.058	
[Ag	107	97.724	
[Cd	111	101.381	
[Cd	114		
>	In	115		101.524
[	Sn	118	99.542	
[	Sb	123	104.291	
[	Ba	135	98.981	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	100.430	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	99.802	
[	U	238	100.608	
>	Bi	209		95.696
[	Na	23		
[	Mg	24		
[	K	39		
[	Ca	43		
[	Fe	54		
[	Fe	57		
>	Sc-1	45		
[	Cl	35		
[	Kr	83		
[	Br	81		
[	P	31		
[	S	34		
[	Sr	88		
[	C	12		
[	N	14		
[	Hg	202		
[	Dy	164		
[	Ho-1	165		
[	Er	166		
[I	127		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 6

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Bank Z...

Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Wednesday, October 12, 2016 15:39:52

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	69237.9	1.2				ug/L	72553	Standard
|	Be	9	6.7	43.3	-0.0091	0.003	35.7	ug/L	10	Standard
|	Al	27	945.0	9.8	0.0063	0.001	17.1	ug/L	232	Standard
|	Sc	45	22656.9	1.6				ug/L	23513	Standard
|	Ti	47	30.7	5.0	-0.0492	0.011	23.0	ug/L	36	Standard
|	V	51	902.1	2.7	-0.0521	0.006	11.6	ug/L	1387	Standard
|	Cr	52	6073.2	0.6	-0.1691	0.018	10.7	ug/L	7813	Standard
|	Cr	53	1236.7	3.1	-0.1143	0.074	65.1	ug/L	1410	Standard
|	Mn	55	945.0	6.2	-0.0537	0.007	13.2	ug/L	1043	Standard
|	Co	59	180.7	13.1	0.0032	0.003	95.5	ug/L	198	Standard
|	Ni	60	64.7	6.2	-0.0023	0.003	114.5	ug/L	64	Standard
|	Cu	65	124.7	19.8	-0.0372	0.014	36.4	ug/L	122	Standard
|	Zn	66	187.7	15.9	-0.6264	0.032	5.1	ug/L	209	Standard
>	Ge	72	579152.9	1.2				ug/L	618040	Standard
|	As	75	-27.9	7.3	0.0146	0.002	15.2	ug/L	11	Standard
|	Se	82	18.0	30.5	0.0471	0.057	120.6	ug/L	21	Standard
|	Se-1	77	93.7	8.7	0.0996	0.137	138.1	ug/L	86	Standard
>	Ga	71	18.3	41.7				mg/L	13	Standard
|	Rb	85	20.0	90.1				ug/L	18	Standard
|	Y	89	437873.9	0.6				ug/L	463757	Standard
>	Rh	103	10.0	86.6				ug/L	12	Standard
|	Mo	98	234.6	15.2	0.0567	0.009	15.2	ug/L	29	Standard
|	Ag	107	155.3	9.0	0.0081	0.002	29.5	ug/L	101	Standard
|	Cd	111	22.0	26.1	0.0056	0.003	45.9	mg/L	9	Standard
|	Cd	114	66.7	17.2	0.0115	0.002	19.0	ug/L	47	Standard
>	In	115	780016.8	1.6				ug/L	765457	Standard
|	Sn	118	185.0	33.1	-0.0012	0.047	3924.0	ug/L	168	Standard
|	Sb	123	717.9	48.0	0.1264	0.058	45.9	ug/L	332	Standard
|	Ba	135	38.0	16.0	-0.0105	0.002	23.8	ug/L	37	Standard
|	Ce	140	35.0	49.5				ug/L	895	Standard
>	Tb	159	1455791.5	1.9				ug/L	1511047	Standard
|	Ho	165	20.0	25.0				ug/L	22	Standard
|	Tl	203	124.0	4.0	0.0111	0.001	4.6	ug/L	14	Standard
|	Tl	205	265.0	8.6	0.0075	0.001	10.6	ug/L	27	Standard
|	Pb	206	572.0	2.3	-0.0083	0.002	24.4	ug/L	557	Standard
|	Pb	207	496.3	1.8	-0.0048	0.002	44.4	ug/L	432	Standard
|	Pb	208	2234.1	2.4	-0.0082	0.002	19.0	ug/L	2118	Standard
	U	238	273.3	7.9	0.0093	0.001	6.7	ug/L	78	Standard
>	Bi	209	766492.2	1.4				ug/L	791817	Standard

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Brank Z...

Na	23	0.0		-0.4577	0.000	0.0	mg/L	5	Standard
Mg	24	46.7	22.3	0.0148	0.022	151.0	mg/L	48	Standard
K	39	11.7	24.7	0.1367	0.048	34.9	mg/L	3	Standard
Ca	43	50.0	10.0	0.0844	1.898	2249.6	mg/L	62	Standard
Fe	54	144.1	26.4	0.0289	0.039	134.5	mg/L	139	Standard
Fe	57	96.7	11.9	-0.1064	0.048	45.3	mg/L	83	Standard
Sc-1	45	22656.9	1.6				mg/L	23513	Standard
Cl	35	2.0	173.2				ug/L	3	Standard
Kr	83	3.3	17.3				ug/L	2	Standard
Br	81	1143.4	6.4				ug/L	910	Standard
P	31	45.0	11.1				ug/L	85	Standard
S	34	30.0	44.1				ug/L	48	Standard
Sr	88	73.3	28.4				ug/L	72	Standard
C	12	186.7	38.8				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	7	Standard
Dy	164	5.4	110.5				mg/L	22	Standard
Ho-1	165	20.0	25.0				mg/L	22	Standard
Er	166	26.7	57.3				mg/L	23	Standard
I	127	7051.6	2.3				mg/L	4241	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		93.708	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	101.902
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	96.802
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 7

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610011101

Sample Date/Time: Wednesday, October 12, 2016 15:42:53

Number of Replicates: 3

Autosampler Position: 311

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	73301.9	2.1				ug/L	72553	Standard
|	Be	9	25.0	0.0	0.0106	0.001	5.4	ug/L	10	Standard
|	Al	27	17983315.2	1.9	175.9878	1.829	1.0	ug/L	232	Standard
|	Sc	45	22700.3	2.4				ug/L	23513	Standard
|	Ti	47	138.3	8.4	0.6163	0.066	10.7	ug/L	36	Standard
|	V	51	7084.4	1.5	1.0213	0.020	2.0	ug/L	1387	Standard
|	Cr	52	12290.7	2.3	0.9870	0.029	2.9	ug/L	7813	Standard
|	Cr	53	1826.8	9.2	0.7471	0.211	28.3	ug/L	1410	Standard
|	Mn	55	1772132.5	1.0	191.6764	4.401	2.3	ug/L	1043	Standard
|	Co	59	2375.2	1.4	0.2708	0.006	2.3	ug/L	198	Standard
|	Ni	60	2645.6	1.4	1.4389	0.008	0.5	ug/L	64	Standard
|	Cu	65	2706.9	3.4	1.3633	0.038	2.8	ug/L	122	Standard
|	Zn	66	3867.5	1.9	3.1228	0.073	2.3	ug/L	209	Standard
>	Ge	72	572980.2	1.6				ug/L	618040	Standard
|	As	75	1655.5	3.7	1.6247	0.053	3.3	ug/L	11	Standard
|	Se	82	33.4	11.1	0.2067	0.033	15.8	ug/L	21	Standard
|	Se-1	77	100.3	2.9	0.2182	0.065	30.0	ug/L	86	Standard
>	Ga	71	73.3	39.4				mg/L	13	Standard
|	Rb	85	1496.7	11.4				ug/L	18	Standard
|	Y	89	434068.8	1.1				ug/L	463757	Standard
>	Rh	103	60.0	22.0				ug/L	12	Standard
|	Mo	98	620.4	7.0	0.1637	0.011	6.5	ug/L	29	Standard
|	Ag	107	119.7	17.7	0.0033	0.003	102.9	ug/L	101	Standard
|	Cd	111	51.2	11.8	0.0197	0.003	14.9	mg/L	9	Standard
|	Cd	114	141.0	16.1	0.0253	0.004	16.4	ug/L	47	Standard
>	In	115	760027.7	0.9				ug/L	765457	Standard
|	Sn	118	147.7	3.7	-0.0276	0.004	16.0	ug/L	168	Standard
|	Sb	123	454.0	25.1	0.0836	0.020	24.0	ug/L	332	Standard
|	Ba	135	319475.6	1.0	121.1999	1.261	1.0	ug/L	37	Standard
|	Ce	140	15613.0	1.6				ug/L	895	Standard
>	Tb	159	1449594.4	0.9				ug/L	1511047	Standard
|	Ho	165	103.3	26.6				ug/L	22	Standard
|	Tl	203	90.0	6.7	0.0083	0.000	5.6	ug/L	14	Standard
|	Tl	205	210.0	8.6	0.0056	0.001	14.7	ug/L	27	Standard
|	Pb	206	1748.1	0.9	0.1400	0.003	2.4	ug/L	557	Standard
|	Pb	207	1360.7	2.2	0.1192	0.007	6.1	ug/L	432	Standard
|	Pb	208	6534.2	0.3	0.1278	0.004	3.2	ug/L	2118	Standard
	U	238	47392.0	0.5	1.6262	0.025	1.5	ug/L	78	Standard
>	Bi	209	742356.6	1.7				ug/L	791817	Standard

Sample ID: L1610011101

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Brank Z...

Na	23	95.0	27.9	27.6554	7.402	26.8	mg/L	5	Standard
Mg	24	2290.2	3.3	4.5750	0.227	5.0	mg/L	48	Standard
K	39	21.7	35.3	0.2892	0.119	41.1	mg/L	3	Standard
Ca	43	176.7	26.3	47.4449	15.687	33.1	mg/L	62	Standard
Fe	54	484.0	8.1	0.3748	0.036	9.5	mg/L	139	Standard
Fe	57	361.7	8.4	0.8568	0.138	16.1	mg/L	83	Standard
Sc-1	45	22700.3	2.4				mg/L	23513	Standard
Cl	35	6.7	69.3				ug/L	3	Standard
Kr	83	2.7	94.4				ug/L	2	Standard
Br	81	2116.8	8.8				ug/L	910	Standard
P	31	81.7	9.4				ug/L	85	Standard
S	34	53.3	35.5				ug/L	48	Standard
Sr	88	196.7	29.5				ug/L	72	Standard
C	12	523.3	22.8				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	10.0	100.0				mg/L	7	Standard
Dy	164	133.5	27.9				mg/L	22	Standard
Ho-1	165	103.3	26.6				mg/L	22	Standard
Er	166	66.7	22.9				mg/L	23	Standard
I	127	51626.6	9.3				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		101.032	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		92.709	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1610011101

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	99.291
[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	93.754
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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: L1610011101

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610011301

Sample Date/Time: Wednesday, October 12, 2016 15:45:53

Number of Replicates: 3

Autosampler Position: 312

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	72759.3	0.5				ug/L	72553	Standard
|	Be	9	10.0	50.0	-0.0058	0.006	95.7	ug/L	10	Standard
|	Al	27	24182967.6	2.5	238.4206	6.413	2.7	ug/L	232	Standard
|	Sc	45	23286.2	1.7				ug/L	23513	Standard
|	Ti	47	184.7	6.3	0.8937	0.065	7.3	ug/L	36	Standard
|	V	51	18109.5	2.8	2.9091	0.088	3.0	ug/L	1387	Standard
|	Cr	52	16037.2	2.0	1.6549	0.059	3.6	ug/L	7813	Standard
|	Cr	53	10040.0	4.1	12.3952	0.498	4.0	ug/L	1410	Standard
|	Mn	55	990884.8	0.6	106.2979	1.157	1.1	ug/L	1043	Standard
|	Co	59	812.7	3.0	0.0797	0.003	4.1	ug/L	198	Standard
|	Ni	60	1955.8	2.0	1.0458	0.022	2.1	ug/L	64	Standard
|	Cu	65	690.7	2.9	0.2677	0.013	5.0	ug/L	122	Standard
|	Zn	66	3834.5	0.8	3.0603	0.050	1.6	ug/L	209	Standard
>	Ge	72	577227.8	0.7				ug/L	618040	Standard
|	As	75	1533.6	3.5	1.4975	0.057	3.8	ug/L	11	Standard
|	Se	82	212.3	4.5	2.0190	0.083	4.1	ug/L	21	Standard
|	Se-1	77	804.7	7.6	11.0404	0.866	7.8	ug/L	86	Standard
>	Ga	71	81.7	23.2				mg/L	13	Standard
|	Rb	85	4008.9	2.7				ug/L	18	Standard
|	Y	89	435432.9	1.8				ug/L	463757	Standard
>	Rh	103	111.7	18.1				ug/L	12	Standard
|	Mo	98	679.0	5.2	0.1818	0.006	3.3	ug/L	29	Standard
|	Ag	107	110.3	9.7	0.0021	0.002	103.5	ug/L	101	Standard
|	Cd	111	165.8	7.8	0.0751	0.005	6.7	mg/L	9	Standard
|	Cd	114	359.9	15.1	0.0659	0.010	15.3	ug/L	47	Standard
>	In	115	751569.9	3.5				ug/L	765457	Standard
|	Sn	118	252.3	6.1	0.0609	0.011	17.8	ug/L	168	Standard
|	Sb	123	293.4	33.6	0.0555	0.016	28.9	ug/L	332	Standard
|	Ba	135	280035.2	0.7	107.5011	3.144	2.9	ug/L	37	Standard
|	Ce	140	3090.3	4.9				ug/L	895	Standard
>	Tb	159	1475776.1	3.1				ug/L	1511047	Standard
|	Ho	165	90.0	28.9				ug/L	22	Standard
|	Tl	203	86.7	14.7	0.0083	0.001	15.4	ug/L	14	Standard
|	Tl	205	198.3	10.2	0.0054	0.001	16.0	ug/L	27	Standard
|	Pb	206	1070.0	2.8	0.0613	0.005	7.6	ug/L	557	Standard
|	Pb	207	893.0	3.2	0.0585	0.005	8.2	ug/L	432	Standard
|	Pb	208	4138.9	0.3	0.0585	0.001	1.3	ug/L	2118	Standard
	U	238	78730.4	0.9	2.8125	0.040	1.4	ug/L	78	Standard
>	Bi	209	712917.4	0.6				ug/L	791817	Standard

Sample ID: L1610011301

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Brian Z...

Na	23	173.3	21.8	49.7505	11.320	22.8	mg/L	5	Standard
Mg	24	69549.3	1.7	137.6569	0.922	0.7	mg/L	48	Standard
K	39	63.3	18.2	0.9042	0.183	20.2	mg/L	3	Standard
Ca	43	165.0	8.0	41.7518	4.842	11.6	mg/L	62	Standard
Fe	54	355.3	3.1	0.2348	0.016	7.0	mg/L	139	Standard
Fe	57	373.3	7.4	0.8627	0.084	9.8	mg/L	83	Standard
Sc-1	45	23286.2	1.7				mg/L	23513	Standard
Cl	35	2.0	100.0				ug/L	3	Standard
Kr	83	2.0	50.0				ug/L	2	Standard
Br	81	28941.0	7.4				ug/L	910	Standard
P	31	81.7	52.8				ug/L	85	Standard
S	34	48.3	6.0				ug/L	48	Standard
Sr	88	216.7	11.6				ug/L	72	Standard
C	12	716.7	9.3				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	6.7	173.2				mg/L	7	Standard
Dy	164	106.3	16.4				mg/L	22	Standard
Ho-1	165	90.0	28.9				mg/L	22	Standard
Er	166	76.7	7.5				mg/L	23	Standard
I	127	70047.2	8.0				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		100.284	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		93.396	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	98.186
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	90.036
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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: L1610011301

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610011401

Sample Date/Time: Wednesday, October 12, 2016 15:49:33

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: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	72141.6	5.1				ug/L	72553	Standard
|	Be	9	10.0	86.6	-0.0056	0.010	171.4	ug/L	10	Standard
|	Al	27	15654510.5	1.3	155.9604	9.238	5.9	ug/L	232	Standard
|	Sc	45	22682.0	5.7				ug/L	23513	Standard
|	Ti	47	183.7	19.3	0.9183	0.235	25.6	ug/L	36	Standard
|	V	51	4138.1	7.1	0.5232	0.041	7.9	ug/L	1387	Standard
|	Cr	52	12930.2	0.7	1.1490	0.047	4.1	ug/L	7813	Standard
|	Cr	53	2166.8	3.5	1.2920	0.091	7.0	ug/L	1410	Standard
|	Mn	55	3238858.7	2.2	356.9722	13.875	3.9	ug/L	1043	Standard
|	Co	59	1274.1	2.1	0.1395	0.007	4.9	ug/L	198	Standard
|	Ni	60	1799.4	1.9	0.9857	0.045	4.6	ug/L	64	Standard
|	Cu	65	1488.7	1.0	0.7182	0.029	4.0	ug/L	122	Standard
|	Zn	66	4136.9	1.8	3.4769	0.183	5.3	ug/L	209	Standard
>	Ge	72	562704.3	2.6				ug/L	618040	Standard
|	As	75	1433.0	3.6	1.4377	0.066	4.6	ug/L	11	Standard
|	Se	82	40.9	20.0	0.2929	0.094	32.3	ug/L	21	Standard
|	Se-1	77	109.3	10.7	0.3917	0.225	57.6	ug/L	86	Standard
>	Ga	71	76.7	21.0				mg/L	13	Standard
|	Rb	85	773.4	7.0				ug/L	18	Standard
|	Y	89	420479.9	2.2				ug/L	463757	Standard
>	Rh	103	45.0	19.2				ug/L	12	Standard
|	Mo	98	390.2	4.8	0.1030	0.006	6.2	ug/L	29	Standard
|	Ag	107	116.7	25.0	0.0031	0.005	144.1	ug/L	101	Standard
|	Cd	111	56.5	21.7	0.0227	0.006	25.5	mg/L	9	Standard
|	Cd	114	161.0	31.6	0.0296	0.010	32.2	ug/L	47	Standard
>	In	115	745747.4	2.3				ug/L	765457	Standard
|	Sn	118	149.0	10.0	-0.0239	0.015	63.8	ug/L	168	Standard
|	Sb	123	374.2	13.6	0.0710	0.011	15.2	ug/L	332	Standard
|	Ba	135	454054.9	3.1	175.7087	9.606	5.5	ug/L	37	Standard
|	Ce	140	4167.2	1.0				ug/L	895	Standard
>	Tb	159	1434733.6	1.3				ug/L	1511047	Standard
|	Ho	165	81.7	3.5				ug/L	22	Standard
|	Tl	203	108.0	51.0	0.0101	0.005	50.1	ug/L	14	Standard
|	Tl	205	273.3	43.0	0.0083	0.005	57.1	ug/L	27	Standard
|	Pb	206	1883.5	5.4	0.1604	0.013	7.8	ug/L	557	Standard
|	Pb	207	1567.4	5.0	0.1517	0.011	7.3	ug/L	432	Standard
|	Pb	208	7196.7	2.6	0.1518	0.005	3.1	ug/L	2118	Standard
	U	238	16397.9	1.9	0.5717	0.023	4.0	ug/L	78	Standard
>	Bi	209	731096.2	2.4				ug/L	791817	Standard

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Brank Z...

Na	23	90.0	58.8	26.7073	16.788	62.9	mg/L	5	Standard
Mg	24	22253.0	3.8	45.2631	3.159	7.0	mg/L	48	Standard
K	39	21.7	13.3	0.2908	0.056	19.3	mg/L	3	Standard
Ca	43	113.3	13.5	24.1530	7.631	31.6	mg/L	62	Standard
Fe	54	536.8	15.5	0.4306	0.095	22.0	mg/L	139	Standard
Fe	57	331.7	12.8	0.7438	0.086	11.5	mg/L	83	Standard
Sc-1	45	22682.0	5.7				mg/L	23513	Standard
Cl	35	4.0	86.6				ug/L	3	Standard
Kr	83	3.7	31.5				ug/L	2	Standard
Br	81	6501.4	2.1				ug/L	910	Standard
P	31	128.3	35.1				ug/L	85	Standard
S	34	41.7	34.6				ug/L	48	Standard
Sr	88	168.3	24.9				ug/L	72	Standard
C	12	913.4	12.8				mg/L	227	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	7	Standard
Dy	164	83.5	13.4				mg/L	22	Standard
Ho-1	165	81.7	3.5				mg/L	22	Standard
Er	166	66.7	62.5				mg/L	23	Standard
I	127	268202.6	9.8				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		99.433	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		91.047	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	97.425
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	92.331
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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: L1610011401

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610012302

Sample Date/Time: Wednesday, October 12, 2016 15:52:32

Number of Replicates: 3

Autosampler Position: 314

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	73698.8	1.4				ug/L	72553	Standard
|	Be	9	25.0	52.9	0.0106	0.015	140.9	ug/L	10	Standard
|	Al	27	84245792.2	3.0	819.8563	14.268	1.7	ug/L	232	Standard
|	Sc	45	20567.3	2.1				ug/L	23513	Standard
|	Ti	47	1097.7	5.3	7.2683	0.350	4.8	ug/L	36	Standard
|	V	51	1150.2	55.4	0.0148	0.124	837.0	ug/L	1387	Standard
|	Cr	52	14697.1	1.0	1.7247	0.037	2.1	ug/L	7813	Standard
|	Cr	53	17975.7	3.3	26.6633	0.983	3.7	ug/L	1410	Standard
|	Mn	55	503391.2	1.0	60.2573	0.209	0.3	ug/L	1043	Standard
|	Co	59	3971.2	1.9	0.5177	0.006	1.2	ug/L	198	Standard
|	Ni	60	16506.0	4.6	10.1786	0.405	4.0	ug/L	64	Standard
|	Cu	65	2230.5	3.7	1.2366	0.039	3.1	ug/L	122	Standard
|	Zn	66	9890.6	2.1	10.3533	0.268	2.6	ug/L	209	Standard
>	Ge	72	516702.0	0.8				ug/L	618040	Standard
|	As	75	1420.7	8.8	1.5475	0.122	7.9	ug/L	11	Standard
|	Se	82	629.4	2.0	7.0007	0.106	1.5	ug/L	21	Standard
|	Se-1	77	2005.5	2.0	33.1394	0.935	2.8	ug/L	86	Standard
>	Ga	71	393.3	1.9				mg/L	13	Standard
|	Rb	85	10426.9	4.5				ug/L	18	Standard
|	Y	89	392790.3	1.5				ug/L	463757	Standard
>	Rh	103	671.7	3.4				ug/L	12	Standard
|	Mo	98	167.9	7.3	0.0483	0.004	7.8	ug/L	29	Standard
|	Ag	107	179.0	2.4	0.0170	0.001	5.0	ug/L	101	Standard
|	Cd	111	732.5	2.2	0.4044	0.010	2.4	mg/L	9	Standard
|	Cd	114	1893.3	2.9	0.4040	0.011	2.6	ug/L	47	Standard
>	In	115	647220.3	0.6				ug/L	765457	Standard
|	Sn	118	130.3	8.1	-0.0231	0.011	46.3	ug/L	168	Standard
|	Sb	123	326.6	29.2	0.0711	0.019	27.3	ug/L	332	Standard
|	Ba	135	22514.7	1.1	10.0074	0.088	0.9	ug/L	37	Standard
|	Ce	140	29370.1	2.1				ug/L	895	Standard
>	Tb	159	1254604.6	1.9				ug/L	1511047	Standard
|	Ho	165	725.0	5.5				ug/L	22	Standard
|	Tl	203	161.3	5.3	0.0193	0.001	5.3	ug/L	14	Standard
|	Tl	205	351.7	14.5	0.0154	0.003	17.8	ug/L	27	Standard
|	Pb	206	2014.1	1.3	0.2439	0.002	1.0	ug/L	557	Standard
|	Pb	207	1590.4	4.1	0.2152	0.014	6.5	ug/L	432	Standard
|	Pb	208	7545.7	1.2	0.2258	0.005	2.4	ug/L	2118	Standard
	U	238	50953.9	0.5	2.2439	0.012	0.5	ug/L	78	Standard
>	Bi	209	578311.0	0.8				ug/L	791817	Standard

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Brink Z...

Na	23	420.0	4.1	137.2321	8.166	6.0	mg/L	5	Standard
Mg	24	105863.6	1.9	237.2951	0.941	0.4	mg/L	48	Standard
K	39	31.7	18.2	0.4927	0.099	20.1	mg/L	3	Standard
Ca	43	378.3	6.0	138.2373	6.102	4.4	mg/L	62	Standard
Fe	54	373.5	10.7	0.3014	0.037	12.2	mg/L	139	Standard
Fe	57	558.3	10.1	1.7832	0.273	15.3	mg/L	83	Standard
Sc-1	45	20567.3	2.1				mg/L	23513	Standard
Cl	35	6.7	69.3				ug/L	3	Standard
Kr	83	3.7	41.7				ug/L	2	Standard
Br	81	165765.3	1.5				ug/L	910	Standard
P	31	96.7	13.0				ug/L	85	Standard
S	34	48.3	15.8				ug/L	48	Standard
Sr	88	1358.4	6.7				ug/L	72	Standard
C	12	1116.7	14.3				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	1920.1	2.6				mg/L	7	Standard
Dy	164	973.0	10.2				mg/L	22	Standard
Ho-1	165	725.0	5.5				mg/L	22	Standard
Er	166	633.3	11.4				mg/L	23	Standard
I	127	3244914.5	12.8				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		101.579	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		83.603	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	84.553
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	73.036
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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: L1610012302

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610012304

Sample Date/Time: Wednesday, October 12, 2016 15:55:32

Number of Replicates: 3

Autosampler Position: 315

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	77947.0	4.8				ug/L	72553	Standard
|	Be	9	63.3	16.4	0.0482	0.008	16.1	ug/L	10	Standard
|	Al	27	425112.0	3.9	3.9097	0.034	0.9	ug/L	232	Standard
|	Sc	45	22166.2	2.2				ug/L	23513	Standard
|	Ti	47	196.0	7.1	0.9682	0.100	10.3	ug/L	36	Standard
|	V	51	3817.2	2.9	0.4524	0.027	5.9	ug/L	1387	Standard
|	Cr	52	13465.6	1.9	1.1934	0.022	1.9	ug/L	7813	Standard
|	Cr	53	2705.2	8.3	1.9932	0.367	18.4	ug/L	1410	Standard
|	Mn	55	287220.4	3.1	30.8018	0.572	1.9	ug/L	1043	Standard
|	Co	59	6069.6	4.7	0.7175	0.026	3.7	ug/L	198	Standard
|	Ni	60	1621.8	0.1	0.8639	0.012	1.4	ug/L	64	Standard
|	Cu	65	888.0	6.7	0.3757	0.038	10.1	ug/L	122	Standard
|	Zn	66	3189.3	2.4	2.4193	0.081	3.3	ug/L	209	Standard
>	Ge	72	575251.4	1.2				ug/L	618040	Standard
|	As	75	805.4	2.7	0.8084	0.011	1.4	ug/L	11	Standard
|	Se	82	80.8	12.1	0.6879	0.099	14.4	ug/L	21	Standard
|	Se-1	77	130.0	10.1	0.6703	0.212	31.6	ug/L	86	Standard
>	Ga	71	31.7	9.1				mg/L	13	Standard
|	Rb	85	1910.1	2.1				ug/L	18	Standard
|	Y	89	440955.1	3.1				ug/L	463757	Standard
>	Rh	103	10.0	86.6				ug/L	12	Standard
|	Mo	98	136.1	8.7	0.0284	0.002	7.6	ug/L	29	Standard
|	Ag	107	104.7	10.2	-0.0004	0.002	572.7	ug/L	101	Standard
|	Cd	111	91.8	7.8	0.0352	0.002	7.1	mg/L	9	Standard
|	Cd	114	272.9	12.2	0.0450	0.005	10.1	ug/L	47	Standard
>	In	115	832291.7	4.4				ug/L	765457	Standard
|	Sn	118	139.3	2.7	-0.0443	0.002	4.0	ug/L	168	Standard
|	Sb	123	1055.9	8.0	0.1736	0.009	5.3	ug/L	332	Standard
|	Ba	135	24038.4	2.3	8.3101	0.201	2.4	ug/L	37	Standard
|	Ce	140	1830.1	7.4				ug/L	895	Standard
>	Tb	159	1493088.3	1.7				ug/L	1511047	Standard
|	Ho	165	130.0	30.0				ug/L	22	Standard
|	Tl	203	116.7	5.7	0.0101	0.000	4.2	ug/L	14	Standard
|	Tl	205	280.0	11.7	0.0078	0.001	15.2	ug/L	27	Standard
|	Pb	206	793.7	0.9	0.0157	0.002	15.2	ug/L	557	Standard
|	Pb	207	667.0	0.5	0.0159	0.001	6.5	ug/L	432	Standard
|	Pb	208	3059.5	1.2	0.0141	0.001	4.4	ug/L	2118	Standard
	U	238	997.7	6.8	0.0325	0.002	6.4	ug/L	78	Standard
>	Bi	209	788637.1	1.7				ug/L	791817	Standard

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Brink Z...

Na	23	0.0		-0.4577	0.000	0.0	mg/L	5	Standard
Mg	24	8794.2	3.6	18.2123	0.292	1.6	mg/L	48	Standard
K	39	6.7	86.6	0.0605	0.089	147.9	mg/L	3	Standard
Ca	43	36.7	20.8	-4.5985	3.241	70.5	mg/L	62	Standard
Fe	54	103.4	22.4	-0.0107	0.023	215.9	mg/L	139	Standard
Fe	57	126.7	36.5	0.0150	0.184	1223.5	mg/L	83	Standard
Sc-1	45	22166.2	2.2				mg/L	23513	Standard
Cl	35	4.7	24.7				ug/L	3	Standard
Kr	83	3.3	96.4				ug/L	2	Standard
Br	81	15841.6	6.8				ug/L	910	Standard
P	31	158.3	13.1				ug/L	85	Standard
S	34	30.0	60.1				ug/L	48	Standard
Sr	88	116.7	20.3				ug/L	72	Standard
C	12	1126.7	11.2				mg/L	227	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	123.3	20.4				mg/L	7	Standard
Dy	164	108.8	29.3				mg/L	22	Standard
Ho-1	165	130.0	30.0				mg/L	22	Standard
Er	166	163.3	27.6				mg/L	23	Standard
I	127	3444136.4	7.1				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		107.434	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		93.077	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	108.731
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	99.598
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1610012304

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610012306

Sample Date/Time: Wednesday, October 12, 2016 15:58:31

Number of Replicates: 3

Autosampler Position: 316

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	87637.8	2.6				ug/L	72553	Standard
|	Be	9	26.7	47.2	0.0075	0.011	148.8	ug/L	10	Standard
|	Al	27	159435753.3	1.3	1305.7195	44.769	3.4	ug/L	232	Standard
|	Sc	45	20095.0	3.7				ug/L	23513	Standard
|	Ti	47	316.7	3.3	1.9519	0.122	6.3	ug/L	36	Standard
|	V	51	-1401.8	38.5	-0.4801	0.109	22.8	ug/L	1387	Standard
|	Cr	52	13207.8	2.7	1.4488	0.134	9.2	ug/L	7813	Standard
|	Cr	53	20330.3	3.5	30.7085	0.640	2.1	ug/L	1410	Standard
|	Mn	55	1648992.7	2.5	199.8117	9.558	4.8	ug/L	1043	Standard
|	Co	59	8282.9	3.8	1.1119	0.067	6.1	ug/L	198	Standard
|	Ni	60	24789.3	1.7	15.4662	0.589	3.8	ug/L	64	Standard
|	Cu	65	2166.8	4.0	1.2125	0.083	6.9	ug/L	122	Standard
|	Zn	66	5729.1	1.0	5.7190	0.188	3.3	ug/L	209	Standard
>	Ge	72	511742.1	2.4				ug/L	618040	Standard
|	As	75	2236.6	1.7	2.4379	0.085	3.5	ug/L	11	Standard
|	Se	82	1024.4	5.5	11.6065	0.923	8.0	ug/L	21	Standard
|	Se-1	77	3384.0	4.3	57.4388	3.460	6.0	ug/L	86	Standard
>	Ga	71	143.3	16.1				mg/L	13	Standard
|	Rb	85	12011.4	1.1				ug/L	18	Standard
|	Y	89	388808.9	3.3				ug/L	463757	Standard
>	Rh	103	1250.1	9.0				ug/L	12	Standard
|	Mo	98	373.4	3.9	0.1143	0.006	4.9	ug/L	29	Standard
|	Ag	107	147.0	3.1	0.0113	0.000	1.7	ug/L	101	Standard
|	Cd	111	1210.9	1.7	0.6730	0.028	4.1	mg/L	9	Standard
|	Cd	114	2983.0	4.5	0.6377	0.024	3.8	ug/L	47	Standard
>	In	115	646221.7	2.5				ug/L	765457	Standard
|	Sn	118	148.0	6.9	-0.0058	0.009	160.8	ug/L	168	Standard
|	Sb	123	379.6	15.4	0.0825	0.014	16.9	ug/L	332	Standard
|	Ba	135	26919.9	0.8	11.9953	0.391	3.3	ug/L	37	Standard
|	Ce	140	9187.8	2.5				ug/L	895	Standard
>	Tb	159	1208880.0	3.0				ug/L	1511047	Standard
|	Ho	165	338.3	2.3				ug/L	22	Standard
|	Tl	203	162.3	8.3	0.0209	0.001	6.5	ug/L	14	Standard
|	Tl	205	396.7	11.6	0.0194	0.003	15.8	ug/L	27	Standard
|	Pb	206	835.0	4.0	0.0665	0.007	10.0	ug/L	557	Standard
|	Pb	207	683.0	2.7	0.0607	0.006	10.6	ug/L	432	Standard
|	Pb	208	3150.1	1.0	0.0602	0.005	7.5	ug/L	2118	Standard
	U	238	117397.2	1.9	5.5783	0.239	4.3	ug/L	78	Standard
>	Bi	209	536290.6	2.4				ug/L	791817	Standard

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Brink Z...

Na	23	718.4	17.3	241.5915	49.401	20.4	mg/L	5	Standard
Mg	24	120921.3	4.8	278.0060	23.366	8.4	mg/L	48	Standard
K	39	36.7	20.8	0.5918	0.135	22.8	mg/L	3	Standard
Ca	43	548.3	7.6	214.3338	17.365	8.1	mg/L	62	Standard
Fe	54	133.9	19.5	0.0361	0.032	89.1	mg/L	139	Standard
Fe	57	795.0	13.1	2.7958	0.302	10.8	mg/L	83	Standard
Sc-1	45	20095.0	3.7				mg/L	23513	Standard
Cl	35	4.7	24.7				ug/L	3	Standard
Kr	83	3.7	15.7				ug/L	2	Standard
Br	81	267935.4	1.6				ug/L	910	Standard
P	31	80.0	38.0				ug/L	85	Standard
S	34	51.7	31.1				ug/L	48	Standard
Sr	88	2265.2	2.2				ug/L	72	Standard
C	12	840.0	7.1				mg/L	227	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	20.0	86.6				mg/L	7	Standard
Dy	164	400.1	39.7				mg/L	22	Standard
Ho-1	165	338.3	2.3				mg/L	22	Standard
Er	166	346.7	21.7				mg/L	23	Standard
I	127	854971.0	7.4				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		120.791	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		82.801	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	84.423
[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	67.729
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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	
V 51 Lower	V	51	

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Bank Z...

Sample ID: L1610012306

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610012307

Sample Date/Time: Wednesday, October 12, 2016 16:01:30

Number of Replicates: 3

Autosampler Position: 317

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	81946.4	5.4				ug/L	72553	Standard
|	Be	9	13.3	43.3	-0.0036	0.006	170.3	ug/L	10	Standard
|	Al	27	79460679.5	0.6	696.7694	33.567	4.8	ug/L	232	Standard
|	Sc	45	19868.0	3.4				ug/L	23513	Standard
|	Ti	47	201.7	18.7	1.1515	0.249	21.6	ug/L	36	Standard
|	V	51	1270.0	15.3	0.0392	0.039	100.0	ug/L	1387	Standard
|	Cr	52	13284.8	1.5	1.4560	0.033	2.3	ug/L	7813	Standard
|	Cr	53	9908.2	5.8	13.9698	0.835	6.0	ug/L	1410	Standard
|	Mn	55	1141798.8	1.4	137.8647	0.886	0.6	ug/L	1043	Standard
|	Co	59	8839.6	1.4	1.1840	0.017	1.5	ug/L	198	Standard
|	Ni	60	11219.2	1.7	6.9576	0.076	1.1	ug/L	64	Standard
|	Cu	65	1723.8	1.7	0.9398	0.018	1.9	ug/L	122	Standard
|	Zn	66	3600.4	0.7	3.2796	0.058	1.8	ug/L	209	Standard
>	Ge	72	512976.5	0.7				ug/L	618040	Standard
|	As	75	1385.8	11.1	1.5212	0.155	10.2	ug/L	11	Standard
|	Se	82	511.6	3.2	5.7064	0.144	2.5	ug/L	21	Standard
|	Se-1	77	1199.0	5.2	19.4181	0.926	4.8	ug/L	86	Standard
>	Ga	71	95.0	36.8				mg/L	13	Standard
|	Rb	85	4305.6	2.2				ug/L	18	Standard
|	Y	89	388331.0	2.8				ug/L	463757	Standard
>	Rh	103	1063.4	1.1				ug/L	12	Standard
|	Mo	98	388.1	3.2	0.1103	0.004	3.6	ug/L	29	Standard
|	Ag	107	137.7	7.8	0.0080	0.002	24.3	ug/L	101	Standard
|	Cd	111	183.5	7.5	0.0908	0.007	7.7	mg/L	9	Standard
|	Cd	114	454.2	2.3	0.0900	0.002	1.9	ug/L	47	Standard
>	In	115	694751.1	0.6				ug/L	765457	Standard
|	Sn	118	154.3	8.8	-0.0101	0.013	129.1	ug/L	168	Standard
|	Sb	123	696.5	13.2	0.1379	0.017	12.3	ug/L	332	Standard
|	Ba	135	22308.8	2.4	9.2350	0.171	1.9	ug/L	37	Standard
|	Ce	140	33450.2	1.3				ug/L	895	Standard
>	Tb	159	1257138.3	0.6				ug/L	1511047	Standard
|	Ho	165	420.0	11.7				ug/L	22	Standard
|	Tl	203	122.3	2.9	0.0147	0.000	1.3	ug/L	14	Standard
|	Tl	205	268.3	19.9	0.0111	0.003	24.9	ug/L	27	Standard
|	Pb	206	846.0	5.4	0.0585	0.006	10.0	ug/L	557	Standard
|	Pb	207	655.3	0.7	0.0466	0.001	3.0	ug/L	432	Standard
|	Pb	208	3124.8	1.2	0.0499	0.001	2.3	ug/L	2118	Standard
	U	238	289226.5	0.8	12.8097	0.334	2.6	ug/L	78	Standard
>	Bi	209	575140.9	1.8				ug/L	791817	Standard

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Brank Z...

Na	23	495.0	9.6	167.1774	10.779	6.4	mg/L	5	Standard
Mg	24	127850.7	2.4	296.9881	15.061	5.1	mg/L	48	Standard
K	39	43.3	17.6	0.7190	0.158	22.0	mg/L	3	Standard
Ca	43	316.7	11.1	117.1177	10.687	9.1	mg/L	62	Standard
Fe	54	160.1	15.9	0.0676	0.023	34.0	mg/L	139	Standard
Fe	57	460.0	8.2	1.4533	0.199	13.7	mg/L	83	Standard
Sc-1	45	19868.0	3.4				mg/L	23513	Standard
Cl	35	7.3	68.6				ug/L	3	Standard
Kr	83	3.7	31.5				ug/L	2	Standard
Br	81	130093.1	2.9				ug/L	910	Standard
P	31	93.3	18.8				ug/L	85	Standard
S	34	53.3	5.4				ug/L	48	Standard
Sr	88	1983.5	3.5				ug/L	72	Standard
C	12	1800.1	7.9				mg/L	227	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	7	Standard
Dy	164	500.2	5.4				mg/L	22	Standard
Ho-1	165	420.0	11.7				mg/L	22	Standard
Er	166	343.3	22.2				mg/L	23	Standard
I	127	220259.5	1.1				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		112.946	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		83.000	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	90.763
[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	72.636
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

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

Sample ID: L1610012307

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610012310

Sample Date/Time: Wednesday, October 12, 2016 16:04:30

Number of Replicates: 3

Autosampler Position: 318

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	80067.7	0.9				ug/L	72553	Standard
|	Be	9	30.0	44.1	0.0132	0.013	98.4	ug/L	10	Standard
|	Al	27	86925863.8	2.8	778.8814	26.964	3.5	ug/L	232	Standard
|	Sc	45	19621.0	0.9				ug/L	23513	Standard
|	Ti	47	594.0	5.8	3.8752	0.247	6.4	ug/L	36	Standard
|	V	51	920.9	33.9	-0.0278	0.060	216.6	ug/L	1387	Standard
|	Cr	52	13953.4	0.5	1.6075	0.004	0.3	ug/L	7813	Standard
|	Cr	53	13979.8	3.0	20.5924	0.746	3.6	ug/L	1410	Standard
|	Mn	55	495608.8	1.5	60.0494	0.947	1.6	ug/L	1043	Standard
|	Co	59	3156.7	2.7	0.4129	0.012	2.8	ug/L	198	Standard
|	Ni	60	16125.2	2.6	10.0663	0.257	2.6	ug/L	64	Standard
|	Cu	65	2021.1	4.5	1.1257	0.052	4.6	ug/L	122	Standard
|	Zn	66	9752.1	2.4	10.3305	0.268	2.6	ug/L	209	Standard
>	Ge	72	510479.0	0.3				ug/L	618040	Standard
|	As	75	1431.0	8.4	1.5776	0.131	8.3	ug/L	11	Standard
|	Se	82	630.4	4.0	7.0999	0.291	4.1	ug/L	21	Standard
|	Se-1	77	1758.4	1.6	29.2575	0.549	1.9	ug/L	86	Standard
>	Ga	71	195.0	31.5				mg/L	13	Standard
|	Rb	85	7723.6	6.4				ug/L	18	Standard
|	Y	89	397862.0	1.7				ug/L	463757	Standard
>	Rh	103	690.0	1.4				ug/L	12	Standard
|	Mo	98	127.4	14.5	0.0327	0.005	16.5	ug/L	29	Standard
|	Ag	107	170.0	4.8	0.0134	0.001	9.2	ug/L	101	Standard
|	Cd	111	791.2	2.6	0.4086	0.011	2.8	mg/L	9	Standard
|	Cd	114	1925.0	1.6	0.3842	0.009	2.2	ug/L	47	Standard
>	In	115	691962.7	0.8				ug/L	765457	Standard
|	Sn	118	129.7	32.9	-0.0320	0.038	118.3	ug/L	168	Standard
|	Sb	123	282.0	14.6	0.0581	0.008	13.2	ug/L	332	Standard
|	Ba	135	21059.0	1.2	8.7528	0.158	1.8	ug/L	37	Standard
|	Ce	140	17111.3	0.9				ug/L	895	Standard
>	Tb	159	1261052.2	1.5				ug/L	1511047	Standard
|	Ho	165	556.7	4.9				ug/L	22	Standard
|	Tl	203	176.7	7.5	0.0204	0.002	8.6	ug/L	14	Standard
|	Tl	205	456.7	4.6	0.0201	0.001	4.0	ug/L	27	Standard
|	Pb	206	1364.1	4.0	0.1331	0.008	6.3	ug/L	557	Standard
|	Pb	207	1042.7	3.2	0.1098	0.007	6.6	ug/L	432	Standard
|	Pb	208	5107.0	0.6	0.1216	0.001	1.1	ug/L	2118	Standard
	U	238	52202.8	0.4	2.2226	0.025	1.1	ug/L	78	Standard
>	Bi	209	598197.4	1.1				ug/L	791817	Standard

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Brink Z...

Na	23	446.7	16.3	152.8698	24.424	16.0	mg/L	5	Standard
Mg	24	105115.2	2.9	246.9506	5.095	2.1	mg/L	48	Standard
K	39	33.3	34.6	0.5488	0.208	38.0	mg/L	3	Standard
Ca	43	340.0	10.6	129.2914	16.783	13.0	mg/L	62	Standard
Fe	54	236.6	16.4	0.1609	0.047	29.5	mg/L	139	Standard
Fe	57	546.7	4.5	1.8384	0.103	5.6	mg/L	83	Standard
Sc-1	45	19621.0	0.9				mg/L	23513	Standard
Cl	35	4.0	50.0				ug/L	3	Standard
Kr	83	2.3	24.7				ug/L	2	Standard
Br	81	164400.5	0.9				ug/L	910	Standard
P	31	98.3	16.3				ug/L	85	Standard
S	34	33.3	56.8				ug/L	48	Standard
Sr	88	1451.7	4.0				ug/L	72	Standard
C	12	1650.1	5.3				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	973.4	13.6				mg/L	7	Standard
Dy	164	634.8	10.1				mg/L	22	Standard
Ho-1	165	556.7	4.9				mg/L	22	Standard
Er	166	526.7	13.3				mg/L	23	Standard
I	127	3257270.5	9.4				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		110.357	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		82.596	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1610012310

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	90.399
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	75.547
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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: L1610012310

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610012312

Sample Date/Time: Wednesday, October 12, 2016 16:07:29

Number of Replicates: 3

Autosampler Position: 319

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	81140.1	2.7				ug/L	72553	Standard
|	Be	9	75.0	33.3	0.0577	0.026	44.9	ug/L	10	Standard
|	Al	27	426778.9	2.1	3.7700	0.047	1.2	ug/L	232	Standard
|	Sc	45	20430.4	1.4				ug/L	23513	Standard
|	Ti	47	181.7	12.7	0.9248	0.145	15.6	ug/L	36	Standard
|	V	51	3548.9	0.2	0.4309	0.005	1.2	ug/L	1387	Standard
|	Cr	52	12119.8	1.9	1.0375	0.034	3.3	ug/L	7813	Standard
|	Cr	53	2468.5	7.2	1.7957	0.238	13.3	ug/L	1410	Standard
|	Mn	55	268197.0	1.0	29.9372	0.198	0.7	ug/L	1043	Standard
|	Co	59	5427.3	2.2	0.6667	0.012	1.8	ug/L	198	Standard
|	Ni	60	1537.7	3.7	0.8519	0.030	3.5	ug/L	64	Standard
|	Cu	65	754.0	3.8	0.3197	0.015	4.7	ug/L	122	Standard
|	Zn	66	2818.3	5.1	2.1590	0.132	6.1	ug/L	209	Standard
>	Ge	72	552663.2	0.7				ug/L	618040	Standard
|	As	75	781.5	3.3	0.8161	0.025	3.1	ug/L	11	Standard
|	Se	82	74.9	16.0	0.6587	0.128	19.5	ug/L	21	Standard
|	Se-1	77	108.7	20.4	0.4077	0.347	85.0	ug/L	86	Standard
>	Ga	71	46.7	44.6				mg/L	13	Standard
|	Rb	85	1688.4	7.7				ug/L	18	Standard
|	Y	89	418273.3	0.6				ug/L	463757	Standard
>	Rh	103	20.0	25.0				ug/L	12	Standard
|	Mo	98	115.8	22.6	0.0239	0.007	28.1	ug/L	29	Standard
|	Ag	107	135.0	45.6	0.0041	0.009	210.5	ug/L	101	Standard
|	Cd	111	102.5	33.6	0.0407	0.015	37.5	mg/L	9	Standard
|	Cd	114	249.7	27.0	0.0419	0.012	27.6	ug/L	47	Standard
>	In	115	817314.9	0.8				ug/L	765457	Standard
|	Sn	118	136.7	13.8	-0.0446	0.014	31.0	ug/L	168	Standard
|	Sb	123	890.7	15.8	0.1497	0.023	15.7	ug/L	332	Standard
|	Ba	135	23194.7	0.6	8.1597	0.055	0.7	ug/L	37	Standard
|	Ce	140	1663.4	4.0				ug/L	895	Standard
>	Tb	159	1440538.2	0.8				ug/L	1511047	Standard
|	Ho	165	91.7	20.7				ug/L	22	Standard
|	Tl	203	176.0	43.0	0.0156	0.007	42.2	ug/L	14	Standard
|	Tl	205	358.3	34.8	0.0109	0.005	42.6	ug/L	27	Standard
|	Pb	206	799.7	4.4	0.0178	0.004	22.4	ug/L	557	Standard
|	Pb	207	648.3	4.9	0.0147	0.003	22.2	ug/L	432	Standard
|	Pb	208	2988.1	3.0	0.0133	0.002	12.2	ug/L	2118	Standard
	U	238	1078.4	6.9	0.0356	0.002	5.7	ug/L	78	Standard
>	Bi	209	776672.7	1.2				ug/L	791817	Standard

Sample ID: L1610012312

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Brank Z...

Na	23	5.0	100.0	1.2059	1.666	138.2	mg/L	5	Standard
Mg	24	8143.9	3.4	18.2991	0.375	2.0	mg/L	48	Standard
K	39	6.7	114.6	0.0694	0.128	183.9	mg/L	3	Standard
Ca	43	36.7	7.9	-3.4328	1.299	37.8	mg/L	62	Standard
Fe	54	109.3	23.8	0.0056	0.030	542.5	mg/L	139	Standard
Fe	57	123.3	32.5	0.0395	0.165	418.1	mg/L	83	Standard
Sc-1	45	20430.4	1.4				mg/L	23513	Standard
Cl	35	2.7	43.3				ug/L	3	Standard
Kr	83	5.0	91.7				ug/L	2	Standard
Br	81	14029.8	4.2				ug/L	910	Standard
P	31	126.7	22.4				ug/L	85	Standard
S	34	23.3	65.5				ug/L	48	Standard
Sr	88	116.7	22.0				ug/L	72	Standard
C	12	753.4	11.4				mg/L	227	Standard
N	14	6.7	173.2				mg/L	0	Standard
Hg	202	113.3	35.7				mg/L	7	Standard
Dy	164	135.1	11.7				mg/L	22	Standard
Ho-1	165	91.7	20.7				mg/L	22	Standard
Er	166	103.3	34.0				mg/L	23	Standard
I	127	2982035.8	5.2				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		111.835	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		89.422	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	106.775
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	98.087
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1610012312

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610012314

Sample Date/Time: Wednesday, October 12, 2016 16:10:28

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: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	85011.4	3.6				ug/L	72553	Standard
|	Be	9	28.3	10.2	0.0099	0.002	18.2	ug/L	10	Standard
|	Al	27	157066011.4	1.2	1326.8856	65.279	4.9	ug/L	232	Standard
|	Sc	45	19389.1	2.0				ug/L	23513	Standard
|	Ti	47	246.7	4.1	1.4993	0.092	6.1	ug/L	36	Standard
|	V	51	-1404.5	37.1	-0.4853	0.107	21.9	ug/L	1387	Standard
|	Cr	52	13418.9	0.3	1.5423	0.029	1.9	ug/L	7813	Standard
|	Cr	53	19182.1	1.1	29.4483	0.051	0.2	ug/L	1410	Standard
|	Mn	55	1596005.2	0.2	196.8840	2.370	1.2	ug/L	1043	Standard
|	Co	59	7890.7	2.6	1.0780	0.042	3.9	ug/L	198	Standard
|	Ni	60	23985.3	0.8	15.2379	0.293	1.9	ug/L	64	Standard
|	Cu	65	2093.1	1.9	1.1903	0.025	2.1	ug/L	122	Standard
|	Zn	66	5594.4	1.3	5.6832	0.146	2.6	ug/L	209	Standard
>	Ge	72	502325.6	1.2				ug/L	618040	Standard
|	As	75	2126.5	7.1	2.3611	0.153	6.5	ug/L	11	Standard
|	Se	82	959.2	1.2	11.0520	0.038	0.3	ug/L	21	Standard
|	Se-1	77	3209.7	0.9	55.4215	1.120	2.0	ug/L	86	Standard
>	Ga	71	146.7	30.9				mg/L	13	Standard
|	Rb	85	11322.6	1.8				ug/L	18	Standard
|	Y	89	390134.6	1.4				ug/L	463757	Standard
>	Rh	103	1251.7	1.4				ug/L	12	Standard
|	Mo	98	322.2	8.5	0.0981	0.007	7.1	ug/L	29	Standard
|	Ag	107	137.7	9.5	0.0097	0.002	21.4	ug/L	101	Standard
|	Cd	111	1226.0	1.2	0.6832	0.016	2.3	mg/L	9	Standard
|	Cd	114	3024.2	2.5	0.6488	0.025	3.9	ug/L	47	Standard
>	In	115	644222.3	1.8				ug/L	765457	Standard
|	Sn	118	104.3	7.3	-0.0478	0.007	14.5	ug/L	168	Standard
|	Sb	123	364.0	6.2	0.0793	0.005	6.8	ug/L	332	Standard
|	Ba	135	25539.8	1.2	11.4100	0.189	1.7	ug/L	37	Standard
|	Ce	140	7882.1	1.7				ug/L	895	Standard
>	Tb	159	1189808.9	1.2				ug/L	1511047	Standard
|	Ho	165	260.0	8.8				ug/L	22	Standard
|	Tl	203	165.0	4.8	0.0211	0.001	5.5	ug/L	14	Standard
|	Tl	205	376.7	18.6	0.0181	0.004	20.6	ug/L	27	Standard
|	Pb	206	720.4	1.7	0.0457	0.003	7.0	ug/L	557	Standard
|	Pb	207	580.7	4.5	0.0397	0.004	10.0	ug/L	432	Standard
|	Pb	208	2775.8	2.5	0.0430	0.002	4.4	ug/L	2118	Standard
	U	238	117659.8	0.9	5.5405	0.019	0.3	ug/L	78	Standard
>	Bi	209	540785.8	0.9				ug/L	791817	Standard

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Brink Z...

Na	23	743.4	9.4	257.9250	24.841	9.6	mg/L	5	Standard
Mg	24	114991.6	3.0	273.5982	13.489	4.9	mg/L	48	Standard
K	39	51.7	20.1	0.8813	0.170	19.3	mg/L	3	Standard
Ca	43	570.0	22.0	232.9628	59.734	25.6	mg/L	62	Standard
Fe	54	121.7	23.9	0.0272	0.036	132.5	mg/L	139	Standard
Fe	57	718.4	10.4	2.5931	0.272	10.5	mg/L	83	Standard
Sc-1	45	19389.1	2.0				mg/L	23513	Standard
Cl	35	10.0					ug/L	3	Standard
Kr	83	3.3	62.4				ug/L	2	Standard
Br	81	254578.1	2.0				ug/L	910	Standard
P	31	101.7	30.0				ug/L	85	Standard
S	34	51.7	59.1				ug/L	48	Standard
Sr	88	2083.5	4.8				ug/L	72	Standard
C	12	1250.1	4.2				mg/L	227	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	23.3	24.7				mg/L	7	Standard
Dy	164	339.9	27.3				mg/L	22	Standard
Ho-1	165	260.0	8.8				mg/L	22	Standard
Er	166	280.0	27.0				mg/L	23	Standard
I	127	819726.7	6.0				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		117.171	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		81.277	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	84.162
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	68.297
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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	
V 51 Lower	V	51	
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1610012314

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Bank Z...

Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Wednesday, October 12, 2016 16:13:29

Number of Replicates: 3

Autosampler Position: 101

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	73524.8	4.1				ug/L	72553	Standard
|	Be	9	43066.1	1.3	47.0256	1.878	4.0	ug/L	10	Standard
|	Al	27	4603174.3	0.7	44.9477	1.532	3.4	ug/L	232	Standard
|	Sc	45	19547.6	2.2				ug/L	23513	Standard
|	Ti	47	15226.6	1.8	96.4410	1.275	1.3	ug/L	36	Standard
|	V	51	286919.7	2.0	51.0008	0.776	1.5	ug/L	1387	Standard
|	Cr	52	273728.4	1.3	50.6014	0.456	0.9	ug/L	7813	Standard
|	Cr	53	35882.5	2.9	51.0112	1.425	2.8	ug/L	1410	Standard
|	Mn	55	447129.5	1.9	49.6754	1.147	2.3	ug/L	1043	Standard
|	Co	59	405808.1	1.1	50.8760	0.794	1.6	ug/L	198	Standard
|	Ni	60	88706.9	0.2	50.9558	0.134	0.3	ug/L	64	Standard
|	Cu	65	90187.3	0.5	50.2423	0.332	0.7	ug/L	122	Standard
|	Zn	66	47733.4	0.6	49.2334	0.112	0.2	ug/L	209	Standard
>	Ge	72	556452.0	0.5				ug/L	618040	Standard
|	As	75	49771.6	0.8	49.0662	0.208	0.4	ug/L	11	Standard
|	Se	82	4594.8	2.1	48.2396	1.042	2.2	ug/L	21	Standard
|	Se-1	77	3186.3	1.9	49.5241	1.203	2.4	ug/L	86	Standard
>	Ga	71	36.7	41.7				mg/L	13	Standard
|	Rb	85	708.3	9.1				ug/L	18	Standard
|	Y	89	412452.9	1.8				ug/L	463757	Standard
>	Rh	103	43.3	46.6				ug/L	12	Standard
|	Mo	98	336255.8	1.0	88.9715	0.878	1.0	ug/L	29	Standard
|	Ag	107	318380.8	0.9	46.9924	0.491	1.0	ug/L	101	Standard
|	Cd	111	108666.0	1.5	50.1176	0.805	1.6	mg/L	9	Standard
|	Cd	114	281783.6	2.2	49.7034	0.129	0.3	ug/L	47	Standard
>	In	115	783564.5	2.0				ug/L	765457	Standard
|	Sn	118	63357.9	0.9	50.4403	0.691	1.4	ug/L	168	Standard
|	Sb	123	305993.1	1.0	52.3982	0.645	1.2	ug/L	332	Standard
|	Ba	135	131933.3	0.5	48.5473	1.160	2.4	ug/L	37	Standard
|	Ce	140	105.0	21.8				ug/L	895	Standard
>	Tb	159	1442266.8	1.0				ug/L	1511047	Standard
|	Ho	165	30.0	44.1				ug/L	22	Standard
|	Tl	203	547322.2	0.2	49.8586	0.429	0.9	ug/L	14	Standard
|	Tl	205	1276410.3	0.9	50.4172	0.775	1.5	ug/L	27	Standard
|	Pb	206	411596.0	0.1	49.4641	0.292	0.6	ug/L	557	Standard
|	Pb	207	362681.6	0.7	49.4750	0.089	0.2	ug/L	432	Standard
|	Pb	208	1643416.7	0.9	49.4854	0.198	0.4	ug/L	2118	Standard
	U	238	1518234.4	0.9	50.4928	0.682	1.4	ug/L	78	Standard
>	Bi	209	765701.9	0.7				ug/L	791817	Standard

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Brink Z...

Na	23	15.0	57.7	4.7407	3.079	65.0	mg/L	5	Standard
Mg	24	2321.8	1.5	5.3999	0.193	3.6	mg/L	48	Standard
K	39	156.7	11.2	2.7437	0.317	11.5	mg/L	3	Standard
Ca	43	58.3	32.5	6.6141	7.653	115.7	mg/L	62	Standard
Fe	54	3986.2	3.2	4.6023	0.202	4.4	mg/L	139	Standard
Fe	57	1235.1	4.8	4.7550	0.349	7.3	mg/L	83	Standard
Sc-1	45	19547.6	2.2				mg/L	23513	Standard
Cl	35	4.7	89.2				ug/L	3	Standard
Kr	83	8.3	18.3				ug/L	2	Standard
Br	81	2283.5	14.8				ug/L	910	Standard
P	31	58.3	27.6				ug/L	85	Standard
S	34	46.7	30.9				ug/L	48	Standard
Sr	88	113.3	31.3				ug/L	72	Standard
C	12	350.0	25.7				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	16.7	124.9				mg/L	7	Standard
Dy	164	15.1	141.0				mg/L	22	Standard
Ho-1	165	30.0	44.1				mg/L	22	Standard
Er	166	33.3	45.8				mg/L	23	Standard
I	127	66887.9	30.2				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	94.051		
Al	27	89.895		
Sc	45			
Ti	47	96.441		
V	51	102.002		
Cr	52	101.203		
Cr	53			
Mn	55	99.351		
Co	59	101.752		
Ni	60	101.912		
Cu	65	100.485		
Zn	66	98.467		
Ge	72		90.035	
As	75	98.132		
Se	82	96.479		
Se-1	77			
Ga	71			

Sample ID: QC Std 6

Report Date/Time: Wednesday, October 12, 2016 16:15:34

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Brink Z...

[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	88.972	
[Ag	107	93.985	
[Cd	111	100.235	
[Cd	114		
>	In	115		102.366
[	Sn	118	100.881	
[	Sb	123	104.796	
[	Ba	135	97.095	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	99.717	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	98.971	
[	U	238	100.986	
>	Bi	209		96.702
[	Na	23		
[	Mg	24		
[	K	39		
[	Ca	43		
[	Fe	54		
[	Fe	57		
>	Sc-1	45		
[	Cl	35		
[	Kr	83		
[	Br	81		
[	P	31		
[	S	34		
[	Sr	88		
[	C	12		
[	N	14		
[	Hg	202		
[	Dy	164		
[	Ho-1	165		
[	Er	166		
[	I	127		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Al	27	
QC Std 6	Mo	98	

Sample ID: QC Std 6

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Bank Z...

Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Wednesday, October 12, 2016 16:16:28

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	71617.5	5.4				ug/L	72553	Standard
|	Be	9	5.0	100.0	-0.0110	0.006	52.6	ug/L	10	Standard
|	Al	27	745.0	17.4	0.0039	0.001	23.1	ug/L	232	Standard
|	Sc	45	19405.8	6.4				ug/L	23513	Standard
|	Ti	47	30.0	23.1	-0.0438	0.040	92.3	ug/L	36	Standard
|	V	51	855.4	4.2	-0.0520	0.009	17.0	ug/L	1387	Standard
|	Cr	52	5882.5	0.2	-0.1447	0.024	16.8	ug/L	7813	Standard
|	Cr	53	1370.1	4.4	0.1813	0.100	55.1	ug/L	1410	Standard
|	Mn	55	966.0	5.7	-0.0457	0.007	15.5	ug/L	1043	Standard
|	Co	59	122.3	6.2	-0.0030	0.001	23.5	ug/L	198	Standard
|	Ni	60	33.7	37.7	-0.0185	0.007	38.3	ug/L	64	Standard
|	Cu	65	148.3	10.7	-0.0202	0.007	36.7	ug/L	122	Standard
|	Zn	66	196.3	2.9	-0.6069	0.011	1.8	ug/L	209	Standard
>	Ge	72	548964.2	2.3				ug/L	618040	Standard
|	As	75	-24.9	205.9	0.0160	0.052	323.0	ug/L	11	Standard
|	Se	82	22.4	32.5	0.1041	0.078	75.3	ug/L	21	Standard
|	Se-1	77	110.0	14.1	0.4446	0.271	61.0	ug/L	86	Standard
>	Ga	71	20.0	43.3				mg/L	13	Standard
|	Rb	85	21.7	35.3				ug/L	18	Standard
|	Y	89	414559.4	3.6				ug/L	463757	Standard
>	Rh	103	13.3	43.3				ug/L	12	Standard
|	Mo	98	183.2	20.0	0.0434	0.011	24.7	ug/L	29	Standard
|	Ag	107	117.0	10.4	0.0024	0.002	85.2	ug/L	101	Standard
|	Cd	111	10.1	41.1	0.0001	0.002	2419.1	mg/L	9	Standard
|	Cd	114	37.0	42.1	0.0063	0.003	45.6	ug/L	47	Standard
>	In	115	778754.3	2.3				ug/L	765457	Standard
|	Sn	118	174.7	20.6	-0.0083	0.032	380.6	ug/L	168	Standard
|	Sb	123	521.5	42.7	0.0939	0.040	42.6	ug/L	332	Standard
|	Ba	135	21.3	26.7	-0.0166	0.002	12.4	ug/L	37	Standard
|	Ce	140	35.0	51.5				ug/L	895	Standard
>	Tb	159	1491526.3	1.5				ug/L	1511047	Standard
|	Ho	165	25.0	20.0				ug/L	22	Standard
|	Tl	203	48.7	13.4	0.0042	0.001	15.2	ug/L	14	Standard
|	Tl	205	128.3	34.0	0.0020	0.002	80.2	ug/L	27	Standard
|	Pb	206	515.3	11.7	-0.0159	0.005	33.4	ug/L	557	Standard
|	Pb	207	421.3	5.2	-0.0158	0.002	10.0	ug/L	432	Standard
|	Pb	208	2017.4	7.6	-0.0156	0.003	17.0	ug/L	2118	Standard
	U	238	71.7	39.6	0.0026	0.001	37.6	ug/L	78	Standard
>	Bi	209	775898.9	3.2				ug/L	791817	Standard

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Brink Z...

Na	23	5.0	100.0	1.2286	1.622	132.0	mg/L	5	Standard
Mg	24	46.7	12.4	0.0306	0.014	44.5	mg/L	48	Standard
K	39	8.3	91.7	0.1047	0.139	132.6	mg/L	3	Standard
Ca	43	35.0	28.6	-3.1490	5.272	167.4	mg/L	62	Standard
Fe	54	116.1	36.5	0.0209	0.054	258.5	mg/L	139	Standard
Fe	57	141.7	21.6	0.1468	0.153	103.9	mg/L	83	Standard
Sc-1	45	19405.8	6.4				mg/L	23513	Standard
Cl	35	1.3	86.6				ug/L	3	Standard
Kr	83	3.7	15.7				ug/L	2	Standard
Br	81	1560.1	8.6				ug/L	910	Standard
P	31	53.3	32.9				ug/L	85	Standard
S	34	55.0	32.8				ug/L	48	Standard
Sr	88	98.3	22.9				ug/L	72	Standard
C	12	286.7	10.7				mg/L	227	Standard
N	14	6.7	86.6				mg/L	0	Standard
Hg	202	10.0	100.0				mg/L	7	Standard
Dy	164	12.1	47.1				mg/L	22	Standard
Ho-1	165	25.0	20.0				mg/L	22	Standard
Er	166	26.7	57.3				mg/L	23	Standard
I	127	32022.2	5.1				mg/L	4241	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		88.823	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: QC Std 7

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	101.737
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	97.990
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 7

Report Date/Time: Wednesday, October 12, 2016 16:18:33

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610012315

Sample Date/Time: Wednesday, October 12, 2016 16:19:29

Number of Replicates: 3

Autosampler Position: 321

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	79987.3	1.8				ug/L	72553	Standard
|	Be	9	21.7	35.3	0.0049	0.007	149.9	ug/L	10	Standard
|	Al	27	77784517.4	1.3	697.6588	11.031	1.6	ug/L	232	Standard
|	Sc	45	18376.1	1.4				ug/L	23513	Standard
|	Ti	47	94.7	13.1	0.4243	0.080	18.8	ug/L	36	Standard
|	V	51	1032.1	26.1	-0.0040	0.054	1363.9	ug/L	1387	Standard
|	Cr	52	12299.3	0.6	1.2893	0.030	2.3	ug/L	7813	Standard
|	Cr	53	9634.7	2.7	13.7541	0.461	3.4	ug/L	1410	Standard
|	Mn	55	1045426.2	0.2	128.0114	1.454	1.1	ug/L	1043	Standard
|	Co	59	6312.3	1.5	0.8522	0.006	0.7	ug/L	198	Standard
|	Ni	60	10685.1	1.1	6.7194	0.110	1.6	ug/L	64	Standard
|	Cu	65	1552.1	3.0	0.8492	0.034	4.0	ug/L	122	Standard
|	Zn	66	3112.0	1.9	2.7736	0.043	1.6	ug/L	209	Standard
>	Ge	72	505841.5	1.0				ug/L	618040	Standard
|	As	75	1439.2	4.8	1.6006	0.077	4.8	ug/L	11	Standard
|	Se	82	513.8	1.4	5.8160	0.137	2.4	ug/L	21	Standard
|	Se-1	77	1173.4	4.4	19.2718	1.099	5.7	ug/L	86	Standard
>	Ga	71	51.7	20.1				mg/L	13	Standard
|	Rb	85	3947.2	2.1				ug/L	18	Standard
|	Y	89	377257.3	0.3				ug/L	463757	Standard
>	Rh	103	1088.4	9.7				ug/L	12	Standard
|	Mo	98	416.8	7.2	0.1231	0.008	6.7	ug/L	29	Standard
|	Ag	107	112.7	9.4	0.0044	0.002	37.3	ug/L	101	Standard
|	Cd	111	148.1	5.1	0.0751	0.003	4.3	mg/L	9	Standard
|	Cd	114	435.6	5.3	0.0893	0.004	5.0	ug/L	47	Standard
>	In	115	671518.0	1.3				ug/L	765457	Standard
|	Sn	118	163.3	12.0	0.0030	0.018	590.1	ug/L	168	Standard
|	Sb	123	611.2	16.2	0.1256	0.020	15.8	ug/L	332	Standard
|	Ba	135	21449.8	0.5	9.1881	0.127	1.4	ug/L	37	Standard
|	Ce	140	18249.3	1.2				ug/L	895	Standard
>	Tb	159	1239100.3	1.3				ug/L	1511047	Standard
|	Ho	165	278.3	11.0				ug/L	22	Standard
|	Tl	203	151.7	15.9	0.0186	0.003	15.7	ug/L	14	Standard
|	Tl	205	340.0	5.3	0.0153	0.001	6.3	ug/L	27	Standard
|	Pb	206	585.0	4.0	0.0186	0.004	22.2	ug/L	557	Standard
|	Pb	207	467.3	6.5	0.0141	0.005	38.2	ug/L	432	Standard
|	Pb	208	2187.4	0.8	0.0141	0.000	2.2	ug/L	2118	Standard
	U	238	286420.3	0.8	12.9380	0.090	0.7	ug/L	78	Standard
>	Bi	209	563736.3	0.5				ug/L	791817	Standard

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Brank Z...

Na	23	463.3	9.3	169.5895	18.248	10.8	mg/L	5	Standard
Mg	24	124183.7	2.3	311.5983	7.711	2.5	mg/L	48	Standard
K	39	63.3	50.1	1.1607	0.621	53.5	mg/L	3	Standard
Ca	43	328.3	9.8	133.7866	14.309	10.7	mg/L	62	Standard
Fe	54	112.4	25.6	0.0236	0.038	163.1	mg/L	139	Standard
Fe	57	468.3	8.3	1.6427	0.175	10.6	mg/L	83	Standard
Sc-1	45	18376.1	1.4				mg/L	23513	Standard
Cl	35	8.0	90.1				ug/L	3	Standard
Kr	83	5.0	52.9				ug/L	2	Standard
Br	81	128664.2	2.3				ug/L	910	Standard
P	31	83.3	22.7				ug/L	85	Standard
S	34	36.7	55.1				ug/L	48	Standard
Sr	88	1900.1	3.0				ug/L	72	Standard
C	12	1363.4	6.6				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	7	Standard
Dy	164	291.5	39.9				mg/L	22	Standard
Ho-1	165	278.3	11.0				mg/L	22	Standard
Er	166	246.7	13.0				mg/L	23	Standard
I	127	163000.1	10.5				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		110.246	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		81.846	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	87.728
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	71.195
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

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

Sample ID: L1610012315

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Bank Z...

Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Wednesday, October 12, 2016 16:22:30

Number of Replicates: 3

Autosampler Position: 101

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	70627.6	1.5				ug/L	72553	Standard
|	Be	9	41015.5	2.9	46.5750	1.114	2.4	ug/L	10	Standard
|	Al	27	4562355.5	1.5	46.3337	0.250	0.5	ug/L	232	Standard
|	Sc	45	18691.5	3.6				ug/L	23513	Standard
|	Ti	47	14801.9	2.1	96.8110	1.930	2.0	ug/L	36	Standard
|	V	51	278052.7	1.5	51.0371	0.560	1.1	ug/L	1387	Standard
|	Cr	52	269716.0	1.1	51.5077	0.424	0.8	ug/L	7813	Standard
|	Cr	53	35284.4	1.2	51.8275	0.753	1.5	ug/L	1410	Standard
|	Mn	55	439709.7	1.2	50.4422	0.498	1.0	ug/L	1043	Standard
|	Co	59	393901.6	0.5	50.9915	0.359	0.7	ug/L	198	Standard
|	Ni	60	86755.7	0.7	51.4593	0.265	0.5	ug/L	64	Standard
|	Cu	65	88741.8	1.6	51.0474	0.576	1.1	ug/L	122	Standard
|	Zn	66	47076.0	1.3	50.1512	0.203	0.4	ug/L	209	Standard
>	Ge	72	538898.0	0.9				ug/L	618040	Standard
|	As	75	48988.1	1.2	49.8664	0.300	0.6	ug/L	11	Standard
|	Se	82	4580.6	2.5	49.6555	0.755	1.5	ug/L	21	Standard
|	Se-1	77	3161.0	1.6	50.7610	0.859	1.7	ug/L	86	Standard
>	Ga	71	25.0	52.9				mg/L	13	Standard
|	Rb	85	698.3	5.0				ug/L	18	Standard
|	Y	89	404148.1	1.4				ug/L	463757	Standard
>	Rh	103	58.3	43.1				ug/L	12	Standard
|	Mo	98	337290.1	0.7	89.0213	1.613	1.8	ug/L	29	Standard
|	Ag	107	317414.2	0.9	46.7303	0.756	1.6	ug/L	101	Standard
|	Cd	111	108977.2	1.3	50.1305	0.699	1.4	mg/L	9	Standard
|	Cd	114	282002.9	1.1	49.6197	0.372	0.8	ug/L	47	Standard
>	In	115	785555.1	1.4				ug/L	765457	Standard
|	Sn	118	65351.0	1.1	51.9008	1.177	2.3	ug/L	168	Standard
|	Sb	123	308397.2	1.1	52.6708	0.415	0.8	ug/L	332	Standard
|	Ba	135	132998.9	1.1	48.8044	0.641	1.3	ug/L	37	Standard
|	Ce	140	113.3	13.5				ug/L	895	Standard
>	Tb	159	1440744.4	0.7				ug/L	1511047	Standard
|	Ho	165	13.3	78.1				ug/L	22	Standard
|	Tl	203	546863.0	1.2	50.7015	0.470	0.9	ug/L	14	Standard
|	Tl	205	1277861.8	1.1	51.3703	0.532	1.0	ug/L	27	Standard
|	Pb	206	411318.7	1.4	50.3120	0.745	1.5	ug/L	557	Standard
|	Pb	207	361656.0	1.5	50.2147	0.700	1.4	ug/L	432	Standard
|	Pb	208	1640549.7	1.5	50.2800	0.628	1.2	ug/L	2118	Standard
	U	238	1512255.0	0.9	51.1869	0.290	0.6	ug/L	78	Standard
>	Bi	209	752298.9	0.4				ug/L	791817	Standard

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Brink Z...

Na	23	41.7	6.9	14.5572	0.763	5.2	mg/L	5	Standard
Mg	24	2381.9	4.8	5.8054	0.442	7.6	mg/L	48	Standard
K	39	186.7	13.5	3.4225	0.380	11.1	mg/L	3	Standard
Ca	43	63.3	12.1	10.2705	4.455	43.4	mg/L	62	Standard
Fe	54	4105.2	5.9	4.9711	0.412	8.3	mg/L	139	Standard
Fe	57	1356.7	3.1	5.5331	0.354	6.4	mg/L	83	Standard
Sc-1	45	18691.5	3.6				mg/L	23513	Standard
Cl	35	0.7	173.2				ug/L	3	Standard
Kr	83	5.0	91.7				ug/L	2	Standard
Br	81	2093.5	20.9				ug/L	910	Standard
P	31	53.3	23.6				ug/L	85	Standard
S	34	28.3	20.4				ug/L	48	Standard
Sr	88	126.7	26.3				ug/L	72	Standard
C	12	413.3	5.6				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	7	Standard
Dy	164	11.9	132.7				mg/L	22	Standard
Ho-1	165	13.3	78.1				mg/L	22	Standard
Er	166	30.0	88.2				mg/L	23	Standard
I	127	21914.4	16.0				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	93.150		
Al	27	92.667		
Sc	45			
Ti	47	96.811		
V	51	102.074		
Cr	52	103.015		
Cr	53			
Mn	55	100.884		
Co	59	101.983		
Ni	60	102.919		
Cu	65	102.095		
Zn	66	100.302		
Ge	72		87.195	
As	75	99.733		
Se	82	99.311		
Se-1	77			
Ga	71			

Sample ID: QC Std 6

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Brink Z...

[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	89.021	
[Ag	107	93.461	
[Cd	111	100.261	
[Cd	114		
>	In	115		102.626
[	Sn	118	103.802	
[	Sb	123	105.342	
[	Ba	135	97.609	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	101.403	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	100.560	
[	U	238	102.374	
>	Bi	209		95.009
[	Na	23		
[	Mg	24		
[	K	39		
[	Ca	43		
[	Fe	54		
[	Fe	57		
>	Sc-1	45		
[	Cl	35		
[	Kr	83		
[	Br	81		
[	P	31		
[	S	34		
[	Sr	88		
[	C	12		
[	N	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	Mo	98	

Sample ID: QC Std 6

Report Date/Time: Wednesday, October 12, 2016 16:24:35

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Bank Z...

Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Wednesday, October 12, 2016 16:25:30

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	69934.5	3.6				ug/L	72553	Standard
|	Be	9	6.7	114.6	-0.0090	0.009	101.6	ug/L	10	Standard
|	Al	27	385.0	16.6	0.0004	0.001	181.3	ug/L	232	Standard
|	Sc	45	19771.2	4.5				ug/L	23513	Standard
|	Ti	47	26.0	30.5	-0.0667	0.051	76.8	ug/L	36	Standard
|	V	51	867.0	26.1	-0.0476	0.042	88.8	ug/L	1387	Standard
|	Cr	52	5813.4	1.6	-0.1421	0.012	8.2	ug/L	7813	Standard
|	Cr	53	1180.0	12.3	-0.0781	0.214	273.9	ug/L	1410	Standard
|	Mn	55	924.7	4.6	-0.0489	0.005	10.1	ug/L	1043	Standard
|	Co	59	127.0	9.7	-0.0022	0.002	75.1	ug/L	198	Standard
|	Ni	60	38.3	6.6	-0.0154	0.001	9.0	ug/L	64	Standard
|	Cu	65	156.3	4.1	-0.0144	0.003	21.8	ug/L	122	Standard
|	Zn	66	191.7	7.4	-0.6090	0.015	2.4	ug/L	209	Standard
>	Ge	72	541083.9	0.7				ug/L	618040	Standard
|	As	75	-59.0	86.9	-0.0187	0.052	276.5	ug/L	11	Standard
|	Se	82	18.3	12.8	0.0628	0.026	41.0	ug/L	21	Standard
|	Se-1	77	84.3	17.5	0.0462	0.238	514.3	ug/L	86	Standard
>	Ga	71	33.3	37.7				mg/L	13	Standard
|	Rb	85	28.3	71.3				ug/L	18	Standard
|	Y	89	406131.5	2.4				ug/L	463757	Standard
>	Rh	103	21.7	113.8				ug/L	12	Standard
|	Mo	98	187.8	17.3	0.0449	0.009	20.6	ug/L	29	Standard
|	Ag	107	107.7	9.8	0.0011	0.001	130.9	ug/L	101	Standard
|	Cd	111	8.8	39.1	-0.0005	0.002	313.1	mg/L	9	Standard
|	Cd	114	33.4	10.8	0.0056	0.001	9.9	ug/L	47	Standard
>	In	115	774211.5	1.5				ug/L	765457	Standard
|	Sn	118	185.0	21.6	0.0007	0.034	5158.2	ug/L	168	Standard
|	Sb	123	521.9	38.1	0.0942	0.036	37.7	ug/L	332	Standard
|	Ba	135	30.3	3.8	-0.0132	0.000	2.1	ug/L	37	Standard
|	Ce	140	28.3	62.0				ug/L	895	Standard
>	Tb	159	1443760.6	2.1				ug/L	1511047	Standard
|	Ho	165	23.3	44.6				ug/L	22	Standard
|	Tl	203	45.3	15.6	0.0040	0.001	16.8	ug/L	14	Standard
|	Tl	205	118.3	12.9	0.0017	0.001	34.5	ug/L	27	Standard
|	Pb	206	524.3	5.7	-0.0136	0.003	24.4	ug/L	557	Standard
|	Pb	207	425.3	5.2	-0.0142	0.003	19.5	ug/L	432	Standard
|	Pb	208	2008.1	3.7	-0.0147	0.002	14.1	ug/L	2118	Standard
	U	238	68.7	33.0	0.0026	0.001	29.7	ug/L	78	Standard
>	Bi	209	761993.5	0.5				ug/L	791817	Standard

Sample ID: QC Std 7

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Brink Z...

Na	23	3.3	86.6	0.6503	0.960	147.6	mg/L	5	Standard
Mg	24	63.3	24.1	0.0685	0.043	62.2	mg/L	48	Standard
K	39	1.7	173.2	-0.0119	0.053	447.9	mg/L	3	Standard
Ca	43	40.0	45.1	-1.4825	7.604	512.9	mg/L	62	Standard
Fe	54	124.5	10.6	0.0271	0.010	36.4	mg/L	139	Standard
Fe	57	130.0	34.2	0.0811	0.173	213.6	mg/L	83	Standard
Sc-1	45	19771.2	4.5				mg/L	23513	Standard
Cl	35	1.3	86.6				ug/L	3	Standard
Kr	83	4.7	24.7				ug/L	2	Standard
Br	81	1316.7	9.4				ug/L	910	Standard
P	31	70.0	42.9				ug/L	85	Standard
S	34	21.7	135.2				ug/L	48	Standard
Sr	88	95.0	22.9				ug/L	72	Standard
C	12	320.0	10.8				mg/L	227	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	7	Standard
Dy	164	22.5	68.3				mg/L	22	Standard
Ho-1	165	23.3	44.6				mg/L	22	Standard
Er	166	16.7	69.3				mg/L	23	Standard
I	127	15669.8	2.5				mg/L	4241	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		87.548	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: QC Std 7

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	101.144
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	96.234
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 7

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Bank Z...

Method 6020 - Summary Report

Sample ID: PBW 32 WG586668-02

Sample Date/Time: Wednesday, October 12, 2016 16:28:31

Number of Replicates: 3

Autosampler Position: 322

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	68065.9	2.6				ug/L	72553	Standard
|	Be	9	5.0	100.0	-0.0110	0.006	52.1	ug/L	10	Standard
|	Al	27	6688.1	4.5	0.0670	0.005	7.1	ug/L	232	Standard
|	Sc	45	19576.0	2.1				ug/L	23513	Standard
|	Ti	47	34.0	5.9	-0.0148	0.011	71.5	ug/L	36	Standard
|	V	51	972.7	10.4	-0.0285	0.019	67.1	ug/L	1387	Standard
|	Cr	52	7951.4	3.6	0.2719	0.038	13.9	ug/L	7813	Standard
|	Cr	53	1431.7	10.1	0.3012	0.228	75.6	ug/L	1410	Standard
|	Mn	55	1708.4	3.7	0.0405	0.005	11.8	ug/L	1043	Standard
|	Co	59	150.3	12.1	0.0008	0.003	319.1	ug/L	198	Standard
|	Ni	60	158.3	15.1	0.0553	0.013	23.7	ug/L	64	Standard
|	Cu	65	205.3	10.5	0.0135	0.011	84.4	ug/L	122	Standard
|	Zn	66	1214.7	5.8	0.4918	0.066	13.4	ug/L	209	Standard
>	Ge	72	541948.3	1.2				ug/L	618040	Standard
|	As	75	-21.1	108.8	0.0196	0.024	120.0	ug/L	11	Standard
|	Se	82	22.1	24.3	0.1041	0.059	56.7	ug/L	21	Standard
|	Se-1	77	95.7	15.7	0.2296	0.239	104.2	ug/L	86	Standard
>	Ga	71	15.0	33.3				mg/L	13	Standard
|	Rb	85	26.7	28.6				ug/L	18	Standard
|	Y	89	409165.4	1.7				ug/L	463757	Standard
>	Rh	103	20.0	25.0				ug/L	12	Standard
|	Mo	98	73.3	19.1	0.0143	0.004	25.2	ug/L	29	Standard
|	Ag	107	101.7	5.4	0.0004	0.001	265.8	ug/L	101	Standard
|	Cd	111	5.2	40.1	-0.0021	0.001	46.4	mg/L	9	Standard
|	Cd	114	17.8	16.6	0.0029	0.001	17.9	ug/L	47	Standard
>	In	115	765855.8	1.4				ug/L	765457	Standard
|	Sn	118	144.3	13.2	-0.0313	0.014	45.2	ug/L	168	Standard
|	Sb	123	261.7	33.9	0.0492	0.015	30.5	ug/L	332	Standard
|	Ba	135	83.3	10.3	0.0069	0.004	52.5	ug/L	37	Standard
|	Ce	140	86.7	14.5				ug/L	895	Standard
>	Tb	159	1430005.0	0.4				ug/L	1511047	Standard
|	Ho	165	16.7	45.8				ug/L	22	Standard
|	Tl	203	28.3	21.3	0.0024	0.001	22.7	ug/L	14	Standard
|	Tl	205	56.7	40.8	-0.0007	0.001	126.9	ug/L	27	Standard
|	Pb	206	589.0	3.8	-0.0058	0.003	47.4	ug/L	557	Standard
|	Pb	207	506.0	2.6	-0.0031	0.002	63.7	ug/L	432	Standard
|	Pb	208	2290.4	1.2	-0.0061	0.001	13.2	ug/L	2118	Standard
	U	238	18.7	52.0	0.0009	0.000	37.0	ug/L	78	Standard
>	Bi	209	761525.3	0.3				ug/L	791817	Standard

Sample ID: PBW 32 WG586668-02

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Brink Z...

Na	23	1.7	173.2	0.1253	1.010	806.0	mg/L	5	Standard
Mg	24	78.3	25.8	0.1035	0.044	42.1	mg/L	48	Standard
K	39	8.3	34.6	0.1050	0.051	48.2	mg/L	3	Standard
Ca	43	31.7	24.1	-4.9923	3.027	60.6	mg/L	62	Standard
Fe	54	104.7	19.1	0.0051	0.021	417.1	mg/L	139	Standard
Fe	57	130.0	7.7	0.0884	0.032	35.6	mg/L	83	Standard
Sc-1	45	19576.0	2.1				mg/L	23513	Standard
Cl	35	3.3	124.9				ug/L	3	Standard
Kr	83	4.3	66.6				ug/L	2	Standard
Br	81	1336.7	16.1				ug/L	910	Standard
P	31	56.7	18.4				ug/L	85	Standard
S	34	30.0	28.9				ug/L	48	Standard
Sr	88	128.3	8.1				ug/L	72	Standard
C	12	423.3	15.7				mg/L	227	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	7	Standard
Dy	164	25.1	60.7				mg/L	22	Standard
Ho-1	165	16.7	45.8				mg/L	22	Standard
Er	166	33.3	17.3				mg/L	23	Standard
I	127	12988.9	1.8				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		93.815	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		87.688	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: PBW 32 WG586668-02

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	100.052
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	96.174
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: PBW 32 WG586668-02

Report Date/Time: Wednesday, October 12, 2016 16:30:36

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Bank Z...

Method 6020 - Summary Report

Sample ID: LCSW 32 WG586668-03

Sample Date/Time: Wednesday, October 12, 2016 16:31:30

Number of Replicates: 3

Autosampler Position: 323

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	69628.0	3.0				ug/L	72553	Standard
|	Be	9	38607.5	3.1	44.4823	1.352	3.0	ug/L	10	Standard
|	Al	27	7373.5	4.6	0.0725	0.005	6.2	ug/L	232	Standard
|	Sc	45	20049.9	1.5				ug/L	23513	Standard
|	Ti	47	33.3	16.5	-0.0261	0.037	141.6	ug/L	36	Standard
|	V	51	270895.2	2.7	47.7828	1.817	3.8	ug/L	1387	Standard
|	Cr	52	267554.5	2.4	49.0498	1.618	3.3	ug/L	7813	Standard
|	Cr	53	34783.2	1.7	49.0033	1.239	2.5	ug/L	1410	Standard
|	Mn	55	437753.4	3.7	48.2699	2.404	5.0	ug/L	1043	Standard
|	Co	59	386581.1	2.8	48.1036	1.987	4.1	ug/L	198	Standard
|	Ni	60	85767.8	2.2	48.8983	1.720	3.5	ug/L	64	Standard
|	Cu	65	89261.2	2.1	49.3513	1.603	3.2	ug/L	122	Standard
|	Zn	66	48276.1	1.2	49.4207	1.229	2.5	ug/L	209	Standard
>	Ge	72	560799.9	1.3				ug/L	618040	Standard
|	As	75	49595.2	1.5	48.5255	1.333	2.7	ug/L	11	Standard
|	Se	82	4599.0	2.5	47.9219	1.789	3.7	ug/L	21	Standard
|	Se-1	77	3101.7	1.6	47.7968	1.428	3.0	ug/L	86	Standard
>	Ga	71	25.0	72.1				mg/L	13	Standard
|	Rb	85	75.0	30.6				ug/L	18	Standard
|	Y	89	423288.8	1.5				ug/L	463757	Standard
>	Rh	103	36.7	41.7				ug/L	12	Standard
|	Mo	98	73.2	6.6	0.0132	0.001	7.3	ug/L	29	Standard
|	Ag	107	316481.2	2.2	45.2738	1.861	4.1	ug/L	101	Standard
|	Cd	111	109860.2	1.8	49.1045	1.753	3.6	mg/L	9	Standard
|	Cd	114	277923.6	3.1	47.5226	2.228	4.7	ug/L	47	Standard
>	In	115	808791.5	2.2				ug/L	765457	Standard
|	Sn	118	144.3	5.8	-0.0375	0.005	12.3	ug/L	168	Standard
|	Sb	123	311796.2	1.8	51.7432	1.832	3.5	ug/L	332	Standard
|	Ba	135	129254.9	2.6	46.0909	2.064	4.5	ug/L	37	Standard
|	Ce	140	135.0	35.7				ug/L	895	Standard
>	Tb	159	1457490.0	3.2				ug/L	1511047	Standard
|	Ho	165	45.0	29.4				ug/L	22	Standard
|	Tl	203	546857.9	2.2	49.9199	1.622	3.2	ug/L	14	Standard
|	Tl	205	1261815.7	1.4	49.9402	1.227	2.5	ug/L	27	Standard
|	Pb	206	411898.8	2.4	49.6093	1.901	3.8	ug/L	557	Standard
|	Pb	207	350021.6	2.4	47.8514	1.813	3.8	ug/L	432	Standard
|	Pb	208	1613976.2	2.4	48.7035	1.752	3.6	ug/L	2118	Standard
	U	238	1430012.1	1.6	47.6573	1.375	2.9	ug/L	78	Standard
>	Bi	209	764322.2	1.9				ug/L	791817	Standard

Sample ID: LCSW 32 WG586668-03

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Brian Z...

Na	23	1.7	173.2	0.1122	0.987	879.5	mg/L	5	Standard
Mg	24	43.3	13.3	0.0194	0.015	76.8	mg/L	48	Standard
K	39	8.3	124.9	0.1034	0.184	178.0	mg/L	3	Standard
Ca	43	43.3	29.0	-0.3580	5.117	1429.5	mg/L	62	Standard
Fe	54	109.4	15.9	0.0081	0.022	268.4	mg/L	139	Standard
Fe	57	128.3	6.0	0.0688	0.025	35.9	mg/L	83	Standard
Sc-1	45	20049.9	1.5				mg/L	23513	Standard
Cl	35	2.7	86.6				ug/L	3	Standard
Kr	83	2.3	49.5				ug/L	2	Standard
Br	81	2746.9	6.7				ug/L	910	Standard
P	31	51.7	34.0				ug/L	85	Standard
S	34	28.3	27.0				ug/L	48	Standard
Sr	88	88.3	13.1				ug/L	72	Standard
C	12	313.3	25.6				mg/L	227	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	7	Standard
Dy	164	41.9	83.2				mg/L	22	Standard
Ho-1	165	45.0	29.4				mg/L	22	Standard
Er	166	30.0	33.3				mg/L	23	Standard
I	127	13072.3	1.9				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		95.968	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		90.738	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: LCSW 32 WG586668-03

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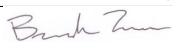
Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	105.661
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
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[Pb	206	
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[Kr	83	
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[P	31	
[S	34	
[Sr	88	
[C	12	
[N	14	
[Hg	202	
[Dy	164	
[Ho-1	165	
[Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: LCSW 32 WG586668-03
 Report Date/Time: Wednesday, October 12, 2016 16:33:35
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Approved: October 13, 2016 

Method 6020 - Summary Report

Sample ID: L1610010108 WG586668-01

Sample Date/Time: Wednesday, October 12, 2016 16:34:29

Number of Replicates: 3

Autosampler Position: 324

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	68999.0	7.6				ug/L	72553	Standard
|	Be	9	8.3	34.6	-0.0072	0.003	38.0	ug/L	10	Standard
|	Al	27	17071847.5	2.9	177.9575	9.833	5.5	ug/L	232	Standard
|	Sc	45	20921.1	6.1				ug/L	23513	Standard
|	Ti	47	67.0	5.4	0.1870	0.039	20.8	ug/L	36	Standard
|	V	51	1260.1	1.5	0.0167	0.010	61.0	ug/L	1387	Standard
|	Cr	52	10326.2	2.1	0.6689	0.034	5.0	ug/L	7813	Standard
|	Cr	53	2565.2	3.4	1.8887	0.091	4.8	ug/L	1410	Standard
|	Mn	55	24021852.8	3.0	2658.3963	22.864	0.9	ug/L	1043	Standard
|	Co	59	6187.9	4.4	0.7519	0.011	1.4	ug/L	198	Standard
|	Ni	60	3591.8	3.9	2.0123	0.040	2.0	ug/L	64	Standard
|	Cu	65	959.0	5.5	0.4278	0.029	6.8	ug/L	122	Standard
|	Zn	66	13881.4	2.6	13.6409	0.188	1.4	ug/L	209	Standard
>	Ge	72	560404.3	3.7				ug/L	618040	Standard
|	As	75	116.6	18.7	0.1553	0.022	14.1	ug/L	11	Standard
|	Se	82	40.6	19.9	0.2878	0.071	24.8	ug/L	21	Standard
|	Se-1	77	206.7	1.8	1.9423	0.186	9.6	ug/L	86	Standard
>	Ga	71	163.3	12.4				mg/L	13	Standard
|	Rb	85	15122.5	3.6				ug/L	18	Standard
|	Y	89	424088.2	3.6				ug/L	463757	Standard
>	Rh	103	30.0	44.1				ug/L	12	Standard
|	Mo	98	399.2	6.3	0.0990	0.006	5.9	ug/L	29	Standard
|	Ag	107	117.0	3.9	0.0021	0.001	36.6	ug/L	101	Standard
|	Cd	111	19.2	16.9	0.0041	0.001	36.1	mg/L	9	Standard
|	Cd	114	102.8	26.4	0.0175	0.004	22.6	ug/L	47	Standard
>	In	115	792899.2	5.9				ug/L	765457	Standard
|	Sn	118	142.7	13.2	-0.0369	0.008	21.9	ug/L	168	Standard
|	Sb	123	871.3	37.6	0.1524	0.059	38.6	ug/L	332	Standard
|	Ba	135	1460452.9	2.9	531.7911	16.119	3.0	ug/L	37	Standard
|	Ce	140	1196.7	4.9				ug/L	895	Standard
>	Tb	159	1452989.4	5.3				ug/L	1511047	Standard
|	Ho	165	55.0					ug/L	22	Standard
|	Tl	203	139.0	4.7	0.0129	0.000	3.0	ug/L	14	Standard
|	Tl	205	280.0	17.0	0.0084	0.002	17.9	ug/L	27	Standard
|	Pb	206	758.4	9.8	0.0170	0.006	34.7	ug/L	557	Standard
|	Pb	207	613.3	4.7	0.0139	0.002	14.0	ug/L	432	Standard
|	Pb	208	2937.8	5.0	0.0158	0.000	2.9	ug/L	2118	Standard
	U	238	1334.1	2.5	0.0461	0.001	2.6	ug/L	78	Standard
>	Bi	209	742339.1	4.5				ug/L	791817	Standard

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Brank Z...

Na	23	65.0	40.7	20.2259	7.166	35.4	mg/L	5	Standard
Mg	24	13194.1	5.0	29.0275	1.075	3.7	mg/L	48	Standard
K	39	75.0	13.3	1.2044	0.165	13.7	mg/L	3	Standard
Ca	43	75.0	17.6	12.1089	7.111	58.7	mg/L	62	Standard
Fe	54	887.1	6.7	0.8629	0.035	4.0	mg/L	139	Standard
Fe	57	445.0	8.5	1.3052	0.252	19.3	mg/L	83	Standard
Sc-1	45	20921.1	6.1				mg/L	23513	Standard
Cl	35	4.0	100.0				ug/L	3	Standard
Kr	83	3.7	41.7				ug/L	2	Standard
Br	81	2800.3	4.8				ug/L	910	Standard
P	31	81.7	12.7				ug/L	85	Standard
S	34	35.0	37.8				ug/L	48	Standard
Sr	88	151.7	3.8				ug/L	72	Standard
C	12	813.4	0.7				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	7	Standard
Dy	164	40.6	61.7				mg/L	22	Standard
Ho-1	165	55.0					mg/L	22	Standard
Er	166	56.7	36.7				mg/L	23	Standard
I	127	613008.2	4.6				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		95.101	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		90.674	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1610010108 WG586668-01

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	103.585
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	93.751
[	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	

Sample ID: L1610010108 WG586668-01

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610010108S WG586668-05

Sample Date/Time: Wednesday, October 12, 2016 16:37:29

Number of Replicates: 3

Autosampler Position: 325

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	71027.9	2.9				ug/L	72553	Standard
|	Be	9	42594.8	0.8	48.1271	1.595	3.3	ug/L	10	Standard
|	Al	27	16231775.8	4.2	164.0683	9.695	5.9	ug/L	232	Standard
|	Sc	45	21799.0	1.4				ug/L	23513	Standard
|	Ti	47	80.0	3.8	0.2639	0.017	6.3	ug/L	36	Standard
|	V	51	282252.7	1.4	49.4158	0.556	1.1	ug/L	1387	Standard
|	Cr	52	271823.8	1.8	49.4662	0.206	0.4	ug/L	7813	Standard
|	Cr	53	35296.1	1.3	49.3707	0.640	1.3	ug/L	1410	Standard
|	Mn	55	23326794.7	0.7	2560.5116	22.507	0.9	ug/L	1043	Standard
|	Co	59	392064.1	1.0	48.4168	0.710	1.5	ug/L	198	Standard
|	Ni	60	88916.5	1.2	50.3125	0.710	1.4	ug/L	64	Standard
|	Cu	65	87225.7	1.4	47.8619	0.826	1.7	ug/L	122	Standard
|	Zn	66	60922.2	0.4	62.1093	0.658	1.1	ug/L	209	Standard
>	Ge	72	564933.5	1.4				ug/L	618040	Standard
|	As	75	51168.3	1.3	49.6861	0.146	0.3	ug/L	11	Standard
|	Se	82	4708.5	1.6	48.6940	0.680	1.4	ug/L	21	Standard
|	Se-1	77	3281.4	3.9	50.2478	1.790	3.6	ug/L	86	Standard
>	Ga	71	133.3	13.2				mg/L	13	Standard
|	Rb	85	14585.4	2.3				ug/L	18	Standard
|	Y	89	428709.3	1.1				ug/L	463757	Standard
>	Rh	103	56.7	13.5				ug/L	12	Standard
|	Mo	98	392.2	1.2	0.0959	0.002	2.1	ug/L	29	Standard
|	Ag	107	312407.1	1.1	45.0629	0.641	1.4	ug/L	101	Standard
|	Cd	111	110518.5	1.8	49.8078	0.186	0.4	mg/L	9	Standard
|	Cd	114	277870.6	2.9	47.8978	0.793	1.7	ug/L	47	Standard
>	In	115	801799.4	2.1				ug/L	765457	Standard
|	Sn	118	151.3	12.2	-0.0310	0.014	46.4	ug/L	168	Standard
|	Sb	123	317764.2	1.3	53.1750	0.514	1.0	ug/L	332	Standard
|	Ba	135	1565182.7	1.3	563.0467	11.187	2.0	ug/L	37	Standard
|	Ce	140	1125.0	9.9				ug/L	895	Standard
>	Tb	159	1487537.6	4.2				ug/L	1511047	Standard
|	Ho	165	66.7	22.9				ug/L	22	Standard
|	Tl	203	544756.9	2.6	50.3215	0.972	1.9	ug/L	14	Standard
|	Tl	205	1261801.1	1.5	50.5404	0.475	0.9	ug/L	27	Standard
|	Pb	206	411317.5	0.8	50.1307	0.390	0.8	ug/L	557	Standard
|	Pb	207	348140.0	1.4	48.1603	0.360	0.7	ug/L	432	Standard
|	Pb	208	1609513.7	1.3	49.1494	0.400	0.8	ug/L	2118	Standard
	U	238	1458864.4	0.2	49.2038	0.237	0.5	ug/L	78	Standard
>	Bi	209	755013.3	0.6				ug/L	791817	Standard

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Brink Z...

Na	23	55.0	15.7	16.5183	2.416	14.6	mg/L	5	Standard
Mg	24	12471.8	2.9	26.3003	0.381	1.4	mg/L	48	Standard
K	39	58.3	13.1	0.8887	0.134	15.1	mg/L	3	Standard
Ca	43	88.3	21.4	15.8955	7.808	49.1	mg/L	62	Standard
Fe	54	767.0	12.8	0.6956	0.101	14.5	mg/L	139	Standard
Fe	57	360.0	6.4	0.9030	0.089	9.9	mg/L	83	Standard
Sc-1	45	21799.0	1.4				mg/L	23513	Standard
Cl	35	2.7	114.6				ug/L	3	Standard
Kr	83	2.7	43.3				ug/L	2	Standard
Br	81	3193.7	7.5				ug/L	910	Standard
P	31	71.7	28.2				ug/L	85	Standard
S	34	45.0	29.4				ug/L	48	Standard
Sr	88	131.7	23.2				ug/L	72	Standard
C	12	703.3	10.3				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	6.7	86.6				mg/L	7	Standard
Dy	164	29.7	53.5				mg/L	22	Standard
Ho-1	165	66.7	22.9				mg/L	22	Standard
Er	166	76.7	19.9				mg/L	23	Standard
I	127	716211.1	7.4				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		97.897	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		91.407	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	104.748
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	95.352
[	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: L1610010108S WG586668-05
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Method 6020 - Summary Report

Sample ID: L1610010108SD WG586668-06

Sample Date/Time: Wednesday, October 12, 2016 16:40:29

Number of Replicates: 3

Autosampler Position: 326

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	72571.8	3.0				ug/L	72553	Standard
|	Be	9	43077.9	3.3	47.6110	0.894	1.9	ug/L	10	Standard
|	Al	27	16837057.8	0.8	166.5024	4.231	2.5	ug/L	232	Standard
|	Sc	45	21827.4	1.5				ug/L	23513	Standard
|	Ti	47	81.3	7.0	0.2677	0.038	14.4	ug/L	36	Standard
|	V	51	289327.7	0.2	50.1836	0.448	0.9	ug/L	1387	Standard
|	Cr	52	278827.0	1.0	50.2885	0.428	0.9	ug/L	7813	Standard
|	Cr	53	36844.7	0.8	51.1182	0.753	1.5	ug/L	1410	Standard
|	Mn	55	23980391.0	1.3	2607.3580	19.228	0.7	ug/L	1043	Standard
|	Co	59	393785.8	0.8	48.1700	0.410	0.9	ug/L	198	Standard
|	Ni	60	89506.6	1.3	50.1687	0.645	1.3	ug/L	64	Standard
|	Cu	65	88169.8	1.5	47.9217	0.526	1.1	ug/L	122	Standard
|	Zn	66	61258.6	0.9	61.8580	0.212	0.3	ug/L	209	Standard
>	Ge	72	570271.3	0.7				ug/L	618040	Standard
|	As	75	51910.7	0.9	49.9341	0.129	0.3	ug/L	11	Standard
|	Se	82	4856.3	0.4	49.7533	0.142	0.3	ug/L	21	Standard
|	Se-1	77	3329.7	0.9	50.5204	0.225	0.4	ug/L	86	Standard
>	Ga	71	188.3	8.1				mg/L	13	Standard
|	Rb	85	14880.6	1.4				ug/L	18	Standard
|	Y	89	441061.8	2.5				ug/L	463757	Standard
>	Rh	103	65.0	20.4				ug/L	12	Standard
|	Mo	98	406.5	3.1	0.0987	0.003	2.7	ug/L	29	Standard
|	Ag	107	316937.0	1.0	45.3159	0.462	1.0	ug/L	101	Standard
|	Cd	111	111408.9	1.2	49.7785	0.904	1.8	mg/L	9	Standard
|	Cd	114	283140.5	2.1	48.3931	1.280	2.6	ug/L	47	Standard
>	In	115	808825.7	1.7				ug/L	765457	Standard
|	Sn	118	176.7	8.0	-0.0125	0.009	71.6	ug/L	168	Standard
|	Sb	123	314557.5	1.6	52.1765	0.451	0.9	ug/L	332	Standard
|	Ba	135	1570738.6	2.1	560.0414	9.721	1.7	ug/L	37	Standard
|	Ce	140	1146.7	8.4				ug/L	895	Standard
>	Tb	159	1496598.4	1.4				ug/L	1511047	Standard
|	Ho	165	68.3	29.6				ug/L	22	Standard
|	Tl	203	549177.5	0.8	50.6219	0.127	0.3	ug/L	14	Standard
|	Tl	205	1290313.0	0.7	51.5750	0.849	1.6	ug/L	27	Standard
|	Pb	206	412329.0	0.7	50.1428	0.212	0.4	ug/L	557	Standard
|	Pb	207	349624.3	0.7	48.2606	0.203	0.4	ug/L	432	Standard
|	Pb	208	1614205.0	1.3	49.1843	0.407	0.8	ug/L	2118	Standard
	U	238	1479887.8	0.9	49.8013	0.113	0.2	ug/L	78	Standard
>	Bi	209	756695.9	1.0				ug/L	791817	Standard

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Brink Z...

Na	23	66.7	30.3	20.0820	6.020	30.0	mg/L	5	Standard
Mg	24	13075.6	3.0	27.5418	0.443	1.6	mg/L	48	Standard
K	39	91.7	11.4	1.4163	0.155	10.9	mg/L	3	Standard
Ca	43	88.3	14.2	15.8461	5.395	34.0	mg/L	62	Standard
Fe	54	839.6	11.1	0.7725	0.108	14.0	mg/L	139	Standard
Fe	57	371.7	12.4	0.9465	0.189	20.0	mg/L	83	Standard
Sc-1	45	21827.4	1.5				mg/L	23513	Standard
Cl	35	4.0	50.0				ug/L	3	Standard
Kr	83	4.0	0.0				ug/L	2	Standard
Br	81	3017.0	8.2				ug/L	910	Standard
P	31	81.7	21.5				ug/L	85	Standard
S	34	53.3	32.9				ug/L	48	Standard
Sr	88	128.3	15.7				ug/L	72	Standard
C	12	670.0	16.8				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	6.7	173.2				mg/L	7	Standard
Dy	164	43.5	37.4				mg/L	22	Standard
Ho-1	165	68.3	29.6				mg/L	22	Standard
Er	166	66.7	31.2				mg/L	23	Standard
I	127	698981.7	7.0				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		100.025	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		92.271	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1610010108SD WG586668-06

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	105.666
[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	95.565
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

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

Sample ID: L1610010108SD WG586668-06

Report Date/Time: Wednesday, October 12, 2016 16:42:33

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610010102

Sample Date/Time: Wednesday, October 12, 2016 16:43:28

Number of Replicates: 3

Autosampler Position: 327

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	70822.3	6.8				ug/L	72553	Standard
|	Be	9	30.0	33.3	0.0175	0.013	74.4	ug/L	10	Standard
|	Al	27	5234075.4	0.7	53.1702	3.586	6.7	ug/L	232	Standard
|	Sc	45	21533.6	4.9				ug/L	23513	Standard
|	Ti	47	67.3	7.5	0.1812	0.046	25.5	ug/L	36	Standard
|	V	51	2799.6	12.9	0.2803	0.063	22.5	ug/L	1387	Standard
|	Cr	52	10308.2	3.6	0.6291	0.075	11.9	ug/L	7813	Standard
|	Cr	53	2581.9	3.0	1.8474	0.264	14.3	ug/L	1410	Standard
|	Mn	55	2325759.0	1.1	252.5236	8.000	3.2	ug/L	1043	Standard
|	Co	59	9886.9	0.8	1.1904	0.042	3.6	ug/L	198	Standard
|	Ni	60	5210.9	1.0	2.8824	0.096	3.3	ug/L	64	Standard
|	Cu	65	795.4	4.7	0.3285	0.015	4.6	ug/L	122	Standard
|	Zn	66	3355.4	1.1	2.6142	0.107	4.1	ug/L	209	Standard
>	Ge	72	571268.0	4.2				ug/L	618040	Standard
|	As	75	998.1	5.6	1.0002	0.073	7.3	ug/L	11	Standard
|	Se	82	37.0	14.6	0.2451	0.062	25.4	ug/L	21	Standard
|	Se-1	77	168.7	5.2	1.2839	0.032	2.5	ug/L	86	Standard
>	Ga	71	51.7	24.4				mg/L	13	Standard
|	Rb	85	6364.7	3.8				ug/L	18	Standard
|	Y	89	440733.8	3.7				ug/L	463757	Standard
>	Rh	103	30.0	44.1				ug/L	12	Standard
|	Mo	98	11350.7	1.1	2.9082	0.137	4.7	ug/L	29	Standard
|	Ag	107	157.7	22.9	0.0075	0.005	62.3	ug/L	101	Standard
|	Cd	111	16.7	13.4	0.0029	0.001	47.3	mg/L	9	Standard
|	Cd	114	121.9	9.6	0.0205	0.002	10.3	ug/L	47	Standard
>	In	115	808942.3	5.3				ug/L	765457	Standard
|	Sn	118	178.0	3.4	-0.0113	0.005	44.5	ug/L	168	Standard
|	Sb	123	4045.4	2.3	0.6760	0.049	7.2	ug/L	332	Standard
|	Ba	135	210611.8	1.0	75.1745	3.300	4.4	ug/L	37	Standard
|	Ce	140	1210.0	8.7				ug/L	895	Standard
>	Tb	159	1482310.0	5.4				ug/L	1511047	Standard
|	Ho	165	335.0	5.4				ug/L	22	Standard
|	Tl	203	125.7	33.2	0.0113	0.004	31.3	ug/L	14	Standard
|	Tl	205	326.7	30.7	0.0099	0.004	37.0	ug/L	27	Standard
|	Pb	206	1044.0	6.1	0.0490	0.005	9.5	ug/L	557	Standard
|	Pb	207	831.4	2.7	0.0414	0.002	4.3	ug/L	432	Standard
|	Pb	208	3938.5	4.9	0.0436	0.003	6.4	ug/L	2118	Standard
	U	238	9068.0	1.3	0.3030	0.007	2.2	ug/L	78	Standard
>	Bi	209	763130.4	3.4				ug/L	791817	Standard

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Brink Z...

Na	23	58.3	26.2	17.8299	4.784	26.8	mg/L	5	Standard
Mg	24	11766.2	2.5	25.1640	1.517	6.0	mg/L	48	Standard
K	39	55.0	18.2	0.8426	0.135	16.0	mg/L	3	Standard
Ca	43	98.3	19.3	20.5312	9.598	46.8	mg/L	62	Standard
Fe	54	1405.9	2.4	1.3954	0.097	6.9	mg/L	139	Standard
Fe	57	530.0	6.6	1.5764	0.208	13.2	mg/L	83	Standard
Sc-1	45	21533.6	4.9				mg/L	23513	Standard
Cl	35	4.0	50.0				ug/L	3	Standard
Kr	83	2.7	21.7				ug/L	2	Standard
Br	81	3413.7	2.1				ug/L	910	Standard
P	31	91.7	54.9				ug/L	85	Standard
S	34	33.3	82.6				ug/L	48	Standard
Sr	88	98.3	17.9				ug/L	72	Standard
C	12	630.0	12.4				mg/L	227	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	6.7	86.6				mg/L	7	Standard
Dy	164	286.9	14.6				mg/L	22	Standard
Ho-1	165	335.0	5.4				mg/L	22	Standard
Er	166	483.3	10.2				mg/L	23	Standard
I	127	53194.6	14.7				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		97.614	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		92.432	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1610010102

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	105.681
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	96.377
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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	

Sample ID: L1610010102

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610010104

Sample Date/Time: Wednesday, October 12, 2016 16:46:28

Number of Replicates: 3

Autosampler Position: 328

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	71917.2	4.7				ug/L	72553	Standard
|	Be	9	16.7	75.5	0.0022	0.015	670.5	ug/L	10	Standard
|	Al	27	12553744.5	2.4	125.4769	8.575	6.8	ug/L	232	Standard
|	Sc	45	22610.2	3.5				ug/L	23513	Standard
|	Ti	47	73.0	19.2	0.2120	0.084	39.8	ug/L	36	Standard
|	V	51	1072.8	10.0	-0.0215	0.019	88.0	ug/L	1387	Standard
|	Cr	52	9872.9	0.8	0.5356	0.017	3.1	ug/L	7813	Standard
|	Cr	53	3047.0	3.4	2.4793	0.146	5.9	ug/L	1410	Standard
|	Mn	55	12507307.7	2.3	1348.5795	25.538	1.9	ug/L	1043	Standard
|	Co	59	4541.7	3.3	0.5326	0.020	3.8	ug/L	198	Standard
|	Ni	60	4029.9	2.4	2.2036	0.045	2.0	ug/L	64	Standard
|	Cu	65	1337.4	1.3	0.6184	0.012	2.0	ug/L	122	Standard
|	Zn	66	4417.3	1.5	3.6664	0.064	1.7	ug/L	209	Standard
>	Ge	72	575010.3	0.4				ug/L	618040	Standard
|	As	75	493.6	3.2	0.5115	0.013	2.6	ug/L	11	Standard
|	Se	82	40.4	11.0	0.2766	0.044	15.7	ug/L	21	Standard
|	Se-1	77	242.7	7.4	2.4098	0.262	10.9	ug/L	86	Standard
>	Ga	71	146.7	12.9				mg/L	13	Standard
|	Rb	85	15094.2	3.8				ug/L	18	Standard
|	Y	89	436471.2	1.0				ug/L	463757	Standard
>	Rh	103	41.7	36.7				ug/L	12	Standard
|	Mo	98	1305.2	2.8	0.3312	0.008	2.5	ug/L	29	Standard
|	Ag	107	110.3	1.9	0.0009	0.000	38.5	ug/L	101	Standard
|	Cd	111	14.0	20.3	0.0017	0.001	75.3	mg/L	9	Standard
|	Cd	114	53.8	33.3	0.0089	0.003	34.2	ug/L	47	Standard
>	In	115	803653.3	0.4				ug/L	765457	Standard
|	Sn	118	170.0	8.0	-0.0168	0.011	64.9	ug/L	168	Standard
|	Sb	123	335.3	19.3	0.0595	0.011	18.3	ug/L	332	Standard
|	Ba	135	518457.9	0.8	186.0215	1.764	0.9	ug/L	37	Standard
|	Ce	140	468.3	10.5				ug/L	895	Standard
>	Tb	159	1504127.1	0.7				ug/L	1511047	Standard
|	Ho	165	151.7	18.2				ug/L	22	Standard
|	Tl	203	76.7	7.2	0.0069	0.000	6.6	ug/L	14	Standard
|	Tl	205	191.7	26.1	0.0047	0.002	42.1	ug/L	27	Standard
|	Pb	206	929.7	3.6	0.0356	0.003	8.9	ug/L	557	Standard
|	Pb	207	720.7	1.6	0.0266	0.001	3.1	ug/L	432	Standard
|	Pb	208	3507.8	2.3	0.0310	0.002	7.1	ug/L	2118	Standard
	U	238	5555.4	3.6	0.1863	0.006	3.2	ug/L	78	Standard
>	Bi	209	760312.6	0.8				ug/L	791817	Standard

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Brank Z...

Na	23	68.3	58.7	19.7348	11.633	58.9	mg/L	5	Standard
Mg	24	17334.9	4.8	35.3354	2.760	7.8	mg/L	48	Standard
K	39	75.0	20.0	1.1164	0.272	24.3	mg/L	3	Standard
Ca	43	80.0	39.0	11.6154	12.155	104.6	mg/L	62	Standard
Fe	54	465.7	8.1	0.3594	0.056	15.4	mg/L	139	Standard
Fe	57	276.7	4.5	0.5503	0.036	6.5	mg/L	83	Standard
Sc-1	45	22610.2	3.5				mg/L	23513	Standard
Cl	35	4.7	137.8				ug/L	3	Standard
Kr	83	5.0	40.0				ug/L	2	Standard
Br	81	4143.9	9.2				ug/L	910	Standard
P	31	86.7	20.3				ug/L	85	Standard
S	34	46.7	16.4				ug/L	48	Standard
Sr	88	146.7	17.2				ug/L	72	Standard
C	12	670.0	6.0				mg/L	227	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	0.0					mg/L	7	Standard
Dy	164	163.6	12.2				mg/L	22	Standard
Ho-1	165	151.7	18.2				mg/L	22	Standard
Er	166	133.3	8.7				mg/L	23	Standard
I	127	230656.6	4.7				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		99.123	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		93.038	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	104.990
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	96.021
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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: L1610010104

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610010104PS WG586896-01

Sample Date/Time: Wednesday, October 12, 2016 16:49:28

Number of Replicates: 3

Autosampler Position: 329

Sample Description: 1

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	71943.8	2.7				ug/L	72553	Standard
|	Be	9	43199.8	0.6	48.1775	1.018	2.1	ug/L	10	Standard
|	Al	27	12483266.1	1.9	124.4900	2.163	1.7	ug/L	232	Standard
|	Sc	45	21702.2	2.0				ug/L	23513	Standard
|	Ti	47	73.7	12.6	0.2180	0.052	23.9	ug/L	36	Standard
|	V	51	296062.1	1.6	51.1676	0.623	1.2	ug/L	1387	Standard
|	Cr	52	284316.7	1.2	51.1138	0.456	0.9	ug/L	7813	Standard
|	Cr	53	38525.6	1.8	53.3297	0.612	1.1	ug/L	1410	Standard
|	Mn	55	12753991.6	0.5	1381.7256	9.681	0.7	ug/L	1043	Standard
|	Co	59	398627.6	1.9	48.5832	0.556	1.1	ug/L	198	Standard
|	Ni	60	90173.3	2.1	50.3553	0.485	1.0	ug/L	64	Standard
|	Cu	65	90204.1	0.9	48.8554	0.567	1.2	ug/L	122	Standard
|	Zn	66	53455.8	1.3	53.6766	0.215	0.4	ug/L	209	Standard
>	Ge	72	572346.7	1.1				ug/L	618040	Standard
|	As	75	49530.1	1.6	47.4723	0.288	0.6	ug/L	11	Standard
|	Se	82	4935.7	2.7	50.3786	0.775	1.5	ug/L	21	Standard
|	Se-1	77	3464.4	3.0	52.4186	1.230	2.3	ug/L	86	Standard
>	Ga	71	113.3	24.3				mg/L	13	Standard
|	Rb	85	15019.1	3.0				ug/L	18	Standard
|	Y	89	439064.2	0.5				ug/L	463757	Standard
>	Rh	103	55.0	39.6				ug/L	12	Standard
|	Mo	98	1401.9	1.8	0.3544	0.008	2.4	ug/L	29	Standard
|	Ag	107	310823.2	0.5	44.5123	0.715	1.6	ug/L	101	Standard
|	Cd	111	110825.1	1.1	49.5945	0.979	2.0	mg/L	9	Standard
|	Cd	114	285130.7	1.8	48.8029	0.869	1.8	ug/L	47	Standard
>	In	115	807564.6	1.2				ug/L	765457	Standard
|	Sn	118	231.0	5.5	0.0298	0.009	29.2	ug/L	168	Standard
|	Sb	123	309196.0	1.7	51.3669	0.751	1.5	ug/L	332	Standard
|	Ba	135	655882.8	1.2	234.2229	4.478	1.9	ug/L	37	Standard
|	Ce	140	440.0	9.0				ug/L	895	Standard
>	Tb	159	1494767.7	1.3				ug/L	1511047	Standard
|	Ho	165	165.0	25.9				ug/L	22	Standard
|	Tl	203	546145.8	1.6	50.3978	0.551	1.1	ug/L	14	Standard
|	Tl	205	1263591.7	2.0	50.5613	1.098	2.2	ug/L	27	Standard
|	Pb	206	415616.9	1.6	50.5979	0.449	0.9	ug/L	557	Standard
|	Pb	207	349441.3	1.1	48.2980	1.176	2.4	ug/L	432	Standard
|	Pb	208	1626118.7	1.4	49.6095	1.038	2.1	ug/L	2118	Standard
	U	238	1505750.1	2.1	50.7314	1.160	2.3	ug/L	78	Standard
>	Bi	209	755935.0	2.2				ug/L	791817	Standard

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Brink Z...

Na	23	45.0	40.1	13.5265	5.688	42.0	mg/L	5	Standard
Mg	24	17698.7	2.5	37.5276	0.463	1.2	mg/L	48	Standard
K	39	71.7	26.4	1.1093	0.323	29.1	mg/L	3	Standard
Ca	43	100.0	21.8	20.6759	9.240	44.7	mg/L	62	Standard
Fe	54	429.8	19.5	0.3396	0.086	25.4	mg/L	139	Standard
Fe	57	260.0	10.7	0.5307	0.125	23.5	mg/L	83	Standard
Sc-1	45	21702.2	2.0				mg/L	23513	Standard
Cl	35	1.3	86.6				ug/L	3	Standard
Kr	83	2.3	65.5				ug/L	2	Standard
Br	81	4424.0	5.5				ug/L	910	Standard
P	31	95.0	10.5				ug/L	85	Standard
S	34	46.7	50.6				ug/L	48	Standard
Sr	88	130.0	3.8				ug/L	72	Standard
C	12	686.7	9.4				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	16.7	34.6				mg/L	7	Standard
Dy	164	159.3	34.9				mg/L	22	Standard
Ho-1	165	165.0	25.9				mg/L	22	Standard
Er	166	153.3	10.0				mg/L	23	Standard
I	127	247487.8	5.9				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		99.160	
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		92.607	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1610010104PS WG586896-01

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	105.501
[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	95.468
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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: L1610010104PS WG586896-01
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Method 6020 - Summary Report

Sample ID: L1610010104SDL WG586896-02

Sample Date/Time: Wednesday, October 12, 2016 17:14:10

Number of Replicates: 3

Autosampler Position: 330

Sample Description: 5

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	68591.7	3.8				ug/L	72553	Standard
|	Be	9	8.3	69.3	-0.0071	0.007	95.0	ug/L	10	Standard
|	Al	27	2461754.5	3.6	25.7424	0.099	0.4	ug/L	232	Standard
|	Sc	45	22199.6	0.7				ug/L	23513	Standard
|	Ti	47	42.3	20.6	0.0236	0.055	231.5	ug/L	36	Standard
|	V	51	1036.7	11.8	-0.0278	0.023	82.7	ug/L	1387	Standard
|	Cr	52	7248.7	2.1	0.0533	0.024	44.8	ug/L	7813	Standard
|	Cr	53	1521.7	5.6	0.3039	0.149	48.9	ug/L	1410	Standard
|	Mn	55	2530854.1	1.8	272.5874	4.976	1.8	ug/L	1043	Standard
|	Co	59	1035.4	1.2	0.1070	0.001	1.0	ug/L	198	Standard
|	Ni	60	847.0	4.4	0.4329	0.024	5.5	ug/L	64	Standard
|	Cu	65	490.0	8.0	0.1605	0.023	14.4	ug/L	122	Standard
|	Zn	66	2014.1	4.1	1.2275	0.113	9.2	ug/L	209	Standard
>	Ge	72	575478.6	1.9				ug/L	618040	Standard
|	As	75	76.4	70.3	0.1135	0.051	44.8	ug/L	11	Standard
|	Se	82	22.0	60.7	0.0906	0.139	152.9	ug/L	21	Standard
|	Se-1	77	126.0	13.1	0.6077	0.264	43.4	ug/L	86	Standard
>	Ga	71	36.7	20.8				mg/L	13	Standard
|	Rb	85	2968.6	4.0				ug/L	18	Standard
|	Y	89	440692.1	0.2				ug/L	463757	Standard
>	Rh	103	10.0	50.0				ug/L	12	Standard
|	Mo	98	313.6	5.2	0.0799	0.006	7.5	ug/L	29	Standard
|	Ag	107	104.3	14.4	0.0009	0.002	264.0	ug/L	101	Standard
|	Cd	111	6.6	54.4	-0.0015	0.002	121.8	mg/L	9	Standard
|	Cd	114	52.1	43.0	0.0092	0.004	44.4	ug/L	47	Standard
>	In	115	761768.6	2.2				ug/L	765457	Standard
|	Sn	118	170.3	15.6	-0.0095	0.019	205.3	ug/L	168	Standard
|	Sb	123	1114.7	44.8	0.1989	0.086	43.0	ug/L	332	Standard
|	Ba	135	100727.0	3.4	38.1032	0.706	1.9	ug/L	37	Standard
|	Ce	140	140.0	25.0				ug/L	895	Standard
>	Tb	159	1450703.4	1.1				ug/L	1511047	Standard
|	Ho	165	50.0	0.0				ug/L	22	Standard
|	Tl	203	58.0	19.0	0.0051	0.001	18.3	ug/L	14	Standard
|	Tl	205	138.3	16.3	0.0025	0.001	33.1	ug/L	27	Standard
|	Pb	206	632.0	0.3	-0.0013	0.001	77.8	ug/L	557	Standard
|	Pb	207	531.3	3.6	-0.0003	0.002	629.6	ug/L	432	Standard
|	Pb	208	2441.1	0.2	-0.0023	0.001	37.4	ug/L	2118	Standard
	U	238	1086.4	1.0	0.0362	0.001	2.3	ug/L	78	Standard
>	Bi	209	769364.0	1.4				ug/L	791817	Standard

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Brank Z...

Na	23	10.0	50.0	2.5757	1.507	58.5	mg/L	5	Standard
Mg	24	3513.7	3.2	7.2180	0.182	2.5	mg/L	48	Standard
K	39	25.0	52.9	0.3486	0.206	59.2	mg/L	3	Standard
Ca	43	46.7	22.3	-0.8037	4.051	504.0	mg/L	62	Standard
Fe	54	186.0	16.5	0.0754	0.031	40.9	mg/L	139	Standard
Fe	57	108.3	2.7	-0.0563	0.013	22.7	mg/L	83	Standard
Sc-1	45	22199.6	0.7				mg/L	23513	Standard
Cl	35	3.3	91.7				ug/L	3	Standard
Kr	83	4.0	25.0				ug/L	2	Standard
Br	81	1650.1	5.3				ug/L	910	Standard
P	31	55.0	18.2				ug/L	85	Standard
S	34	48.3	36.3				ug/L	48	Standard
Sr	88	75.0	46.7				ug/L	72	Standard
C	12	306.7	37.7				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	7	Standard
Dy	164	70.8	9.7				mg/L	22	Standard
Ho-1	165	50.0	0.0				mg/L	22	Standard
Er	166	53.3	60.3				mg/L	23	Standard
I	127	45388.2	8.4				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		94.540	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		93.113	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	99.518
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	97.164
[	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
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1610010104SDL WG586896-02

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610010104SDL WG586896-02

Sample Date/Time: Wednesday, October 12, 2016 17:17:09

Number of Replicates: 3

Autosampler Position: 331

Sample Description: 25

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	67017.9	2.4				ug/L	72553	Standard
|	Be	9	8.3	69.3	-0.0069	0.007	97.3	ug/L	10	Standard
|	Al	27	497322.7	2.2	5.3196	0.019	0.4	ug/L	232	Standard
|	Sc	45	22606.9	3.4				ug/L	23513	Standard
|	Ti	47	32.0	27.2	-0.0392	0.050	127.2	ug/L	36	Standard
|	V	51	1327.3	7.5	0.0237	0.015	63.7	ug/L	1387	Standard
|	Cr	52	6959.3	2.0	0.0088	0.002	17.7	ug/L	7813	Standard
|	Cr	53	1030.0	9.7	-0.3888	0.133	34.2	ug/L	1410	Standard
|	Mn	55	514355.6	2.7	55.6446	1.055	1.9	ug/L	1043	Standard
|	Co	59	306.0	5.7	0.0188	0.001	7.7	ug/L	198	Standard
|	Ni	60	242.0	1.9	0.0974	0.004	4.4	ug/L	64	Standard
|	Cu	65	206.7	7.5	0.0083	0.010	117.7	ug/L	122	Standard
|	Zn	66	1610.8	1.9	0.8291	0.057	6.9	ug/L	209	Standard
>	Ge	72	571604.2	2.0				ug/L	618040	Standard
|	As	75	-13.0	414.3	0.0290	0.051	175.5	ug/L	11	Standard
|	Se	82	11.4	57.1	-0.0178	0.068	381.1	ug/L	21	Standard
|	Se-1	77	72.7	15.2	-0.2060	0.194	94.0	ug/L	86	Standard
>	Ga	71	13.3	57.3				mg/L	13	Standard
|	Rb	85	641.7	14.8				ug/L	18	Standard
|	Y	89	434725.9	1.5				ug/L	463757	Standard
>	Rh	103	8.3	69.3				ug/L	12	Standard
|	Mo	98	73.8	17.8	0.0149	0.004	24.9	ug/L	29	Standard
|	Ag	107	96.7	11.2	-0.0000	0.002	4104.4	ug/L	101	Standard
|	Cd	111	8.9	51.5	-0.0003	0.002	668.4	mg/L	9	Standard
|	Cd	114	38.3	16.1	0.0068	0.001	17.2	ug/L	47	Standard
>	In	115	748920.3	0.5				ug/L	765457	Standard
|	Sn	118	124.0	12.7	-0.0455	0.013	28.2	ug/L	168	Standard
|	Sb	123	262.8	46.9	0.0506	0.022	43.4	ug/L	332	Standard
|	Ba	135	20707.1	0.4	7.9491	0.023	0.3	ug/L	37	Standard
|	Ce	140	63.3	32.9				ug/L	895	Standard
>	Tb	159	1446746.6	0.8				ug/L	1511047	Standard
|	Ho	165	16.7	45.8				ug/L	22	Standard
|	Tl	203	26.3	31.6	0.0022	0.001	33.7	ug/L	14	Standard
|	Tl	205	56.7	31.0	-0.0007	0.001	93.2	ug/L	27	Standard
|	Pb	206	547.0	3.6	-0.0116	0.002	21.1	ug/L	557	Standard
|	Pb	207	494.0	7.1	-0.0055	0.005	89.5	ug/L	432	Standard
|	Pb	208	2259.4	1.3	-0.0078	0.001	15.4	ug/L	2118	Standard
	U	238	220.0	7.0	0.0075	0.001	7.1	ug/L	78	Standard
>	Bi	209	770814.7	0.7				ug/L	791817	Standard

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Brink Z...

Na	23	3.3	86.6	0.5303	0.857	161.6	mg/L	5	Standard
Mg	24	758.4	8.6	1.4649	0.084	5.7	mg/L	48	Standard
K	39	6.7	114.6	0.0575	0.113	195.7	mg/L	3	Standard
Ca	43	48.3	52.1	-0.4300	9.895	2301.2	mg/L	62	Standard
Fe	54	140.8	4.0	0.0260	0.010	40.1	mg/L	139	Standard
Fe	57	125.0	28.8	-0.0026	0.134	5129.2	mg/L	83	Standard
Sc-1	45	22606.9	3.4				mg/L	23513	Standard
Cl	35	2.7	86.6				ug/L	3	Standard
Kr	83	5.0	40.0				ug/L	2	Standard
Br	81	1093.4	5.0				ug/L	910	Standard
P	31	65.0	38.5				ug/L	85	Standard
S	34	51.7	29.6				ug/L	48	Standard
Sr	88	101.7	14.2				ug/L	72	Standard
C	12	196.7	43.8				mg/L	227	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	6.7	173.2				mg/L	7	Standard
Dy	164	32.1	101.6				mg/L	22	Standard
Ho-1	165	16.7	45.8				mg/L	22	Standard
Er	166	26.7	78.1				mg/L	23	Standard
I	127	14240.0	3.3				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		92.371	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		92.487	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	97.840
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	97.348
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1610010104SDL WG586896-02

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Bank Z...

Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Wednesday, October 12, 2016 17:20:10

Number of Replicates: 3

Autosampler Position: 101

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	62154.0	2.9				ug/L	72553	Standard
|	Be	9	39122.1	0.3	50.5123	1.498	3.0	ug/L	10	Standard
|	Al	27	4298453.9	2.1	49.6430	2.181	4.4	ug/L	232	Standard
|	Sc	45	20927.8	1.4				ug/L	23513	Standard
|	Ti	47	15421.2	1.6	99.2553	1.705	1.7	ug/L	36	Standard
|	V	51	280648.8	1.8	50.6886	0.861	1.7	ug/L	1387	Standard
|	Cr	52	269344.6	2.0	50.5911	0.957	1.9	ug/L	7813	Standard
|	Cr	53	34472.5	4.1	49.7478	1.987	4.0	ug/L	1410	Standard
|	Mn	55	441140.7	1.1	49.7956	0.618	1.2	ug/L	1043	Standard
|	Co	59	392196.3	0.6	49.9570	0.288	0.6	ug/L	198	Standard
|	Ni	60	86281.3	1.4	50.3571	0.604	1.2	ug/L	64	Standard
|	Cu	65	88789.8	1.7	50.2571	0.776	1.5	ug/L	122	Standard
|	Zn	66	46908.5	1.6	49.1579	0.690	1.4	ug/L	209	Standard
>	Ge	72	547651.1	0.3				ug/L	618040	Standard
|	As	75	49626.6	0.6	49.7101	0.427	0.9	ug/L	11	Standard
|	Se	82	4694.4	1.0	50.0828	0.611	1.2	ug/L	21	Standard
|	Se-1	77	3259.4	3.0	51.5234	1.667	3.2	ug/L	86	Standard
>	Ga	71	21.7	66.6				mg/L	13	Standard
|	Rb	85	673.3	7.5				ug/L	18	Standard
|	Y	89	417391.6	1.3				ug/L	463757	Standard
>	Rh	103	28.3	36.7				ug/L	12	Standard
|	Mo	98	340439.6	1.2	96.7779	0.231	0.2	ug/L	29	Standard
|	Ag	107	308147.0	1.3	48.8658	0.523	1.1	ug/L	101	Standard
|	Cd	111	102116.1	1.7	50.5966	0.239	0.5	mg/L	9	Standard
|	Cd	114	266210.7	4.1	50.4458	1.512	3.0	ug/L	47	Standard
>	In	115	729244.3	1.4				ug/L	765457	Standard
|	Sn	118	58744.0	1.8	50.2399	0.199	0.4	ug/L	168	Standard
|	Sb	123	282583.8	0.6	51.9909	0.527	1.0	ug/L	332	Standard
|	Ba	135	128244.5	0.6	50.6948	0.523	1.0	ug/L	37	Standard
|	Ce	140	110.0	37.2				ug/L	895	Standard
>	Tb	159	1381284.9	0.8				ug/L	1511047	Standard
|	Ho	165	15.0	0.0				ug/L	22	Standard
|	Tl	203	521553.0	1.5	50.5991	0.292	0.6	ug/L	14	Standard
|	Tl	205	1219520.6	0.5	51.3034	0.402	0.8	ug/L	27	Standard
|	Pb	206	393210.4	0.8	50.3305	0.179	0.4	ug/L	557	Standard
|	Pb	207	346078.8	0.4	50.2858	0.394	0.8	ug/L	432	Standard
|	Pb	208	1558973.8	0.5	50.0007	0.394	0.8	ug/L	2118	Standard
	U	238	1422510.1	0.7	50.3914	0.892	1.8	ug/L	78	Standard
>	Bi	209	718924.0	1.1				ug/L	791817	Standard

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Brank Z...

Na	23	6.7	43.3	1.6804	0.893	53.1	mg/L	5	Standard
Mg	24	2290.2	7.4	4.9635	0.302	6.1	mg/L	48	Standard
K	39	283.3	1.0	4.6640	0.072	1.5	mg/L	3	Standard
Ca	43	71.7	20.1	10.4688	5.816	55.6	mg/L	62	Standard
Fe	54	4870.1	1.6	5.2678	0.149	2.8	mg/L	139	Standard
Fe	57	1448.4	10.5	5.2505	0.639	12.2	mg/L	83	Standard
Sc-1	45	20927.8	1.4				mg/L	23513	Standard
Cl	35	2.0	100.0				ug/L	3	Standard
Kr	83	2.7	57.3				ug/L	2	Standard
Br	81	1003.4	6.0				ug/L	910	Standard
P	31	66.7	22.9				ug/L	85	Standard
S	34	40.0	33.1				ug/L	48	Standard
Sr	88	106.7	39.9				ug/L	72	Standard
C	12	273.3	29.6				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	20.0	50.0				mg/L	7	Standard
Dy	164	12.4	46.8				mg/L	22	Standard
Ho-1	165	15.0	0.0				mg/L	22	Standard
Er	166	20.0	50.0				mg/L	23	Standard
I	127	5044.2	3.3				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	101.025		
Al	27	99.286		
Sc	45			
Ti	47	99.255		
V	51	101.377		
Cr	52	101.182		
Cr	53			
Mn	55	99.591		
Co	59	99.914		
Ni	60	100.714		
Cu	65	100.514		
Zn	66	98.316		
Ge	72		88.611	
As	75	99.420		
Se	82	100.166		
Se-1	77			
Ga	71			

Sample ID: QC Std 6

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Brink Z...

[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	96.778	
[Ag	107	97.732	
[Cd	111	101.193	
[Cd	114		
>	In	115		95.269
[	Sn	118	100.480	
[	Sb	123	103.982	
[	Ba	135	101.390	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	101.198	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	100.001	
[	U	238	100.783	
>	Bi	209		90.794
[	Na	23		
[	Mg	24		
[	K	39		
[	Ca	43		
[	Fe	54		
[	Fe	57		
>	Sc-1	45		
[	Cl	35		
[	Kr	83		
[	Br	81		
[	P	31		
[	S	34		
[	Sr	88		
[	C	12		
[	N	14		
[	Hg	202		
[	Dy	164		
[	Ho-1	165		
[	Er	166		
[I	127		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 6

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Bank Z...

Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Wednesday, October 12, 2016 17:23:09

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	63203.3	2.7				ug/L	72553	Standard
|	Be	9	3.3	86.6	-0.0125	0.004	29.7	ug/L	10	Standard
|	Al	27	305.0	14.2	-0.0001	0.001	780.8	ug/L	232	Standard
|	Sc	45	21567.0	4.2				ug/L	23513	Standard
|	Ti	47	22.7	10.2	-0.0906	0.014	15.5	ug/L	36	Standard
|	V	51	937.5	11.9	-0.0372	0.021	55.9	ug/L	1387	Standard
|	Cr	52	5648.1	3.6	-0.1901	0.036	19.1	ug/L	7813	Standard
|	Cr	53	801.7	11.4	-0.6684	0.136	20.4	ug/L	1410	Standard
|	Mn	55	975.7	4.2	-0.0447	0.005	11.0	ug/L	1043	Standard
|	Co	59	112.0	7.3	-0.0043	0.001	26.5	ug/L	198	Standard
|	Ni	60	41.3	22.5	-0.0140	0.005	38.3	ug/L	64	Standard
|	Cu	65	113.3	8.2	-0.0399	0.005	13.5	ug/L	122	Standard
|	Zn	66	161.3	2.0	-0.6442	0.002	0.4	ug/L	209	Standard
>	Ge	72	548939.1	0.8				ug/L	618040	Standard
|	As	75	-46.3	96.0	-0.0051	0.044	877.0	ug/L	11	Standard
|	Se	82	16.6	26.8	0.0429	0.049	114.2	ug/L	21	Standard
|	Se-1	77	77.7	8.6	-0.0814	0.100	123.3	ug/L	86	Standard
>	Ga	71	13.3	21.7				mg/L	13	Standard
|	Rb	85	35.0	37.8				ug/L	18	Standard
|	Y	89	417019.7	3.8				ug/L	463757	Standard
>	Rh	103	10.0	100.0				ug/L	12	Standard
|	Mo	98	170.4	18.5	0.0424	0.009	21.6	ug/L	29	Standard
|	Ag	107	96.7	7.6	0.0002	0.001	652.8	ug/L	101	Standard
|	Cd	111	6.1	18.9	-0.0016	0.001	37.9	mg/L	9	Standard
|	Cd	114	57.3	16.3	0.0104	0.002	15.7	ug/L	47	Standard
>	In	115	738090.3	1.9				ug/L	765457	Standard
|	Sn	118	163.3	29.5	-0.0106	0.041	389.6	ug/L	168	Standard
|	Sb	123	516.9	50.5	0.0975	0.048	49.4	ug/L	332	Standard
|	Ba	135	31.3	4.9	-0.0123	0.000	3.3	ug/L	37	Standard
|	Ce	140	21.7	35.3				ug/L	895	Standard
>	Tb	159	1408336.3	2.5				ug/L	1511047	Standard
|	Ho	165	20.0	50.0				ug/L	22	Standard
|	Tl	203	23.3	6.5	0.0021	0.000	5.2	ug/L	14	Standard
|	Tl	205	63.3	9.1	-0.0003	0.000	58.7	ug/L	27	Standard
|	Pb	206	496.0	2.9	-0.0143	0.001	5.2	ug/L	557	Standard
|	Pb	207	394.3	2.9	-0.0159	0.002	15.0	ug/L	432	Standard
|	Pb	208	1872.0	0.9	-0.0161	0.001	4.5	ug/L	2118	Standard
	U	238	76.0	27.6	0.0029	0.001	24.2	ug/L	78	Standard
>	Bi	209	727987.5	1.8				ug/L	791817	Standard

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Na	23	6.7	43.3	1.6068	0.815	50.7	mg/L	5	Standard
Mg	24	51.7	45.7	0.0291	0.048	165.7	mg/L	48	Standard
K	39	1.7	173.2	-0.0170	0.045	263.7	mg/L	3	Standard
Ca	43	40.0	21.7	-2.8215	4.116	145.9	mg/L	62	Standard
Fe	54	106.2	27.5	-0.0049	0.027	562.3	mg/L	139	Standard
Fe	57	118.3	19.1	-0.0073	0.078	1063.2	mg/L	83	Standard
Sc-1	45	21567.0	4.2				mg/L	23513	Standard
Cl	35	3.3	91.7				ug/L	3	Standard
Kr	83	4.3	35.3				ug/L	2	Standard
Br	81	953.4	1.2				ug/L	910	Standard
P	31	90.0	38.9				ug/L	85	Standard
S	34	43.3	46.6				ug/L	48	Standard
Sr	88	91.7	22.7				ug/L	72	Standard
C	12	176.7	23.6				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	7	Standard
Dy	164	12.2	45.2				mg/L	22	Standard
Ho-1	165	20.0	50.0				mg/L	22	Standard
Er	166	23.3	49.5				mg/L	23	Standard
I	127	5622.7	2.6				mg/L	4241	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		88.819	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	96.425
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	91.939
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 7

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610000201

Sample Date/Time: Wednesday, October 12, 2016 17:26:10

Number of Replicates: 3

Autosampler Position: 332

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	63985.0	4.8				ug/L	72553	Standard
|	Be	9	68.3	15.2	0.0692	0.016	22.7	ug/L	10	Standard
|	Al	27	6979.9	4.7	0.0748	0.005	6.8	ug/L	232	Standard
|	Sc	45	21815.7	2.8				ug/L	23513	Standard
|	Ti	47	32.3	10.9	-0.0282	0.015	54.8	ug/L	36	Standard
|	V	51	2090.5	6.3	0.1721	0.016	9.1	ug/L	1387	Standard
|	Cr	52	9960.3	2.3	0.6431	0.025	3.9	ug/L	7813	Standard
|	Cr	53	1310.1	7.7	0.0933	0.084	90.0	ug/L	1410	Standard
|	Mn	55	5036.2	1.2	0.4155	0.014	3.3	ug/L	1043	Standard
|	Co	59	1546.7	2.9	0.1785	0.002	1.3	ug/L	198	Standard
|	Ni	60	1420.1	2.0	0.7922	0.042	5.3	ug/L	64	Standard
|	Cu	65	810.0	5.2	0.3562	0.041	11.5	ug/L	122	Standard
|	Zn	66	5559.4	1.2	5.1106	0.209	4.1	ug/L	209	Standard
>	Ge	72	547768.3	3.6				ug/L	618040	Standard
|	As	75	154.1	19.6	0.1954	0.030	15.4	ug/L	11	Standard
|	Se	82	34.0	4.6	0.2283	0.011	4.6	ug/L	21	Standard
|	Se-1	77	85.3	12.3	0.0445	0.145	326.3	ug/L	86	Standard
>	Ga	71	23.3	32.7				mg/L	13	Standard
|	Rb	85	60.0	22.0				ug/L	18	Standard
|	Y	89	418367.0	2.8				ug/L	463757	Standard
>	Rh	103	15.0	66.7				ug/L	12	Standard
|	Mo	98	59.5	36.6	0.0115	0.007	57.2	ug/L	29	Standard
|	Ag	107	1229.7	1.8	0.1799	0.005	3.0	ug/L	101	Standard
|	Cd	111	238.3	5.3	0.1133	0.004	3.4	mg/L	9	Standard
|	Cd	114	543.0	7.0	0.1026	0.010	9.6	ug/L	47	Standard
>	In	115	730166.8	2.9				ug/L	765457	Standard
|	Sn	118	138.0	9.6	-0.0307	0.014	45.1	ug/L	168	Standard
|	Sb	123	1249.4	9.3	0.2335	0.027	11.5	ug/L	332	Standard
|	Ba	135	1462.4	3.7	0.5532	0.018	3.3	ug/L	37	Standard
|	Ce	140	91.7	31.5				ug/L	895	Standard
>	Tb	159	1386616.9	3.4				ug/L	1511047	Standard
|	Ho	165	20.0	25.0				ug/L	22	Standard
|	Tl	203	414.7	2.9	0.0399	0.003	6.8	ug/L	14	Standard
|	Tl	205	931.7	9.7	0.0360	0.004	9.8	ug/L	27	Standard
|	Pb	206	2018.8	1.9	0.1803	0.006	3.4	ug/L	557	Standard
|	Pb	207	1707.1	2.4	0.1744	0.008	4.5	ug/L	432	Standard
|	Pb	208	7868.1	3.4	0.1756	0.002	1.1	ug/L	2118	Standard
	U	238	4871.1	0.6	0.1719	0.007	4.3	ug/L	78	Standard
>	Bi	209	723536.9	4.1				ug/L	791817	Standard

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Brink Z...

Na	23	0.0		-0.4577	0.000	0.0	mg/L	5	Standard
Mg	24	51.7	20.1	0.0292	0.024	81.9	mg/L	48	Standard
K	39	5.0	100.0	0.0354	0.078	218.8	mg/L	3	Standard
Ca	43	28.3	10.2	-7.6676	1.185	15.5	mg/L	62	Standard
Fe	54	105.7	14.3	-0.0059	0.019	322.6	mg/L	139	Standard
Fe	57	125.0	20.0	0.0148	0.100	675.6	mg/L	83	Standard
Sc-1	45	21815.7	2.8				mg/L	23513	Standard
Cl	35	2.0	100.0				ug/L	3	Standard
Kr	83	4.3	13.3				ug/L	2	Standard
Br	81	1036.7	17.2				ug/L	910	Standard
P	31	98.3	21.2				ug/L	85	Standard
S	34	50.0	45.8				ug/L	48	Standard
Sr	88	88.3	8.6				ug/L	72	Standard
C	12	273.3	11.8				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	7	Standard
Dy	164	28.7	35.0				mg/L	22	Standard
Ho-1	165	20.0	25.0				mg/L	22	Standard
Er	166	26.7	86.6				mg/L	23	Standard
I	127	4855.8	7.5				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		88.190	
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		88.630	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	95.390
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	91.377
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1610000201

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610000401

Sample Date/Time: Wednesday, October 12, 2016 17:29:10

Number of Replicates: 3

Autosampler Position: 333

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	67146.8	2.4				ug/L	72553	Standard
|	Be	9	183.3	20.1	0.2029	0.049	24.2	ug/L	10	Standard
|	Al	27	9326.2	0.4	0.0961	0.002	2.1	ug/L	232	Standard
|	Sc	45	22878.9	3.7				ug/L	23513	Standard
|	Ti	47	34.0	10.2	-0.0269	0.021	78.9	ug/L	36	Standard
|	V	51	3231.8	1.6	0.3529	0.003	0.7	ug/L	1387	Standard
|	Cr	52	12544.9	1.2	1.0322	0.033	3.2	ug/L	7813	Standard
|	Cr	53	1746.8	3.1	0.6328	0.106	16.7	ug/L	1410	Standard
|	Mn	55	8584.4	2.5	0.7737	0.035	4.5	ug/L	1043	Standard
|	Co	59	3424.7	1.9	0.3983	0.011	2.9	ug/L	198	Standard
|	Ni	60	2975.3	1.3	1.6220	0.042	2.6	ug/L	64	Standard
|	Cu	65	1597.1	1.1	0.7611	0.008	1.0	ug/L	122	Standard
|	Zn	66	10612.4	0.6	9.9831	0.141	1.4	ug/L	209	Standard
>	Ge	72	573435.6	1.3				ug/L	618040	Standard
|	As	75	391.7	5.8	0.4154	0.021	5.0	ug/L	11	Standard
|	Se	82	65.8	8.0	0.5369	0.050	9.3	ug/L	21	Standard
|	Se-1	77	104.3	2.9	0.2782	0.040	14.4	ug/L	86	Standard
>	Ga	71	16.7	96.4				mg/L	13	Standard
|	Rb	85	36.7	15.7				ug/L	18	Standard
|	Y	89	433525.8	2.6				ug/L	463757	Standard
>	Rh	103	8.3	91.7				ug/L	12	Standard
|	Mo	98	31.9	45.5	0.0032	0.004	125.7	ug/L	29	Standard
|	Ag	107	2614.6	1.7	0.3809	0.007	1.9	ug/L	101	Standard
|	Cd	111	498.3	4.0	0.2311	0.010	4.3	mg/L	9	Standard
|	Cd	114	1356.8	6.1	0.2451	0.014	5.7	ug/L	47	Standard
>	In	115	763966.0	0.5				ug/L	765457	Standard
|	Sn	118	121.7	10.7	-0.0495	0.011	22.1	ug/L	168	Standard
|	Sb	123	2522.8	3.3	0.4465	0.017	3.7	ug/L	332	Standard
|	Ba	135	3229.7	1.2	1.1946	0.017	1.5	ug/L	37	Standard
|	Ce	140	83.3	19.3				ug/L	895	Standard
>	Tb	159	1458375.6	2.0				ug/L	1511047	Standard
|	Ho	165	20.0	66.1				ug/L	22	Standard
|	Tl	203	916.4	4.8	0.0850	0.004	4.2	ug/L	14	Standard
|	Tl	205	2098.5	0.1	0.0816	0.001	0.7	ug/L	27	Standard
|	Pb	206	3695.1	2.8	0.3768	0.013	3.4	ug/L	557	Standard
|	Pb	207	3308.7	2.2	0.3887	0.012	3.2	ug/L	432	Standard
|	Pb	208	14900.5	1.5	0.3830	0.008	2.1	ug/L	2118	Standard
	U	238	10981.0	1.9	0.3729	0.006	1.7	ug/L	78	Standard
>	Bi	209	750381.9	0.7				ug/L	791817	Standard

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Brank Z...

Na	23	1.7	173.2	0.0545	0.887	1628.9	mg/L	5	Standard
Mg	24	31.7	65.7	-0.0166	0.041	247.2	mg/L	48	Standard
K	39	13.3	94.4	0.1553	0.186	119.9	mg/L	3	Standard
Ca	43	51.7	14.8	0.4766	2.255	473.2	mg/L	62	Standard
Fe	54	114.1	15.7	-0.0032	0.015	455.3	mg/L	139	Standard
Fe	57	110.0	40.4	-0.0641	0.153	238.4	mg/L	83	Standard
Sc-1	45	22878.9	3.7				mg/L	23513	Standard
Cl	35	2.7	114.6				ug/L	3	Standard
Kr	83	3.7	68.6				ug/L	2	Standard
Br	81	3737.1	7.5				ug/L	910	Standard
P	31	56.7	45.3				ug/L	85	Standard
S	34	31.7	63.8				ug/L	48	Standard
Sr	88	105.0	25.2				ug/L	72	Standard
C	12	216.7	2.7				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	13.3	43.3				mg/L	7	Standard
Dy	164	18.7	54.8				mg/L	22	Standard
Ho-1	165	20.0	66.1				mg/L	22	Standard
Er	166	26.7	57.3				mg/L	23	Standard
I	127	4809.1	3.8				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		92.548	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		92.783	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	99.805
[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	94.767
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1610000401

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610000409

Sample Date/Time: Wednesday, October 12, 2016 17:32:08

Number of Replicates: 3

Autosampler Position: 334

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	67647.5	3.4				ug/L	72553	Standard
|	Be	9	141.7	20.1	0.1507	0.029	19.3	ug/L	10	Standard
|	Al	27	8243.9	1.9	0.0840	0.004	4.6	ug/L	232	Standard
|	Sc	45	23267.9	3.8				ug/L	23513	Standard
|	Ti	47	32.7	17.4	-0.0350	0.035	99.3	ug/L	36	Standard
|	V	51	3362.9	4.4	0.3761	0.024	6.4	ug/L	1387	Standard
|	Cr	52	12983.6	1.4	1.1148	0.032	2.9	ug/L	7813	Standard
|	Cr	53	1766.8	4.3	0.6628	0.106	16.0	ug/L	1410	Standard
|	Mn	55	9112.1	0.2	0.8313	0.005	0.6	ug/L	1043	Standard
|	Co	59	3386.7	1.0	0.3939	0.005	1.3	ug/L	198	Standard
|	Ni	60	3035.6	0.5	1.6569	0.014	0.8	ug/L	64	Standard
|	Cu	65	1662.8	3.1	0.7975	0.031	3.8	ug/L	122	Standard
|	Zn	66	10765.8	2.2	10.1481	0.248	2.4	ug/L	209	Standard
>	Ge	72	572922.0	0.3				ug/L	618040	Standard
|	As	75	401.3	12.0	0.4251	0.047	11.1	ug/L	11	Standard
|	Se	82	57.6	20.5	0.4548	0.123	27.0	ug/L	21	Standard
|	Se-1	77	102.7	9.8	0.2536	0.151	59.4	ug/L	86	Standard
>	Ga	71	28.3	36.7				mg/L	13	Standard
|	Rb	85	41.7	34.6				ug/L	18	Standard
|	Y	89	435237.9	0.7				ug/L	463757	Standard
>	Rh	103	8.3	91.7				ug/L	12	Standard
|	Mo	98	26.7	15.6	0.0017	0.001	63.5	ug/L	29	Standard
|	Ag	107	2564.9	3.1	0.3727	0.011	2.8	ug/L	101	Standard
|	Cd	111	491.0	3.6	0.2272	0.007	3.3	mg/L	9	Standard
|	Cd	114	1316.4	3.5	0.2375	0.009	3.7	ug/L	47	Standard
>	In	115	765262.0	0.4				ug/L	765457	Standard
|	Sn	118	135.3	5.4	-0.0385	0.006	15.3	ug/L	168	Standard
|	Sb	123	2486.2	1.5	0.4393	0.007	1.6	ug/L	332	Standard
|	Ba	135	3233.0	2.3	1.1939	0.032	2.7	ug/L	37	Standard
|	Ce	140	86.7	21.8				ug/L	895	Standard
>	Tb	159	1459992.4	1.9				ug/L	1511047	Standard
|	Ho	165	35.0	49.5				ug/L	22	Standard
|	Tl	203	943.4	2.1	0.0870	0.002	2.6	ug/L	14	Standard
|	Tl	205	2100.1	1.1	0.0812	0.001	1.5	ug/L	27	Standard
|	Pb	206	3778.5	2.1	0.3845	0.009	2.3	ug/L	557	Standard
|	Pb	207	3373.7	0.4	0.3952	0.002	0.4	ug/L	432	Standard
|	Pb	208	15182.0	0.5	0.3891	0.001	0.3	ug/L	2118	Standard
	U	238	10832.2	0.9	0.3659	0.005	1.5	ug/L	78	Standard
>	Bi	209	754507.0	0.6				ug/L	791817	Standard

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Brank Z...

Na	23	0.0		-0.4577	0.000	0.0	mg/L	5	Standard
Mg	24	45.0	29.4	0.0082	0.023	283.9	mg/L	48	Standard
K	39	6.7	114.6	0.0592	0.120	202.1	mg/L	3	Standard
Ca	43	53.3	47.2	1.0637	10.084	948.0	mg/L	62	Standard
Fe	54	128.4	15.6	0.0096	0.022	224.3	mg/L	139	Standard
Fe	57	128.3	33.1	-0.0010	0.165	16077.5	mg/L	83	Standard
Sc-1	45	23267.9	3.8				mg/L	23513	Standard
Cl	35	3.3	69.3				ug/L	3	Standard
Kr	83	3.3	45.8				ug/L	2	Standard
Br	81	1323.4	8.3				ug/L	910	Standard
P	31	65.0	13.3				ug/L	85	Standard
S	34	41.7	27.7				ug/L	48	Standard
Sr	88	103.3	14.8				ug/L	72	Standard
C	12	303.3	16.3				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	7	Standard
Dy	164	15.1	102.2				mg/L	22	Standard
Ho-1	165	35.0	49.5				mg/L	22	Standard
Er	166	33.3	45.8				mg/L	23	Standard
I	127	4775.8	0.6				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		93.238	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		92.700	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	99.974
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	95.288
[	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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Sample ID: L1610000409

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610010106

Sample Date/Time: Wednesday, October 12, 2016 17:35:08

Number of Replicates: 3

Autosampler Position: 335

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	68858.0	4.2				ug/L	72553	Standard
|	Be	9	8.3	91.7	-0.0072	0.009	119.2	ug/L	10	Standard
|	Al	27	10675885.8	1.0	111.3094	3.510	3.2	ug/L	232	Standard
|	Sc	45	22980.8	3.0				ug/L	23513	Standard
|	Ti	47	84.7	2.5	0.2782	0.016	5.7	ug/L	36	Standard
|	V	51	955.6	9.9	-0.0437	0.014	32.8	ug/L	1387	Standard
|	Cr	52	8968.7	1.2	0.3516	0.013	3.7	ug/L	7813	Standard
|	Cr	53	2445.2	9.9	1.5858	0.383	24.2	ug/L	1410	Standard
|	Mn	55	18084291.9	0.7	1928.7693	35.669	1.8	ug/L	1043	Standard
|	Co	59	4491.7	1.7	0.5205	0.002	0.5	ug/L	198	Standard
|	Ni	60	3180.3	2.2	1.7115	0.022	1.3	ug/L	64	Standard
|	Cu	65	541.3	2.8	0.1852	0.011	6.1	ug/L	122	Standard
|	Zn	66	3818.8	2.1	3.0162	0.059	1.9	ug/L	209	Standard
>	Ge	72	581454.8	1.3				ug/L	618040	Standard
|	As	75	204.7	5.4	0.2341	0.013	5.4	ug/L	11	Standard
|	Se	82	62.4	8.6	0.4936	0.060	12.1	ug/L	21	Standard
|	Se-1	77	251.0	1.4	2.4963	0.017	0.7	ug/L	86	Standard
>	Ga	71	106.7	28.6				mg/L	13	Standard
|	Rb	85	15960.1	1.2				ug/L	18	Standard
|	Y	89	439095.3	0.8				ug/L	463757	Standard
>	Rh	103	35.0	28.6				ug/L	12	Standard
|	Mo	98	382.8	6.3	0.0996	0.006	6.4	ug/L	29	Standard
|	Ag	107	99.0	5.6	0.0002	0.001	415.3	ug/L	101	Standard
|	Cd	111	124.8	10.3	0.0551	0.006	11.0	mg/L	9	Standard
|	Cd	114	334.1	5.4	0.0609	0.003	5.7	ug/L	47	Standard
>	In	115	755039.2	0.2				ug/L	765457	Standard
|	Sn	118	96.7	25.7	-0.0690	0.020	29.6	ug/L	168	Standard
|	Sb	123	166.2	25.7	0.0330	0.008	22.9	ug/L	332	Standard
|	Ba	135	692955.3	1.3	264.6475	3.569	1.3	ug/L	37	Standard
|	Ce	140	2168.5	5.0				ug/L	895	Standard
>	Tb	159	1475881.2	2.2				ug/L	1511047	Standard
|	Ho	165	238.3	15.5				ug/L	22	Standard
|	Tl	203	405.7	3.0	0.0383	0.002	4.2	ug/L	14	Standard
|	Tl	205	976.7	1.6	0.0371	0.001	2.8	ug/L	27	Standard
|	Pb	206	578.7	6.0	-0.0046	0.004	85.1	ug/L	557	Standard
|	Pb	207	445.0	8.7	-0.0094	0.006	59.8	ug/L	432	Standard
|	Pb	208	2175.7	1.5	-0.0073	0.000	4.9	ug/L	2118	Standard
	U	238	2856.9	1.1	0.0990	0.000	0.4	ug/L	78	Standard
>	Bi	209	736484.8	1.2				ug/L	791817	Standard

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Brink Z...

Na	23	51.7	68.7	14.8433	10.904	73.5	mg/L	5	Standard
Mg	24	18861.7	0.3	37.7908	1.029	2.7	mg/L	48	Standard
K	39	103.3	17.0	1.5240	0.288	18.9	mg/L	3	Standard
Ca	43	73.3	27.6	8.3539	6.677	79.9	mg/L	62	Standard
Fe	54	127.2	22.1	0.0094	0.027	281.5	mg/L	139	Standard
Fe	57	198.3	8.9	0.2528	0.058	23.0	mg/L	83	Standard
Sc-1	45	22980.8	3.0				mg/L	23513	Standard
Cl	35	0.7	173.2				ug/L	3	Standard
Kr	83	2.7	57.3				ug/L	2	Standard
Br	81	3607.1	2.4				ug/L	910	Standard
P	31	111.7	21.2				ug/L	85	Standard
S	34	48.3	48.9				ug/L	48	Standard
Sr	88	128.3	14.8				ug/L	72	Standard
C	12	340.0	22.2				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	7	Standard
Dy	164	300.9	23.1				mg/L	22	Standard
Ho-1	165	238.3	15.5				mg/L	22	Standard
Er	166	260.0	44.4				mg/L	23	Standard
I	127	148359.9	6.7				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		94.907	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		94.080	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	98.639
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	93.012
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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: L1610010106

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Bank Zinn

Method 6020 - Summary Report

Sample ID: L1610010110

Sample Date/Time: Wednesday, October 12, 2016 17:38:07

Number of Replicates: 3

Autosampler Position: 336

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	69966.2	1.6				ug/L	72553	Standard
|	Be	9	110.0	20.8	0.1091	0.024	22.4	ug/L	10	Standard
|	Al	27	7200143.0	1.4	73.8386	2.215	3.0	ug/L	232	Standard
|	Sc	45	23720.2	1.8				ug/L	23513	Standard
|	Ti	47	572.3	7.8	3.1666	0.275	8.7	ug/L	36	Standard
|	V	51	3693.5	4.2	0.4103	0.024	5.8	ug/L	1387	Standard
|	Cr	52	10878.2	3.2	0.6552	0.065	10.0	ug/L	7813	Standard
|	Cr	53	3908.8	5.2	3.5269	0.269	7.6	ug/L	1410	Standard
|	Mn	55	36929568.8	1.1	3852.9947	55.125	1.4	ug/L	1043	Standard
|	Co	59	31162.4	1.4	3.6405	0.066	1.8	ug/L	198	Standard
|	Ni	60	23687.2	1.6	12.7110	0.238	1.9	ug/L	64	Standard
|	Cu	65	3679.1	1.6	1.8187	0.024	1.3	ug/L	122	Standard
|	Zn	66	24775.9	1.3	23.5057	0.223	0.9	ug/L	209	Standard
>	Ge	72	594337.7	0.4				ug/L	618040	Standard
|	As	75	196.4	34.0	0.2223	0.062	28.0	ug/L	11	Standard
|	Se	82	42.0	31.1	0.2790	0.131	46.8	ug/L	21	Standard
|	Se-1	77	397.0	3.3	4.5947	0.173	3.8	ug/L	86	Standard
>	Ga	71	370.0	21.2				mg/L	13	Standard
|	Rb	85	19731.2	0.4				ug/L	18	Standard
|	Y	89	477217.9	2.3				ug/L	463757	Standard
>	Rh	103	46.7	16.4				ug/L	12	Standard
|	Mo	98	599.4	6.8	0.1578	0.010	6.4	ug/L	29	Standard
|	Ag	107	1217.4	1.4	0.1701	0.004	2.1	ug/L	101	Standard
|	Cd	111	3422.3	2.3	1.6206	0.028	1.7	mg/L	9	Standard
|	Cd	114	8477.3	1.1	1.5397	0.021	1.4	ug/L	47	Standard
>	In	115	760896.6	0.7				ug/L	765457	Standard
|	Sn	118	189.3	9.1	0.0065	0.013	202.4	ug/L	168	Standard
|	Sb	123	539.1	8.0	0.0985	0.007	7.2	ug/L	332	Standard
|	Ba	135	285779.0	2.0	108.2876	2.094	1.9	ug/L	37	Standard
|	Ce	140	36326.8	1.1				ug/L	895	Standard
>	Tb	159	1505330.2	0.9				ug/L	1511047	Standard
|	Ho	165	2741.9	5.8				ug/L	22	Standard
|	Tl	203	379.7	2.9	0.0353	0.001	2.9	ug/L	14	Standard
|	Tl	205	791.7	11.1	0.0290	0.003	11.2	ug/L	27	Standard
|	Pb	206	4163.2	4.8	0.4362	0.021	4.9	ug/L	557	Standard
|	Pb	207	3155.7	1.9	0.3691	0.005	1.3	ug/L	432	Standard
|	Pb	208	15260.0	2.7	0.3959	0.010	2.6	ug/L	2118	Standard
	U	238	5141.5	2.5	0.1755	0.006	3.1	ug/L	78	Standard
>	Bi	209	747396.0	0.9				ug/L	791817	Standard

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Brink Z...

Na	23	53.3	28.6	14.6538	4.089	27.9	mg/L	5	Standard
Mg	24	39514.8	0.7	76.7632	1.712	2.2	mg/L	48	Standard
K	39	93.3	13.5	1.3241	0.171	12.9	mg/L	3	Standard
Ca	43	96.7	11.9	15.9971	3.532	22.1	mg/L	62	Standard
Fe	54	567.2	8.3	0.4346	0.039	9.0	mg/L	139	Standard
Fe	57	350.0	14.5	0.7565	0.159	21.0	mg/L	83	Standard
Sc-1	45	23720.2	1.8				mg/L	23513	Standard
Cl	35	2.7	43.3				ug/L	3	Standard
Kr	83	4.3	35.3				ug/L	2	Standard
Br	81	4530.7	5.1				ug/L	910	Standard
P	31	83.3	12.5				ug/L	85	Standard
S	34	55.0	63.6				ug/L	48	Standard
Sr	88	110.0	12.0				ug/L	72	Standard
C	12	543.3	10.8				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	20.0	0.0				mg/L	7	Standard
Dy	164	3472.5	5.4				mg/L	22	Standard
Ho-1	165	2741.9	5.8				mg/L	22	Standard
Er	166	2810.3	1.3				mg/L	23	Standard
I	127	30567.5	1.6				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		96.434	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		96.165	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1610010110

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	99.404
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	94.390
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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	
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1610010110

Report Date/Time: Wednesday, October 12, 2016 17:40:12

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610019402

Sample Date/Time: Wednesday, October 12, 2016 17:41:07

Number of Replicates: 3

Autosampler Position: 337

Sample Description: 10

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	63881.1	2.6				ug/L	72553	Standard
|	Be	9	15.0	0.0	0.0021	0.001	24.4	ug/L	10	Standard
|	Al	27	9713402.0	1.7	109.1456	4.532	4.2	ug/L	232	Standard
|	Sc	45	22496.7	2.6				ug/L	23513	Standard
|	Ti	47	1564.7	3.5	9.7275	0.476	4.9	ug/L	36	Standard
|	V	51	42579.3	1.4	7.4118	0.077	1.0	ug/L	1387	Standard
|	Cr	52	25665.7	0.2	3.6017	0.066	1.8	ug/L	7813	Standard
|	Cr	53	4330.6	2.5	4.5328	0.201	4.4	ug/L	1410	Standard
|	Mn	55	2907346.3	0.3	324.6807	5.110	1.6	ug/L	1043	Standard
|	Co	59	14598.0	0.4	1.8169	0.030	1.7	ug/L	198	Standard
|	Ni	60	8907.3	1.9	5.0960	0.139	2.7	ug/L	64	Standard
|	Cu	65	3974.2	2.1	2.1201	0.052	2.5	ug/L	122	Standard
|	Zn	66	2797.9	2.3	2.1255	0.071	3.3	ug/L	209	Standard
>	Ge	72	555077.9	1.3				ug/L	618040	Standard
|	As	75	6570.2	2.1	6.5283	0.062	0.9	ug/L	11	Standard
|	Se	82	150.0	1.8	1.4486	0.044	3.0	ug/L	21	Standard
|	Se-1	77	230.7	15.2	2.3513	0.539	22.9	ug/L	86	Standard
>	Ga	71	146.7	32.2				mg/L	13	Standard
|	Rb	85	673.3	15.0				ug/L	18	Standard
|	Y	89	420281.6	1.4				ug/L	463757	Standard
>	Rh	103	118.3	28.1				ug/L	12	Standard
|	Mo	98	735.2	1.6	0.2089	0.002	0.8	ug/L	29	Standard
|	Ag	107	144.7	7.1	0.0086	0.001	13.6	ug/L	101	Standard
|	Cd	111	56.0	19.9	0.0240	0.006	26.2	mg/L	9	Standard
|	Cd	114	156.8	24.3	0.0302	0.008	25.3	ug/L	47	Standard
>	In	115	710922.3	2.3				ug/L	765457	Standard
|	Sn	118	242.3	10.7	0.0640	0.019	29.9	ug/L	168	Standard
|	Sb	123	701.7	8.6	0.1358	0.008	6.2	ug/L	332	Standard
|	Ba	135	38318.1	0.7	15.5233	0.288	1.9	ug/L	37	Standard
|	Ce	140	2735.2	2.2				ug/L	895	Standard
>	Tb	159	1393691.1	1.7				ug/L	1511047	Standard
|	Ho	165	420.0	9.4				ug/L	22	Standard
|	Tl	203	45.0	17.6	0.0044	0.001	17.6	ug/L	14	Standard
|	Tl	205	110.0	24.1	0.0018	0.001	61.3	ug/L	27	Standard
|	Pb	206	4221.9	2.5	0.4866	0.010	2.0	ug/L	557	Standard
|	Pb	207	3402.4	2.8	0.4429	0.011	2.5	ug/L	432	Standard
|	Pb	208	15934.6	1.7	0.4575	0.006	1.3	ug/L	2118	Standard
	U	238	7758.0	2.1	0.2864	0.006	2.0	ug/L	78	Standard
>	Bi	209	690323.1	0.8				ug/L	791817	Standard

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Brink Z...

Na	23	38.3	32.8	10.9891	3.574	32.5	mg/L	5	Standard
Mg	24	50995.7	1.4	104.4875	2.132	2.0	mg/L	48	Standard
K	39	6.7	43.3	0.0608	0.047	77.4	mg/L	3	Standard
Ca	43	81.7	3.5	12.2631	1.778	14.5	mg/L	62	Standard
Fe	54	1360.9	3.9	1.2826	0.080	6.2	mg/L	139	Standard
Fe	57	553.3	9.2	1.5733	0.237	15.1	mg/L	83	Standard
Sc-1	45	22496.7	2.6				mg/L	23513	Standard
Cl	35	4.7	49.5				ug/L	3	Standard
Kr	83	1.3	114.6				ug/L	2	Standard
Br	81	31993.7	1.0				ug/L	910	Standard
P	31	75.0	35.3				ug/L	85	Standard
S	34	45.0	50.9				ug/L	48	Standard
Sr	88	253.3	22.9				ug/L	72	Standard
C	12	1080.0	16.7				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	16.7	69.3				mg/L	7	Standard
Dy	164	429.0	16.5				mg/L	22	Standard
Ho-1	165	420.0	9.4				mg/L	22	Standard
Er	166	576.7	2.0				mg/L	23	Standard
I	127	907589.5	10.5				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		88.047	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		89.813	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	92.875
[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	87.182
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

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

Sample ID: L1610019402

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610019404

Sample Date/Time: Wednesday, October 12, 2016 17:44:07

Number of Replicates: 3

Autosampler Position: 338

Sample Description: 10

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	62344.7	0.8				ug/L	72553	Standard
|	Be	9	10.0		-0.0039	0.000	2.6	ug/L	10	Standard
|	Al	27	5251761.6	1.1	60.4255	0.971	1.6	ug/L	232	Standard
|	Sc	45	22044.4	2.0				ug/L	23513	Standard
|	Ti	47	546.0	2.5	3.2302	0.090	2.8	ug/L	36	Standard
|	V	51	12594.7	0.7	2.0409	0.011	0.5	ug/L	1387	Standard
|	Cr	52	10421.2	0.8	0.6997	0.012	1.7	ug/L	7813	Standard
|	Cr	53	1790.1	7.1	0.7715	0.181	23.4	ug/L	1410	Standard
|	Mn	55	3047183.7	0.8	339.3875	3.194	0.9	ug/L	1043	Standard
|	Co	59	10927.6	1.1	1.3517	0.012	0.9	ug/L	198	Standard
|	Ni	60	3792.8	0.6	2.1421	0.017	0.8	ug/L	64	Standard
|	Cu	65	1708.1	2.1	0.8493	0.020	2.3	ug/L	122	Standard
|	Zn	66	3984.9	0.4	3.3621	0.020	0.6	ug/L	209	Standard
>	Ge	72	556506.8	0.3				ug/L	618040	Standard
|	As	75	2068.3	2.3	2.0781	0.046	2.2	ug/L	11	Standard
|	Se	82	71.7	14.7	0.6204	0.112	18.1	ug/L	21	Standard
|	Se-1	77	116.0	17.7	0.5130	0.322	62.8	ug/L	86	Standard
>	Ga	71	60.0	25.0				mg/L	13	Standard
|	Rb	85	275.0	1.8				ug/L	18	Standard
|	Y	89	421664.0	1.1				ug/L	463757	Standard
>	Rh	103	85.0	5.9				ug/L	12	Standard
|	Mo	98	1073.8	3.2	0.3083	0.010	3.3	ug/L	29	Standard
|	Ag	107	87.7	3.7	-0.0007	0.001	94.4	ug/L	101	Standard
|	Cd	111	38.3	14.4	0.0149	0.003	21.1	mg/L	9	Standard
|	Cd	114	113.9	25.9	0.0219	0.006	27.7	ug/L	47	Standard
>	In	115	709510.9	1.7				ug/L	765457	Standard
|	Sn	118	166.3	9.3	-0.0024	0.013	548.0	ug/L	168	Standard
|	Sb	123	319.3	9.0	0.0638	0.005	7.1	ug/L	332	Standard
|	Ba	135	15531.3	0.3	6.2897	0.126	2.0	ug/L	37	Standard
|	Ce	140	1375.1	3.3				ug/L	895	Standard
>	Tb	159	1369458.2	1.8				ug/L	1511047	Standard
|	Ho	165	185.0	17.7				ug/L	22	Standard
|	Tl	203	66.7	11.7	0.0066	0.001	12.3	ug/L	14	Standard
|	Tl	205	126.7	26.3	0.0026	0.001	56.5	ug/L	27	Standard
|	Pb	206	1707.4	1.8	0.1520	0.002	1.0	ug/L	557	Standard
|	Pb	207	1321.7	1.4	0.1287	0.004	3.1	ug/L	432	Standard
|	Pb	208	6375.2	1.1	0.1387	0.002	1.6	ug/L	2118	Standard
	U	238	3841.2	1.2	0.1426	0.003	1.9	ug/L	78	Standard
>	Bi	209	687090.4	1.2				ug/L	791817	Standard

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Brank Z...

Na	23	26.7	65.8	7.6254	5.213	68.4	mg/L	5	Standard
Mg	24	23291.2	1.7	48.6683	1.806	3.7	mg/L	48	Standard
K	39	10.0	132.3	0.1149	0.207	180.4	mg/L	3	Standard
Ca	43	63.3	27.7	5.7551	6.641	115.4	mg/L	62	Standard
Fe	54	1890.9	3.9	1.8662	0.047	2.5	mg/L	139	Standard
Fe	57	676.7	11.9	2.0765	0.351	16.9	mg/L	83	Standard
Sc-1	45	22044.4	2.0				mg/L	23513	Standard
Cl	35	4.7	107.9				ug/L	3	Standard
Kr	83	2.3	99.0				ug/L	2	Standard
Br	81	13459.3	1.8				ug/L	910	Standard
P	31	93.3	53.9				ug/L	85	Standard
S	34	55.0	27.3				ug/L	48	Standard
Sr	88	203.3	17.8				ug/L	72	Standard
C	12	426.7	5.4				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	16.7	91.7				mg/L	7	Standard
Dy	164	152.1	15.8				mg/L	22	Standard
Ho-1	165	185.0	17.7				mg/L	22	Standard
Er	166	303.3	14.9				mg/L	23	Standard
I	127	820344.5	8.3				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		85.929	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		90.044	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	92.691
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	86.774
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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	

Sample ID: L1610019404

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610019405

Sample Date/Time: Wednesday, October 12, 2016 17:47:05

Number of Replicates: 3

Autosampler Position: 339

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	74997.3	6.6				ug/L	72553	Standard
|	Be	9	26.7	21.7	0.0116	0.005	43.4	ug/L	10	Standard
|	Al	27	95618410.2	3.3	915.9940	36.060	3.9	ug/L	232	Standard
|	Sc	45	19856.3	2.5				ug/L	23513	Standard
|	Ti	47	296.7	5.2	1.8915	0.093	4.9	ug/L	36	Standard
|	V	51	-797.8	99.7	-0.3699	0.164	44.3	ug/L	1387	Standard
|	Cr	52	10200.8	0.6	0.9095	0.038	4.2	ug/L	7813	Standard
|	Cr	53	15084.2	6.1	23.2651	1.845	7.9	ug/L	1410	Standard
|	Mn	55	6227203.1	0.5	784.0423	14.310	1.8	ug/L	1043	Standard
|	Co	59	14189.6	1.6	1.9920	0.015	0.7	ug/L	198	Standard
|	Ni	60	15180.3	1.4	9.8220	0.112	1.1	ug/L	64	Standard
|	Cu	65	1798.1	1.0	1.0302	0.024	2.3	ug/L	122	Standard
|	Zn	66	3618.1	1.7	3.4708	0.064	1.9	ug/L	209	Standard
>	Ge	72	492534.3	2.1				ug/L	618040	Standard
|	As	75	3121.4	12.1	3.5141	0.403	11.5	ug/L	11	Standard
|	Se	82	1162.5	5.4	13.6930	0.718	5.2	ug/L	21	Standard
|	Se-1	77	1946.5	4.3	33.7805	1.926	5.7	ug/L	86	Standard
>	Ga	71	140.0	31.7				mg/L	13	Standard
|	Rb	85	17378.3	3.5				ug/L	18	Standard
|	Y	89	373032.9	2.4				ug/L	463757	Standard
>	Rh	103	1413.4	4.4				ug/L	12	Standard
|	Mo	98	732.2	3.6	0.2468	0.001	0.6	ug/L	29	Standard
|	Ag	107	138.7	6.1	0.0118	0.003	21.9	ug/L	101	Standard
|	Cd	111	176.0	12.2	0.1009	0.009	9.1	mg/L	9	Standard
|	Cd	114	474.9	20.1	0.1087	0.020	18.8	ug/L	47	Standard
>	In	115	601559.8	3.7				ug/L	765457	Standard
|	Sn	118	127.0	5.7	-0.0171	0.004	23.0	ug/L	168	Standard
|	Sb	123	957.5	7.4	0.2169	0.010	4.6	ug/L	332	Standard
|	Ba	135	24622.0	2.3	11.7842	0.247	2.1	ug/L	37	Standard
|	Ce	140	33799.4	3.4				ug/L	895	Standard
>	Tb	159	1170090.6	3.1				ug/L	1511047	Standard
|	Ho	165	230.0	21.7				ug/L	22	Standard
|	Tl	203	217.0	7.6	0.0298	0.002	5.3	ug/L	14	Standard
|	Tl	205	518.3	15.9	0.0281	0.005	19.0	ug/L	27	Standard
|	Pb	206	863.7	3.9	0.0805	0.002	2.5	ug/L	557	Standard
|	Pb	207	709.0	1.9	0.0743	0.002	2.4	ug/L	432	Standard
|	Pb	208	3283.8	1.6	0.0746	0.002	3.0	ug/L	2118	Standard
	U	238	345883.2	2.4	17.4363	0.093	0.5	ug/L	78	Standard
>	Bi	209	505175.3	2.8				ug/L	791817	Standard

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Brank Z...

Na	23	611.7	11.3	207.3771	26.747	12.9	mg/L	5	Standard
Mg	24	181526.2	1.8	421.6241	9.065	2.2	mg/L	48	Standard
K	39	45.0	33.3	0.7423	0.252	34.0	mg/L	3	Standard
Ca	43	551.7	17.3	218.0032	36.767	16.9	mg/L	62	Standard
Fe	54	215.8	1.2	0.1332	0.007	5.0	mg/L	139	Standard
Fe	57	728.4	1.4	2.5674	0.117	4.6	mg/L	83	Standard
Sc-1	45	19856.3	2.5				mg/L	23513	Standard
Cl	35	8.0	66.1				ug/L	3	Standard
Kr	83	3.0	33.3				ug/L	2	Standard
Br	81	323259.4	4.3				ug/L	910	Standard
P	31	101.7	24.3				ug/L	85	Standard
S	34	50.0	20.0				ug/L	48	Standard
Sr	88	2553.5	5.2				ug/L	72	Standard
C	12	896.7	29.9				mg/L	227	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	16.7	124.9				mg/L	7	Standard
Dy	164	299.3	31.8				mg/L	22	Standard
Ho-1	165	230.0	21.7				mg/L	22	Standard
Er	166	223.3	47.9				mg/L	23	Standard
I	127	27962116.5	12.4				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		103.369	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		79.693	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1610019405

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	78.588
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	63.800
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

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

Sample ID: L1610019405

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610019406

Sample Date/Time: Wednesday, October 12, 2016 17:50:05

Number of Replicates: 3

Autosampler Position: 340

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	86521.3	0.9				ug/L	72553	Standard
|	Be	9	38.3	27.2	0.0188	0.010	51.6	ug/L	10	Standard
|	Al	27	162169697.4	0.4	1344.5723	14.651	1.1	ug/L	232	Standard
|	Sc	45	19424.1	0.8				ug/L	23513	Standard
|	Ti	47	208.3	7.6	1.2826	0.119	9.3	ug/L	36	Standard
|	V	51	3230.4	9.3	0.4553	0.065	14.2	ug/L	1387	Standard
|	Cr	52	128374.3	1.8	26.6593	0.498	1.9	ug/L	7813	Standard
|	Cr	53	31638.0	3.1	51.6572	1.253	2.4	ug/L	1410	Standard
|	Mn	55	429006.2	1.1	54.7335	0.124	0.2	ug/L	1043	Standard
|	Co	59	5674.7	2.1	0.7984	0.010	1.2	ug/L	198	Standard
|	Ni	60	21944.2	3.5	14.4425	0.367	2.5	ug/L	64	Standard
|	Cu	65	4197.2	1.5	2.5859	0.012	0.5	ug/L	122	Standard
|	Zn	66	4550.3	1.3	4.6626	0.099	2.1	ug/L	209	Standard
>	Ge	72	484666.9	1.0				ug/L	618040	Standard
|	As	75	2315.2	3.9	2.6591	0.091	3.4	ug/L	11	Standard
|	Se	82	1004.9	3.9	12.0130	0.508	4.2	ug/L	21	Standard
|	Se-1	77	2710.9	2.9	48.3364	1.080	2.2	ug/L	86	Standard
>	Ga	71	126.7	6.0				mg/L	13	Standard
|	Rb	85	8620.8	4.8				ug/L	18	Standard
|	Y	89	387991.7	0.4				ug/L	463757	Standard
>	Rh	103	2006.8	13.0				ug/L	12	Standard
|	Mo	98	1230.1	3.2	0.4049	0.015	3.7	ug/L	29	Standard
|	Ag	107	407.3	3.5	0.0609	0.003	5.0	ug/L	101	Standard
|	Cd	111	2653.3	2.3	1.5381	0.034	2.2	mg/L	9	Standard
|	Cd	114	6653.4	2.1	1.4795	0.038	2.6	ug/L	47	Standard
>	In	115	621502.2	0.5				ug/L	765457	Standard
|	Sn	118	114.0	4.6	-0.0343	0.005	16.0	ug/L	168	Standard
|	Sb	123	673.0	1.7	0.1488	0.003	2.1	ug/L	332	Standard
|	Ba	135	13490.0	0.7	6.2350	0.043	0.7	ug/L	37	Standard
|	Ce	140	29184.7	0.4				ug/L	895	Standard
>	Tb	159	1161868.0	0.8				ug/L	1511047	Standard
|	Ho	165	1341.7	8.3				ug/L	22	Standard
|	Tl	203	143.0	2.8	0.0207	0.001	2.9	ug/L	14	Standard
|	Tl	205	311.7	8.1	0.0168	0.002	11.3	ug/L	27	Standard
|	Pb	206	989.4	1.7	0.1137	0.006	4.9	ug/L	557	Standard
|	Pb	207	809.7	2.7	0.1046	0.007	7.2	ug/L	432	Standard
|	Pb	208	3730.2	1.7	0.1046	0.004	4.2	ug/L	2118	Standard
	U	238	546875.7	0.6	29.1275	0.337	1.2	ug/L	78	Standard
>	Bi	209	478155.3	1.6				ug/L	791817	Standard

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Brink Z...

Na	23	951.7	10.8	329.7848	37.659	11.4	mg/L	5	Standard
Mg	24	212869.0	2.7	505.3852	16.942	3.4	mg/L	48	Standard
K	39	73.3	3.9	1.2695	0.048	3.8	mg/L	3	Standard
Ca	43	701.7	19.1	289.4231	56.345	19.5	mg/L	62	Standard
Fe	54	480.8	9.4	0.4545	0.056	12.4	mg/L	139	Standard
Fe	57	1000.0	6.9	3.7851	0.277	7.3	mg/L	83	Standard
Sc-1	45	19424.1	0.8				mg/L	23513	Standard
Cl	35	13.3	69.3				ug/L	3	Standard
Kr	83	4.0	25.0				ug/L	2	Standard
Br	81	281623.5	1.3				ug/L	910	Standard
P	31	78.3	30.2				ug/L	85	Standard
S	34	53.3	30.1				ug/L	48	Standard
Sr	88	3577.1	3.9				ug/L	72	Standard
C	12	1300.1	4.3				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	303.3	28.0				mg/L	7	Standard
Dy	164	1762.9	12.0				mg/L	22	Standard
Ho-1	165	1341.7	8.3				mg/L	22	Standard
Er	166	1333.4	1.7				mg/L	23	Standard
I	127	6094190.8	4.1				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		119.252	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		78.420	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	81.194
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	60.387
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

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

Sample ID: L1610019406

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610019413

Sample Date/Time: Wednesday, October 12, 2016 17:53:05

Number of Replicates: 3

Autosampler Position: 341

Sample Description: 10

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	73414.2	2.3				ug/L	72553	Standard
|	Be	9	8.3	69.3	-0.0076	0.007	86.6	ug/L	10	Standard
|	Al	27	10364135.3	1.0	101.2904	2.062	2.0	ug/L	232	Standard
|	Sc	45	20133.4	0.8				ug/L	23513	Standard
|	Ti	47	1569.7	1.7	10.1843	0.160	1.6	ug/L	36	Standard
|	V	51	42233.4	1.4	7.6744	0.128	1.7	ug/L	1387	Standard
|	Cr	52	26363.9	0.8	3.9490	0.063	1.6	ug/L	7813	Standard
|	Cr	53	6979.9	3.1	8.8893	0.373	4.2	ug/L	1410	Standard
|	Mn	55	3282860.4	0.4	382.3382	2.266	0.6	ug/L	1043	Standard
|	Co	59	13292.2	2.0	1.7243	0.040	2.3	ug/L	198	Standard
|	Ni	60	8283.9	1.1	4.9409	0.071	1.4	ug/L	64	Standard
|	Cu	65	4043.5	3.3	2.2561	0.086	3.8	ug/L	122	Standard
|	Zn	66	2749.9	2.5	2.1992	0.089	4.1	ug/L	209	Standard
>	Ge	72	532226.2	0.4				ug/L	618040	Standard
|	As	75	5848.9	0.5	6.0646	0.025	0.4	ug/L	11	Standard
|	Se	82	155.0	7.7	1.5706	0.126	8.0	ug/L	21	Standard
|	Se-1	77	401.3	5.5	5.3609	0.397	7.4	ug/L	86	Standard
>	Ga	71	135.0	12.8				mg/L	13	Standard
|	Rb	85	820.0	2.8				ug/L	18	Standard
|	Y	89	398294.5	1.4				ug/L	463757	Standard
>	Rh	103	170.0	5.1				ug/L	12	Standard
|	Mo	98	666.3	2.6	0.1831	0.003	1.8	ug/L	29	Standard
|	Ag	107	165.3	9.0	0.0112	0.003	23.8	ug/L	101	Standard
|	Cd	111	68.1	9.6	0.0290	0.003	10.9	mg/L	9	Standard
|	Cd	114	156.4	20.6	0.0292	0.006	21.2	ug/L	47	Standard
>	In	115	732395.1	1.2				ug/L	765457	Standard
|	Sn	118	259.7	5.9	0.0727	0.012	17.2	ug/L	168	Standard
|	Sb	123	647.9	0.5	0.1222	0.001	1.2	ug/L	332	Standard
|	Ba	135	43663.2	0.3	17.1699	0.231	1.3	ug/L	37	Standard
|	Ce	140	3778.8	0.9				ug/L	895	Standard
>	Tb	159	1413163.5	1.3				ug/L	1511047	Standard
|	Ho	165	501.7	8.3				ug/L	22	Standard
|	Tl	203	52.7	17.2	0.0051	0.001	18.0	ug/L	14	Standard
|	Tl	205	115.0	26.4	0.0020	0.001	63.0	ug/L	27	Standard
|	Pb	206	4726.7	1.3	0.5503	0.013	2.3	ug/L	557	Standard
|	Pb	207	3757.1	2.4	0.4934	0.019	3.8	ug/L	432	Standard
|	Pb	208	17745.4	1.0	0.5145	0.009	1.7	ug/L	2118	Standard
	U	238	7252.1	3.2	0.2662	0.009	3.5	ug/L	78	Standard
>	Bi	209	694503.7	1.4				ug/L	791817	Standard

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Brink Z...

Na	23	35.0	51.5	11.2721	6.057	53.7	mg/L	5	Standard
Mg	24	50134.5	1.7	114.7492	1.182	1.0	mg/L	48	Standard
K	39	13.3	108.3	0.1865	0.247	132.5	mg/L	3	Standard
Ca	43	71.7	26.4	11.6356	8.029	69.0	mg/L	62	Standard
Fe	54	1033.3	5.2	1.0694	0.065	6.1	mg/L	139	Standard
Fe	57	485.0	17.0	1.5270	0.335	21.9	mg/L	83	Standard
Sc-1	45	20133.4	0.8				mg/L	23513	Standard
Cl	35	4.7	89.2				ug/L	3	Standard
Kr	83	1.3	43.3				ug/L	2	Standard
Br	81	34265.4	2.4				ug/L	910	Standard
P	31	68.3	11.2				ug/L	85	Standard
S	34	43.3	58.1				ug/L	48	Standard
Sr	88	236.7	10.0				ug/L	72	Standard
C	12	1630.1	19.7				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	23.3	65.5				mg/L	7	Standard
Dy	164	446.7	26.9				mg/L	22	Standard
Ho-1	165	501.7	8.3				mg/L	22	Standard
Er	166	626.7	15.3				mg/L	23	Standard
I	127	1294194.1	2.3				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		101.186	
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		86.115	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	95.681
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	87.710
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

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

Sample ID: L1610019413

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Bank Z...

Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Wednesday, October 12, 2016 17:56:05

Number of Replicates: 3

Autosampler Position: 101

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	69057.1	2.9				ug/L	72553	Standard
|	Be	9	40813.2	1.8	47.4223	1.420	3.0	ug/L	10	Standard
|	Al	27	4492750.4	0.5	46.6905	1.391	3.0	ug/L	232	Standard
|	Sc	45	19679.5	5.2				ug/L	23513	Standard
|	Ti	47	14977.1	1.3	99.2375	3.709	3.7	ug/L	36	Standard
|	V	51	280521.5	0.6	52.1542	1.273	2.4	ug/L	1387	Standard
|	Cr	52	266430.2	1.7	51.5228	0.938	1.8	ug/L	7813	Standard
|	Cr	53	34260.4	1.1	50.9302	1.113	2.2	ug/L	1410	Standard
|	Mn	55	437480.5	1.5	50.8259	1.180	2.3	ug/L	1043	Standard
|	Co	59	387307.2	2.1	50.7758	1.498	2.9	ug/L	198	Standard
|	Ni	60	85598.2	2.1	51.4134	1.167	2.3	ug/L	64	Standard
|	Cu	65	87675.3	1.6	51.0733	0.998	2.0	ug/L	122	Standard
|	Zn	66	46342.1	1.8	49.9883	0.662	1.3	ug/L	209	Standard
>	Ge	72	532340.9	3.0				ug/L	618040	Standard
|	As	75	48168.3	0.9	49.6568	1.030	2.1	ug/L	11	Standard
|	Se	82	4501.6	0.8	49.4401	1.836	3.7	ug/L	21	Standard
|	Se-1	77	3188.7	3.5	51.8669	1.245	2.4	ug/L	86	Standard
>	Ga	71	30.0	16.7				mg/L	13	Standard
|	Rb	85	723.4	8.1				ug/L	18	Standard
|	Y	89	404338.2	3.4				ug/L	463757	Standard
>	Rh	103	86.7	27.3				ug/L	12	Standard
|	Mo	98	328809.9	0.6	88.2872	1.307	1.5	ug/L	29	Standard
|	Ag	107	308997.1	1.4	46.2809	0.909	2.0	ug/L	101	Standard
|	Cd	111	107455.5	0.9	50.2941	1.036	2.1	mg/L	9	Standard
|	Cd	114	277131.2	2.2	49.6119	1.224	2.5	ug/L	47	Standard
>	In	115	772140.8	1.2				ug/L	765457	Standard
|	Sn	118	60596.0	2.1	48.9561	1.622	3.3	ug/L	168	Standard
|	Sb	123	297343.2	0.8	51.6710	1.007	1.9	ug/L	332	Standard
|	Ba	135	129816.1	0.8	48.4683	0.998	2.1	ug/L	37	Standard
|	Ce	140	101.7	22.2				ug/L	895	Standard
>	Tb	159	1435701.0	1.9				ug/L	1511047	Standard
|	Ho	165	15.0	33.3				ug/L	22	Standard
|	Tl	203	538697.7	1.2	49.9093	0.756	1.5	ug/L	14	Standard
|	Tl	205	1273420.4	2.3	51.1657	1.834	3.6	ug/L	27	Standard
|	Pb	206	404973.9	2.0	49.5083	1.653	3.3	ug/L	557	Standard
|	Pb	207	356640.3	1.7	49.4894	1.432	2.9	ug/L	432	Standard
|	Pb	208	1618600.5	1.2	49.5755	1.091	2.2	ug/L	2118	Standard
	U	238	1493122.9	1.0	50.5040	0.731	1.4	ug/L	78	Standard
>	Bi	209	752936.2	1.7				ug/L	791817	Standard

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Brank Z...

Na	23	20.0	25.0	6.3551	1.428	22.5	mg/L	5	Standard
Mg	24	2323.5	6.8	5.3618	0.116	2.2	mg/L	48	Standard
K	39	183.3	18.6	3.1893	0.527	16.5	mg/L	3	Standard
Ca	43	48.3	26.0	2.0856	4.572	219.2	mg/L	62	Standard
Fe	54	4063.1	3.5	4.6717	0.381	8.2	mg/L	139	Standard
Fe	57	1383.4	3.3	5.3505	0.425	7.9	mg/L	83	Standard
Sc-1	45	19679.5	5.2				mg/L	23513	Standard
Cl	35	3.3	69.3				ug/L	3	Standard
Kr	83	7.0	37.8				ug/L	2	Standard
Br	81	2123.5	3.1				ug/L	910	Standard
P	31	60.0					ug/L	85	Standard
S	34	46.7	16.4				ug/L	48	Standard
Sr	88	118.3	10.6				ug/L	72	Standard
C	12	386.7	34.7				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	7	Standard
Dy	164	21.7	72.7				mg/L	22	Standard
Ho-1	165	15.0	33.3				mg/L	22	Standard
Er	166	33.3	34.6				mg/L	23	Standard
I	127	166934.9	18.4				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	94.845		
Al	27	93.381		
Sc	45			
Ti	47	99.237		
V	51	104.308		
Cr	52	103.046		
Cr	53			
Mn	55	101.652		
Co	59	101.552		
Ni	60	102.827		
Cu	65	102.147		
Zn	66	99.977		
Ge	72		86.134	
As	75	99.314		
Se	82	98.880		
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	88.287	
[Ag	107	92.562	
[Cd	111	100.588	
[Cd	114		
>	In	115		100.873
[	Sn	118	97.912	
[	Sb	123	103.342	
[	Ba	135	96.937	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	99.819	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	99.151	
[	U	238	101.008	
>	Bi	209		95.090
[	Na	23		
[	Mg	24		
[	K	39		
[	Ca	43		
[	Fe	54		
[	Fe	57		
>	Sc-1	45		
[	Cl	35		
[	Kr	83		
[	Br	81		
[	P	31		
[	S	34		
[	Sr	88		
[	C	12		
[	N	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	Mo	98	

Sample ID: QC Std 6

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Bank Z...

Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Wednesday, October 12, 2016 17:59:05

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	72071.1	3.0				ug/L	72553	Standard
|	Be	9	6.7	43.3	-0.0094	0.003	33.5	ug/L	10	Standard
|	Al	27	380.0	11.4	0.0003	0.000	164.3	ug/L	232	Standard
|	Sc	45	20260.2	3.0				ug/L	23513	Standard
|	Ti	47	23.0	17.4	-0.0921	0.029	31.6	ug/L	36	Standard
|	V	51	964.4	11.5	-0.0377	0.015	39.6	ug/L	1387	Standard
|	Cr	52	5951.8	2.1	-0.1646	0.027	16.4	ug/L	7813	Standard
|	Cr	53	1008.4	11.4	-0.4028	0.168	41.7	ug/L	1410	Standard
|	Mn	55	1237.1	1.7	-0.0191	0.005	25.1	ug/L	1043	Standard
|	Co	59	132.3	4.2	-0.0022	0.001	45.8	ug/L	198	Standard
|	Ni	60	45.0	7.7	-0.0126	0.002	18.4	ug/L	64	Standard
|	Cu	65	157.3	7.0	-0.0175	0.008	48.3	ug/L	122	Standard
|	Zn	66	208.7	4.2	-0.6002	0.013	2.1	ug/L	209	Standard
>	Ge	72	565390.5	2.9				ug/L	618040	Standard
|	As	75	-25.4	164.8	0.0172	0.040	235.3	ug/L	11	Standard
|	Se	82	22.4	18.8	0.0981	0.049	50.3	ug/L	21	Standard
|	Se-1	77	77.3	8.2	-0.1215	0.117	95.9	ug/L	86	Standard
>	Ga	71	23.3	24.7				mg/L	13	Standard
|	Rb	85	16.7	75.5				ug/L	18	Standard
|	Y	89	431222.3	3.7				ug/L	463757	Standard
>	Rh	103	43.3	17.6				ug/L	12	Standard
|	Mo	98	184.6	24.5	0.0407	0.010	24.3	ug/L	29	Standard
|	Ag	107	102.7	6.0	-0.0006	0.000	65.7	ug/L	101	Standard
|	Cd	111	5.1	29.0	-0.0024	0.001	24.4	mg/L	9	Standard
|	Cd	114	75.2	24.4	0.0123	0.003	24.4	ug/L	47	Standard
>	In	115	824537.7	3.7				ug/L	765457	Standard
|	Sn	118	178.0	33.0	-0.0150	0.041	270.4	ug/L	168	Standard
|	Sb	123	545.9	45.2	0.0914	0.038	41.1	ug/L	332	Standard
|	Ba	135	30.0	29.6	-0.0140	0.004	25.5	ug/L	37	Standard
|	Ce	140	30.0	28.9				ug/L	895	Standard
>	Tb	159	1508520.8	1.2				ug/L	1511047	Standard
|	Ho	165	16.7	45.8				ug/L	22	Standard
|	Tl	203	42.3	13.4	0.0036	0.001	15.2	ug/L	14	Standard
|	Tl	205	86.7	21.8	0.0003	0.001	201.9	ug/L	27	Standard
|	Pb	206	532.7	1.6	-0.0149	0.001	4.7	ug/L	557	Standard
|	Pb	207	469.0	6.1	-0.0105	0.003	29.5	ug/L	432	Standard
|	Pb	208	2092.1	3.2	-0.0144	0.001	9.2	ug/L	2118	Standard
	U	238	80.7	18.6	0.0029	0.000	15.9	ug/L	78	Standard
>	Bi	209	790552.1	1.2				ug/L	791817	Standard

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Brank Z...

Na	23	0.0		-0.4577	0.000	0.0	mg/L	5	Standard
Mg	24	35.0	37.8	-0.0010	0.029	2955.8	mg/L	48	Standard
K	39	6.7	43.3	0.0710	0.047	65.8	mg/L	3	Standard
Ca	43	31.7	45.6	-5.3705	6.201	115.5	mg/L	62	Standard
Fe	54	121.0	14.3	0.0202	0.024	116.8	mg/L	139	Standard
Fe	57	105.0	29.7	-0.0290	0.138	475.0	mg/L	83	Standard
Sc-1	45	20260.2	3.0				mg/L	23513	Standard
Cl	35	2.7	114.6				ug/L	3	Standard
Kr	83	4.0	90.1				ug/L	2	Standard
Br	81	1580.1	16.5				ug/L	910	Standard
P	31	60.0	54.6				ug/L	85	Standard
S	34	33.3	45.8				ug/L	48	Standard
Sr	88	133.3	5.7				ug/L	72	Standard
C	12	273.3	11.8				mg/L	227	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	16.7	91.7				mg/L	7	Standard
Dy	164	29.0	0.0				mg/L	22	Standard
Ho-1	165	16.7	45.8				mg/L	22	Standard
Er	166	20.0	0.0				mg/L	23	Standard
I	127	99497.9	5.2				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		91.481	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: QC Std 7

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	107.718
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	99.840
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 7

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610019415

Sample Date/Time: Wednesday, October 12, 2016 18:02:05

Number of Replicates: 3

Autosampler Position: 342

Sample Description: 10

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	69961.3	3.2				ug/L	72553	Standard
|	Be	9	10.0	50.0	-0.0052	0.006	114.4	ug/L	10	Standard
|	Al	27	5692021.9	0.9	58.3995	2.029	3.5	ug/L	232	Standard
|	Sc	45	20502.2	2.3				ug/L	23513	Standard
|	Ti	47	498.3	3.1	2.9499	0.095	3.2	ug/L	36	Standard
|	V	51	13218.1	2.0	2.1686	0.019	0.9	ug/L	1387	Standard
|	Cr	52	10397.2	1.3	0.7094	0.041	5.8	ug/L	7813	Standard
|	Cr	53	1878.4	3.6	0.9208	0.054	5.8	ug/L	1410	Standard
|	Mn	55	3066758.0	1.7	344.0787	11.091	3.2	ug/L	1043	Standard
|	Co	59	13039.6	1.0	1.6285	0.043	2.6	ug/L	198	Standard
|	Ni	60	4170.2	4.2	2.3752	0.065	2.8	ug/L	64	Standard
|	Cu	65	1739.1	3.2	0.8734	0.022	2.5	ug/L	122	Standard
|	Zn	66	2944.0	1.8	2.2940	0.122	5.3	ug/L	209	Standard
>	Ge	72	552667.6	2.2				ug/L	618040	Standard
|	As	75	2509.1	1.7	2.5302	0.067	2.6	ug/L	11	Standard
|	Se	82	61.3	4.2	0.5153	0.026	5.0	ug/L	21	Standard
|	Se-1	77	144.3	14.8	0.9871	0.394	39.9	ug/L	86	Standard
>	Ga	71	65.0	26.6				mg/L	13	Standard
|	Rb	85	326.7	12.8				ug/L	18	Standard
|	Y	89	435292.7	0.4				ug/L	463757	Standard
>	Rh	103	145.0	6.0				ug/L	12	Standard
|	Mo	98	1495.2	3.6	0.3771	0.012	3.1	ug/L	29	Standard
|	Ag	107	118.7	5.5	0.0020	0.001	47.4	ug/L	101	Standard
|	Cd	111	57.1	9.9	0.0208	0.003	12.0	mg/L	9	Standard
|	Cd	114	139.4	22.5	0.0235	0.005	22.5	ug/L	47	Standard
>	In	115	810241.1	1.5				ug/L	765457	Standard
|	Sn	118	207.0	10.1	0.0109	0.019	170.5	ug/L	168	Standard
|	Sb	123	520.3	19.8	0.0898	0.018	20.3	ug/L	332	Standard
|	Ba	135	18364.8	2.6	6.5121	0.147	2.3	ug/L	37	Standard
|	Ce	140	1300.1	13.7				ug/L	895	Standard
>	Tb	159	1486475.5	3.3				ug/L	1511047	Standard
|	Ho	165	185.0	18.9				ug/L	22	Standard
|	Tl	203	97.7	8.5	0.0089	0.001	9.1	ug/L	14	Standard
|	Tl	205	211.7	20.1	0.0056	0.002	31.3	ug/L	27	Standard
|	Pb	206	1591.1	3.6	0.1187	0.008	6.4	ug/L	557	Standard
|	Pb	207	1257.1	1.0	0.1029	0.001	0.9	ug/L	432	Standard
|	Pb	208	6010.5	0.6	0.1097	0.001	1.3	ug/L	2118	Standard
	U	238	6562.4	1.0	0.2233	0.001	0.7	ug/L	78	Standard
>	Bi	209	749161.0	0.4				ug/L	791817	Standard

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Brank Z...

Na	23	26.7	10.8	8.3048	0.913	11.0	mg/L	5	Standard
Mg	24	23269.5	3.1	52.2676	1.514	2.9	mg/L	48	Standard
K	39	6.7	86.6	0.0707	0.098	139.2	mg/L	3	Standard
Ca	43	56.7	13.5	4.8026	2.700	56.2	mg/L	62	Standard
Fe	54	2044.2	2.1	2.1903	0.101	4.6	mg/L	139	Standard
Fe	57	751.7	5.5	2.5664	0.210	8.2	mg/L	83	Standard
Sc-1	45	20502.2	2.3				mg/L	23513	Standard
Cl	35	2.7	43.3				ug/L	3	Standard
Kr	83	4.0	50.0				ug/L	2	Standard
Br	81	14413.5	1.8				ug/L	910	Standard
P	31	71.7	38.4				ug/L	85	Standard
S	34	26.7	47.2				ug/L	48	Standard
Sr	88	213.3	30.2				ug/L	72	Standard
C	12	760.0	8.2				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	16.7	69.3				mg/L	7	Standard
Dy	164	202.6	29.1				mg/L	22	Standard
Ho-1	165	185.0	18.9				mg/L	22	Standard
Er	166	293.3	15.7				mg/L	23	Standard
I	127	966378.0	9.2				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		96.427	
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		89.423	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	105.851
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	94.613
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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	

Sample ID: L1610019415

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610019416

Sample Date/Time: Wednesday, October 12, 2016 18:05:05

Number of Replicates: 3

Autosampler Position: 343

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	75856.2	2.8				ug/L	72553	Standard
|	Be	9	31.7	55.5	0.0165	0.018	107.4	ug/L	10	Standard
|	Al	27	97355001.4	2.4	921.1956	37.670	4.1	ug/L	232	Standard
|	Sc	45	18901.8	2.3				ug/L	23513	Standard
|	Ti	47	111.7	6.7	0.5611	0.061	10.8	ug/L	36	Standard
|	V	51	-270.0	43.2	-0.2611	0.024	9.1	ug/L	1387	Standard
|	Cr	52	9228.1	0.8	0.6914	0.028	4.1	ug/L	7813	Standard
|	Cr	53	11959.7	2.4	17.9489	0.417	2.3	ug/L	1410	Standard
|	Mn	55	6026566.5	0.2	754.9547	7.161	0.9	ug/L	1043	Standard
|	Co	59	13050.0	1.0	1.8216	0.033	1.8	ug/L	198	Standard
|	Ni	60	15258.7	1.6	9.8243	0.181	1.8	ug/L	64	Standard
|	Cu	65	1950.8	0.5	1.1203	0.006	0.5	ug/L	122	Standard
|	Zn	66	3532.7	1.1	3.3491	0.058	1.7	ug/L	209	Standard
>	Ge	72	494932.5	0.9				ug/L	618040	Standard
|	As	75	3192.0	1.5	3.5760	0.036	1.0	ug/L	11	Standard
|	Se	82	1234.8	1.3	14.4817	0.256	1.8	ug/L	21	Standard
|	Se-1	77	1739.1	1.9	29.8691	0.338	1.1	ug/L	86	Standard
>	Ga	71	78.3	28.8				mg/L	13	Standard
|	Rb	85	17480.1	3.1				ug/L	18	Standard
|	Y	89	380612.3	1.8				ug/L	463757	Standard
>	Rh	103	1463.4	5.2				ug/L	12	Standard
|	Mo	98	727.3	1.5	0.2288	0.004	1.9	ug/L	29	Standard
|	Ag	107	114.7	12.3	0.0056	0.002	43.5	ug/L	101	Standard
|	Cd	111	180.7	5.6	0.0969	0.006	6.0	mg/L	9	Standard
|	Cd	114	433.4	5.9	0.0928	0.006	5.9	ug/L	47	Standard
>	In	115	643532.1	0.5				ug/L	765457	Standard
|	Sn	118	122.3	3.3	-0.0302	0.004	14.6	ug/L	168	Standard
|	Sb	123	942.5	4.5	0.2000	0.010	4.9	ug/L	332	Standard
|	Ba	135	24242.0	1.7	10.8386	0.139	1.3	ug/L	37	Standard
|	Ce	140	27047.5	2.1				ug/L	895	Standard
>	Tb	159	1184504.3	1.8				ug/L	1511047	Standard
|	Ho	165	165.0	13.2				ug/L	22	Standard
|	Tl	203	228.3	8.3	0.0307	0.003	9.6	ug/L	14	Standard
|	Tl	205	510.0	11.6	0.0270	0.004	14.3	ug/L	27	Standard
|	Pb	206	589.3	2.2	0.0283	0.002	5.5	ug/L	557	Standard
|	Pb	207	495.3	1.5	0.0279	0.000	0.2	ug/L	432	Standard
|	Pb	208	2305.1	1.9	0.0277	0.002	8.9	ug/L	2118	Standard
	U	238	366680.0	0.6	18.1043	0.279	1.5	ug/L	78	Standard
>	Bi	209	515824.7	1.5				ug/L	791817	Standard

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Brank Z...

Na	23	633.3	14.2	224.9640	28.114	12.5	mg/L	5	Standard
Mg	24	179556.3	2.0	438.2393	17.089	3.9	mg/L	48	Standard
K	39	58.3	13.1	1.0294	0.131	12.7	mg/L	3	Standard
Ca	43	508.3	10.0	211.2752	27.365	13.0	mg/L	62	Standard
Fe	54	203.5	17.3	0.1306	0.042	32.0	mg/L	139	Standard
Fe	57	725.0	8.4	2.7086	0.335	12.4	mg/L	83	Standard
Sc-1	45	18901.8	2.3				mg/L	23513	Standard
Cl	35	5.3	94.4				ug/L	3	Standard
Kr	83	5.3	28.6				ug/L	2	Standard
Br	81	336262.3	2.8				ug/L	910	Standard
P	31	75.0	6.7				ug/L	85	Standard
S	34	33.3	31.2				ug/L	48	Standard
Sr	88	2728.6	2.6				ug/L	72	Standard
C	12	1176.7	9.0				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	13.3	114.6				mg/L	7	Standard
Dy	164	188.4	11.8				mg/L	22	Standard
Ho-1	165	165.0	13.2				mg/L	22	Standard
Er	166	173.3	18.5				mg/L	23	Standard
I	127	29019407.2	6.9				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		104.552	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		80.081	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	84.072
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	65.144
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

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

Sample ID: L1610019416

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610019417

Sample Date/Time: Wednesday, October 12, 2016 18:08:04

Number of Replicates: 3

Autosampler Position: 344

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	81875.7	1.6				ug/L	72553	Standard
|	Be	9	21.7	81.0	0.0044	0.017	387.7	ug/L	10	Standard
|	Al	27	160729597.8	0.9	1408.2868	11.882	0.8	ug/L	232	Standard
|	Sc	45	18147.5	1.1				ug/L	23513	Standard
|	Ti	47	91.0	16.6	0.4444	0.108	24.3	ug/L	36	Standard
|	V	51	116.5	406.9	-0.1816	0.101	55.4	ug/L	1387	Standard
|	Cr	52	11238.8	1.3	1.2374	0.060	4.8	ug/L	7813	Standard
|	Cr	53	13909.7	1.7	22.3083	0.263	1.2	ug/L	1410	Standard
|	Mn	55	438612.6	0.8	57.4917	0.268	0.5	ug/L	1043	Standard
|	Co	59	5397.3	1.1	0.7797	0.008	1.1	ug/L	198	Standard
|	Ni	60	21176.8	0.9	14.3211	0.292	2.0	ug/L	64	Standard
|	Cu	65	2796.6	0.6	1.7372	0.018	1.0	ug/L	122	Standard
|	Zn	66	4538.7	1.3	4.7967	0.022	0.5	ug/L	209	Standard
>	Ge	72	471829.3	1.2				ug/L	618040	Standard
|	As	75	2296.2	10.6	2.7094	0.294	10.8	ug/L	11	Standard
|	Se	82	1071.1	2.4	13.1670	0.454	3.4	ug/L	21	Standard
|	Se-1	77	2544.2	1.7	46.5529	0.400	0.9	ug/L	86	Standard
>	Ga	71	76.7	21.0				mg/L	13	Standard
|	Rb	85	8442.4	4.9				ug/L	18	Standard
|	Y	89	374088.6	2.5				ug/L	463757	Standard
>	Rh	103	2081.8	11.9				ug/L	12	Standard
|	Mo	98	977.7	1.3	0.3203	0.002	0.6	ug/L	29	Standard
|	Ag	107	147.7	10.9	0.0125	0.003	22.5	ug/L	101	Standard
|	Cd	111	2259.2	5.4	1.3075	0.062	4.8	mg/L	9	Standard
|	Cd	114	5706.3	3.4	1.2674	0.038	3.0	ug/L	47	Standard
>	In	115	622100.3	0.7				ug/L	765457	Standard
|	Sn	118	115.3	17.4	-0.0332	0.020	59.2	ug/L	168	Standard
|	Sb	123	523.8	9.0	0.1164	0.010	8.2	ug/L	332	Standard
|	Ba	135	13477.3	1.1	6.2232	0.072	1.2	ug/L	37	Standard
|	Ce	140	10006.6	2.3				ug/L	895	Standard
>	Tb	159	1137399.6	2.2				ug/L	1511047	Standard
|	Ho	165	576.7	9.5				ug/L	22	Standard
|	Tl	203	124.3	3.3	0.0184	0.001	4.5	ug/L	14	Standard
|	Tl	205	315.0	11.1	0.0175	0.002	11.4	ug/L	27	Standard
|	Pb	206	446.0	5.4	0.0111	0.005	40.5	ug/L	557	Standard
|	Pb	207	363.0	5.9	0.0089	0.006	63.4	ug/L	432	Standard
|	Pb	208	1694.0	0.4	0.0084	0.001	14.5	ug/L	2118	Standard
	U	238	550147.3	1.2	30.0622	0.538	1.8	ug/L	78	Standard
>	Bi	209	466058.5	1.3				ug/L	791817	Standard

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Brink Z...

Na	23	841.7	6.5	312.0897	21.620	6.9	mg/L	5	Standard
Mg	24	206127.7	0.5	523.7761	7.213	1.4	mg/L	48	Standard
K	39	78.3	19.5	1.4558	0.277	19.0	mg/L	3	Standard
Ca	43	603.3	19.9	265.1875	56.590	21.3	mg/L	62	Standard
Fe	54	215.4	16.8	0.1563	0.047	29.8	mg/L	139	Standard
Fe	57	956.7	7.9	3.8894	0.374	9.6	mg/L	83	Standard
Sc-1	45	18147.5	1.1				mg/L	23513	Standard
Cl	35	6.0	57.7				ug/L	3	Standard
Kr	83	2.3	99.0				ug/L	2	Standard
Br	81	295913.8	3.4				ug/L	910	Standard
P	31	90.0	33.3				ug/L	85	Standard
S	34	36.7	31.5				ug/L	48	Standard
Sr	88	3733.8	6.2				ug/L	72	Standard
C	12	1146.7	7.9				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	56.7	20.4				mg/L	7	Standard
Dy	164	598.8	6.6				mg/L	22	Standard
Ho-1	165	576.7	9.5				mg/L	22	Standard
Er	166	513.3	16.2				mg/L	23	Standard
I	127	6436609.8	3.2				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		112.849	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		76.343	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1610019417

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	81.272
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	58.859
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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: L1610019417

Report Date/Time: Wednesday, October 12, 2016 18:10:09

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610031902

Sample Date/Time: Wednesday, October 12, 2016 18:11:04

Number of Replicates: 3

Autosampler Position: 345

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	83444.8	6.7				ug/L	72553	Standard
|	Be	9	7550.2	2.3	7.2564	0.311	4.3	ug/L	10	Standard
|	Al	27	27599909.4	4.0	237.5392	6.921	2.9	ug/L	232	Standard
|	Sc	45	42969.2	2.8				ug/L	23513	Standard
|	Ti	47	35831.0	2.7	245.6178	2.895	1.2	ug/L	36	Standard
|	V	51	815345.6	3.2	157.0339	1.158	0.7	ug/L	1387	Standard
|	Cr	52	754317.9	3.4	153.1848	0.694	0.5	ug/L	7813	Standard
|	Cr	53	99712.2	3.1	156.9092	0.788	0.5	ug/L	1410	Standard
|	Mn	55	32783105.4	3.5	3947.0226	29.891	0.8	ug/L	1043	Standard
|	Co	59	551349.7	2.7	74.6997	0.530	0.7	ug/L	198	Standard
|	Ni	60	201183.1	1.7	124.9632	2.001	1.6	ug/L	64	Standard
|	Cu	65	222741.1	2.7	134.2632	0.983	0.7	ug/L	122	Standard
|	Zn	66	486702.2	2.8	550.6316	2.985	0.5	ug/L	209	Standard
>	Ge	72	515002.4	3.2				ug/L	618040	Standard
|	As	75	49362.1	3.1	52.5795	0.549	1.0	ug/L	11	Standard
|	Se	82	382.6	4.5	4.2164	0.086	2.0	ug/L	21	Standard
|	Se-1	77	868.7	7.7	13.6304	0.689	5.1	ug/L	86	Standard
>	Ga	71	121147.9	3.9				mg/L	13	Standard
|	Rb	85	989597.5	3.1				ug/L	18	Standard
|	Y	89	2364362.5	2.2				ug/L	463757	Standard
>	Rh	103	258.3	19.9				ug/L	12	Standard
|	Mo	98	27094.3	3.0	8.1531	0.072	0.9	ug/L	29	Standard
|	Ag	107	4490.3	3.6	0.7395	0.020	2.7	ug/L	101	Standard
|	Cd	111	2010.5	5.2	1.0501	0.021	2.0	mg/L	9	Standard
|	Cd	114	5213.5	6.3	1.0460	0.048	4.6	ug/L	47	Standard
>	In	115	688598.4	3.7				ug/L	765457	Standard
|	Sn	118	275.3	10.5	0.1007	0.019	19.1	ug/L	168	Standard
|	Sb	123	1351.5	2.2	0.2669	0.006	2.1	ug/L	332	Standard
|	Ba	135	1747128.7	1.3	732.1231	19.025	2.6	ug/L	37	Standard
|	Ce	140	14564509.9	3.2				ug/L	895	Standard
>	Tb	159	1472549.6	1.8				ug/L	1511047	Standard
|	Ho	165	265033.8	4.1				ug/L	22	Standard
|	Tl	203	15475.9	1.5	1.4977	0.012	0.8	ug/L	14	Standard
|	Tl	205	35299.4	1.2	1.4786	0.015	1.0	ug/L	27	Standard
|	Pb	206	1360265.8	3.2	173.8433	2.139	1.2	ug/L	557	Standard
|	Pb	207	1070910.3	2.8	155.3505	1.326	0.9	ug/L	432	Standard
|	Pb	208	5127618.8	2.6	164.2079	1.180	0.7	ug/L	2118	Standard
	U	238	992261.9	1.6	35.0618	0.183	0.5	ug/L	78	Standard
>	Bi	209	720699.0	2.1				ug/L	791817	Standard

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Brian Z...

Na	23	265.0	10.5	41.0337	3.168	7.7	mg/L	5	Standard
Mg	24	10783.8	0.7	11.5003	0.380	3.3	mg/L	48	Standard
K	39	425.0	14.7	3.3886	0.423	12.5	mg/L	3	Standard
Ca	43	225.0	7.7	25.9667	3.536	13.6	mg/L	62	Standard
Fe	54	126923.7	1.8	68.2650	2.107	3.1	mg/L	139	Standard
Fe	57	34808.3	1.8	66.3434	1.168	1.8	mg/L	83	Standard
Sc-1	45	42969.2	2.8				mg/L	23513	Standard
Cl	35	1.3	86.6				ug/L	3	Standard
Kr	83	2.7	57.3				ug/L	2	Standard
Br	81	10370.3	12.6				ug/L	910	Standard
P	31	566.7	7.5				ug/L	85	Standard
S	34	21.7	58.1				ug/L	48	Standard
Sr	88	388.3	5.8				ug/L	72	Standard
C	12	900.0	1.1				mg/L	227	Standard
N	14	6.7	86.6				mg/L	0	Standard
Hg	202	390.0	11.8				mg/L	7	Standard
Dy	164	407827.7	2.9				mg/L	22	Standard
Ho-1	165	265033.8	4.1				mg/L	22	Standard
Er	166	235753.4	0.9				mg/L	23	Standard
I	127	392099.9	22.8				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		115.012	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		83.328	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	89.959
[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	91.018
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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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Cr 52 Upper, S, EEE	Cr	52
Cr 53 Upper, S, EEE	Cr	53
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
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

Sample ID: L1610031902

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Bank Zuo

Method 6020 - Summary Report

Sample ID: L1610012306

Sample Date/Time: Wednesday, October 12, 2016 18:14:04

Number of Replicates: 3

Autosampler Position: 346

Sample Description: 10

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	63846.0	3.1				ug/L	72553	Standard
|	Be	9	10.0	100.0	-0.0040	0.013	327.3	ug/L	10	Standard
|	Al	27	16132333.6	4.1	181.2075	1.946	1.1	ug/L	232	Standard
|	Sc	45	17248.1	1.3				ug/L	23513	Standard
|	Ti	47	50.0	13.9	0.1265	0.052	40.8	ug/L	36	Standard
|	V	51	604.8	76.1	-0.0838	0.094	111.6	ug/L	1387	Standard
|	Cr	52	5953.8	3.7	0.0141	0.039	273.2	ug/L	7813	Standard
|	Cr	53	4334.0	4.8	5.4330	0.370	6.8	ug/L	1410	Standard
|	Mn	55	166168.6	1.2	21.0073	0.430	2.0	ug/L	1043	Standard
|	Co	59	913.7	2.8	0.1124	0.004	3.4	ug/L	198	Standard
|	Ni	60	2519.5	3.9	1.6169	0.061	3.8	ug/L	64	Standard
|	Cu	65	419.7	4.7	0.1637	0.014	8.5	ug/L	122	Standard
|	Zn	66	1672.8	2.0	1.1885	0.034	2.9	ug/L	209	Standard
>	Ge	72	486966.1	0.8				ug/L	618040	Standard
|	As	75	184.4	38.6	0.2490	0.081	32.7	ug/L	11	Standard
|	Se	82	109.6	13.2	1.1841	0.184	15.5	ug/L	21	Standard
|	Se-1	77	359.0	8.3	5.2094	0.530	10.2	ug/L	86	Standard
>	Ga	71	15.0	57.7				mg/L	13	Standard
|	Rb	85	1205.0	9.5				ug/L	18	Standard
|	Y	89	356358.8	0.6				ug/L	463757	Standard
>	Rh	103	156.7	4.9				ug/L	12	Standard
|	Mo	98	77.4	11.2	0.0185	0.002	12.1	ug/L	29	Standard
|	Ag	107	95.3	11.6	0.0016	0.002	111.8	ug/L	101	Standard
|	Cd	111	137.6	16.4	0.0699	0.011	15.8	mg/L	9	Standard
|	Cd	114	401.9	4.7	0.0830	0.003	3.0	ug/L	47	Standard
>	In	115	666456.7	2.0				ug/L	765457	Standard
|	Sn	118	53.0	15.0	-0.0992	0.008	8.5	ug/L	168	Standard
|	Sb	123	141.4	38.1	0.0318	0.010	32.4	ug/L	332	Standard
|	Ba	135	2906.6	3.1	1.2330	0.017	1.4	ug/L	37	Standard
|	Ce	140	1195.0	14.1				ug/L	895	Standard
>	Tb	159	1262860.7	2.7				ug/L	1511047	Standard
|	Ho	165	66.7	22.9				ug/L	22	Standard
|	Tl	203	68.0	7.8	0.0071	0.001	9.4	ug/L	14	Standard
|	Tl	205	123.3	20.4	0.0027	0.001	44.5	ug/L	27	Standard
|	Pb	206	589.7	8.2	0.0061	0.008	136.4	ug/L	557	Standard
|	Pb	207	495.0	7.1	0.0066	0.007	106.3	ug/L	432	Standard
|	Pb	208	2308.7	6.5	0.0059	0.006	104.6	ug/L	2118	Standard
	U	238	13304.2	2.4	0.5177	0.006	1.2	ug/L	78	Standard
>	Bi	209	654719.7	1.9				ug/L	791817	Standard

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Brank Z...

Na	23	41.7	25.0	15.7843	3.881	24.6	mg/L	5	Standard
Mg	24	11212.5	7.3	29.9035	2.231	7.5	mg/L	48	Standard
K	39	16.7	34.6	0.2921	0.113	38.6	mg/L	3	Standard
Ca	43	116.7	13.1	39.0180	7.706	19.7	mg/L	62	Standard
Fe	54	54.4	32.0	-0.0451	0.025	54.5	mg/L	139	Standard
Fe	57	158.3	21.5	0.2992	0.170	56.7	mg/L	83	Standard
Sc-1	45	17248.1	1.3				mg/L	23513	Standard
Cl	35	6.7	62.4				ug/L	3	Standard
Kr	83	4.0	50.0				ug/L	2	Standard
Br	81	27161.0	4.7				ug/L	910	Standard
P	31	31.7	48.2				ug/L	85	Standard
S	34	33.3	8.7				ug/L	48	Standard
Sr	88	338.3	5.2				ug/L	72	Standard
C	12	323.3	28.1				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	7	Standard
Dy	164	77.8	12.6				mg/L	22	Standard
Ho-1	165	66.7	22.9				mg/L	22	Standard
Er	166	46.7	12.4				mg/L	23	Standard
I	127	246196.6	5.6				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		87.999	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		78.792	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	87.066
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	82.686
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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: L1610012306

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610012307

Sample Date/Time: Wednesday, October 12, 2016 18:17:03

Number of Replicates: 3

Autosampler Position: 347

Sample Description: 10

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	65493.0	2.8				ug/L	72553	Standard
|	Be	9	3.3	86.6	-0.0127	0.004	28.3	ug/L	10	Standard
|	Al	27	7611350.6	2.3	83.3909	2.404	2.9	ug/L	232	Standard
|	Sc	45	17339.9	0.8				ug/L	23513	Standard
|	Ti	47	33.7	20.2	0.0053	0.049	930.0	ug/L	36	Standard
|	V	51	817.4	15.8	-0.0418	0.028	66.9	ug/L	1387	Standard
|	Cr	52	6109.6	0.9	0.0336	0.003	9.1	ug/L	7813	Standard
|	Cr	53	2380.2	1.6	2.0984	0.051	2.4	ug/L	1410	Standard
|	Mn	55	111039.1	0.6	13.8313	0.136	1.0	ug/L	1043	Standard
|	Co	59	939.7	3.5	0.1147	0.006	5.3	ug/L	198	Standard
|	Ni	60	1160.7	2.2	0.7160	0.009	1.2	ug/L	64	Standard
|	Cu	65	370.7	4.9	0.1297	0.010	7.3	ug/L	122	Standard
|	Zn	66	1128.7	1.9	0.5219	0.022	4.2	ug/L	209	Standard
>	Ge	72	492337.4	1.1				ug/L	618040	Standard
|	As	75	92.0	44.2	0.1438	0.046	32.2	ug/L	11	Standard
|	Se	82	68.3	14.4	0.6777	0.116	17.1	ug/L	21	Standard
|	Se-1	77	202.7	5.1	2.3186	0.187	8.1	ug/L	86	Standard
>	Ga	71	16.7	62.4				mg/L	13	Standard
|	Rb	85	511.7	3.4				ug/L	18	Standard
|	Y	89	363296.0	1.3				ug/L	463757	Standard
>	Rh	103	115.0	8.7				ug/L	12	Standard
|	Mo	98	79.9	3.5	0.0186	0.001	5.1	ug/L	29	Standard
|	Ag	107	96.0	13.1	0.0012	0.002	153.5	ug/L	101	Standard
|	Cd	111	22.9	37.3	0.0075	0.005	60.9	mg/L	9	Standard
|	Cd	114	77.0	7.4	0.0152	0.001	7.3	ug/L	47	Standard
>	In	115	686557.7	1.9				ug/L	765457	Standard
|	Sn	118	48.0	5.5	-0.1054	0.002	1.7	ug/L	168	Standard
|	Sb	123	140.3	22.9	0.0308	0.006	18.9	ug/L	332	Standard
|	Ba	135	2304.2	0.0	0.9435	0.018	1.9	ug/L	37	Standard
|	Ce	140	3533.7	2.5				ug/L	895	Standard
>	Tb	159	1297920.2	1.9				ug/L	1511047	Standard
|	Ho	165	53.3	43.3				ug/L	22	Standard
|	Tl	203	62.0	8.1	0.0062	0.000	7.7	ug/L	14	Standard
|	Tl	205	163.3	31.3	0.0043	0.002	49.7	ug/L	27	Standard
|	Pb	206	546.0	4.8	-0.0027	0.002	70.2	ug/L	557	Standard
|	Pb	207	452.3	10.6	-0.0027	0.007	248.2	ug/L	432	Standard
|	Pb	208	2091.1	4.2	-0.0042	0.002	48.0	ug/L	2118	Standard
	U	238	30372.4	2.1	1.1436	0.022	1.9	ug/L	78	Standard
>	Bi	209	676535.0	2.4				ug/L	791817	Standard

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Na	23	63.3	16.4	24.1726	4.255	17.6	mg/L	5	Standard
Mg	24	11938.0	2.7	31.6660	0.599	1.9	mg/L	48	Standard
K	39	15.0	115.5	0.2572	0.346	134.4	mg/L	3	Standard
Ca	43	78.3	16.1	19.8228	6.251	31.5	mg/L	62	Standard
Fe	54	37.8	55.0	-0.0679	0.028	41.3	mg/L	139	Standard
Fe	57	165.0	6.1	0.3261	0.054	16.5	mg/L	83	Standard
Sc-1	45	17339.9	0.8				mg/L	23513	Standard
Cl	35	2.7	114.6				ug/L	3	Standard
Kr	83	4.0	66.1				ug/L	2	Standard
Br	81	13282.5	6.4				ug/L	910	Standard
P	31	43.3	13.3				ug/L	85	Standard
S	34	23.3	12.4				ug/L	48	Standard
Sr	88	260.0	5.1				ug/L	72	Standard
C	12	416.7	19.5				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	7	Standard
Dy	164	77.4	21.5				mg/L	22	Standard
Ho-1	165	53.3	43.3				mg/L	22	Standard
Er	166	53.3	28.6				mg/L	23	Standard
I	127	111588.0	3.1				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		90.269	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		79.661	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1610012307

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	89.692
[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	85.441
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1610012307

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610012314

Sample Date/Time: Wednesday, October 12, 2016 18:20:02

Number of Replicates: 3

Autosampler Position: 348

Sample Description: 10

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	66989.6	4.1				ug/L	72553	Standard
|	Be	9	3.3	173.2	-0.0127	0.007	56.3	ug/L	10	Standard
|	Al	27	15258724.7	2.7	163.4500	2.796	1.7	ug/L	232	Standard
|	Sc	45	17323.2	0.3				ug/L	23513	Standard
|	Ti	47	60.7	18.1	0.2011	0.082	41.0	ug/L	36	Standard
|	V	51	590.7	81.7	-0.0866	0.098	113.7	ug/L	1387	Standard
|	Cr	52	6135.9	2.1	0.0444	0.015	33.5	ug/L	7813	Standard
|	Cr	53	3773.8	2.2	4.4447	0.106	2.4	ug/L	1410	Standard
|	Mn	55	155313.7	1.4	19.4873	0.354	1.8	ug/L	1043	Standard
|	Co	59	846.7	5.1	0.1019	0.005	4.8	ug/L	198	Standard
|	Ni	60	2488.2	3.4	1.5848	0.040	2.5	ug/L	64	Standard
|	Cu	65	1714.8	1.6	0.9822	0.012	1.2	ug/L	122	Standard
|	Zn	66	1839.4	4.6	1.3727	0.092	6.7	ug/L	209	Standard
>	Ge	72	490363.2	1.0				ug/L	618040	Standard
|	As	75	171.3	22.8	0.2322	0.042	17.9	ug/L	11	Standard
|	Se	82	95.6	10.7	1.0068	0.112	11.2	ug/L	21	Standard
|	Se-1	77	338.0	2.7	4.7850	0.190	4.0	ug/L	86	Standard
>	Ga	71	20.0	86.6				mg/L	13	Standard
|	Rb	85	1173.4	7.9				ug/L	18	Standard
|	Y	89	359800.3	0.3				ug/L	463757	Standard
>	Rh	103	110.0	7.9				ug/L	12	Standard
|	Mo	98	45.0	9.0	0.0082	0.001	12.9	ug/L	29	Standard
|	Ag	107	79.7	9.3	-0.0014	0.001	106.6	ug/L	101	Standard
|	Cd	111	141.3	7.6	0.0704	0.005	6.7	mg/L	9	Standard
|	Cd	114	355.3	12.7	0.0718	0.008	11.5	ug/L	47	Standard
>	In	115	680100.6	1.9				ug/L	765457	Standard
|	Sn	118	50.3	18.0	-0.1029	0.008	7.4	ug/L	168	Standard
|	Sb	123	95.5	18.9	0.0223	0.003	14.4	ug/L	332	Standard
|	Ba	135	2709.9	1.5	1.1246	0.006	0.6	ug/L	37	Standard
|	Ce	140	830.0	4.3				ug/L	895	Standard
>	Tb	159	1305074.0	1.4				ug/L	1511047	Standard
|	Ho	165	38.3	39.8				ug/L	22	Standard
|	Tl	203	64.3	10.1	0.0064	0.001	8.7	ug/L	14	Standard
|	Tl	205	173.3	24.2	0.0047	0.002	37.6	ug/L	27	Standard
|	Pb	206	1152.4	4.5	0.0796	0.009	11.4	ug/L	557	Standard
|	Pb	207	973.7	3.9	0.0776	0.004	4.9	ug/L	432	Standard
|	Pb	208	4527.3	1.1	0.0786	0.003	4.0	ug/L	2118	Standard
	U	238	12685.6	1.6	0.4766	0.010	2.1	ug/L	78	Standard
>	Bi	209	678201.4	1.6				ug/L	791817	Standard

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Brank Z...

Na	23	73.3	15.7	28.0690	4.539	16.2	mg/L	5	Standard
Mg	24	10690.4	2.2	28.3795	0.667	2.4	mg/L	48	Standard
K	39	16.7	34.6	0.2918	0.116	39.9	mg/L	3	Standard
Ca	43	96.7	20.9	28.9015	10.065	34.8	mg/L	62	Standard
Fe	54	65.8	35.6	-0.0304	0.031	103.3	mg/L	139	Standard
Fe	57	205.0	0.0	0.5170	0.003	0.6	mg/L	83	Standard
Sc-1	45	17323.2	0.3				mg/L	23513	Standard
Cl	35	4.7	49.5				ug/L	3	Standard
Kr	83	6.7	34.6				ug/L	2	Standard
Br	81	24917.2	4.5				ug/L	910	Standard
P	31	46.7	32.7				ug/L	85	Standard
S	34	48.3	6.0				ug/L	48	Standard
Sr	88	261.7	5.5				ug/L	72	Standard
C	12	330.0	10.9				mg/L	227	Standard
N	14	6.7	86.6				mg/L	0	Standard
Hg	202	6.7	173.2				mg/L	7	Standard
Dy	164	64.6	38.6				mg/L	22	Standard
Ho-1	165	38.3	39.8				mg/L	22	Standard
Er	166	43.3	13.3				mg/L	23	Standard
I	127	140341.0	7.5				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		92.331	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		79.342	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	88.849
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	85.651
[	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
Al 27 Upper, S, EEE	Al	27	

Sample ID: L1610012314

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610012315

Sample Date/Time: Wednesday, October 12, 2016 18:23:02

Number of Replicates: 3

Autosampler Position: 349

Sample Description: 10

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	67696.0	2.5				ug/L	72553	Standard
|	Be	9	6.7	114.6	-0.0090	0.009	97.2	ug/L	10	Standard
|	Al	27	8103529.8	2.4	85.9205	3.795	4.4	ug/L	232	Standard
|	Sc	45	17558.5	1.3				ug/L	23513	Standard
|	Ti	47	32.7	12.7	-0.0003	0.031	9235.3	ug/L	36	Standard
|	V	51	1083.2	15.8	0.0131	0.035	263.9	ug/L	1387	Standard
|	Cr	52	6079.9	2.7	0.0360	0.033	92.1	ug/L	7813	Standard
|	Cr	53	2241.8	9.8	1.8933	0.369	19.5	ug/L	1410	Standard
|	Mn	55	108799.9	0.8	13.6409	0.092	0.7	ug/L	1043	Standard
|	Co	59	760.0	2.6	0.0899	0.003	3.2	ug/L	198	Standard
|	Ni	60	1171.7	2.4	0.7284	0.017	2.4	ug/L	64	Standard
|	Cu	65	570.3	3.7	0.2582	0.012	4.8	ug/L	122	Standard
|	Zn	66	1146.0	2.9	0.5517	0.043	7.7	ug/L	209	Standard
>	Ge	72	489036.5	0.2				ug/L	618040	Standard
|	As	75	101.3	27.7	0.1546	0.031	20.3	ug/L	11	Standard
|	Se	82	65.0	16.9	0.6442	0.131	20.3	ug/L	21	Standard
|	Se-1	77	191.3	7.3	2.1372	0.254	11.9	ug/L	86	Standard
>	Ga	71	26.7	65.8				mg/L	13	Standard
|	Rb	85	463.3	10.8				ug/L	18	Standard
|	Y	89	362736.3	1.5				ug/L	463757	Standard
>	Rh	103	128.3	31.3				ug/L	12	Standard
|	Mo	98	46.2	18.4	0.0086	0.003	29.7	ug/L	29	Standard
|	Ag	107	89.0	6.8	0.0002	0.001	606.9	ug/L	101	Standard
|	Cd	111	25.3	21.8	0.0088	0.003	33.5	mg/L	9	Standard
|	Cd	114	45.3	54.4	0.0089	0.005	55.9	ug/L	47	Standard
>	In	115	679741.3	0.5				ug/L	765457	Standard
|	Sn	118	50.7	5.0	-0.1025	0.002	2.1	ug/L	168	Standard
|	Sb	123	109.8	20.6	0.0252	0.004	17.4	ug/L	332	Standard
|	Ba	135	2350.8	1.8	0.9728	0.014	1.5	ug/L	37	Standard
|	Ce	140	2033.5	5.9				ug/L	895	Standard
>	Tb	159	1294023.2	2.1				ug/L	1511047	Standard
|	Ho	165	30.0	28.9				ug/L	22	Standard
|	Tl	203	71.0	15.9	0.0071	0.001	17.5	ug/L	14	Standard
|	Tl	205	135.0	13.4	0.0030	0.001	28.7	ug/L	27	Standard
|	Pb	206	487.7	6.0	-0.0109	0.005	41.3	ug/L	557	Standard
|	Pb	207	439.0	6.7	-0.0051	0.004	75.2	ug/L	432	Standard
|	Pb	208	1993.4	1.4	-0.0078	0.000	5.3	ug/L	2118	Standard
	U	238	31814.4	0.6	1.1920	0.012	1.0	ug/L	78	Standard
>	Bi	209	679842.0	1.1				ug/L	791817	Standard

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Brank Z...

Na	23	33.3	8.7	12.3318	1.083	8.8	mg/L	5	Standard
Mg	24	12209.9	7.3	31.9847	2.220	6.9	mg/L	48	Standard
K	39	8.3	91.7	0.1232	0.152	123.3	mg/L	3	Standard
Ca	43	68.3	15.2	14.4303	4.618	32.0	mg/L	62	Standard
Fe	54	64.5	0.6	-0.0334	0.002	4.5	mg/L	139	Standard
Fe	57	191.7	22.5	0.4416	0.205	46.5	mg/L	83	Standard
Sc-1	45	17558.5	1.3				mg/L	23513	Standard
Cl	35	5.3	43.3				ug/L	3	Standard
Kr	83	5.0	40.0				ug/L	2	Standard
Br	81	13993.1	1.7				ug/L	910	Standard
P	31	21.7	35.3				ug/L	85	Standard
S	34	35.0	28.6				ug/L	48	Standard
Sr	88	273.3	13.2				ug/L	72	Standard
C	12	366.7	20.8				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	7	Standard
Dy	164	63.6	19.0				mg/L	22	Standard
Ho-1	165	30.0	28.9				mg/L	22	Standard
Er	166	63.3	24.1				mg/L	23	Standard
I	127	67903.5	2.5				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		93.305	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		79.127	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	88.802
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	85.858
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1610012315

Report Date/Time: Wednesday, October 12, 2016 18:25:06

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Bank Z...

Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Wednesday, October 12, 2016 18:26:02

Number of Replicates: 3

Autosampler Position: 101

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	71071.4	3.3				ug/L	72553	Standard
|	Be	9	41730.7	1.0	47.1335	1.910	4.1	ug/L	10	Standard
|	Al	27	4433668.1	2.2	44.7975	2.408	5.4	ug/L	232	Standard
|	Sc	45	18544.7	2.4				ug/L	23513	Standard
|	Ti	47	14484.9	1.7	98.0707	1.199	1.2	ug/L	36	Standard
|	V	51	268822.9	0.2	51.0850	0.775	1.5	ug/L	1387	Standard
|	Cr	52	258310.2	1.2	51.0535	0.305	0.6	ug/L	7813	Standard
|	Cr	53	33376.7	1.8	50.7056	0.244	0.5	ug/L	1410	Standard
|	Mn	55	419232.7	1.8	49.7793	0.073	0.1	ug/L	1043	Standard
|	Co	59	379107.1	2.5	50.7942	0.526	1.0	ug/L	198	Standard
|	Ni	60	82147.1	1.6	50.4356	0.110	0.2	ug/L	64	Standard
|	Cu	65	84770.5	1.1	50.4786	0.304	0.6	ug/L	122	Standard
|	Zn	66	45181.6	0.2	49.8280	0.784	1.6	ug/L	209	Standard
>	Ge	72	520613.9	1.7				ug/L	618040	Standard
|	As	75	47041.2	2.4	49.5632	0.371	0.7	ug/L	11	Standard
|	Se	82	4431.0	4.6	49.7094	1.430	2.9	ug/L	21	Standard
|	Se-1	77	2993.6	3.5	49.7247	1.016	2.0	ug/L	86	Standard
>	Ga	71	18.3	31.5				mg/L	13	Standard
|	Rb	85	698.3	5.1				ug/L	18	Standard
|	Y	89	397595.4	5.4				ug/L	463757	Standard
>	Rh	103	28.3	36.7				ug/L	12	Standard
|	Mo	98	331550.7	3.2	86.9767	1.308	1.5	ug/L	29	Standard
|	Ag	107	313131.1	3.9	45.8118	0.302	0.7	ug/L	101	Standard
|	Cd	111	110202.4	3.4	50.3881	0.595	1.2	mg/L	9	Standard
|	Cd	114	289829.2	2.3	50.7035	0.870	1.7	ug/L	47	Standard
>	In	115	790382.5	3.8				ug/L	765457	Standard
|	Sn	118	63928.3	6.6	50.4129	1.475	2.9	ug/L	168	Standard
|	Sb	123	311501.1	3.9	52.8726	0.268	0.5	ug/L	332	Standard
|	Ba	135	131449.6	2.4	47.9537	0.674	1.4	ug/L	37	Standard
|	Ce	140	143.3	5.3				ug/L	895	Standard
>	Tb	159	1412809.5	1.4				ug/L	1511047	Standard
|	Ho	165	21.7	35.3				ug/L	22	Standard
|	Tl	203	542270.5	2.4	49.9321	0.283	0.6	ug/L	14	Standard
|	Tl	205	1252587.1	3.2	50.0020	0.296	0.6	ug/L	27	Standard
|	Pb	206	411100.4	2.5	49.9383	0.207	0.4	ug/L	557	Standard
|	Pb	207	363612.5	2.8	50.1371	0.125	0.2	ug/L	432	Standard
|	Pb	208	1640037.6	2.1	49.9228	0.423	0.8	ug/L	2118	Standard
	U	238	1520012.2	3.1	51.0904	0.098	0.2	ug/L	78	Standard
>	Bi	209	757570.8	3.0				ug/L	791817	Standard

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Brank Z...

Na	23	21.7	81.0	7.4792	6.581	88.0	mg/L	5	Standard
Mg	24	2188.5	5.9	5.3594	0.215	4.0	mg/L	48	Standard
K	39	173.3	7.3	3.2092	0.282	8.8	mg/L	3	Standard
Ca	43	60.0	25.0	8.8153	6.651	75.5	mg/L	62	Standard
Fe	54	3957.2	2.8	4.8208	0.166	3.4	mg/L	139	Standard
Fe	57	1163.4	6.8	4.7098	0.231	4.9	mg/L	83	Standard
Sc-1	45	18544.7	2.4				mg/L	23513	Standard
Cl	35	2.0	100.0				ug/L	3	Standard
Kr	83	6.3	45.6				ug/L	2	Standard
Br	81	1490.1	20.0				ug/L	910	Standard
P	31	46.7	30.9				ug/L	85	Standard
S	34	38.3	32.8				ug/L	48	Standard
Sr	88	113.3	9.2				ug/L	72	Standard
C	12	310.0	16.8				mg/L	227	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	10.0	173.2				mg/L	7	Standard
Dy	164	19.4	52.9				mg/L	22	Standard
Ho-1	165	21.7	35.3				mg/L	22	Standard
Er	166	13.3	43.3				mg/L	23	Standard
I	127	39042.1	6.9				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	94.267		
Al	27	89.595		
Sc	45			
Ti	47	98.071		
V	51	102.170		
Cr	52	102.107		
Cr	53			
Mn	55	99.559		
Co	59	101.588		
Ni	60	100.871		
Cu	65	100.957		
Zn	66	99.656		
Ge	72		84.236	
As	75	99.126		
Se	82	99.419		
Se-1	77			
Ga	71			

Sample ID: QC Std 6

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Brink Z...

[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	86.977	
[Ag	107	91.624	
[Cd	111	100.776	
[Cd	114		
>	In	115		103.256
[	Sn	118	100.826	
[	Sb	123	105.745	
[	Ba	135	95.907	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	99.864	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	99.846	
[	U	238	102.181	
>	Bi	209		95.675
[	Na	23		
[	Mg	24		
[	K	39		
[	Ca	43		
[	Fe	54		
[	Fe	57		
>	Sc-1	45		
[	Cl	35		
[	Kr	83		
[	Br	81		
[	P	31		
[	S	34		
[	Sr	88		
[	C	12		
[	N	14		
[	Hg	202		
[	Dy	164		
[	Ho-1	165		
[	Er	166		
[	I	127		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Al	27	
QC Std 6	Mo	98	

Sample ID: QC Std 6

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Bank Z...

Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Wednesday, October 12, 2016 18:29:01

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: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	71838.3	2.5				ug/L	72553	Standard
|	Be	9	6.7	43.3	-0.0093	0.003	36.8	ug/L	10	Standard
|	Al	27	1381.7	26.7	0.0103	0.004	37.5	ug/L	232	Standard
|	Sc	45	19734.5	1.0				ug/L	23513	Standard
|	Ti	47	20.0	15.0	-0.1044	0.021	20.5	ug/L	36	Standard
|	V	51	920.2	6.3	-0.0364	0.008	22.8	ug/L	1387	Standard
|	Cr	52	5635.0	1.3	-0.1661	0.020	12.0	ug/L	7813	Standard
|	Cr	53	888.4	5.6	-0.5072	0.059	11.7	ug/L	1410	Standard
|	Mn	55	1059.4	5.4	-0.0324	0.005	14.9	ug/L	1043	Standard
|	Co	59	134.0	5.2	-0.0011	0.001	85.1	ug/L	198	Standard
|	Ni	60	42.0	18.0	-0.0130	0.004	32.4	ug/L	64	Standard
|	Cu	65	128.7	4.3	-0.0295	0.002	7.1	ug/L	122	Standard
|	Zn	66	203.3	5.7	-0.5942	0.016	2.6	ug/L	209	Standard
>	Ge	72	535936.7	1.4				ug/L	618040	Standard
|	As	75	-32.9	81.7	0.0075	0.027	364.9	ug/L	11	Standard
|	Se	82	15.8	27.3	0.0378	0.048	127.4	ug/L	21	Standard
|	Se-1	77	74.7	4.1	-0.1000	0.057	57.4	ug/L	86	Standard
>	Ga	71	11.7	65.5				mg/L	13	Standard
|	Rb	85	11.7	49.5				ug/L	18	Standard
|	Y	89	422073.2	3.0				ug/L	463757	Standard
>	Rh	103	8.3	124.9				ug/L	12	Standard
|	Mo	98	180.9	9.1	0.0392	0.003	8.6	ug/L	29	Standard
|	Ag	107	101.7	6.0	-0.0009	0.001	85.2	ug/L	101	Standard
|	Cd	111	8.4	41.7	-0.0010	0.002	159.3	mg/L	9	Standard
|	Cd	114	60.0	51.3	0.0096	0.005	51.5	ug/L	47	Standard
>	In	115	837339.7	1.6				ug/L	765457	Standard
|	Sn	118	187.7	8.8	-0.0090	0.011	119.7	ug/L	168	Standard
|	Sb	123	509.4	42.0	0.0848	0.033	39.1	ug/L	332	Standard
|	Ba	135	40.7	18.5	-0.0105	0.003	26.7	ug/L	37	Standard
|	Ce	140	43.3	46.6				ug/L	895	Standard
>	Tb	159	1443816.1	0.5				ug/L	1511047	Standard
|	Ho	165	25.0	60.0				ug/L	22	Standard
|	Tl	203	42.0	10.9	0.0036	0.000	11.8	ug/L	14	Standard
|	Tl	205	103.3	24.8	0.0011	0.001	93.6	ug/L	27	Standard
|	Pb	206	532.3	1.4	-0.0136	0.001	5.0	ug/L	557	Standard
|	Pb	207	455.7	6.2	-0.0109	0.004	35.8	ug/L	432	Standard
|	Pb	208	2053.4	1.3	-0.0142	0.001	6.6	ug/L	2118	Standard
	U	238	93.7	18.0	0.0033	0.001	16.9	ug/L	78	Standard
>	Bi	209	773151.4	0.5				ug/L	791817	Standard

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Brank Z...

Na	23	1.7	173.2	0.1174	0.996	848.7	mg/L	5	Standard
Mg	24	48.3	33.3	0.0327	0.038	116.4	mg/L	48	Standard
K	39	5.0	100.0	0.0455	0.088	193.3	mg/L	3	Standard
Ca	43	30.0	44.1	-5.7505	5.865	102.0	mg/L	62	Standard
Fe	54	104.1	45.9	0.0033	0.055	1645.7	mg/L	139	Standard
Fe	57	136.7	7.6	0.1121	0.039	35.0	mg/L	83	Standard
Sc-1	45	19734.5	1.0				mg/L	23513	Standard
Cl	35	0.7	173.2				ug/L	3	Standard
Kr	83	2.0	50.0				ug/L	2	Standard
Br	81	1343.4	4.8				ug/L	910	Standard
P	31	55.0	45.5				ug/L	85	Standard
S	34	28.3	27.0				ug/L	48	Standard
Sr	88	115.0	38.6				ug/L	72	Standard
C	12	343.3	20.5				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	10.0					mg/L	7	Standard
Dy	164	32.7	65.6				mg/L	22	Standard
Ho-1	165	25.0	60.0				mg/L	22	Standard
Er	166	13.3	114.6				mg/L	23	Standard
I	127	33057.7	2.1				mg/L	4241	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		86.715	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: QC Std 7

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	109.391
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	97.643
[	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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Sample ID: QC Std 7

Report Date/Time: Wednesday, October 12, 2016 18:31:06

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Bank Z...

Method 6020 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Wednesday, October 12, 2016 18:32:02

Number of Replicates: 3

Autosampler Position: 202

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	64478.7	4.4				ug/L	72553	Standard
|	Be	9	131.7	38.2	0.1454	0.055	37.9	ug/L	10	Standard
|	Al	27	430.0	11.2	0.0013	0.001	42.1	ug/L	232	Standard
|	Sc	45	18215.9	2.8				ug/L	23513	Standard
|	Ti	47	21.3	17.7	-0.0901	0.023	26.1	ug/L	36	Standard
|	V	51	2916.4	4.3	0.3564	0.016	4.4	ug/L	1387	Standard
|	Cr	52	8958.0	4.4	0.5621	0.054	9.6	ug/L	7813	Standard
|	Cr	53	1333.4	4.0	0.2606	0.058	22.2	ug/L	1410	Standard
|	Mn	55	4665.4	1.1	0.4079	0.006	1.6	ug/L	1043	Standard
|	Co	59	2738.9	2.2	0.3534	0.014	4.1	ug/L	198	Standard
|	Ni	60	2409.2	1.1	1.4613	0.023	1.6	ug/L	64	Standard
|	Cu	65	1382.4	4.1	0.7310	0.022	3.0	ug/L	122	Standard
|	Zn	66	5781.8	1.6	5.7482	0.188	3.3	ug/L	209	Standard
>	Ge	72	514087.7	1.9				ug/L	618040	Standard
|	As	75	362.8	1.6	0.4279	0.009	2.0	ug/L	11	Standard
|	Se	82	56.5	10.3	0.5091	0.066	12.9	ug/L	21	Standard
|	Se-1	77	91.7	11.5	0.2443	0.156	63.8	ug/L	86	Standard
>	Ga	71	20.0	25.0				mg/L	13	Standard
|	Rb	85	25.0	40.0				ug/L	18	Standard
|	Y	89	389410.8	2.4				ug/L	463757	Standard
>	Rh	103	21.7	13.3				ug/L	12	Standard
|	Mo	98	48.0	12.1	0.0073	0.001	18.9	ug/L	29	Standard
|	Ag	107	2385.9	1.6	0.3418	0.010	3.0	ug/L	101	Standard
|	Cd	111	524.9	2.4	0.2405	0.003	1.2	mg/L	9	Standard
|	Cd	114	1335.4	4.5	0.2383	0.013	5.6	ug/L	47	Standard
>	In	115	773853.5	1.3				ug/L	765457	Standard
|	Sn	118	111.3	16.4	-0.0592	0.014	22.9	ug/L	168	Standard
|	Sb	123	2442.3	2.9	0.4268	0.008	1.8	ug/L	332	Standard
|	Ba	135	1784.1	3.8	0.6402	0.018	2.8	ug/L	37	Standard
|	Ce	140	38.3	52.7				ug/L	895	Standard
>	Tb	159	1359427.9	1.9				ug/L	1511047	Standard
|	Ho	165	16.7	45.8				ug/L	22	Standard
|	Tl	203	815.0	1.2	0.0783	0.001	1.4	ug/L	14	Standard
|	Tl	205	1856.8	6.0	0.0746	0.005	7.3	ug/L	27	Standard
|	Pb	206	2082.1	1.2	0.1879	0.006	3.2	ug/L	557	Standard
|	Pb	207	1685.8	4.1	0.1708	0.009	5.1	ug/L	432	Standard
|	Pb	208	7948.1	0.9	0.1779	0.004	2.1	ug/L	2118	Standard
	U	238	10971.6	1.0	0.3860	0.005	1.4	ug/L	78	Standard
>	Bi	209	724369.2	1.1				ug/L	791817	Standard

Sample ID: QC Std 8

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Brink Z...

Na	23	3.3	173.2	0.8140	2.203	270.6	mg/L	5	Standard
Mg	24	55.0	24.1	0.0587	0.032	55.1	mg/L	48	Standard
K	39	0.0		-0.0428	0.000	0.0	mg/L	3	Standard
Ca	43	38.3	52.7	-0.6498	10.012	1540.9	mg/L	62	Standard
Fe	54	97.6	15.0	0.0060	0.022	369.2	mg/L	139	Standard
Fe	57	146.7	7.1	0.2063	0.064	31.2	mg/L	83	Standard
Sc-1	45	18215.9	2.8				mg/L	23513	Standard
Cl	35	4.0	86.6				ug/L	3	Standard
Kr	83	3.0	57.7				ug/L	2	Standard
Br	81	1200.0	10.1				ug/L	910	Standard
P	31	46.7	16.4				ug/L	85	Standard
S	34	26.7	71.0				ug/L	48	Standard
Sr	88	96.7	3.0				ug/L	72	Standard
C	12	423.3	34.3				mg/L	227	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	13.3	86.6				mg/L	7	Standard
Dy	164	12.5	45.0				mg/L	22	Standard
Ho-1	165	16.7	45.8				mg/L	22	Standard
Er	166	16.7	34.6				mg/L	23	Standard
I	127	24563.2	2.8				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	72.716		
Al	27			
Sc	45			
Ti	47			
V	51	89.111		
Cr	52	70.262		
Cr	53			
Mn	55	81.582		
Co	59	88.345		
Ni	60	91.329		
Cu	65	91.379		
Zn	66	91.972		
Ge	72		83.180	
As	75	106.987		
Se	82	127.271		
Se-1	77			
Ga	71			

Sample ID: QC Std 8

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Brink Z...

[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98		
[Ag	107	85.438	
[Cd	111	100.206	
[Cd	114		
>	In	115		101.097
[Sn	118		
[	Sb	123	106.708	
[	Ba	135	85.361	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	97.890	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	88.929	
[	U	238	96.493	
>	Bi	209		91.482
[	Na	23		
[	Mg	24		
[	K	39		
[	Ca	43		
[	Fe	54		
[	Fe	57		
>	Sc-1	45		
[	Cl	35		
[	Kr	83		
[	Br	81		
[	P	31		
[	S	34		
[	Sr	88		
[	C	12		
[	N	14		
[	Hg	202		
[	Dy	164		
[	Ho-1	165		
[	Er	166		
[I	127		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 8

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Bank Z...

Method 6020 - Summary Report

Sample ID: PBS M1 WG586863-02

Sample Date/Time: Wednesday, October 12, 2016 18:35:03

Number of Replicates: 3

Autosampler Position: 205

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	69889.2	2.3				ug/L	72553	Standard
|	Be	9	3.3	86.6	-0.0129	0.003	25.7	ug/L	10	Standard
|	Al	27	8717.5	4.2	0.0859	0.002	2.1	ug/L	232	Standard
|	Sc	45	19943.1	2.7				ug/L	23513	Standard
|	Ti	47	26.7	12.1	-0.0618	0.021	33.9	ug/L	36	Standard
|	V	51	1093.3	5.2	-0.0056	0.009	167.6	ug/L	1387	Standard
|	Cr	52	8132.5	2.2	0.3146	0.039	12.4	ug/L	7813	Standard
|	Cr	53	1055.0	5.3	-0.2625	0.081	30.8	ug/L	1410	Standard
|	Mn	55	1720.4	3.4	0.0429	0.008	17.8	ug/L	1043	Standard
|	Co	59	191.0	10.3	0.0061	0.003	41.9	ug/L	198	Standard
|	Ni	60	883.0	2.6	0.4855	0.016	3.3	ug/L	64	Standard
|	Cu	65	270.0	4.3	0.0514	0.006	11.8	ug/L	122	Standard
|	Zn	66	1244.1	1.7	0.5296	0.017	3.3	ug/L	209	Standard
>	Ge	72	539519.1	0.5				ug/L	618040	Standard
|	As	75	-29.8	69.9	0.0107	0.021	199.3	ug/L	11	Standard
|	Se	82	15.3	29.0	0.0308	0.049	157.7	ug/L	21	Standard
|	Se-1	77	71.7	16.8	-0.1574	0.202	128.4	ug/L	86	Standard
>	Ga	71	26.7	28.6				mg/L	13	Standard
|	Rb	85	41.7	56.7				ug/L	18	Standard
|	Y	89	425378.7	0.5				ug/L	463757	Standard
>	Rh	103	11.7	49.5				ug/L	12	Standard
|	Mo	98	78.1	3.7	0.0144	0.001	5.1	ug/L	29	Standard
|	Ag	107	101.7	12.8	-0.0005	0.002	392.6	ug/L	101	Standard
|	Cd	111	11.9	36.7	0.0007	0.002	292.0	mg/L	9	Standard
|	Cd	114	28.1	20.4	0.0045	0.001	21.3	ug/L	47	Standard
>	In	115	813478.1	0.8				ug/L	765457	Standard
|	Sn	118	134.7	2.8	-0.0455	0.003	6.9	ug/L	168	Standard
|	Sb	123	173.1	41.0	0.0321	0.012	37.1	ug/L	332	Standard
|	Ba	135	99.7	8.4	0.0108	0.003	27.6	ug/L	37	Standard
|	Ce	140	110.0	4.5				ug/L	895	Standard
>	Tb	159	1445310.0	1.6				ug/L	1511047	Standard
|	Ho	165	16.7	17.3				ug/L	22	Standard
|	Tl	203	23.7	9.8	0.0020	0.000	10.1	ug/L	14	Standard
|	Tl	205	53.3	37.9	-0.0009	0.001	95.9	ug/L	27	Standard
|	Pb	206	628.3	0.7	-0.0011	0.001	121.2	ug/L	557	Standard
|	Pb	207	552.3	4.2	0.0031	0.003	96.2	ug/L	432	Standard
|	Pb	208	2506.7	2.0	0.0003	0.001	413.6	ug/L	2118	Standard
	U	238	34.7	8.8	0.0014	0.000	8.3	ug/L	78	Standard
>	Bi	209	763175.2	1.6				ug/L	791817	Standard

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Brink Z...

Na	23	0.0		-0.4577	0.000	0.0	mg/L	5	Standard
Mg	24	43.3	13.3	0.0197	0.011	56.2	mg/L	48	Standard
K	39	3.3	173.2	0.0152	0.100	660.9	mg/L	3	Standard
Ca	43	33.3	17.3	-4.4449	2.857	64.3	mg/L	62	Standard
Fe	54	89.0	17.3	-0.0149	0.019	127.1	mg/L	139	Standard
Fe	57	133.3	26.6	0.0939	0.155	165.1	mg/L	83	Standard
Sc-1	45	19943.1	2.7				mg/L	23513	Standard
Cl	35	3.3	34.6				ug/L	3	Standard
Kr	83	5.0	20.0				ug/L	2	Standard
Br	81	1133.4	15.1				ug/L	910	Standard
P	31	55.0	48.1				ug/L	85	Standard
S	34	38.3	19.9				ug/L	48	Standard
Sr	88	70.0	18.9				ug/L	72	Standard
C	12	366.7	27.5				mg/L	227	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	7	Standard
Dy	164	22.5	51.9				mg/L	22	Standard
Ho-1	165	16.7	17.3				mg/L	22	Standard
Er	166	16.7	34.6				mg/L	23	Standard
I	127	22134.5	1.9				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		96.328	
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		87.295	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: PBS M1 WG586863-02

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	106.273
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	96.383
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: PBS M1 WG586863-02

Report Date/Time: Wednesday, October 12, 2016 18:37:08

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Bank Z...

Method 6020 - Summary Report

Sample ID: LCSS M1 WG586863-03

Sample Date/Time: Wednesday, October 12, 2016 18:38:02

Number of Replicates: 3

Autosampler Position: 206

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	69977.9	1.2				ug/L	72553	Standard
|	Be	9	19929.8	1.2	22.8366	0.495	2.2	ug/L	10	Standard
|	Al	27	8425.7	1.5	0.0829	0.002	2.6	ug/L	232	Standard
|	Sc	45	19549.3	3.6				ug/L	23513	Standard
|	Ti	47	27.7	10.4	-0.0546	0.017	30.6	ug/L	36	Standard
|	V	51	132141.9	1.2	24.2185	0.117	0.5	ug/L	1387	Standard
|	Cr	52	133789.6	2.0	24.9822	0.124	0.5	ug/L	7813	Standard
|	Cr	53	16904.4	2.6	23.9336	0.633	2.6	ug/L	1410	Standard
|	Mn	55	210064.6	1.2	24.0897	0.325	1.4	ug/L	1043	Standard
|	Co	59	184222.4	1.8	23.9070	0.263	1.1	ug/L	198	Standard
|	Ni	60	41430.9	1.6	24.6261	0.058	0.2	ug/L	64	Standard
|	Cu	65	43005.6	1.4	24.7585	0.207	0.8	ug/L	122	Standard
|	Zn	66	23068.6	3.1	24.2292	0.404	1.7	ug/L	209	Standard
>	Ge	72	537335.0	1.6				ug/L	618040	Standard
|	As	75	23777.5	2.1	24.2941	0.132	0.5	ug/L	11	Standard
|	Se	82	2283.2	0.3	24.7613	0.348	1.4	ug/L	21	Standard
|	Se-1	77	1530.1	2.7	23.9529	0.510	2.1	ug/L	86	Standard
>	Ga	71	21.7	26.6				mg/L	13	Standard
|	Rb	85	33.3	34.6				ug/L	18	Standard
|	Y	89	418494.4	2.3				ug/L	463757	Standard
>	Rh	103	36.7	20.8				ug/L	12	Standard
|	Mo	98	67.1	30.3	0.0114	0.005	46.5	ug/L	29	Standard
|	Ag	107	155816.0	1.9	21.8961	0.386	1.8	ug/L	101	Standard
|	Cd	111	55717.2	1.7	24.4741	0.516	2.1	mg/L	9	Standard
|	Cd	114	139485.8	1.9	23.4382	0.491	2.1	ug/L	47	Standard
>	In	115	822601.7	1.0				ug/L	765457	Standard
|	Sn	118	131.7	16.9	-0.0489	0.018	36.1	ug/L	168	Standard
|	Sb	123	161352.9	2.3	26.3194	0.701	2.7	ug/L	332	Standard
|	Ba	135	64726.0	1.7	22.6696	0.535	2.4	ug/L	37	Standard
|	Ce	140	136.7	23.2				ug/L	895	Standard
>	Tb	159	1450217.3	0.3				ug/L	1511047	Standard
|	Ho	165	15.0	88.2				ug/L	22	Standard
|	Tl	203	273274.3	1.3	24.9308	0.345	1.4	ug/L	14	Standard
|	Tl	205	624500.7	1.7	24.6994	0.152	0.6	ug/L	27	Standard
|	Pb	206	205771.0	2.2	24.7233	0.188	0.8	ug/L	557	Standard
|	Pb	207	174398.6	2.3	23.7849	0.151	0.6	ug/L	432	Standard
|	Pb	208	805608.0	2.6	24.2513	0.224	0.9	ug/L	2118	Standard
	U	238	712825.2	3.0	23.7362	0.340	1.4	ug/L	78	Standard
>	Bi	209	764629.4	1.8				ug/L	791817	Standard

Sample ID: LCSS M1 WG586863-03

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Brank Z...

Na	23	0.0		-0.4577	0.000	0.0	mg/L	5	Standard
Mg	24	61.7	32.8	0.0641	0.043	67.5	mg/L	48	Standard
K	39	8.3	124.9	0.1039	0.180	173.1	mg/L	3	Standard
Ca	43	48.3	26.0	2.4670	6.154	249.5	mg/L	62	Standard
Fe	54	105.9	27.3	0.0063	0.030	485.3	mg/L	139	Standard
Fe	57	158.3	23.3	0.2081	0.144	69.4	mg/L	83	Standard
Sc-1	45	19549.3	3.6				mg/L	23513	Standard
Cl	35	2.0	100.0				ug/L	3	Standard
Kr	83	2.3	65.5				ug/L	2	Standard
Br	81	1250.1	18.9				ug/L	910	Standard
P	31	36.7	28.4				ug/L	85	Standard
S	34	31.7	39.7				ug/L	48	Standard
Sr	88	93.3	18.8				ug/L	72	Standard
C	12	313.3	17.6				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	7	Standard
Dy	164	19.0	50.0				mg/L	22	Standard
Ho-1	165	15.0	88.2				mg/L	22	Standard
Er	166	20.0	50.0				mg/L	23	Standard
I	127	20852.7	6.0				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		96.450	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		86.942	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: LCSS M1 WG586863-03

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	107.465
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	96.566
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: LCSS M1 WG586863-03

Report Date/Time: Wednesday, October 12, 2016 18:40:06

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610031903 WG586863-01

Sample Date/Time: Wednesday, October 12, 2016 18:41:01

Number of Replicates: 3

Autosampler Position: 207

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	71446.7	5.1				ug/L	72553	Standard
|	Be	9	511.7	13.3	0.5614	0.105	18.7	ug/L	10	Standard
|	Al	27	1240818.4	1.4	12.4702	0.469	3.8	ug/L	232	Standard
|	Sc	45	22381.5	0.2				ug/L	23513	Standard
|	Ti	47	7325.1	1.8	46.9314	0.520	1.1	ug/L	36	Standard
|	V	51	79383.0	1.4	14.1626	0.184	1.3	ug/L	1387	Standard
|	Cr	52	65577.0	1.7	11.3289	0.135	1.2	ug/L	7813	Standard
|	Cr	53	8634.1	3.5	11.0367	0.366	3.3	ug/L	1410	Standard
|	Mn	55	3006593.8	0.5	339.6535	2.249	0.7	ug/L	1043	Standard
|	Co	59	106151.6	0.7	13.4827	0.040	0.3	ug/L	198	Standard
|	Ni	60	21694.2	0.8	12.6097	0.015	0.1	ug/L	64	Standard
|	Cu	65	16862.4	0.5	9.4427	0.026	0.3	ug/L	122	Standard
|	Zn	66	41537.9	0.6	43.3559	0.267	0.6	ug/L	209	Standard
>	Ge	72	548671.3	0.7				ug/L	618040	Standard
|	As	75	2380.8	2.1	2.4194	0.045	1.9	ug/L	11	Standard
|	Se	82	38.3	28.4	0.2733	0.116	42.3	ug/L	21	Standard
|	Se-1	77	96.7	5.3	0.2268	0.074	32.5	ug/L	86	Standard
>	Ga	71	8025.5	1.5				mg/L	13	Standard
|	Rb	85	71578.7	2.4				ug/L	18	Standard
|	Y	89	568967.4	1.4				ug/L	463757	Standard
>	Rh	103	11.7	24.7				ug/L	12	Standard
|	Mo	98	1021.7	2.2	0.2532	0.011	4.5	ug/L	29	Standard
|	Ag	107	239.0	10.9	0.0187	0.003	15.4	ug/L	101	Standard
|	Cd	111	336.7	3.0	0.1440	0.008	5.3	mg/L	9	Standard
|	Cd	114	914.4	11.3	0.1543	0.021	13.8	ug/L	47	Standard
>	In	115	819276.0	2.5				ug/L	765457	Standard
|	Sn	118	146.0	1.8	-0.0376	0.002	5.4	ug/L	168	Standard
|	Sb	123	278.6	16.1	0.0492	0.008	17.2	ug/L	332	Standard
|	Ba	135	120376.4	1.4	42.3647	1.178	2.8	ug/L	37	Standard
|	Ce	140	680146.3	2.8				ug/L	895	Standard
>	Tb	159	1451165.5	0.4				ug/L	1511047	Standard
|	Ho	165	18024.1	3.2				ug/L	22	Standard
|	Tl	203	925.4	1.8	0.0851	0.003	3.4	ug/L	14	Standard
|	Tl	205	2136.8	5.0	0.0824	0.004	5.0	ug/L	27	Standard
|	Pb	206	94478.3	1.1	11.4254	0.346	3.0	ug/L	557	Standard
|	Pb	207	76576.7	0.8	10.5110	0.381	3.6	ug/L	432	Standard
|	Pb	208	362996.2	0.7	10.9970	0.287	2.6	ug/L	2118	Standard
	U	238	19378.4	1.7	0.6520	0.016	2.4	ug/L	78	Standard
>	Bi	209	757414.5	3.0				ug/L	791817	Standard

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Brink Z...

Na	23	1.7	173.2	0.0449	0.871	1937.6	mg/L	5	Standard
Mg	24	78.3	25.8	0.0810	0.042	51.4	mg/L	48	Standard
K	39	31.7	9.1	0.4490	0.045	9.9	mg/L	3	Standard
Ca	43	46.7	50.6	-0.9687	8.995	928.6	mg/L	62	Standard
Fe	54	12631.2	2.5	12.9405	0.315	2.4	mg/L	139	Standard
Fe	57	3438.7	4.1	12.2076	0.510	4.2	mg/L	83	Standard
Sc-1	45	22381.5	0.2				mg/L	23513	Standard
Cl	35	2.7	43.3				ug/L	3	Standard
Kr	83	2.7	21.7				ug/L	2	Standard
Br	81	1536.7	10.0				ug/L	910	Standard
P	31	70.0	7.1				ug/L	85	Standard
S	34	20.0	50.0				ug/L	48	Standard
Sr	88	106.7	10.8				ug/L	72	Standard
C	12	293.3	29.8				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	36.7	15.7				mg/L	7	Standard
Dy	164	27201.9	2.5				mg/L	22	Standard
Ho-1	165	18024.1	3.2				mg/L	22	Standard
Er	166	16782.6	4.5				mg/L	23	Standard
I	127	29749.2	3.0				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		98.475	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		88.776	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	107.031
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	95.655
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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	

Sample ID: L1610031903 WG586863-01

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610031903S WG586863-04

Sample Date/Time: Wednesday, October 12, 2016 18:44:01

Number of Replicates: 3

Autosampler Position: 208

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	69224.5	2.6				ug/L	72553	Standard
|	Be	9	19891.4	2.9	23.0387	0.440	1.9	ug/L	10	Standard
|	Al	27	1645644.1	3.4	17.0477	0.264	1.6	ug/L	232	Standard
|	Sc	45	22376.6	6.5				ug/L	23513	Standard
|	Ti	47	7024.3	6.9	46.0798	2.803	6.1	ug/L	36	Standard
|	V	51	222108.3	3.2	40.9685	0.942	2.3	ug/L	1387	Standard
|	Cr	52	197022.1	2.2	37.5117	0.534	1.4	ug/L	7813	Standard
|	Cr	53	25389.6	3.6	36.9955	1.064	2.9	ug/L	1410	Standard
|	Mn	55	2744087.1	2.1	317.4917	4.340	1.4	ug/L	1043	Standard
|	Co	59	257173.9	3.5	33.4805	0.887	2.7	ug/L	198	Standard
|	Ni	60	65586.7	2.2	39.1250	0.480	1.2	ug/L	64	Standard
|	Cu	65	58958.2	2.0	34.0835	0.375	1.1	ug/L	122	Standard
|	Zn	66	67802.1	2.4	73.0283	1.081	1.5	ug/L	209	Standard
>	Ge	72	535661.2	0.9				ug/L	618040	Standard
|	As	75	23690.4	1.9	24.2807	0.233	1.0	ug/L	11	Standard
|	Se	82	1734.3	3.7	18.8291	0.551	2.9	ug/L	21	Standard
|	Se-1	77	1230.4	4.9	19.0579	0.815	4.3	ug/L	86	Standard
>	Ga	71	9874.9	3.1				mg/L	13	Standard
|	Rb	85	93313.3	2.7				ug/L	18	Standard
|	Y	89	585838.0	0.7				ug/L	463757	Standard
>	Rh	103	38.3	49.4				ug/L	12	Standard
|	Mo	98	1519.8	6.0	0.3874	0.022	5.7	ug/L	29	Standard
|	Ag	107	150344.5	2.1	21.6718	0.286	1.3	ug/L	101	Standard
|	Cd	111	54003.2	2.6	24.3301	0.394	1.6	mg/L	9	Standard
|	Cd	114	135281.7	1.0	23.3209	0.431	1.8	ug/L	47	Standard
>	In	115	801862.4	1.0				ug/L	765457	Standard
|	Sn	118	171.7	17.5	-0.0152	0.023	149.2	ug/L	168	Standard
|	Sb	123	44096.7	1.1	7.3809	0.060	0.8	ug/L	332	Standard
|	Ba	135	215731.1	1.0	77.5615	0.121	0.2	ug/L	37	Standard
|	Ce	140	892643.5	2.4				ug/L	895	Standard
>	Tb	159	1469207.2	2.9				ug/L	1511047	Standard
|	Ho	165	20388.7	2.0				ug/L	22	Standard
|	Tl	203	257004.2	1.2	23.9468	0.130	0.5	ug/L	14	Standard
|	Tl	205	593777.6	1.3	23.9877	0.222	0.9	ug/L	27	Standard
|	Pb	206	291341.9	1.7	35.7924	0.545	1.5	ug/L	557	Standard
|	Pb	207	244755.7	1.6	34.1291	0.275	0.8	ug/L	432	Standard
|	Pb	208	1133589.2	2.3	34.8905	0.447	1.3	ug/L	2118	Standard
	U	238	714578.2	1.3	24.3080	0.160	0.7	ug/L	78	Standard
>	Bi	209	748568.4	1.1				ug/L	791817	Standard

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Brink Z...

Na	23	6.7	43.3	1.5240	0.739	48.5	mg/L	5	Standard
Mg	24	88.3	8.6	0.1015	0.005	4.6	mg/L	48	Standard
K	39	40.0	12.5	0.5770	0.038	6.5	mg/L	3	Standard
Ca	43	36.7	31.5	-4.5597	5.401	118.4	mg/L	62	Standard
Fe	54	14175.0	1.4	14.5729	0.764	5.2	mg/L	139	Standard
Fe	57	4070.5	3.3	14.5709	0.874	6.0	mg/L	83	Standard
Sc-1	45	22376.6	6.5				mg/L	23513	Standard
Cl	35	3.3	69.3				ug/L	3	Standard
Kr	83	5.3	10.8				ug/L	2	Standard
Br	81	1633.4	11.9				ug/L	910	Standard
P	31	55.0	15.7				ug/L	85	Standard
S	34	21.7	48.0				ug/L	48	Standard
Sr	88	108.3	22.8				ug/L	72	Standard
C	12	423.3	1.4				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	53.3	71.0				mg/L	7	Standard
Dy	164	33276.7	0.4				mg/L	22	Standard
Ho-1	165	20388.7	2.0				mg/L	22	Standard
Er	166	19035.3	4.5				mg/L	23	Standard
I	127	33513.0	32.7				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		95.412	
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		86.671	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1610031903S WG586863-04

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	104.756
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	94.538
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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	

Sample ID: L1610031903S WG586863-04

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610031903SD WG586863-05

Sample Date/Time: Wednesday, October 12, 2016 18:47:00

Number of Replicates: 3

Autosampler Position: 209

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	70003.1	2.3				ug/L	72553	Standard
|	Be	9	19100.4	3.5	21.8742	0.593	2.7	ug/L	10	Standard
|	Al	27	1500691.3	1.4	15.3770	0.235	1.5	ug/L	232	Standard
|	Sc	45	22117.8	1.2				ug/L	23513	Standard
|	Ti	47	6815.2	2.3	45.0854	0.702	1.6	ug/L	36	Standard
|	V	51	222918.8	1.9	41.4643	0.310	0.7	ug/L	1387	Standard
|	Cr	52	198402.3	1.1	38.1102	0.318	0.8	ug/L	7813	Standard
|	Cr	53	25364.6	2.4	37.2807	0.411	1.1	ug/L	1410	Standard
|	Mn	55	2294521.9	1.8	267.6501	1.174	0.4	ug/L	1043	Standard
|	Co	59	275611.2	2.2	36.1812	0.343	0.9	ug/L	198	Standard
|	Ni	60	68850.1	0.6	41.4191	0.318	0.8	ug/L	64	Standard
|	Cu	65	60515.6	1.7	35.2783	0.276	0.8	ug/L	122	Standard
|	Zn	66	83723.0	1.1	91.1313	0.237	0.3	ug/L	209	Standard
>	Ge	72	531273.5	1.3				ug/L	618040	Standard
|	As	75	24191.6	0.9	25.0003	0.105	0.4	ug/L	11	Standard
|	Se	82	1792.2	0.9	19.6298	0.345	1.8	ug/L	21	Standard
|	Se-1	77	1239.4	1.9	19.3825	0.341	1.8	ug/L	86	Standard
>	Ga	71	10093.4	1.3				mg/L	13	Standard
|	Rb	85	87916.2	3.6				ug/L	18	Standard
|	Y	89	526631.9	2.1				ug/L	463757	Standard
>	Rh	103	26.7	54.1				ug/L	12	Standard
|	Mo	98	1380.5	1.5	0.3570	0.001	0.3	ug/L	29	Standard
|	Ag	107	147925.7	1.7	21.6583	0.160	0.7	ug/L	101	Standard
|	Cd	111	52483.4	2.9	24.0159	0.464	1.9	mg/L	9	Standard
|	Cd	114	131884.4	1.8	23.0882	0.174	0.8	ug/L	47	Standard
>	In	115	789478.2	1.2				ug/L	765457	Standard
|	Sn	118	144.7	10.4	-0.0345	0.012	34.9	ug/L	168	Standard
|	Sb	123	45293.6	3.0	7.6988	0.149	1.9	ug/L	332	Standard
|	Ba	135	190926.3	2.6	69.7117	1.170	1.7	ug/L	37	Standard
|	Ce	140	755510.7	2.6				ug/L	895	Standard
>	Tb	159	1431647.7	1.3				ug/L	1511047	Standard
|	Ho	165	17463.4	4.9				ug/L	22	Standard
|	Tl	203	253183.6	0.9	23.9133	0.168	0.7	ug/L	14	Standard
|	Tl	205	589636.7	2.8	24.1443	0.587	2.4	ug/L	27	Standard
|	Pb	206	306233.9	2.0	38.1396	0.642	1.7	ug/L	557	Standard
|	Pb	207	254772.9	0.7	36.0165	0.123	0.3	ug/L	432	Standard
|	Pb	208	1190743.8	1.2	37.1571	0.139	0.4	ug/L	2118	Standard
	U	238	699274.4	1.7	24.1112	0.198	0.8	ug/L	78	Standard
>	Bi	209	738489.4	1.0				ug/L	791817	Standard

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Na	23	8.3	124.9	2.0578	3.123	151.8	mg/L	5	Standard
Mg	24	73.3	27.6	0.0724	0.042	57.4	mg/L	48	Standard
K	39	55.0	18.2	0.8227	0.165	20.0	mg/L	3	Standard
Ca	43	43.3	35.3	-2.0287	5.952	293.4	mg/L	62	Standard
Fe	54	13433.4	0.9	13.9378	0.280	2.0	mg/L	139	Standard
Fe	57	3923.8	4.8	14.1644	0.575	4.1	mg/L	83	Standard
Sc-1	45	22117.8	1.2				mg/L	23513	Standard
Cl	35	1.3	86.6				ug/L	3	Standard
Kr	83	2.0	0.0				ug/L	2	Standard
Br	81	1663.4	2.5				ug/L	910	Standard
P	31	53.3	27.1				ug/L	85	Standard
S	34	33.3	22.9				ug/L	48	Standard
Sr	88	100.0	13.2				ug/L	72	Standard
C	12	440.0	12.0				mg/L	227	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	60.0	88.2				mg/L	7	Standard
Dy	164	27113.7	3.5				mg/L	22	Standard
Ho-1	165	17463.4	4.9				mg/L	22	Standard
Er	166	15487.9	3.1				mg/L	23	Standard
I	127	24913.8	3.4				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		96.485	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		85.961	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1610031903SD WG586863-05

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	103.138
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	93.265
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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: L1610038902

Sample Date/Time: Wednesday, October 12, 2016 18:50:00

Number of Replicates: 3

Autosampler Position: 210

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	65347.3	1.9				ug/L	72553	Standard
|	Be	9	370.0	2.3	0.4377	0.018	4.0	ug/L	10	Standard
|	Al	27	172891064.1	2.0	1898.4859	62.103	3.3	ug/L	232	Standard
|	Sc	45	26140.9	0.7				ug/L	23513	Standard
|	Ti	47	10500.0	1.4	74.7637	1.457	1.9	ug/L	36	Standard
|	V	51	623914.3	1.1	125.0592	1.469	1.2	ug/L	1387	Standard
|	Cr	52	614225.6	0.5	129.6763	1.375	1.1	ug/L	7813	Standard
|	Cr	53	78102.5	0.6	127.6046	0.683	0.5	ug/L	1410	Standard
|	Mn	55	2073731.1	1.0	259.7984	2.372	0.9	ug/L	1043	Standard
|	Co	59	14233.4	1.7	1.9894	0.037	1.8	ug/L	198	Standard
|	Ni	60	96138.5	2.9	62.1304	1.859	3.0	ug/L	64	Standard
|	Cu	65	13922.4	2.3	8.6392	0.246	2.8	ug/L	122	Standard
|	Zn	66	285354.2	0.9	335.7555	3.849	1.1	ug/L	209	Standard
>	Ge	72	494677.4	0.6				ug/L	618040	Standard
|	As	75	8440.3	1.8	9.3930	0.164	1.7	ug/L	11	Standard
|	Se	82	345.7	6.1	3.9589	0.245	6.2	ug/L	21	Standard
|	Se-1	77	324.3	3.1	4.4850	0.148	3.3	ug/L	86	Standard
>	Ga	71	5854.5	4.3				mg/L	13	Standard
|	Rb	85	26888.8	1.1				ug/L	18	Standard
|	Y	89	2016573.1	3.1				ug/L	463757	Standard
>	Rh	103	101.7	15.0				ug/L	12	Standard
|	Mo	98	45718.7	0.8	13.4106	0.036	0.3	ug/L	29	Standard
|	Ag	107	1177.4	2.8	0.1778	0.007	3.9	ug/L	101	Standard
|	Cd	111	17134.1	3.2	8.7585	0.200	2.3	mg/L	9	Standard
|	Cd	114	43585.0	0.1	8.5272	0.067	0.8	ug/L	47	Standard
>	In	115	706477.6	0.9				ug/L	765457	Standard
|	Sn	118	594.7	4.6	0.3776	0.028	7.4	ug/L	168	Standard
|	Sb	123	3855.4	3.3	0.7356	0.025	3.4	ug/L	332	Standard
|	Ba	135	51867.3	1.7	21.1467	0.178	0.8	ug/L	37	Standard
|	Ce	140	1290566.0	1.7				ug/L	895	Standard
>	Tb	159	1384242.6	3.3				ug/L	1511047	Standard
|	Ho	165	102015.9	3.4				ug/L	22	Standard
|	Tl	203	4071.9	0.9	0.4490	0.003	0.8	ug/L	14	Standard
|	Tl	205	9496.3	2.2	0.4515	0.018	3.9	ug/L	27	Standard
|	Pb	206	75590.5	2.7	10.9394	0.114	1.0	ug/L	557	Standard
|	Pb	207	21791.7	2.9	3.5325	0.083	2.4	ug/L	432	Standard
|	Pb	208	146346.2	2.0	5.2689	0.032	0.6	ug/L	2118	Standard
	U	238	865463.9	2.6	34.8518	0.440	1.3	ug/L	78	Standard
>	Bi	209	632296.1	1.7				ug/L	791817	Standard

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Na	23	1131.7	11.5	291.1562	32.484	11.2	mg/L	5	Standard
Mg	24	631.7	5.6	1.0340	0.062	6.0	mg/L	48	Standard
K	39	28.3	81.5	0.3342	0.308	92.1	mg/L	3	Standard
Ca	43	1183.4	3.4	367.7871	11.383	3.1	mg/L	62	Standard
Fe	54	5131.6	3.1	4.4236	0.109	2.5	mg/L	139	Standard
Fe	57	2716.9	4.0	8.1090	0.301	3.7	mg/L	83	Standard
Sc-1	45	26140.9	0.7				mg/L	23513	Standard
Cl	35	3.3	69.3				ug/L	3	Standard
Kr	83	5.3	54.1				ug/L	2	Standard
Br	81	1346.7	11.3				ug/L	910	Standard
P	31	90.0	19.2				ug/L	85	Standard
S	34	25.0	20.0				ug/L	48	Standard
Sr	88	311.7	5.6				ug/L	72	Standard
C	12	1590.1	17.1				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	123.3	67.5				mg/L	7	Standard
Dy	164	130361.9	3.0				mg/L	22	Standard
Ho-1	165	102015.9	3.4				mg/L	22	Standard
Er	166	100596.3	2.2				mg/L	23	Standard
I	127	29801.0	3.0				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		90.068	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		80.040	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1610038902

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	92.295
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	79.854
[	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
Al 27 Upper, S, EEE	Al	27	
V 51 Upper, S, EEE	V	51	
Cr 52 Upper, S, EEE	Cr	52	

Sample ID: L1610038902

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Cr 53 Upper, S, EEE	Cr	53
Mn 55 Upper, S, EEE	Mn	55
Zn 66 Upper, S, EEE	Zn	66

Sample ID: L1610038902

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Method 6020 - Summary Report

Sample ID: L1610038904

Sample Date/Time: Wednesday, October 12, 2016 18:52:59

Number of Replicates: 3

Autosampler Position: 211

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	63061.1	4.3				ug/L	72553	Standard
|	Be	9	633.3	7.1	0.7884	0.023	3.0	ug/L	10	Standard
|	Al	27	145033942.9	1.1	1651.3697	57.619	3.5	ug/L	232	Standard
|	Sc	45	25605.0	1.4				ug/L	23513	Standard
|	Ti	47	6712.8	1.0	47.6313	0.967	2.0	ug/L	36	Standard
|	V	51	320546.9	0.8	64.0536	1.788	2.8	ug/L	1387	Standard
|	Cr	52	338978.4	0.7	70.8832	1.963	2.8	ug/L	7813	Standard
|	Cr	53	43718.0	1.1	70.4963	2.041	2.9	ug/L	1410	Standard
|	Mn	55	3770705.6	1.5	471.7330	9.682	2.1	ug/L	1043	Standard
|	Co	59	25064.4	1.0	3.5120	0.099	2.8	ug/L	198	Standard
|	Ni	60	118540.6	0.5	76.4952	1.737	2.3	ug/L	64	Standard
|	Cu	65	20977.8	1.1	13.0472	0.256	2.0	ug/L	122	Standard
|	Zn	66	264429.6	1.0	310.5653	6.643	2.1	ug/L	209	Standard
>	Ge	72	495645.6	2.6				ug/L	618040	Standard
|	As	75	6111.1	1.9	6.7999	0.053	0.8	ug/L	11	Standard
|	Se	82	257.1	6.9	2.9021	0.132	4.5	ug/L	21	Standard
|	Se-1	77	252.7	7.4	3.1866	0.229	7.2	ug/L	86	Standard
>	Ga	71	6828.2	1.4				mg/L	13	Standard
|	Rb	85	57872.0	1.4				ug/L	18	Standard
|	Y	89	1509129.7	0.6				ug/L	463757	Standard
>	Rh	103	60.0	8.3				ug/L	12	Standard
|	Mo	98	19332.0	1.1	5.8862	0.049	0.8	ug/L	29	Standard
|	Ag	107	1806.8	5.3	0.2923	0.017	5.7	ug/L	101	Standard
|	Cd	111	19459.9	1.1	10.3335	0.134	1.3	mg/L	9	Standard
|	Cd	114	48986.9	2.7	9.9538	0.293	2.9	ug/L	47	Standard
>	In	115	680235.1	0.3				ug/L	765457	Standard
|	Sn	118	330.7	6.5	0.1550	0.019	12.3	ug/L	168	Standard
|	Sb	123	923.0	6.4	0.1855	0.011	6.0	ug/L	332	Standard
|	Ba	135	92670.6	1.1	39.2636	0.514	1.3	ug/L	37	Standard
|	Ce	140	1399825.0	1.1				ug/L	895	Standard
>	Tb	159	1355613.9	0.3				ug/L	1511047	Standard
|	Ho	165	85386.6	1.4				ug/L	22	Standard
|	Tl	203	10314.2	1.2	1.1450	0.001	0.1	ug/L	14	Standard
|	Tl	205	24196.0	2.1	1.1619	0.015	1.3	ug/L	27	Standard
|	Pb	206	63070.3	0.8	9.1762	0.091	1.0	ug/L	557	Standard
|	Pb	207	34949.9	1.0	5.7474	0.053	0.9	ug/L	432	Standard
|	Pb	208	184013.3	1.0	6.6886	0.026	0.4	ug/L	2118	Standard
	U	238	324800.6	0.8	13.1667	0.120	0.9	ug/L	78	Standard
>	Bi	209	628208.6	1.3				ug/L	791817	Standard

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Na	23	926.7	13.4	243.6480	35.609	14.6	mg/L	5	Standard
Mg	24	351.7	3.6	0.5532	0.028	5.1	mg/L	48	Standard
K	39	51.7	5.6	0.6584	0.031	4.7	mg/L	3	Standard
Ca	43	941.7	0.8	295.3507	5.737	1.9	mg/L	62	Standard
Fe	54	4988.6	6.6	4.3931	0.359	8.2	mg/L	139	Standard
Fe	57	2501.9	5.4	7.5959	0.395	5.2	mg/L	83	Standard
Sc-1	45	25605.0	1.4				mg/L	23513	Standard
Cl	35	3.3	91.7				ug/L	3	Standard
Kr	83	2.0	50.0				ug/L	2	Standard
Br	81	1303.4	2.9				ug/L	910	Standard
P	31	68.3	18.4				ug/L	85	Standard
S	34	30.0	57.7				ug/L	48	Standard
Sr	88	220.0	17.2				ug/L	72	Standard
C	12	1370.1	16.6				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	106.7	30.1				mg/L	7	Standard
Dy	164	114131.4	1.8				mg/L	22	Standard
Ho-1	165	85386.6	1.4				mg/L	22	Standard
Er	166	82608.0	1.6				mg/L	23	Standard
I	127	23523.2	1.4				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		86.917	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		80.196	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1610038904

Report Date/Time: Wednesday, October 12, 2016 18:55:04

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	88.866
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	79.338
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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	
Zn 66 Upper, S, EEE	Zn	66	

Sample ID: L1610038904

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Method 6020 - Summary Report

Sample ID: L1610038904PS WG587381-01

Sample Date/Time: Wednesday, October 12, 2016 18:55:58

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: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	59946.8	3.0				ug/L	72553	Standard
|	Be	9	36123.0	2.8	48.3857	2.816	5.8	ug/L	10	Standard
|	Al	27	146000970.3	2.3	1748.2596	73.127	4.2	ug/L	232	Standard
|	Sc	45	26302.9	5.4				ug/L	23513	Standard
|	Ti	47	6747.2	1.8	46.1919	0.825	1.8	ug/L	36	Standard
|	V	51	588145.6	2.9	113.5393	2.233	2.0	ug/L	1387	Standard
|	Cr	52	581997.6	1.7	118.2544	1.078	0.9	ug/L	7813	Standard
|	Cr	53	74531.4	3.6	117.1704	4.480	3.8	ug/L	1410	Standard
|	Mn	55	4183706.9	1.6	505.0812	4.378	0.9	ug/L	1043	Standard
|	Co	59	371350.2	1.0	50.4520	0.484	1.0	ug/L	198	Standard
|	Ni	60	196485.6	1.1	122.3671	0.801	0.7	ug/L	64	Standard
|	Cu	65	97531.3	1.5	58.8977	0.559	0.9	ug/L	122	Standard
|	Zn	66	311769.2	1.2	353.4634	5.381	1.5	ug/L	209	Standard
>	Ge	72	513505.3	1.7				ug/L	618040	Standard
|	As	75	53726.8	0.5	57.4019	1.186	2.1	ug/L	11	Standard
|	Se	82	4624.2	1.2	52.6236	0.405	0.8	ug/L	21	Standard
|	Se-1	77	3150.3	1.7	53.1694	1.735	3.3	ug/L	86	Standard
>	Ga	71	7068.3	4.0				mg/L	13	Standard
|	Rb	85	57649.5	3.1				ug/L	18	Standard
|	Y	89	1541747.4	1.0				ug/L	463757	Standard
>	Rh	103	98.3	28.0				ug/L	12	Standard
|	Mo	98	19412.7	2.7	6.0702	0.128	2.1	ug/L	29	Standard
|	Ag	107	262584.1	1.3	45.8426	0.318	0.7	ug/L	101	Standard
|	Cd	111	110964.0	0.8	60.5372	0.290	0.5	mg/L	9	Standard
|	Cd	114	279792.5	1.7	58.3858	0.790	1.4	ug/L	47	Standard
>	In	115	662336.0	0.6				ug/L	765457	Standard
|	Sn	118	358.0	4.8	0.1890	0.014	7.6	ug/L	168	Standard
|	Sb	123	257126.4	0.7	52.0820	0.276	0.5	ug/L	332	Standard
|	Ba	135	208313.9	1.8	90.6768	1.555	1.7	ug/L	37	Standard
|	Ce	140	1416433.1	1.0				ug/L	895	Standard
>	Tb	159	1379213.7	1.3				ug/L	1511047	Standard
|	Ho	165	84681.1	2.4				ug/L	22	Standard
|	Tl	203	466735.9	1.0	52.4059	0.315	0.6	ug/L	14	Standard
|	Tl	205	1093678.4	2.0	53.2416	0.639	1.2	ug/L	27	Standard
|	Pb	206	401194.7	1.6	59.4413	0.497	0.8	ug/L	557	Standard
|	Pb	207	323991.4	0.4	54.4866	0.231	0.4	ug/L	432	Standard
|	Pb	208	1520831.3	0.7	56.4592	0.430	0.8	ug/L	2118	Standard
	U	238	1584691.6	0.6	64.9606	0.262	0.4	ug/L	78	Standard
>	Bi	209	621201.5	0.9				ug/L	791817	Standard

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Brink Z...

Na	23	890.0	3.5	227.6891	5.261	2.3	mg/L	5	Standard
Mg	24	378.3	19.6	0.5888	0.169	28.7	mg/L	48	Standard
K	39	43.3	26.6	0.5341	0.170	31.9	mg/L	3	Standard
Ca	43	943.4	4.8	287.6533	8.216	2.9	mg/L	62	Standard
Fe	54	4951.2	3.4	4.2510	0.385	9.1	mg/L	139	Standard
Fe	57	2666.9	7.2	7.8986	0.326	4.1	mg/L	83	Standard
Sc-1	45	26302.9	5.4				mg/L	23513	Standard
Cl	35	2.7	114.6				ug/L	3	Standard
Kr	83	5.7	62.0				ug/L	2	Standard
Br	81	1330.1	9.9				ug/L	910	Standard
P	31	66.7	26.3				ug/L	85	Standard
S	34	38.3	86.8				ug/L	48	Standard
Sr	88	221.7	10.2				ug/L	72	Standard
C	12	1053.4	6.3				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	136.7	15.2				mg/L	7	Standard
Dy	164	112530.4	1.5				mg/L	22	Standard
Ho-1	165	84681.1	2.4				mg/L	22	Standard
Er	166	84193.3	1.4				mg/L	23	Standard
I	127	21748.9	3.5				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		82.624	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		83.086	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1610038904PS WG587381-01

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	86.528
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	78.453
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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	
V 51 Upper, S, EEE	V	51	
Cr 52 Upper, S, EEE	Cr	52	

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Bank Z...

Cr 53 Upper, S, EEE	Cr	53
Mn 55 Upper, S, EEE	Mn	55
Ni 60 Upper, S, EEE	Ni	60
Zn 66 Upper, S, EEE	Zn	66

Sample ID: L1610038904PS WG587381-01

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Bank Zuo

Method 6020 - Summary Report

Sample ID: L1610038904SDL WG587381-02

Sample Date/Time: Wednesday, October 12, 2016 18:58:58

Number of Replicates: 3

Autosampler Position: 213

Sample Description: 5

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	60053.8	2.9				ug/L	72553	Standard
|	Be	9	135.0	24.3	0.1637	0.045	27.4	ug/L	10	Standard
|	Al	27	30964118.2	2.6	369.9068	6.277	1.7	ug/L	232	Standard
|	Sc	45	22465.0	0.6				ug/L	23513	Standard
|	Ti	47	1443.1	3.0	9.1113	0.033	0.4	ug/L	36	Standard
|	V	51	69955.0	1.6	12.5344	0.172	1.4	ug/L	1387	Standard
|	Cr	52	79340.2	1.3	14.0704	0.268	1.9	ug/L	7813	Standard
|	Cr	53	10113.4	1.1	13.3440	0.269	2.0	ug/L	1410	Standard
|	Mn	55	824760.4	2.1	93.6438	2.390	2.6	ug/L	1043	Standard
|	Co	59	5639.0	1.5	0.7031	0.012	1.6	ug/L	198	Standard
|	Ni	60	27295.2	1.9	15.9748	0.364	2.3	ug/L	64	Standard
|	Cu	65	5386.6	1.7	2.9644	0.039	1.3	ug/L	122	Standard
|	Zn	66	62018.4	2.0	65.5410	1.087	1.7	ug/L	209	Standard
>	Ge	72	545409.4	2.7				ug/L	618040	Standard
|	As	75	1274.2	1.4	1.3225	0.051	3.9	ug/L	11	Standard
|	Se	82	75.5	5.2	0.6764	0.058	8.5	ug/L	21	Standard
|	Se-1	77	110.0	14.6	0.4522	0.243	53.7	ug/L	86	Standard
>	Ga	71	1550.1	1.8				mg/L	13	Standard
|	Rb	85	12323.3	3.9				ug/L	18	Standard
|	Y	89	641006.1	3.3				ug/L	463757	Standard
>	Rh	103	20.0	25.0				ug/L	12	Standard
|	Mo	98	4031.8	1.5	1.1844	0.012	1.0	ug/L	29	Standard
|	Ag	107	443.7	4.1	0.0581	0.004	7.5	ug/L	101	Standard
|	Cd	111	4117.0	0.7	2.1140	0.057	2.7	mg/L	9	Standard
|	Cd	114	10258.8	2.7	2.0196	0.101	5.0	ug/L	47	Standard
>	In	115	702509.8	2.3				ug/L	765457	Standard
|	Sn	118	175.0	6.7	0.0068	0.012	177.0	ug/L	168	Standard
|	Sb	123	1979.0	38.2	0.3796	0.138	36.5	ug/L	332	Standard
|	Ba	135	19761.2	0.3	8.0907	0.210	2.6	ug/L	37	Standard
|	Ce	140	305526.9	1.6				ug/L	895	Standard
>	Tb	159	1355046.8	3.2				ug/L	1511047	Standard
|	Ho	165	18356.1	4.6				ug/L	22	Standard
|	Tl	203	2214.2	1.0	0.2341	0.004	1.9	ug/L	14	Standard
|	Tl	205	5054.2	4.6	0.2291	0.016	7.0	ug/L	27	Standard
|	Pb	206	13761.9	1.7	1.8465	0.024	1.3	ug/L	557	Standard
|	Pb	207	7732.6	1.6	1.1545	0.035	3.0	ug/L	432	Standard
|	Pb	208	40542.5	1.5	1.3445	0.030	2.2	ug/L	2118	Standard
	U	238	66332.6	1.3	2.5621	0.032	1.2	ug/L	78	Standard
>	Bi	209	659473.4	2.5				ug/L	791817	Standard

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Brink Z...

Na	23	196.7	25.5	58.5579	15.168	25.9	mg/L	5	Standard
Mg	24	123.3	12.4	0.1727	0.031	17.7	mg/L	48	Standard
K	39	15.0	57.7	0.1889	0.133	70.3	mg/L	3	Standard
Ca	43	235.0	18.5	70.5053	16.110	22.8	mg/L	62	Standard
Fe	54	1171.7	8.6	1.0883	0.101	9.3	mg/L	139	Standard
Fe	57	646.7	8.1	1.9153	0.206	10.8	mg/L	83	Standard
Sc-1	45	22465.0	0.6				mg/L	23513	Standard
Cl	35	2.7	114.6				ug/L	3	Standard
Kr	83	3.3	17.3				ug/L	2	Standard
Br	81	1143.4	7.3				ug/L	910	Standard
P	31	58.3	19.8				ug/L	85	Standard
S	34	38.3	45.8				ug/L	48	Standard
Sr	88	125.0	17.4				ug/L	72	Standard
C	12	336.7	12.0				mg/L	227	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	43.3	48.0				mg/L	7	Standard
Dy	164	24364.4	4.8				mg/L	22	Standard
Ho-1	165	18356.1	4.6				mg/L	22	Standard
Er	166	17603.6	6.4				mg/L	23	Standard
I	127	15096.0	14.4				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		82.772	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		88.248	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	91.776
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	83.286
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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: L1610038904SDL WG587381-02

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610038904SDL WG587381-02

Sample Date/Time: Wednesday, October 12, 2016 19:01:57

Number of Replicates: 3

Autosampler Position: 214

Sample Description: 25

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	61017.9	5.4				ug/L	72553	Standard
|	Be	9	21.7	26.6	0.0119	0.009	72.0	ug/L	10	Standard
|	Al	27	6509034.9	2.4	76.6018	2.443	3.2	ug/L	232	Standard
|	Sc	45	22545.1	4.0				ug/L	23513	Standard
|	Ti	47	300.0	2.7	1.6592	0.109	6.6	ug/L	36	Standard
|	V	51	15647.8	2.1	2.5698	0.042	1.6	ug/L	1387	Standard
|	Cr	52	22539.4	2.9	2.9712	0.060	2.0	ug/L	7813	Standard
|	Cr	53	2576.9	4.4	1.9076	0.053	2.8	ug/L	1410	Standard
|	Mn	55	173586.6	3.0	19.0736	0.255	1.3	ug/L	1043	Standard
|	Co	59	1308.1	4.4	0.1446	0.009	6.1	ug/L	198	Standard
|	Ni	60	5821.5	3.7	3.2882	0.071	2.2	ug/L	64	Standard
|	Cu	65	1136.0	1.1	0.5267	0.022	4.1	ug/L	122	Standard
|	Zn	66	13742.6	3.1	13.5119	0.477	3.5	ug/L	209	Standard
>	Ge	72	559904.2	3.6				ug/L	618040	Standard
|	As	75	239.7	12.4	0.2764	0.037	13.3	ug/L	11	Standard
|	Se	82	31.3	35.1	0.1954	0.128	65.7	ug/L	21	Standard
|	Se-1	77	73.0	13.2	-0.1755	0.194	110.6	ug/L	86	Standard
>	Ga	71	276.7	30.0				mg/L	13	Standard
|	Rb	85	2505.2	2.0				ug/L	18	Standard
|	Y	89	467956.8	3.9				ug/L	463757	Standard
>	Rh	103	11.7	65.5				ug/L	12	Standard
|	Mo	98	894.7	4.3	0.2505	0.007	2.8	ug/L	29	Standard
|	Ag	107	167.0	3.6	0.0117	0.001	11.3	ug/L	101	Standard
|	Cd	111	820.5	2.7	0.4048	0.006	1.4	mg/L	9	Standard
|	Cd	114	2181.4	2.3	0.4160	0.005	1.2	ug/L	47	Standard
>	In	115	724419.9	3.5				ug/L	765457	Standard
|	Sn	118	141.3	4.5	-0.0271	0.002	8.0	ug/L	168	Standard
|	Sb	123	535.6	43.3	0.1018	0.040	39.1	ug/L	332	Standard
|	Ba	135	4080.5	2.5	1.6012	0.070	4.3	ug/L	37	Standard
|	Ce	140	64030.1	3.1				ug/L	895	Standard
>	Tb	159	1384230.3	2.2				ug/L	1511047	Standard
|	Ho	165	3823.8	1.5				ug/L	22	Standard
|	Tl	203	471.0	2.4	0.0466	0.001	1.3	ug/L	14	Standard
|	Tl	205	1130.0	3.1	0.0457	0.001	2.4	ug/L	27	Standard
|	Pb	206	3371.0	0.4	0.3653	0.014	3.7	ug/L	557	Standard
|	Pb	207	2081.1	3.0	0.2372	0.002	0.7	ug/L	432	Standard
|	Pb	208	10486.0	2.8	0.2691	0.005	1.8	ug/L	2118	Standard
	U	238	13747.6	0.9	0.4987	0.016	3.2	ug/L	78	Standard
>	Bi	209	702780.4	3.4				ug/L	791817	Standard

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Brink Z...

Na	23	43.3	26.6	12.5005	3.480	27.8	mg/L	5	Standard
Mg	24	58.3	13.1	0.0386	0.011	29.0	mg/L	48	Standard
K	39	8.3	69.3	0.0878	0.095	108.4	mg/L	3	Standard
Ca	43	91.7	11.4	15.9226	3.261	20.5	mg/L	62	Standard
Fe	54	335.3	2.3	0.2259	0.006	2.7	mg/L	139	Standard
Fe	57	266.7	12.1	0.5201	0.149	28.6	mg/L	83	Standard
Sc-1	45	22545.1	4.0				mg/L	23513	Standard
Cl	35	2.7	114.6				ug/L	3	Standard
Kr	83	2.0	86.6				ug/L	2	Standard
Br	81	1170.0	7.8				ug/L	910	Standard
P	31	70.0	14.3				ug/L	85	Standard
S	34	35.0	14.3				ug/L	48	Standard
Sr	88	81.7	7.1				ug/L	72	Standard
C	12	186.7	29.5				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	26.7	21.7				mg/L	7	Standard
Dy	164	5032.6	3.9				mg/L	22	Standard
Ho-1	165	3823.8	1.5				mg/L	22	Standard
Er	166	3513.7	2.1				mg/L	23	Standard
I	127	12368.4	1.8				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		84.101	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		90.593	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1610038904SDL WG587381-02

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	94.639
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	88.755
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1610038904SDL WG587381-02

Report Date/Time: Wednesday, October 12, 2016 19:04:02

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Bank Z...

Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Wednesday, October 12, 2016 19:04:58

Number of Replicates: 3

Autosampler Position: 101

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	59331.1	4.3				ug/L	72553	Standard
|	Be	9	35257.7	4.0	47.6780	1.354	2.8	ug/L	10	Standard
|	Al	27	4079071.2	2.5	49.3404	1.030	2.1	ug/L	232	Standard
|	Sc	45	21064.6	3.4				ug/L	23513	Standard
|	Ti	47	15222.6	1.9	98.9541	0.906	0.9	ug/L	36	Standard
|	V	51	271872.5	1.5	49.5955	0.795	1.6	ug/L	1387	Standard
|	Cr	52	260898.1	1.6	49.4762	1.101	2.2	ug/L	7813	Standard
|	Cr	53	33766.0	4.0	49.2045	2.046	4.2	ug/L	1410	Standard
|	Mn	55	429787.5	1.4	49.0063	1.130	2.3	ug/L	1043	Standard
|	Co	59	377687.8	1.8	48.6004	1.321	2.7	ug/L	198	Standard
|	Ni	60	83208.2	1.4	49.0586	1.106	2.3	ug/L	64	Standard
|	Cu	65	86460.7	1.3	49.4313	0.578	1.2	ug/L	122	Standard
|	Zn	66	45772.0	1.7	48.4381	0.601	1.2	ug/L	209	Standard
>	Ge	72	542287.9	2.5				ug/L	618040	Standard
|	As	75	48157.5	1.8	48.7264	0.961	2.0	ug/L	11	Standard
|	Se	82	4520.7	2.2	48.7042	0.394	0.8	ug/L	21	Standard
|	Se-1	77	3006.6	1.9	47.9288	1.695	3.5	ug/L	86	Standard
>	Ga	71	18.3	15.7				mg/L	13	Standard
|	Rb	85	710.0	10.5				ug/L	18	Standard
|	Y	89	407427.8	2.7				ug/L	463757	Standard
>	Rh	103	21.7	35.3				ug/L	12	Standard
|	Mo	98	328706.7	0.7	96.6313	1.950	2.0	ug/L	29	Standard
|	Ag	107	297245.8	0.6	48.7459	1.077	2.2	ug/L	101	Standard
|	Cd	111	97484.6	0.7	49.9513	0.952	1.9	mg/L	9	Standard
|	Cd	114	256480.5	0.3	50.2791	1.453	2.9	ug/L	47	Standard
>	In	115	705410.8	2.6				ug/L	765457	Standard
|	Sn	118	57517.6	1.4	50.8680	0.713	1.4	ug/L	168	Standard
|	Sb	123	273713.5	0.5	52.0779	1.292	2.5	ug/L	332	Standard
|	Ba	135	123016.0	0.6	50.2945	1.624	3.2	ug/L	37	Standard
|	Ce	140	135.0	42.1				ug/L	895	Standard
>	Tb	159	1334118.5	1.5				ug/L	1511047	Standard
|	Ho	165	11.7	49.5				ug/L	22	Standard
|	Tl	203	493416.0	0.6	50.4098	0.951	1.9	ug/L	14	Standard
|	Tl	205	1159396.7	3.1	51.3649	2.090	4.1	ug/L	27	Standard
|	Pb	206	367165.3	0.7	49.4910	1.226	2.5	ug/L	557	Standard
|	Pb	207	324539.4	1.8	49.6663	1.885	3.8	ug/L	432	Standard
|	Pb	208	1469132.0	1.0	49.6231	1.489	3.0	ug/L	2118	Standard
	U	238	1340072.3	1.3	49.9901	1.527	3.1	ug/L	78	Standard
>	Bi	209	682871.5	1.9				ug/L	791817	Standard

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Brink Z...

Na	23	13.3	57.3	3.8399	2.477	64.5	mg/L	5	Standard
Mg	24	2251.8	2.4	4.8512	0.108	2.2	mg/L	48	Standard
K	39	261.7	16.3	4.2894	0.821	19.1	mg/L	3	Standard
Ca	43	56.7	31.0	4.3404	7.828	180.3	mg/L	62	Standard
Fe	54	4634.5	0.9	4.9767	0.178	3.6	mg/L	139	Standard
Fe	57	1428.4	3.1	5.1399	0.358	7.0	mg/L	83	Standard
Sc-1	45	21064.6	3.4				mg/L	23513	Standard
Cl	35	4.7	65.5				ug/L	3	Standard
Kr	83	2.0	0.0				ug/L	2	Standard
Br	81	976.7	4.1				ug/L	910	Standard
P	31	55.0	48.1				ug/L	85	Standard
S	34	38.3	7.5				ug/L	48	Standard
Sr	88	96.7	3.0				ug/L	72	Standard
C	12	186.7	15.5				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	7	Standard
Dy	164	25.5	20.4				mg/L	22	Standard
Ho-1	165	11.7	49.5				mg/L	22	Standard
Er	166	23.3	49.5				mg/L	23	Standard
I	127	10395.2	1.4				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	95.356		
Al	27	98.681		
Sc	45			
Ti	47	98.954		
V	51	99.191		
Cr	52	98.952		
Cr	53			
Mn	55	98.013		
Co	59	97.201		
Ni	60	98.117		
Cu	65	98.863		
Zn	66	96.876		
Ge	72		87.743	
As	75	97.453		
Se	82	97.408		
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	96.631	
[Ag	107	97.492	
[Cd	111	99.903	
[Cd	114		
>	In	115		92.155
[	Sn	118	101.736	
[	Sb	123	104.156	
[	Ba	135	100.589	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	100.820	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	99.246	
[	U	238	99.980	
>	Bi	209		86.241
[	Na	23		
[	Mg	24		
[	K	39		
[	Ca	43		
[	Fe	54		
[	Fe	57		
>	Sc-1	45		
[	Cl	35		
[	Kr	83		
[	Br	81		
[	P	31		
[	S	34		
[	Sr	88		
[	C	12		
[	N	14		
[	Hg	202		
[	Dy	164		
[	Ho-1	165		
[	Er	166		
[I	127		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 6

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Bank Z...

Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Wednesday, October 12, 2016 19:07:58

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	61558.2	3.6				ug/L	72553	Standard
|	Be	9	3.3	173.2	-0.0126	0.007	57.3	ug/L	10	Standard
|	Al	27	1293.4	57.8	0.0115	0.009	77.0	ug/L	232	Standard
|	Sc	45	21790.7	2.7				ug/L	23513	Standard
|	Ti	47	20.7	12.2	-0.1040	0.015	14.3	ug/L	36	Standard
|	V	51	998.7	7.4	-0.0268	0.015	55.2	ug/L	1387	Standard
|	Cr	52	5895.8	0.5	-0.1469	0.029	20.0	ug/L	7813	Standard
|	Cr	53	763.4	9.4	-0.7316	0.085	11.6	ug/L	1410	Standard
|	Mn	55	941.0	6.5	-0.0490	0.008	15.5	ug/L	1043	Standard
|	Co	59	130.0	4.0	-0.0021	0.001	48.2	ug/L	198	Standard
|	Ni	60	51.3	19.9	-0.0082	0.007	80.1	ug/L	64	Standard
|	Cu	65	113.7	16.3	-0.0401	0.010	25.0	ug/L	122	Standard
|	Zn	66	190.7	7.5	-0.6141	0.010	1.7	ug/L	209	Standard
>	Ge	72	551354.1	2.4				ug/L	618040	Standard
|	As	75	-22.4	138.8	0.0183	0.031	170.5	ug/L	11	Standard
|	Se	82	20.7	4.6	0.0848	0.010	11.7	ug/L	21	Standard
|	Se-1	77	62.0	8.5	-0.3389	0.083	24.4	ug/L	86	Standard
>	Ga	71	11.7	49.5				mg/L	13	Standard
|	Rb	85	15.0	57.7				ug/L	18	Standard
|	Y	89	407543.2	2.1				ug/L	463757	Standard
>	Rh	103	8.3	69.3				ug/L	12	Standard
|	Mo	98	161.6	10.5	0.0407	0.005	12.0	ug/L	29	Standard
|	Ag	107	100.3	15.9	0.0011	0.003	252.0	ug/L	101	Standard
|	Cd	111	9.1	35.3	-0.0001	0.002	1922.5	mg/L	9	Standard
|	Cd	114	24.5	58.0	0.0044	0.003	60.9	ug/L	47	Standard
>	In	115	724568.0	1.0				ug/L	765457	Standard
|	Sn	118	142.0	18.0	-0.0266	0.022	81.5	ug/L	168	Standard
|	Sb	123	477.6	39.6	0.0919	0.035	38.2	ug/L	332	Standard
|	Ba	135	35.7	21.0	-0.0103	0.003	29.2	ug/L	37	Standard
|	Ce	140	55.0	24.1				ug/L	895	Standard
>	Tb	159	1366569.7	1.5				ug/L	1511047	Standard
|	Ho	165	25.0	40.0				ug/L	22	Standard
|	Tl	203	21.0	21.8	0.0019	0.000	24.0	ug/L	14	Standard
|	Tl	205	50.0	30.0	-0.0008	0.001	76.2	ug/L	27	Standard
|	Pb	206	480.3	4.9	-0.0147	0.003	21.8	ug/L	557	Standard
|	Pb	207	409.3	5.6	-0.0123	0.003	27.2	ug/L	432	Standard
|	Pb	208	1883.0	1.6	-0.0143	0.001	10.0	ug/L	2118	Standard
	U	238	51.7	33.4	0.0021	0.001	29.9	ug/L	78	Standard
>	Bi	209	709967.8	0.9				ug/L	791817	Standard

Sample ID: QC Std 7

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Brink Z...

Na	23	0.0		-0.4577	0.000	0.0	mg/L	5	Standard
Mg	24	55.0	39.6	0.0364	0.047	130.4	mg/L	48	Standard
K	39	6.7	114.6	0.0626	0.119	189.6	mg/L	3	Standard
Ca	43	36.7	41.7	-4.3285	6.257	144.5	mg/L	62	Standard
Fe	54	154.1	3.4	0.0454	0.010	20.9	mg/L	139	Standard
Fe	57	145.0	6.9	0.0900	0.036	40.3	mg/L	83	Standard
Sc-1	45	21790.7	2.7				mg/L	23513	Standard
Cl	35	0.7	173.2				ug/L	3	Standard
Kr	83	1.7	34.6				ug/L	2	Standard
Br	81	1086.7	5.6				ug/L	910	Standard
P	31	78.3	9.8				ug/L	85	Standard
S	34	36.7	56.8				ug/L	48	Standard
Sr	88	110.0	9.1				ug/L	72	Standard
C	12	233.3	13.1				mg/L	227	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	7	Standard
Dy	164	25.2	78.9				mg/L	22	Standard
Ho-1	165	25.0	40.0				mg/L	22	Standard
Er	166	30.0	66.7				mg/L	23	Standard
I	127	10678.8	1.8				mg/L	4241	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		89.210	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: QC Std 7

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	94.658
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	89.663
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 7

Report Date/Time: Wednesday, October 12, 2016 19:10:03

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610000301

Sample Date/Time: Wednesday, October 12, 2016 19:10:59

Number of Replicates: 3

Autosampler Position: 215

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	60514.0	2.2				ug/L	72553	Standard
|	Be	9	6.7	43.3	-0.0079	0.004	51.5	ug/L	10	Standard
|	Al	27	12275.0	4.4	0.1421	0.010	6.8	ug/L	232	Standard
|	Sc	45	21328.3	2.1				ug/L	23513	Standard
|	Ti	47	30.3	14.9	-0.0423	0.031	74.2	ug/L	36	Standard
|	V	51	4728.8	2.4	0.6426	0.017	2.6	ug/L	1387	Standard
|	Cr	52	10767.8	1.6	0.7791	0.045	5.8	ug/L	7813	Standard
|	Cr	53	1323.4	6.3	0.0975	0.134	137.8	ug/L	1410	Standard
|	Mn	55	4152.9	2.7	0.3108	0.005	1.5	ug/L	1043	Standard
|	Co	59	5189.2	2.4	0.6363	0.006	1.0	ug/L	198	Standard
|	Ni	60	2537.9	1.8	1.4307	0.048	3.3	ug/L	64	Standard
|	Cu	65	1600.1	2.1	0.7948	0.006	0.7	ug/L	122	Standard
|	Zn	66	4100.6	2.5	3.5112	0.060	1.7	ug/L	209	Standard
>	Ge	72	552902.8	1.7				ug/L	618040	Standard
|	As	75	337.7	10.2	0.3756	0.030	8.1	ug/L	11	Standard
|	Se	82	33.6	18.3	0.2207	0.063	28.6	ug/L	21	Standard
|	Se-1	77	77.3	9.7	-0.0943	0.136	144.5	ug/L	86	Standard
>	Ga	71	10.0	50.0				mg/L	13	Standard
|	Rb	85	70.0	35.7				ug/L	18	Standard
|	Y	89	409663.1	1.1				ug/L	463757	Standard
>	Rh	103	13.3	21.7				ug/L	12	Standard
|	Mo	98	81.1	25.2	0.0179	0.005	30.1	ug/L	29	Standard
|	Ag	107	1673.1	2.7	0.2556	0.002	0.7	ug/L	101	Standard
|	Cd	111	246.6	9.1	0.1201	0.014	11.5	mg/L	9	Standard
|	Cd	114	660.1	7.5	0.1272	0.007	5.7	ug/L	47	Standard
>	In	115	715321.9	2.0				ug/L	765457	Standard
|	Sn	118	121.7	20.0	-0.0429	0.020	46.1	ug/L	168	Standard
|	Sb	123	909.3	10.3	0.1739	0.015	8.3	ug/L	332	Standard
|	Ba	135	1050.4	2.7	0.3989	0.009	2.2	ug/L	37	Standard
|	Ce	140	160.0	21.9				ug/L	895	Standard
>	Tb	159	1363251.3	1.1				ug/L	1511047	Standard
|	Ho	165	15.0	33.3				ug/L	22	Standard
|	Tl	203	527.3	3.2	0.0518	0.002	3.3	ug/L	14	Standard
|	Tl	205	1241.7	7.6	0.0501	0.004	8.3	ug/L	27	Standard
|	Pb	206	2823.9	3.1	0.2904	0.010	3.5	ug/L	557	Standard
|	Pb	207	2425.5	1.8	0.2857	0.008	2.7	ug/L	432	Standard
|	Pb	208	11111.3	1.4	0.2867	0.004	1.6	ug/L	2118	Standard
	U	238	14292.4	1.3	0.5141	0.006	1.1	ug/L	78	Standard
>	Bi	209	708256.3	0.6				ug/L	791817	Standard

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Brink Z...

Na	23	0.0		-0.4577	0.000	0.0	mg/L	5	Standard
Mg	24	56.7	45.3	0.0426	0.057	133.4	mg/L	48	Standard
K	39	15.0	33.3	0.2015	0.082	40.5	mg/L	3	Standard
Ca	43	28.3	79.6	-7.3184	9.137	124.9	mg/L	62	Standard
Fe	54	122.4	12.5	0.0145	0.018	123.3	mg/L	139	Standard
Fe	57	141.7	15.9	0.0890	0.088	98.4	mg/L	83	Standard
Sc-1	45	21328.3	2.1				mg/L	23513	Standard
Cl	35	4.0	0.0				ug/L	3	Standard
Kr	83	2.3	49.5				ug/L	2	Standard
Br	81	1136.7	6.4				ug/L	910	Standard
P	31	51.7	53.3				ug/L	85	Standard
S	34	38.3	15.1				ug/L	48	Standard
Sr	88	86.7	6.7				ug/L	72	Standard
C	12	210.0	26.5				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	6.7	86.6				mg/L	7	Standard
Dy	164	25.5	59.6				mg/L	22	Standard
Ho-1	165	15.0	33.3				mg/L	22	Standard
Er	166	23.3	24.7				mg/L	23	Standard
I	127	8287.3	3.7				mg/L	4241	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		89.461	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1610000301

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	93.450
[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	89.447
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L161000301

Report Date/Time: Wednesday, October 12, 2016 19:13:04

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610000501

Sample Date/Time: Wednesday, October 12, 2016 19:13:58

Number of Replicates: 3

Autosampler Position: 216

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	60815.2	1.9				ug/L	72553	Standard
|	Be	9	5.0	100.0	-0.0101	0.007	65.1	ug/L	10	Standard
|	Al	27	20325.3	2.8	0.2362	0.003	1.2	ug/L	232	Standard
|	Sc	45	21990.9	0.7				ug/L	23513	Standard
|	Ti	47	35.7	8.6	-0.0067	0.021	313.6	ug/L	36	Standard
|	V	51	8358.3	1.0	1.3059	0.003	0.3	ug/L	1387	Standard
|	Cr	52	14025.5	2.4	1.4202	0.045	3.1	ug/L	7813	Standard
|	Cr	53	1853.4	4.3	0.9031	0.091	10.1	ug/L	1410	Standard
|	Mn	55	7093.0	1.4	0.6466	0.007	1.1	ug/L	1043	Standard
|	Co	59	10176.1	1.1	1.2757	0.028	2.2	ug/L	198	Standard
|	Ni	60	4903.5	1.9	2.8204	0.051	1.8	ug/L	64	Standard
|	Cu	65	3032.6	1.4	1.6128	0.036	2.2	ug/L	122	Standard
|	Zn	66	7251.4	0.7	6.8953	0.136	2.0	ug/L	209	Standard
>	Ge	72	548749.3	1.2				ug/L	618040	Standard
|	As	75	789.4	4.3	0.8293	0.025	3.0	ug/L	11	Standard
|	Se	82	66.9	7.1	0.5795	0.049	8.4	ug/L	21	Standard
|	Se-1	77	87.0	18.1	0.0701	0.252	359.8	ug/L	86	Standard
>	Ga	71	16.7	62.4				mg/L	13	Standard
|	Rb	85	53.3	19.5				ug/L	18	Standard
|	Y	89	411216.2	2.5				ug/L	463757	Standard
>	Rh	103	8.3	91.7				ug/L	12	Standard
|	Mo	98	97.4	14.6	0.0227	0.004	17.4	ug/L	29	Standard
|	Ag	107	3254.3	1.5	0.5111	0.011	2.2	ug/L	101	Standard
|	Cd	111	519.9	6.8	0.2578	0.017	6.5	mg/L	9	Standard
|	Cd	114	1280.2	7.2	0.2470	0.020	8.1	ug/L	47	Standard
>	In	115	715716.6	1.0				ug/L	765457	Standard
|	Sn	118	119.7	11.5	-0.0444	0.013	28.6	ug/L	168	Standard
|	Sb	123	1507.6	4.2	0.2860	0.010	3.6	ug/L	332	Standard
|	Ba	135	2097.8	2.1	0.8207	0.009	1.2	ug/L	37	Standard
|	Ce	140	216.7	16.7				ug/L	895	Standard
>	Tb	159	1384500.1	2.8				ug/L	1511047	Standard
|	Ho	165	25.0	40.0				ug/L	22	Standard
|	Tl	203	1013.7	1.3	0.0999	0.002	2.5	ug/L	14	Standard
|	Tl	205	2376.9	1.7	0.0988	0.002	2.4	ug/L	27	Standard
|	Pb	206	4823.1	2.1	0.5518	0.007	1.3	ug/L	557	Standard
|	Pb	207	4220.9	1.2	0.5522	0.005	0.9	ug/L	432	Standard
|	Pb	208	19102.0	1.5	0.5486	0.009	1.6	ug/L	2118	Standard
	U	238	28250.6	0.9	1.0182	0.018	1.8	ug/L	78	Standard
>	Bi	209	706798.5	1.8				ug/L	791817	Standard

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Na	23	1.7	173.2	0.0528	0.884	1673.9	mg/L	5	Standard
Mg	24	73.3	7.9	0.0733	0.011	15.2	mg/L	48	Standard
K	39	8.3	69.3	0.0886	0.090	101.8	mg/L	3	Standard
Ca	43	38.3	27.2	-3.8921	3.951	101.5	mg/L	62	Standard
Fe	54	115.7	6.7	0.0033	0.008	229.6	mg/L	139	Standard
Fe	57	141.7	12.4	0.0727	0.068	94.2	mg/L	83	Standard
Sc-1	45	21990.9	0.7				mg/L	23513	Standard
Cl	35	3.3	91.7				ug/L	3	Standard
Kr	83	2.7	57.3				ug/L	2	Standard
Br	81	1036.7	6.8				ug/L	910	Standard
P	31	68.3	8.4				ug/L	85	Standard
S	34	46.7	16.4				ug/L	48	Standard
Sr	88	86.7	27.3				ug/L	72	Standard
C	12	270.0	22.5				mg/L	227	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	0.0					mg/L	7	Standard
Dy	164	32.1	18.0				mg/L	22	Standard
Ho-1	165	25.0	40.0				mg/L	22	Standard
Er	166	26.7	94.4				mg/L	23	Standard
I	127	10143.4	3.9				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		83.821	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		88.789	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	93.502
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	89.263
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L161000501

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610000510

Sample Date/Time: Wednesday, October 12, 2016 19:16:57

Number of Replicates: 3

Autosampler Position: 217

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	59695.7	1.6				ug/L	72553	Standard
|	Be	9	3.3	173.2	-0.0122	0.008	64.4	ug/L	10	Standard
|	Al	27	10463.6	4.3	0.1222	0.006	5.0	ug/L	232	Standard
|	Sc	45	21248.2	3.5				ug/L	23513	Standard
|	Ti	47	26.7	14.2	-0.0657	0.025	37.6	ug/L	36	Standard
|	V	51	8446.5	3.1	1.3122	0.048	3.6	ug/L	1387	Standard
|	Cr	52	14067.9	2.1	1.4112	0.038	2.7	ug/L	7813	Standard
|	Cr	53	1690.1	9.2	0.6414	0.188	29.3	ug/L	1410	Standard
|	Mn	55	6805.5	1.3	0.6093	0.008	1.2	ug/L	1043	Standard
|	Co	59	10521.0	1.9	1.3108	0.009	0.7	ug/L	198	Standard
|	Ni	60	4315.6	3.6	2.4609	0.047	1.9	ug/L	64	Standard
|	Cu	65	2967.6	2.9	1.5654	0.060	3.8	ug/L	122	Standard
|	Zn	66	7016.6	2.0	6.5966	0.052	0.8	ug/L	209	Standard
>	Ge	72	552295.4	1.7				ug/L	618040	Standard
|	As	75	788.5	9.2	0.8229	0.058	7.0	ug/L	11	Standard
|	Se	82	60.0	11.9	0.5013	0.066	13.2	ug/L	21	Standard
|	Se-1	77	95.3	0.6	0.1958	0.034	17.4	ug/L	86	Standard
>	Ga	71	15.0	88.2				mg/L	13	Standard
|	Rb	85	45.0	19.2				ug/L	18	Standard
|	Y	89	417026.0	2.0				ug/L	463757	Standard
>	Rh	103	20.0	50.0				ug/L	12	Standard
|	Mo	98	131.1	7.3	0.0319	0.003	8.1	ug/L	29	Standard
|	Ag	107	3349.7	3.8	0.5188	0.014	2.7	ug/L	101	Standard
|	Cd	111	548.5	3.4	0.2686	0.013	5.0	mg/L	9	Standard
|	Cd	114	1267.3	9.1	0.2408	0.018	7.5	ug/L	47	Standard
>	In	115	725842.9	1.7				ug/L	765457	Standard
|	Sn	118	102.3	12.4	-0.0609	0.010	17.1	ug/L	168	Standard
|	Sb	123	1484.2	3.3	0.2778	0.005	1.6	ug/L	332	Standard
|	Ba	135	2146.5	0.9	0.8284	0.008	1.0	ug/L	37	Standard
|	Ce	140	113.3	6.7				ug/L	895	Standard
>	Tb	159	1368175.3	1.1				ug/L	1511047	Standard
|	Ho	165	23.3	65.5				ug/L	22	Standard
|	Tl	203	1070.0	2.3	0.1056	0.002	1.9	ug/L	14	Standard
|	Tl	205	2316.8	6.9	0.0964	0.008	8.0	ug/L	27	Standard
|	Pb	206	4903.5	0.8	0.5634	0.011	2.0	ug/L	557	Standard
|	Pb	207	4307.6	1.2	0.5659	0.003	0.5	ug/L	432	Standard
|	Pb	208	19732.4	1.0	0.5702	0.004	0.6	ug/L	2118	Standard
	U	238	29363.4	0.5	1.0599	0.015	1.5	ug/L	78	Standard
>	Bi	209	705680.8	1.0				ug/L	791817	Standard

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Na	23	0.0		-0.4577	0.000	0.0	mg/L	5	Standard
Mg	24	58.3	34.6	0.0472	0.048	101.1	mg/L	48	Standard
K	39	6.7	114.6	0.0639	0.120	187.3	mg/L	3	Standard
Ca	43	41.7	30.2	-2.1185	4.452	210.2	mg/L	62	Standard
Fe	54	138.4	29.5	0.0316	0.039	124.8	mg/L	139	Standard
Fe	57	136.7	10.6	0.0712	0.047	66.4	mg/L	83	Standard
Sc-1	45	21248.2	3.5				mg/L	23513	Standard
Cl	35	0.7	173.2				ug/L	3	Standard
Kr	83	3.3	124.9				ug/L	2	Standard
Br	81	1206.7	14.6				ug/L	910	Standard
P	31	38.3	7.5				ug/L	85	Standard
S	34	36.7	20.8				ug/L	48	Standard
Sr	88	96.7	29.9				ug/L	72	Standard
C	12	200.0	22.9				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	7	Standard
Dy	164	5.2	103.4				mg/L	22	Standard
Ho-1	165	23.3	65.5				mg/L	22	Standard
Er	166	30.0	57.7				mg/L	23	Standard
I	127	9986.6	0.3				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		82.278	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		89.362	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	94.825
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	89.122
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1610000510

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610038906

Sample Date/Time: Wednesday, October 12, 2016 19:19:57

Number of Replicates: 3

Autosampler Position: 218

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	58339.0	5.9				ug/L	72553	Standard
|	Be	9	688.3	12.7	0.9274	0.063	6.8	ug/L	10	Standard
|	Al	27	155248389.4	2.6	1911.3627	62.705	3.3	ug/L	232	Standard
|	Sc	45	27646.9	1.9				ug/L	23513	Standard
|	Ti	47	7791.0	2.8	53.5244	2.041	3.8	ug/L	36	Standard
|	V	51	258798.0	0.9	49.9820	0.610	1.2	ug/L	1387	Standard
|	Cr	52	417083.1	1.0	84.6115	0.929	1.1	ug/L	7813	Standard
|	Cr	53	52748.3	0.7	82.5987	1.281	1.6	ug/L	1410	Standard
|	Mn	55	3377831.2	0.9	408.9112	10.348	2.5	ug/L	1043	Standard
|	Co	59	18973.2	1.2	2.5675	0.083	3.2	ug/L	198	Standard
|	Ni	60	129188.8	0.6	80.6603	1.462	1.8	ug/L	64	Standard
|	Cu	65	20304.3	0.8	12.2117	0.161	1.3	ug/L	122	Standard
|	Zn	66	258725.3	0.7	293.9516	4.269	1.5	ug/L	209	Standard
>	Ge	72	512212.1	2.1				ug/L	618040	Standard
|	As	75	10343.1	1.4	11.1103	0.097	0.9	ug/L	11	Standard
|	Se	82	477.1	3.9	5.3258	0.320	6.0	ug/L	21	Standard
|	Se-1	77	407.7	5.8	5.7279	0.279	4.9	ug/L	86	Standard
>	Ga	71	11290.9	1.6				mg/L	13	Standard
|	Rb	85	99089.6	0.9				ug/L	18	Standard
|	Y	89	1446343.5	1.5				ug/L	463757	Standard
>	Rh	103	45.0	19.2				ug/L	12	Standard
|	Mo	98	50428.8	1.9	16.4303	0.163	1.0	ug/L	29	Standard
|	Ag	107	1583.7	3.6	0.2731	0.013	4.9	ug/L	101	Standard
|	Cd	111	8724.2	3.1	4.9507	0.048	1.0	mg/L	9	Standard
|	Cd	114	22334.1	5.0	4.8506	0.148	3.1	ug/L	47	Standard
>	In	115	636130.6	2.1				ug/L	765457	Standard
|	Sn	118	212.0	5.8	0.0596	0.016	27.2	ug/L	168	Standard
|	Sb	123	350.4	9.5	0.0775	0.009	11.2	ug/L	332	Standard
|	Ba	135	84329.0	1.1	38.2117	0.484	1.3	ug/L	37	Standard
|	Ce	140	1310612.8	2.0				ug/L	895	Standard
>	Tb	159	1318918.7	0.6				ug/L	1511047	Standard
|	Ho	165	75112.4	1.3				ug/L	22	Standard
|	Tl	203	8890.6	2.8	1.0235	0.018	1.8	ug/L	14	Standard
|	Tl	205	20757.5	1.3	1.0335	0.008	0.8	ug/L	27	Standard
|	Pb	206	60335.6	2.7	9.1025	0.169	1.9	ug/L	557	Standard
|	Pb	207	32650.5	1.4	5.5667	0.101	1.8	ug/L	432	Standard
|	Pb	208	173504.6	2.3	6.5385	0.080	1.2	ug/L	2118	Standard
	U	238	279140.3	2.2	11.7342	0.062	0.5	ug/L	78	Standard
>	Bi	209	605769.9	2.1				ug/L	791817	Standard

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Brank Z...

Na	23	870.0	9.8	211.5740	20.729	9.8	mg/L	5	Standard
Mg	24	395.0	4.4	0.5788	0.035	6.1	mg/L	48	Standard
K	39	70.0	28.6	0.8400	0.263	31.3	mg/L	3	Standard
Ca	43	1043.4	12.4	303.7490	42.853	14.1	mg/L	62	Standard
Fe	54	7937.3	2.7	6.5244	0.093	1.4	mg/L	139	Standard
Fe	57	3500.4	6.6	9.9770	0.602	6.0	mg/L	83	Standard
Sc-1	45	27646.9	1.9				mg/L	23513	Standard
Cl	35	4.0	50.0				ug/L	3	Standard
Kr	83	3.7	15.7				ug/L	2	Standard
Br	81	1343.4	15.9				ug/L	910	Standard
P	31	56.7	5.1				ug/L	85	Standard
S	34	40.0	25.0				ug/L	48	Standard
Sr	88	203.3	6.2				ug/L	72	Standard
C	12	920.0	10.5				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	230.0	24.2				mg/L	7	Standard
Dy	164	95409.0	0.5				mg/L	22	Standard
Ho-1	165	75112.4	1.3				mg/L	22	Standard
Er	166	74526.2	1.3				mg/L	23	Standard
I	127	18608.1	2.8				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		80.408	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		82.877	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1610038906

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	83.105
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	76.504
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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	
Zn 66 Upper, S, EEE	Zn	66	

Sample ID: L1610038906

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Bank Zinn

Method 6020 - Summary Report

Sample ID: L1610038908

Sample Date/Time: Wednesday, October 12, 2016 19:22:56

Number of Replicates: 3

Autosampler Position: 219

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	54839.1	1.0				ug/L	72553	Standard
|	Be	9	775.0	6.5	1.1170	0.072	6.5	ug/L	10	Standard
|	Al	27	84014687.7	1.0	1098.9873	10.888	1.0	ug/L	232	Standard
|	Sc	45	27880.7	4.8				ug/L	23513	Standard
|	Ti	47	6524.7	1.6	43.5731	0.827	1.9	ug/L	36	Standard
|	V	51	271959.4	1.0	51.1196	0.305	0.6	ug/L	1387	Standard
|	Cr	52	269949.0	0.9	52.8239	0.433	0.8	ug/L	7813	Standard
|	Cr	53	33834.4	1.5	50.8557	0.534	1.1	ug/L	1410	Standard
|	Mn	55	3091906.2	1.5	364.1831	4.889	1.3	ug/L	1043	Standard
|	Co	59	34678.0	1.4	4.5799	0.027	0.6	ug/L	198	Standard
|	Ni	60	135575.6	1.0	82.3723	0.584	0.7	ug/L	64	Standard
|	Cu	65	44992.7	0.8	26.4543	0.051	0.2	ug/L	122	Standard
|	Zn	66	302440.8	0.7	334.5045	0.999	0.3	ug/L	209	Standard
>	Ge	72	526247.4	1.0				ug/L	618040	Standard
|	As	75	10763.3	0.3	11.2524	0.142	1.3	ug/L	11	Standard
|	Se	82	485.6	1.5	5.2711	0.065	1.2	ug/L	21	Standard
|	Se-1	77	430.7	3.9	5.9296	0.213	3.6	ug/L	86	Standard
>	Ga	71	8949.3	2.8				mg/L	13	Standard
|	Rb	85	77236.4	1.0				ug/L	18	Standard
|	Y	89	1620765.3	0.5				ug/L	463757	Standard
>	Rh	103	75.0	34.6				ug/L	12	Standard
|	Mo	98	29359.4	0.8	9.5789	0.066	0.7	ug/L	29	Standard
|	Ag	107	2354.2	1.3	0.4139	0.007	1.8	ug/L	101	Standard
|	Cd	111	18678.3	1.3	10.6238	0.088	0.8	mg/L	9	Standard
|	Cd	114	47822.5	1.8	10.4077	0.138	1.3	ug/L	47	Standard
>	In	115	635051.1	0.5				ug/L	765457	Standard
|	Sn	118	356.7	15.4	0.2022	0.054	26.5	ug/L	168	Standard
|	Sb	123	626.8	3.0	0.1359	0.005	3.4	ug/L	332	Standard
|	Ba	135	130460.9	0.6	59.2199	0.405	0.7	ug/L	37	Standard
|	Ce	140	1512535.9	1.1				ug/L	895	Standard
>	Tb	159	1349722.9	0.3				ug/L	1511047	Standard
|	Ho	165	93033.1	0.6				ug/L	22	Standard
|	Tl	203	5975.2	2.0	0.6796	0.020	2.9	ug/L	14	Standard
|	Tl	205	13766.3	1.0	0.6760	0.011	1.7	ug/L	27	Standard
|	Pb	206	75991.8	0.7	11.3435	0.061	0.5	ug/L	557	Standard
|	Pb	207	46311.7	1.1	7.8275	0.099	1.3	ug/L	432	Standard
|	Pb	208	236389.0	0.7	8.8258	0.045	0.5	ug/L	2118	Standard
	U	238	343051.1	0.1	14.2456	0.115	0.8	ug/L	78	Standard
>	Bi	209	613245.5	0.9				ug/L	791817	Standard

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Brank Z...

Na	23	563.3	9.2	136.2683	18.735	13.7	mg/L	5	Standard
Mg	24	356.7	2.9	0.5102	0.026	5.1	mg/L	48	Standard
K	39	50.0	0.0	0.5815	0.029	5.0	mg/L	3	Standard
Ca	43	703.3	6.0	196.7281	10.334	5.3	mg/L	62	Standard
Fe	54	9506.7	3.6	7.7794	0.351	4.5	mg/L	139	Standard
Fe	57	3673.8	5.8	10.4013	0.109	1.0	mg/L	83	Standard
Sc-1	45	27880.7	4.8				mg/L	23513	Standard
Cl	35	2.7	86.6				ug/L	3	Standard
Kr	83	3.7	41.7				ug/L	2	Standard
Br	81	1253.4	7.2				ug/L	910	Standard
P	31	50.0	17.3				ug/L	85	Standard
S	34	46.7	60.9				ug/L	48	Standard
Sr	88	205.0	25.7				ug/L	72	Standard
C	12	593.3	12.7				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	290.0	21.5				mg/L	7	Standard
Dy	164	123610.4	3.2				mg/L	22	Standard
Ho-1	165	93033.1	0.6				mg/L	22	Standard
Er	166	87890.9	1.9				mg/L	23	Standard
I	127	20654.1	3.3				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		75.584	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		85.148	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	82.964
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	77.448
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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	
Zn 66 Upper, S, EEE	Zn	66	

Sample ID: L1610038908

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Bank Zinn

Method 6020 - Summary Report

Sample ID: L1610038910

Sample Date/Time: Wednesday, October 12, 2016 19:25:56

Number of Replicates: 3

Autosampler Position: 220

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	57316.7	4.1				ug/L	72553	Standard
|	Be	9	765.0	7.7	1.0566	0.112	10.6	ug/L	10	Standard
|	Al	27	1313265.6	1.8	16.4508	0.740	4.5	ug/L	232	Standard
|	Sc	45	30064.8	1.0				ug/L	23513	Standard
|	Ti	47	4578.0	1.6	30.7675	0.226	0.7	ug/L	36	Standard
|	V	51	86053.2	1.9	16.1758	0.287	1.8	ug/L	1387	Standard
|	Cr	52	95476.2	0.8	18.0259	0.118	0.7	ug/L	7813	Standard
|	Cr	53	12204.9	2.6	17.3193	0.521	3.0	ug/L	1410	Standard
|	Mn	55	3361256.8	0.7	399.4090	5.595	1.4	ug/L	1043	Standard
|	Co	59	20625.7	0.5	2.7406	0.025	0.9	ug/L	198	Standard
|	Ni	60	104698.2	1.3	64.1571	0.221	0.3	ug/L	64	Standard
|	Cu	65	23242.8	2.4	13.7342	0.202	1.5	ug/L	122	Standard
|	Zn	66	203668.8	1.1	226.9621	0.545	0.2	ug/L	209	Standard
>	Ge	72	521688.8	1.0				ug/L	618040	Standard
|	As	75	5404.8	1.0	5.7196	0.004	0.1	ug/L	11	Standard
|	Se	82	157.6	7.2	1.6337	0.110	6.7	ug/L	21	Standard
|	Se-1	77	283.7	1.7	3.4918	0.081	2.3	ug/L	86	Standard
>	Ga	71	10021.6	2.5				mg/L	13	Standard
|	Rb	85	81190.3	1.7				ug/L	18	Standard
|	Y	89	2284238.3	2.3				ug/L	463757	Standard
>	Rh	103	28.3	36.7				ug/L	12	Standard
|	Mo	98	5494.8	1.0	1.6613	0.006	0.4	ug/L	29	Standard
|	Ag	107	1294.7	2.7	0.2042	0.004	2.1	ug/L	101	Standard
|	Cd	111	15266.3	0.8	8.0684	0.135	1.7	mg/L	9	Standard
|	Cd	114	38724.9	1.8	7.8314	0.114	1.5	ug/L	47	Standard
>	In	115	683453.1	1.4				ug/L	765457	Standard
|	Sn	118	418.7	3.4	0.2340	0.008	3.6	ug/L	168	Standard
|	Sb	123	627.2	2.9	0.1266	0.002	1.4	ug/L	332	Standard
|	Ba	135	184215.5	0.6	77.7177	1.401	1.8	ug/L	37	Standard
|	Ce	140	2187754.2	1.6				ug/L	895	Standard
>	Tb	159	1428474.9	3.2				ug/L	1511047	Standard
|	Ho	165	155201.0	1.9				ug/L	22	Standard
|	Tl	203	6931.3	1.4	0.7403	0.016	2.1	ug/L	14	Standard
|	Tl	205	15935.0	3.7	0.7353	0.032	4.3	ug/L	27	Standard
|	Pb	206	75544.9	0.9	10.5867	0.145	1.4	ug/L	557	Standard
|	Pb	207	52703.5	0.5	8.3716	0.102	1.2	ug/L	432	Standard
|	Pb	208	259902.6	0.6	9.1167	0.095	1.0	ug/L	2118	Standard
	U	238	216126.9	1.8	8.4291	0.119	1.4	ug/L	78	Standard
>	Bi	209	652921.9	0.7				ug/L	791817	Standard

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Brink Z...

Na	23	70.0	0.0	15.2300	0.150	1.0	mg/L	5	Standard
Mg	24	171.7	14.9	0.1827	0.037	20.4	mg/L	48	Standard
K	39	45.0	19.2	0.4769	0.095	19.9	mg/L	3	Standard
Ca	43	140.0	47.2	20.8968	18.504	88.6	mg/L	62	Standard
Fe	54	6988.8	4.6	5.2625	0.298	5.7	mg/L	139	Standard
Fe	57	2283.5	5.1	5.8021	0.283	4.9	mg/L	83	Standard
Sc-1	45	30064.8	1.0				mg/L	23513	Standard
Cl	35	3.3	124.9				ug/L	3	Standard
Kr	83	3.3	34.6				ug/L	2	Standard
Br	81	1143.4	10.5				ug/L	910	Standard
P	31	66.7	30.3				ug/L	85	Standard
S	34	40.0	43.3				ug/L	48	Standard
Sr	88	171.7	13.1				ug/L	72	Standard
C	12	253.3	28.6				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	226.7	6.7				mg/L	7	Standard
Dy	164	206167.5	1.3				mg/L	22	Standard
Ho-1	165	155201.0	1.9				mg/L	22	Standard
Er	166	146309.7	1.1				mg/L	23	Standard
I	127	20844.4	5.5				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		78.999	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		84.410	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	89.287
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	82.459
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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	

Sample ID: L1610038910

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Bank Zinn

Method 6020 - Summary Report

Sample ID: L1610038912

Sample Date/Time: Wednesday, October 12, 2016 19:28:55

Number of Replicates: 3

Autosampler Position: 221

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	56813.0	2.2				ug/L	72553	Standard
|	Be	9	430.0	3.1	0.5905	0.017	2.8	ug/L	10	Standard
|	Al	27	1286471.1	1.9	16.2417	0.285	1.8	ug/L	232	Standard
|	Sc	45	25514.8	1.2				ug/L	23513	Standard
|	Ti	47	2514.9	1.2	16.8689	0.499	3.0	ug/L	36	Standard
|	V	51	88377.4	2.5	16.6884	0.535	3.2	ug/L	1387	Standard
|	Cr	52	113797.4	0.4	21.8274	0.593	2.7	ug/L	7813	Standard
|	Cr	53	14618.7	2.0	21.2094	0.675	3.2	ug/L	1410	Standard
|	Mn	55	1809143.9	1.7	215.8465	8.369	3.9	ug/L	1043	Standard
|	Co	59	19007.9	0.9	2.5352	0.082	3.3	ug/L	198	Standard
|	Ni	60	66418.9	1.0	40.8657	1.335	3.3	ug/L	64	Standard
|	Cu	65	15539.6	0.6	9.1876	0.204	2.2	ug/L	122	Standard
|	Zn	66	167146.2	0.3	186.9034	3.985	2.1	ug/L	209	Standard
>	Ge	72	519680.9	2.4				ug/L	618040	Standard
|	As	75	6230.0	1.4	6.6145	0.186	2.8	ug/L	11	Standard
|	Se	82	133.1	1.1	1.3655	0.031	2.3	ug/L	21	Standard
|	Se-1	77	170.7	13.4	1.5776	0.371	23.5	ug/L	86	Standard
>	Ga	71	4835.8	6.6				mg/L	13	Standard
|	Rb	85	57425.3	1.5				ug/L	18	Standard
|	Y	89	1130556.7	2.3				ug/L	463757	Standard
>	Rh	103	43.3	35.3				ug/L	12	Standard
|	Mo	98	6768.1	2.3	2.0312	0.043	2.1	ug/L	29	Standard
|	Ag	107	1090.0	4.6	0.1681	0.008	4.9	ug/L	101	Standard
|	Cd	111	10155.7	3.6	5.3227	0.192	3.6	mg/L	9	Standard
|	Cd	114	26156.4	0.7	5.2476	0.036	0.7	ug/L	47	Standard
>	In	115	688897.6	0.1				ug/L	765457	Standard
|	Sn	118	228.3	5.3	0.0582	0.011	18.4	ug/L	168	Standard
|	Sb	123	776.8	5.4	0.1548	0.008	5.3	ug/L	332	Standard
|	Ba	135	116467.6	0.4	48.7307	0.185	0.4	ug/L	37	Standard
|	Ce	140	1090720.1	1.2				ug/L	895	Standard
>	Tb	159	1346989.8	0.7				ug/L	1511047	Standard
|	Ho	165	60488.9	1.9				ug/L	22	Standard
|	Tl	203	5683.4	1.0	0.5954	0.008	1.4	ug/L	14	Standard
|	Tl	205	12827.1	1.3	0.5799	0.003	0.5	ug/L	27	Standard
|	Pb	206	56983.0	1.3	7.8127	0.035	0.4	ug/L	557	Standard
|	Pb	207	41305.9	0.6	6.4191	0.013	0.2	ug/L	432	Standard
|	Pb	208	202070.1	0.7	6.9349	0.028	0.4	ug/L	2118	Standard
	U	238	91583.3	0.5	3.5040	0.011	0.3	ug/L	78	Standard
>	Bi	209	665605.8	0.8				ug/L	791817	Standard

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Brink Z...

Na	23	83.3	42.6	21.4818	9.132	42.5	mg/L	5	Standard
Mg	24	163.3	40.8	0.2154	0.123	57.2	mg/L	48	Standard
K	39	43.3	13.3	0.5481	0.084	15.3	mg/L	3	Standard
Ca	43	90.0	11.1	11.3865	3.691	32.4	mg/L	62	Standard
Fe	54	5868.4	2.0	5.2038	0.091	1.7	mg/L	139	Standard
Fe	57	1828.4	2.5	5.4505	0.194	3.6	mg/L	83	Standard
Sc-1	45	25514.8	1.2				mg/L	23513	Standard
Cl	35	0.0					ug/L	3	Standard
Kr	83	2.7	43.3				ug/L	2	Standard
Br	81	2426.9	4.9				ug/L	910	Standard
P	31	61.7	9.4				ug/L	85	Standard
S	34	20.0	25.0				ug/L	48	Standard
Sr	88	133.3	11.5				ug/L	72	Standard
C	12	273.3	29.6				mg/L	227	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	170.0	45.9				mg/L	7	Standard
Dy	164	85552.6	1.3				mg/L	22	Standard
Ho-1	165	60488.9	1.9				mg/L	22	Standard
Er	166	55113.4	1.6				mg/L	23	Standard
I	127	25309.6	9.9				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		78.305	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		84.085	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	89.998
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	84.061
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

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

Sample ID: L1610038912

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Bank Zinn

Method 6020 - Summary Report

Sample ID: L1610038914

Sample Date/Time: Wednesday, October 12, 2016 19:31:54

Number of Replicates: 3

Autosampler Position: 222

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	59121.8	1.7				ug/L	72553	Standard
|	Be	9	1318.4	6.0	1.7732	0.124	7.0	ug/L	10	Standard
|	Al	27	4213619.4	0.3	51.1289	0.798	1.6	ug/L	232	Standard
|	Sc	45	39165.6	1.8				ug/L	23513	Standard
|	Ti	47	19155.1	1.7	134.8190	1.742	1.3	ug/L	36	Standard
|	V	51	229344.5	2.7	45.2449	0.939	2.1	ug/L	1387	Standard
|	Cr	52	280314.6	1.4	57.7161	0.224	0.4	ug/L	7813	Standard
|	Cr	53	36046.2	2.6	57.1146	1.009	1.8	ug/L	1410	Standard
|	Mn	55	4221976.6	1.4	522.2768	2.013	0.4	ug/L	1043	Standard
|	Co	59	36111.7	1.1	5.0103	0.004	0.1	ug/L	198	Standard
|	Ni	60	173833.3	1.6	110.9310	1.887	1.7	ug/L	64	Standard
|	Cu	65	32492.1	1.2	20.0372	0.146	0.7	ug/L	122	Standard
|	Zn	66	422278.5	1.8	490.8203	3.908	0.8	ug/L	209	Standard
>	Ge	72	501113.6	1.1				ug/L	618040	Standard
|	As	75	11530.3	1.1	12.6528	0.037	0.3	ug/L	11	Standard
|	Se	82	380.6	3.9	4.3137	0.147	3.4	ug/L	21	Standard
|	Se-1	77	525.7	1.4	7.9807	0.217	2.7	ug/L	86	Standard
>	Ga	71	25975.6	2.2				mg/L	13	Standard
|	Rb	85	198809.3	1.2				ug/L	18	Standard
|	Y	89	4837438.7	0.9				ug/L	463757	Standard
>	Rh	103	175.0	8.6				ug/L	12	Standard
|	Mo	98	32198.7	0.1	9.6679	0.075	0.8	ug/L	29	Standard
|	Ag	107	2983.6	0.5	0.4852	0.003	0.5	ug/L	101	Standard
|	Cd	111	27635.1	2.3	14.4659	0.240	1.7	mg/L	9	Standard
|	Cd	114	69148.9	2.9	13.8481	0.298	2.1	ug/L	47	Standard
>	In	115	690087.7	0.8				ug/L	765457	Standard
|	Sn	118	1070.7	2.3	0.8214	0.015	1.8	ug/L	168	Standard
|	Sb	123	2000.6	2.4	0.3924	0.006	1.6	ug/L	332	Standard
|	Ba	135	254621.3	0.5	106.3879	1.373	1.3	ug/L	37	Standard
|	Ce	140	4482855.1	1.1				ug/L	895	Standard
>	Tb	159	1491920.0	1.5				ug/L	1511047	Standard
|	Ho	165	298195.8	0.5				ug/L	22	Standard
|	Tl	203	11011.3	1.5	1.2201	0.011	0.9	ug/L	14	Standard
|	Tl	205	26182.6	1.2	1.2552	0.007	0.6	ug/L	27	Standard
|	Pb	206	140557.4	1.3	20.5053	0.202	1.0	ug/L	557	Standard
|	Pb	207	73847.5	1.1	12.2015	0.070	0.6	ug/L	432	Standard
|	Pb	208	392964.0	1.2	14.3424	0.102	0.7	ug/L	2118	Standard
	U	238	1447822.6	1.0	58.5789	0.236	0.4	ug/L	78	Standard
>	Bi	209	629357.7	0.6				ug/L	791817	Standard

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Na	23	350.0	7.6	59.8111	5.462	9.1	mg/L	5	Standard
Mg	24	455.0	1.1	0.4554	0.008	1.7	mg/L	48	Standard
K	39	95.0	15.8	0.8000	0.130	16.2	mg/L	3	Standard
Ca	43	460.0	8.9	81.6157	10.132	12.4	mg/L	62	Standard
Fe	54	12112.3	2.5	7.0402	0.260	3.7	mg/L	139	Standard
Fe	57	3888.8	6.0	7.7232	0.345	4.5	mg/L	83	Standard
Sc-1	45	39165.6	1.8				mg/L	23513	Standard
Cl	35	1.3	86.6				ug/L	3	Standard
Kr	83	3.0	0.0				ug/L	2	Standard
Br	81	1793.4	8.9				ug/L	910	Standard
P	31	36.7	28.4				ug/L	85	Standard
S	34	30.0	28.9				ug/L	48	Standard
Sr	88	443.3	3.4				ug/L	72	Standard
C	12	266.7	26.3				mg/L	227	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	400.0	38.8				mg/L	7	Standard
Dy	164	393121.8	2.7				mg/L	22	Standard
Ho-1	165	298195.8	0.5				mg/L	22	Standard
Er	166	292143.5	1.8				mg/L	23	Standard
I	127	30929.9	4.2				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		81.487	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		81.081	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	90.154
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	79.483
[	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
Ti 47 Upper, S, EEE	Ti	47	
Mn 55 Upper, S, EEE	Mn	55	
Ni 60 Upper, S, EEE	Ni	60	

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Zn 66 Upper, S, EEE	Zn	66
Ba 135 Upper, S, EEE	Ba	135

Sample ID: L1610038914

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Bank Zuo

Method 6020 - Summary Report

Sample ID: L1610038916

Sample Date/Time: Wednesday, October 12, 2016 19:34:54

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: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	56931.8	2.9				ug/L	72553	Standard
|	Be	9	303.3	12.5	0.4119	0.065	15.7	ug/L	10	Standard
|	Al	27	149650984.9	2.4	1885.7303	11.348	0.6	ug/L	232	Standard
|	Sc	45	25361.2	1.6				ug/L	23513	Standard
|	Ti	47	6958.3	1.5	49.5328	0.644	1.3	ug/L	36	Standard
|	V	51	429789.7	0.4	86.2073	0.477	0.6	ug/L	1387	Standard
|	Cr	52	380382.3	0.3	79.9358	0.385	0.5	ug/L	7813	Standard
|	Cr	53	48803.5	1.3	79.1518	1.055	1.3	ug/L	1410	Standard
|	Mn	55	3383569.9	0.3	424.6045	2.080	0.5	ug/L	1043	Standard
|	Co	59	15477.9	1.4	2.1680	0.026	1.2	ug/L	198	Standard
|	Ni	60	145182.3	0.9	93.9771	0.762	0.8	ug/L	64	Standard
|	Cu	65	14626.4	0.5	9.0938	0.064	0.7	ug/L	122	Standard
|	Zn	66	351148.5	0.1	413.9455	1.318	0.3	ug/L	209	Standard
>	Ge	72	493966.0	0.2				ug/L	618040	Standard
|	As	75	8993.9	1.7	10.0211	0.189	1.9	ug/L	11	Standard
|	Se	82	610.3	4.7	7.1041	0.357	5.0	ug/L	21	Standard
|	Se-1	77	461.3	4.0	6.9570	0.321	4.6	ug/L	86	Standard
>	Ga	71	4912.5	2.4				mg/L	13	Standard
|	Rb	85	32583.3	2.2				ug/L	18	Standard
|	Y	89	1369259.7	1.2				ug/L	463757	Standard
>	Rh	103	83.3	6.9				ug/L	12	Standard
|	Mo	98	60825.6	1.8	20.2770	0.174	0.9	ug/L	29	Standard
|	Ag	107	1254.4	2.8	0.2185	0.009	4.1	ug/L	101	Standard
|	Cd	111	18676.5	1.7	10.8511	0.085	0.8	mg/L	9	Standard
|	Cd	114	47175.1	3.1	10.4877	0.294	2.8	ug/L	47	Standard
>	In	115	621682.2	1.0				ug/L	765457	Standard
|	Sn	118	372.0	3.2	0.2253	0.016	6.9	ug/L	168	Standard
|	Sb	123	1978.4	0.8	0.4304	0.003	0.7	ug/L	332	Standard
|	Ba	135	67368.4	0.8	31.2267	0.137	0.4	ug/L	37	Standard
|	Ce	140	986448.3	2.2				ug/L	895	Standard
>	Tb	159	1277955.2	2.0				ug/L	1511047	Standard
|	Ho	165	68362.2	1.4				ug/L	22	Standard
|	Tl	203	6675.1	2.0	0.7985	0.016	2.0	ug/L	14	Standard
|	Tl	205	15766.5	2.5	0.8150	0.019	2.4	ug/L	27	Standard
|	Pb	206	59404.9	0.4	9.3144	0.033	0.4	ug/L	557	Standard
|	Pb	207	22625.9	1.0	3.9876	0.053	1.3	ug/L	432	Standard
|	Pb	208	135325.7	0.3	5.2849	0.020	0.4	ug/L	2118	Standard
	U	238	534556.7	0.4	23.3504	0.052	0.2	ug/L	78	Standard
>	Bi	209	582957.3	0.6				ug/L	791817	Standard

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Na	23	798.4	18.4	211.3716	37.021	17.5	mg/L	5	Standard
Mg	24	408.3	13.8	0.6628	0.110	16.6	mg/L	48	Standard
K	39	25.0	0.0	0.2999	0.005	1.8	mg/L	3	Standard
Ca	43	1000.0	4.8	318.1713	20.806	6.5	mg/L	62	Standard
Fe	54	4807.0	3.7	4.2684	0.179	4.2	mg/L	139	Standard
Fe	57	2505.2	2.4	7.6883	0.315	4.1	mg/L	83	Standard
Sc-1	45	25361.2	1.6				mg/L	23513	Standard
Cl	35	3.3	69.3				ug/L	3	Standard
Kr	83	2.3	49.5				ug/L	2	Standard
Br	81	1100.0	6.3				ug/L	910	Standard
P	31	58.3	21.6				ug/L	85	Standard
S	34	36.7	51.6				ug/L	48	Standard
Sr	88	191.7	12.9				ug/L	72	Standard
C	12	1050.0	6.9				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	106.7	23.6				mg/L	7	Standard
Dy	164	87703.6	2.0				mg/L	22	Standard
Ho-1	165	68362.2	1.4				mg/L	22	Standard
Er	166	66348.3	2.3				mg/L	23	Standard
I	127	20375.4	1.6				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		78.469	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		79.925	
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	81.217
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	73.623
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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	
Zn 66 Upper, S, EEE	Zn	66	

Sample ID: L1610038916

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Bank Zinn

Method 6020 - Summary Report

Sample ID: L1610038918

Sample Date/Time: Wednesday, October 12, 2016 19:37:53

Number of Replicates: 3

Autosampler Position: 224

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	53914.1	2.9				ug/L	72553	Standard
|	Be	9	261.7	26.8	0.3721	0.103	27.6	ug/L	10	Standard
|	Al	27	143677464.1	1.2	1912.7781	64.377	3.4	ug/L	232	Standard
|	Sc	45	24666.8	4.7				ug/L	23513	Standard
|	Ti	47	6294.3	4.6	44.0456	2.873	6.5	ug/L	36	Standard
|	V	51	212426.0	1.6	41.7725	0.460	1.1	ug/L	1387	Standard
|	Cr	52	323491.9	0.2	66.6158	1.076	1.6	ug/L	7813	Standard
|	Cr	53	41558.6	2.9	65.9347	1.155	1.8	ug/L	1410	Standard
|	Mn	55	2912697.2	0.8	359.2526	3.637	1.0	ug/L	1043	Standard
|	Co	59	18127.5	0.8	2.4987	0.034	1.4	ug/L	198	Standard
|	Ni	60	96297.7	0.7	61.2603	0.894	1.5	ug/L	64	Standard
|	Cu	65	16085.9	2.8	9.8366	0.113	1.1	ug/L	122	Standard
|	Zn	66	220937.3	1.3	255.6785	1.379	0.5	ug/L	209	Standard
>	Ge	72	502599.0	1.8				ug/L	618040	Standard
|	As	75	5096.6	3.3	5.5984	0.104	1.9	ug/L	11	Standard
|	Se	82	289.0	0.9	3.2350	0.090	2.8	ug/L	21	Standard
|	Se-1	77	263.7	9.5	3.3279	0.528	15.9	ug/L	86	Standard
>	Ga	71	5014.2	5.0				mg/L	13	Standard
|	Rb	85	37708.6	2.8				ug/L	18	Standard
|	Y	89	1193817.4	2.8				ug/L	463757	Standard
>	Rh	103	66.7	35.4				ug/L	12	Standard
|	Mo	98	28928.8	2.3	9.8651	0.120	1.2	ug/L	29	Standard
|	Ag	107	1452.1	3.7	0.2614	0.004	1.7	ug/L	101	Standard
|	Cd	111	17477.8	2.0	10.3905	0.050	0.5	mg/L	9	Standard
|	Cd	114	43235.3	3.2	9.8332	0.100	1.0	ug/L	47	Standard
>	In	115	607627.4	2.4				ug/L	765457	Standard
|	Sn	118	299.0	9.1	0.1584	0.021	12.9	ug/L	168	Standard
|	Sb	123	1132.5	3.5	0.2537	0.014	5.5	ug/L	332	Standard
|	Ba	135	64236.6	1.8	30.4653	0.203	0.7	ug/L	37	Standard
|	Ce	140	732321.1	2.3				ug/L	895	Standard
>	Tb	159	1292043.5	1.3				ug/L	1511047	Standard
|	Ho	165	50943.9	2.2				ug/L	22	Standard
|	Tl	203	4796.4	1.4	0.5717	0.005	0.9	ug/L	14	Standard
|	Tl	205	10873.9	1.6	0.5592	0.007	1.3	ug/L	27	Standard
|	Pb	206	34591.4	0.8	5.3729	0.012	0.2	ug/L	557	Standard
|	Pb	207	17119.7	2.6	2.9887	0.062	2.1	ug/L	432	Standard
|	Pb	208	92398.0	1.3	3.5719	0.028	0.8	ug/L	2118	Standard
	U	238	236538.5	0.9	10.2973	0.071	0.7	ug/L	78	Standard
>	Bi	209	584949.6	0.6				ug/L	791817	Standard

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Na	23	795.0	6.4	217.1334	19.662	9.1	mg/L	5	Standard
Mg	24	368.3	12.2	0.6068	0.055	9.0	mg/L	48	Standard
K	39	45.0	29.4	0.5980	0.212	35.4	mg/L	3	Standard
Ca	43	1045.0	17.5	341.8086	48.948	14.3	mg/L	62	Standard
Fe	54	3380.0	3.6	3.0605	0.257	8.4	mg/L	139	Standard
Fe	57	2036.8	2.4	6.3574	0.312	4.9	mg/L	83	Standard
Sc-1	45	24666.8	4.7				mg/L	23513	Standard
Cl	35	1.3	86.6				ug/L	3	Standard
Kr	83	4.0	25.0				ug/L	2	Standard
Br	81	1293.4	10.8				ug/L	910	Standard
P	31	63.3	24.1				ug/L	85	Standard
S	34	46.7	22.3				ug/L	48	Standard
Sr	88	200.0	15.6				ug/L	72	Standard
C	12	800.0	5.7				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	196.7	15.5				mg/L	7	Standard
Dy	164	65432.6	1.5				mg/L	22	Standard
Ho-1	165	50943.9	2.2				mg/L	22	Standard
Er	166	51407.1	2.1				mg/L	23	Standard
I	127	20203.5	0.8				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		74.310	
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		81.321	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1610038918

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	79.381
[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	73.874
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	
Zn 66 Upper, S, EEE	Zn	66	

Sample ID: L1610038918

Report Date/Time: Wednesday, October 12, 2016 19:39:58

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Bank Zinn

Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Wednesday, October 12, 2016 19:40:54

Number of Replicates: 3

Autosampler Position: 101

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	51649.8	6.2				ug/L	72553	Standard
|	Be	9	32401.3	0.9	50.4195	2.572	5.1	ug/L	10	Standard
|	Al	27	3640690.5	3.7	50.6116	1.407	2.8	ug/L	232	Standard
|	Sc	45	19886.4	7.9				ug/L	23513	Standard
|	Ti	47	14333.8	0.7	100.3283	3.448	3.4	ug/L	36	Standard
|	V	51	253417.3	2.8	49.7424	0.706	1.4	ug/L	1387	Standard
|	Cr	52	241463.8	2.8	49.2616	0.636	1.3	ug/L	7813	Standard
|	Cr	53	30181.7	2.1	47.2605	0.967	2.0	ug/L	1410	Standard
|	Mn	55	394942.9	1.8	48.4629	1.215	2.5	ug/L	1043	Standard
|	Co	59	347278.1	2.0	48.0859	0.918	1.9	ug/L	198	Standard
|	Ni	60	76341.9	1.6	48.4398	1.107	2.3	ug/L	64	Standard
|	Cu	65	78910.7	2.9	48.5395	0.469	1.0	ug/L	122	Standard
|	Zn	66	42207.4	1.9	48.0680	1.056	2.2	ug/L	209	Standard
>	Ge	72	504032.0	3.9				ug/L	618040	Standard
|	As	75	44749.2	1.7	48.7310	1.059	2.2	ug/L	11	Standard
|	Se	82	4165.7	2.0	48.3049	0.910	1.9	ug/L	21	Standard
|	Se-1	77	2852.6	2.0	48.9942	2.647	5.4	ug/L	86	Standard
>	Ga	71	18.3	41.7				mg/L	13	Standard
|	Rb	85	696.7	10.7				ug/L	18	Standard
|	Y	89	370011.5	3.2				ug/L	463757	Standard
>	Rh	103	18.3	15.7				ug/L	12	Standard
|	Mo	98	296012.2	2.3	98.4142	4.325	4.4	ug/L	29	Standard
|	Ag	107	264895.2	2.2	49.1318	2.279	4.6	ug/L	101	Standard
|	Cd	111	85466.8	5.3	49.4669	1.097	2.2	mg/L	9	Standard
|	Cd	114	223593.8	3.8	49.5324	1.558	3.1	ug/L	47	Standard
>	In	115	624766.9	6.8				ug/L	765457	Standard
|	Sn	118	49829.2	3.9	49.8160	1.838	3.7	ug/L	168	Standard
|	Sb	123	238076.2	4.8	51.1724	1.329	2.6	ug/L	332	Standard
|	Ba	135	111492.6	4.6	51.4958	1.482	2.9	ug/L	37	Standard
|	Ce	140	121.7	10.3				ug/L	895	Standard
>	Tb	159	1236882.6	7.5				ug/L	1511047	Standard
|	Ho	165	21.7	35.3				ug/L	22	Standard
|	Tl	203	448080.2	3.8	50.1003	1.124	2.2	ug/L	14	Standard
|	Tl	205	1024027.4	4.7	49.6263	0.457	0.9	ug/L	27	Standard
|	Pb	206	336638.5	3.6	49.6511	0.238	0.5	ug/L	557	Standard
|	Pb	207	298585.2	2.8	50.0020	0.672	1.3	ug/L	432	Standard
|	Pb	208	1344166.6	2.8	49.6871	0.649	1.3	ug/L	2118	Standard
	U	238	1214117.3	2.5	49.5732	1.045	2.1	ug/L	78	Standard
>	Bi	209	623961.6	4.1				ug/L	791817	Standard

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Na	23	8.3	34.6	2.3939	1.072	44.8	mg/L	5	Standard
Mg	24	2070.1	11.7	4.7250	0.469	9.9	mg/L	48	Standard
K	39	263.3	13.3	4.5490	0.293	6.4	mg/L	3	Standard
Ca	43	51.7	47.7	4.0698	12.887	316.6	mg/L	62	Standard
Fe	54	4417.2	2.1	5.0412	0.389	7.7	mg/L	139	Standard
Fe	57	1338.4	14.7	5.0863	0.608	11.9	mg/L	83	Standard
Sc-1	45	19886.4	7.9				mg/L	23513	Standard
Cl	35	2.0	173.2				ug/L	3	Standard
Kr	83	2.3	24.7				ug/L	2	Standard
Br	81	893.4	2.3				ug/L	910	Standard
P	31	53.3	19.5				ug/L	85	Standard
S	34	41.7	13.9				ug/L	48	Standard
Sr	88	93.3	29.5				ug/L	72	Standard
C	12	153.3	15.1				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	13.3	86.6				mg/L	7	Standard
Dy	164	28.6	35.0				mg/L	22	Standard
Ho-1	165	21.7	35.3				mg/L	22	Standard
Er	166	30.0	0.0				mg/L	23	Standard
I	127	6854.9	5.0				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	100.839		
Al	27	101.223		
Sc	45			
Ti	47	100.328		
V	51	99.485		
Cr	52	98.523		
Cr	53			
Mn	55	96.926		
Co	59	96.172		
Ni	60	96.880		
Cu	65	97.079		
Zn	66	96.136		
Ge	72		81.553	
As	75	97.462		
Se	82	96.610		
Se-1	77			
Ga	71			

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[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	98.414	
[Ag	107	98.264	
[Cd	111	98.934	
[Cd	114		
>	In	115		81.620
[Sn	118	99.632	
[	Sb	123	102.345	
[	Ba	135	102.992	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	100.201	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	99.374	
[	U	238	99.146	
>	Bi	209		78.801
[	Na	23		
[	Mg	24		
[	K	39		
[	Ca	43		
[	Fe	54		
[	Fe	57		
>	Sc-1	45		
[	Cl	35		
[	Kr	83		
[	Br	81		
[	P	31		
[	S	34		
[	Sr	88		
[	C	12		
[	N	14		
[	Hg	202		
[	Dy	164		
[	Ho-1	165		
[	Er	166		
[	I	127		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Bi 209 Int Std for QC Std	Bi	209	Rerun sample

Sample ID: QC Std 6

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Bank Z...

Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Wednesday, October 12, 2016 19:43:54

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	56724.4	3.6				ug/L	72553	Standard
|	Be	9	1.7	173.2	-0.0145	0.004	27.4	ug/L	10	Standard
|	Al	27	2501.9	3.1	0.0282	0.002	7.5	ug/L	232	Standard
|	Sc	45	21154.8	1.4				ug/L	23513	Standard
|	Ti	47	17.7	13.1	-0.1187	0.015	12.4	ug/L	36	Standard
|	V	51	1036.5	6.8	-0.0127	0.011	85.5	ug/L	1387	Standard
|	Cr	52	5707.1	0.2	-0.1393	0.016	11.2	ug/L	7813	Standard
|	Cr	53	681.7	0.4	-0.8110	0.011	1.4	ug/L	1410	Standard
|	Mn	55	973.0	1.9	-0.0410	0.004	9.2	ug/L	1043	Standard
|	Co	59	136.0	7.7	-0.0007	0.002	248.9	ug/L	198	Standard
|	Ni	60	49.7	13.4	-0.0081	0.004	48.0	ug/L	64	Standard
|	Cu	65	96.3	2.6	-0.0476	0.002	3.7	ug/L	122	Standard
|	Zn	66	194.0	2.2	-0.6020	0.007	1.1	ug/L	209	Standard
>	Ge	72	529951.0	1.5				ug/L	618040	Standard
|	As	75	-1.6	1045.4	0.0395	0.017	42.9	ug/L	11	Standard
|	Se	82	19.0	14.8	0.0754	0.034	44.9	ug/L	21	Standard
|	Se-1	77	56.3	19.1	-0.3917	0.193	49.3	ug/L	86	Standard
>	Ga	71	11.7	65.5				mg/L	13	Standard
|	Rb	85	15.0	33.3				ug/L	18	Standard
|	Y	89	400545.4	3.2				ug/L	463757	Standard
>	Rh	103	1.7	173.2				ug/L	12	Standard
|	Mo	98	169.0	9.5	0.0466	0.005	10.7	ug/L	29	Standard
|	Ag	107	98.0	4.1	0.0019	0.000	19.4	ug/L	101	Standard
|	Cd	111	9.4	24.3	0.0005	0.001	280.0	mg/L	9	Standard
|	Cd	114	42.9	37.1	0.0085	0.003	36.6	ug/L	47	Standard
>	In	115	673039.2	1.9				ug/L	765457	Standard
|	Sn	118	142.0	22.6	-0.0173	0.029	165.0	ug/L	168	Standard
|	Sb	123	369.4	45.2	0.0769	0.033	42.6	ug/L	332	Standard
|	Ba	135	33.0	24.2	-0.0104	0.003	31.6	ug/L	37	Standard
|	Ce	140	71.7	22.4				ug/L	895	Standard
>	Tb	159	1330429.4	3.9				ug/L	1511047	Standard
|	Ho	165	16.7	34.6				ug/L	22	Standard
|	Tl	203	31.7	28.5	0.0031	0.001	29.6	ug/L	14	Standard
|	Tl	205	65.0	48.0	-0.0000	0.001	3253.4	ug/L	27	Standard
|	Pb	206	466.3	6.5	-0.0131	0.003	26.4	ug/L	557	Standard
|	Pb	207	387.0	2.0	-0.0124	0.001	11.3	ug/L	432	Standard
|	Pb	208	1824.4	3.7	-0.0129	0.002	12.7	ug/L	2118	Standard
	U	238	67.3	30.5	0.0028	0.001	27.0	ug/L	78	Standard
>	Bi	209	672283.2	1.1				ug/L	791817	Standard

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Na	23	3.3	86.6	0.6021	0.918	152.5	mg/L	5	Standard
Mg	24	55.0	9.1	0.0396	0.012	30.4	mg/L	48	Standard
K	39	1.7	173.2	-0.0153	0.048	311.0	mg/L	3	Standard
Ca	43	48.3	26.0	0.7941	5.325	670.6	mg/L	62	Standard
Fe	54	106.1	9.7	-0.0022	0.013	577.1	mg/L	139	Standard
Fe	57	138.3	19.9	0.0802	0.106	132.1	mg/L	83	Standard
Sc-1	45	21154.8	1.4				mg/L	23513	Standard
Cl	35	3.3	34.6				ug/L	3	Standard
Kr	83	2.3	24.7				ug/L	2	Standard
Br	81	963.4	16.9				ug/L	910	Standard
P	31	70.0	25.8				ug/L	85	Standard
S	34	46.7	6.2				ug/L	48	Standard
Sr	88	110.0	38.8				ug/L	72	Standard
C	12	193.3	7.9				mg/L	227	Standard
N	14	6.7	173.2				mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	7	Standard
Dy	164	8.9	110.2				mg/L	22	Standard
Ho-1	165	16.7	34.6				mg/L	22	Standard
Er	166	23.3	65.5				mg/L	23	Standard
I	127	6616.4	4.2				mg/L	4241	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		85.747	
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	87.926
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	84.904
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 7

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610038920

Sample Date/Time: Wednesday, October 12, 2016 19:46:54

Number of Replicates: 3

Autosampler Position: 225

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	53813.7	1.1				ug/L	72553	Standard
|	Be	9	1416.7	5.1	2.0955	0.108	5.1	ug/L	10	Standard
|	Al	27	59198199.4	0.9	789.1037	1.992	0.3	ug/L	232	Standard
|	Sc	45	26583.3	3.0				ug/L	23513	Standard
|	Ti	47	44158.3	2.0	338.3472	5.370	1.6	ug/L	36	Standard
|	V	51	4454415.0	1.6	959.8961	13.120	1.4	ug/L	1387	Standard
|	Cr	52	1708147.0	2.3	389.6364	5.855	1.5	ug/L	7813	Standard
|	Cr	53	220989.2	3.0	391.3611	8.536	2.2	ug/L	1410	Standard
|	Mn	55	1954074.7	3.9	262.7757	8.170	3.1	ug/L	1043	Standard
|	Co	59	23654.8	3.2	3.5639	0.112	3.1	ug/L	198	Standard
|	Ni	60	285123.4	2.4	197.8892	3.970	2.0	ug/L	64	Standard
|	Cu	65	119146.3	0.6	80.2179	0.290	0.4	ug/L	122	Standard
|	Zn	66	1319890.5	0.5	1670.5109	15.125	0.9	ug/L	209	Standard
>	Ge	72	460786.5	0.9				ug/L	618040	Standard
|	As	75	14099.8	0.5	16.8140	0.188	1.1	ug/L	11	Standard
|	Se	82	1048.8	3.4	13.1990	0.409	3.1	ug/L	21	Standard
|	Se-1	77	766.0	5.5	13.4303	0.873	6.5	ug/L	86	Standard
>	Ga	71	18157.5	0.9				mg/L	13	Standard
|	Rb	85	146986.4	2.1				ug/L	18	Standard
|	Y	89	2399607.6	0.8				ug/L	463757	Standard
>	Rh	103	358.3	1.6				ug/L	12	Standard
|	Mo	98	180884.4	1.5	62.1090	1.238	2.0	ug/L	29	Standard
|	Ag	107	15777.9	0.5	3.0081	0.042	1.4	ug/L	101	Standard
|	Cd	111	159854.4	1.3	95.6709	0.688	0.7	mg/L	9	Standard
|	Cd	114	396301.6	2.4	90.7159	1.509	1.7	ug/L	47	Standard
>	In	115	603807.9	1.7				ug/L	765457	Standard
|	Sn	118	878.0	4.1	0.7603	0.023	3.0	ug/L	168	Standard
|	Sb	123	18111.0	2.4	4.0272	0.069	1.7	ug/L	332	Standard
|	Ba	135	249457.9	0.8	119.1309	1.094	0.9	ug/L	37	Standard
|	Ce	140	1233718.9	0.5				ug/L	895	Standard
>	Tb	159	1216853.7	0.6				ug/L	1511047	Standard
|	Ho	165	106511.4	1.0				ug/L	22	Standard
|	Tl	203	13486.7	0.8	1.7024	0.021	1.3	ug/L	14	Standard
|	Tl	205	30779.6	2.4	1.6819	0.041	2.5	ug/L	27	Standard
|	Pb	206	171974.9	1.4	28.6081	0.383	1.3	ug/L	557	Standard
|	Pb	207	60458.7	0.3	11.3754	0.241	2.1	ug/L	432	Standard
|	Pb	208	369561.4	0.9	15.3701	0.208	1.4	ug/L	2118	Standard
	U	238	2341759.6	0.6	107.9300	1.502	1.4	ug/L	78	Standard
>	Bi	209	552586.3	1.8				ug/L	791817	Standard

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Brink Z...

Na	23	1190.0	10.5	300.7041	23.104	7.7	mg/L	5	Standard
Mg	24	2781.9	2.6	4.7472	0.129	2.7	mg/L	48	Standard
K	39	128.3	16.2	1.6384	0.298	18.2	mg/L	3	Standard
Ca	43	1405.1	1.8	432.9257	18.007	4.2	mg/L	62	Standard
Fe	54	8502.7	2.8	7.2881	0.332	4.6	mg/L	139	Standard
Fe	57	3605.4	1.6	10.7292	0.360	3.4	mg/L	83	Standard
Sc-1	45	26583.3	3.0				mg/L	23513	Standard
Cl	35	2.0	0.0				ug/L	3	Standard
Kr	83	2.7	57.3				ug/L	2	Standard
Br	81	2140.2	6.3				ug/L	910	Standard
P	31	85.0	23.5				ug/L	85	Standard
S	34	30.0	28.9				ug/L	48	Standard
Sr	88	738.4	3.7				ug/L	72	Standard
C	12	623.3	9.4				mg/L	227	Standard
N	14	6.7	86.6				mg/L	0	Standard
Hg	202	610.0	18.9				mg/L	7	Standard
Dy	164	125701.6	2.4				mg/L	22	Standard
Ho-1	165	106511.4	1.0				mg/L	22	Standard
Er	166	110904.5	1.6				mg/L	23	Standard
I	127	46135.3	6.2				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		74.171	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		74.556	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	78.882
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	69.787
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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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Cr 52 Upper, S, EEE	Cr	52
Cr 53 Upper, S, EEE	Cr	53
Mn 55 Upper, S, EEE	Mn	55
Ni 60 Upper, S, EEE	Ni	60
Zn 66 Upper, S, EEE	Zn	66
Ba 135 Upper, S, EEE	Ba	135
U 238 Upper, S, EEE	U	238

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610038922

Sample Date/Time: Wednesday, October 12, 2016 19:49:54

Number of Replicates: 3

Autosampler Position: 226

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	51653.1	6.3				ug/L	72553	Standard
|	Be	9	748.4	10.8	1.1537	0.192	16.7	ug/L	10	Standard
|	Al	27	112493622.8	2.7	1564.6855	61.744	3.9	ug/L	232	Standard
|	Sc	45	23872.1	1.1				ug/L	23513	Standard
|	Ti	47	12362.7	1.1	93.4876	1.373	1.5	ug/L	36	Standard
|	V	51	4231979.6	0.9	901.6656	13.395	1.5	ug/L	1387	Standard
|	Cr	52	927422.2	1.3	208.5955	4.042	1.9	ug/L	7813	Standard
|	Cr	53	116474.5	2.4	203.0906	6.166	3.0	ug/L	1410	Standard
|	Mn	55	2884401.6	0.3	383.6276	3.287	0.9	ug/L	1043	Standard
|	Co	59	35606.1	1.5	5.3130	0.096	1.8	ug/L	198	Standard
|	Ni	60	857129.7	0.5	588.2490	3.412	0.6	ug/L	64	Standard
|	Cu	65	101952.6	1.0	67.8493	0.883	1.3	ug/L	122	Standard
|	Zn	66	4421676.2	0.4	5534.5507	15.239	0.3	ug/L	209	Standard
>	Ge	72	466065.8	0.6				ug/L	618040	Standard
|	As	75	29167.1	1.4	34.3423	0.367	1.1	ug/L	11	Standard
|	Se	82	1002.8	0.7	12.4697	0.023	0.2	ug/L	21	Standard
|	Se-1	77	738.7	3.1	12.7383	0.389	3.1	ug/L	86	Standard
>	Ga	71	10903.9	1.9				mg/L	13	Standard
|	Rb	85	66654.7	2.9				ug/L	18	Standard
|	Y	89	1393200.0	1.5				ug/L	463757	Standard
>	Rh	103	131.7	22.9				ug/L	12	Standard
|	Mo	98	186865.0	1.6	64.6436	1.047	1.6	ug/L	29	Standard
|	Ag	107	4133.2	1.5	0.7829	0.006	0.8	ug/L	101	Standard
|	Cd	111	298887.7	1.1	180.2364	0.662	0.4	mg/L	9	Standard
|	Cd	114	755799.2	1.1	174.3257	0.724	0.4	ug/L	47	Standard
>	In	115	599238.7	0.8				ug/L	765457	Standard
|	Sn	118	554.0	1.4	0.4293	0.013	2.9	ug/L	168	Standard
|	Sb	123	9582.5	0.7	2.1488	0.028	1.3	ug/L	332	Standard
|	Ba	135	135590.0	1.1	65.2271	0.206	0.3	ug/L	37	Standard
|	Ce	140	987904.5	2.2				ug/L	895	Standard
>	Tb	159	1237677.9	0.4				ug/L	1511047	Standard
|	Ho	165	69030.2	0.5				ug/L	22	Standard
|	Tl	203	15976.4	1.4	1.9844	0.032	1.6	ug/L	14	Standard
|	Tl	205	36955.0	1.5	1.9874	0.023	1.2	ug/L	27	Standard
|	Pb	206	114627.7	1.6	18.7368	0.373	2.0	ug/L	557	Standard
|	Pb	207	61114.4	1.3	11.3128	0.198	1.8	ug/L	432	Standard
|	Pb	208	321419.1	0.8	13.1425	0.169	1.3	ug/L	2118	Standard
	U	238	920247.4	0.8	41.7319	0.442	1.1	ug/L	78	Standard
>	Bi	209	561535.1	0.5				ug/L	791817	Standard

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Na	23	948.4	5.3	267.2679	15.861	5.9	mg/L	5	Standard
Mg	24	923.4	5.3	1.7028	0.075	4.4	mg/L	48	Standard
K	39	66.7	21.7	0.9289	0.216	23.2	mg/L	3	Standard
Ca	43	1063.4	8.3	361.6630	31.707	8.8	mg/L	62	Standard
Fe	54	10056.6	1.0	9.6298	0.022	0.2	mg/L	139	Standard
Fe	57	4045.5	2.8	13.5166	0.544	4.0	mg/L	83	Standard
Sc-1	45	23872.1	1.1				mg/L	23513	Standard
Cl	35	0.7	173.2				ug/L	3	Standard
Kr	83	3.7	68.6				ug/L	2	Standard
Br	81	1363.4	11.7				ug/L	910	Standard
P	31	58.3	55.8				ug/L	85	Standard
S	34	33.3	74.0				ug/L	48	Standard
Sr	88	363.3	14.1				ug/L	72	Standard
C	12	783.4	22.6				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	643.3	10.1				mg/L	7	Standard
Dy	164	87827.5	0.4				mg/L	22	Standard
Ho-1	165	69030.2	0.5				mg/L	22	Standard
Er	166	70061.6	0.9				mg/L	23	Standard
I	127	16936.1	2.3				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		71.193	
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		75.410	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	78.285
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	70.917
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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	
V 51 Upper, S, EEE	V	51	
Cr 52 Upper, S, EEE	Cr	52	

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Cr 53 Upper, S, EEE	Cr	53
Mn 55 Upper, S, EEE	Mn	55
Ni 60 Upper, S, EEE	Ni	60
Zn 66 Upper, S, EEE	Zn	66
Cd 111 Upper, S, EEE	Cd	111
Cd 114 Upper, S, EEE	Cd	114

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Method 6020 - Summary Report

Sample ID: L1610038924

Sample Date/Time: Wednesday, October 12, 2016 19:52:53

Number of Replicates: 3

Autosampler Position: 227

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	50171.4	4.4				ug/L	72553	Standard
|	Be	9	226.7	8.4	0.3469	0.045	12.9	ug/L	10	Standard
|	Al	27	162103792.4	1.7	2321.2209	126.846	5.5	ug/L	232	Standard
|	Sc	45	22234.6	1.4				ug/L	23513	Standard
|	Ti	47	4369.6	2.9	31.8116	0.933	2.9	ug/L	36	Standard
|	V	51	341957.0	0.2	70.2932	0.387	0.6	ug/L	1387	Standard
|	Cr	52	376041.6	0.2	81.0478	0.548	0.7	ug/L	7813	Standard
|	Cr	53	46778.8	2.1	77.7614	1.602	2.1	ug/L	1410	Standard
|	Mn	55	4340702.2	0.9	558.5956	5.884	1.1	ug/L	1043	Standard
|	Co	59	35753.8	2.9	5.1613	0.178	3.5	ug/L	198	Standard
|	Ni	60	162605.3	1.4	107.9398	2.109	2.0	ug/L	64	Standard
|	Cu	65	22003.0	0.2	14.0839	0.089	0.6	ug/L	122	Standard
|	Zn	66	596684.0	1.0	721.8317	3.889	0.5	ug/L	209	Standard
>	Ge	72	481740.4	0.5				ug/L	618040	Standard
|	As	75	9759.9	2.1	11.1464	0.279	2.5	ug/L	11	Standard
|	Se	82	342.4	3.0	4.0294	0.118	2.9	ug/L	21	Standard
|	Se-1	77	263.7	7.7	3.5237	0.380	10.8	ug/L	86	Standard
>	Ga	71	4068.9	1.3				mg/L	13	Standard
|	Rb	85	29087.9	1.7				ug/L	18	Standard
|	Y	89	809294.7	1.1				ug/L	463757	Standard
>	Rh	103	93.3	17.2				ug/L	12	Standard
|	Mo	98	45539.9	1.3	16.0802	0.303	1.9	ug/L	29	Standard
|	Ag	107	794.7	7.0	0.1419	0.016	11.0	ug/L	101	Standard
|	Cd	111	41629.2	1.6	25.6253	0.412	1.6	mg/L	9	Standard
|	Cd	114	106529.5	3.1	25.0792	0.360	1.4	ug/L	47	Standard
>	In	115	587141.9	3.1				ug/L	765457	Standard
|	Sn	118	148.0	14.2	0.0088	0.024	271.4	ug/L	168	Standard
|	Sb	123	863.9	4.5	0.2011	0.014	6.8	ug/L	332	Standard
|	Ba	135	161575.1	1.6	79.3681	1.836	2.3	ug/L	37	Standard
|	Ce	140	439833.3	1.3				ug/L	895	Standard
>	Tb	159	1212843.6	1.4				ug/L	1511047	Standard
|	Ho	165	27838.9	1.0				ug/L	22	Standard
|	Tl	203	8696.2	1.7	1.1122	0.006	0.6	ug/L	14	Standard
|	Tl	205	19622.7	1.2	1.0856	0.023	2.2	ug/L	27	Standard
|	Pb	206	31479.3	1.1	5.2438	0.062	1.2	ug/L	557	Standard
|	Pb	207	15877.6	1.1	2.9737	0.050	1.7	ug/L	432	Standard
|	Pb	208	85657.0	0.9	3.5523	0.048	1.4	ug/L	2118	Standard
	U	238	158786.5	1.3	7.4159	0.087	1.2	ug/L	78	Standard
>	Bi	209	545327.8	2.2				ug/L	791817	Standard

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Na	23	975.0	3.1	295.0456	10.903	3.7	mg/L	5	Standard
Mg	24	320.0	14.9	0.5836	0.102	17.5	mg/L	48	Standard
K	39	30.0	33.3	0.4273	0.160	37.5	mg/L	3	Standard
Ca	43	1266.7	9.1	467.5857	41.478	8.9	mg/L	62	Standard
Fe	54	4396.5	0.8	4.4575	0.068	1.5	mg/L	139	Standard
Fe	57	2690.2	0.2	9.5174	0.117	1.2	mg/L	83	Standard
Sc-1	45	22234.6	1.4				mg/L	23513	Standard
Cl	35	2.0	100.0				ug/L	3	Standard
Kr	83	3.3	75.5				ug/L	2	Standard
Br	81	1133.4	7.1				ug/L	910	Standard
P	31	66.7	37.0				ug/L	85	Standard
S	34	36.7	67.3				ug/L	48	Standard
Sr	88	283.3	15.9				ug/L	72	Standard
C	12	780.0	5.1				mg/L	227	Standard
N	14	10.0	100.0				mg/L	0	Standard
Hg	202	113.3	22.2				mg/L	7	Standard
Dy	164	37233.5	2.3				mg/L	22	Standard
Ho-1	165	27838.9	1.0				mg/L	22	Standard
Er	166	28159.5	2.2				mg/L	23	Standard
I	127	13028.9	0.6				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		69.151	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		77.946	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	76.705
[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	68.870
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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	
Ni 60 Upper, S, EEE	Ni	60	

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Method 6020 - Summary Report

Sample ID: L1610038926

Sample Date/Time: Wednesday, October 12, 2016 19:55:53

Number of Replicates: 3

Autosampler Position: 228

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	47616.5	4.2				ug/L	72553	Standard
|	Be	9	333.3	2.3	0.5452	0.011	2.1	ug/L	10	Standard
|	Al	27	141132799.2	1.8	2127.7277	60.711	2.9	ug/L	232	Standard
|	Sc	45	22389.9	2.7				ug/L	23513	Standard
|	Ti	47	6045.5	2.0	45.5832	1.303	2.9	ug/L	36	Standard
|	V	51	700788.1	1.2	149.0804	2.532	1.7	ug/L	1387	Standard
|	Cr	52	442326.9	1.8	98.7695	1.042	1.1	ug/L	7813	Standard
|	Cr	53	56774.5	2.1	98.0018	2.867	2.9	ug/L	1410	Standard
|	Mn	55	5066139.3	2.0	673.6027	10.210	1.5	ug/L	1043	Standard
|	Co	59	25309.5	2.2	3.7693	0.059	1.6	ug/L	198	Standard
|	Ni	60	347068.7	1.6	238.0607	1.061	0.4	ug/L	64	Standard
|	Cu	65	33478.6	3.0	22.1971	0.431	1.9	ug/L	122	Standard
|	Zn	66	1549796.5	1.9	1938.4021	14.412	0.7	ug/L	209	Standard
>	Ge	72	466262.2	1.2				ug/L	618040	Standard
|	As	75	14658.7	1.7	17.2723	0.084	0.5	ug/L	11	Standard
|	Se	82	375.9	1.8	4.5882	0.095	2.1	ug/L	21	Standard
|	Se-1	77	286.0	9.6	4.1069	0.461	11.2	ug/L	86	Standard
>	Ga	71	4792.4	6.1				mg/L	13	Standard
|	Rb	85	31823.4	1.3				ug/L	18	Standard
|	Y	89	923883.8	2.4				ug/L	463757	Standard
>	Rh	103	118.3	19.1				ug/L	12	Standard
|	Mo	98	89931.7	0.4	34.4430	0.696	2.0	ug/L	29	Standard
|	Ag	107	1628.1	1.0	0.3330	0.006	1.8	ug/L	101	Standard
|	Cd	111	130658.4	1.9	87.2155	0.580	0.7	mg/L	9	Standard
|	Cd	114	326953.2	5.3	83.4376	2.754	3.3	ug/L	47	Standard
>	In	115	541382.7	2.3				ug/L	765457	Standard
|	Sn	118	249.0	4.7	0.1387	0.015	10.5	ug/L	168	Standard
|	Sb	123	2717.4	3.3	0.6769	0.018	2.7	ug/L	332	Standard
|	Ba	135	238878.2	1.2	127.2435	1.461	1.1	ug/L	37	Standard
|	Ce	140	476611.4	1.6				ug/L	895	Standard
>	Tb	159	1144785.1	3.1				ug/L	1511047	Standard
|	Ho	165	35735.4	0.9				ug/L	22	Standard
|	Tl	203	9982.0	2.4	1.3153	0.009	0.7	ug/L	14	Standard
|	Tl	205	22630.2	0.8	1.2905	0.016	1.3	ug/L	27	Standard
|	Pb	206	42694.4	1.4	7.3583	0.056	0.8	ug/L	557	Standard
|	Pb	207	20922.8	1.8	4.0630	0.033	0.8	ug/L	432	Standard
|	Pb	208	113125.6	1.4	4.8607	0.033	0.7	ug/L	2118	Standard
	U	238	345434.4	1.3	16.6221	0.124	0.7	ug/L	78	Standard
>	Bi	209	529247.5	2.1				ug/L	791817	Standard

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Na	23	893.4	9.5	268.0785	19.017	7.1	mg/L	5	Standard
Mg	24	396.7	10.6	0.7357	0.068	9.2	mg/L	48	Standard
K	39	23.3	32.7	0.3175	0.110	34.6	mg/L	3	Standard
Ca	43	1383.4	5.2	508.6728	16.134	3.2	mg/L	62	Standard
Fe	54	6021.1	1.4	6.1089	0.255	4.2	mg/L	139	Standard
Fe	57	3152.0	1.6	11.1498	0.129	1.2	mg/L	83	Standard
Sc-1	45	22389.9	2.7				mg/L	23513	Standard
Cl	35	1.3	173.2				ug/L	3	Standard
Kr	83	3.0	88.2				ug/L	2	Standard
Br	81	1213.4	8.5				ug/L	910	Standard
P	31	58.3	47.2				ug/L	85	Standard
S	34	18.3	41.7				ug/L	48	Standard
Sr	88	273.3	12.2				ug/L	72	Standard
C	12	816.7	15.5				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	126.7	12.1				mg/L	7	Standard
Dy	164	45145.4	0.9				mg/L	22	Standard
Ho-1	165	35735.4	0.9				mg/L	22	Standard
Er	166	35214.2	1.3				mg/L	23	Standard
I	127	14875.6	1.9				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		65.630	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		75.442	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1610038926

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	70.727
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	66.840
[	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
Al 27 Upper, S, EEE	Al	27	
V 51 Upper, S, EEE	V	51	
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1610038926

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Ni 60 Upper, S, EEE	Ni	60
Zn 66 Upper, S, EEE	Zn	66
Ba 135 Upper, S, EEE	Ba	135

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Method 6020 - Summary Report

Sample ID: L1610038928

Sample Date/Time: Wednesday, October 12, 2016 19:58:53

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: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	47561.2	1.7				ug/L	72553	Standard
|	Be	9	251.7	10.0	0.4074	0.036	8.9	ug/L	10	Standard
|	Al	27	145800221.0	3.5	2198.6989	52.730	2.4	ug/L	232	Standard
|	Sc	45	23002.5	3.6				ug/L	23513	Standard
|	Ti	47	4966.5	2.3	37.6412	0.632	1.7	ug/L	36	Standard
|	V	51	298332.0	1.6	63.7541	0.745	1.2	ug/L	1387	Standard
|	Cr	52	346593.8	1.7	77.6312	1.269	1.6	ug/L	7813	Standard
|	Cr	53	44505.3	0.7	76.9215	0.863	1.1	ug/L	1410	Standard
|	Mn	55	4636803.9	1.6	620.5409	8.840	1.4	ug/L	1043	Standard
|	Co	59	31445.9	1.2	4.7185	0.024	0.5	ug/L	198	Standard
|	Ni	60	185607.3	0.9	128.1295	0.563	0.4	ug/L	64	Standard
|	Cu	65	31745.9	1.5	21.1834	0.242	1.1	ug/L	122	Standard
|	Zn	66	817626.5	1.1	1029.0389	13.864	1.3	ug/L	209	Standard
>	Ge	72	463232.2	0.7				ug/L	618040	Standard
|	As	75	7520.6	1.9	8.9393	0.119	1.3	ug/L	11	Standard
|	Se	82	248.6	3.9	3.0086	0.124	4.1	ug/L	21	Standard
|	Se-1	77	204.0	5.1	2.5730	0.178	6.9	ug/L	86	Standard
>	Ga	71	4010.5	1.6				mg/L	13	Standard
|	Rb	85	26236.0	0.4				ug/L	18	Standard
|	Y	89	997688.8	2.0				ug/L	463757	Standard
>	Rh	103	88.3	26.7				ug/L	12	Standard
|	Mo	98	35797.3	1.6	13.8358	0.183	1.3	ug/L	29	Standard
|	Ag	107	851.0	5.5	0.1687	0.011	6.7	ug/L	101	Standard
|	Cd	111	47512.0	1.3	32.0240	0.812	2.5	mg/L	9	Standard
|	Cd	114	120399.4	3.3	31.0362	0.931	3.0	ug/L	47	Standard
>	In	115	536181.9	1.4				ug/L	765457	Standard
|	Sn	118	280.0	5.0	0.1778	0.021	11.6	ug/L	168	Standard
|	Sb	123	964.1	5.5	0.2447	0.011	4.6	ug/L	332	Standard
|	Ba	135	190276.7	0.8	102.3239	1.166	1.1	ug/L	37	Standard
|	Ce	140	525359.0	1.4				ug/L	895	Standard
>	Tb	159	1162844.2	0.9				ug/L	1511047	Standard
|	Ho	165	39195.6	0.6				ug/L	22	Standard
|	Tl	203	12120.5	0.6	1.6231	0.018	1.1	ug/L	14	Standard
|	Tl	205	28324.8	2.3	1.6421	0.049	3.0	ug/L	27	Standard
|	Pb	206	26515.2	1.5	4.6153	0.103	2.2	ug/L	557	Standard
|	Pb	207	12658.3	0.7	2.4700	0.034	1.4	ug/L	432	Standard
|	Pb	208	69152.8	1.2	2.9908	0.057	1.9	ug/L	2118	Standard
	U	238	215154.9	0.7	10.5203	0.143	1.4	ug/L	78	Standard
>	Bi	209	520821.5	0.8				ug/L	791817	Standard

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Brink Z...

Na	23	855.0	4.7	250.4409	20.310	8.1	mg/L	5	Standard
Mg	24	286.7	12.6	0.4931	0.053	10.8	mg/L	48	Standard
K	39	28.3	20.4	0.3879	0.105	27.0	mg/L	3	Standard
Ca	43	1236.7	15.1	441.0642	73.134	16.6	mg/L	62	Standard
Fe	54	3256.2	3.4	3.1626	0.229	7.2	mg/L	139	Standard
Fe	57	2215.2	1.9	7.4911	0.439	5.9	mg/L	83	Standard
Sc-1	45	23002.5	3.6				mg/L	23513	Standard
Cl	35	2.0	100.0				ug/L	3	Standard
Kr	83	3.3	17.3				ug/L	2	Standard
Br	81	1076.7	12.6				ug/L	910	Standard
P	31	65.0	26.6				ug/L	85	Standard
S	34	41.7	13.9				ug/L	48	Standard
Sr	88	250.0	17.1				ug/L	72	Standard
C	12	673.3	18.8				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	140.0	31.1				mg/L	7	Standard
Dy	164	49057.3	2.5				mg/L	22	Standard
Ho-1	165	39195.6	0.6				mg/L	22	Standard
Er	166	38231.6	4.1				mg/L	23	Standard
I	127	10085.0	1.5				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		65.553	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		74.952	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	70.047
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	65.775
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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	
Ni 60 Upper, S, EEE	Ni	60	

Sample ID: L1610038928

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Bank Zinn

Zn 66 Upper, S, EEE	Zn	66
Ba 135 Upper, S, EEE	Ba	135

Sample ID: L1610038928

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Bank Zuo

Method 6020 - Summary Report

Sample ID: L1610038930

Sample Date/Time: Wednesday, October 12, 2016 20:01:52

Number of Replicates: 3

Autosampler Position: 230

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	45168.9	3.3				ug/L	72553	Standard
|	Be	9	231.7	23.1	0.3946	0.092	23.2	ug/L	10	Standard
|	Al	27	102980008.1	2.0	1635.8776	21.857	1.3	ug/L	232	Standard
|	Sc	45	22785.5	4.0				ug/L	23513	Standard
|	Ti	47	5685.1	3.9	43.2068	1.290	3.0	ug/L	36	Standard
|	V	51	515298.0	2.9	110.4924	2.380	2.2	ug/L	1387	Standard
|	Cr	52	313709.9	2.3	70.2953	1.672	2.4	ug/L	7813	Standard
|	Cr	53	39698.6	3.5	68.5478	1.984	2.9	ug/L	1410	Standard
|	Mn	55	5997299.6	2.4	804.2715	12.788	1.6	ug/L	1043	Standard
|	Co	59	35626.5	2.3	5.3591	0.069	1.3	ug/L	198	Standard
|	Ni	60	780738.4	2.8	540.1079	6.811	1.3	ug/L	64	Standard
|	Cu	65	27696.3	3.4	18.5024	0.341	1.8	ug/L	122	Standard
|	Zn	66	3925572.9	2.7	4953.0107	61.700	1.2	ug/L	209	Standard
>	Ge	72	462304.3	1.8				ug/L	618040	Standard
|	As	75	15090.0	2.6	17.9303	0.188	1.1	ug/L	11	Standard
|	Se	82	354.6	4.0	4.3577	0.132	3.0	ug/L	21	Standard
|	Se-1	77	255.7	5.5	3.5759	0.302	8.4	ug/L	86	Standard
>	Ga	71	6938.3	4.7				mg/L	13	Standard
|	Rb	85	24372.9	1.2				ug/L	18	Standard
|	Y	89	936881.8	3.4				ug/L	463757	Standard
>	Rh	103	108.3	19.2				ug/L	12	Standard
|	Mo	98	76498.7	2.2	30.3923	0.434	1.4	ug/L	29	Standard
|	Ag	107	884.4	0.7	0.1811	0.002	1.0	ug/L	101	Standard
|	Cd	111	214691.2	2.1	148.6983	1.736	1.2	mg/L	9	Standard
|	Cd	114	543039.9	4.2	143.8400	4.518	3.1	ug/L	47	Standard
>	In	115	521695.2	1.1				ug/L	765457	Standard
|	Sn	118	365.3	2.7	0.2890	0.013	4.6	ug/L	168	Standard
|	Sb	123	1547.3	4.9	0.4013	0.016	3.9	ug/L	332	Standard
|	Ba	135	288349.9	2.3	159.3582	2.316	1.5	ug/L	37	Standard
|	Ce	140	468362.2	2.7				ug/L	895	Standard
>	Tb	159	1143012.4	3.0				ug/L	1511047	Standard
|	Ho	165	35027.1	2.2				ug/L	22	Standard
|	Tl	203	10333.9	1.5	1.3986	0.015	1.1	ug/L	14	Standard
|	Tl	205	24683.4	2.2	1.4458	0.031	2.2	ug/L	27	Standard
|	Pb	206	34748.5	2.0	6.1378	0.121	2.0	ug/L	557	Standard
|	Pb	207	14797.9	2.8	2.9314	0.083	2.8	ug/L	432	Standard
|	Pb	208	84029.6	2.1	3.6900	0.068	1.9	ug/L	2118	Standard
	U	238	312189.3	2.0	15.4275	0.296	1.9	ug/L	78	Standard
>	Bi	209	515298.0	0.7				ug/L	791817	Standard

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Brink Z...

Na	23	856.7	7.5	252.6316	9.891	3.9	mg/L	5	Standard
Mg	24	268.3	22.5	0.4655	0.139	29.8	mg/L	48	Standard
K	39	33.3	31.2	0.4705	0.183	38.8	mg/L	3	Standard
Ca	43	1330.1	6.1	479.6892	21.264	4.4	mg/L	62	Standard
Fe	54	5291.0	2.2	5.2574	0.098	1.9	mg/L	139	Standard
Fe	57	2743.6	11.9	9.4547	0.910	9.6	mg/L	83	Standard
Sc-1	45	22785.5	4.0				mg/L	23513	Standard
Cl	35	0.7	173.2				ug/L	3	Standard
Kr	83	2.3	49.5				ug/L	2	Standard
Br	81	1126.7	12.1				ug/L	910	Standard
P	31	55.0	47.2				ug/L	85	Standard
S	34	38.3	19.9				ug/L	48	Standard
Sr	88	270.0	25.5				ug/L	72	Standard
C	12	633.3	10.3				mg/L	227	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	320.0	21.9				mg/L	7	Standard
Dy	164	44768.7	6.1				mg/L	22	Standard
Ho-1	165	35027.1	2.2				mg/L	22	Standard
Er	166	34008.1	2.3				mg/L	23	Standard
I	127	12199.9	1.9				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		62.256	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		74.802	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	68.155
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	65.078
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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	
V 51 Upper, S, EEE	V	51	
Mn 55 Upper, S, EEE	Mn	55	

Sample ID: L1610038930

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Bank Z...

Ni 60 Upper, S, EEE	Ni	60
Zn 66 Upper, S, EEE	Zn	66
Cd 111 Upper, S, EEE	Cd	111
Cd 114 Upper, S, EEE	Cd	114
Ba 135 Upper, S, EEE	Ba	135

Sample ID: L1610038930

Report Date/Time: Wednesday, October 12, 2016 20:03:57

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Bank Zuo

Method 6020 - Summary Report

Sample ID: L1610038932

Sample Date/Time: Wednesday, October 12, 2016 20:04:52

Number of Replicates: 3

Autosampler Position: 231

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	46777.2	3.9				ug/L	72553	Standard
|	Be	9	200.0	30.3	0.3271	0.109	33.4	ug/L	10	Standard
|	Al	27	101848180.9	2.9	1562.2313	16.245	1.0	ug/L	232	Standard
|	Sc	45	23192.7	2.2				ug/L	23513	Standard
|	Ti	47	4783.1	9.5	35.1559	3.504	10.0	ug/L	36	Standard
|	V	51	400075.5	1.3	82.9946	1.766	2.1	ug/L	1387	Standard
|	Cr	52	294017.1	1.5	63.6528	1.511	2.4	ug/L	7813	Standard
|	Cr	53	37691.8	2.7	62.8583	2.235	3.6	ug/L	1410	Standard
|	Mn	55	4865969.5	1.2	631.6625	12.428	2.0	ug/L	1043	Standard
|	Co	59	30979.6	0.5	4.5081	0.060	1.3	ug/L	198	Standard
|	Ni	60	565655.8	0.8	378.8203	4.961	1.3	ug/L	64	Standard
|	Cu	65	22784.1	0.9	14.7145	0.161	1.1	ug/L	122	Standard
|	Zn	66	2760506.6	0.0	3371.4849	28.073	0.8	ug/L	209	Standard
>	Ge	72	477622.6	0.8				ug/L	618040	Standard
|	As	75	16607.5	1.4	19.1019	0.426	2.2	ug/L	11	Standard
|	Se	82	386.7	5.3	4.6101	0.286	6.2	ug/L	21	Standard
|	Se-1	77	306.0	6.8	4.3513	0.356	8.2	ug/L	86	Standard
>	Ga	71	4599.0	1.7				mg/L	13	Standard
|	Rb	85	23785.3	3.4				ug/L	18	Standard
|	Y	89	954241.5	3.7				ug/L	463757	Standard
>	Rh	103	81.7	24.7				ug/L	12	Standard
|	Mo	98	114267.8	0.2	44.1771	0.741	1.7	ug/L	29	Standard
|	Ag	107	757.7	1.5	0.1485	0.005	3.5	ug/L	101	Standard
|	Cd	111	95640.5	1.3	64.4499	0.835	1.3	mg/L	9	Standard
|	Cd	114	235326.8	2.0	60.6794	2.279	3.8	ug/L	47	Standard
>	In	115	536274.6	1.8				ug/L	765457	Standard
|	Sn	118	206.7	12.0	0.0918	0.025	27.6	ug/L	168	Standard
|	Sb	123	1216.9	3.0	0.3081	0.014	4.5	ug/L	332	Standard
|	Ba	135	196397.5	1.1	105.5991	0.983	0.9	ug/L	37	Standard
|	Ce	140	496610.4	2.4				ug/L	895	Standard
>	Tb	159	1180825.6	1.7				ug/L	1511047	Standard
|	Ho	165	37202.3	1.4				ug/L	22	Standard
|	Tl	203	9529.7	2.6	1.2405	0.038	3.1	ug/L	14	Standard
|	Tl	205	21747.3	2.1	1.2246	0.028	2.3	ug/L	27	Standard
|	Pb	206	31756.6	1.7	5.3857	0.127	2.4	ug/L	557	Standard
|	Pb	207	15136.6	1.0	2.8825	0.014	0.5	ug/L	432	Standard
|	Pb	208	83014.1	0.3	3.5023	0.031	0.9	ug/L	2118	Standard
	U	238	223347.5	0.6	10.6149	0.023	0.2	ug/L	78	Standard
>	Bi	209	535802.8	0.6				ug/L	791817	Standard

Sample ID: L1610038932

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Brank Z...

Na	23	898.4	6.4	260.3865	12.316	4.7	mg/L	5	Standard
Mg	24	250.0	11.1	0.4162	0.047	11.3	mg/L	48	Standard
K	39	30.0	16.7	0.4061	0.067	16.6	mg/L	3	Standard
Ca	43	1328.4	7.0	470.0375	24.811	5.3	mg/L	62	Standard
Fe	54	5552.7	6.2	5.4186	0.237	4.4	mg/L	139	Standard
Fe	57	2925.3	4.3	9.9396	0.374	3.8	mg/L	83	Standard
Sc-1	45	23192.7	2.2				mg/L	23513	Standard
Cl	35	1.3	86.6				ug/L	3	Standard
Kr	83	2.0	86.6				ug/L	2	Standard
Br	81	1096.7	5.6				ug/L	910	Standard
P	31	71.7	28.2				ug/L	85	Standard
S	34	46.7	16.4				ug/L	48	Standard
Sr	88	193.3	4.0				ug/L	72	Standard
C	12	526.7	9.0				mg/L	227	Standard
N	14	6.7	86.6				mg/L	0	Standard
Hg	202	133.3	8.7				mg/L	7	Standard
Dy	164	49194.6	2.7				mg/L	22	Standard
Ho-1	165	37202.3	1.4				mg/L	22	Standard
Er	166	36062.9	4.0				mg/L	23	Standard
I	127	10927.3	1.0				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		64.473	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		77.280	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1610038932

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	70.059
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	67.668
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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	
Ni 60 Upper, S, EEE	Ni	60	

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Bank Z...

Zn 66 Upper, S, EEE	Zn	66
Ba 135 Upper, S, EEE	Ba	135

Sample ID: L1610038932

Report Date/Time: Wednesday, October 12, 2016 20:06:57

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Bank Zuo

Method 6020 - Summary Report

Sample ID: QC Std 4

Sample Date/Time: Wednesday, October 12, 2016 20:07:52

Number of Replicates: 3

Autosampler Position: 203

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	43032.7	3.1				ug/L	72553	Standard
|	Be	9	3.3	86.6	-0.0107	0.005	49.5	ug/L	10	Standard
|	Al	27	3151131.0	3.6	52.5341	1.607	3.1	ug/L	232	Standard
|	Sc	45	19193.8	4.1				ug/L	23513	Standard
|	Ti	47	2112.8	4.3	15.6474	0.484	3.1	ug/L	36	Standard
|	V	51	475.2	40.0	-0.1067	0.039	37.0	ug/L	1387	Standard
|	Cr	52	4327.3	2.1	-0.3039	0.015	5.0	ug/L	7813	Standard
|	Cr	53	2340.2	6.8	2.2168	0.238	10.7	ug/L	1410	Standard
|	Mn	55	1217.4	2.4	0.0058	0.005	89.6	ug/L	1043	Standard
|	Co	59	212.3	2.0	0.0130	0.000	3.6	ug/L	198	Standard
|	Ni	60	336.3	4.9	0.1909	0.008	4.4	ug/L	64	Standard
|	Cu	65	230.7	8.1	0.0485	0.013	27.7	ug/L	122	Standard
|	Zn	66	1052.7	23.4	0.4896	0.291	59.4	ug/L	209	Standard
>	Ge	72	469851.3	1.3				ug/L	618040	Standard
|	As	75	-31.3	249.7	0.0053	0.090	1708.4	ug/L	11	Standard
|	Se	82	19.8	24.1	0.1116	0.058	51.8	ug/L	21	Standard
|	Se-1	77	249.7	1.6	3.3826	0.111	3.3	ug/L	86	Standard
>	Ga	71	33.3	34.6				mg/L	13	Standard
|	Rb	85	1845.1	1.0				ug/L	18	Standard
|	Y	89	338796.4	1.3				ug/L	463757	Standard
>	Rh	103	5.0	0.0				ug/L	12	Standard
|	Mo	98	200056.7	5.0	80.0144	5.213	6.5	ug/L	29	Standard
|	Ag	107	111.0	14.7	0.0098	0.003	34.7	ug/L	101	Standard
|	Cd	111	-21.4	30.1	-0.0195	0.004	22.7	mg/L	9	Standard
|	Cd	114	560.1	14.5	0.1489	0.020	13.7	ug/L	47	Standard
>	In	115	518648.3	1.7				ug/L	765457	Standard
|	Sn	118	58.0	20.3	-0.0790	0.015	19.1	ug/L	168	Standard
|	Sb	123	234.4	33.5	0.0640	0.020	30.7	ug/L	332	Standard
|	Ba	135	47.0	32.2	0.0017	0.009	525.9	ug/L	37	Standard
|	Ce	140	1173.4	4.3				ug/L	895	Standard
>	Tb	159	1111887.6	1.9				ug/L	1511047	Standard
|	Ho	165	10.0	50.0				ug/L	22	Standard
|	Tl	203	59.3	12.6	0.0072	0.001	12.7	ug/L	14	Standard
|	Tl	205	130.0	10.2	0.0040	0.001	18.4	ug/L	27	Standard
|	Pb	206	712.7	2.6	0.0392	0.004	9.0	ug/L	557	Standard
|	Pb	207	605.7	6.0	0.0396	0.007	17.8	ug/L	432	Standard
|	Pb	208	2849.1	3.2	0.0409	0.004	10.4	ug/L	2118	Standard
	U	238	14.3	22.4	0.0009	0.000	16.3	ug/L	78	Standard
>	Bi	209	565047.8	0.4				ug/L	791817	Standard

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Brank Z...

Na	23	23.3	75.3	7.8754	6.326	80.3	mg/L	5	Standard
Mg	24	4430.6	2.0	10.5818	0.625	5.9	mg/L	48	Standard
K	39	313.3	6.4	5.6479	0.585	10.4	mg/L	3	Standard
Ca	43	106.7	19.5	28.7659	9.746	33.9	mg/L	62	Standard
Fe	54	2834.7	2.9	3.3012	0.109	3.3	mg/L	139	Standard
Fe	57	990.0	7.6	3.7968	0.340	8.9	mg/L	83	Standard
Sc-1	45	19193.8	4.1				mg/L	23513	Standard
Cl	35	2.7	114.6				ug/L	3	Standard
Kr	83	1.0	100.0				ug/L	2	Standard
Br	81	793.4	12.6				ug/L	910	Standard
P	31	33.3	45.8				ug/L	85	Standard
S	34	35.0	49.5				ug/L	48	Standard
Sr	88	81.7	25.5				ug/L	72	Standard
C	12	196.7	25.6				mg/L	227	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	26.7	43.3				mg/L	7	Standard
Dy	164	12.5	115.3				mg/L	22	Standard
Ho-1	165	10.0	50.0				mg/L	22	Standard
Er	166	16.7	124.9				mg/L	23	Standard
I	127	4809.1	9.1				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9			
Al	27	1.051		
Sc	45			
Ti	47	15.647		
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		76.023	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: QC Std 4

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Brink Z...

[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	80.014	
[Ag	107		
[Cd	111		
[Cd	114		
>	In	115		67.757
[Sn	118		
[Sb	123		
[	Ba	135		
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203		
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208		
[	U	238		
>	Bi	209		71.361
[	Na	23	63.003	
[	Mg	24	211.635	
[	K	39	112.959	
[	Ca	43	191.773	
[	Fe	54	26.410	
[	Fe	57	30.375	
>	Sc-1	45		
[	Cl	35		
[	Kr	83		
[	Br	81		
[	P	31		
[	S	34		
[	Sr	88		
[	C	12		
[	N	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	
Ge 72 Int Std for QC Std	Ge	72	Rerun sample

Sample ID: QC Std 4

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Bank Z...

In 115 Int Std for QC Std	In	115	Rerun sample
Bi 209 Int Std for QC Std	Bi	209	Rerun sample
QC Std 4	Na	23	
QC Std 4	Mg	24	
QC Std 4	Ca	43	
QC Std 4	Fe	54	
QC Std 4	Fe	57	

Sample ID: QC Std 4

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Bank Zuo

Method 6020 - Summary Report

Sample ID: QC Std 5

Sample Date/Time: Wednesday, October 12, 2016 20:10:52

Number of Replicates: 3

Autosampler Position: 204

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	54318.9	2.5				ug/L	72553	Standard
|	Be	9	70957.5	1.3	104.8116	1.319	1.3	ug/L	10	Standard
|	Al	27	4262385.9	2.0	56.2924	0.756	1.3	ug/L	232	Standard
|	Sc	45	21790.7	3.6				ug/L	23513	Standard
|	Ti	47	17305.5	1.6	116.7994	2.438	2.1	ug/L	36	Standard
|	V	51	528669.6	2.1	100.2815	1.457	1.5	ug/L	1387	Standard
|	Cr	52	497309.8	1.2	99.1165	2.061	2.1	ug/L	7813	Standard
|	Cr	53	65799.2	1.3	101.4224	2.515	2.5	ug/L	1410	Standard
|	Mn	55	834780.8	0.5	98.9338	1.857	1.9	ug/L	1043	Standard
|	Co	59	721767.5	0.9	96.3905	1.405	1.5	ug/L	198	Standard
|	Ni	60	159412.2	0.7	97.5690	1.642	1.7	ug/L	64	Standard
|	Cu	65	163751.4	2.0	97.2514	1.725	1.8	ug/L	122	Standard
|	Zn	66	90403.6	1.7	100.1328	0.870	0.9	ug/L	209	Standard
>	Ge	72	522557.8	2.3				ug/L	618040	Standard
|	As	75	94593.1	1.2	99.2774	1.153	1.2	ug/L	11	Standard
|	Se	82	8594.1	1.0	96.2370	1.902	2.0	ug/L	21	Standard
|	Se-1	77	6105.6	1.2	102.4536	1.168	1.1	ug/L	86	Standard
>	Ga	71	105.0	25.2				mg/L	13	Standard
|	Rb	85	713.4	4.5				ug/L	18	Standard
|	Y	89	383148.5	1.9				ug/L	463757	Standard
>	Rh	103	51.7	22.3				ug/L	12	Standard
|	Mo	98	318617.7	1.5	106.9249	3.495	3.3	ug/L	29	Standard
|	Ag	107	458446.7	1.2	85.8392	3.005	3.5	ug/L	101	Standard
|	Cd	111	170618.6	1.1	99.7812	1.320	1.3	mg/L	9	Standard
|	Cd	114	434070.6	3.1	97.0696	1.087	1.1	ug/L	47	Standard
>	In	115	618018.1	2.4				ug/L	765457	Standard
|	Sn	118	189.3	6.0	0.0426	0.012	28.0	ug/L	168	Standard
|	Sb	123	468607.9	0.7	101.7548	2.203	2.2	ug/L	332	Standard
|	Ba	135	226728.3	1.4	105.7997	2.011	1.9	ug/L	37	Standard
|	Ce	140	223.3	33.7				ug/L	895	Standard
>	Tb	159	1296858.8	3.9				ug/L	1511047	Standard
|	Ho	165	31.7	55.5				ug/L	22	Standard
|	Tl	203	922594.8	1.8	99.0691	1.217	1.2	ug/L	14	Standard
|	Tl	205	2214464.8	2.5	103.1052	2.023	2.0	ug/L	27	Standard
|	Pb	206	708397.9	1.9	100.4331	1.456	1.4	ug/L	557	Standard
|	Pb	207	607187.2	1.6	97.7123	1.002	1.0	ug/L	432	Standard
|	Pb	208	2788734.9	1.3	99.0666	0.653	0.7	ug/L	2118	Standard
	U	238	2600558.4	1.1	101.9595	1.639	1.6	ug/L	78	Standard
>	Bi	209	649520.1	0.6				ug/L	791817	Standard

Sample ID: QC Std 5

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Brank Z...

Na	23	40.0	33.1	11.8416	3.831	32.4	mg/L	5	Standard
Mg	24	5679.4	2.5	11.9425	0.155	1.3	mg/L	48	Standard
K	39	365.0	9.9	5.7713	0.376	6.5	mg/L	3	Standard
Ca	43	96.7	10.8	19.0762	3.242	17.0	mg/L	62	Standard
Fe	54	11847.8	0.9	12.4740	0.467	3.7	mg/L	139	Standard
Fe	57	3573.8	4.3	13.0866	1.049	8.0	mg/L	83	Standard
Sc-1	45	21790.7	3.6				mg/L	23513	Standard
Cl	35	2.0	100.0				ug/L	3	Standard
Kr	83	2.3	89.2				ug/L	2	Standard
Br	81	986.7	7.9				ug/L	910	Standard
P	31	68.3	33.8				ug/L	85	Standard
S	34	40.0	25.0				ug/L	48	Standard
Sr	88	135.0	9.8				ug/L	72	Standard
C	12	346.7	11.7				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	43.3	53.3				mg/L	7	Standard
Dy	164	25.7	115.2				mg/L	22	Standard
Ho-1	165	31.7	55.5				mg/L	22	Standard
Er	166	20.0	100.0				mg/L	23	Standard
I	127	7336.9	27.8				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	104.812		
Al	27	1.126		
Sc	45			
Ti	47	116.799		
V	51	100.281		
Cr	52	99.117		
Cr	53			
Mn	55	98.934		
Co	59	96.390		
Ni	60	97.569		
Cu	65	97.251		
Zn	66	100.133		
Ge	72		84.551	
As	75	99.277		
Se	82	96.237		
Se-1	77			
Ga	71			

Sample ID: QC Std 5

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Brink Z...

[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	106.925	
[Ag	107	85.839	
[Cd	111	99.781	
[Cd	114		
>	In	115		80.738
[	Sn	118		
[	Sb	123	101.755	
[	Ba	135	105.800	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	99.069	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	99.067	
[	U	238	101.959	
>	Bi	209		82.029
[	Na	23	94.733	
[	Mg	24	238.850	
[	K	39	115.425	
[	Ca	43	127.175	
[	Fe	54	99.792	
[	Fe	57	104.692	
>	Sc-1	45		
[	Cl	35		
[	Kr	83		
[	Br	81		
[	P	31		
[	S	34		
[	Sr	88		
[	C	12		
[	N	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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Brink Z...

Sample ID: QC Std 5

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Bank Z...

Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Wednesday, October 12, 2016 20:13:53

Number of Replicates: 3

Autosampler Position: 101

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	48741.7	3.2				ug/L	72553	Standard
|	Be	9	31586.3	4.5	51.9708	1.416	2.7	ug/L	10	Standard
|	Al	27	3603468.1	1.1	53.0517	1.139	2.1	ug/L	232	Standard
|	Sc	45	20201.8	3.9				ug/L	23513	Standard
|	Ti	47	14379.8	1.8	102.3720	2.260	2.2	ug/L	36	Standard
|	V	51	247201.6	1.9	49.3703	0.511	1.0	ug/L	1387	Standard
|	Cr	52	237983.3	2.2	49.4047	0.677	1.4	ug/L	7813	Standard
|	Cr	53	29979.6	2.7	47.7782	1.197	2.5	ug/L	1410	Standard
|	Mn	55	393251.4	0.4	49.0929	0.518	1.1	ug/L	1043	Standard
|	Co	59	340807.7	0.6	48.0109	0.254	0.5	ug/L	198	Standard
|	Ni	60	74475.9	0.5	48.0746	0.593	1.2	ug/L	64	Standard
|	Cu	65	78145.7	0.8	48.9187	0.514	1.1	ug/L	122	Standard
|	Zn	66	42205.7	1.1	48.9123	0.188	0.4	ug/L	209	Standard
>	Ge	72	495185.8	0.8				ug/L	618040	Standard
|	As	75	44356.3	0.8	49.1386	0.242	0.5	ug/L	11	Standard
|	Se	82	4095.4	1.9	48.3157	0.871	1.8	ug/L	21	Standard
|	Se-1	77	2859.3	2.0	49.9543	1.439	2.9	ug/L	86	Standard
>	Ga	71	16.7	62.4				mg/L	13	Standard
|	Rb	85	618.3	5.7				ug/L	18	Standard
|	Y	89	369476.0	2.6				ug/L	463757	Standard
>	Rh	103	23.3	32.7				ug/L	12	Standard
|	Mo	98	297895.8	0.9	101.7785	0.554	0.5	ug/L	29	Standard
|	Ag	107	263996.4	0.6	50.3148	0.193	0.4	ug/L	101	Standard
|	Cd	111	85330.2	1.9	50.8160	0.882	1.7	mg/L	9	Standard
|	Cd	114	219895.9	3.8	50.0936	1.946	3.9	ug/L	47	Standard
>	In	115	606755.9	0.8				ug/L	765457	Standard
|	Sn	118	49222.2	1.7	50.5951	0.485	1.0	ug/L	168	Standard
|	Sb	123	237126.0	1.3	52.4289	0.288	0.5	ug/L	332	Standard
|	Ba	135	111548.6	2.4	52.9895	0.887	1.7	ug/L	37	Standard
|	Ce	140	101.7	10.2				ug/L	895	Standard
>	Tb	159	1242632.8	2.7				ug/L	1511047	Standard
|	Ho	165	23.3	65.5				ug/L	22	Standard
|	Tl	203	446263.7	1.6	50.4738	0.408	0.8	ug/L	14	Standard
|	Tl	205	1030034.9	1.3	50.5152	0.505	1.0	ug/L	27	Standard
|	Pb	206	334644.9	0.4	49.9377	0.399	0.8	ug/L	557	Standard
|	Pb	207	296509.1	1.8	50.2221	0.472	0.9	ug/L	432	Standard
|	Pb	208	1337815.7	1.3	50.0193	0.289	0.6	ug/L	2118	Standard
	U	238	1203850.5	1.4	49.7108	0.463	0.9	ug/L	78	Standard
>	Bi	209	616667.7	1.0				ug/L	791817	Standard

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Brank Z...

Na	23	6.7	43.3	1.7623	0.941	53.4	mg/L	5	Standard
Mg	24	1976.8	3.5	4.4390	0.296	6.7	mg/L	48	Standard
K	39	338.3	4.5	5.7814	0.240	4.1	mg/L	3	Standard
Ca	43	45.0	48.4	0.3589	9.522	2652.9	mg/L	62	Standard
Fe	54	4467.1	2.1	5.0022	0.170	3.4	mg/L	139	Standard
Fe	57	1371.7	8.6	5.1353	0.350	6.8	mg/L	83	Standard
Sc-1	45	20201.8	3.9				mg/L	23513	Standard
Cl	35	1.3	86.6				ug/L	3	Standard
Kr	83	1.7	34.6				ug/L	2	Standard
Br	81	940.0	3.2				ug/L	910	Standard
P	31	46.7	16.4				ug/L	85	Standard
S	34	41.7	6.9				ug/L	48	Standard
Sr	88	76.7	33.5				ug/L	72	Standard
C	12	163.3	36.9				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	7	Standard
Dy	164	22.2	51.4				mg/L	22	Standard
Ho-1	165	23.3	65.5				mg/L	22	Standard
Er	166	23.3	24.7				mg/L	23	Standard
I	127	5387.6	1.4				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	103.942		
Al	27	106.103		
Sc	45			
Ti	47	102.372		
V	51	98.741		
Cr	52	98.809		
Cr	53			
Mn	55	98.186		
Co	59	96.022		
Ni	60	96.149		
Cu	65	97.837		
Zn	66	97.825		
Ge	72		80.122	
As	75	98.277		
Se	82	96.631		
Se-1	77			
Ga	71			

Sample ID: QC Std 6

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Brink Z...

[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	101.778	
[Ag	107	100.630	
[Cd	111	101.632	
[Cd	114		
>	In	115		79.267
[	Sn	118	101.190	
[	Sb	123	104.858	
[	Ba	135	105.979	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	100.948	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	100.039	
[	U	238	99.422	
>	Bi	209		77.880
[	Na	23		
[	Mg	24		
[	K	39		
[	Ca	43		
[	Fe	54		
[	Fe	57		
>	Sc-1	45		
[	Cl	35		
[	Kr	83		
[	Br	81		
[	P	31		
[	S	34		
[	Sr	88		
[	C	12		
[	N	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

Sample ID: QC Std 6

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Bank Z...

Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Wednesday, October 12, 2016 20:16:53

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	49947.3	3.4				ug/L	72553	Standard
|	Be	9	8.3	69.3	-0.0036	0.009	241.1	ug/L	10	Standard
|	Al	27	816.7	88.4	0.0080	0.010	122.8	ug/L	232	Standard
|	Sc	45	20096.7	6.7				ug/L	23513	Standard
|	Ti	47	22.3	21.2	-0.0731	0.035	47.8	ug/L	36	Standard
|	V	51	888.2	6.3	-0.0243	0.012	48.6	ug/L	1387	Standard
|	Cr	52	5111.9	0.6	-0.1596	0.022	14.0	ug/L	7813	Standard
|	Cr	53	625.0	7.1	-0.8050	0.086	10.7	ug/L	1410	Standard
|	Mn	55	883.7	2.3	-0.0415	0.001	1.9	ug/L	1043	Standard
|	Co	59	170.0	13.9	0.0059	0.003	49.2	ug/L	198	Standard
|	Ni	60	49.0	11.4	-0.0056	0.004	72.5	ug/L	64	Standard
|	Cu	65	101.0	13.1	-0.0393	0.007	18.2	ug/L	122	Standard
|	Zn	66	186.7	6.7	-0.5902	0.019	3.2	ug/L	209	Standard
>	Ge	72	483381.2	2.0				ug/L	618040	Standard
|	As	75	-11.5	169.0	0.0278	0.022	79.8	ug/L	11	Standard
|	Se	82	18.4	20.0	0.0891	0.047	53.3	ug/L	21	Standard
|	Se-1	77	68.0	7.4	-0.0883	0.089	100.3	ug/L	86	Standard
>	Ga	71	13.3	57.3				mg/L	13	Standard
|	Rb	85	8.3	34.6				ug/L	18	Standard
|	Y	89	355424.0	1.0				ug/L	463757	Standard
>	Rh	103	11.7	89.2				ug/L	12	Standard
|	Mo	98	263.0	24.9	0.0877	0.024	27.2	ug/L	29	Standard
|	Ag	107	133.7	26.7	0.0114	0.007	59.9	ug/L	101	Standard
|	Cd	111	10.7	48.7	0.0020	0.003	163.4	mg/L	9	Standard
|	Cd	114	36.9	60.1	0.0084	0.005	61.4	ug/L	47	Standard
>	In	115	585506.2	0.8				ug/L	765457	Standard
|	Sn	118	114.3	24.3	-0.0268	0.031	114.2	ug/L	168	Standard
|	Sb	123	887.2	48.0	0.2073	0.099	47.8	ug/L	332	Standard
|	Ba	135	34.3	30.3	-0.0076	0.005	65.1	ug/L	37	Standard
|	Ce	140	45.0	11.1				ug/L	895	Standard
>	Tb	159	1214883.4	0.7				ug/L	1511047	Standard
|	Ho	165	13.3	21.7				ug/L	22	Standard
|	Tl	203	48.7	67.5	0.0053	0.004	68.2	ug/L	14	Standard
|	Tl	205	101.7	56.6	0.0020	0.003	136.3	ug/L	27	Standard
|	Pb	206	426.7	7.8	-0.0129	0.004	30.2	ug/L	557	Standard
|	Pb	207	357.3	13.0	-0.0117	0.007	57.8	ug/L	432	Standard
|	Pb	208	1624.0	9.3	-0.0144	0.005	31.7	ug/L	2118	Standard
	U	238	97.0	71.4	0.0043	0.003	65.7	ug/L	78	Standard
>	Bi	209	612928.7	2.1				ug/L	791817	Standard

Sample ID: QC Std 7

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Brank Z...

Na	23	0.0		-0.4577	0.000	0.0	mg/L	5	Standard
Mg	24	51.7	36.6	0.0383	0.045	116.3	mg/L	48	Standard
K	39	1.7	173.2	-0.0123	0.053	429.8	mg/L	3	Standard
Ca	43	30.0	28.9	-6.1335	2.767	45.1	mg/L	62	Standard
Fe	54	102.6	12.1	0.0007	0.022	3111.4	mg/L	139	Standard
Fe	57	170.0	10.6	0.2437	0.117	48.0	mg/L	83	Standard
Sc-1	45	20096.7	6.7				mg/L	23513	Standard
Cl	35	0.7	173.2				ug/L	3	Standard
Kr	83	3.3	91.7				ug/L	2	Standard
Br	81	883.4	12.1				ug/L	910	Standard
P	31	61.7	57.5				ug/L	85	Standard
S	34	36.7	43.8				ug/L	48	Standard
Sr	88	98.3	15.5				ug/L	72	Standard
C	12	133.3	22.9				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	7	Standard
Dy	164	6.5	86.7				mg/L	22	Standard
Ho-1	165	13.3	21.7				mg/L	22	Standard
Er	166	3.3	173.2				mg/L	23	Standard
I	127	5536.0	5.5				mg/L	4241	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		78.212	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	76.491
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	77.408
[	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
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	

Sample ID: QC Std 7

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Bank Z...

Sample ID: QC Std 7
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<i>Bank Z...</i>

Method 6020 - Summary Report

Sample ID: PBW 44 WG586713-02

Sample Date/Time: Wednesday, October 12, 2016 20:19:54

Number of Replicates: 3

Autosampler Position: 232

Sample Description: 50

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	55530.0	4.0				ug/L	72553	Standard
|	Be	9	1.7	173.2	-0.0143	0.004	30.5	ug/L	10	Standard
|	Al	27	946.7	11.6	0.0087	0.001	10.9	ug/L	232	Standard
|	Sc	45	22391.5	1.5				ug/L	23513	Standard
|	Ti	47	21.3	27.5	-0.0951	0.040	42.2	ug/L	36	Standard
|	V	51	-46.6	296.8	-0.2153	0.026	11.9	ug/L	1387	Standard
|	Cr	52	5933.5	4.6	-0.1045	0.042	40.3	ug/L	7813	Standard
|	Cr	53	4954.2	17.4	5.7276	1.251	21.8	ug/L	1410	Standard
|	Mn	55	2530.9	3.4	0.1387	0.007	5.1	ug/L	1043	Standard
|	Co	59	150.0	10.3	0.0010	0.002	188.5	ug/L	198	Standard
|	Ni	60	74.7	4.1	0.0067	0.002	34.2	ug/L	64	Standard
|	Cu	65	142.3	8.0	-0.0214	0.006	28.6	ug/L	122	Standard
|	Zn	66	2086.1	2.6	1.4616	0.036	2.5	ug/L	209	Standard
>	Ge	72	534419.5	1.0				ug/L	618040	Standard
|	As	75	-40.5	66.4	-0.0003	0.027	8779.3	ug/L	11	Standard
|	Se	82	20.2	30.7	0.0865	0.067	77.1	ug/L	21	Standard
|	Se-1	77	343.3	16.4	4.3627	0.886	20.3	ug/L	86	Standard
>	Ga	71	30.0	72.6				mg/L	13	Standard
|	Rb	85	11.7	65.5				ug/L	18	Standard
|	Y	89	389250.8	2.8				ug/L	463757	Standard
>	Rh	103	3.3	86.6				ug/L	12	Standard
|	Mo	98	135.3	34.1	0.0392	0.014	36.2	ug/L	29	Standard
|	Ag	107	102.0	8.0	0.0040	0.002	52.6	ug/L	101	Standard
|	Cd	111	8.2	40.1	0.0001	0.002	1505.8	mg/L	9	Standard
|	Cd	114	43.7	46.8	0.0093	0.004	45.3	ug/L	47	Standard
>	In	115	624134.1	3.0				ug/L	765457	Standard
|	Sn	118	110.7	14.1	-0.0384	0.012	32.3	ug/L	168	Standard
|	Sb	123	432.6	51.5	0.0956	0.045	47.1	ug/L	332	Standard
|	Ba	135	44.7	15.2	-0.0039	0.003	70.6	ug/L	37	Standard
|	Ce	140	50.0	10.0				ug/L	895	Standard
>	Tb	159	1317117.6	2.1				ug/L	1511047	Standard
|	Ho	165	20.0	25.0				ug/L	22	Standard
|	Tl	203	136.7	7.3	0.0142	0.001	9.8	ug/L	14	Standard
|	Tl	205	316.7	3.3	0.0114	0.000	1.4	ug/L	27	Standard
|	Pb	206	561.0	7.4	0.0009	0.008	839.4	ug/L	557	Standard
|	Pb	207	478.7	5.0	0.0028	0.003	102.7	ug/L	432	Standard
|	Pb	208	2214.7	2.6	0.0015	0.003	197.8	ug/L	2118	Standard
	U	238	18.3	35.1	0.0010	0.000	24.4	ug/L	78	Standard
>	Bi	209	664297.1	2.2				ug/L	791817	Standard

Sample ID: PBW 44 WG586713-02

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Brink Z...

Na	23	0.0		-0.4577	0.000	0.0	mg/L	5	Standard
Mg	24	36.7	61.5	-0.0047	0.046	982.4	mg/L	48	Standard
K	39	8.3	34.6	0.0867	0.045	52.0	mg/L	3	Standard
Ca	43	33.3	37.7	-6.0835	4.707	77.4	mg/L	62	Standard
Fe	54	104.5	23.8	-0.0103	0.026	253.8	mg/L	139	Standard
Fe	57	186.7	10.8	0.2294	0.084	36.8	mg/L	83	Standard
Sc-1	45	22391.5	1.5				mg/L	23513	Standard
Cl	35	2.7	43.3				ug/L	3	Standard
Kr	83	3.0	66.7				ug/L	2	Standard
Br	81	926.7	7.8				ug/L	910	Standard
P	31	71.7	28.2				ug/L	85	Standard
S	34	40.0	45.1				ug/L	48	Standard
Sr	88	116.7	30.1				ug/L	72	Standard
C	12	183.3	17.5				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	13.3	43.3				mg/L	7	Standard
Dy	164	35.5	86.5				mg/L	22	Standard
Ho-1	165	20.0	25.0				mg/L	22	Standard
Er	166	23.3	24.7				mg/L	23	Standard
I	127	5290.9	2.9				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		76.537	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		86.470	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: PBW 44 WG586713-02

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	81.537
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	83.895
[	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
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Sample ID: PBW 44 WG586713-02

Report Date/Time: Wednesday, October 12, 2016 20:21:59

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Bank Z...

Method 6020 - Summary Report

Sample ID: LCSW 44 WG586713-03

Sample Date/Time: Wednesday, October 12, 2016 20:22:53

Number of Replicates: 3

Autosampler Position: 233

Sample Description: 50

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	61466.1	1.2				ug/L	72553	Standard
|	Be	9	393.3	14.8	0.4961	0.070	14.2	ug/L	10	Standard
|	Al	27	91515.6	1.0	1.0646	0.018	1.7	ug/L	232	Standard
|	Sc	45	23027.5	0.7				ug/L	23513	Standard
|	Ti	47	1777.1	1.2	10.9514	0.232	2.1	ug/L	36	Standard
|	V	51	56145.5	1.9	9.7291	0.257	2.6	ug/L	1387	Standard
|	Cr	52	34275.4	0.8	5.1655	0.107	2.1	ug/L	7813	Standard
|	Cr	53	18202.7	9.5	24.7077	2.173	8.8	ug/L	1410	Standard
|	Mn	55	46732.6	0.9	5.0084	0.077	1.5	ug/L	1043	Standard
|	Co	59	16085.2	0.6	1.9813	0.014	0.7	ug/L	198	Standard
|	Ni	60	8812.6	1.5	4.9845	0.085	1.7	ug/L	64	Standard
|	Cu	65	9194.1	0.8	4.9842	0.031	0.6	ug/L	122	Standard
|	Zn	66	11022.7	2.3	10.6412	0.154	1.4	ug/L	209	Standard
>	Ge	72	561306.6	1.3				ug/L	618040	Standard
|	As	75	3895.3	4.1	3.8439	0.110	2.9	ug/L	11	Standard
|	Se	82	367.8	1.2	3.7038	0.039	1.1	ug/L	21	Standard
|	Se-1	77	1136.0	5.8	16.6310	0.796	4.8	ug/L	86	Standard
>	Ga	71	26.7	71.0				mg/L	13	Standard
|	Rb	85	95.0	22.9				ug/L	18	Standard
|	Y	89	405418.8	3.0				ug/L	463757	Standard
>	Rh	103	28.3	36.7				ug/L	12	Standard
|	Mo	98	32562.9	1.5	10.4866	0.226	2.2	ug/L	29	Standard
|	Ag	107	23890.8	0.5	4.2800	0.051	1.2	ug/L	101	Standard
|	Cd	111	866.7	2.1	0.4822	0.015	3.0	mg/L	9	Standard
|	Cd	114	3476.1	6.2	0.7460	0.036	4.8	ug/L	47	Standard
>	In	115	643515.9	1.6				ug/L	765457	Standard
|	Sn	118	10663.8	0.8	10.2196	0.255	2.5	ug/L	168	Standard
|	Sb	123	59760.9	0.8	12.4640	0.256	2.1	ug/L	332	Standard
|	Ba	135	24922.1	1.5	11.1443	0.088	0.8	ug/L	37	Standard
|	Ce	140	65.0	7.7				ug/L	895	Standard
>	Tb	159	1385396.8	1.1				ug/L	1511047	Standard
|	Ho	165	21.7	96.1				ug/L	22	Standard
|	Tl	203	49391.7	0.7	4.9496	0.004	0.1	ug/L	14	Standard
|	Tl	205	116934.5	0.3	5.0786	0.050	1.0	ug/L	27	Standard
|	Pb	206	38435.4	0.7	5.0127	0.073	1.5	ug/L	557	Standard
|	Pb	207	33879.2	0.8	5.0197	0.080	1.6	ug/L	432	Standard
|	Pb	208	153580.6	0.9	5.0203	0.080	1.6	ug/L	2118	Standard
	U	238	22.7	17.8	0.0011	0.000	13.2	ug/L	78	Standard
>	Bi	209	695998.0	0.8				ug/L	791817	Standard

Sample ID: LCSW 44 WG586713-03

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Brink Z...

Na	23	0.0		-0.4577	0.000	0.0	mg/L	5	Standard
Mg	24	241.7	6.7	0.4038	0.036	8.9	mg/L	48	Standard
K	39	45.0	22.2	0.6367	0.152	23.8	mg/L	3	Standard
Ca	43	31.7	24.1	-7.0272	2.783	39.6	mg/L	62	Standard
Fe	54	190.7	15.1	0.0733	0.030	41.0	mg/L	139	Standard
Fe	57	215.0	34.4	0.3120	0.268	85.8	mg/L	83	Standard
Sc-1	45	23027.5	0.7				mg/L	23513	Standard
Cl	35	6.0	57.7				ug/L	3	Standard
Kr	83	1.3	86.6				ug/L	2	Standard
Br	81	983.4	11.7				ug/L	910	Standard
P	31	68.3	25.7				ug/L	85	Standard
S	34	48.3	33.3				ug/L	48	Standard
Sr	88	98.3	23.5				ug/L	72	Standard
C	12	150.0	43.7				mg/L	227	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	10.0					mg/L	7	Standard
Dy	164	19.0	51.3				mg/L	22	Standard
Ho-1	165	21.7	96.1				mg/L	22	Standard
Er	166	20.0	50.0				mg/L	23	Standard
I	127	5190.9	7.6				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		84.718	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		90.820	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: LCSW 44 WG586713-03

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	84.069
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	87.899
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: LCSW 44 WG586713-03

Report Date/Time: Wednesday, October 12, 2016 20:24:58

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610022201 WG586713-01

Sample Date/Time: Wednesday, October 12, 2016 20:25:53

Number of Replicates: 3

Autosampler Position: 234

Sample Description: 50

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	57221.2	2.9				ug/L	72553	Standard
|	Be	9	5.0	100.0	-0.0097	0.007	73.4	ug/L	10	Standard
|	Al	27	1005.0	15.7	0.0091	0.002	22.3	ug/L	232	Standard
|	Sc	45	22870.6	3.4				ug/L	23513	Standard
|	Ti	47	26.7	7.8	-0.0615	0.007	12.0	ug/L	36	Standard
|	V	51	965.8	22.5	-0.0283	0.042	147.8	ug/L	1387	Standard
|	Cr	52	6530.1	4.7	0.0058	0.084	1435.8	ug/L	7813	Standard
|	Cr	53	2968.6	13.7	2.6662	0.707	26.5	ug/L	1410	Standard
|	Mn	55	2400.9	4.6	0.1218	0.011	9.1	ug/L	1043	Standard
|	Co	59	207.7	8.2	0.0083	0.001	17.1	ug/L	198	Standard
|	Ni	60	271.3	1.8	0.1234	0.008	6.7	ug/L	64	Standard
|	Cu	65	221.0	7.9	0.0234	0.008	33.8	ug/L	122	Standard
|	Zn	66	1991.8	2.5	1.3441	0.024	1.8	ug/L	209	Standard
>	Ge	72	538195.4	3.6				ug/L	618040	Standard
|	As	75	-15.6	66.6	0.0251	0.011	42.8	ug/L	11	Standard
|	Se	82	88.7	12.7	0.8303	0.118	14.3	ug/L	21	Standard
|	Se-1	77	436.7	6.1	5.8774	0.572	9.7	ug/L	86	Standard
>	Ga	71	28.3	10.2				mg/L	13	Standard
|	Rb	85	11332.6	4.0				ug/L	18	Standard
|	Y	89	397874.7	3.2				ug/L	463757	Standard
>	Rh	103	20.0	25.0				ug/L	12	Standard
|	Mo	98	299.8	11.1	0.0929	0.009	9.2	ug/L	29	Standard
|	Ag	107	107.7	20.2	0.0048	0.004	90.7	ug/L	101	Standard
|	Cd	111	6.6	66.5	-0.0008	0.003	321.2	mg/L	9	Standard
|	Cd	114	26.6	19.1	0.0055	0.001	21.0	ug/L	47	Standard
>	In	115	630653.0	2.6				ug/L	765457	Standard
|	Sn	118	127.7	11.3	-0.0226	0.011	47.7	ug/L	168	Standard
|	Sb	123	307.7	35.4	0.0690	0.024	34.3	ug/L	332	Standard
|	Ba	135	10193.4	2.3	4.6391	0.176	3.8	ug/L	37	Standard
|	Ce	140	70.0	35.7				ug/L	895	Standard
>	Tb	159	1317466.0	3.0				ug/L	1511047	Standard
|	Ho	165	20.0	75.0				ug/L	22	Standard
|	Tl	203	143.3	4.2	0.0147	0.000	2.6	ug/L	14	Standard
|	Tl	205	346.7	19.7	0.0127	0.003	23.6	ug/L	27	Standard
|	Pb	206	3118.0	1.4	0.3518	0.002	0.5	ug/L	557	Standard
|	Pb	207	2562.6	3.0	0.3277	0.019	5.7	ug/L	432	Standard
|	Pb	208	11850.1	0.9	0.3329	0.004	1.3	ug/L	2118	Standard
	U	238	17.3	58.1	0.0009	0.000	43.1	ug/L	78	Standard
>	Bi	209	670030.8	1.8				ug/L	791817	Standard

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Brink Z...

Na	23	13.3	94.4	3.4123	3.680	107.9	mg/L	5	Standard
Mg	24	2198.5	0.9	4.3557	0.137	3.1	mg/L	48	Standard
K	39	356.7	9.3	5.3891	0.621	11.5	mg/L	3	Standard
Ca	43	70.0	25.8	7.3035	6.124	83.9	mg/L	62	Standard
Fe	54	124.2	20.2	0.0078	0.029	371.7	mg/L	139	Standard
Fe	57	216.7	13.5	0.3209	0.082	25.5	mg/L	83	Standard
Sc-1	45	22870.6	3.4				mg/L	23513	Standard
Cl	35	2.7	114.6				ug/L	3	Standard
Kr	83	3.7	56.8				ug/L	2	Standard
Br	81	1406.7	5.7				ug/L	910	Standard
P	31	63.3	48.2				ug/L	85	Standard
S	34	31.7	39.7				ug/L	48	Standard
Sr	88	133.3	13.2				ug/L	72	Standard
C	12	186.7	26.4				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	10.0	100.0				mg/L	7	Standard
Dy	164	32.7	68.5				mg/L	22	Standard
Ho-1	165	20.0	75.0				mg/L	22	Standard
Er	166	13.3	114.6				mg/L	23	Standard
I	127	9571.4	16.6				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		78.868	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		87.081	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	82.389
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	84.619
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1610022201 WG586713-01

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610022201S WG586713-04

Sample Date/Time: Wednesday, October 12, 2016 20:28:52

Number of Replicates: 3

Autosampler Position: 235

Sample Description: 50

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	60194.4	2.5				ug/L	72553	Standard
|	Be	9	375.0	2.7	0.4833	0.022	4.5	ug/L	10	Standard
|	Al	27	86606.9	1.7	1.0290	0.034	3.3	ug/L	232	Standard
|	Sc	45	23007.5	3.1				ug/L	23513	Standard
|	Ti	47	1703.4	2.5	10.7075	0.320	3.0	ug/L	36	Standard
|	V	51	56452.2	1.2	9.9872	0.092	0.9	ug/L	1387	Standard
|	Cr	52	33621.9	0.9	5.1721	0.078	1.5	ug/L	7813	Standard
|	Cr	53	12707.0	5.9	17.0831	1.193	7.0	ug/L	1410	Standard
|	Mn	55	45652.7	1.6	4.9926	0.098	2.0	ug/L	1043	Standard
|	Co	59	15761.5	1.4	1.9814	0.032	1.6	ug/L	198	Standard
|	Ni	60	8588.8	2.7	4.9576	0.152	3.1	ug/L	64	Standard
|	Cu	65	9002.3	1.8	4.9807	0.114	2.3	ug/L	122	Standard
|	Zn	66	11535.1	0.5	11.4215	0.110	1.0	ug/L	209	Standard
>	Ge	72	549984.1	0.4				ug/L	618040	Standard
|	As	75	3879.8	2.2	3.9080	0.101	2.6	ug/L	11	Standard
|	Se	82	442.1	5.1	4.5741	0.229	5.0	ug/L	21	Standard
|	Se-1	77	1148.4	6.8	17.2096	1.310	7.6	ug/L	86	Standard
>	Ga	71	40.0	50.0				mg/L	13	Standard
|	Rb	85	11714.5	1.4				ug/L	18	Standard
|	Y	89	397405.1	1.6				ug/L	463757	Standard
>	Rh	103	45.0	33.3				ug/L	12	Standard
|	Mo	98	31969.6	1.2	10.5689	0.222	2.1	ug/L	29	Standard
|	Ag	107	22984.1	1.4	4.2267	0.080	1.9	ug/L	101	Standard
|	Cd	111	835.1	3.5	0.4768	0.015	3.2	mg/L	9	Standard
|	Cd	114	3411.2	4.5	0.7521	0.040	5.4	ug/L	47	Standard
>	In	115	626845.0	0.9				ug/L	765457	Standard
|	Sn	118	10221.8	1.0	10.0527	0.194	1.9	ug/L	168	Standard
|	Sb	123	57493.0	1.3	12.3083	0.215	1.7	ug/L	332	Standard
|	Ba	135	34442.4	1.3	15.8224	0.309	2.0	ug/L	37	Standard
|	Ce	140	66.7	48.2				ug/L	895	Standard
>	Tb	159	1391432.9	0.7				ug/L	1511047	Standard
|	Ho	165	15.0	66.7				ug/L	22	Standard
|	Tl	203	48487.8	0.5	4.9195	0.047	0.9	ug/L	14	Standard
|	Tl	205	111863.2	2.1	4.9185	0.116	2.4	ug/L	27	Standard
|	Pb	206	39110.4	1.8	5.1658	0.074	1.4	ug/L	557	Standard
|	Pb	207	34546.7	2.1	5.1835	0.054	1.1	ug/L	432	Standard
|	Pb	208	157010.4	1.5	5.1981	0.040	0.8	ug/L	2118	Standard
	U	238	14.7	14.2	0.0008	0.000	10.3	ug/L	78	Standard
>	Bi	209	687503.1	1.3				ug/L	791817	Standard

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Brink Z...

Na	23	16.7	17.3	4.4090	0.684	15.5	mg/L	5	Standard
Mg	24	2333.5	4.5	4.6032	0.335	7.3	mg/L	48	Standard
K	39	363.3	10.1	5.4513	0.601	11.0	mg/L	3	Standard
Ca	43	63.3	16.4	4.7985	4.262	88.8	mg/L	62	Standard
Fe	54	146.9	20.7	0.0297	0.033	109.5	mg/L	139	Standard
Fe	57	213.3	22.2	0.3046	0.159	52.3	mg/L	83	Standard
Sc-1	45	23007.5	3.1				mg/L	23513	Standard
Cl	35	1.3	173.2				ug/L	3	Standard
Kr	83	4.0	25.0				ug/L	2	Standard
Br	81	1363.4	5.5				ug/L	910	Standard
P	31	60.0	25.0				ug/L	85	Standard
S	34	60.0	8.3				ug/L	48	Standard
Sr	88	106.7	21.7				ug/L	72	Standard
C	12	166.7	18.3				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	16.7	34.6				mg/L	7	Standard
Dy	164	25.9	47.4				mg/L	22	Standard
Ho-1	165	15.0	66.7				mg/L	22	Standard
Er	166	16.7	124.9				mg/L	23	Standard
I	127	8659.1	6.5				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		82.966	
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		88.988	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1610022201S WG586713-04

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	81.892
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	86.826
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1610022201S WG586713-04

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610022201SD WG586713-05

Sample Date/Time: Wednesday, October 12, 2016 20:31:52

Number of Replicates: 3

Autosampler Position: 236

Sample Description: 50

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	59163.8	4.3				ug/L	72553	Standard
|	Be	9	410.0	13.9	0.5379	0.056	10.3	ug/L	10	Standard
|	Al	27	87401.4	1.3	1.0571	0.034	3.2	ug/L	232	Standard
|	Sc	45	22585.2	1.6				ug/L	23513	Standard
|	Ti	47	1709.1	1.2	10.7253	0.256	2.4	ug/L	36	Standard
|	V	51	55026.5	1.6	9.7131	0.206	2.1	ug/L	1387	Standard
|	Cr	52	33750.9	0.4	5.1859	0.117	2.3	ug/L	7813	Standard
|	Cr	53	16153.6	5.2	22.1712	1.089	4.9	ug/L	1410	Standard
|	Mn	55	46164.6	1.7	5.0405	0.012	0.2	ug/L	1043	Standard
|	Co	59	15904.0	0.7	1.9959	0.018	0.9	ug/L	198	Standard
|	Ni	60	8912.3	0.8	5.1369	0.097	1.9	ug/L	64	Standard
|	Cu	65	9180.1	0.4	5.0723	0.094	1.9	ug/L	122	Standard
|	Zn	66	11125.4	1.2	10.9654	0.039	0.4	ug/L	209	Standard
>	Ge	72	550990.2	1.4				ug/L	618040	Standard
|	As	75	3885.3	2.4	3.9061	0.078	2.0	ug/L	11	Standard
|	Se	82	451.8	3.1	4.6702	0.184	3.9	ug/L	21	Standard
|	Se-1	77	1268.1	6.1	19.0998	1.150	6.0	ug/L	86	Standard
>	Ga	71	45.0	40.1				mg/L	13	Standard
|	Rb	85	11814.6	2.0				ug/L	18	Standard
|	Y	89	393742.4	2.4				ug/L	463757	Standard
>	Rh	103	40.0	69.6				ug/L	12	Standard
|	Mo	98	31824.7	0.9	10.7789	0.114	1.1	ug/L	29	Standard
|	Ag	107	22333.8	1.3	4.2079	0.062	1.5	ug/L	101	Standard
|	Cd	111	805.3	1.0	0.4711	0.005	1.0	mg/L	9	Standard
|	Cd	114	3500.6	1.2	0.7906	0.010	1.3	ug/L	47	Standard
>	In	115	611787.9	0.3				ug/L	765457	Standard
|	Sn	118	10245.1	2.3	10.3266	0.248	2.4	ug/L	168	Standard
|	Sb	123	57058.4	0.4	12.5149	0.049	0.4	ug/L	332	Standard
|	Ba	135	33657.0	1.8	15.8412	0.324	2.0	ug/L	37	Standard
|	Ce	140	75.0	24.0				ug/L	895	Standard
>	Tb	159	1343187.9	2.2				ug/L	1511047	Standard
|	Ho	165	20.0	86.6				ug/L	22	Standard
|	Tl	203	48037.7	0.2	4.9514	0.087	1.8	ug/L	14	Standard
|	Tl	205	112225.8	1.2	5.0123	0.038	0.8	ug/L	27	Standard
|	Pb	206	39355.0	0.6	5.2827	0.084	1.6	ug/L	557	Standard
|	Pb	207	34598.5	1.4	5.2752	0.051	1.0	ug/L	432	Standard
|	Pb	208	157078.9	0.9	5.2844	0.073	1.4	ug/L	2118	Standard
	U	238	13.7	37.5	0.0008	0.000	25.9	ug/L	78	Standard
>	Bi	209	676806.7	1.6				ug/L	791817	Standard

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Brank Z...

Na	23	20.0	25.0	5.5123	1.498	27.2	mg/L	5	Standard
Mg	24	2365.2	3.3	4.7512	0.226	4.8	mg/L	48	Standard
K	39	350.0	5.2	5.3434	0.238	4.4	mg/L	3	Standard
Ca	43	65.0	13.3	5.8045	3.151	54.3	mg/L	62	Standard
Fe	54	160.0	32.9	0.0461	0.057	122.7	mg/L	139	Standard
Fe	57	211.7	11.7	0.3134	0.081	25.9	mg/L	83	Standard
Sc-1	45	22585.2	1.6				mg/L	23513	Standard
Cl	35	2.0	100.0				ug/L	3	Standard
Kr	83	3.3	34.6				ug/L	2	Standard
Br	81	1223.4	18.6				ug/L	910	Standard
P	31	66.7	15.6				ug/L	85	Standard
S	34	50.0	10.0				ug/L	48	Standard
Sr	88	100.0	5.0				ug/L	72	Standard
C	12	203.3	12.4				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	10.0	100.0				mg/L	7	Standard
Dy	164	26.2	57.8				mg/L	22	Standard
Ho-1	165	20.0	86.6				mg/L	22	Standard
Er	166	10.0	100.0				mg/L	23	Standard
I	127	8327.3	4.8				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		81.545	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		89.151	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1610022201SD WG586713-05

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	79.924
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	85.475
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1610022201SD WG586713-05

Report Date/Time: Wednesday, October 12, 2016 20:33:57

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610022201PS WG586888-01

Sample Date/Time: Wednesday, October 12, 2016 20:34:52

Number of Replicates: 3

Autosampler Position: 237

Sample Description: 50

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	59053.3	2.9				ug/L	72553	Standard
|	Be	9	38425.4	2.6	52.1921	0.411	0.8	ug/L	10	Standard
|	Al	27	1311.7	16.0	0.0124	0.002	17.2	ug/L	232	Standard
|	Sc	45	23042.5	2.7				ug/L	23513	Standard
|	Ti	47	26.3	5.8	-0.0671	0.009	13.2	ug/L	36	Standard
|	V	51	287101.9	1.7	51.6948	1.375	2.7	ug/L	1387	Standard
|	Cr	52	275857.4	1.2	51.6768	1.122	2.2	ug/L	7813	Standard
|	Cr	53	42178.6	2.3	61.0872	1.761	2.9	ug/L	1410	Standard
|	Mn	55	452598.0	0.8	50.9226	0.126	0.2	ug/L	1043	Standard
|	Co	59	388278.3	0.7	49.2943	0.204	0.4	ug/L	198	Standard
|	Ni	60	85832.4	0.3	49.9316	0.369	0.7	ug/L	64	Standard
|	Cu	65	89451.6	0.8	50.4707	0.916	1.8	ug/L	122	Standard
|	Zn	66	50111.7	0.6	52.3987	0.740	1.4	ug/L	209	Standard
>	Ge	72	549477.4	1.0				ug/L	618040	Standard
|	As	75	48142.9	0.5	48.0679	0.594	1.2	ug/L	11	Standard
|	Se	82	4513.0	1.6	47.9842	0.978	2.0	ug/L	21	Standard
|	Se-1	77	3675.1	0.6	58.0684	0.404	0.7	ug/L	86	Standard
>	Ga	71	43.3	46.6				mg/L	13	Standard
|	Rb	85	11521.0	2.4				ug/L	18	Standard
|	Y	89	403894.6	2.4				ug/L	463757	Standard
>	Rh	103	28.3	40.8				ug/L	12	Standard
|	Mo	98	318.6	3.9	0.0990	0.004	4.2	ug/L	29	Standard
|	Ag	107	272229.8	1.4	49.8034	0.480	1.0	ug/L	101	Standard
|	Cd	111	85085.6	1.9	48.6412	0.979	2.0	mg/L	9	Standard
|	Cd	114	214141.4	2.8	46.8273	1.341	2.9	ug/L	47	Standard
>	In	115	632081.2	0.7				ug/L	765457	Standard
|	Sn	118	141.0	13.5	-0.0096	0.019	193.6	ug/L	168	Standard
|	Sb	123	233626.6	0.8	49.5871	0.263	0.5	ug/L	332	Standard
|	Ba	135	130937.4	0.8	59.7181	0.774	1.3	ug/L	37	Standard
|	Ce	140	60.0	14.4				ug/L	895	Standard
>	Tb	159	1375839.8	1.1				ug/L	1511047	Standard
|	Ho	165	20.0	50.0				ug/L	22	Standard
|	Tl	203	492066.2	0.7	49.4021	0.702	1.4	ug/L	14	Standard
|	Tl	205	1150165.5	2.5	50.0591	0.804	1.6	ug/L	27	Standard
|	Pb	206	379188.1	1.4	50.2234	0.844	1.7	ug/L	557	Standard
|	Pb	207	323404.6	1.6	48.6235	1.067	2.2	ug/L	432	Standard
|	Pb	208	1499791.2	0.9	49.7738	0.671	1.3	ug/L	2118	Standard
	U	238	1324336.9	1.5	48.5394	0.786	1.6	ug/L	78	Standard
>	Bi	209	694789.7	0.9				ug/L	791817	Standard

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Brink Z...

Na	23	16.7	62.4	4.4539	3.136	70.4	mg/L	5	Standard
Mg	24	2300.2	1.4	4.5254	0.146	3.2	mg/L	48	Standard
K	39	293.3	14.3	4.3903	0.699	15.9	mg/L	3	Standard
Ca	43	66.7	8.7	5.9715	2.510	42.0	mg/L	62	Standard
Fe	54	111.6	24.1	-0.0063	0.026	417.2	mg/L	139	Standard
Fe	57	175.0	4.9	0.1675	0.027	16.4	mg/L	83	Standard
Sc-1	45	23042.5	2.7				mg/L	23513	Standard
Cl	35	5.3	43.3				ug/L	3	Standard
Kr	83	2.0	50.0				ug/L	2	Standard
Br	81	1463.4	3.2				ug/L	910	Standard
P	31	70.0	14.3				ug/L	85	Standard
S	34	58.3	27.6				ug/L	48	Standard
Sr	88	125.0	25.0				ug/L	72	Standard
C	12	233.3	6.5				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	7	Standard
Dy	164	32.2	65.1				mg/L	22	Standard
Ho-1	165	20.0	50.0				mg/L	22	Standard
Er	166	23.3	49.5				mg/L	23	Standard
I	127	8288.9	5.2				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		81.393	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		88.906	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1610022201PS WG586888-01

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	82.576
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	87.746
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1610022201PS WG586888-01

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Bank Z...

Method 6020 - Summary Report

Sample ID: L1610022201SDL WG586888-02

Sample Date/Time: Wednesday, October 12, 2016 20:37:51

Number of Replicates: 3

Autosampler Position: 238

Sample Description: 250

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	57432.1	4.7				ug/L	72553	Standard
|	Be	9	6.7	114.6	-0.0076	0.011	140.7	ug/L	10	Standard
|	Al	27	943.4	22.1	0.0083	0.003	32.6	ug/L	232	Standard
|	Sc	45	22032.7	1.2				ug/L	23513	Standard
|	Ti	47	25.7	6.0	-0.0641	0.013	20.2	ug/L	36	Standard
|	V	51	531.2	39.6	-0.1063	0.041	39.0	ug/L	1387	Standard
|	Cr	52	6580.1	1.0	0.0421	0.011	26.2	ug/L	7813	Standard
|	Cr	53	2960.3	2.1	2.7417	0.059	2.1	ug/L	1410	Standard
|	Mn	55	1304.1	2.7	-0.0014	0.005	388.8	ug/L	1043	Standard
|	Co	59	170.0	2.4	0.0039	0.001	19.4	ug/L	198	Standard
|	Ni	60	110.3	3.8	0.0289	0.002	8.5	ug/L	64	Standard
|	Cu	65	829.4	3.8	0.3852	0.025	6.6	ug/L	122	Standard
|	Zn	66	1312.4	4.2	0.6374	0.039	6.1	ug/L	209	Standard
>	Ge	72	526838.8	1.6				ug/L	618040	Standard
|	As	75	-15.7	192.1	0.0250	0.031	124.2	ug/L	11	Standard
|	Se	82	32.5	14.7	0.2272	0.056	24.7	ug/L	21	Standard
|	Se-1	77	205.7	8.8	2.1316	0.330	15.5	ug/L	86	Standard
>	Ga	71	21.7	48.0				mg/L	13	Standard
|	Rb	85	2286.8	5.5				ug/L	18	Standard
|	Y	89	392155.9	1.6				ug/L	463757	Standard
>	Rh	103	11.7	49.5				ug/L	12	Standard
|	Mo	98	88.3	25.5	0.0234	0.007	29.4	ug/L	29	Standard
|	Ag	107	112.3	14.3	0.0057	0.003	58.6	ug/L	101	Standard
|	Cd	111	9.6	49.2	0.0008	0.003	312.9	mg/L	9	Standard
|	Cd	114	37.3	34.7	0.0078	0.003	33.4	ug/L	47	Standard
>	In	115	631142.3	2.4				ug/L	765457	Standard
|	Sn	118	102.0	11.9	-0.0481	0.010	19.9	ug/L	168	Standard
|	Sb	123	1535.7	41.0	0.3284	0.127	38.8	ug/L	332	Standard
|	Ba	135	2078.1	4.7	0.9260	0.064	7.0	ug/L	37	Standard
|	Ce	140	45.0	11.1				ug/L	895	Standard
>	Tb	159	1327803.1	2.5				ug/L	1511047	Standard
|	Ho	165	18.3	41.7				ug/L	22	Standard
|	Tl	203	140.7	6.5	0.0145	0.001	6.1	ug/L	14	Standard
|	Tl	205	333.3	20.5	0.0121	0.003	25.4	ug/L	27	Standard
|	Pb	206	1001.4	5.2	0.0607	0.006	10.4	ug/L	557	Standard
|	Pb	207	826.7	6.5	0.0565	0.007	12.0	ug/L	432	Standard
|	Pb	208	3904.5	3.7	0.0590	0.003	5.9	ug/L	2118	Standard
	U	238	86.7	15.8	0.0035	0.001	14.2	ug/L	78	Standard
>	Bi	209	669887.2	1.2				ug/L	791817	Standard

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Brink Z...

Na	23	3.3	86.6	0.5617	0.883	157.2	mg/L	5	Standard
Mg	24	468.3	9.9	0.9000	0.098	10.8	mg/L	48	Standard
K	39	80.0	70.4	1.2259	0.908	74.1	mg/L	3	Standard
Ca	43	51.7	24.4	1.2390	4.704	379.7	mg/L	62	Standard
Fe	54	132.7	30.3	0.0214	0.044	205.4	mg/L	139	Standard
Fe	57	216.7	19.4	0.3522	0.158	44.7	mg/L	83	Standard
Sc-1	45	22032.7	1.2				mg/L	23513	Standard
Cl	35	1.3	86.6				ug/L	3	Standard
Kr	83	5.0	52.9				ug/L	2	Standard
Br	81	940.0	24.0				ug/L	910	Standard
P	31	76.7	13.6				ug/L	85	Standard
S	34	45.0	67.6				ug/L	48	Standard
Sr	88	118.3	8.8				ug/L	72	Standard
C	12	156.7	49.6				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	10.0					mg/L	7	Standard
Dy	164	12.5	45.0				mg/L	22	Standard
Ho-1	165	18.3	41.7				mg/L	22	Standard
Er	166	16.7	34.6				mg/L	23	Standard
I	127	5421.0	5.0				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		79.158	
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		85.243	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	82.453
[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	84.601
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1610022201SDL WG586888-02

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Bank Z...

Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Wednesday, October 12, 2016 20:40:52

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: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	51009.2	5.1				ug/L	72553	Standard
|	Be	9	33258.1	1.6	52.4141	3.507	6.7	ug/L	10	Standard
|	Al	27	3774868.8	1.2	53.1668	2.576	4.8	ug/L	232	Standard
|	Sc	45	21089.7	0.8				ug/L	23513	Standard
|	Ti	47	15186.9	1.1	104.8563	1.195	1.1	ug/L	36	Standard
|	V	51	263032.8	1.6	50.9540	0.216	0.4	ug/L	1387	Standard
|	Cr	52	249366.6	1.3	50.2322	0.761	1.5	ug/L	7813	Standard
|	Cr	53	31489.4	1.1	48.7150	1.160	2.4	ug/L	1410	Standard
|	Mn	55	404379.3	0.5	48.9578	0.398	0.8	ug/L	1043	Standard
|	Co	59	348175.3	1.1	47.5673	0.146	0.3	ug/L	198	Standard
|	Ni	60	76833.7	0.7	48.0993	0.526	1.1	ug/L	64	Standard
|	Cu	65	79366.7	0.6	48.1820	0.343	0.7	ug/L	122	Standard
|	Zn	66	43223.2	0.7	48.5760	0.277	0.6	ug/L	209	Standard
>	Ge	72	510607.1	1.3				ug/L	618040	Standard
|	As	75	45781.9	1.3	49.1924	0.983	2.0	ug/L	11	Standard
|	Se	82	4214.6	1.8	48.2231	0.900	1.9	ug/L	21	Standard
|	Se-1	77	2952.6	0.6	50.0244	0.380	0.8	ug/L	86	Standard
>	Ga	71	16.7	17.3				mg/L	13	Standard
|	Rb	85	696.7	5.8				ug/L	18	Standard
|	Y	89	364941.8	2.9				ug/L	463757	Standard
>	Rh	103	36.7	15.7				ug/L	12	Standard
|	Mo	98	299153.5	0.9	102.9235	2.198	2.1	ug/L	29	Standard
|	Ag	107	269707.8	1.0	51.7575	0.673	1.3	ug/L	101	Standard
|	Cd	111	83741.4	1.1	50.2256	1.514	3.0	mg/L	9	Standard
|	Cd	114	221220.5	1.4	50.7548	1.681	3.3	ug/L	47	Standard
>	In	115	602715.8	2.3				ug/L	765457	Standard
|	Sn	118	49601.7	1.6	51.3556	1.734	3.4	ug/L	168	Standard
|	Sb	123	235230.7	0.8	52.3820	1.498	2.9	ug/L	332	Standard
|	Ba	135	112217.1	1.3	53.6954	1.835	3.4	ug/L	37	Standard
|	Ce	140	125.0	25.0				ug/L	895	Standard
>	Tb	159	1236930.8	0.9				ug/L	1511047	Standard
|	Ho	165	20.0	75.0				ug/L	22	Standard
|	Tl	203	456749.2	1.7	50.7615	1.300	2.6	ug/L	14	Standard
|	Tl	205	1062746.9	3.6	51.2138	2.153	4.2	ug/L	27	Standard
|	Pb	206	343560.6	1.4	50.3713	1.057	2.1	ug/L	557	Standard
|	Pb	207	301585.8	1.1	50.1926	0.969	1.9	ug/L	432	Standard
|	Pb	208	1373592.9	1.3	50.4599	0.863	1.7	ug/L	2118	Standard
	U	238	1227675.0	0.8	49.8092	0.841	1.7	ug/L	78	Standard
>	Bi	209	627690.2	0.8				ug/L	791817	Standard

Sample ID: QC Std 6

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Brink Z...

Na	23	16.7	45.8	4.8536	2.391	49.3	mg/L	5	Standard
Mg	24	2135.2	8.1	4.5883	0.375	8.2	mg/L	48	Standard
K	39	341.7	8.8	5.5909	0.527	9.4	mg/L	3	Standard
Ca	43	56.7	20.4	4.1847	4.704	112.4	mg/L	62	Standard
Fe	54	4663.8	3.5	4.9984	0.157	3.1	mg/L	139	Standard
Fe	57	1490.1	5.1	5.3655	0.269	5.0	mg/L	83	Standard
Sc-1	45	21089.7	0.8				mg/L	23513	Standard
Cl	35	3.3	91.7				ug/L	3	Standard
Kr	83	1.7	124.9				ug/L	2	Standard
Br	81	903.4	7.8				ug/L	910	Standard
P	31	75.0	23.1				ug/L	85	Standard
S	34	46.7	34.4				ug/L	48	Standard
Sr	88	96.7	31.2				ug/L	72	Standard
C	12	140.0	14.3				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	6.7	86.6				mg/L	7	Standard
Dy	164	7.8	132.2				mg/L	22	Standard
Ho-1	165	20.0	75.0				mg/L	22	Standard
Er	166	46.7	32.7				mg/L	23	Standard
I	127	4639.0	3.7				mg/L	4241	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	104.828		
Al	27	106.334		
Sc	45			
Ti	47	104.856		
V	51	101.908		
Cr	52	100.464		
Cr	53			
Mn	55	97.916		
Co	59	95.135		
Ni	60	96.199		
Cu	65	96.364		
Zn	66	97.152		
Ge	72		82.617	
As	75	98.385		
Se	82	96.446		
Se-1	77			
Ga	71			

Sample ID: QC Std 6

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Brink Z...

[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	102.924	
[Ag	107	103.515	
[Cd	111	100.451	
[Cd	114		
>	In	115		78.739
[	Sn	118	102.711	
[	Sb	123	104.764	
[	Ba	135	107.391	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	101.523	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	100.920	
[	U	238	99.618	
>	Bi	209		79.272
[	Na	23		
[	Mg	24		
[	K	39		
[	Ca	43		
[	Fe	54		
[	Fe	57		
>	Sc-1	45		
[	Cl	35		
[	Kr	83		
[	Br	81		
[	P	31		
[	S	34		
[	Sr	88		
[	C	12		
[	N	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

Sample ID: QC Std 6

Report Date/Time: Wednesday, October 12, 2016 20:42:57

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Bank Z...

Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Wednesday, October 12, 2016 20:43:52

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: BKT Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	50985.8	5.2				ug/L	72553	Standard
|	Be	9	8.3	69.3	-0.0040	0.008	206.5	ug/L	10	Standard
|	Al	27	451.7	14.4	0.0028	0.001	38.6	ug/L	232	Standard
|	Sc	45	21007.9	1.0				ug/L	23513	Standard
|	Ti	47	21.0	14.3	-0.0887	0.022	24.6	ug/L	36	Standard
|	V	51	988.2	8.8	-0.0117	0.016	136.4	ug/L	1387	Standard
|	Cr	52	5335.6	3.0	-0.1560	0.027	17.3	ug/L	7813	Standard
|	Cr	53	711.7	7.4	-0.7048	0.093	13.2	ug/L	1410	Standard
|	Mn	55	817.4	2.7	-0.0541	0.003	4.8	ug/L	1043	Standard
|	Co	59	159.7	3.6	0.0036	0.001	20.7	ug/L	198	Standard
|	Ni	60	43.0	26.8	-0.0107	0.007	69.9	ug/L	64	Standard
|	Cu	65	99.0	4.0	-0.0429	0.002	5.0	ug/L	122	Standard
|	Zn	66	171.7	3.5	-0.6164	0.008	1.3	ug/L	209	Standard
>	Ge	72	502756.3	0.6				ug/L	618040	Standard
|	As	75	-17.1	212.1	0.0223	0.040	177.5	ug/L	11	Standard
|	Se	82	19.3	32.6	0.0897	0.072	80.5	ug/L	21	Standard
|	Se-1	77	67.7	12.0	-0.1419	0.148	104.6	ug/L	86	Standard
>	Ga	71	11.7	65.5				mg/L	13	Standard
|	Rb	85	10.0	50.0				ug/L	18	Standard
|	Y	89	368390.5	1.6				ug/L	463757	Standard
>	Rh	103	8.3	69.3				ug/L	12	Standard
|	Mo	98	154.1	14.8	0.0472	0.008	16.7	ug/L	29	Standard
|	Ag	107	104.0	20.0	0.0048	0.004	74.3	ug/L	101	Standard
|	Cd	111	10.8	9.2	0.0018	0.001	37.7	mg/L	9	Standard
|	Cd	114	36.7	38.0	0.0080	0.003	38.4	ug/L	47	Standard
>	In	115	605932.8	1.7				ug/L	765457	Standard
|	Sn	118	122.0	27.1	-0.0231	0.035	151.1	ug/L	168	Standard
|	Sb	123	483.9	45.5	0.1106	0.049	44.5	ug/L	332	Standard
|	Ba	135	25.3	8.2	-0.0125	0.001	9.5	ug/L	37	Standard
|	Ce	140	25.0	20.0				ug/L	895	Standard
>	Tb	159	1233657.1	2.6				ug/L	1511047	Standard
|	Ho	165	13.3	94.4				ug/L	22	Standard
|	Tl	203	34.0	5.1	0.0036	0.000	6.4	ug/L	14	Standard
|	Tl	205	81.7	15.4	0.0009	0.001	65.9	ug/L	27	Standard
|	Pb	206	422.7	3.9	-0.0157	0.003	18.7	ug/L	557	Standard
|	Pb	207	361.0	7.3	-0.0131	0.005	36.3	ug/L	432	Standard
|	Pb	208	1651.0	1.6	-0.0155	0.001	8.6	ug/L	2118	Standard
	U	238	84.7	7.6	0.0037	0.000	7.7	ug/L	78	Standard
>	Bi	209	635249.7	1.0				ug/L	791817	Standard

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Brank Z...

Na	23	0.0		-0.4577	0.000	0.0	mg/L	5	Standard
Mg	24	30.0	16.7	-0.0146	0.011	74.3	mg/L	48	Standard
K	39	3.3	86.6	0.0126	0.048	381.6	mg/L	3	Standard
Ca	43	23.3	65.5	-9.3055	6.161	66.2	mg/L	62	Standard
Fe	54	115.9	13.0	0.0093	0.017	183.8	mg/L	139	Standard
Fe	57	126.7	17.8	0.0383	0.087	226.8	mg/L	83	Standard
Sc-1	45	21007.9	1.0				mg/L	23513	Standard
Cl	35	1.3	86.6				ug/L	3	Standard
Kr	83	3.7	31.5				ug/L	2	Standard
Br	81	960.0	18.1				ug/L	910	Standard
P	31	65.0	23.1				ug/L	85	Standard
S	34	45.0	11.1				ug/L	48	Standard
Sr	88	110.0	16.4				ug/L	72	Standard
C	12	123.3	32.8				mg/L	227	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	7	Standard
Dy	164	2.2	267.0				mg/L	22	Standard
Ho-1	165	13.3	94.4				mg/L	22	Standard
Er	166	23.3	24.7				mg/L	23	Standard
I	127	4525.7	3.8				mg/L	4241	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		81.347	
As	75			
Se	82			
Se-1	77			
Ga	71			

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Brink Z...

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	79.160
[Sn	118	
[Sb	123	
[Ba	135	
[	Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	80.227
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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

Sample ID: QC Std 7

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Bank Z...

MassCal File Name

Mass Calibration File Name
 MassCal File Path C:\NexlONData\MassCal\
 Peak Search Window: 1.00

Sample Information

Sample Date/Time: Wednesday, October 19, 2016 08:03:32

Mass Calibration and Resolution

Analyte	E Mass	Meas Mass	Mass C DAC Val	Res DAC Value	Meas Peak W	Custom Res
Li	7.016	6.975	1336	2024	0.704	
Mg	23.985	24.025	4505	2020	0.695	
Co	58.933	58.925	11694	2022	0.681	
In	114.904	114.925	22865	2028	0.671	
U	238.050	238.075	47460	2042	0.690	

Relative Std. Dev.

Mass	Meas. Intens.	RSD
5.525		5.520
5.575		3.915
5.625		7.492
5.675		5.338
5.725		2.959
5.775		4.909
5.825		1.739
5.875		3.584
5.925		3.111
5.975		3.975
6.025		3.640
6.075		1.970
6.125		5.036
6.175		14.997
6.225		39.123
6.275		81.441
6.325		37.268
6.375		60.111
6.425		17.443
6.475		9.600
6.525		7.933
6.575		2.141
6.625		5.669
6.675		2.321
6.725		4.674
6.775		4.983
6.825		4.782

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6.875	4.594
6.925	4.043
6.975	4.387
7.025	4.099
7.075	3.191
7.125	3.911
7.175	3.097
7.225	5.002
7.275	53.429
7.325	122.475
7.375	122.475
7.425	71.261
7.475	81.441
7.525	141.421
7.575	136.931
7.625	223.607
7.675	104.583
7.725	70.711
7.775	61.237
7.825	162.980
7.875	136.931
7.925	69.722
7.975	46.481
8.025	91.287
8.075	61.237
8.125	83.853
8.175	149.071
8.225	106.863
8.275	69.722
8.325	60.858
8.375	100.000
8.425	69.722
8.475	72.436
22.525	
22.575	141.421
22.625	70.711
22.675	91.287
22.725	68.698
22.775	57.601
22.825	33.535
22.875	31.672
22.925	56.845
22.975	20.328
23.025	40.825
23.075	81.312
23.125	77.025
23.175	35.972

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23.225	38.401
23.275	56.844
23.325	32.439
23.375	50.047
23.425	37.815
23.475	33.518
23.525	11.705
23.575	4.362
23.625	2.360
23.675	2.802
23.725	2.911
23.775	2.798
23.825	1.985
23.875	2.640
23.925	2.728
23.975	2.956
24.025	2.852
24.075	2.899
24.125	2.457
24.175	2.053
24.225	1.869
24.275	2.491
24.325	7.523
24.375	73.023
24.425	27.524
24.475	8.639
24.525	5.589
24.575	2.389
24.625	3.537
24.675	3.139
24.725	2.596
24.775	3.387
24.825	3.912
24.875	2.722
24.925	2.434
24.975	2.713
25.025	2.964
25.075	2.906
25.125	2.504
25.175	2.406
25.225	2.491
25.275	4.856
25.325	37.268
25.375	31.672
25.425	50.990
25.475	11.553
57.525	13.450

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57.575	2.560
57.625	2.889
57.675	3.168
57.725	2.561
57.775	2.809
57.825	2.785
57.875	2.136
57.925	2.635
57.975	3.365
58.025	3.016
58.075	2.465
58.125	2.453
58.175	5.085
58.225	7.079
58.275	26.146
58.325	52.705
58.375	46.566
58.425	32.314
58.475	12.328
58.525	6.096
58.575	5.011
58.625	2.838
58.675	3.673
58.725	3.578
58.775	2.493
58.825	2.156
58.875	2.504
58.925	3.290
58.975	3.387
59.025	3.595
59.075	3.359
59.125	4.502
59.175	5.286
59.225	14.438
59.275	33.165
59.325	122.475
59.375	79.057
59.425	60.990
59.475	35.173
59.525	11.248
59.575	9.066
59.625	5.284
59.675	6.441
59.725	4.869
59.775	4.119
59.825	1.939
59.875	4.763

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59.925	4.571
59.975	3.358
60.025	4.264
60.075	5.561
60.125	5.762
60.175	5.169
60.225	10.904
60.275	91.287
60.325	71.261
60.375	100.000
60.425	69.722
60.475	67.748
113.525	16.644
113.575	7.756
113.625	4.231
113.675	3.020
113.725	4.139
113.775	5.188
113.825	5.749
113.875	3.140
113.925	2.837
113.975	5.778
114.025	3.474
114.075	3.563
114.125	2.602
114.175	3.122
114.225	8.422
114.275	9.390
114.325	48.290
114.375	42.696
114.425	21.840
114.475	11.929
114.525	6.692
114.575	3.852
114.625	3.205
114.675	4.481
114.725	3.609
114.775	3.025
114.825	3.606
114.875	2.756
114.925	2.250
114.975	3.348
115.025	2.849
115.075	2.020
115.125	3.310
115.175	3.058
115.225	2.329

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115.275	3.952
115.325	15.335
115.375	63.191
115.425	66.898
115.475	26.726
115.525	27.292
115.575	20.843
115.625	11.406
115.675	7.079
115.725	6.311
115.775	2.438
115.825	3.912
115.875	8.390
115.925	6.326
115.975	3.076
116.025	6.401
116.075	3.173
116.125	5.586
116.175	6.275
116.225	13.766
116.275	17.924
116.325	26.146
116.375	46.351
116.425	70.711
116.475	79.057
236.525	
236.575	52.407
236.625	22.978
236.675	35.972
236.725	37.630
236.775	44.410
236.825	42.216
236.875	25.913
236.925	31.419
236.975	40.161
237.025	35.355
237.075	21.114
237.125	51.446
237.175	17.275
237.225	24.495
237.275	26.517
237.325	37.029
237.375	54.457
237.425	26.352
237.475	31.923
237.525	7.714
237.575	11.306

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237.625	9.017
237.675	1.174
237.725	4.559
237.775	3.425
237.825	2.809
237.875	3.970
237.925	2.301
237.975	2.663
238.025	1.584
238.075	2.313
238.125	2.291
238.175	2.316
238.225	2.954
238.275	2.174
238.325	2.824
238.375	3.113
238.425	2.295
238.475	6.727
238.525	12.927
238.575	32.341
238.625	23.981
238.675	20.039
238.725	31.623
238.775	17.669
238.825	31.672
238.875	73.098
238.925	21.858
238.975	40.966
239.025	34.583
239.075	31.181
239.125	37.268
239.175	21.066
239.225	61.118
239.275	15.215
239.325	30.492
239.375	13.495
239.425	17.275
239.475	43.257

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Daily Performance Report

Sample ID: Daily Performance Check

Sample Date/Time: Wednesday, October 19, 2016 08:09:02

Sample Description:

Method File: C:\NexIONData\Method\ESI Daily Performance.mth

Dataset File: C:\NexIONData\DataSet\101316\Daily Performance Check.474

MassCal File: C:\NexIONData\MassCal\Default.tun

Conditions File: C:\NexIONData\Conditions\Default.dac

Dual Detector Mode: Pulse

Acq. Dead Time (ns): 33

Current Dead Time (ns): 33

Torch Z position (mm): 0.00

Summary

Analyte	Mass	Meas. Intens.	Mean	Net Intens.	Mean	Net Intens.	SD	Net Intens.	RSD	Mode	
Be	9.0		12393.0		12393.006		501.337		4.0	Standard	
Mg	24.0		251234.6		251234.609		8394.290		3.3	Standard	
In	114.9		86778.3		86778.289		2941.056		3.4	Standard	
U	238.1		99430.2		99430.239		3126.080		3.1	Standard	
[CeO	155.9		4972.0		0.016		0.000		1.0	Standard
>	Ce	139.9		312704.2		312704.245		10458.585		3.3	Standard
]	Ce++	70.0		910.0		0.003		0.000		1.1	Standard
	Bkgd	220.0		0.9		0.933		0.548		58.7	Standard

Current Conditions File Data

Current Value	Description
0.89	Nebulizer Gas Flow STD/KED [NEB]
1.40	Auxiliary Gas Flow
18.00	Plasma Gas Flow
-8.25	Deflector Voltage
1600.00	ICP RF Power
-1825.00	Analog Stage Voltage
1250.00	Pulse Stage Voltage
0.00	Quadrupole Rod Offset STD [QRO]
-15.00	Cell Rod Offset STD [CRO]
5.00	Discriminator Threshold
-2.00	Cell Entrance/Exit Voltage STD
0.00	RPa
0.45	RPq
0.99	DRC Mode NEB
-7.00	DRC Mode QRO
-1.50	DRC Mode CRO
-5.00	DRC Mode Cell Entrance/Exit Voltage
0.70	Cell Gas A
200.00	Axial Field Voltage
-5.00	KED Mode CRO
-16.00	KED Mode QRO
-2.00	KED Mode Cell Entrance Voltage
-22.00	KED Mode Cell Exit Voltage
1.00	KED Cell Gas A
0.00	KED RPa
0.25	KED RPq
475.00	KED Mode Axial Field Voltage

Sample ID: Daily Performance Check

Report Date/Time: Thursday, October 20, 2016 06:49:50

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Method 6020 - Summary Report

Sample ID: Blank

Sample Date/Time: Wednesday, October 19, 2016 08:52:23

Number of Replicates: 3

Autosampler Position: 1

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	91394.8	1.1				ug/L		Standard
|	Be	9	3.3	86.6				ug/L		Standard
|	Al	27	371.7	5.4				ug/L		Standard
|	Sc	45	33475.3	1.6				ug/L		Standard
|	Ti	47	24.7	8.4				ug/L		Standard
|	V	51	1460.5	8.2				ug/L		Standard
|	Cr	52	7269.1	2.7				ug/L		Standard
|	Cr	53	1556.7	6.3				ug/L		Standard
|	Mn	55	1045.4	3.7				ug/L		Standard
|	Co	59	210.0	3.3				ug/L		Standard
|	Ni	60	103.3	7.4				ug/L		Standard
|	Cu	65	134.7	8.8				ug/L		Standard
|	Zn	66	295.7	4.0				ug/L		Standard
>	Ge	72	561244.7	1.4				ug/L		Standard
|	As	75	-46.1	76.3				ug/L		Standard
|	Se	82	19.6	20.8				ug/L		Standard
|	Se-1	77	93.0	17.1				ug/L		Standard
>	Ga	71	6.7	43.3				mg/L		Standard
|	Rb	85	20.0	50.0				ug/L		Standard
|	Y	89	455317.7	2.4				ug/L		Standard
>	Rh	103	16.7	34.6				ug/L		Standard
|	Mo	98	57.3	23.0				ug/L		Standard
|	Ag	107	114.0	10.7				ug/L		Standard
|	Cd	111	4.9	35.0				mg/L		Standard
|	Cd	114	32.8	15.7				ug/L		Standard
>	In	115	874708.0	2.5				ug/L		Standard
|	Sn	118	146.0	19.2				ug/L		Standard
|	Sb	123	646.6	48.8				ug/L		Standard
|	Ba	135	35.0	13.1				ug/L		Standard
|	Ce	140	133.3	12.1				ug/L		Standard
>	Tb	159	1543699.0	1.0				ug/L		Standard
|	Ho	165	20.0	25.0				ug/L		Standard
|	Tl	203	16.7	56.7				ug/L		Standard
|	Tl	205	18.3	15.7				ug/L		Standard
|	Pb	206	552.7	1.1				ug/L		Standard
|	Pb	207	487.0	3.1				ug/L		Standard
	Pb	208	2185.4	0.3				ug/L		Standard
	U	238	18.0	45.5				ug/L		Standard
>	Bi	209	820229.1	1.3				ug/L		Standard

Sample ID: Blank

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Na	23	0.0		mg/L	Standard
Mg	24	53.3	37.9	mg/L	Standard
K	39	3.3	86.6	mg/L	Standard
Ca	43	26.7	78.1	mg/L	Standard
Fe	54	112.2	17.8	mg/L	Standard
Fe	57	213.3	37.7	mg/L	Standard
Sc-1	45	33475.3	1.6	mg/L	Standard
Cl	35	4.0	86.6	ug/L	Standard
Kr	83	3.7	41.7	ug/L	Standard
Br	81	1223.4	2.5	ug/L	Standard
P	31	68.3	37.5	ug/L	Standard
S	34	20.0	25.0	ug/L	Standard
Sr	88	110.0	24.1	ug/L	Standard
C	12	376.7	15.1	mg/L	Standard
N	14	0.0		mg/L	Standard
Hg	202	6.7	173.2	mg/L	Standard
Dy	164	31.6	22.0	mg/L	Standard
Ho-1	165	20.0	25.0	mg/L	Standard
Er	166	36.7	83.3	mg/L	Standard
I	127	3753.8	6.5	mg/L	Standard

QC Calculated Values

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

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

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: Blank

Report Date/Time: Wednesday, October 19, 2016 08:54:27

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Method 6020 - Summary Report

Sample ID: Standard 1

Sample Date/Time: Wednesday, October 19, 2016 08:55:22

Number of Replicates: 3

Autosampler Position: 1

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	86498.0	2.4				ug/L	91395	Standard
|	Be	9	5.0	0.0				ug/L	3	Standard
|	Al	27	420.0	12.9				ug/L	372	Standard
|	Sc	45	32745.4	1.8				ug/L	33475	Standard
|	Ti	47	21.3	35.8				ug/L	25	Standard
|	V	51	1452.7	4.4				ug/L	1461	Standard
|	Cr	52	7271.4	1.9				ug/L	7269	Standard
|	Cr	53	1546.7	12.8				ug/L	1557	Standard
|	Mn	55	1042.4	1.9				ug/L	1045	Standard
|	Co	59	213.0	6.8				ug/L	210	Standard
|	Ni	60	115.0	7.6				ug/L	103	Standard
|	Cu	65	132.3	6.5				ug/L	135	Standard
|	Zn	66	326.7	4.9				ug/L	296	Standard
>	Ge	72	555721.2	3.3				ug/L	561245	Standard
|	As	75	-19.9	143.2				ug/L	-46	Standard
|	Se	82	18.9	19.0				ug/L	20	Standard
|	Se-1	77	96.7	3.9				ug/L	93	Standard
>	Ga	71	13.3	43.3				mg/L	7	Standard
|	Rb	85	16.7	121.2				ug/L	20	Standard
|	Y	89	454725.4	1.6				ug/L	455318	Standard
>	Rh	103	15.0	33.3				ug/L	17	Standard
|	Mo	98	42.4	28.3				ug/L	57	Standard
|	Ag	107	103.3	7.8				ug/L	114	Standard
|	Cd	111	8.9	38.7				mg/L	5	Standard
|	Cd	114	40.2	7.3				ug/L	33	Standard
>	In	115	860856.7	2.5				ug/L	874708	Standard
|	Sn	118	116.7	1.8				ug/L	146	Standard
|	Sb	123	352.1	48.9				ug/L	647	Standard
|	Ba	135	29.3	7.1				ug/L	35	Standard
|	Ce	140	120.0	25.0				ug/L	133	Standard
>	Tb	159	1528743.5	1.3				ug/L	1543699	Standard
|	Ho	165	26.7	65.8				ug/L	20	Standard
|	Tl	203	15.0	24.0				ug/L	17	Standard
|	Tl	205	33.3	45.8				ug/L	18	Standard
|	Pb	206	577.0	6.2				ug/L	553	Standard
|	Pb	207	476.0	3.5				ug/L	487	Standard
	Pb	208	2217.4	2.6				ug/L	2185	Standard
	U	238	15.7	42.5				ug/L	18	Standard
>	Bi	209	803599.5	2.5				ug/L	820229	Standard

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Na	23	0.0		mg/L	0	Standard
Mg	24	71.7	49.5	mg/L	53	Standard
K	39	15.0	33.3	mg/L	3	Standard
Ca	43	31.7	24.1	mg/L	27	Standard
Fe	54	117.7	6.3	mg/L	112	Standard
Fe	57	251.7	10.9	mg/L	213	Standard
Sc-1	45	32745.4	1.8	mg/L	33475	Standard
Cl	35	2.0	100.0	ug/L	4	Standard
Kr	83	1.0	100.0	ug/L	4	Standard
Br	81	1166.7	2.6	ug/L	1223	Standard
P	31	95.0	32.9	ug/L	68	Standard
S	34	33.3	8.7	ug/L	20	Standard
Sr	88	90.0	9.6	ug/L	110	Standard
C	12	363.3	8.4	mg/L	377	Standard
N	14	0.0		mg/L	0	Standard
Hg	202	3.3	173.2	mg/L	7	Standard
Dy	164	29.0	67.3	mg/L	32	Standard
Ho-1	165	26.7	65.8	mg/L	20	Standard
Er	166	20.0	100.0	mg/L	37	Standard
I	127	3823.8	2.8	mg/L	3754	Standard

QC Calculated Values

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

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

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Method 6020 - Summary Report

Sample ID: Standard 2

Sample Date/Time: Wednesday, October 19, 2016 08:58:22

Number of Replicates: 3

Autosampler Position: 2

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

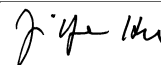
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	89885.9	1.8				ug/L	91395	Standard
|	Be	9	63.3	16.4				ug/L	3	Standard
|	Al	27	5234.2	3.3				ug/L	372	Standard
|	Sc	45	34502.6	0.9				ug/L	33475	Standard
|	Ti	47	54.7	26.7				ug/L	25	Standard
|	V	51	1859.2	4.0				ug/L	1461	Standard
|	Cr	52	7708.3	2.1				ug/L	7269	Standard
|	Cr	53	1616.8	1.9				ug/L	1557	Standard
|	Mn	55	1357.7	5.5				ug/L	1045	Standard
|	Co	59	623.3	3.3				ug/L	210	Standard
|	Ni	60	192.0	2.8				ug/L	103	Standard
|	Cu	65	212.3	6.1				ug/L	135	Standard
|	Zn	66	212.3	3.8				ug/L	296	Standard
>	Ge	72	567673.7	0.9				ug/L	561245	Standard
|	As	75	18.2	198.8				ug/L	-46	Standard
|	Se	82	19.9	12.3				ug/L	20	Standard
|	Se-1	77	95.0	2.1				ug/L	93	Standard
>	Ga	71	10.0	50.0				mg/L	7	Standard
|	Rb	85	25.0	40.0				ug/L	20	Standard
|	Y	89	452363.1	2.6				ug/L	455318	Standard
>	Rh	103	16.7	17.3				ug/L	17	Standard
|	Mo	98	400.9	9.7				ug/L	57	Standard
|	Ag	107	461.3	4.3				ug/L	114	Standard
|	Cd	111	129.8	1.9				mg/L	5	Standard
|	Cd	114	325.0	11.1				ug/L	33	Standard
>	In	115	862184.0	1.3				ug/L	874708	Standard
|	Sn	118	187.3	2.4				ug/L	146	Standard
|	Sb	123	601.4	24.8				ug/L	647	Standard
|	Ba	135	179.0	2.2				ug/L	35	Standard
|	Ce	140	101.7	30.0				ug/L	133	Standard
>	Tb	159	1538554.0	1.8				ug/L	1543699	Standard
|	Ho	165	15.0	66.7				ug/L	20	Standard
|	Tl	203	600.7	4.4				ug/L	17	Standard
|	Tl	205	1493.4	6.6				ug/L	18	Standard
|	Pb	206	950.7	3.0				ug/L	553	Standard
|	Pb	207	848.0	0.7				ug/L	487	Standard
	Pb	208	3891.5	0.4				ug/L	2185	Standard
	U	238	1571.1	3.0				ug/L	18	Standard
>	Bi	209	810530.8	1.2				ug/L	820229	Standard

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Na	23	1.7	173.2	mg/L	0	Standard
Mg	24	68.3	18.4	mg/L	53	Standard
K	39	5.0	0.0	mg/L	3	Standard
Ca	43	48.3	11.9	mg/L	27	Standard
Fe	54	123.9	18.3	mg/L	112	Standard
Fe	57	265.0	3.3	mg/L	213	Standard
Sc-1	45	34502.6	0.9	mg/L	33475	Standard
Cl	35	1.3	86.6	ug/L	4	Standard
Kr	83	2.3	24.7	ug/L	4	Standard
Br	81	1226.7	16.3	ug/L	1223	Standard
P	31	65.0	7.7	ug/L	68	Standard
S	34	28.3	44.4	ug/L	20	Standard
Sr	88	131.7	34.5	ug/L	110	Standard
C	12	373.3	6.7	mg/L	377	Standard
N	14	0.0		mg/L	0	Standard
Hg	202	0.0		mg/L	7	Standard
Dy	164	8.1	114.9	mg/L	32	Standard
Ho-1	165	15.0	66.7	mg/L	20	Standard
Er	166	40.0	43.3	mg/L	37	Standard
I	127	3793.8	2.4	mg/L	3754	Standard

QC Calculated Values

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

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

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: Standard 2

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Method 6020 - Summary Report

Sample ID: Standard 3

Sample Date/Time: Wednesday, October 19, 2016 09:01:22

Number of Replicates: 3

Autosampler Position: 3

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

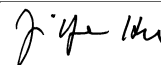
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	87623.0	4.6				ug/L	91395	Standard
|	Be	9	46171.9	0.5	50.0000	2.475	5.0	ug/L	3	Standard
|	Al	27	5190163.3	3.4	50.0000	2.175	4.4	ug/L	372	Standard
|	Sc	45	33027.6	2.9				ug/L	33475	Standard
|	Ti	47	22055.4	1.9	100.0000	1.163	1.2	ug/L	25	Standard
|	V	51	335179.5	1.9	50.0000	0.620	1.2	ug/L	1461	Standard
|	Cr	52	311717.9	0.5	50.0000	0.468	0.9	ug/L	7269	Standard
|	Cr	53	39414.5	1.1	50.0000	0.434	0.9	ug/L	1557	Standard
|	Mn	55	494050.9	1.1	50.0000	0.428	0.9	ug/L	1045	Standard
|	Co	59	416691.9	2.2	50.0000	0.957	1.9	ug/L	210	Standard
|	Ni	60	91466.1	3.4	50.0000	1.656	3.3	ug/L	103	Standard
|	Cu	65	91990.5	1.6	50.0000	0.961	1.9	ug/L	135	Standard
|	Zn	66	48856.0	1.1	50.0000	0.318	0.6	ug/L	296	Standard
>	Ge	72	563434.6	0.8				ug/L	561245	Standard
|	As	75	50267.0	0.7	50.0000	0.623	1.2	ug/L	-46	Standard
|	Se	82	4827.6	0.5	50.0000	0.632	1.3	ug/L	20	Standard
|	Se-1	77	3206.7	2.3	50.0000	1.009	2.0	ug/L	93	Standard
>	Ga	71	40.0	50.0				mg/L	7	Standard
|	Rb	85	816.7	4.3				ug/L	20	Standard
|	Y	89	452560.1	1.3				ug/L	455318	Standard
>	Rh	103	30.0	28.9				ug/L	17	Standard
|	Mo	98	365724.5	1.8	100.0000	0.793	0.8	ug/L	57	Standard
|	Ag	107	342563.0	0.5	50.0000	0.479	1.0	ug/L	114	Standard
|	Cd	111	119259.6	2.5	50.0000	0.535	1.1	mg/L	5	Standard
|	Cd	114	309697.8	1.2	50.0000	0.124	0.2	ug/L	33	Standard
>	In	115	856041.2	1.4				ug/L	874708	Standard
|	Sn	118	67996.3	1.8	50.0000	0.527	1.1	ug/L	146	Standard
|	Sb	123	325803.7	1.6	50.0000	0.277	0.6	ug/L	647	Standard
|	Ba	135	142981.9	2.9	50.0000	0.747	1.5	ug/L	35	Standard
|	Ce	140	180.0	21.0				ug/L	133	Standard
>	Tb	159	1534255.2	1.5				ug/L	1543699	Standard
|	Ho	165	16.7	69.3				ug/L	20	Standard
|	Tl	203	576472.7	1.3	50.0000	0.868	1.7	ug/L	17	Standard
|	Tl	205	1317739.0	0.6	50.0000	0.613	1.2	ug/L	18	Standard
|	Pb	206	428686.6	1.7	50.0000	0.104	0.2	ug/L	553	Standard
|	Pb	207	378995.8	1.0	50.0000	0.427	0.9	ug/L	487	Standard
|	Pb	208	1722164.5	1.6	50.0000	0.267	0.5	ug/L	2185	Standard
	U	238	1541130.6	2.2	50.0000	0.179	0.4	ug/L	18	Standard
>	Bi	209	797752.0	1.8				ug/L	820229	Standard

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Na	23	18.3	68.6	5.0000	3.659	73.2	mg/L	0	Standard
Mg	24	2571.9	6.7	5.0000	0.336	6.7	mg/L	53	Standard
K	39	438.3	9.1	5.0000	0.549	11.0	mg/L	3	Standard
Ca	43	61.7	9.4	5.0000	1.888	37.8	mg/L	27	Standard
Fe	54	4829.9	0.2	5.0000	0.147	2.9	mg/L	112	Standard
Fe	57	1510.1	1.7	5.0000	0.187	3.7	mg/L	213	Standard
Sc-1	45	33027.6	2.9				mg/L	33475	Standard
Cl	35	3.3	34.6				ug/L	4	Standard
Kr	83	2.3	89.2				ug/L	4	Standard
Br	81	1150.0	7.7				ug/L	1223	Standard
P	31	58.3	21.6				ug/L	68	Standard
S	34	31.7	24.1				ug/L	20	Standard
Sr	88	123.3	10.2				ug/L	110	Standard
C	12	333.3	13.9				mg/L	377	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	10.0	100.0				mg/L	7	Standard
Dy	164	21.9	69.8				mg/L	32	Standard
Ho-1	165	16.7	69.3				mg/L	20	Standard
Er	166	30.0	0.0				mg/L	37	Standard
I	127	3597.1	8.1				mg/L	3754	Standard

QC Calculated Values

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

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

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: Standard 3

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Method 6020 - Summary Report

Sample ID: Standard 4

Sample Date/Time: Wednesday, October 19, 2016 09:04:21

Number of Replicates: 3

Autosampler Position: 4

Sample Description:

Method File: C:\NexIONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	85439.2	6.1				ug/L	91395	Standard
|	Be	9	90558.4	3.9	100.2693	3.037	3.0	ug/L	3	Standard
|	Al	27	10317514.8	3.2	100.9775	3.768	3.7	ug/L	372	Standard
|	Sc	45	32496.5	1.9				ug/L	33475	Standard
|	Ti	47	44206.8	2.8	200.3315	0.749	0.4	ug/L	25	Standard
|	V	51	665845.0	2.4	99.7986	0.425	0.4	ug/L	1461	Standard
|	Cr	52	616645.2	2.7	100.0652	1.425	1.4	ug/L	7269	Standard
|	Cr	53	77407.4	3.2	100.1185	2.395	2.4	ug/L	1557	Standard
|	Mn	55	998984.9	2.2	100.6155	1.094	1.1	ug/L	1045	Standard
|	Co	59	827877.7	2.8	99.7017	1.367	1.4	ug/L	210	Standard
|	Ni	60	178447.3	3.7	98.7997	1.871	1.9	ug/L	103	Standard
|	Cu	65	177052.0	3.7	98.1224	1.634	1.7	ug/L	135	Standard
|	Zn	66	95568.8	4.0	98.9812	1.510	1.5	ug/L	296	Standard
>	Ge	72	563231.4	2.7				ug/L	561245	Standard
|	As	75	99993.3	2.0	99.7380	1.224	1.2	ug/L	-46	Standard
|	Se	82	9589.1	1.5	99.7621	1.848	1.9	ug/L	20	Standard
|	Se-1	77	6388.7	2.4	100.5676	3.073	3.1	ug/L	93	Standard
>	Ga	71	100.0	18.0				mg/L	7	Standard
|	Rb	85	1175.0	8.3				ug/L	20	Standard
|	Y	89	452290.2	2.2				ug/L	455318	Standard
>	Rh	103	51.7	29.6				ug/L	17	Standard
|	Mo	98	739164.4	2.3	200.7470	3.642	1.8	ug/L	57	Standard
|	Ag	107	676278.3	0.4	99.2054	1.033	1.0	ug/L	114	Standard
|	Cd	111	231723.5	1.9	98.4070	0.448	0.5	mg/L	5	Standard
|	Cd	114	601254.5	2.0	98.3599	1.162	1.2	ug/L	33	Standard
>	In	115	858677.4	1.4				ug/L	874708	Standard
|	Sn	118	137633.5	2.2	100.4891	1.535	1.5	ug/L	146	Standard
|	Sb	123	632918.3	2.2	98.4086	0.778	0.8	ug/L	647	Standard
|	Ba	135	281839.7	1.9	99.1315	0.431	0.4	ug/L	35	Standard
|	Ce	140	343.3	12.1				ug/L	133	Standard
>	Tb	159	1531620.5	3.8				ug/L	1543699	Standard
|	Ho	165	50.0	0.0				ug/L	20	Standard
|	Tl	203	1126888.8	2.8	100.0284	0.753	0.8	ug/L	17	Standard
|	Tl	205	2661810.0	2.5	101.6737	1.059	1.0	ug/L	18	Standard
|	Pb	206	852108.4	2.8	100.8999	0.929	0.9	ug/L	553	Standard
|	Pb	207	749635.6	2.7	100.6510	1.122	1.1	ug/L	487	Standard
|	Pb	208	3394889.5	3.3	100.4783	0.481	0.5	ug/L	2185	Standard
	U	238	3127749.6	1.8	101.9234	1.830	1.8	ug/L	18	Standard
>	Bi	209	779296.8	3.5				ug/L	820229	Standard

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Na	23	20.0	43.3	7.2485	3.442	47.5	mg/L	0	Standard
Mg	24	5179.2	4.7	10.1761	0.293	2.9	mg/L	53	Standard
K	39	821.7	13.6	9.7701	1.237	12.7	mg/L	3	Standard
Ca	43	95.0	5.3	12.3963	0.845	6.8	mg/L	27	Standard
Fe	54	9478.7	3.4	10.0456	0.452	4.5	mg/L	112	Standard
Fe	57	2773.6	5.6	10.1031	0.840	8.3	mg/L	213	Standard
Sc-1	45	32496.5	1.9				mg/L	33475	Standard
Cl	35	0.0					ug/L	4	Standard
Kr	83	4.7	65.5				ug/L	4	Standard
Br	81	1230.1	11.5				ug/L	1223	Standard
P	31	76.7	32.2				ug/L	68	Standard
S	34	20.0	86.6				ug/L	20	Standard
Sr	88	143.3	8.1				ug/L	110	Standard
C	12	393.3	27.4				mg/L	377	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	7	Standard
Dy	164	34.3	37.5				mg/L	32	Standard
Ho-1	165	50.0	0.0				mg/L	20	Standard
Er	166	50.0	72.1				mg/L	37	Standard
I	127	5877.8	2.3				mg/L	3754	Standard

QC Calculated Values

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

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

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Corr. Coef.	Na	23	Correlation coefficient < 0.998
Corr. Coef.	Ca	43	Correlation coefficient < 0.998

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Method 6020 - Summary Report

Sample ID: QC Std 1

Sample Date/Time: Wednesday, October 19, 2016 09:07:23

Number of Replicates: 3

Autosampler Position: 201

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	82096.9	3.0				ug/L	91395	Standard
|	Be	9	44369.9	3.7	51.0645	0.885	1.7	ug/L	3	Standard
|	Al	27	4747431.5	4.8	48.2812	1.427	3.0	ug/L	372	Standard
|	Sc	45	31461.0	3.6				ug/L	33475	Standard
|	Ti	47	21146.8	2.8	100.6760	3.016	3.0	ug/L	25	Standard
|	V	51	319004.2	2.6	50.1514	1.476	2.9	ug/L	1461	Standard
|	Cr	52	293599.7	0.6	49.4808	0.398	0.8	ug/L	7269	Standard
|	Cr	53	37219.0	1.2	49.5792	0.495	1.0	ug/L	1557	Standard
|	Mn	55	472998.3	1.0	50.0338	0.709	1.4	ug/L	1045	Standard
|	Co	59	396196.9	2.0	50.1494	1.214	2.4	ug/L	210	Standard
|	Ni	60	86530.8	2.0	50.3448	1.196	2.4	ug/L	103	Standard
|	Cu	65	86711.9	2.6	50.4966	1.522	3.0	ug/L	135	Standard
|	Zn	66	46329.1	2.6	50.3739	1.474	2.9	ug/L	296	Standard
>	Ge	72	535766.1	0.5				ug/L	561245	Standard
|	As	75	48261.1	1.4	50.6143	0.768	1.5	ug/L	-46	Standard
|	Se	82	4621.4	1.9	50.4543	0.952	1.9	ug/L	20	Standard
|	Se-1	77	3129.0	2.9	51.0616	1.790	3.5	ug/L	93	Standard
>	Ga	71	33.3	22.9				mg/L	7	Standard
|	Rb	85	836.7	3.7				ug/L	20	Standard
|	Y	89	425399.6	2.3				ug/L	455318	Standard
>	Rh	103	28.3	20.4				ug/L	17	Standard
|	Mo	98	349429.7	1.0	99.9575	2.289	2.3	ug/L	57	Standard
|	Ag	107	322127.2	1.6	49.7658	1.586	3.2	ug/L	114	Standard
|	Cd	111	112123.9	1.1	50.1583	1.346	2.7	mg/L	5	Standard
|	Cd	114	293421.5	2.1	50.5468	0.315	0.6	ug/L	33	Standard
>	In	115	815385.3	1.6				ug/L	874708	Standard
|	Sn	118	65489.6	2.4	50.3319	1.968	3.9	ug/L	146	Standard
|	Sb	123	316591.9	2.7	51.8349	1.796	3.5	ug/L	647	Standard
|	Ba	135	134967.0	2.1	50.0051	1.729	3.5	ug/L	35	Standard
|	Ce	140	108.3	27.8				ug/L	133	Standard
>	Tb	159	1454300.9	1.5				ug/L	1543699	Standard
|	Ho	165	20.0	50.0				ug/L	20	Standard
|	Tl	203	552321.8	2.7	50.2826	1.728	3.4	ug/L	17	Standard
|	Tl	205	1281370.5	2.7	50.1935	1.755	3.5	ug/L	18	Standard
|	Pb	206	411855.0	1.8	49.9862	1.269	2.5	ug/L	553	Standard
|	Pb	207	362931.1	1.3	49.9433	1.034	2.1	ug/L	487	Standard
|	Pb	208	1641948.6	1.4	49.8143	1.059	2.1	ug/L	2185	Standard
	U	238	1476508.2	0.5	49.3314	0.616	1.2	ug/L	18	Standard
>	Bi	209	759832.4	0.8				ug/L	820229	Standard

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Na	23	16.7	45.8	6.0718	2.834	46.7	mg/L	0	Standard
Mg	24	2343.5	3.8	4.6959	0.232	4.9	mg/L	53	Standard
K	39	446.7	5.5	5.4787	0.501	9.1	mg/L	3	Standard
Ca	43	68.3	27.7	6.3947	5.546	86.7	mg/L	27	Standard
Fe	54	4652.6	1.0	5.0363	0.197	3.9	mg/L	112	Standard
Fe	57	1473.4	11.1	5.0806	0.500	9.8	mg/L	213	Standard
Sc-1	45	31461.0	3.6				mg/L	33475	Standard
Cl	35	0.7	173.2				ug/L	4	Standard
Kr	83	2.3	65.5				ug/L	4	Standard
Br	81	973.4	19.3				ug/L	1223	Standard
P	31	68.3	37.5				ug/L	68	Standard
S	34	15.0	57.7				ug/L	20	Standard
Sr	88	108.3	21.8				ug/L	110	Standard
C	12	470.0	12.8				mg/L	377	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	7	Standard
Dy	164	25.9	21.6				mg/L	32	Standard
Ho-1	165	20.0	50.0				mg/L	20	Standard
Er	166	16.7	124.9				mg/L	37	Standard
I	127	3445.4	2.7				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	102.129		
Al	27	96.562		
Sc	45			
Ti	47	100.676		
V	51	100.303		
Cr	52	98.962		
Cr	53			
Mn	55	100.068		
Co	59	100.299		
Ni	60	100.690		
Cu	65	100.993		
Zn	66	100.748		
Ge	72		95.460	
As	75	101.229		
Se	82	100.909		
Se-1	77			
Ga	71			

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[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	99.958	
[Ag	107	99.532	
[Cd	111	100.317	
[Cd	114		
>	In	115		93.218
[Sn	118	100.664	
[	Sb	123	103.670	
[	Ba	135	100.010	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	100.565	
[	Tl	205		
[	Pb	206	99.972	
[	Pb	207	99.887	
[	Pb	208	99.629	
[	U	238	98.663	
>	Bi	209		92.637
[	Na	23	121.436	
[	Mg	24	93.919	
[	K	39	109.574	
[	Ca	43	127.894	
[	Fe	54	100.726	
[	Fe	57	101.611	
>	Sc-1	45		
[	Cl	35		
[	Kr	83		
[	Br	81		
[	P	31		
[	S	34		
[	Sr	88		
[	C	12		
[	N	14		
[	Hg	202		
[	Dy	164		
[	Ho-1	165		
[	Er	166		
[	I	127		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 1	Na	23	
QC Std 1	Ca	43	

Sample ID: QC Std 1

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Method 6020 - Summary Report

Sample ID: QC Std 2

Sample Date/Time: Wednesday, October 19, 2016 09:10:24

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	73885.2	13.5				ug/L	91395	Standard
|	Be	9	15.0	66.7	0.0028	0.014	494.7	ug/L	3	Standard
|	Al	27	756.7	34.9	0.0102	0.004	37.5	ug/L	372	Standard
|	Sc	45	30659.6	11.0				ug/L	33475	Standard
|	Ti	47	26.3	32.3	-0.0144	0.031	218.1	ug/L	25	Standard
|	V	51	1063.0	10.4	-0.0490	0.019	39.4	ug/L	1461	Standard
|	Cr	52	5475.3	19.0	-0.2112	0.109	51.6	ug/L	7269	Standard
|	Cr	53	1396.7	12.3	-0.0202	0.114	563.6	ug/L	1557	Standard
|	Mn	55	790.0	11.1	0.0028	0.007	235.9	ug/L	1045	Standard
|	Co	59	225.0	8.0	0.0057	0.001	19.6	ug/L	210	Standard
|	Ni	60	106.3	17.3	0.0108	0.016	146.3	ug/L	103	Standard
|	Cu	65	148.3	8.1	0.0250	0.009	37.9	ug/L	135	Standard
|	Zn	66	205.7	12.9	0.0711	0.046	64.6	ug/L	296	Standard
>	Ge	72	506438.1	8.4				ug/L	561245	Standard
|	As	75	-4.1	125.2	0.0271	0.006	22.2	ug/L	-46	Standard
|	Se	82	16.5	22.6	0.0375	0.054	144.4	ug/L	20	Standard
|	Se-1	77	97.0	3.6	0.2763	0.169	61.1	ug/L	93	Standard
>	Ga	71	20.0	25.0				mg/L	7	Standard
|	Rb	85	8.3	69.3				ug/L	20	Standard
|	Y	89	405810.1	7.7				ug/L	455318	Standard
>	Rh	103	3.3	86.6				ug/L	17	Standard
|	Mo	98	218.7	39.9	0.0573	0.022	38.5	ug/L	57	Standard
|	Ag	107	138.0	8.5	0.0054	0.002	44.3	ug/L	114	Standard
|	Cd	111	11.7	34.6	0.0007	0.002	299.8	mg/L	5	Standard
|	Cd	114	36.3	57.5	0.0035	0.003	93.1	ug/L	33	Standard
>	In	115	766003.7	7.0				ug/L	874708	Standard
|	Sn	118	137.0	37.5	0.0247	0.037	147.8	ug/L	146	Standard
|	Sb	123	619.3	78.3	0.0624	0.080	127.9	ug/L	647	Standard
|	Ba	135	41.0	4.9	0.0035	0.001	18.9	ug/L	35	Standard
|	Ce	140	50.0	40.0				ug/L	133	Standard
>	Tb	159	1372976.2	6.4				ug/L	1543699	Standard
|	Ho	165	15.0	33.3				ug/L	20	Standard
|	Tl	203	71.3	33.8	0.0054	0.002	45.7	ug/L	17	Standard
|	Tl	205	160.0	38.0	0.0016	0.003	162.7	ug/L	18	Standard
|	Pb	206	559.7	2.3	0.0112	0.003	29.7	ug/L	553	Standard
|	Pb	207	488.3	7.1	0.0092	0.003	36.9	ug/L	487	Standard
|	Pb	208	2169.4	6.6	0.0065	0.001	9.3	ug/L	2185	Standard
	U	238	180.0	36.6	0.0070	0.002	34.6	ug/L	18	Standard
>	Bi	209	744475.5	7.1				ug/L	820229	Standard

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Na	23	0.0		-0.6045	0.000	0.0	mg/L	0	Standard
Mg	24	60.0	16.7	0.0042	0.023	559.6	mg/L	53	Standard
K	39	15.0	33.3	0.1393	0.066	47.4	mg/L	3	Standard
Ca	43	36.7	7.9	-1.5611	1.663	106.6	mg/L	27	Standard
Fe	54	64.6	68.4	-0.0498	0.041	81.4	mg/L	112	Standard
Fe	57	196.7	5.3	-0.1547	0.078	50.5	mg/L	213	Standard
Sc-1	45	30659.6	11.0				mg/L	33475	Standard
Cl	35	0.7	173.2				ug/L	4	Standard
Kr	83	1.3	86.6				ug/L	4	Standard
Br	81	1140.0	12.4				ug/L	1223	Standard
P	31	48.3	48.9				ug/L	68	Standard
S	34	25.0	52.9				ug/L	20	Standard
Sr	88	90.0	14.7				ug/L	110	Standard
C	12	340.0	15.3				mg/L	377	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	0.0					mg/L	7	Standard
Dy	164	32.4	50.6				mg/L	32	Standard
Ho-1	165	15.0	33.3				mg/L	20	Standard
Er	166	20.0	132.3				mg/L	37	Standard
I	127	3087.0	11.2				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		90.235	
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	87.573
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	90.764
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 2	Na	23	
QC Std 2	K	39	
QC Std 2	Ca	43	

Sample ID: QC Std 2

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QC Std 2

Fe

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Sample ID: QC Std 2

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Method 6020 - Summary Report

Sample ID: QC Std 3

Sample Date/Time: Wednesday, October 19, 2016 09:13:25

Number of Replicates: 3

Autosampler Position: 202

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	80130.4	7.3				ug/L	91395	Standard
|	Be	9	158.3	10.2	0.1700	0.008	4.5	ug/L	3	Standard
|	Al	27	376.7	12.6	0.0053	0.001	11.1	ug/L	372	Standard
|	Sc	45	30878.1	4.8				ug/L	33475	Standard
|	Ti	47	29.7	15.9	0.0003	0.022	8129.1	ug/L	25	Standard
|	V	51	3476.1	9.2	0.3384	0.032	9.6	ug/L	1461	Standard
|	Cr	52	10624.4	6.3	0.6844	0.047	6.9	ug/L	7269	Standard
|	Cr	53	1936.8	4.4	0.7043	0.032	4.6	ug/L	1557	Standard
|	Mn	55	5460.7	4.8	0.5108	0.005	0.9	ug/L	1045	Standard
|	Co	59	3128.0	6.8	0.3837	0.012	3.1	ug/L	210	Standard
|	Ni	60	2653.2	6.7	1.5372	0.051	3.3	ug/L	103	Standard
|	Cu	65	1430.1	5.2	0.7929	0.014	1.8	ug/L	135	Standard
|	Zn	66	5811.1	4.9	6.3681	0.117	1.8	ug/L	296	Standard
>	Ge	72	519487.9	4.0				ug/L	561245	Standard
|	As	75	324.7	13.2	0.3824	0.039	10.3	ug/L	-46	Standard
|	Se	82	47.7	12.3	0.3839	0.068	17.7	ug/L	20	Standard
|	Se-1	77	105.3	8.8	0.3686	0.142	38.6	ug/L	93	Standard
>	Ga	71	18.3	31.5				mg/L	7	Standard
|	Rb	85	15.0	33.3				ug/L	20	Standard
|	Y	89	426128.8	5.4				ug/L	455318	Standard
>	Rh	103	6.7	43.3				ug/L	17	Standard
|	Mo	98	128.3	15.4	0.0290	0.004	14.1	ug/L	57	Standard
|	Ag	107	2575.9	3.7	0.3892	0.012	3.0	ug/L	114	Standard
|	Cd	111	516.2	5.6	0.2308	0.004	1.8	mg/L	5	Standard
|	Cd	114	1312.7	8.5	0.2277	0.012	5.4	ug/L	33	Standard
>	In	115	798747.1	5.5				ug/L	874708	Standard
|	Sn	118	149.0	27.1	0.0305	0.029	94.4	ug/L	146	Standard
|	Sb	123	3027.9	15.2	0.4628	0.063	13.5	ug/L	647	Standard
|	Ba	135	1924.8	6.2	0.7150	0.007	0.9	ug/L	35	Standard
|	Ce	140	53.3	23.6				ug/L	133	Standard
>	Tb	159	1434168.8	5.2				ug/L	1543699	Standard
|	Ho	165	13.3	21.7				ug/L	20	Standard
|	Tl	203	885.4	3.5	0.0794	0.001	1.2	ug/L	17	Standard
|	Tl	205	1910.1	10.1	0.0699	0.005	6.7	ug/L	18	Standard
|	Pb	206	2165.2	5.7	0.2048	0.005	2.5	ug/L	553	Standard
|	Pb	207	1835.4	2.9	0.1936	0.005	2.5	ug/L	487	Standard
|	Pb	208	8396.2	4.3	0.1943	0.001	0.7	ug/L	2185	Standard
	U	238	11293.5	5.3	0.3782	0.005	1.3	ug/L	18	Standard
>	Bi	209	759352.3	4.0				ug/L	820229	Standard

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Na	23	0.0		-0.6045	0.000	0.0	mg/L	0	Standard
Mg	24	51.7	20.1	-0.0153	0.017	114.1	mg/L	53	Standard
K	39	6.7	43.3	0.0323	0.035	107.0	mg/L	3	Standard
Ca	43	30.0	16.7	-3.4829	1.390	39.9	mg/L	27	Standard
Fe	54	109.2	28.9	0.0030	0.034	1160.9	mg/L	112	Standard
Fe	57	238.3	10.3	0.0123	0.127	1031.4	mg/L	213	Standard
Sc-1	45	30878.1	4.8				mg/L	33475	Standard
Cl	35	0.7	173.2				ug/L	4	Standard
Kr	83	3.0	66.7				ug/L	4	Standard
Br	81	1120.0	10.1				ug/L	1223	Standard
P	31	80.0	12.5				ug/L	68	Standard
S	34	16.7	69.3				ug/L	20	Standard
Sr	88	96.7	19.6				ug/L	110	Standard
C	12	330.0	38.7				mg/L	377	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	10.0					mg/L	7	Standard
Dy	164	12.4	47.3				mg/L	32	Standard
Ho-1	165	13.3	21.7				mg/L	20	Standard
Er	166	20.0	100.0				mg/L	37	Standard
I	127	3512.1	1.8				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	85.021		
Al	27	0.529		
Sc	45			
Ti	47			
V	51	84.591		
Cr	52	85.556		
Cr	53			
Mn	55	102.170		
Co	59	95.926		
Ni	60	96.073		
Cu	65	99.111		
Zn	66	101.889		
Ge	72		92.560	
As	75	95.609		
Se	82	95.980		
Se-1	77			
Ga	71			

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[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98		
[Ag	107	97.302	
[Cd	111	96.160	
[Cd	114		
>	In	115		91.316
[Sn	118		
[Sb	123	115.691	
[	Ba	135	95.338	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	99.238	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	97.169	
[	U	238	94.552	
>	Bi	209		92.578
[	Na	23		
[	Mg	24		
[	K	39		
[	Ca	43		
[	Fe	54		
[	Fe	57		
>	Sc-1	45		
[	Cl	35		
[	Kr	83		
[	Br	81		
[	P	31		
[	S	34		
[	Sr	88		
[	C	12		
[	N	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	

Sample ID: QC Std 3

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Method 6020 - Summary Report

Sample ID: QC Std 4

Sample Date/Time: Wednesday, October 19, 2016 09:16:24

Number of Replicates: 3

Autosampler Position: 203

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	65036.7	9.0				ug/L	91395	Standard
|	Be	9	8.3	69.3	-0.0048	0.007	145.3	ug/L	3	Standard
|	Al	27	3912036.6	6.0	50.3179	1.534	3.0	ug/L	372	Standard
|	Sc	45	27508.3	4.3				ug/L	33475	Standard
|	Ti	47	2396.9	4.2	12.3328	0.396	3.2	ug/L	25	Standard
|	V	51	1153.4	20.2	-0.0282	0.040	140.2	ug/L	1461	Standard
|	Cr	52	4913.5	2.8	-0.2796	0.018	6.3	ug/L	7269	Standard
|	Cr	53	1978.5	6.4	0.9328	0.220	23.6	ug/L	1557	Standard
|	Mn	55	1097.4	0.9	0.0413	0.002	4.7	ug/L	1045	Standard
|	Co	59	279.7	9.8	0.0142	0.004	25.5	ug/L	210	Standard
|	Ni	60	430.7	5.4	0.2183	0.012	5.5	ug/L	103	Standard
|	Cu	65	266.7	4.5	0.1031	0.009	9.1	ug/L	135	Standard
|	Zn	66	759.0	2.1	0.7360	0.028	3.8	ug/L	296	Standard
>	Ge	72	490513.3	1.1				ug/L	561245	Standard
|	As	75	-21.0	160.8	0.0080	0.038	474.1	ug/L	-46	Standard
|	Se	82	21.6	51.4	0.1028	0.135	131.0	ug/L	20	Standard
|	Se-1	77	182.3	3.9	1.8886	0.161	8.5	ug/L	93	Standard
>	Ga	71	50.0	17.3				mg/L	7	Standard
|	Rb	85	2043.5	3.8				ug/L	20	Standard
|	Y	89	375318.8	1.2				ug/L	455318	Standard
>	Rh	103	16.7	17.3				ug/L	17	Standard
|	Mo	98	225955.4	7.2	75.4643	3.473	4.6	ug/L	57	Standard
|	Ag	107	140.3	4.7	0.0080	0.001	16.5	ug/L	114	Standard
|	Cd	111	-2.5	921.4	-0.0064	0.012	185.7	mg/L	5	Standard
|	Cd	114	629.8	7.4	0.1240	0.013	10.1	ug/L	33	Standard
>	In	115	697711.9	2.8				ug/L	874708	Standard
|	Sn	118	71.3	13.0	-0.0221	0.009	41.6	ug/L	146	Standard
|	Sb	123	500.4	24.2	0.0532	0.025	47.6	ug/L	647	Standard
|	Ba	135	72.3	9.4	0.0187	0.004	19.1	ug/L	35	Standard
|	Ce	140	1318.4	4.8				ug/L	133	Standard
>	Tb	159	1271919.4	1.9				ug/L	1543699	Standard
|	Ho	165	11.7	49.5				ug/L	20	Standard
|	Tl	203	143.3	13.2	0.0133	0.002	17.0	ug/L	17	Standard
|	Tl	205	346.7	11.7	0.0103	0.002	16.0	ug/L	18	Standard
|	Pb	206	803.7	2.2	0.0506	0.003	5.4	ug/L	553	Standard
|	Pb	207	655.3	5.1	0.0411	0.003	6.5	ug/L	487	Standard
|	Pb	208	3098.5	2.6	0.0441	0.003	5.7	ug/L	2185	Standard
	U	238	22.3	34.2	0.0016	0.000	18.1	ug/L	18	Standard
>	Bi	209	681636.9	2.5				ug/L	820229	Standard

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Na	23	46.7	32.7	21.1555	7.571	35.8	mg/L	0	Standard
Mg	24	4890.8	7.8	11.3604	0.439	3.9	mg/L	53	Standard
K	39	371.7	14.1	5.1948	0.631	12.2	mg/L	3	Standard
Ca	43	116.7	16.2	23.3194	6.757	29.0	mg/L	27	Standard
Fe	54	3608.1	5.8	4.4596	0.422	9.5	mg/L	112	Standard
Fe	57	1231.7	7.3	4.8237	0.365	7.6	mg/L	213	Standard
Sc-1	45	27508.3	4.3				mg/L	33475	Standard
Cl	35	1.3	173.2				ug/L	4	Standard
Kr	83	3.3	75.5				ug/L	4	Standard
Br	81	946.7	5.8				ug/L	1223	Standard
P	31	21.7	13.3				ug/L	68	Standard
S	34	15.0	57.7				ug/L	20	Standard
Sr	88	103.3	28.4				ug/L	110	Standard
C	12	463.3	16.8				mg/L	377	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	7	Standard
Dy	164	8.7	123.1				mg/L	32	Standard
Ho-1	165	11.7	49.5				mg/L	20	Standard
Er	166	26.7	78.1				mg/L	37	Standard
I	127	3323.7	6.3				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9			
Al	27	1.006		
Sc	45			
Ti	47	12.333		
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		87.397	
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	75.464	
[Ag	107		
[Cd	111		
[Cd	114		
>	In	115		79.765
[Sn	118		
[Sb	123		
[Ba	135		
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203		
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208		
[	U	238		
>	Bi	209		83.103
[	Na	23	169.244	
[	Mg	24	227.207	
[	K	39	103.895	
[	Ca	43	155.463	
[	Fe	54	35.677	
[	Fe	57	38.590	
>	Sc-1	45		
[	Cl	35		
[	Kr	83		
[	Br	81		
[	P	31		
[	S	34		
[	Sr	88		
[	C	12		
[	N	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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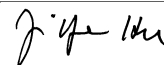
In 115 Int Std for QC Std	In	115	Rerun sample
QC Std 4	Na	23	
QC Std 4	Mg	24	
QC Std 4	Ca	43	
QC Std 4	Fe	54	
QC Std 4	Fe	57	

Sample ID: QC Std 4

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Method 6020 - Summary Report

Sample ID: QC Std 5

Sample Date/Time: Wednesday, October 19, 2016 09:19:23

Number of Replicates: 3

Autosampler Position: 204

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	86586.8	2.4				ug/L	91395	Standard
|	Be	9	91673.4	3.6	100.1151	5.004	5.0	ug/L	3	Standard
|	Al	27	4837682.8	1.0	46.6714	1.038	2.2	ug/L	372	Standard
|	Sc	45	33623.9	2.0				ug/L	33475	Standard
|	Ti	47	22187.9	2.3	100.5066	1.373	1.4	ug/L	25	Standard
|	V	51	662453.2	1.7	99.3163	0.765	0.8	ug/L	1461	Standard
|	Cr	52	610059.7	1.3	99.0134	0.423	0.4	ug/L	7269	Standard
|	Cr	53	77539.6	1.6	100.3320	2.105	2.1	ug/L	1557	Standard
|	Mn	55	976165.1	1.3	98.3450	1.472	1.5	ug/L	1045	Standard
|	Co	59	817317.9	1.5	98.4596	0.508	0.5	ug/L	210	Standard
|	Ni	60	177073.5	1.2	98.0845	0.656	0.7	ug/L	103	Standard
|	Cu	65	178433.9	0.9	98.9389	0.463	0.5	ug/L	135	Standard
|	Zn	66	95582.0	2.2	99.0433	1.071	1.1	ug/L	296	Standard
>	Ge	72	563022.6	1.2				ug/L	561245	Standard
|	As	75	99600.0	1.4	99.3651	0.305	0.3	ug/L	-46	Standard
|	Se	82	9412.6	1.6	97.9342	1.306	1.3	ug/L	20	Standard
|	Se-1	77	6386.0	2.0	100.5222	1.034	1.0	ug/L	93	Standard
>	Ga	71	126.7	30.7				mg/L	7	Standard
|	Rb	85	731.7	3.4				ug/L	20	Standard
|	Y	89	456476.0	0.6				ug/L	455318	Standard
>	Rh	103	61.7	20.4				ug/L	17	Standard
|	Mo	98	342074.4	1.1	92.2137	2.298	2.5	ug/L	57	Standard
|	Ag	107	670758.6	0.5	97.6504	1.429	1.5	ug/L	114	Standard
|	Cd	111	227509.7	0.5	95.8966	1.142	1.2	mg/L	5	Standard
|	Cd	114	578539.8	4.0	93.9010	2.351	2.5	ug/L	33	Standard
>	In	115	865266.1	1.5				ug/L	874708	Standard
|	Sn	118	191.0	6.0	0.0521	0.006	12.1	ug/L	146	Standard
|	Sb	123	645806.5	0.5	99.6754	1.950	2.0	ug/L	647	Standard
|	Ba	135	276088.8	1.6	96.3808	1.547	1.6	ug/L	35	Standard
|	Ce	140	135.0	11.1				ug/L	133	Standard
>	Tb	159	1510699.8	1.2				ug/L	1543699	Standard
|	Ho	165	73.3	17.2				ug/L	20	Standard
|	Tl	203	1112625.1	0.2	98.2093	0.598	0.6	ug/L	17	Standard
|	Tl	205	2621669.9	0.3	99.5727	0.746	0.7	ug/L	18	Standard
|	Pb	206	840858.4	1.3	99.0076	1.394	1.4	ug/L	553	Standard
|	Pb	207	743613.3	0.9	99.2770	0.818	0.8	ug/L	487	Standard
|	Pb	208	3355468.5	1.1	98.7635	0.912	0.9	ug/L	2185	Standard
	U	238	3104222.0	0.7	100.5692	1.261	1.3	ug/L	18	Standard
>	Bi	209	783578.2	0.6				ug/L	820229	Standard

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Na	23	63.3	48.2	23.2252	11.184	48.2	mg/L	0	Standard
Mg	24	5926.2	3.0	11.2715	0.324	2.9	mg/L	53	Standard
K	39	423.3	11.0	4.8431	0.534	11.0	mg/L	3	Standard
Ca	43	103.3	19.6	13.6880	5.377	39.3	mg/L	27	Standard
Fe	54	11132.9	2.0	11.4207	0.462	4.0	mg/L	112	Standard
Fe	57	3097.0	3.3	10.9740	0.491	4.5	mg/L	213	Standard
Sc-1	45	33623.9	2.0				mg/L	33475	Standard
Cl	35	2.0	173.2				ug/L	4	Standard
Kr	83	3.3	105.4				ug/L	4	Standard
Br	81	1323.4	7.2				ug/L	1223	Standard
P	31	78.3	41.5				ug/L	68	Standard
S	34	10.0	50.0				ug/L	20	Standard
Sr	88	115.0	15.7				ug/L	110	Standard
C	12	646.7	21.7				mg/L	377	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	10.0					mg/L	7	Standard
Dy	164	26.0	81.6				mg/L	32	Standard
Ho-1	165	73.3	17.2				mg/L	20	Standard
Er	166	13.3	114.6				mg/L	37	Standard
I	127	3320.4	2.0				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	100.115		
Al	27	0.933		
Sc	45			
Ti	47	100.507		
V	51	99.316		
Cr	52	99.013		
Cr	53			
Mn	55	98.345		
Co	59	98.460		
Ni	60	98.084		
Cu	65	98.939		
Zn	66	99.043		
Ge	72		100.317	
As	75	99.365		
Se	82	97.934		
Se-1	77			
Ga	71			

Sample ID: QC Std 5

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[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	92.214	
[Ag	107	97.650	
[Cd	111	95.897	
[Cd	114		
>	In	115		98.921
[Sn	118		
[	Sb	123	99.675	
[	Ba	135	96.381	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	98.209	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	98.764	
[	U	238	100.569	
>	Bi	209		95.532
[	Na	23	185.801	
[	Mg	24	225.430	
[	K	39	96.861	
[	Ca	43	91.254	
[	Fe	54	91.366	
[	Fe	57	87.792	
>	Sc-1	45		
[	Cl	35		
[	Kr	83		
[	Br	81		
[	P	31		
[	S	34		
[	Sr	88		
[	C	12		
[	N	14		
[	Hg	202		
[	Dy	164		
[	Ho-1	165		
[	Er	166		
[	I	127		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 5	Al	27	
QC Std 5	Na	23	
QC Std 5	Mg	24	

Sample ID: QC Std 5

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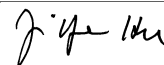


Sample ID: QC Std 5

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Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Wednesday, October 19, 2016 09:22:24

Number of Replicates: 3

Autosampler Position: 101

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	82140.4	0.5				ug/L	91395	Standard
|	Be	9	44104.1	3.4	50.7316	1.584	3.1	ug/L	3	Standard
|	Al	27	4883770.5	5.8	49.6512	2.876	5.8	ug/L	372	Standard
|	Sc	45	31706.5	4.6				ug/L	33475	Standard
|	Ti	47	21616.4	4.6	100.8786	1.531	1.5	ug/L	25	Standard
|	V	51	326589.4	4.1	50.3364	0.813	1.6	ug/L	1461	Standard
|	Cr	52	301658.9	4.3	49.8488	0.691	1.4	ug/L	7269	Standard
|	Cr	53	38438.7	3.3	50.2364	0.671	1.3	ug/L	1557	Standard
|	Mn	55	479073.7	4.2	49.6822	1.012	2.0	ug/L	1045	Standard
|	Co	59	404670.7	3.6	50.2183	0.332	0.7	ug/L	210	Standard
|	Ni	60	88496.0	4.2	50.4748	0.738	1.5	ug/L	103	Standard
|	Cu	65	88978.3	2.8	50.8094	0.240	0.5	ug/L	135	Standard
|	Zn	66	46789.5	2.9	49.8849	0.549	1.1	ug/L	296	Standard
>	Ge	72	546375.8	3.1				ug/L	561245	Standard
|	As	75	48977.5	2.8	50.3703	0.305	0.6	ug/L	-46	Standard
|	Se	82	4780.7	3.8	51.1753	0.663	1.3	ug/L	20	Standard
|	Se-1	77	3264.4	2.2	52.2736	0.481	0.9	ug/L	93	Standard
>	Ga	71	25.0	40.0				mg/L	7	Standard
|	Rb	85	790.0	7.5				ug/L	20	Standard
|	Y	89	443686.3	4.6				ug/L	455318	Standard
>	Rh	103	36.7	41.7				ug/L	17	Standard
|	Mo	98	362424.3	3.4	100.2482	2.058	2.1	ug/L	57	Standard
|	Ag	107	335688.6	2.1	50.1504	0.697	1.4	ug/L	114	Standard
|	Cd	111	118221.6	3.5	51.1347	1.052	2.1	mg/L	5	Standard
|	Cd	114	304000.2	2.5	50.6596	0.901	1.8	ug/L	33	Standard
>	In	115	842908.7	1.4				ug/L	874708	Standard
|	Sn	118	69871.6	3.8	51.9160	1.223	2.4	ug/L	146	Standard
|	Sb	123	335396.9	4.3	53.0943	1.564	2.9	ug/L	647	Standard
|	Ba	135	137651.0	2.1	49.3144	0.309	0.6	ug/L	35	Standard
|	Ce	140	135.0	19.2				ug/L	133	Standard
>	Tb	159	1506144.3	1.7				ug/L	1543699	Standard
|	Ho	165	20.0	50.0				ug/L	20	Standard
|	Tl	203	565454.1	3.0	50.5127	1.056	2.1	ug/L	17	Standard
|	Tl	205	1298769.5	1.8	49.9224	0.124	0.2	ug/L	18	Standard
|	Pb	206	420279.6	2.9	50.0544	0.993	2.0	ug/L	553	Standard
|	Pb	207	366823.5	2.7	49.5379	1.077	2.2	ug/L	487	Standard
|	Pb	208	1675740.6	3.4	49.8882	1.259	2.5	ug/L	2185	Standard
	U	238	1513357.2	2.6	49.6179	0.598	1.2	ug/L	18	Standard
>	Bi	209	774201.2	1.9				ug/L	820229	Standard

Sample ID: QC Std 6

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Na	23	18.3	31.5	6.8306	2.688	39.3	mg/L	0	Standard
Mg	24	2493.5	7.8	4.9575	0.232	4.7	mg/L	53	Standard
K	39	451.7	19.5	5.4783	1.006	18.4	mg/L	3	Standard
Ca	43	65.0	7.7	5.3299	1.742	32.7	mg/L	27	Standard
Fe	54	4745.3	3.4	5.0959	0.086	1.7	mg/L	112	Standard
Fe	57	1418.4	6.6	4.8238	0.424	8.8	mg/L	213	Standard
Sc-1	45	31706.5	4.6				mg/L	33475	Standard
Cl	35	1.3	86.6				ug/L	4	Standard
Kr	83	3.0	88.2				ug/L	4	Standard
Br	81	1163.4	5.0				ug/L	1223	Standard
P	31	55.0	55.3				ug/L	68	Standard
S	34	28.3	71.3				ug/L	20	Standard
Sr	88	116.7	17.8				ug/L	110	Standard
C	12	426.7	13.3				mg/L	377	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	6.7	86.6				mg/L	7	Standard
Dy	164	18.9	53.0				mg/L	32	Standard
Ho-1	165	20.0	50.0				mg/L	20	Standard
Er	166	23.3	24.7				mg/L	37	Standard
I	127	3597.1	3.9				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	101.463		
Al	27	99.302		
Sc	45			
Ti	47	100.879		
V	51	100.673		
Cr	52	99.698		
Cr	53			
Mn	55	99.364		
Co	59	100.437		
Ni	60	100.950		
Cu	65	101.619		
Zn	66	99.770		
Ge	72		97.351	
As	75	100.741		
Se	82	102.351		
Se-1	77			
Ga	71			

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[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	100.248	
[Ag	107	100.301	
[Cd	111	102.269	
[Cd	114		
>	In	115		96.365
[Sn	118	103.832	
[	Sb	123	106.189	
[	Ba	135	98.629	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	101.025	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	99.776	
[	U	238	99.236	
>	Bi	209		94.388
[	Na	23		
[	Mg	24		
[	K	39		
[	Ca	43		
[	Fe	54		
[	Fe	57		
>	Sc-1	45		
[	Cl	35		
[	Kr	83		
[	Br	81		
[	P	31		
[	S	34		
[	Sr	88		
[	C	12		
[	N	14		
[	Hg	202		
[	Dy	164		
[	Ho-1	165		
[	Er	166		
[I	127		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 6

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Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Wednesday, October 19, 2016 09:25:24

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	79041.6	14.0				ug/L	91395	Standard
|	Be	9	8.3	91.7	-0.0069	0.009	133.4	ug/L	3	Standard
|	Al	27	660.0	19.9	0.0083	0.000	4.9	ug/L	372	Standard
|	Sc	45	30422.3	7.6				ug/L	33475	Standard
|	Ti	47	26.0	7.7	-0.0183	0.013	70.1	ug/L	25	Standard
|	V	51	1287.9	15.6	-0.0184	0.032	173.0	ug/L	1461	Standard
|	Cr	52	5804.5	18.3	-0.1841	0.134	72.9	ug/L	7269	Standard
|	Cr	53	1383.4	15.4	-0.1049	0.229	217.8	ug/L	1557	Standard
|	Mn	55	772.7	16.3	-0.0023	0.009	391.3	ug/L	1045	Standard
|	Co	59	217.3	13.4	0.0036	0.002	62.3	ug/L	210	Standard
|	Ni	60	99.3	10.8	0.0036	0.004	110.8	ug/L	103	Standard
|	Cu	65	149.0	4.8	0.0226	0.010	45.2	ug/L	135	Standard
|	Zn	66	206.7	21.1	0.0651	0.066	101.4	ug/L	296	Standard
>	Ge	72	523101.3	6.3				ug/L	561245	Standard
|	As	75	-28.2	56.9	0.0018	0.016	887.0	ug/L	-46	Standard
|	Se	82	14.0	25.4	0.0027	0.049	1831.5	ug/L	20	Standard
|	Se-1	77	90.7	10.8	0.1041	0.138	132.4	ug/L	93	Standard
>	Ga	71	25.0	72.1				mg/L	7	Standard
|	Rb	85	13.3	43.3				ug/L	20	Standard
|	Y	89	421683.7	6.2				ug/L	455318	Standard
>	Rh	103	10.0	50.0				ug/L	17	Standard
|	Mo	98	293.9	52.1	0.0757	0.040	52.8	ug/L	57	Standard
|	Ag	107	131.3	19.7	0.0032	0.003	85.7	ug/L	114	Standard
|	Cd	111	17.6	47.4	0.0030	0.003	110.0	mg/L	5	Standard
|	Cd	114	61.6	60.3	0.0076	0.006	75.9	ug/L	33	Standard
>	In	115	797525.5	7.3				ug/L	874708	Standard
|	Sn	118	126.0	22.7	0.0122	0.017	142.8	ug/L	146	Standard
|	Sb	123	808.2	79.0	0.0881	0.103	116.8	ug/L	647	Standard
|	Ba	135	39.0	9.2	0.0021	0.001	51.7	ug/L	35	Standard
|	Ce	140	51.7	5.6				ug/L	133	Standard
>	Tb	159	1397653.6	8.9				ug/L	1543699	Standard
|	Ho	165	10.0	86.6				ug/L	20	Standard
|	Tl	203	60.3	62.7	0.0041	0.003	76.5	ug/L	17	Standard
|	Tl	205	120.0	23.2	-0.0002	0.001	523.6	ug/L	18	Standard
|	Pb	206	542.3	9.6	0.0076	0.001	18.6	ug/L	553	Standard
|	Pb	207	438.0	13.6	0.0007	0.004	507.0	ug/L	487	Standard
|	Pb	208	2119.4	9.6	0.0036	0.001	31.0	ug/L	2185	Standard
	U	238	117.7	70.8	0.0046	0.003	55.8	ug/L	18	Standard
>	Bi	209	758771.3	7.9				ug/L	820229	Standard

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Na	23	1.7	173.2	0.1433	1.295	903.7	mg/L	0	Standard
Mg	24	41.7	27.7	-0.0331	0.031	93.3	mg/L	53	Standard
K	39	6.7	86.6	0.0376	0.077	205.1	mg/L	3	Standard
Ca	43	51.7	56.7	2.5918	8.145	314.3	mg/L	27	Standard
Fe	54	94.2	55.8	-0.0149	0.052	346.3	mg/L	112	Standard
Fe	57	221.7	17.5	-0.0510	0.092	179.6	mg/L	213	Standard
Sc-1	45	30422.3	7.6				mg/L	33475	Standard
Cl	35	1.3	173.2				ug/L	4	Standard
Kr	83	4.7	75.3				ug/L	4	Standard
Br	81	1043.4	13.0				ug/L	1223	Standard
P	31	43.3	63.5				ug/L	68	Standard
S	34	28.3	36.7				ug/L	20	Standard
Sr	88	81.7	7.1				ug/L	110	Standard
C	12	340.0	33.1				mg/L	377	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	7	Standard
Dy	164	18.2	56.4				mg/L	32	Standard
Ho-1	165	10.0	86.6				mg/L	20	Standard
Er	166	36.7	56.8				mg/L	37	Standard
I	127	3173.7	12.6				mg/L	3754	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		93.204	
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	91.176
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	92.507
[	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
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Method 6020 - Summary Report

Sample ID: L1609135109

Sample Date/Time: Wednesday, October 19, 2016 09:28:25

Number of Replicates: 3

Autosampler Position: 205

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	88647.1	3.2				ug/L	91395	Standard
|	Be	9	28.3	44.4	0.0135	0.013	94.4	ug/L	3	Standard
|	Al	27	1239269.2	4.2	11.6787	0.457	3.9	ug/L	372	Standard
|	Sc	45	34298.8	1.6				ug/L	33475	Standard
|	Ti	47	101.0	4.0	0.3107	0.011	3.5	ug/L	25	Standard
|	V	51	2605.4	9.8	0.1626	0.033	20.1	ug/L	1461	Standard
|	Cr	52	13203.1	1.0	0.9549	0.030	3.1	ug/L	7269	Standard
|	Cr	53	2221.8	1.5	0.8558	0.070	8.2	ug/L	1557	Standard
|	Mn	55	6135307.6	1.6	616.1460	4.602	0.7	ug/L	1045	Standard
|	Co	59	4911.8	1.3	0.5653	0.018	3.2	ug/L	210	Standard
|	Ni	60	1592.8	2.2	0.8237	0.010	1.2	ug/L	103	Standard
|	Cu	65	380.7	2.7	0.1435	0.002	1.4	ug/L	135	Standard
|	Zn	66	1787.1	1.6	1.6794	0.019	1.1	ug/L	296	Standard
>	Ge	72	565211.3	1.7				ug/L	561245	Standard
|	As	75	2502.3	2.2	2.5176	0.018	0.7	ug/L	-46	Standard
|	Se	82	67.5	2.4	0.5444	0.017	3.1	ug/L	20	Standard
|	Se-1	77	111.7	4.9	0.3228	0.113	34.9	ug/L	93	Standard
>	Ga	71	65.0	23.1				mg/L	7	Standard
|	Rb	85	45757.3	0.7				ug/L	20	Standard
|	Y	89	461858.3	2.6				ug/L	455318	Standard
>	Rh	103	20.0	25.0				ug/L	17	Standard
|	Mo	98	2528.9	2.6	0.6739	0.028	4.2	ug/L	57	Standard
|	Ag	107	155.0	20.3	0.0052	0.004	85.8	ug/L	114	Standard
|	Cd	111	50.7	7.0	0.0165	0.002	11.5	mg/L	5	Standard
|	Cd	114	163.3	8.3	0.0235	0.003	10.8	ug/L	33	Standard
>	In	115	864886.5	2.5				ug/L	874708	Standard
|	Sn	118	186.0	18.7	0.0485	0.025	50.8	ug/L	146	Standard
|	Sb	123	1344.1	44.4	0.1640	0.091	55.6	ug/L	647	Standard
|	Ba	135	116275.5	1.6	40.6188	1.372	3.4	ug/L	35	Standard
|	Ce	140	9554.7	3.4				ug/L	133	Standard
>	Tb	159	1545093.6	3.1				ug/L	1543699	Standard
|	Ho	165	285.0	7.6				ug/L	20	Standard
|	Tl	203	100.7	6.6	0.0076	0.001	8.2	ug/L	17	Standard
|	Tl	205	230.0	29.4	0.0039	0.003	67.8	ug/L	18	Standard
|	Pb	206	981.4	3.2	0.0567	0.004	6.6	ug/L	553	Standard
|	Pb	207	799.7	7.6	0.0467	0.007	15.6	ug/L	487	Standard
|	Pb	208	3800.9	3.4	0.0506	0.003	6.6	ug/L	2185	Standard
	U	238	12839.4	2.3	0.4147	0.007	1.8	ug/L	18	Standard
>	Bi	209	787436.1	0.8				ug/L	820229	Standard

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Na	23	35.0	0.0	12.3866	0.210	1.7	mg/L	0	Standard
Mg	24	4672.4	4.1	8.6810	0.221	2.5	mg/L	53	Standard
K	39	2425.2	5.7	27.4210	1.179	4.3	mg/L	3	Standard
Ca	43	136.7	26.5	21.1425	8.992	42.5	mg/L	27	Standard
Fe	54	9223.4	3.1	9.2527	0.431	4.7	mg/L	112	Standard
Fe	57	2560.2	5.4	8.6989	0.406	4.7	mg/L	213	Standard
Sc-1	45	34298.8	1.6				mg/L	33475	Standard
Cl	35	2.0	0.0				ug/L	4	Standard
Kr	83	2.3	24.7				ug/L	4	Standard
Br	81	9443.0	9.9				ug/L	1223	Standard
P	31	103.3	7.4				ug/L	68	Standard
S	34	25.0	20.0				ug/L	20	Standard
Sr	88	183.3	11.0				ug/L	110	Standard
C	12	720.0	13.9				mg/L	377	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	10.0	100.0				mg/L	7	Standard
Dy	164	372.8	17.3				mg/L	32	Standard
Ho-1	165	285.0	7.6				mg/L	20	Standard
Er	166	290.0	24.9				mg/L	37	Standard
I	127	101643.0	8.3				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		96.994	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		100.707	
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	98.877
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	96.002
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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: L1609135110

Sample Date/Time: Wednesday, October 19, 2016 09:31:23

Number of Replicates: 3

Autosampler Position: 206

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	86737.8	3.5				ug/L	91395	Standard
|	Be	9	13.3	43.3	-0.0018	0.007	380.1	ug/L	3	Standard
|	Al	27	1399795.9	3.0	13.4809	0.273	2.0	ug/L	372	Standard
|	Sc	45	33680.8	3.3				ug/L	33475	Standard
|	Ti	47	321.3	3.4	1.3419	0.043	3.2	ug/L	25	Standard
|	V	51	2946.5	7.6	0.2243	0.024	10.5	ug/L	1461	Standard
|	Cr	52	13505.4	2.3	1.0578	0.024	2.3	ug/L	7269	Standard
|	Cr	53	2526.9	6.4	1.3348	0.134	10.1	ug/L	1557	Standard
|	Mn	55	1018975.6	3.1	104.7271	0.713	0.7	ug/L	1045	Standard
|	Co	59	1026.4	8.3	0.1016	0.008	7.5	ug/L	210	Standard
|	Ni	60	1904.5	3.4	1.0212	0.018	1.7	ug/L	103	Standard
|	Cu	65	569.7	7.8	0.2555	0.020	7.8	ug/L	135	Standard
|	Zn	66	2409.9	3.3	2.3834	0.038	1.6	ug/L	296	Standard
>	Ge	72	551840.8	2.5				ug/L	561245	Standard
|	As	75	5444.7	2.7	5.5718	0.017	0.3	ug/L	-46	Standard
|	Se	82	1935.5	3.0	20.4208	0.174	0.8	ug/L	20	Standard
|	Se-1	77	131.3	9.1	0.6828	0.142	20.8	ug/L	93	Standard
>	Ga	71	83.3	33.0				mg/L	7	Standard
|	Rb	85	12390.1	4.8				ug/L	20	Standard
|	Y	89	443173.0	0.6				ug/L	455318	Standard
>	Rh	103	86.7	6.7				ug/L	17	Standard
|	Mo	98	2706.4	1.8	0.7588	0.022	2.9	ug/L	57	Standard
|	Ag	107	121.0	10.2	0.0012	0.002	190.5	ug/L	114	Standard
|	Cd	111	66.5	14.5	0.0245	0.004	14.7	mg/L	5	Standard
|	Cd	114	193.7	13.2	0.0301	0.005	16.4	ug/L	33	Standard
>	In	115	823141.9	3.3				ug/L	874708	Standard
|	Sn	118	174.3	7.2	0.0466	0.009	19.8	ug/L	146	Standard
|	Sb	123	723.5	37.9	0.0741	0.044	59.7	ug/L	647	Standard
|	Ba	135	77050.2	2.6	28.2708	0.592	2.1	ug/L	35	Standard
|	Ce	140	9266.2	1.0				ug/L	133	Standard
>	Tb	159	1466025.3	4.0				ug/L	1543699	Standard
|	Ho	165	121.7	36.8				ug/L	20	Standard
|	Tl	203	213.0	2.6	0.0185	0.001	5.0	ug/L	17	Standard
|	Tl	205	485.0	10.5	0.0145	0.002	11.2	ug/L	18	Standard
|	Pb	206	1162.0	4.1	0.0858	0.007	8.5	ug/L	553	Standard
|	Pb	207	934.0	3.1	0.0719	0.007	9.4	ug/L	487	Standard
|	Pb	208	4412.9	0.6	0.0760	0.004	4.9	ug/L	2185	Standard
	U	238	10648.1	2.7	0.3638	0.003	0.8	ug/L	18	Standard
>	Bi	209	744596.1	2.2				ug/L	820229	Standard

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Na	23	161.7	15.3	60.4667	8.703	14.4	mg/L	0	Standard
Mg	24	23606.8	7.1	45.1750	2.552	5.6	mg/L	53	Standard
K	39	330.0	9.2	3.7548	0.284	7.6	mg/L	3	Standard
Ca	43	368.3	6.3	77.7175	4.979	6.4	mg/L	27	Standard
Fe	54	885.1	5.4	0.7970	0.081	10.1	mg/L	112	Standard
Fe	57	561.7	11.3	1.1743	0.244	20.8	mg/L	213	Standard
Sc-1	45	33680.8	3.3				mg/L	33475	Standard
Cl	35	2.7	114.6				ug/L	4	Standard
Kr	83	2.3	24.7				ug/L	4	Standard
Br	81	518493.3	5.0				ug/L	1223	Standard
P	31	81.7	18.7				ug/L	68	Standard
S	34	31.7	9.1				ug/L	20	Standard
Sr	88	223.3	21.2				ug/L	110	Standard
C	12	536.7	18.4				mg/L	377	Standard
N	14	6.7	173.2				mg/L	0	Standard
Hg	202	6.7	86.6				mg/L	7	Standard
Dy	164	166.9	9.0				mg/L	32	Standard
Ho-1	165	121.7	36.8				mg/L	20	Standard
Er	166	133.3	26.3				mg/L	37	Standard
I	127	202244.4	6.4				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		94.904	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		98.324	
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	94.105
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	90.779
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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: L1609135111

Sample Date/Time: Wednesday, October 19, 2016 09:34:23

Number of Replicates: 3

Autosampler Position: 207

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	84825.4	4.5				ug/L	91395	Standard
|	Be	9	6.7	43.3	-0.0091	0.003	34.9	ug/L	3	Standard
|	Al	27	1435139.1	6.9	14.1192	0.386	2.7	ug/L	372	Standard
|	Sc	45	32705.3	2.2				ug/L	33475	Standard
|	Ti	47	355.7	6.2	1.5451	0.087	5.7	ug/L	25	Standard
|	V	51	3107.2	3.4	0.2627	0.027	10.5	ug/L	1461	Standard
|	Cr	52	13430.0	3.7	1.1054	0.007	0.6	ug/L	7269	Standard
|	Cr	53	2850.3	7.2	1.8761	0.244	13.0	ug/L	1557	Standard
|	Mn	55	1018223.7	3.7	107.4745	0.832	0.8	ug/L	1045	Standard
|	Co	59	1082.4	3.8	0.1122	0.004	3.1	ug/L	210	Standard
|	Ni	60	1921.5	4.5	1.0600	0.017	1.6	ug/L	103	Standard
|	Cu	65	527.3	5.5	0.2396	0.006	2.5	ug/L	135	Standard
|	Zn	66	4735.1	1.5	4.9843	0.142	2.8	ug/L	296	Standard
>	Ge	72	537433.6	3.9				ug/L	561245	Standard
|	As	75	5478.3	5.7	5.7532	0.116	2.0	ug/L	-46	Standard
|	Se	82	1944.6	4.8	21.0705	0.426	2.0	ug/L	20	Standard
|	Se-1	77	152.7	5.3	1.1002	0.116	10.6	ug/L	93	Standard
>	Ga	71	88.3	17.3				mg/L	7	Standard
|	Rb	85	12276.7	7.7				ug/L	20	Standard
|	Y	89	428828.7	4.1				ug/L	455318	Standard
>	Rh	103	78.3	9.8				ug/L	17	Standard
|	Mo	98	2722.1	2.3	0.7836	0.016	2.1	ug/L	57	Standard
|	Ag	107	117.0	15.7	0.0010	0.002	260.0	ug/L	114	Standard
|	Cd	111	62.5	13.6	0.0235	0.004	17.2	mg/L	5	Standard
|	Cd	114	184.0	25.3	0.0290	0.007	24.6	ug/L	33	Standard
>	In	115	801954.5	3.7				ug/L	874708	Standard
|	Sn	118	163.0	5.0	0.0414	0.011	25.4	ug/L	146	Standard
|	Sb	123	566.4	37.4	0.0507	0.033	64.5	ug/L	647	Standard
|	Ba	135	79860.4	2.9	30.0744	0.295	1.0	ug/L	35	Standard
|	Ce	140	6524.7	3.0				ug/L	133	Standard
>	Tb	159	1469672.3	1.7				ug/L	1543699	Standard
|	Ho	165	121.7	19.4				ug/L	20	Standard
|	Tl	203	197.7	2.4	0.0175	0.000	1.7	ug/L	17	Standard
|	Tl	205	448.3	5.7	0.0135	0.001	5.7	ug/L	18	Standard
|	Pb	206	1312.7	1.9	0.1079	0.002	2.2	ug/L	553	Standard
|	Pb	207	1099.0	3.5	0.0982	0.003	2.9	ug/L	487	Standard
|	Pb	208	5090.3	3.5	0.1003	0.003	2.9	ug/L	2185	Standard
	U	238	10947.3	4.2	0.3819	0.011	2.8	ug/L	18	Standard
>	Bi	209	729049.5	1.7				ug/L	820229	Standard

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Na	23	183.3	20.5	70.8461	15.189	21.4	mg/L	0	Standard
Mg	24	24322.9	3.8	47.9437	0.992	2.1	mg/L	53	Standard
K	39	331.7	24.4	3.9054	1.060	27.1	mg/L	3	Standard
Ca	43	345.0	18.8	74.3544	14.508	19.5	mg/L	27	Standard
Fe	54	947.0	5.4	0.8896	0.078	8.7	mg/L	112	Standard
Fe	57	610.0	9.3	1.4297	0.218	15.2	mg/L	213	Standard
Sc-1	45	32705.3	2.2				mg/L	33475	Standard
Cl	35	3.3	124.9				ug/L	4	Standard
Kr	83	3.0	57.7				ug/L	4	Standard
Br	81	529354.3	2.1				ug/L	1223	Standard
P	31	88.3	39.8				ug/L	68	Standard
S	34	31.7	9.1				ug/L	20	Standard
Sr	88	195.0	38.7				ug/L	110	Standard
C	12	626.7	25.6				mg/L	377	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	7	Standard
Dy	164	193.6	44.6				mg/L	32	Standard
Ho-1	165	121.7	19.4				mg/L	20	Standard
Er	166	133.3	17.3				mg/L	37	Standard
I	127	201907.4	7.1				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		92.812	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		95.757	
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	91.683
[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	88.884
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

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

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Method 6020 - Summary Report

Sample ID: L1609135114

Sample Date/Time: Wednesday, October 19, 2016 09:37:22

Number of Replicates: 3

Autosampler Position: 208

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	87502.0	1.5				ug/L	91395	Standard
|	Be	9	251.7	14.1	0.2555	0.040	15.8	ug/L	3	Standard
|	Al	27	2012535.5	6.2	19.1986	0.900	4.7	ug/L	372	Standard
|	Sc	45	34013.2	3.2				ug/L	33475	Standard
|	Ti	47	212.3	15.3	0.8198	0.121	14.8	ug/L	25	Standard
|	V	51	5738.1	2.7	0.6394	0.034	5.3	ug/L	1461	Standard
|	Cr	52	14840.6	2.9	1.2440	0.100	8.0	ug/L	7269	Standard
|	Cr	53	2770.3	2.0	1.6096	0.164	10.2	ug/L	1557	Standard
|	Mn	55	15644365.4	3.5	1584.6610	57.990	3.7	ug/L	1045	Standard
|	Co	59	1249.1	0.9	0.1267	0.004	2.9	ug/L	210	Standard
|	Ni	60	2461.5	2.3	1.3150	0.031	2.4	ug/L	103	Standard
|	Cu	65	1958.8	3.1	1.0248	0.021	2.1	ug/L	135	Standard
|	Zn	66	7918.4	2.9	8.0895	0.249	3.1	ug/L	296	Standard
>	Ge	72	560560.9	2.7				ug/L	561245	Standard
|	As	75	10817.1	2.1	10.8709	0.284	2.6	ug/L	-46	Standard
|	Se	82	167.0	4.4	1.5926	0.074	4.6	ug/L	20	Standard
|	Se-1	77	116.3	5.2	0.4113	0.082	20.0	ug/L	93	Standard
>	Ga	71	101.7	10.2				mg/L	7	Standard
|	Rb	85	22393.2	4.6				ug/L	20	Standard
|	Y	89	460411.3	2.3				ug/L	455318	Standard
>	Rh	103	36.7	7.9				ug/L	17	Standard
|	Mo	98	1304.3	4.4	0.3414	0.007	2.2	ug/L	57	Standard
|	Ag	107	117.7	4.7	-0.0003	0.001	340.2	ug/L	114	Standard
|	Cd	111	27.0	14.8	0.0064	0.002	24.3	mg/L	5	Standard
|	Cd	114	118.7	33.5	0.0161	0.006	36.5	ug/L	33	Standard
>	In	115	869461.8	3.0				ug/L	874708	Standard
|	Sn	118	173.3	12.2	0.0388	0.016	40.1	ug/L	146	Standard
|	Sb	123	545.1	37.4	0.0408	0.032	78.5	ug/L	647	Standard
|	Ba	135	129286.3	3.1	44.9075	0.699	1.6	ug/L	35	Standard
|	Ce	140	6553.1	5.2				ug/L	133	Standard
>	Tb	159	1541421.3	2.6				ug/L	1543699	Standard
|	Ho	165	728.4	8.3				ug/L	20	Standard
|	Tl	203	148.3	11.8	0.0115	0.001	13.0	ug/L	17	Standard
|	Tl	205	285.0	6.3	0.0057	0.001	12.4	ug/L	18	Standard
|	Pb	206	2555.2	3.5	0.2354	0.010	4.1	ug/L	553	Standard
|	Pb	207	2149.2	1.8	0.2206	0.003	1.2	ug/L	487	Standard
|	Pb	208	9994.0	1.0	0.2264	0.004	1.8	ug/L	2185	Standard
	U	238	585.3	2.9	0.0193	0.001	3.3	ug/L	18	Standard
>	Bi	209	803144.4	1.4				ug/L	820229	Standard

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Na	23	75.0	43.7	27.4897	12.542	45.6	mg/L	0	Standard
Mg	24	5481.0	1.8	10.2988	0.276	2.7	mg/L	53	Standard
K	39	141.7	25.5	1.5656	0.404	25.8	mg/L	3	Standard
Ca	43	170.0	5.1	29.3591	2.861	9.7	mg/L	27	Standard
Fe	54	5394.6	3.5	5.4053	0.085	1.6	mg/L	112	Standard
Fe	57	1708.4	5.6	5.5309	0.304	5.5	mg/L	213	Standard
Sc-1	45	34013.2	3.2				mg/L	33475	Standard
Cl	35	3.3	91.7				ug/L	4	Standard
Kr	83	3.7	15.7				ug/L	4	Standard
Br	81	40497.4	0.8				ug/L	1223	Standard
P	31	80.0	21.7				ug/L	68	Standard
S	34	21.7	48.0				ug/L	20	Standard
Sr	88	151.7	15.2				ug/L	110	Standard
C	12	743.4	9.4				mg/L	377	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	10.0	100.0				mg/L	7	Standard
Dy	164	775.3	8.7				mg/L	32	Standard
Ho-1	165	728.4	8.3				mg/L	20	Standard
Er	166	933.4	11.8				mg/L	37	Standard
I	127	203627.2	7.2				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		95.741	
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		99.878	
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	99.400
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	97.917
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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	

Sample ID: L1609135114

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Method 6020 - Summary Report

Sample ID: L1609135115

Sample Date/Time: Wednesday, October 19, 2016 09:40:21

Number of Replicates: 3

Autosampler Position: 209

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	89770.5	4.7				ug/L	91395	Standard
|	Be	9	15.0	88.2	-0.0003	0.015	5280.0	ug/L	3	Standard
|	Al	27	1236338.9	2.3	11.5267	0.801	6.9	ug/L	372	Standard
|	Sc	45	34068.3	3.5				ug/L	33475	Standard
|	Ti	47	181.0	6.8	0.6797	0.051	7.6	ug/L	25	Standard
|	V	51	1697.2	4.4	0.0293	0.010	33.9	ug/L	1461	Standard
|	Cr	52	12862.1	0.6	0.9182	0.014	1.6	ug/L	7269	Standard
|	Cr	53	2623.6	7.0	1.4146	0.224	15.8	ug/L	1557	Standard
|	Mn	55	672114.9	1.3	68.0457	1.179	1.7	ug/L	1045	Standard
|	Co	59	605.0	8.3	0.0488	0.006	13.2	ug/L	210	Standard
|	Ni	60	3533.4	2.6	1.9133	0.057	3.0	ug/L	103	Standard
|	Cu	65	695.3	7.4	0.3211	0.029	9.2	ug/L	135	Standard
|	Zn	66	4240.3	2.0	4.2567	0.105	2.5	ug/L	296	Standard
>	Ge	72	560044.8	0.6				ug/L	561245	Standard
|	As	75	602.5	11.5	0.6361	0.072	11.4	ug/L	-46	Standard
|	Se	82	253.9	3.4	2.5045	0.106	4.2	ug/L	20	Standard
|	Se-1	77	122.3	8.1	0.5090	0.152	29.8	ug/L	93	Standard
>	Ga	71	48.3	41.8				mg/L	7	Standard
|	Rb	85	5514.3	1.3				ug/L	20	Standard
|	Y	89	452116.4	2.0				ug/L	455318	Standard
>	Rh	103	55.0	24.1				ug/L	17	Standard
|	Mo	98	433.2	11.7	0.1081	0.013	11.8	ug/L	57	Standard
|	Ag	107	113.7	9.2	-0.0009	0.002	189.9	ug/L	114	Standard
|	Cd	111	22.1	7.2	0.0044	0.001	17.1	mg/L	5	Standard
|	Cd	114	94.0	21.8	0.0122	0.003	27.0	ug/L	33	Standard
>	In	115	867120.9	0.9				ug/L	874708	Standard
|	Sn	118	163.0	9.3	0.0316	0.010	32.4	ug/L	146	Standard
|	Sb	123	364.5	38.1	0.0130	0.021	160.6	ug/L	647	Standard
|	Ba	135	18835.4	1.1	6.5488	0.030	0.5	ug/L	35	Standard
|	Ce	140	541.7	7.5				ug/L	133	Standard
>	Tb	159	1544492.1	0.8				ug/L	1543699	Standard
|	Ho	165	38.3	15.1				ug/L	20	Standard
|	Tl	203	138.7	7.3	0.0109	0.001	9.0	ug/L	17	Standard
|	Tl	205	356.7	14.6	0.0086	0.002	22.5	ug/L	18	Standard
|	Pb	206	2560.5	3.4	0.2414	0.007	3.1	ug/L	553	Standard
|	Pb	207	2143.2	0.9	0.2250	0.001	0.6	ug/L	487	Standard
|	Pb	208	9987.3	1.9	0.2315	0.003	1.2	ug/L	2185	Standard
	U	238	312.7	2.9	0.0109	0.000	3.6	ug/L	18	Standard
>	Bi	209	788550.4	1.0				ug/L	820229	Standard

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Na	23	120.0	18.2	44.1832	7.729	17.5	mg/L	0	Standard
Mg	24	6341.3	3.1	11.9171	0.491	4.1	mg/L	53	Standard
K	39	98.3	28.0	1.0714	0.323	30.1	mg/L	3	Standard
Ca	43	256.7	6.0	50.0081	3.825	7.6	mg/L	27	Standard
Fe	54	170.4	16.0	0.0541	0.030	55.0	mg/L	112	Standard
Fe	57	340.0	6.7	0.3064	0.129	42.2	mg/L	213	Standard
Sc-1	45	34068.3	3.5				mg/L	33475	Standard
Cl	35	2.0	100.0				ug/L	4	Standard
Kr	83	5.0	20.0				ug/L	4	Standard
Br	81	66238.2	6.7				ug/L	1223	Standard
P	31	95.0	29.3				ug/L	68	Standard
S	34	21.7	70.5				ug/L	20	Standard
Sr	88	220.0	15.9				ug/L	110	Standard
C	12	580.0	11.9				mg/L	377	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	7	Standard
Dy	164	65.4	22.2				mg/L	32	Standard
Ho-1	165	38.3	15.1				mg/L	20	Standard
Er	166	26.7	57.3				mg/L	37	Standard
I	127	68879.6	1.5				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		98.223	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		99.786	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1609135115

Report Date/Time: Wednesday, October 19, 2016 09:42:26

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	99.133
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	96.138
[	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
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Method 6020 - Summary Report

Sample ID: L1609135116

Sample Date/Time: Wednesday, October 19, 2016 09:43:21

Number of Replicates: 3

Autosampler Position: 210

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	88660.8	5.6				ug/L	91395	Standard
|	Be	9	180.0	22.0	0.1768	0.050	28.4	ug/L	3	Standard
|	Al	27	1135546.6	1.9	10.7236	0.742	6.9	ug/L	372	Standard
|	Sc	45	33959.7	1.3				ug/L	33475	Standard
|	Ti	47	371.3	6.8	1.5774	0.140	8.9	ug/L	25	Standard
|	V	51	4180.7	7.7	0.4147	0.042	10.2	ug/L	1461	Standard
|	Cr	52	15344.8	1.5	1.3704	0.013	1.0	ug/L	7269	Standard
|	Cr	53	4012.2	8.1	3.3514	0.497	14.8	ug/L	1557	Standard
|	Mn	55	341501.4	0.3	35.1114	0.610	1.7	ug/L	1045	Standard
|	Co	59	8803.2	1.9	1.0600	0.036	3.4	ug/L	210	Standard
|	Ni	60	4921.1	1.6	2.7327	0.082	3.0	ug/L	103	Standard
|	Cu	65	3751.1	1.1	2.0604	0.007	0.3	ug/L	135	Standard
|	Zn	66	59293.8	1.0	62.7516	1.456	2.3	ug/L	296	Standard
>	Ge	72	550884.4	1.4				ug/L	561245	Standard
|	As	75	2523.8	0.7	2.6048	0.054	2.1	ug/L	-46	Standard
|	Se	82	353.7	1.2	3.6113	0.010	0.3	ug/L	20	Standard
|	Se-1	77	167.0	4.5	1.2708	0.110	8.7	ug/L	93	Standard
>	Ga	71	115.0	19.0				mg/L	7	Standard
|	Rb	85	14053.2	3.8				ug/L	20	Standard
|	Y	89	473386.5	0.4				ug/L	455318	Standard
>	Rh	103	28.3	10.2				ug/L	17	Standard
|	Mo	98	203.1	20.5	0.0469	0.011	22.9	ug/L	57	Standard
|	Ag	107	138.0	7.1	0.0029	0.001	44.2	ug/L	114	Standard
|	Cd	111	70.1	13.5	0.0250	0.004	15.9	mg/L	5	Standard
|	Cd	114	209.4	9.3	0.0314	0.004	11.2	ug/L	33	Standard
>	In	115	855234.8	1.1				ug/L	874708	Standard
|	Sn	118	146.7	11.4	0.0212	0.011	53.8	ug/L	146	Standard
|	Sb	123	388.1	32.4	0.0175	0.019	109.1	ug/L	647	Standard
|	Ba	135	205182.2	2.6	72.4576	1.628	2.2	ug/L	35	Standard
|	Ce	140	170003.8	2.5				ug/L	133	Standard
>	Tb	159	1530605.7	0.9				ug/L	1543699	Standard
|	Ho	165	3268.7	5.8				ug/L	20	Standard
|	Tl	203	194.0	10.6	0.0157	0.002	12.3	ug/L	17	Standard
|	Tl	205	463.3	12.6	0.0126	0.002	17.4	ug/L	18	Standard
|	Pb	206	2707.9	1.8	0.2573	0.009	3.3	ug/L	553	Standard
|	Pb	207	2207.8	2.1	0.2322	0.008	3.6	ug/L	487	Standard
|	Pb	208	10451.7	1.3	0.2437	0.008	3.4	ug/L	2185	Standard
	U	238	1628.4	0.7	0.0530	0.001	1.0	ug/L	18	Standard
>	Bi	209	792295.7	1.5				ug/L	820229	Standard

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Na	23	55.0	32.8	20.0035	6.691	33.4	mg/L	0	Standard
Mg	24	8797.6	4.5	16.6243	0.742	4.5	mg/L	53	Standard
K	39	186.7	6.7	2.0862	0.165	7.9	mg/L	3	Standard
Ca	43	91.7	30.0	10.5565	6.444	61.0	mg/L	27	Standard
Fe	54	1502.1	3.3	1.4205	0.035	2.5	mg/L	112	Standard
Fe	57	671.7	4.7	1.5765	0.130	8.2	mg/L	213	Standard
Sc-1	45	33959.7	1.3				mg/L	33475	Standard
Cl	35	2.7	43.3				ug/L	4	Standard
Kr	83	3.3	62.4				ug/L	4	Standard
Br	81	96365.5	1.1				ug/L	1223	Standard
P	31	115.0	17.4				ug/L	68	Standard
S	34	26.7	39.0				ug/L	20	Standard
Sr	88	183.3	9.6				ug/L	110	Standard
C	12	713.4	10.1				mg/L	377	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	7	Standard
Dy	164	4484.6	3.7				mg/L	32	Standard
Ho-1	165	3268.7	5.8				mg/L	20	Standard
Er	166	2910.3	2.8				mg/L	37	Standard
I	127	281843.4	5.2				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		97.009	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		98.154	
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	97.774
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	96.594
[	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: L1610019402

Sample Date/Time: Wednesday, October 19, 2016 09:46:20

Number of Replicates: 3

Autosampler Position: 211

Sample Description: 100

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	71736.1	1.8				ug/L	91395	Standard
|	Be	9	10.0	86.6	-0.0035	0.011	326.8	ug/L	3	Standard
|	Al	27	938885.7	2.8	10.9293	0.107	1.0	ug/L	372	Standard
|	Sc	45	27930.8	5.7				ug/L	33475	Standard
|	Ti	47	184.7	15.2	0.8211	0.129	15.7	ug/L	25	Standard
|	V	51	4907.3	5.1	0.6249	0.031	5.0	ug/L	1461	Standard
|	Cr	52	6229.6	2.9	-0.0235	0.011	45.7	ug/L	7269	Standard
|	Cr	53	1765.1	4.0	0.6263	0.099	15.7	ug/L	1557	Standard
|	Mn	55	274315.9	4.5	31.8662	0.815	2.6	ug/L	1045	Standard
|	Co	59	1460.7	4.3	0.1789	0.006	3.5	ug/L	210	Standard
|	Ni	60	894.4	4.7	0.5172	0.022	4.2	ug/L	103	Standard
|	Cu	65	465.7	3.9	0.2317	0.006	2.7	ug/L	135	Standard
|	Zn	66	1009.0	3.3	1.0423	0.054	5.2	ug/L	296	Standard
>	Ge	72	487262.5	2.8				ug/L	561245	Standard
|	As	75	629.8	12.1	0.7565	0.070	9.3	ug/L	-46	Standard
|	Se	82	35.2	19.6	0.2693	0.090	33.5	ug/L	20	Standard
|	Se-1	77	101.7	4.0	0.4230	0.111	26.2	ug/L	93	Standard
>	Ga	71	16.7	34.6				mg/L	7	Standard
|	Rb	85	63.3	12.1				ug/L	20	Standard
|	Y	89	384864.8	4.5				ug/L	455318	Standard
>	Rh	103	18.3	56.8				ug/L	17	Standard
|	Mo	98	84.8	13.6	0.0188	0.004	18.8	ug/L	57	Standard
|	Ag	107	96.0	9.0	-0.0008	0.001	170.5	ug/L	114	Standard
|	Cd	111	11.2	36.1	0.0007	0.002	286.9	mg/L	5	Standard
|	Cd	114	27.0	53.6	0.0022	0.003	123.8	ug/L	33	Standard
>	In	115	726416.8	1.6				ug/L	874708	Standard
|	Sn	118	50.7	6.0	-0.0426	0.002	5.6	ug/L	146	Standard
|	Sb	123	193.5	29.1	-0.0075	0.010	130.4	ug/L	647	Standard
|	Ba	135	3886.2	2.9	1.6031	0.023	1.5	ug/L	35	Standard
|	Ce	140	255.0	5.2				ug/L	133	Standard
>	Tb	159	1303772.5	2.5				ug/L	1543699	Standard
|	Ho	165	50.0	17.3				ug/L	20	Standard
|	Tl	203	67.0	17.2	0.0054	0.001	22.1	ug/L	17	Standard
|	Tl	205	138.3	20.9	0.0011	0.001	111.4	ug/L	18	Standard
|	Pb	206	825.0	2.7	0.0509	0.004	8.3	ug/L	553	Standard
|	Pb	207	705.7	6.9	0.0464	0.006	13.1	ug/L	487	Standard
|	Pb	208	3235.5	1.2	0.0463	0.000	0.8	ug/L	2185	Standard
	U	238	638.3	9.0	0.0241	0.002	9.9	ug/L	18	Standard
>	Bi	209	697287.1	1.3				ug/L	820229	Standard

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Na	23	6.7	86.6	2.5367	2.721	107.3	mg/L	0	Standard
Mg	24	4672.4	5.4	10.6964	0.382	3.6	mg/L	53	Standard
K	39	10.0	50.0	0.0857	0.062	72.2	mg/L	3	Standard
Ca	43	40.0	25.0	0.1746	2.299	1316.4	mg/L	27	Standard
Fe	54	160.9	7.0	0.0811	0.021	25.6	mg/L	112	Standard
Fe	57	213.3	6.8	-0.0011	0.014	1284.9	mg/L	213	Standard
Sc-1	45	27930.8	5.7				mg/L	33475	Standard
Cl	35	2.7	43.3				ug/L	4	Standard
Kr	83	3.0	33.3				ug/L	4	Standard
Br	81	5264.2	5.0				ug/L	1223	Standard
P	31	40.0	12.5				ug/L	68	Standard
S	34	18.3	83.3				ug/L	20	Standard
Sr	88	123.3	34.5				ug/L	110	Standard
C	12	443.3	18.2				mg/L	377	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	7	Standard
Dy	164	30.0	48.9				mg/L	32	Standard
Ho-1	165	50.0	17.3				mg/L	20	Standard
Er	166	70.0	28.6				mg/L	37	Standard
I	127	113184.4	7.6				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		78.490	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		86.818	
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	83.047
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	85.011
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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: L1610019404

Sample Date/Time: Wednesday, October 19, 2016 09:49:19

Number of Replicates: 3

Autosampler Position: 212

Sample Description: 100

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	75132.6	3.3				ug/L	91395	Standard
|	Be	9	5.0	100.0	-0.0102	0.006	62.2	ug/L	3	Standard
|	Al	27	520405.2	4.0	5.7871	0.221	3.8	ug/L	372	Standard
|	Sc	45	29622.3	2.7				ug/L	33475	Standard
|	Ti	47	76.7	15.1	0.2404	0.063	26.4	ug/L	25	Standard
|	V	51	2303.8	1.1	0.1566	0.005	2.9	ug/L	1461	Standard
|	Cr	52	5202.9	1.7	-0.2588	0.003	1.0	ug/L	7269	Standard
|	Cr	53	1313.4	1.3	-0.1447	0.062	42.8	ug/L	1557	Standard
|	Mn	55	298198.8	1.9	33.2335	0.114	0.3	ug/L	1045	Standard
|	Co	59	1176.4	3.1	0.1326	0.006	4.2	ug/L	210	Standard
|	Ni	60	439.3	2.3	0.2144	0.010	4.7	ug/L	103	Standard
|	Cu	65	223.7	4.3	0.0708	0.009	12.0	ug/L	135	Standard
|	Zn	66	1141.4	3.5	1.1445	0.048	4.2	ug/L	296	Standard
>	Ge	72	508074.7	2.0				ug/L	561245	Standard
|	As	75	196.0	15.2	0.2486	0.035	14.0	ug/L	-46	Standard
|	Se	82	22.8	14.6	0.1077	0.039	36.7	ug/L	20	Standard
|	Se-1	77	91.3	6.7	0.1607	0.077	47.9	ug/L	93	Standard
>	Ga	71	30.0	44.1				mg/L	7	Standard
|	Rb	85	36.7	56.8				ug/L	20	Standard
|	Y	89	392482.4	1.4				ug/L	455318	Standard
>	Rh	103	6.7	86.6				ug/L	17	Standard
|	Mo	98	113.0	11.2	0.0266	0.003	12.1	ug/L	57	Standard
|	Ag	107	94.7	8.2	-0.0015	0.001	94.8	ug/L	114	Standard
|	Cd	111	8.2	39.2	-0.0009	0.002	163.1	mg/L	5	Standard
|	Cd	114	42.0	25.0	0.0048	0.002	40.8	ug/L	33	Standard
>	In	115	752318.4	2.0				ug/L	874708	Standard
|	Sn	118	50.7	7.5	-0.0441	0.003	5.9	ug/L	146	Standard
|	Sb	123	133.2	29.3	-0.0194	0.007	34.5	ug/L	647	Standard
|	Ba	135	1586.1	4.5	0.6243	0.030	4.8	ug/L	35	Standard
|	Ce	140	151.7	22.0				ug/L	133	Standard
>	Tb	159	1345605.8	3.1				ug/L	1543699	Standard
|	Ho	165	35.0	37.8				ug/L	20	Standard
|	Tl	203	45.3	10.9	0.0030	0.001	16.9	ug/L	17	Standard
|	Tl	205	100.0	8.7	-0.0008	0.000	47.5	ug/L	18	Standard
|	Pb	206	596.3	4.8	0.0170	0.003	16.8	ug/L	553	Standard
|	Pb	207	494.3	2.7	0.0113	0.001	12.5	ug/L	487	Standard
|	Pb	208	2323.1	2.4	0.0125	0.001	8.4	ug/L	2185	Standard
	U	238	368.7	3.4	0.0136	0.000	2.9	ug/L	18	Standard
>	Bi	209	730747.9	1.1				ug/L	820229	Standard

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Na	23	1.7	173.2	0.1258	1.265	1005.5	mg/L	0	Standard
Mg	24	2273.5	5.2	4.8385	0.221	4.6	mg/L	53	Standard
K	39	3.3	86.6	-0.0080	0.038	469.9	mg/L	3	Standard
Ca	43	48.3	15.8	1.8529	1.815	98.0	mg/L	27	Standard
Fe	54	187.8	10.5	0.1003	0.017	17.3	mg/L	112	Standard
Fe	57	235.0	7.4	0.0389	0.096	247.0	mg/L	213	Standard
Sc-1	45	29622.3	2.7				mg/L	33475	Standard
Cl	35	4.7	65.5				ug/L	4	Standard
Kr	83	1.3	114.6				ug/L	4	Standard
Br	81	2900.3	7.1				ug/L	1223	Standard
P	31	33.3	45.8				ug/L	68	Standard
S	34	15.0	57.7				ug/L	20	Standard
Sr	88	141.7	13.4				ug/L	110	Standard
C	12	243.3	16.6				mg/L	377	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	7	Standard
Dy	164	34.1	35.7				mg/L	32	Standard
Ho-1	165	35.0	37.8				mg/L	20	Standard
Er	166	53.3	60.3				mg/L	37	Standard
I	127	101664.4	7.2				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		82.207	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		90.526	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1610019404

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	86.008
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
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>	Bi	209	89.091
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>	Sc-1	45	
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[Hg	202	
[Dy	164	
[Ho-1	165	
[Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1610019404

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Method 6020 - Summary Report

Sample ID: L1610019405

Sample Date/Time: Wednesday, October 19, 2016 09:52:18

Number of Replicates: 3

Autosampler Position: 213

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	68342.1	1.5				ug/L	91395	Standard
|	Be	9	5.0	100.0	-0.0096	0.007	70.6	ug/L	3	Standard
|	Al	27	1857606.1	1.9	22.7013	0.471	2.1	ug/L	372	Standard
|	Sc	45	27792.2	4.7				ug/L	33475	Standard
|	Ti	47	29.7	7.8	0.0138	0.011	79.5	ug/L	25	Standard
|	V	51	1209.8	8.9	-0.0113	0.025	220.5	ug/L	1461	Standard
|	Cr	52	5144.2	8.5	-0.2033	0.108	53.1	ug/L	7269	Standard
|	Cr	53	1645.1	11.0	0.5074	0.301	59.3	ug/L	1557	Standard
|	Mn	55	131364.6	2.6	15.6114	0.627	4.0	ug/L	1045	Standard
|	Co	59	447.0	9.0	0.0393	0.005	12.5	ug/L	210	Standard
|	Ni	60	425.3	5.9	0.2238	0.019	8.5	ug/L	103	Standard
|	Cu	65	171.0	12.1	0.0458	0.016	35.9	ug/L	135	Standard
|	Zn	66	1608.4	1.3	1.8098	0.049	2.7	ug/L	296	Standard
>	Ge	72	475346.9	2.9				ug/L	561245	Standard
|	As	75	13.2	287.7	0.0471	0.045	96.3	ug/L	-46	Standard
|	Se	82	29.6	15.2	0.2089	0.050	24.0	ug/L	20	Standard
|	Se-1	77	105.3	2.9	0.5398	0.111	20.6	ug/L	93	Standard
>	Ga	71	28.3	44.4				mg/L	7	Standard
|	Rb	85	426.7	4.1				ug/L	20	Standard
|	Y	89	368265.7	1.5				ug/L	455318	Standard
>	Rh	103	33.3	56.8				ug/L	17	Standard
|	Mo	98	42.1	37.6	0.0058	0.005	93.1	ug/L	57	Standard
|	Ag	107	96.0	3.1	0.0000	0.001	1855.0	ug/L	114	Standard
|	Cd	111	7.6	46.4	-0.0009	0.002	207.9	mg/L	5	Standard
|	Cd	114	48.7	45.1	0.0069	0.005	66.1	ug/L	33	Standard
>	In	115	694065.0	1.6				ug/L	874708	Standard
|	Sn	118	48.7	15.1	-0.0424	0.006	13.9	ug/L	146	Standard
|	Sb	123	338.3	2.2	0.0221	0.002	10.3	ug/L	647	Standard
|	Ba	135	564.0	1.7	0.2328	0.001	0.4	ug/L	35	Standard
|	Ce	140	748.4	2.5				ug/L	133	Standard
>	Tb	159	1240641.8	2.9				ug/L	1543699	Standard
|	Ho	165	21.7	35.3				ug/L	20	Standard
|	Tl	203	79.0	10.4	0.0069	0.001	16.0	ug/L	17	Standard
|	Tl	205	193.3	34.4	0.0038	0.003	80.2	ug/L	18	Standard
|	Pb	206	505.0	1.8	0.0112	0.002	18.5	ug/L	553	Standard
|	Pb	207	427.7	4.7	0.0072	0.004	56.8	ug/L	487	Standard
|	Pb	208	1938.4	3.5	0.0059	0.004	69.0	ug/L	2185	Standard
	U	238	7375.8	3.6	0.2798	0.001	0.4	ug/L	18	Standard
>	Bi	209	671004.0	3.3				ug/L	820229	Standard

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Na	23	3.3	86.6	0.9018	1.307	145.0	mg/L	0	Standard
Mg	24	3432.1	4.4	7.8698	0.476	6.0	mg/L	53	Standard
K	39	6.7	43.3	0.0408	0.035	86.0	mg/L	3	Standard
Ca	43	41.7	48.5	0.8022	6.069	756.5	mg/L	27	Standard
Fe	54	37.7	8.8	-0.0730	0.004	5.4	mg/L	112	Standard
Fe	57	225.0	9.7	0.0588	0.093	158.9	mg/L	213	Standard
Sc-1	45	27792.2	4.7				mg/L	33475	Standard
Cl	35	2.0	100.0				ug/L	4	Standard
Kr	83	4.7	24.7				ug/L	4	Standard
Br	81	5327.6	5.2				ug/L	1223	Standard
P	31	31.7	24.1				ug/L	68	Standard
S	34	21.7	13.3				ug/L	20	Standard
Sr	88	145.0	21.0				ug/L	110	Standard
C	12	286.7	7.3				mg/L	377	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	7	Standard
Dy	164	12.1	54.0				mg/L	32	Standard
Ho-1	165	21.7	35.3				mg/L	20	Standard
Er	166	26.7	78.1				mg/L	37	Standard
I	127	356360.0	2.2				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		74.777	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		84.695	
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	79.348
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	81.807
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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: L1610019413

Sample Date/Time: Wednesday, October 19, 2016 09:55:17

Number of Replicates: 3

Autosampler Position: 214

Sample Description: 100

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	75308.4	0.4				ug/L	91395	Standard
|	Be	9	5.0	0.0	-0.0102	0.000	0.3	ug/L	3	Standard
|	Al	27	996783.4	0.8	11.0545	0.126	1.1	ug/L	372	Standard
|	Sc	45	29455.3	2.1				ug/L	33475	Standard
|	Ti	47	208.3	5.9	0.9207	0.063	6.9	ug/L	25	Standard
|	V	51	5657.2	3.8	0.7321	0.038	5.2	ug/L	1461	Standard
|	Cr	52	7675.3	1.5	0.2165	0.024	10.9	ug/L	7269	Standard
|	Cr	53	1823.4	7.0	0.6492	0.192	29.5	ug/L	1557	Standard
|	Mn	55	330428.9	1.3	37.5007	0.421	1.1	ug/L	1045	Standard
|	Co	59	1447.1	2.5	0.1722	0.005	2.7	ug/L	210	Standard
|	Ni	60	978.4	4.5	0.5562	0.027	4.8	ug/L	103	Standard
|	Cu	65	586.0	3.2	0.3000	0.013	4.2	ug/L	135	Standard
|	Zn	66	3346.7	3.6	3.7509	0.147	3.9	ug/L	296	Standard
>	Ge	72	499052.6	0.2				ug/L	561245	Standard
|	As	75	554.4	10.2	0.6555	0.063	9.6	ug/L	-46	Standard
|	Se	82	30.9	17.2	0.2072	0.062	29.8	ug/L	20	Standard
|	Se-1	77	114.3	10.5	0.6049	0.212	35.1	ug/L	93	Standard
>	Ga	71	16.7	17.3				mg/L	7	Standard
|	Rb	85	105.0	20.8				ug/L	20	Standard
|	Y	89	389939.6	1.4				ug/L	455318	Standard
>	Rh	103	31.7	48.2				ug/L	17	Standard
|	Mo	98	70.0	25.8	0.0138	0.006	40.9	ug/L	57	Standard
|	Ag	107	100.0	17.4	-0.0003	0.003	1110.8	ug/L	114	Standard
|	Cd	111	13.2	49.1	0.0016	0.003	194.9	mg/L	5	Standard
|	Cd	114	26.6	10.4	0.0021	0.001	25.8	ug/L	33	Standard
>	In	115	735699.2	0.3				ug/L	874708	Standard
|	Sn	118	66.3	11.4	-0.0298	0.006	21.2	ug/L	146	Standard
|	Sb	123	144.0	33.2	-0.0169	0.009	50.8	ug/L	647	Standard
|	Ba	135	4320.3	1.5	1.7612	0.031	1.8	ug/L	35	Standard
|	Ce	140	396.7	12.7				ug/L	133	Standard
>	Tb	159	1333863.2	1.4				ug/L	1543699	Standard
|	Ho	165	76.7	19.9				ug/L	20	Standard
|	Tl	203	58.3	6.0	0.0044	0.000	7.2	ug/L	17	Standard
|	Tl	205	136.7	14.8	0.0009	0.001	94.9	ug/L	18	Standard
|	Pb	206	915.7	6.7	0.0602	0.007	11.8	ug/L	553	Standard
|	Pb	207	763.7	6.8	0.0526	0.007	13.0	ug/L	487	Standard
|	Pb	208	3601.8	3.4	0.0558	0.003	5.8	ug/L	2185	Standard
	U	238	596.3	5.4	0.0220	0.001	4.4	ug/L	18	Standard
>	Bi	209	712871.1	0.9				ug/L	820229	Standard

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Na	23	6.7	114.6	2.2632	3.244	143.3	mg/L	0	Standard
Mg	24	5099.2	1.5	11.0734	0.396	3.6	mg/L	53	Standard
K	39	5.0	0.0	0.0147	0.001	9.6	mg/L	3	Standard
Ca	43	56.7	45.3	4.1983	6.901	164.4	mg/L	27	Standard
Fe	54	137.5	13.6	0.0423	0.020	48.2	mg/L	112	Standard
Fe	57	263.3	12.4	0.1668	0.121	72.8	mg/L	213	Standard
Sc-1	45	29455.3	2.1				mg/L	33475	Standard
Cl	35	0.7	173.2				ug/L	4	Standard
Kr	83	2.0	86.6				ug/L	4	Standard
Br	81	4514.0	3.3				ug/L	1223	Standard
P	31	36.7	20.8				ug/L	68	Standard
S	34	30.0	28.9				ug/L	20	Standard
Sr	88	116.7	13.1				ug/L	110	Standard
C	12	283.3	27.4				mg/L	377	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	7	Standard
Dy	164	59.0	36.3				mg/L	32	Standard
Ho-1	165	76.7	19.9				mg/L	20	Standard
Er	166	90.0	38.5				mg/L	37	Standard
I	127	121696.4	6.3				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		82.399	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		88.919	
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	84.108
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	86.911
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: L1610019413

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Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Wednesday, October 19, 2016 09:58:17

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	86348.8	3.0				ug/L	91395	Standard
|	Be	9	46083.3	2.5	50.4794	2.713	5.4	ug/L	3	Standard
|	Al	27	5011495.8	1.8	48.4774	0.571	1.2	ug/L	372	Standard
|	Sc	45	32446.4	3.3				ug/L	33475	Standard
|	Ti	47	22012.6	0.6	103.6008	0.931	0.9	ug/L	25	Standard
|	V	51	331576.7	1.9	51.5310	0.590	1.1	ug/L	1461	Standard
|	Cr	52	308408.9	2.3	51.4239	0.928	1.8	ug/L	7269	Standard
|	Cr	53	38978.4	0.7	51.4035	0.534	1.0	ug/L	1557	Standard
|	Mn	55	486052.7	2.1	50.8266	1.139	2.2	ug/L	1045	Standard
|	Co	59	404407.6	2.0	50.5942	0.341	0.7	ug/L	210	Standard
|	Ni	60	89524.8	2.1	51.4835	0.492	1.0	ug/L	103	Standard
|	Cu	65	88942.7	1.9	51.1947	0.315	0.6	ug/L	135	Standard
|	Zn	66	47468.9	1.9	51.0163	0.326	0.6	ug/L	296	Standard
>	Ge	72	542002.9	1.4				ug/L	561245	Standard
|	As	75	48936.2	1.1	50.7345	0.612	1.2	ug/L	-46	Standard
|	Se	82	4683.1	0.9	50.5422	0.314	0.6	ug/L	20	Standard
|	Se-1	77	3151.0	2.2	50.8211	1.193	2.3	ug/L	93	Standard
>	Ga	71	38.3	15.1				mg/L	7	Standard
|	Rb	85	778.4	5.5				ug/L	20	Standard
|	Y	89	444511.9	1.2				ug/L	455318	Standard
>	Rh	103	26.7	39.0				ug/L	17	Standard
|	Mo	98	356561.7	0.6	99.5598	0.297	0.3	ug/L	57	Standard
|	Ag	107	337121.1	0.9	50.8332	0.530	1.0	ug/L	114	Standard
|	Cd	111	116147.4	1.2	50.7160	0.841	1.7	mg/L	5	Standard
|	Cd	114	301443.6	0.8	50.7017	0.337	0.7	ug/L	33	Standard
>	In	115	835159.3	0.5				ug/L	874708	Standard
|	Sn	118	67961.8	1.4	50.9744	0.488	1.0	ug/L	146	Standard
|	Sb	123	319730.1	0.4	51.0971	0.418	0.8	ug/L	647	Standard
|	Ba	135	139170.6	0.4	50.3256	0.329	0.7	ug/L	35	Standard
|	Ce	140	143.3	2.0				ug/L	133	Standard
>	Tb	159	1503008.4	2.0				ug/L	1543699	Standard
|	Ho	165	11.7	137.8				ug/L	20	Standard
|	Tl	203	569258.3	1.2	51.0216	0.679	1.3	ug/L	17	Standard
|	Tl	205	1291782.6	0.3	49.8164	0.208	0.4	ug/L	18	Standard
|	Pb	206	424220.6	1.1	50.6921	0.622	1.2	ug/L	553	Standard
|	Pb	207	375667.4	0.9	50.8989	0.488	1.0	ug/L	487	Standard
|	Pb	208	1688971.4	0.9	50.4506	0.499	1.0	ug/L	2185	Standard
	U	238	1499222.4	1.0	49.3186	0.442	0.9	ug/L	18	Standard
>	Bi	209	771669.7	0.2				ug/L	820229	Standard

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Na	23	26.7	39.0	9.9538	4.374	43.9	mg/L	0	Standard
Mg	24	2576.9	7.2	5.0159	0.429	8.6	mg/L	53	Standard
K	39	441.7	7.5	5.2356	0.260	5.0	mg/L	3	Standard
Ca	43	93.3	30.5	11.9063	6.368	53.5	mg/L	27	Standard
Fe	54	4701.3	2.4	4.9286	0.047	1.0	mg/L	112	Standard
Fe	57	1526.7	8.0	5.1124	0.284	5.6	mg/L	213	Standard
Sc-1	45	32446.4	3.3				mg/L	33475	Standard
Cl	35	1.3	86.6				ug/L	4	Standard
Kr	83	2.3	65.5				ug/L	4	Standard
Br	81	1563.4	11.2				ug/L	1223	Standard
P	31	70.0	37.8				ug/L	68	Standard
S	34	23.3	65.5				ug/L	20	Standard
Sr	88	106.7	14.3				ug/L	110	Standard
C	12	366.7	21.2				mg/L	377	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	10.0	100.0				mg/L	7	Standard
Dy	164	15.5	134.4				mg/L	32	Standard
Ho-1	165	11.7	137.8				mg/L	20	Standard
Er	166	23.3	24.7				mg/L	37	Standard
I	127	9579.7	15.2				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	100.959		
Al	27	96.955		
Sc	45			
Ti	47	103.601		
V	51	103.062		
Cr	52	102.848		
Cr	53			
Mn	55	101.653		
Co	59	101.188		
Ni	60	102.967		
Cu	65	102.389		
Zn	66	102.033		
Ge	72		96.572	
As	75	101.469		
Se	82	101.084		
Se-1	77			
Ga	71			

Sample ID: QC Std 6

Report Date/Time: Wednesday, October 19, 2016 10:00:22

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[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	99.560	
[Ag	107	101.666	
[Cd	111	101.432	
[Cd	114		
>	In	115		95.479
[Sn	118	101.949	
[	Sb	123	102.194	
[	Ba	135	100.651	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	102.043	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	100.901	
[	U	238	98.637	
>	Bi	209		94.080
[	Na	23		
[	Mg	24		
[	K	39		
[	Ca	43		
[	Fe	54		
[	Fe	57		
>	Sc-1	45		
[	Cl	35		
[	Kr	83		
[	Br	81		
[	P	31		
[	S	34		
[	Sr	88		
[	C	12		
[	N	14		
[	Hg	202		
[	Dy	164		
[	Ho-1	165		
[	Er	166		
[I	127		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 6

Report Date/Time: Wednesday, October 19, 2016 10:00:22

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Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Wednesday, October 19, 2016 10:01:16

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	88130.9	4.2				ug/L	91395	Standard
|	Be	9	13.3	57.3	-0.0020	0.009	439.3	ug/L	3	Standard
|	Al	27	783.4	27.7	0.0088	0.002	23.2	ug/L	372	Standard
|	Sc	45	33682.4	1.4				ug/L	33475	Standard
|	Ti	47	28.7	28.2	-0.0137	0.038	278.5	ug/L	25	Standard
|	V	51	1360.8	10.2	-0.0202	0.020	97.3	ug/L	1461	Standard
|	Cr	52	6727.2	2.0	-0.0875	0.018	20.1	ug/L	7269	Standard
|	Cr	53	1470.1	5.8	-0.1030	0.102	99.3	ug/L	1557	Standard
|	Mn	55	958.7	3.6	0.0121	0.003	26.6	ug/L	1045	Standard
|	Co	59	240.0	11.3	0.0047	0.003	64.4	ug/L	210	Standard
|	Ni	60	124.3	15.1	0.0141	0.010	70.4	ug/L	103	Standard
|	Cu	65	120.3	12.0	0.0007	0.008	1081.5	ug/L	135	Standard
|	Zn	66	166.0	4.9	0.0058	0.010	165.8	ug/L	296	Standard
>	Ge	72	556277.5	0.9				ug/L	561245	Standard
|	As	75	-35.5	54.0	-0.0039	0.019	488.8	ug/L	-46	Standard
|	Se	82	18.0	30.5	0.0333	0.056	168.6	ug/L	20	Standard
|	Se-1	77	98.7	10.4	0.1412	0.181	128.3	ug/L	93	Standard
>	Ga	71	20.0	66.1				mg/L	7	Standard
|	Rb	85	15.0	88.2				ug/L	20	Standard
|	Y	89	452020.2	0.3				ug/L	455318	Standard
>	Rh	103	26.7	60.3				ug/L	17	Standard
|	Mo	98	312.3	2.4	0.0766	0.002	2.5	ug/L	57	Standard
|	Ag	107	159.3	16.5	0.0060	0.004	67.4	ug/L	114	Standard
|	Cd	111	20.6	30.4	0.0039	0.003	69.8	mg/L	5	Standard
|	Cd	114	84.5	51.7	0.0108	0.007	65.9	ug/L	33	Standard
>	In	115	857188.1	1.0				ug/L	874708	Standard
|	Sn	118	206.0	24.1	0.0642	0.035	54.4	ug/L	146	Standard
|	Sb	123	876.7	41.5	0.0932	0.056	59.5	ug/L	647	Standard
|	Ba	135	45.7	18.6	0.0034	0.003	89.7	ug/L	35	Standard
|	Ce	140	28.3	36.7				ug/L	133	Standard
>	Tb	159	1520298.1	0.7				ug/L	1543699	Standard
|	Ho	165	11.7	65.5				ug/L	20	Standard
|	Tl	203	122.0	13.5	0.0090	0.001	13.7	ug/L	17	Standard
|	Tl	205	316.7	9.1	0.0067	0.001	16.8	ug/L	18	Standard
|	Pb	206	612.0	4.5	0.0108	0.004	38.2	ug/L	553	Standard
|	Pb	207	518.3	5.4	0.0068	0.003	40.2	ug/L	487	Standard
|	Pb	208	2422.7	2.2	0.0076	0.000	6.3	ug/L	2185	Standard
	U	238	261.7	14.9	0.0089	0.001	13.2	ug/L	18	Standard
>	Bi	209	817692.9	1.5				ug/L	820229	Standard

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Na	23	0.0		-0.6045	0.000	0.0	mg/L	0	Standard
Mg	24	58.3	44.0	-0.0113	0.048	429.4	mg/L	53	Standard
K	39	1.7	173.2	-0.0324	0.033	101.2	mg/L	3	Standard
Ca	43	28.3	44.4	-4.5804	2.973	64.9	mg/L	27	Standard
Fe	54	162.5	8.8	0.0479	0.016	32.5	mg/L	112	Standard
Fe	57	238.3	9.7	-0.0744	0.076	101.7	mg/L	213	Standard
Sc-1	45	33682.4	1.4				mg/L	33475	Standard
Cl	35	2.0	100.0				ug/L	4	Standard
Kr	83	3.7	78.7				ug/L	4	Standard
Br	81	1573.4	15.8				ug/L	1223	Standard
P	31	65.0	7.7				ug/L	68	Standard
S	34	26.7	28.6				ug/L	20	Standard
Sr	88	125.0	0.0				ug/L	110	Standard
C	12	306.7	23.6				mg/L	377	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	7	Standard
Dy	164	15.1	96.9				mg/L	32	Standard
Ho-1	165	11.7	65.5				mg/L	20	Standard
Er	166	33.3	45.8				mg/L	37	Standard
I	127	6187.9	2.5				mg/L	3754	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		99.115	
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	97.997
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	99.691
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 7

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Method 6020 - Summary Report

Sample ID: L1610019415

Sample Date/Time: Wednesday, October 19, 2016 10:04:16

Number of Replicates: 3

Autosampler Position: 215

Sample Description: 100

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	67373.2	6.5				ug/L	91395	Standard
|	Be	9	6.7	114.6	-0.0076	0.010	133.5	ug/L	3	Standard
|	Al	27	502840.2	9.0	6.2385	0.480	7.7	ug/L	372	Standard
|	Sc	45	27842.3	5.5				ug/L	33475	Standard
|	Ti	47	82.0	14.4	0.2942	0.047	16.0	ug/L	25	Standard
|	V	51	2170.6	0.7	0.1602	0.019	11.7	ug/L	1461	Standard
|	Cr	52	4528.7	4.7	-0.3241	0.007	2.3	ug/L	7269	Standard
|	Cr	53	1171.7	2.2	-0.2317	0.059	25.5	ug/L	1557	Standard
|	Mn	55	284337.9	7.0	33.8703	0.758	2.2	ug/L	1045	Standard
|	Co	59	1292.4	5.8	0.1600	0.004	2.3	ug/L	210	Standard
|	Ni	60	473.3	3.6	0.2557	0.015	5.7	ug/L	103	Standard
|	Cu	65	208.3	13.6	0.0698	0.012	17.6	ug/L	135	Standard
|	Zn	66	930.7	2.3	0.9774	0.030	3.0	ug/L	296	Standard
>	Ge	72	475023.0	4.8				ug/L	561245	Standard
|	As	75	192.7	13.8	0.2589	0.021	8.1	ug/L	-46	Standard
|	Se	82	22.3	8.6	0.1198	0.033	27.3	ug/L	20	Standard
|	Se-1	77	94.0	12.0	0.3254	0.202	62.2	ug/L	93	Standard
>	Ga	71	28.3	100.3				mg/L	7	Standard
|	Rb	85	48.3	46.6				ug/L	20	Standard
|	Y	89	371979.5	4.9				ug/L	455318	Standard
>	Rh	103	10.0	86.6				ug/L	17	Standard
|	Mo	98	168.3	4.0	0.0470	0.002	4.4	ug/L	57	Standard
|	Ag	107	104.3	11.4	0.0012	0.002	204.6	ug/L	114	Standard
|	Cd	111	9.4	24.3	-0.0001	0.001	971.1	mg/L	5	Standard
|	Cd	114	23.3	22.7	0.0016	0.001	47.0	ug/L	33	Standard
>	In	115	710257.2	6.9				ug/L	874708	Standard
|	Sn	118	63.3	20.1	-0.0297	0.015	51.7	ug/L	146	Standard
|	Sb	123	154.5	30.7	-0.0136	0.010	76.8	ug/L	647	Standard
|	Ba	135	1612.4	5.9	0.6734	0.011	1.6	ug/L	35	Standard
|	Ce	140	163.3	12.4				ug/L	133	Standard
>	Tb	159	1262272.8	4.7				ug/L	1543699	Standard
|	Ho	165	18.3	68.6				ug/L	20	Standard
|	Tl	203	44.7	23.5	0.0033	0.001	38.6	ug/L	17	Standard
|	Tl	205	85.0	17.6	-0.0011	0.001	63.1	ug/L	18	Standard
|	Pb	206	566.0	2.8	0.0179	0.003	15.8	ug/L	553	Standard
|	Pb	207	468.7	7.3	0.0119	0.002	14.0	ug/L	487	Standard
|	Pb	208	2193.7	7.3	0.0129	0.002	12.2	ug/L	2185	Standard
	U	238	528.7	9.0	0.0203	0.001	4.0	ug/L	18	Standard
>	Bi	209	686331.6	5.3				ug/L	820229	Standard

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Na	23	5.0	100.0	1.6637	2.189	131.6	mg/L	0	Standard
Mg	24	2011.8	8.7	4.5427	0.169	3.7	mg/L	53	Standard
K	39	1.7	173.2	-0.0265	0.043	161.8	mg/L	3	Standard
Ca	43	43.3	56.9	1.3348	7.302	547.0	mg/L	27	Standard
Fe	54	211.1	26.1	0.1420	0.055	38.9	mg/L	112	Standard
Fe	57	273.3	14.8	0.2831	0.180	63.7	mg/L	213	Standard
Sc-1	45	27842.3	5.5				mg/L	33475	Standard
Cl	35	2.7	43.3				ug/L	4	Standard
Kr	83	3.0	33.3				ug/L	4	Standard
Br	81	2343.5	5.9				ug/L	1223	Standard
P	31	16.7	69.3				ug/L	68	Standard
S	34	15.0	57.7				ug/L	20	Standard
Sr	88	133.3	22.6				ug/L	110	Standard
C	12	310.0	24.4				mg/L	377	Standard
N	14	6.7	173.2				mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	7	Standard
Dy	164	21.3	31.7				mg/L	32	Standard
Ho-1	165	18.3	68.6				mg/L	20	Standard
Er	166	43.3	48.0				mg/L	37	Standard
I	127	94439.9	8.8				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		73.717	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		84.637	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	81.199
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	83.676
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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: L1610019416

Sample Date/Time: Wednesday, October 19, 2016 10:07:16

Number of Replicates: 3

Autosampler Position: 216

Sample Description: 50

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	70848.7	3.5				ug/L	91395	Standard
|	Be	9	23.3	121.8	0.0154	0.039	253.6	ug/L	3	Standard
|	Al	27	1997420.2	3.8	23.5421	0.101	0.4	ug/L	372	Standard
|	Sc	45	27919.0	3.0				ug/L	33475	Standard
|	Ti	47	30.3	29.9	0.0136	0.051	376.3	ug/L	25	Standard
|	V	51	1368.4	16.1	0.0102	0.043	421.7	ug/L	1461	Standard
|	Cr	52	5273.6	6.2	-0.2085	0.073	35.1	ug/L	7269	Standard
|	Cr	53	1333.4	7.1	-0.0426	0.110	258.6	ug/L	1557	Standard
|	Mn	55	132260.8	1.4	15.2641	0.470	3.1	ug/L	1045	Standard
|	Co	59	533.7	19.5	0.0498	0.017	34.1	ug/L	210	Standard
|	Ni	60	468.7	7.2	0.2436	0.026	10.6	ug/L	103	Standard
|	Cu	65	182.3	13.0	0.0499	0.019	37.2	ug/L	135	Standard
|	Zn	66	1177.0	2.1	1.2377	0.045	3.6	ug/L	296	Standard
>	Ge	72	489413.8	3.1				ug/L	561245	Standard
|	As	75	-4.3	435.6	0.0272	0.021	77.2	ug/L	-46	Standard
|	Se	82	25.1	46.8	0.1478	0.152	102.6	ug/L	20	Standard
|	Se-1	77	103.7	6.4	0.4532	0.178	39.3	ug/L	93	Standard
>	Ga	71	15.0	0.0				mg/L	7	Standard
|	Rb	85	371.7	9.4				ug/L	20	Standard
|	Y	89	383924.6	3.1				ug/L	455318	Standard
>	Rh	103	53.3	23.6				ug/L	17	Standard
|	Mo	98	115.6	57.8	0.0294	0.022	76.2	ug/L	57	Standard
|	Ag	107	156.7	51.9	0.0102	0.015	144.9	ug/L	114	Standard
|	Cd	111	26.5	75.6	0.0087	0.010	120.2	mg/L	5	Standard
|	Cd	114	78.1	74.6	0.0124	0.012	94.4	ug/L	33	Standard
>	In	115	720958.9	2.6				ug/L	874708	Standard
|	Sn	118	69.3	37.0	-0.0256	0.024	92.0	ug/L	146	Standard
|	Sb	123	173.0	52.4	-0.0107	0.017	162.9	ug/L	647	Standard
|	Ba	135	601.7	5.6	0.2394	0.014	6.0	ug/L	35	Standard
|	Ce	140	605.0	8.9				ug/L	133	Standard
>	Tb	159	1315893.1	2.5				ug/L	1543699	Standard
|	Ho	165	20.0	0.0				ug/L	20	Standard
|	Tl	203	179.7	48.8	0.0165	0.009	54.0	ug/L	17	Standard
|	Tl	205	413.3	77.2	0.0129	0.014	107.4	ug/L	18	Standard
|	Pb	206	608.3	15.3	0.0217	0.013	61.9	ug/L	553	Standard
|	Pb	207	515.0	14.6	0.0173	0.012	72.1	ug/L	487	Standard
|	Pb	208	2350.7	14.4	0.0165	0.012	75.2	ug/L	2185	Standard
	U	238	8315.0	5.2	0.3012	0.017	5.5	ug/L	18	Standard
>	Bi	209	702935.7	2.5				ug/L	820229	Standard

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Na	23	1.7	173.2	0.1504	1.308	869.3	mg/L	0	Standard
Mg	24	3755.5	3.3	8.5810	0.484	5.6	mg/L	53	Standard
K	39	15.0	33.3	0.1585	0.075	47.2	mg/L	3	Standard
Ca	43	85.0	5.9	13.4264	2.053	15.3	mg/L	27	Standard
Fe	54	52.6	21.9	-0.0548	0.013	23.3	mg/L	112	Standard
Fe	57	238.3	16.3	0.1136	0.157	138.3	mg/L	213	Standard
Sc-1	45	27919.0	3.0				mg/L	33475	Standard
Cl	35	0.0					ug/L	4	Standard
Kr	83	3.0	66.7				ug/L	4	Standard
Br	81	5344.3	6.4				ug/L	1223	Standard
P	31	35.0	37.8				ug/L	68	Standard
S	34	16.7	105.4				ug/L	20	Standard
Sr	88	160.0	22.5				ug/L	110	Standard
C	12	203.3	75.3				mg/L	377	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	7	Standard
Dy	164	8.4	133.3				mg/L	32	Standard
Ho-1	165	20.0	0.0				mg/L	20	Standard
Er	166	33.3	75.5				mg/L	37	Standard
I	127	317406.9	8.4				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		77.519	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		87.202	
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	82.423
[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	85.700
[	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
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Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Wednesday, October 19, 2016 10:10:17

Number of Replicates: 3

Autosampler Position: 101

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	86125.8	1.0				ug/L	91395	Standard
|	Be	9	46559.8	2.6	51.0926	1.815	3.6	ug/L	3	Standard
|	Al	27	5108584.9	3.5	49.5444	2.118	4.3	ug/L	372	Standard
|	Sc	45	32266.0	2.6				ug/L	33475	Standard
|	Ti	47	22009.3	1.5	104.5890	0.706	0.7	ug/L	25	Standard
|	V	51	327162.0	0.9	51.3461	0.716	1.4	ug/L	1461	Standard
|	Cr	52	303892.5	1.1	51.1626	0.497	1.0	ug/L	7269	Standard
|	Cr	53	39259.1	1.7	52.3096	0.522	1.0	ug/L	1557	Standard
|	Mn	55	490100.7	2.2	51.7442	0.440	0.9	ug/L	1045	Standard
|	Co	59	403797.8	1.5	51.0136	0.332	0.7	ug/L	210	Standard
|	Ni	60	88367.7	2.2	51.3117	0.285	0.6	ug/L	103	Standard
|	Cu	65	88315.0	1.4	51.3322	0.318	0.6	ug/L	135	Standard
|	Zn	66	47003.1	1.9	51.0083	0.242	0.5	ug/L	296	Standard
>	Ge	72	536800.0	2.0				ug/L	561245	Standard
|	As	75	48530.0	2.5	50.7945	0.480	0.9	ug/L	-46	Standard
|	Se	82	4699.5	3.3	51.2038	0.943	1.8	ug/L	20	Standard
|	Se-1	77	3177.7	2.3	51.7757	1.107	2.1	ug/L	93	Standard
>	Ga	71	30.0	16.7				mg/L	7	Standard
|	Rb	85	776.7	7.9				ug/L	20	Standard
|	Y	89	429066.0	3.2				ug/L	455318	Standard
>	Rh	103	25.0	72.1				ug/L	17	Standard
|	Mo	98	357772.1	2.9	100.8815	0.842	0.8	ug/L	57	Standard
|	Ag	107	331368.0	2.0	50.4663	0.791	1.6	ug/L	114	Standard
|	Cd	111	115801.3	2.1	51.0695	0.797	1.6	mg/L	5	Standard
|	Cd	114	297861.8	3.2	50.5898	0.514	1.0	ug/L	33	Standard
>	In	115	826988.7	2.5				ug/L	874708	Standard
|	Sn	118	66632.6	3.4	50.4643	0.555	1.1	ug/L	146	Standard
|	Sb	123	317891.5	1.7	51.3123	0.563	1.1	ug/L	647	Standard
|	Ba	135	138741.1	1.7	50.6762	0.895	1.8	ug/L	35	Standard
|	Ce	140	120.0	38.2				ug/L	133	Standard
>	Tb	159	1483247.5	2.8				ug/L	1543699	Standard
|	Ho	165	18.3	95.8				ug/L	20	Standard
|	Tl	203	560315.4	2.4	50.3039	0.521	1.0	ug/L	17	Standard
|	Tl	205	1275839.6	1.3	49.2898	0.416	0.8	ug/L	18	Standard
|	Pb	206	420771.8	1.6	50.3690	0.561	1.1	ug/L	553	Standard
|	Pb	207	372026.4	2.9	50.4861	0.705	1.4	ug/L	487	Standard
|	Pb	208	1683231.6	1.5	50.3676	0.355	0.7	ug/L	2185	Standard
	U	238	1523857.0	1.8	50.2161	0.270	0.5	ug/L	18	Standard
>	Bi	209	770330.4	1.7				ug/L	820229	Standard

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Na	23	11.7	24.7	3.9806	1.006	25.3	mg/L	0	Standard
Mg	24	2541.9	5.2	4.9699	0.241	4.9	mg/L	53	Standard
K	39	421.7	9.6	5.0362	0.582	11.5	mg/L	3	Standard
Ca	43	70.0	37.8	6.3831	7.052	110.5	mg/L	27	Standard
Fe	54	4728.7	0.3	4.9875	0.119	2.4	mg/L	112	Standard
Fe	57	1496.7	3.5	5.0321	0.154	3.1	mg/L	213	Standard
Sc-1	45	32266.0	2.6				mg/L	33475	Standard
Cl	35	2.0	100.0				ug/L	4	Standard
Kr	83	2.0	86.6				ug/L	4	Standard
Br	81	1513.4	9.3				ug/L	1223	Standard
P	31	75.0	30.6				ug/L	68	Standard
S	34	23.3	65.5				ug/L	20	Standard
Sr	88	101.7	7.5				ug/L	110	Standard
C	12	333.3	9.6				mg/L	377	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	7	Standard
Dy	164	29.4	33.2				mg/L	32	Standard
Ho-1	165	18.3	95.8				mg/L	20	Standard
Er	166	13.3	43.3				mg/L	37	Standard
I	127	12091.6	20.6				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	102.185		
Al	27	99.089		
Sc	45			
Ti	47	104.589		
V	51	102.692		
Cr	52	102.325		
Cr	53			
Mn	55	103.488		
Co	59	102.027		
Ni	60	102.623		
Cu	65	102.664		
Zn	66	102.017		
Ge	72		95.645	
As	75	101.589		
Se	82	102.408		
Se-1	77			
Ga	71			

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[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	100.881	
[Ag	107	100.933	
[Cd	111	102.139	
[Cd	114		
>	In	115		94.545
[Sn	118	100.929	
[	Sb	123	102.625	
[	Ba	135	101.352	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	100.608	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	100.735	
[	U	238	100.432	
>	Bi	209		93.916
[	Na	23		
[	Mg	24		
[	K	39		
[	Ca	43		
[	Fe	54		
[	Fe	57		
>	Sc-1	45		
[	Cl	35		
[	Kr	83		
[	Br	81		
[	P	31		
[	S	34		
[	Sr	88		
[	C	12		
[	N	14		
[	Hg	202		
[	Dy	164		
[	Ho-1	165		
[	Er	166		
[I	127		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Wednesday, October 19, 2016 10:13:17

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	81205.9	12.3				ug/L	91395	Standard
|	Be	9	10.0	86.6	-0.0054	0.008	154.0	ug/L	3	Standard
|	Al	27	626.7	18.3	0.0078	0.001	7.8	ug/L	372	Standard
|	Sc	45	31128.7	6.1				ug/L	33475	Standard
|	Ti	47	24.0	19.1	-0.0288	0.014	50.1	ug/L	25	Standard
|	V	51	1226.3	27.6	-0.0300	0.041	135.7	ug/L	1461	Standard
|	Cr	52	5702.4	20.7	-0.2014	0.141	70.2	ug/L	7269	Standard
|	Cr	53	1210.0	16.5	-0.3500	0.181	51.8	ug/L	1557	Standard
|	Mn	55	766.7	16.8	-0.0027	0.008	308.4	ug/L	1045	Standard
|	Co	59	205.7	8.5	0.0022	0.001	23.1	ug/L	210	Standard
|	Ni	60	133.3	5.1	0.0244	0.006	25.6	ug/L	103	Standard
|	Cu	65	140.0	7.6	0.0173	0.009	54.5	ug/L	135	Standard
|	Zn	66	199.7	23.3	0.0577	0.065	112.1	ug/L	296	Standard
>	Ge	72	521999.2	6.6				ug/L	561245	Standard
|	As	75	-18.2	147.9	0.0134	0.027	200.9	ug/L	-46	Standard
|	Se	82	16.4	25.7	0.0305	0.059	193.6	ug/L	20	Standard
|	Se-1	77	87.7	10.6	0.0528	0.060	113.2	ug/L	93	Standard
>	Ga	71	23.3	75.3				mg/L	7	Standard
|	Rb	85	23.3	24.7				ug/L	20	Standard
|	Y	89	408940.1	8.4				ug/L	455318	Standard
>	Rh	103	11.7	107.9				ug/L	17	Standard
|	Mo	98	160.0	61.3	0.0382	0.024	63.8	ug/L	57	Standard
|	Ag	107	118.3	11.4	0.0018	0.001	36.0	ug/L	114	Standard
|	Cd	111	8.5	58.0	-0.0011	0.002	181.9	mg/L	5	Standard
|	Cd	114	30.5	36.9	0.0025	0.002	73.7	ug/L	33	Standard
>	In	115	776304.4	9.3				ug/L	874708	Standard
|	Sn	118	106.0	11.1	-0.0007	0.005	652.8	ug/L	146	Standard
|	Sb	123	231.8	99.9	-0.0053	0.035	660.5	ug/L	647	Standard
|	Ba	135	39.7	27.8	0.0026	0.003	113.1	ug/L	35	Standard
|	Ce	140	26.7	39.0				ug/L	133	Standard
>	Tb	159	1406800.7	9.6				ug/L	1543699	Standard
|	Ho	165	16.7	69.3				ug/L	20	Standard
|	Tl	203	45.3	75.7	0.0028	0.003	103.0	ug/L	17	Standard
|	Tl	205	111.7	56.0	-0.0005	0.002	454.1	ug/L	18	Standard
|	Pb	206	561.3	11.1	0.0097	0.004	45.6	ug/L	553	Standard
|	Pb	207	433.0	19.3	-0.0002	0.008	3344.4	ug/L	487	Standard
|	Pb	208	2138.4	11.1	0.0040	0.004	97.4	ug/L	2185	Standard
	U	238	90.3	102.1	0.0037	0.003	76.8	ug/L	18	Standard
>	Bi	209	760622.2	5.9				ug/L	820229	Standard

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Na	23	0.0		-0.6045	0.000	0.0	mg/L	0	Standard
Mg	24	45.0	22.2	-0.0301	0.015	50.1	mg/L	53	Standard
K	39	8.3	34.6	0.0530	0.037	69.7	mg/L	3	Standard
Ca	43	60.0		4.3284	0.963	22.3	mg/L	27	Standard
Fe	54	79.2	31.2	-0.0326	0.022	68.6	mg/L	112	Standard
Fe	57	220.0	8.2	-0.0717	0.103	144.2	mg/L	213	Standard
Sc-1	45	31128.7	6.1				mg/L	33475	Standard
Cl	35	2.0	100.0				ug/L	4	Standard
Kr	83	4.0	66.1				ug/L	4	Standard
Br	81	1196.7	13.9				ug/L	1223	Standard
P	31	68.3	37.5				ug/L	68	Standard
S	34	30.0	16.7				ug/L	20	Standard
Sr	88	108.3	5.3				ug/L	110	Standard
C	12	396.7	14.3				mg/L	377	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	7	Standard
Dy	164	23.0	24.5				mg/L	32	Standard
Ho-1	165	16.7	69.3				mg/L	20	Standard
Er	166	6.7	86.6				mg/L	37	Standard
I	127	5881.2	11.2				mg/L	3754	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		93.007	
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	88.750
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	92.733
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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: Wednesday, October 19, 2016 10:17:05

Number of Replicates: 3

Autosampler Position: 202

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	84904.1	3.6				ug/L	91395	Standard
|	Be	9	221.7	3.4	0.2306	0.015	6.5	ug/L	3	Standard
|	Al	27	466.7	15.6	0.0059	0.001	12.8	ug/L	372	Standard
|	Sc	45	33550.4	1.8				ug/L	33475	Standard
|	Ti	47	26.0	20.0	-0.0215	0.027	124.5	ug/L	25	Standard
|	V	51	3812.0	4.6	0.3751	0.048	12.7	ug/L	1461	Standard
|	Cr	52	11301.2	1.3	0.7439	0.085	11.4	ug/L	7269	Standard
|	Cr	53	1900.1	3.9	0.5690	0.178	31.2	ug/L	1557	Standard
|	Mn	55	5713.1	0.8	0.5190	0.015	2.9	ug/L	1045	Standard
|	Co	59	3300.0	1.4	0.3932	0.020	5.0	ug/L	210	Standard
|	Ni	60	2753.3	0.8	1.5466	0.049	3.2	ug/L	103	Standard
|	Cu	65	1523.7	1.4	0.8208	0.024	2.9	ug/L	135	Standard
|	Zn	66	6015.5	1.3	6.3866	0.133	2.1	ug/L	296	Standard
>	Ge	72	536565.4	3.2				ug/L	561245	Standard
|	As	75	372.1	11.0	0.4206	0.032	7.5	ug/L	-46	Standard
|	Se	82	57.4	13.7	0.4705	0.068	14.4	ug/L	20	Standard
|	Se-1	77	100.3	8.1	0.2292	0.169	73.5	ug/L	93	Standard
>	Ga	71	15.0	57.7				mg/L	7	Standard
|	Rb	85	30.0	44.1				ug/L	20	Standard
|	Y	89	442432.6	1.5				ug/L	455318	Standard
>	Rh	103	13.3	21.7				ug/L	17	Standard
|	Mo	98	83.1	19.2	0.0150	0.004	27.2	ug/L	57	Standard
|	Ag	107	2673.9	5.4	0.3893	0.016	4.1	ug/L	114	Standard
|	Cd	111	545.6	2.9	0.2355	0.011	4.5	mg/L	5	Standard
|	Cd	114	1358.9	7.7	0.2275	0.016	7.0	ug/L	33	Standard
>	In	115	827954.5	2.2				ug/L	874708	Standard
|	Sn	118	107.0	20.4	-0.0054	0.015	281.6	ug/L	146	Standard
|	Sb	123	2592.2	3.9	0.3754	0.020	5.4	ug/L	647	Standard
|	Ba	135	1985.8	2.2	0.7119	0.012	1.7	ug/L	35	Standard
|	Ce	140	40.0	33.1				ug/L	133	Standard
>	Tb	159	1483605.5	3.6				ug/L	1543699	Standard
|	Ho	165	23.3	49.5				ug/L	20	Standard
|	Tl	203	904.4	2.5	0.0772	0.003	4.4	ug/L	17	Standard
|	Tl	205	2076.8	4.0	0.0726	0.001	1.1	ug/L	18	Standard
|	Pb	206	2311.8	2.5	0.2093	0.009	4.4	ug/L	553	Standard
|	Pb	207	1920.5	4.4	0.1923	0.003	1.6	ug/L	487	Standard
|	Pb	208	8980.0	1.0	0.1990	0.006	3.0	ug/L	2185	Standard
	U	238	11867.3	1.7	0.3784	0.007	1.8	ug/L	18	Standard
>	Bi	209	798023.1	3.3				ug/L	820229	Standard

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Na	23	3.3	86.6	0.6640	1.099	165.5	mg/L	0	Standard
Mg	24	51.7	11.2	-0.0233	0.012	53.0	mg/L	53	Standard
K	39	8.3	91.7	0.0458	0.090	196.0	mg/L	3	Standard
Ca	43	28.3	44.4	-4.5120	3.154	69.9	mg/L	27	Standard
Fe	54	148.6	26.6	0.0345	0.043	125.3	mg/L	112	Standard
Fe	57	221.7	11.4	-0.1341	0.103	76.7	mg/L	213	Standard
Sc-1	45	33550.4	1.8				mg/L	33475	Standard
Cl	35	0.7	173.2				ug/L	4	Standard
Kr	83	5.7	44.4				ug/L	4	Standard
Br	81	1246.7	5.3				ug/L	1223	Standard
P	31	55.0	18.2				ug/L	68	Standard
S	34	18.3	68.6				ug/L	20	Standard
Sr	88	108.3	5.3				ug/L	110	Standard
C	12	336.7	16.4				mg/L	377	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	10.0	100.0				mg/L	7	Standard
Dy	164	35.9	90.9				mg/L	32	Standard
Ho-1	165	23.3	49.5				mg/L	20	Standard
Er	166	16.7	91.7				mg/L	37	Standard
I	127	5164.2	4.2				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
> Li	6			
Be	9	115.290		
Al	27			
Sc	45			
Ti	47			
V	51	93.765		
Cr	52	92.987		
Cr	53			
Mn	55	103.802		
Co	59	98.295		
Ni	60	96.665		
Cu	65	102.596		
Zn	66	102.186		
> Ge	72		95.603	
As	75	105.157		
Se	82	117.621		
Se-1	77			
> Ga	71			

Sample ID: QC Std 8

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[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98		
	Ag	107	97.328	
	Cd	111	98.135	
	Cd	114		
>	In	115		94.655
	Sn	118		
	Sb	123	93.845	
[	Ba	135	94.915	
[	Ce	140		
>	Tb	159		
[	Ho	165		
	Tl	203	96.471	
	Tl	205		
	Pb	206		
	Pb	207		
	Pb	208	99.504	
	U	238	94.609	
>	Bi	209		97.293
[	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
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Sample ID: QC Std 8

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Method 6020 - Summary Report

Sample ID: PBS M2 WG586939-02

Sample Date/Time: Wednesday, October 19, 2016 10:21:31

Number of Replicates: 3

Autosampler Position: 217

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	90737.8	3.4				ug/L	91395	Standard
|	Be	9	25.0	72.1	0.0098	0.019	196.0	ug/L	3	Standard
|	Al	27	13836.3	2.4	0.1287	0.002	1.7	ug/L	372	Standard
|	Sc	45	34482.5	2.7				ug/L	33475	Standard
|	Ti	47	43.7	4.8	0.0510	0.009	18.2	ug/L	25	Standard
|	V	51	1522.4	15.6	-0.0001	0.035	40225.7	ug/L	1461	Standard
|	Cr	52	10690.1	2.9	0.5370	0.051	9.6	ug/L	7269	Standard
|	Cr	53	1878.4	2.7	0.3943	0.056	14.1	ug/L	1557	Standard
|	Mn	55	5004.5	2.7	0.4150	0.013	3.2	ug/L	1045	Standard
|	Co	59	336.3	6.8	0.0157	0.003	19.0	ug/L	210	Standard
|	Ni	60	1265.4	2.1	0.6405	0.019	2.9	ug/L	103	Standard
|	Cu	65	533.0	2.4	0.2267	0.007	2.9	ug/L	135	Standard
|	Zn	66	2441.5	1.8	2.3466	0.027	1.2	ug/L	296	Standard
>	Ge	72	567292.9	0.7				ug/L	561245	Standard
|	As	75	-74.1	44.5	-0.0417	0.033	79.6	ug/L	-46	Standard
|	Se	82	10.5	63.1	-0.0479	0.068	141.8	ug/L	20	Standard
|	Se-1	77	98.3	11.0	0.1039	0.172	165.7	ug/L	93	Standard
>	Ga	71	46.7	16.4				mg/L	7	Standard
|	Rb	85	111.7	6.8				ug/L	20	Standard
|	Y	89	465914.1	1.3				ug/L	455318	Standard
>	Rh	103	15.0	33.3				ug/L	17	Standard
|	Mo	98	137.9	2.6	0.0289	0.001	5.1	ug/L	57	Standard
|	Ag	107	160.3	9.5	0.0060	0.003	42.2	ug/L	114	Standard
|	Cd	111	20.8	20.9	0.0039	0.002	51.2	mg/L	5	Standard
|	Cd	114	77.8	23.0	0.0097	0.003	31.6	ug/L	33	Standard
>	In	115	863748.4	1.9				ug/L	874708	Standard
|	Sn	118	206.0	6.6	0.0633	0.008	12.8	ug/L	146	Standard
|	Sb	123	446.4	31.1	0.0258	0.020	79.0	ug/L	647	Standard
|	Ba	135	380.0	2.5	0.1202	0.002	2.0	ug/L	35	Standard
|	Ce	140	338.3	10.7				ug/L	133	Standard
>	Tb	159	1542484.3	1.4				ug/L	1543699	Standard
|	Ho	165	40.0	43.3				ug/L	20	Standard
|	Tl	203	39.7	13.9	0.0020	0.000	24.1	ug/L	17	Standard
|	Tl	205	93.3	40.2	-0.0015	0.001	91.2	ug/L	18	Standard
|	Pb	206	1082.7	4.3	0.0620	0.005	8.5	ug/L	553	Standard
|	Pb	207	888.0	3.8	0.0523	0.003	6.4	ug/L	487	Standard
|	Pb	208	4214.6	3.2	0.0563	0.003	6.0	ug/L	2185	Standard
	U	238	78.0	9.0	0.0032	0.000	7.4	ug/L	18	Standard
>	Bi	209	830736.8	1.0				ug/L	820229	Standard

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Na	23	1.7	173.2	0.0089	1.062	11957.1	mg/L	0	Standard
Mg	24	61.7	20.4	-0.0070	0.026	371.8	mg/L	53	Standard
K	39	8.3	34.6	0.0427	0.033	77.1	mg/L	3	Standard
Ca	43	43.3	40.5	-1.2215	4.033	330.1	mg/L	27	Standard
Fe	54	143.9	20.8	0.0247	0.027	107.4	mg/L	112	Standard
Fe	57	210.0	8.6	-0.2003	0.088	43.8	mg/L	213	Standard
Sc-1	45	34482.5	2.7				mg/L	33475	Standard
Cl	35	0.0					ug/L	4	Standard
Kr	83	4.7	68.9				ug/L	4	Standard
Br	81	1476.7	3.1				ug/L	1223	Standard
P	31	78.3	35.2				ug/L	68	Standard
S	34	30.0	57.7				ug/L	20	Standard
Sr	88	120.0	15.0				ug/L	110	Standard
C	12	463.3	15.3				mg/L	377	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	6.7	86.6				mg/L	7	Standard
Dy	164	22.2	69.0				mg/L	32	Standard
Ho-1	165	40.0	43.3				mg/L	20	Standard
Er	166	23.3	24.7				mg/L	37	Standard
I	127	3165.3	2.6				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		99.281	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		101.078	
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	98.747
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	101.281
[	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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Sample ID: PBS M2 WG586939-02

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Method 6020 - Summary Report

Sample ID: LCSS M2 WG586939-03

Sample Date/Time: Wednesday, October 19, 2016 10:24:31

Number of Replicates: 3

Autosampler Position: 218

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	90969.3	4.7				ug/L	91395	Standard
|	Be	9	23526.6	2.4	24.4553	1.018	4.2	ug/L	3	Standard
|	Al	27	10323.5	2.1	0.0962	0.002	2.5	ug/L	372	Standard
|	Sc	45	33811.0	2.3				ug/L	33475	Standard
|	Ti	47	33.0	24.1	0.0064	0.035	550.6	ug/L	25	Standard
|	V	51	165874.6	0.6	25.1140	0.338	1.3	ug/L	1461	Standard
|	Cr	52	159703.3	0.8	25.4656	0.196	0.8	ug/L	7269	Standard
|	Cr	53	20433.8	1.6	25.3632	0.443	1.7	ug/L	1557	Standard
|	Mn	55	244588.0	1.4	24.9836	0.126	0.5	ug/L	1045	Standard
|	Co	59	201127.5	0.8	24.6139	0.198	0.8	ug/L	210	Standard
|	Ni	60	45624.3	1.9	25.6483	0.234	0.9	ug/L	103	Standard
|	Cu	65	45279.6	1.1	25.4727	0.086	0.3	ug/L	135	Standard
|	Zn	66	24049.4	0.7	25.2112	0.238	0.9	ug/L	296	Standard
>	Ge	72	553843.5	1.1				ug/L	561245	Standard
|	As	75	24498.5	0.7	24.8712	0.210	0.8	ug/L	-46	Standard
|	Se	82	2357.3	2.9	24.8151	0.609	2.5	ug/L	20	Standard
|	Se-1	77	1613.1	1.7	24.7329	0.381	1.5	ug/L	93	Standard
>	Ga	71	21.7	35.3				mg/L	7	Standard
|	Rb	85	48.3	15.8				ug/L	20	Standard
|	Y	89	447942.8	1.6				ug/L	455318	Standard
>	Rh	103	25.0	20.0				ug/L	17	Standard
|	Mo	98	101.0	7.0	0.0192	0.002	11.0	ug/L	57	Standard
|	Ag	107	170580.6	0.9	25.0922	0.238	0.9	ug/L	114	Standard
|	Cd	111	58188.1	0.9	24.7912	0.101	0.4	mg/L	5	Standard
|	Cd	114	146973.9	1.0	24.1229	0.229	0.9	ug/L	33	Standard
>	In	115	855802.9	0.7				ug/L	874708	Standard
|	Sn	118	146.7	15.5	0.0212	0.017	79.7	ug/L	146	Standard
|	Sb	123	159288.3	0.3	24.8207	0.223	0.9	ug/L	647	Standard
|	Ba	135	69625.6	1.8	24.5630	0.387	1.6	ug/L	35	Standard
|	Ce	140	161.7	12.5				ug/L	133	Standard
>	Tb	159	1534233.2	2.1				ug/L	1543699	Standard
|	Ho	165	35.0	62.3				ug/L	20	Standard
|	Tl	203	289066.2	0.8	25.0625	0.267	1.1	ug/L	17	Standard
|	Tl	205	671487.0	2.7	25.0503	0.808	3.2	ug/L	18	Standard
|	Pb	206	218437.6	1.5	25.2223	0.517	2.1	ug/L	553	Standard
|	Pb	207	185404.0	1.6	24.2704	0.496	2.0	ug/L	487	Standard
|	Pb	208	853052.5	1.2	24.6195	0.425	1.7	ug/L	2185	Standard
	U	238	742301.4	1.0	23.6224	0.233	1.0	ug/L	18	Standard
>	Bi	209	797711.4	0.5				ug/L	820229	Standard

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Na	23	0.0		-0.6045	0.000	0.0	mg/L	0	Standard
Mg	24	51.7	20.1	-0.0243	0.019	79.7	mg/L	53	Standard
K	39	3.3	86.6	-0.0133	0.033	247.6	mg/L	3	Standard
Ca	43	46.7	6.2	-0.1775	0.431	242.9	mg/L	27	Standard
Fe	54	134.3	24.5	0.0185	0.036	195.9	mg/L	112	Standard
Fe	57	236.7	9.8	-0.0839	0.084	99.8	mg/L	213	Standard
Sc-1	45	33811.0	2.3				mg/L	33475	Standard
Cl	35	0.7	173.2				ug/L	4	Standard
Kr	83	2.3	65.5				ug/L	4	Standard
Br	81	1356.7	13.1				ug/L	1223	Standard
P	31	70.0	7.1				ug/L	68	Standard
S	34	21.7	48.0				ug/L	20	Standard
Sr	88	106.7	11.8				ug/L	110	Standard
C	12	446.7	12.7				mg/L	377	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	7	Standard
Dy	164	12.5	179.9				mg/L	32	Standard
Ho-1	165	35.0	62.3				mg/L	20	Standard
Er	166	16.7	91.7				mg/L	37	Standard
I	127	2338.5	1.7				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		99.534	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		98.681	
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	97.839
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	97.255
[	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: L1610042014 WG586939-01

Sample Date/Time: Wednesday, October 19, 2016 10:27:30

Number of Replicates: 3

Autosampler Position: 219

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	77903.3	4.4				ug/L	91395	Standard
|	Be	9	1226.7	6.8	1.4766	0.163	11.0	ug/L	3	Standard
|	Al	27	5977664.9	7.2	64.0493	2.797	4.4	ug/L	372	Standard
|	Sc	45	37102.1	4.8				ug/L	33475	Standard
|	Ti	47	2996.6	6.0	15.1889	0.179	1.2	ug/L	25	Standard
|	V	51	191115.7	5.2	32.1742	0.161	0.5	ug/L	1461	Standard
|	Cr	52	164685.9	4.3	29.3279	0.430	1.5	ug/L	7269	Standard
|	Cr	53	21715.6	3.8	30.3147	1.287	4.2	ug/L	1557	Standard
|	Mn	55	4081082.1	4.6	464.2762	5.255	1.1	ug/L	1045	Standard
|	Co	59	140728.3	5.1	19.1087	0.116	0.6	ug/L	210	Standard
|	Ni	60	119031.5	6.0	74.3537	0.508	0.7	ug/L	103	Standard
|	Cu	65	95113.6	5.8	59.4613	0.477	0.8	ug/L	135	Standard
|	Zn	66	182176.2	5.1	213.2002	0.996	0.5	ug/L	296	Standard
>	Ge	72	499051.2	5.3				ug/L	561245	Standard
|	As	75	33039.2	3.6	37.2295	0.663	1.8	ug/L	-46	Standard
|	Se	82	82.2	17.8	0.8121	0.177	21.8	ug/L	20	Standard
|	Se-1	77	179.0	8.2	1.7670	0.093	5.3	ug/L	93	Standard
>	Ga	71	25533.2	4.8				mg/L	7	Standard
|	Rb	85	199007.6	5.4				ug/L	20	Standard
|	Y	89	746845.7	7.0				ug/L	455318	Standard
>	Rh	103	50.0	30.0				ug/L	17	Standard
|	Mo	98	39860.0	6.3	12.9157	0.453	3.5	ug/L	57	Standard
|	Ag	107	1925.1	7.4	0.3198	0.019	5.9	ug/L	114	Standard
|	Cd	111	676.6	5.1	0.3382	0.005	1.6	mg/L	5	Standard
|	Cd	114	1717.7	8.4	0.3322	0.016	4.9	ug/L	33	Standard
>	In	115	718954.0	3.6				ug/L	874708	Standard
|	Sn	118	88.3	12.1	-0.0090	0.011	126.0	ug/L	146	Standard
|	Sb	123	359.4	8.6	0.0238	0.007	27.3	ug/L	647	Standard
|	Ba	135	549209.6	4.0	230.7240	1.330	0.6	ug/L	35	Standard
|	Ce	140	1497421.5	5.4				ug/L	133	Standard
>	Tb	159	1337667.6	3.0				ug/L	1543699	Standard
|	Ho	165	43676.3	4.2				ug/L	20	Standard
|	Tl	203	10457.6	3.5	1.0373	0.013	1.3	ug/L	17	Standard
|	Tl	205	24211.0	4.6	1.0296	0.023	2.2	ug/L	18	Standard
|	Pb	206	396088.0	4.1	52.4335	0.412	0.8	ug/L	553	Standard
|	Pb	207	320603.8	3.9	48.1191	0.357	0.7	ug/L	487	Standard
|	Pb	208	1509491.4	3.8	49.9516	0.251	0.5	ug/L	2185	Standard
	U	238	123155.3	3.9	4.4890	0.047	1.0	ug/L	18	Standard
>	Bi	209	696481.1	3.4				ug/L	820229	Standard

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Na	23	16.7	45.8	5.0455	2.323	46.0	mg/L	0	Standard
Mg	24	78.3	52.0	0.0115	0.063	546.2	mg/L	53	Standard
K	39	131.7	25.3	1.3220	0.305	23.1	mg/L	3	Standard
Ca	43	76.7	3.8	5.4553	1.223	22.4	mg/L	27	Standard
Fe	54	55393.3	3.8	51.9091	0.527	1.0	mg/L	112	Standard
Fe	57	15536.3	1.5	53.4482	1.727	3.2	mg/L	213	Standard
Sc-1	45	37102.1	4.8				mg/L	33475	Standard
Cl	35	0.0					ug/L	4	Standard
Kr	83	3.0	33.3				ug/L	4	Standard
Br	81	2203.5	7.8				ug/L	1223	Standard
P	31	61.7	40.0				ug/L	68	Standard
S	34	25.0	0.0				ug/L	20	Standard
Sr	88	121.7	33.0				ug/L	110	Standard
C	12	563.3	6.2				mg/L	377	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	186.7	22.3				mg/L	7	Standard
Dy	164	68884.8	2.6				mg/L	32	Standard
Ho-1	165	43676.3	4.2				mg/L	20	Standard
Er	166	39040.3	4.2				mg/L	37	Standard
I	127	37937.6	8.0				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		85.238	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		88.919	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1610042014 WG586939-01

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	82.194
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	84.913
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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	
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1610042014 WG586939-01

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Method 6020 - Summary Report

Sample ID: L1610042014S WG586939-04

Sample Date/Time: Wednesday, October 19, 2016 10:30:30

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	81401.6	3.6				ug/L	91395	Standard
|	Be	9	21670.5	5.7	25.1459	1.147	4.6	ug/L	3	Standard
|	Al	27	6610712.0	3.5	67.8198	0.256	0.4	ug/L	372	Standard
|	Sc	45	38380.3	5.5				ug/L	33475	Standard
|	Ti	47	4678.7	3.4	23.1734	0.405	1.7	ug/L	25	Standard
|	V	51	395033.2	4.0	64.9757	0.765	1.2	ug/L	1461	Standard
|	Cr	52	319888.8	2.4	56.5371	0.882	1.6	ug/L	7269	Standard
|	Cr	53	41132.4	0.9	57.6574	2.637	4.6	ug/L	1557	Standard
|	Mn	55	6923812.6	3.6	766.7596	2.383	0.3	ug/L	1045	Standard
|	Co	59	355926.5	2.6	47.0993	0.601	1.3	ug/L	210	Standard
|	Ni	60	173145.0	3.2	105.3733	1.628	1.5	ug/L	103	Standard
|	Cu	65	145990.2	4.5	88.8891	0.664	0.7	ug/L	135	Standard
|	Zn	66	228311.0	3.5	260.1760	1.766	0.7	ug/L	296	Standard
>	Ge	72	512594.9	3.9				ug/L	561245	Standard
|	As	75	61215.1	3.1	67.1066	0.887	1.3	ug/L	-46	Standard
|	Se	82	1978.7	3.0	22.4975	0.193	0.9	ug/L	20	Standard
|	Se-1	77	1454.4	2.7	24.0704	0.733	3.0	ug/L	93	Standard
>	Ga	71	28894.2	4.7				mg/L	7	Standard
|	Rb	85	217661.9	3.5				ug/L	20	Standard
|	Y	89	814020.6	3.4				ug/L	455318	Standard
>	Rh	103	53.3	10.8				ug/L	17	Standard
|	Mo	98	43525.5	3.9	13.6795	0.246	1.8	ug/L	57	Standard
|	Ag	107	148694.4	2.5	25.2511	0.641	2.5	ug/L	114	Standard
|	Cd	111	52025.0	4.5	25.5734	0.245	1.0	mg/L	5	Standard
|	Cd	114	133607.6	4.6	25.3100	0.922	3.6	ug/L	33	Standard
>	In	115	741914.5	5.0				ug/L	874708	Standard
|	Sn	118	114.0	54.9	0.0090	0.048	536.9	ug/L	146	Standard
|	Sb	123	15372.9	5.6	2.7244	0.035	1.3	ug/L	647	Standard
|	Ba	135	873932.0	2.8	356.0725	7.776	2.2	ug/L	35	Standard
|	Ce	140	1757965.7	2.9				ug/L	133	Standard
>	Tb	159	1357453.0	4.9				ug/L	1543699	Standard
|	Ho	165	50060.9	3.0				ug/L	20	Standard
|	Tl	203	265259.8	2.6	25.9022	0.535	2.1	ug/L	17	Standard
|	Tl	205	604720.1	3.0	25.4037	0.525	2.1	ug/L	18	Standard
|	Pb	206	475704.5	3.0	61.9524	1.960	3.2	ug/L	553	Standard
|	Pb	207	390208.5	2.1	57.6175	1.422	2.5	ug/L	487	Standard
|	Pb	208	1815758.0	2.4	59.1135	1.724	2.9	ug/L	2185	Standard
	U	238	798638.3	2.3	28.6260	0.594	2.1	ug/L	18	Standard
>	Bi	209	708607.1	4.1				ug/L	820229	Standard

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Na	23	21.7	13.3	6.6240	1.323	20.0	mg/L	0	Standard
Mg	24	85.0	15.6	0.0212	0.029	138.7	mg/L	53	Standard
K	39	131.7	11.6	1.2903	0.225	17.4	mg/L	3	Standard
Ca	43	86.7	8.8	6.9616	0.616	8.9	mg/L	27	Standard
Fe	54	65875.1	4.1	59.7312	2.366	4.0	mg/L	112	Standard
Fe	57	18237.6	2.8	60.8004	2.426	4.0	mg/L	213	Standard
Sc-1	45	38380.3	5.5				mg/L	33475	Standard
Cl	35	1.3	86.6				ug/L	4	Standard
Kr	83	3.7	78.7				ug/L	4	Standard
Br	81	1766.8	6.8				ug/L	1223	Standard
P	31	78.3	45.3				ug/L	68	Standard
S	34	23.3	32.7				ug/L	20	Standard
Sr	88	158.3	36.5				ug/L	110	Standard
C	12	550.0	15.5				mg/L	377	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	210.0	24.7				mg/L	7	Standard
Dy	164	77259.8	4.5				mg/L	32	Standard
Ho-1	165	50060.9	3.0				mg/L	20	Standard
Er	166	44772.7	2.5				mg/L	37	Standard
I	127	37421.2	5.1				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		89.066	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		91.332	
As	75			
Se	82			
Se-1	77			
Ga	71			

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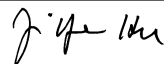
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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
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>	In	115	84.819
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[Ho	165	
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[K	39	
[Ca	43	
[Fe	54	
[Fe	57	
>	Sc-1	45	
[Cl	35	
[Kr	83	
[Br	81	
[P	31	
[S	34	
[Sr	88	
[C	12	
[N	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: L1610042014SD WG586939-05

Sample Date/Time: Wednesday, October 19, 2016 10:33:29

Number of Replicates: 3

Autosampler Position: 221

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	75000.3	3.7				ug/L	91395	Standard
|	Be	9	20462.2	4.7	25.7715	0.759	2.9	ug/L	3	Standard
|	Al	27	5822056.0	3.0	64.8372	0.753	1.2	ug/L	372	Standard
|	Sc	45	35461.5	3.9				ug/L	33475	Standard
|	Ti	47	3823.8	2.1	20.2826	0.145	0.7	ug/L	25	Standard
|	V	51	339001.2	2.4	59.7580	0.114	0.2	ug/L	1461	Standard
|	Cr	52	294635.8	2.7	55.7874	0.361	0.6	ug/L	7269	Standard
|	Cr	53	37138.8	3.8	55.6678	0.948	1.7	ug/L	1557	Standard
|	Mn	55	5639554.4	2.1	669.5179	4.859	0.7	ug/L	1045	Standard
|	Co	59	322316.1	2.9	45.7062	0.398	0.9	ug/L	210	Standard
|	Ni	60	154850.6	2.7	101.0016	1.104	1.1	ug/L	103	Standard
|	Cu	65	123971.3	3.9	80.9123	1.488	1.8	ug/L	135	Standard
|	Zn	66	201611.8	2.8	246.2626	2.559	1.0	ug/L	296	Standard
>	Ge	72	478129.3	2.2				ug/L	561245	Standard
|	As	75	49011.1	2.3	57.5919	0.359	0.6	ug/L	-46	Standard
|	Se	82	1836.6	3.4	22.3778	0.285	1.3	ug/L	20	Standard
|	Se-1	77	1363.1	1.5	24.1830	0.484	2.0	ug/L	93	Standard
>	Ga	71	25473.1	4.2				mg/L	7	Standard
|	Rb	85	193710.4	4.6				ug/L	20	Standard
|	Y	89	729828.4	2.9				ug/L	455318	Standard
>	Rh	103	50.0	10.0				ug/L	17	Standard
|	Mo	98	36187.7	3.0	12.0212	0.190	1.6	ug/L	57	Standard
|	Ag	107	140230.0	3.0	25.1644	0.564	2.2	ug/L	114	Standard
|	Cd	111	49648.4	2.9	25.8051	0.452	1.8	mg/L	5	Standard
|	Cd	114	124265.2	2.0	24.8850	0.497	2.0	ug/L	33	Standard
>	In	115	701768.3	3.9				ug/L	874708	Standard
|	Sn	118	92.3	23.1	-0.0041	0.016	392.9	ug/L	146	Standard
|	Sb	123	16109.6	1.0	3.0261	0.109	3.6	ug/L	647	Standard
|	Ba	135	738814.2	2.4	318.1408	5.274	1.7	ug/L	35	Standard
|	Ce	140	1620287.7	0.7				ug/L	133	Standard
>	Tb	159	1275380.1	0.8				ug/L	1543699	Standard
|	Ho	165	42294.0	2.9				ug/L	20	Standard
|	Tl	203	246653.4	2.7	25.3206	0.500	2.0	ug/L	17	Standard
|	Tl	205	571869.0	3.1	25.2577	0.652	2.6	ug/L	18	Standard
|	Pb	206	428496.8	2.7	58.6572	1.213	2.1	ug/L	553	Standard
|	Pb	207	347856.2	2.3	53.9894	0.983	1.8	ug/L	487	Standard
|	Pb	208	1639927.8	2.9	56.1087	0.774	1.4	ug/L	2185	Standard
	U	238	749987.3	3.3	28.2535	0.316	1.1	ug/L	18	Standard
>	Bi	209	673897.2	3.4				ug/L	820229	Standard

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Na	23	18.3	78.7	6.1149	5.552	90.8	mg/L	0	Standard
Mg	24	86.7	6.7	0.0352	0.014	38.7	mg/L	53	Standard
K	39	106.7	21.1	1.1170	0.232	20.7	mg/L	3	Standard
Ca	43	58.3	38.7	1.8972	4.886	257.6	mg/L	27	Standard
Fe	54	55204.0	3.8	54.1469	2.258	4.2	mg/L	112	Standard
Fe	57	15189.3	2.7	54.6794	2.074	3.8	mg/L	213	Standard
Sc-1	45	35461.5	3.9				mg/L	33475	Standard
Cl	35	0.0					ug/L	4	Standard
Kr	83	4.0	50.0				ug/L	4	Standard
Br	81	1543.4	22.0				ug/L	1223	Standard
P	31	43.3	40.5				ug/L	68	Standard
S	34	25.0	20.0				ug/L	20	Standard
Sr	88	128.3	8.1				ug/L	110	Standard
C	12	626.7	4.0				mg/L	377	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	176.7	11.8				mg/L	7	Standard
Dy	164	66660.9	3.7				mg/L	32	Standard
Ho-1	165	42294.0	2.9				mg/L	20	Standard
Er	166	37790.4	1.4				mg/L	37	Standard
I	127	32687.0	7.2				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		82.062	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		85.191	
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	80.229
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	82.160
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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	

Sample ID: L1610042014SD WG586939-05

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Method 6020 - Summary Report

Sample ID: L1610042009

Sample Date/Time: Wednesday, October 19, 2016 10:36:28

Number of Replicates: 3

Autosampler Position: 222

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	72843.1	2.9				ug/L	91395	Standard
|	Be	9	1001.7	3.6	1.2848	0.083	6.4	ug/L	3	Standard
|	Al	27	24816636.3	2.5	284.5113	1.465	0.5	ug/L	372	Standard
|	Sc	45	35533.3	2.0				ug/L	33475	Standard
|	Ti	47	4348.3	3.6	22.7685	0.539	2.4	ug/L	25	Standard
|	V	51	200187.1	1.9	34.7200	0.207	0.6	ug/L	1461	Standard
|	Cr	52	141462.8	1.9	25.7933	0.385	1.5	ug/L	7269	Standard
|	Cr	53	18204.3	3.5	25.8569	0.750	2.9	ug/L	1557	Standard
|	Mn	55	8104306.4	2.2	949.3356	22.438	2.4	ug/L	1045	Standard
|	Co	59	170413.1	1.5	23.8344	0.405	1.7	ug/L	210	Standard
|	Ni	60	128206.0	2.5	82.4879	1.136	1.4	ug/L	103	Standard
|	Cu	65	107544.7	1.6	69.2554	0.019	0.0	ug/L	135	Standard
|	Zn	66	226565.0	1.7	273.0651	2.242	0.8	ug/L	296	Standard
>	Ge	72	484636.2	1.7				ug/L	561245	Standard
|	As	75	43767.3	1.7	50.7429	0.010	0.0	ug/L	-46	Standard
|	Se	82	126.9	4.6	1.3801	0.054	3.9	ug/L	20	Standard
|	Se-1	77	211.0	11.3	2.4566	0.391	15.9	ug/L	93	Standard
>	Ga	71	20936.1	0.4				mg/L	7	Standard
|	Rb	85	217229.8	1.8				ug/L	20	Standard
|	Y	89	735458.2	1.2				ug/L	455318	Standard
>	Rh	103	70.0	18.9				ug/L	17	Standard
|	Mo	98	82534.1	1.9	27.6939	0.379	1.4	ug/L	57	Standard
|	Ag	107	1293.1	2.6	0.2170	0.003	1.4	ug/L	114	Standard
|	Cd	111	2122.0	1.0	1.1089	0.007	0.7	mg/L	5	Standard
|	Cd	114	5620.1	2.9	1.1331	0.016	1.4	ug/L	33	Standard
>	In	115	694845.3	1.6				ug/L	874708	Standard
|	Sn	118	158.3	5.1	0.0566	0.006	10.1	ug/L	146	Standard
|	Sb	123	450.6	27.9	0.0437	0.025	56.3	ug/L	647	Standard
|	Ba	135	494289.0	0.9	214.8979	2.918	1.4	ug/L	35	Standard
|	Ce	140	1702760.3	2.6				ug/L	133	Standard
>	Tb	159	1269151.4	2.6				ug/L	1543699	Standard
|	Ho	165	41468.3	1.0				ug/L	20	Standard
|	Tl	203	15266.4	1.4	1.5730	0.025	1.6	ug/L	17	Standard
|	Tl	205	35372.9	1.7	1.5646	0.008	0.5	ug/L	18	Standard
|	Pb	206	450061.9	1.3	61.8859	0.635	1.0	ug/L	553	Standard
|	Pb	207	351862.6	0.9	54.8554	0.701	1.3	ug/L	487	Standard
|	Pb	208	1675290.5	1.0	57.5829	0.642	1.1	ug/L	2185	Standard
	U	238	139623.2	1.7	5.2849	0.064	1.2	ug/L	18	Standard
>	Bi	209	670807.3	2.0				ug/L	820229	Standard

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Na	23	185.0	14.3	65.7510	10.234	15.6	mg/L	0	Standard
Mg	24	133.3	18.5	0.1194	0.043	36.1	mg/L	53	Standard
K	39	190.0	7.0	2.0257	0.105	5.2	mg/L	3	Standard
Ca	43	410.0	7.6	82.6533	7.678	9.3	mg/L	27	Standard
Fe	54	54609.6	0.8	53.4350	1.111	2.1	mg/L	112	Standard
Fe	57	15396.2	1.7	55.3100	2.062	3.7	mg/L	213	Standard
Sc-1	45	35533.3	2.0				mg/L	33475	Standard
Cl	35	0.0					ug/L	4	Standard
Kr	83	2.7	57.3				ug/L	4	Standard
Br	81	1870.1	3.9				ug/L	1223	Standard
P	31	53.3	42.3				ug/L	68	Standard
S	34	30.0	60.1				ug/L	20	Standard
Sr	88	166.7	10.5				ug/L	110	Standard
C	12	736.7	6.7				mg/L	377	Standard
N	14	6.7	86.6				mg/L	0	Standard
Hg	202	223.3	14.4				mg/L	7	Standard
Dy	164	65772.5	4.8				mg/L	32	Standard
Ho-1	165	41468.3	1.0				mg/L	20	Standard
Er	166	36838.1	2.4				mg/L	37	Standard
I	127	31210.5	6.4				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		79.702	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		86.350	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1610042009

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	79.437
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[Ho	165	
[Tl	203	
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[U	238	
>	Bi	209	81.783
[Na	23	
[Mg	24	
[K	39	
[Ca	43	
[Fe	54	
[Fe	57	
>	Sc-1	45	
[Cl	35	
[Kr	83	
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[P	31	
[S	34	
[Sr	88	
[C	12	
[N	14	
[Hg	202	
[Dy	164	
[Ho-1	165	
[Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	
Zn 66 Upper, S, EEE	Zn	66	

Sample ID: L1610042009


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Sample ID: L1610042009
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Method 6020 - Summary Report

Sample ID: L1610042010

Sample Date/Time: Wednesday, October 19, 2016 10:39:27

Number of Replicates: 3

Autosampler Position: 223

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	71272.4	3.7				ug/L	91395	Standard
|	Be	9	1701.8	2.8	2.2416	0.074	3.3	ug/L	3	Standard
|	Al	27	8239054.8	4.3	96.5207	0.924	1.0	ug/L	372	Standard
|	Sc	45	36694.4	4.7				ug/L	33475	Standard
|	Ti	47	64319.1	4.6	341.4630	4.828	1.4	ug/L	25	Standard
|	V	51	464252.6	6.2	81.4179	2.435	3.0	ug/L	1461	Standard
|	Cr	52	422865.7	6.7	80.0870	2.954	3.7	ug/L	7269	Standard
|	Cr	53	54484.8	7.7	82.1288	4.466	5.4	ug/L	1557	Standard
|	Mn	55	12222007.4	5.0	1442.5204	30.979	2.1	ug/L	1045	Standard
|	Co	59	105401.3	6.4	14.8395	0.495	3.3	ug/L	210	Standard
|	Ni	60	79581.5	5.3	51.5716	1.062	2.1	ug/L	103	Standard
|	Cu	65	580471.5	5.2	376.9244	6.443	1.7	ug/L	135	Standard
|	Zn	66	1947946.8	6.0	2366.4834	71.083	3.0	ug/L	296	Standard
>	Ge	72	480830.2	3.6				ug/L	561245	Standard
|	As	75	57133.0	3.9	66.7531	1.052	1.6	ug/L	-46	Standard
|	Se	82	284.0	5.1	3.3161	0.290	8.8	ug/L	20	Standard
|	Se-1	77	302.3	6.5	4.1974	0.257	6.1	ug/L	93	Standard
>	Ga	71	24730.2	6.0				mg/L	7	Standard
|	Rb	85	166188.7	3.1				ug/L	20	Standard
|	Y	89	1573210.9	5.2				ug/L	455318	Standard
>	Rh	103	241.7	19.2				ug/L	17	Standard
|	Mo	98	47108.8	3.4	15.2489	0.306	2.0	ug/L	57	Standard
|	Ag	107	5271.9	6.1	0.9046	0.041	4.5	ug/L	114	Standard
|	Cd	111	43588.4	2.2	22.0731	0.171	0.8	mg/L	5	Standard
|	Cd	114	111951.6	3.0	21.8380	0.339	1.6	ug/L	33	Standard
>	In	115	720020.6	2.2				ug/L	874708	Standard
|	Sn	118	19179.5	2.2	16.6281	0.050	0.3	ug/L	146	Standard
|	Sb	123	15640.0	2.4	2.8585	0.017	0.6	ug/L	647	Standard
|	Ba	135	965080.8	3.6	404.7920	5.579	1.4	ug/L	35	Standard
|	Ce	140	2277519.6	3.4				ug/L	133	Standard
>	Tb	159	1274204.1	1.1				ug/L	1543699	Standard
|	Ho	165	89317.7	3.7				ug/L	20	Standard
|	Tl	203	8892.9	4.9	0.9416	0.014	1.5	ug/L	17	Standard
|	Tl	205	20508.9	6.3	0.9303	0.015	1.6	ug/L	18	Standard
|	Pb	206	3233765.9	3.9	457.6608	6.214	1.4	ug/L	553	Standard
|	Pb	207	2628593.7	3.9	421.8177	6.644	1.6	ug/L	487	Standard
|	Pb	208	12287906.7	3.6	434.7921	7.815	1.8	ug/L	2185	Standard
	U	238	1315303.3	3.6	51.2065	1.301	2.5	ug/L	18	Standard
>	Bi	209	652488.3	5.1				ug/L	820229	Standard

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Na	23	348.3	23.3	119.5732	22.518	18.8	mg/L	0	Standard
Mg	24	791.7	2.0	1.2745	0.091	7.1	mg/L	53	Standard
K	39	371.7	6.4	3.8853	0.165	4.2	mg/L	3	Standard
Ca	43	748.4	6.9	154.7982	8.499	5.5	mg/L	27	Standard
Fe	54	50462.0	4.6	47.7908	0.059	0.1	mg/L	112	Standard
Fe	57	14468.6	1.3	50.2959	2.571	5.1	mg/L	213	Standard
Sc-1	45	36694.4	4.7				mg/L	33475	Standard
Cl	35	2.0	173.2				ug/L	4	Standard
Kr	83	2.0	132.3				ug/L	4	Standard
Br	81	2373.5	2.2				ug/L	1223	Standard
P	31	56.7	57.4				ug/L	68	Standard
S	34	16.7	62.4				ug/L	20	Standard
Sr	88	348.3	17.2				ug/L	110	Standard
C	12	2090.1	21.9				mg/L	377	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	2510.2	0.4				mg/L	7	Standard
Dy	164	112781.2	3.9				mg/L	32	Standard
Ho-1	165	89317.7	3.7				mg/L	20	Standard
Er	166	91867.8	2.2				mg/L	37	Standard
I	127	50865.3	4.4				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		77.983	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		85.672	
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	82.316
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	79.550
[	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
Ti 47 Upper, S, EEE	Ti	47	
Mn 55 Upper, S, EEE	Mn	55	
Cu 65 Upper, S, EEE	Cu	65	

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Zn 66 Upper, S, EEE	Zn	66
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

Sample ID: L1610042010

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Method 6020 - Summary Report

Sample ID: L1610042010PS WG587692-03

Sample Date/Time: Wednesday, October 19, 2016 10:42:27

Number of Replicates: 3

Autosampler Position: 224

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	71764.9	5.3				ug/L	91395	Standard
|	Be	9	38151.4	5.4	50.2336	0.738	1.5	ug/L	3	Standard
|	Al	27	7893989.2	4.8	91.9172	3.417	3.7	ug/L	372	Standard
|	Sc	45	34472.5	2.9				ug/L	33475	Standard
|	Ti	47	60018.2	5.3	334.0239	10.183	3.0	ug/L	25	Standard
|	V	51	698809.2	4.4	128.6607	2.344	1.8	ug/L	1461	Standard
|	Cr	52	639772.0	4.3	127.8124	3.321	2.6	ug/L	7269	Standard
|	Cr	53	81592.5	2.2	130.2223	0.739	0.6	ug/L	1557	Standard
|	Mn	55	11873810.8	3.0	1469.7338	14.268	1.0	ug/L	1045	Standard
|	Co	59	428337.0	3.5	63.3362	0.726	1.1	ug/L	210	Standard
|	Ni	60	148311.7	3.7	100.8455	1.191	1.2	ug/L	103	Standard
|	Cu	65	626511.8	3.9	426.6332	6.534	1.5	ug/L	135	Standard
|	Zn	66	1874000.3	2.7	2388.2007	8.802	0.4	ug/L	296	Standard
>	Ge	72	458582.8	2.6				ug/L	561245	Standard
|	As	75	98689.8	3.1	120.8663	0.735	0.6	ug/L	-46	Standard
|	Se	82	4536.9	4.1	57.8752	0.926	1.6	ug/L	20	Standard
|	Se-1	77	2971.0	4.6	56.7759	1.147	2.0	ug/L	93	Standard
>	Ga	71	23787.0	4.4				mg/L	7	Standard
|	Rb	85	158604.2	1.3				ug/L	20	Standard
|	Y	89	1493846.4	1.2				ug/L	455318	Standard
>	Rh	103	303.3	7.8				ug/L	17	Standard
|	Mo	98	45966.8	2.0	14.8580	0.084	0.6	ug/L	57	Standard
|	Ag	107	292758.7	1.5	51.1307	0.625	1.2	ug/L	114	Standard
|	Cd	111	142155.7	1.2	71.9004	1.129	1.6	mg/L	5	Standard
|	Cd	114	361371.5	1.9	70.4068	1.465	2.1	ug/L	33	Standard
>	In	115	721165.6	2.5				ug/L	874708	Standard
|	Sn	118	18694.9	1.9	16.1819	0.158	1.0	ug/L	146	Standard
|	Sb	123	304701.0	2.0	56.4031	0.713	1.3	ug/L	647	Standard
|	Ba	135	1051597.4	2.5	440.4688	0.739	0.2	ug/L	35	Standard
|	Ce	140	2218390.0	2.7				ug/L	133	Standard
>	Tb	159	1258319.5	3.3				ug/L	1543699	Standard
|	Ho	165	87854.0	1.3				ug/L	20	Standard
|	Tl	203	480007.6	2.1	51.7186	0.284	0.5	ug/L	17	Standard
|	Tl	205	1091902.4	2.5	50.6163	0.124	0.2	ug/L	18	Standard
|	Pb	206	3518468.5	2.8	505.8900	3.085	0.6	ug/L	553	Standard
|	Pb	207	2890361.0	2.2	471.2517	1.055	0.2	ug/L	487	Standard
|	Pb	208	13390570.3	2.3	481.3407	2.467	0.5	ug/L	2185	Standard
	U	238	2652451.8	2.5	104.8877	0.794	0.8	ug/L	18	Standard
>	Bi	209	641936.4	2.3				ug/L	820229	Standard

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Na	23	363.3	7.6	133.4556	6.850	5.1	mg/L	0	Standard
Mg	24	656.7	7.2	1.1105	0.120	10.8	mg/L	53	Standard
K	39	301.7	7.5	3.3568	0.354	10.5	mg/L	3	Standard
Ca	43	691.7	9.8	152.4737	20.686	13.6	mg/L	27	Standard
Fe	54	47403.4	1.8	47.7965	0.551	1.2	mg/L	112	Standard
Fe	57	13784.6	1.0	50.9770	1.832	3.6	mg/L	213	Standard
Sc-1	45	34472.5	2.9				mg/L	33475	Standard
Cl	35	3.3	34.6				ug/L	4	Standard
Kr	83	2.7	21.7				ug/L	4	Standard
Br	81	2473.5	3.4				ug/L	1223	Standard
P	31	51.7	24.4				ug/L	68	Standard
S	34	13.3	21.7				ug/L	20	Standard
Sr	88	358.3	15.4				ug/L	110	Standard
C	12	2106.8	4.1				mg/L	377	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	2433.5	5.5				mg/L	7	Standard
Dy	164	111875.5	4.5				mg/L	32	Standard
Ho-1	165	87854.0	1.3				mg/L	20	Standard
Er	166	88759.4	3.0				mg/L	37	Standard
I	127	51158.2	6.9				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		78.522	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		81.708	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1610042010PS WG587692-03

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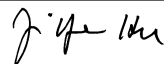
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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	82.446
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[Ho	165	
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[Fe	54	
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>	Sc-1	45	
[Cl	35	
[Kr	83	
[Br	81	
[P	31	
[S	34	
[Sr	88	
[C	12	
[N	14	
[Hg	202	
[Dy	164	
[Ho-1	165	
[Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Ti 47 Upper, S, EEE	Ti	47	
V 51 Upper, S, EEE	V	51	
Cr 52 Upper, S, EEE	Cr	52	

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Cr 53 Upper, S, EEE	Cr	53
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
U 238 Upper, S, EEE	U	238

Sample ID: L1610042010PS WG587692-03

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Method 6020 - Summary Report

Sample ID: L1610042010SDL WG587692-04

Sample Date/Time: Wednesday, October 19, 2016 10:45:27

Number of Replicates: 3

Autosampler Position: 225

Sample Description: 5

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

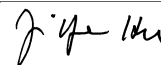
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	61307.3	4.1				ug/L	91395	Standard
|	Be	9	326.7	10.0	0.4887	0.066	13.4	ug/L	3	Standard
|	Al	27	1395765.8	1.5	19.0303	0.689	3.6	ug/L	372	Standard
|	Sc	45	25588.3	2.6				ug/L	33475	Standard
|	Ti	47	10847.5	2.4	63.5282	1.110	1.7	ug/L	25	Standard
|	V	51	80532.5	1.2	15.4328	0.238	1.5	ug/L	1461	Standard
|	Cr	52	76146.5	0.1	14.9822	0.247	1.6	ug/L	7269	Standard
|	Cr	53	10186.8	0.2	15.3404	0.297	1.9	ug/L	1557	Standard
|	Mn	55	2129261.7	0.4	277.7309	3.130	1.1	ug/L	1045	Standard
|	Co	59	18457.9	0.9	2.8536	0.026	0.9	ug/L	210	Standard
|	Ni	60	14453.6	0.9	10.3100	0.071	0.7	ug/L	103	Standard
|	Cu	65	107132.1	1.4	76.8459	0.131	0.2	ug/L	135	Standard
|	Zn	66	375216.1	1.4	503.8078	1.284	0.3	ug/L	296	Standard
>	Ge	72	435137.5	1.5				ug/L	561245	Standard
|	As	75	10381.9	2.1	13.4285	0.102	0.8	ug/L	-46	Standard
|	Se	82	65.5	5.5	0.7274	0.034	4.7	ug/L	20	Standard
|	Se-1	77	126.7	13.8	1.1594	0.319	27.5	ug/L	93	Standard
>	Ga	71	4369.0	4.3				mg/L	7	Standard
|	Rb	85	30093.2	0.5				ug/L	20	Standard
|	Y	89	557674.9	1.0				ug/L	455318	Standard
>	Rh	103	58.3	30.1				ug/L	17	Standard
|	Mo	98	8268.4	0.9	2.8272	0.044	1.6	ug/L	57	Standard
|	Ag	107	1023.4	2.0	0.1722	0.004	2.3	ug/L	114	Standard
|	Cd	111	8293.9	2.2	4.4430	0.113	2.6	mg/L	5	Standard
|	Cd	114	21212.8	0.7	4.3789	0.047	1.1	ug/L	33	Standard
>	In	115	680089.8	0.7				ug/L	874708	Standard
|	Sn	118	3558.8	2.1	3.1971	0.062	1.9	ug/L	146	Standard
|	Sb	123	4156.2	15.4	0.7738	0.130	16.8	ug/L	647	Standard
|	Ba	135	180113.9	0.3	79.9906	0.601	0.8	ug/L	35	Standard
|	Ce	140	402835.3	1.1				ug/L	133	Standard
>	Tb	159	1197874.7	1.4				ug/L	1543699	Standard
|	Ho	165	16867.7	0.7				ug/L	20	Standard
|	Tl	203	1659.4	2.1	0.1800	0.004	2.2	ug/L	17	Standard
|	Tl	205	3762.1	3.6	0.1720	0.006	3.5	ug/L	18	Standard
|	Pb	206	595277.9	1.0	86.7111	0.785	0.9	ug/L	553	Standard
|	Pb	207	481801.5	0.1	79.5727	0.255	0.3	ug/L	487	Standard
|	Pb	208	2274089.8	0.5	82.8058	0.394	0.5	ug/L	2185	Standard
	U	238	241525.3	1.1	9.6818	0.129	1.3	ug/L	18	Standard
>	Bi	209	633321.3	0.3				ug/L	820229	Standard

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Na	23	36.7	15.7	17.6275	2.781	15.8	mg/L	0	Standard
Mg	24	150.0	18.6	0.2561	0.071	27.9	mg/L	53	Standard
K	39	91.7	27.5	1.3357	0.350	26.2	mg/L	3	Standard
Ca	43	125.0	14.4	28.4987	6.597	23.1	mg/L	27	Standard
Fe	54	9039.8	3.7	12.1859	0.225	1.8	mg/L	112	Standard
Fe	57	2723.6	4.8	12.8265	0.316	2.5	mg/L	213	Standard
Sc-1	45	25588.3	2.6				mg/L	33475	Standard
Cl	35	2.0	100.0				ug/L	4	Standard
Kr	83	3.3	34.6				ug/L	4	Standard
Br	81	1316.7	5.1				ug/L	1223	Standard
P	31	33.3	69.3				ug/L	68	Standard
S	34	18.3	63.0				ug/L	20	Standard
Sr	88	130.0	17.6				ug/L	110	Standard
C	12	573.3	17.5				mg/L	377	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	516.7	4.0				mg/L	7	Standard
Dy	164	21446.6	2.3				mg/L	32	Standard
Ho-1	165	16867.7	0.7				mg/L	20	Standard
Er	166	17113.0	2.4				mg/L	37	Standard
I	127	14817.2	2.2				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		67.080	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		77.531	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1610042010SDL WG587692-04

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	77.751
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[Ho	165	
[Tl	203	
[Tl	205	
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>	Bi	209	77.213
[Na	23	
[Mg	24	
[K	39	
[Ca	43	
[Fe	54	
[Fe	57	
>	Sc-1	45	
[Cl	35	
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[Br	81	
[P	31	
[S	34	
[Sr	88	
[C	12	
[N	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	

Sample ID: L1610042010SDL WG587692-04

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Method 6020 - Summary Report

Sample ID: L1610042010SDL WG587692-04

Sample Date/Time: Wednesday, October 19, 2016 10:48:26

Number of Replicates: 3

Autosampler Position: 226

Sample Description: 25

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	59915.0	3.6				ug/L	91395	Standard
|	Be	9	73.3	20.8	0.0998	0.028	28.0	ug/L	3	Standard
|	Al	27	328153.9	2.8	4.5760	0.061	1.3	ug/L	372	Standard
|	Sc	45	24049.1	1.5				ug/L	33475	Standard
|	Ti	47	2607.9	2.6	15.0483	0.561	3.7	ug/L	25	Standard
|	V	51	19231.0	1.0	3.4840	0.101	2.9	ug/L	1461	Standard
|	Cr	52	20484.2	0.8	3.1149	0.079	2.5	ug/L	7269	Standard
|	Cr	53	3140.3	2.8	3.2588	0.234	7.2	ug/L	1557	Standard
|	Mn	55	493672.3	0.3	63.8304	1.255	2.0	ug/L	1045	Standard
|	Co	59	4410.0	2.2	0.6577	0.008	1.3	ug/L	210	Standard
|	Ni	60	3508.7	1.3	2.4411	0.020	0.8	ug/L	103	Standard
|	Cu	65	25602.0	1.9	18.1699	0.211	1.2	ug/L	135	Standard
|	Zn	66	91816.4	1.7	122.2026	2.070	1.7	ug/L	296	Standard
>	Ge	72	438560.0	1.7				ug/L	561245	Standard
|	As	75	2461.5	3.0	3.1837	0.092	2.9	ug/L	-46	Standard
|	Se	82	28.4	12.3	0.2239	0.041	18.4	ug/L	20	Standard
|	Se-1	77	93.0	3.9	0.4516	0.044	9.8	ug/L	93	Standard
>	Ga	71	1116.7	6.1				mg/L	7	Standard
|	Rb	85	7003.3	4.5				ug/L	20	Standard
|	Y	89	395683.4	2.2				ug/L	455318	Standard
>	Rh	103	31.7	9.1				ug/L	17	Standard
|	Mo	98	1910.5	1.3	0.6494	0.006	0.8	ug/L	57	Standard
|	Ag	107	274.3	5.0	0.0336	0.003	8.9	ug/L	114	Standard
|	Cd	111	1943.0	0.5	1.0413	0.021	2.0	mg/L	5	Standard
|	Cd	114	4995.3	2.5	1.0333	0.041	4.0	ug/L	33	Standard
>	In	115	677422.2	1.6				ug/L	874708	Standard
|	Sn	118	826.0	5.0	0.6785	0.028	4.1	ug/L	146	Standard
|	Sb	123	1000.9	13.6	0.1546	0.029	18.6	ug/L	647	Standard
|	Ba	135	42491.2	1.5	18.9400	0.526	2.8	ug/L	35	Standard
|	Ce	140	96291.9	3.1				ug/L	133	Standard
>	Tb	159	1193768.9	2.6				ug/L	1543699	Standard
|	Ho	165	4205.6	1.5				ug/L	20	Standard
|	Tl	203	410.3	6.3	0.0426	0.002	4.1	ug/L	17	Standard
|	Tl	205	930.0	4.3	0.0380	0.001	3.2	ug/L	18	Standard
|	Pb	206	145329.3	0.6	20.7159	0.408	2.0	ug/L	553	Standard
|	Pb	207	117424.4	2.5	18.9681	0.246	1.3	ug/L	487	Standard
|	Pb	208	551425.1	1.7	19.6421	0.332	1.7	ug/L	2185	Standard
	U	238	56320.5	0.2	2.2147	0.051	2.3	ug/L	18	Standard
>	Bi	209	646007.0	2.4				ug/L	820229	Standard

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Na	23	15.0	66.7	7.2888	5.168	70.9	mg/L	0	Standard
Mg	24	68.3	21.1	0.0609	0.040	66.0	mg/L	53	Standard
K	39	16.7	17.3	0.2183	0.049	22.3	mg/L	3	Standard
Ca	43	50.0	30.0	5.5238	5.117	92.6	mg/L	27	Standard
Fe	54	2186.2	2.7	3.0481	0.132	4.3	mg/L	112	Standard
Fe	57	808.4	0.9	3.3732	0.041	1.2	mg/L	213	Standard
Sc-1	45	24049.1	1.5				mg/L	33475	Standard
Cl	35	1.3	86.6				ug/L	4	Standard
Kr	83	3.0	33.3				ug/L	4	Standard
Br	81	1036.7	5.7				ug/L	1223	Standard
P	31	20.0	25.0				ug/L	68	Standard
S	34	26.7	21.7				ug/L	20	Standard
Sr	88	113.3	25.9				ug/L	110	Standard
C	12	333.3	1.7				mg/L	377	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	123.3	20.4				mg/L	7	Standard
Dy	164	5177.7	0.8				mg/L	32	Standard
Ho-1	165	4205.6	1.5				mg/L	20	Standard
Er	166	4173.9	3.8				mg/L	37	Standard
I	127	7596.9	3.9				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		65.556	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		78.141	
As	75			
Se	82			
Se-1	77			
Ga	71			

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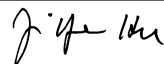


[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
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>	In	115	77.446
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[Ho	165	
[Tl	203	
[Tl	205	
[Pb	206	
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>	Bi	209	78.759
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[Fe	54	
[Fe	57	
>	Sc-1	45	
[Cl	35	
[Kr	83	
[Br	81	
[P	31	
[S	34	
[Sr	88	
[C	12	
[N	14	
[Hg	202	
[Dy	164	
[Ho-1	165	
[Er	166	
[	I	127	

QC Out of Limits

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

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Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Wednesday, October 19, 2016 10:51:27

Number of Replicates: 3

Autosampler Position: 101

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	76065.5	2.5				ug/L	91395	Standard
|	Be	9	40248.5	6.0	49.9959	2.674	5.3	ug/L	3	Standard
|	Al	27	4344008.8	2.9	47.6987	1.307	2.7	ug/L	372	Standard
|	Sc	45	27690.3	4.7				ug/L	33475	Standard
|	Ti	47	18817.0	1.3	96.1969	1.477	1.5	ug/L	25	Standard
|	V	51	284425.1	2.1	48.0009	0.295	0.6	ug/L	1461	Standard
|	Cr	52	265154.2	1.0	47.9554	0.832	1.7	ug/L	7269	Standard
|	Cr	53	33583.9	2.7	47.9673	0.064	0.1	ug/L	1557	Standard
|	Mn	55	421223.2	3.0	47.8342	0.745	1.6	ug/L	1045	Standard
|	Co	59	355752.7	3.4	48.3396	0.768	1.6	ug/L	210	Standard
|	Ni	60	77779.9	2.2	48.5862	0.252	0.5	ug/L	103	Standard
|	Cu	65	79657.2	1.2	49.8133	0.766	1.5	ug/L	135	Standard
|	Zn	66	42697.4	1.6	49.8495	0.591	1.2	ug/L	296	Standard
>	Ge	72	499012.7	2.7				ug/L	561245	Standard
|	As	75	44735.6	2.5	50.3734	0.301	0.6	ug/L	-46	Standard
|	Se	82	4362.1	2.5	51.1334	0.273	0.5	ug/L	20	Standard
|	Se-1	77	2921.3	1.8	51.1896	0.485	0.9	ug/L	93	Standard
>	Ga	71	15.0	0.0				mg/L	7	Standard
|	Rb	85	745.0	6.0				ug/L	20	Standard
|	Y	89	410206.8	3.7				ug/L	455318	Standard
>	Rh	103	26.7	21.7				ug/L	17	Standard
|	Mo	98	328470.4	2.6	97.6156	1.686	1.7	ug/L	57	Standard
|	Ag	107	305285.4	3.3	48.9828	0.576	1.2	ug/L	114	Standard
|	Cd	111	108951.8	2.7	50.6275	0.632	1.2	mg/L	5	Standard
|	Cd	114	282657.2	3.6	50.5880	0.757	1.5	ug/L	33	Standard
>	In	115	784994.2	3.9				ug/L	874708	Standard
|	Sn	118	63630.0	1.4	50.8122	1.437	2.8	ug/L	146	Standard
|	Sb	123	305157.7	2.8	51.9028	0.915	1.8	ug/L	647	Standard
|	Ba	135	124726.0	1.7	48.0117	1.120	2.3	ug/L	35	Standard
|	Ce	140	198.3	1.5				ug/L	133	Standard
>	Tb	159	1343812.0	3.7				ug/L	1543699	Standard
|	Ho	165	21.7	74.2				ug/L	20	Standard
|	Tl	203	510575.0	2.3	50.2375	1.593	3.2	ug/L	17	Standard
|	Tl	205	1184115.4	2.2	50.1190	0.846	1.7	ug/L	18	Standard
|	Pb	206	382098.0	3.3	50.0991	0.551	1.1	ug/L	553	Standard
|	Pb	207	334352.7	3.9	49.6986	0.349	0.7	ug/L	487	Standard
|	Pb	208	1520931.8	3.4	49.8485	0.596	1.2	ug/L	2185	Standard
	U	238	1366943.5	2.3	49.3540	0.848	1.7	ug/L	18	Standard
>	Bi	209	703366.0	3.8				ug/L	820229	Standard

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Na	23	15.0	33.3	6.2539	2.064	33.0	mg/L	0	Standard
Mg	24	2266.8	8.6	5.1640	0.242	4.7	mg/L	53	Standard
K	39	338.3	9.6	4.6995	0.438	9.3	mg/L	3	Standard
Ca	43	66.7	48.2	7.9816	8.860	111.0	mg/L	27	Standard
Fe	54	4231.7	1.6	5.2108	0.235	4.5	mg/L	112	Standard
Fe	57	1393.4	4.4	5.5569	0.506	9.1	mg/L	213	Standard
Sc-1	45	27690.3	4.7				mg/L	33475	Standard
Cl	35	2.0	100.0				ug/L	4	Standard
Kr	83	2.0	0.0				ug/L	4	Standard
Br	81	1110.0	7.4				ug/L	1223	Standard
P	31	70.0	24.7				ug/L	68	Standard
S	34	25.0	40.0				ug/L	20	Standard
Sr	88	101.7	7.5				ug/L	110	Standard
C	12	416.7	10.8				mg/L	377	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	7	Standard
Dy	164	12.7	46.9				mg/L	32	Standard
Ho-1	165	21.7	74.2				mg/L	20	Standard
Er	166	13.3	114.6				mg/L	37	Standard
I	127	3880.5	3.0				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	99.992		
Al	27	95.397		
Sc	45			
Ti	47	96.197		
V	51	96.002		
Cr	52	95.911		
Cr	53			
Mn	55	95.668		
Co	59	96.679		
Ni	60	97.172		
Cu	65	99.627		
Zn	66	99.699		
Ge	72		88.912	
As	75	100.747		
Se	82	102.267		
Se-1	77			
Ga	71			

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[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	97.616	
[Ag	107	97.966	
[Cd	111	101.255	
[Cd	114		
>	In	115		89.744
[Sn	118	101.624	
[	Sb	123	103.806	
[	Ba	135	96.023	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	100.475	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	99.697	
[	U	238	98.708	
>	Bi	209		85.752
[	Na	23		
[	Mg	24		
[	K	39		
[	Ca	43		
[	Fe	54		
[	Fe	57		
>	Sc-1	45		
[	Cl	35		
[	Kr	83		
[	Br	81		
[	P	31		
[	S	34		
[	Sr	88		
[	C	12		
[	N	14		
[	Hg	202		
[	Dy	164		
[	Ho-1	165		
[	Er	166		
[I	127		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 6

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Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Wednesday, October 19, 2016 10:54:27

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	75249.8	2.0				ug/L	91395	Standard
|	Be	9	8.3	69.3	-0.0060	0.007	119.4	ug/L	3	Standard
|	Al	27	421.7	9.9	0.0060	0.000	7.6	ug/L	372	Standard
|	Sc	45	28331.5	2.6				ug/L	33475	Standard
|	Ti	47	23.7	12.2	-0.0249	0.016	65.7	ug/L	25	Standard
|	V	51	1210.2	4.6	-0.0227	0.013	55.2	ug/L	1461	Standard
|	Cr	52	6112.6	2.2	-0.0780	0.043	54.8	ug/L	7269	Standard
|	Cr	53	1186.7	3.2	-0.3076	0.056	18.2	ug/L	1557	Standard
|	Mn	55	928.4	3.8	0.0193	0.003	16.5	ug/L	1045	Standard
|	Co	59	195.0	4.9	0.0019	0.002	86.7	ug/L	210	Standard
|	Ni	60	109.0	9.7	0.0123	0.007	57.7	ug/L	103	Standard
|	Cu	65	122.0	4.6	0.0092	0.003	34.4	ug/L	135	Standard
|	Zn	66	161.0	2.5	0.0190	0.003	18.0	ug/L	296	Standard
>	Ge	72	501423.5	1.7				ug/L	561245	Standard
|	As	75	-44.9	22.4	-0.0184	0.011	58.5	ug/L	-46	Standard
|	Se	82	12.6	53.1	-0.0078	0.080	1020.0	ug/L	20	Standard
|	Se-1	77	83.3	15.6	0.0382	0.217	567.1	ug/L	93	Standard
>	Ga	71	13.3	57.3				mg/L	7	Standard
|	Rb	85	35.0	86.9				ug/L	20	Standard
|	Y	89	404245.3	3.2				ug/L	455318	Standard
>	Rh	103	11.7	24.7				ug/L	17	Standard
|	Mo	98	229.6	2.5	0.0606	0.002	3.2	ug/L	57	Standard
|	Ag	107	109.3	3.7	0.0004	0.001	243.9	ug/L	114	Standard
|	Cd	111	8.4	38.5	-0.0010	0.002	158.6	mg/L	5	Standard
|	Cd	114	43.0	51.8	0.0048	0.004	83.7	ug/L	33	Standard
>	In	115	776188.9	1.4				ug/L	874708	Standard
|	Sn	118	197.7	24.9	0.0733	0.039	52.7	ug/L	146	Standard
|	Sb	123	1056.0	48.5	0.1381	0.087	62.7	ug/L	647	Standard
|	Ba	135	42.7	43.6	0.0040	0.008	189.6	ug/L	35	Standard
|	Ce	140	55.0	18.2				ug/L	133	Standard
>	Tb	159	1349941.7	2.5				ug/L	1543699	Standard
|	Ho	165	10.0	50.0				ug/L	20	Standard
|	Tl	203	42.7	28.2	0.0028	0.001	40.5	ug/L	17	Standard
|	Tl	205	105.0	0.0	-0.0005	0.000	0.8	ug/L	18	Standard
|	Pb	206	537.0	7.1	0.0108	0.005	46.1	ug/L	553	Standard
|	Pb	207	441.3	6.8	0.0049	0.004	91.8	ug/L	487	Standard
|	Pb	208	2086.1	4.5	0.0063	0.003	48.9	ug/L	2185	Standard
	U	238	128.3	18.4	0.0053	0.001	15.6	ug/L	18	Standard
>	Bi	209	717469.6	0.1				ug/L	820229	Standard

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Na	23	0.0		-0.6045	0.000	0.0	mg/L	0	Standard
Mg	24	55.0	55.3	0.0014	0.065	4717.6	mg/L	53	Standard
K	39	5.0	100.0	0.0183	0.070	380.3	mg/L	3	Standard
Ca	43	28.3	20.4	-3.2513	1.784	54.9	mg/L	27	Standard
Fe	54	122.4	30.6	0.0306	0.048	156.9	mg/L	112	Standard
Fe	57	243.3	13.7	0.1218	0.140	114.7	mg/L	213	Standard
Sc-1	45	28331.5	2.6				mg/L	33475	Standard
Cl	35	1.3	86.6				ug/L	4	Standard
Kr	83	4.7	12.4				ug/L	4	Standard
Br	81	1173.4	14.5				ug/L	1223	Standard
P	31	55.0	32.8				ug/L	68	Standard
S	34	16.7	75.5				ug/L	20	Standard
Sr	88	116.7	2.5				ug/L	110	Standard
C	12	353.3	20.9				mg/L	377	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	7	Standard
Dy	164	19.2	3.8				mg/L	32	Standard
Ho-1	165	10.0	50.0				mg/L	20	Standard
Er	166	16.7	91.7				mg/L	37	Standard
I	127	3475.4	6.3				mg/L	3754	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		89.341	
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	88.737
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[Ho	165	
[Tl	203	
[Tl	205	
[Pb	206	
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[U	238	
>	Bi	209	87.472
[Na	23	
[Mg	24	
[K	39	
[Ca	43	
[Fe	54	
[Fe	57	
>	Sc-1	45	
[Cl	35	
[Kr	83	
[Br	81	
[P	31	
[S	34	
[Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 7

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Method 6020 - Summary Report

Sample ID: L1610042011

Sample Date/Time: Wednesday, October 19, 2016 10:57:28

Number of Replicates: 3

Autosampler Position: 227

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	77009.2	13.4				ug/L	91395	Standard
|	Be	9	1561.7	14.0	1.9036	0.146	7.7	ug/L	3	Standard
|	Al	27	9299678.4	10.1	101.2308	5.280	5.2	ug/L	372	Standard
|	Sc	45	34158.7	9.1				ug/L	33475	Standard
|	Ti	47	4297.6	8.2	22.5970	0.455	2.0	ug/L	25	Standard
|	V	51	228390.4	6.6	39.8333	0.424	1.1	ug/L	1461	Standard
|	Cr	52	170270.6	7.1	31.4369	0.307	1.0	ug/L	7269	Standard
|	Cr	53	22146.2	3.9	32.1093	0.975	3.0	ug/L	1557	Standard
|	Mn	55	6252670.5	7.4	735.5351	5.683	0.8	ug/L	1045	Standard
|	Co	59	160100.4	7.3	22.4872	0.212	0.9	ug/L	210	Standard
|	Ni	60	104889.3	7.0	67.7871	0.289	0.4	ug/L	103	Standard
|	Cu	65	128822.1	6.4	83.3723	0.520	0.6	ug/L	135	Standard
|	Zn	66	877797.5	7.1	1063.1958	6.305	0.6	ug/L	296	Standard
>	Ge	72	482365.1	6.7				ug/L	561245	Standard
|	As	75	31741.0	6.3	36.9887	0.168	0.5	ug/L	-46	Standard
|	Se	82	253.4	9.1	2.9235	0.077	2.6	ug/L	20	Standard
|	Se-1	77	314.0	14.6	4.3781	0.461	10.5	ug/L	93	Standard
>	Ga	71	25633.4	7.9				mg/L	7	Standard
|	Rb	85	273281.4	6.7				ug/L	20	Standard
|	Y	89	782929.5	6.4				ug/L	455318	Standard
>	Rh	103	105.0	41.5				ug/L	17	Standard
|	Mo	98	30945.4	7.6	9.8285	0.167	1.7	ug/L	57	Standard
|	Ag	107	2365.2	5.2	0.3892	0.012	3.1	ug/L	114	Standard
|	Cd	111	9531.4	4.9	4.7394	0.141	3.0	mg/L	5	Standard
|	Cd	114	23881.6	9.0	4.5668	0.078	1.7	ug/L	33	Standard
>	In	115	733720.9	7.7				ug/L	874708	Standard
|	Sn	118	956.4	7.2	0.7318	0.007	0.9	ug/L	146	Standard
|	Sb	123	752.7	34.4	0.0924	0.037	39.5	ug/L	647	Standard
|	Ba	135	798789.3	7.0	329.0037	7.268	2.2	ug/L	35	Standard
|	Ce	140	1975647.0	8.9				ug/L	133	Standard
>	Tb	159	1296604.0	5.1				ug/L	1543699	Standard
|	Ho	165	45837.9	8.0				ug/L	20	Standard
|	Tl	203	13861.4	6.6	1.3918	0.033	2.4	ug/L	17	Standard
|	Tl	205	32359.6	7.2	1.3943	0.038	2.7	ug/L	18	Standard
|	Pb	206	1973066.9	8.3	264.4402	9.014	3.4	ug/L	553	Standard
|	Pb	207	1548893.1	7.1	235.4824	6.081	2.6	ug/L	487	Standard
|	Pb	208	7428771.0	7.0	249.0062	5.292	2.1	ug/L	2185	Standard
	U	238	119489.3	6.5	4.4080	0.047	1.1	ug/L	18	Standard
>	Bi	209	687981.1	5.4				ug/L	820229	Standard

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Na	23	88.3	6.5	32.3805	1.549	4.8	mg/L	0	Standard
Mg	24	105.0	29.7	0.0742	0.045	60.7	mg/L	53	Standard
K	39	193.3	21.1	2.1383	0.305	14.3	mg/L	3	Standard
Ca	43	216.7	15.4	40.0876	3.814	9.5	mg/L	27	Standard
Fe	54	53079.5	6.8	54.0946	1.458	2.7	mg/L	112	Standard
Fe	57	14919.0	8.1	55.7704	1.062	1.9	mg/L	213	Standard
Sc-1	45	34158.7	9.1				mg/L	33475	Standard
Cl	35	1.3	173.2				ug/L	4	Standard
Kr	83	3.0	0.0				ug/L	4	Standard
Br	81	2036.8	4.2				ug/L	1223	Standard
P	31	38.3	39.8				ug/L	68	Standard
S	34	18.3	56.8				ug/L	20	Standard
Sr	88	126.7	23.1				ug/L	110	Standard
C	12	1010.0	26.7				mg/L	377	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	1076.7	7.0				mg/L	7	Standard
Dy	164	67708.5	8.3				mg/L	32	Standard
Ho-1	165	45837.9	8.0				mg/L	20	Standard
Er	166	40818.3	4.9				mg/L	37	Standard
I	127	34125.3	9.1				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		84.260	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		85.946	
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	83.882
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	83.877
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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	
Zn 66 Upper, S, EEE	Zn	66	

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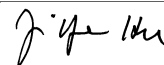
Ba 135 Upper, S, EEE	Ba	135
Pb 206 Upper, S, EEE	Pb	206
Pb 207 Upper, S, EEE	Pb	207
Pb 208 Upper, S, EEE	Pb	208

Sample ID: L1610042011

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Method 6020 - Summary Report

Sample ID: L1610042012

Sample Date/Time: Wednesday, October 19, 2016 11:00:27

Number of Replicates: 3

Autosampler Position: 228

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	78962.1	4.0				ug/L	91395	Standard
|	Be	9	1246.7	13.1	1.4762	0.189	12.8	ug/L	3	Standard
|	Al	27	3688243.4	4.0	39.0053	0.111	0.3	ug/L	372	Standard
|	Sc	45	36423.7	0.9				ug/L	33475	Standard
|	Ti	47	2197.5	2.7	11.3779	0.177	1.6	ug/L	25	Standard
|	V	51	177981.1	1.9	30.6939	0.661	2.2	ug/L	1461	Standard
|	Cr	52	136768.6	1.0	24.7706	0.406	1.6	ug/L	7269	Standard
|	Cr	53	17625.2	0.8	24.8414	0.475	1.9	ug/L	1557	Standard
|	Mn	55	2916122.6	2.4	339.8325	8.151	2.4	ug/L	1045	Standard
|	Co	59	73769.6	3.5	10.2529	0.386	3.8	ug/L	210	Standard
|	Ni	60	67943.4	2.7	43.4818	1.339	3.1	ug/L	103	Standard
|	Cu	65	61791.1	2.6	39.5698	1.076	2.7	ug/L	135	Standard
|	Zn	66	256120.1	2.0	307.1942	5.731	1.9	ug/L	296	Standard
>	Ge	72	487030.2	1.2				ug/L	561245	Standard
|	As	75	6818.6	2.6	7.8927	0.121	1.5	ug/L	-46	Standard
|	Se	82	137.2	1.9	1.4980	0.051	3.4	ug/L	20	Standard
|	Se-1	77	232.0	9.5	2.8288	0.407	14.4	ug/L	93	Standard
>	Ga	71	23077.6	2.0				mg/L	7	Standard
|	Rb	85	306077.9	1.7				ug/L	20	Standard
|	Y	89	857278.6	1.0				ug/L	455318	Standard
>	Rh	103	28.3	40.8				ug/L	17	Standard
|	Mo	98	11734.8	3.0	3.6087	0.078	2.2	ug/L	57	Standard
|	Ag	107	1149.0	2.1	0.1740	0.006	3.6	ug/L	114	Standard
|	Cd	111	4140.8	4.5	1.9903	0.056	2.8	mg/L	5	Standard
|	Cd	114	10446.9	5.7	1.9374	0.123	6.4	ug/L	33	Standard
>	In	115	756624.8	2.1				ug/L	874708	Standard
|	Sn	118	126.0	9.0	0.0180	0.007	40.5	ug/L	146	Standard
|	Sb	123	423.3	26.6	0.0315	0.018	58.6	ug/L	647	Standard
|	Ba	135	680303.4	2.8	271.5839	4.246	1.6	ug/L	35	Standard
|	Ce	140	2076702.2	6.4				ug/L	133	Standard
>	Tb	159	1375802.7	3.0				ug/L	1543699	Standard
|	Ho	165	53454.2	4.0				ug/L	20	Standard
|	Tl	203	9284.5	3.0	0.9354	0.029	3.2	ug/L	17	Standard
|	Tl	205	21944.2	3.5	0.9477	0.032	3.4	ug/L	18	Standard
|	Pb	206	267517.0	2.5	35.9651	1.008	2.8	ug/L	553	Standard
|	Pb	207	204343.3	3.1	31.1416	1.057	3.4	ug/L	487	Standard
|	Pb	208	979391.0	2.7	32.9105	1.068	3.2	ug/L	2185	Standard
	U	238	127196.2	2.4	4.7107	0.131	2.8	ug/L	18	Standard
>	Bi	209	685647.3	1.7				ug/L	820229	Standard

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Na	23	20.0	25.0	6.3823	1.723	27.0	mg/L	0	Standard
Mg	24	55.0	31.5	-0.0253	0.031	122.3	mg/L	53	Standard
K	39	265.0	11.8	2.7756	0.319	11.5	mg/L	3	Standard
Ca	43	86.7	18.5	7.9555	3.446	43.3	mg/L	27	Standard
Fe	54	27844.4	1.8	26.5156	0.669	2.5	mg/L	112	Standard
Fe	57	7867.0	2.4	27.0650	0.912	3.4	mg/L	213	Standard
Sc-1	45	36423.7	0.9				mg/L	33475	Standard
Cl	35	0.0					ug/L	4	Standard
Kr	83	2.7	43.3				ug/L	4	Standard
Br	81	1730.1	5.7				ug/L	1223	Standard
P	31	53.3	10.8				ug/L	68	Standard
S	34	20.0	25.0				ug/L	20	Standard
Sr	88	123.3	8.4				ug/L	110	Standard
C	12	1033.4	15.3				mg/L	377	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	210.0	14.3				mg/L	7	Standard
Dy	164	82845.8	4.9				mg/L	32	Standard
Ho-1	165	53454.2	4.0				mg/L	20	Standard
Er	166	48571.2	4.3				mg/L	37	Standard
I	127	16048.5	7.2				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		86.397	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		86.777	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1610042012

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	86.500
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	83.592
[	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
Mn 55 Upper, S, EEE	Mn	55	
Zn 66 Upper, S, EEE	Zn	66	
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1610042012

Report Date/Time: Wednesday, October 19, 2016 11:02:31

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Method 6020 - Summary Report

Sample ID: L1610042013

Sample Date/Time: Wednesday, October 19, 2016 11:03:26

Number of Replicates: 3

Autosampler Position: 229

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	78809.3	10.6				ug/L	91395	Standard
|	Be	9	1268.4	14.1	1.5011	0.052	3.5	ug/L	3	Standard
|	Al	27	5019680.3	7.2	53.3147	1.779	3.3	ug/L	372	Standard
|	Sc	45	36039.6	7.6				ug/L	33475	Standard
|	Ti	47	3561.8	8.8	18.2429	0.540	3.0	ug/L	25	Standard
|	V	51	242571.2	6.4	41.2931	0.345	0.8	ug/L	1461	Standard
|	Cr	52	151262.9	5.0	27.1184	0.660	2.4	ug/L	7269	Standard
|	Cr	53	19879.7	6.8	27.8291	0.251	0.9	ug/L	1557	Standard
|	Mn	55	13032032.7	7.3	1496.1717	26.822	1.8	ug/L	1045	Standard
|	Co	59	188272.2	6.3	25.8285	0.944	3.7	ug/L	210	Standard
|	Ni	60	148768.1	5.8	93.8992	2.157	2.3	ug/L	103	Standard
|	Cu	65	115123.4	5.0	72.7433	1.800	2.5	ug/L	135	Standard
|	Zn	66	216589.7	4.7	256.1148	4.623	1.8	ug/L	296	Standard
>	Ge	72	494207.8	6.0				ug/L	561245	Standard
|	As	75	45289.7	4.7	51.5182	0.704	1.4	ug/L	-46	Standard
|	Se	82	99.1	10.5	1.0262	0.180	17.5	ug/L	20	Standard
|	Se-1	77	218.0	2.6	2.5241	0.319	12.6	ug/L	93	Standard
>	Ga	71	24588.3	4.5				mg/L	7	Standard
|	Rb	85	221570.8	4.8				ug/L	20	Standard
|	Y	89	841228.9	6.9				ug/L	455318	Standard
>	Rh	103	33.3	85.3				ug/L	17	Standard
|	Mo	98	57211.7	4.6	17.8415	0.151	0.8	ug/L	57	Standard
|	Ag	107	1470.1	16.3	0.2315	0.050	21.5	ug/L	114	Standard
|	Cd	111	2660.4	1.6	1.2959	0.089	6.8	mg/L	5	Standard
|	Cd	114	6759.4	0.6	1.2693	0.066	5.2	ug/L	33	Standard
>	In	115	747711.7	5.4				ug/L	874708	Standard
|	Sn	118	139.3	39.1	0.0322	0.052	161.1	ug/L	146	Standard
|	Sb	123	544.2	50.5	0.0559	0.054	97.4	ug/L	647	Standard
|	Ba	135	630025.6	3.1	254.7231	5.753	2.3	ug/L	35	Standard
|	Ce	140	1883410.1	3.6				ug/L	133	Standard
>	Tb	159	1314246.5	4.4				ug/L	1543699	Standard
|	Ho	165	49701.5	3.5				ug/L	20	Standard
|	Tl	203	13316.2	2.8	1.3166	0.043	3.2	ug/L	17	Standard
|	Tl	205	30413.9	3.9	1.2897	0.020	1.6	ug/L	18	Standard
|	Pb	206	370418.4	5.1	48.8371	1.253	2.6	ug/L	553	Standard
|	Pb	207	285394.1	5.4	42.6483	0.839	2.0	ug/L	487	Standard
|	Pb	208	1365305.6	4.9	44.9935	1.041	2.3	ug/L	2185	Standard
	U	238	121272.2	4.0	4.4037	0.084	1.9	ug/L	18	Standard
>	Bi	209	699585.5	5.4				ug/L	820229	Standard

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Na	23	26.7	43.3	8.6562	3.262	37.7	mg/L	0	Standard
Mg	24	78.3	35.2	0.0205	0.059	289.2	mg/L	53	Standard
K	39	163.3	18.7	1.7185	0.382	22.2	mg/L	3	Standard
Ca	43	101.7	32.7	11.7137	8.055	68.8	mg/L	27	Standard
Fe	54	63496.9	3.3	61.4171	3.379	5.5	mg/L	112	Standard
Fe	57	17772.1	5.9	63.1625	3.485	5.5	mg/L	213	Standard
Sc-1	45	36039.6	7.6				mg/L	33475	Standard
Cl	35	0.7	173.2				ug/L	4	Standard
Kr	83	2.7	21.7				ug/L	4	Standard
Br	81	1660.1	5.1				ug/L	1223	Standard
P	31	55.0	9.1				ug/L	68	Standard
S	34	20.0	0.0				ug/L	20	Standard
Sr	88	148.3	10.3				ug/L	110	Standard
C	12	590.0	14.5				mg/L	377	Standard
N	14	6.7	86.6				mg/L	0	Standard
Hg	202	220.0	18.2				mg/L	7	Standard
Dy	164	76955.4	5.2				mg/L	32	Standard
Ho-1	165	49701.5	3.5				mg/L	20	Standard
Er	166	44552.1	2.9				mg/L	37	Standard
I	127	34856.7	2.5				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		86.229	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		88.056	
As	75			
Se	82			
Se-1	77			
Ga	71			

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	85.481
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[Ho	165	
[Tl	203	
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[U	238	
>	Bi	209	85.291
[Na	23	
[Mg	24	
[K	39	
[Ca	43	
[Fe	54	
[Fe	57	
>	Sc-1	45	
[Cl	35	
[Kr	83	
[Br	81	
[P	31	
[S	34	
[Sr	88	
[	C	12	
[	N	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	
Ba 135 Upper, S, EEE	Ba	135	

Sample ID: L1610042013

Report Date/Time: Wednesday, October 19, 2016 11:05:31

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Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Wednesday, October 19, 2016 11:06:27

Number of Replicates: 3

Autosampler Position: 101

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	75229.8	4.0				ug/L	91395	Standard
|	Be	9	40310.3	4.0	50.6300	0.041	0.1	ug/L	3	Standard
|	Al	27	4312040.4	4.8	47.8636	1.136	2.4	ug/L	372	Standard
|	Sc	45	28239.7	5.0				ug/L	33475	Standard
|	Ti	47	19011.9	5.2	101.3436	1.845	1.8	ug/L	25	Standard
|	V	51	289079.4	4.3	50.8986	0.378	0.7	ug/L	1461	Standard
|	Cr	52	269506.7	4.1	50.9063	0.759	1.5	ug/L	7269	Standard
|	Cr	53	34435.8	6.1	51.4242	1.168	2.3	ug/L	1557	Standard
|	Mn	55	419797.3	4.5	49.7307	0.885	1.8	ug/L	1045	Standard
|	Co	59	352392.4	5.1	49.9452	1.133	2.3	ug/L	210	Standard
|	Ni	60	77011.8	4.5	50.1838	1.318	2.6	ug/L	103	Standard
|	Cu	65	77645.4	4.6	50.6335	0.635	1.3	ug/L	135	Standard
|	Zn	66	42252.3	4.8	51.4439	0.450	0.9	ug/L	296	Standard
>	Ge	72	478355.5	4.0				ug/L	561245	Standard
|	As	75	44075.0	3.6	51.7762	0.387	0.7	ug/L	-46	Standard
|	Se	82	4315.4	4.3	52.7710	0.497	0.9	ug/L	20	Standard
|	Se-1	77	2893.6	5.4	52.9636	2.981	5.6	ug/L	93	Standard
>	Ga	71	25.0	52.9				mg/L	7	Standard
|	Rb	85	766.7	7.6				ug/L	20	Standard
|	Y	89	386361.7	1.7				ug/L	455318	Standard
>	Rh	103	25.0	40.0				ug/L	17	Standard
|	Mo	98	321261.5	3.9	99.4213	0.365	0.4	ug/L	57	Standard
|	Ag	107	297752.6	4.0	49.7585	0.099	0.2	ug/L	114	Standard
|	Cd	111	106204.6	4.7	51.3866	0.447	0.9	mg/L	5	Standard
|	Cd	114	275028.7	5.3	51.2527	0.795	1.6	ug/L	33	Standard
>	In	115	753539.7	4.0				ug/L	874708	Standard
|	Sn	118	61606.1	4.2	51.2114	0.100	0.2	ug/L	146	Standard
|	Sb	123	296075.6	4.7	52.4332	0.567	1.1	ug/L	647	Standard
|	Ba	135	124710.8	4.5	49.9793	0.992	2.0	ug/L	35	Standard
|	Ce	140	263.3	30.9				ug/L	133	Standard
>	Tb	159	1348127.5	4.6				ug/L	1543699	Standard
|	Ho	165	20.0	43.3				ug/L	20	Standard
|	Tl	203	506735.2	4.1	51.1599	0.724	1.4	ug/L	17	Standard
|	Tl	205	1151467.8	4.2	50.0207	0.849	1.7	ug/L	18	Standard
|	Pb	206	376488.3	4.7	50.6689	0.798	1.6	ug/L	553	Standard
|	Pb	207	334617.6	4.1	51.0669	0.265	0.5	ug/L	487	Standard
|	Pb	208	1505077.3	4.0	50.6408	0.305	0.6	ug/L	2185	Standard
	U	238	1339660.9	3.9	49.6500	1.070	2.2	ug/L	18	Standard
>	Bi	209	685103.6	4.2				ug/L	820229	Standard

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Na	23	16.7	34.6	6.9636	2.786	40.0	mg/L	0	Standard
Mg	24	2261.8	11.5	5.0434	0.351	7.0	mg/L	53	Standard
K	39	396.7	23.4	5.3742	1.041	19.4	mg/L	3	Standard
Ca	43	70.0	25.8	8.9881	6.351	70.7	mg/L	27	Standard
Fe	54	4206.1	4.7	5.0763	0.330	6.5	mg/L	112	Standard
Fe	57	1343.4	4.8	5.1956	0.416	8.0	mg/L	213	Standard
Sc-1	45	28239.7	5.0				mg/L	33475	Standard
Cl	35	2.0	173.2				ug/L	4	Standard
Kr	83	3.7	103.3				ug/L	4	Standard
Br	81	1113.4	14.8				ug/L	1223	Standard
P	31	75.0	6.7				ug/L	68	Standard
S	34	26.7	39.0				ug/L	20	Standard
Sr	88	140.0	3.6				ug/L	110	Standard
C	12	353.3	4.3				mg/L	377	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	16.7	69.3				mg/L	7	Standard
Dy	164	22.5	64.1				mg/L	32	Standard
Ho-1	165	20.0	43.3				mg/L	20	Standard
Er	166	16.7	124.9				mg/L	37	Standard
I	127	3690.5	5.4				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	101.260		
Al	27	95.727		
Sc	45			
Ti	47	101.344		
V	51	101.797		
Cr	52	101.813		
Cr	53			
Mn	55	99.461		
Co	59	99.890		
Ni	60	100.368		
Cu	65	101.267		
Zn	66	102.888		
Ge	72		85.231	
As	75	103.552		
Se	82	105.542		
Se-1	77			
Ga	71			

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[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	99.421	
[Ag	107	99.517	
[Cd	111	102.773	
[Cd	114		
>	In	115		86.148
[Sn	118	102.423	
[	Sb	123	104.866	
[	Ba	135	99.959	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	102.320	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	101.282	
[	U	238	99.300	
>	Bi	209		83.526
[	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: QC Std 7

Sample Date/Time: Wednesday, October 19, 2016 11:09:27

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	73318.8	3.3				ug/L	91395	Standard
|	Be	9	13.3	21.7	0.0008	0.004	538.1	ug/L	3	Standard
|	Al	27	2660.4	111.9	0.0323	0.035	109.3	ug/L	372	Standard
|	Sc	45	28020.9	2.7				ug/L	33475	Standard
|	Ti	47	23.7	39.3	-0.0192	0.050	260.2	ug/L	25	Standard
|	V	51	1127.6	17.3	-0.0273	0.036	130.4	ug/L	1461	Standard
|	Cr	52	5760.1	1.2	-0.0907	0.037	40.5	ug/L	7269	Standard
|	Cr	53	1263.4	6.6	-0.1008	0.148	146.8	ug/L	1557	Standard
|	Mn	55	2210.5	65.7	0.1772	0.174	98.1	ug/L	1045	Standard
|	Co	59	237.7	23.8	0.0093	0.008	88.6	ug/L	210	Standard
|	Ni	60	95.0	24.5	0.0064	0.015	234.7	ug/L	103	Standard
|	Cu	65	147.3	40.2	0.0298	0.040	132.8	ug/L	135	Standard
|	Zn	66	224.7	42.9	0.1062	0.119	111.8	ug/L	296	Standard
>	Ge	72	477913.4	2.3				ug/L	561245	Standard
|	As	75	-8.0	416.4	0.0218	0.039	178.2	ug/L	-46	Standard
|	Se	82	13.6	99.2	0.0087	0.160	1845.7	ug/L	20	Standard
|	Se-1	77	86.0	10.7	0.1618	0.144	88.9	ug/L	93	Standard
>	Ga	71	26.7	28.6				mg/L	7	Standard
|	Rb	85	66.7	43.9				ug/L	20	Standard
|	Y	89	383129.9	3.1				ug/L	455318	Standard
>	Rh	103	11.7	99.0				ug/L	17	Standard
|	Mo	98	291.8	16.5	0.0846	0.017	20.7	ug/L	57	Standard
|	Ag	107	156.0	41.1	0.0095	0.012	121.8	ug/L	114	Standard
|	Cd	111	18.6	54.2	0.0044	0.005	118.1	mg/L	5	Standard
|	Cd	114	60.2	61.2	0.0086	0.007	84.7	ug/L	33	Standard
>	In	115	734289.1	3.5				ug/L	874708	Standard
|	Sn	118	180.0	32.2	0.0676	0.051	75.4	ug/L	146	Standard
|	Sb	123	709.5	41.1	0.0861	0.054	62.9	ug/L	647	Standard
|	Ba	135	195.3	97.5	0.0685	0.081	117.6	ug/L	35	Standard
|	Ce	140	401.7	124.4				ug/L	133	Standard
>	Tb	159	1303953.4	5.1				ug/L	1543699	Standard
|	Ho	165	33.3	67.6				ug/L	20	Standard
|	Tl	203	105.7	84.2	0.0094	0.009	97.4	ug/L	17	Standard
|	Tl	205	238.3	75.8	0.0055	0.008	145.5	ug/L	18	Standard
|	Pb	206	708.4	31.3	0.0367	0.032	86.1	ug/L	553	Standard
|	Pb	207	603.0	32.4	0.0322	0.031	97.7	ug/L	487	Standard
|	Pb	208	2814.8	32.9	0.0336	0.033	97.9	ug/L	2185	Standard
	U	238	339.3	88.6	0.0134	0.011	84.8	ug/L	18	Standard
>	Bi	209	690840.6	1.8				ug/L	820229	Standard

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Na	23	1.7	173.2	0.1703	1.342	788.0	mg/L	0	Standard
Mg	24	36.7	41.7	-0.0383	0.036	94.2	mg/L	53	Standard
K	39	6.7	43.3	0.0405	0.037	91.7	mg/L	3	Standard
Ca	43	40.0	25.0	0.1855	2.682	1445.9	mg/L	27	Standard
Fe	54	112.7	13.0	0.0200	0.019	96.8	mg/L	112	Standard
Fe	57	251.7	7.5	0.1730	0.066	37.9	mg/L	213	Standard
Sc-1	45	28020.9	2.7				mg/L	33475	Standard
Cl	35	2.7	114.6				ug/L	4	Standard
Kr	83	1.0	100.0				ug/L	4	Standard
Br	81	1086.7	4.1				ug/L	1223	Standard
P	31	53.3	5.4				ug/L	68	Standard
S	34	16.7	45.8				ug/L	20	Standard
Sr	88	95.0	15.8				ug/L	110	Standard
C	12	300.0	12.0				mg/L	377	Standard
N	14	6.7	173.2				mg/L	0	Standard
Hg	202	0.0					mg/L	7	Standard
Dy	164	52.7	12.0				mg/L	32	Standard
Ho-1	165	33.3	67.6				mg/L	20	Standard
Er	166	13.3	114.6				mg/L	37	Standard
I	127	3297.0	3.1				mg/L	3754	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		85.152	
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	83.947
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	84.225
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 7

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Method 6020 - Summary Report

Sample ID: PBS 13 WG587410-02

Sample Date/Time: Wednesday, October 19, 2016 11:35:42

Number of Replicates: 3

Autosampler Position: 230

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	93521.5	4.6				ug/L	91395	Standard
|	Be	9	3.3	173.2	-0.0130	0.006	46.4	ug/L	3	Standard
|	Al	27	8549.1	2.1	0.0778	0.005	6.2	ug/L	372	Standard
|	Sc	45	34322.2	4.6				ug/L	33475	Standard
|	Ti	47	35.0	17.8	0.0121	0.028	228.9	ug/L	25	Standard
|	V	51	1545.2	6.9	0.0036	0.015	399.7	ug/L	1461	Standard
|	Cr	52	10067.3	2.3	0.4373	0.021	4.8	ug/L	7269	Standard
|	Cr	53	1478.4	8.6	-0.1261	0.189	149.6	ug/L	1557	Standard
|	Mn	55	2314.5	1.4	0.1462	0.005	3.6	ug/L	1045	Standard
|	Co	59	299.7	3.1	0.0114	0.001	10.2	ug/L	210	Standard
|	Ni	60	729.7	2.7	0.3463	0.011	3.1	ug/L	103	Standard
|	Cu	65	313.0	9.1	0.1057	0.016	14.9	ug/L	135	Standard
|	Zn	66	1402.7	2.3	1.2784	0.033	2.6	ug/L	296	Standard
>	Ge	72	566590.5	1.1				ug/L	561245	Standard
|	As	75	-29.8	62.5	0.0021	0.019	879.6	ug/L	-46	Standard
|	Se	82	17.8	38.4	0.0282	0.070	248.8	ug/L	20	Standard
|	Se-1	77	92.3	16.4	0.0117	0.249	2129.7	ug/L	93	Standard
>	Ga	71	30.0	50.0				mg/L	7	Standard
|	Rb	85	61.7	26.1				ug/L	20	Standard
|	Y	89	467479.8	1.5				ug/L	455318	Standard
>	Rh	103	11.7	49.5				ug/L	17	Standard
|	Mo	98	98.6	24.0	0.0186	0.007	35.4	ug/L	57	Standard
|	Ag	107	114.0	12.1	-0.0006	0.002	298.6	ug/L	114	Standard
|	Cd	111	9.2	43.9	-0.0010	0.002	159.5	mg/L	5	Standard
|	Cd	114	30.8	15.8	0.0021	0.001	43.8	ug/L	33	Standard
>	In	115	853408.6	2.6				ug/L	874708	Standard
|	Sn	118	155.7	3.5	0.0282	0.006	20.8	ug/L	146	Standard
|	Sb	123	438.6	37.9	0.0256	0.026	102.2	ug/L	647	Standard
|	Ba	135	198.3	16.6	0.0575	0.012	21.0	ug/L	35	Standard
|	Ce	140	206.7	26.6				ug/L	133	Standard
>	Tb	159	1540204.5	0.4				ug/L	1543699	Standard
|	Ho	165	33.3	52.7				ug/L	20	Standard
|	Tl	203	12.7	9.1	-0.0002	0.000	48.8	ug/L	17	Standard
|	Tl	205	33.3	43.3	-0.0036	0.001	14.1	ug/L	18	Standard
|	Pb	206	770.7	2.4	0.0277	0.002	8.5	ug/L	553	Standard
|	Pb	207	619.3	2.5	0.0189	0.002	8.3	ug/L	487	Standard
|	Pb	208	2941.4	1.9	0.0213	0.002	7.2	ug/L	2185	Standard
	U	238	16.7	38.1	0.0013	0.000	14.6	ug/L	18	Standard
>	Bi	209	826751.6	0.6				ug/L	820229	Standard

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Na	23	0.0		-0.6045	0.000	0.0	mg/L	0	Standard
Mg	24	50.0	20.0	-0.0282	0.023	81.5	mg/L	53	Standard
K	39	11.7	24.7	0.0820	0.040	48.7	mg/L	3	Standard
Ca	43	40.0	66.1	-2.0980	6.027	287.3	mg/L	27	Standard
Fe	54	100.5	16.2	-0.0183	0.014	78.9	mg/L	112	Standard
Fe	57	240.0	20.8	-0.0839	0.185	219.8	mg/L	213	Standard
Sc-1	45	34322.2	4.6				mg/L	33475	Standard
Cl	35	2.0	100.0				ug/L	4	Standard
Kr	83	2.0	50.0				ug/L	4	Standard
Br	81	1433.4	8.4				ug/L	1223	Standard
P	31	73.3	17.2				ug/L	68	Standard
S	34	21.7	96.1				ug/L	20	Standard
Sr	88	120.0	18.2				ug/L	110	Standard
C	12	503.3	16.1				mg/L	377	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	0.0					mg/L	7	Standard
Dy	164	21.7	54.4				mg/L	32	Standard
Ho-1	165	33.3	52.7				mg/L	20	Standard
Er	166	33.3	17.3				mg/L	37	Standard
I	127	3222.0	0.9				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		102.327	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		100.952	
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	97.565
[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	100.795
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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 13 WG587410-03

Sample Date/Time: Wednesday, October 19, 2016 11:38:41

Number of Replicates: 3

Autosampler Position: 231

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	91473.8	3.3				ug/L	91395	Standard
|	Be	9	24853.7	4.0	25.6624	0.373	1.5	ug/L	3	Standard
|	Al	27	8564.1	11.8	0.0794	0.007	8.5	ug/L	372	Standard
|	Sc	45	33764.3	2.2				ug/L	33475	Standard
|	Ti	47	58.0	61.5	0.1233	0.175	141.8	ug/L	25	Standard
|	V	51	170318.2	3.7	25.5471	0.112	0.4	ug/L	1461	Standard
|	Cr	52	166538.2	5.3	26.3356	0.461	1.8	ug/L	7269	Standard
|	Cr	53	20725.8	3.6	25.4990	0.638	2.5	ug/L	1557	Standard
|	Mn	55	254509.8	4.6	25.7529	0.422	1.6	ug/L	1045	Standard
|	Co	59	211733.3	4.3	25.6657	0.224	0.9	ug/L	210	Standard
|	Ni	60	48238.4	3.8	26.8679	0.183	0.7	ug/L	103	Standard
|	Cu	65	46798.9	4.7	26.0773	0.374	1.4	ug/L	135	Standard
|	Zn	66	25085.5	6.3	26.0401	0.729	2.8	ug/L	296	Standard
>	Ge	72	559066.0	3.6				ug/L	561245	Standard
|	As	75	25173.4	3.5	25.3169	0.118	0.5	ug/L	-46	Standard
|	Se	82	2418.2	2.8	25.2298	0.511	2.0	ug/L	20	Standard
|	Se-1	77	1617.8	2.5	24.5823	1.005	4.1	ug/L	93	Standard
>	Ga	71	41.7	30.2				mg/L	7	Standard
|	Rb	85	80.0	65.3				ug/L	20	Standard
|	Y	89	449859.4	1.0				ug/L	455318	Standard
>	Rh	103	23.3	101.3				ug/L	17	Standard
|	Mo	98	103.9	56.4	0.0197	0.015	75.2	ug/L	57	Standard
|	Ag	107	175148.4	2.9	25.8450	0.523	2.0	ug/L	114	Standard
|	Cd	111	59797.3	2.5	25.5606	0.637	2.5	mg/L	5	Standard
|	Cd	114	151657.4	4.8	24.9539	0.143	0.6	ug/L	33	Standard
>	In	115	853558.9	4.4				ug/L	874708	Standard
|	Sn	118	149.3	8.7	0.0237	0.013	55.6	ug/L	146	Standard
|	Sb	123	158860.4	2.0	24.8364	0.649	2.6	ug/L	647	Standard
|	Ba	135	71341.8	4.4	25.2359	0.163	0.6	ug/L	35	Standard
|	Ce	140	266.7	71.9				ug/L	133	Standard
>	Tb	159	1549541.4	3.6				ug/L	1543699	Standard
|	Ho	165	30.0	16.7				ug/L	20	Standard
|	Tl	203	300401.8	2.0	25.7403	0.567	2.2	ug/L	17	Standard
|	Tl	205	693082.6	3.4	25.5416	0.326	1.3	ug/L	18	Standard
|	Pb	206	224715.7	2.4	25.6411	0.518	2.0	ug/L	553	Standard
|	Pb	207	192431.5	1.8	24.8975	0.606	2.4	ug/L	487	Standard
|	Pb	208	878977.2	1.6	25.0737	0.647	2.6	ug/L	2185	Standard
	U	238	763837.6	2.9	24.0173	0.287	1.2	ug/L	18	Standard
>	Bi	209	807611.7	4.1				ug/L	820229	Standard

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Na	23	1.7	173.2	0.0136	1.071	7853.6	mg/L	0	Standard
Mg	24	61.7	20.4	-0.0049	0.024	494.6	mg/L	53	Standard
K	39	1.7	173.2	-0.0325	0.033	100.7	mg/L	3	Standard
Ca	43	31.7	32.9	-3.7429	2.649	70.8	mg/L	27	Standard
Fe	54	109.3	18.7	-0.0077	0.019	251.5	mg/L	112	Standard
Fe	57	265.0	35.8	0.0265	0.361	1358.5	mg/L	213	Standard
Sc-1	45	33764.3	2.2				mg/L	33475	Standard
Cl	35	0.7	173.2				ug/L	4	Standard
Kr	83	2.7	78.1				ug/L	4	Standard
Br	81	1443.4	5.6				ug/L	1223	Standard
P	31	48.3	6.0				ug/L	68	Standard
S	34	11.7	24.7				ug/L	20	Standard
Sr	88	125.0	21.2				ug/L	110	Standard
C	12	396.7	10.2				mg/L	377	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	16.7	173.2				mg/L	7	Standard
Dy	164	24.9	47.6				mg/L	32	Standard
Ho-1	165	30.0	16.7				mg/L	20	Standard
Er	166	36.7	56.8				mg/L	37	Standard
I	127	3333.7	3.0				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		100.086	
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		99.612	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: LCSS 13 WG587410-03

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	97.582
[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	98.462
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: LCSS 13 WG587410-03

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Method 6020 - Summary Report

Sample ID: L1610040101

Sample Date/Time: Wednesday, October 19, 2016 11:41:40

Number of Replicates: 3

Autosampler Position: 232

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

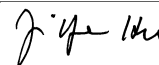
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	99126.8	3.3				ug/L	91395	Standard
|	Be	9	688.3	6.1	0.6395	0.021	3.3	ug/L	3	Standard
|	Al	27	12500079.1	1.2	105.3535	2.288	2.2	ug/L	372	Standard
|	Sc	45	35839.0	0.6				ug/L	33475	Standard
|	Ti	47	5342.3	0.4	25.8438	0.272	1.1	ug/L	25	Standard
|	V	51	199227.1	1.2	31.8799	0.766	2.4	ug/L	1461	Standard
|	Cr	52	64848.5	1.0	10.2172	0.054	0.5	ug/L	7269	Standard
|	Cr	53	8307.3	3.4	9.6964	0.444	4.6	ug/L	1557	Standard
|	Mn	55	4801913.1	1.2	519.1434	11.368	2.2	ug/L	1045	Standard
|	Co	59	48144.4	2.4	6.1970	0.186	3.0	ug/L	210	Standard
|	Ni	60	19658.4	1.1	11.6273	0.122	1.0	ug/L	103	Standard
|	Cu	65	22218.6	0.9	13.1538	0.262	2.0	ug/L	135	Standard
|	Zn	66	29613.2	0.7	32.7977	0.615	1.9	ug/L	296	Standard
>	Ge	72	525090.8	1.3				ug/L	561245	Standard
|	As	75	4711.7	0.8	5.0710	0.077	1.5	ug/L	-46	Standard
|	Se	82	75.0	8.0	0.6818	0.063	9.2	ug/L	20	Standard
|	Se-1	77	130.3	1.6	0.7776	0.065	8.4	ug/L	93	Standard
>	Ga	71	12790.4	1.2				mg/L	7	Standard
|	Rb	85	167037.5	1.3				ug/L	20	Standard
|	Y	89	621250.7	0.5				ug/L	455318	Standard
>	Rh	103	278.3	2.7				ug/L	17	Standard
|	Mo	98	388.0	8.7	0.1115	0.009	8.1	ug/L	57	Standard
|	Ag	107	800.7	3.3	0.1164	0.004	3.1	ug/L	114	Standard
|	Cd	111	228.5	4.2	0.1056	0.003	3.0	mg/L	5	Standard
|	Cd	114	599.6	10.5	0.1087	0.012	10.9	ug/L	33	Standard
>	In	115	754094.6	1.3				ug/L	874708	Standard
|	Sn	118	141.3	16.5	0.0313	0.020	62.7	ug/L	146	Standard
|	Sb	123	1543.2	38.3	0.2303	0.104	45.1	ug/L	647	Standard
|	Ba	135	551128.8	1.5	220.7632	2.360	1.1	ug/L	35	Standard
|	Ce	140	1933223.4	0.9				ug/L	133	Standard
>	Tb	159	1455279.0	1.4				ug/L	1543699	Standard
|	Ho	165	22795.5	2.8				ug/L	20	Standard
|	Tl	203	1260.4	1.9	0.1238	0.003	2.7	ug/L	17	Standard
|	Tl	205	2846.9	8.4	0.1168	0.011	9.6	ug/L	18	Standard
|	Pb	206	72231.8	2.0	9.5086	0.098	1.0	ug/L	553	Standard
|	Pb	207	57382.8	0.4	8.5599	0.141	1.6	ug/L	487	Standard
|	Pb	208	273183.7	1.4	8.9855	0.141	1.6	ug/L	2185	Standard
	U	238	236777.6	1.2	8.6250	0.077	0.9	ug/L	18	Standard
>	Bi	209	697006.5	1.9				ug/L	820229	Standard

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Na	23	801.7	8.5	284.2167	25.743	9.1	mg/L	0	Standard
Mg	24	440.0	12.0	0.6709	0.098	14.6	mg/L	53	Standard
K	39	376.7	13.8	4.0356	0.586	14.5	mg/L	3	Standard
Ca	43	1653.4	5.3	364.5532	19.719	5.4	mg/L	27	Standard
Fe	54	7462.6	3.3	7.1348	0.274	3.8	mg/L	112	Standard
Fe	57	3128.7	1.2	10.3462	0.202	2.0	mg/L	213	Standard
Sc-1	45	35839.0	0.6				mg/L	33475	Standard
Cl	35	0.7	173.2				ug/L	4	Standard
Kr	83	6.7	31.2				ug/L	4	Standard
Br	81	2773.6	7.0				ug/L	1223	Standard
P	31	70.0	42.9				ug/L	68	Standard
S	34	38.3	45.8				ug/L	20	Standard
Sr	88	530.0	12.3				ug/L	110	Standard
C	12	876.7	5.4				mg/L	377	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	360.0	8.3				mg/L	7	Standard
Dy	164	36502.8	0.6				mg/L	32	Standard
Ho-1	165	22795.5	2.8				mg/L	20	Standard
Er	166	20881.1	3.2				mg/L	37	Standard
I	127	125912.8	1.9				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		108.460	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		93.558	
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	86.211
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	84.977
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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: L1610040101

Report Date/Time: Wednesday, October 19, 2016 11:43:45

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Method 6020 - Summary Report

Sample ID: L1610040102 WG587410-01

Sample Date/Time: Wednesday, October 19, 2016 11:44:39

Number of Replicates: 3

Autosampler Position: 233

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	86399.1	2.5				ug/L	91395	Standard
|	Be	9	548.3	3.5	0.5838	0.031	5.3	ug/L	3	Standard
|	Al	27	11125973.4	2.8	107.5349	1.340	1.2	ug/L	372	Standard
|	Sc	45	33862.9	5.2				ug/L	33475	Standard
|	Ti	47	5664.1	5.0	28.8262	0.810	2.8	ug/L	25	Standard
|	V	51	171602.6	1.9	28.8732	1.100	3.8	ug/L	1461	Standard
|	Cr	52	51706.8	1.3	8.3798	0.335	4.0	ug/L	7269	Standard
|	Cr	53	6374.7	4.2	7.4415	0.736	9.9	ug/L	1557	Standard
|	Mn	55	5275988.1	2.6	599.9961	13.565	2.3	ug/L	1045	Standard
|	Co	59	41994.8	3.1	5.6833	0.135	2.4	ug/L	210	Standard
|	Ni	60	18970.9	4.2	11.8016	0.319	2.7	ug/L	103	Standard
|	Cu	65	20907.4	3.6	13.0166	0.315	2.4	ug/L	135	Standard
|	Zn	66	23111.6	4.1	26.8828	0.391	1.5	ug/L	296	Standard
>	Ge	72	499402.4	4.3				ug/L	561245	Standard
|	As	75	5156.4	3.3	5.8328	0.168	2.9	ug/L	-46	Standard
|	Se	82	92.9	9.8	0.9357	0.097	10.4	ug/L	20	Standard
|	Se-1	77	133.7	5.8	0.9521	0.103	10.8	ug/L	93	Standard
>	Ga	71	9878.2	2.4				mg/L	7	Standard
|	Rb	85	101336.1	1.6				ug/L	20	Standard
|	Y	89	598246.0	3.5				ug/L	455318	Standard
>	Rh	103	253.3	9.3				ug/L	17	Standard
|	Mo	98	426.5	1.3	0.1324	0.003	2.6	ug/L	57	Standard
|	Ag	107	1696.1	3.8	0.2850	0.009	3.2	ug/L	114	Standard
|	Cd	111	275.1	6.3	0.1373	0.013	9.2	mg/L	5	Standard
|	Cd	114	656.6	4.6	0.1275	0.004	2.9	ug/L	33	Standard
>	In	115	706650.4	2.8				ug/L	874708	Standard
|	Sn	118	129.0	4.7	0.0282	0.003	10.0	ug/L	146	Standard
|	Sb	123	637.3	27.0	0.0770	0.029	38.1	ug/L	647	Standard
|	Ba	135	560912.6	1.9	239.8008	2.099	0.9	ug/L	35	Standard
|	Ce	140	1855320.3	1.4				ug/L	133	Standard
>	Tb	159	1402185.0	3.3				ug/L	1543699	Standard
|	Ho	165	23491.6	4.9				ug/L	20	Standard
|	Tl	203	747.4	1.4	0.0772	0.003	3.6	ug/L	17	Standard
|	Tl	205	1661.8	5.3	0.0702	0.004	5.4	ug/L	18	Standard
|	Pb	206	68501.3	2.9	9.5338	0.202	2.1	ug/L	553	Standard
|	Pb	207	54574.8	2.6	8.6051	0.094	1.1	ug/L	487	Standard
|	Pb	208	260058.1	2.5	9.0425	0.122	1.3	ug/L	2185	Standard
|	U	238	234207.7	1.9	9.0196	0.124	1.4	ug/L	18	Standard
>	Bi	209	659285.9	2.3				ug/L	820229	Standard

Sample ID: L1610040102 WG587410-01

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Na	23	871.7	16.6	326.1436	43.606	13.4	mg/L	0	Standard
Mg	24	426.7	2.9	0.6938	0.065	9.4	mg/L	53	Standard
K	39	270.0	8.1	3.0455	0.116	3.8	mg/L	3	Standard
Ca	43	1968.5	0.4	463.1437	23.605	5.1	mg/L	27	Standard
Fe	54	5798.5	2.8	5.8546	0.315	5.4	mg/L	112	Standard
Fe	57	2791.9	8.3	9.7057	0.378	3.9	mg/L	213	Standard
Sc-1	45	33862.9	5.2				mg/L	33475	Standard
Cl	35	0.7	173.2				ug/L	4	Standard
Kr	83	3.3	17.3				ug/L	4	Standard
Br	81	2696.9	7.8				ug/L	1223	Standard
P	31	60.0	38.2				ug/L	68	Standard
S	34	18.3	56.8				ug/L	20	Standard
Sr	88	473.3	9.1				ug/L	110	Standard
C	12	880.0	10.8				mg/L	377	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	176.7	36.8				mg/L	7	Standard
Dy	164	36268.1	3.7				mg/L	32	Standard
Ho-1	165	23491.6	4.9				mg/L	20	Standard
Er	166	22363.2	3.3				mg/L	37	Standard
I	127	142425.9	5.4				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		94.534	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		88.981	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1610040102 WG587410-01

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	80.787
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	80.378
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[	I	127	

QC Out of Limits

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

Sample ID: L1610040102 WG587410-01

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Method 6020 - Summary Report

Sample ID: L1610040102S WG587410-04

Sample Date/Time: Wednesday, October 19, 2016 11:47:39

Number of Replicates: 3

Autosampler Position: 234

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	85614.7	2.7				ug/L	91395	Standard
|	Be	9	22548.4	3.5	24.9024	1.486	6.0	ug/L	3	Standard
|	Al	27	11657091.8	2.7	113.7553	4.308	3.8	ug/L	372	Standard
|	Sc	45	34746.5	3.8				ug/L	33475	Standard
|	Ti	47	6485.1	0.8	32.5961	0.808	2.5	ug/L	25	Standard
|	V	51	339669.4	1.7	56.5616	0.491	0.9	ug/L	1461	Standard
|	Cr	52	196220.4	2.0	34.6576	0.382	1.1	ug/L	7269	Standard
|	Cr	53	24631.7	3.2	34.1171	0.845	2.5	ug/L	1557	Standard
|	Mn	55	5192855.1	1.4	582.4940	8.207	1.4	ug/L	1045	Standard
|	Co	59	227414.9	1.6	30.4650	0.312	1.0	ug/L	210	Standard
|	Ni	60	58574.0	1.4	36.0651	0.453	1.3	ug/L	103	Standard
|	Cu	65	58746.7	1.7	36.1987	0.336	0.9	ug/L	135	Standard
|	Zn	66	46254.8	1.7	53.2518	0.198	0.4	ug/L	296	Standard
>	Ge	72	506061.5	1.8				ug/L	561245	Standard
|	As	75	26506.4	0.9	29.4461	0.256	0.9	ug/L	-46	Standard
|	Se	82	2039.0	2.4	23.4822	0.162	0.7	ug/L	20	Standard
|	Se-1	77	1466.1	3.7	24.5936	0.854	3.5	ug/L	93	Standard
>	Ga	71	11439.3	3.6				mg/L	7	Standard
|	Rb	85	146222.6	3.0				ug/L	20	Standard
|	Y	89	603336.9	2.7				ug/L	455318	Standard
>	Rh	103	273.3	14.2				ug/L	17	Standard
|	Mo	98	408.7	2.8	0.1270	0.003	2.7	ug/L	57	Standard
|	Ag	107	139343.6	3.3	24.9242	0.634	2.5	ug/L	114	Standard
|	Cd	111	48551.8	1.8	25.1568	0.326	1.3	mg/L	5	Standard
|	Cd	114	122173.9	0.2	24.3882	0.233	1.0	ug/L	33	Standard
>	In	115	703699.0	1.1				ug/L	874708	Standard
|	Sn	118	127.7	7.7	0.0275	0.008	28.6	ug/L	146	Standard
|	Sb	123	9728.2	2.5	1.8036	0.042	2.3	ug/L	647	Standard
|	Ba	135	545538.2	2.5	234.1615	4.864	2.1	ug/L	35	Standard
|	Ce	140	1846973.9	2.3				ug/L	133	Standard
>	Tb	159	1400944.9	3.7				ug/L	1543699	Standard
|	Ho	165	22695.3	2.7				ug/L	20	Standard
|	Tl	203	245964.6	1.3	25.7544	0.246	1.0	ug/L	17	Standard
|	Tl	205	566731.0	1.5	25.5302	0.181	0.7	ug/L	18	Standard
|	Pb	206	250108.0	1.5	34.8975	0.424	1.2	ug/L	553	Standard
|	Pb	207	208857.6	1.8	33.0376	0.338	1.0	ug/L	487	Standard
|	Pb	208	971080.7	1.6	33.8674	0.357	1.1	ug/L	2185	Standard
	U	238	876138.1	1.1	33.6719	0.104	0.3	ug/L	18	Standard
>	Bi	209	660509.1	0.8				ug/L	820229	Standard

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Na	23	795.0	5.8	291.2089	26.005	8.9	mg/L	0	Standard
Mg	24	403.3	9.0	0.6270	0.053	8.4	mg/L	53	Standard
K	39	390.0	3.4	4.3139	0.168	3.9	mg/L	3	Standard
Ca	43	1715.1	7.3	391.5135	37.482	9.6	mg/L	27	Standard
Fe	54	7339.3	1.1	7.2452	0.284	3.9	mg/L	112	Standard
Fe	57	3058.6	2.5	10.4451	0.241	2.3	mg/L	213	Standard
Sc-1	45	34746.5	3.8				mg/L	33475	Standard
Cl	35	2.0	100.0				ug/L	4	Standard
Kr	83	2.7	21.7				ug/L	4	Standard
Br	81	2553.5	3.4				ug/L	1223	Standard
P	31	81.7	21.5				ug/L	68	Standard
S	34	25.0	60.0				ug/L	20	Standard
Sr	88	486.7	9.5				ug/L	110	Standard
C	12	696.7	11.7				mg/L	377	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	196.7	28.0				mg/L	7	Standard
Dy	164	35514.6	2.6				mg/L	32	Standard
Ho-1	165	22695.3	2.7				mg/L	20	Standard
Er	166	20654.1	4.7				mg/L	37	Standard
I	127	146689.2	4.4				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		93.676	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		90.168	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1610040102S WG587410-04

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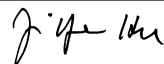
Approved: October 20, 2016

[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	80.450
[	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	80.527
[Na	23	
[Mg	24	
[K	39	
[Ca	43	
[Fe	54	
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>	Sc-1	45	
[Cl	35	
[Kr	83	
[Br	81	
[P	31	
[S	34	
[Sr	88	
[C	12	
[N	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: L1610040102S WG587410-04
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Approved: October 20, 2016


Method 6020 - Summary Report

Sample ID: L1610040102SD WG587410-05

Sample Date/Time: Wednesday, October 19, 2016 11:50:39

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	89865.8	1.5				ug/L	91395	Standard
|	Be	9	23516.6	1.3	24.7198	0.358	1.4	ug/L	3	Standard
|	Al	27	10445477.0	1.4	97.0648	0.552	0.6	ug/L	372	Standard
|	Sc	45	36884.8	1.5				ug/L	33475	Standard
|	Ti	47	5283.3	1.5	25.4441	0.255	1.0	ug/L	25	Standard
|	V	51	333618.4	1.4	53.2963	0.394	0.7	ug/L	1461	Standard
|	Cr	52	194474.9	1.4	32.9035	0.368	1.1	ug/L	7269	Standard
|	Cr	53	24867.1	2.4	33.0047	1.452	4.4	ug/L	1557	Standard
|	Mn	55	4866968.2	1.1	523.9326	12.588	2.4	ug/L	1045	Standard
|	Co	59	232541.2	0.3	29.8969	0.586	2.0	ug/L	210	Standard
|	Ni	60	59430.0	0.6	35.1132	0.477	1.4	ug/L	103	Standard
|	Cu	65	57809.4	0.4	34.1818	0.524	1.5	ug/L	135	Standard
|	Zn	66	42288.3	0.4	46.7042	0.765	1.6	ug/L	296	Standard
>	Ge	72	527388.8	1.8				ug/L	561245	Standard
|	As	75	26738.0	0.4	28.5052	0.404	1.4	ug/L	-46	Standard
|	Se	82	2094.8	2.6	23.1582	0.931	4.0	ug/L	20	Standard
|	Se-1	77	1446.7	0.9	23.2164	0.557	2.4	ug/L	93	Standard
>	Ga	71	9197.8	2.0				mg/L	7	Standard
|	Rb	85	90940.6	2.6				ug/L	20	Standard
|	Y	89	613736.2	3.2				ug/L	455318	Standard
>	Rh	103	270.0	17.0				ug/L	17	Standard
|	Mo	98	353.2	4.8	0.1048	0.005	5.0	ug/L	57	Standard
|	Ag	107	141977.2	1.2	24.5689	0.136	0.6	ug/L	114	Standard
|	Cd	111	49536.7	1.3	24.8293	0.114	0.5	mg/L	5	Standard
|	Cd	114	124016.0	4.2	23.9410	0.751	3.1	ug/L	33	Standard
>	In	115	727452.9	1.3				ug/L	874708	Standard
|	Sn	118	126.0	8.4	0.0223	0.008	35.7	ug/L	146	Standard
|	Sb	123	12855.2	2.3	2.3173	0.031	1.3	ug/L	647	Standard
|	Ba	135	566259.3	1.6	235.1204	0.674	0.3	ug/L	35	Standard
|	Ce	140	1845058.8	0.9				ug/L	133	Standard
>	Tb	159	1458997.2	1.5				ug/L	1543699	Standard
|	Ho	165	21925.9	2.8				ug/L	20	Standard
|	Tl	203	252969.6	1.4	25.4707	0.219	0.9	ug/L	17	Standard
|	Tl	205	591083.1	1.1	25.6077	0.402	1.6	ug/L	18	Standard
|	Pb	206	257864.4	1.5	34.5973	0.267	0.8	ug/L	553	Standard
|	Pb	207	212221.8	1.3	32.2807	0.208	0.6	ug/L	487	Standard
|	Pb	208	995914.2	1.2	33.3995	0.177	0.5	ug/L	2185	Standard
	U	238	874518.4	1.5	32.3190	0.255	0.8	ug/L	18	Standard
>	Bi	209	686874.0	0.7				ug/L	820229	Standard

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Na	23	770.0	12.8	265.4289	37.072	14.0	mg/L	0	Standard
Mg	24	430.0	16.0	0.6317	0.129	20.4	mg/L	53	Standard
K	39	331.7	10.3	3.4407	0.305	8.9	mg/L	3	Standard
Ca	43	1743.4	2.3	373.8789	12.433	3.3	mg/L	27	Standard
Fe	54	5410.1	8.7	4.9861	0.364	7.3	mg/L	112	Standard
Fe	57	2573.6	7.0	8.0679	0.598	7.4	mg/L	213	Standard
Sc-1	45	36884.8	1.5				mg/L	33475	Standard
Cl	35	0.7	173.2				ug/L	4	Standard
Kr	83	3.7	56.8				ug/L	4	Standard
Br	81	2353.5	4.5				ug/L	1223	Standard
P	31	75.0	17.6				ug/L	68	Standard
S	34	31.7	24.1				ug/L	20	Standard
Sr	88	461.7	2.7				ug/L	110	Standard
C	12	780.0	20.4				mg/L	377	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	116.7	57.1				mg/L	7	Standard
Dy	164	34610.9	4.3				mg/L	32	Standard
Ho-1	165	21925.9	2.8				mg/L	20	Standard
Er	166	20477.2	1.3				mg/L	37	Standard
I	127	134848.7	5.8				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		98.327	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		93.968	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1610040102SD WG587410-05

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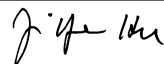
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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	83.165
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[Ho	165	
[Tl	203	
[Tl	205	
[Pb	206	
[Pb	207	
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[U	238	
>	Bi	209	83.742
[Na	23	
[Mg	24	
[K	39	
[Ca	43	
[Fe	54	
[Fe	57	
>	Sc-1	45	
[Cl	35	
[Kr	83	
[Br	81	
[P	31	
[S	34	
[Sr	88	
[	C	12	
[	N	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	
Ba 135 Upper, S, EEE	Ba	135	

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Method 6020 - Summary Report

Sample ID: L1610042001

Sample Date/Time: Wednesday, October 19, 2016 11:53:38

Number of Replicates: 3

Autosampler Position: 236

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	81317.6	1.1				ug/L	91395	Standard
|	Be	9	1580.1	2.7	1.8206	0.070	3.8	ug/L	3	Standard
|	Al	27	17466834.1	2.9	179.3624	4.525	2.5	ug/L	372	Standard
|	Sc	45	40295.2	3.0				ug/L	33475	Standard
|	Ti	47	6866.9	7.1	33.5803	2.707	8.1	ug/L	25	Standard
|	V	51	308061.5	1.8	49.8725	1.284	2.6	ug/L	1461	Standard
|	Cr	52	213166.0	1.7	36.6930	0.977	2.7	ug/L	7269	Standard
|	Cr	53	26474.8	0.4	35.7630	0.204	0.6	ug/L	1557	Standard
|	Mn	55	9932956.5	2.8	1083.8782	39.832	3.7	ug/L	1045	Standard
|	Co	59	202675.2	1.9	26.4069	0.739	2.8	ug/L	210	Standard
|	Ni	60	125019.3	3.1	74.9380	2.935	3.9	ug/L	103	Standard
|	Cu	65	147487.8	1.5	88.4959	2.076	2.3	ug/L	135	Standard
|	Zn	66	3424250.1	2.3	3846.9141	120.087	3.1	ug/L	296	Standard
>	Ge	72	520308.1	0.9				ug/L	561245	Standard
|	As	75	48309.8	2.1	52.1770	1.527	2.9	ug/L	-46	Standard
|	Se	82	211.2	4.9	2.2266	0.138	6.2	ug/L	20	Standard
|	Se-1	77	260.3	6.5	3.0455	0.319	10.5	ug/L	93	Standard
>	Ga	71	30153.3	2.7				mg/L	7	Standard
|	Rb	85	263093.0	1.0				ug/L	20	Standard
|	Y	89	832032.7	2.4				ug/L	455318	Standard
>	Rh	103	85.0	20.4				ug/L	17	Standard
|	Mo	98	47530.0	1.8	15.2400	0.153	1.0	ug/L	57	Standard
|	Ag	107	3365.0	1.3	0.5658	0.009	1.6	ug/L	114	Standard
|	Cd	111	59337.3	2.0	29.7622	0.245	0.8	mg/L	5	Standard
|	Cd	114	148357.8	4.1	28.6551	0.469	1.6	ug/L	33	Standard
>	In	115	727078.7	2.8				ug/L	874708	Standard
|	Sn	118	342.0	18.2	0.2091	0.056	26.9	ug/L	146	Standard
|	Sb	123	751.9	13.2	0.0949	0.014	15.0	ug/L	647	Standard
|	Ba	135	772928.0	1.6	321.1834	3.964	1.2	ug/L	35	Standard
|	Ce	140	2192705.3	2.4				ug/L	133	Standard
>	Tb	159	1361615.5	3.8				ug/L	1543699	Standard
|	Ho	165	50224.8	1.5				ug/L	20	Standard
|	Tl	203	13242.1	1.7	1.2215	0.027	2.2	ug/L	17	Standard
|	Tl	205	30519.1	3.7	1.2075	0.037	3.1	ug/L	18	Standard
|	Pb	206	1542882.5	2.1	190.0547	1.740	0.9	ug/L	553	Standard
|	Pb	207	1225674.1	3.1	171.1680	2.651	1.5	ug/L	487	Standard
|	Pb	208	5867402.2	2.8	180.6641	2.497	1.4	ug/L	2185	Standard
	U	238	191716.9	2.7	6.4965	0.106	1.6	ug/L	18	Standard
>	Bi	209	749221.9	2.2				ug/L	820229	Standard

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Na	23	131.7	35.9	41.2140	15.822	38.4	mg/L	0	Standard
Mg	24	85.0	25.6	0.0142	0.038	271.7	mg/L	53	Standard
K	39	306.7	14.1	2.9070	0.417	14.3	mg/L	3	Standard
Ca	43	391.7	6.3	67.9002	6.643	9.8	mg/L	27	Standard
Fe	54	53776.9	1.4	46.4031	1.594	3.4	mg/L	112	Standard
Fe	57	14753.8	1.4	46.5986	1.890	4.1	mg/L	213	Standard
Sc-1	45	40295.2	3.0				mg/L	33475	Standard
Cl	35	2.0	100.0				ug/L	4	Standard
Kr	83	3.3	34.6				ug/L	4	Standard
Br	81	3320.4	5.7				ug/L	1223	Standard
P	31	86.7	23.3				ug/L	68	Standard
S	34	30.0	44.1				ug/L	20	Standard
Sr	88	138.3	17.1				ug/L	110	Standard
C	12	2240.2	15.7				mg/L	377	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	800.0	5.0				mg/L	7	Standard
Dy	164	75530.4	4.4				mg/L	32	Standard
Ho-1	165	50224.8	1.5				mg/L	20	Standard
Er	166	44291.4	4.4				mg/L	37	Standard
I	127	49632.9	4.2				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		88.974	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		92.706	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1610042001

Report Date/Time: Wednesday, October 19, 2016 11:55:43

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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	83.122
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[Ho	165	
[Tl	203	
[Tl	205	
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>	Bi	209	91.343
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[Fe	54	
[Fe	57	
>	Sc-1	45	
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[S	34	
[Sr	88	
[C	12	
[N	14	
[Hg	202	
[Dy	164	
[Ho-1	165	
[Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
Al 27 Upper, S, EEE	Al	27	
Mn 55 Upper, S, EEE	Mn	55	
Zn 66 Upper, S, EEE	Zn	66	

Sample ID: L1610042001

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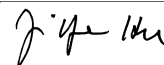
Ba 135 Upper, S, EEE	Ba	135
Pb 206 Upper, S, EEE	Pb	206
Pb 207 Upper, S, EEE	Pb	207
Pb 208 Upper, S, EEE	Pb	208

Sample ID: L1610042001

Report Date/Time: Wednesday, October 19, 2016 11:55:43

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Method 6020 - Summary Report

Sample ID: L1610042001PS WG588224-01

Sample Date/Time: Wednesday, October 19, 2016 11:56:37

Number of Replicates: 3

Autosampler Position: 237

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	78263.3	1.1				ug/L	91395	Standard
|	Be	9	22296.4	0.2	26.9128	0.262	1.0	ug/L	3	Standard
|	Al	27	16542771.5	3.5	176.5617	7.843	4.4	ug/L	372	Standard
|	Sc	45	38567.4	0.5				ug/L	33475	Standard
|	Ti	47	6374.0	1.7	32.0382	1.108	3.5	ug/L	25	Standard
|	V	51	451634.8	2.1	75.2932	2.131	2.8	ug/L	1461	Standard
|	Cr	52	347104.3	1.4	62.2444	1.354	2.2	ug/L	7269	Standard
|	Cr	53	43933.6	0.9	62.4816	0.737	1.2	ug/L	1557	Standard
|	Mn	55	9748808.5	2.2	1093.7333	32.726	3.0	ug/L	1045	Standard
|	Co	59	382810.6	1.8	51.3088	1.498	2.9	ug/L	210	Standard
|	Ni	60	160833.2	1.2	99.1212	0.994	1.0	ug/L	103	Standard
|	Cu	65	183202.0	0.9	113.0342	1.426	1.3	ug/L	135	Standard
|	Zn	66	3340853.2	1.5	3858.7388	81.456	2.1	ug/L	296	Standard
>	Ge	72	506091.2	2.0				ug/L	561245	Standard
|	As	75	71467.2	1.8	79.3419	1.801	2.3	ug/L	-46	Standard
|	Se	82	2433.5	0.6	28.0642	0.641	2.3	ug/L	20	Standard
|	Se-1	77	1707.1	1.4	28.8803	0.650	2.3	ug/L	93	Standard
>	Ga	71	29042.8	3.9				mg/L	7	Standard
|	Rb	85	260687.2	1.6				ug/L	20	Standard
|	Y	89	810087.1	0.1				ug/L	455318	Standard
>	Rh	103	88.3	22.9				ug/L	17	Standard
|	Mo	98	46022.7	1.2	15.2161	0.353	2.3	ug/L	57	Standard
|	Ag	107	159724.6	2.8	28.5193	0.812	2.8	ug/L	114	Standard
|	Cd	111	107666.1	2.5	55.6738	0.666	1.2	mg/L	5	Standard
|	Cd	114	270916.3	0.3	53.9897	1.645	3.0	ug/L	33	Standard
>	In	115	705340.2	3.3				ug/L	874708	Standard
|	Sn	118	288.3	5.1	0.1702	0.011	6.2	ug/L	146	Standard
|	Sb	123	138480.1	1.4	26.2055	1.101	4.2	ug/L	647	Standard
|	Ba	135	815849.1	0.4	349.6474	11.988	3.4	ug/L	35	Standard
|	Ce	140	2141133.6	2.2				ug/L	133	Standard
>	Tb	159	1349340.1	2.1				ug/L	1543699	Standard
|	Ho	165	48758.3	0.5				ug/L	20	Standard
|	Tl	203	267244.7	1.7	25.5078	0.452	1.8	ug/L	17	Standard
|	Tl	205	620257.0	1.1	25.4720	0.403	1.6	ug/L	18	Standard
|	Pb	206	1687159.8	1.7	214.9036	4.885	2.3	ug/L	553	Standard
|	Pb	207	1362418.5	1.3	196.7668	3.870	2.0	ug/L	487	Standard
|	Pb	208	6467180.2	1.2	205.9259	3.796	1.8	ug/L	2185	Standard
	U	238	872083.1	0.1	30.5527	0.258	0.8	ug/L	18	Standard
>	Bi	209	724616.2	0.7				ug/L	820229	Standard

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Na	23	133.3	13.2	43.4154	5.969	13.7	mg/L	0	Standard
Mg	24	85.0	52.3	0.0194	0.074	383.0	mg/L	53	Standard
K	39	305.0	15.8	3.0242	0.503	16.6	mg/L	3	Standard
Ca	43	341.7	9.7	60.7806	7.041	11.6	mg/L	27	Standard
Fe	54	53119.1	1.0	47.8652	0.738	1.5	mg/L	112	Standard
Fe	57	14480.3	1.3	47.7703	0.477	1.0	mg/L	213	Standard
Sc-1	45	38567.4	0.5				mg/L	33475	Standard
Cl	35	0.0					ug/L	4	Standard
Kr	83	3.7	56.8				ug/L	4	Standard
Br	81	3220.3	6.4				ug/L	1223	Standard
P	31	105.0	39.0				ug/L	68	Standard
S	34	18.3	103.3				ug/L	20	Standard
Sr	88	166.7	11.4				ug/L	110	Standard
C	12	2080.1	5.8				mg/L	377	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	746.7	6.9				mg/L	7	Standard
Dy	164	74316.4	3.0				mg/L	32	Standard
Ho-1	165	48758.3	0.5				mg/L	20	Standard
Er	166	42984.2	1.6				mg/L	37	Standard
I	127	46683.5	2.7				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		85.632	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		90.173	
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	80.637
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	88.343
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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	
Cu 65 Upper, S, EEE	Cu	65	

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Zn 66 Upper, S, EEE	Zn	66
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

Sample ID: L1610042001PS WG588224-01

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Method 6020 - Summary Report

Sample ID: L1610042001SDL WG588224-02

Sample Date/Time: Wednesday, October 19, 2016 11:59:37

Number of Replicates: 3

Autosampler Position: 238

Sample Description: 5

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	67639.1	3.3				ug/L	91395	Standard
|	Be	9	310.0	11.3	0.4161	0.038	9.1	ug/L	3	Standard
|	Al	27	3116409.8	4.2	38.4688	0.526	1.4	ug/L	372	Standard
|	Sc	45	29902.9	4.9				ug/L	33475	Standard
|	Ti	47	1250.7	5.0	6.5150	0.063	1.0	ug/L	25	Standard
|	V	51	56341.2	4.1	9.7152	0.194	2.0	ug/L	1461	Standard
|	Cr	52	41706.4	4.8	6.8373	0.057	0.8	ug/L	7269	Standard
|	Cr	53	5632.7	3.0	6.6705	0.240	3.6	ug/L	1557	Standard
|	Mn	55	1767124.9	5.0	209.0706	2.481	1.2	ug/L	1045	Standard
|	Co	59	37690.9	6.0	5.3058	0.127	2.4	ug/L	210	Standard
|	Ni	60	23456.5	4.8	15.2069	0.241	1.6	ug/L	103	Standard
|	Cu	65	28233.3	3.1	18.3318	0.197	1.1	ug/L	135	Standard
|	Zn	66	677861.0	3.8	826.1269	4.090	0.5	ug/L	296	Standard
>	Ge	72	479509.6	4.1				ug/L	561245	Standard
|	As	75	9450.1	4.0	11.0987	0.096	0.9	ug/L	-46	Standard
|	Se	82	56.8	17.4	0.5413	0.139	25.7	ug/L	20	Standard
|	Se-1	77	113.3	11.2	0.6760	0.293	43.3	ug/L	93	Standard
>	Ga	71	5556.0	2.1				mg/L	7	Standard
|	Rb	85	49054.5	6.4				ug/L	20	Standard
|	Y	89	451895.4	5.3				ug/L	455318	Standard
>	Rh	103	25.0	52.9				ug/L	17	Standard
|	Mo	98	8631.1	5.5	2.9624	0.067	2.2	ug/L	57	Standard
|	Ag	107	723.0	4.9	0.1171	0.007	5.6	ug/L	114	Standard
|	Cd	111	11442.9	4.6	6.1554	0.080	1.3	mg/L	5	Standard
|	Cd	114	29179.0	2.4	6.0519	0.144	2.4	ug/L	33	Standard
>	In	115	677232.8	3.3				ug/L	874708	Standard
|	Sn	118	89.0	8.9	-0.0038	0.008	206.6	ug/L	146	Standard
|	Sb	123	797.2	32.6	0.1154	0.056	48.6	ug/L	647	Standard
|	Ba	135	146308.9	3.3	65.2483	0.399	0.6	ug/L	35	Standard
|	Ce	140	403303.6	2.1				ug/L	133	Standard
>	Tb	159	1291910.1	5.2				ug/L	1543699	Standard
|	Ho	165	9693.1	5.1				ug/L	20	Standard
|	Tl	203	2549.5	2.6	0.2592	0.003	1.2	ug/L	17	Standard
|	Tl	205	5786.1	3.1	0.2495	0.002	0.9	ug/L	18	Standard
|	Pb	206	293028.9	2.8	39.8896	0.423	1.1	ug/L	553	Standard
|	Pb	207	234964.3	3.9	36.2512	0.132	0.4	ug/L	487	Standard
|	Pb	208	1109818.3	3.9	37.7515	0.129	0.3	ug/L	2185	Standard
	U	238	35010.8	3.9	1.3129	0.004	0.3	ug/L	18	Standard
>	Bi	209	677325.2	3.8				ug/L	820229	Standard

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Na	23	21.7	35.3	8.6866	3.596	41.4	mg/L	0	Standard
Mg	24	55.0	15.7	-0.0040	0.019	471.9	mg/L	53	Standard
K	39	48.3	21.5	0.5797	0.149	25.6	mg/L	3	Standard
Ca	43	66.7	8.7	6.7398	1.108	16.4	mg/L	27	Standard
Fe	54	10298.7	3.9	11.8868	0.441	3.7	mg/L	112	Standard
Fe	57	2880.3	4.8	11.5208	0.324	2.8	mg/L	213	Standard
Sc-1	45	29902.9	4.9				mg/L	33475	Standard
Cl	35	2.7	86.6				ug/L	4	Standard
Kr	83	3.7	15.7				ug/L	4	Standard
Br	81	1480.1	8.8				ug/L	1223	Standard
P	31	36.7	41.7				ug/L	68	Standard
S	34	36.7	20.8				ug/L	20	Standard
Sr	88	121.7	24.1				ug/L	110	Standard
C	12	576.7	5.6				mg/L	377	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	166.7	25.0				mg/L	7	Standard
Dy	164	14236.7	5.4				mg/L	32	Standard
Ho-1	165	9693.1	5.1				mg/L	20	Standard
Er	166	8845.9	5.2				mg/L	37	Standard
I	127	13879.7	1.5				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		74.008	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		85.437	
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	77.424
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	82.578
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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	

Sample ID: L1610042001SDL WG588224-02

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Method 6020 - Summary Report

Sample ID: L1610042001SDL WG588224-02

Sample Date/Time: Wednesday, October 19, 2016 12:02:36

Number of Replicates: 3

Autosampler Position: 239

Sample Description: 25

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

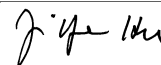
IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	65397.7	5.1				ug/L	91395	Standard
|	Be	9	60.0	66.7	0.0693	0.057	82.4	ug/L	3	Standard
|	Al	27	656502.4	3.0	8.3923	0.295	3.5	ug/L	372	Standard
|	Sc	45	27344.7	4.8				ug/L	33475	Standard
|	Ti	47	277.7	3.3	1.3855	0.060	4.3	ug/L	25	Standard
|	V	51	12713.2	6.5	2.0926	0.088	4.2	ug/L	1461	Standard
|	Cr	52	11782.9	5.1	1.1448	0.054	4.7	ug/L	7269	Standard
|	Cr	53	1813.4	10.8	0.8383	0.238	28.4	ug/L	1557	Standard
|	Mn	55	377256.3	4.2	46.1192	0.762	1.7	ug/L	1045	Standard
|	Co	59	8106.2	2.8	1.1623	0.011	1.0	ug/L	210	Standard
|	Ni	60	5114.5	3.8	3.3879	0.035	1.0	ug/L	103	Standard
|	Cu	65	6312.6	4.6	4.1874	0.080	1.9	ug/L	135	Standard
|	Zn	66	152410.6	3.4	192.0405	1.296	0.7	ug/L	296	Standard
>	Ge	72	463393.7	2.8				ug/L	561245	Standard
|	As	75	2094.5	3.0	2.5699	0.025	1.0	ug/L	-46	Standard
|	Se	82	29.9	6.4	0.2236	0.034	15.0	ug/L	20	Standard
|	Se-1	77	83.0	16.2	0.1519	0.214	141.0	ug/L	93	Standard
>	Ga	71	1180.0	8.8				mg/L	7	Standard
|	Rb	85	10391.9	5.2				ug/L	20	Standard
|	Y	89	375929.1	1.7				ug/L	455318	Standard
>	Rh	103	13.3	21.7				ug/L	17	Standard
|	Mo	98	1776.9	3.5	0.6334	0.012	1.9	ug/L	57	Standard
|	Ag	107	219.3	7.0	0.0254	0.002	6.6	ug/L	114	Standard
|	Cd	111	2547.9	7.6	1.4330	0.072	5.0	mg/L	5	Standard
|	Cd	114	6218.3	4.2	1.3496	0.019	1.4	ug/L	33	Standard
>	In	115	645706.6	3.0				ug/L	874708	Standard
|	Sn	118	48.3	8.6	-0.0393	0.005	12.9	ug/L	146	Standard
|	Sb	123	224.1	31.2	0.0032	0.014	428.4	ug/L	647	Standard
|	Ba	135	32088.3	4.3	14.9973	0.373	2.5	ug/L	35	Standard
|	Ce	140	85881.5	5.1				ug/L	133	Standard
>	Tb	159	1217789.0	0.9				ug/L	1543699	Standard
|	Ho	165	2103.5	1.9				ug/L	20	Standard
|	Tl	203	529.3	4.1	0.0552	0.002	3.4	ug/L	17	Standard
|	Tl	205	1263.4	6.3	0.0532	0.003	5.5	ug/L	18	Standard
|	Pb	206	63297.7	4.0	8.9609	0.342	3.8	ug/L	553	Standard
|	Pb	207	50003.1	3.8	8.0183	0.251	3.1	ug/L	487	Standard
|	Pb	208	238899.8	2.9	8.4486	0.213	2.5	ug/L	2185	Standard
	U	238	7544.9	4.1	0.2964	0.012	4.2	ug/L	18	Standard
>	Bi	209	647909.3	1.6				ug/L	820229	Standard

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Na	23	3.3	86.6	0.9604	1.360	141.6	mg/L	0	Standard
Mg	24	58.3	19.8	0.0143	0.022	151.8	mg/L	53	Standard
K	39	11.7	24.7	0.1138	0.035	30.6	mg/L	3	Standard
Ca	43	56.7	62.6	5.7746	11.543	199.9	mg/L	27	Standard
Fe	54	2228.8	1.7	2.7223	0.090	3.3	mg/L	112	Standard
Fe	57	830.0	8.5	2.9497	0.272	9.2	mg/L	213	Standard
Sc-1	45	27344.7	4.8				mg/L	33475	Standard
Cl	35	2.0	0.0				ug/L	4	Standard
Kr	83	3.3	45.8				ug/L	4	Standard
Br	81	1146.7	14.9				ug/L	1223	Standard
P	31	43.3	17.6				ug/L	68	Standard
S	34	21.7	26.6				ug/L	20	Standard
Sr	88	105.0	4.8				ug/L	110	Standard
C	12	300.0	17.6				mg/L	377	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	33.3	34.6				mg/L	7	Standard
Dy	164	3154.4	7.8				mg/L	32	Standard
Ho-1	165	2103.5	1.9				mg/L	20	Standard
Er	166	1793.4	10.3				mg/L	37	Standard
I	127	7251.7	3.7				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		71.555	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		82.565	
As	75			
Se	82			
Se-1	77			
Ga	71			

Sample ID: L1610042001SDL WG588224-02

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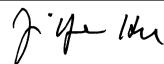
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[Rb	85	
[Y	89	
>	Rh	103	
[Mo	98	
[Ag	107	
[Cd	111	
[Cd	114	
>	In	115	73.820
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[Ho	165	
[Tl	203	
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>	Bi	209	78.991
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[Mg	24	
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[Fe	54	
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>	Sc-1	45	
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[Br	81	
[P	31	
[S	34	
[Sr	88	
[C	12	
[N	14	
[Hg	202	
[Dy	164	
[Ho-1	165	
[Er	166	
[I	127	

QC Out of Limits

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

Sample ID: L1610042001SDL WG588224-02
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Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Wednesday, October 19, 2016 12:05:37

Number of Replicates: 3

Autosampler Position: 101

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	81438.6	4.7				ug/L	91395	Standard
|	Be	9	44876.4	0.1	52.1427	2.410	4.6	ug/L	3	Standard
|	Al	27	4905289.9	2.4	50.3368	1.303	2.6	ug/L	372	Standard
|	Sc	45	32598.4	4.5				ug/L	33475	Standard
|	Ti	47	22687.3	1.3	110.8038	1.633	1.5	ug/L	25	Standard
|	V	51	331780.5	1.2	53.5177	0.892	1.7	ug/L	1461	Standard
|	Cr	52	306327.9	2.1	53.0327	0.428	0.8	ug/L	7269	Standard
|	Cr	53	38749.5	2.3	53.1255	2.779	5.2	ug/L	1557	Standard
|	Mn	55	487830.6	1.6	52.9325	0.612	1.2	ug/L	1045	Standard
|	Co	59	407357.3	1.9	52.8832	0.475	0.9	ug/L	210	Standard
|	Ni	60	87746.8	3.0	52.3537	0.600	1.1	ug/L	103	Standard
|	Cu	65	87142.9	1.8	52.0505	0.707	1.4	ug/L	135	Standard
|	Zn	66	46588.2	1.6	51.9623	0.811	1.6	ug/L	296	Standard
>	Ge	72	522442.9	2.8				ug/L	561245	Standard
|	As	75	47369.2	1.3	50.9607	0.981	1.9	ug/L	-46	Standard
|	Se	82	4572.5	2.6	51.1961	0.103	0.2	ug/L	20	Standard
|	Se-1	77	3111.0	2.8	52.0854	0.275	0.5	ug/L	93	Standard
>	Ga	71	36.7	15.7				mg/L	7	Standard
|	Rb	85	730.0	1.2				ug/L	20	Standard
|	Y	89	418272.9	5.6				ug/L	455318	Standard
>	Rh	103	40.0	57.3				ug/L	17	Standard
|	Mo	98	344471.0	2.2	106.2737	1.334	1.3	ug/L	57	Standard
|	Ag	107	324610.4	2.1	54.0847	0.915	1.7	ug/L	114	Standard
|	Cd	111	109584.5	1.9	52.8701	0.751	1.4	mg/L	5	Standard
|	Cd	114	281161.7	3.0	52.2434	0.552	1.1	ug/L	33	Standard
>	In	115	756057.8	3.3				ug/L	874708	Standard
|	Sn	118	63399.7	0.8	52.5643	1.536	2.9	ug/L	146	Standard
|	Sb	123	294056.9	1.5	51.9332	1.117	2.2	ug/L	647	Standard
|	Ba	135	134452.9	2.8	53.7122	0.292	0.5	ug/L	35	Standard
|	Ce	140	150.0	8.8				ug/L	133	Standard
>	Tb	159	1417903.2	4.0				ug/L	1543699	Standard
|	Ho	165	16.7	96.4				ug/L	20	Standard
|	Tl	203	538296.2	2.6	51.3879	0.108	0.2	ug/L	17	Standard
|	Tl	205	1247327.5	2.1	51.2431	0.816	1.6	ug/L	18	Standard
|	Pb	206	401725.9	2.1	51.1350	0.357	0.7	ug/L	553	Standard
|	Pb	207	353428.4	2.1	51.0092	0.352	0.7	ug/L	487	Standard
|	Pb	208	1594979.4	1.7	50.7548	0.627	1.2	ug/L	2185	Standard
	U	238	1412620.7	2.8	49.4958	0.345	0.7	ug/L	18	Standard
>	Bi	209	724511.3	2.8				ug/L	820229	Standard

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Na	23	25.0	20.0	9.1914	2.101	22.9	mg/L	0	Standard
Mg	24	2633.6	4.1	5.1120	0.440	8.6	mg/L	53	Standard
K	39	535.0	10.1	6.3169	0.367	5.8	mg/L	3	Standard
Ca	43	65.0	7.7	4.8774	1.848	37.9	mg/L	27	Standard
Fe	54	4525.3	6.5	4.7172	0.255	5.4	mg/L	112	Standard
Fe	57	1458.4	1.7	4.8242	0.225	4.7	mg/L	213	Standard
Sc-1	45	32598.4	4.5				mg/L	33475	Standard
Cl	35	2.0	0.0				ug/L	4	Standard
Kr	83	2.0	50.0				ug/L	4	Standard
Br	81	1276.7	6.3				ug/L	1223	Standard
P	31	70.0	62.3				ug/L	68	Standard
S	34	20.0	43.3				ug/L	20	Standard
Sr	88	108.3	14.8				ug/L	110	Standard
C	12	403.3	17.4				mg/L	377	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	10.0	100.0				mg/L	7	Standard
Dy	164	15.4	38.4				mg/L	32	Standard
Ho-1	165	16.7	96.4				mg/L	20	Standard
Er	166	26.7	21.7				mg/L	37	Standard
I	127	3340.4	7.3				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	104.285		
Al	27	100.674		
Sc	45			
Ti	47	110.804		
V	51	107.035		
Cr	52	106.065		
Cr	53			
Mn	55	105.865		
Co	59	105.766		
Ni	60	104.707		
Cu	65	104.101		
Zn	66	103.925		
Ge	72		93.086	
As	75	101.921		
Se	82	102.392		
Se-1	77			
Ga	71			

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[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	106.274	
[Ag	107	108.169	
[Cd	111	105.740	
[Cd	114		
>	In	115		86.435
[Sn	118	105.129	
[	Sb	123	103.866	
[	Ba	135	107.424	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	102.776	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	101.510	
[	U	238	98.992	
>	Bi	209		88.330
[	Na	23		
[	Mg	24		
[	K	39		
[	Ca	43		
[	Fe	54		
[	Fe	57		
>	Sc-1	45		
[	Cl	35		
[	Kr	83		
[	Br	81		
[	P	31		
[	S	34		
[	Sr	88		
[	C	12		
[	N	14		
[	Hg	202		
[	Dy	164		
[	Ho-1	165		
[	Er	166		
[	I	127		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Ti	47	

Sample ID: QC Std 6

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Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Wednesday, October 19, 2016 12:08:36

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	83786.0	0.8				ug/L	91395	Standard
|	Be	9	13.3	114.6	-0.0014	0.017	1279.8	ug/L	3	Standard
|	Al	27	2298.7	140.4	0.0244	0.032	133.1	ug/L	372	Standard
|	Sc	45	33675.7	0.4				ug/L	33475	Standard
|	Ti	47	25.3	9.9	-0.0270	0.012	45.4	ug/L	25	Standard
|	V	51	1423.2	7.0	-0.0062	0.019	312.1	ug/L	1461	Standard
|	Cr	52	7131.3	0.6	0.0027	0.016	591.3	ug/L	7269	Standard
|	Cr	53	1138.4	7.0	-0.5165	0.111	21.5	ug/L	1557	Standard
|	Mn	55	1668.1	70.0	0.0884	0.124	139.8	ug/L	1045	Standard
|	Co	59	220.7	15.8	0.0029	0.004	151.7	ug/L	210	Standard
|	Ni	60	202.7	11.9	0.0603	0.014	23.5	ug/L	103	Standard
|	Cu	65	131.0	20.2	0.0081	0.015	187.9	ug/L	135	Standard
|	Zn	66	260.3	55.5	0.1112	0.158	142.1	ug/L	296	Standard
>	Ge	72	545795.6	2.0				ug/L	561245	Standard
|	As	75	-39.5	20.7	-0.0088	0.008	86.3	ug/L	-46	Standard
|	Se	82	9.0	30.5	-0.0590	0.030	50.6	ug/L	20	Standard
|	Se-1	77	83.3	14.0	-0.0797	0.212	265.9	ug/L	93	Standard
>	Ga	71	23.3	32.7				mg/L	7	Standard
|	Rb	85	16.7	45.8				ug/L	20	Standard
|	Y	89	437741.6	3.5				ug/L	455318	Standard
>	Rh	103	13.3	21.7				ug/L	17	Standard
|	Mo	98	240.0	5.2	0.0627	0.006	9.2	ug/L	57	Standard
|	Ag	107	126.7	8.2	0.0028	0.001	44.1	ug/L	114	Standard
|	Cd	111	13.7	64.9	0.0014	0.004	292.0	mg/L	5	Standard
|	Cd	114	47.1	12.7	0.0054	0.001	24.1	ug/L	33	Standard
>	In	115	788552.2	3.0				ug/L	874708	Standard
|	Sn	118	172.0	25.7	0.0504	0.035	69.4	ug/L	146	Standard
|	Sb	123	902.0	42.5	0.1096	0.065	59.5	ug/L	647	Standard
|	Ba	135	51.7	39.5	0.0072	0.008	113.5	ug/L	35	Standard
|	Ce	140	93.3	60.2				ug/L	133	Standard
>	Tb	159	1454469.6	3.7				ug/L	1543699	Standard
|	Ho	165	15.0	33.3				ug/L	20	Standard
|	Tl	203	43.7	38.6	0.0027	0.002	57.4	ug/L	17	Standard
|	Tl	205	111.7	64.8	-0.0005	0.003	628.9	ug/L	18	Standard
|	Pb	206	550.0	9.0	0.0085	0.007	78.0	ug/L	553	Standard
|	Pb	207	542.3	17.1	0.0151	0.013	86.9	ug/L	487	Standard
|	Pb	208	2496.1	27.4	0.0150	0.021	141.7	ug/L	2185	Standard
	U	238	319.3	126.4	0.0115	0.014	118.0	ug/L	18	Standard
>	Bi	209	760795.3	1.8				ug/L	820229	Standard

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Na	23	0.0		-0.6045	0.000	0.0	mg/L	0	Standard
Mg	24	48.3	26.0	-0.0302	0.024	80.2	mg/L	53	Standard
K	39	11.7	65.5	0.0832	0.088	105.4	mg/L	3	Standard
Ca	43	41.7	25.0	-1.3322	2.541	190.7	mg/L	27	Standard
Fe	54	148.1	5.1	0.0329	0.007	21.9	mg/L	112	Standard
Fe	57	235.0	8.5	-0.0866	0.074	85.4	mg/L	213	Standard
Sc-1	45	33675.7	0.4				mg/L	33475	Standard
Cl	35	0.7	173.2				ug/L	4	Standard
Kr	83	2.0	50.0				ug/L	4	Standard
Br	81	1250.1	12.5				ug/L	1223	Standard
P	31	51.7	49.7				ug/L	68	Standard
S	34	35.0	37.8				ug/L	20	Standard
Sr	88	140.0	28.3				ug/L	110	Standard
C	12	310.0	23.3				mg/L	377	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	6.7	173.2				mg/L	7	Standard
Dy	164	15.4	41.1				mg/L	32	Standard
Ho-1	165	15.0	33.3				mg/L	20	Standard
Er	166	26.7	43.3				mg/L	37	Standard
I	127	3377.0	0.2				mg/L	3754	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		97.247	
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	90.150
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	92.754
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	14	
[	Hg	202	
[	Dy	164	
[	Ho-1	165	
[	Er	166	
[I	127	

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: QC Std 7

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Method 6020 - Summary Report

Sample ID: L1610042002

Sample Date/Time: Wednesday, October 19, 2016 12:11:36

Number of Replicates: 3

Autosampler Position: 240

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	76412.3	2.6				ug/L	91395	Standard
|	Be	9	1386.7	8.9	1.6971	0.113	6.7	ug/L	3	Standard
|	Al	27	11706805.5	1.0	128.0101	4.373	3.4	ug/L	372	Standard
|	Sc	45	38729.4	0.2				ug/L	33475	Standard
|	Ti	47	5572.4	2.1	28.3862	1.314	4.6	ug/L	25	Standard
|	V	51	301889.6	1.4	50.9555	1.519	3.0	ug/L	1461	Standard
|	Cr	52	189771.9	2.7	33.9610	1.038	3.1	ug/L	7269	Standard
|	Cr	53	24229.4	3.9	34.0109	0.890	2.6	ug/L	1557	Standard
|	Mn	55	7652318.1	2.3	870.2416	21.181	2.4	ug/L	1045	Standard
|	Co	59	175594.3	2.3	23.8422	0.537	2.3	ug/L	210	Standard
|	Ni	60	110276.4	2.8	68.8679	0.280	0.4	ug/L	103	Standard
|	Cu	65	122792.6	0.7	76.7993	1.952	2.5	ug/L	135	Standard
|	Zn	66	2658801.6	2.2	3112.6053	22.203	0.7	ug/L	296	Standard
>	Ge	72	499285.7	3.0				ug/L	561245	Standard
|	As	75	34434.0	0.8	38.7792	1.098	2.8	ug/L	-46	Standard
|	Se	82	197.0	5.1	2.1619	0.161	7.5	ug/L	20	Standard
|	Se-1	77	251.3	6.8	3.0798	0.431	14.0	ug/L	93	Standard
>	Ga	71	26820.4	3.3				mg/L	7	Standard
|	Rb	85	261689.7	2.3				ug/L	20	Standard
|	Y	89	791843.1	0.3				ug/L	455318	Standard
>	Rh	103	91.7	30.0				ug/L	17	Standard
|	Mo	98	45186.4	1.1	15.1733	0.323	2.1	ug/L	57	Standard
|	Ag	107	1950.1	3.0	0.3365	0.013	3.9	ug/L	114	Standard
|	Cd	111	49330.7	0.4	25.9116	0.383	1.5	mg/L	5	Standard
|	Cd	114	121870.7	1.9	24.6574	0.380	1.5	ug/L	33	Standard
>	In	115	694246.4	1.2				ug/L	874708	Standard
|	Sn	118	223.0	15.3	0.1154	0.033	28.6	ug/L	146	Standard
|	Sb	123	840.5	21.6	0.1190	0.037	30.8	ug/L	647	Standard
|	Ba	135	720826.5	0.8	313.6366	1.736	0.6	ug/L	35	Standard
|	Ce	140	1915811.7	2.5				ug/L	133	Standard
>	Tb	159	1319645.5	0.3				ug/L	1543699	Standard
|	Ho	165	45737.3	4.1				ug/L	20	Standard
|	Tl	203	12947.9	1.4	1.2767	0.025	2.0	ug/L	17	Standard
|	Tl	205	30338.7	3.1	1.2835	0.034	2.7	ug/L	18	Standard
|	Pb	206	1177754.9	1.3	155.0736	0.685	0.4	ug/L	553	Standard
|	Pb	207	942708.6	1.3	140.7397	1.111	0.8	ug/L	487	Standard
|	Pb	208	4534268.8	1.5	149.2421	0.513	0.3	ug/L	2185	Standard
	U	238	187305.5	1.5	6.7851	0.077	1.1	ug/L	18	Standard
>	Bi	209	700889.8	1.8				ug/L	820229	Standard

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Na	23	63.3	24.1	20.2031	4.973	24.6	mg/L	0	Standard
Mg	24	100.0	56.8	0.0440	0.095	216.2	mg/L	53	Standard
K	39	256.7	16.6	2.5241	0.422	16.7	mg/L	3	Standard
Ca	43	216.7	9.3	34.1669	4.154	12.2	mg/L	27	Standard
Fe	54	48398.3	1.4	43.4150	0.553	1.3	mg/L	112	Standard
Fe	57	13249.1	3.5	43.4398	1.596	3.7	mg/L	213	Standard
Sc-1	45	38729.4	0.2				mg/L	33475	Standard
Cl	35	2.7	86.6				ug/L	4	Standard
Kr	83	2.7	94.4				ug/L	4	Standard
Br	81	3127.0	7.9				ug/L	1223	Standard
P	31	66.7	11.5				ug/L	68	Standard
S	34	30.0	44.1				ug/L	20	Standard
Sr	88	126.7	9.9				ug/L	110	Standard
C	12	1900.1	9.3				mg/L	377	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	620.0	18.0				mg/L	7	Standard
Dy	164	69053.1	3.1				mg/L	32	Standard
Ho-1	165	45737.3	4.1				mg/L	20	Standard
Er	166	40560.9	2.0				mg/L	37	Standard
I	127	45825.9	3.7				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		83.607	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		88.960	
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	79.369
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	85.450
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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	
Zn 66 Upper, S, EEE	Zn	66	

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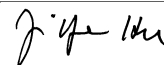
Ba 135 Upper, S, EEE	Ba	135
Pb 206 Upper, S, EEE	Pb	206
Pb 207 Upper, S, EEE	Pb	207
Pb 208 Upper, S, EEE	Pb	208

Sample ID: L1610042002

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Method 6020 - Summary Report

Sample ID: L1610042003

Sample Date/Time: Wednesday, October 19, 2016 12:14:36

Number of Replicates: 3

Autosampler Position: 241

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	73471.1	2.7				ug/L	91395	Standard
|	Be	9	1493.4	3.4	1.9066	0.113	5.9	ug/L	3	Standard
|	Al	27	14475752.0	3.9	164.5219	4.257	2.6	ug/L	372	Standard
|	Sc	45	38358.5	2.3				ug/L	33475	Standard
|	Ti	47	5937.8	1.0	30.6970	0.457	1.5	ug/L	25	Standard
|	V	51	295868.8	2.5	50.6791	1.514	3.0	ug/L	1461	Standard
|	Cr	52	209250.0	1.9	38.1521	0.900	2.4	ug/L	7269	Standard
|	Cr	53	25922.2	2.3	37.1236	1.021	2.7	ug/L	1557	Standard
|	Mn	55	8319664.0	2.1	960.4092	26.358	2.7	ug/L	1045	Standard
|	Co	59	173866.5	2.0	23.9641	0.625	2.6	ug/L	210	Standard
|	Ni	60	117324.1	2.8	74.4006	2.574	3.5	ug/L	103	Standard
|	Cu	65	141229.3	1.8	89.6564	2.198	2.5	ug/L	135	Standard
|	Zn	66	3058735.9	0.9	3635.2792	58.922	1.6	ug/L	296	Standard
>	Ge	72	491776.3	0.7				ug/L	561245	Standard
|	As	75	53582.8	0.6	61.2180	0.793	1.3	ug/L	-46	Standard
|	Se	82	230.0	6.9	2.5885	0.206	7.9	ug/L	20	Standard
|	Se-1	77	256.3	9.2	3.2328	0.444	13.7	ug/L	93	Standard
>	Ga	71	29204.8	1.0				mg/L	7	Standard
|	Rb	85	268067.5	1.1				ug/L	20	Standard
|	Y	89	816481.0	1.3				ug/L	455318	Standard
>	Rh	103	95.0	21.1				ug/L	17	Standard
|	Mo	98	43691.8	1.9	14.6945	0.299	2.0	ug/L	57	Standard
|	Ag	107	2231.2	0.9	0.3883	0.013	3.3	ug/L	114	Standard
|	Cd	111	56323.1	3.1	29.6246	0.209	0.7	mg/L	5	Standard
|	Cd	114	144732.0	1.6	29.3364	0.674	2.3	ug/L	33	Standard
>	In	115	693250.6	3.0				ug/L	874708	Standard
|	Sn	118	291.3	2.1	0.1776	0.013	7.4	ug/L	146	Standard
|	Sb	123	696.1	8.5	0.0910	0.009	10.1	ug/L	647	Standard
|	Ba	135	770208.2	3.3	335.5875	3.193	1.0	ug/L	35	Standard
|	Ce	140	1890896.2	2.5				ug/L	133	Standard
>	Tb	159	1297352.3	2.9				ug/L	1543699	Standard
|	Ho	165	46491.3	3.9				ug/L	20	Standard
|	Tl	203	13129.7	3.6	1.3002	0.027	2.1	ug/L	17	Standard
|	Tl	205	30510.7	3.5	1.2965	0.027	2.1	ug/L	18	Standard
|	Pb	206	1382621.6	2.5	182.8835	1.846	1.0	ug/L	553	Standard
|	Pb	207	1102436.9	1.3	165.3587	0.824	0.5	ug/L	487	Standard
|	Pb	208	5267236.9	1.8	174.1777	0.860	0.5	ug/L	2185	Standard
	U	238	191870.3	1.2	6.9826	0.020	0.3	ug/L	18	Standard
>	Bi	209	697623.5	1.5				ug/L	820229	Standard

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Na	23	123.3	28.5	40.3718	12.034	29.8	mg/L	0	Standard
Mg	24	85.0	15.6	0.0201	0.020	100.2	mg/L	53	Standard
K	39	366.7	6.7	3.6665	0.288	7.9	mg/L	3	Standard
Ca	43	275.0	6.6	47.0487	4.524	9.6	mg/L	27	Standard
Fe	54	53270.8	1.7	48.2790	1.387	2.9	mg/L	112	Standard
Fe	57	14833.9	3.9	49.2532	2.339	4.7	mg/L	213	Standard
Sc-1	45	38358.5	2.3				mg/L	33475	Standard
Cl	35	0.7	173.2				ug/L	4	Standard
Kr	83	4.0	50.0				ug/L	4	Standard
Br	81	3127.0	3.5				ug/L	1223	Standard
P	31	80.0	6.3				ug/L	68	Standard
S	34	23.3	32.7				ug/L	20	Standard
Sr	88	150.0	0.0				ug/L	110	Standard
C	12	1760.1	6.7				mg/L	377	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	623.3	19.1				mg/L	7	Standard
Dy	164	73018.3	2.3				mg/L	32	Standard
Ho-1	165	46491.3	3.9				mg/L	20	Standard
Er	166	43786.6	3.1				mg/L	37	Standard
I	127	47021.2	3.0				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		80.389	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		87.622	
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	79.255
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	85.052
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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	
Zn 66 Upper, S, EEE	Zn	66	

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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: L1610042006

Sample Date/Time: Wednesday, October 19, 2016 12:17:35

Number of Replicates: 3

Autosampler Position: 242

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	77495.1	7.4				ug/L	91395	Standard
|	Be	9	1475.1	5.8	1.7853	0.085	4.8	ug/L	3	Standard
|	Al	27	16763826.7	4.9	180.8751	4.944	2.7	ug/L	372	Standard
|	Sc	45	38587.4	2.9				ug/L	33475	Standard
|	Ti	47	5771.4	3.7	29.4748	0.372	1.3	ug/L	25	Standard
|	V	51	295500.0	3.4	50.0098	0.588	1.2	ug/L	1461	Standard
|	Cr	52	190906.7	3.4	34.2799	0.785	2.3	ug/L	7269	Standard
|	Cr	53	23718.6	4.8	33.3522	0.393	1.2	ug/L	1557	Standard
|	Mn	55	10288731.6	3.7	1173.4464	9.505	0.8	ug/L	1045	Standard
|	Co	59	185380.2	4.3	25.2416	0.183	0.7	ug/L	210	Standard
|	Ni	60	108928.4	4.8	68.2176	0.620	0.9	ug/L	103	Standard
|	Cu	65	129866.3	3.7	81.4469	0.743	0.9	ug/L	135	Standard
|	Zn	66	2742431.1	4.3	3219.6887	9.200	0.3	ug/L	296	Standard
>	Ge	72	497826.5	4.5				ug/L	561245	Standard
|	As	75	36858.3	4.1	41.6126	0.420	1.0	ug/L	-46	Standard
|	Se	82	235.5	5.2	2.6198	0.051	2.0	ug/L	20	Standard
|	Se-1	77	270.0	7.6	3.4176	0.170	5.0	ug/L	93	Standard
>	Ga	71	27181.0	3.4				mg/L	7	Standard
|	Rb	85	245030.8	5.4				ug/L	20	Standard
|	Y	89	787607.5	3.5				ug/L	455318	Standard
>	Rh	103	125.0	6.9				ug/L	17	Standard
|	Mo	98	42936.9	4.1	14.0545	0.022	0.2	ug/L	57	Standard
|	Ag	107	2171.5	4.0	0.3668	0.007	2.0	ug/L	114	Standard
|	Cd	111	50847.7	3.6	26.0425	0.250	1.0	mg/L	5	Standard
|	Cd	114	129651.9	2.2	25.5894	0.498	1.9	ug/L	33	Standard
>	In	115	712023.0	4.0				ug/L	874708	Standard
|	Sn	118	838.4	1.6	0.6530	0.020	3.0	ug/L	146	Standard
|	Sb	123	675.8	9.5	0.0839	0.014	16.2	ug/L	647	Standard
|	Ba	135	756261.9	3.4	320.8860	2.806	0.9	ug/L	35	Standard
|	Ce	140	1956463.5	5.8				ug/L	133	Standard
>	Tb	159	1329635.5	2.7				ug/L	1543699	Standard
|	Ho	165	44786.1	3.2				ug/L	20	Standard
|	Tl	203	11621.8	3.6	1.1447	0.018	1.6	ug/L	17	Standard
|	Tl	205	27451.5	4.2	1.1597	0.013	1.1	ug/L	18	Standard
|	Pb	206	3097905.4	5.2	407.4586	6.808	1.7	ug/L	553	Standard
|	Pb	207	2586540.4	4.9	385.7684	5.147	1.3	ug/L	487	Standard
|	Pb	208	11877659.5	4.4	390.6156	3.235	0.8	ug/L	2185	Standard
	U	238	150124.1	3.9	5.4329	0.037	0.7	ug/L	18	Standard
>	Bi	209	701557.0	3.9				ug/L	820229	Standard

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Na	23	116.7	8.9	37.9645	4.483	11.8	mg/L	0	Standard
Mg	24	93.3	27.5	0.0330	0.041	124.7	mg/L	53	Standard
K	39	296.7	12.9	2.9342	0.348	11.8	mg/L	3	Standard
Ca	43	280.0	19.3	47.5433	9.931	20.9	mg/L	27	Standard
Fe	54	50597.1	3.5	45.5760	1.725	3.8	mg/L	112	Standard
Fe	57	13968.1	3.0	46.0387	1.587	3.4	mg/L	213	Standard
Sc-1	45	38587.4	2.9				mg/L	33475	Standard
Cl	35	0.7	173.2				ug/L	4	Standard
Kr	83	3.0	88.2				ug/L	4	Standard
Br	81	3027.0	5.7				ug/L	1223	Standard
P	31	71.7	31.5				ug/L	68	Standard
S	34	21.7	58.1				ug/L	20	Standard
Sr	88	166.7	15.4				ug/L	110	Standard
C	12	2193.5	10.5				mg/L	377	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	733.4	5.2				mg/L	7	Standard
Dy	164	68994.1	4.4				mg/L	32	Standard
Ho-1	165	44786.1	3.2				mg/L	20	Standard
Er	166	38719.4	2.1				mg/L	37	Standard
I	127	47002.9	4.7				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		84.792	
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		88.700	
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	81.401
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	85.532
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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	
Zn 66 Upper, S, EEE	Zn	66	

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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

Sample ID: L1610042006

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Method 6020 - Summary Report

Sample ID: L1610042007

Sample Date/Time: Wednesday, October 19, 2016 12:20:35

Number of Replicates: 3

Autosampler Position: 243

Sample Description: 1

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	74707.2	3.4				ug/L	91395	Standard
|	Be	9	1033.4	6.2	1.2924	0.104	8.1	ug/L	3	Standard
|	Al	27	28058329.4	2.8	313.7914	10.835	3.5	ug/L	372	Standard
|	Sc	45	37043.6	3.7				ug/L	33475	Standard
|	Ti	47	4722.4	0.7	24.2967	0.127	0.5	ug/L	25	Standard
|	V	51	217546.2	3.0	37.0639	0.789	2.1	ug/L	1461	Standard
|	Cr	52	143557.6	3.9	25.6944	0.795	3.1	ug/L	7269	Standard
|	Cr	53	17787.1	2.4	24.7264	0.435	1.8	ug/L	1557	Standard
|	Mn	55	8683511.8	2.2	998.7003	13.061	1.3	ug/L	1045	Standard
|	Co	59	170128.5	2.3	23.3616	0.321	1.4	ug/L	210	Standard
|	Ni	60	105752.5	1.6	66.8094	0.607	0.9	ug/L	103	Standard
|	Cu	65	94628.3	1.6	59.8310	0.551	0.9	ug/L	135	Standard
|	Zn	66	551800.3	0.8	653.3266	1.396	0.2	ug/L	296	Standard
>	Ge	72	493507.8	0.9				ug/L	561245	Standard
|	As	75	29795.6	1.0	33.9339	0.128	0.4	ug/L	-46	Standard
|	Se	82	144.3	5.1	1.5603	0.103	6.6	ug/L	20	Standard
|	Se-1	77	218.0	9.5	2.5150	0.340	13.5	ug/L	93	Standard
>	Ga	71	20170.1	1.9				mg/L	7	Standard
|	Rb	85	214312.0	1.6				ug/L	20	Standard
|	Y	89	709006.7	0.7				ug/L	455318	Standard
>	Rh	103	60.0	22.0				ug/L	17	Standard
|	Mo	98	45685.4	2.3	15.6441	0.213	1.4	ug/L	57	Standard
|	Ag	107	1523.1	3.8	0.2644	0.008	2.9	ug/L	114	Standard
|	Cd	111	7273.5	1.7	3.8923	0.045	1.1	mg/L	5	Standard
|	Cd	114	18454.9	3.5	3.8053	0.094	2.5	ug/L	33	Standard
>	In	115	680637.9	1.1				ug/L	874708	Standard
|	Sn	118	176.3	9.9	0.0761	0.015	19.5	ug/L	146	Standard
|	Sb	123	461.6	12.5	0.0476	0.011	23.5	ug/L	647	Standard
|	Ba	135	521049.9	1.7	231.2246	1.499	0.6	ug/L	35	Standard
|	Ce	140	1575837.4	0.7				ug/L	133	Standard
>	Tb	159	1282100.7	0.6				ug/L	1543699	Standard
|	Ho	165	38418.7	2.2				ug/L	20	Standard
|	Tl	203	10934.9	3.9	1.1467	0.035	3.0	ug/L	17	Standard
|	Tl	205	25302.8	3.1	1.1383	0.024	2.1	ug/L	18	Standard
|	Pb	206	620857.9	1.7	86.9504	0.724	0.8	ug/L	553	Standard
|	Pb	207	489258.4	2.5	77.6817	1.238	1.6	ug/L	487	Standard
|	Pb	208	2329805.4	1.7	81.5619	0.720	0.9	ug/L	2185	Standard
	U	238	135014.3	1.8	5.2037	0.050	1.0	ug/L	18	Standard
>	Bi	209	658697.4	1.0				ug/L	820229	Standard

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Na	23	260.0	3.8	88.7358	0.853	1.0	mg/L	0	Standard
Mg	24	103.3	2.8	0.0576	0.011	19.0	mg/L	53	Standard
K	39	225.0	3.8	2.3123	0.145	6.3	mg/L	3	Standard
Ca	43	563.3	7.2	112.7208	11.391	10.1	mg/L	27	Standard
Fe	54	44314.8	3.6	41.5656	0.937	2.3	mg/L	112	Standard
Fe	57	12226.6	2.5	41.8905	0.696	1.7	mg/L	213	Standard
Sc-1	45	37043.6	3.7				mg/L	33475	Standard
Cl	35	2.0	100.0				ug/L	4	Standard
Kr	83	4.0	43.3				ug/L	4	Standard
Br	81	2126.8	15.9				ug/L	1223	Standard
P	31	63.3	35.6				ug/L	68	Standard
S	34	30.0	50.0				ug/L	20	Standard
Sr	88	145.0	15.0				ug/L	110	Standard
C	12	1666.8	24.0				mg/L	377	Standard
N	14	0.0					mg/L	0	Standard
Hg	202	413.3	7.8				mg/L	7	Standard
Dy	164	60324.0	2.2				mg/L	32	Standard
Ho-1	165	38418.7	2.2				mg/L	20	Standard
Er	166	34499.3	4.1				mg/L	37	Standard
I	127	26352.9	0.5				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6		81.741	
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		87.931	
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	77.813
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	80.307
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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	
Zn 66 Upper, S, EEE	Zn	66	

Sample ID: L1610042007


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Method 6020 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Wednesday, October 19, 2016 12:23:36

Number of Replicates: 3

Autosampler Position: 101

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	70087.1	5.7				ug/L	91395	Standard
|	Be	9	40398.9	4.7	54.4855	0.615	1.1	ug/L	3	Standard
|	Al	27	4262474.7	5.6	50.7977	1.256	2.5	ug/L	372	Standard
|	Sc	45	30477.3	4.1				ug/L	33475	Standard
|	Ti	47	20096.7	4.8	103.6541	0.407	0.4	ug/L	25	Standard
|	V	51	299407.8	4.9	50.9942	0.309	0.6	ug/L	1461	Standard
|	Cr	52	276825.3	5.7	50.5543	0.526	1.0	ug/L	7269	Standard
|	Cr	53	35399.7	4.8	51.1527	0.519	1.0	ug/L	1557	Standard
|	Mn	55	433916.5	5.6	49.7103	0.237	0.5	ug/L	1045	Standard
|	Co	59	361223.5	4.4	49.5408	0.646	1.3	ug/L	210	Standard
|	Ni	60	78872.8	5.3	49.7066	0.639	1.3	ug/L	103	Standard
|	Cu	65	80774.0	4.1	50.9698	0.577	1.1	ug/L	135	Standard
|	Zn	66	42738.6	3.1	50.3730	1.179	2.3	ug/L	296	Standard
>	Ge	72	494597.1	5.2				ug/L	561245	Standard
|	As	75	44011.2	2.9	50.0381	1.149	2.3	ug/L	-46	Standard
|	Se	82	4239.2	3.4	50.1644	0.985	2.0	ug/L	20	Standard
|	Se-1	77	2826.9	3.3	49.9711	1.033	2.1	ug/L	93	Standard
>	Ga	71	33.3	17.3				mg/L	7	Standard
|	Rb	85	680.0	6.0				ug/L	20	Standard
|	Y	89	391117.2	4.0				ug/L	455318	Standard
>	Rh	103	35.0	28.6				ug/L	17	Standard
|	Mo	98	314801.0	2.4	105.9875	3.161	3.0	ug/L	57	Standard
|	Ag	107	292662.2	2.8	53.1987	1.145	2.2	ug/L	114	Standard
|	Cd	111	96845.2	2.7	50.9792	1.283	2.5	mg/L	5	Standard
|	Cd	114	249144.2	5.3	50.4789	0.711	1.4	ug/L	33	Standard
>	In	115	693268.4	4.9				ug/L	874708	Standard
|	Sn	118	56320.9	3.5	50.9172	1.015	2.0	ug/L	146	Standard
|	Sb	123	263371.9	3.4	50.7335	1.132	2.2	ug/L	647	Standard
|	Ba	135	121110.4	3.1	52.7905	1.033	2.0	ug/L	35	Standard
|	Ce	140	245.0	9.4				ug/L	133	Standard
>	Tb	159	1326756.8	2.7				ug/L	1543699	Standard
|	Ho	165	16.7	62.4				ug/L	20	Standard
|	Tl	203	479030.4	4.0	49.0914	0.323	0.7	ug/L	17	Standard
|	Tl	205	1119874.9	3.5	49.3867	0.409	0.8	ug/L	18	Standard
|	Pb	206	361702.0	3.9	49.4184	0.081	0.2	ug/L	553	Standard
|	Pb	207	320741.2	2.9	49.7009	0.449	0.9	ug/L	487	Standard
|	Pb	208	1450775.2	3.2	49.5585	0.408	0.8	ug/L	2185	Standard
	U	238	1269884.8	3.6	47.7728	0.676	1.4	ug/L	18	Standard
>	Bi	209	674849.0	3.7				ug/L	820229	Standard

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Na	23	18.3	103.3	7.0507	7.819	110.9	mg/L	0	Standard
Mg	24	2301.8	1.8	4.7674	0.295	6.2	mg/L	53	Standard
K	39	500.0	7.5	6.3460	0.753	11.9	mg/L	3	Standard
Ca	43	55.0	32.8	3.3642	5.184	154.1	mg/L	27	Standard
Fe	54	4373.7	1.2	4.8843	0.193	3.9	mg/L	112	Standard
Fe	57	1373.4	6.1	4.8761	0.593	12.2	mg/L	213	Standard
Sc-1	45	30477.3	4.1				mg/L	33475	Standard
Cl	35	2.0	100.0				ug/L	4	Standard
Kr	83	3.7	63.0				ug/L	4	Standard
Br	81	1283.4	14.6				ug/L	1223	Standard
P	31	81.7	33.7				ug/L	68	Standard
S	34	38.3	32.8				ug/L	20	Standard
Sr	88	103.3	2.8				ug/L	110	Standard
C	12	303.3	19.3				mg/L	377	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	3.3	173.2				mg/L	7	Standard
Dy	164	35.4	61.2				mg/L	32	Standard
Ho-1	165	16.7	62.4				mg/L	20	Standard
Er	166	26.7	78.1				mg/L	37	Standard
I	127	2875.3	9.6				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9	108.971		
Al	27	101.595		
Sc	45			
Ti	47	103.654		
V	51	101.988		
Cr	52	101.109		
Cr	53			
Mn	55	99.421		
Co	59	99.082		
Ni	60	99.413		
Cu	65	101.940		
Zn	66	100.746		
Ge	72		88.125	
As	75	100.076		
Se	82	100.329		
Se-1	77			
Ga	71			

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[Rb	85		
[Y	89		
>	Rh	103		
[Mo	98	105.988	
[Ag	107	106.397	
[Cd	111	101.958	
[Cd	114		
>	In	115		79.257
[Sn	118	101.834	
[	Sb	123	101.467	
[	Ba	135	105.581	
[	Ce	140		
>	Tb	159		
[	Ho	165		
[	Tl	203	98.183	
[	Tl	205		
[	Pb	206		
[	Pb	207		
[	Pb	208	99.117	
[	U	238	95.546	
>	Bi	209		82.276
[	Na	23		
[	Mg	24		
[	K	39		
[	Ca	43		
[	Fe	54		
[	Fe	57		
>	Sc-1	45		
[	Cl	35		
[	Kr	83		
[	Br	81		
[	P	31		
[	S	34		
[	Sr	88		
[	C	12		
[	N	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

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Method 6020 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Wednesday, October 19, 2016 12:26:35

Number of Replicates: 3

Autosampler Position: 102

Sample Description:

Method File: C:\NexlONData\Method\6020a.mth

Aliquot Volume (mL):

Diluted to Volume (mL):

User Name: JYH Nexion300X

Cumulative Autodilution Factor: 1

Nexion-ICP 200.8\6020

Concentration Results

IS	Analyte	Mass	Intensity	RSD	Conc.	SD	RSD	Units	Blank Intens.	Mode
>	Li	6	77898.6	6.4				ug/L	91395	Standard
|	Be	9	36.7	126.7	0.0297	0.060	202.7	ug/L	3	Standard
|	Al	27	11665.8	145.1	0.1322	0.193	145.7	ug/L	372	Standard
|	Sc	45	31885.2	4.1				ug/L	33475	Standard
|	Ti	47	34.7	35.3	0.0307	0.070	226.3	ug/L	25	Standard
|	V	51	1624.9	23.4	0.0460	0.076	164.4	ug/L	1461	Standard
|	Cr	52	6909.2	2.2	0.0550	0.033	59.5	ug/L	7269	Standard
|	Cr	53	1065.0	5.7	-0.5065	0.028	5.6	ug/L	1557	Standard
|	Mn	55	4723.4	112.7	0.4601	0.633	137.6	ug/L	1045	Standard
|	Co	59	349.3	62.9	0.0231	0.032	138.9	ug/L	210	Standard
|	Ni	60	162.0	35.8	0.0452	0.041	90.1	ug/L	103	Standard
|	Cu	65	203.7	47.5	0.0604	0.066	109.7	ug/L	135	Standard
|	Zn	66	881.7	84.6	0.8722	0.923	105.8	ug/L	296	Standard
>	Ge	72	507102.6	4.1				ug/L	561245	Standard
|	As	75	-12.3	236.1	0.0188	0.031	166.6	ug/L	-46	Standard
|	Se	82	19.3	20.2	0.0668	0.038	56.4	ug/L	20	Standard
|	Se-1	77	83.0	2.1	0.0184	0.058	317.6	ug/L	93	Standard
>	Ga	71	25.0	60.0				mg/L	7	Standard
|	Rb	85	81.7	72.5				ug/L	20	Standard
|	Y	89	401356.7	2.4				ug/L	455318	Standard
>	Rh	103	8.3	69.3				ug/L	17	Standard
|	Mo	98	274.2	6.7	0.0801	0.007	8.2	ug/L	57	Standard
|	Ag	107	179.0	50.9	0.0139	0.016	117.0	ug/L	114	Standard
|	Cd	111	88.0	142.4	0.0399	0.064	160.4	mg/L	5	Standard
|	Cd	114	350.8	154.3	0.0659	0.107	161.7	ug/L	33	Standard
>	In	115	722606.2	1.2				ug/L	874708	Standard
|	Sn	118	220.3	53.2	0.1057	0.104	98.7	ug/L	146	Standard
|	Sb	123	927.1	84.6	0.1295	0.147	113.9	ug/L	647	Standard
|	Ba	135	2242.8	167.4	0.9357	1.589	169.8	ug/L	35	Standard
|	Ce	140	4955.7	168.8				ug/L	133	Standard
>	Tb	159	1368397.8	0.9				ug/L	1543699	Standard
|	Ho	165	140.0	145.4				ug/L	20	Standard
|	Tl	203	675.7	160.0	0.0664	0.108	163.4	ug/L	17	Standard
|	Tl	205	1361.8	160.5	0.0538	0.094	175.3	ug/L	18	Standard
|	Pb	206	3570.0	143.2	0.4178	0.685	164.1	ug/L	553	Standard
|	Pb	207	2610.5	141.5	0.3351	0.562	167.6	ug/L	487	Standard
|	Pb	208	11706.1	138.9	0.3293	0.545	165.5	ug/L	2185	Standard
	U	238	1309.5	159.1	0.0489	0.077	156.8	ug/L	18	Standard
>	Bi	209	703301.7	1.7				ug/L	820229	Standard

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Na	23	0.0		-0.6045	0.000	0.0	mg/L	0	Standard
Mg	24	61.7	9.4	0.0020	0.009	477.1	mg/L	53	Standard
K	39	13.3	57.3	0.1139	0.098	86.4	mg/L	3	Standard
Ca	43	46.7	61.9	0.5817	7.590	1304.8	mg/L	27	Standard
Fe	54	165.8	30.5	0.0615	0.059	96.4	mg/L	112	Standard
Fe	57	245.0	18.7	0.0107	0.223	2085.4	mg/L	213	Standard
Sc-1	45	31885.2	4.1				mg/L	33475	Standard
Cl	35	0.7	173.2				ug/L	4	Standard
Kr	83	3.7	15.7				ug/L	4	Standard
Br	81	1150.0	8.0				ug/L	1223	Standard
P	31	61.7	32.8				ug/L	68	Standard
S	34	23.3	53.9				ug/L	20	Standard
Sr	88	126.7	12.1				ug/L	110	Standard
C	12	220.0	39.6				mg/L	377	Standard
N	14	3.3	173.2				mg/L	0	Standard
Hg	202	0.0					mg/L	7	Standard
Dy	164	198.4	160.9				mg/L	32	Standard
Ho-1	165	140.0	145.4				mg/L	20	Standard
Er	166	103.3	148.1				mg/L	37	Standard
I	127	2855.3	3.9				mg/L	3754	Standard

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery
Li	6			
Be	9			
Al	27			
Sc	45			
Ti	47			
V	51			
Cr	52			
Cr	53			
Mn	55			
Co	59			
Ni	60			
Cu	65			
Zn	66			
Ge	72		90.353	
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	82.611
[Sn	118	
[Sb	123	
[Ba	135	
[Ce	140	
>	Tb	159	
[	Ho	165	
[	Tl	203	
[	Tl	205	
[	Pb	206	
[	Pb	207	
[	Pb	208	
[	U	238	
>	Bi	209	85.745
[	Na	23	
[	Mg	24	
[	K	39	
[	Ca	43	
[	Fe	54	
[	Fe	57	
>	Sc-1	45	
[	Cl	35	
[	Kr	83	
[	Br	81	
[	P	31	
[	S	34	
[	Sr	88	
[	C	12	
[	N	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	Mn	55	
QC Std 7	Ba	135	
QC Std 7	Tl	203	

Sample ID: QC Std 7

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2.4 General Chemistry Data

2.4.1 Method 9056

2.4.1.1 Summary Data

Lab Report #: L16100194

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Adriane Steed

Certificate of Analysis

Sample #: L16100194-01	PrePrep Method: N/A	Instrument: IC2
Client ID: 35AWW08-100416	Prep Method: 9056	Prep Date: 10/05/2016 18:40
Matrix: Water	Analytical Method: 9056	Cal Date: 09/08/2016 00:39
Workgroup #: WG586401	Analyst: CAS	Run Date: 10/05/2016 22:50
Collect Date: 10/04/2016 07:40	Dilution: 10	File ID: I2_100516-16
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	10.0	U	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.					

Lab Report #: L16100194

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Adriane Steed

Certificate of Analysis

Sample #: L16100194-01	PrePrep Method: N/A	Instrument: IC2
Client ID: 35AWW08-100416	Prep Method: 9056	Prep Date: 10/05/2016 18:40
Matrix: Water	Analytical Method: 9056	Cal Date: 09/08/2016 00:39
Workgroup #: WG586401	Analyst: CAS	Run Date: 10/06/2016 10:40
Collect Date: 10/04/2016 07:40	Dilution: 100	File ID: I2_100516-30
Sample Tag: DL02	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chloride	16887-00-6	2000		40.0	20.0	10.0
U	Analyte was not detected. The concentration is below the reported LOD.					

Lab Report #: L16100194

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Adriane Steed

Certificate of Analysis

Sample #: L16100194-03	PrePrep Method: N/A	Instrument: IC2
Client ID: 03WW01-100416	Prep Method: 9056	Prep Date: 10/05/2016 18:40
Matrix: Water	Analytical Method: 9056	Cal Date: 09/08/2016 00:39
Workgroup #: WG586401	Analyst: CAS	Run Date: 10/05/2016 23:09
Collect Date: 10/04/2016 08:20	Dilution: 5	File ID: I2_100516-17
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Nitrate	14797-55-8	1.00	U	2.00	1.00	0.500
Nitrite	14797-65-0	1.00	U	2.00	1.00	0.500
Sulfate	14808-79-8	5.00	U	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.					

Lab Report #: L16100194

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Adriane Steed

Certificate of Analysis

Sample #: L16100194-03	PrePrep Method: N/A	Instrument: IC2
Client ID: 03WW01-100416	Prep Method: 9056	Prep Date: 10/05/2016 18:40
Matrix: Water	Analytical Method: 9056	Cal Date: 09/08/2016 00:39
Workgroup #: WG586401	Analyst: CAS	Run Date: 10/05/2016 23:28
Collect Date: 10/04/2016 08:20	Dilution: 50	File ID: I2_100516-18
Sample Tag: DL02	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chloride	16887-00-6	762		20.0	10.0	5.00
U	Analyte was not detected. The concentration is below the reported LOD.					

Lab Report #: L16100194

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Adriane Steed

Certificate of Analysis

Sample #: L16100194-05	PrePrep Method: N/A	Instrument: IC2
Client ID: 35AWW20-100416	Prep Method: 9056	Prep Date: 10/05/2016 18:40
Matrix: Water	Analytical Method: 9056	Cal Date: 09/08/2016 00:39
Workgroup #: WG586401	Analyst: CAS	Run Date: 10/05/2016 23:48
Collect Date: 10/04/2016 09:35	Dilution: 20	File ID: I2_100516-19
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Nitrate	14797-55-8	4.00	U	8.00	4.00	2.00
Nitrite	14797-65-0	4.00	U	8.00	4.00	2.00
Sulfate	14808-79-8	1830		40.0	20.0	10.0
J	Estimated value ; the analyte concentration was greater than the highest standard					
U	Analyte was not detected. The concentration is below the reported LOD.					

Lab Report #: L16100194

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Adriane Steed

Certificate of Analysis

Sample #: L16100194-05	PrePrep Method: N/A	Instrument: IC2
Client ID: 35AWW20-100416	Prep Method: 9056	Prep Date: 10/05/2016 18:40
Matrix: Water	Analytical Method: 9056	Cal Date: 09/08/2016 00:39
Workgroup #: WG586401	Analyst: CAS	Run Date: 10/06/2016 10:59
Collect Date: 10/04/2016 09:35	Dilution: 100	File ID: I2_100516-31
Sample Tag: DL02	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chloride	16887-00-6	1470		40.0	20.0	10.0
U	Analyte was not detected. The concentration is below the reported LOD.					

Lab Report #: L16100194

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Adriane Steed

Certificate of Analysis

Sample #: L16100194-06	PrePrep Method: N/A	Instrument: IC2
Client ID: LHSMW07-100416	Prep Method: 9056	Prep Date: 10/05/2016 18:40
Matrix: Water	Analytical Method: 9056	Cal Date: 09/08/2016 00:39
Workgroup #: WG586401	Analyst: CAS	Run Date: 10/06/2016 00:26
Collect Date: 10/04/2016 10:40	Dilution: 20	File ID: I2_100516-21
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Nitrate	14797-55-8	4.00	U	8.00	4.00	2.00
Nitrite	14797-65-0	4.00	U	8.00	4.00	2.00
J	Estimated value ; the analyte concentration was greater than the highest standard					
U	Analyte was not detected. The concentration is below the reported LOD.					

Lab Report #: L16100194

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Adriane Steed

Certificate of Analysis

Sample #: L16100194-06	PrePrep Method: N/A	Instrument: IC2
Client ID: LHSMW07-100416	Prep Method: 9056	Prep Date: 10/05/2016 18:40
Matrix: Water	Analytical Method: 9056	Cal Date: 09/08/2016 00:39
Workgroup #: WG586401	Analyst: CAS	Run Date: 10/06/2016 01:43
Collect Date: 10/04/2016 10:40	Dilution: 40	File ID: I2_100516-25
Sample Tag: DL02	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Sulfate	14808-79-8	2650		80.0	40.0	20.0
J	Estimated value ; the analyte concentration was greater than the highest standard					
U	Analyte was not detected. The concentration is below the reported LOD.					

Lab Report #: L16100194

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Adriane Steed

Certificate of Analysis

Sample #: L16100194-06	PrePrep Method: N/A	Instrument: IC2
Client ID: LHSMW07-100416	Prep Method: 9056	Prep Date: 10/05/2016 18:40
Matrix: Water	Analytical Method: 9056	Cal Date: 09/08/2016 00:39
Workgroup #: WG586401	Analyst: CAS	Run Date: 10/06/2016 11:18
Collect Date: 10/04/2016 10:40	Dilution: 100	File ID: I2_100516-32
Sample Tag: DL03	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Chloride	16887-00-6	2280		40.0	20.0	10.0
U	Analyte was not detected. The concentration is below the reported LOD.					

2.4.1.2 QC Summary Data

Example Calculations - Ion Chromatography

A. Methods 9056/300.0 (Quadratic with Offset)

1. Retrieve Curve Data from the ICAL Curve

c2 = the value of curve constant

c1 = the curve slope

c0 = the curve offset

2. Obtain the area, y , from the instrument raw data

3. Calculate the concentration of the analyte, f(y), where:

$$f(y) = \frac{1}{2 * c_2} * \left(-c_1 \pm \sqrt{c_1^2 - 4 * c_2 * (c_0 - y)} \right)$$

Example Calculation:

Value of constant, c2, (curve):	0.0003
Value of curve constant, c1, (slope):	0.0869
Value of curve constant, c0, (offset):	-0.0103
Area of target analyte, y, (uS*min):	2.993
Calculated concentration, f(y), (mg/L):	31.1998864
	or: -40.1161215 *
Dilution factor (D):	1.00
Concentration of analyte in sample (mg/L):	31.200

* There are two possible solutions, but only one is valid.

B. Method 314.0 - Perchlorate (Linear)

Retrieve Curve Data from Linear Plot

c1 = the curve slope

Obtain the area, y , from the quantitation report

Calculate the concentration of the analyte, f(y), where:

$$f(y) = y / c1$$

Example Calculation:

Value of c1, slope:	0.0034
Area of target analyte, y:	0.083
Calculated concentration:	24.4117647
Dilution Factor:	1
Concentration in sample:	24.4117647

Microbac Laboratories Inc.
Instrument Run Log

Instrument: IC2 Dataset: 090716 IC2 ICAL.SEQ
 Analyst1: JWR Analyst2: NA
 Method: IC01 SOP: 300/9056 Rev: 19

Maintenance Log ID: _____ Syringe Filter Lot#: 160109254
 Eluent ID#: RGT37803

Workgroups: Column 1 ID: AG14A-4MM Column 2 ID: AS14A-4MM
ICAL and LCRV's
 Internal STD: NA Surrogate STD: NA Calibration STD STD77046 (09/07/2016)
 CCV STD: NA LCS STD: NA MS/MSD STD: NA

Comments: ICAL WG583007 : Alternate Source STD77045
 Guard Column : Ionpac AG14A (4x50mm)
 Dionex S/N 012640
 Analytical Column : Ionpac AS14A (4x250mm)
 Dionex S/N 010066
 Cond Suppressor : AERS 500 (4mm)
 Dionex S/N 140122040
 System backpressure = 1718psi

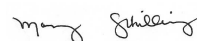
Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	I2_090716-01	ELUENT	1	1		09/07/16 22:24
2	I2_090716-02	DI WATER	1	1		09/07/16 22:44
3	I2_090716-03	WG583007-01 STD	1	1	STD77046	09/07/16 23:03
4	I2_090716-04	WG583007-02 STD	1	1	STD77046	09/07/16 23:22
5	I2_090716-05	WG583007-03 STD	1	1	STD77046	09/07/16 23:41
6	I2_090716-06	WG583007-04 STD-CCV	1	1	STD77046	09/08/16 00:00
7	I2_090716-07	WG583007-05 STD	1	1	STD77046	09/08/16 00:20
8	I2_090716-08	WG583007-06 STD	1	1	STD77046	09/08/16 00:39
9	I2_090716-09	WG583007-07 SSCV	1	1	STD77045	09/08/16 00:58
10	I2_090716-10	LCRV @Level-6	1	1	STD77045	09/08/16 01:17
11	I2_090716-11	LCRV @Level-3	1	1	STD77045	09/08/16 01:36
12	I2_090716-12	LCRV @Level-1	1	1	STD77045	09/08/16 01:56
13	I2_090716-13	LCRV @Level-0	1	1		09/08/16 02:15
14	I2_090716-14	END	1	1		09/08/16 02:34

Comments

Seq.	Rerun	Dil.	Reason	Analytes

Page: 1

Approved: 12-SEP-16




Microbac Laboratories Inc.
Instrument Run Log

Instrument: IC2 Dataset: 100516 IC2.SEQ
 Analyst1: CAS Analyst2: NA
 Method: IC02 SOP: 300/9056 Rev: 19

Maintenance Log ID: _____ Syringe Filter Lot#: 160109254
 Eluent ID#: RGT38116

Workgroups: Column 1 ID: AG14A-4MM Column 2 ID: AG14A-4MM
 Analytical WGs 586401, 586407
 Internal STD: NA Surrogate STD: NA Calibration STD STD77046 (09/08/2016)
 CCV STD: STD77046 LCS STD: STD77045 MS/MSD STD: STD77045

Comments: System backpressure: 1679 psi.

Sample L16100194-03 This sample was analyzed at a dilution only due to its pre-run screen result for chloride, which was greater than 200 ppm.

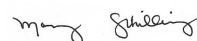
Samples L16100194(-05,06) These samples were analyzed at dilutions only due to their pre-run screen results for sulfate, which were greater than 200 ppm.

Samples WG586407(-02,03) These samples were analyzed at dilutions only due to their pre-run screen results for chloride, which were greater than the ICAL max.

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	I2_100516-01	ELUENT	1	1		10/05/16 18:02
2	I2_100516-02	DI WATER	1	1		10/05/16 18:21
3	I2_100516-03	WG586634-01 ANION CCV	1	1	STD77046	10/05/16 18:40
4	I2_100516-04	WG586634-02 ANION CCB	1	1		10/05/16 18:59
5	I2_100516-05	WG586407-01 TX-IC BLANK	12	1		10/05/16 19:19
6	I2_100516-06	WG586407-02 TX-IC LCS 2x	12	2	STD77067	10/05/16 19:38
7	I2_100516-07	WG586407-03 TX-IC LCSD 2x	12	2	STD77067	10/05/16 19:57
8	I2_100516-08	L16091174-02 TX-IC REF	12	1		10/05/16 20:16
9	I2_100516-09	WG586407-05 TX-IC DUP 1174-02	12	1		10/05/16 20:36
10	I2_100516-10	ELUENT	1	1		10/05/16 20:55
11	I2_100516-11	WG586634-03 ANION CCV	1	1	STD77046	10/05/16 21:14
12	I2_100516-12	WG586634-04 ANION CCB	1	1		10/05/16 21:33
13	I2_100516-13	WG586401-01 ANION BLANK	1	1		10/05/16 21:52
14	I2_100516-14	WG586401-02 ANION LCS	1	1	STD77045	10/05/16 22:12
15	I2_100516-15	WG586401-03 ANION LCSD	1	1	STD77045	10/05/16 22:31
16	I2_100516-16	L16100194-01 (CL,NO2,NO3,SO4) 10x	1	10		10/05/16 22:50
17	I2_100516-17	L16100194-03 (CL,NO2,NO3,SO4) 5x	1	5		10/05/16 23:09
18	I2_100516-18	L16100194-03 RR CL 50x	1	50		10/05/16 23:28
19	I2_100516-19	L16100194-05 (CL,NO2,NO3,SO4) 20x	1	20		10/05/16 23:48
20	I2_100516-20	L16100194-05 RR SO4 40x NR	1	40		10/06/16 00:07
21	I2_100516-21	L16100194-06 (CL,NO2,NO3,SO4) 20x REF	1	20		10/06/16 00:26
22	I2_100516-22	WG586401-05 DUP 0194-06 (20x)	1	20		10/06/16 00:45
23	I2_100516-23	WG586634-05 ANION CCV	1	1	STD77046	10/06/16 01:05
24	I2_100516-24	WG586634-06 ANION CCB	1	1		10/06/16 01:24
25	I2_100516-25	L16100194-06 RR SO4 40x	1	40		10/06/16 01:43
26	I2_100516-26	WG586634-07 ANION CCV	1	1	STD77046	10/06/16 02:02
27	I2_100516-27	WG586634-08 ANION CCB	1	1		10/06/16 02:21
28	I2_100516-28	WG586634-09 ANION CCV	1	1	STD77046	10/06/16 10:01

Page: 1

Approved: 07-OCT-16




Microbac Laboratories Inc.
Instrument Run Log

Instrument: IC2 Dataset: 100516 IC2.SEQ
 Analyst1: CAS Analyst2: NA
 Method: IC02 SOP: 300/9056 Rev: 19

Maintenance Log ID: Syringe Filter Lot#: 160109254
 Eluent ID#: RGT38116

Workgroups: Column 1 ID: AG14A-4MM Column 2 ID: AG14A-4MM
 Analytical WGs 586401, 586407
 Internal STD: NA Surrogate STD: NA STD77046 (09/08/2016)
 CCV STD: STD77046 LCS STD: STD77045 STD77045

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
29	I2_100516-29	WG586634-10 ANION CCB	1	1		10/06/16 10:21
30	I2_100516-30	L16100194-01 RR CL 100x	1	100		10/06/16 10:40
31	I2_100516-31	L16100194-05 RR CL 100x	1	100		10/06/16 10:59
32	I2_100516-32	L16100194-06 RR CL 100x	1	100		10/06/16 11:18
33	I2_100516-33	WG586634-11 ANION CCV	1	1	STD77046	10/06/16 11:37
34	I2_100516-34	WG586634-12 ANION CCB	1	1		10/06/16 11:57
35	I2_100516-35	END	1	1		10/06/16 12:16

Comments

Seq.	Rerun	Dil.	Reason	Analytes
16				
Sample L16100194-01 (CL,NO2,NO3,SO4) was analyzed at a dilution only due to its sample matrix. This sample would not pass through a 0.45 um PTFE filter as neat. The minimum dilution required to achieve this was a 10x.				

Mary Schilling



Microbac Laboratories Inc.

Data Checklist

Date: 07-SEP-2016
 Analyst: JWR
 Analyst: NA
 Method: 300/9056
 Instrument: IC2
 Curve Workgroup: WG583007
 Runlog ID: 77394
 Analytical Workgroups: ICAL AND LCRV'S ONLY

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)	1718PSI
Window standard (FID)	NA
Initial Calibration	X
Average RF	NA
Linear regression or higher order curve	X
Alternate source standard (ICV) % Difference	X
Continuing Calibration (CCV)	NA
% D/% Drift	NA
Minimum response factors (MS)	NA
Continuing calibration blank (CCB) (IC)	NA
Special standards	LCRV'S
Blanks	LCRV "LEVEL-0"
TCL hits	ND
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	NA
Recoveries	NA
Surrogate recoveries	NA
MS/MSD/Sample duplicates	NA
Recoveries	NA
%RPD	NA
Samples	INTERNAL QC-ONLY
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	X
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	NA
Check for completeness	X
Primary Reviewer	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:
09-SEP-2016

John Richards

Secondary Reviewer:
12-SEP-2016

Mary Schilling



Microbac Laboratories Inc.

Data Checklist

Date: 05-OCT-2016
 Analyst: CAS
 Analyst: NA
 Method: 300/9056
 Instrument: IC2
 Curve Workgroup: NA
 Runlog ID: 77903
 Analytical Workgroups: L16091174, L16100194

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)	1679PSI
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	NA
Recoveries	NA
%RPD	NA
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	NA
Library searches (MS)	NA
Calculations & correct factors	X
Compounds above calibration range	X
Reruns	X
Manual integrations	X
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	X
Check for completeness	X
Primary Reviewer	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	MES

Primary Reviewer:
06-OCT-2016

CAS

Secondary Reviewer:
07-OCT-2016

Mary Schilling

CHECKLIST1 - Modified 03/05/2008

Generated: OCT-07-2016 09:08:25



Analytical Method: 9056
 Login Number: L16100194

AAB#: WG586401

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
35AWW08-100416	01	10/04/16					10/05/2016	1.5	2		10/05/16	1.6	2	
35AWW08-100416	01	10/04/16					10/05/2016	1.5	2		10/06/16	2.1	2	*
03WW01-100416	03	10/04/16					10/05/2016	1.4	2		10/05/16	1.6	2	
03WW01-100416	03	10/04/16					10/05/2016	1.4	2		10/05/16	1.6	2	
35AWW20-100416	05	10/04/16					10/05/2016	1.4	2		10/06/16	2.1	2	*
35AWW20-100416	05	10/04/16					10/05/2016	1.4	2		10/05/16	1.6	2	
LHSMW07-100416	06	10/04/16					10/05/2016	1.3	2		10/06/16	1.6	2	
LHSMW07-100416	06	10/04/16					10/05/2016	1.3	2		10/06/16	1.6	2	
LHSMW07-100416	06	10/04/16					10/05/2016	1.3	2		10/06/16	2	2	

* = SEE PROJECT QAPP REQUIREMENTS



METHOD BLANK SUMMARY

Login Number: L16100194 Work Group: WG586401
 Blank File ID: I2_100516-13 Blank Sample ID: WG586401-01
 Prep Date: 10/05/16 18:40 Instrument ID: IC2
 Analyzed Date: 10/05/16 21:52 Method: 9056
 Analyst: CAS

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG586401-02	I2_100516-14	10/05/16 22:12	01
LCS2	WG586401-03	I2_100516-15	10/05/16 22:31	01
35AWW08-100416	L16100194-01	I2_100516-16	10/05/16 22:50	DL01
03WW01-100416	L16100194-03	I2_100516-17	10/05/16 23:09	DL01
03WW01-100416	L16100194-03	I2_100516-18	10/05/16 23:28	DL02
35AWW20-100416	L16100194-05	I2_100516-19	10/05/16 23:48	DL01
LHSMW07-100416	L16100194-06	I2_100516-21	10/06/16 00:26	DL01
DUP	WG586401-05	I2_100516-22	10/06/16 00:45	DL01
LHSMW07-100416	L16100194-06	I2_100516-25	10/06/16 01:43	DL02
35AWW08-100416	L16100194-01	I2_100516-30	10/06/16 10:40	DL02
35AWW20-100416	L16100194-05	I2_100516-31	10/06/16 10:59	DL02
LHSMW07-100416	L16100194-06	I2_100516-32	10/06/16 11:18	DL03

Report Name: BLANK_SUMMARY
 PDF File ID: 4965195
 Report generated 10/07/2016 10:08



Login Number: L16100194 Prep Date: 10/05/16 18:40 Sample ID: WG586401-01
Instrument ID: IC2 Run Date: 10/05/16 21:52 Prep Method: 9056
File ID: I2 100516-13 Analyst: CAS Method: 9056
Workgroup (AAB#): WG586401 Matrix: Water Units: mg/L
Contract #: Cal ID: IC2-08-SEP-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: 4965196
07-OCT-2016 10:08



Login Number: L16100194 Analyst: CAS Prep Method: 9056
 Instrument ID: IC2 Matrix: Water Method: 9056
 Workgroup (AAB#): WG586401 Units: mg/L
 QC Key: DOD4 Lot #: STD77045
 Sample ID: WG586401-02 LCS File ID: I2 100516-14 Run Date: 10/05/2016 22:12
 Sample ID: WG586401-03 LCS2 File ID: I2 100516-15 Run Date: 10/05/2016 22:31

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Chloride	8.00	7.96	99.5	8.00	8.03	100	0.851	90 - 110	20	
Nitrate	5.42	5.47	101	5.42	5.49	101	0.402	90 - 110	20	
Nitrite	4.87	5.21	107	4.87	5.29	109	1.43	90 - 110	20	
Sulfate	40.0	40.5	101	40.0	40.6	102	0.298	90 - 110	20	

LCS_LCS2 - Modified 03/06/2008
 PDF File ID: 4965198
 Report generated: 10/07/2016 10:08



DUPLICATE (DUP)

Sample Ref: L16100194-06 Cal ID: IC2- Worknum: WG586401
 Instrument ID: IC2 Method: 9056
 Sample ID: WG586401-04 File ID: I2 100516-21 Dil: 20 Matrix: WATER
 Duplicate ID: WG586401-05 File ID: I2 100516-22 Dil: 20 Units: mg/L

Analyte	Sample	Duplicate	RPD	RPD Limit	Q
Chloride	1740	1740	0.0299	20	
Nitrate	ND	ND	0	20	
Nitrite	ND	ND	0	20	
Sulfate	2570	2570	0.0903	20	

FAILS RPD LIMIT

NOTE: This is an internal quality control sample.

WG_DUP_DRYWT - Modified 03/06/2008
 PDF File ID: 4965630
 Report generated 10/07/2016 10:08



Login Number: L16100194
Analytical Method: 9056
ICAL Workgroup: WG583007

Instrument ID: IC2
Initial Calibration Date: 08-SEP-16 00:39
Column ID: F

Analyte	AVG RF	% RSD	LINEAR (R)	QUAD (R ²)
Chloride	4.512	8.51		0.99700
Nitrate	1.897	11.1		0.99600
Nitrite	2.741	13.3		0.99600
Sulfate	6.097	12.8		0.99600

R = Correlation coefficient; 0.995 minimum
R² = Coefficient of determination; 0.99 minimum

INT_CAL - Modified 03/06/2008
PDF File ID: 4965322
Report generated 10/07/2016 10:09



Login Number: L16100194
 Analytical Method: 9056

Instrument ID: IC2
 Initial Calibration Date: 08-SEP-16 00:39
 Column ID: F

Analyte	WG583007-01			WG583007-02			WG583007-03		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloride	0.200	0.043000000 0	4.651	1.00	0.203000000	4.926	4.00	0.841000000	4.756
Nitrate	0.134	0.062000000 0	2.154	0.678	0.329000000	2.059	2.71	1.383000000	1.960
Nitrite	0.122	0.037000000 0	3.292	0.609	0.197000000	3.091	2.44	0.891000000	2.734
Sulfate	1.00	0.141000000	7.092	5.00	0.744000000	6.720	20.0	3.174000000	6.301

INT_CAL - Modified 03/06/2008
 PDF File ID: 4965322
 Report generated 10/07/2016 10:09



Login Number: L16100194
 Analytical Method: 9056

Instrument ID: IC2
 Initial Calibration Date: 08-SEP-16 00:39
 Column ID: F

Analyte	WG583007-04			WG583007-05			WG583007-06		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Chloride	8.00	1.77100000	4.517	12.0	2.78000000	4.317	24.0	6.14600000	3.905
Nitrate	5.42	2.92900000	1.851	8.13	4.60300000	1.767	16.3	10.2070000	1.593
Nitrite	4.87	1.90800000	2.553	7.31	2.98400000	2.449	14.6	6.28400000	2.326
Sulfate	40.0	6.81500000	5.869	60.0	10.7770000	5.567	120	23.8600000	5.029

INT_CAL - Modified 03/06/2008
 PDF File ID: 4965322
 Report generated 10/07/2016 10:09



Login Number: L16100194 Run Date: 09/08/2016 Sample ID: WG583007-07
 Instrument ID: IC2 Run Time: 00:58 Method: 9056
 File ID: I2 090716-09 Analyst: JWR QC Key: DOD4
 ICal Workgroup: WG583007 Cal ID: IC2 - 08-SEP-16

Analyte	Expected	Found	Units	RF	%D	UCL	Q
Chloride	8.00	8.00	mg/L	4.55	0	10	
Nitrate	5.42	5.42	mg/L	1.86	0	10	
Nitrite	4.87	5.17	mg/L	2.47	6.10	10	
Sulfate	40.0	40.2	mg/L	5.92	0.500	10	

* Exceeds %D Limit



Login Number: L16100194 Run Date: 10/05/2016 Sample ID: WG586634-04
 Instrument ID: IC2 Run Time: 21:33 Method: 9056
 File ID: I2 100516-12 Analyst: CAS Units: mg/L
 Workgroup (AAB#): WG586401 Cal ID: IC2 - 08-SEP-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: 4965200
 Report generated 10/07/2016 10:09



Login Number: L16100194 Run Date: 10/06/2016 Sample ID: WG586634-06
 Instrument ID: IC2 Run Time: 01:24 Method: 9056
 File ID: I2 100516-24 Analyst: CAS Units: mg/L
 Workgroup (AAB#): WG586401 Cal ID: IC2 - 08-SEP-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: 4965200
 Report generated 10/07/2016 10:09



Login Number: L16100194 Run Date: 10/06/2016 Sample ID: WG586634-08
Instrument ID: IC2 Run Time: 02:21 Method: 9056
File ID: I2 100516-27 Analyst: CAS Units: mg/L
Workgroup (AAB#): WG586401 Cal ID: IC2 - 08-SEP-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.



Login Number: L16100194 Run Date: 10/06/2016 Sample ID: WG586634-10
Instrument ID: IC2 Run Time: 10:21 Method: 9056
File ID: I2 100516-29 Analyst: CAS Units: mg/L
Workgroup (AAB#): WG586401 Cal ID: IC2 - 08-SEP-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.



Login Number: L16100194 Run Date: 10/06/2016 Sample ID: WG586634-12
 Instrument ID: IC2 Run Time: 11:57 Method: 9056
 File ID: I2 100516-34 Analyst: CAS Units: mg/L
 Workgroup (AAB#): WG586401 Cal ID: IC2 - 08-SEP-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: 4965200
 Report generated 10/07/2016 10:09



Login Number: L16100194 Run Date: 10/05/2016 Sample ID: WG586634-03
 Instrument ID: IC2 Run Time: 21:14 Method: 9056
 File ID: I2 100516-11 Analyst: CAS QC Key: DOD4
 Workgroup (AAB#): WG586401 Cal ID: IC2 - 08-SEP-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Chloride	8.00	8.05	mg/L	4.51	0.663	10	
Nitrate	5.42	5.47	mg/L	1.85	0.819	10	
Nitrite	4.87	5.22	mg/L	2.45	7.07	10	
Sulfate	40.0	41.2	mg/L	5.75	3.11	10	

* Exceeds %D Criteria



Login Number: L16100194 Run Date: 10/06/2016 Sample ID: WG586634-05
 Instrument ID: IC2 Run Time: 01:05 Method: 9056
 File ID: I2 100516-23 Analyst: CAS QC Key: DOD4
 Workgroup (AAB#): WG586401 Cal ID: IC2 - 08-SEP-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Chloride	8.00	8.13	mg/L	4.47	1.65	10	
Nitrate	5.42	5.51	mg/L	1.83	1.70	10	
Nitrite	4.87	5.20	mg/L	2.46	6.72	10	
Sulfate	40.0	40.8	mg/L	5.81	2.12	10	

* Exceeds %D Criteria



Login Number: L16100194 Run Date: 10/06/2016 Sample ID: WG586634-07
Instrument ID: IC2 Run Time: 02:02 Method: 9056
File ID: I2 100516-26 Analyst: CAS QC Key: DOD4
Workgroup (AAB#): WG586401 Cal ID: IC2 - 08-SEP-16
Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Chloride	8.00	8.13	mg/L	4.47	1.66	10	
Nitrate	5.42	5.50	mg/L	1.83	1.52	10	
Nitrite	4.87	5.25	mg/L	2.43	7.67	10	
Sulfate	40.0	40.8	mg/L	5.82	2.06	10	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 4965199
Report generated 10/07/2016 10:09



Login Number: L16100194 Run Date: 10/06/2016 Sample ID: WG586634-09
 Instrument ID: IC2 Run Time: 10:01 Method: 9056
 File ID: I2 100516-28 Analyst: CAS QC Key: DOD4
 Workgroup (AAB#): WG586401 Cal ID: IC2 - 08-SEP-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Chloride	8.00	8.05	mg/L	4.51	0.650	10	
Nitrate	5.42	5.49	mg/L	1.84	1.24	10	
Nitrite	4.87	5.24	mg/L	2.43	7.57	10	
Sulfate	40.0	40.7	mg/L	5.83	1.83	10	

* Exceeds %D Criteria



Login Number: L16100194 Run Date: 10/06/2016 Sample ID: WG586634-11
 Instrument ID: IC2 Run Time: 11:37 Method: 9056
 File ID: I2 100516-33 Analyst: CAS QC Key: DOD4
 Workgroup (AAB#): WG586401 Cal ID: IC2 - 08-SEP-16
 Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
Chloride	8.00	8.10	mg/L	4.49	1.21	10	
Nitrate	5.42	5.51	mg/L	1.83	1.63	10	
Nitrite	4.87	5.25	mg/L	2.43	7.81	10	
Sulfate	40.0	40.8	mg/L	5.82	2.03	10	

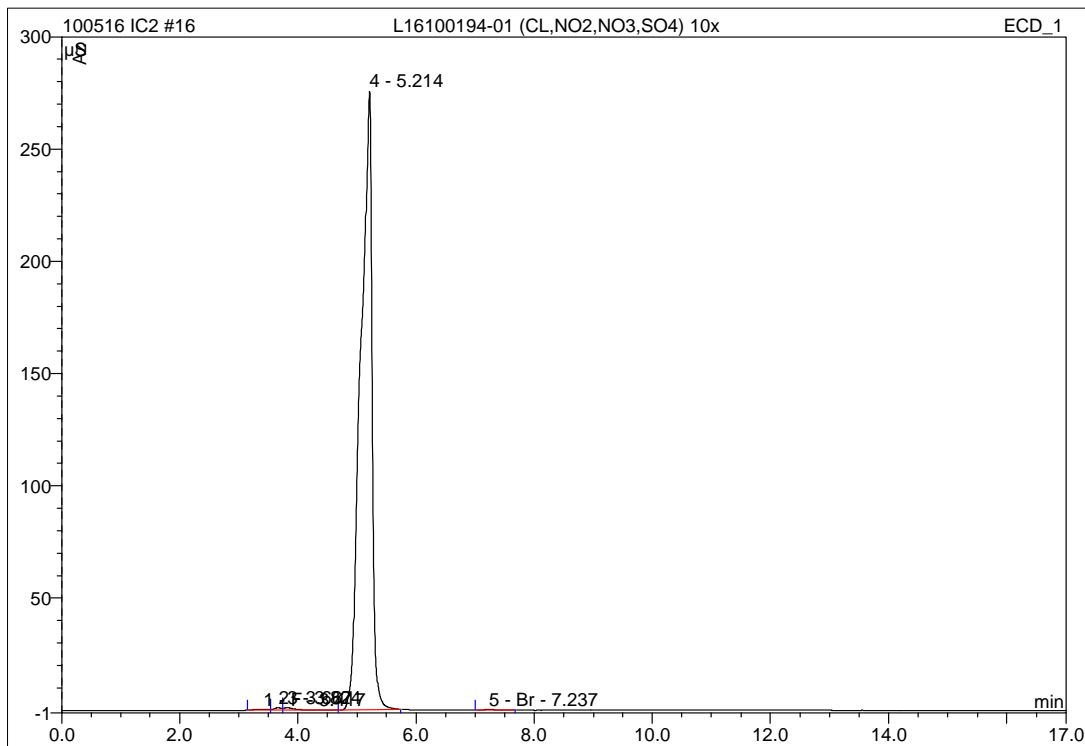
* Exceeds %D Criteria



2.4.1.3 Sample Data

16 L16100194-01 (CL,NO2,NO3,SO4) 10x**1,10 CAS (min. filter dil'n)**

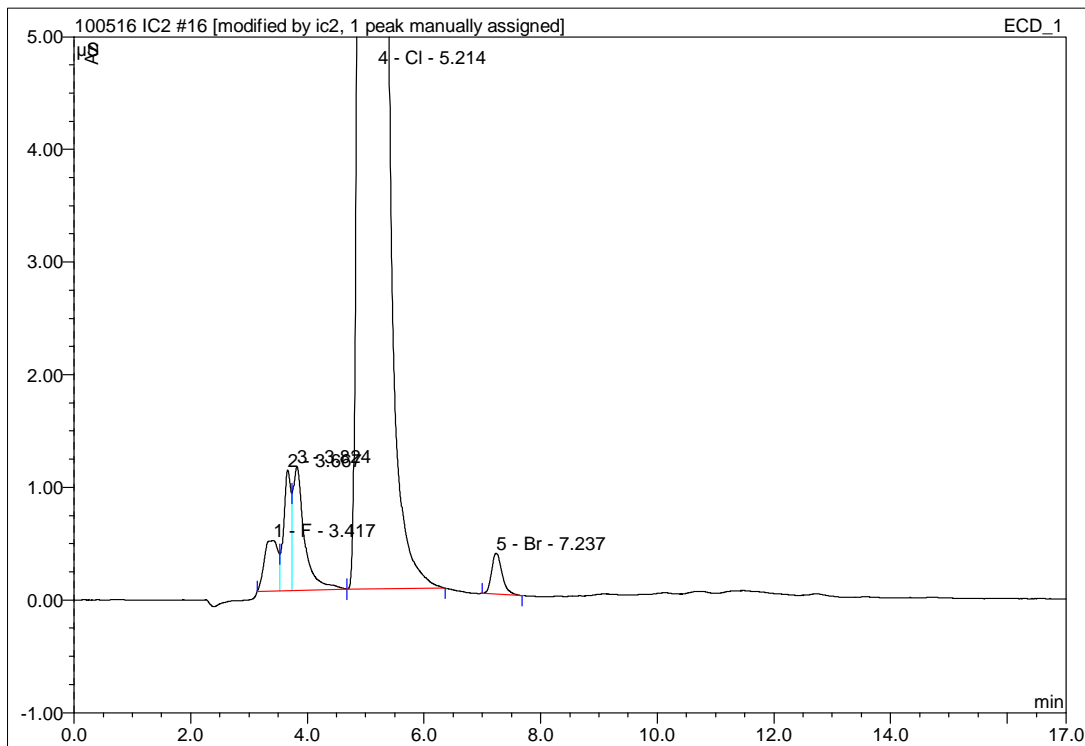
Sample Name:	L16100194-01 (CL,NO2,NO3,SO4) 10x	Injection Volume:	25.0
Vial Number:	20	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	090716_9056	Dilution Factor:	1.0000
Recording Time:	10/05/2016 22:50	Sample Weight:	1.0000
Run Time (min):	17.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area $\mu\text{S}\cdot\text{min}$	Rel.Area %	Amount mg/L	Type
1	3.42	F	0.449	0.123	0.20	0.396	BM
2	3.67	n.a.	1.070	0.159	0.26	n.a.	M
3	3.82	n.a.	1.101	0.254	0.41	n.a.	MB
4	5.21	n.a.	275.302	61.738	99.02	n.a.	BMB
5	7.24	Br	0.363	0.075	0.12	0.911	BMB
Total:			278.284	62.350	100.00	1.308	

16 L16100194-01 (CL,NO2,NO3,SO4) 10x**1,10 CAS (min. filter dil'n)**

Sample Name:	L16100194-01 (CL,NO2,NO3,SO4) 10x	Injection Volume:	25.0
Vial Number:	20	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	090716_9056	Dilution Factor:	1.0000
Recording Time:	10/05/2016 22:50	Sample Weight:	1.0000
Run Time (min):	17.00	Sample Amount:	1.0000

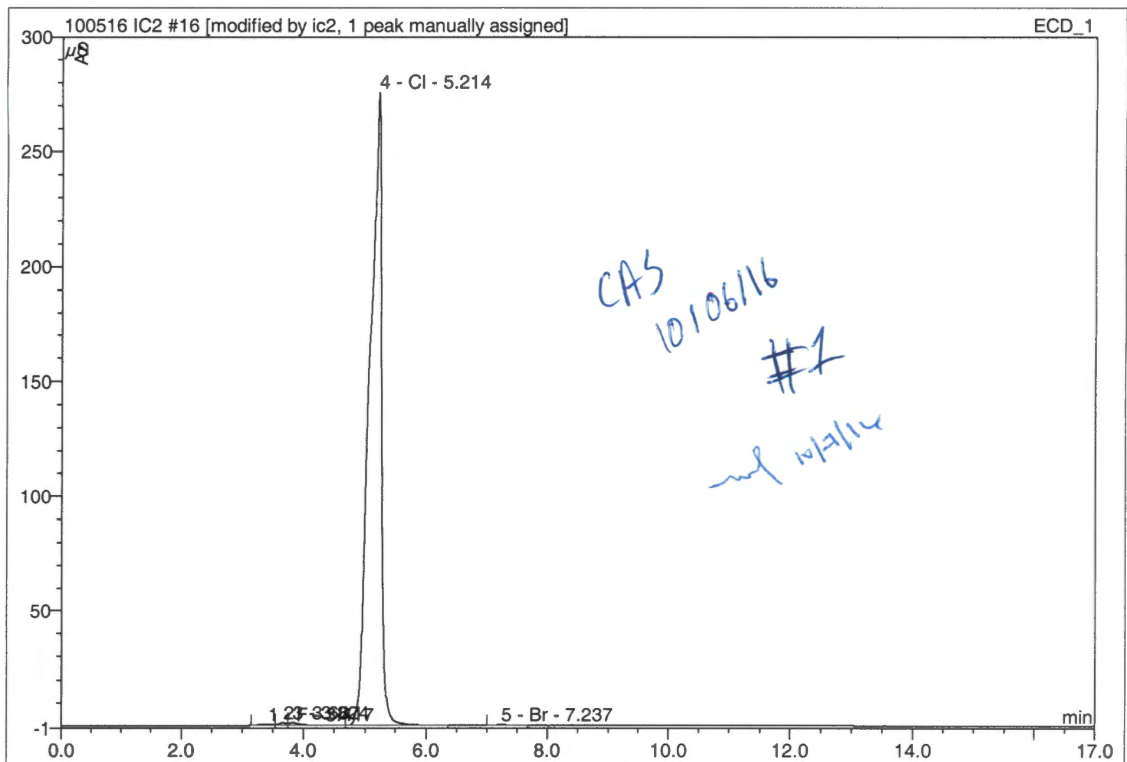


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.42	F	0.449	0.123	0.20	0.396	BM
2	3.67	n.a.	1.070	0.159	0.25	n.a.	M
3	3.82	n.a.	1.101	0.254	0.41	n.a.	MB
4	5.21	Cl	275.479	61.995	99.02	124.952	BMB*^
5	7.24	Br	0.363	0.075	0.12	0.911	BMB
Total:			278.462	62.607	100.00	126.259	

IC/Integration

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

16 L16100194-01 (CL,NO2,NO3,SO4) 10x			
1,10 CAS (min. filter dil'n)			
Sample Name:	L16100194-01 (CL,NO2,NO3,SO4) 10x	Injection Volume:	25.0
Vial Number:	20	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	090716_9056	Dilution Factor:	1.0000
Recording Time:	10/05/2016 22:50	Sample Weight:	1.0000
Run Time (min):	17.00	Sample Amount:	1.0000



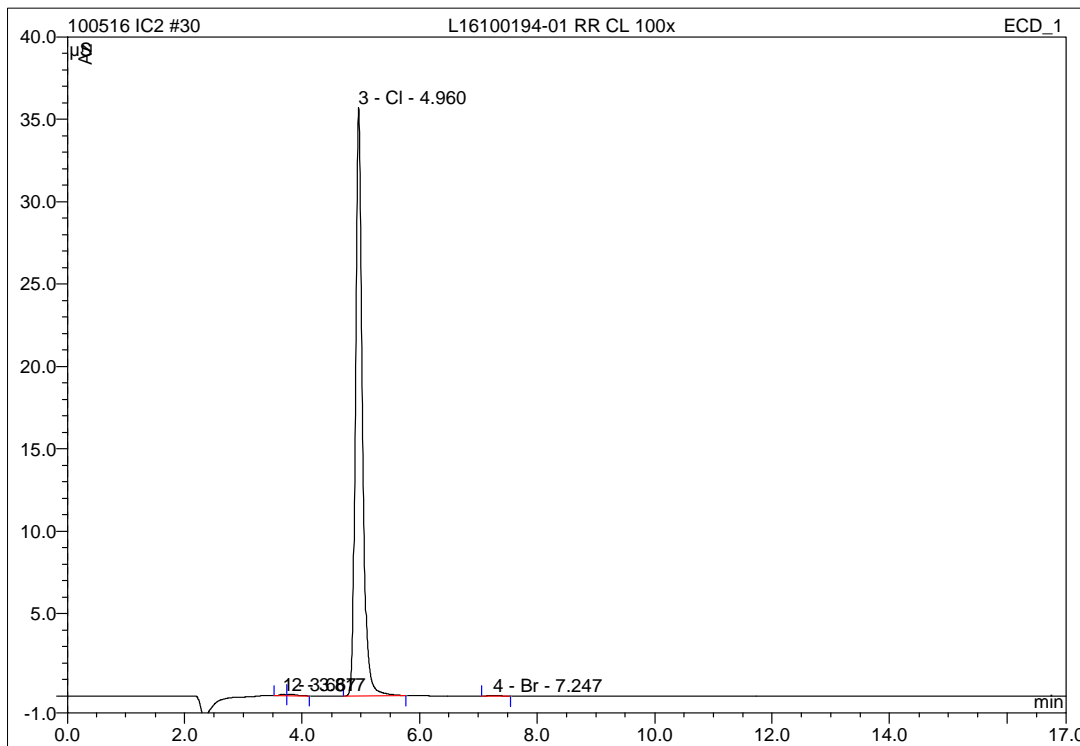
No.	Ret.Time min	Peak Name	Height μ S	Area μ S*min	Rel.Area %	Amount mg/L	Type
1	3.42	F	0.449	0.123	0.20	0.396	BM
2	3.67	n.a.	1.070	0.159	0.25	n.a.	M
3	3.82	n.a.	1.101	0.254	0.41	n.a.	MB
4	5.21	Cl	275.479	61.995	99.02	124.952	BMB*^
5	7.24	Br	0.363	0.075	0.12	0.911	BMB
Total:			278.462	62.607	100.00	126.259	

IC/Integration

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

30 L16100194-01 RR CL 100x**1,100 CAS**

Sample Name:	L16100194-01 RR CL 100x	Injection Volume:	25.0
Vial Number:	43	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	090716_9056	Dilution Factor:	1.0000
Recording Time:	10/06/2016 10:40	Sample Weight:	1.0000
Run Time (min):	17.00	Sample Amount:	1.0000



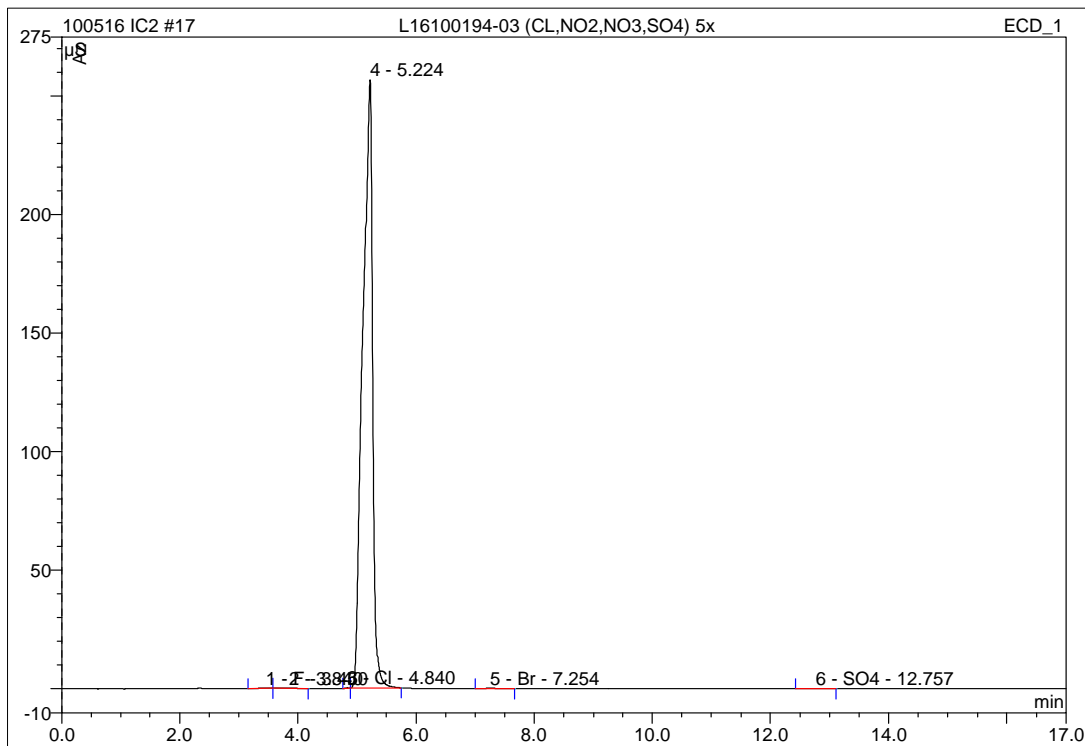
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount mg/L	Type
1	3.67	n.a.	0.090	0.011	0.22	n.a.	BM
2	3.82	n.a.	0.096	0.016	0.32	n.a.	MB
3	4.96	Cl	35.693	4.962	99.30	19.998	BMB
4	7.25	Br	0.038	0.008	0.16	0.112	BMB
Total:			35.917	4.997	100.00	20.110	

IC/Integration

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

17 L16100194-03 (CL,NO2,NO3,SO4) 5x**1,5 CAS (CL screen>200ppm)**

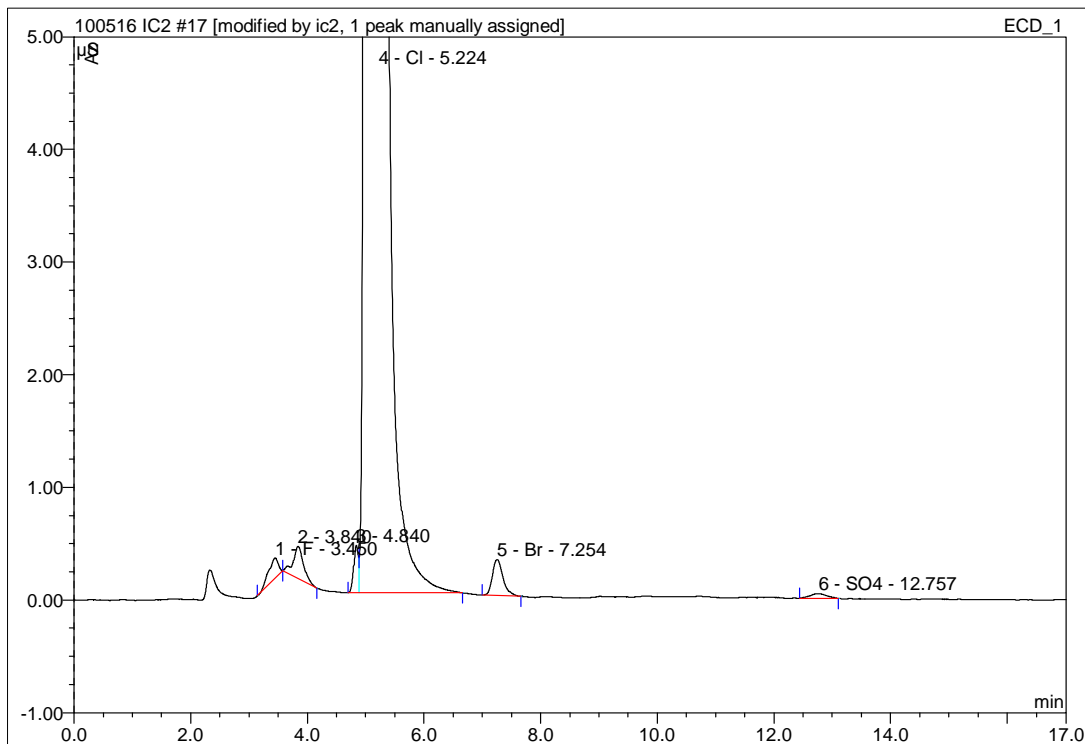
Sample Name:	L16100194-03 (CL,NO2,NO3,SO4) 5x	Injection Volume:	25.0
Vial Number:	21	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	090716_9056	Dilution Factor:	1.0000
Recording Time:	10/05/2016 23:09	Sample Weight:	1.0000
Run Time (min):	17.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.45	F	0.178	0.036	0.07	0.122	BMB
2	3.84	n.a.	0.284	0.060	0.12	n.a.	bMB
3	4.84	Cl	0.204	0.014	0.03	0.057	BMB
4	5.22	n.a.	256.417	49.755	99.62	n.a.	bMB
5	7.25	Br	0.317	0.066	0.13	0.804	BMB
6	12.76	SO4	0.042	0.014	0.03	0.169	BMB
Total:			257.442	49.946	100.00	1.152	

17 L16100194-03 (CL,NO2,NO3,SO4) 5x**1,5 CAS (CL screen>200ppm)**

Sample Name:	L16100194-03 (CL,NO2,NO3,SO4) 5x	Injection Volume:	25.0
Vial Number:	21	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	090716_9056	Dilution Factor:	1.0000
Recording Time:	10/05/2016 23:09	Sample Weight:	1.0000
Run Time (min):	17.00	Sample Amount:	1.0000

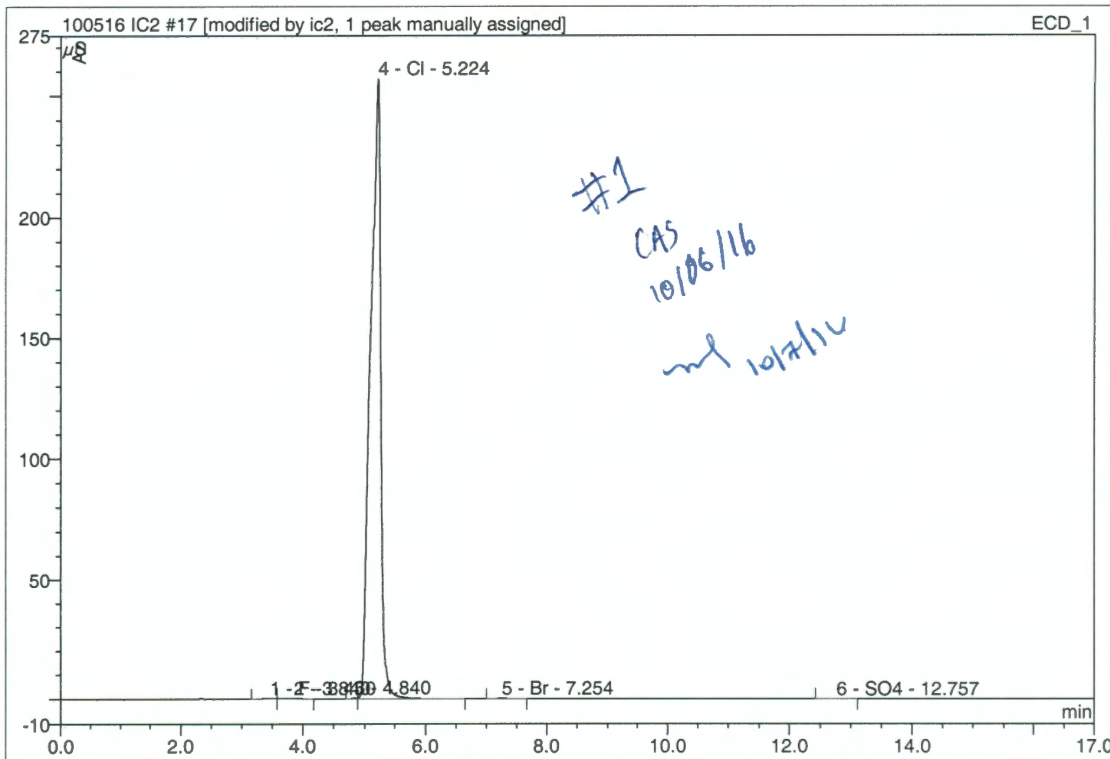


No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.45	F	0.178	0.036	0.07	0.122	BMb
2	3.84	n.a.	0.284	0.060	0.12	n.a.	bMB
3	4.84	n.a.	0.418	0.038	0.07	n.a.	BM *
4	5.22	Cl	256.749	50.134	99.57	109.228	MB^A
5	7.25	Br	0.317	0.066	0.13	0.804	BMB
6	12.76	SO4	0.042	0.014	0.03	0.169	BMB
Total:			257.988	50.348	100.00	110.323	

IC/Integration

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Version 6.80 SP1 Build 2238

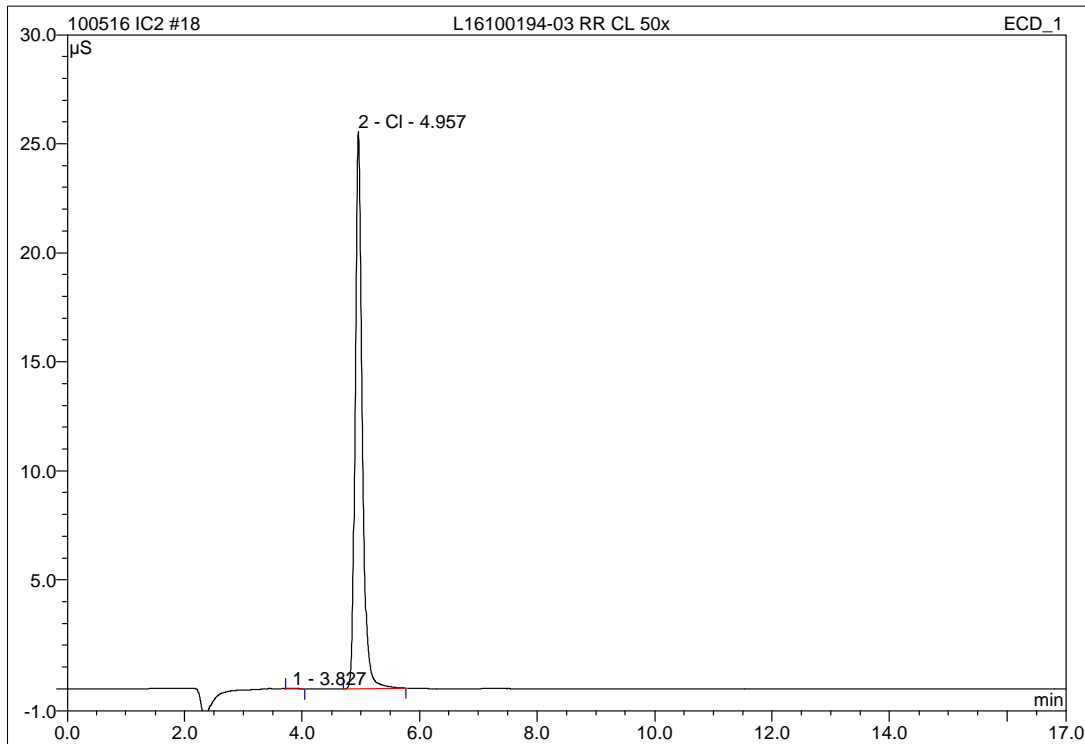
17 L16100194-03 (CL,NO2,NO3,SO4) 5x			
1,5 CAS (CL screen>200ppm)			
Sample Name:	L16100194-03 (CL,NO2,NO3,SO4) 5x	Injection Volume:	25.0
Vial Number:	21	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	090716_9056	Dilution Factor:	1.0000
Recording Time:	10/05/2016 23:09	Sample Weight:	1.0000
Run Time (min):	17.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount mg/L	Type
1	3.45	F	0.178	0.036	0.07	0.122	BMB
2	3.84	n.a.	0.284	0.060	0.12	n.a.	bMB
3	4.84	n.a.	0.418	0.038	0.07	n.a.	BM *
4	5.22	Cl	256.749	50.134	99.57	109.228	MB^A
5	7.25	Br	0.317	0.066	0.13	0.804	BMB
6	12.76	SO4	0.042	0.014	0.03	0.169	BMB
Total:			257.988	50.348	100.00	110.323	

18 L16100194-03 RR CL 50x**1,50 CAS**

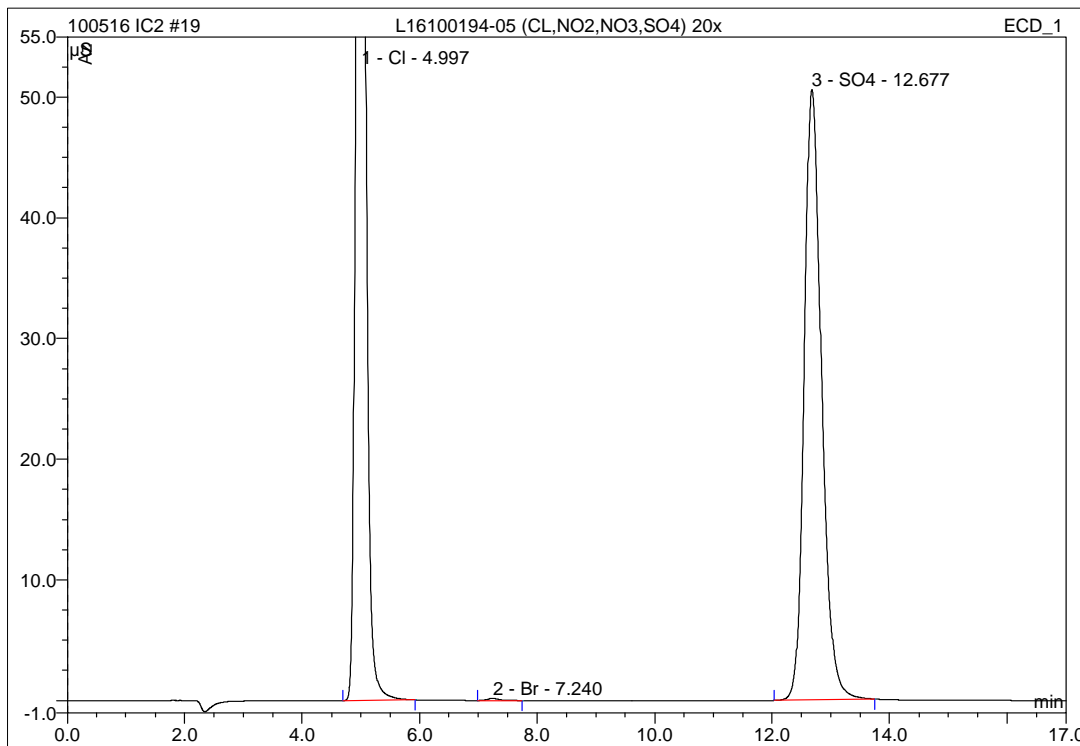
Sample Name:	L16100194-03 RR CL 50x	Injection Volume:	25.0
Vial Number:	22	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	090716_9056	Dilution Factor:	1.0000
Recording Time:	10/05/2016 23:28	Sample Weight:	1.0000
Run Time (min):	17.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.83	n.a.	0.030	0.004	0.11	n.a.	BMB
2	4.96	Cl	25.542	3.609	99.89	15.234	BMB
Total:			25.572	3.613	100.00	15.234	

19 L16100194-05 (CL,NO2,NO3,SO4) 20x**1,20 CAS (SO4 screen>200ppm)**

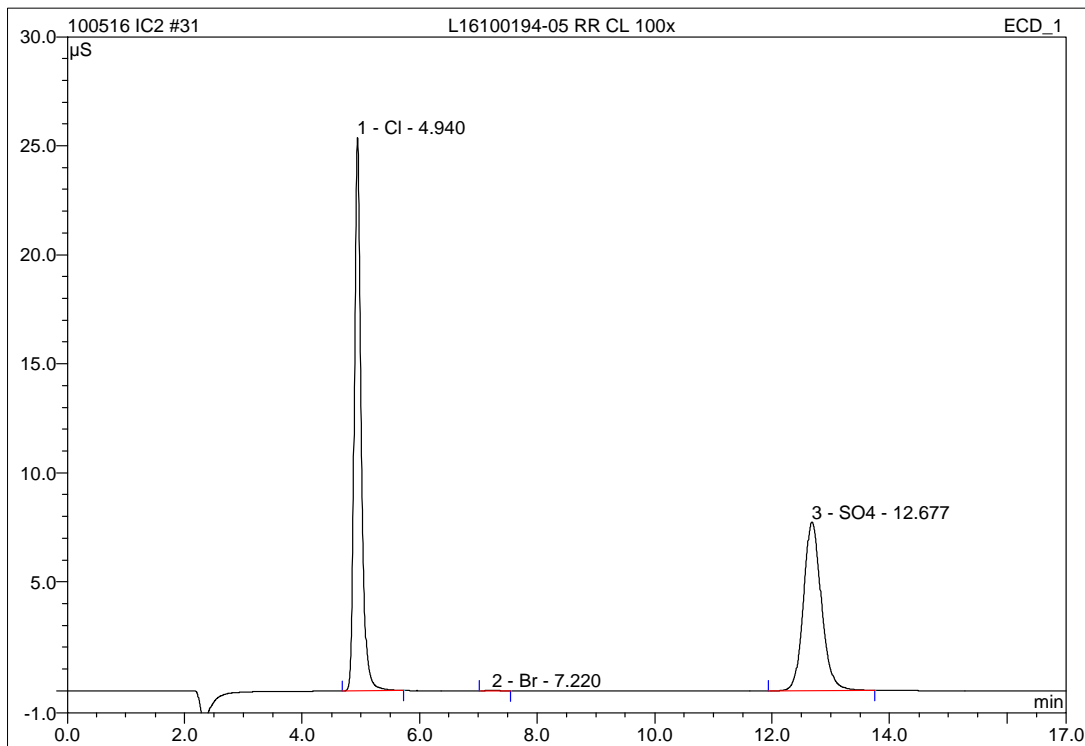
Sample Name:	L16100194-05 (CL,NO2,NO3,SO4) 20x	Injection Volume:	25.0
Vial Number:	23	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	090716_9056	Dilution Factor:	1.0000
Recording Time:	10/05/2016 23:48	Sample Weight:	1.0000
Run Time (min):	17.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount mg/L	Type
1	5.00	Cl	134.190	22.519	56.40	63.973	BMB
2	7.24	Br	0.177	0.040	0.10	0.496	BMB
3	12.68	SO4	50.584	17.369	43.50	91.722	BMB
Total:			184.951	39.928	100.00	156.190	

31 L16100194-05 RR CL 100x**1,100 CAS**

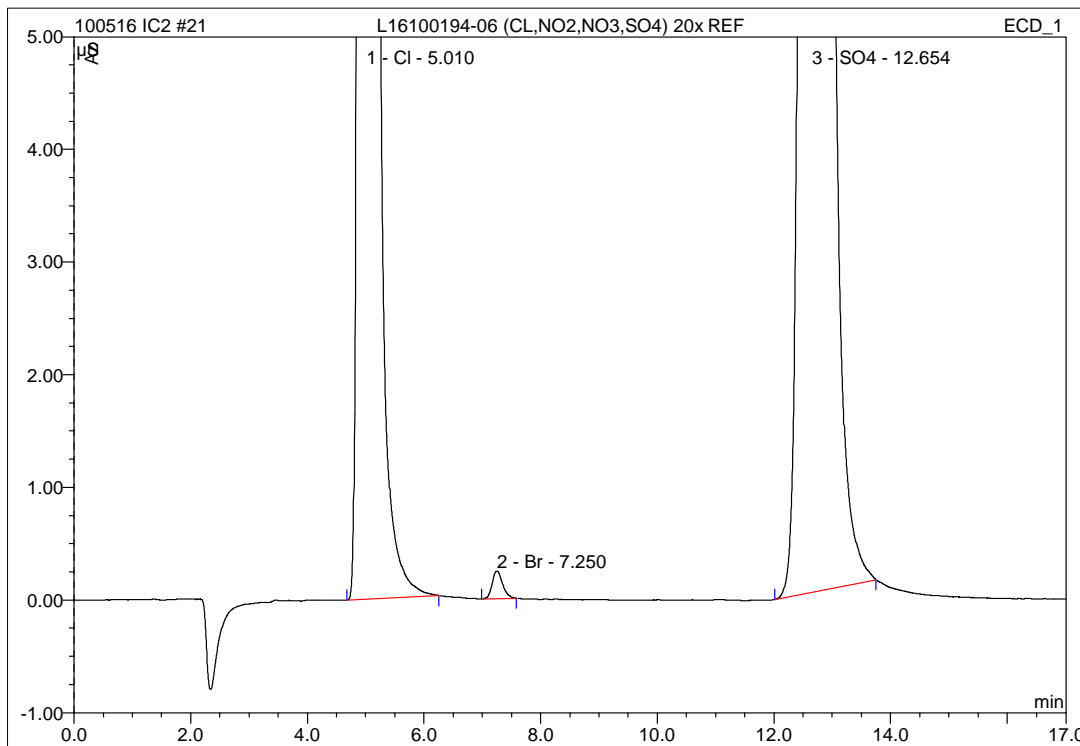
Sample Name:	L16100194-05 RR CL 100x	Injection Volume:	25.0
Vial Number:	44	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	090716_9056	Dilution Factor:	1.0000
Recording Time:	10/06/2016 10:59	Sample Weight:	1.0000
Run Time (min):	17.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount mg/L	Type
1	4.94	Cl	25.378	3.468	55.69	14.716	BMB
2	7.22	Br	0.031	0.007	0.11	0.098	BMB
3	12.68	SO4	7.741	2.752	44.20	17.367	BMB
Total:			33.149	6.227	100.00	32.181	

21 L16100194-06 (CL,NO2,NO3,SO4) 20x REF**1,20 CAS WG586401-04 REF (SO4 screen>200ppm)**

Sample Name:	L16100194-06 (CL,NO2,NO3,SO4) 20x REF	Injection Volume:	25.0
Vial Number:	25	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	090716_9056	Dilution Factor:	1.0000
Recording Time:	10/06/2016 0:26	Sample Weight:	1.0000
Run Time (min):	17.00	Sample Amount:	1.0000



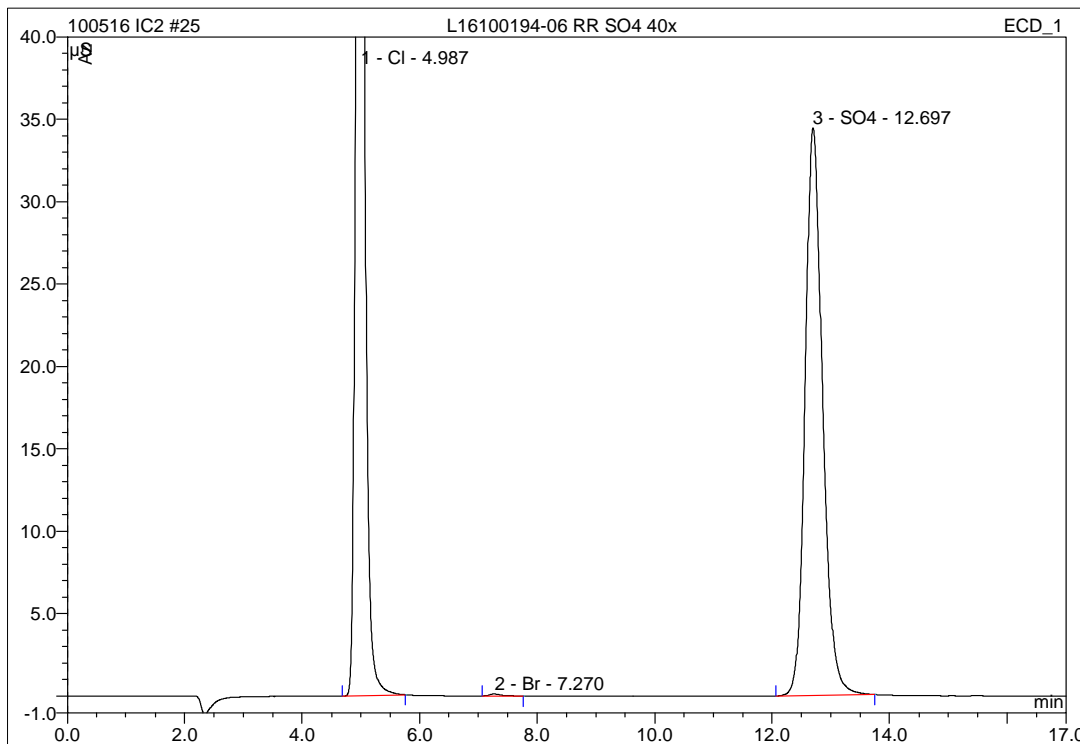
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount mg/L	Type
1	5.01	Cl	175.891	35.316	57.35	86.928	BMB
2	7.25	Br	0.245	0.051	0.08	0.621	BMB
3	12.65	SO4	75.531	26.216	42.57	128.302	BMB
Total:			251.667	61.583	100.00	215.851	

IC/Integration

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25 L16100194-06 RR SO4 40x**1,40 CAS**

Sample Name:	L16100194-06 RR SO4 40x	Injection Volume:	25.0
Vial Number:	29	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	090716_9056	Dilution Factor:	1.0000
Recording Time:	10/06/2016 1:43	Sample Weight:	1.0000
Run Time (min):	17.00	Sample Amount:	1.0000



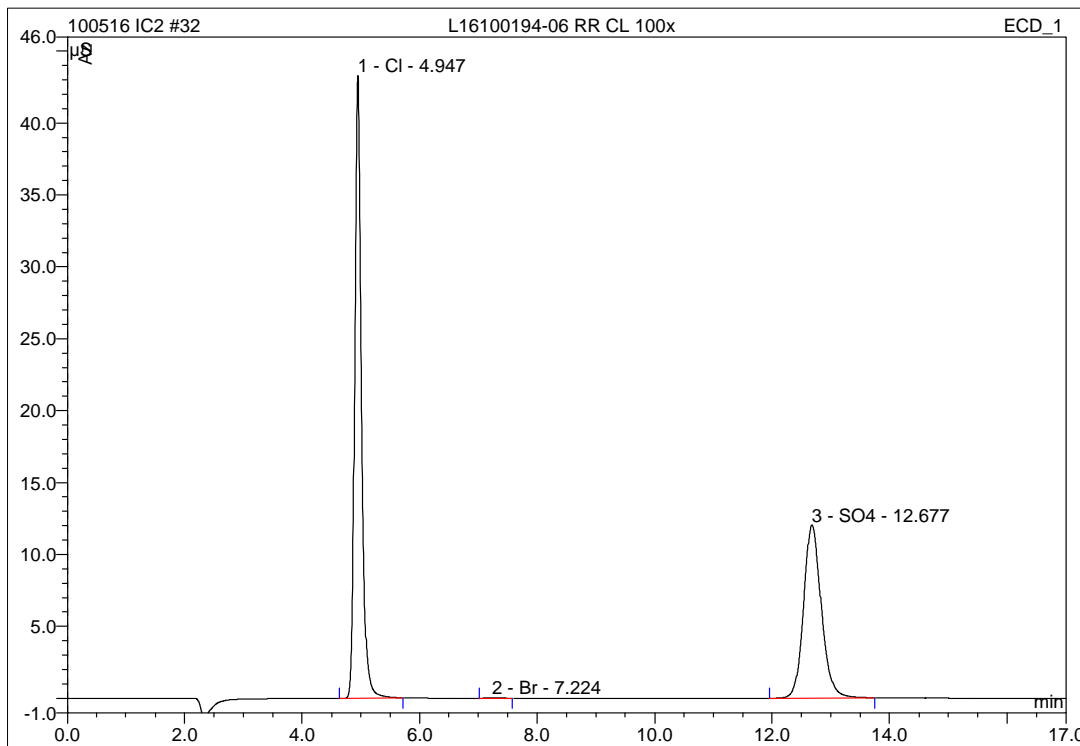
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount mg/L	Type
1	4.99	Cl	115.698	16.601	58.29	51.480	BMB
2	7.27	Br	0.121	0.028	0.10	0.347	BMB
3	12.70	SO4	34.419	11.852	41.61	66.241	BMB
Total:			150.238	28.481	100.00	118.067	

IC/Integration

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

32 L16100194-06 RR CL 100x**1,100 CAS**

Sample Name:	L16100194-06 RR CL 100x	Injection Volume:	25.0
Vial Number:	45	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	090716_9056	Dilution Factor:	1.0000
Recording Time:	10/06/2016 11:18	Sample Weight:	1.0000
Run Time (min):	17.00	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	43.276	5.823	57.88	22.848	BMB
2	7.22	Br	0.048	0.010	0.10	0.141	BMB
3	12.68	SO4	12.037	4.226	42.01	26.049	BMB
Total:			55.361	10.060	100.00	49.038	

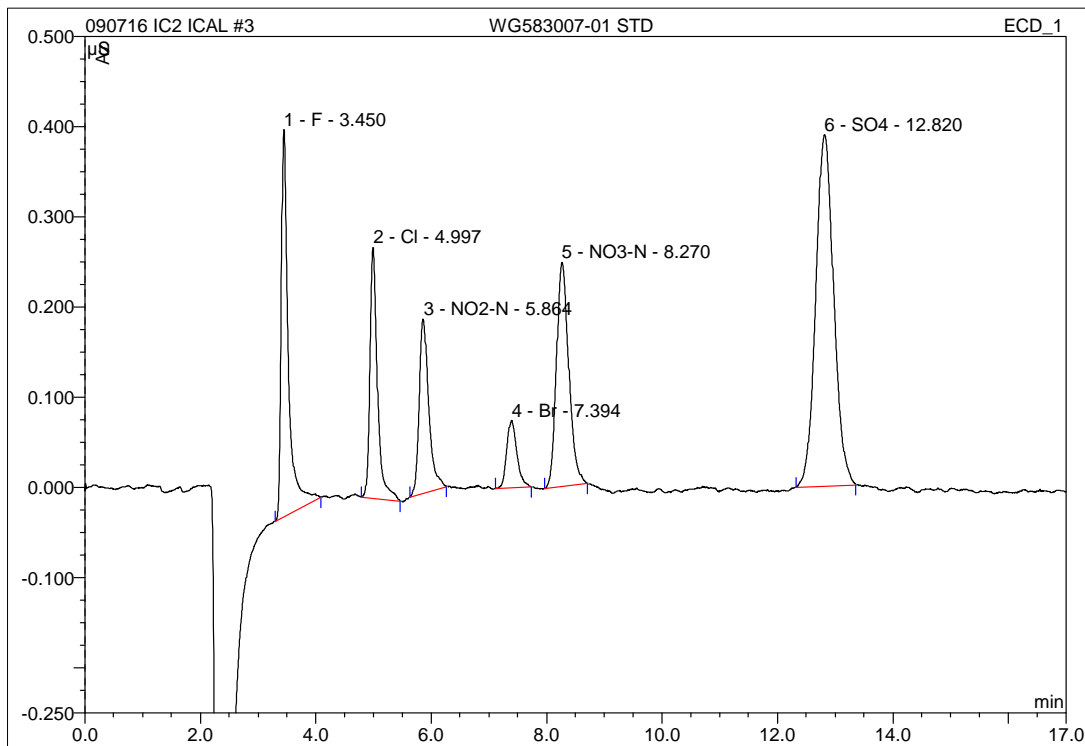
IC/Integration

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

2.4.1.4 Standards Data

3 WG583007-01 STD**1,1 JWR STD77046 (Level-1)**

Sample Name:	WG583007-01 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:	090716_9056	Dilution Factor:	1.0000
Recording Time:	09/07/2016 23:03	Sample Weight:	1.0000
Run Time (min):	17.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.45	F	0.430	0.061	17.00	0.201	BMB
2	5.00	Cl	0.278	0.043	11.86	0.200	BMB
3	5.86	NO2-N	0.193	0.037	10.35	0.123	BMB
4	7.39	Br	0.075	0.015	4.27	0.201	BMB
5	8.27	NO3-N	0.248	0.062	17.19	0.136	BMB
6	12.82	SO4	0.390	0.141	39.34	1.004	BMB
Total:			1.615	0.359	100.00	1.865	

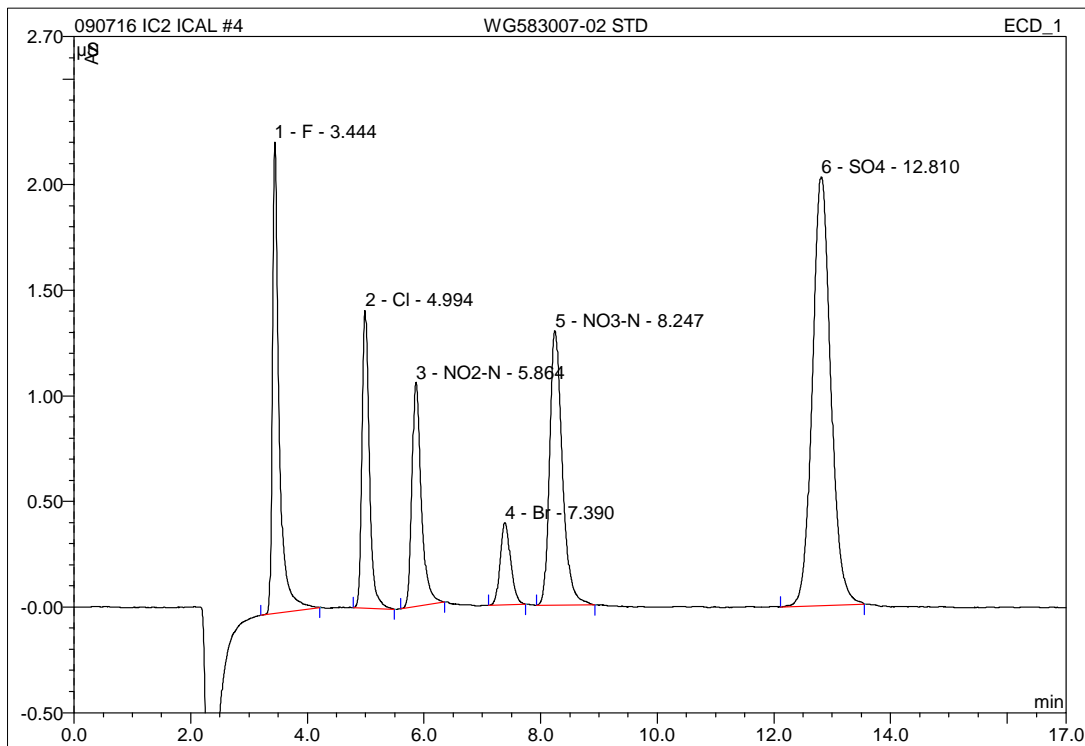
IC/Integration

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

4 WG583007-02 STD**1,1 JWR STD77046 (Level-2)**

Sample Name: **WG583007-02 STD**
 Vial Number: **4**
 Sample Type: **standard**
 Control Program: **9056**
 Quantif. Method: **090716_9056**
 Recording Time: **09/07/2016 23:22**
 Run Time (min): **17.00**

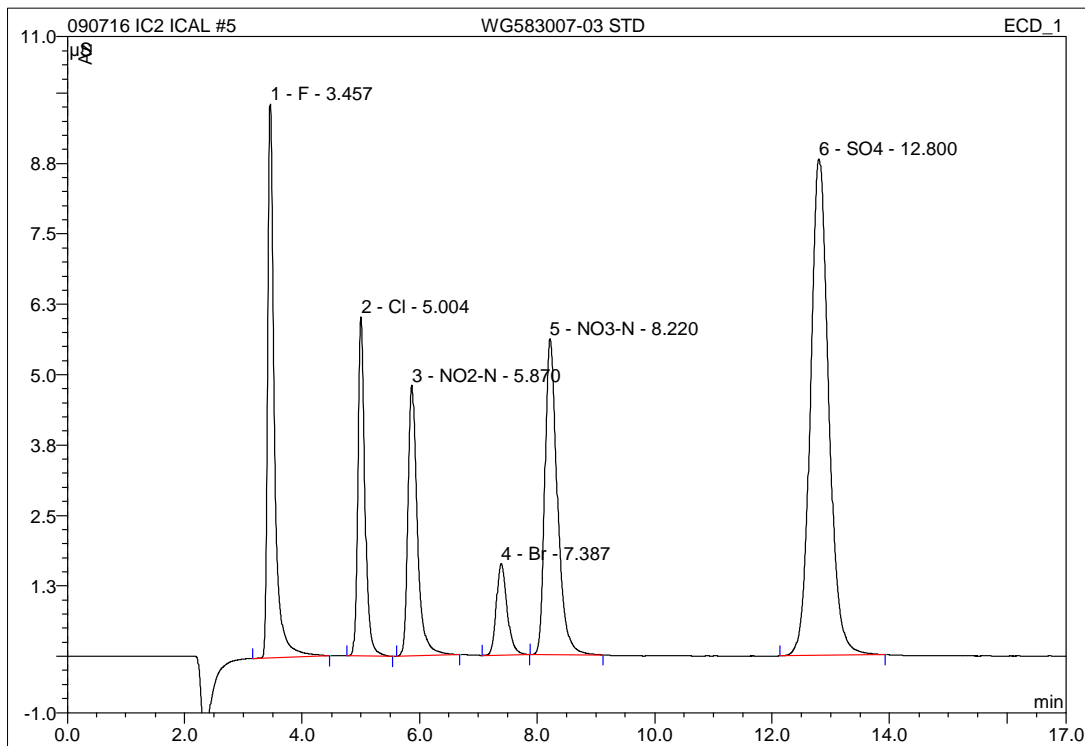
Injection Volume: **25.0**
 Channel: **ECD_1**
 Wavelength: **n.a.**
 Bandwidth: **n.a.**
 Dilution Factor: **1.0000**
 Sample Weight: **1.0000**
 Sample Amount: **1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.44	F	2.230	0.304	16.36	0.969	BMB
2	4.99	Cl	1.409	0.203	10.94	0.989	BMB
3	5.86	NO2-N	1.060	0.197	10.60	0.572	BMB
4	7.39	Br	0.389	0.081	4.37	0.978	BMB
5	8.25	NO3-N	1.300	0.329	17.70	0.672	BMB
6	12.81	SO4	2.030	0.744	40.04	4.902	BMB
Total:			8.418	1.857	100.00	9.084	

5 WG583007-03 STD**1,1 JWR STD77046 (Level-3)**

Sample Name:	WG583007-03 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:	090716_9056	Dilution Factor:	1.0000
Recording Time:	09/07/2016 23:41	Sample Weight:	1.0000
Run Time (min):	17.00	Sample Amount:	1.0000



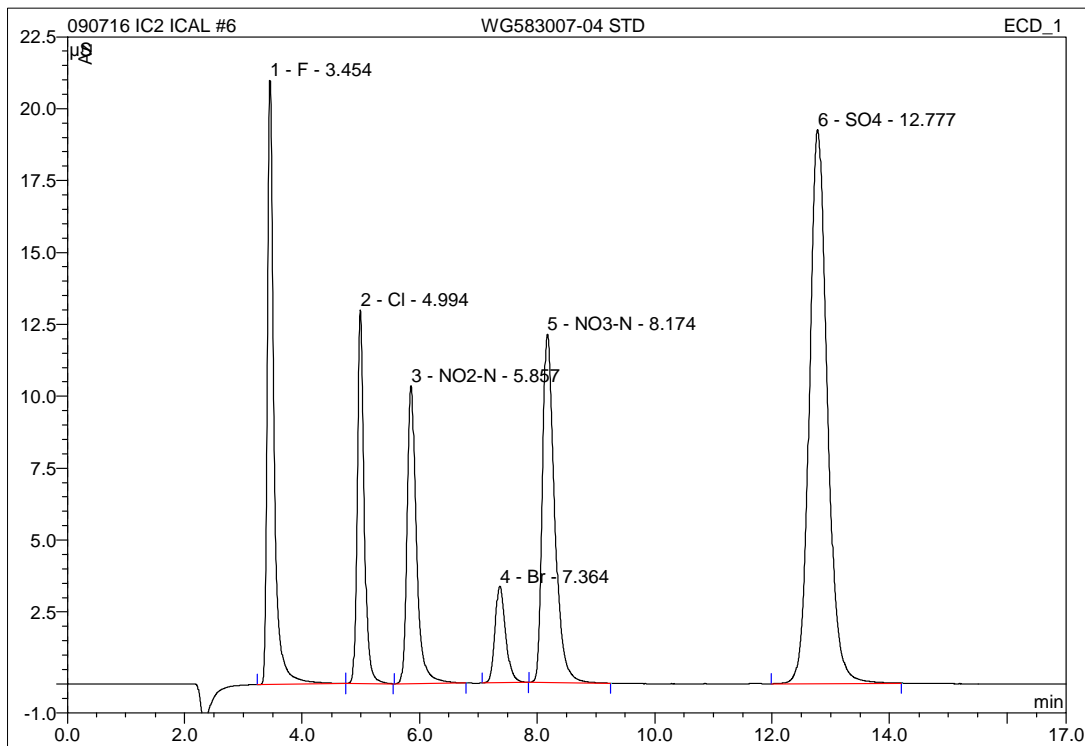
No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount mg/L	Type
1	3.46	F	9.839	1.278	16.15	3.990	BMB
2	5.00	Cl	6.026	0.841	10.63	3.991	BMB
3	5.87	NO2-N	4.808	0.891	11.26	2.452	BMB
4	7.39	Br	1.626	0.346	4.37	4.040	BMB
5	8.22	NO3-N	5.610	1.383	17.48	2.699	BMB
6	12.80	SO4	8.818	3.174	40.12	19.890	BMB
Total:			36.728	7.913	100.00	37.061	

IC/Integration

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Version 6.80 SP1 Build 2238

6 WG583007-04 STD**1,1 JWR STD77046 (Level-4)**

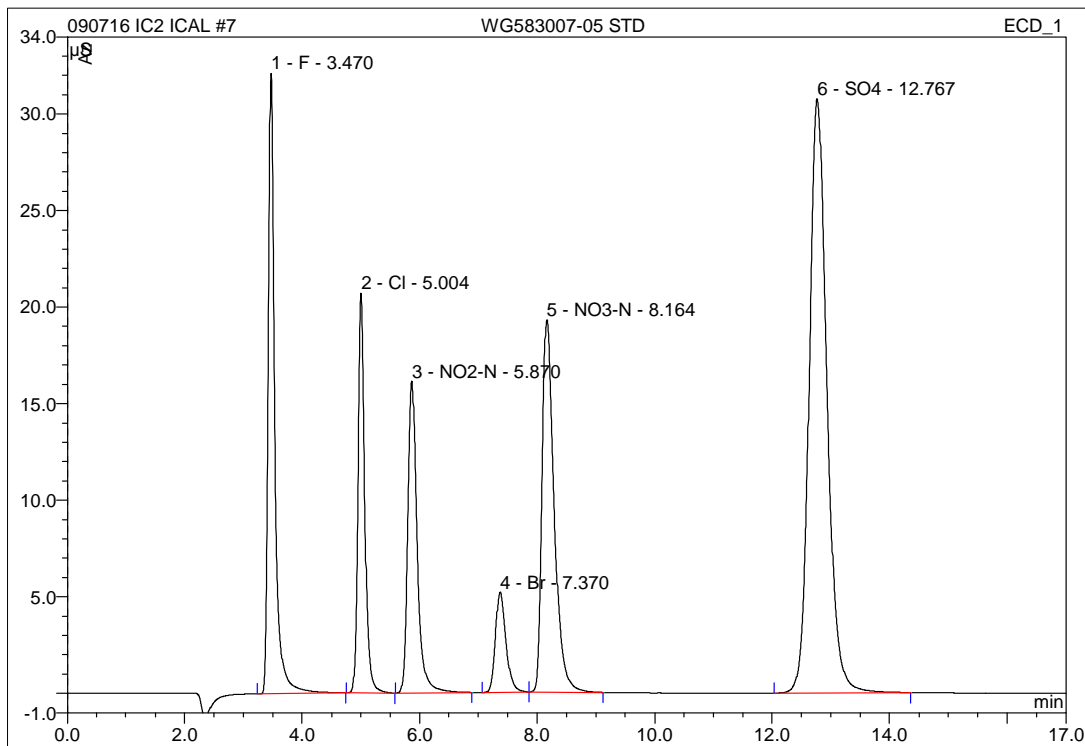
Sample Name:	WG583007-04 STD	Injection Volume:	25.0
Vial Number:	6	Channel:	ECD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	090716_9056	Dilution Factor:	1.0000
Recording Time:	09/08/2016 0:00	Sample Weight:	1.0000
Run Time (min):	17.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.45	F	21.011	2.670	15.90	8.148	BMB
2	4.99	Cl	12.988	1.771	10.54	8.047	BMB
3	5.86	NO2-N	10.364	1.908	11.36	5.014	BMB
4	7.36	Br	3.365	0.707	4.21	8.072	BMB
5	8.17	NO3-N	12.122	2.929	17.44	5.454	BMB
6	12.78	SO4	19.257	6.815	40.56	40.490	BMB
Total:			79.107	16.800	100.00	75.223	

7 WG583007-05 STD**1,1 JWR STD77046 (Level-5)**

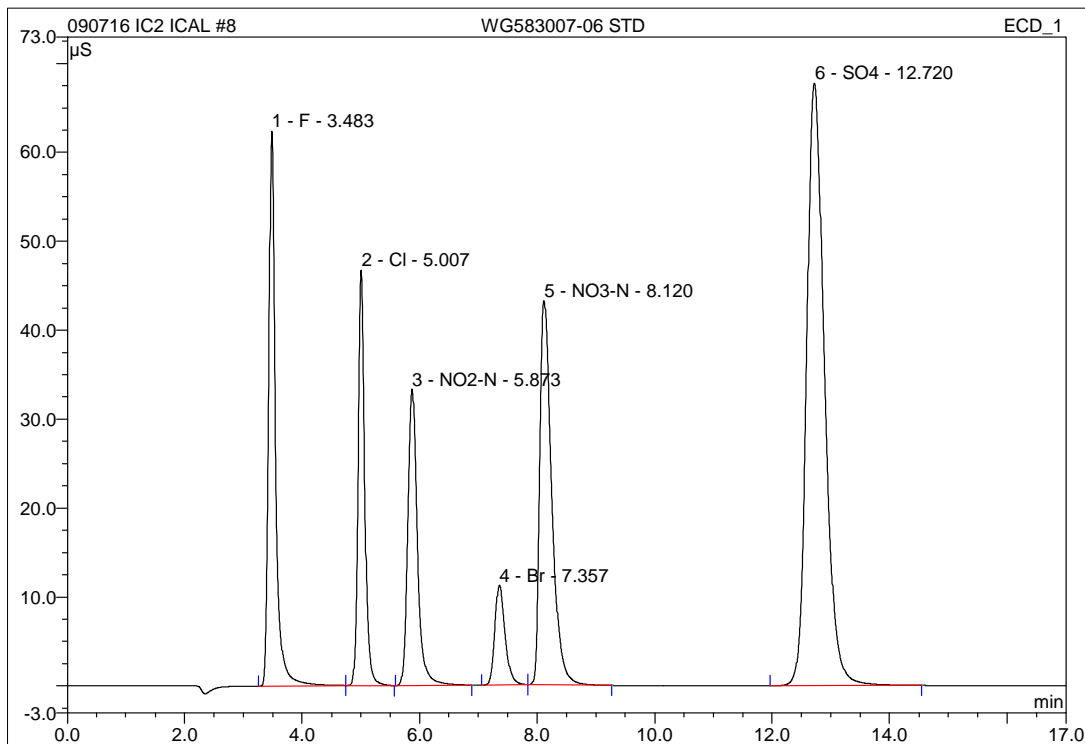
Sample Name:	WG583007-05 STD	Injection Volume:	25.0
Vial Number:	7	Channel:	ECD_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	090716_9056	Dilution Factor:	1.0000
Recording Time:	09/08/2016 0:20	Sample Weight:	1.0000
Run Time (min):	17.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μ S	Area μ S*min	Rel.Area %	Amount mg/L	Type
1	3.47	F	32.116	4.112	15.61	12.275	BMB
2	5.00	Cl	20.689	2.780	10.55	12.109	BMB
3	5.87	NO2-N	16.168	2.984	11.33	7.528	BMB
4	7.37	Br	5.193	1.079	4.10	12.056	BMB
5	8.16	NO3-N	19.280	4.603	17.48	8.203	BMB
6	12.77	SO4	30.749	10.777	40.92	60.970	BMB
Total:			124.195	26.334	100.00	113.141	

8 WG583007-06 STD**1,1 JWR STD77046 (Level-6)**

Sample Name:	WG583007-06 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:	090716_9056	Dilution Factor:	1.0000
Recording Time:	09/08/2016 0:39	Sample Weight:	1.0000
Run Time (min):	17.00	Sample Amount:	1.0000



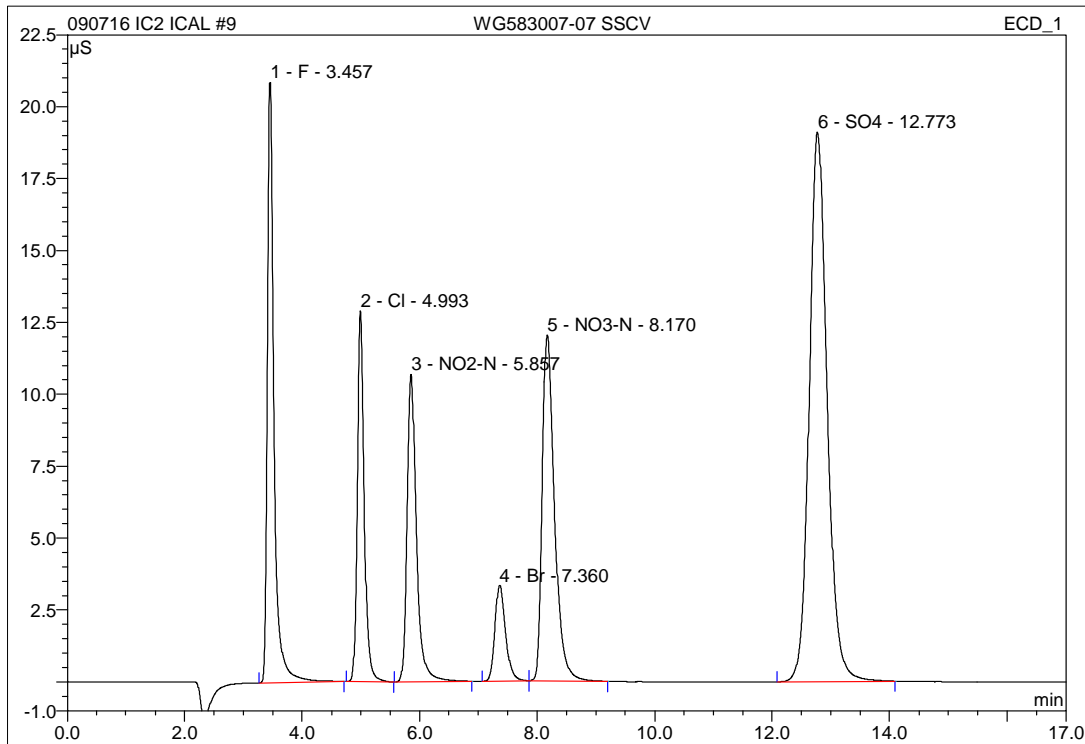
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.48	F	62.376	8.391	14.68	23.657	BMB
2	5.01	Cl	46.696	6.146	10.75	23.888	bMB
3	5.87	NO2-N	33.349	6.284	10.99	14.330	BMB
4	7.36	Br	11.209	2.269	3.97	23.872	BMB
5	8.12	NO3-N	43.169	10.207	17.86	16.194	bMB
6	12.72	SO4	67.766	23.860	41.74	118.988	BMB
Total:			264.565	57.158	100.00	220.930	

IC/Integration

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9 WG583007-07 SSCV**1,1 JWR STD77045 (@Level-4)**

Sample Name:	WG583007-07 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:	090716_9056	Dilution Factor:	1.0000
Recording Time:	09/08/2016 0:58	Sample Weight:	1.0000
Run Time (min):	17.00	Sample Amount:	1.0000

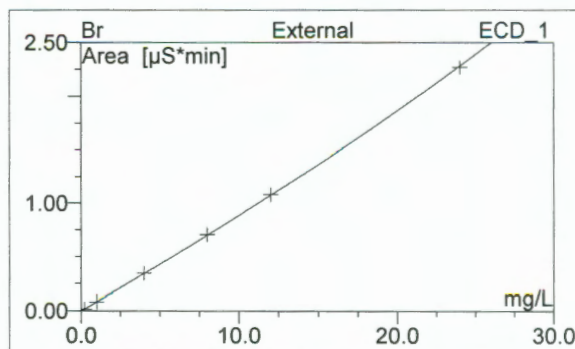
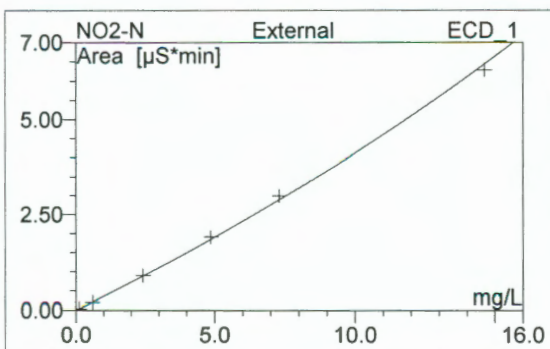
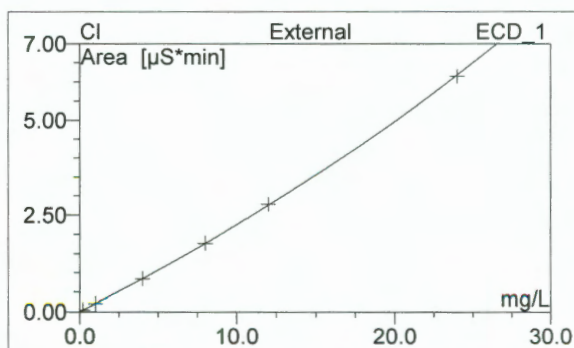
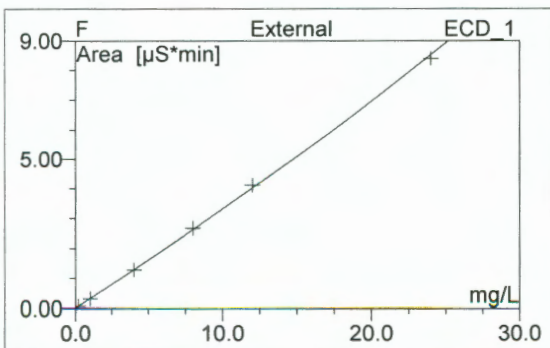


No.	Ret.Time min	Peak Name	Height μS	Area $\mu\text{S}\cdot\text{min}$	Rel.Area %	Amount mg/L	Type
1	3.46	F	20.866	2.657	15.86	8.110	BMB
2	4.99	Cl	12.896	1.760	10.50	8.002	BMB
3	5.86	NO ₂ -N	10.687	1.971	11.76	5.167	BMB
4	7.36	Br	3.338	0.699	4.17	7.988	BMB
5	8.17	NO ₃ -N	12.029	2.909	17.36	5.419	BMB
6	12.77	SO ₄	19.106	6.760	40.34	40.196	BMB
Total:			78.921	16.757	100.00	74.882	

9 WG583007-07 SSCV			
1,1 JWR STD77045 (@Level-4)			
<i>Sample Name:</i>	WG583007-07 SSCV	<i>Injection Volume:</i>	25.0
<i>Vial Number:</i>	9	<i>Channel:</i>	ECD_1
<i>Sample Type:</i>	unknown	<i>Wavelength:</i>	n.a.
<i>Control Program:</i>	9056	<i>Bandwidth:</i>	n.a.
<i>Quantif. Method:</i>	090716_9056	<i>Dilution Factor:</i>	1.0000
<i>Recording Time:</i>	9/8/2016 0:58	<i>Sample Weight:</i>	1.0000
<i>Run Time (min):</i>	17.00	<i>Sample Amount:</i>	1.0000

WG583007-07 SSC Actual mg/L	Recovered mg/L	%Difference	
F 8.00	8.1099	1.37	PASS
Cl 8	8.0018	0.02	PASS
NO2-N 4.8714	5.1669	6.07	PASS
NO3-N 5.4216	5.4188	-0.05	PASS
Br 8	7.9881	-0.15	PASS
SO4 40	40.1963	0.49	PASS
PO4-P 13.0456	n.a.	#VALUE!	#VALUE!

9 WG583007-07 SSCV		
1,1 JWR STD77045 (@Level-4)		
Sample Name:	WG583007-07 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:	090716_9056	Dilution Factor: 1.0000
Recording Time:	9/8/2016 0:58	Sample Weight: 1.0000
Run Time (min):	17.00	Sample Amount: 1.0000

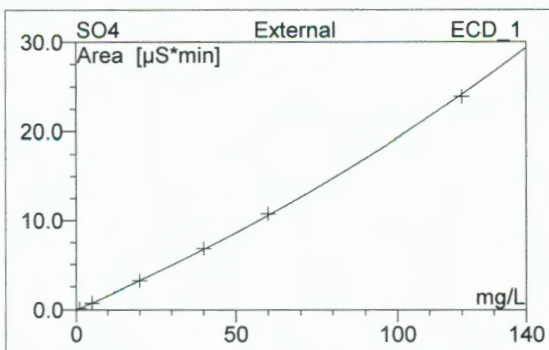
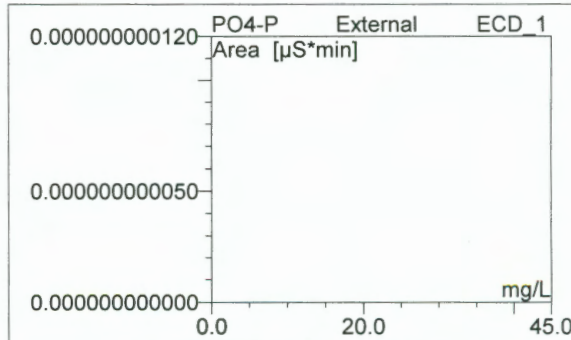
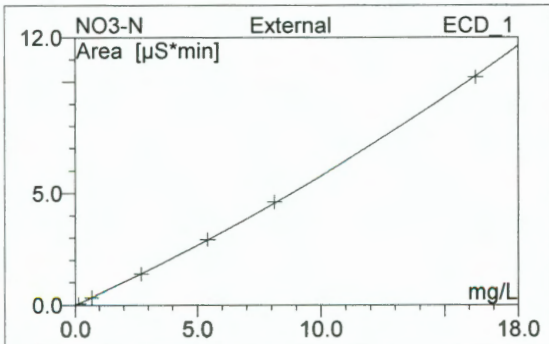


No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	3.46	F	XXQOff	6	99.8896	-0.0022	0.3139	0.0017
2	4.99	Cl	XXQOff	6	99.6502	0.0023	0.2007	0.0024
3	5.86	NO2-N	XXQOff	6	99.6426	-0.0061	0.3509	0.0061
4	7.36	Br	XXQOff	6	99.9059	-0.0016	0.0841	0.0005
5	8.17	NO3-N	XXQOff	6	99.6443	-0.0051	0.4910	0.0086
6	12.77	SO4	XXQOff	6	99.5535	-0.0118	0.1521	0.0004
Average:					99.7143	-0.0041	0.2655	0.0033

IC/Calibration(Batch)

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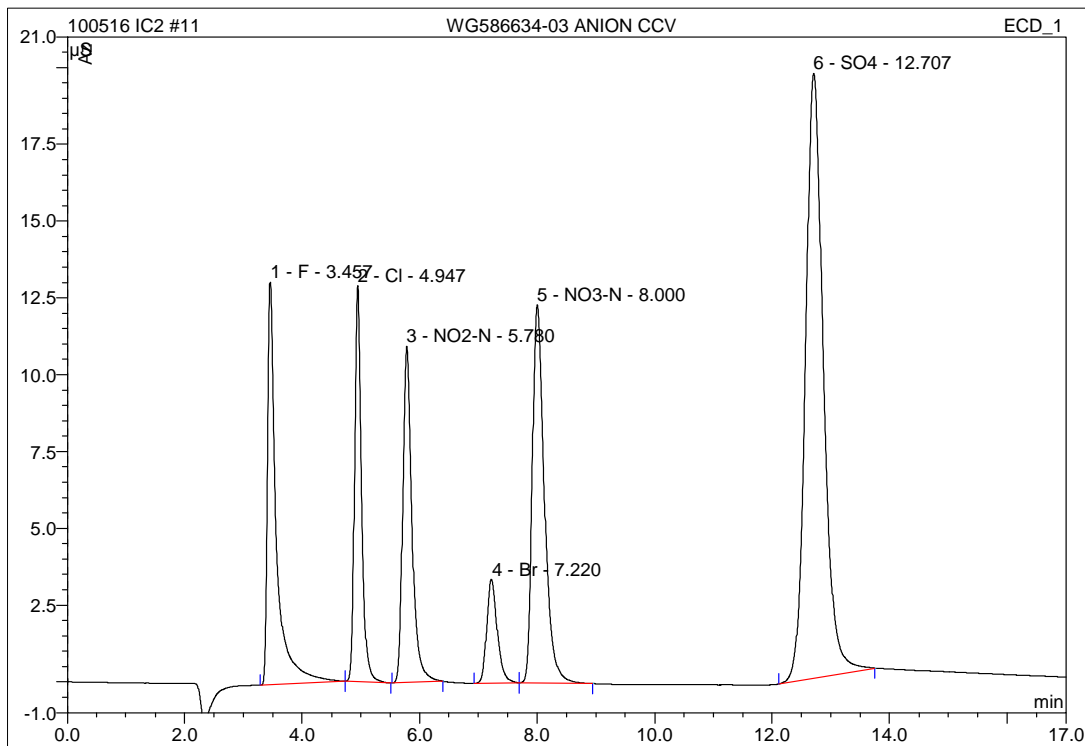
9 WG583007-07 SSCV			
1,1 JWR STD77045 (@Level-4)			
Sample Name:	WG583007-07 SSCV	Injection Volume:	25.0
Vial Number:	9	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	090716_9056	Dilution Factor:	1.0000
Recording Time:	9/8/2016 0:58	Sample Weight:	1.0000
Run Time (min):	17.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	3.46	F	XXQOff	6	99.8896	-0.0022	0.3139	0.0017
2	4.99	Cl	XXQOff	6	99.6502	0.0023	0.2007	0.0024
3	5.86	NO2-N	XXQOff	6	99.6426	-0.0061	0.3509	0.0061
4	7.36	Br	XXQOff	6	99.9059	-0.0016	0.0841	0.0005
5	8.17	NO3-N	XXQOff	6	99.6443	-0.0051	0.4910	0.0086
6	12.77	SO4	XXQOff	6	99.5535	-0.0118	0.1521	0.0004
Average:					99.7143	-0.0041	0.2655	0.0033

11 WG586634-03 ANION CCV**1,1 CAS STD77046**

Sample Name:	WG586634-03 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:	090716_9056	Dilution Factor:	1.0000
Recording Time:	10/05/2016 21:14	Sample Weight:	1.0000
Run Time (min):	17.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount mg/L	Type
1	3.46	F	13.098	2.277	13.69	6.992	BMB
2	4.95	Cl	12.894	1.772	10.65	8.053	bMB
3	5.78	NO2-N	10.939	1.991	11.97	5.216	BMB
4	7.22	Br	3.383	0.704	4.23	8.037	BMB
5	8.00	NO3-N	12.317	2.936	17.65	5.466	BMB
6	12.71	SO4	19.688	6.954	41.80	41.242	BMB
Total:			72.319	16.635	100.00	75.005	

IC/Integration

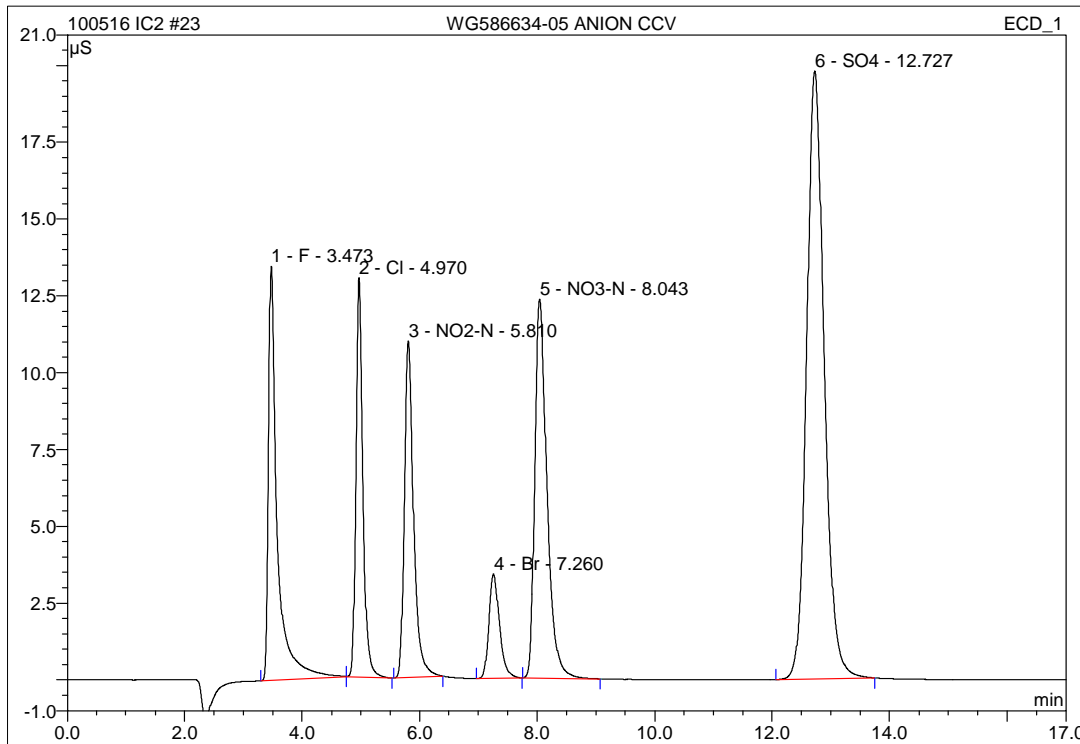
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Version 6.80 SP1 Build 2238

11		WG586634-03 ANION CCV	
1,1 CAS STD77046			
<i>Sample Name:</i>	WG586634-03 ANION CCV	<i>Injection Volume:</i>	25.0
<i>Vial Number:</i>	15	<i>Channel:</i>	ECD_1
<i>Sample Type:</i>	unknown	<i>Wavelength:</i>	n.a.
<i>Control Program:</i>	9056	<i>Bandwidth:</i>	n.a.
<i>Quantif. Method:</i>	090716_9056	<i>Dilution Factor:</i>	1.0000
<i>Recording Time:</i>	10/5/2016 21:14	<i>Sample Weight:</i>	1.0000
<i>Run Time (min):</i>	17.00	<i>Sample Amount:</i>	1.0000

WG586634-03 ANI Actual mg/L	Recovered mg/L	%Difference	
F 8.00	6.9919	-12.60	FAIL
Cl 8	8.0533	0.67	PASS
NO2-N 4.8714	5.2158	7.07	PASS
NO3-N 5.4216	5.4658	0.82	PASS
Br 8	8.0369	0.46	PASS
SO4 40	41.2418	3.10	PASS
PO4-P 13.0456	n.a.	#VALUE!	#VALUE!

23 WG586634-05 ANION CCV**1,1 CAS STD77046**

Sample Name:	WG586634-05 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:	090716_9056	Dilution Factor:	1.0000
Recording Time:	10/06/2016 1:05	Sample Weight:	1.0000
Run Time (min):	17.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.47	F	13.486	2.313	13.90	7.099	BMb
2	4.97	Cl	12.983	1.791	10.76	8.132	bMB
3	5.81	NO2-N	10.949	1.984	11.92	5.199	BMB
4	7.26	Br	3.391	0.710	4.27	8.107	BMB
5	8.04	NO3-N	12.336	2.965	17.81	5.514	BMB
6	12.73	SO4	19.789	6.881	41.34	40.847	BMB
Total:			72.935	16.644	100.00	74.898	

IC/Integration

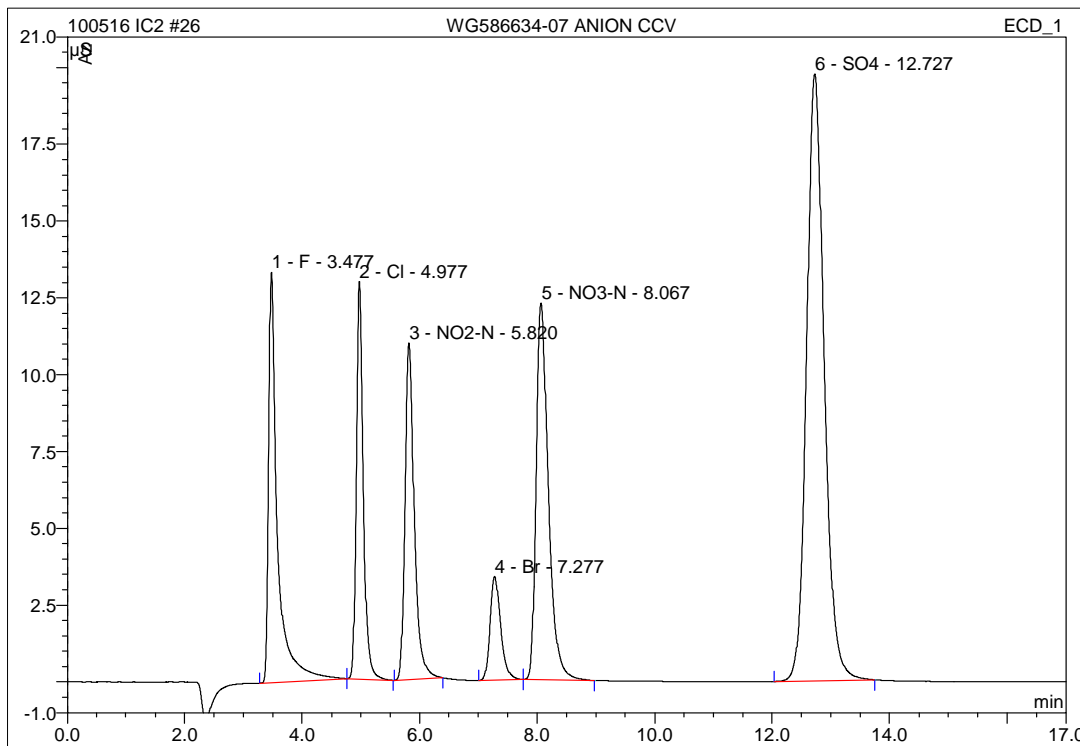
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Version 6.80 SP1 Build 2238

23		WG586634-05 ANION CCV	
1,1 CAS STD77046			
<i>Sample Name:</i>	WG586634-05 ANION CCV	<i>Injection Volume:</i>	25.0
<i>Vial Number:</i>	27	<i>Channel:</i>	ECD_1
<i>Sample Type:</i>	unknown	<i>Wavelength:</i>	n.a.
<i>Control Program:</i>	9056	<i>Bandwidth:</i>	n.a.
<i>Quantif. Method:</i>	090716_9056	<i>Dilution Factor:</i>	1.0000
<i>Recording Time:</i>	10/6/2016 1:05	<i>Sample Weight:</i>	1.0000
<i>Run Time (min):</i>	17.00	<i>Sample Amount:</i>	1.0000

WG586634-05 ANI Actual mg/L	Recovered mg/L	%Difference	
F 8.00	7.0987	-11.27	FAIL
Cl 8	8.1319	1.65	PASS
NO2-N 4.8714	5.1990	6.73	PASS
NO3-N 5.4216	5.5142	1.71	PASS
Br 8	8.1073	1.34	PASS
SO4 40	40.8468	2.12	PASS
PO4-P 13.0456	n.a.	#VALUE!	#VALUE!

26 WG586634-07 ANION CCV**1,1 CAS STD77046**

Sample Name:	WG586634-07 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:	090716_9056	Dilution Factor:	1.0000
Recording Time:	10/06/2016 2:02	Sample Weight:	1.0000
Run Time (min):	17.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area μS*min	Rel.Area %	Amount mg/L	Type
1	3.48	F	13.346	2.312	13.89	7.095	BMb
2	4.98	Cl	12.937	1.791	10.76	8.133	bMB
3	5.82	NO2-N	10.950	2.003	12.03	5.245	BMB
4	7.28	Br	3.369	0.709	4.26	8.090	BMb
5	8.07	NO3-N	12.260	2.959	17.77	5.504	bMB
6	12.73	SO4	19.751	6.876	41.30	40.822	BMB
Total:			72.612	16.651	100.00	74.890	

IC/Integration

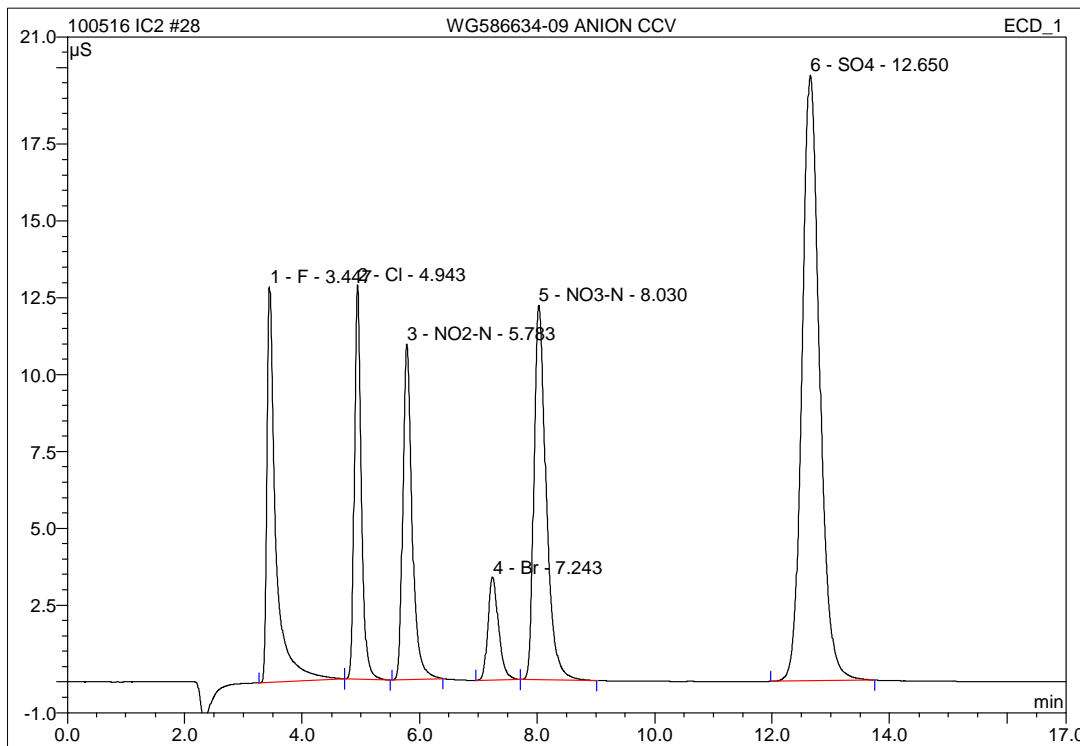
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26		WG586634-07 ANION CCV	
1,1 CAS STD77046			
<i>Sample Name:</i>	WG586634-07 ANION CCV	<i>Injection Volume:</i>	25.0
<i>Vial Number:</i>	39	<i>Channel:</i>	ECD_1
<i>Sample Type:</i>	unknown	<i>Wavelength:</i>	n.a.
<i>Control Program:</i>	9056	<i>Bandwidth:</i>	n.a.
<i>Quantif. Method:</i>	090716_9056	<i>Dilution Factor:</i>	1.0000
<i>Recording Time:</i>	10/6/2016 2:02	<i>Sample Weight:</i>	1.0000
<i>Run Time (min):</i>	17.00	<i>Sample Amount:</i>	1.0000

WG586634-07 ANI Actual mg/L	Recovered mg/L	%Difference	
F 8.00	7.0951	-11.31	FAIL
Cl 8	8.1335	1.67	PASS
NO2-N 4.8714	5.2449	7.67	PASS
NO3-N 5.4216	5.5044	1.53	PASS
Br 8	8.0897	1.12	PASS
SO4 40	40.8222	2.06	PASS
PO4-P 13.0456	n.a.	#VALUE!	#VALUE!

28 WG586634-09 ANION CCV**1,1 CAS STD77046**

Sample Name:	WG586634-09 ANION CCV	Injection Volume:	25.0
Vial Number:	41	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	090716_9056	Dilution Factor:	1.0000
Recording Time:	10/06/2016 10:01	Sample Weight:	1.0000
Run Time (min):	17.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μ S	Area μ S*min	Rel.Area %	Amount mg/L	Type
1	3.45	F	12.871	2.227	13.49	6.843	BMB
2	4.94	Cl	12.831	1.772	10.73	8.052	bMB
3	5.78	NO2-N	10.920	2.001	12.12	5.240	BMB
4	7.24	Br	3.357	0.706	4.27	8.056	BMB
5	8.03	NO3-N	12.183	2.950	17.86	5.489	BMB
6	12.65	SO4	19.709	6.860	41.53	40.732	BMB
Total:			71.871	16.515	100.00	74.412	

IC/Integration

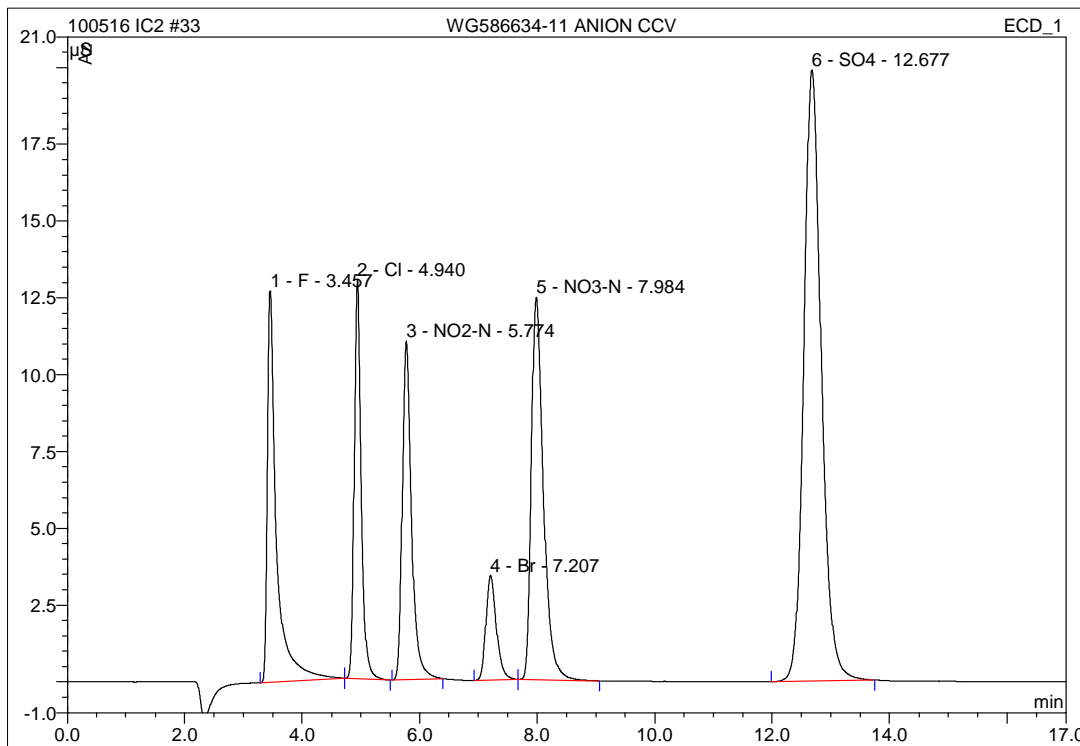
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28		WG586634-09 ANION CCV	
1,1 CAS STD77046			
<i>Sample Name:</i>	WG586634-09 ANION CCV	<i>Injection Volume:</i>	25.0
<i>Vial Number:</i>	41	<i>Channel:</i>	ECD_1
<i>Sample Type:</i>	unknown	<i>Wavelength:</i>	n.a.
<i>Control Program:</i>	9056	<i>Bandwidth:</i>	n.a.
<i>Quantif. Method:</i>	090716_9056	<i>Dilution Factor:</i>	1.0000
<i>Recording Time:</i>	10/6/2016 10:01	<i>Sample Weight:</i>	1.0000
<i>Run Time (min):</i>	17.00	<i>Sample Amount:</i>	1.0000

WG586634-09 ANI Actual mg/L	Recovered mg/L	%Difference	
F 8.00	6.8433	-14.46	FAIL
Cl 8	8.0523	0.65	PASS
NO2-N 4.8714	5.2400	7.57	PASS
NO3-N 5.4216	5.4892	1.25	PASS
Br 8	8.0556	0.70	PASS
SO4 40	40.7319	1.83	PASS
PO4-P 13.0456	n.a.	#VALUE!	#VALUE!

33 WG586634-11 ANION CCV**1,1 CAS STD77046**

Sample Name:	WG586634-11 ANION CCV	Injection Volume:	25.0
Vial Number:	46	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	090716_9056	Dilution Factor:	1.0000
Recording Time:	10/06/2016 11:37	Sample Weight:	1.0000
Run Time (min):	17.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μ S	Area μ S*min	Rel.Area %	Amount mg/L	Type
1	3.46	F	12.733	2.249	13.56	6.907	BMb
2	4.94	Cl	12.973	1.783	10.75	8.097	bMB
3	5.77	NO2-N	11.025	2.007	12.10	5.252	BMB
4	7.21	Br	3.411	0.707	4.27	8.075	BMb
5	7.98	NO3-N	12.451	2.962	17.86	5.510	bMB
6	12.68	SO4	19.893	6.874	41.46	40.811	BMB
Total:			72.485	16.581	100.00	74.652	

IC/Integration

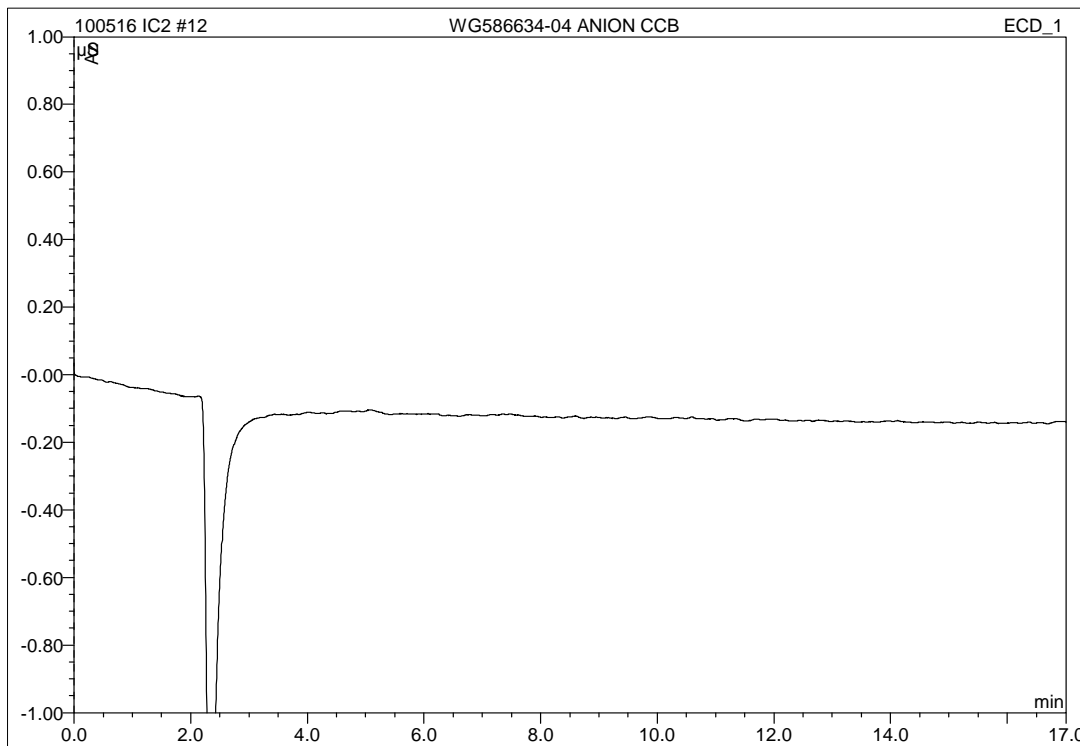
Chromeleon (c) Dionex 1996-2001
Version 6.80 SP1 Build 2238

33 WG586634-11 ANION CCV			
1,1 CAS STD77046			
<i>Sample Name:</i>	WG586634-11 ANION CCV	<i>Injection Volume:</i>	25.0
<i>Vial Number:</i>	46	<i>Channel:</i>	ECD_1
<i>Sample Type:</i>	unknown	<i>Wavelength:</i>	n.a.
<i>Control Program:</i>	9056	<i>Bandwidth:</i>	n.a.
<i>Quantif. Method:</i>	090716_9056	<i>Dilution Factor:</i>	1.0000
<i>Recording Time:</i>	10/6/2016 11:37	<i>Sample Weight:</i>	1.0000
<i>Run Time (min):</i>	17.00	<i>Sample Amount:</i>	1.0000

WG586634-11 ANI Actual mg/L	Recovered mg/L	%Difference	
F 8.00	6.9069	-13.66	FAIL
Cl 8	8.0967	1.21	PASS
NO2-N 4.8714	5.2525	7.82	PASS
NO3-N 5.4216	5.5098	1.63	PASS
Br 8	8.0747	0.93	PASS
SO4 40	40.8112	2.03	PASS
PO4-P 13.0456	n.a.	#VALUE!	#VALUE!

12 WG586634-04 ANION CCB**1,1 CAS**

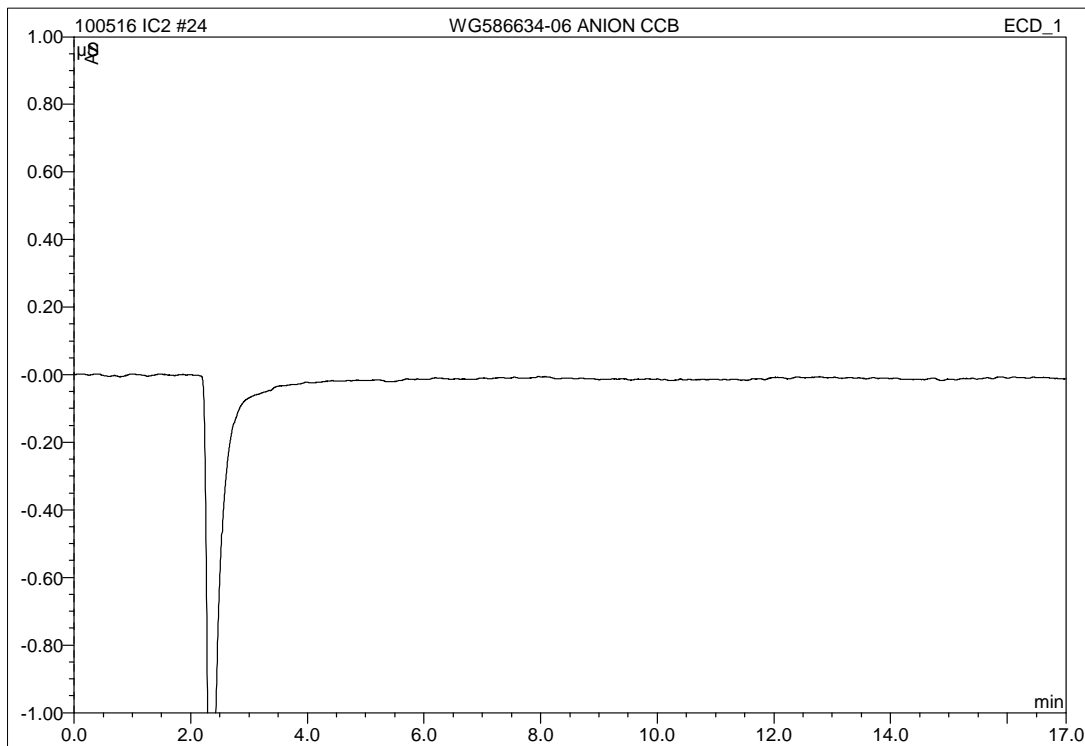
Sample Name:	WG586634-04 ANION CCB	Injection Volume:	25.0
Vial Number:	16	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	090716_9056	Dilution Factor:	1.0000
Recording Time:	10/05/2016 21:33	Sample Weight:	1.0000
Run Time (min):	17.00	Sample 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	

24 WG586634-06 ANION CCB**1,1 CAS**

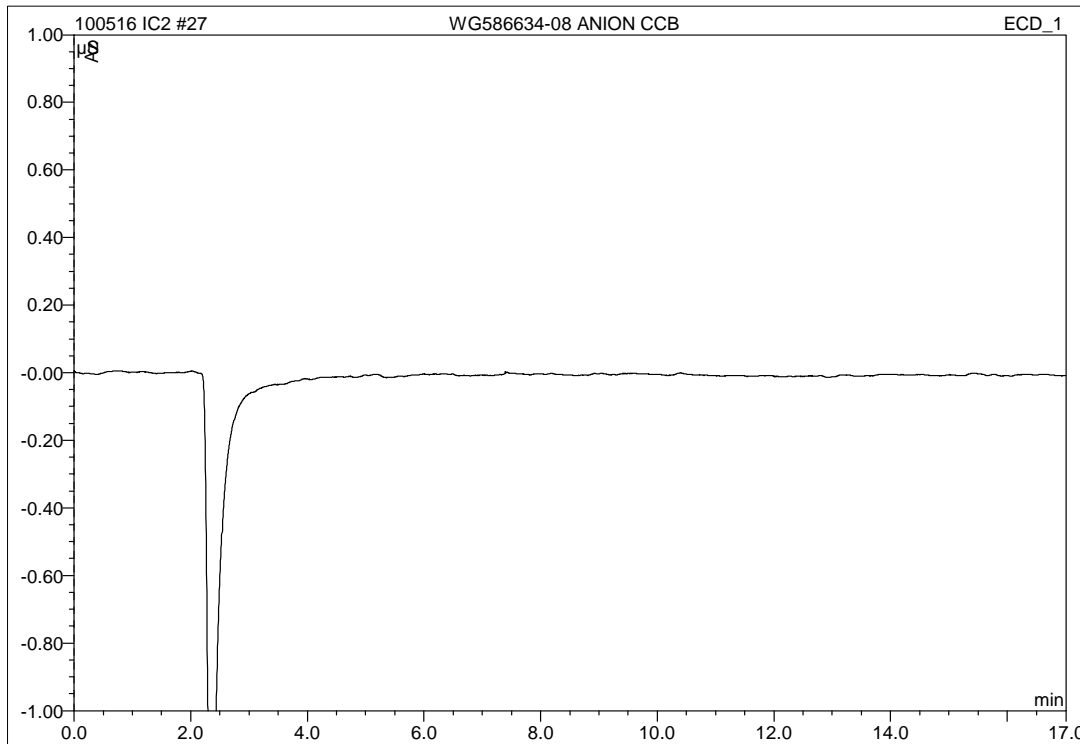
Sample Name:	WG586634-06 ANION CCB	Injection Volume:	25.0
Vial Number:	28	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	090716_9056	Dilution Factor:	1.0000
Recording Time:	10/06/2016 1:24	Sample Weight:	1.0000
Run Time (min):	17.00	Sample 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	

27 WG586634-08 ANION CCB**1,1 CAS**

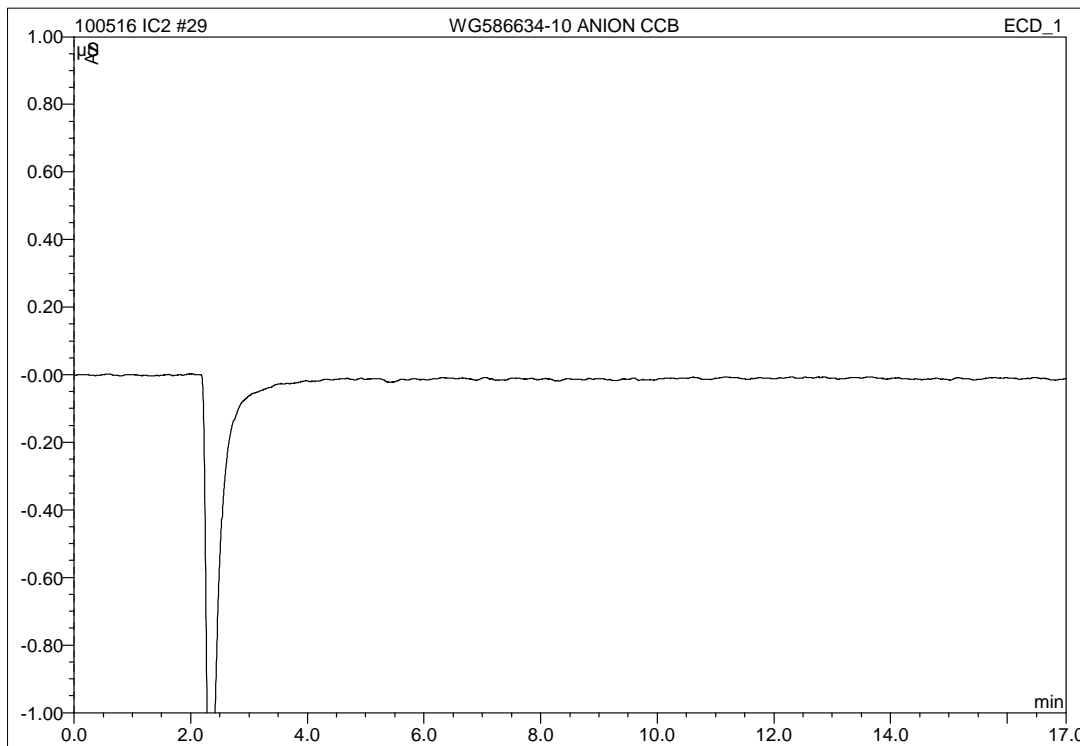
Sample Name:	WG586634-08 ANION CCB	Injection Volume:	25.0
Vial Number:	40	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	090716_9056	Dilution Factor:	1.0000
Recording Time:	10/06/2016 2:21	Sample Weight:	1.0000
Run Time (min):	17.00	Sample 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	

29 WG586634-10 ANION CCB**1,1 CAS**

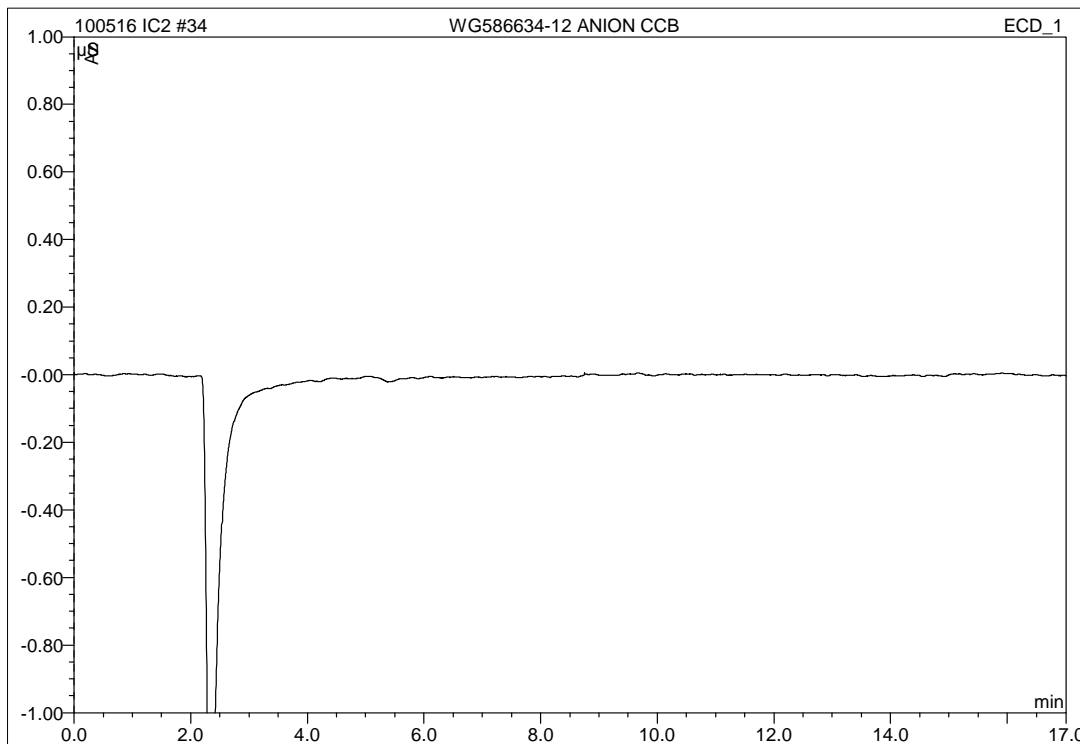
Sample Name:	WG586634-10 ANION CCB	Injection Volume:	25.0
Vial Number:	42	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	090716_9056	Dilution Factor:	1.0000
Recording Time:	10/06/2016 10:21	Sample Weight:	1.0000
Run Time (min):	17.00	Sample 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	

34 WG586634-12 ANION CCB**1,1 CAS**

Sample Name:	WG586634-12 ANION CCB	Injection Volume:	25.0
Vial Number:	47	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	090716_9056	Dilution Factor:	1.0000
Recording Time:	10/06/2016 11:57	Sample Weight:	1.0000
Run Time (min):	17.00	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

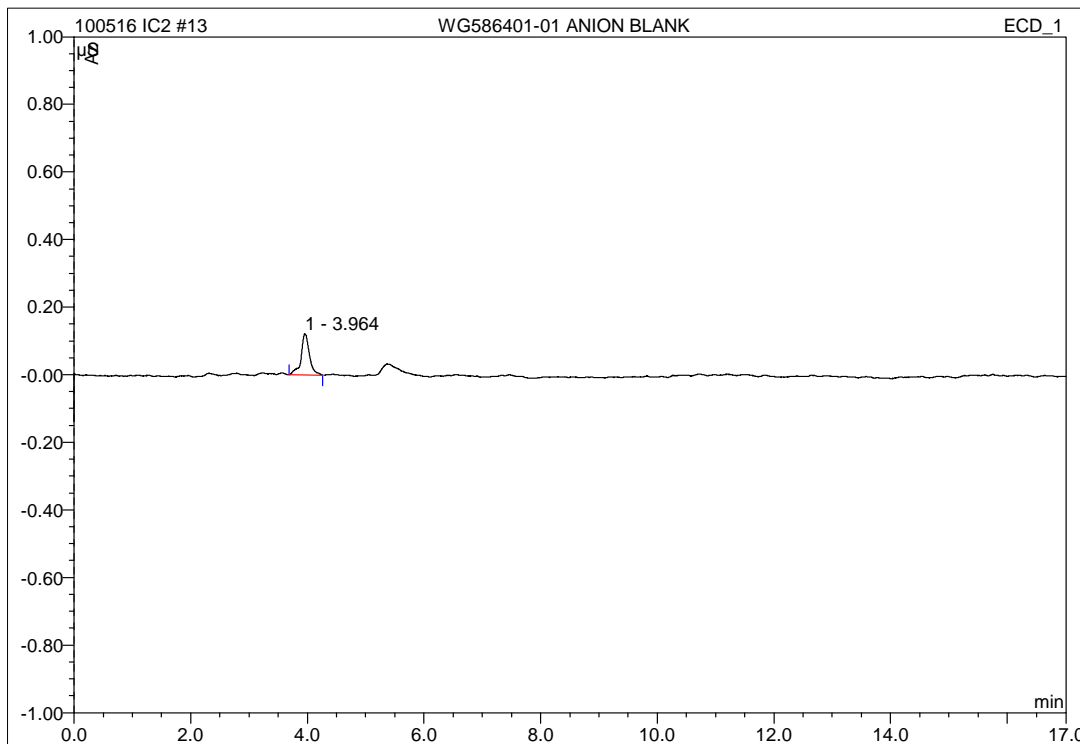
COMPOUND	STD #1 RT	STD #2 RT	STD #3 RT	RT WIN
F	3.41	3.41	3.41	0.000
Cl	5.11	5.09	5.07	0.050
NO2-N	6.14	6.11	6.07	0.101
Br	7.90	7.84	7.75	0.220
NO3-N	8.94	8.86	8.76	0.271
SO4	13.35	13.39	13.42	0.101

Page 1

2.4.1.5 Raw QC Data

13 WG586401-01 ANION BLANK**1,1 CAS**

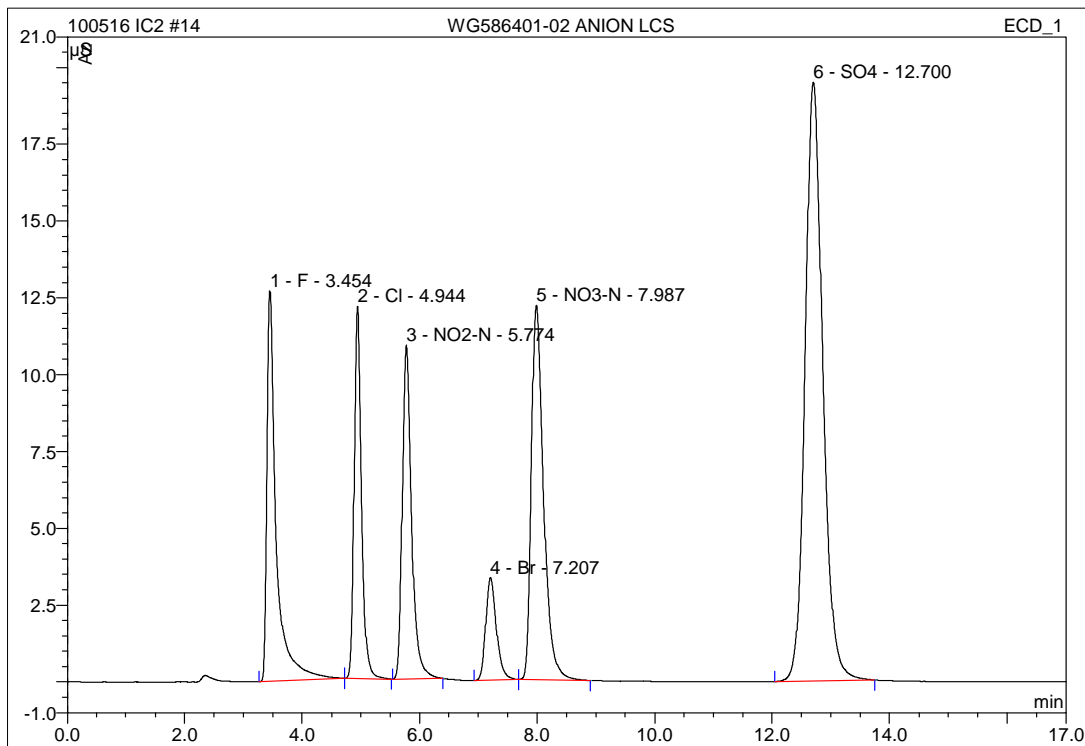
Sample Name:	WG586401-01 ANION BLANK	Injection Volume:	25.0
Vial Number:	17	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	090716_9056	Dilution Factor:	1.0000
Recording Time:	10/05/2016 21:52	Sample Weight:	1.0000
Run Time (min):	17.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area $\mu\text{S}\cdot\text{min}$	Rel.Area %	Amount mg/L	Type
1	3.96	n.a.	0.122	0.020	100.00	n.a.	BMB
Total:			0.122	0.020	100.00	0.000	

14 WG586401-02 ANION LCS**1,1 CAS STD77045**

Sample Name:	WG586401-02 ANION LCS	Injection Volume:	25.0
Vial Number:	18	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	090716_9056	Dilution Factor:	1.0000
Recording Time:	10/05/2016 22:12	Sample Weight:	1.0000
Run Time (min):	17.00	Sample Amount:	1.0000



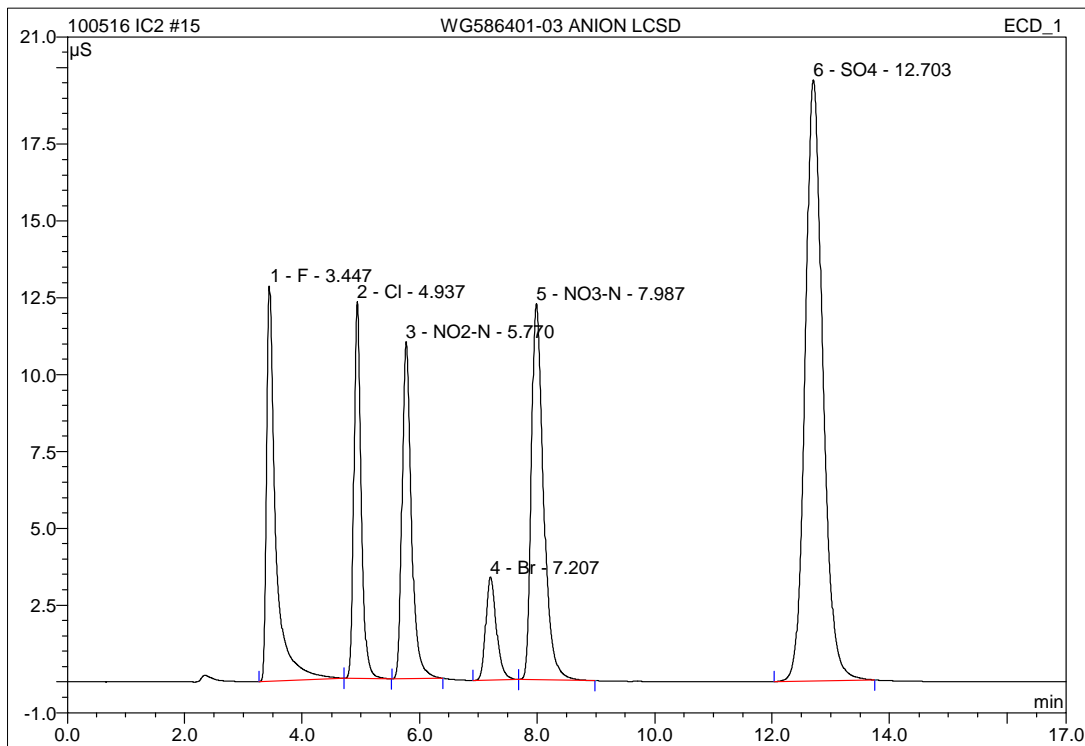
No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.45	F	12.701	2.283	13.86	7.009	BMB
2	4.94	Cl	12.119	1.750	10.62	7.961	bMB
3	5.77	NO2-N	10.857	1.990	12.08	5.213	BMB
4	7.21	Br	3.348	0.704	4.27	8.037	BMB
5	7.99	NO3-N	12.193	2.936	17.82	5.465	BMB
6	12.70	SO4	19.485	6.813	41.35	40.482	BMB
Total:			70.703	16.477	100.00	74.168	

IC/Integration

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

15 WG586401-03 ANION LCSD**1,1 CAS STD77045**

Sample Name:	WG586401-03 ANION LCSD	Injection Volume:	25.0
Vial Number:	19	Channel:	ECD_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	9056	Bandwidth:	n.a.
Quantif. Method:	090716_9056	Dilution Factor:	1.0000
Recording Time:	10/05/2016 22:31	Sample Weight:	1.0000
Run Time (min):	17.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Height μS	Area $\mu\text{S}\cdot\text{min}$	Rel.Area %	Amount mg/L	Type
1	3.45	F	12.858	2.300	13.87	7.058	BMB
2	4.94	Cl	12.256	1.766	10.65	8.029	bMB
3	5.77	NO ₂ -N	10.976	2.022	12.19	5.288	BMB
4	7.21	Br	3.358	0.707	4.27	8.074	BMB
5	7.99	NO ₃ -N	12.244	2.949	17.79	5.487	BMB
6	12.70	SO ₄	19.560	6.836	41.23	40.603	BMB
Total:			71.252	16.579	100.00	74.540	

2.4.2 Alkalinity Data

2.4.2.1 Summary Data

Lab Report #: L16100194

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Adriane Steed

Certificate of Analysis

Sample #: L16100194-01	PrePrep Method: N/A	Instrument: SMARTCHEM
Client ID: 35AWW08-100416	Prep Method: 310.2	Prep Date: N/A
Matrix: Water	Analytical Method: 310.2	Cal Date: 10/12/2016 08:02
Workgroup #: WG587228	Analyst: DCM	Run Date: 10/12/2016 08:08
Collect Date: 10/04/2016 07:40	Dilution: 500	File ID: SC161012001.018
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Alkalinity, Total (as CaCO3)	11-43-8	9160	J	20000	10000	5000
J	Estimated value ; the analyte concentration was less than the LOQ.					

Lab Report #: L16100194

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Adriane Steed

Certificate of Analysis

Sample #: L16100194-03	PrePrep Method: N/A	Instrument: SMARTCHEM
Client ID: 03WW01-100416	Prep Method: 310.2	Prep Date: N/A
Matrix: Water	Analytical Method: 310.2	Cal Date: 10/12/2016 08:02
Workgroup #: WG587228	Analyst: DCM	Run Date: 10/12/2016 08:09
Collect Date: 10/04/2016 08:20	Dilution: 250	File ID: SC161012001.019
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Alkalinity, Total (as CaCO ₃)	11-43-8	5500	J	10000	5000	2500
J	Estimated value ; the analyte concentration was less than the LOQ.					

Lab Report #: L16100194

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Adriane Steed

Certificate of Analysis

Sample #: L16100194-05	PrePrep Method: N/A	Instrument: SMARTCHEM
Client ID: 35AWW20-100416	Prep Method: 310.2	Prep Date: N/A
Matrix: Water	Analytical Method: 310.2	Cal Date: 10/12/2016 08:02
Workgroup #: WG587228	Analyst: DCM	Run Date: 10/12/2016 08:10
Collect Date: 10/04/2016 09:35	Dilution: 5	File ID: SC161012001.020
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Alkalinity, Total (as CaCO3)	11-43-8	704		200	100	50.0

Certificate of Analysis

Sample #: L16100194-06	PrePrep Method: N/A	Instrument: SMARTCHEM
Client ID: LHSMW07-100416	Prep Method: 310.2	Prep Date: N/A
Matrix: Water	Analytical Method: 310.2	Cal Date: 10/12/2016 08:02
Workgroup #: WG587228	Analyst: DCM	Run Date: 10/12/2016 08:11
Collect Date: 10/04/2016 10:40	Dilution: 5	File ID: SC161012001.023
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Alkalinity, Total (as CaCO3)	11-43-8	658		200	100	50.0

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: 12-OCT-2016
 Analyst: DCM
 Analyst: NA
 Method: ALK
 Instrument: SC
 Curve Workgroup: NA
 Runlog ID: _____
 Analytical Workgroups: WG587246 WG587228

Calibration/Linearity	10-12-2016
Second Source Check	X
ICV/CCV (std)	X
ICB/CCB	X
Blank	X
LCS/LCS Dup	X
MS/MSD	X
Duplicate	X
Upload Results	X
Client Forms	X
QC Violation Sheet	X
Case Narratives	X
Signed Raw Data	X
STD/LCS on benchsheet	X
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	DCM
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
13-OCT-2016



Secondary Reviewer:
14-OCT-2016




Analytical Method: 310.2
Login Number: L16100194

AAB#: WG587228

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
35AWW08-100416	01	10/04/16					10/12/2016	8	14		10/12/16	8	14	
03WW01-100416	03	10/04/16					10/12/2016	8	14		10/12/16	8	14	
35AWW20-100416	05	10/04/16					10/12/2016	7.9	14		10/12/16	7.9	14	
LHSMW07-100416	06	10/04/16					10/12/2016	7.9	14		10/12/16	7.9	14	

* = SEE PROJECT QAPP REQUIREMENTS



METHOD BLANK SUMMARY

Login Number: L16100194 Work Group: WG587228
Blank File ID: SC161012001.012 Blank Sample ID: WG587228-01
Prep Date: 10/12/16 08:05 Instrument ID: SMARTCHEM
Analyzed Date: 10/12/16 08:05 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	WG587228-02	SC161012001.013	10/12/16 08:05	01
LCS2	WG587228-03	SC161012001.014	10/12/16 08:06	01
35AWW08-100416	L16100194-01	SC161012001.018	10/12/16 08:08	DL01
03WW01-100416	L16100194-03	SC161012001.019	10/12/16 08:09	DL01
35AWW20-100416	L16100194-05	SC161012001.020	10/12/16 08:10	DL01
LHSMW07-100416	L16100194-06	SC161012001.023	10/12/16 08:11	DL01
DUP	WG587228-05	SC161012001.039	10/12/16 08:21	01

Report Name: BLANK_SUMMARY
PDF File ID: 4975832
Report generated 10/14/2016 10:04



Login Number: L16100194 Prep Date: 10/12/16 08:05 Sample ID: WG587228-01
Instrument ID: SMARTCHEM Run Date: 10/12/16 08:05 Prep Method: 310.2
File ID: SC161012001.012 Analyst: DCM Method: 310.2
Workgroup (AAB#): WG587228 Matrix: Water Units: mg/L
Contract #: _____ Cal ID: SMARTC-12-OCT-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: 4975834
14-OCT-2016 10:04



Login Number: L16100194 Analyst: DCM Prep Method: 310.2
 Instrument ID: SMARTCHEM Matrix: Water Method: 310.2
 Workgroup (AAB#): WG587228 Units: mg/L
 QC Key: DOD4 Lot #: STD78186
 Sample ID: WG587228-02 LCS File ID: SC161012001.013 Run Date: 10/12/2016 08:05
 Sample ID: WG587228-03 LCS2 File ID: SC161012001.014 Run Date: 10/12/2016 08:06

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Alkalinity, Total (as CaCO3)	200	194	97.2	200	197	98.7	1.52	85 - 115	20	

LCS_LCS2 - Modified 03/06/2008
 PDF File ID: 4975835
 Report generated: 10/14/2016 10:04



2.4.2.3 Raw Data

SMARTCHEM RUN LOG
(smartchem2, smartchem3)

WORKGROUP: WG587228

587246

Daily Check

- Lamp On
- Probe Rinse Full
- DI Water > 1/2 Full
- Wash Solution > 1/2 Full
- NO3 Reagent bottle connected / purged
- NO3 pH adj to pH 5-9
- Syringe filter lot # _____

- WBL Run
- Reagents Full
- Dilution H₂O Full
- Waste Container Check

- 1) Workgroup _____
Plan # 20161012001
- 2) Workgroup _____
Plan # 20161012002
- 3) Workgroup _____
Plan # _____
- Instrument: SC1 SC2

Analyte		1	2	3
Dilution				
SC Prepared Curve				
Position				
1-1	Icv			
1-2	Blk			
1-3	LCS			
1-4	LCS Dup			
1-5	10-002-c1			
1-6	10-004-c1			
1-7	09			
1-8	10-194-c1	1/500		color
1-9	03	1/500	1/250	color
1-10	05	1/5		
1-11	06	1/5		
1-12	10-396-c2	1/4		color
1-13	03	1/4		color
1-14	05	1/4		color
1-15	06	1/4		color
1-16	08	1/4		color
1-17	09	1/4		color
* 1-18	10-456-c2			Bt
* 1-19	10-363-c1			Bt
1-20	10-522-c2	1/4		color
1-21	03	1/4		color
1-22	05	1/4		color
2-1	06	1/4		color
* 2-2	10-456-c4			Bt
2-3	DUP 10-456-c4			

dem
10/12/16

*
*

*
*

NOTES:
 * Run NO2 std on NO3 runs
 * LCSD must be run if no MS or Duplicate
 * MS(10% sample): NO3, TKN, NH3, PHOS

LOQ $1(200) / 10 = 20$ Std 78186
 LOD $1(20) / 2 = 10$

* pH < 8.3

Analyte		1	2	3
2-4	1 Icv			
2-5	2 Blk			
2-6	3 LCS			
2-7	4 LCSDUP			
2-8	5 10-002-c1			
2-9	6 10-004-c1			
2-10	7 09			
2-11	8 10-522-c3	1/4		color
2-12	9 05	1/4		color
2-13	10 06	1/4		color
2-14	11 10-456-c4			
2-15	12 DUP 10-456-c4			
2-16	13			
2-17				
2-18				
2-19				
2-20				
2-21				
2-22				
2-23				
2-24				
2-25				
2-26				
3-1				
3-2				

DCN#121463



SMARTCHEM RUN LOG
(smartchem2, smartchem3)

WORKGROUP: WG587228

Analyte	1	2	3
Position			
3-3			
3-4			
3-5			
3-6			
3-7			
3-8			
3-9			
3-10			
3-11			
3-12			
3-13			
3-14			
3-15			

Analyte	1	2	3
Position			
3-16			
3-17			
3-18			
3-19			
3-20			
3-21			
3-22			
3-23			
3-24			
3-25			
3-26			
3-27			
3-28			

Chloride	EPA 325.2/SM 4500-Cl E-2000
Nitrate-Nitrite	EPA 353.2/SM 4500-NO3 F-2000
✓ Alkalinity	EPA 310.2
Sulfate	EPA 375.4/SM 426C (15 th)/SM4500-504 E-1997

Ammonia	EPA 350.1/SM 4500-NH3 B-1997
TKN	EPA 351.2
Phos	EPA 365.4

Analyte	Alk	Reagents
SOP & Revision	K3102 R17	RLT 38172
Curve Stock (SC made)	Std 78180	
NO2 STD		
ICV	Std 78187	
CCV	Std 78185	
LCS	Std 78186	
MS	NA	
	Dilution	

Comments: _____

Analyst: David Mankle

Date: 10/12/16

DCN#121463



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	0.6064	0.00		7:56:51 AM
DIL-1	RBL	0.0	0.6090	0.00		7:57:09 AM
DIL-1	RBL	0.0	0.6104	0.00		7:58:03 AM
DIL-1	Std-1	0.0	-0.0018	0.00		7:58:21 AM
SR5-1	Std-2	10.0	-0.0173	0.00		7:59:15 AM
SR5-2	Std-3	20.0	-0.0339	0.00		7:59:33 AM
SR5-3	Std-4	50.0	-0.0699	0.00		8:00:27 AM
SR5-4	Std-5	100.0	-0.1358	0.00		8:00:46 AM
SR5-5	Std-6	200.0	-0.2658	0.00	EPL	8:01:39 AM
SR5-6	Std-7	250.0	-0.3321	0.00		8:01:57 AM
SR5-7	Std-8	300.0	-0.3837	0.00		8:02:51 AM
ST-3	1CCV (150 mg/L)	145.5	-0.1974	97.03		8:03:09 AM
ST-2	2CCB (0 mg/L)	2.2	-0.0058	0.00		8:04:03 AM
1	ICV	242.9	-0.3186	0.00		8:04:21 AM
2	WG587228-01 BLK	-3.9	0.0027	0.00	INV,><,LL	8:05:15 AM
3	WG587228-02 LCS	194.5	-0.2591	0.00		8:05:33 AM
4	WG587228-03 LCSDUP	197.4	-0.2628	0.00		8:06:27 AM
5	L16100002-01	×17.6	-0.0273	0.00		8:06:45 AM
6	L16100004-01	×22.4	-0.0339	0.00		8:07:39 AM
7	L16100004-09	19.3	-0.0296	0.00		8:07:57 AM
8	L16100194-01 (500)	18.3	-0.0283	0.00		8:08:51 AM
9	<i>ok 10/12/16</i> L16100194-03 (500) (250)	22.0	-0.0334	0.00		8:09:09 AM
10	L16100194-05 (5)	140.8	-0.1913	0.00		8:10:03 AM
ST-3	1CCV (150 mg/L)	150.2	-0.2033	100.11		8:10:21 AM
ST-2	2CCB (0 mg/L)	3.5	-0.0077	0.00		8:11:16 AM
11	L16100194-06 (5)	131.7	-0.1796	0.00		8:11:33 AM
12	L16100396-02 (4)	188.2	-0.2513	0.00		8:12:27 AM
13	L16100396-03 (4)	121.8	-0.1668	0.00		8:12:45 AM
14	L16100396-05 (4)	156.2	-0.2110	0.00		8:13:40 AM
15	L16100396-06 (4)	113.2	-0.1556	0.00		8:13:58 AM
16	L16100396-08 (4)	194.5	-0.2591	0.00		8:14:52 AM
17	L16100396-09 (4)	78.5	-0.1099	0.00		8:15:10 AM

Report Date :10/12/2016 Run Date :10/12/2016 Operator : SMARTCHEM1 Plan # :20161012001
 Plan Description : ALK-A1-DCM/10/12/2016

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

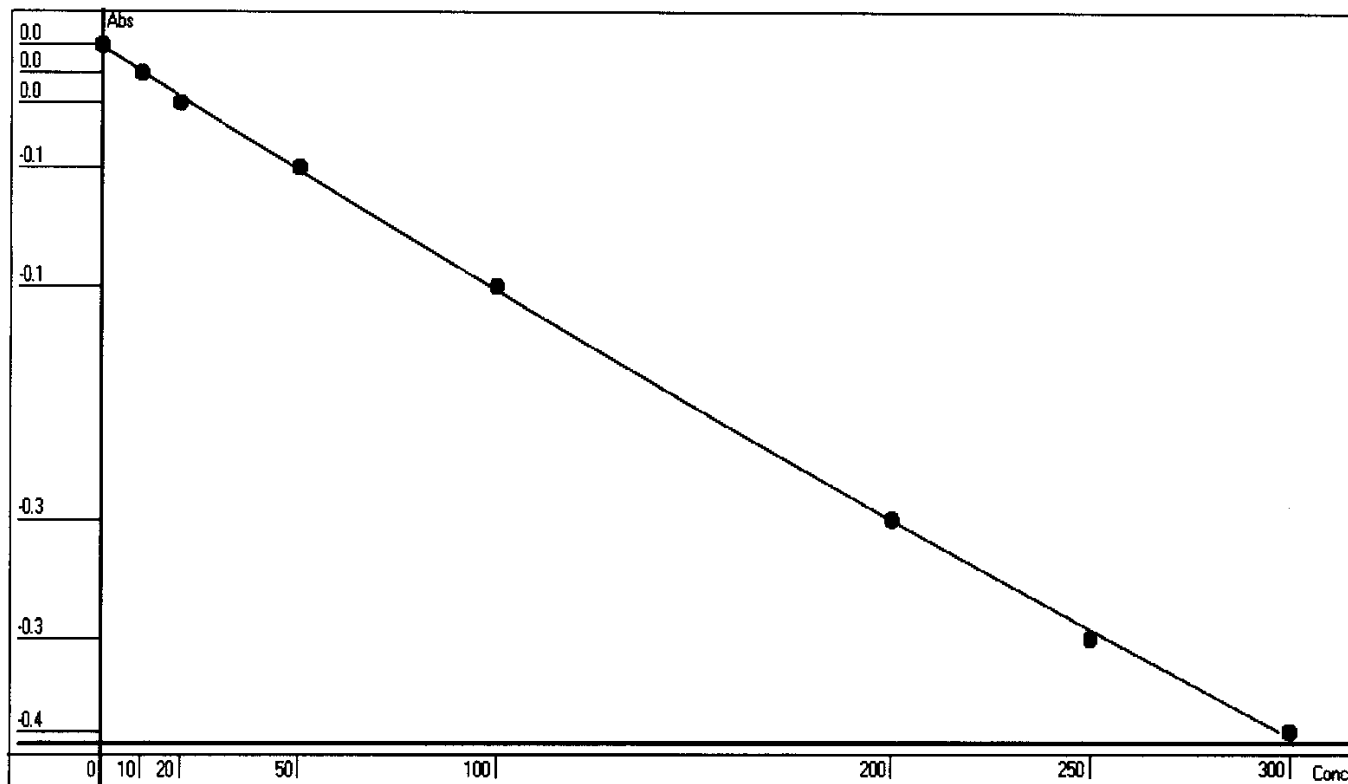
Smp#[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Flag	Analysis Time
18	L16100456-02	235.9	-0.3101	0.00		8:16:04 AM
19	L16100363-01	184.8	-0.2471	0.00		8:16:22 AM
20	L16100522-02 (4)	183.7	-0.2457	0.00		8:17:16 AM
ST-3	1CCV (150 mg/L)	160.5	-0.2165	107.03		8:17:34 AM
ST-2	2CCB (0 mg/L)	18.0	-0.0279	0.00		8:18:28 AM
21	L16100522-03 (4)	X 125.3	-0.1713	0.00		8:18:46 AM
22	L16100522-05 (4)	X 172.6	-0.2318	0.00		8:19:40 AM
23	L16100522-06 (4)	X 118.3	-0.1623	0.00		8:19:58 AM
24	L16100456-04 <i>Wt-04 REF</i>	241.8	-0.3173	0.00	EPL	8:20:52 AM
25	WG587228-05 DUP	243.8	-0.3197	0.00		8:21:09 AM
26	ID 26	29.6	-0.0439	0.00		8:22:04 AM
ST-3	1CCV (150 mg/L)	162.4	-0.2188	108.24		8:22:22 AM
ST-2	2CCB (0 mg/L)	22.8	-0.0345	0.00		8:23:16 AM

Report Date :10/12/2016 Run Date :10/12/2016 Operator : SMARTCHEM1 Plan # :20161012001
 Plan Description : ALK-A1-DCM/10/12/2016

Calibrant Report - WALK -

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

Plan #: 20161012001 Description : [ALK-A1-DCM/10/12/2016] Unit



Point	OD	Conc	Recalc Conc	% Error
1	-0.0018	0	-0.7041	-70.41
2	-0.0173	10	10.3952	3.95
3	-0.0339	20	22.3757	11.88
4	-0.0699	50	48.6896	-2.62
5	-0.1358	100	98.0361	-1.96
6	-0.2658	200	199.8472	-0.08
7	-0.3321	250	254.0531	1.62
8	-0.3837	300	297.3073	-0.90

Conc= +175.3591*Abso^2 -712.7379*Abso -1.9876 R²=0.9996

RBL
0.6097
0

Report Date 10/12/2016 Run Date 10/12/2016

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	0.5280	0.00		9:00:36 AM
DIL-1	RBL	0.0	0.5259	0.00		9:00:54 AM
DIL-1	RBL	0.0	0.5236	0.00		9:01:48 AM
DIL-1	Std-1	0.0	0.0001	0.00	INV	9:02:06 AM
SR5-1	Std-2	10.0	-0.0157	0.00		9:03:00 AM
SR5-2	Std-3	20.0	-0.0149	0.00		9:03:18 AM
SR5-3	Std-4	50.0	-0.0511	0.00		9:04:12 AM
SR5-4	Std-5	100.0	-0.1083	0.00		9:04:30 AM
SR5-5	Std-6	200.0	-0.2156	0.00	EPL	9:05:26 AM
SR5-6	Std-7	250.0	-0.2829	0.00		9:05:42 AM
SR5-7	Std-8	300.0	-0.3369	0.00		9:06:36 AM
ST-3	1CCV (150 mg/L)	156.7	-0.1697	104.44		9:06:56 AM
ST-2	2CCB (0 mg/L)	-1.2	0.0017	0.00	INV,><,LL	9:07:48 AM
1	ICV	244.1	-0.2711	0.00		9:08:06 AM
2	WG587246-01 BLK	-5.8	0.0064	0.00	INV,><,LL	9:09:00 AM
3	WG587246-02 LCS	203.2	-0.2230	0.00		9:09:18 AM
4	WG587246-03 LCSDUP	205.5	-0.2257	0.00		9:10:12 AM
5	L16100002-01	6.7	-0.0066	0.00		9:10:30 AM
6	L16100004-01	18.2	-0.0187	0.00		9:11:24 AM
7	L16100004-09	X 13.2	-0.0134	0.00		9:11:42 AM
8	L16100522-03 (4)	130.6	-0.1404	0.00		9:12:36 AM
9	L16100522-05 (4)	176.3	-0.1920	0.00		9:12:54 AM
10	L16100522-06 (4)	112.6	-0.1205	0.00		9:13:48 AM
ST-3	1CCV (150 mg/L)	159.1	-0.1725	106.09		9:14:06 AM
ST-2	2CCB (0 mg/L)	4.2	-0.0040	0.00		9:15:00 AM
11	L16100456-04	241.3	-0.2678	0.00		9:15:18 AM
12	WG587246-05 DUP	242.0	-0.2686	0.00		9:16:12 AM
13	ID 13	14.3	-0.0146	0.00		9:18:36 AM
13	ID 13	***	0.5162	0.00	SS	9:16:30 AM
ST-3	1CCV (150 mg/L)	159.8	-0.1733	106.56		9:17:24 AM
ST-2	2CCB (0 mg/L)	3.9	-0.0037	0.00		9:17:42 AM

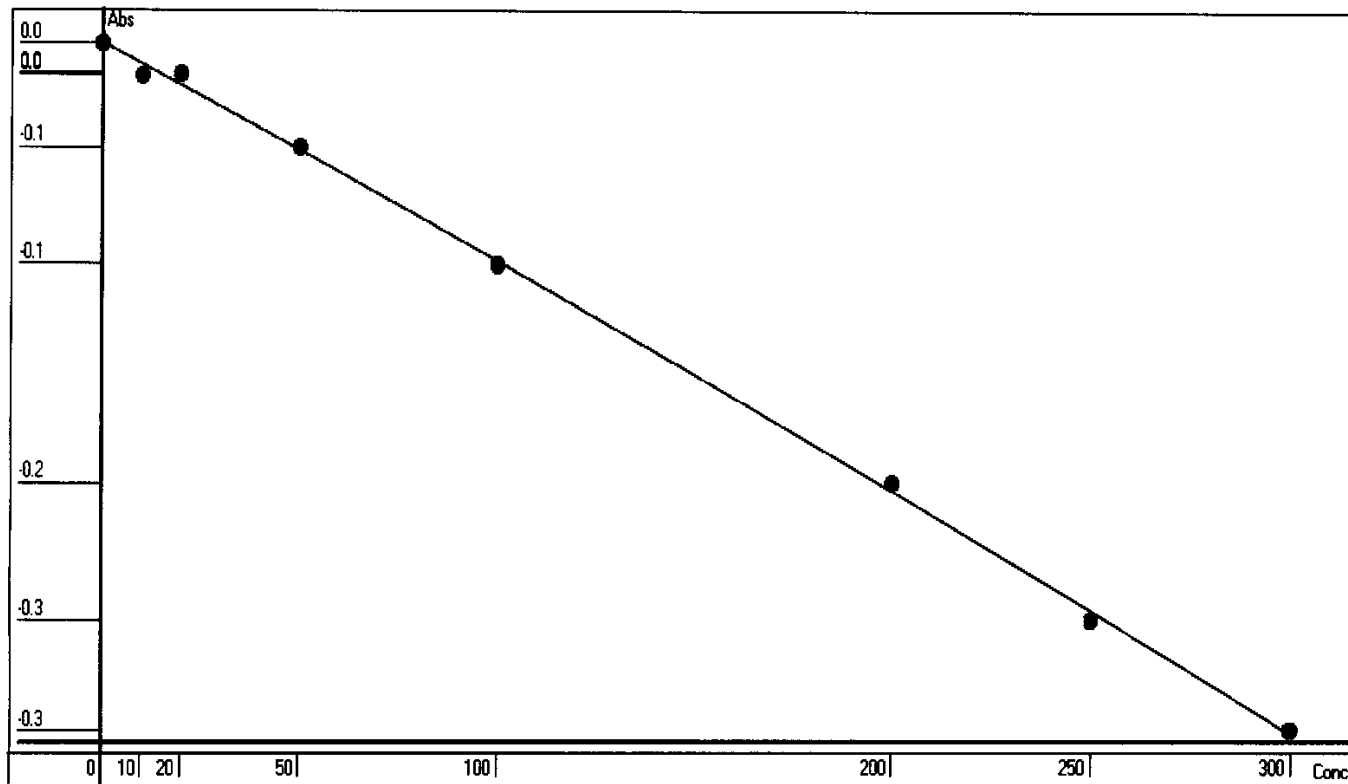
Report Date :10/12/2016 Run Date :10/12/2016 Operator : SMARTCHEM1 Plan # :20161012002

Plan Description : ALK-B1-DCM/10/12/2016

Calibrant Report - WALK -

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

Plan #: 20161012002 Description : [ALK-B1-DCM/10/12/2016] Unit



Point	OD	Conc	Recalc Conc	% Error
1	0.0001	0	0.3359	33.59
2	-0.0157	10	15.4153	54.15
3	-0.0149	20	14.6544	-26.73
4	-0.0511	50	48.8069	-2.39
5	-0.1082	100	101.5191	1.52
6	-0.2156	200	196.8256	-1.59
7	-0.2828	250	253.9081	1.56
8	-0.3368	300	298.3554	-0.55

Conc = -217.379*Abso^2 -957.7847*Abso +0.4317 R²=0.9991

RBL
0.527
0

Report Date 10/12/2016 Run Date 10/12/2016

2.4.3 Ferrous Iron Data

2.4.3.1 Summary Data

Certificate of Analysis

Sample #: L16100194-01	PrePrep Method: N/A	Instrument: UV-2600
Client ID: 35AWW08-100416	Prep Method: SM3500Fe-B-1997	Prep Date: N/A
Matrix: Water	Analytical Method: SM3500Fe-B-1997	Cal Date: 08/10/2016 11:20
Workgroup #: WG586481	Analyst: TMM	Run Date: 10/06/2016 09:45
Collect Date: 10/04/2016 07:40	Dilution: 200	File ID: 00.1610060945-10
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Ferrous - Laboratory		17.6		8.00	8.00	4.00

Certificate of Analysis

Sample #: L16100194-03	PrePrep Method: N/A	Instrument: UV-2600
Client ID: 03WW01-100416	Prep Method: SM3500Fe-B-1997	Prep Date: N/A
Matrix: Water	Analytical Method: SM3500Fe-B-1997	Cal Date: 08/10/2016 11:20
Workgroup #: WG586481	Analyst: TMM	Run Date: 10/06/2016 09:45
Collect Date: 10/04/2016 08:20	Dilution: 100	File ID: 00.1610060945-11
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Ferrous - Laboratory		8.02		4.00	4.00	2.00

Certificate of Analysis

Sample #: L16100194-05	PrePrep Method: N/A	Instrument: UV-2600
Client ID: 35AWW20-100416	Prep Method: SM3500Fe-B-1997	Prep Date: N/A
Matrix: Water	Analytical Method: SM3500Fe-B-1997	Cal Date: 08/10/2016 11:20
Workgroup #: WG586481	Analyst: TMM	Run Date: 10/06/2016 09:45
Collect Date: 10/04/2016 09:35	Dilution: 1	File ID: 00.1610060945-12
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Ferrous - Laboratory		0.263		0.0400	0.0400	0.0200

Certificate of Analysis

Lab Report #: L16100194

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Adriane Steed

Sample #: L16100194-06

PrePrep Method: N/A

Instrument: UV-2600

Client ID: LHSMW07-100416

Prep Method: SM3500Fe-B-1997

Prep Date: N/A

Matrix: Water

Analytical Method: SM3500Fe-B-1997

Cal Date: 08/10/2016 11:20

Workgroup #: WG586481

Analyst: TMM

Run Date: 10/06/2016 09:45

Collect Date: 10/04/2016 10:40

Dilution: 1

File ID: 00.1610060945-13

Sample Tag:

Units: mg/L

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Iron, Ferrous - Laboratory		0.260		0.0400	0.0400	0.0200

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: 06-OCT-2016
 Analyst: TMM
 Analyst: NA
 Method: FERROUS IRON
 Instrument: UV-2600
 Curve Workgroup: NA
 Runlog ID: _____
 Analytical Workgroups: WG586481

Calibration/Linearity	8/10/16
Second Source Check	
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	
Case Narratives	
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	TMM
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
06-OCT-2016

Jammy Morris

Secondary Reviewer:
13-OCT-2016

Dennis Johnson



Analytical Method: SM3500Fe-B-1997
Login Number: L16100194

AAB#: WG586481

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
35AWW08-100416	01	10/04/16					10/06/2016	2.1	7		10/06/16	2.1	7	
03WW01-100416	03	10/04/16					10/06/2016	2.1	7		10/06/16	2.1	7	
35AWW20-100416	05	10/04/16					10/06/2016	2	7		10/06/16	2	7	
LHSMW07-100416	06	10/04/16					10/06/2016	2	7		10/06/16	2	7	

* = SEE PROJECT QAPP REQUIREMENTS



METHOD BLANK SUMMARY

Login Number: L16100194 Work Group: WG586481
 Blank File ID: 00.1610060945-03 Blank Sample ID: WG586481-01
 Prep Date: 10/06/16 09:45 Instrument ID: UV-2600
 Analyzed Date: 10/06/16 09:45 Method: SM3500Fe-B-1997
 Analyst: TMM

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG586481-02	00.1610060945-04	10/06/16 09:45	
LCS2	WG586481-03	00.1610060945-05	10/06/16 09:45	
35AWW08-100416	L16100194-01	00.1610060945-10	10/06/16 09:45	
03WW01-100416	L16100194-03	00.1610060945-11	10/06/16 09:45	
35AWW20-100416	L16100194-05	00.1610060945-12	10/06/16 09:45	
LHSMW07-100416	L16100194-06	00.1610060945-13	10/06/16 09:45	
DUP	WG586481-05	00.1610060945-17	10/06/16 09:45	

Report Name: BLANK_SUMMARY
 PDF File ID: 4973460
 Report generated 10/13/2016 09:57



Login Number: L16100194 Prep Date: 10/06/16 09:45 Sample ID: WG586481-01
 Instrument ID: UV-2600 Run Date: 10/06/16 09:45 Prep Method: SM3500Fe-B-1997
 File ID: 00.1610060945-03 Analyst: TMM Method: SM3500Fe-B-1997
 Workgroup (AAB#): WG586481 Matrix: Water Units: mg/L
 Contract #: _____ Cal ID: UV-260-10-AUG-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Iron, Ferrous - Laboratory	0.0200	0.0400	0.0200	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: 4973461
 13-OCT-2016 09:57



Login Number: L16100194 Analyst: TMM Prep Method: SM3500Fe-B-1997
 Instrument ID: UV-2600 Matrix: Water Method: SM3500Fe-B-1997
 Workgroup (AAB#): WG586481 Units: mg/L
 QC Key: DOD4 Lot #: STD77540
 Sample ID: WG586481-02 LCS File ID: 00.1610060945-04 Run Date: 10/06/2016 09:45
 Sample ID: WG586481-03 LCS2 File ID: 00.1610060945-05 Run Date: 10/06/2016 09:45

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Iron, Ferrous - Laboratory	0.200	0.233	117	0.200	0.233	117	0.00	75 - 125	25	

LCS_LCS2 - Modified 03/06/2008
 PDF File ID: 4973462
 Report generated: 10/13/2016 09:57



2.4.3.3 Raw Data

WIG 579687

Curves

Parameter: Ferrous Iron

Spectrophotometer: UV-2600

Calibration (Curve) standard stock: Std 76129

Concentration: 100 mg/L

Recipe for preparation of curve standards found in:

SOP: 3500 Revision: 7 Page: 8

Second Source Stock: 177540 (concentration: 100 mg/L)

Daily Preparation: $\frac{2(100)}{1000}$

concentration = 0.2

Calibration Standards (mg/L)	Volume (mL)	Cell Size (cm)	Wavelength (nm)	Absorbance
0	50	10cm	510	0.001
0.04	50	10cm	510	0.032
0.08	50	10cm	510	0.058
0.2	50	10cm	510	0.161
0.4	50	10cm	510	0.332
0.6	50	10cm	510	0.523
2 nd Source 0.2	50	10cm	510	0.168

Analyst: David Merschke

Date/Time: 8/10/16

DCN#120218



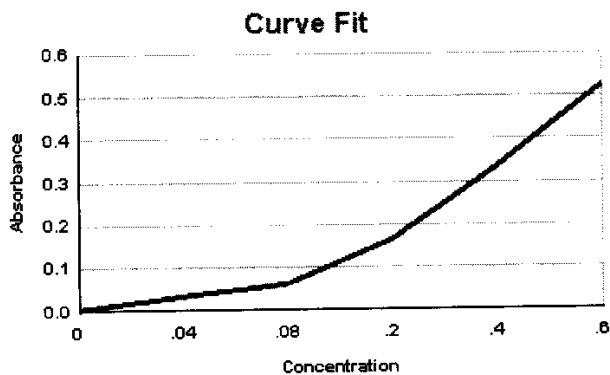
Microbac Laboratories Inc.
INITIAL CALIBRATION

Workgroup: WG579687
Analytical Method: FERROUS
Instrument ID: UV-2600

Analyst: DCM
Initial Calibration Date: 08/10/2016

Analyte: **FERROUS IRON**
Number of Points: 6
Slope: 0.868804
Y-Intercept: -0.00663689
Coef. Of Correlation (R^2): 0.998650
Coef. Of Correlation (R): 0.999325

Concentration X	Absorbance Y	X ²	X * Y	Y-Fitted (mX^2+B)
0.00	0.00100	0.00	0.00	-0.00663689
0.0400	0.0320	0.00160	0.00128	0.0281153
0.0800	0.0580	0.00640	0.00464	0.0628674
0.200	0.161	0.0400	0.0322	0.167124
0.400	0.332	0.160	0.133	0.340885
0.600	0.523	0.360	0.314	0.514646



WG_ICAL_CAL_WET - Modified 03/06/2008
Report generated 08/10/2016 11:25



Microbac Laboratories Inc.
ALTERNATE SOURCE REPORT

Workgroup #: WG579687
File ID: 00.1608101120-07
CCV ID: WG579687-07
Units: mg/L
Analyte: FERROUS IRON

Instrument ID: UV-2600
Run Date: 08/10/2016
Run Time: 11:20
Analyst: DCM
Cal ID: UV-260 - 10-AUG-16 11:20:06

Analyte	Expected	Found	RF	%D	Q
Iron, Ferrous	.2	0.201	0.840	0.5	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

WMT_WG_SSCV - Modified 03/06/2008
Report generated 08/10/2016 11:25



LOQ 2(100)/500=0.4
50(0.4)/500=0.04

LOD 25(0.4)/500=0.02

WORKGROUP: WG586481

Ferrous Iron

SM 3500Fe-B

CCV: 76129
Daily Dilution: 3(100)/1000
Daily Dilution: =0.3

LCS: 77540
Daily Dilution: 2(100)/1000
Daily Dilution: =0.2

SOP K3500 Revision # 8

UV-2600
Instrument: UV-1201V

RGTS: 37318
RGTS: 37591
RGTS: 36787

Spike: 77540 MS
Daily Dilution: 0.1(100)/50 0.2(100)/50
Daily Dilution: =0.2 =0.4

Curve Reference: 8/10/16

Sample	Blank	Volume (mL)	Dilution	Cell Size (nm)	Absorbance
CCV: _____ mg/L	✓	50		10	0.269
BLANK <u>1CCB</u>	✓	50		10	0.003
LCS: _____ mg/L	✓	50		10	0.196
LCS DUP: (_____ mg/L)	✓	50		10	0.196
<u>10-123-01</u>	✓	50		10	0.001
<u>03</u>	✓	50		10	0.006
<u>05</u>	✓	50		10	0.004
<u>07</u>	✓	50		10	0.014
* <u>10-194-01</u>	✓	50	<u>1/200</u>	10	0.070
* <u>03</u>	✓	50	<u>1/100</u>	10	0.063
<u>05</u>	✓	50		10	0.222
<u>06</u>	✓	50			0.219
LOD ← <u>10-002-01</u>	✓	50			0.016
LOP ← <u>10-004-01</u>	✓	50			0.0290037
<u>09</u>	✓	50			0.036
		50			
		50			
		50			
		50			
		50			
		50			
		50			
		50			
		50			
<u>CCB</u>		50			0.003
DUP: <u>10-194-06</u>	✓	50			0.220
MS: <u>(0.2)10-194-06</u>	✓	50			0.1634
MSD: <u>(0.2)16-194-06</u>	✓	50			0.1631
CCV: <u>6.3</u>	✓	50			0.269

Analyst: Johnny Morris Date/Time: 10/6/16 @ 9:45

*Samples were analyzed in the laboratory and not immediately in the field.

*Samples diluted because of Color.

DCN#121335



Microbac Laboratories Inc.
SAMPLE REPORT

Workgroup: WG586481Analyst: TMMAnalyte: FERROUS IRONDate: 10/06/2016

Sample ID	I Vol	F Vol	Response	Slope	Y Intercept	Anal. Conc.	Rep. Conc.	Dil	Units
WG586481-01	50	50	0.00300	0.8688	-0.006637	0.011092	0.011092	1	mg/L
WG586481-02	50	50	0.196	0.8688	-0.006637	0.23324	0.23324	1	mg/L
WG586481-03	50	50	0.196	0.8688	-0.006637	0.23324	0.23324	1	mg/L
L16100123-01	50	50	0.00100	0.8688	-0.006637	0.0087901	ND	1	mg/L
L16100123-03	50	50	0.00600	0.8688	-0.006637	0.014545	ND	1	mg/L
L16100123-05	50	50	0.00400	0.8688	-0.006637	0.012243	ND	1	mg/L
L16100123-07	50	50	0.0140	0.8688	-0.006637	0.023753	0.023753 F	1	mg/L
L16100194-01	50	50	0.0700	0.8688	-0.006637	0.088210	17.642	200	mg/L
L16100194-03	50	50	0.0630	0.8688	-0.006637	0.080153	8.0153	100	mg/L
L16100194-05	50	50	0.222	0.8688	-0.006637	0.26316	0.26316	1	mg/L
L16100194-06	50	50	0.219	0.8688	-0.006637	0.25971	0.25971	1	mg/L
WG586481-04	50	50	0.219	0.8688	-0.006637	0.25971	0.25971	1	mg/L
L16100002-01	50	50	0.0160	0.8688	-0.006637	0.026055	0.026055	1	mg/L
L16100004-01	50	50	0.0370	0.8688	-0.006637	0.050226	0.050226	1	mg/L
L16100004-09	50	50	0.0360	0.8688	-0.006637	0.049075	0.049075	1	mg/L
WG586481-05	50	50	0.220	0.8688	-0.006637	0.26086	0.26086	1	mg/L
WG586481-06	50	50	0.634	0.8688	-0.006637	0.73738	0.73738	1	mg/L
WG586481-07	50	50	0.631	0.8688	-0.006637	0.73392	0.73392	1	mg/L

UV_SAMPLE_REPORT - Modified 03/06/2008

Report generated 10/06/2016 14:01

Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

00869461

Workgroup #: WG586604
File ID: 00.1610060945-01
CCV ID: WG586604-01
Units: mg/L
Analyte: FERROUS IRON

Instrument ID: UV-2600
Run Date: 10/06/2016
Run Time: 09:45
Analyst: TMM
Cal ID: UV-260 - 28-SEP-16

Analyte	Expected	Found	RF	%D	Q
Iron, Ferrous	.3	0.317	0.897	5.7	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

WET_WG_CCV - Modified 03/06/2008

Report generated 10/06/2016 14:02



Microbac Laboratories Inc.
CONTINUING CALIBRATION REPORT

00869462

Workgroup #: WG586604 Instrument ID: UV-2600
File ID: 00.1610060945-21 Run Date: 10/06/2016
CCV ID: WG586604-04 Run Time: 09:45
Units: mg/L Analyst: TMM
Analyte: FERROUS IRON Cal ID: UV-260 - 28-SEP-16

Analyte	Expected	Found	RF	%D	Q
Iron, Ferrous	.3	0.317	0.897	5.7	

* Exceeds %D Limit

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

WER_WG_CCV - Modified 03/06/2008

Report generated 10/06/2016 14:02



2.4.4 Phosphorus Data

2.4.4.1 Summary Data

Certificate of Analysis

Sample #: L16100194-01	PrePrep Method: N/A	Instrument: SMARTCHEM
Client ID: 35AWW08-100416	Prep Method: 365.4	Prep Date: N/A
Matrix: Water	Analytical Method: 365.4	Cal Date: 10/10/2016 09:33
Workgroup #: WG586864	Analyst: DCM	Run Date: 10/10/2016 09:45
Collect Date: 10/04/2016 07:40	Dilution: 10	File ID: SC161010002.027
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Phosphorus, Total	7723-14-0	5.68		4.00	2.00	1.00

Certificate of Analysis

Sample #: L16100194-03	PrePrep Method: N/A	Instrument: SMARTCHEM
Client ID: 03WW01-100416	Prep Method: 365.4	Prep Date: N/A
Matrix: Water	Analytical Method: 365.4	Cal Date: 10/10/2016 09:33
Workgroup #: WG586864	Analyst: DCM	Run Date: 10/10/2016 09:46
Collect Date: 10/04/2016 08:20	Dilution: 10	File ID: SC161010002.028
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Phosphorus, Total	7723-14-0	2.06	J	4.00	2.00	1.00

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

Lab Report #: L16100194

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Adriane Steed

Certificate of Analysis

Sample #: L16100194-05	PrePrep Method: N/A	Instrument: SMARTCHEM
Client ID: 35AWW20-100416	Prep Method: 365.4	Prep Date: N/A
Matrix: Water	Analytical Method: 365.4	Cal Date: 10/10/2016 09:33
Workgroup #: WG586864	Analyst: DCM	Run Date: 10/10/2016 09:47
Collect Date: 10/04/2016 09:35	Dilution: 1	File ID: SC161010002.029
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Phosphorus, Total	7723-14-0	0.200	U	0.400	0.200	0.100
U	Analyte was not detected. The concentration is below the reported LOD.					

Lab Report #: L16100194

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Adriane Steed

Certificate of Analysis

Sample #: L16100194-06	PrePrep Method: N/A	Instrument: SMARTCHEM
Client ID: LHSMW07-100416	Prep Method: 365.4	Prep Date: N/A
Matrix: Water	Analytical Method: 365.4	Cal Date: 10/10/2016 09:33
Workgroup #: WG586864	Analyst: DCM	Run Date: 10/10/2016 09:47
Collect Date: 10/04/2016 10:40	Dilution: 1	File ID: SC161010002.030
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Phosphorus, Total	7723-14-0	0.200	U	0.400	0.200	0.100
U	Analyte was not detected. The concentration is below the reported LOD.					

2.4.4.2 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-OCT-2016
 Analyst: DCM
 Analyst: NA
 Method: PHOS
 Instrument: SC
 Curve Workgroup: NA
 Runlog ID: _____
 Analytical Workgroups: WG586864

Calibration/Linearity	10-10-2016
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:
11-OCT-2016



Secondary Reviewer:
11-OCT-2016




Analytical Method: 365.4
Login Number: L16100194

AAB#: WG586864

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
35AWW08-100416	01	10/04/16					10/10/2016	6.1	28		10/10/16	6.1	28	
03WW01-100416	03	10/04/16					10/10/2016	6.1	28		10/10/16	6.1	28	
35AWW20-100416	05	10/04/16					10/10/2016	6	28		10/10/16	6	28	
LHSMW07-100416	06	10/04/16					10/10/2016	6	28		10/10/16	6	28	

* = SEE PROJECT QAPP REQUIREMENTS



METHOD BLANK SUMMARY

Login Number: L16100194 Work Group: WG586864
Blank File ID: SC161010002.010 Blank Sample ID: WG586864-01
Prep Date: 10/10/16 09:35 Instrument ID: SMARTCHEM
Analyzed Date: 10/10/16 09:35 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	WG586864-02	SC161010002.011	10/10/16 09:36	01
35AWW08-100416	L16100194-01	SC161010002.027	10/10/16 09:45	DL01
03WW01-100416	L16100194-03	SC161010002.028	10/10/16 09:46	DL01
35AWW20-100416	L16100194-05	SC161010002.029	10/10/16 09:47	01
LHSMW07-100416	L16100194-06	SC161010002.030	10/10/16 09:47	01
DUP	WG586864-04	SC161010002.034	10/10/16 09:50	01

Report Name: BLANK_SUMMARY
PDF File ID: 4970128
Report generated 10/11/2016 12:35



Login Number: L16100194 Prep Date: 10/10/16 09:35 Sample ID: WG586864-01
Instrument ID: SMARTCHEM Run Date: 10/10/16 09:35 Prep Method: 365.4
File ID: SC161010002.010 Analyst: DCM Method: 365.4
Workgroup (AAB#): WG586864 Matrix: Water Units: mg/L
Contract #: _____ Cal ID: SMARTC-10-OCT-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: 4970129
11-OCT-2016 12:35



Login Number: L16100194 Run Date: 10/10/2016 Sample ID: WG586864-02
Instrument ID: SMARTCHEM Run Time: 09:36 Prep Method: 365.4
File ID: SC161010002.011 Analyst: DCM Method: 365.4
Workgroup (AAB#): WG586864 Matrix: Water Units: mg/L
QC Key: DOD4 Lot#: STD78117 Cal ID: SMARTC-10-OCT-16

Analytes	Expected	Found	% Rec	LCS Limits	Q
Phosphorus, Total	1.00	1.02	102	70 - 130	

LCS - Modified 03/06/2008
PDF File ID: 4970130
Report generated: 10/11/2016 12:35



2.4.4.3 Raw Data

SMARTCHEM RUN LOG
(smartchem2, smartchem3)

WORKGROUP: WG586864

Daily Check

- | | |
|--|--|
| <input checked="" type="checkbox"/> Lamp On | <input checked="" type="checkbox"/> WBL Run |
| <input checked="" type="checkbox"/> Probe Rinse Full | <input checked="" type="checkbox"/> Reagents Full |
| <input checked="" type="checkbox"/> DI Water > 1/2 Full | <input checked="" type="checkbox"/> Dilution H ₂ O Full |
| <input checked="" type="checkbox"/> Wash Solution > 1/2 Full | <input checked="" type="checkbox"/> Waste Container Check |
| <input type="checkbox"/> NO ₃ Reagent bottle connected / purged | |
| <input type="checkbox"/> NO ₃ pH adj to pH 5-9 | |
| Syringe filter lot # _____ | |

- 1) Workgroup _____
Plan # _____
- 2) Workgroup _____
Plan # _____
- 3) Workgroup _____
Plan # _____
- Instrument: SC1 SC2

Analyte	1	2	3
	PHCS		
	Dilution		
SC Prepared Curve			
Position			
1-1	ICW		
1-2	Blk		
1-3	LCS		
1-4	11-602-c1		
1-5	10-004-c1		
1-6	09		
1-7	09-1346-c1		
1-8	02		
1-9	03		
1-10	04		
1-11	10-188-c1		
1-12	10-201-03	1m ² /250	
1-13	10-123-c1		
1-14	03		
1-15	05		
1-16	07		
1-17	10-194-c1	1m ² /10	
1-18	03	1m ² /10	
1-19	05		
1-20	06		
1-21	10-271-02		
1-22	DUP 09-1346-c1		
2-1	MS 09-1346-c1		
2-2	MS 09-1346-c1		
2-3			

Position	Analyte	1	2	3
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#121404



SMARTCHEM RUN LOG
(smartchem2, smartchem3)

WORKGROUP: WG586864

	Analyte	1	2	3
Position				
3-3				
3-4				
3-5				
3-6				
3-7				
3-8				
3-9				
3-10				
3-11				
3-12				
3-13				
3-14				
3-15				

	Analyte	1	2	3
Position				
3-16				
3-17				
3-18				
3-19				
3-20				
3-21				
3-22				
3-23				
3-24				
3-25				
3-26				
3-27				
3-28				

Chloride	EPA 325.2/SM 4500-Cl E-2000
Nitrate-Nitrite	EPA 353.2/SM 4500-NO3 F-2000
Alkalinity	EPA 310.2
Sulfate	EPA 375.4/SM 426C (15 th)/SM4500-504 E-1997

Ammonia	EPA 350.1/SM 4500-NH3 B-1997
TKN	EPA 351.2
✓ Phos	EPA 365.4

Analyte	PHCS	Reagents
SOP & Revision	K 3054 R19	REG 38024
Curve Stock (SC made)		REG 37845
NO2 STD		REG 37402
ICV		
CCV	see Digest	
LCS	Log	
MS	Dilution	

Comments: _____

Analyst: David Mershe

Date: 10/14/16

DCN#121404



TKN/Phosphorus Digestion Log

TKN WG: _____ Phos WG: _____
 TKN Std: std 78411 Phos Std: std 78411
 TKN CCV: $\frac{1}{2}(\text{std } 78411)$ Phos CCV: $\frac{1}{2}(78411)$
 TKN ICV: std 78119 Phos ICV: std 78322
 TKN LCS: std 78118 Phos LCS: std 78117

MS/MSD: std 76885
 Daily Dilution: $\frac{1(25)}{25} = 1$

Block Digester Temperature: 380 °C Digest Reagent: RGF 37945

	Sample	Volume	TKN Dilution	Phos Dilution		Sample	Volume	TKN Dilution	Phos Dilution
1	std				26	10-194-c1	1/10		✓
2	std				27	c3	1/10		✓
3	ICV				28	c5			✓
4	ICV				29	c6			✓
5	LCS				30	10-271-c2			✓
6	LSSP				31	10-002-c1		✓	✓
7	09-1346-c1		✓	✓	32	10-004-c1		✓	✓
8	c2		✓	✓	33	c4		✓	✓
9	c3		✓	✓	34	Dup 09-1346-c1		✓	✓
10	c4		✓	✓	35	MS 09-1346-c1		✓	✓
11	10-47-c2	1/50	✓		36	MS 09-1346-c2		✓	✓
12	c5	1/50	✓		37	BS11			
13	10-103-c1		✓		38				
14	c4		✓		39				
15	10-107-c3		✓		40				
16	c5		✓		41				
17	c6		✓		42				
18	c7		✓		43				
19	10-139-c3		✓		44				
20	10-188-c1		✓	✓	45				
21	10-206-c3	1/250		✓	46				
22	10-123-c1			✓	47				
23	c3			✓	48				
24	c5			✓	49				
25	c7			✓	50				

LOQ $\frac{2(25)}{250} = 0.2$ std 76885
 LOD $\frac{1(0.2)}{2} = 0.1$

* Diluted for matrix interference
 Dark color samples

Analyst: David Mersfile Date: 10/7/16

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	0.0916	0.00	R	9:28:46 AM
DIL-1	RBL	0.000	0.0939	0.00	R	9:29:04 AM
DIL-1	RBL	0.000	0.0902	0.00	R	9:29:58 AM
SR5-1	Std-1	0.010	-0.0001	0.00	INV,EPL	9:30:16 AM
SR5-2	Std-2	0.200	0.0412	0.00	EPL	9:31:10 AM
SR5-3	Std-3	0.500	0.0656	0.00	EPL	9:31:28 AM
SR5-4	Std-4	1.000	0.1298	0.00	EPL	9:32:22 AM
SR5-5	Std-5	1.500	0.1832	0.00		9:32:40 AM
ST-1	Std-6	2.000	0.2417	0.00		9:33:36 AM
ST-3	1CCV (1 mg/L)	1.070	0.1341	107.03		9:33:52 AM
ST-2	2CCB (0 mg/L)	-0.357	-0.0346	0.00	INV,EPL,><	9:34:46 AM
1	ICV	1.708	0.2095	0.00	EPL	9:35:04 AM
2	WG586864-01 BLK	-0.050	0.0017	0.00	EPL,LL	9:35:58 AM
3	WG586864-02 LCS	1.021	0.1283	0.00		9:36:16 AM
4	L16100002-01	∠ 0.569	0.0749	0.00	EPL	9:37:10 AM
5	L16100004-01	∠ 0.283	0.0410	0.00	EPL	9:37:28 AM
6	L16100004-09	∠ 0.280	0.0407	0.00	EPL	9:38:22 AM
7	L16091346-01	0.180	0.0289	0.00	EPL	9:38:40 AM
8	L16091346-02	-0.103	-0.0046	0.00	INV,EPL,><	9:39:35 AM
9	L16091346-03	0.383	0.0529	0.00	EPL	9:39:52 AM
10	L16091346-04	0.022	0.0102	0.00	EPL	9:40:47 AM
ST-3	1CCV (1 mg/L)	1.037	0.1302	103.73		9:41:04 AM
ST-2	2CCB (0 mg/L)	-0.337	-0.0322	0.00	INV,><,LL	9:41:59 AM
11	L16100188-01	-0.178	-0.0134	0.00	INV,><,LL	9:42:16 AM
12	L16100206-03 (250)	1.106	0.1383	0.00	EPL	9:43:11 AM
13	L16100123-01	-0.097	-0.0039	0.00	INV,><,LL	9:43:28 AM
14	L16100123-03	-0.438	-0.0442	0.00	INV,><,LL	9:44:23 AM
15	L16100123-05	0.303	0.0434	0.00	EPL	9:44:40 AM
16	L16100123-07	0.208	0.0322	0.00	EPL	9:45:35 AM
17	L16100194-01 (10)	0.569	0.0748	0.00	EPL	9:45:52 AM
18	L16100194-03 (10)	0.206	0.0320	0.00		9:46:47 AM
19	L16100194-05	-0.302	-0.0281	0.00	INV,><,LL	9:47:04 AM
20	L16100194-06	-0.398	-0.0394	0.00	INV,><,LL	9:47:59 AM
ST-3	1CCV (1 mg/L)	0.987	0.1242	98.65		9:48:17 AM
ST-2	2CCB (0 mg/L)	-0.354	-0.0342	0.00	INV,><,LL	9:49:11 AM
21	L16100271-02	∠ 4.420	0.5300	0.00	><,LH	9:49:28 AM

Report Date :10/11/2016 Run Date :10/10/2016 Operator : SMARTCHEM1 Plan # :20161010002

Plan Description : PHOS-A1-DCM/10/10/2016

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
22	WG586864-04 DUP	-0.053	0.0014	0.00	LL	9:50:22 AM
23	WG586864-05 MS	1.338	0.1657	0.00	EPL	9:50:40 AM
24	WG586864-07 MS	1.389	0.1718	0.00	EPL	9:51:34 AM
25	ID 25	-0.351	-0.0339	0.00	INV,><,LL	9:55:10 AM
25	ID 25	***	***	0.00	SS	9:51:52 AM
26	ID 26	-0.215	-0.0178	0.00	INV,><,LL	9:52:46 AM
27	ID 27	0.080	0.0171	0.00	EPL	9:53:04 AM
ST-3	1CCV (1 mg/L)	1.051	0.1318	105.08		9:53:59 AM
ST-2	2CCB (0 mg/L)	-0.362	-0.0352	0.00	INV,><,LL	9:54:16 AM
21-[1/2]	L16100271-02	× 4.066	0.2479	0.00	EPL,><,LH	10:02:40 AM
ST-3	1CCV (1 mg/L)	1.039	0.1304	103.90		10:02:40 AM
ST-2	2CCB (0 mg/L)	-0.430	-0.0432	0.00	INV,><,LL	10:03:34 AM
21-[1/5]	L16100271-02	3.642	0.0937	0.00	LH	10:11:15 AM
ST-3	1CCV (1 mg/L)	1.023	0.1285	102.29		10:11:15 AM
ST-2	2CCB (0 mg/L)	-0.387	-0.0381	0.00	INV,><,LL	10:12:09 AM

Report Date :10/11/2016 Run Date :10/10/2016 Operator : SMARTCHEM1 Plan # :20161010002

Plan Description : PHOS-A1-DCM/10/10/2016

2.4.5 Sulfide Data

2.4.5.1 Summary Data

Lab Report #: L16100194

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Adriane Steed

Certificate of Analysis

Sample #: L16100194-01	PrePrep Method: N/A	Instrument: BURET
Client ID: 35AWW08-100416	Prep Method: SM4500-S-(-2)-F-2000	Prep Date: N/A
Matrix: Water	Analytical Method: SM4500-S-(-2)-F-2000	Cal Date:
Workgroup #: WG586639	Analyst: EPT	Run Date: 10/06/2016 16:20
Collect Date: 10/04/2016 07:40	Dilution: 1	File ID: ET.1610061620-08
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Sulfide	18496-25-8	1.00	U	2.00	1.00	0.500
U	Analyte was not detected. The concentration is below the reported LOD.					

Lab Report #: L16100194

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Adriane Steed

Certificate of Analysis

Sample #: L16100194-03	PrePrep Method: N/A	Instrument: BURET
Client ID: 03WW01-100416	Prep Method: SM4500-S-(-2)-F-2000	Prep Date: N/A
Matrix: Water	Analytical Method: SM4500-S-(-2)-F-2000	Cal Date:
Workgroup #: WG586639	Analyst: EPT	Run Date: 10/06/2016 16:20
Collect Date: 10/04/2016 08:20	Dilution: 1	File ID: ET.1610061620-09
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Sulfide	18496-25-8	1.00	U	2.00	1.00	0.500
U	Analyte was not detected. The concentration is below the reported LOD.					

Lab Report #: L16100194

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Adriane Steed

Certificate of Analysis

Sample #: L16100194-05	PrePrep Method: N/A	Instrument: BURET
Client ID: 35AWW20-100416	Prep Method: SM4500-S-(-2)-F-2000	Prep Date: N/A
Matrix: Water	Analytical Method: SM4500-S-(-2)-F-2000	Cal Date:
Workgroup #: WG586639	Analyst: EPT	Run Date: 10/06/2016 16:20
Collect Date: 10/04/2016 09:35	Dilution: 1	File ID: ET.1610061620-10
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Sulfide	18496-25-8	0.870	J	2.00	1.00	0.500
J	Estimated value ; the analyte concentration was less than the LOQ.					

Lab Report #: L16100194

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Adriane Steed

Certificate of Analysis

Sample #: L16100194-06	PrePrep Method: N/A	Instrument: BURET
Client ID: LHSMW07-100416	Prep Method: SM4500-S-(-2)-F-2000	Prep Date: N/A
Matrix: Water	Analytical Method: SM4500-S-(-2)-F-2000	Cal Date:
Workgroup #: WG586639	Analyst: EPT	Run Date: 10/06/2016 16:20
Collect Date: 10/04/2016 10:40	Dilution: 1	File ID: ET.1610061620-11
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.					

2.4.5.2 QC Summary Data

Example Total Sulfide(Liquid) Calculations

$[\text{mL Iodine} * \text{N Iodide}] - (\text{mL titrant} * \text{N titrant}) * 16000 / (\text{volume} * \text{dilution}) = \text{mg/L Sulfide}$
 where:

mL Iodine = mL of Iodine used

N Iodine = normality of Iodine

mL titrant = mL of titrant used

N titrant = normality of titrant

16000 = factor: 1mL of 0.025 N iodine reacts with 0.4mg sulfide

volume = mL filtered of mL titrated(if not filtered)

dilution = dilution in decimal form (1/5 = 0.2)

Example Total Sulfide(Soil) Calculations

$[(\text{mL Iodine} * \text{N Iodine}) - (\text{mL titrant} * \text{N titrant})] * 16.03 / \text{weight} = \text{mg/kg sulfide}$
 where:

mL Iodine = mL of Iodine used

N Iodine = normality of Iodine

mL titrant = normality of titrant

16.03 = 32.06 grams per 2 equivalents

weight = kg of sample used

Microbac Laboratories Inc.

Data Checklist

Date: 06-OCT-2016
 Analyst: EPT
 Analyst: NA
 Method: SULFIDE
 Instrument: BURET
 Curve Workgroup: NA
 Runlog ID: _____
 Analytical Workgroups: WG586639

Calibration/Linearity	10/06/16
Second Source Check	
ICV/CCV (std)	
ICB/CCB	
Blank	X
LCS/LCS Dup	X
MS/MSD	
Duplicate	
Upload Results	X
Client Forms	
QC Violation Sheet	
Case Narratives	
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	
Primary Reviewer	EPT
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
11-OCT-2016

Edham Tidd

Secondary Reviewer:
13-OCT-2016

Drenna Johnson



Analytical Method:SM4500-S-(-2)-F-
Login Number:L16100194

AAB#:WG586639

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
35AWW08-100416	01	10/04/16					10/06/2016	2.4	7		10/06/16	2.4	7	
03WW01-100416	03	10/04/16					10/06/2016	2.3	7		10/06/16	2.3	7	
35AWW20-100416	05	10/04/16					10/06/2016	2.3	7		10/06/16	2.3	7	
LHSMW07-100416	06	10/04/16					10/06/2016	2.2	7		10/06/16	2.2	7	

* = SEE PROJECT QAPP REQUIREMENTS



METHOD BLANK SUMMARY

Login Number: L16100194 Work Group: WG586639
 Blank File ID: ET.1610061620-01 Blank Sample ID: WG586639-01
 Prep Date: 10/06/16 16:20 Instrument ID: BURET
 Analyzed Date: 10/06/16 16:20 Method: SM4500-S-(-2)-F-
 Analyst: EPT

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG586639-02	ET.1610061620-02	10/06/16 16:20	
LCS2	WG586639-03	ET.1610061620-03	10/06/16 16:20	
35AWW08-100416	L16100194-01	ET.1610061620-08	10/06/16 16:20	
03WW01-100416	L16100194-03	ET.1610061620-09	10/06/16 16:20	
35AWW20-100416	L16100194-05	ET.1610061620-10	10/06/16 16:20	
LHSMW07-100416	L16100194-06	ET.1610061620-11	10/06/16 16:20	

Report Name: BLANK_SUMMARY
 PDF File ID: 4973572
 Report generated 10/13/2016 10:27



Login Number: L16100194 Prep Date: 10/06/16 16:20 Sample ID: WG586639-01
Instrument ID: BURET Run Date: 10/06/16 16:20 Prep Method: SM4500-S-(-2)-F
File ID: ET.1610061620-01 Analyst: EPT Method: SM4500-S-(-2)-F
Workgroup (AAB#): WG586639 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: 4973573
13-OCT-2016 10:27



Login Number: L16100194 Analyst: EPT Prep Method: SM4500-S-(-2)-F
 Instrument ID: BURET Matrix: Water Method: SM4500-S-(-2)-F
 Workgroup (AAB#): WG586639 Units: mg/L
 QC Key: DOD4 Lot #: STD78400
 Sample ID: WG586639-02 LCS File ID: ET.1610061620-02 Run Date: 10/06/2016 16:20
 Sample ID: WG586639-03 LCS2 File ID: ET.1610061620-03 Run Date: 10/06/2016 16:20

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Sulfide	19.3	18.6	96.3	19.3	18.6	96.3	0.00	85 - 115	10	

LCS_LCS2 - Modified 03/06/2008
 PDF File ID: 4973574
 Report generated: 10/13/2016 10:28



2.4.5.3 Raw Data

SULFIDE
(sulfide1)

WORKGROUP: WG586639

Water:
EPA 376.1 / SM4500-S(-2)-F
SOP K3761 Revision #: 17
Soil:
SM846 9030B/9034
SOP K9030 Revision #: _____

Instrument: Buret

LCS: std 78400

Iodine standardization (0.025N) COA: 19159
mL 0.025N titrant: 10.0
Volume I: 10.0 mL
Normality I: 0.0250

(0.1 N I) COA: 12931
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) 0.100 2) 0.100
mL 0.025 titrant 1) 23.9 2) 23.9
LCS daily dilution: $\frac{(5)(1288)}{200} = 19.32$ mg/L

1288 = stock conc (mg/L)
Titrant: T- 1775-12-03

SAMPLE	Volume Filtered mL	mL Iodine	N Iodine	0.0250 N Sodium Thiosulfate (mL)
BLANK	200	15.0	0.0250	15.0
LCS (mL)	200	15.0	0.0250	5.7
LCSDUP (mL)	200	15.0	0.0250	5.7
10-0123-01	500	15.0	0.0250	10.4
-03	480	15.0	0.0250	15.0
-05	480	15.0	0.0250	15.0
-07	480	15.0	0.0250	15.0
10-0194-01	490	15.0	0.0250	14.5
-03	420	15.0	0.0250	15.0
-05	460	15.0	0.0250	14.0
-06	500	15.0	0.0250	15.0

Analyst: Edna Todd Date/Time: 10/6/16 1620

DCN#121362



Microbac Laboratories Inc.
TITRAMETRIC REPORT

Workgroup (AAB#): WG586639Analyst: EPTProduct: EPA 376.1\9034Run Date: 10/06/2016 16:20Analyte: Sulfide

SAMPLE NUMBER	Volume	Vol I	Nor I	Vol T	Nor T	Dil	Analytical	Reported	Units
WG586639-01	200.0	15	.025	15	.025	1	0	0	mg/L
WG586639-02	200.0	15	.025	5.7	.025	1	18.6	18.60	mg/L
WG586639-03	200.0	15	.025	5.7	.025	1	18.6	18.60	mg/L
L16100123-01	500.0	15	.025	10.4	.025	1	3.68	3.680	mg/L
L16100123-03	480.0	15	.025	15	.025	1	0	ND	mg/L
L16100123-05	480.0	15	.025	15	.025	1	0	ND	mg/L
L16100123-07	480.0	15	.025	15	.025	1	0	ND	mg/L
L16100194-01	490.0	15	.025	14.5	.025	1	0.408	ND	mg/L
L16100194-03	420.0	15	.025	15	.025	1	0	ND	mg/L
L16100194-05	460.0	15	.025	14	.025	1	0.870	0.8696 F	mg/L
L16100194-06	500.0	15	.025	15	.025	1	0	ND	mg/L

SULFIDE_REPORT - Modified 03/06/2008

Report generated 10/10/2016 11:39



2.4.6 Total Organic Carbon Data

2.4.6.1 Summary Data

Certificate of Analysis

Sample #: L16100194-01	PrePrep Method: N/A	Instrument: TOC-VWP
Client ID: 35AWW08-100416	Prep Method: 415.1	Prep Date: N/A
Matrix: Water	Analytical Method: 415.1	Cal Date: 10/30/2015 17:00
Workgroup #: WG586887	Analyst: DCM	Run Date: 10/11/2016 12:30
Collect Date: 10/04/2016 07:40	Dilution: 50	File ID: TC10102016.104
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Organic Carbon	TOC	918		100	50.0	25.0

Certificate of Analysis

Sample #: L16100194-03	PrePrep Method: N/A	Instrument: TOC-VWP
Client ID: 03WW01-100416	Prep Method: 415.1	Prep Date: N/A
Matrix: Water	Analytical Method: 415.1	Cal Date: 10/30/2015 17:00
Workgroup #: WG586887	Analyst: DCM	Run Date: 10/11/2016 12:43
Collect Date: 10/04/2016 08:20	Dilution: 25	File ID: TC10102016.105
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Organic Carbon	TOC	292		50.0	25.0	12.5

Certificate of Analysis

Sample #: L16100194-05	PrePrep Method: N/A	Instrument: TOC-VWP
Client ID: 35AWW20-100416	Prep Method: 415.1	Prep Date: N/A
Matrix: Water	Analytical Method: 415.1	Cal Date: 10/30/2015 17:00
Workgroup #: WG586887	Analyst: DCM	Run Date: 10/11/2016 12:56
Collect Date: 10/04/2016 09:35	Dilution: 5	File ID: TC10102016.106
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Organic Carbon	TOC	31.8		10.0	5.00	2.50

Certificate of Analysis

Lab Report #: L16100194

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Adriane Steed

Sample #: L16100194-06	PrePrep Method: N/A	Instrument: TOC-VWP
Client ID: LHSMW07-100416	Prep Method: 415.1	Prep Date: N/A
Matrix: Water	Analytical Method: 415.1	Cal Date: 10/30/2015 17:00
Workgroup #: WG586887	Analyst: DCM	Run Date: 10/11/2016 13:10
Collect Date: 10/04/2016 10:40	Dilution: 5	File ID: TC10102016.107
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Total Organic Carbon	TOC	41.6		10.0	5.00	2.50

2.4.6.2 QC Summary Data

**Total Organic Carbon Example Calculations
(Direct Readout Parameter)**

$$(\text{Readout})/(\text{dilution}) = \text{mg/L}$$

where:

Readout = direct readout from the instrument

dilution = dilution in decimal form (ex. 1/5 dilution = 0.2)

Microbac Laboratories Inc.

Data Checklist

Date: 10-OCT-2016
 Analyst: DCM
 Analyst: NA
 Method: TOC
 Instrument: TOC-VWP
 Curve Workgroup: NA
 Runlog ID: _____
 Analytical Workgroups: WG586771 WG586887 WG586975

Calibration/Linearity	10-31-2015
Second Source Check	X
ICV/CCV (std)	X
ICB/CCB	X
Blank	X
LCS/LCS Dup	X
MS/MSD	X
Duplicate	X
Upload Results	X
Client Forms	X
QC Violation Sheet	X
Case Narratives	X
Signed Raw Data	X
STD/LCS on benchsheet	X
Check for compliance with method and project specific requirements	X
Check the completeness of reported information	X
Check the information for the report narrative	X
Primary Reviewer	DCM
Secondary Reviewer	DIH
Comments	

Primary Reviewer:
12-OCT-2016



Secondary Reviewer:
13-OCT-2016




Analytical Method: 415.1
Login Number: L16100194

AAB#: WG586887

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
35AWW08-100416	01	10/04/16					10/11/2016	7.2	28		10/11/16	7.2	28	
03WW01-100416	03	10/04/16					10/11/2016	7.2	28		10/11/16	7.2	28	
35AWW20-100416	05	10/04/16					10/11/2016	7.1	28		10/11/16	7.1	28	
LHSMW07-100416	06	10/04/16					10/11/2016	7.1	28		10/11/16	7.1	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4974219
Report generated 10/13/2016 14:28



METHOD BLANK SUMMARY

Login Number: L16100194 Work Group: WG586887
 Blank File ID: TC10102016.033 Blank Sample ID: WG586887-01
 Prep Date: 10/10/16 16:30 Instrument ID: TOC-VWP
 Analyzed Date: 10/10/16 16:30 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	WG586887-02	TC10102016.034	10/10/16 16:41	01
LCS2	WG586887-03	TC10102016.035	10/10/16 16:53	01
DUP	WG586887-05	TC10102016.060	10/10/16 22:34	01
35AWW08-100416	L16100194-01	TC10102016.104	10/11/16 12:30	DL01
03WW01-100416	L16100194-03	TC10102016.105	10/11/16 12:43	DL01
35AWW20-100416	L16100194-05	TC10102016.106	10/11/16 12:56	DL01
LHSMW07-100416	L16100194-06	TC10102016.107	10/11/16 13:10	DL01

Report Name: BLANK_SUMMARY
 PDF File ID: 4974220
 Report generated 10/13/2016 14:28



Login Number: L16100194 Prep Date: 10/10/16 16:30 Sample ID: WG586887-01
 Instrument ID: TOC-VWP Run Date: 10/10/16 16:30 Prep Method: 415.1
 File ID: TC10102016.033 Analyst: DCM Method: 415.1
 Workgroup (AAB#): WG586887 Matrix: Water Units: mg/L
 Contract #: _____ Cal ID: TOC-VW-30-OCT-15

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Total Organic Carbon	0.500	2.00	0.500	1	U

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

Report Name: BLANK
 PDF ID: 4974221
 13-OCT-2016 14:28



Login Number: L16100194 Analyst: DCM Prep Method: 415.1
 Instrument ID: TOC-VWP Matrix: Water Method: 415.1
 Workgroup (AAB#): WG586887 Units: mg/L
 QC Key: DOD4 Lot #: STD77870

Sample ID: WG586887-02 LCS File ID: TC10102016.034 Run Date: 10/10/2016 16:41
 Sample ID: WG586887-03 LCS2 File ID: TC10102016.035 Run Date: 10/10/2016 16:53

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
Total Organic Carbon	25.0	26.8	107	25.0	26.3	105	2.00	85 - 115	15	

LCS_LCS2 - Modified 03/06/2008
 PDF File ID: 4974222
 Report generated: 10/13/2016 14:28



2.4.6.3 Raw Data

Curve

wg545145

Total Organic Carbon

MAKE DAILY

CCV (TOC): $\frac{(5/200)(1000)}{25} = 25\text{mg/L}$ LCS (TOC): $\frac{(5/200)(1000)}{25} = 25\text{mg/L}$

CCV (TIC): $\frac{(5/200)(1000)}{25} = 25\text{mg/L}$ See Below MS (TOC): _____

Calibration Curve Date: _____ Reagent: RGT 34567
RGT 34459

SM5310-C: Matrix 2 WG _____ EPA 415.1/9060A(mod): Matrix 1 WG _____ SOP: K 4151 Rev. 18

Instrument: Shimadza TOC-VWP/ASI

- drain reservoir filled
- ASI water bottle full
- dilution water bottle full

- DAILY CHECK**
- 3rd bottle full
 - sufficient gas
 - sufficient persulfate

- sufficient acid waste container

Position	Sample ID	Dilution	Position	Sample ID	Dilution	Position	Sample ID	Dilution
1	TC Curve		26	TC Curve		51		
2	TIC Curve		27	Std 72133		52	See SOP for point preparation	
3	TC ICV		28			53		
4	TIC ICV		29	TIC Curve		54		
5			30	Std 72165		55		
6			31			56		
7			32			57		
8			33	TOC (TC)		58		
9			34	ICV		59		
10			35	Std 72270		60	$5/200 (1000) = 25$	
11			36			61		
12			37	TIC ICV		62		
13	All points analyzed in duplicate		38	Std 72654		63		
14			39			64		
15			40			65		
16			41			66		
17			42			67		
18			43			68		
19			44			69		
20			45			70		
21			46			71		
22			47			72		
23			48			73		
24			49			74		
25			50			75		

Analyst: David Morkle Date/Time: 10/31/15

DCN#114406



Instr. Information

System TOCVW ASI
 Detector Wet Chemical

Cal. Curve

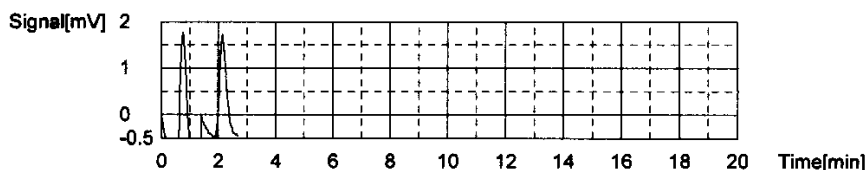
Sample Name: TCCURVE
 Sample ID:
 Cal. Curve: TCCURVE-10-30-2015.2015_10_30_16_06_37.cal
 Status: Completed

Type	Anal.
Standard	TC

Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	4.764	500uL	1	*****		10/30/2015 4:10:07 PM
2	3.607	500uL	1	*****		10/30/2015 4:13:33 PM

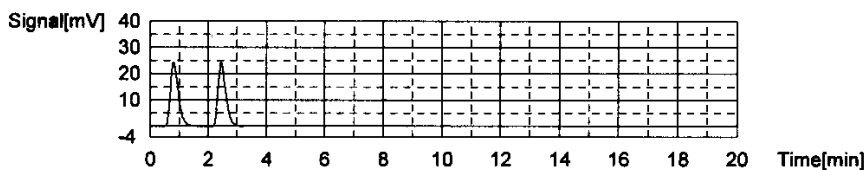
Acid Add. 0.000%
 Mean Area 4.186



Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	46.19	500uL	1	*****		10/30/2015 4:19:03 PM
2	46.28	500uL	1	*****		10/30/2015 4:22:56 PM

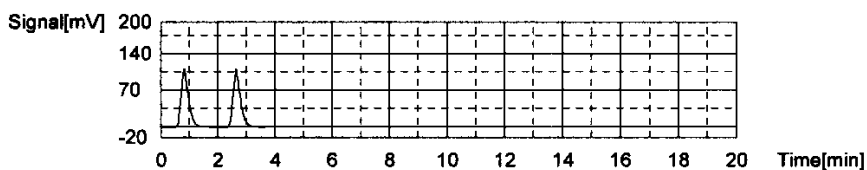
Acid Add. 0.000%
 Mean Area 46.23



Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	194.3	500uL	1	*****		10/30/2015 4:28:42 PM
2	193.1	500uL	1	*****		10/30/2015 4:32:47 PM

Acid Add. 0.000%
 Mean Area 193.7



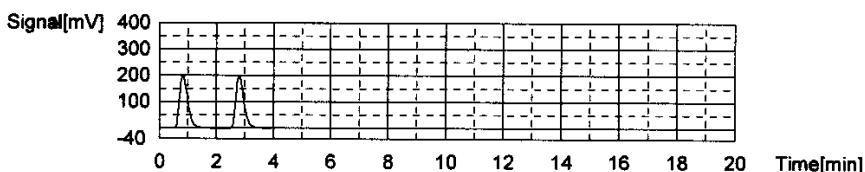
Conc: 10.00mg/L

10/31/2015 3:38:21 PM

CURVES-10-30-2015.t32

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	390.8	500uL	1	*****		10/30/2015 4:38:42 PM
2	391.3	500uL	1	*****		10/30/2015 4:42:54 PM

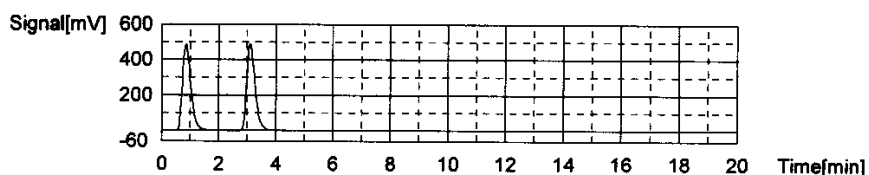
Acid Add. 0.000%
 Mean Area 391.1



Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	989.0	500uL	1	*****		10/30/2015 4:49:06 PM
2	994.6	500uL	1	*****		10/30/2015 4:53:33 PM

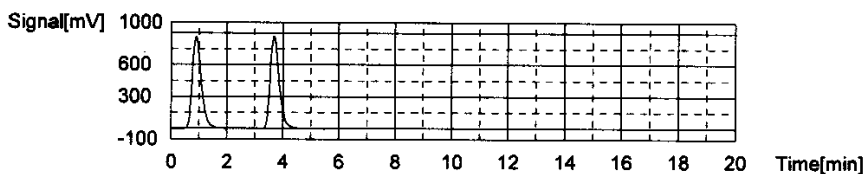
Acid Add. 0.000%
 Mean Area 991.8



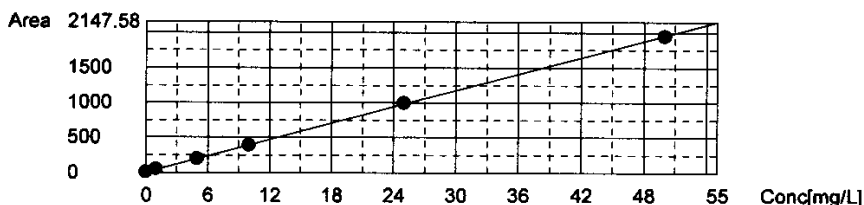
Conc: 50.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	1946	500uL	1	*****		10/30/2015 5:00:24 PM
2	1948	500uL	1	*****		10/30/2015 5:05:23 PM

Acid Add. 0.000%
 Mean Area 1947



Slope: 38.95
 Intercept: 4.952
 r^2: 0.999910
 Zero Shift: No



Sample

Sample Name: TC ICV
 Sample ID:
 Origin: TCCURVE-10-30-2015.2015_10_30_16_06_37.cal
 Status: Completed
 Chk. Result:

Type	Anal.	Dil.	Result
Unknown	TC	1.000	TC:25.93mg/L

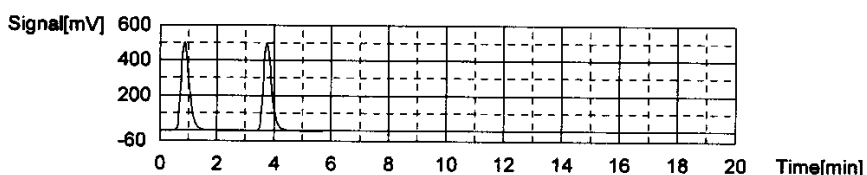
1. Det

= 103.7%

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1020	26.06mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/31/2015 9:56:57 AM
2	1010	25.80mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/31/2015 10:02:17 AM

Mean Area 1015
Mean Conc. 25.93mg/L



Cal. Curve

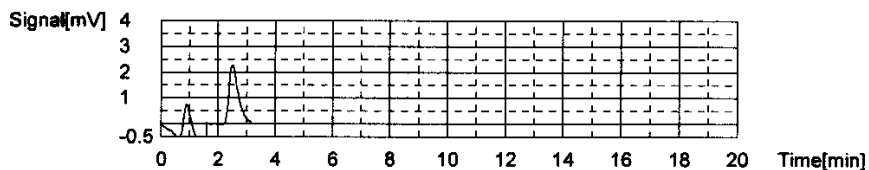
Sample Name: TICCURVE
Sample ID: Untitled
Cal. Curve: TICCURVE-10-30-2015.2015_10_31_11_55_05.cal
Status: Completed

Type	Anal.
Standard	IC

Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	2.732	500uL	1	*****		10/31/2015 12:00:21 PM
2	5.011	500uL	1	*****		10/31/2015 12:04:52 PM

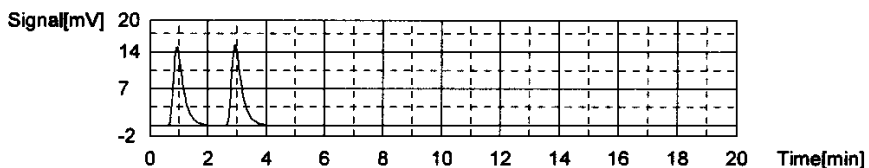
Acid Add. 10.00%
Mean Area 3.872



Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	35.96	500uL	1	*****		10/31/2015 12:12:47 PM
2	37.13	500uL	1	*****		10/31/2015 12:17:43 PM

Acid Add. 10.00%
Mean Area 36.55



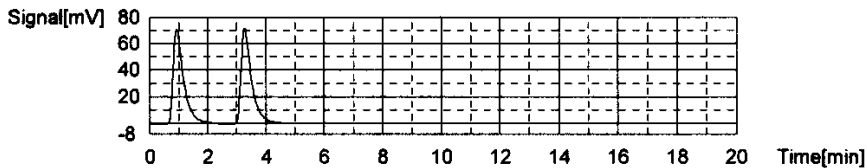
Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	173.6	500uL	1	*****		10/31/2015 12:26:14 PM
2	175.6	500uL	1	*****		10/31/2015 12:31:38 PM

10/31/2015 3:38:21 PM

CURVES-10-30-2015.i32

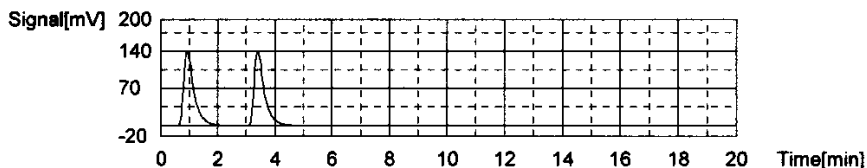
Acid Add. 10.00%
Mean Area 174.6



Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	344.8	500uL	1	*****		10/31/2015 12:40:18 PM
2	345.1	500uL	1	*****		10/31/2015 12:45:49 PM

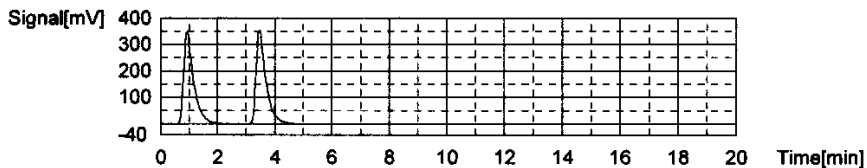
Acid Add. 10.00%
Mean Area 345.0



Conc: 25.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	835.5	500uL	1	*****		10/31/2015 12:54:43 PM
2	845.9	500uL	1	*****		10/31/2015 1:00:42 PM

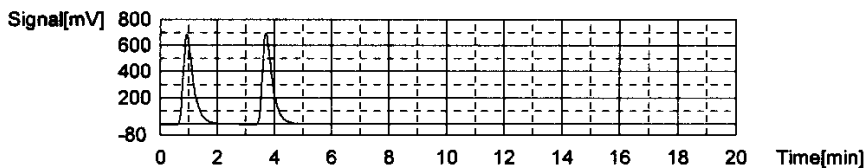
Acid Add. 10.00%
Mean Area 840.7



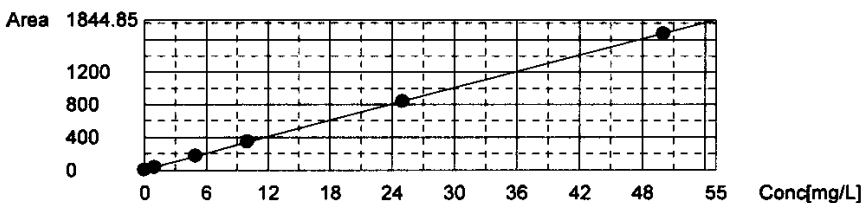
Conc: 50.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	1676	500uL	1	*****		10/31/2015 1:09:51 PM
2	1677	500uL	1	*****		10/31/2015 1:15:54 PM

Acid Add. 10.00%
Mean Area 1677



Slope: 33.42
Intercept: 5.927
r²: 0.999982
Zero Shift: No



Sample

Sample Name: TIC ICV
 Sample ID: Untitled
 Origin: TICCURVE-10-30-2015.cal
 Status: Completed
 Chk. Result: Completed

Type	Anal.	Dil.	Result
Unknown	IC	1.000	IC:25.37mg/L

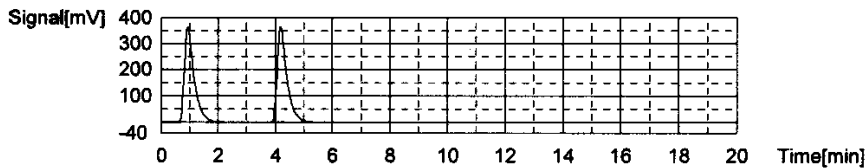
= 101.5%

1. Det

Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	854.5	25.39mg/L	500uL	1	1	TICCURVE-10-30-2015.2015_10_31_11_55_0	10/31/2015 1:25:27 PM
2	853.1	25.35mg/L	500uL	1	1	TICCURVE-10-30-2015.2015_10_31_11_55_0	10/31/2015 1:31:33 PM

Mean Area: 853.8
 Mean Conc.: 25.37mg/L



WORKGROUP: WG586771

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(1000)/10

Calibration Curve Date: 10/31/15

Reagent: REG 38136
REG 37673

SM5310-C : Matrix 2 WG 586975

EPA 415.1/9060A(mod): Matrix 1 WG 586771 SOP: K 4151 Rev. 19
WG 580887 Instrument: Shimadza TOC-VWP/ASI

- drain reservoir filled
- ASI water bottle full
- dilution water bottle full

- DAILY CHECK**
- 3rd bottle full
 - sufficient gas
 - sufficient persulfate

- sufficient acid
- waste container

Position	Sample ID	Dilution
1	TIC	
2	TOC/TIC	
3	CCV	
4	Blk	
5	LCS	
6	LCSDUP	
7	10-297-C1	<u>1/50</u> <u>1/50</u>
8	C2	<u>1/50</u>
9	C3	<u>1/100</u>
10	C4	<u>1/50</u>
11	C5	<u>1/50</u>
12	C6	<u>1/50</u>
13	C7	<u>1/50</u>
14	CCV	
15	CCB	
16	10-297-C8	<u>1/50</u>
17	C9	<u>1/50</u>
18	10	<u>1/50</u>
19	11	<u>1/100</u>
20	12	<u>1/100</u>
21	13	<u>1/50</u>
22	14	<u>1/50</u>
23	15	<u>1/50</u>
24	16	<u>1/50</u>
25	17	<u>1/50</u>

*dem
10/10/16*

Position	Sample ID	Dilution
26	CCV	
27	CCB	
28	10-297-18	<u>1/50</u>
29	19	<u>1/50</u>
30	C9-1363-C1	
31	DUP 09-1363-C1	
32	MS 09-1363-C1	
33	Blk	
34	LCS	
35	LCSDUP	
36	10-315-C1	<u>1/2</u>
37	C2	<u>1/10</u>
38	CCV	
39	CCB	
40	10-316-C1	
41	C2	
42	C3	
43	C4	
44	C5	
45	C6	
46	C7	
47	10-319-C1	<u>1/2</u>
48	10-98-C1	<u>1/2</u>
49	10-123-C1	
50	CCV <u>C3</u>	

Position	Sample ID	Dilution
51	CCB	
52	10-123-C3	
53	C5	
54	C7	
55	10-194-C1	<u>1/100</u>
56	C3	<u>1/100</u>
57	C5	
58	C6	
59	10-363-C3	
60	DUP 10-363-C3	
61	MS 10-363-C3	
62	CCV	
63	CCB	
64	Blk	
65	LCS	
66	LCSDUP	
67	10-314-C1	
68	10-376-C1	
69		
70		
71		
72		
73		
74		
75		

Analyst: David Merschle *dem 10/10/16* Date/Time: 10/10/16 0941

DCN#121410



Total Organic Carbon

MAKE DAILY

CCV (TOC): $(5/200)(1000) = 25\text{mg/L}$ LCS (TOC): $(5/200)(1000) = 25\text{mg/L}$

CCV (TIC): $(5/200)(1000) = 25\text{mg/L}$ MS (TOC): _____

Calibration Curve Date: _____ Reagent: _____

SM5310-C : Matrix 2 WG _____

EPA 415.1/9060A(mod): Matrix 1 WG _____ SOP: K _____ Rev. _____

WG _____ Instrument: Shimadza TOC-VWP/ASI

see pg. 1

- drain reservoir filled
- ASI water bottle full
- dilution water bottle full

- DAILY CHECK
- 3rd bottle full
 - sufficient gas
 - sufficient persulfate

- sufficient acid waste container

Position	Sample ID	Dilution
1	10-376-03	
2	05	
3	10-447-01	
4	10-449-01	
5	10-367-01	
6	CCV	
7	CCB	
8	10-367-02	
9	03	
10	04	
11	10-456-01	
12	04	
13	DUP 10-367-04	
14	MS 10-367-04	
15	CCV	
16	CCB	
17	CCV	
18	CCB	
19	10-297-03	1/50
20	11	1/50
21	12	1/50
22	10-315-01	1/20
23	02	1/20
24	10-316-01	1/3
25	02	1/3

Position	Sample ID	Dilution
26	10-316-03	1/3
27	05	1/3
28	06	1/3
29	CCV	
30	CCB	
31	10-316-07	1/3
32	10-319-01	
33	10-123-01	1/3
34	05	1/3
35	07	1/5
36	10-194-01	1/50
37	03	1/25
38	05	1/5
39	06	1/5
40	CCV	
41	CCB	
42	10-376-05	1/2
43	10-123-05	1/5
44	CCB CCV	
45	CCB	
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: dem

Date/Time: 10/10/16

pg. 2

DCN#121410



	Analysis	Sample Name	Result	Status	Date / Time	Vial
1	TOC	TIC	TOC:3.638mg/L TC:26.19mg/L IC:22.55mg/L	Complete	10/10/2016 9:41:49 AM	1
2	TOC	TOC/TIC	TOC:26.94mg/L TC:35.23mg/L IC:8.287mg/L	Complete	10/10/2016 9:54:27 AM	2
3	TOC	CCV	TOC:26.62mg/L TC:26.65mg/L IC:0.03139mg/L	Complete	10/10/2016 10:06:36 AM	3
4	TOC	WG586771-01 BLK	TOC:0.06376mg/L TC:0.1243mg/L IC:0.06053mg/L	Complete	10/10/2016 10:15:35 AM	0
5	TOC	WG586771-02 LCS	TOC:26.21mg/L TC:26.22mg/L IC:0.00847mg/L	Complete	10/10/2016 10:27:33 AM	5
6	TOC	WG586771-03 LCSDUP	TOC:26.28mg/L TC:26.29mg/L IC:0.01320mg/L	Complete	10/10/2016 10:39:35 AM	6
7	TOC	L16100297-01 (50)	TOC:47.50mg/L TC:47.63mg/L IC:0.1299mg/L	Complete	10/10/2016 11:21:29 AM	7
8	TOC	L16100297-02 (50)	!!Error!! TOC:20.71mg/L TC:20.71mg/L IC:-0.00224mg/L	Complete	10/10/2016 11:33:14 AM	8
9	TOC		TOC:6.217mg/L TC:6.269mg/L IC:0.05198mg/L	Complete	10/10/2016 11:44:48 AM	9
10	TOC	L16100297-04 (50)	TOC:36.38mg/L TC:36.41mg/L IC:0.02538mg/L	Complete	10/10/2016 11:56:37 AM	10
11	TOC	L16100297-05 (50)	TOC:24.49mg/L TC:24.52mg/L IC:0.02421mg/L	Complete	10/10/2016 12:08:18 PM	11
12	TOC	L16100297-06 (50)	TOC:10.68mg/L TC:10.73mg/L IC:0.05084mg/L	Complete	10/10/2016 12:19:52 PM	12
13	TOC	L16100297-07 (50)	TOC:11.00mg/L TC:11.04mg/L IC:0.04159mg/L	Complete	10/10/2016 12:31:29 PM	13
14	TOC	CCV	TOC:26.33mg/L TC:26.37mg/L IC:0.03815mg/L	Complete	10/10/2016 12:43:32 PM	14
15	TOC	CCB	TOC:0.06039mg/L TC:0.1054mg/L IC:0.04503mg/L	Complete	10/10/2016 12:52:26 PM	0
16	TOC	L16100297-08 (50)	TOC:20.49mg/L TC:20.52mg/L IC:0.03011mg/L	Complete	10/10/2016 1:04:12 PM	16
17	TOC	L16100297-09 (50)	TOC:19.43mg/L TC:19.49mg/L IC:0.05811mg/L	Complete	10/10/2016 1:15:57 PM	17
18	TOC	L16100297-10 (50)	TOC:26.02mg/L TC:26.06mg/L IC:0.04213mg/L	Complete	10/10/2016 1:27:46 PM	18
19	TOC		TOC:3.139mg/L TC:3.213mg/L IC:0.07453mg/L	Complete	10/10/2016 1:39:15 PM	19
20	TOC		TOC:4.891mg/L TC:4.957mg/L IC:0.06571mg/L	Complete	10/10/2016 1:50:49 PM	20
21	TOC	L16100297-13 (50)	TOC:28.46mg/L TC:28.50mg/L IC:0.04489mg/L	Complete	10/10/2016 2:02:41 PM	21
22	TOC	L16100297-14 (50)	TOC:22.70mg/L TC:22.75mg/L IC:0.04324mg/L	Complete	10/10/2016 2:14:26 PM	22
23	TOC	L16100297-15 (50)	TOC:30.96mg/L TC:31.02mg/L IC:0.05563mg/L	Complete	10/10/2016 2:26:19 PM	23
24	TOC	L16100297-16 (50)	TOC:15.56mg/L TC:15.63mg/L IC:0.07471mg/L	Complete	10/10/2016 2:38:04 PM	24
25	TOC	L16100297-17 (50)	TOC:14.94mg/L TC:15.01mg/L IC:0.06538mg/L	Complete	10/10/2016 2:49:43 PM	25
26	TOC	CCV	TOC:26.61mg/L TC:26.68mg/L IC:0.06993mg/L	Complete	10/10/2016 3:01:46 PM	26
27	TOC	CCB	TOC:0.05112mg/L TC:0.1045mg/L IC:0.05338mg/L	Complete	10/10/2016 3:10:40 PM	0
28	TOC	L16100297-18 (50)	TOC:20.96mg/L TC:21.03mg/L IC:0.07441mg/L	Complete	10/10/2016 3:22:29 PM	28
29	TOC	L16100297-19 (50)	TOC:26.00mg/L TC:26.06mg/L IC:0.06613mg/L	Complete	10/10/2016 3:34:18 PM	29
30	TOC	L16091363-01	TOC:4.879mg/L TC:7.347mg/L IC:2.468mg/L	Complete	10/10/2016 4:00:43 PM	30
31	TOC	WG586771-05 DUP	TOC:4.847mg/L TC:7.324mg/L IC:2.477mg/L	Complete	10/10/2016 4:12:53 PM	31
32	TOC	WG586771-06 MS	TOC:14.88mg/L TC:16.81mg/L IC:1.925mg/L	Complete	10/10/2016 4:25:05 PM	32
33	TOC	WG586887-01 BLK	TOC:0.04884mg/L TC:0.1056mg/L IC:0.05676mg/L	Complete	10/10/2016 4:34:01 PM	0
34	TOC	WG586887-02 LCS	TOC:26.78mg/L TC:26.86mg/L IC:0.07666mg/L	Complete	10/10/2016 4:46:08 PM	34
35	TOC	WG586887-03 LCSDUP	TOC:26.25mg/L TC:26.32mg/L IC:0.07181mg/L	Complete	10/10/2016 4:58:08 PM	35
36	TOC		TOC:134.4mg/L TC:135.5mg/L IC:1.127mg/L	Complete	10/10/2016 5:13:06 PM	36
37	TOC		TOC:68.65mg/L TC:80.06mg/L IC:11.41mg/L	Complete	10/10/2016 5:28:01 PM	37
38	TOC	CCV	TOC:26.35mg/L TC:26.45mg/L IC:0.1018mg/L	Complete	10/10/2016 5:40:04 PM	38
39	TOC	CCB	TOC:0.06820mg/L TC:0.1166mg/L IC:0.04842mg/L	Complete	10/10/2016 5:48:56 PM	0
40	TOC		TOC:1.761mg/L TC:67.91mg/L IC:66.15mg/L	Complete	10/10/2016 6:04:07 PM	40
41	TOC		!!Error!! TOC:-0.2062mg/L TC:63.70mg/L IC:63.91mg/L	Complete	10/10/2016 6:17:50 PM	41
42	TOC		!!Error!! TOC:-12.41mg/L TC:80.49mg/L IC:92.90mg/L	Complete	10/10/2016 6:33:24 PM	42
43	TOC	L16100316-04	TOC:4.943mg/L TC:22.57mg/L IC:17.62mg/L	Complete	10/10/2016 6:46:17 PM	43
44	TOC		TOC:1.037mg/L TC:62.88mg/L IC:61.84mg/L	Complete	10/10/2016 7:00:50 PM	44
45	TOC		TOC:26.41mg/L TC:75.18mg/L IC:48.77mg/L	Complete	10/10/2016 7:14:50 PM	45
46	TOC		!!Error!! TOC:-0.3349mg/L TC:66.83mg/L IC:67.17mg/L	Complete	10/10/2016 7:30:02 PM	46
47	TOC		TOC:6.413mg/L TC:9.784mg/L IC:3.371mg/L	Complete	10/10/2016 7:42:09 PM	47
48	TOC	L16100098-01 (2)	TOC:14.97mg/L TC:24.40mg/L IC:9.429mg/L	Complete	10/10/2016 7:55:27 PM	48
49	TOC		!!Error!! TOC:-6.220mg/L TC:88.32mg/L IC:94.54mg/L	Complete	10/10/2016 8:11:38 PM	49
50	TOC	CCV	TOC:26.06mg/L TC:26.60mg/L IC:0.5359mg/L	Complete	10/10/2016 8:23:49 PM	50
51	TOC	CCB	TOC:0.02080mg/L TC:0.1448mg/L IC:0.1240mg/L	Complete	10/10/2016 8:32:44 PM	0
52	TOC	L16100123-03	TOC:7.427mg/L TC:35.82mg/L IC:28.39mg/L	Complete	10/10/2016 8:45:39 PM	52
53	TOC		!!Error!! TOC:-5.675mg/L TC:79.77mg/L IC:85.45mg/L	Complete	10/10/2016 9:01:55 PM	53
54	TOC		!!Error!! TOC:-8.246mg/L TC:102.6mg/L IC:110.8mg/L	Complete	10/10/2016 9:18:27 PM	54
55	TOC		TOC:2.289mg/L TC:3.290mg/L IC:1.001mg/L	Complete	10/10/2016 9:30:29 PM	55
56	TOC		TOC:0.6915mg/L TC:1.036mg/L IC:0.3445mg/L	Complete	10/10/2016 9:41:59 PM	56
57	TOC		TOC:1.904mg/L TC:94.74mg/L IC:92.84mg/L	Complete	10/10/2016 9:58:20 PM	57
58	TOC		!!Error!! TOC:-4.000mg/L TC:93.18mg/L IC:97.18mg/L	Complete	10/10/2016 10:14:56 PM	58
59	TOC	L16100363-03	TOC:2.476mg/L TC:10.13mg/L IC:7.649mg/L	Complete	10/10/2016 10:27:10 PM	59
60	TOC	WG586887-05 DUP	TOC:2.213mg/L TC:11.08mg/L IC:8.870mg/L	Complete	10/10/2016 10:39:14 PM	60
61	TOC	WG586887-06 MS	TOC:12.47mg/L TC:15.31mg/L IC:2.832mg/L	Complete	10/10/2016 10:51:17 PM	61
62	TOC	CCV	TOC:26.04mg/L TC:26.14mg/L IC:0.09880mg/L	Complete	10/10/2016 11:03:17 PM	62
63	TOC	CCB	TOC:0.04445mg/L TC:0.1224mg/L IC:0.07795mg/L	Complete	10/10/2016 11:12:13 PM	0
64	TOC	WG586975-01 BLK	TOC:0.04081mg/L TC:0.1144mg/L IC:0.07355mg/L	Complete	10/10/2016 11:28:32 PM	0
65	TOC	WG586975-02 LCS	TOC:25.99mg/L TC:26.06mg/L IC:0.07198mg/L	Complete	10/10/2016 11:49:17 PM	65
66	TOC	WG586975-03 LCSDUP	TOC:26.01mg/L TC:26.09mg/L IC:0.07546mg/L	Complete	10/10/2016 12:09:58 AM	66
67	TOC	L16100314-01	TOC:34.81mg/L TC:35.60mg/L IC:0.7901mg/L	Complete	10/11/2016 12:37:06 AM	67

10/11/2016 2:37:55 PM

1/2

	Analysis	Sample Name	Result	Status	Date / Time	Vial
68	TOC	L16100376-01	TOC:3.175mg/L TC:7.008mg/L IC:3.833mg/L	Complete	10/11/2016 12:57:57 AM	68
69	TOC	L16100376-03	TOC:5.692mg/L TC:8.886mg/L IC:3.194mg/L	Complete	10/11/2016 1:19:09 AM	1
70	TOC		TOC:48.75mg/L TC:54.05mg/L IC:5.298mg/L	Complete	10/11/2016 1:43:13 AM	2
71	TOC	L16100447-01	TOC:0.2105mg/L TC:0.2803mg/L IC:0.06985mg/L	Complete	10/11/2016 2:02:19 AM	3
72	TOC	L16100449-09 c1	TOC:0.2248mg/L TC:0.2819mg/L IC:0.05705mg/L	Complete	10/11/2016 2:21:26 AM	4
73	TOC	L16100367-01	TOC:1.631mg/L TC:3.073mg/L IC:1.442mg/L	Complete	10/11/2016 2:41:27 AM	5
74	TOC	CCV	TOC:25.80mg/L TC:25.88mg/L IC:0.07809mg/L	Complete	10/11/2016 2:53:27 AM	6
75	TOC	CCB	TOC:0.04348mg/L TC:0.1161mg/L IC:0.07262mg/L	Complete	10/11/2016 3:02:23 AM	0
76	TOC	L16100367-02	TOC:3.169mg/L TC:4.446mg/L IC:1.276mg/L	Complete	10/11/2016 3:02:23 AM	8
77	TOC	L16100367-03	TOC:5.437mg/L TC:6.406mg/L IC:0.9686mg/L	Complete	10/11/2016 3:42:53 AM	9
78	TOC	L16100367-04	TOC:3.374mg/L TC:4.279mg/L IC:0.9048mg/L	Complete	10/11/2016 4:02:56 AM	10
79	TOC	L16100456-01	TOC:2.721mg/L TC:11.17mg/L IC:8.445mg/L	Complete	10/11/2016 4:24:08 AM	11
80	TOC	L16100456-04	TOC:2.167mg/L TC:10.01mg/L IC:7.842mg/L	Complete	10/11/2016 4:44:42 AM	12
81	TOC	WG586975-05 DUP	TOC:3.402mg/L TC:4.109mg/L IC:0.7075mg/L	Complete	10/11/2016 5:04:54 AM	13
82	TOC	WG586975-06 MS	TOC:13.76mg/L TC:14.02mg/L IC:0.2586mg/L	Complete	10/11/2016 5:25:08 AM	14
83	TOC	CCV	TOC:25.83mg/L TC:25.91mg/L IC:0.07507mg/L	Complete	10/11/2016 5:37:08 AM	15
84	TOC	CCB	TOC:0.03972mg/L TC:0.1145mg/L IC:0.07474mg/L	Complete	10/11/2016 5:46:02 AM	0
85	TOC	CCV	TOC:26.41mg/L TC:26.50mg/L IC:0.09213mg/L	Complete	10/11/2016 7:51:03 AM	17
86	TOC	CCB	TOC:0.08303mg/L TC:0.1404mg/L IC:0.05736mg/L	Complete	10/11/2016 8:00:02 AM	0
87	TOC	L16100297-03 (50)	TOC:35.87mg/L TC:35.90mg/L IC:0.02837mg/L	Complete	10/11/2016 8:28:30 AM	19
88	TOC	L16100297-11 (50)	TOC:35.81mg/L TC:35.84mg/L IC:0.02963mg/L	Complete	10/11/2016 8:40:25 AM	20
89	TOC	L16100297-12 (50)	TOC:28.66mg/L TC:28.68mg/L IC:0.01739mg/L	Complete	10/11/2016 8:56:52 AM	21
90	TOC	L16100315-01 (20)	TOC:12.61mg/L TC:12.75mg/L IC:0.1422mg/L	Complete	10/11/2016 9:08:56 AM	22
91	TOC	L16100315-02 (20)	TOC:36.47mg/L TC:48.22mg/L IC:11.75mg/L	Complete	10/11/2016 9:22:40 AM	23
92	TOC	L16100316-01 (3)	TOC:5.755mg/L TC:41.75mg/L IC:35.99mg/L	Complete	10/11/2016 9:35:44 AM	24
93	TOC	L16100316-02 (3)	TOC:5.356mg/L TC:31.84mg/L IC:26.48mg/L	Complete	10/11/2016 9:48:16 AM	25
94	TOC	L16100316-03 (3)	TOC:6.605mg/L TC:35.92mg/L IC:29.32mg/L	Complete	10/11/2016 10:09:15 AM	26
95	TOC	L16100316-05 (3)	TOC:4.300mg/L TC:29.32mg/L IC:25.02mg/L	Complete	10/11/2016 10:22:22 AM	27
96	TOC	L16100316-06 (3)	TOC:11.31mg/L TC:33.53mg/L IC:22.22mg/L	Complete	10/11/2016 10:35:08 AM	28
97	TOC	CCV	TOC:25.80mg/L TC:25.88mg/L IC:0.08171mg/L	Complete	10/11/2016 10:46:43 AM	29
98	TOC	CCB	TOC:0.04605mg/L TC:0.1073mg/L IC:0.06125mg/L	Complete	10/11/2016 10:55:31 AM	0
99	TOC	L16100316-07 (3)	TOC:5.702mg/L TC:30.14mg/L IC:24.44mg/L	Complete	10/11/2016 11:08:27 AM	31
100	TOC	L16100319-01	TOC:12.56mg/L TC:19.90mg/L IC:7.335mg/L	Complete	10/11/2016 11:21:10 AM	32
101	TOC	L16100123-01 (3)	TOC:5.209mg/L TC:38.54mg/L IC:33.33mg/L	Complete	10/11/2016 11:54:33 AM	33
102	TOC		TOC:6.300mg/L TC:54.02mg/L IC:47.72mg/L	Complete	10/11/2016 12:09:17 PM	34
103	TOC	L16100123-07 (5)	TOC:5.755mg/L TC:41.57mg/L IC:35.81mg/L	Complete	10/11/2016 12:22:36 PM	35
104	TOC	L16100194-01 (50)	TOC:18.35mg/L TC:21.60mg/L IC:3.245mg/L	Complete	10/11/2016 12:35:16 PM	36
105	TOC	L16100194-03 (25)	TOC:11.66mg/L TC:19.71mg/L IC:8.059mg/L	Complete	10/11/2016 12:48:32 PM	37
106	TOC	L16100194-05 (5)	TOC:8.352mg/L TC:28.27mg/L IC:21.92mg/L	Complete	10/11/2016 1:01:49 PM	38
107	TOC	L16100194-06 (5)	TOC:8.323mg/L TC:47.94mg/L IC:39.61mg/L	Complete	10/11/2016 1:15:42 PM	39
108	TOC	CCV	TOC:25.65mg/L TC:25.78mg/L IC:0.1323mg/L	Complete	10/11/2016 1:30:10 PM	40
109	TOC	CCB	TOC:0.04982mg/L TC:0.1148mg/L IC:0.06502mg/L	Complete	10/11/2016 1:39:00 PM	0
110	TOC	L16100376-05 (2)	TOC:27.47mg/L TC:33.05mg/L IC:5.576mg/L	Complete	10/11/2016 2:02:17 PM	42
111	TOC	L16100123-05 (5)	TOC:5.114mg/L TC:34.15mg/L IC:29.04mg/L	Complete	10/11/2016 2:16:08 PM	43
112	TOC	CCV	TOC:25.75mg/L TC:25.88mg/L IC:0.1305mg/L	Complete	10/11/2016 2:28:13 PM	44
113	TOC	CCB	TOC:0.05149mg/L TC:0.1144mg/L IC:0.06287mg/L	Complete	10/11/2016 2:37:06 PM	0

dem
10/12/16

Instr. Information

System TOCVW ASI
 Detector Wet Chemical

Sample

Sample Name: TIC
 Sample ID:
 Origin: TOC-10-31-2015.met
 Status: Completed
 Chk. Result

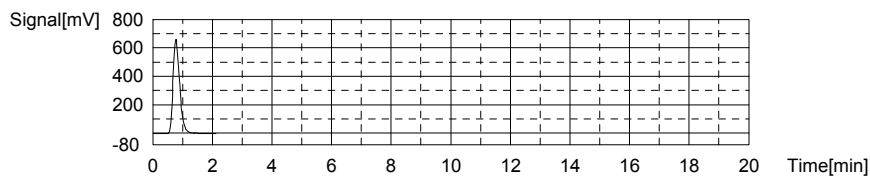
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.638mg/L TC:26.19mg/L IC:22.55mg/L

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_31	10/10/2016 9:36:30 AM

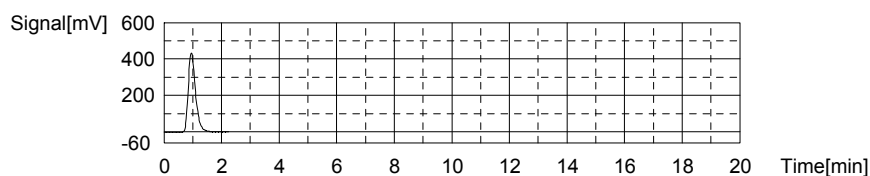
Mean Area 1025
 Mean Conc. 26.19mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	759.7	22.55mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/10/2016 9:41:49 AM

Mean Area 759.7
 Mean Conc. 22.55mg/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:26.94mg/L TC:35.23mg/L IC:8.287mg/L

1. Det

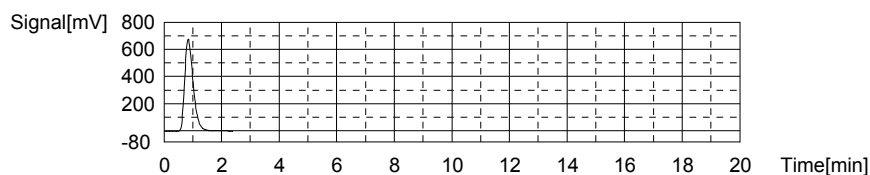
Anal.: TC

10/11/2016 2:37:58 PM

10-10-2016-DCM-TOC.t32

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1377	35.23mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 31	10/10/2016 9:49:38 AM

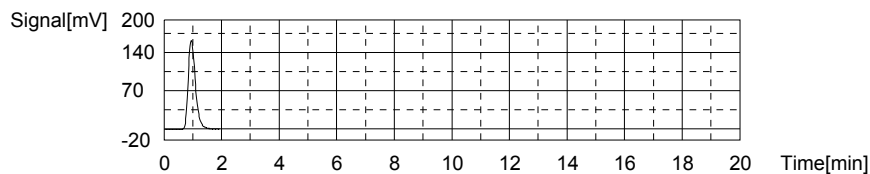
Mean Area 1377
Mean Conc. 35.23mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	282.9	8.287mg/L	500uL	1		TICCURVE-10-30-2015.2015 10 31 11 55 01	10/10/2016 9:54:27 AM

Mean Area 282.9
Mean Conc. 8.287mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

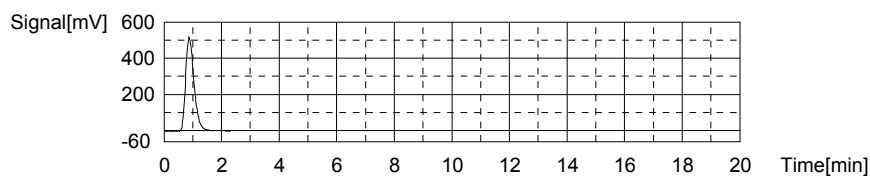
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.62mg/L TC:26.65mg/L IC:0.03139mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1043	26.65mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 31	10/10/2016 10:02:12 AM

Mean Area 1043
Mean Conc. 26.65mg/L



Anal.: IC

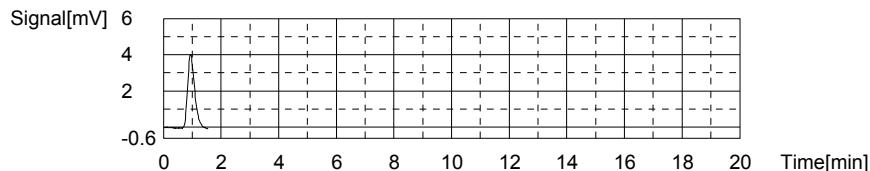
No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.976	0.03139mg/L	500uL	1		TICCURVE-10-30-2015.2015 10 31 11 55 01	10/10/2016 10:06:36 AM

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10/11/2016 2:37:58 PM

10-10-2016-DCM-TOC.i32

Mean Area 6.976
Mean Conc. 0.03139mg/L



Sample

Sample Name: WG586771-01 BLK
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

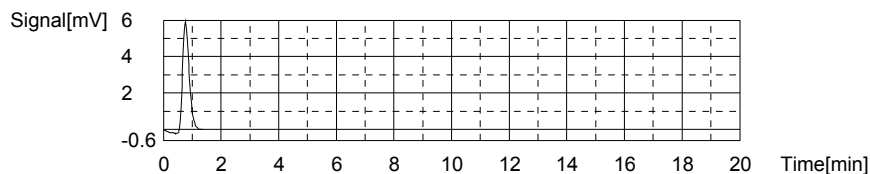
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.06376mg/L TC:0.1243mg/L IC:0.06053mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.793	0.1243mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/10/2016 10:11:37 AM

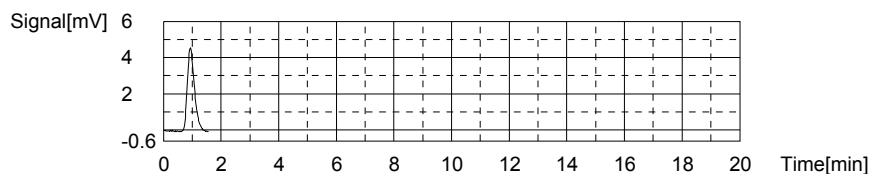
Mean Area 9.793
Mean Conc. 0.1243mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.950	0.06053mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/10/2016 10:15:35 AM

Mean Area 7.950
Mean Conc. 0.06053mg/L



Sample

Sample Name: WG586771-02 LCS
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:26.22mg/L IC:0.00847mg/L

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10/11/2016 2:37:58 PM

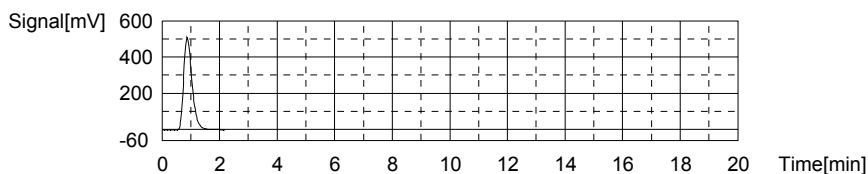
10-10-2016-DCM-TOC.t32

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1026	26.22mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 31	10/10/2016 10:23:13 AM

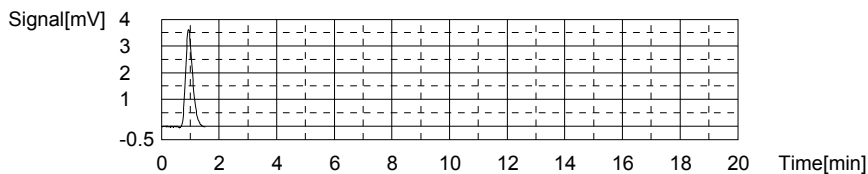
Mean Area 1026
Mean Conc. 26.22mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.210	0.00847mg/L	500uL	1		TICURVE-10-30-2015.2015 10 31 11 55 01	10/10/2016 10:27:33 AM

Mean Area 6.210
Mean Conc. 0.00847mg/L



Sample

Sample Name: WG586771-03 LCSDUP
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

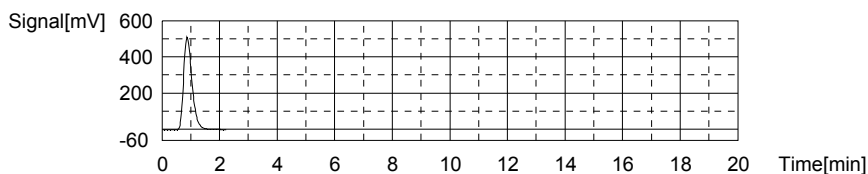
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.28mg/L TC:26.29mg/L IC:0.01320mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1029	26.29mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 31	10/10/2016 10:35:13 AM

Mean Area 1029
Mean Conc. 26.29mg/L



Anal.: IC

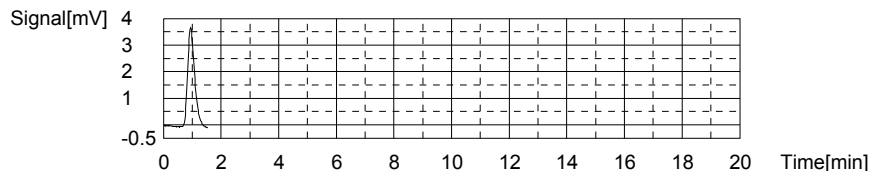
No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.368	0.01320mg/L	500uL	1		TICURVE-10-30-2015.2015 10 31 11 55 01	10/10/2016 10:39:35 AM

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10/11/2016 2:37:58 PM

10-10-2016-DCM-TOC.t32

Mean Area 6.368
Mean Conc. 0.01320mg/L



Sample

Sample Name: L16100297-01 (50)
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

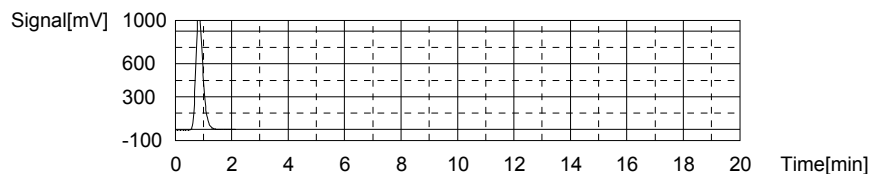
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:47.50mg/L TC:47.63mg/L IC:0.1299mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1860	47.63mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/10/2016 11:17:01 AM

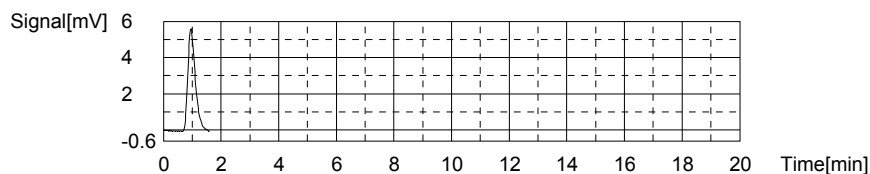
Mean Area 1860
Mean Conc. 47.63mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.27	0.1299mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/10/2016 11:21:29 AM

Mean Area 10.27
Mean Conc. 0.1299mg/L



Sample

Sample Name: L16100297-02 (50)
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:20.71mg/L TC:20.71mg/L IC:-0.00224mg/L

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10/11/2016 2:37:58 PM

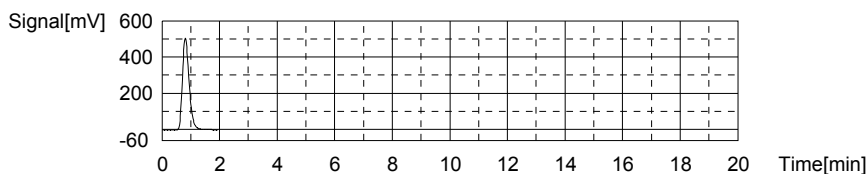
10-10-2016-DCM-TOC.i32

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	811.6	20.71mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 31	10/10/2016 11:28:51 AM

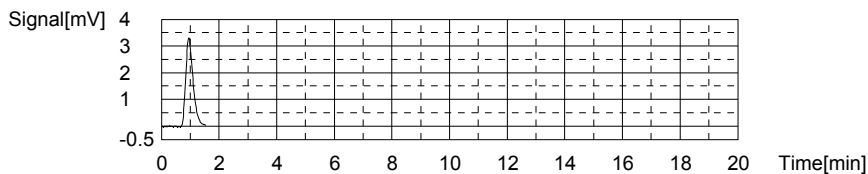
Mean Area 811.6
Mean Conc. 20.71mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	5.852	-0.00224mg/L	500uL	1		TICURVE-10-30-2015.2015 10 31 11 55 01	10/10/2016 11:33:14 AM

Mean Area 5.852
Mean Conc. -0.00224mg/L



Sample

Sample Name:

Sample ID:

Origin:

TOC-10-31-2015.met

Status

Completed

Chk. Result

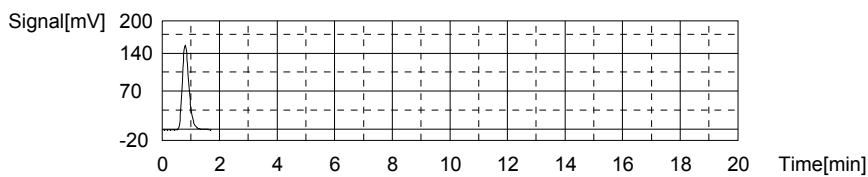
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:6.217mg/L TC:6.269mg/L IC:0.05198mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	249.1	6.269mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 31	10/10/2016 11:40:23 AM

Mean Area 249.1
Mean Conc. 6.269mg/L



Anal.: IC

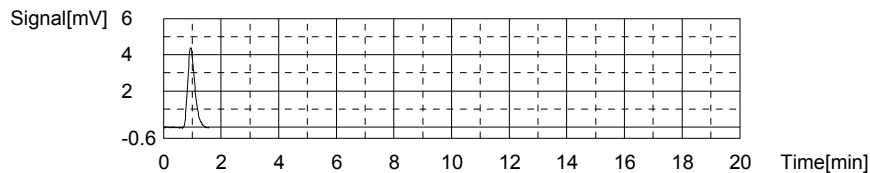
No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.664	0.05198mg/L	500uL	1		TICURVE-10-30-2015.2015 10 31 11 55 01	10/10/2016 11:44:48 AM

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10/11/2016 2:37:58 PM

10-10-2016-DCM-TOC.t32

Mean Area 7.664
Mean Conc. 0.05198mg/L



Sample

Sample Name: L16100297-04 (50)
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

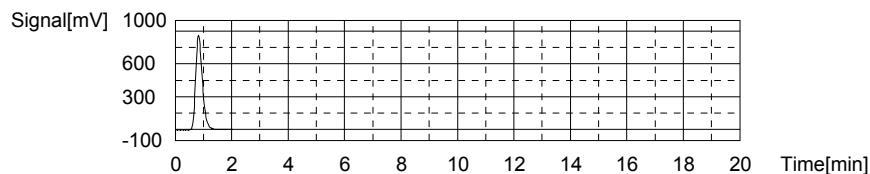
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:36.38mg/L TC:36.41mg/L IC:0.02538mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1423	36.41mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/10/2016 11:52:16 AM

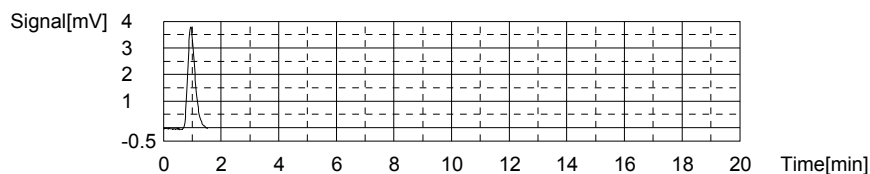
Mean Area 1423
Mean Conc. 36.41mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.775	0.02538mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/10/2016 11:56:37 AM

Mean Area 6.775
Mean Conc. 0.02538mg/L



Sample

Sample Name: L16100297-05 (50)
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:24.49mg/L TC:24.52mg/L IC:0.02421mg/L

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10/11/2016 2:37:58 PM

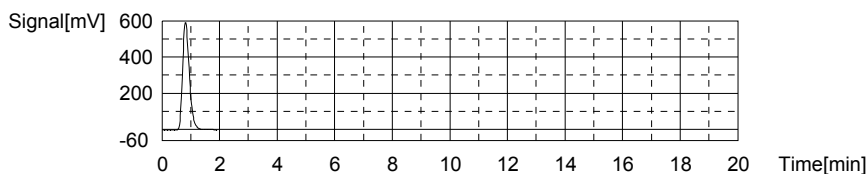
10-10-2016-DCM-TOC.t32

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	959.8	24.52mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/10/2016 12:03:59 PM

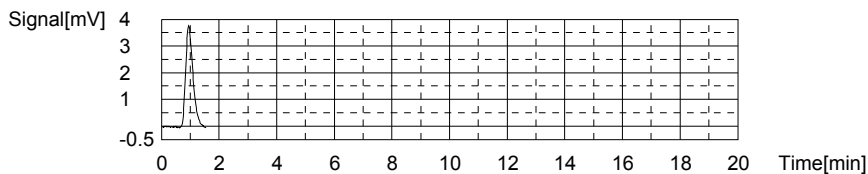
Mean Area 959.8
Mean Conc. 24.52mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.736	0.02421mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/10/2016 12:08:18 PM

Mean Area 6.736
Mean Conc. 0.02421mg/L



Sample

Sample Name: L16100297-06 (50)
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

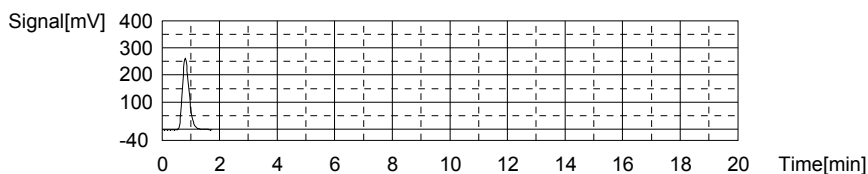
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:10.68mg/L TC:10.73mg/L IC:0.05084mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	423.0	10.73mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/10/2016 12:15:29 PM

Mean Area 423.0
Mean Conc. 10.73mg/L

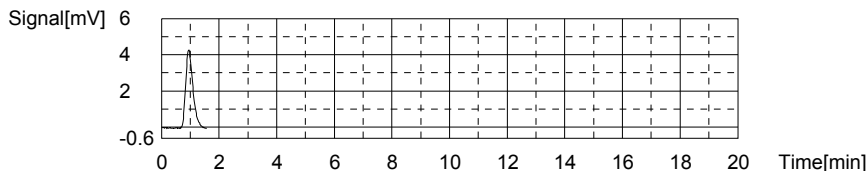


Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.626	0.05084mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/10/2016 12:19:52 PM

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Mean Area 7.626
 Mean Conc. 0.05084mg/L



Sample

Sample Name: L16100297-07 (50)
 Sample ID:
 Origin: TOC-10-31-2015.met
 Status: Completed
 Chk. Result

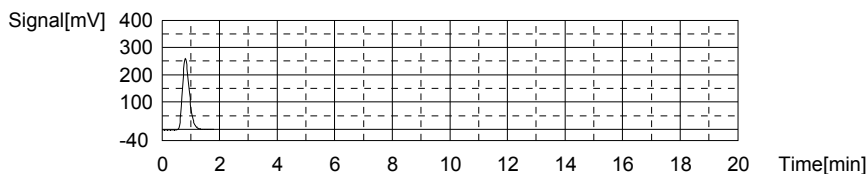
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:11.00mg/L TC:11.04mg/L IC:0.04159mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	435.0	11.04mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/10/2016 12:27:06 PM

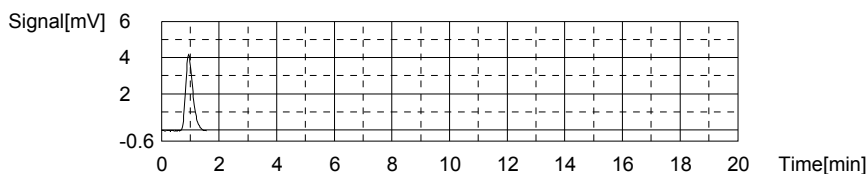
Mean Area 435.0
 Mean Conc. 11.04mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.317	0.04159mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/10/2016 12:31:29 PM

Mean Area 7.317
 Mean Conc. 0.04159mg/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:26.33mg/L TC:26.37mg/L IC:0.03815mg/L

10/11/2016 2:37:58 PM

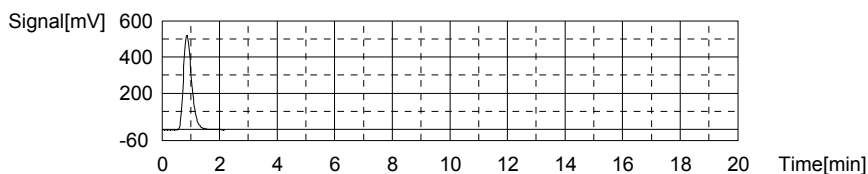
10-10-2016-DCM-TOC.t32

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1032	26.37mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 31	10/10/2016 12:39:07 PM

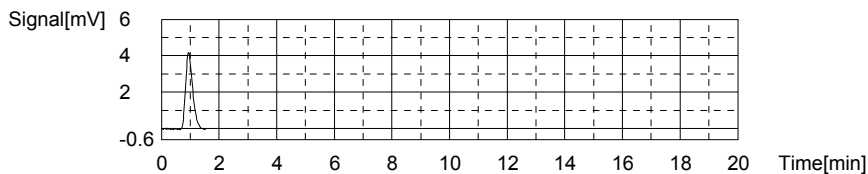
Mean Area 1032
Mean Conc. 26.37mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.202	0.03815mg/L	500uL	1		TICURVE-10-30-2015.2015 10 31 11 55 01	10/10/2016 12:43:32 PM

Mean Area 7.202
Mean Conc. 0.03815mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

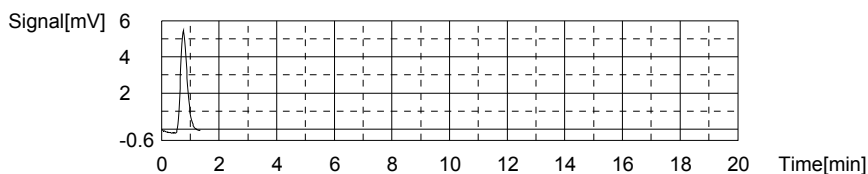
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.06039mg/L TC:0.1054mg/L IC:0.04503mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.058	0.1054mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 31	10/10/2016 12:48:31 PM

Mean Area 9.058
Mean Conc. 0.1054mg/L



Anal.: IC

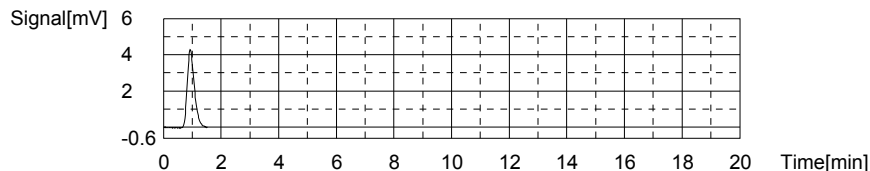
No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.432	0.04503mg/L	500uL	1		TICURVE-10-30-2015.2015 10 31 11 55 01	10/10/2016 12:52:26 PM

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10/11/2016 2:37:58 PM

10-10-2016-DCM-TOC.t32

Mean Area 7.432
Mean Conc. 0.04503mg/L



Sample

Sample Name: L16100297-08 (50)
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

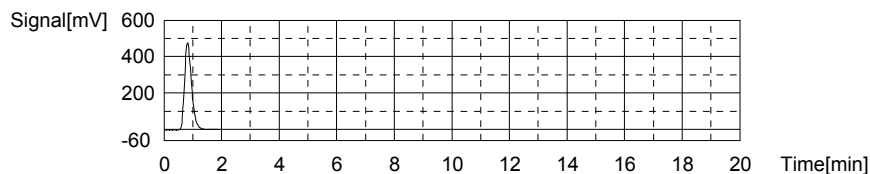
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:20.49mg/L TC:20.52mg/L IC:0.03011mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	804.1	20.52mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/10/2016 12:59:48 PM

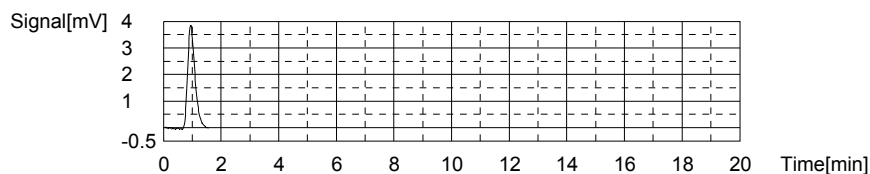
Mean Area 804.1
Mean Conc. 20.52mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.933	0.03011mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/10/2016 1:04:12 PM

Mean Area 6.933
Mean Conc. 0.03011mg/L



Sample

Sample Name: L16100297-09 (50)
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:19.43mg/L TC:19.49mg/L IC:0.05811mg/L

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10/11/2016 2:37:58 PM

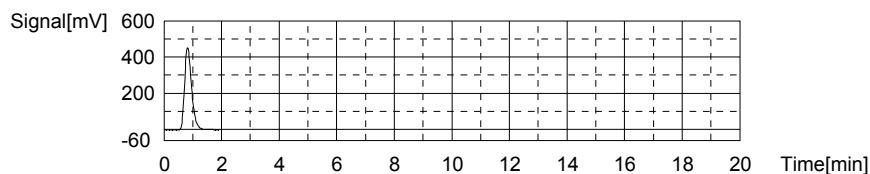
10-10-2016-DCM-TOC.t32

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	764.1	19.49mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 31	10/10/2016 1:11:34 PM

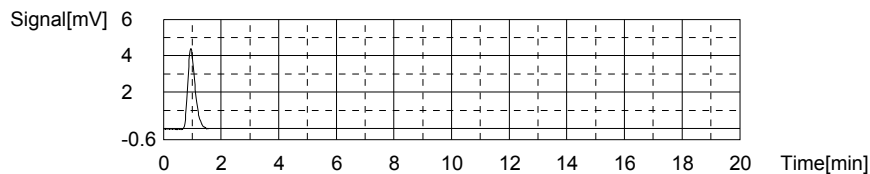
Mean Area 764.1
Mean Conc. 19.49mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.869	0.05811mg/L	500uL	1		TICURVE-10-30-2015.2015 10 31 11 55 01	10/10/2016 1:15:57 PM

Mean Area 7.869
Mean Conc. 0.05811mg/L



Sample

Sample Name: L16100297-10 (50)
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

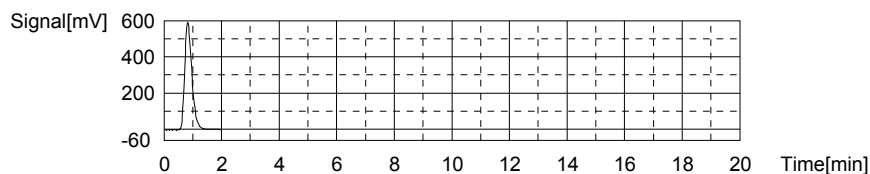
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.02mg/L TC:26.06mg/L IC:0.04213mg/L

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 31	10/10/2016 1:23:22 PM

Mean Area 1020
Mean Conc. 26.06mg/L



Anal.: IC

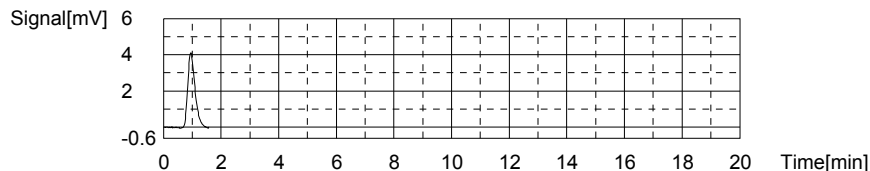
No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.335	0.04213mg/L	500uL	1		TICURVE-10-30-2015.2015 10 31 11 55 01	10/10/2016 1:27:46 PM

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10/11/2016 2:37:58 PM

10-10-2016-DCM-TOC.i32

Mean Area 7.335
Mean Conc. 0.04213mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

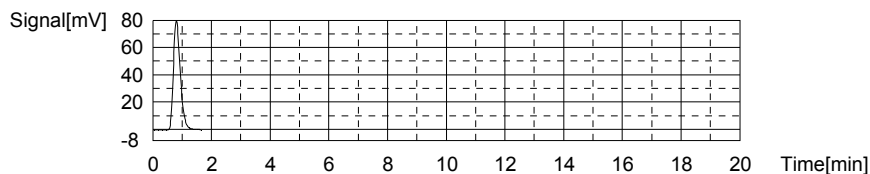
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.139mg/L TC:3.213mg/L IC:0.07453mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	130.1	3.213mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/10/2016 1:34:50 PM

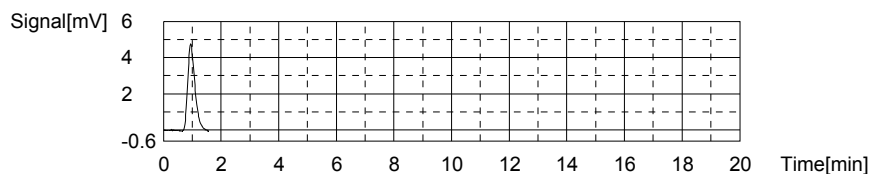
Mean Area 130.1
Mean Conc. 3.213mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.418	0.07453mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/10/2016 1:39:15 PM

Mean Area 8.418
Mean Conc. 0.07453mg/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:4.891mg/L TC:4.957mg/L IC:0.06571mg/L

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10/11/2016 2:37:58 PM

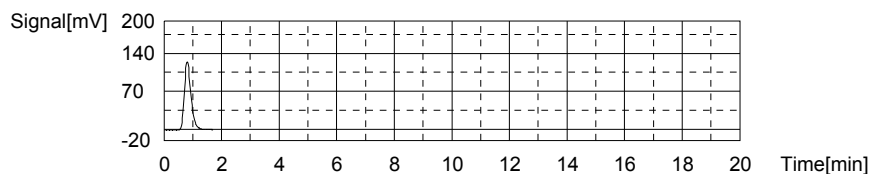
10-10-2016-DCM-TOC.t32

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	198.0	4.957mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/10/2016 1:46:24 PM

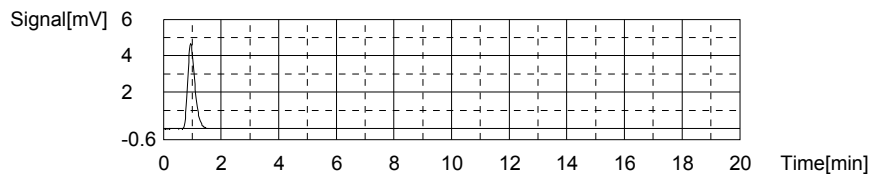
Mean Area 198.0
Mean Conc. 4.957mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.123	0.06571mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/10/2016 1:50:49 PM

Mean Area 8.123
Mean Conc. 0.06571mg/L



Sample

Sample Name: L16100297-13 (50)
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

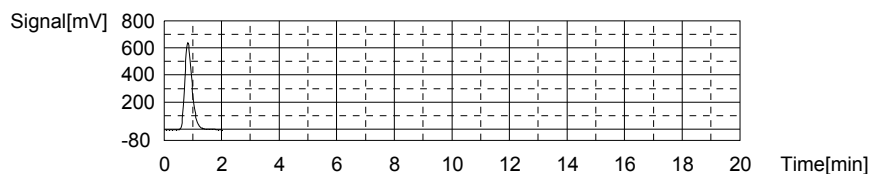
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:28.46mg/L TC:28.50mg/L IC:0.04489mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1115	28.50mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/10/2016 1:58:16 PM

Mean Area 1115
Mean Conc. 28.50mg/L



Anal.: IC

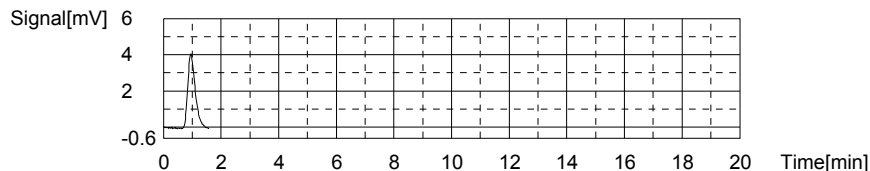
No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.427	0.04489mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/10/2016 2:02:41 PM

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10/11/2016 2:37:58 PM

10-10-2016-DCM-TOC.i32

Mean Area 7.427
Mean Conc. 0.04489mg/L



Sample

Sample Name: L16100297-14 (50)
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

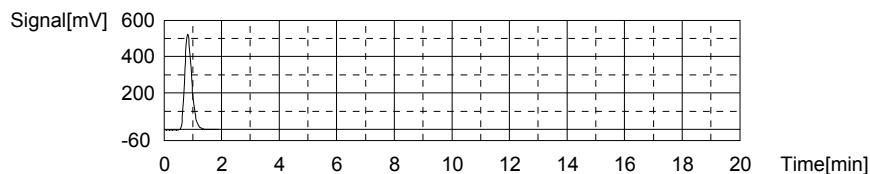
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:22.70mg/L TC:22.75mg/L IC:0.04324mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	890.9	22.75mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/10/2016 2:10:02 PM

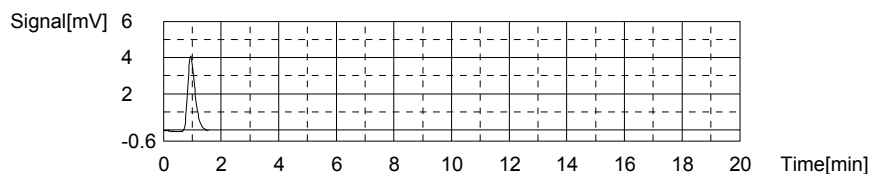
Mean Area 890.9
Mean Conc. 22.75mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.372	0.04324mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/10/2016 2:14:26 PM

Mean Area 7.372
Mean Conc. 0.04324mg/L



Sample

Sample Name: L16100297-15 (50)
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:30.96mg/L TC:31.02mg/L IC:0.05563mg/L

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10/11/2016 2:37:58 PM

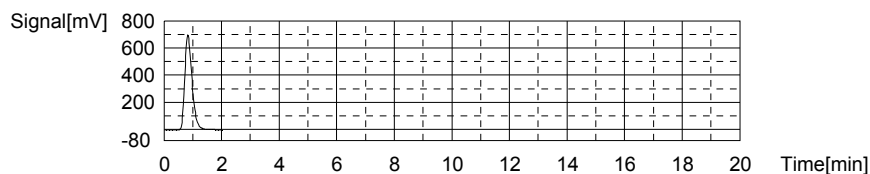
10-10-2016-DCM-TOC.t32

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1213	31.02mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 31	10/10/2016 2:21:54 PM

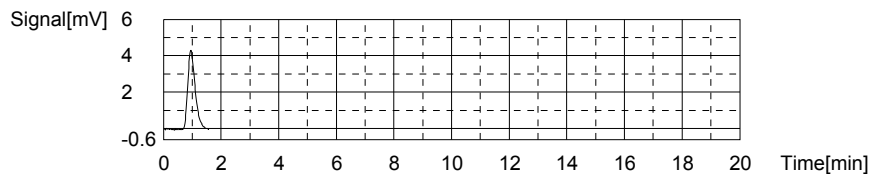
Mean Area 1213
Mean Conc. 31.02mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.786	0.05563mg/L	500uL	1		TICURVE-10-30-2015.2015 10 31 11 55 01	10/10/2016 2:26:19 PM

Mean Area 7.786
Mean Conc. 0.05563mg/L



Sample

Sample Name: L16100297-16 (50)
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

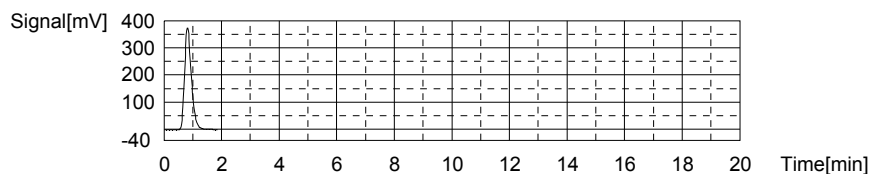
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:15.56mg/L TC:15.64mg/L IC:0.07471mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	614.0	15.64mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 31	10/10/2016 2:33:37 PM

Mean Area 614.0
Mean Conc. 15.64mg/L



Anal.: IC

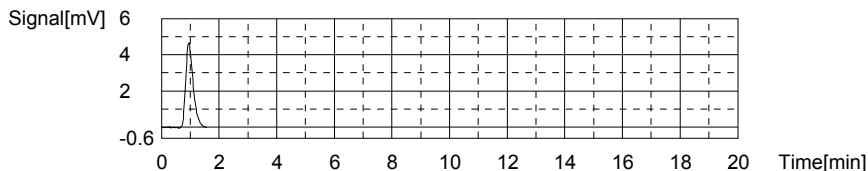
No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.424	0.07471mg/L	500uL	1		TICURVE-10-30-2015.2015 10 31 11 55 01	10/10/2016 2:38:04 PM

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10/11/2016 2:37:58 PM

10-10-2016-DCM-TOC.i32

Mean Area 8.424
Mean Conc. 0.07471mg/L



Sample

Sample Name: L16100297-17 (50)
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

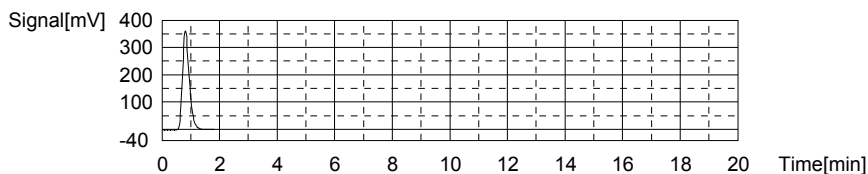
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:14.94mg/L TC:15.01mg/L IC:0.06538mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	589.5	15.01mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/10/2016 2:45:18 PM

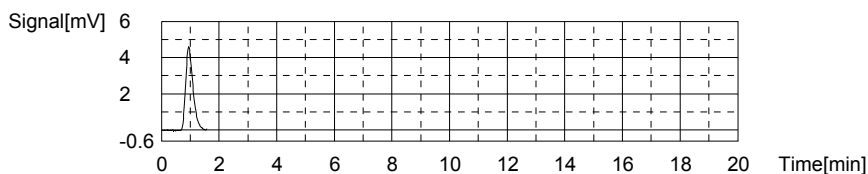
Mean Area 589.5
Mean Conc. 15.01mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.112	0.06538mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_01	10/10/2016 2:49:43 PM

Mean Area 8.112
Mean Conc. 0.06538mg/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:26.61mg/L TC:26.68mg/L IC:0.06993mg/L

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10/11/2016 2:37:58 PM

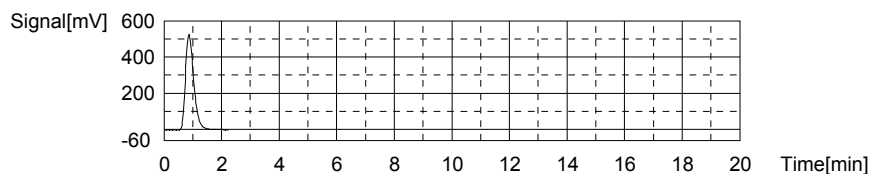
10-10-2016-DCM-TOC.t32

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1044	26.68mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/10/2016 2:57:23 PM

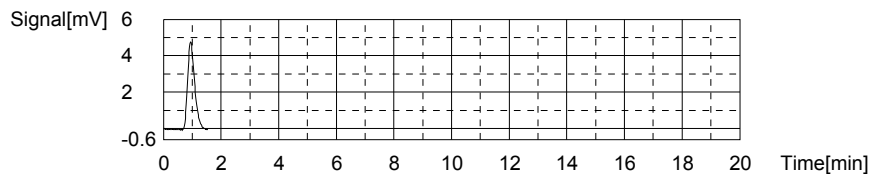
Mean Area 1044
Mean Conc. 26.68mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.264	0.06993mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/10/2016 3:01:46 PM

Mean Area 8.264
Mean Conc. 0.06993mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

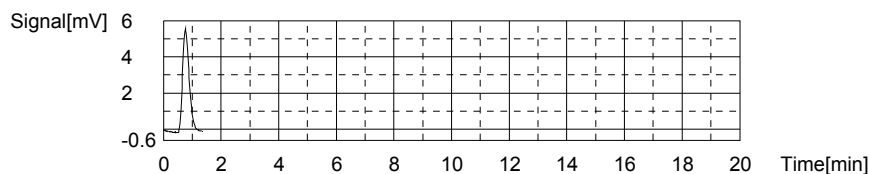
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.05112mg/L TC:0.1045mg/L IC:0.05338mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.022	0.1045mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/10/2016 3:06:45 PM

Mean Area 9.022
Mean Conc. 0.1045mg/L



Anal.: IC

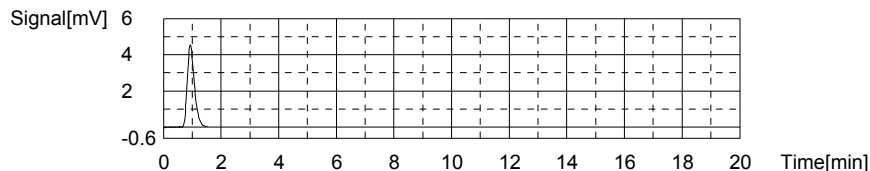
No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.711	0.05338mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/10/2016 3:10:40 PM

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10/11/2016 2:37:58 PM

10-10-2016-DCM-TOC.t32

Mean Area 7.711
Mean Conc. 0.05338mg/L



Sample

Sample Name: L16100297-18 (50)
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

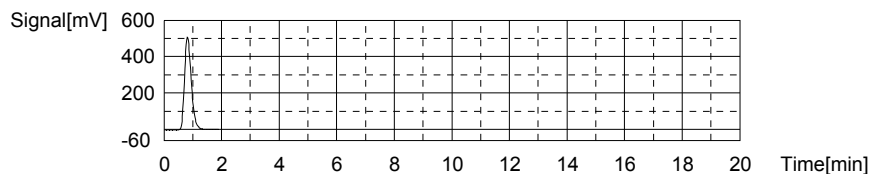
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:20.96mg/L TC:21.03mg/L IC:0.07441mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	824.2	21.03mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/10/2016 3:18:01 PM

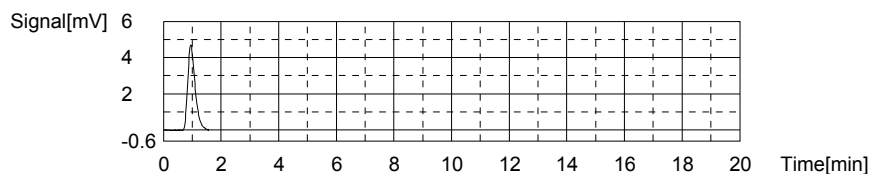
Mean Area 824.2
Mean Conc. 21.03mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.414	0.07441mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_01	10/10/2016 3:22:29 PM

Mean Area 8.414
Mean Conc. 0.07441mg/L



Sample

Sample Name: L16100297-19 (50)
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:0.06613mg/L

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10/11/2016 2:37:58 PM

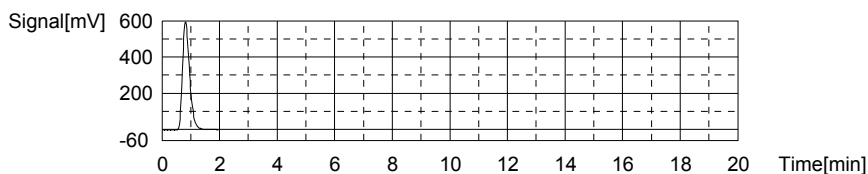
10-10-2016-DCM-TOC.t32

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 31	10/10/2016 3:29:54 PM

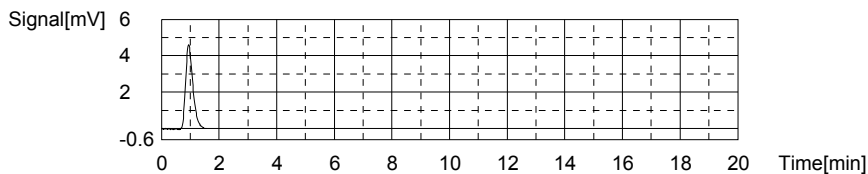
Mean Area 1020
Mean Conc. 26.06mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.137	0.06613mg/L	500uL	1		TICURVE-10-30-2015.2015 10 31 11 55 01	10/10/2016 3:34:18 PM

Mean Area 8.137
Mean Conc. 0.06613mg/L



Sample

Sample Name: L16091363-01
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

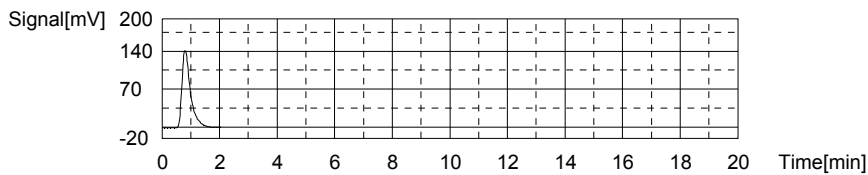
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:4.879mg/L TC:7.347mg/L IC:2.468mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	291.1	7.347mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 31	10/10/2016 3:56:05 PM

Mean Area 291.1
Mean Conc. 7.347mg/L



Anal.: IC

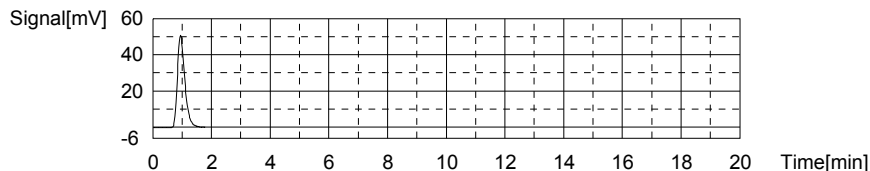
No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	88.41	2.468mg/L	500uL	1		TICURVE-10-30-2015.2015 10 31 11 55 01	10/10/2016 4:00:43 PM

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10/11/2016 2:37:58 PM

10-10-2016-DCM-TOC.i32

Mean Area 88.41
Mean Conc. 2.468mg/L



Sample

Sample Name: WG586771-05 DUP
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

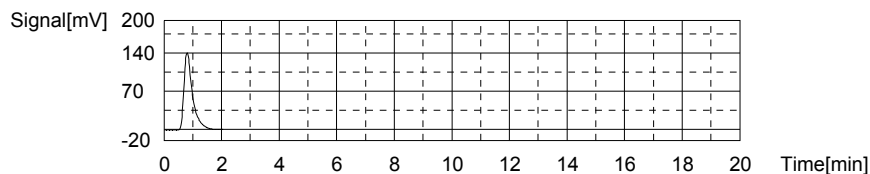
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:4.847mg/L TC:7.324mg/L IC:2.477mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	290.2	7.324mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/10/2016 4:08:14 PM

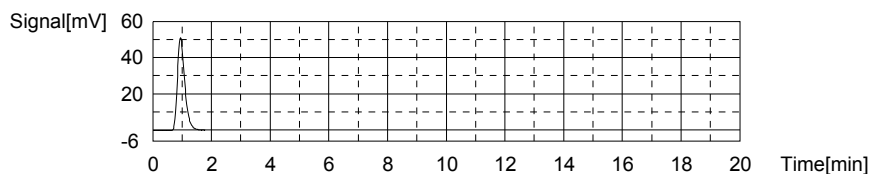
Mean Area 290.2
Mean Conc. 7.324mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	88.71	2.477mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_01	10/10/2016 4:12:53 PM

Mean Area 88.71
Mean Conc. 2.477mg/L



Sample

Sample Name: WG586771-06 MS
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:14.88mg/L TC:16.81mg/L IC:1.925mg/L

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10/11/2016 2:37:58 PM

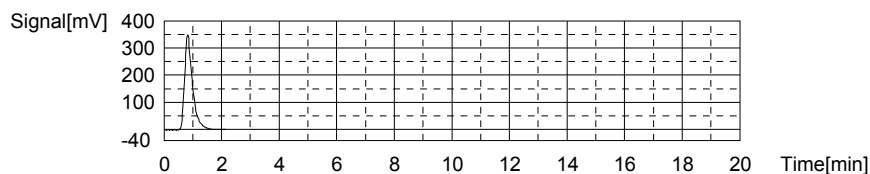
10-10-2016-DCM-TOC.i32

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	659.6	16.81mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 31	10/10/2016 4:20:29 PM

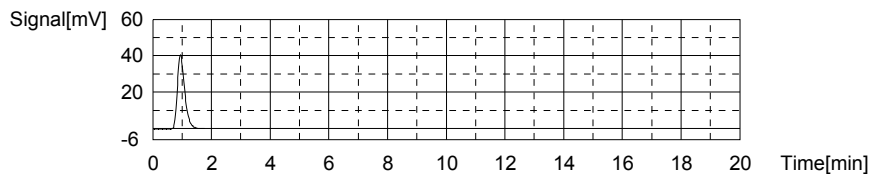
Mean Area 659.6
Mean Conc. 16.81mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	70.27	1.925mg/L	500uL	1		TICURVE-10-30-2015.2015 10 31 11 55 01	10/10/2016 4:25:05 PM

Mean Area 70.27
Mean Conc. 1.925mg/L



Sample

Sample Name: WG586887-01 BLK
Sample ID: TOC-10-31-2015.met
Origin: Completed
Status: Completed
Chk. Result

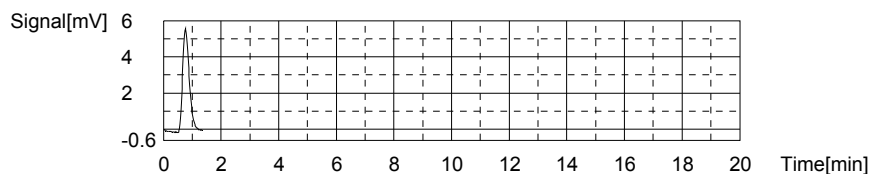
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.04884mg/L TC:0.1056mg/L IC:0.05676mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.065	0.1056mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 31	10/10/2016 4:30:04 PM

Mean Area 9.065
Mean Conc. 0.1056mg/L



Anal.: IC

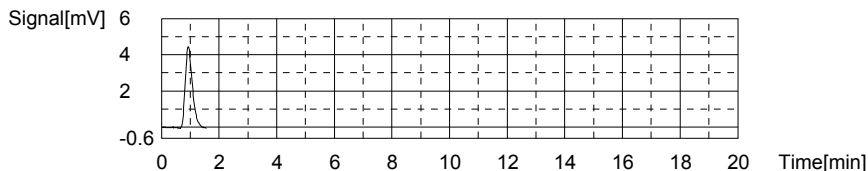
No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.824	0.05676mg/L	500uL	1		TICURVE-10-30-2015.2015 10 31 11 55 01	10/10/2016 4:34:01 PM

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Mean Area 7.824
Mean Conc. 0.05676mg/L



Sample

Sample Name: WG586887-02 LCS
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

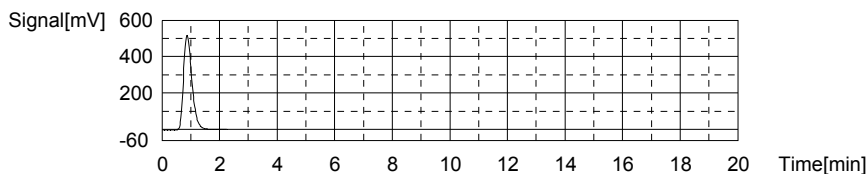
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.78mg/L TC:26.86mg/L IC:0.07666mg/L

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_31	10/10/2016 4:41:44 PM

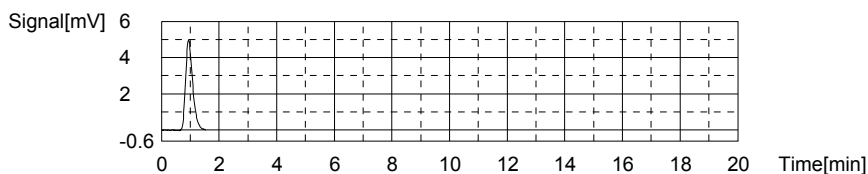
Mean Area 1051
Mean Conc. 26.86mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.489	0.07666mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/10/2016 4:46:08 PM

Mean Area 8.489
Mean Conc. 0.07666mg/L



Sample

Sample Name: WG586887-03 LCSDUP
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:26.32mg/L IC:0.07181mg/L

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10/11/2016 2:37:58 PM

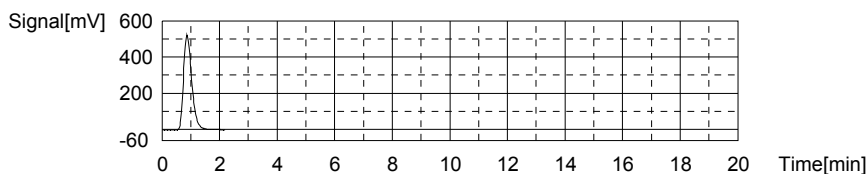
10-10-2016-DCM-TOC.t32

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1030	26.32mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 31	10/10/2016 4:53:47 PM

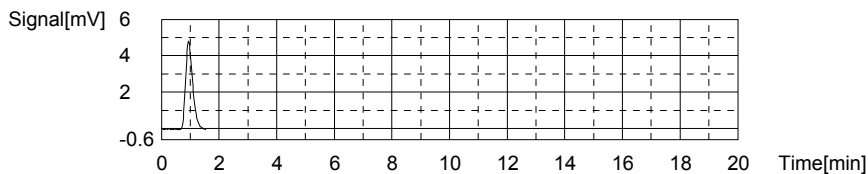
Mean Area 1030
Mean Conc. 26.32mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.327	0.07181mg/L	500uL	1		TICURVE-10-30-2015.2015 10 31 11 55 01	10/10/2016 4:58:08 PM

Mean Area 8.327
Mean Conc. 0.07181mg/L



Sample

Sample Name:

Sample ID:

Origin:

TOC-10-31-2015.met

Status

Completed

Chk. Result

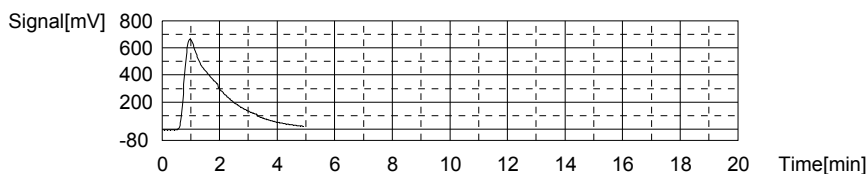
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:134.4mg/L TC:135.5mg/L IC:1.127mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	5284	135.5mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 31	10/10/2016 5:08:30 PM

Mean Area 5284
Mean Conc. 135.5mg/L

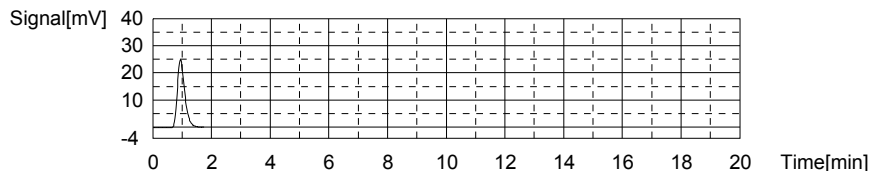


Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	43.58	1.127mg/L	500uL	1		TICURVE-10-30-2015.2015 10 31 11 55 01	10/10/2016 5:13:06 PM

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Mean Area 43.58
 Mean Conc. 1.127mg/L



Sample

Sample Name:
 Sample ID:
 Origin: TOC-10-31-2015.met
 Status: Completed
 Chk. Result

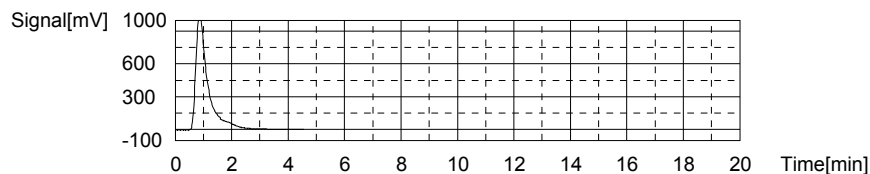
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:68.65mg/L TC:80.06mg/L IC:11.41mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3123	80.06mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/10/2016 5:23:06 PM

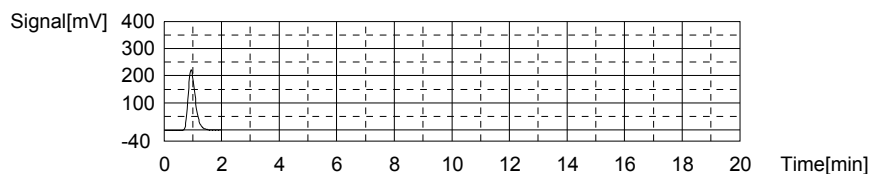
Mean Area 3123
 Mean Conc. 80.06mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	387.2	11.41mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/10/2016 5:28:01 PM

Mean Area 387.2
 Mean Conc. 11.41mg/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:26.35mg/L TC:26.45mg/L IC:0.1018mg/L

10/11/2016 2:37:58 PM

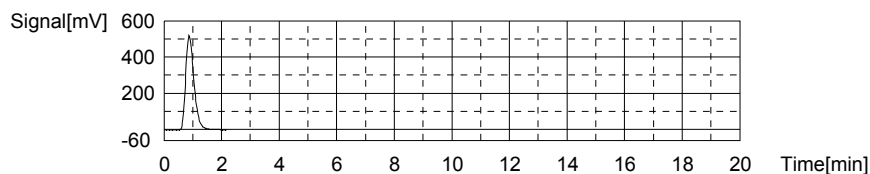
10-10-2016-DCM-TOC.t32

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 31	10/10/2016 5:35:38 PM

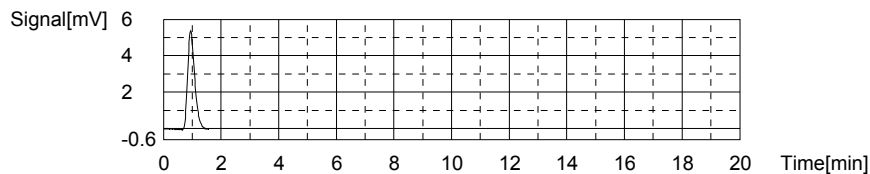
Mean Area 1035
Mean Conc. 26.45mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.329	0.1018mg/L	500uL	1		TICURVE-10-30-2015.2015 10 31 11 55 01	10/10/2016 5:40:04 PM

Mean Area 9.329
Mean Conc. 0.1018mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

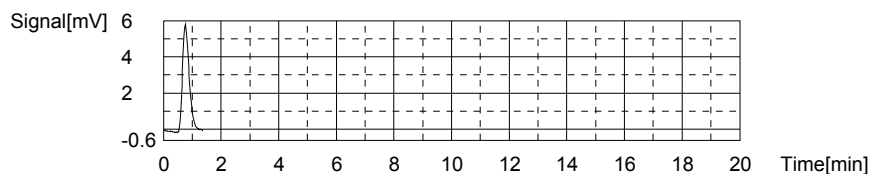
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.06820mg/L TC:0.1166mg/L IC:0.04842mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.494	0.1166mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 31	10/10/2016 5:45:04 PM

Mean Area 9.494
Mean Conc. 0.1166mg/L

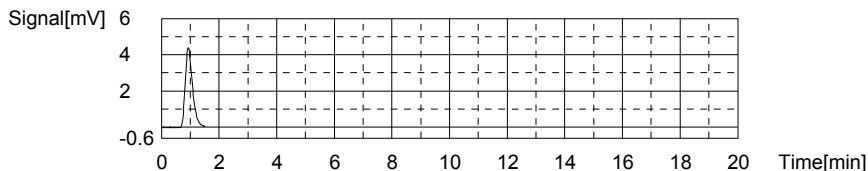


Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.545	0.04842mg/L	500uL	1		TICURVE-10-30-2015.2015 10 31 11 55 01	10/10/2016 5:48:56 PM

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Mean Area 7.545
 Mean Conc. 0.04842mg/L



Sample

Sample Name:
 Sample ID:
 Origin: TOC-10-31-2015.met
 Status: Completed
 Chk. Result

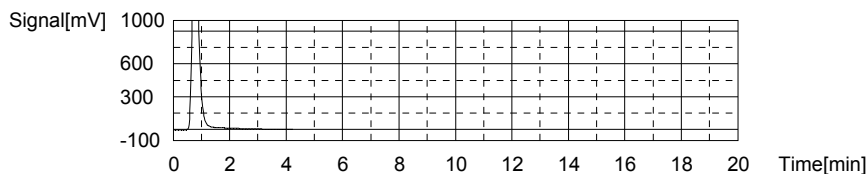
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.761mg/L TC:67.91mg/L IC:66.15mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2650	67.91mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/10/2016 5:58:38 PM

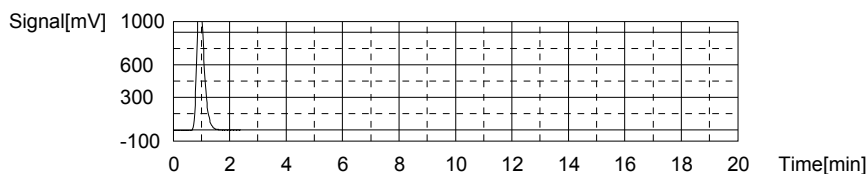
Mean Area 2650
 Mean Conc. 67.91mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2217	66.15mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/10/2016 6:04:07 PM

Mean Area 2217
 Mean Conc. 66.15mg/L



Sample

Sample Name:
 Sample ID:
 Origin: TOC-10-31-2015.met
 Status: Completed
 Chk. Result

Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:-0.2062mg/L TC:63.70mg/L IC:63.91mg/L

10/11/2016 2:37:58 PM

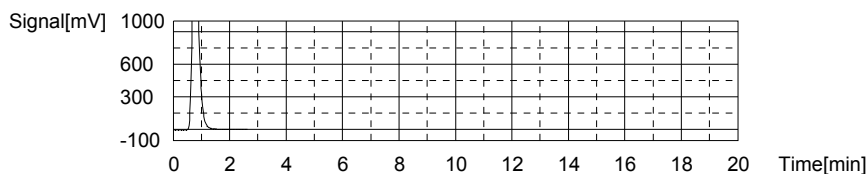
10-10-2016-DCM-TOC.t32

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2486	63.70mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/10/2016 6:12:11 PM

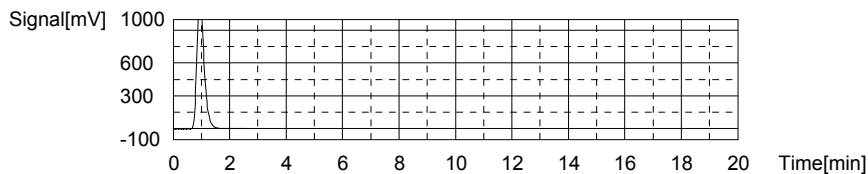
Mean Area 2486
Mean Conc. 63.70mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2142	63.91mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/10/2016 6:17:50 PM

Mean Area 2142
Mean Conc. 63.91mg/L



Sample

Sample Name:

Sample ID:

Origin:

TOC-10-31-2015.met

Status

Completed

Chk. Result

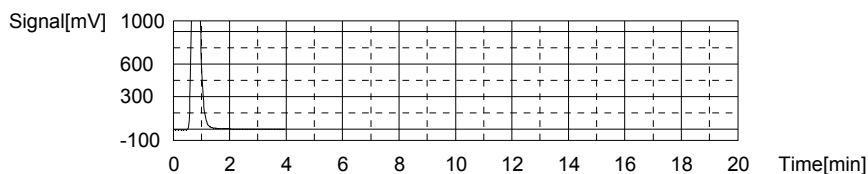
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:-12.41mg/L TC:80.49mg/L IC:92.90mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3140	80.49mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/10/2016 6:27:15 PM

Mean Area 3140
Mean Conc. 80.49mg/L

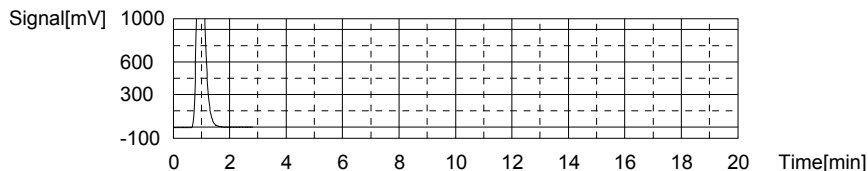


Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3111	92.90mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/10/2016 6:33:24 PM

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Mean Area 3111
Mean Conc. 92.90mg/L



Sample

Sample Name: L16100316-04
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

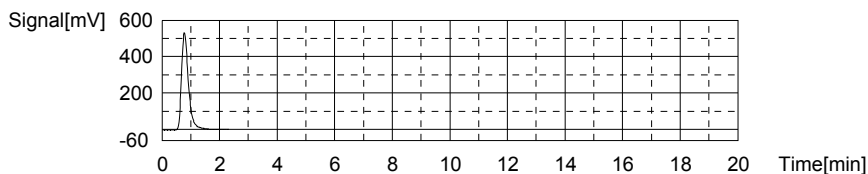
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:4.943mg/L TC:22.57mg/L IC:17.62mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	883.9	22.57mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/10/2016 6:41:10 PM

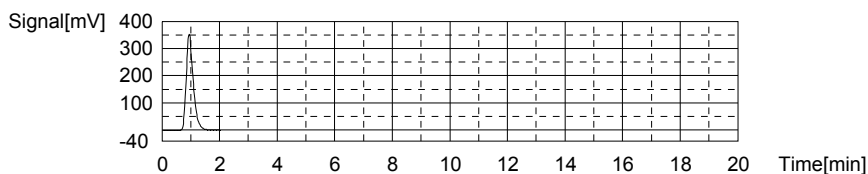
Mean Area 883.9
Mean Conc. 22.57mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	595.0	17.62mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/10/2016 6:46:17 PM

Mean Area 595.0
Mean Conc. 17.62mg/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:1.037mg/L TC:62.88mg/L IC:61.84mg/L

10/11/2016 2:37:58 PM

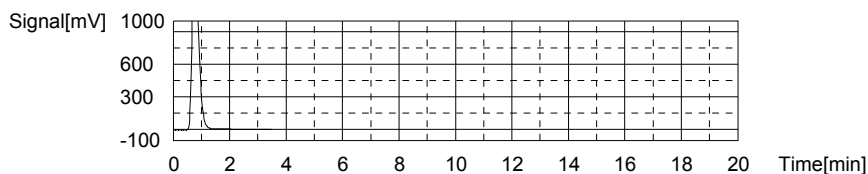
10-10-2016-DCM-TOC.t32

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2454	62.88mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/10/2016 6:55:13 PM

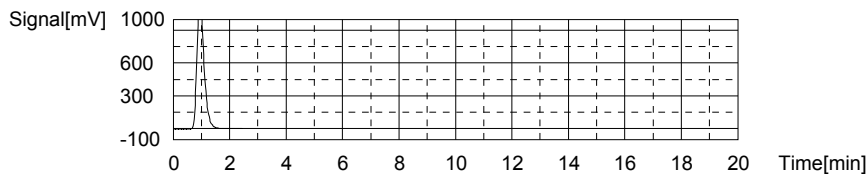
Mean Area 2454
Mean Conc. 62.88mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2073	61.84mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/10/2016 7:00:50 PM

Mean Area 2073
Mean Conc. 61.84mg/L



Sample

Sample Name:

Sample ID:

Origin:

TOC-10-31-2015.met

Status

Completed

Chk. Result

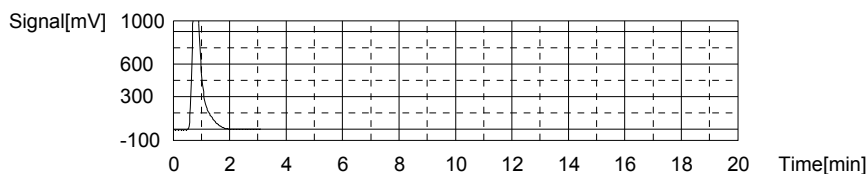
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.41mg/L TC:75.18mg/L IC:48.77mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2933	75.18mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/10/2016 7:09:24 PM

Mean Area 2933
Mean Conc. 75.18mg/L

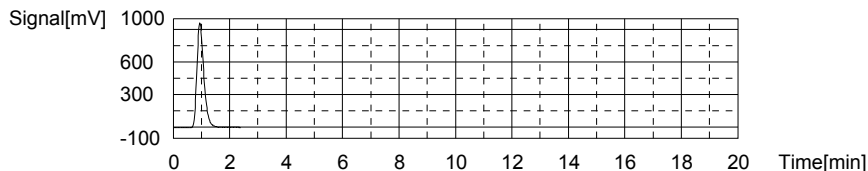


Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1636	48.77mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/10/2016 7:14:50 PM

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Mean Area 1636
Mean Conc. 48.77mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

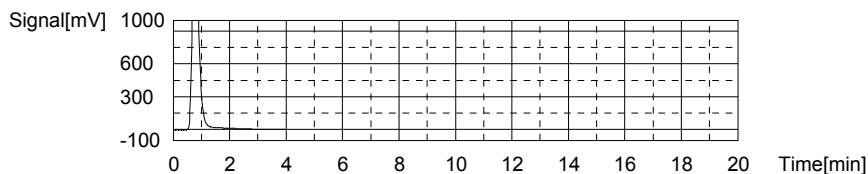
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:-0.3349mg/L TC:66.83mg/L IC:67.17mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2608	66.83mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/10/2016 7:24:14 PM

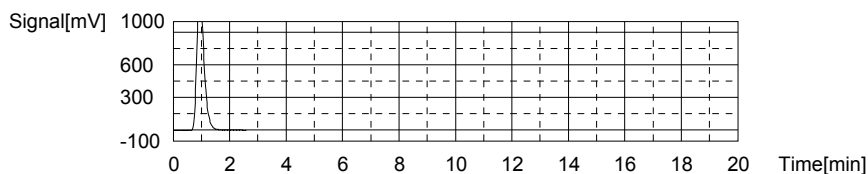
Mean Area 2608
Mean Conc. 66.83mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2251	67.17mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/10/2016 7:30:02 PM

Mean Area 2251
Mean Conc. 67.17mg/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:6.413mg/L TC:9.784mg/L IC:3.371mg/L

10/11/2016 2:37:58 PM

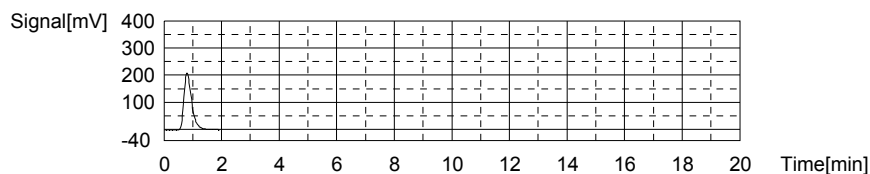
10-10-2016-DCM-TOC.t32

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	386.0	9.784mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 31	10/10/2016 7:37:26 PM

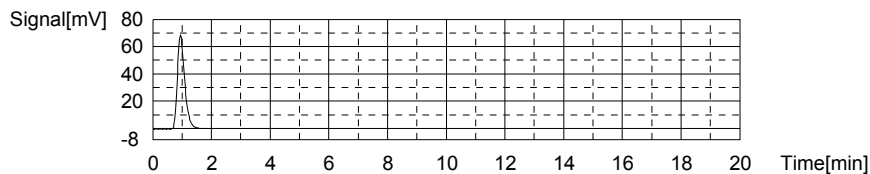
Mean Area 386.0
Mean Conc. 9.784mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	118.6	3.371mg/L	500uL	1		TICURVE-10-30-2015.2015 10 31 11 55 01	10/10/2016 7:42:09 PM

Mean Area 118.6
Mean Conc. 3.371mg/L



Sample

Sample Name: L16100098-01 (2)
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

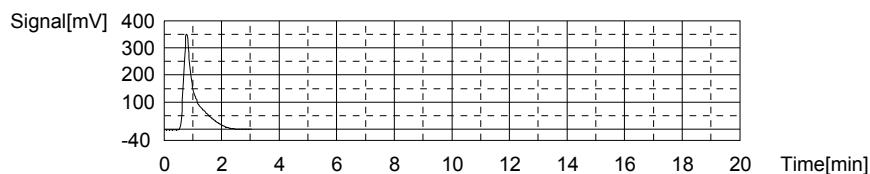
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:14.97mg/L TC:24.40mg/L IC:9.429mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	955.4	24.40mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 31	10/10/2016 7:50:39 PM

Mean Area 955.4
Mean Conc. 24.40mg/L

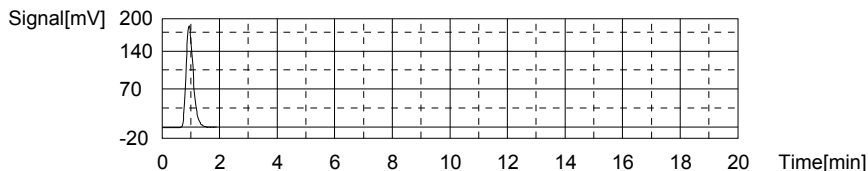


Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	321.1	9.429mg/L	500uL	1		TICURVE-10-30-2015.2015 10 31 11 55 01	10/10/2016 7:55:27 PM

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Mean Area 321.1
 Mean Conc. 9.429mg/L



Sample

Sample Name:
 Sample ID:
 Origin: TOC-10-31-2015.met
 Status: Completed
 Chk. Result

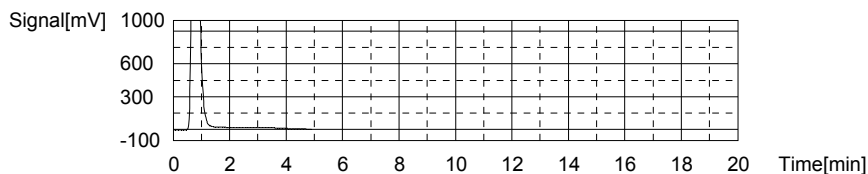
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:-6.220mg/L TC:88.32mg/L IC:94.54mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3445	88.32mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/10/2016 8:05:49 PM

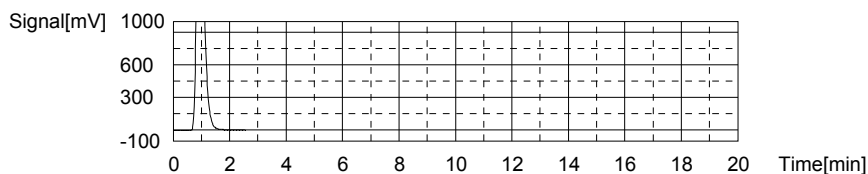
Mean Area 3445
 Mean Conc. 88.32mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3166	94.54mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/10/2016 8:11:38 PM

Mean Area 3166
 Mean Conc. 94.54mg/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:26.06mg/L TC:26.60mg/L IC:0.5359mg/L

10/11/2016 2:37:58 PM

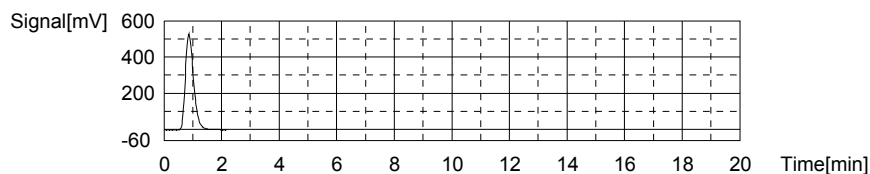
10-10-2016-DCM-TOC.t32

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1041	26.60mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/10/2016 8:19:16 PM

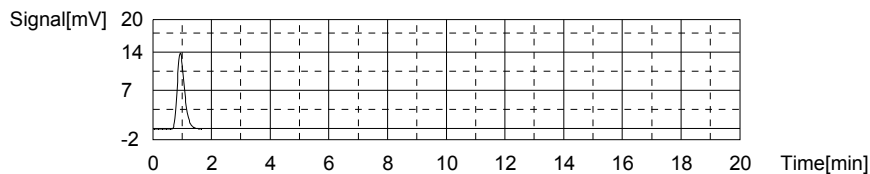
Mean Area 1041
Mean Conc. 26.60mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	23.84	0.5359mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/10/2016 8:23:49 PM

Mean Area 23.84
Mean Conc. 0.5359mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

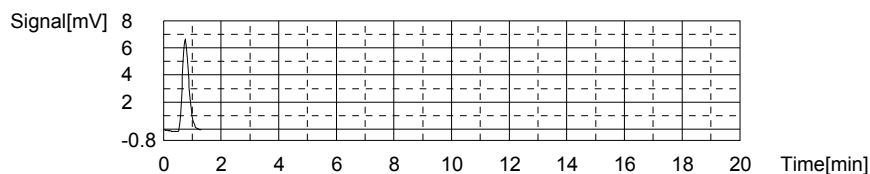
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.02080mg/L TC:0.1448mg/L IC:0.1240mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.59	0.1448mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/10/2016 8:28:45 PM

Mean Area 10.59
Mean Conc. 0.1448mg/L

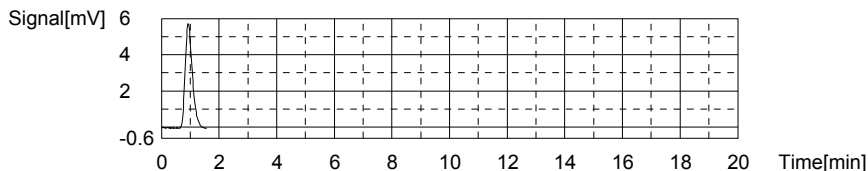


Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.07	0.1240mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/10/2016 8:32:44 PM

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Mean Area 10.07
Mean Conc. 0.1240mg/L



Sample

Sample Name: L16100123-03
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

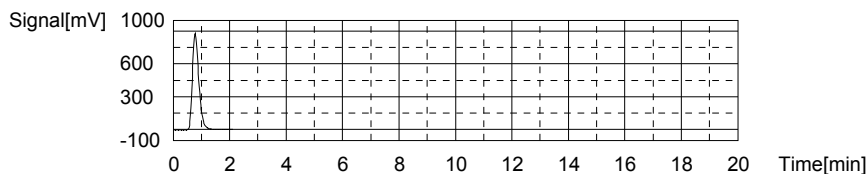
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:7.427mg/L TC:35.82mg/L IC:28.39mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1400	35.82mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/10/2016 8:40:20 PM

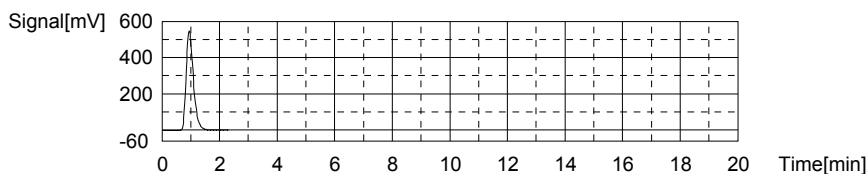
Mean Area 1400
Mean Conc. 35.82mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	954.9	28.39mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/10/2016 8:45:39 PM

Mean Area 954.9
Mean Conc. 28.39mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:-5.675mg/L TC:79.77mg/L IC:85.45mg/L

10/11/2016 2:37:58 PM

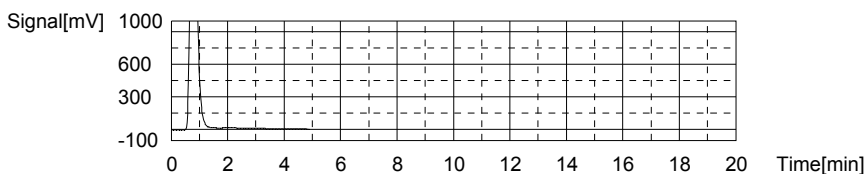
10-10-2016-DCM-TOC.t32

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3112	79.77mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/10/2016 8:56:01 PM

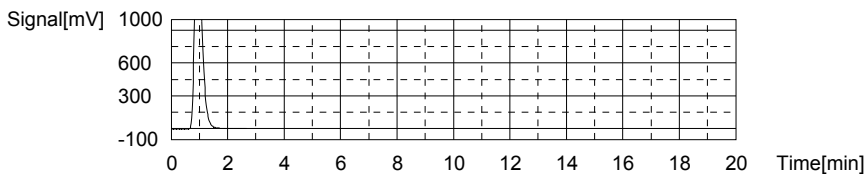
Mean Area 3112
Mean Conc. 79.77mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2862	85.45mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/10/2016 9:01:55 PM

Mean Area 2862
Mean Conc. 85.45mg/L



Sample

Sample Name:

Sample ID:

Origin:

TOC-10-31-2015.met

Status

Completed

Chk. Result

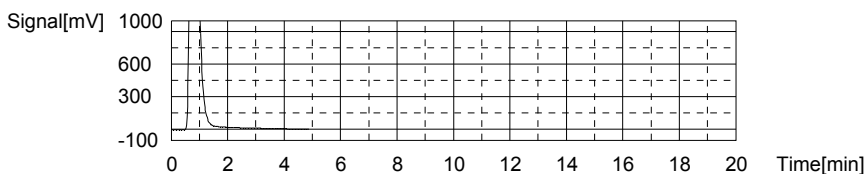
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:-8.246mg/L TC:102.6mg/L IC:110.8mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	4000	102.6mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/10/2016 9:12:16 PM

Mean Area 4000
Mean Conc. 102.6mg/L

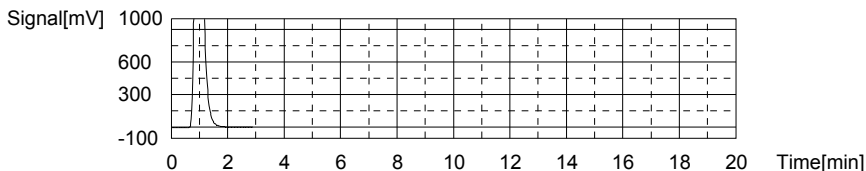


Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3710	110.8mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/10/2016 9:18:27 PM

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Mean Area 3710
 Mean Conc. 110.8mg/L



Sample

Sample Name:
 Sample ID:
 Origin: TOC-10-31-2015.met
 Status: Completed
 Chk. Result

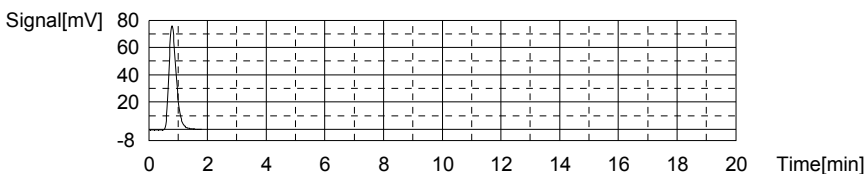
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.289mg/L TC:3.290mg/L IC:1.001mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	133.1	3.290mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/10/2016 9:25:43 PM

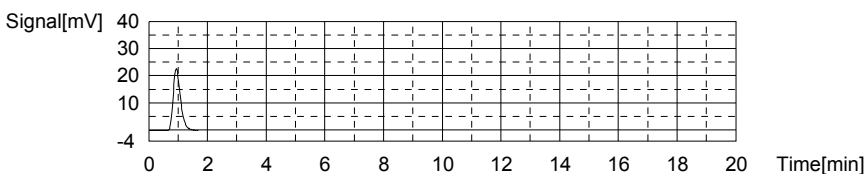
Mean Area 133.1
 Mean Conc. 3.290mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	39.40	1.001mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/10/2016 9:30:29 PM

Mean Area 39.40
 Mean Conc. 1.001mg/L



Sample

Sample Name:
 Sample ID:
 Origin: TOC-10-31-2015.met
 Status: Completed
 Chk. Result

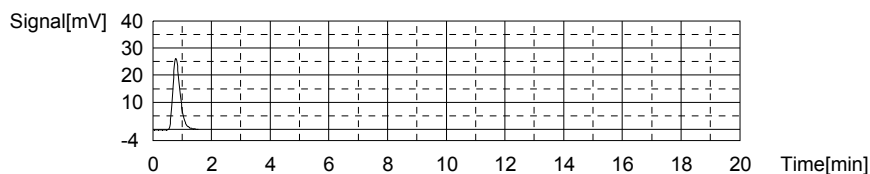
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.6915mg/L TC:1.036mg/L IC:0.3445mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	45.30	1.036mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 31	10/10/2016 9:37:31 PM

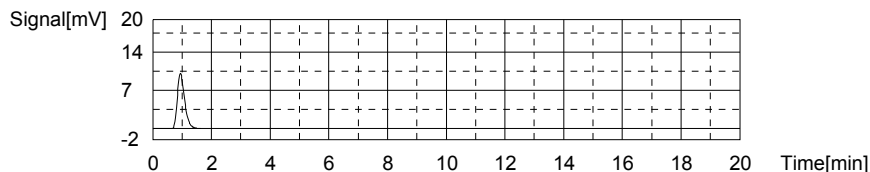
Mean Area 45.30
Mean Conc. 1.036mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	17.44	0.3445mg/L	500uL	1		TICURVE-10-30-2015.2015 10 31 11 55 01	10/10/2016 9:41:59 PM

Mean Area 17.44
Mean Conc. 0.3445mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

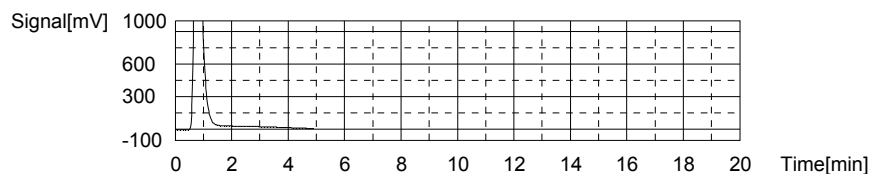
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.904mg/L TC:94.74mg/L IC:92.84mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3695	94.74mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 31	10/10/2016 9:52:21 PM

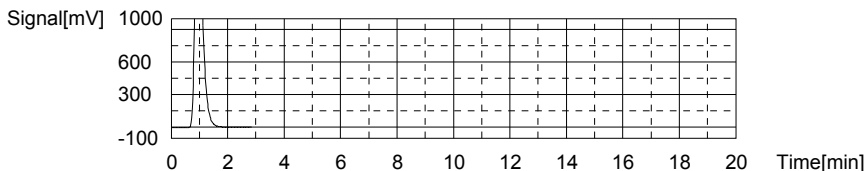
Mean Area 3695
Mean Conc. 94.74mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3109	92.84mg/L	500uL	1		TICURVE-10-30-2015.2015 10 31 11 55 01	10/10/2016 9:58:20 PM

Mean Area 3109
Mean Conc. 92.84mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

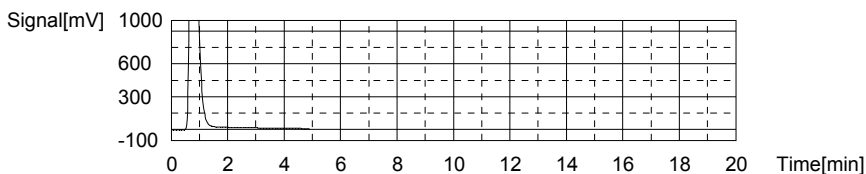
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	!!Error!! TOC:-4.000mg/L TC:93.18mg/L IC:97.18mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3634	93.18mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/10/2016 10:08:43 PM

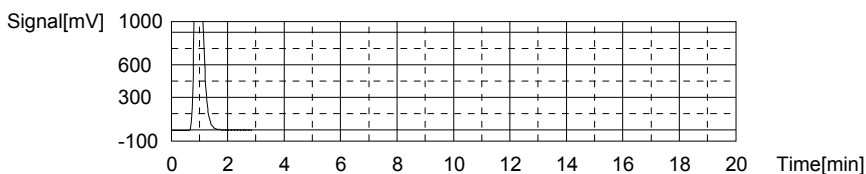
Mean Area 3634
Mean Conc. 93.18mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3254	97.18mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/10/2016 10:14:56 PM

Mean Area 3254
Mean Conc. 97.18mg/L



Sample

Sample Name: L16100363-03
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.476mg/L TC:10.13mg/L IC:7.649mg/L

10/11/2016 2:37:58 PM

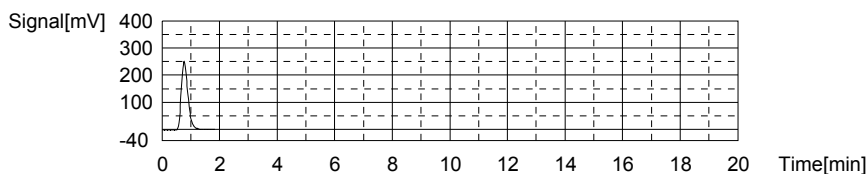
10-10-2016-DCM-TOC.t32

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	399.3	10.13mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 3	10/10/2016 10:22:14 PM

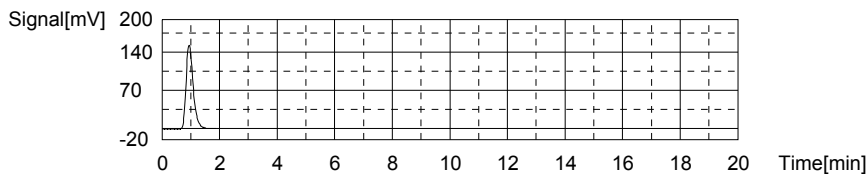
Mean Area 399.3
Mean Conc. 10.13mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	261.6	7.649mg/L	500uL	1		TICURVE-10-30-2015.2015 10 31 11 55 0	10/10/2016 10:27:10 PM

Mean Area 261.6
Mean Conc. 7.649mg/L



Sample

Sample Name: WG586887-05 DUP
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

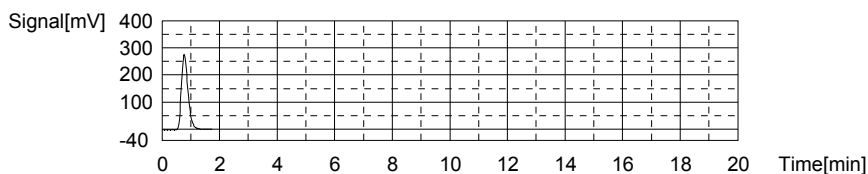
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.213mg/L TC:11.08mg/L IC:8.870mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	436.6	11.08mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 3	10/10/2016 10:34:22 PM

Mean Area 436.6
Mean Conc. 11.08mg/L



Anal.: IC

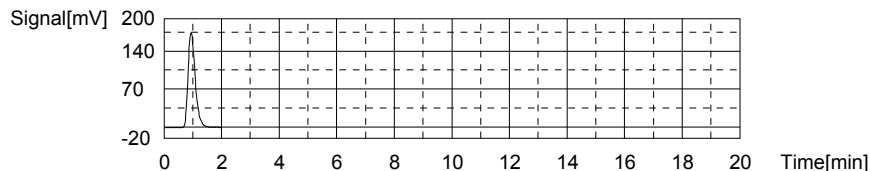
No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	302.4	8.870mg/L	500uL	1		TICURVE-10-30-2015.2015 10 31 11 55 0	10/10/2016 10:39:14 PM

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10/11/2016 2:37:58 PM

10-10-2016-DCM-TOC.i32

Mean Area 302.4
Mean Conc. 8.870mg/L



Sample

Sample Name: WG586887-06 MS
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

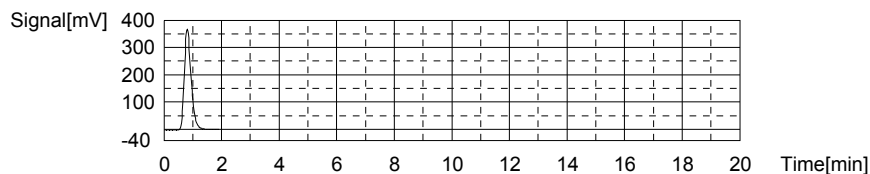
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:12.47mg/L TC:15.31mg/L IC:2.832mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	601.1	15.31mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/10/2016 10:46:38 PM

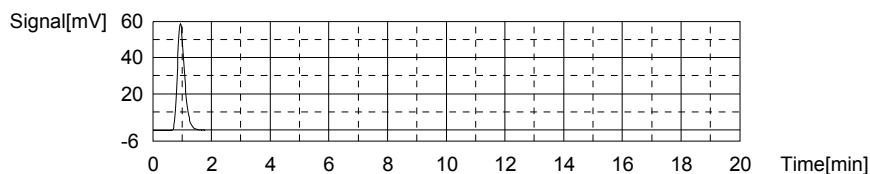
Mean Area 601.1
Mean Conc. 15.31mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	100.6	2.832mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/10/2016 10:51:17 PM

Mean Area 100.6
Mean Conc. 2.832mg/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:26.04mg/L TC:26.14mg/L IC:0.09880mg/L

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10/11/2016 2:37:58 PM

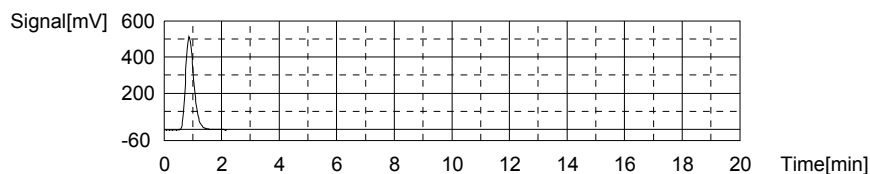
10-10-2016-DCM-TOC.t32

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1023	26.14mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/10/2016 10:58:57 PM

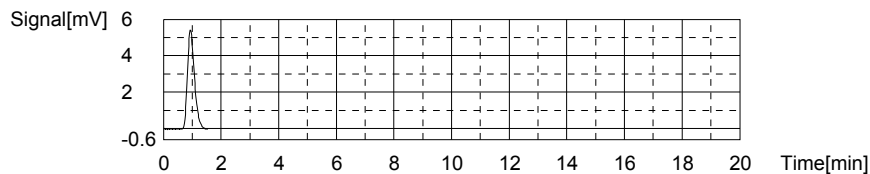
Mean Area 1023
Mean Conc. 26.14mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.229	0.09880mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/10/2016 11:03:17 PM

Mean Area 9.229
Mean Conc. 0.09880mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

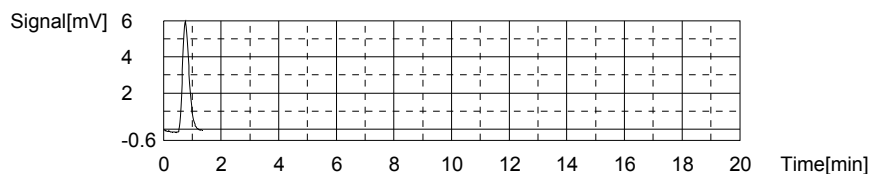
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.04445mg/L TC:0.1224mg/L IC:0.07795mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.719	0.1224mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/10/2016 11:08:16 PM

Mean Area 9.719
Mean Conc. 0.1224mg/L



Anal.: IC

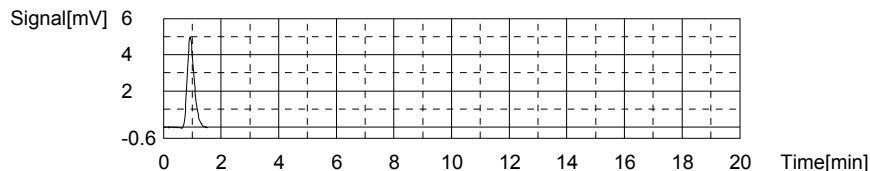
No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.532	0.07795mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/10/2016 11:12:13 PM

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Mean Area 8.532
Mean Conc. 0.07795mg/L



Sample

Sample Name: WG586975-01 BLK
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status: Completed
Chk. Result

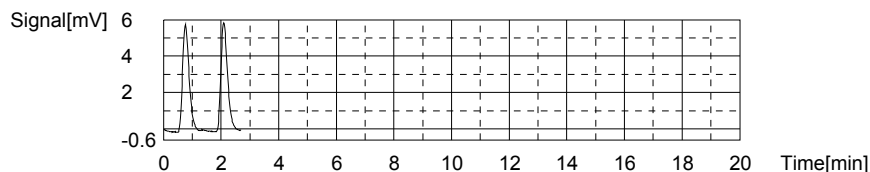
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.04081mg/L TC:0.1144mg/L IC:0.07355mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.337	0.1126mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/10/2016 11:17:11 PM
2	9.475	0.1161mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/10/2016 11:20:41 PM

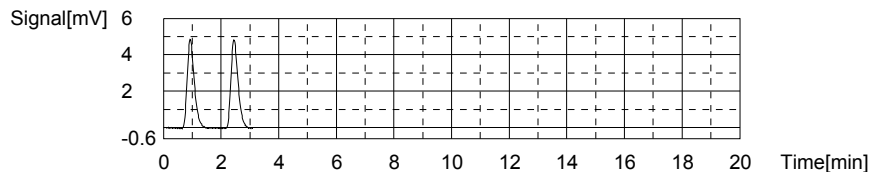
Mean Area 9.406
Mean Conc. 0.1144mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.375	0.07325mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/10/2016 11:24:35 PM
2	8.395	0.07385mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/10/2016 11:28:32 PM

Mean Area 8.385
Mean Conc. 0.07355mg/L



Sample

Sample Name: WG586975-02 LCS
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status: Completed
Chk. Result

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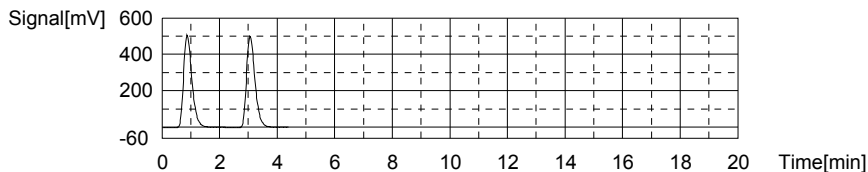
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:25.99mg/L TC:26.06mg/L IC:0.07198mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1018	26.01mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/10/2016 11:36:17 PM
2	1022	26.11mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/10/2016 11:40:45 PM

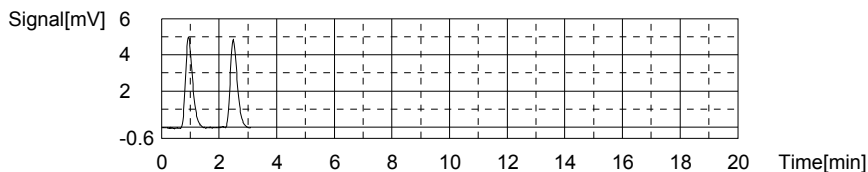
Mean Area 1020
Mean Conc. 26.06mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.575	0.07923mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/10/2016 11:45:08 PM
2	8.090	0.06472mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/10/2016 11:49:17 PM

Mean Area 8.332
Mean Conc. 0.07198mg/L



Sample

Sample Name: WG586975-03 LCS DUP
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status: Completed
Chk. Result

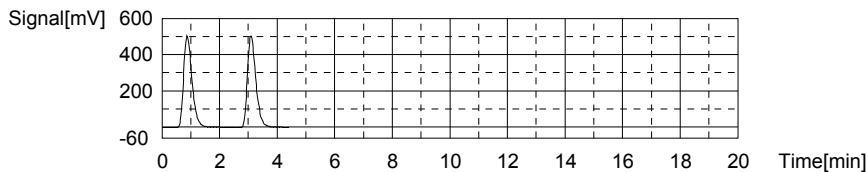
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.01mg/L TC:26.09mg/L IC:0.07546mg/L

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_31	10/10/2016 11:56:59 PM
2	1023	26.14mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/11/2016 12:01:26 AM

Mean Area 1021
Mean Conc. 26.09mg/L



Anal.: IC

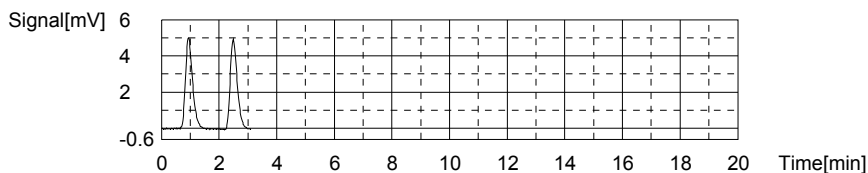
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No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.495	0.07684mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55	10/11/2016 12:05:50 AM
2	8.403	0.07409mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55	10/11/2016 12:09:58 AM

Mean Area 8.449
Mean Conc. 0.07546mg/L



Sample

Sample Name: L16100314-01
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status: Completed
Chk. Result

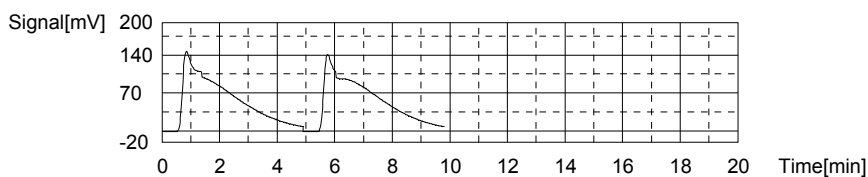
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:34.81mg/L TC:35.60mg/L IC:0.7901mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1394	35.66mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 12:20:22 AM
2	1389	35.54mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_3	10/11/2016 12:28:25 AM

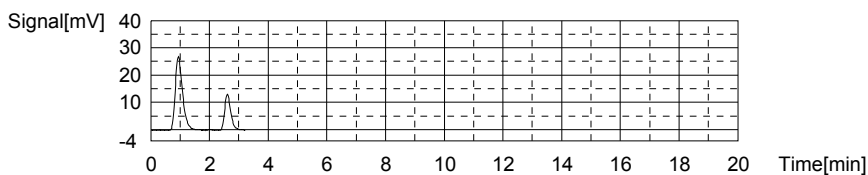
Mean Area 1392
Mean Conc. 35.60mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	45.90	1.196mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55	10/11/2016 12:32:57 AM
2	18.77	0.3842mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55	10/11/2016 12:37:06 AM

Mean Area 32.34
Mean Conc. 0.7901mg/L



Sample

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Sample Name: L16100376-01
 Sample ID: <Untitled>
 Origin: TOC-10-31-2015A.met
 Status: Completed
 Chk. Result

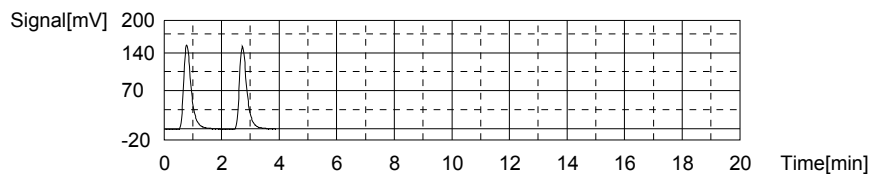
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.175mg/L TC:7.008mg/L IC:3.833mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	280.3	7.070mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 31	10/11/2016 12:44:31 AM
2	275.5	6.946mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 31	10/11/2016 12:48:51 AM

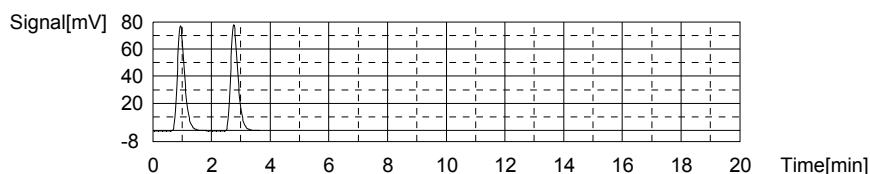
Mean Area 277.9
 Mean Conc. 7.008mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	133.6	3.820mg/L	500uL	1		TICURVE-10-30-2015.2015 10 31 11 55 01	10/11/2016 12:53:30 AM
2	134.5	3.847mg/L	500uL	1		TICURVE-10-30-2015.2015 10 31 11 55 01	10/11/2016 12:57:57 AM

Mean Area 134.1
 Mean Conc. 3.833mg/L



Sample

Sample Name: L16100376-03
 Sample ID: <Untitled>
 Origin: TOC-10-31-2015A.met
 Status: Completed
 Chk. Result

Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:5.692mg/L TC:8.886mg/L IC:3.194mg/L

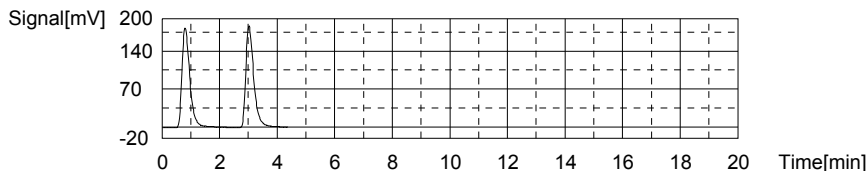
1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	344.4	8.715mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 31	10/11/2016 1:05:38 AM
2	357.7	9.057mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 31	10/11/2016 1:10:03 AM

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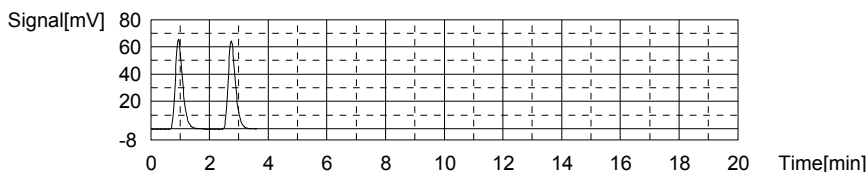
Mean Area 351.1
Mean Conc. 8.886mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	113.9	3.230mg/L	500uL	1		TICCURVE-10-30-2015.2015 10 31 11 55	010/11/2016 1:14:43 AM
2	111.5	3.159mg/L	500uL	1		TICCURVE-10-30-2015.2015 10 31 11 55	010/11/2016 1:19:09 AM

Mean Area 112.7
Mean Conc. 3.194mg/L



Sample

Sample Name:
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status: Completed
Chk. Result

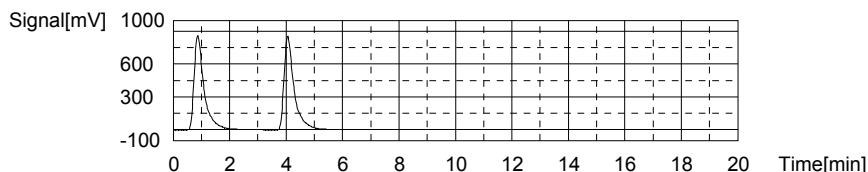
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:48.75mg/L TC:54.05mg/L IC:5.298mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2110	54.05mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 3	10/11/2016 1:27:47 AM
2	2110	54.05mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 3	10/11/2016 1:34:03 AM

Mean Area 2110
Mean Conc. 54.05mg/L



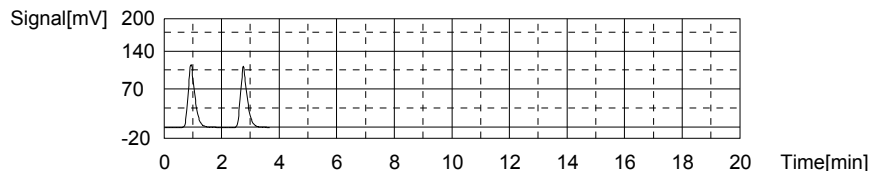
Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	186.8	5.411mg/L	500uL	1		TICCURVE-10-30-2015.2015 10 31 11 55	010/11/2016 1:38:44 AM
2	179.2	5.184mg/L	500uL	1		TICCURVE-10-30-2015.2015 10 31 11 55	010/11/2016 1:43:13 AM

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Mean Area 183.0
Mean Conc. 5.298mg/L



Sample

Sample Name: L16100447-01
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status: Completed
Chk. Result

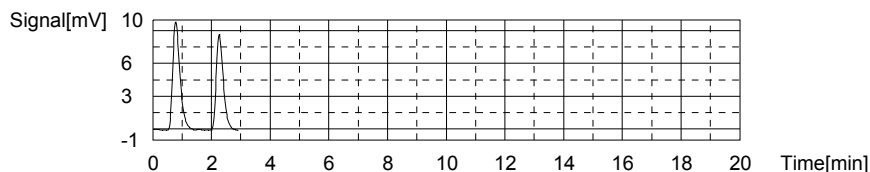
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.2105mg/L TC:0.2803mg/L IC:0.06985mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	17.07	0.3111mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/11/2016 1:50:08 AM
2	14.67	0.2495mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/11/2016 1:53:49 AM

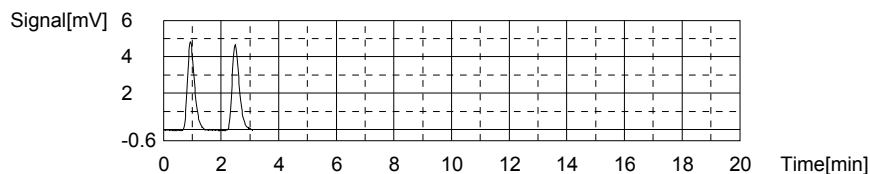
Mean Area 15.87
Mean Conc. 0.2803mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.366	0.07298mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_01	10/11/2016 1:58:11 AM
2	8.157	0.06673mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_01	10/11/2016 2:02:19 AM

Mean Area 8.261
Mean Conc. 0.06985mg/L



Sample

Sample Name: L16100449-09
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status: Completed
Chk. Result

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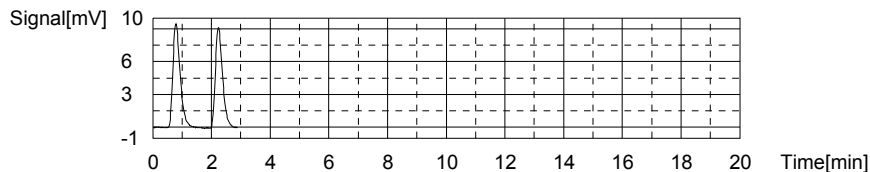
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.2248mg/L TC:0.2819mg/L IC:0.05705mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	16.31	0.2916mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/11/2016 2:09:12 AM
2	15.55	0.2721mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/11/2016 2:12:54 AM

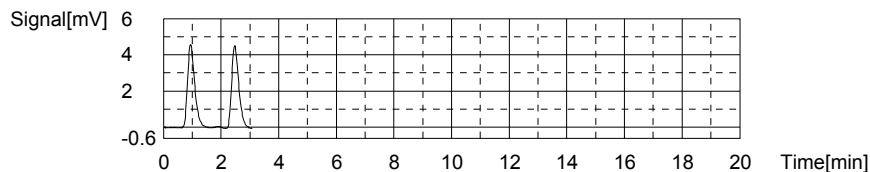
Mean Area 15.93
Mean Conc. 0.2819mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.849	0.05751mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/11/2016 2:17:16 AM
2	7.818	0.05658mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/11/2016 2:21:26 AM

Mean Area 7.834
Mean Conc. 0.05705mg/L



Sample

Sample Name: L16100367-01
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status: Completed
Chk. Result

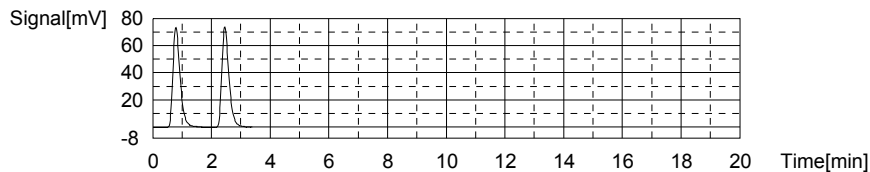
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:1.631mg/L TC:3.073mg/L IC:1.442mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	124.1	3.059mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/11/2016 2:28:32 AM
2	125.2	3.087mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/11/2016 2:32:31 AM

Mean Area 124.7
Mean Conc. 3.073mg/L



Anal.: IC

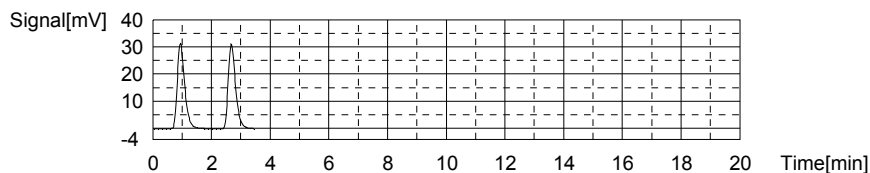
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No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	54.40	1.450mg/L	500uL	1		TICCURVE-10-30-2015.2015 10_31_11_55	10/11/2016 2:37:05 AM
2	53.87	1.434mg/L	500uL	1		TICCURVE-10-30-2015.2015 10_31_11_55	10/11/2016 2:41:27 AM

Mean Area 54.14
Mean Conc. 1.442mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

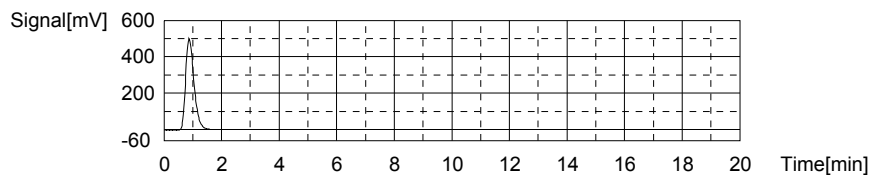
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:25.80mg/L TC:25.88mg/L IC:0.07809mg/L

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	10/11/2016 2:49:05 AM

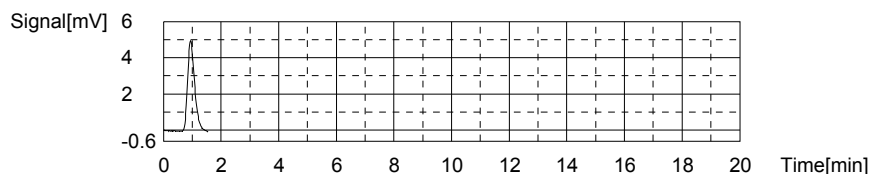
Mean Area 1013
Mean Conc. 25.88mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.537	0.07809mg/L	500uL	1		TICCURVE-10-30-2015.2015 10_31_11_55	10/11/2016 2:53:27 AM

Mean Area 8.537
Mean Conc. 0.07809mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

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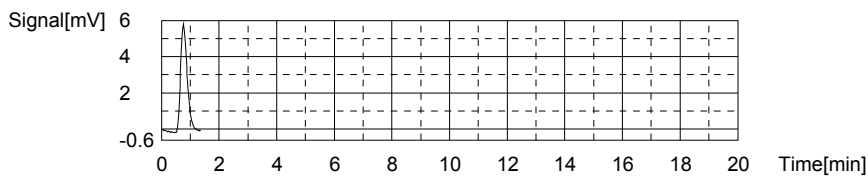
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.04348mg/L TC:0.1161mg/L IC:0.07262mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.474	0.1161mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/11/2016 2:58:27 AM

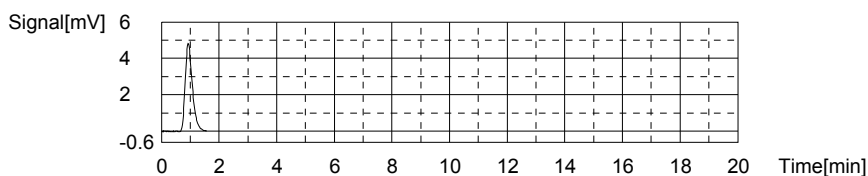
Mean Area 9.474
Mean Conc. 0.1161mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.354	0.07262mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/11/2016 3:02:23 AM

Mean Area 8.354
Mean Conc. 0.07262mg/L



Sample

Sample Name: L16100367-02
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status: Completed
Chk. Result:

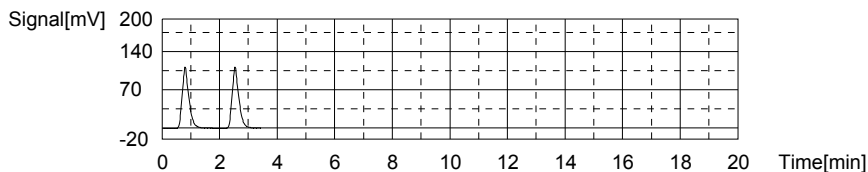
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.169mg/L TC:4.446mg/L IC:1.276mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	178.0	4.443mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/11/2016 3:09:34 AM
2	178.2	4.448mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/11/2016 3:13:32 AM

Mean Area 178.1
Mean Conc. 4.446mg/L



Anal.: IC

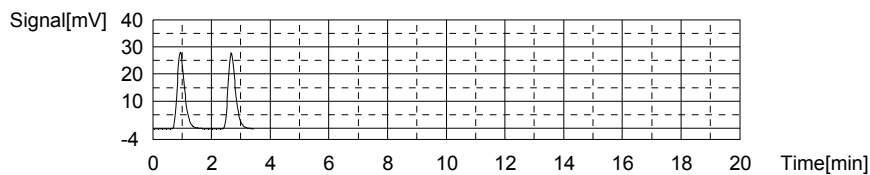
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No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	48.88	1.285mg/L	500uL	1		TICCURVE-10-30-2015.2015 10_31_11_55	010/11/2016 3:18:06 AM
2	48.30	1.268mg/L	500uL	1		TICCURVE-10-30-2015.2015 10_31_11_55	010/11/2016 3:22:25 AM

Mean Area 48.59
Mean Conc. 1.276mg/L



Sample

Sample Name: L16100367-03
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status: Completed
Chk. Result

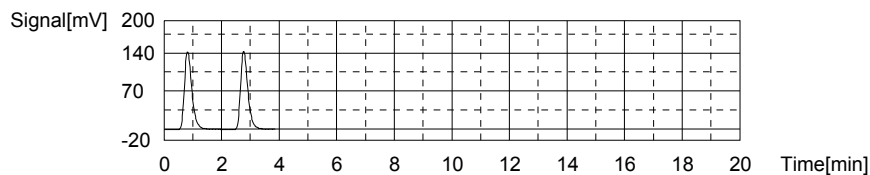
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:5.437mg/L TC:6.406mg/L IC:0.9686mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	255.4	6.430mg/L	500uL	1		TCCURVE-10-30-2015.2015 10_30_16_06_3	10/11/2016 3:29:48 AM
2	253.5	6.382mg/L	500uL	1		TCCURVE-10-30-2015.2015 10_30_16_06_3	10/11/2016 3:33:58 AM

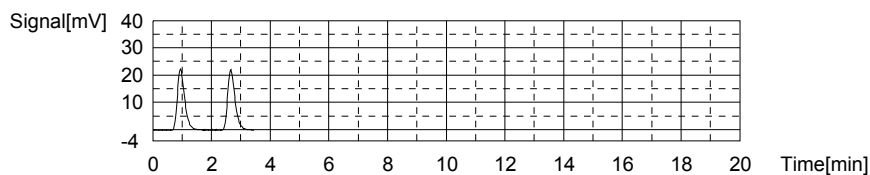
Mean Area 254.4
Mean Conc. 6.406mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	38.44	0.9727mg/L	500uL	1		TICCURVE-10-30-2015.2015 10_31_11_55	010/11/2016 3:38:31 AM
2	38.16	0.9644mg/L	500uL	1		TICCURVE-10-30-2015.2015 10_31_11_55	010/11/2016 3:42:53 AM

Mean Area 38.30
Mean Conc. 0.9686mg/L



Sample

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Sample Name: L16100367-04
 Sample ID: <Untitled>
 Origin: TOC-10-31-2015A.met
 Status: Completed
 Chk. Result

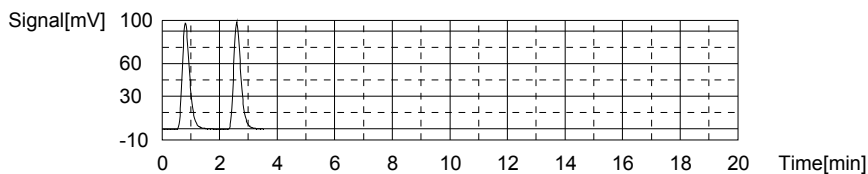
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.374mg/L TC:4.279mg/L IC:0.9048mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	171.9	4.286mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 31	10/11/2016 3:50:06 AM
2	171.3	4.271mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 31	10/11/2016 3:54:06 AM

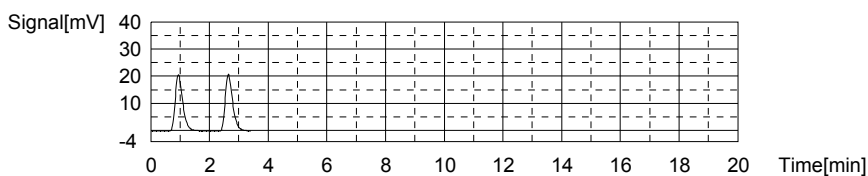
Mean Area 171.6
 Mean Conc. 4.279mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	36.14	0.9039mg/L	500uL	1		TICURVE-10-30-2015.2015 10 31 11 55 01	10/11/2016 3:58:38 AM
2	36.20	0.9057mg/L	500uL	1		TICURVE-10-30-2015.2015 10 31 11 55 01	10/11/2016 4:02:56 AM

Mean Area 36.17
 Mean Conc. 0.9048mg/L



Sample

Sample Name: L16100456-01
 Sample ID: <Untitled>
 Origin: TOC-10-31-2015A.met
 Status: Completed
 Chk. Result

Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.721mg/L TC:11.17mg/L IC:8.445mg/L

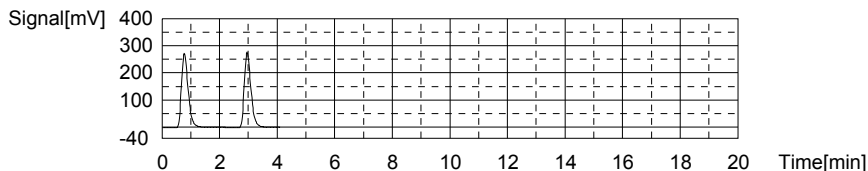
1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	437.9	11.12mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 31	10/11/2016 4:10:34 AM
2	441.8	11.22mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 31	10/11/2016 4:14:45 AM

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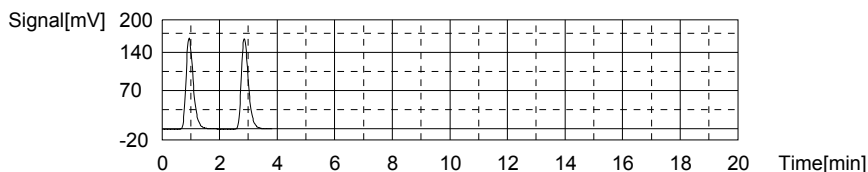
Mean Area 439.9
Mean Conc. 11.17mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	289.6	8.487mg/L	500uL	1		TICCURVE-10-30-2015.2015 10_31_11_55	010/11/2016 4:19:35 AM
2	286.8	8.403mg/L	500uL	1		TICCURVE-10-30-2015.2015 10_31_11_55	010/11/2016 4:24:08 AM

Mean Area 288.2
Mean Conc. 8.445mg/L



Sample

Sample Name: L16100456-04
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status: Completed
Chk. Result

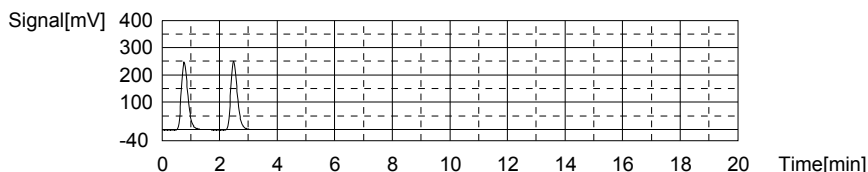
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:2.167mg/L TC:10.01mg/L IC:7.842mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	391.0	9.912mg/L	500uL	1		TCCURVE-10-30-2015.2015 10_30_16_06_3	10/11/2016 4:31:17 AM
2	398.6	10.11mg/L	500uL	1		TCCURVE-10-30-2015.2015 10_30_16_06_3	10/11/2016 4:35:23 AM

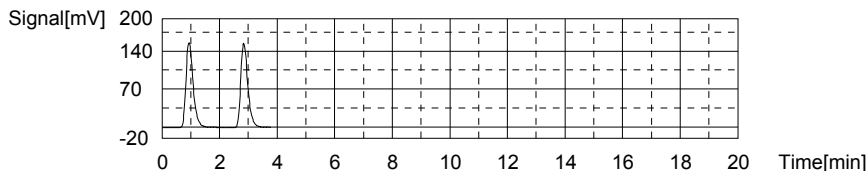
Mean Area 394.8
Mean Conc. 10.01mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	269.4	7.883mg/L	500uL	1		TICCURVE-10-30-2015.2015 10_31_11_55	010/11/2016 4:40:10 AM
2	266.7	7.802mg/L	500uL	1		TICCURVE-10-30-2015.2015 10_31_11_55	010/11/2016 4:44:42 AM

Mean Area 268.1
 Mean Conc. 7.842mg/L



Sample

Sample Name: WG586975-05 DUP
 Sample ID: <Untitled>
 Origin: TOC-10-31-2015A.met
 Status: Completed
 Chk. Result

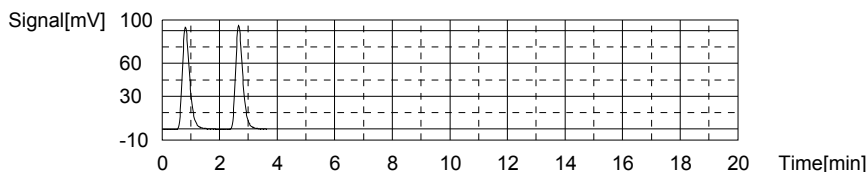
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:3.402mg/L TC:4.109mg/L IC:0.7075mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	164.9	4.107mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 31	10/11/2016 4:51:59 AM
2	165.1	4.112mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 31	10/11/2016 4:56:02 AM

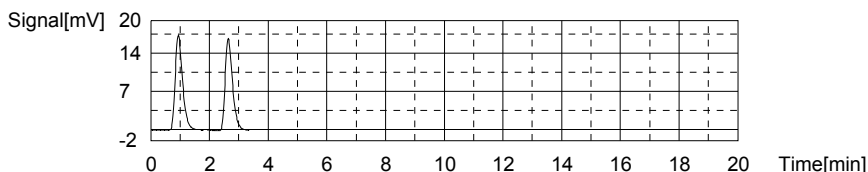
Mean Area 165.0
 Mean Conc. 4.109mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	30.05	0.7217mg/L	500uL	1		TICCURVE-10-30-2015.2015 10 31 11 55 01	10/11/2016 5:00:36 AM
2	29.10	0.6933mg/L	500uL	1		TICCURVE-10-30-2015.2015 10 31 11 55 01	10/11/2016 5:04:54 AM

Mean Area 29.58
 Mean Conc. 0.7075mg/L



Sample

Sample Name: WG586975-06 MS
 Sample ID: <Untitled>
 Origin: TOC-10-31-2015A.met
 Status: Completed
 Chk. Result

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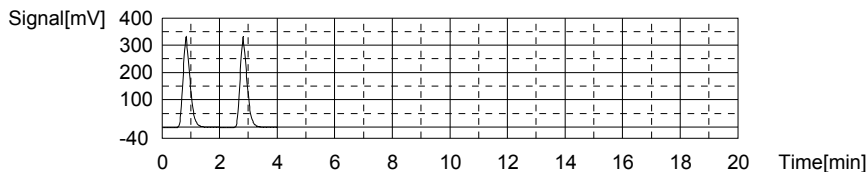
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:13.76mg/L TC:14.02mg/L IC:0.2586mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	551.5	14.03mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 31	10/11/2016 5:12:19 AM
2	550.2	14.00mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 31	10/11/2016 5:16:36 AM

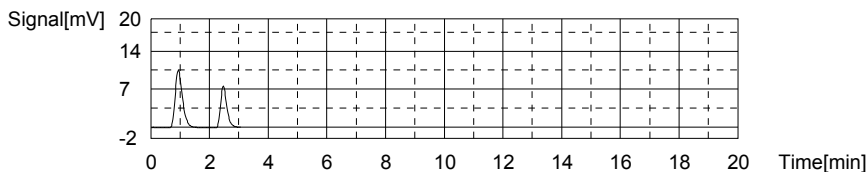
Mean Area 550.9
Mean Conc. 14.02mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	18.03	0.3621mg/L	500uL	1		TICURVE-10-30-2015.2015 10 31 11 55 01	10/11/2016 5:21:03 AM
2	11.11	0.1551mg/L	500uL	1		TICURVE-10-30-2015.2015 10 31 11 55 01	10/11/2016 5:25:08 AM

Mean Area 14.57
Mean Conc. 0.2586mg/L



Sample

Sample Name: CCV
Sample ID: TOC-10-31-2015.met
Origin: Completed
Status: Completed
Chk. Result:

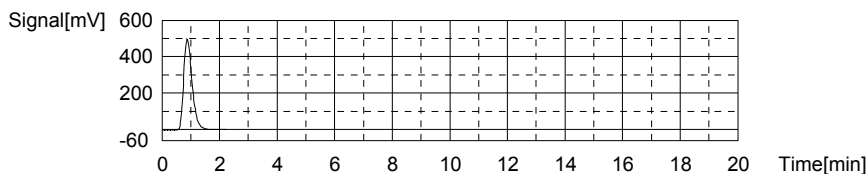
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:25.83mg/L TC:25.91mg/L IC:0.07507mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1014	25.91mg/L	500uL	1		TCCURVE-10-30-2015.2015 10 30 16 06 31	10/11/2016 5:32:47 AM

Mean Area 1014
Mean Conc. 25.91mg/L



Anal.: IC

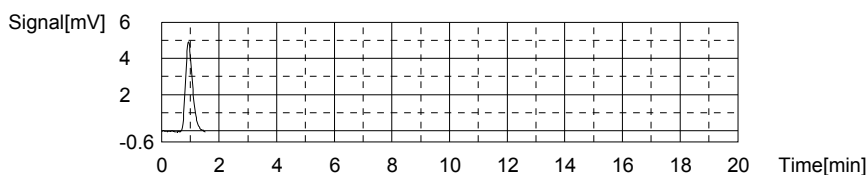
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No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.436	0.07507mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55	010/11/2016 5:37:08 AM

Mean Area 8.436
Mean Conc. 0.07507mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

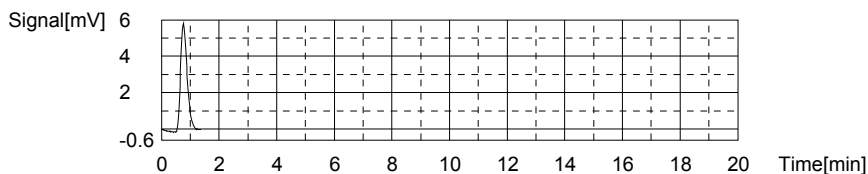
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.03972mg/L TC:0.1145mg/L IC:0.07474mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.410	0.1145mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/11/2016 5:42:07 AM

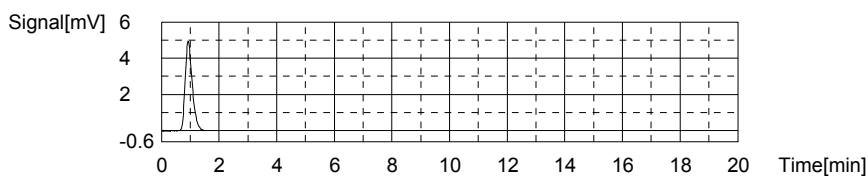
Mean Area 9.410
Mean Conc. 0.1145mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.425	0.07474mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55	010/11/2016 5:46:02 AM

Mean Area 8.425
Mean Conc. 0.07474mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

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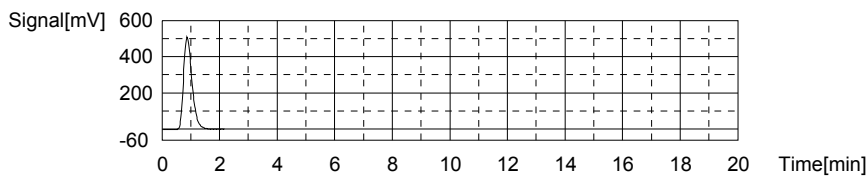
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:26.41mg/L TC:26.50mg/L IC:0.09213mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1037	26.50mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/11/2016 7:46:41 AM

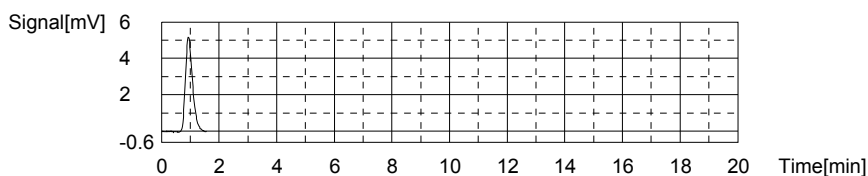
Mean Area 1037
Mean Conc. 26.50mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.006	0.09213mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/11/2016 7:51:03 AM

Mean Area 9.006
Mean Conc. 0.09213mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

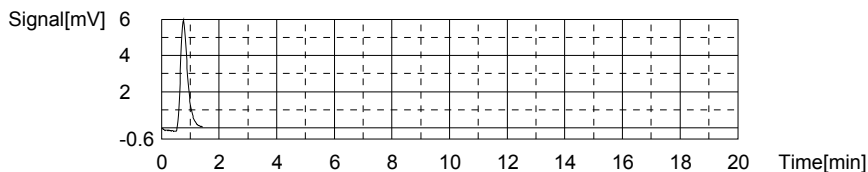
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.08303mg/L TC:0.1404mg/L IC:0.05736mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.42	0.1404mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/11/2016 7:56:08 AM

Mean Area 10.42
Mean Conc. 0.1404mg/L



Anal.: IC

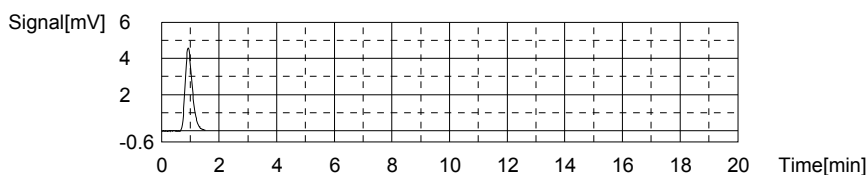
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No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.844	0.05736mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55	010/11/2016 8:00:02 AM

Mean Area 7.844
Mean Conc. 0.05736mg/L



Sample

Sample Name: L16100297-03 (50)
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

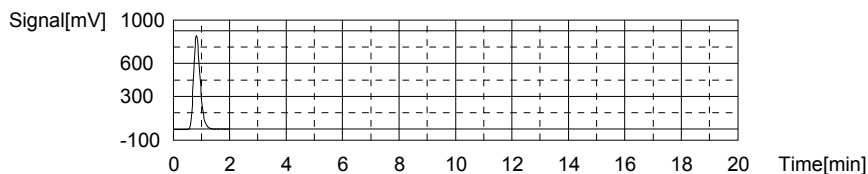
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:35.87mg/L TC:35.90mg/L IC:0.02837mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1403	35.90mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/11/2016 8:24:11 AM

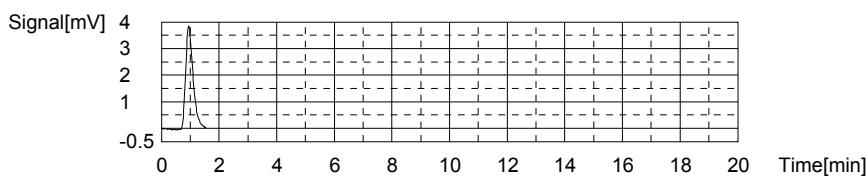
Mean Area 1403
Mean Conc. 35.90mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.875	0.02837mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55	010/11/2016 8:28:30 AM

Mean Area 6.875
Mean Conc. 0.02837mg/L



Sample

Sample Name: L16100297-11 (50)
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

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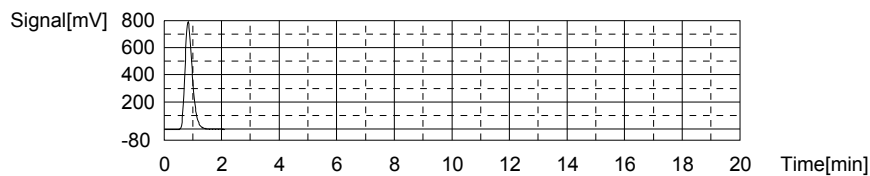
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:35.81mg/L TC:35.84mg/L IC:0.02963mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1401	35.84mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/11/2016 8:36:03 AM

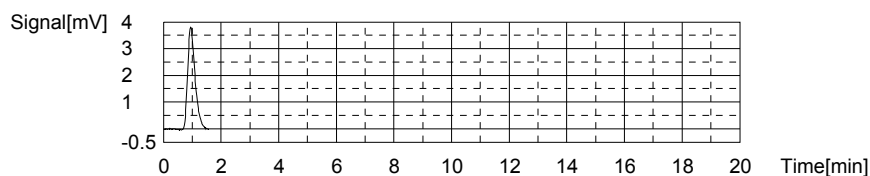
Mean Area 1401
Mean Conc. 35.84mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.917	0.02963mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/11/2016 8:40:25 AM

Mean Area 6.917
Mean Conc. 0.02963mg/L



Sample

Sample Name: L16100297-12 (50)
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

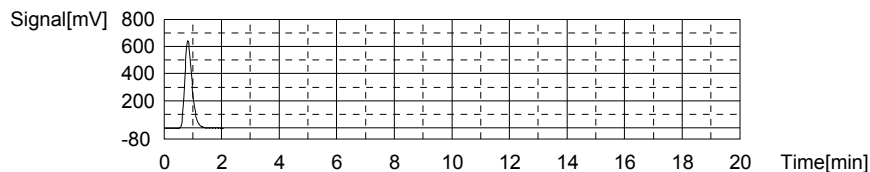
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:28.66mg/L TC:28.68mg/L IC:0.01739mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1122	28.68mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/11/2016 8:52:20 AM

Mean Area 1122
Mean Conc. 28.68mg/L



Anal.: IC

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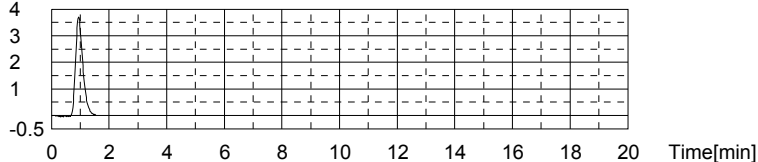
10/11/2016 2:37:58 PM

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No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.508	0.01739mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55	010/11/2016 8:56:52 AM

Mean Area 6.508
Mean Conc. 0.01739mg/L

Signal[mV] 4



Sample

Sample Name: L16100315-01 (20)
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:12.61mg/L TC:12.75mg/L IC:0.1422mg/L

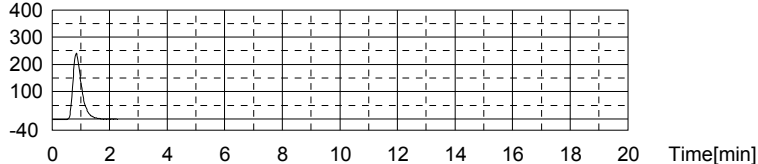
1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	501.7	12.75mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/11/2016 9:04:35 AM

Mean Area 501.7
Mean Conc. 12.75mg/L

Signal[mV] 400

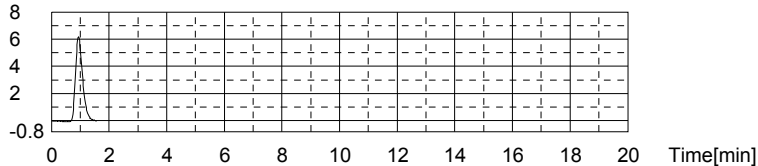


Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.68	0.1422mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55	010/11/2016 9:08:56 AM

Mean Area 10.68
Mean Conc. 0.1422mg/L

Signal[mV] 8



Sample

Sample Name: L16100315-02 (20)
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

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Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:36.47mg/L TC:48.22mg/L IC:11.75mg/L

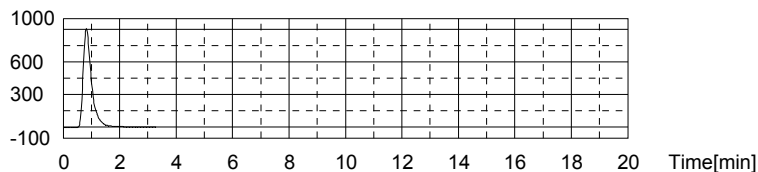
1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1883	48.22mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/11/2016 9:17:40 AM

Mean Area 1883
Mean Conc. 48.22mg/L

Signal[mV]

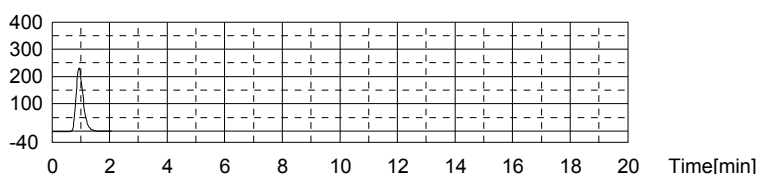


Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	398.7	11.75mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/11/2016 9:22:40 AM

Mean Area 398.7
Mean Conc. 11.75mg/L

Signal[mV]



Sample

Sample Name: L16100316-01 (3)
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:5.755mg/L TC:41.75mg/L IC:35.99mg/L

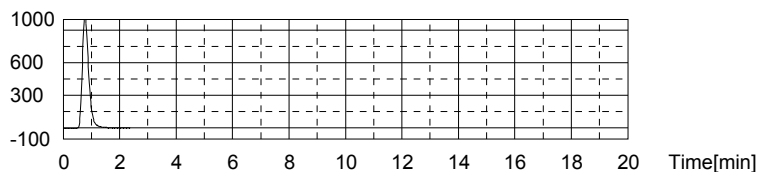
1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1631	41.75mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/11/2016 9:30:30 AM

Mean Area 1631
Mean Conc. 41.75mg/L

Signal[mV]



Anal.: IC

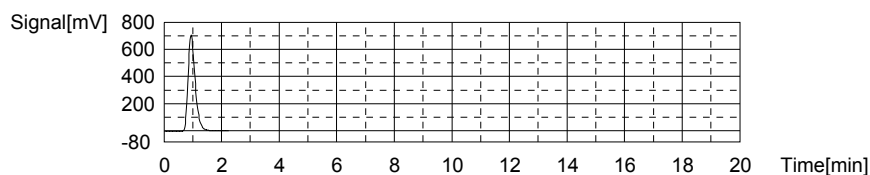
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No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1209	35.99mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55	010/11/2016 9:35:44 AM

Mean Area 1209
Mean Conc. 35.99mg/L



Sample

Sample Name: L16100316-02 (3)
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

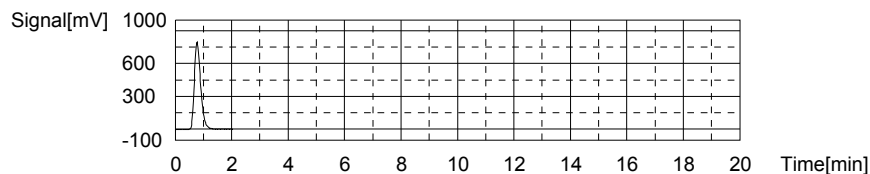
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:5.356mg/L TC:31.84mg/L IC:26.48mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1245	31.84mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/11/2016 9:43:13 AM

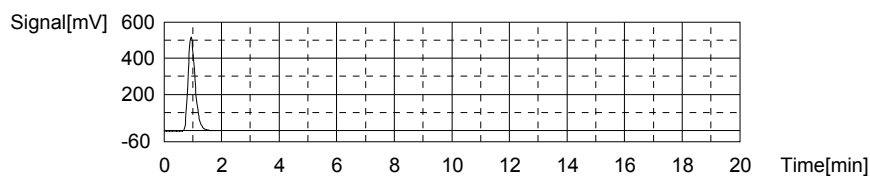
Mean Area 1245
Mean Conc. 31.84mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	891.1	26.48mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55	010/11/2016 9:48:16 AM

Mean Area 891.1
Mean Conc. 26.48mg/L



Sample

Sample Name: L16100316-03 (3)
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

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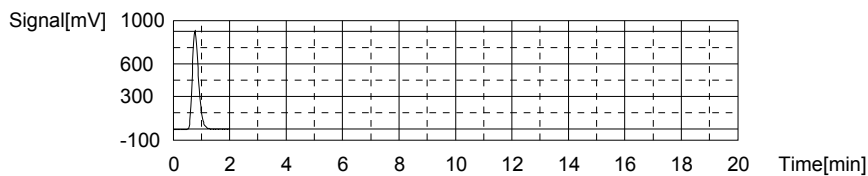
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:6.605mg/L TC:35.92mg/L IC:29.32mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1404	35.92mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/11/2016 10:04:02 AM

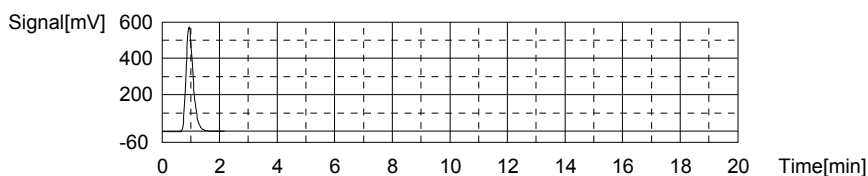
Mean Area 1404
Mean Conc. 35.92mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	985.8	29.32mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/11/2016 10:09:15 AM

Mean Area 985.8
Mean Conc. 29.32mg/L



Sample

Sample Name: L16100316-05 (3)
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

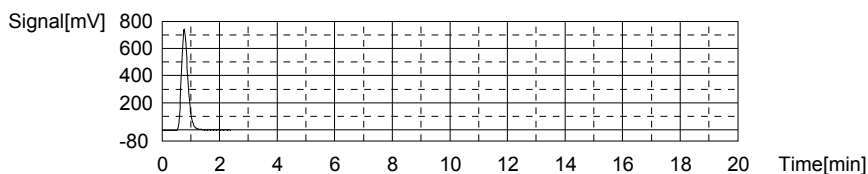
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:4.300mg/L TC:29.32mg/L IC:25.02mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1147	29.32mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/11/2016 10:17:04 AM

Mean Area 1147
Mean Conc. 29.32mg/L



Anal.: IC

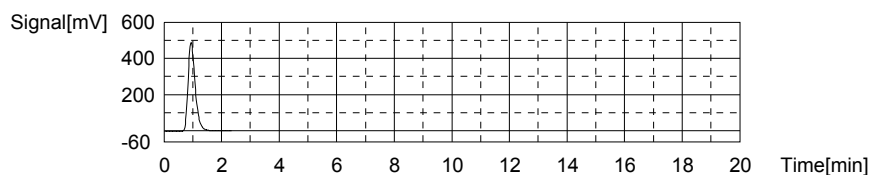
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No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	842.3	25.02mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_01	10/11/2016 10:22:22 AM

Mean Area 842.3
Mean Conc. 25.02mg/L



Sample

Sample Name: L16100316-06 (3)
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

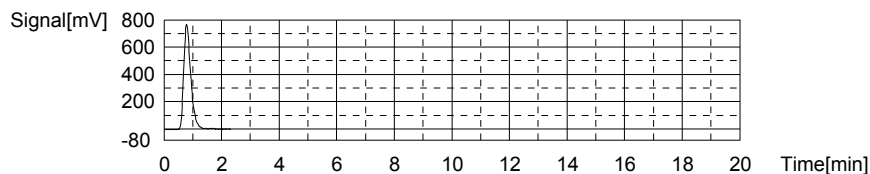
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:11.31mg/L TC:33.53mg/L IC:22.22mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1311	33.53mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/11/2016 10:30:09 AM

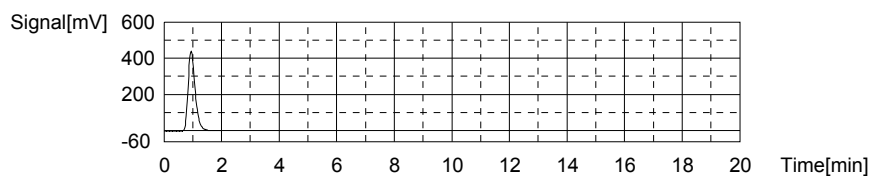
Mean Area 1311
Mean Conc. 33.53mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	748.7	22.22mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_01	10/11/2016 10:35:08 AM

Mean Area 748.7
Mean Conc. 22.22mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

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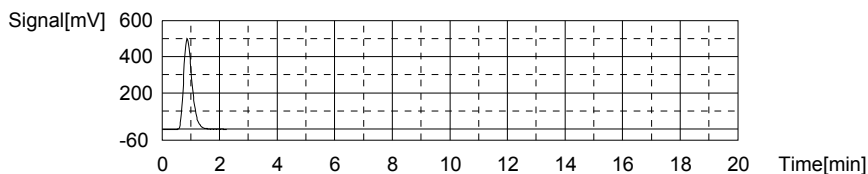
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:25.80mg/L TC:25.88mg/L IC:0.08171mg/L

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_31	10/11/2016 10:42:27 AM

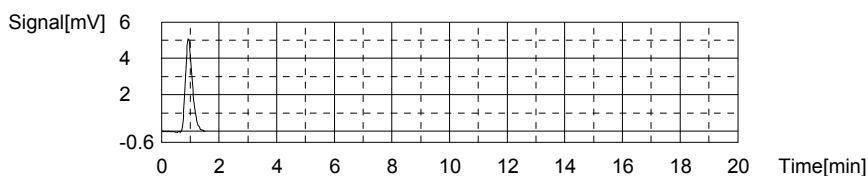
Mean Area 1013
Mean Conc. 25.88mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.658	0.08171mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/11/2016 10:46:43 AM

Mean Area 8.658
Mean Conc. 0.08171mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

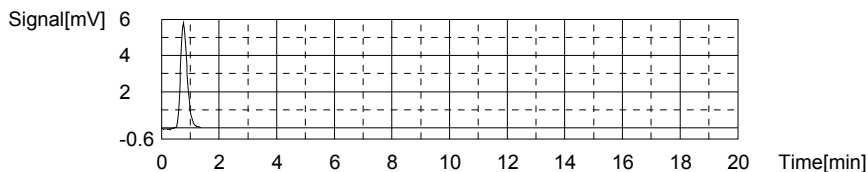
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.04605mg/L TC:0.1073mg/L IC:0.06125mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.131	0.1073mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/11/2016 10:51:39 AM

Mean Area 9.131
Mean Conc. 0.1073mg/L



Anal.: IC

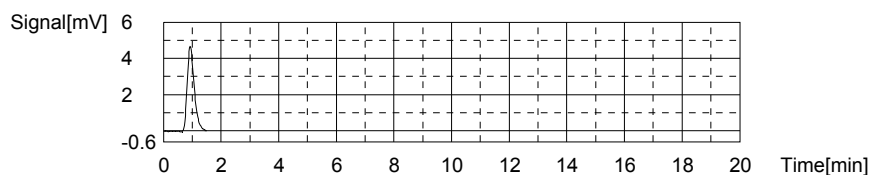
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No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	7.974	0.06125mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55	10/11/2016 10:55:31 AM

Mean Area 7.974
Mean Conc. 0.06125mg/L



Sample

Sample Name: L16100316-07 (3)
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

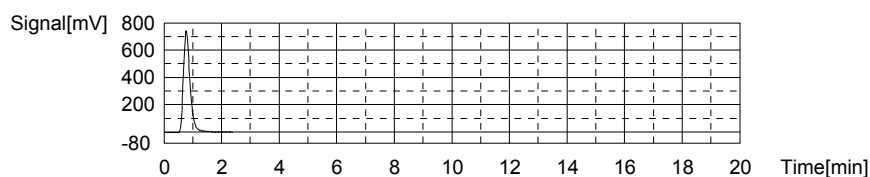
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:5.702mg/L TC:30.14mg/L IC:24.44mg/L

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_31	10/11/2016 11:03:21 AM

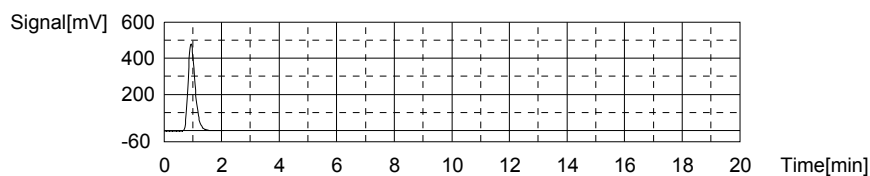
Mean Area 1179
Mean Conc. 30.14mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	822.9	24.44mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55	10/11/2016 11:08:27 AM

Mean Area 822.9
Mean Conc. 24.44mg/L



Sample

Sample Name: L16100319-01
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

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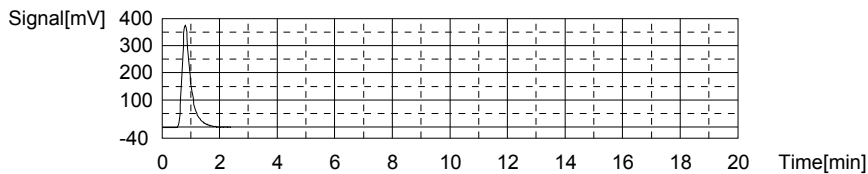
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:12.56mg/L TC:19.90mg/L IC:7.335mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	779.9	19.90mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/11/2016 11:16:18 AM

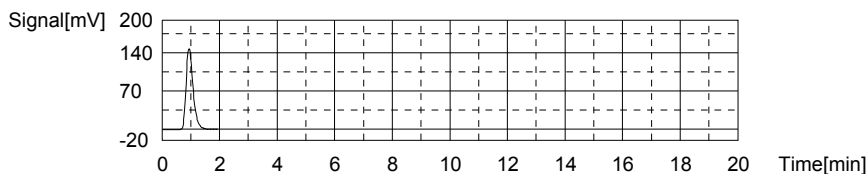
Mean Area 779.9
Mean Conc. 19.90mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	251.1	7.335mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/11/2016 11:21:10 AM

Mean Area 251.1
Mean Conc. 7.335mg/L



Sample

Sample Name: L16100123-01 (3)
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

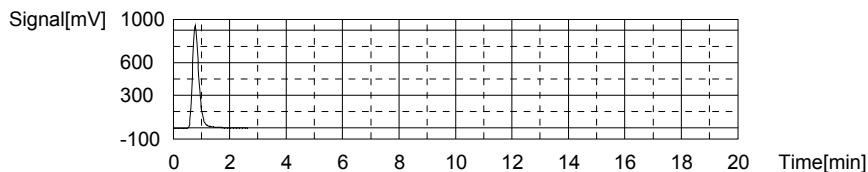
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:5.209mg/L TC:38.54mg/L IC:33.33mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1506	38.54mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/11/2016 11:49:24 AM

Mean Area 1506
Mean Conc. 38.54mg/L



Anal.: IC

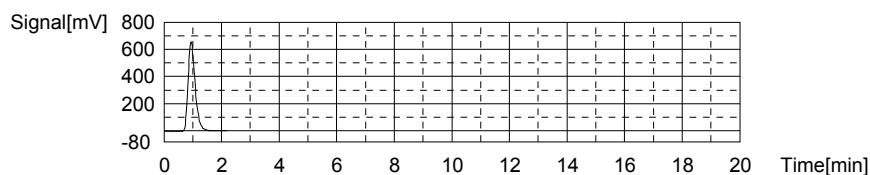
68/77

10/11/2016 2:37:58 PM

10-10-2016-DCM-TOC.t32

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1120	33.33mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_01	10/11/2016 11:54:33 AM

Mean Area 1120
Mean Conc. 33.33mg/L



Sample

Sample Name:
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

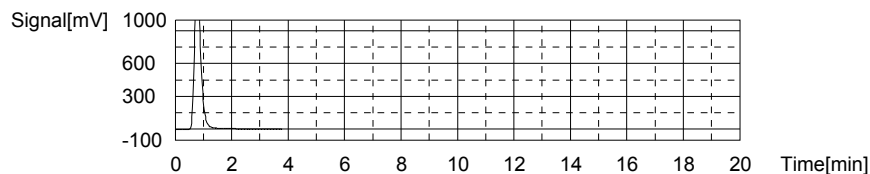
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:6.300mg/L TC:54.02mg/L IC:47.72mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2109	54.02mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/11/2016 12:03:48 PM

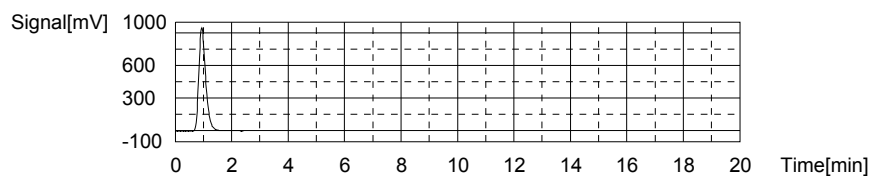
Mean Area 2109
Mean Conc. 54.02mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1601	47.72mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55_01	10/11/2016 12:09:17 PM

Mean Area 1601
Mean Conc. 47.72mg/L



Sample

Sample Name: L16100123-07 (5)
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

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10/11/2016 2:37:58 PM

10-10-2016-DCM-TOC.t32

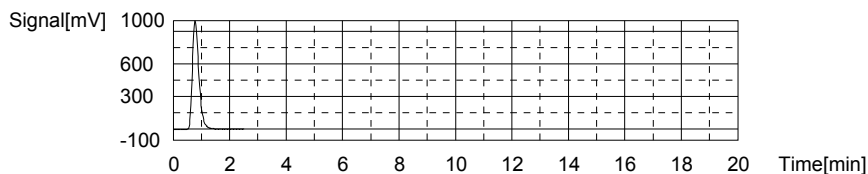
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:5.755mg/L TC:41.57mg/L IC:35.81mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1624	41.57mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/11/2016 12:17:14 PM

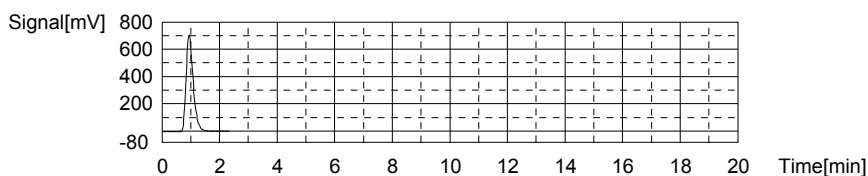
Mean Area 1624
Mean Conc. 41.57mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1203	35.81mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/11/2016 12:22:36 PM

Mean Area 1203
Mean Conc. 35.81mg/L



Sample

Sample Name: L16100194-01 (50)
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

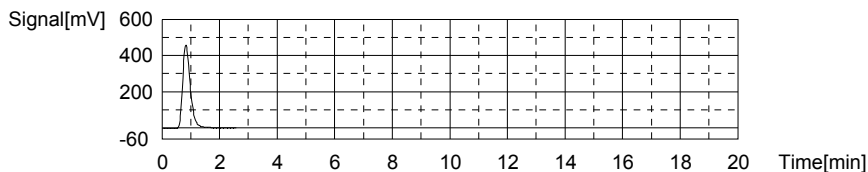
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:18.35mg/L TC:21.60mg/L IC:3.245mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	846.1	21.60mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/11/2016 12:30:37 PM

Mean Area 846.1
Mean Conc. 21.60mg/L



Anal.: IC

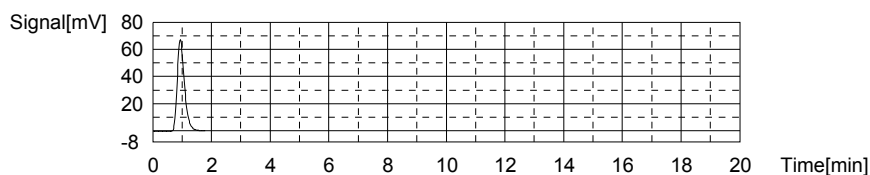
70/77

10/11/2016 2:37:58 PM

10-10-2016-DCM-TOC.t32

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	114.4	3.245mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55	10/11/2016 12:35:16 PM

Mean Area 114.4
Mean Conc. 3.245mg/L



Sample

Sample Name: L16100194-03 (25)
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

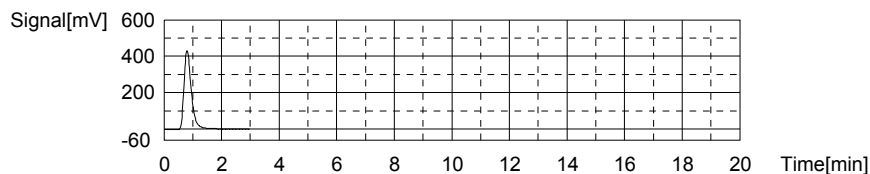
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:11.66mg/L TC:19.71mg/L IC:8.059mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	772.8	19.71mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/11/2016 12:43:42 PM

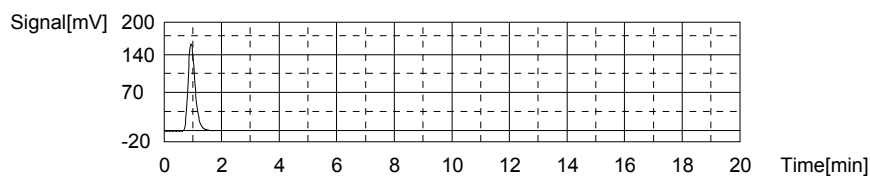
Mean Area 772.8
Mean Conc. 19.71mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	275.3	8.059mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55	10/11/2016 12:48:32 PM

Mean Area 275.3
Mean Conc. 8.059mg/L



Sample

Sample Name: L16100194-05 (5)
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

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10/11/2016 2:37:58 PM

10-10-2016-DCM-TOC.t32

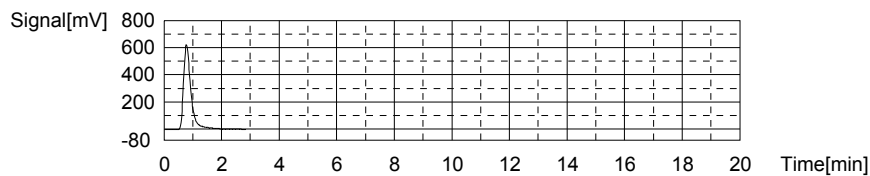
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:6.352mg/L TC:28.27mg/L IC:21.92mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1106	28.27mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/11/2016 12:56:49 PM

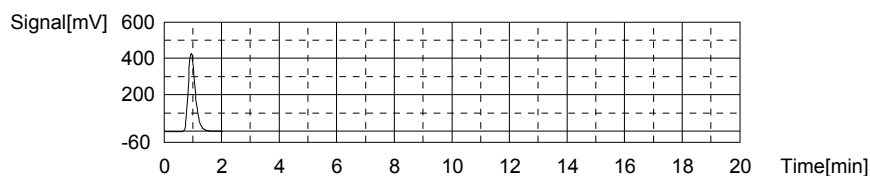
Mean Area 1106
Mean Conc. 28.27mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	738.5	21.92mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/11/2016 1:01:49 PM

Mean Area 738.5
Mean Conc. 21.92mg/L



Sample

Sample Name: L16100194-06 (5)
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

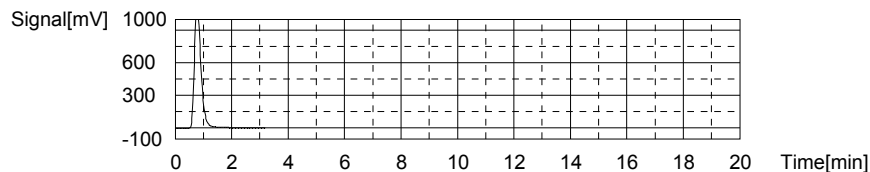
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:8.323mg/L TC:47.94mg/L IC:39.61mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1872	47.94mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/11/2016 1:10:29 PM

Mean Area 1872
Mean Conc. 47.94mg/L



Anal.: IC

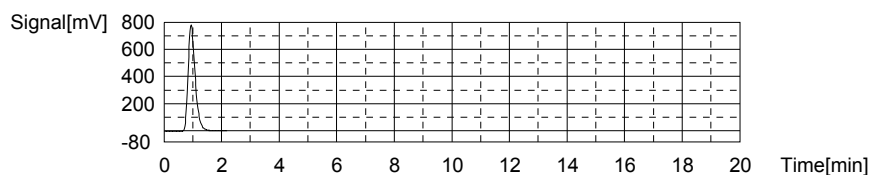
72/77

10/11/2016 2:37:58 PM

10-10-2016-DCM-TOC.t32

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1330	39.61mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55	010/11/2016 1:15:42 PM

Mean Area 1330
Mean Conc. 39.61mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

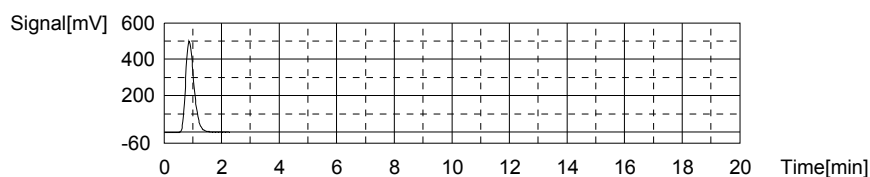
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:25.65mg/L TC:25.78mg/L IC:0.1323mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1009	25.78mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/11/2016 1:25:46 PM

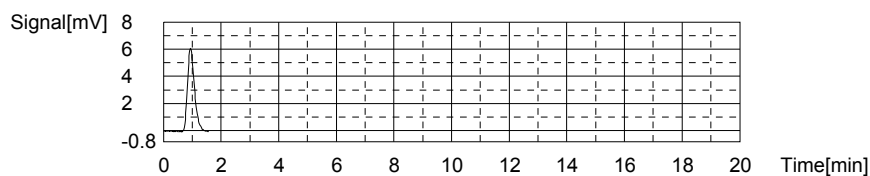
Mean Area 1009
Mean Conc. 25.78mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.35	0.1323mg/L	500uL	1		TICCURVE-10-30-2015.2015_10_31_11_55	010/11/2016 1:30:10 PM

Mean Area 10.35
Mean Conc. 0.1323mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

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10/11/2016 2:37:58 PM

10-10-2016-DCM-TOC.t32

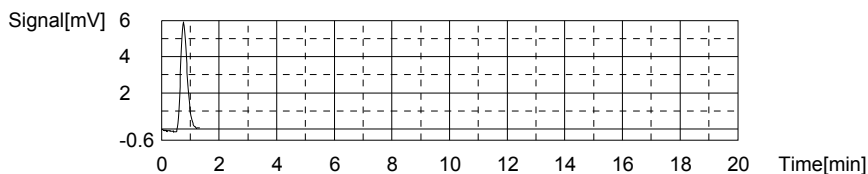
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.04982mg/L TC:0.1148mg/L IC:0.06502mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.425	0.1148mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/11/2016 1:35:08 PM

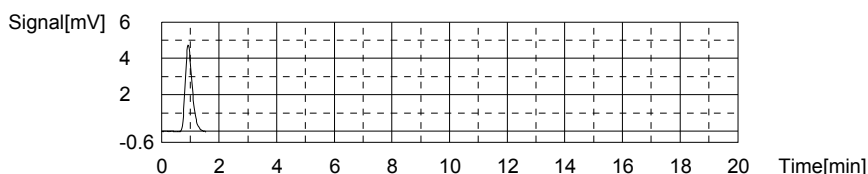
Mean Area 9.425
Mean Conc. 0.1148mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.100	0.06502mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/11/2016 1:39:00 PM

Mean Area 8.100
Mean Conc. 0.06502mg/L



Sample

Sample Name: L16100376-05 (2)
Sample ID: <Untitled>
Origin: TOC-10-31-2015A.met
Status: Completed
Chk. Result

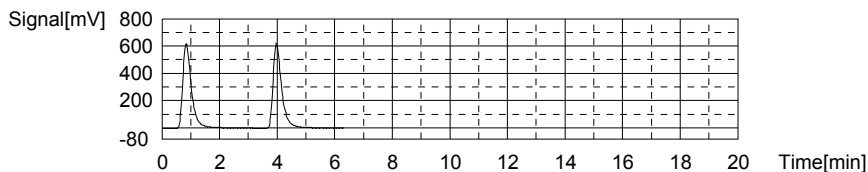
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:27.47mg/L TC:33.05mg/L IC:5.576mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1286	32.89mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/11/2016 1:47:36 PM
2	1298	33.20mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/11/2016 1:53:05 PM

Mean Area 1292
Mean Conc. 33.05mg/L



Anal.: IC

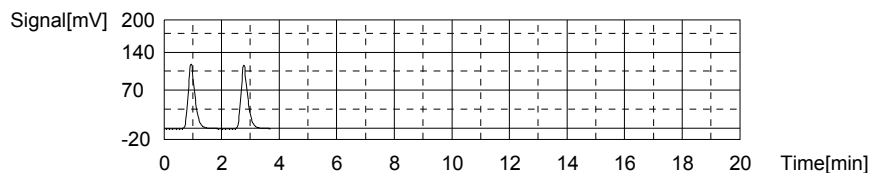
74/77

10/11/2016 2:37:58 PM

10-10-2016-DCM-TOC.t32

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	194.2	5.633mg/L	500uL	1		TICCURVE-10-30-2015.2015 10_31_11_55	10/11/2016 1:57:47 PM
2	190.4	5.519mg/L	500uL	1		TICCURVE-10-30-2015.2015 10_31_11_55	10/11/2016 2:02:17 PM

Mean Area 192.3
Mean Conc. 5.576mg/L



Sample

Sample Name: L16100123-05 (5)
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

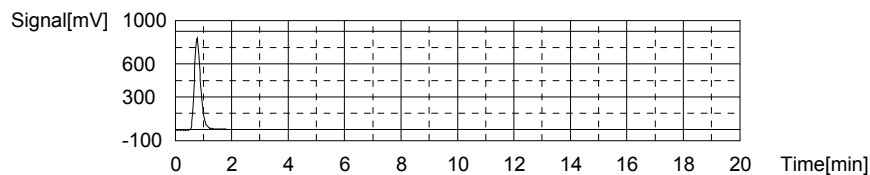
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:5.114mg/L TC:34.15mg/L IC:29.04mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	1335	34.15mg/L	500uL	1		TCCURVE-10-30-2015.2015 10_30_16_06_3	10/11/2016 2:10:55 PM

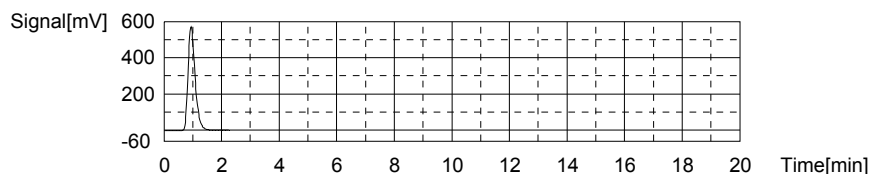
Mean Area 1335
Mean Conc. 34.15mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	976.4	29.04mg/L	500uL	1		TICCURVE-10-30-2015.2015 10_31_11_55	10/11/2016 2:16:08 PM

Mean Area 976.4
Mean Conc. 29.04mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

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10/11/2016 2:37:58 PM

10-10-2016-DCM-TOC.t32

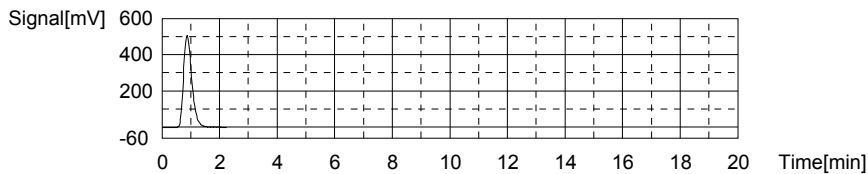
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:25.75mg/L TC:25.88mg/L IC:0.1305mg/L

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_31	10/11/2016 2:23:51 PM

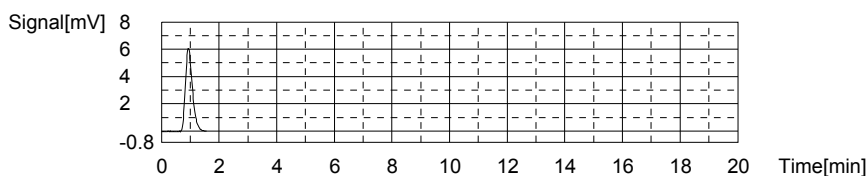
Mean Area 1013
Mean Conc. 25.88mg/L



Anal.: IC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	10.29	0.1305mg/L	500uL	1		TICURVE-10-30-2015.2015_10_31_11_55_01	10/11/2016 2:28:13 PM

Mean Area 10.29
Mean Conc. 0.1305mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC-10-31-2015.met
Status: Completed
Chk. Result

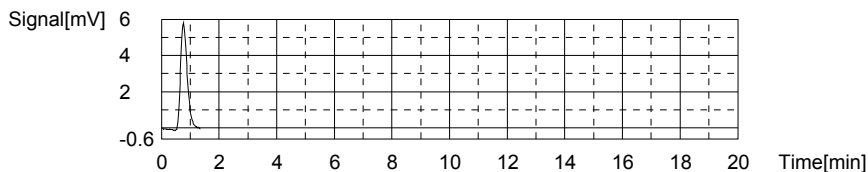
Type	Anal.	Dil.	Result
Unknown	TOC	1.000	TOC:0.05149mg/L TC:0.1144mg/L IC:0.06287mg/L

1. Det

Anal.: TC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	9.406	0.1144mg/L	500uL	1		TCCURVE-10-30-2015.2015_10_30_16_06_31	10/11/2016 2:33:12 PM

Mean Area 9.406
Mean Conc. 0.1144mg/L

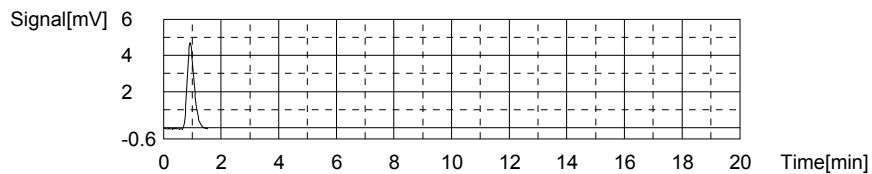


Anal.: IC

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No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.028	0.06287mg/L	500uL		1	TICCURVE-10-30-2015.2015_10_31_11_55	010/11/2016 2:37:06 PM

Mean Area 8.028
Mean Conc. 0.06287mg/L



3.0 Attachments

Microbac Laboratories Inc.
Ohio Valley Division Analyst List
October 20, 2016

001 - BIO-CHEM TESTING WVDEP 220	002 - REIC Consultants, Inc. WVDEP 060
003 - Sturm Environmental	004 - MICROBAC PITTSBURGH
005 - ES LABORATORIES	006 - ALCOSAN LABORATORIES
007 - ALS LABORATORIES	008 - BENCHMARK LABORATORIES
010 - MICROBAC CHICAGOLAND	AC - AMBER R. CARMICHAEL
ADC - ANTHONY D. CANTER	ADG - APRIL D. GREENE
AED - ALLEN E. DAVIS	ALS - ADRIANE L. STEED
AMA - ALEXANDRA M. ALFRED	AWE - ANDREW W. ESSIG
AZH - AFTER HOURS	BJO - BRIAN J. OGDEN
BKT - BRENDAN TORRENCE	BLG - BRENDA L. GREENWALT
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	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
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
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	

List of Valid Qualifiers

October 20, 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 receipt exceeded regulatory limit.
DL	Surrogate or spike compound was diluted out
E	Estimated concentration due to sample matrix interference
E,CT1	Estimated results. The cooler temperature at receipt exceeded regulatory guidelines for requested testing.
EDL	Elevated sample reporting limits, presence of non-target analytes
EMPC	Estimated Maximum Possible Concentration
F, S	Estimated result below quantitation limit; method of standard additions(MSA)
F,CT1	Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula
FL	Free Liquid
FP1	Did not ignite.
H1	Sample analysis performed past holding time.
H1,CT1	Sample analysis performed past holding time. The cooler temperature at receipt exceeded regulatory guidelines for reque
I	Semiquantitative result (out of instrument calibration range)
J	Estimated concentration; sample matrix interference.
J	Estimated value ; the analyte concentration was greater than the highest standard
J	Estimated value ; the analyte concentration was less than the LOQ.
J	The reported result is an estimated value.
J,B	Analyte detected in both the method blank and sample above the MDL.
J,CT1	Estimated value ; the analyte concentration was less than the LOQ. Cooler temperature at sample receipt exceeded regu
J,H1	Estimated value ; the analyte concentration was less than the LOQ. Sample analysis performed past holding time.
J,H1	The reported result is an estimated value. Sample was analyzed past holding time.
J,P	Estimate; columns don't agree to within 40%
J,S	Estimated concentration; analyzed by method of standard addition (MSA)
JB	The reported result is an estimated value. The reported result is also associated with a contaminated method blank.
JQ	The reported result is an estimated value and one or more quality control criteria failed. See narrative.
L	Sample reporting limits elevated due to matrix interference
L1	The associated blank spike (LCS) recovery was above the laboratory acceptance limits.
L2	The associated blank spike (LCS) recovery was below the laboratory acceptance limits.
M	Matrix effect; the concentration is an estimate due to matrix effect.
N	Nontarget analyte; the analyte is a tentatively identified compound (TIC) by GC/MS
NA	Not applicable
ND	Not detected at or above the reporting limit (RL)
ND, B	Not detected at or above the reporting limit (RL). Analyte present in method blank.
ND, CT1	Analyte was not detected. The concentration is below the reported LOD. The cooler temperature at receipt exceeded reg
ND, L	Not detected; sample reporting limit (RL) elevated due to interference
ND, S	Not detected; analyzed by method of standard addition (MSA)
ND,H1	Not detected; Sample analysis performed past holding time.
ND,H1,CT1	Not detected; Sample analysis performed past holding time. The cooler temperature at receipt exceeded regulatory guide
NF	Not found by library search
NFL	No free liquid
NI	Non-ignitable
NR	Analyte is not required to be analyzed
NS	Not spiked
P	Concentrations >40% difference between the two GC columns
Q	One or more quality control criteria failed. See narrative.
Q,H1	One or more quality control criteria failed. Sample analyzed past holding time. See narrative.
QNS	Quantity of sample not sufficient to perform analysis
RA	Reanalysis confirms reported results
RE	Reanalysis confirms sample matrix interference
S	Analyzed by method of standard addition (MSA)
SMI	Sample matrix interference on surrogate
SP	Reported results are for spike compounds only
T5	Laboratory not licensed for this parameter
TIC	Library Search Compound



List of Valid Qualifiers

October 20, 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 receipt exceeded
U,H1	Not detected; Sample analysis performed past holding time.
UJ	Undetected; the MDL and RL are estimated due to quality control discrepancies.
UQ	Undetected; the analyte was analyzed for, but not detected.
W	Post-digestion spike for furnace AA out of control limits
X	Exceeds regulatory limit
X, S	Exceeds regulatory limit; method of standard additions (MSA)
Z	Cannot be resolved from isomer - see below





Chain of Custody Record

COC Number:

Laboratory: Microbac POC: Stephanie Mossburg

Address: 158 Starlite Drive

Marietta, OH 45750

Phone: 1-800-373-4071

Client: AECOM

Address: 112 East Pecan Ste. 400

San Antonio, TX 78205

Turn Around Time: STANDARD

Project Name/Location: Longhorn

Project Number: 60256135.0002HA

Project Manager: Debra Richmann

Phone/Fax Number: 210-296-2000

Sampler (print): Scott Beesinger

Signature: *Scott Beesinger*

Mail to:

Linda Raabe

112 East Pecan STE. 400

San Antonio, TX 78205

210-296-2000

Fed Ex Airbill No:

Program:

pH:

Number of Containers

VOC

Dissoled Gases Carbon Dioxide

Nitrate / Nitrite Chloride / Sulfate

Alkalinity

Sulfide

Total Phosphorous Total

Organic Carbon

Ferrous Iron

Total Iron

Manganese

Matrix

Grab

Comp

Time

Date

SED

SBD

Sample ID/Location ID

35Aww08-100416

35Aww08F-100416

03ww01-100416

03ww01F-100416

35Aww20-100416

LHS mww7-100416

35Aww16-100416

35Aww16FD-100416

35Aww21-100416

35Aww21FD-100416

TRIP BLANK

10/4/16 0740

10/4/16 0740

10/4/16 0820

10/4/16 0820

10/4/16 0835

10/4/16 1040

10/4/16 1315

10/4/16 1315

10/4/16 1410

10/4/16 1410

10/4/16

X

X

X

X

X

X

X

X

X

X

SITE 58

Comments: STANDARD TAT

Relinquished by: *Scott Beesinger* Date: 10/4/16 Time: 0530

Relinquished by: *Carla Strickler* Date: Time: (Signal)

Microbac OVD

Received: 10/05/2016 09:42

By: CARA STRICKLER

221000091678



Time Relinquished by: (Signature)

Time Remarks:

*Homogenize all composite samples prior to analysis

Distribution: White to Laboratory, Canary to Project Manager, Pink QA/QC Manager

00869603

Chain of Custody Record



COC Number:

Mail to: Linda Raabe
112 East Pecan STE. 400
San Antonio, TX 78205
210-296-2000

Fed Ex Airbill No:

Project Manager: Debra Richmann
Phone/Fax Number: 210-296-2000
Sampler (print): Scott Beesinger

Laboratory: Microbac POC: Stephanie Mossburg
Address: 158 Starlite Drive
Marietta, OH 45750
Phone: 1-800-373-4071

Client: AECOM
Address: 112 East Pecan Ste. 400
San Antonio, TX 78205

Turn Around Time: Standard
Project Name/Location: Longhorn
Project Number: 60256135.0002HA

Signature: *Scott Beesinger*

Site Name	Sample ID/Location ID	SBD	SED	Date	Time	Comp.	Grab	Matrix	Number of Containers	Dissolved Manganese	Volatile Fatty Acids	ERPIMS REQUIRED FIELDS					
												SA CODE	Cooler ID	LOT CONTROL NUMBERS			
													ABL	EBLOT	TBL		
SITE 58	35ANW08-100416			10/4/16	0740	X	X	W	1	X	X						
	35ANW08FF-100416			10/4/16	0740	X	X	W	1	X	X						
	03WVW01-100416			10/4/16	0820	X	X	W	1	X	X						
	03WVW01FF-100416			10/4/16	0820	X	X	W	1	X	X						
	35ANW20FF-100416			10/4/16	0935	X	X	W	1	X	X						
LHSMW07FF-100416				10/4/16	1040	X	X	W	1	X	X						

Program:

Time Relinquished by: (Signature)

Time Relinquished by: (Signature)

Remarks:

Microbac OVD
Received: 10/05/2016 09:42
By: CARA STRICKLER

221000091678

Comments: STANDARD TAT

Relinquished by: *Scott Beesinger* Date: 10/4/16 Time: 1530

Relinquished by: *Cara Strickler* Date: 10/4/16 Time: 1530

Relinquished by: (Signature) Date: Time: (Signature)

Cara Strickler
Distribution: White to Laboratory, Canary to Project Manager, Pink QA/QC Manager

+Homogenize all composite samples prior to analysis

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16100194

Account: 2551

Project: 2551.096

Samples: 17

Due Date: 14-OCT-2016

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L16100194-01	810284	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	05-OCT-2016 11:39	CLS		
2	ANALYZ	V1	ORG4	06-OCT-2016 07:26	AWE	CLS	
3	STORE	ORG4	A1	19-OCT-2016 07:41	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	05-OCT-2016 11:39	CLS		
2	ANALYZ	V1	ORG4	06-OCT-2016 07:26	AWE	CLS	
3	STORE	ORG4	A1	19-OCT-2016 07:41	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	05-OCT-2016 11:39	CLS		
2	ANALYZ	V1	ORG4	06-OCT-2016 07:26	AWE	CLS	

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L16100194-01	810285	RSK175EXT

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	05-OCT-2016 11:39	CLS		
2	ANALYZ	V1	ORG1	05-OCT-2016 13:36	JDS	CLS	
3	STORE	ORG1	A1	19-OCT-2016 07:40	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	05-OCT-2016 11:39	CLS		
2	ANALYZ	V1	ORG1	05-OCT-2016 13:36	JDS	CLS	
3	STORE	ORG1	A1	19-OCT-2016 07:40	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	05-OCT-2016 11:39	CLS		
2	ANALYZ	V1	ORG1	05-OCT-2016 13:36	JDS	CLS	
3	STORE	ORG1	A1	19-OCT-2016 07:40	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: L16100194

Account: 2551

Project: 2551.096

Samples: 17

Due Date: 14-OCT-2016

Samplenum **Container ID** **Products**
L16100194-01 810286 9056

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	05-OCT-2016 11:39	CLS		
2	PREP	W1	SEM	05-OCT-2016 11:53	JWR	BRG	
3	STORE	SEM	A1	17-OCT-2016 10:46	BRG	CAS	

Samplenum **Container ID** **Products**
L16100194-01 810287 ALK

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	05-OCT-2016 11:39	CLS		
2	ANALYZ	W1	WET	12-OCT-2016 07:16	DCM	BRG	
3	STORE	WET	A1	14-OCT-2016 13:39	CLS	DCM	

Samplenum **Container ID** **Products**
L16100194-01 810288 FERROUS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	05-OCT-2016 11:39	CLS		
2	ANALYZ	W1	WET	06-OCT-2016 08:18	TMM	AZH	
3	ANALYZ	W1	WET	10-OCT-2016 12:05	CLS	TMM	

Samplenum **Container ID** **Products**
L16100194-01 810289 TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	05-OCT-2016 11:39	CLS		<2
2	ANALYZ	W1	WET	07-OCT-2016 08:24	DCM	BRG	
3	STORE	WET	A1	14-OCT-2016 13:40	CLS	DCM	

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: L16100194

Account: 2551

Project: 2551.096

Samples: 17

Due Date: 14-OCT-2016

Samplenum **Container ID** **Products**
L16100194-01 810290 S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	05-OCT-2016 11:39	CLS		
2	ANALYZ	W1	WET	06-OCT-2016 10:42	EPT	BRG	
3	STORE	WET	A1	10-OCT-2016 12:03	BRG	EPT	

Samplenum **Container ID** **Products**
L16100194-02 810291 FE MN-MS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	05-OCT-2016 11:39	CLS		
2	PREP	W1	DIG	05-OCT-2016 14:38	ERP	BRG	
3	ANALYZ*	DIG	METALS	10-OCT-2016 09:26	JYH	ERP	
4	STORE	DIG	A1	11-OCT-2016 14:31	BRG	ERP	

*Sample extract/digestate/leachate

Samplenum **Container ID** **Products**
L16100194-03 810292 826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	05-OCT-2016 11:39	CLS		
2	ANALYZ	V1	ORG4	06-OCT-2016 07:26	AWE	CLS	
3	STORE	ORG4	A1	19-OCT-2016 07:41	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	05-OCT-2016 11:39	CLS		
2	ANALYZ	V1	ORG4	06-OCT-2016 07:26	AWE	CLS	
3	STORE	ORG4	A1	19-OCT-2016 07:41	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	05-OCT-2016 11:39	CLS		
2	ANALYZ	V1	ORG4	06-OCT-2016 07:26	AWE	CLS	
3	STORE	ORG4	A1	19-OCT-2016 07:41	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: L16100194

Account: 2551

Project: 2551.096

Samples: 17

Due Date: 14-OCT-2016

Samplenum **Container ID** **Products**
L16100194-03 810293 RSK175EXT

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	05-OCT-2016 11:39	CLS		
2	ANALYZ	V1	ORG1	05-OCT-2016 13:36	JDS	CLS	
3	STORE	ORG1	A1	19-OCT-2016 07:40	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	05-OCT-2016 11:39	CLS		
2	ANALYZ	V1	ORG1	05-OCT-2016 13:36	JDS	CLS	
3	STORE	ORG1	A1	19-OCT-2016 07:40	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	05-OCT-2016 11:39	CLS		
2	ANALYZ	V1	ORG1	05-OCT-2016 13:36	JDS	CLS	
3	STORE	ORG1	A1	19-OCT-2016 07:40	CLS	AWE	

Samplenum **Container ID** **Products**
L16100194-03 810294 9056

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	05-OCT-2016 11:39	CLS		
2	PREP	W1	SEM	05-OCT-2016 11:53	JWR	BRG	
3	STORE	SEM	A1	17-OCT-2016 10:46	BRG	CAS	

Samplenum **Container ID** **Products**
L16100194-03 810295 ALK

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	05-OCT-2016 11:39	CLS		
2	ANALYZ	W1	WET	12-OCT-2016 07:16	DCM	BRG	
3	STORE	WET	A1	14-OCT-2016 13:39	CLS	DCM	

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: L16100194

Account: 2551

Project: 2551.096

Samples: 17

Due Date: 14-OCT-2016

Samplenum Container ID Products
L16100194-03 810296 FERROUS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	05-OCT-2016 11:39	CLS		
2	ANALYZ	W1	WET	06-OCT-2016 08:18	TMM	AZH	
3	ANALYZ	W1	WET	10-OCT-2016 12:05	CLS	TMM	

Samplenum Container ID Products
L16100194-03 810297 TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	05-OCT-2016 11:39	CLS		<2
2	ANALYZ	W1	WET	07-OCT-2016 08:24	DCM	BRG	
3	STORE	WET	A1	14-OCT-2016 13:40	CLS	DCM	

Samplenum Container ID Products
L16100194-03 810298 S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	05-OCT-2016 11:39	CLS		
2	ANALYZ	W1	WET	06-OCT-2016 10:41	EPT	BRG	
3	STORE	WET	A1	10-OCT-2016 12:03	BRG	EPT	

Samplenum Container ID Products
L16100194-04 810299 FE MN-MS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	05-OCT-2016 11:39	CLS		
2	PREP	W1	DIG	05-OCT-2016 14:38	ERP	BRG	
3	ANALYZ*	DIG	METALS	10-OCT-2016 09:26	JYH	ERP	
4	STORE	DIG	A1	11-OCT-2016 14:31	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: L16100194

Account: 2551

Project: 2551.096

Samples: 17

Due Date: 14-OCT-2016

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L16100194-05	810300	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	05-OCT-2016 11:39	CLS		
2	ANALYZ	V1	ORG4	06-OCT-2016 07:26	AWE	CLS	
3	STORE	ORG4	A1	19-OCT-2016 07:41	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	05-OCT-2016 11:39	CLS		
2	ANALYZ	V1	ORG4	06-OCT-2016 07:26	AWE	CLS	
3	STORE	ORG4	A1	19-OCT-2016 07:41	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	05-OCT-2016 11:39	CLS		
2	ANALYZ	V1	ORG4	06-OCT-2016 07:26	AWE	CLS	
3	STORE	ORG4	A1	19-OCT-2016 07:41	CLS	AWE	

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L16100194-05	810301	RSK175EXT

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	05-OCT-2016 11:39	CLS		
2	ANALYZ	V1	ORG1	05-OCT-2016 13:36	JDS	CLS	
3	STORE	ORG1	A1	19-OCT-2016 07:40	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	05-OCT-2016 11:39	CLS		
2	ANALYZ	V1	ORG1	05-OCT-2016 13:36	JDS	CLS	
3	STORE	ORG1	A1	19-OCT-2016 07:40	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	05-OCT-2016 11:39	CLS		
2	ANALYZ	V1	ORG1	05-OCT-2016 13:36	JDS	CLS	
3	STORE	ORG1	A1	19-OCT-2016 07:40	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: L16100194

Account: 2551

Project: 2551.096

Samples: 17

Due Date: 14-OCT-2016

Samplenum **Container ID** **Products**
L16100194-05 810302 9056

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	05-OCT-2016 11:39	CLS		
2	PREP	W1	SEM	05-OCT-2016 11:53	JWR	BRG	
3	STORE	SEM	A1	17-OCT-2016 10:46	BRG	CAS	

Samplenum **Container ID** **Products**
L16100194-05 810303 ALK

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	05-OCT-2016 11:39	CLS		
2	ANALYZ	W1	WET	12-OCT-2016 07:16	DCM	BRG	
3	STORE	WET	A1	14-OCT-2016 13:39	CLS	DCM	

Samplenum **Container ID** **Products**
L16100194-05 810304 FERROUS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	05-OCT-2016 11:39	CLS		
2	ANALYZ	W1	WET	06-OCT-2016 08:17	TMM	AZH	
3	ANALYZ	W1	WET	10-OCT-2016 12:05	CLS	TMM	

Samplenum **Container ID** **Products**
L16100194-05 810305 TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	05-OCT-2016 11:39	CLS		<2
2	ANALYZ	W1	WET	07-OCT-2016 08:24	DCM	BRG	
3	STORE	WET	A1	14-OCT-2016 13:39	CLS	DCM	

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: L16100194

Account: 2551

Project: 2551.096

Samples: 17

Due Date: 14-OCT-2016

Samplenum **Container ID** **Products**
L16100194-05 810306 FE MN-MS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	05-OCT-2016 11:39	CLS		
2	PREP	W1	DIG	05-OCT-2016 14:38	ERP	BRG	
3	ANALYZ*	DIG	METALS	10-OCT-2016 09:26	JYH	ERP	
4	STORE	DIG	A1	11-OCT-2016 14:31	BRG	ERP	

*Sample extract/digestate/leachate

Samplenum **Container ID** **Products**
L16100194-05 810307 S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	05-OCT-2016 11:39	CLS		
2	ANALYZ	W1	WET	06-OCT-2016 10:42	EPT	BRG	
3	STORE	WET	A1	10-OCT-2016 12:03	BRG	EPT	

Samplenum **Container ID** **Products**
L16100194-06 810308 826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	05-OCT-2016 11:39	CLS		
2	ANALYZ	V1	ORG4	06-OCT-2016 07:26	AWE	CLS	
3	STORE	ORG4	A1	19-OCT-2016 07:41	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	05-OCT-2016 11:39	CLS		
2	ANALYZ	V1	ORG4	06-OCT-2016 07:26	AWE	CLS	
3	STORE	ORG4	A1	19-OCT-2016 07:41	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	05-OCT-2016 11:39	CLS		
2	ANALYZ	V1	ORG4	06-OCT-2016 07:26	AWE	CLS	
3	STORE	ORG4	A1	19-OCT-2016 07:41	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: L16100194

Account: 2551

Project: 2551.096

Samples: 17

Due Date: 14-OCT-2016

Samplenum **Container ID** **Products**
L16100194-06 810309 RSK175EXT

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	05-OCT-2016 11:39	CLS		
2	ANALYZ	V1	ORG1	05-OCT-2016 13:36	JDS	CLS	
3	STORE	ORG1	A1	19-OCT-2016 07:40	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	05-OCT-2016 11:39	CLS		
2	ANALYZ	V1	ORG1	05-OCT-2016 13:36	JDS	CLS	
3	STORE	ORG1	A1	19-OCT-2016 07:40	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	05-OCT-2016 11:39	CLS		
2	ANALYZ	V1	ORG1	05-OCT-2016 13:36	JDS	CLS	
3	STORE	ORG1	A1	19-OCT-2016 07:40	CLS	AWE	

Samplenum **Container ID** **Products**
L16100194-06 810310 9056

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	05-OCT-2016 11:39	CLS		
2	PREP	W1	SEM	05-OCT-2016 11:53	JWR	BRG	
3	STORE	SEM	A1	17-OCT-2016 10:46	BRG	CAS	

Samplenum **Container ID** **Products**
L16100194-06 810311 ALK

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	05-OCT-2016 11:39	CLS		
2	ANALYZ	W1	WET	12-OCT-2016 07:16	DCM	BRG	
3	STORE	WET	A1	14-OCT-2016 13:39	CLS	DCM	

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: L16100194

Account: 2551

Project: 2551.096

Samples: 17

Due Date: 14-OCT-2016

Samplenum **Container ID** **Products**
L16100194-06 810312 FERROUS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	05-OCT-2016 11:39	CLS		
2	ANALYZ	W1	WET	06-OCT-2016 08:18	TMM	AZH	
3	ANALYZ	W1	WET	10-OCT-2016 12:05	CLS	TMM	

Samplenum **Container ID** **Products**
L16100194-06 810313 TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	05-OCT-2016 11:39	CLS		<2
2	ANALYZ	W1	WET	07-OCT-2016 08:24	DCM	BRG	
3	STORE	WET	A1	14-OCT-2016 13:40	CLS	DCM	

Samplenum **Container ID** **Products**
L16100194-06 810314 FE MN-MS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	05-OCT-2016 11:39	CLS		
2	PREP	W1	DIG	05-OCT-2016 14:38	ERP	BRG	
3	ANALYZ*	DIG	METALS	10-OCT-2016 09:26	JYH	ERP	
4	STORE	DIG	A1	11-OCT-2016 14:31	BRG	ERP	

*Sample extract/digestate/leachate

Samplenum **Container ID** **Products**
L16100194-06 810315 S

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	05-OCT-2016 11:39	CLS		
2	ANALYZ	W1	WET	06-OCT-2016 10:41	EPT	BRG	
3	STORE	WET	A1	10-OCT-2016 12:03	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: L16100194

Account: 2551

Project: 2551.096

Samples: 17

Due Date: 14-OCT-2016

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L16100194-07	810316	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	05-OCT-2016 11:39	CLS		
2	ANALYZ	V1	ORG4	06-OCT-2016 07:26	AWE	CLS	
3	STORE	ORG4	A1	19-OCT-2016 07:41	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	05-OCT-2016 11:39	CLS		
2	ANALYZ	V1	ORG4	06-OCT-2016 07:26	AWE	CLS	
3	STORE	ORG4	A1	19-OCT-2016 07:41	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	05-OCT-2016 11:39	CLS		
2	ANALYZ	V1	ORG4	06-OCT-2016 07:26	AWE	CLS	
3	STORE	ORG4	A1	19-OCT-2016 07:41	CLS	AWE	

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L16100194-08	810317	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	05-OCT-2016 11:39	CLS		
2	ANALYZ	V1	ORG4	06-OCT-2016 07:26	AWE	CLS	
3	STORE	ORG4	A1	19-OCT-2016 07:41	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	05-OCT-2016 11:39	CLS		
2	ANALYZ	V1	ORG4	06-OCT-2016 07:26	AWE	CLS	
3	STORE	ORG4	A1	19-OCT-2016 07:41	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	05-OCT-2016 11:39	CLS		
2	ANALYZ	V1	ORG4	06-OCT-2016 07:26	AWE	CLS	
3	STORE	ORG4	A1	19-OCT-2016 07:41	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: L16100194

Account: 2551

Project: 2551.096

Samples: 17

Due Date: 14-OCT-2016

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L16100194-09	810318	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	05-OCT-2016 11:39	CLS		
2	ANALYZ	V1	ORG4	06-OCT-2016 07:26	AWE	CLS	
3	STORE	ORG4	A1	19-OCT-2016 07:40	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	05-OCT-2016 11:39	CLS		
2	ANALYZ	V1	ORG4	06-OCT-2016 07:26	AWE	CLS	
3	STORE	ORG4	A1	19-OCT-2016 07:41	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	05-OCT-2016 11:39	CLS		
2	ANALYZ	V1	ORG4	06-OCT-2016 07:26	AWE	CLS	
3	STORE	ORG4	A1	19-OCT-2016 07:41	CLS	AWE	

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L16100194-10	810319	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	ORG4	05-OCT-2016 11:39	CLS		
2	STORE	ORG4	A1	19-OCT-2016 07:41	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	05-OCT-2016 11:39	CLS		
2	ANALYZ	V1	ORG4	06-OCT-2016 07:26	AWE	CLS	
3	STORE	ORG4	A1	19-OCT-2016 07:41	CLS	AWE	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	05-OCT-2016 11:39	CLS		
2	ANALYZ	V1	ORG4	06-OCT-2016 07:26	AWE	CLS	
3	STORE	ORG4	A1	19-OCT-2016 07:41	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: L16100194

Account: 2551

Project: 2551.096

Samples: 17

Due Date: 14-OCT-2016

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L16100194-11	810320	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	05-OCT-2016 11:39	CLS		
2	ANALYZ	V1	ORG4	06-OCT-2016 07:26	AWE	CLS	
3	STORE	ORG4	A1	19-OCT-2016 07:40	CLS	AWE	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	05-OCT-2016 11:39	CLS		
2	ANALYZ	V1	ORG4	06-OCT-2016 07:26	AWE	CLS	
3	STORE	ORG4	A1	19-OCT-2016 07:40	CLS	AWE	

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L16100194-12	810321	830-MBA

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	05-OCT-2016 11:39	CLS		<2
2	ANALYZ	W1	SEM	14-OCT-2016 14:01	JWR	CLS	
3	STORE	SEM	A1	15-OCT-2016 15:03	AZH	JWR	

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L16100194-13	810322	MN-MSD

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	05-OCT-2016 11:39	CLS		
2	PREP	W1	DIG	05-OCT-2016 14:38	ERP	BRG	
3	STORE	DIG	A1	07-OCT-2016 14:40	BRG	ERP	
4	ANALYZ*	DIG	METALS	10-OCT-2016 09:26	JYH	ERP	

*Sample extract/digestate/leachate

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L16100194-14	810323	830-MBA

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	05-OCT-2016 11:39	CLS		<2
2	ANALYZ	W1	SEM	14-OCT-2016 14:01	JWR	CLS	
3	STORE	SEM	A1	15-OCT-2016 15:03	AZH	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: L16100194

Account: 2551

Project: 2551.096

Samples: 17

Due Date: 14-OCT-2016

Samplenum **Container ID** **Products**
L16100194-15 810324 MN-MSD

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	05-OCT-2016 11:39	CLS		
2	PREP	W1	DIG	05-OCT-2016 14:38	ERP	BRG	
3	STORE	DIG	A1	07-OCT-2016 14:40	BRG	ERP	
4	ANALYZ*	DIG	METALS	10-OCT-2016 09:26	JYH	ERP	

**Sample extract/digestate/leachate*

Samplenum **Container ID** **Products**
L16100194-16 810325 MN-MSD

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	05-OCT-2016 11:39	CLS		
2	PREP	W1	DIG	05-OCT-2016 14:38	ERP	BRG	
3	STORE	DIG	A1	07-OCT-2016 14:40	BRG	ERP	
4	ANALYZ*	DIG	METALS	10-OCT-2016 09:26	JYH	ERP	

**Sample extract/digestate/leachate*

Samplenum **Container ID** **Products**
L16100194-17 810326 MN-MSD

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	05-OCT-2016 11:39	CLS		
2	PREP	W1	DIG	05-OCT-2016 14:38	ERP	BRG	
3	STORE	DIG	A1	07-OCT-2016 14:40	BRG	ERP	
4	ANALYZ*	DIG	METALS	10-OCT-2016 09:26	JYH	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



NELAP Addendum - January 4, 2016

Non-NELAP LIMS Product and Description

The following is a list of those tests that are not included in the Microbac – OVD NELAP Scope of Accreditation:

Heat of Combustion (BTU)
Total Halide by Bomb Combustion (TX)
Particle Sizing - 200 Mesh (PS200)
Specific Gravity/Density (SPGRAV)
Total Residual Chlorine (CL-TRL)
Total Volatile Solids (all forms) (TVS)
Total Coliform Bacteria (all methods)
Fecal Coliform Bacteria (all methods)
Sulfite (SO₃)
Propionaldehyde (HPLC-UV)

SOLID AND HAZARDOUS CHEMICALS

Nitrogen, Ammonia by Method 350.1
Chromium, Hexavalent, Leachable by SM3500 Cr-B 2009
Phenolics, Total by Method 420.1
ASTM D3987-06

NELAP Accreditation by Laboratory SOP

NONPOTABLE WATER

OVD HPLC02/HPLC-UV

Nitroglycerin
Acetic acid
Butyric acid
Lactic acid
Propionic acid
Pyruvic acid

OVD MSS01/GC-MS

1,4-Phenylenediamine
1-Methylnaphthalene
1,4-Dioxane
Atrazine
Benzaldehyde
Biphenyl
Caprolactam
Hexamethylphosphoramide (HMPA)
Pentachlorobenzene
Pentachloroethane

NELAP Accreditation by Laboratory SOP**NONPOTABLE WATER**OVD MSV01/GC-MS

1, 1, 2-Trichloro-1,2,2-trifluoroethane
1,3-Butadiene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Methylacetate
Methylcyclohexane
T-amylmethylether (TAME)
Tetrahydrofuran (THF)

OVD HPLC07/HPLC-MS-MS

Hexamethylphosphoramide (XMPA-LCMS)

OVD HPLC12/HPLC/UV

Acetate
Formate

OVD RSK01/GC-FID

Acetylene
Propane

OVD K9305/ISE

Fluoroborate

SOLID AND HAZARDOUS CHEMICALSOVD MSS01/GC-MS

1-Methylnaphthalene
Benzaldehyde
Biphenyl
Caprolactam
Pentachloroethane

NELAP Accreditation by Laboratory SOP**SOLID AND HAZARDOUS CHEMICALS**OVD MSV01/GC-MS

1.3-Butadiene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Methylacetate
Methylcyclohexane
n-Hexane
T-amylmethylether (TAME)



Laboratory Report Number: L16100409

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 October 20 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



Lab Report #: L16100409

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.

There were no discrepancies.

Discrepancy	Resolution

Coolers

Cooler #	Temperature Gun	Temperature	COC #	Airbill #	Temp Required?
00114106	I	4.0		J4616883228	X

Inspection Checklist

#	Question	Result
1	Were shipping coolers sealed?	Yes
2	Were custody seals intact?	Yes
3	Were cooler temperatures in range of 0-6?	Yes
4	Was ice present?	Yes
5	Were COC's received/information complete/signed and dated?	Yes
6	Were sample containers intact and match COC?	Yes
7	Were sample labels intact and match COC?	Yes
8	Were the correct containers and volumes received?	Yes
9	Were samples received within EPA hold times?	Yes
10	All samples were checked for pH and met the standard. Exceptions are noted above under discrepancy. (water only)	Yes
11	Were pH ranges acceptable? (voa's excluded)	NA
12	Were VOA samples free of headspace (less than 6mm)?	Yes



Lab Report #: L16100409

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Adriane Steed

Samples Received

Client ID	Laboratory ID	Date Collected	Date Received
35AWW01-100516	L16100409-01	10/05/2016 08:05	10/07/2016 12:24
35AWW01MS-100516	L16100409-02	10/05/2016 08:05	10/07/2016 12:24
35AWW01MSD-100516	L16100409-03	10/05/2016 08:05	10/07/2016 12:24
35AWW15-100516	L16100409-04	10/05/2016 09:00	10/07/2016 12:24
35AWW05-100516	L16100409-05	10/05/2016 10:00	10/07/2016 12:24
35AWW05MS-100516	L16100409-06	10/05/2016 10:00	10/07/2016 12:24
35AWW05MSD-100516	L16100409-07	10/05/2016 10:00	10/07/2016 12:24
35AWW18-100516	L16100409-08	10/05/2016 11:00	10/07/2016 12:24
35AWW12-100516	L16100409-09	10/05/2016 13:30	10/07/2016 12:24
35AWW12FD-100516	L16100409-10	10/05/2016 13:30	10/07/2016 12:24
35AWW13-100616	L16100409-11	10/06/2016 08:30	10/07/2016 12:24
35AWW22-100616	L16100409-12	10/06/2016 08:55	10/07/2016 12:24
35AWW14-100616	L16100409-13	10/06/2016 09:15	10/07/2016 12:24
LHSMW06-100616	L16100409-14	10/06/2016 09:25	10/07/2016 12:24
35AWW19-100616	L16100409-15	10/06/2016 09:35	10/07/2016 12:24
TRIP BLANK	L16100409-16	10/06/2016 00:01	10/07/2016 12:24

Microbac REPORT L16100409
PREPARED FOR AECOM Technical Services, Inc.
WORK ID:

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1.0 Summary Data

1.1 Narratives



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16100409
Project Name:		Method:	8260
Prep Batch Number(s):	587867,587982	Reviewer Name:	Sarah Vandenberg
LRC Date:	2016-10-20 00:00:00		

Laboratory Data Package Cover Page

X	R1	Field chain-of-custody documentation;
X	R2	Sample identification cross-reference;
X	R3	Test reports (analytical data sheets) for each environmental sample that includes: (a) Items consistent with NELAC Chapter 5, (b) dilution factors, (c) preparation methods, (d) cleanup methods, and (e) a.if required for the project, tentatively identified compounds (TICs).
X	R4	Surrogate recovery data including: (a) Calculated recovery (%R), and (b) the laboratory's surrogate QC limits.
X	R5	Test reports/summary forms for blank samples;
X	R6	Test reports/summary forms for laboratory control samples (LCSs) including: (a) LCS spiking amounts, (b) calculated %R for each analyte, and (c) the laboratory's LCS QC limits.
X	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including: (a) samples associated with the MS/MSD clearly identified, (b) MS/MSD spiking compounds, (c) concentration of each MS/MSD analyte measured in the parent and spiked samples, (d) calculated %Rs and relative percent differences (RPDs), and (e) the laboratory's MS/MSD QC limits.
X	R8	Laboratory analytical duplicate (if applicable) recovery and precision: (a) the amount of analyte measured in the duplicate, (b) the calculated RPD, and (c) the laboratory's QC limits for analytical duplicates.
X	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
X	R10	Other problems or anomalies.

Name (Printed)	Signature	Official Title (Printed)	Date
Sarah Vandenberg	<i>Sarah Vandenberg</i>		2016-10-20 16:34:00



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16100409
Project Name:		Method:	8260
Prep Batch Number(s):	587867,587982	Reviewer Name:	Sarah Vandenberg
LRC Date:	2016-10-20 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:	L16100409
Project Name:		Method:	8260
Prep Batch Number(s):	587867,587982	Reviewer Name:	Sarah Vandenberg
LRC Date:	2016-10-20 00:00:00		

Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
Were LCSs analyzed at the required frequency?	X				
Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
Was the LCSD RPD within QC limits?	X				
Matrix spike (MS) and matrix spike duplicate (MSD) data					
Were the project/method specified analytes included in the MS and MSD?	X				
Were MS/MSD analyzed at the appropriate frequency?	X				
Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
Were MS/MSD RPDs within laboratory QC limits?	X				
Analytical duplicate data					
Were appropriate analytical duplicates analyzed for each matrix?			X		
Were analytical duplicates analyzed at the appropriate frequency?			X		
Were RPDs or relative standard deviations within the laboratory QC limits?			X		
Method quantitation limits (MQLs):					
Are the MQLs for each method analyte included in the laboratory data package?	X				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
Other problems/anomalies					
Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	X				
Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
Initial calibration (ICAL)					
Were response factors and/or relative response factors for each analyte within QC limits?	X				
Were percent RSDs or correlation coefficient criteria met?	X				



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16100409
Project Name:		Method:	8260
Prep Batch Number(s):	587867,587982	Reviewer Name:	Sarah Vandenberg
LRC Date:	2016-10-20 00:00:00		

Was the number of standards recommended in the method used for all analytes?	X				
Were all points generated between the lowest and highest standard used to calculate the curve?	X				
Are ICAL data available for all instruments used?	X				
Has the initial calibration curve been verified using an appropriate second source standard?	X				
Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
Was the CCV analyzed at the method-required frequency?	X				
Were percent differences for each analyte within the method-required QC limits?		X			2
Was the ICAL curve verified for each analyte?		X			1
Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X		
Mass spectral tuning					
Was the appropriate compound for the method used for tuning?	X				
Were ion abundance data within the method-required QC limits?	X				
Internal standards (IS)					
Were IS area counts and retention times within the method-required QC limits?	X				
Raw data (NELAC Section 5.5.10)					
Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
Were data associated with manual integrations flagged on the raw data?	X				
Dual column confirmation					
Did dual column confirmation results meet the method-required QC?			X		
Tentatively identified compounds (TICs)					
If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
Interference Check Sample (ICS) results					
Were percent recoveries within method QC limits?			X		
Serial dilutions, post digestion spikes, and method of standard additions					
Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
Method detection limit (MDL) studies					



Texas Risk Reduction Program (TRRP) Checklist

Laboratory Name:	Microbac OVD	Laboratory Log Number:	L16100409
Project Name:		Method:	8260
Prep Batch Number(s):	587867,587982	Reviewer Name:	Sarah Vandenberg
LRC Date:	2016-10-20 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:	L16100409
Project Name:		Method:	8260
Prep Batch Number(s):	587867,587982	Reviewer Name:	Sarah Vandenberg
LRC Date:	2016-10-20 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)Naphthalene exceeded the UCL in the ICV analyzed 10/13/2016 on HPMS11.

2)Acetone, 2-Butanone and 2-Hexanone exceeded the UCL in the CCV analyzed 10/17/2016 on HPMS11. Chloromethane exceeded the UCL in the CCV analyzed 10/18/2016 on HPMS8.

1.2 Certificate of Analysis

Lab Report #: L16100409

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Adriane Steed

Certificate of Analysis

Sample #: L16100409-01	PrePrep Method: N/A	Instrument: HPMS11
Client ID: 35AWW01-100516	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 10/13/2016 18:03
Workgroup #: WG587867	Analyst: FJB	Run Date: 10/17/2016 17:58
Collect Date: 10/05/2016 08:05	Dilution: 1	File ID: 11M14569
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	Q	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	Q	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	0.142	J	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	Q	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	0.233	J	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	93.8	85	115	
1,2-Dichloroethane-d4	97.5	70	120	
Toluene-d8	98.2	85	120	
4-Bromofluorobenzene	101	75	120	

J	Estimated value ; the analyte concentration was less than the LOQ.
Q	One or more quality control criteria failed. See narrative.

U	Analyte was not detected. The concentration is below the reported LOD.
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Lab Report #: L16100409

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Adriane Steed

Certificate of Analysis

Sample #: L16100409-02	PrePrep Method: N/A	Instrument: HPMS11
Client ID: 35AWW01MS-100516	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 10/13/2016 18:03
Workgroup #: WG587867	Analyst: FJB	Run Date: 10/17/2016 15:05
Collect Date: 10/05/2016 08:05	Dilution: 1	File ID: 11M14563
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	18.3	Q	10.0	5.00	2.50
Benzene	71-43-2	18.9		1.00	0.250	0.125
Bromobenzene	108-86-1	19.1		1.00	0.250	0.125
Bromochloromethane	74-97-5	19.1		1.00	0.400	0.200
Bromodichloromethane	75-27-4	18.4		1.00	0.500	0.250
Bromoform	75-25-2	17.6		2.00	1.00	0.500
Bromomethane	74-83-9	20.7		2.00	1.00	0.500
2-Butanone	78-93-3	16.9	Q	10.0	5.00	2.50
n-Butylbenzene	104-51-8	18.9		1.00	0.500	0.250
sec-Butylbenzene	135-98-8	19.3		1.00	0.500	0.250
tert-Butylbenzene	98-06-6	19.6		1.00	0.500	0.250
Carbon disulfide	75-15-0	15.8		2.00	1.00	0.500
Carbon tetrachloride	56-23-5	17.4		1.00	0.500	0.250
Chlorobenzene	108-90-7	18.4		1.00	0.250	0.125
Chlorodibromomethane	124-48-1	18.7		1.00	0.500	0.250
Chloroethane	75-00-3	18.9		2.00	1.00	0.500
Chloroform	67-66-3	18.4		1.00	0.250	0.125
Chloromethane	74-87-3	17.4		2.00	1.00	0.500
2-Chlorotoluene	95-49-8	19.1		1.00	0.250	0.125
4-Chlorotoluene	106-43-4	20.2		1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	17.3		5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	18.6		1.00	0.500	0.250
Dibromomethane	74-95-3	19.1		1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	18.9		1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	19.0		1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	18.5		1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	12.3		1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	18.4		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	18.3		1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	16.9		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	19.1		1.00	0.500	0.250

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	18.2		1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	18.7		1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	19.4		1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	18.9		1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	20.7		1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	18.9		2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	17.7		1.00	0.500	0.250
Ethylbenzene	100-41-4	18.9		1.00	0.500	0.250
2-Hexanone	591-78-6	16.1	Q	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	18.6		1.00	0.500	0.250
Isopropylbenzene	98-82-8	18.8		1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	20.1		1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	16.9		10.0	5.00	2.50
Methylene chloride	75-09-2	18.5		1.00	0.500	0.250
Naphthalene	91-20-3	19.8		1.00	0.400	0.200
n-Propylbenzene	103-65-1	20.0		1.00	0.250	0.125
Styrene	100-42-5	19.4		1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	18.8		1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	19.5		1.00	0.400	0.200
Tetrachloroethene	127-18-4	18.1		1.00	0.500	0.250
Toluene	108-88-3	18.9		1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	18.5		1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	18.6		1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	18.4		1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	19.5		1.00	0.500	0.250
Trichloroethene	79-01-6	17.8		1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	15.9		1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	19.2		2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	20.2		1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	20.1		1.00	0.500	0.250
Vinyl chloride	75-01-4	17.8		1.00	0.500	0.250
o-Xylene	95-47-6	19.5		1.00	0.500	0.250
m-,p-Xylene	179601-23-1	38.4		2.00	1.00	0.500
Surrogate	Recovery	Lower Limit	Upper Limit	Q		
Dibromofluoromethane	92.3	85	115			
1,2-Dichloroethane-d4	88.5	70	120			
Toluene-d8	96.7	85	120			
4-Bromofluorobenzene	94.0	75	120			
Q	One or more quality control criteria failed. See narrative.					

Lab Report #: L16100409

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Adriane Steed

Certificate of Analysis

Sample #: L16100409-03	PrePrep Method: N/A	Instrument: HPMS11
Client ID: 35AWW01MSD-100516	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 10/13/2016 18:03
Workgroup #: WG587867	Analyst: FJB	Run Date: 10/17/2016 15:34
Collect Date: 10/05/2016 08:05	Dilution: 1	File ID: 11M14564
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	21.2	Q	10.0	5.00	2.50
Benzene	71-43-2	20.1		1.00	0.250	0.125
Bromobenzene	108-86-1	21.3		1.00	0.250	0.125
Bromochloromethane	74-97-5	20.7		1.00	0.400	0.200
Bromodichloromethane	75-27-4	19.7		1.00	0.500	0.250
Bromoform	75-25-2	19.6		2.00	1.00	0.500
Bromomethane	74-83-9	21.9		2.00	1.00	0.500
2-Butanone	78-93-3	18.5	Q	10.0	5.00	2.50
n-Butylbenzene	104-51-8	21.1		1.00	0.500	0.250
sec-Butylbenzene	135-98-8	21.6		1.00	0.500	0.250
tert-Butylbenzene	98-06-6	21.9		1.00	0.500	0.250
Carbon disulfide	75-15-0	16.8		2.00	1.00	0.500
Carbon tetrachloride	56-23-5	18.8		1.00	0.500	0.250
Chlorobenzene	108-90-7	20.7		1.00	0.250	0.125
Chlorodibromomethane	124-48-1	20.4		1.00	0.500	0.250
Chloroethane	75-00-3	20.1		2.00	1.00	0.500
Chloroform	67-66-3	19.9		1.00	0.250	0.125
Chloromethane	74-87-3	18.6		2.00	1.00	0.500
2-Chlorotoluene	95-49-8	21.2		1.00	0.250	0.125
4-Chlorotoluene	106-43-4	22.5		1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	19.3		5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	20.8		1.00	0.500	0.250
Dibromomethane	74-95-3	20.0		1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	21.4		1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	20.9		1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	21.0		1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	13.0		1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	19.8		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	20.1		1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	17.7		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	20.8		1.00	0.500	0.250

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	19.4		1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	20.5		1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	21.8		1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	20.2		1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	22.3		1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	20.7		2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	18.9		1.00	0.500	0.250
Ethylbenzene	100-41-4	20.6		1.00	0.500	0.250
2-Hexanone	591-78-6	18.2	Q	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	21.1		1.00	0.500	0.250
Isopropylbenzene	98-82-8	20.4		1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	22.5		1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	18.6		10.0	5.00	2.50
Methylene chloride	75-09-2	20.4		1.00	0.500	0.250
Naphthalene	91-20-3	22.5		1.00	0.400	0.200
n-Propylbenzene	103-65-1	22.3		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	20.9		1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	21.8		1.00	0.400	0.200
Tetrachloroethene	127-18-4	19.5		1.00	0.500	0.250
Toluene	108-88-3	21.1		1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	21.0		1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	21.1		1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	19.9		1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	21.4		1.00	0.500	0.250
Trichloroethene	79-01-6	19.2		1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	16.6		1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	21.5		2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	22.5		1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	22.5		1.00	0.500	0.250
Vinyl chloride	75-01-4	18.5		1.00	0.500	0.250
o-Xylene	95-47-6	21.3		1.00	0.500	0.250
m-,p-Xylene	179601-23-1	42.2		2.00	1.00	0.500
Surrogate	Recovery	Lower Limit	Upper Limit	Q		
Dibromofluoromethane	90.4	85	115			
1,2-Dichloroethane-d4	87.2	70	120			
Toluene-d8	95.6	85	120			
4-Bromofluorobenzene	94.6	75	120			
Q	One or more quality control criteria failed. See narrative.					

Lab Report #: L16100409

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Adriane Steed

Certificate of Analysis

Sample #: L16100409-04	PrePrep Method: N/A	Instrument: HPMS11
Client ID: 35AWW15-100516	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 10/13/2016 18:03
Workgroup #: WG587867	Analyst: FJB	Run Date: 10/17/2016 18:55
Collect Date: 10/05/2016 09:00	Dilution: 1	File ID: 11M14571
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	4.49	Q	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	Q	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	Q	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	92.8	85	115			
1,2-Dichloroethane-d4	97.9	70	120			
Toluene-d8	99.3	85	120			
4-Bromofluorobenzene	103	75	120			
Q	One or more quality control criteria failed. See narrative.					

U	Analyte was not detected. The concentration is below the reported LOD.
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Lab Report #: L16100409

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Adriane Steed

Certificate of Analysis

Sample #: L16100409-05	PrePrep Method: N/A	Instrument: HPMS11
Client ID: 35AWW05-100516	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 10/13/2016 18:03
Workgroup #: WG587867	Analyst: FJB	Run Date: 10/17/2016 18:27
Collect Date: 10/05/2016 10:00	Dilution: 1	File ID: 11M14570
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	Q	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	Q	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	Q	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	92.4	85	115			
1,2-Dichloroethane-d4	94.3	70	120			
Toluene-d8	96.1	85	120			
4-Bromofluorobenzene	96.4	75	120			
Q	One or more quality control criteria failed. See narrative.					

U	Analyte was not detected. The concentration is below the reported LOD.
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Lab Report #: L16100409

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Adriane Steed

Certificate of Analysis

Sample #: L16100409-06	PrePrep Method: N/A	Instrument: HPMS11
Client ID: 35AWW05MS-100516	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 10/13/2016 18:03
Workgroup #: WG587867	Analyst: FJB	Run Date: 10/17/2016 16:03
Collect Date: 10/05/2016 10:00	Dilution: 1	File ID: 11M14565
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	20.8	Q	10.0	5.00	2.50
Benzene	71-43-2	20.5		1.00	0.250	0.125
Bromobenzene	108-86-1	20.4		1.00	0.250	0.125
Bromochloromethane	74-97-5	21.2		1.00	0.400	0.200
Bromodichloromethane	75-27-4	19.8		1.00	0.500	0.250
Bromoform	75-25-2	20.3		2.00	1.00	0.500
Bromomethane	74-83-9	22.0		2.00	1.00	0.500
2-Butanone	78-93-3	19.7	Q	10.0	5.00	2.50
n-Butylbenzene	104-51-8	20.3		1.00	0.500	0.250
sec-Butylbenzene	135-98-8	20.7		1.00	0.500	0.250
tert-Butylbenzene	98-06-6	20.8		1.00	0.500	0.250
Carbon disulfide	75-15-0	17.1		2.00	1.00	0.500
Carbon tetrachloride	56-23-5	18.4		1.00	0.500	0.250
Chlorobenzene	108-90-7	20.2		1.00	0.250	0.125
Chlorodibromomethane	124-48-1	20.8		1.00	0.500	0.250
Chloroethane	75-00-3	20.7		2.00	1.00	0.500
Chloroform	67-66-3	20.4		1.00	0.250	0.125
Chloromethane	74-87-3	19.3		2.00	1.00	0.500
2-Chlorotoluene	95-49-8	21.0		1.00	0.250	0.125
4-Chlorotoluene	106-43-4	21.9		1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	19.0		5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	20.8		1.00	0.500	0.250
Dibromomethane	74-95-3	20.4		1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	21.0		1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	20.7		1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	20.6		1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	12.2		1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	20.0		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	20.0		1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	17.9		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	20.5		1.00	0.500	0.250

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	19.3		1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	20.9		1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	21.9		1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	19.8		1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	22.7		1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	20.8		2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	18.6		1.00	0.500	0.250
Ethylbenzene	100-41-4	20.4		1.00	0.500	0.250
2-Hexanone	591-78-6	19.0	Q	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	20.0		1.00	0.500	0.250
Isopropylbenzene	98-82-8	20.3		1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	21.5		1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	19.6		10.0	5.00	2.50
Methylene chloride	75-09-2	20.6		1.00	0.500	0.250
Naphthalene	91-20-3	22.3		1.00	0.400	0.200
n-Propylbenzene	103-65-1	21.5		1.00	0.250	0.125
Styrene	100-42-5	21.5		1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	20.8		1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	21.6		1.00	0.400	0.200
Tetrachloroethene	127-18-4	19.7		1.00	0.500	0.250
Toluene	108-88-3	20.7		1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	20.4		1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	20.5		1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	19.8		1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	21.3		1.00	0.500	0.250
Trichloroethene	79-01-6	19.1		1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	16.3		1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	21.4		2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	21.9		1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	21.5		1.00	0.500	0.250
Vinyl chloride	75-01-4	18.7		1.00	0.500	0.250
o-Xylene	95-47-6	21.2		1.00	0.500	0.250
m-,p-Xylene	179601-23-1	42.0		2.00	1.00	0.500
Surrogate	Recovery	Lower Limit	Upper Limit	Q		
Dibromofluoromethane	93.9	85	115			
1,2-Dichloroethane-d4	89.4	70	120			
Toluene-d8	97.2	85	120			
4-Bromofluorobenzene	93.8	75	120			
Q	One or more quality control criteria failed. See narrative.					

Lab Report #: L16100409

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Adriane Steed

Certificate of Analysis

Sample #: L16100409-07	PrePrep Method: N/A	Instrument: HPMS11
Client ID: 35AWW05MSD-100516	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 10/13/2016 18:03
Workgroup #: WG587867	Analyst: FJB	Run Date: 10/17/2016 16:32
Collect Date: 10/05/2016 10:00	Dilution: 1	File ID: 11M14566
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	19.0	Q	10.0	5.00	2.50
Benzene	71-43-2	18.2		1.00	0.250	0.125
Bromobenzene	108-86-1	18.6		1.00	0.250	0.125
Bromochloromethane	74-97-5	18.5		1.00	0.400	0.200
Bromodichloromethane	75-27-4	18.3		1.00	0.500	0.250
Bromoform	75-25-2	18.1		2.00	1.00	0.500
Bromomethane	74-83-9	19.8		2.00	1.00	0.500
2-Butanone	78-93-3	17.1	Q	10.0	5.00	2.50
n-Butylbenzene	104-51-8	18.0		1.00	0.500	0.250
sec-Butylbenzene	135-98-8	18.3		1.00	0.500	0.250
tert-Butylbenzene	98-06-6	18.9		1.00	0.500	0.250
Carbon disulfide	75-15-0	14.9		2.00	1.00	0.500
Carbon tetrachloride	56-23-5	16.2		1.00	0.500	0.250
Chlorobenzene	108-90-7	18.3		1.00	0.250	0.125
Chlorodibromomethane	124-48-1	18.2		1.00	0.500	0.250
Chloroethane	75-00-3	18.0		2.00	1.00	0.500
Chloroform	67-66-3	17.9		1.00	0.250	0.125
Chloromethane	74-87-3	17.1		2.00	1.00	0.500
2-Chlorotoluene	95-49-8	18.5		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	18.0		5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	18.7		1.00	0.500	0.250
Dibromomethane	74-95-3	18.3		1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	18.8		1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	18.5		1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	18.3		1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	11.1		1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	17.9		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	18.4		1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	15.9		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	18.8		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	18.5		1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	19.7		1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	17.2		1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	20.1		1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	18.6		2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	16.6		1.00	0.500	0.250
Ethylbenzene	100-41-4	18.5		1.00	0.500	0.250
2-Hexanone	591-78-6	17.2	Q	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	16.9		1.00	0.500	0.250
Isopropylbenzene	98-82-8	18.3		1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	19.3		1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	17.5		10.0	5.00	2.50
Methylene chloride	75-09-2	18.2		1.00	0.500	0.250
Naphthalene	91-20-3	20.1		1.00	0.400	0.200
n-Propylbenzene	103-65-1	19.1		1.00	0.250	0.125
Styrene	100-42-5	19.4		1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	18.7		1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	20.0		1.00	0.400	0.200
Tetrachloroethene	127-18-4	17.3		1.00	0.500	0.250
Toluene	108-88-3	18.6		1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	18.0		1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	18.2		1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	17.5		1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	19.8		1.00	0.500	0.250
Trichloroethene	79-01-6	16.9		1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	14.6		1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	19.3		2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	19.3		1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	19.4		1.00	0.500	0.250
Vinyl chloride	75-01-4	16.7		1.00	0.500	0.250
o-Xylene	95-47-6	19.1		1.00	0.500	0.250
m-,p-Xylene	179601-23-1	37.5		2.00	1.00	0.500
Surrogate	Recovery	Lower Limit	Upper Limit	Q		
Dibromofluoromethane	92.9	85	115			
1,2-Dichloroethane-d4	88.4	70	120			
Toluene-d8	96.9	85	120			
4-Bromofluorobenzene	94.1	75	120			
Q	One or more quality control criteria failed. See narrative.					

Certificate of Analysis

Sample #: L16100409-08	PrePrep Method: N/A	Instrument: HPMS11
Client ID: 35AWW18-100516	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 10/13/2016 18:03
Workgroup #: WG587867	Analyst: FJB	Run Date: 10/17/2016 19:24
Collect Date: 10/05/2016 11:00	Dilution: 1	File ID: 11M14572
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	3.72	Q	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	Q	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	0.673	J	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	0.563	J	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	0.970	J	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	Q	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	92.7	85	115	
1,2-Dichloroethane-d4	93.8	70	120	
Toluene-d8	95.1	85	120	
4-Bromofluorobenzene	94.7	75	120	
J	Estimated value ; the analyte concentration was less than the LOQ.			

Lab Report #: L16100409**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.

Lab Report #: L16100409

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Adriane Steed

Certificate of Analysis

Sample #: L16100409-09	PrePrep Method: N/A	Instrument: HPMS11
Client ID: 35AWW12-100516	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 10/13/2016 18:03
Workgroup #: WG587867	Analyst: FJB	Run Date: 10/17/2016 19:53
Collect Date: 10/05/2016 13:30	Dilution: 1	File ID: 11M14573
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	3.59	Q	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	Q	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	Q	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	87.4	85	115			
1,2-Dichloroethane-d4	86.3	70	120			
Toluene-d8	91.7	85	120			
4-Bromofluorobenzene	91.3	75	120			
Q	One or more quality control criteria failed. See narrative.					

Lab Report #: L16100409**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.
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Lab Report #: L16100409

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Adriane Steed

Certificate of Analysis

Sample #: L16100409-10	PrePrep Method: N/A	Instrument: HPMS11
Client ID: 35AWW12FD-100516	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 10/13/2016 18:03
Workgroup #: WG587867	Analyst: FJB	Run Date: 10/17/2016 20:22
Collect Date: 10/05/2016 13:30	Dilution: 1	File ID: 11M14574
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	Q	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	Q	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	0.543	J	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	Q	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	92.7	85	115	
1,2-Dichloroethane-d4	89.1	70	120	
Toluene-d8	96.0	85	120	
4-Bromofluorobenzene	96.3	75	120	
J	Estimated value ; the analyte concentration was less than the LOQ.			

Lab Report #: L16100409**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.

Lab Report #: L16100409

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Adriane Steed

Certificate of Analysis

Sample #: L16100409-11	PrePrep Method: N/A	Instrument: HPMS11
Client ID: 35AWW13-100616	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 10/13/2016 18:03
Workgroup #: WG587867	Analyst: FJB	Run Date: 10/17/2016 20:51
Collect Date: 10/06/2016 08:30	Dilution: 1	File ID: 11M14575
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	4.45	Q	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	Q	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	0.667	J	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	Q	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	91.7	70	120	
Toluene-d8	96.4	85	120	
4-Bromofluorobenzene	95.3	75	120	
J	Estimated value ; the analyte concentration was less than the LOQ.			

Lab Report #: L16100409

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.

Lab Report #: L16100409

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Adriane Steed

Certificate of Analysis

Sample #: L16100409-12	PrePrep Method: N/A	Instrument: HPMS11
Client ID: 35AWW22-100616	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 10/13/2016 18:03
Workgroup #: WG587867	Analyst: FJB	Run Date: 10/17/2016 21:20
Collect Date: 10/06/2016 08:55	Dilution: 1	File ID: 11M14576
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	Q	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	Q	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	Q	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	93.0	85	115			
1,2-Dichloroethane-d4	91.7	70	120			
Toluene-d8	96.3	85	120			
4-Bromofluorobenzene	91.7	75	120			
Q	One or more quality control criteria failed. See narrative.					

U	Analyte was not detected. The concentration is below the reported LOD.
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Lab Report #: L16100409

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Adriane Steed

Certificate of Analysis

Sample #: L16100409-13	PrePrep Method: N/A	Instrument: HPMS11
Client ID: 35AWW14-100616	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 10/13/2016 18:03
Workgroup #: WG587867	Analyst: FJB	Run Date: 10/17/2016 21:49
Collect Date: 10/06/2016 09:15	Dilution: 1	File ID: 11M14577
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	4.01	Q	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	Q	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	10.4		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	10.4		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	5.09		1.00	0.500	0.250

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	Q	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	10.2		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	0.303	J	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	91.9	70	120	
Toluene-d8	96.0	85	120	
4-Bromofluorobenzene	95.8	75	120	
J	Estimated value ; the analyte concentration was less than the LOQ.			

Lab Report #: L16100409**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.

Lab Report #: L16100409

Lab Project #: 2551.096

Project Name: Longhorn Army Ammunition

Lab Contact: Adriane Steed

Certificate of Analysis

Sample #: L16100409-14	PrePrep Method: N/A	Instrument: HPMS8
Client ID: LHSMW06-100616	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 09/09/2016 17:52
Workgroup #: WG587982	Analyst: TMB	Run Date: 10/18/2016 15:52
Collect Date: 10/06/2016 09:25	Dilution: 1	File ID: 8M415571
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	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	6.75		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	19.2		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	19.0		1.00	0.500	0.250

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.391	J	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	0.900	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	9.06		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	2.94		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	100	70	120	
Toluene-d8	111	85	120	
4-Bromofluorobenzene	113	75	120	
J	Estimated value ; the analyte concentration was less than the LOQ.			

Lab Report #: L16100409**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.

Certificate of Analysis

Sample #: L16100409-15	PrePrep Method: N/A	Instrument: HPMS8
Client ID: 35AWW19-100616	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 09/09/2016 17:52
Workgroup #: WG587982	Analyst: TMB	Run Date: 10/18/2016 16:21
Collect Date: 10/06/2016 09:35	Dilution: 1	File ID: 8M415572
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	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	2.42		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	2.74		1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	12.9		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,2,2-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	0.754	J	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	97.2	85	115	
1,2-Dichloroethane-d4	96.6	70	120	
Toluene-d8	111	85	120	
4-Bromofluorobenzene	112	75	120	
J	Estimated value ; the analyte concentration was less than the LOQ.			

Lab Report #: L16100409**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.

Certificate of Analysis

Sample #: L16100409-16	PrePrep Method: N/A	Instrument: HPMS8
Client ID: TRIP BLANK	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 09/09/2016 17:52
Workgroup #: WG587982	Analyst: TMB	Run Date: 10/18/2016 14:25
Collect Date: 10/06/2016 00:01	Dilution: 1	File ID: 8M415568
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	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

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	98.8	85	115			
1,2-Dichloroethane-d4	94.9	70	120			
Toluene-d8	105	85	120			
4-Bromofluorobenzene	102	75	120			
Q	One or more quality control criteria failed. See narrative.					

U	Analyte was not detected. The concentration is below the reported LOD.
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Lab Report #: L16100409

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

Certificate of Analysis

Sample #: L16100409-01	PrePrep Method: N/A	Instrument: HPMS11
Client ID: 35AWW01-100516	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 10/13/2016 18:03
Workgroup #: WG587867	Analyst: FJB	Run Date: 10/17/2016 17:58
Collect Date: 10/05/2016 08:05	Dilution: 1	File ID: 11M14569
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	Q	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	Q	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	0.142	J	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	Q	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,1,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.233	J	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	93.8	85	115	
1,2-Dichloroethane-d4	97.5	70	120	
Toluene-d8	98.2	85	120	
4-Bromofluorobenzene	101	75	120	
J	Estimated value ; the analyte concentration was less than the LOQ.			
Q	One or more quality control criteria failed. See narrative.			

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

Sample #: L16100409-02	PrePrep Method: N/A	Instrument: HPMS11
Client ID: 35AWW01MS-100516	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 10/13/2016 18:03
Workgroup #: WG587867	Analyst: FJB	Run Date: 10/17/2016 15:05
Collect Date: 10/05/2016 08:05	Dilution: 1	File ID: 11M14563
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	18.3	Q	10.0	5.00	2.50
Benzene	71-43-2	18.9		1.00	0.250	0.125
Bromobenzene	108-86-1	19.1		1.00	0.250	0.125
Bromochloromethane	74-97-5	19.1		1.00	0.400	0.200
Bromodichloromethane	75-27-4	18.4		1.00	0.500	0.250
Bromoform	75-25-2	17.6		2.00	1.00	0.500
Bromomethane	74-83-9	20.7		2.00	1.00	0.500
2-Butanone	78-93-3	16.9	Q	10.0	5.00	2.50
n-Butylbenzene	104-51-8	18.9		1.00	0.500	0.250
sec-Butylbenzene	135-98-8	19.3		1.00	0.500	0.250
tert-Butylbenzene	98-06-6	19.6		1.00	0.500	0.250
Carbon disulfide	75-15-0	15.8		2.00	1.00	0.500
Carbon tetrachloride	56-23-5	17.4		1.00	0.500	0.250
Chlorobenzene	108-90-7	18.4		1.00	0.250	0.125
Chlorodibromomethane	124-48-1	18.7		1.00	0.500	0.250
Chloroethane	75-00-3	18.9		2.00	1.00	0.500
Chloroform	67-66-3	18.4		1.00	0.250	0.125
Chloromethane	74-87-3	17.4		2.00	1.00	0.500
2-Chlorotoluene	95-49-8	19.1		1.00	0.250	0.125
4-Chlorotoluene	106-43-4	20.2		1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	17.3		5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	18.6		1.00	0.500	0.250
Dibromomethane	74-95-3	19.1		1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	18.9		1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	19.0		1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	18.5		1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	12.3		1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	18.4		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	18.3		1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	16.9		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	19.1		1.00	0.500	0.250

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	18.2		1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	18.7		1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	19.4		1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	18.9		1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	20.7		1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	18.9		2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	17.7		1.00	0.500	0.250
Ethylbenzene	100-41-4	18.9		1.00	0.500	0.250
2-Hexanone	591-78-6	16.1	Q	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	18.6		1.00	0.500	0.250
Isopropylbenzene	98-82-8	18.8		1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	20.1		1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	16.9		10.0	5.00	2.50
Methylene chloride	75-09-2	18.5		1.00	0.500	0.250
Naphthalene	91-20-3	19.8		1.00	0.400	0.200
n-Propylbenzene	103-65-1	20.0		1.00	0.250	0.125
Styrene	100-42-5	19.4		1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	18.8		1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	19.5		1.00	0.400	0.200
Tetrachloroethene	127-18-4	18.1		1.00	0.500	0.250
Toluene	108-88-3	18.9		1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	18.5		1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	18.6		1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	18.4		1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	19.5		1.00	0.500	0.250
Trichloroethene	79-01-6	17.8		1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	15.9		1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	19.2		2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	20.2		1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	20.1		1.00	0.500	0.250
Vinyl chloride	75-01-4	17.8		1.00	0.500	0.250
o-Xylene	95-47-6	19.5		1.00	0.500	0.250
m-,p-Xylene	179601-23-1	38.4		2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	92.3	85	115	
1,2-Dichloroethane-d4	88.5	70	120	
Toluene-d8	96.7	85	120	
4-Bromofluorobenzene	94.0	75	120	
Q	One or more quality control criteria failed. See narrative.			

Certificate of Analysis

Sample #: L16100409-03	PrePrep Method: N/A	Instrument: HPMS11
Client ID: 35AWW01MSD-100516	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 10/13/2016 18:03
Workgroup #: WG587867	Analyst: FJB	Run Date: 10/17/2016 15:34
Collect Date: 10/05/2016 08:05	Dilution: 1	File ID: 11M14564
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	21.2	Q	10.0	5.00	2.50
Benzene	71-43-2	20.1		1.00	0.250	0.125
Bromobenzene	108-86-1	21.3		1.00	0.250	0.125
Bromochloromethane	74-97-5	20.7		1.00	0.400	0.200
Bromodichloromethane	75-27-4	19.7		1.00	0.500	0.250
Bromoform	75-25-2	19.6		2.00	1.00	0.500
Bromomethane	74-83-9	21.9		2.00	1.00	0.500
2-Butanone	78-93-3	18.5	Q	10.0	5.00	2.50
n-Butylbenzene	104-51-8	21.1		1.00	0.500	0.250
sec-Butylbenzene	135-98-8	21.6		1.00	0.500	0.250
tert-Butylbenzene	98-06-6	21.9		1.00	0.500	0.250
Carbon disulfide	75-15-0	16.8		2.00	1.00	0.500
Carbon tetrachloride	56-23-5	18.8		1.00	0.500	0.250
Chlorobenzene	108-90-7	20.7		1.00	0.250	0.125
Chlorodibromomethane	124-48-1	20.4		1.00	0.500	0.250
Chloroethane	75-00-3	20.1		2.00	1.00	0.500
Chloroform	67-66-3	19.9		1.00	0.250	0.125
Chloromethane	74-87-3	18.6		2.00	1.00	0.500
2-Chlorotoluene	95-49-8	21.2		1.00	0.250	0.125
4-Chlorotoluene	106-43-4	22.5		1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	19.3		5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	20.8		1.00	0.500	0.250
Dibromomethane	74-95-3	20.0		1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	21.4		1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	20.9		1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	21.0		1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	13.0		1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	19.8		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	20.1		1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	17.7		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	20.8		1.00	0.500	0.250

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	19.4		1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	20.5		1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	21.8		1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	20.2		1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	22.3		1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	20.7		2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	18.9		1.00	0.500	0.250
Ethylbenzene	100-41-4	20.6		1.00	0.500	0.250
2-Hexanone	591-78-6	18.2	Q	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	21.1		1.00	0.500	0.250
Isopropylbenzene	98-82-8	20.4		1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	22.5		1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	18.6		10.0	5.00	2.50
Methylene chloride	75-09-2	20.4		1.00	0.500	0.250
Naphthalene	91-20-3	22.5		1.00	0.400	0.200
n-Propylbenzene	103-65-1	22.3		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	20.9		1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	21.8		1.00	0.400	0.200
Tetrachloroethene	127-18-4	19.5		1.00	0.500	0.250
Toluene	108-88-3	21.1		1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	21.0		1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	21.1		1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	19.9		1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	21.4		1.00	0.500	0.250
Trichloroethene	79-01-6	19.2		1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	16.6		1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	21.5		2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	22.5		1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	22.5		1.00	0.500	0.250
Vinyl chloride	75-01-4	18.5		1.00	0.500	0.250
o-Xylene	95-47-6	21.3		1.00	0.500	0.250
m-,p-Xylene	179601-23-1	42.2		2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	90.4	85	115	
1,2-Dichloroethane-d4	87.2	70	120	
Toluene-d8	95.6	85	120	
4-Bromofluorobenzene	94.6	75	120	
Q	One or more quality control criteria failed. See narrative.			

Certificate of Analysis

Sample #: L16100409-04

PrePrep Method: N/A

Instrument: HPMS11

Client ID: 35AWW15-100516

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260B

Cal Date: 10/13/2016 18:03

Workgroup #: WG587867

Analyst: FJB

Run Date: 10/17/2016 18:55

Collect Date: 10/05/2016 09:00

Dilution: 1

File ID: 11M14571

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	4.49	Q	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	Q	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	Q	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,1,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	92.8	85	115	
1,2-Dichloroethane-d4	97.9	70	120	
Toluene-d8	99.3	85	120	
4-Bromofluorobenzene	103	75	120	
Q	One or more quality control criteria failed. See narrative.			

Lab Report #: L16100409

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.
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Certificate of Analysis

Sample #: L16100409-05

PrePrep Method: N/A

Instrument: HPMS11

Client ID: 35AWW05-100516

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260B

Cal Date: 10/13/2016 18:03

Workgroup #: WG587867

Analyst: FJB

Run Date: 10/17/2016 18:27

Collect Date: 10/05/2016 10:00

Dilution: 1

File ID: 11M14570

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	Q	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	Q	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	Q	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,1,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	92.4	85	115	
1,2-Dichloroethane-d4	94.3	70	120	
Toluene-d8	96.1	85	120	
4-Bromofluorobenzene	96.4	75	120	
Q	One or more quality control criteria failed. See narrative.			

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

Sample #: L16100409-06	PrePrep Method: N/A	Instrument: HPMS11
Client ID: 35AWW05MS-100516	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 10/13/2016 18:03
Workgroup #: WG587867	Analyst: FJB	Run Date: 10/17/2016 16:03
Collect Date: 10/05/2016 10:00	Dilution: 1	File ID: 11M14565
Sample Tag: 01	Units: ug/L	

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	20.8	Q	10.0	5.00	2.50
Benzene	71-43-2	20.5		1.00	0.250	0.125
Bromobenzene	108-86-1	20.4		1.00	0.250	0.125
Bromochloromethane	74-97-5	21.2		1.00	0.400	0.200
Bromodichloromethane	75-27-4	19.8		1.00	0.500	0.250
Bromoform	75-25-2	20.3		2.00	1.00	0.500
Bromomethane	74-83-9	22.0		2.00	1.00	0.500
2-Butanone	78-93-3	19.7	Q	10.0	5.00	2.50
n-Butylbenzene	104-51-8	20.3		1.00	0.500	0.250
sec-Butylbenzene	135-98-8	20.7		1.00	0.500	0.250
tert-Butylbenzene	98-06-6	20.8		1.00	0.500	0.250
Carbon disulfide	75-15-0	17.1		2.00	1.00	0.500
Carbon tetrachloride	56-23-5	18.4		1.00	0.500	0.250
Chlorobenzene	108-90-7	20.2		1.00	0.250	0.125
Chlorodibromomethane	124-48-1	20.8		1.00	0.500	0.250
Chloroethane	75-00-3	20.7		2.00	1.00	0.500
Chloroform	67-66-3	20.4		1.00	0.250	0.125
Chloromethane	74-87-3	19.3		2.00	1.00	0.500
2-Chlorotoluene	95-49-8	21.0		1.00	0.250	0.125
4-Chlorotoluene	106-43-4	21.9		1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	19.0		5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	20.8		1.00	0.500	0.250
Dibromomethane	74-95-3	20.4		1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	21.0		1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	20.7		1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	20.6		1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	12.2		1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	20.0		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	20.0		1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	17.9		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	20.5		1.00	0.500	0.250

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	19.3		1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	20.9		1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	21.9		1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	19.8		1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	22.7		1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	20.8		2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	18.6		1.00	0.500	0.250
Ethylbenzene	100-41-4	20.4		1.00	0.500	0.250
2-Hexanone	591-78-6	19.0	Q	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	20.0		1.00	0.500	0.250
Isopropylbenzene	98-82-8	20.3		1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	21.5		1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	19.6		10.0	5.00	2.50
Methylene chloride	75-09-2	20.6		1.00	0.500	0.250
Naphthalene	91-20-3	22.3		1.00	0.400	0.200
n-Propylbenzene	103-65-1	21.5		1.00	0.250	0.125
Styrene	100-42-5	21.5		1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	20.8		1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	21.6		1.00	0.400	0.200
Tetrachloroethene	127-18-4	19.7		1.00	0.500	0.250
Toluene	108-88-3	20.7		1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	20.4		1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	20.5		1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	19.8		1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	21.3		1.00	0.500	0.250
Trichloroethene	79-01-6	19.1		1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	16.3		1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	21.4		2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	21.9		1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	21.5		1.00	0.500	0.250
Vinyl chloride	75-01-4	18.7		1.00	0.500	0.250
o-Xylene	95-47-6	21.2		1.00	0.500	0.250
m-,p-Xylene	179601-23-1	42.0		2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	93.9	85	115	
1,2-Dichloroethane-d4	89.4	70	120	
Toluene-d8	97.2	85	120	
4-Bromofluorobenzene	93.8	75	120	
Q	One or more quality control criteria failed. See narrative.			

Certificate of Analysis

Sample #: L16100409-07

PrePrep Method: N/A

Instrument: HPMS11

Client ID: 35AWW05MSD-100516

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260B

Cal Date: 10/13/2016 18:03

Workgroup #: WG587867

Analyst: FJB

Run Date: 10/17/2016 16:32

Collect Date: 10/05/2016 10:00

Dilution: 1

File ID: 11M14566

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	19.0	Q	10.0	5.00	2.50
Benzene	71-43-2	18.2		1.00	0.250	0.125
Bromobenzene	108-86-1	18.6		1.00	0.250	0.125
Bromochloromethane	74-97-5	18.5		1.00	0.400	0.200
Bromodichloromethane	75-27-4	18.3		1.00	0.500	0.250
Bromoform	75-25-2	18.1		2.00	1.00	0.500
Bromomethane	74-83-9	19.8		2.00	1.00	0.500
2-Butanone	78-93-3	17.1	Q	10.0	5.00	2.50
n-Butylbenzene	104-51-8	18.0		1.00	0.500	0.250
sec-Butylbenzene	135-98-8	18.3		1.00	0.500	0.250
tert-Butylbenzene	98-06-6	18.9		1.00	0.500	0.250
Carbon disulfide	75-15-0	14.9		2.00	1.00	0.500
Carbon tetrachloride	56-23-5	16.2		1.00	0.500	0.250
Chlorobenzene	108-90-7	18.3		1.00	0.250	0.125
Chlorodibromomethane	124-48-1	18.2		1.00	0.500	0.250
Chloroethane	75-00-3	18.0		2.00	1.00	0.500
Chloroform	67-66-3	17.9		1.00	0.250	0.125
Chloromethane	74-87-3	17.1		2.00	1.00	0.500
2-Chlorotoluene	95-49-8	18.5		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	18.0		5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	18.7		1.00	0.500	0.250
Dibromomethane	74-95-3	18.3		1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	18.8		1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	18.5		1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	18.3		1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	11.1		1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	17.9		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	18.4		1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	15.9		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	18.8		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	18.5		1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	19.7		1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	17.2		1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	20.1		1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	18.6		2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	16.6		1.00	0.500	0.250
Ethylbenzene	100-41-4	18.5		1.00	0.500	0.250
2-Hexanone	591-78-6	17.2	Q	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	16.9		1.00	0.500	0.250
Isopropylbenzene	98-82-8	18.3		1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	19.3		1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	17.5		10.0	5.00	2.50
Methylene chloride	75-09-2	18.2		1.00	0.500	0.250
Naphthalene	91-20-3	20.1		1.00	0.400	0.200
n-Propylbenzene	103-65-1	19.1		1.00	0.250	0.125
Styrene	100-42-5	19.4		1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	18.7		1.00	0.500	0.250
1,1,2,2-Tetrachloroethane	79-34-5	20.0		1.00	0.400	0.200
Tetrachloroethene	127-18-4	17.3		1.00	0.500	0.250
Toluene	108-88-3	18.6		1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	18.0		1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	18.2		1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	17.5		1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	19.8		1.00	0.500	0.250
Trichloroethene	79-01-6	16.9		1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	14.6		1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	19.3		2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	19.3		1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	19.4		1.00	0.500	0.250
Vinyl chloride	75-01-4	16.7		1.00	0.500	0.250
o-Xylene	95-47-6	19.1		1.00	0.500	0.250
m-,p-Xylene	179601-23-1	37.5		2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	92.9	85	115	
1,2-Dichloroethane-d4	88.4	70	120	
Toluene-d8	96.9	85	120	
4-Bromofluorobenzene	94.1	75	120	
Q	One or more quality control criteria failed. See narrative.			

Certificate of Analysis

Sample #: L16100409-08

PrePrep Method: N/A

Instrument: HPMS11

Client ID: 35AWW18-100516

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260B

Cal Date: 10/13/2016 18:03

Workgroup #: WG587867

Analyst: FJB

Run Date: 10/17/2016 19:24

Collect Date: 10/05/2016 11:00

Dilution: 1

File ID: 11M14572

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	3.72	Q	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	Q	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	0.673	J	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	0.563	J	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	0.970	J	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	Q	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	92.7	85	115	
1,2-Dichloroethane-d4	93.8	70	120	
Toluene-d8	95.1	85	120	
4-Bromofluorobenzene	94.7	75	120	

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

Lab Report #: L16100409

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.

Certificate of Analysis

Sample #: L16100409-09

PrePrep Method: N/A

Instrument: HPMS11

Client ID: 35AWW12-100516

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260B

Cal Date: 10/13/2016 18:03

Workgroup #: WG587867

Analyst: FJB

Run Date: 10/17/2016 19:53

Collect Date: 10/05/2016 13:30

Dilution: 1

File ID: 11M14573

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	3.59	Q	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	Q	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	Q	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	87.4	85	115	
1,2-Dichloroethane-d4	86.3	70	120	
Toluene-d8	91.7	85	120	
4-Bromofluorobenzene	91.3	75	120	
Q	One or more quality control criteria failed. See narrative.			

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

Sample #: L16100409-10

PrePrep Method: N/A

Instrument: HPMS11

Client ID: 35AWW12FD-100516

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260B

Cal Date: 10/13/2016 18:03

Workgroup #: WG587867

Analyst: FJB

Run Date: 10/17/2016 20:22

Collect Date: 10/05/2016 13:30

Dilution: 1

File ID: 11M14574

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	Q	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	Q	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	0.543	J	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	Q	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,1,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	92.7	85	115	
1,2-Dichloroethane-d4	89.1	70	120	
Toluene-d8	96.0	85	120	
4-Bromofluorobenzene	96.3	75	120	
J	Estimated value ; the analyte concentration was less than the LOQ.			

Lab Report #: L16100409

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.

Certificate of Analysis

Sample #: L16100409-11

PrePrep Method: N/A

Instrument: HPMS11

Client ID: 35AWW13-100616

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260B

Cal Date: 10/13/2016 18:03

Workgroup #: WG587867

Analyst: FJB

Run Date: 10/17/2016 20:51

Collect Date: 10/06/2016 08:30

Dilution: 1

File ID: 11M14575

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	4.45	Q	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	Q	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	0.667	J	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	Q	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,1,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	93.5	85	115	
1,2-Dichloroethane-d4	91.7	70	120	
Toluene-d8	96.4	85	120	
4-Bromofluorobenzene	95.3	75	120	

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

Lab Report #: L16100409

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.

Certificate of Analysis

Sample #: L16100409-12

PrePrep Method: N/A

Instrument: HPMS11

Client ID: 35AWW22-100616

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260B

Cal Date: 10/13/2016 18:03

Workgroup #: WG587867

Analyst: FJB

Run Date: 10/17/2016 21:20

Collect Date: 10/06/2016 08:55

Dilution: 1

File ID: 11M14576

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	5.00	Q	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	Q	10.0	5.00	2.50
n-Butylbenzene	104-51-8	0.500	U	1.00	0.500	0.250
sec-Butylbenzene	135-98-8	0.500	U	1.00	0.500	0.250
tert-Butylbenzene	98-06-6	0.500	U	1.00	0.500	0.250
Carbon disulfide	75-15-0	1.00	U	2.00	1.00	0.500
Carbon tetrachloride	56-23-5	0.500	U	1.00	0.500	0.250
Chlorobenzene	108-90-7	0.250	U	1.00	0.250	0.125
Chlorodibromomethane	124-48-1	0.500	U	1.00	0.500	0.250
Chloroethane	75-00-3	1.00	U	2.00	1.00	0.500
Chloroform	67-66-3	0.250	U	1.00	0.250	0.125
Chloromethane	74-87-3	1.00	U	2.00	1.00	0.500
2-Chlorotoluene	95-49-8	0.250	U	1.00	0.250	0.125
4-Chlorotoluene	106-43-4	0.500	U	1.00	0.500	0.250
1,2-Dibromo-3-chloropropane	96-12-8	2.00	U	5.00	2.00	1.00
1,2-Dibromoethane	106-93-4	0.500	U	1.00	0.500	0.250
Dibromomethane	74-95-3	0.500	U	1.00	0.500	0.250
1,2-Dichlorobenzene	95-50-1	0.250	U	1.00	0.250	0.125
1,3-Dichlorobenzene	541-73-1	0.500	U	1.00	0.500	0.250
1,4-Dichlorobenzene	106-46-7	0.250	U	1.00	0.250	0.125
Dichlorodifluoromethane	75-71-8	0.500	U	1.00	0.500	0.250
1,1-Dichloroethane	75-34-3	0.250	U	1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	0.500	U	1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	1.00	U	2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	Q	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,1,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.500	U	1.00	0.500	0.250
Trichlorofluoromethane	75-69-4	0.500	U	1.00	0.500	0.250
1,2,3-Trichloropropane	96-18-4	1.00	U	2.00	1.00	0.500
1,2,4-Trimethylbenzene	95-63-6	0.500	U	1.00	0.500	0.250
1,3,5-Trimethylbenzene	108-67-8	0.500	U	1.00	0.500	0.250
Vinyl chloride	75-01-4	0.500	U	1.00	0.500	0.250
o-Xylene	95-47-6	0.500	U	1.00	0.500	0.250
m-,p-Xylene	179601-23-1	1.00	U	2.00	1.00	0.500

Surrogate	Recovery	Lower Limit	Upper Limit	Q
Dibromofluoromethane	93.0	85	115	
1,2-Dichloroethane-d4	91.7	70	120	
Toluene-d8	96.3	85	120	
4-Bromofluorobenzene	91.7	75	120	
Q	One or more quality control criteria failed. See narrative.			

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

Sample #: L16100409-13

PrePrep Method: N/A

Instrument: HPMS11

Client ID: 35AWW14-100616

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260B

Cal Date: 10/13/2016 18:03

Workgroup #: WG587867

Analyst: FJB

Run Date: 10/17/2016 21:49

Collect Date: 10/06/2016 09:15

Dilution: 1

File ID: 11M14577

Sample Tag: 01

Units: ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Acetone	67-64-1	4.01	Q	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	Q	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	10.4		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	10.4		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	5.09		1.00	0.500	0.250

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	Q	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,1,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	10.2		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	0.303	J	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	91.9	70	120	
Toluene-d8	96.0	85	120	
4-Bromofluorobenzene	95.8	75	120	
J	Estimated value ; the analyte concentration was less than the LOQ.			

Lab Report #: L16100409

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.

Certificate of Analysis

Sample #: L16100409-14

PrePrep Method: N/A

Instrument: HPMS8

Client ID: LHSMW06-100616

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260B

Cal Date: 09/09/2016 17:52

Workgroup #: WG587982

Analyst: TMB

Run Date: 10/18/2016 15:52

Collect Date: 10/06/2016 09:25

Dilution: 1

File ID: 8M415571

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	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	6.75		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	19.2		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	19.0		1.00	0.500	0.250

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.391	J	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,1,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.900	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	9.06		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	2.94		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	100	70	120	
Toluene-d8	111	85	120	
4-Bromofluorobenzene	113	75	120	

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

Lab Report #: L16100409

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.

Certificate of Analysis

Sample #: L16100409-15

PrePrep Method: N/A

Instrument: HPMS8

Client ID: 35AWW19-100616

Prep Method: 5030B/5030C/5035A

Prep Date: N/A

Matrix: Water

Analytical Method: 8260B

Cal Date: 09/09/2016 17:52

Workgroup #: WG587982

Analyst: TMB

Run Date: 10/18/2016 16:21

Collect Date: 10/06/2016 09:35

Dilution: 1

File ID: 8M415572

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	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	2.42		1.00	0.250	0.125
1,2-Dichloroethane	107-06-2	2.74		1.00	0.500	0.250
1,1-Dichloroethene	75-35-4	12.9		2.00	1.00	0.500
cis-1,2-Dichloroethene	156-59-2	0.500	U	1.00	0.500	0.250

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
trans-1,2-Dichloroethene	156-60-5	0.500	U	1.00	0.500	0.250
1,2-Dichloropropane	78-87-5	0.400	U	1.00	0.400	0.200
1,3-Dichloropropane	142-28-9	0.400	U	1.00	0.400	0.200
2,2-Dichloropropane	594-20-7	0.500	U	1.00	0.500	0.250
cis-1,3-Dichloropropene	10061-01-5	0.500	U	1.00	0.500	0.250
trans-1,3-Dichloropropene	10061-02-6	1.00	U	2.00	1.00	0.500
1,1-Dichloropropene	563-58-6	0.500	U	1.00	0.500	0.250
Ethylbenzene	100-41-4	0.500	U	1.00	0.500	0.250
2-Hexanone	591-78-6	5.00	U	10.0	5.00	2.50
Hexachlorobutadiene	87-68-3	0.500	U	1.00	0.500	0.250
Isopropylbenzene	98-82-8	0.500	U	1.00	0.500	0.250
p-Isopropyltoluene	99-87-6	0.500	U	1.00	0.500	0.250
4-Methyl-2-pentanone	108-10-1	5.00	U	10.0	5.00	2.50
Methylene chloride	75-09-2	0.500	U	1.00	0.500	0.250
Naphthalene	91-20-3	0.400	U	1.00	0.400	0.200
n-Propylbenzene	103-65-1	0.250	U	1.00	0.250	0.125
Styrene	100-42-5	0.250	U	1.00	0.250	0.125
1,1,1,2-Tetrachloroethane	630-20-6	0.500	U	1.00	0.500	0.250
1,1,1,2-Tetrachloroethane	79-34-5	0.400	U	1.00	0.400	0.200
Tetrachloroethene	127-18-4	0.500	U	1.00	0.500	0.250
Toluene	108-88-3	0.500	U	1.00	0.500	0.250
1,2,3-Trichlorobenzene	87-61-6	0.300	U	1.00	0.300	0.150
1,2,4-Trichlorobenzene	120-82-1	0.400	U	1.00	0.400	0.200
1,1,1-Trichloroethane	71-55-6	0.500	U	1.00	0.500	0.250
1,1,2-Trichloroethane	79-00-5	0.500	U	1.00	0.500	0.250
Trichloroethene	79-01-6	0.754	J	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	97.2	85	115	
1,2-Dichloroethane-d4	96.6	70	120	
Toluene-d8	111	85	120	
4-Bromofluorobenzene	112	75	120	

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

Lab Report #: L16100409

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.

Certificate of Analysis

Sample #: L16100409-16	PrePrep Method: N/A	Instrument: HPMS8
Client ID: TRIP BLANK	Prep Method: 5030B/5030C/5035A	Prep Date: N/A
Matrix: Water	Analytical Method: 8260B	Cal Date: 09/09/2016 17:52
Workgroup #: WG587982	Analyst: TMB	Run Date: 10/18/2016 14:25
Collect Date: 10/06/2016 00:01	Dilution: 1	File ID: 8M415568
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	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

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	98.8	85	115	
1,2-Dichloroethane-d4	94.9	70	120	
Toluene-d8	105	85	120	
4-Bromofluorobenzene	102	75	120	
Q	One or more quality control criteria failed. See narrative.			

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

2.1.1.2 QC Summary Data

Example 8260 Calculations

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

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

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

Example

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

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

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

Example

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

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

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

Example

Dry weight correction:

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

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

4.0 Concentration from Linear Regression

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

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

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

m = slope from curve = 0.213

b = intercept from curve = - 0.00642

Step 2: Calculate y from Quantitation Report

$$y = 86550/593147 = 0.1459$$

Step 3: Solve for x

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

Step 4: Solve for analyte concentration Cx

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

Example Spreadsheet Calculation:

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

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

Where:

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

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

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

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

Step 2: Calculate y from Quantitation Report

$$y = Ax/Ais$$

Step 3: Solve for x using the quadratic formula

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

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

Step 4: Solve for analyte concentration Cx

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

Example Spreadsheet Calculation:

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

Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS8 Dataset: 051716
 Analyst1: TMB Analyst2: FJB
 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: STD75899 Surrogate Standard: STD75899
 CCV: STD76072; STD76127 LCS: STD76109; STD75801 MS/MSD: NA
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: WG569079; WG569083

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
8M412319	WG569084-01 50ng BFB STD 8260	NA	1	1	STD76034	05/17/16 08:53
8M412320	WG569084-02 50ug/L CCV STD 8260	NA	1	1	STD76127	05/17/16 09:18
8M412321	WG569079-01 100ug/L A9 CCV STD 8260	NA	1	1	STD76072	05/17/16 09:47
8M412322	WG569079-03 50ug/L A9/FOO STD 8260	NA	1	1	STD76072	05/17/16 10:16
8M412323	WG569079-04 20ug/L A9/FOO STD 8260	NA	1	1	STD76072	05/17/16 10:44
8M412324	WG569079-05 5ug/L A9/FOO STD 8260	NA	1	1	STD76072	05/17/16 11:13
8M412325	WG569079-06 200ug/L A9/FOO STD 8260	NA	1	1	STD76072	05/17/16 11:42
8M412326	WG569079-07 300ug/L A9/FOO STD 8260	NA	1	1	STD76072	05/17/16 12:40
8M412327	WG569079-08 400ug/L A9/FOO STD 8260	NA	1	1	STD76072	05/17/16 13:10
8M412328	WG569079-09 500ug/L A9/FOO STD 8260	NA	1	1	STD76072	05/17/16 13:39
8M412329	RINSE	NA	1	1		05/17/16 14:08
8M412330	RINSE	NA	1	1		05/17/16 14:37
8M412331	WG569079-10 100ug/L ALT SRC STD 826	NA	1	1	STD75801	05/17/16 15:06
8M412332	WG569259-01 BFB 50ng 8260	NA	1	1	STD76034	05/17/16 18:27
8M412333	WG569259-02 50ug/L CCV 8260	NA	1	1	STD76034	05/17/16 18:53
8M412334	WG569260-01 100ug/L CCV A9	NA	1	1	STD76072	05/17/16 19:22
8M412335	WG569083-01 VBLK0517 BLANK 8260	NA	1	1		05/17/16 19:51
8M412336	WG569083-02 20ug/L LCS 8260	NA	1	1	STD76109	05/17/16 20:20
8M412337	WG569083-03 20ug/L LCS2 8260	NA	1	1	STD76109	05/17/16 20:49
8M412338	WG569083-04 100ug/L LCS A9	NA	1	1	STD75801	05/17/16 21:18
8M412339	WG569083-05 100ug/L LCS2 A9	NA	1	1	STD75801	05/17/16 21:46
8M412340	L16050844-01 TB A 826-A9-SPE	5	1	1		05/17/16 22:16
8M412341	L16050844-07 EB A 826-A9-SPE	5	1	1		05/17/16 22:45
8M412342	L16050844-11 AB A 826-A9-SPE	5	1	1		05/17/16 23:14
8M412343	L16050844-02 A 826-A9-SPE	6	1	1		05/17/16 23:43
8M412344	L16050844-05 A 826-A9-SPE	6	1	1		05/18/16 00:12
8M412345	L16050844-06 A 826-A9-SPE	6	1	1		05/18/16 00:41
8M412346	L16050844-12 A 826-A9-SPE	6	1	1		05/18/16 01:10
8M412347	L16050840-01 A 826-A9-SPE	7	1	1		05/18/16 01:38
8M412348	L16050844-08 A 826-A9-SPE	7	1	1		05/18/16 02:07
8M412349	L16050844-13 A 826-A9-SPE	7	1	1		05/18/16 02:36
8M412350	L16050844-15 A 826-A9-SPE	7	1	1		05/18/16 03:05
8M412351	L16050839-01 A 826-A9-SPE	7	1	1		05/18/16 03:33
8M412352	L16050844-03 2.5X A 826-A9-SPE	7	1	2.5		05/18/16 04:02

Approved: May 20, 2016

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Instrument Run Log

Instrument: HPMS8 Dataset: 051716
 Analyst1: TMB Analyst2: FJB
 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: STD75899 Surrogate Standard: STD75899
 CCV: STD76072; STD76127 LCS: STD76109; STD75801 MS/MSD: NA
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: WG569079; WG569083

Comments: _____

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
8M412353	L16050844-04 5X A 826-A9-SPE	7	1	5		05/18/16 04:31
8M412354	L16050844-09 5X A 826-A9-SPE	7	1	5		05/18/16 05:01
8M412355	L16050844-10 5X A 826-A9-SPE	7	1	5		05/18/16 05:30
8M412356	L16050844-14 50X A 826-A9-SPE	7	1	50		05/18/16 05:59
8M412357	RINSE	NA	1	1		05/18/16 06:28

Comments

Seq.	Rerun	Dil.	Reason	Analytes
2				
File ID: 8M412320				
DNR. Running an a9/foo curve.				
32	X	10	Over Calibration Range	CIS12-DCE
File ID: 8M412350				
40	X	2.5	Analyzed too dilute	
File ID: 8M412353				
DNR.				
37	X	25	Over Calibration Range	TCE
File ID: 8M412355				
38	X	20	Analyzed too dilute	
File ID: 8M412356				
DNR.				

Approved: May 20, 2016

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Sarah Vandenberg



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: HPMS8 Dataset: 090916
 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: STD77877 Surrogate Standard: STD77877
 CCV: STD77942 LCS: STD77928 MS/MSD: NA
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: WG582739

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
8M414698	RINSE	NA	1	1		09/09/16 11:00
8M414699	5ug/L STD	NA	1	1	STD77942	09/09/16 11:29
8M414700	RINSE	NA	1	1		09/09/16 11:58
8M414701	RINSE	NA	1	1		09/09/16 12:26
8M414702	WG582739-01 50ng BFB STD 8260	NA	1	1	STD77509	09/09/16 12:56
8M414703	WG582739-02 0.3ug/L STD 8260	NA	1	1	STD77942	09/09/16 13:20
8M414704	WG582739-03 0.4ug/L STD 8260	NA	1	1	STD77942	09/09/16 13:53
8M414705	WG582739-04 1ug/L STD 8260	NA	1	1	STD77942	09/09/16 14:21
8M414706	WG582739-05 2ug/L STD 8260	NA	1	1	STD77942	09/09/16 14:50
8M414707	WG582739-06 5ug/L STD 8260	NA	1	1	STD77942	09/09/16 15:19
8M414708	WG582739-07 20ug/L STD 8260	NA	1	1	STD77942	09/09/16 15:56
8M414709	WG582739-08 50ug/L STD 8260	NA	1	1	STD77942	09/09/16 16:25
8M414710	WG582739-09 100ug/L STD 8260	NA	1	1	STD77942	09/09/16 16:54
8M414711	WG582739-10 200ug/L STD 8260	NA	1	1	STD77942	09/09/16 17:23
8M414712	WG582739-11 300ug/L STD 8260	NA	1	1	STD77942	09/09/16 17:52
8M414713	RINSE	NA	1	1		09/09/16 18:21
8M414714	RINSE	NA	1	1		09/09/16 18:49
8M414715	WG582739-12 50ug/L ALT SRC STD 8260	NA	1	1	STD77928	09/09/16 19:18
8M414716	RINSE	NA	1	1		09/09/16 19:47

Approved: September 14, 2016

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[Signature]



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

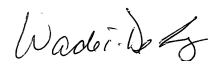
Internal Standard: STD78415 Surrogate Standard: STD78416
 CCV: STD78143 LCS: STD78362 MS/MSD: STD78362
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: WG587480

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: HPMS11 Dataset: 101716
 Analyst1: FJB Analyst2: TMB
 Method: 8260B SOP: MSV01 Rev: 24
 Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18
 Method: 624 SOP: MSV10 Rev: 15
 Maintenance Log ID: _____

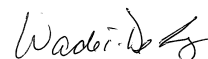
Internal Standard: STD78415 Surrogate Standard: STD78416
 CCV: STD78477 LCS: STD78491 MS/MSD: STD78491
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: WG587867, WG587876

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
11M14555	RINSE W/MEOH	NA	1	1		10/17/16 10:19
11M14556	RINSE	NA	1	1		10/17/16 10:48
11M14557	WG587866-01 BFB 50ng 8260	NA	1	1	STD78474	10/17/16 12:08
11M14558	WG587866-02 50ug/L CCV 8260	NA	1	1	STD78477	10/17/16 12:33
11M14559	WG587866-02 50ug/L CCV 8260	NA	1	1	STD78477	10/17/16 13:05
11M14560	WG587XXX-01 100ug/L CCV A9	NA	1	1	STDXXXXX	10/17/16 13:38
11M14561	WG587867-01 BLANK 8260	NA	1	1		10/17/16 14:07
11M14562	WG587867-02 20ug/L LCS 8260	NA	1	1	STD78491	10/17/16 14:36
11M14563	L16100409-02 A MS 826-LOW	<2	1	1	STD78491	10/17/16 15:05
11M14564	L16100409-03 A MSD 826-LOW	<2	1	1	STD78491	10/17/16 15:34
11M14565	L16100409-06 A MS 826-LOW	<2	1	1	STD78491	10/17/16 16:03
11M14566	L16100409-07 A MSD 826-LOW	<2	1	1	STD78491	10/17/16 16:32
11M14567	L16100628-01 A 10X 826-TC	NA	17	10		10/17/16 17:01
11M14568	L16100394-04 A TB 826-SPE	<2	1	1		10/17/16 17:29
11M14569	L16100409-01 A REF 826-LOW	<2	1	1		10/17/16 17:58
11M14570	L16100409-05 A REF 826-LOW	<2	1	1		10/17/16 18:27
11M14571	L16100409-04 A 826-LOW	<2	1	1		10/17/16 18:55
11M14572	L16100409-08 A 826-LOW	<2	1	1		10/17/16 19:24
11M14573	L16100409-09 A 826-LOW	<2	1	1		10/17/16 19:53
11M14574	L16100409-10 A 826-LOW	<2	1	1		10/17/16 20:22
11M14575	L16100409-11 A 826-LOW	<2	1	1		10/17/16 20:51
11M14576	L16100409-12 A 826-LOW	<2	1	1		10/17/16 21:20
11M14577	L16100409-13 A 826-LOW	<2	1	1		10/17/16 21:49
11M14578	L16100194-01 C 10X 826-SPE	7	1	10		10/17/16 22:18
11M14579	L16100394-03 A 5X 826-SPE	<2	1	5		10/17/16 22:47
11M14580	L16100394-02 A 10X 826-SPE	<2	1	10		10/17/16 23:16
11M14581	L16100394-01 A 20X 826-SPE	<2	1	20		10/17/16 23:45
11M14582	RINSE	NA	1	1		10/18/16 00:14
11M14583	WG587876-01 20ug/L LCS STD 624	NA	2	1	STD78491	10/18/16 00:43
11M14584	WG587876-02 20ug/L LCS2 STD 624	NA	2	1	STD78491	10/18/16 01:12
11M14585	RINSE	NA	2	1		10/18/16 01:41
11M14586	WG587876-03 VBLK1017 BLANK STD 624	NA	2	1		10/18/16 02:10
11M14587	L16100790-03 A 624	<2	2	1		10/18/16 02:38
11M14588	L16100790-02 A 624	<2	2	1		10/18/16 03:07

Approved: October 19, 2016

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Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS11 Dataset: 101716
 Analyst1: FJB Analyst2: TMB
 Method: 8260B SOP: MSV01 Rev: 24
 Method: 5030B/5030C/5035A SOP: PAT01 Rev: 18
 Method: 624 SOP: MSV10 Rev: 15
 Maintenance Log ID: _____

Internal Standard: STD78415 Surrogate Standard: STD78416
 CCV: STD78477 LCS: STD78491 MS/MSD: STD78491
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: WG587867, WG587876

Comments: _____

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
11M14589	L16100767-01 A 624-SPE	5	2	1		10/18/16 03:36
11M14590	L16100767-02 A 624-SPE	5	2	1		10/18/16 04:05
11M14591	CCV	NA	2	1		10/18/16 04:34
11M14592	RINSE	NA	2	1		10/18/16 05:04
11M14593	RINSE	NA	1	1		10/18/16 05:32

Comments

Seq.	Rerun	Dil.	Reason	Analytes
4	X			
File ID: 11M14558				
Ketones and 1,4-dioxane were low, DNR.				
6				
File ID: 11M14560				
Not needed, DNR.				
14	X	1		
File ID: 11M14568				
Rerun to confirm acetone and 1,4-dioxane.				
25	X	1	Analyzed too dilute	
File ID: 11M14579				
26	X	25	Over Calibration Range	naph
File ID: 11M14580				
27	X	20		
File ID: 11M14581				
Rerun to confirm acetone and 1,4-dioxane.				

Approved: October 19, 2016

Page: 2

Wade D. [Signature]



Microbac Laboratories Inc.

Instrument Run Log

Instrument: HPMS8 Dataset: 101816
 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: 53938

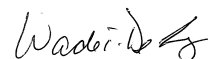
Internal Standard: STD78510 Surrogate Standard: STD78510
 CCV: STD78477; STD78417 LCS: STD78491 MS/MSD: NA
 Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: WG587982

Comments:

File ID	Sample Information	pH	Mat	Dil	Reference	Date/Time
8M415556	WG587981-01 50ng BFB STD 8260	NA	1	1	STD78474	10/18/16 08:43
8M415557	WG587981-02 50ug/L CCV STD 8260	NA	1	1	STD78477	10/18/16 09:07
8M415558	WG587296-01 100ug/L A9 CCV STD 8260	NA	1	1	STD78417	10/18/16 09:36
8M415559	WG587982-01 VBLK1018 BLANK STD 826	NA	1	1		10/18/16 10:04
8M415560	L16100002-01 826-SPE	NA	1	1	STD78557	10/18/16 10:33
8M415561	L16100004-01 826-SPE	NA	1	1	STD78557	10/18/16 11:02
8M415562	L16100004-09 826-SPE	NA	1	1	STD78557	10/18/16 11:31
8M415563	WG587982-02 20ug/L LCS STD 8260	NA	1	1	STD78491	10/18/16 12:00
8M415564	WG587982-03 20ug/L LCS2 STD 8260	NA	1	1	STD78491	10/18/16 12:29
8M415565	L16100407-01 B 10X 826-LOW D1	<2	1	10		10/18/16 12:58
8M415566	L16100407-03 B 10X 826-LOW D1	3	1	10		10/18/16 13:27
8M415567	L16100394-04 B TB 826-SPE	<2	1	1		10/18/16 13:56
8M415568	L16100409-16 A TB 826-LOW	<2	1	1		10/18/16 14:25
8M415569	L16100512-02 B TB 826-LOW	<2	1	1		10/18/16 14:54
8M415570	L16100512-01 B 100X 826-LOW D1	<2	1	100		10/18/16 15:23
8M415571	L16100409-14 A 826-LOW	<2	1	1		10/18/16 15:52
8M415572	L16100409-15 A 826-LOW	<2	1	1		10/18/16 16:21
8M415573	L16100540-08 A 826-LOW	<2	2	1		10/18/16 16:50
8M415574	L16100540-09 A 826-LOW	<2	2	1		10/18/16 17:19
8M415575	L16100540-10 A 826-LOW	<2	2	1		10/18/16 17:48
8M415576	L16100540-11 A 826-LOW	<2	2	1		10/18/16 18:17
8M415577	L16100540-12 A 826-LOW	<2	2	1		10/18/16 18:46
8M415578	L16100394-03 B 826-SPE	<2	1	1		10/18/16 19:15
8M415579	L16100394-02 B 25X 826-SPE D1	<2	1	25		10/18/16 19:44
8M415580	L16100394-01 B 20X 826-SPE A1	<2	1	20		10/18/16 20:13
8M415581	RINSE	NA	1	1		10/18/16 20:42
8M415582	WG587982-04 VBLK1018 BLANK STD 624	NA	2	1		10/18/16 21:11
8M415583	L16100891-01 A 624-SPE	6	2	1		10/18/16 21:39
8M415584	L16100891-02 A 624-SPE	6	2	1		10/18/16 22:08
8M415585	L16100891-03 A 624-SPE	6	2	1		10/18/16 22:37
8M415586	CCV	NA	1	1		10/18/16 23:06
8M415587	RINSE	NA	1	1		10/18/16 23:34
8M415588	RINSE	NA	1	1		10/19/16 00:03
8M415589	ANTIFOAM BLANK	NA	1	1		10/19/16 00:32

Approved: October 19, 2016

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Microbac Laboratories Inc.
Instrument Run Log

Instrument: HPMS8 Dataset: 101816
 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: 53938

Internal Standard: STD78510 Surrogate Standard: STD78510
 CCV: STD78477; STD78417 LCS: STD78491 MS/MSD: NA

Column 1 ID: RTX502.2 Column 2 ID: NA
 Workgroups: WG587982

Comments:

Comments

Seq.	Rerun	Dil.	Reason	Analytes
5	X			
File ID: 8M415560				
Rerun for DCDF, 1-Bromopropane, iodomethane, cyclohexanone, prop.				
6	X			
File ID: 8M415561				
Rerun for DCDF, cyclohexanone.				
7	X			
File ID: 8M415562				
Rerun for DCDF, cyclohexanone.				
25	X	200	Over Calibration Range	Naph
File ID: 8M415580				

Approved: October 19, 2016

Page: 2

Wade D. [Signature]



Microbac Laboratories Inc.

Data Checklist

Date: 17-MAY-2016
 Analyst: TMB
 Analyst: FJB
 Method: 8260B/624
 Instrument: HPMS8
 Curve Workgroup: NA
 Runlog ID: 75174
 Analytical Workgroups: WG569079; WG569083

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	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:
19-MAY-2016

Tiffany Bailey

Secondary Reviewer:
20-MAY-2016

Sarah Vandenberg



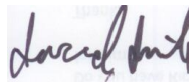
Microbac Laboratories Inc.

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




Microbac Laboratories Inc.

Data Checklist

Date: 09-SEP-2016
 Analyst: TMB
 Analyst: NA
 Method: 8260B/624/OVAP
 Instrument: HPMS8
 Curve Workgroup: NA
 Runlog ID: 77423
 Analytical Workgroups: WG582739

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	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:
12-SEP-2016

Tiffany Bailey

Secondary Reviewer:
14-SEP-2016

F. J. Bailey



Microbac Laboratories Inc.

Data Checklist

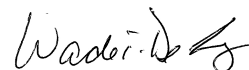
Date: 13-OCT-2016
 Analyst: FJB
 Analyst: JDS
 Method: 8260B/624
 Instrument: HPMS11
 Curve Workgroup: NA
 Runlog ID: 78081
 Analytical Workgroups: WG587480

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




Microbac Laboratories Inc.

Data Checklist

Date: 17-OCT-2016
 Analyst: FJB
 Analyst: TMB
 Method: 8260B/624
 Instrument: HPMS11
 Curve Workgroup: NA
 Runlog ID: 78134
 Analytical Workgroups: WG587867; WG587876

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/FJB
Surrogates	X
Internal Standards Criteria	X
Library Searches	NA
Calculations & Correct Factors	X
Dilutions Run	X
Reruns	X
Manual Integrations	NA
Case Narrative	X
Results Reporting/Data Qualifiers	X
KOBRA Workgroup Data	X
Check for Completeness	X
Primary Reviewer	TMB
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:
18-OCT-2016

Tiffany Bailey

Secondary Reviewer:
19-OCT-2016

Wade D. ...



Microbac Laboratories Inc.

Data Checklist

Date: 18-OCT-2016
 Analyst: TMB
 Analyst: NA
 Method: 8260B/624
 Instrument: HPMS8
 Curve Workgroup: NA
 Runlog ID: 78156
 Analytical Workgroups: WG587982

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	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	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:
19-OCT-2016

Tiffany Bailey

Secondary Reviewer:
19-OCT-2016

Wade D. ...



Analytical Method:8260B

AAB#:WG587867

Login Number:L16100409

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
35AWW01-100516	01	10/05/16					10/17/2016	12.4	14		10/17/16	12.4	14	
35AWW01MS-100516	02	10/05/16					10/17/2016	12.3	14		10/17/16	12.3	14	
35AWW01MSD-100516	03	10/05/16					10/17/2016	12.3	14		10/17/16	12.3	14	
35AWW15-100516	04	10/05/16					10/17/2016	12.4	14		10/17/16	12.4	14	
35AWW05-100516	05	10/05/16					10/17/2016	12.4	14		10/17/16	12.4	14	
35AWW05MS-100516	06	10/05/16					10/17/2016	12.3	14		10/17/16	12.3	14	
35AWW05MSD-100516	07	10/05/16					10/17/2016	12.3	14		10/17/16	12.3	14	
35AWW18-100516	08	10/05/16					10/17/2016	12.4	14		10/17/16	12.4	14	
35AWW12-100516	09	10/05/16					10/17/2016	12.3	14		10/17/16	12.3	14	
35AWW12FD-100516	10	10/05/16					10/17/2016	12.3	14		10/17/16	12.3	14	
35AWW13-100616	11	10/06/16					10/17/2016	11.5	14		10/17/16	11.5	14	
35AWW22-100616	12	10/06/16					10/17/2016	11.5	14		10/17/16	11.5	14	
35AWW14-100616	13	10/06/16					10/17/2016	11.5	14		10/17/16	11.5	14	

* = SEE PROJECT QAPP REQUIREMENTS



Analytical Method:8260B
 Login Number:L16100409

AAB#:WG587982

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
LHSMW06-100616	14	10/06/16					10/18/2016	12.3	14		10/18/16	12.3	14	
35AWW19-100616	15	10/06/16					10/18/2016	12.3	14		10/18/16	12.3	14	
TRIP BLANK	16	10/06/16					10/18/2016	12.6	14		10/18/16	12.6	14	

* = SEE PROJECT QAPP REQUIREMENTS



Login Number: L16100409
 Instrument Id: HPMS8
 Workgroup (AAB#): WG587982

Method: 8260
 CAL ID: HPMS8-09-SEP-16
 Matrix: Water

Sample Number	Dilution	Tag	1	2	3	4
L16100409-14	1.00	01	100	96.3	113	111
L16100409-15	1.00	01	96.6	97.2	112	111
L16100409-16	1.00	01	94.9	98.8	102	105
WG587982-01	1.00	01	98.0	96.3	111	111
WG587982-02	1.00	01	94.3	93.7	105	108
WG587982-03	1.00	01	94.5	96.0	105	108
WG587982-04	1.00	01	99.4	96.8	112	110

Surrogates	Surrogate Limits	
1 - 1,2-Dichloroethane-d4	70	- 120
2 - Dibromofluoromethane	85	- 115
3 - 4-Bromofluorobenzene	75	- 120
4 - Toluene-d8	85	- 120

Underline = Result out of surrogate limits

DL = surrogate diluted out

ND = surrogate not detected



Login Number: L16100409
Instrument Id: HPMS11
Workgroup (AAB#): WG587867

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

Sample Number	Dilution	Tag	1	2	3	4
L16100409-01	1.00	01	97.5	93.8	101	98.2
L16100409-02	1.00	01	88.5	92.3	94.0	96.7
L16100409-03	1.00	01	87.2	90.4	94.6	95.6
L16100409-04	1.00	01	97.9	92.8	103	99.3
L16100409-05	1.00	01	94.3	92.4	96.4	96.1
L16100409-06	1.00	01	89.4	93.9	93.8	97.2
L16100409-07	1.00	01	88.4	92.9	94.1	96.9
L16100409-08	1.00	01	93.8	92.7	94.7	95.1
L16100409-09	1.00	01	86.3	87.4	91.3	91.7
L16100409-10	1.00	01	89.1	92.7	96.3	96.0
L16100409-11	1.00	01	91.7	93.5	95.3	96.4
L16100409-12	1.00	01	91.7	93.0	91.7	96.3
L16100409-13	1.00	01	91.9	96.7	95.8	96.0
WG587867-01	1.00	01	89.4	93.9	101	99.8
WG587867-02	1.00	01	88.1	91.3	89.9	94.0

Surrogates	Surrogate Limits
1 - 1,2-Dichloroethane-d4	70 - 120
2 - Dibromofluoromethane	85 - 115
3 - 4-Bromofluorobenzene	75 - 120
4 - Toluene-d8	85 - 120

Underline = Result out of surrogate limits

DL = surrogate diluted out

ND = surrogate not detected



METHOD BLANK SUMMARY

Login Number: L16100409 Work Group: WG587867
 Blank File ID: 11M14561 Blank Sample ID: WG587867-01
 Prep Date: 10/17/16 14:07 Instrument ID: HPMS11
 Analyzed Date: 10/17/16 14:07 Method: 8260B
 Analyst: FJB

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG587867-02	11M14562	10/17/16 14:36	01
35AWW01MS-100516	L16100409-02	11M14563	10/17/16 15:05	01
35AWW01MSD-100516	L16100409-03	11M14564	10/17/16 15:34	01
35AWW05MS-100516	L16100409-06	11M14565	10/17/16 16:03	01
35AWW05MSD-100516	L16100409-07	11M14566	10/17/16 16:32	01
35AWW01-100516	L16100409-01	11M14569	10/17/16 17:58	01
35AWW05-100516	L16100409-05	11M14570	10/17/16 18:27	01
35AWW15-100516	L16100409-04	11M14571	10/17/16 18:55	01
35AWW18-100516	L16100409-08	11M14572	10/17/16 19:24	01
35AWW12-100516	L16100409-09	11M14573	10/17/16 19:53	01
35AWW12FD-100516	L16100409-10	11M14574	10/17/16 20:22	01
35AWW13-100616	L16100409-11	11M14575	10/17/16 20:51	01
35AWW22-100616	L16100409-12	11M14576	10/17/16 21:20	01
35AWW14-100616	L16100409-13	11M14577	10/17/16 21:49	01

Report Name: BLANK_SUMMARY
 PDF File ID: 4985003
 Report generated 10/20/2016 12:35



METHOD BLANK SUMMARY

Login Number: L16100409 Work Group: WG587982
 Blank File ID: 8M415559 Blank Sample ID: WG587982-01
 Prep Date: 10/18/16 10:04 Instrument ID: HPMS8
 Analyzed Date: 10/18/16 10:04 Method: 8260B
 Analyst: TMB

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG587982-02	8M415563	10/18/16 12:00	01
LCS2	WG587982-03	8M415564	10/18/16 12:29	01
TRIP BLANK	L16100409-16	8M415568	10/18/16 14:25	01
LHSMW06-100616	L16100409-14	8M415571	10/18/16 15:52	01
35AWW19-100616	L16100409-15	8M415572	10/18/16 16:21	01

Report Name: BLANK_SUMMARY
 PDF File ID: 4985003
 Report generated 10/20/2016 12:35



Login Number: L16100409 Prep Date: 10/17/16 14:07 Sample ID: WG587867-01
 Instrument ID: HPMS11 Run Date: 10/17/16 14:07 Prep Method: 5030B/5030C/503
 File ID: 11M14561 Analyst: FJB Method: 8260B
 Workgroup (AAB#): WG587867 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	0.137	1	J
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: 4981494
 20-OCT-2016 12:35



Login Number: L16100409 Prep Date: 10/17/16 14:07 Sample ID: WG587867-01
 Instrument ID: HPMS11 Run Date: 10/17/16 14:07 Prep Method: 5030B/5030C/503
 File ID: 11M14561 Analyst: FJB Method: 8260B
 Workgroup (AAB#): WG587867 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	0.165	1	J
1,2,4-Trichlorobenzene	0.200	1.00	0.251	1	J
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	93.9	85 - 115	PASS
1,2-Dichloroethane-d4	89.4	70 - 120	PASS
Toluene-d8	99.8	85 - 120	PASS
4-Bromofluorobenzene	101	75 - 120	PASS

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

Report Name: BLANK
 PDF ID: 4981494
 20-OCT-2016 12:35



Login Number: L16100409 Prep Date: 10/18/16 10:04 Sample ID: WG587982-01
 Instrument ID: HPMS8 Run Date: 10/18/16 10:04 Prep Method: 5030B/5030C/503
 File ID: 8M415559 Analyst: TMB Method: 8260B
 Workgroup (AAB#): WG587982 Matrix: Water Units: ug/L
 Contract #: _____ Cal ID: HPMS8-09-SEP-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: 4981494
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Login Number: L16100409 Prep Date: 10/18/16 10:04 Sample ID: WG587982-01
 Instrument ID: HPMS8 Run Date: 10/18/16 10:04 Prep Method: 5030B/5030C/503
 File ID: 8M415559 Analyst: TMB Method: 8260B
 Workgroup (AAB#): WG587982 Matrix: Water Units: ug/L
 Contract #: _____ Cal ID: HPMS8-09-SEP-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	96.3	85 - 115	PASS
1,2-Dichloroethane-d4	98.0	70 - 120	PASS
Toluene-d8	111	85 - 120	PASS
4-Bromofluorobenzene	111	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: 4981494
 20-OCT-2016 12:35



Login Number: L16100409 Run Date: 10/17/2016 Sample ID: WG587867-02
 Instrument ID: HPMS11 Run Time: 14:36 Prep Method: 5030B/5030C/503
 File ID: 11M14562 Analyst: FJB Method: 8260B
 Workgroup (AAB#): WG587867 Matrix: Water Units: ug/L
 QC Key: DOD4 Lot#: STD78491 Cal ID: HPMS11-13-OCT-16

Analytes	Expected	Found	% Rec	LCS Limits	Q
Acetone	20.0	18.4	92.2	40 - 140	
Benzene	20.0	21.0	105	80 - 120	
Bromobenzene	20.0	20.5	103	75 - 125	
Bromochloromethane	20.0	20.5	103	65 - 130	
Bromodichloromethane	20.0	19.9	99.7	75 - 120	
Bromoform	20.0	19.0	94.8	70 - 130	
Bromomethane	20.0	22.2	111	30 - 145	
2-Butanone	20.0	19.0	94.8	30 - 150	
n-Butylbenzene	20.0	21.4	107	70 - 135	
sec-Butylbenzene	20.0	22.2	111	70 - 125	
tert-Butylbenzene	20.0	22.7	113	70 - 130	
Carbon disulfide	20.0	18.1	90.5	35 - 160	
Carbon tetrachloride	20.0	20.5	103	65 - 140	
Chlorobenzene	20.0	20.4	102	80 - 120	
Chlorodibromomethane	20.0	19.6	98.2	60 - 135	
Chloroethane	20.0	21.3	107	60 - 135	
Chloroform	20.0	20.1	101	65 - 135	
Chloromethane	20.0	20.1	100	40 - 125	
2-Chlorotoluene	20.0	21.1	106	75 - 125	
4-Chlorotoluene	20.0	22.2	111	75 - 130	
1,2-Dibromo-3-chloropropane	20.0	18.5	92.4	50 - 130	
1,2-Dibromoethane	20.0	20.1	100	80 - 120	
Dibromomethane	20.0	19.8	99.2	75 - 125	
1,2-Dichlorobenzene	20.0	20.6	103	70 - 120	
1,3-Dichlorobenzene	20.0	20.6	103	75 - 125	
1,4-Dichlorobenzene	20.0	20.2	101	75 - 125	
Dichlorodifluoromethane	20.0	16.6	83.1	30 - 155	
1,1-Dichloroethane	20.0	20.5	102	70 - 135	
1,2-Dichloroethane	20.0	19.9	99.5	70 - 130	
1,1-Dichloroethene	20.0	19.8	99.0	70 - 130	
cis-1,2-Dichloroethene	20.0	20.9	105	70 - 125	
trans-1,2-Dichloroethene	20.0	20.5	102	60 - 140	
1,2-Dichloropropane	20.0	20.9	104	75 - 125	
1,3-Dichloropropane	20.0	20.8	104	75 - 125	
2,2-Dichloropropane	20.0	20.6	103	70 - 135	
cis-1,3-Dichloropropene	20.0	22.3	111	70 - 130	
trans-1,3-Dichloropropene	20.0	19.9	99.6	55 - 140	
1,1-Dichloropropene	20.0	20.9	105	75 - 130	
Ethylbenzene	20.0	21.1	106	75 - 125	
2-Hexanone	20.0	17.3	86.4	55 - 130	
Hexachlorobutadiene	20.0	21.7	109	50 - 140	

LCS - Modified 03/06/2008
 PDF File ID: 4981495
 Report generated: 10/20/2016 12:35



Login Number: L16100409 Run Date: 10/17/2016 Sample ID: WG587867-02
 Instrument ID: HPMS11 Run Time: 14:36 Prep Method: 5030B/5030C/503
 File ID: 11M14562 Analyst: FJB Method: 8260B
 Workgroup (AAB#): WG587867 Matrix: Water Units: ug/L
 QC Key: DOD4 Lot#: STD78491 Cal ID: HPMS11-13-OCT-16

Analytes	Expected	Found	% Rec	LCS Limits	Q
Isopropylbenzene	20.0	21.2	106	75 - 125	
p-Isopropyltoluene	20.0	22.8	114	75 - 130	
4-Methyl-2-pentanone	20.0	18.6	93.2	60 - 135	
Methylene chloride	20.0	20.1	100	55 - 140	
Naphthalene	20.0	21.2	106	55 - 140	
n-Propylbenzene	20.0	22.6	113	70 - 130	
Styrene	20.0	21.7	108	65 - 135	
1,1,1,2-Tetrachloroethane	20.0	20.4	102	80 - 130	
1,1,2,2-Tetrachloroethane	20.0	19.4	96.9	65 - 130	
Tetrachloroethene	20.0	20.9	104	45 - 150	
Toluene	20.0	21.2	106	75 - 120	
1,2,3-Trichlorobenzene	20.0	19.9	99.7	55 - 140	
1,2,4-Trichlorobenzene	20.0	20.2	101	65 - 135	
1,1,1-Trichloroethane	20.0	21.3	106	65 - 130	
1,1,2-Trichloroethane	20.0	20.5	103	75 - 125	
Trichloroethene	20.0	20.7	103	70 - 125	
Trichlorofluoromethane	20.0	19.8	98.9	60 - 145	
1,2,3-Trichloropropane	20.0	20.4	102	75 - 125	
1,2,4-Trimethylbenzene	20.0	22.1	111	75 - 130	
1,3,5-Trimethylbenzene	20.0	22.7	113	75 - 130	
Vinyl chloride	20.0	20.8	104	50 - 145	
o-Xylene	20.0	21.5	107	80 - 120	
m-,p-Xylene	40.0	42.9	107	75 - 130	

Surrogates	% Recovery	Surrogate Limits	Qualifier
Dibromofluoromethane	91.3	85 - 115	PASS
1,2-Dichloroethane-d4	88.1	70 - 120	PASS
Toluene-d8	94.0	85 - 120	PASS
4-Bromofluorobenzene	89.9	75 - 120	PASS

* EXCEEDS %REC LIMIT

LCS - Modified 03/06/2008
 PDF File ID: 4981495
 Report generated: 10/20/2016 12:35



Login Number: L16100409 Analyst: TMB Prep Method: 5030B/5030C/503
 Instrument ID: HPMS8 Matrix: Water Method: 8260B
 Workgroup (AAB#): WG587982 Units: ug/L
 QC Key: DOD4 Lot #: STD78491

Sample ID: WG587982-02 LCS File ID: 8M415563 Run Date: 10/18/2016 12:00
 Sample ID: WG587982-03 LCS2 File ID: 8M415564 Run Date: 10/18/2016 12:29

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
1,1,1,2-Tetrachloroethane	20.0	17.6	87.9	20.0	17.0	84.9	3.47	80 - 130	30	
1,1,1-Trichloroethane	20.0	19.4	97.1	20.0	19.5	97.4	0.355	65 - 130	30	
1,1,2,2-Tetrachloroethane	20.0	20.4	102	20.0	21.4	107	4.99	65 - 130	30	
1,1,2-Trichloroethane	20.0	18.7	93.3	20.0	18.6	92.9	0.437	75 - 125	30	
1,1-Dichloroethane	20.0	19.7	98.3	20.0	19.5	97.7	0.650	70 - 135	30	
1,1-Dichloroethene	20.0	18.3	91.5	20.0	18.6	92.9	1.51	70 - 130	30	
1,1-Dichloropropene	20.0	19.7	98.6	20.0	19.7	98.7	0.167	75 - 130	30	
1,2,3-Trichlorobenzene	20.0	17.5	87.6	20.0	17.6	88.0	0.411	55 - 140	30	
1,2,3-Trichloropropane	20.0	20.5	103	20.0	21.6	108	5.07	75 - 125	30	
1,2,4-Trichlorobenzene	20.0	17.1	85.3	20.0	17.4	87.1	2.08	65 - 135	30	
1,2,4-Trimethylbenzene	20.0	22.2	111	20.0	22.0	110	0.960	75 - 130	30	
1,2-Dibromo-3-chloropropane	20.0	18.5	92.3	20.0	18.3	91.7	0.621	50 - 130	30	
1,2-Dibromoethane	20.0	18.8	94.1	20.0	18.8	93.9	0.275	80 - 120	30	
1,2-Dichlorobenzene	20.0	19.5	97.5	20.0	19.7	98.6	1.14	70 - 120	30	
1,2-Dichloroethane	20.0	18.4	92.0	20.0	18.2	91.2	0.835	70 - 130	30	
1,2-Dichloropropane	20.0	20.0	100	20.0	20.1	101	0.557	75 - 125	30	
1,3,5-Trimethylbenzene	20.0	22.3	112	20.0	22.4	112	0.368	75 - 130	30	
1,3-Dichlorobenzene	20.0	19.8	99.0	20.0	19.8	99.0	0.0197	75 - 125	30	
1,3-Dichloropropane	20.0	20.9	105	20.0	20.3	102	2.94	75 - 125	30	
1,4-Dichlorobenzene	20.0	19.6	98.2	20.0	19.4	97.0	1.19	75 - 125	30	
2,2-Dichloropropane	20.0	18.7	93.7	20.0	19.8	98.9	5.39	70 - 135	30	
2-Butanone	20.0	20.7	104	20.0	21.6	108	3.99	30 - 150	30	
2-Chlorotoluene	20.0	20.6	103	20.0	20.4	102	1.16	75 - 125	30	
2-Hexanone	20.0	19.5	97.5	20.0	20.3	102	4.11	55 - 130	30	
4-Chlorotoluene	20.0	23.4	117	20.0	23.4	117	0.117	75 - 130	30	
4-Methyl-2-pentanone	20.0	18.7	93.4	20.0	18.4	92.1	1.42	60 - 135	30	
Acetone	20.0	21.1	105	20.0	21.0	105	0.615	40 - 140	30	
Benzene	20.0	20.7	104	20.0	20.4	102	1.50	80 - 120	30	
Bromobenzene	20.0	19.2	96.2	20.0	19.3	96.4	0.234	75 - 125	30	
Bromochloromethane	20.0	18.0	90.1	20.0	18.5	92.3	2.50	65 - 130	30	
Bromodichloromethane	20.0	19.2	96.1	20.0	19.0	95.2	1.01	75 - 120	30	
Bromoform	20.0	15.1	75.7	20.0	15.2	76.1	0.584	70 - 130	30	
Bromomethane	20.0	10.3	51.5	20.0	12.0	59.8	15.0	30 - 145	30	
Carbon disulfide	20.0	17.1	85.6	20.0	17.6	88.2	2.98	35 - 160	30	
Carbon tetrachloride	20.0	19.4	96.9	20.0	19.5	97.5	0.593	65 - 140	30	
Chlorobenzene	20.0	18.7	93.6	20.0	18.3	91.5	2.24	80 - 120	30	
Chloroethane	20.0	20.7	103	20.0	21.3	107	2.94	60 - 135	30	
Chloroform	20.0	19.6	98.0	20.0	19.7	98.4	0.369	65 - 135	30	
Chloromethane	20.0	12.9	64.4	20.0	13.6	67.8	5.07	40 - 125	30	
cis-1,2-Dichloroethene	20.0	18.8	93.9	20.0	18.8	94.1	0.213	70 - 125	30	

LCS_LCS2 - Modified 03/06/2008
 PDF File ID: 4983038
 Report generated: 10/20/2016 12:35



Login Number: L16100409 Analyst: TMB Prep Method: 5030B/5030C/503
 Instrument ID: HPMS8 Matrix: Water Method: 8260B
 Workgroup (AAB#): WG587982 Units: ug/L
 QC Key: DOD4 Lot #: STD78491

Sample ID: WG587982-02 LCS File ID: 8M415563 Run Date: 10/18/2016 12:00
 Sample ID: WG587982-03 LCS2 File ID: 8M415564 Run Date: 10/18/2016 12:29

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Lmt	Q
	Known	Found	% REC	Known	Found	% REC				
cis-1,3-Dichloropropene	20.0	20.3	102	20.0	20.9	104	2.49	70 - 130	30	
Chlorodibromomethane	20.0	19.1	95.4	20.0	19.4	97.1	1.79	60 - 135	30	
Dibromomethane	20.0	18.4	91.9	20.0	19.0	95.0	3.29	75 - 125	30	
Dichlorodifluoromethane	20.0	17.1	85.7	20.0	17.7	88.3	2.94	30 - 155	30	
Ethylbenzene	20.0	19.4	96.8	20.0	19.2	96.2	0.640	75 - 125	30	
Hexachlorobutadiene	20.0	16.5	82.5	20.0	16.6	82.8	0.388	50 - 140	30	
Isopropylbenzene	20.0	20.8	104	20.0	20.5	103	1.28	75 - 125	30	
m-,p-Xylene	40.0	41.6	104	40.0	40.6	101	2.45	75 - 130	30	
Methylene chloride	20.0	18.1	90.5	20.0	18.4	91.8	1.39	55 - 140	30	
n-Butylbenzene	20.0	21.6	108	20.0	21.7	108	0.344	70 - 135	30	
n-Propylbenzene	20.0	22.8	114	20.0	22.6	113	0.881	70 - 130	30	
Naphthalene	20.0	18.5	92.6	20.0	18.9	94.3	1.82	55 - 140	30	
o-Xylene	20.0	19.3	96.5	20.0	19.1	95.7	0.858	80 - 120	30	
p-Isopropyltoluene	20.0	22.1	111	20.0	22.3	111	0.571	75 - 130	30	
sec-Butylbenzene	20.0	22.4	112	20.0	22.3	112	0.129	70 - 125	30	
Styrene	20.0	19.9	99.4	20.0	19.3	96.3	3.23	65 - 135	30	
tert-Butylbenzene	20.0	19.4	97.1	20.0	19.4	97.2	0.108	70 - 130	30	
Tetrachloroethene	20.0	18.6	93.2	20.0	18.2	91.1	2.35	45 - 150	30	
Toluene	20.0	21.8	109	20.0	21.7	108	0.713	75 - 120	30	
trans-1,2-Dichloroethene	20.0	19.5	97.4	20.0	19.4	97.2	0.189	60 - 140	30	
trans-1,3-Dichloropropene	20.0	19.9	99.5	20.0	20.4	102	2.41	55 - 140	30	
Trichloroethene	20.0	18.3	91.7	20.0	18.4	91.9	0.233	70 - 125	30	
Trichlorofluoromethane	20.0	16.8	84.2	20.0	17.6	88.0	4.30	60 - 145	30	
Vinyl chloride	20.0	16.7	83.4	20.0	16.7	83.5	0.0653	50 - 145	30	

Surogates	LCS	LCS2	Surrogate Limits	Qualifier
	% Recovery	% Recovery		
1,2-Dichloroethane-d4	94.3	94.5	70 - 120	PASS
Dibromofluoromethane	93.7	96.0	85 - 115	PASS
4-Bromofluorobenzene	105	105	75 - 120	PASS
Toluene-d8	108	108	85 - 120	PASS

* EXCEEDS %REC LIMIT
 # EXCEEDS RPD LIMIT



MS/MSD REPORT

Loginnum: L16100409 Cal ID: HPMS11- 13-OCT-16
 Instrument ID: HPMS11 Contract #: _____
 Parent ID: L16100409-01 File ID: 11M14569 Dil: 1
 Sample ID: L16100409-02 MS File ID: 11M14563 Dil: 1
 Sample ID: L16100409-03 MSD File ID: 11M14564 Dil: 1

Worknum: WG587867
 Prep Method: 5030B/5030C/
 Method: 5035A
 Matrix: 8260B
 Units: Water
ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
1,1,1,2-Tetrachloroethane	U	20.0	18.8	94.2	20.0	20.9	105	10.6	80 - 130	30	
1,1,1-Trichloroethane	U	20.0	18.4	92.1	20.0	19.9	99.6	7.82	65 - 130	30	
1,1,2,2-Tetrachloroethane	U	20.0	19.5	97.7	20.0	21.8	109	10.7	65 - 130	30	
1,1,2-Trichloroethane	U	20.0	19.5	97.3	20.0	21.4	107	9.45	75 - 125	30	
1,1-Dichloroethane	U	20.0	18.4	91.8	20.0	19.8	99	7.49	70 - 135	30	
1,1-Dichloroethene	U	20.0	16.9	84.5	20.0	17.7	88.7	4.82	70 - 130	30	
1,1-Dichloropropene	U	20.0	17.7	88.3	20.0	18.9	94.3	6.53	75 - 130	30	
1,2,3-Trichlorobenzene	U	20.0	18.5	92.6	20.0	21.0	105	12.5	55 - 140	30	
1,2,3-Trichloropropane	U	20.0	19.2	96.2	20.0	21.5	107	11.1	75 - 125	30	
1,2,4-Trichlorobenzene	0.233	20.0	18.6	91.7	20.0	21.1	104	12.9	65 - 135	30	
1,2,4-Trimethylbenzene	U	20.0	20.2	101	20.0	22.5	112	10.6	75 - 130	30	
1,2-Dibromo-3-chloropropane	U	20.0	17.3	86.4	20.0	19.3	96.7	11.3	50 - 130	30	
1,2-Dibromoethane	U	20.0	18.6	93.1	20.0	20.8	104	11.1	80 - 120	30	
1,2-Dichlorobenzene	U	20.0	18.9	94.6	20.0	21.4	107	12.2	70 - 120	30	
1,2-Dichloroethane	U	20.0	18.3	91.7	20.0	20.1	100	9.14	70 - 130	30	
1,2-Dichloropropane	U	20.0	18.7	93.5	20.0	20.5	103	9.36	75 - 125	30	
1,3,5-Trimethylbenzene	U	20.0	20.1	101	20.0	22.5	112	11.1	75 - 130	30	
1,3-Dichlorobenzene	U	20.0	19.0	95.1	20.0	20.9	105	9.62	75 - 125	30	
1,3-Dichloropropane	U	20.0	19.4	97.1	20.0	21.8	109	11.5	75 - 125	30	
1,4-Dichlorobenzene	0.142	20.0	18.5	92	20.0	21.0	104	12.6	75 - 125	30	
2,2-Dichloropropane	U	20.0	18.9	94.3	20.0	20.2	101	7.01	70 - 135	30	
2-Butanone	U	20.0	16.9	84.4	20.0	18.5	92.7	9.46	30 - 150	30	
2-Chlorotoluene	U	20.0	19.1	95.4	20.0	21.2	106	10.5	75 - 125	30	
2-Hexanone	U	20.0	16.1	80.7	20.0	18.2	91.1	12.1	55 - 130	30	
4-Chlorotoluene	U	20.0	20.2	101	20.0	22.5	112	10.6	75 - 130	30	
4-Methyl-2-pentanone	U	20.0	16.9	84.7	20.0	18.6	93	9.37	60 - 135	30	
Acetone	U	20.0	18.3	91.5	20.0	21.2	106	14.9	40 - 140	30	
Benzene	U	20.0	18.9	94.5	20.0	20.1	101	6.36	80 - 120	30	
Bromobenzene	U	20.0	19.1	95.3	20.0	21.3	107	11.1	75 - 125	30	
Bromochloromethane	U	20.0	19.1	95.5	20.0	20.7	104	8.20	65 - 130	30	
Bromodichloromethane	U	20.0	18.4	91.8	20.0	19.7	98.5	7.03	75 - 120	30	
Bromoform	U	20.0	17.6	88.1	20.0	19.6	97.9	10.5	70 - 130	30	
Bromomethane	U	20.0	20.7	104	20.0	21.9	110	5.71	30 - 145	30	
Carbon disulfide	U	20.0	15.8	79.1	20.0	16.8	84	5.98	35 - 160	30	
Carbon tetrachloride	U	20.0	17.4	86.9	20.0	18.8	94.1	7.94	65 - 140	30	
Chlorobenzene	U	20.0	18.4	92.1	20.0	20.7	103	11.6	80 - 120	30	
Chloroethane	U	20.0	18.9	94.6	20.0	20.1	101	6.23	60 - 135	30	
Chloroform	U	20.0	18.4	92	20.0	19.9	99.4	7.77	65 - 135	30	
Chloromethane	U	20.0	17.4	87.1	20.0	18.6	93.1	6.60	40 - 125	30	
cis-1,2-Dichloroethene	U	20.0	19.1	95.3	20.0	20.8	104	8.56	70 - 125	30	
cis-1,3-Dichloropropene	U	20.0	20.7	104	20.0	22.3	112	7.48	70 - 130	30	

MS_MSD - Modified 03/06/2008
 PDF File ID: 4981496
 Report generated 10/20/2016 12:35



MS/MSD REPORT

Loginnum: L16100409 Cal ID: HPMS11 13-OCT-16
 Instrument ID: HPMS11 Contract #: _____
 Parent ID: L16100409-01 File ID: 11M14569 Dil: 1
 Sample ID: L16100409-02 MS File ID: 11M14563 Dil: 1
 Sample ID: L16100409-03 MSD File ID: 11M14564 Dil: 1

Worknum: WG587867
 Prep Method: 5030B/5030C/
 Method: 5035A
 Matrix: 8260B
 Units: Water
ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Chlorodibromomethane	U	20.0	18.7	93.5	20.0	20.4	102	8.59	60 - 135	30	
Dibromomethane	U	20.0	19.1	95.3	20.0	20.0	99.9	4.71	75 - 125	30	
Dichlorodifluoromethane	U	20.0	12.3	61.3	20.0	13.0	64.8	5.45	30 - 155	30	
Ethylbenzene	U	20.0	18.9	94.6	20.0	20.6	103	8.63	75 - 125	30	
Hexachlorobutadiene	U	20.0	18.6	93.1	20.0	21.1	106	12.6	50 - 140	30	
Isopropylbenzene	U	20.0	18.8	93.8	20.0	20.4	102	8.21	75 - 125	30	
m-,p-Xylene	U	40.0	38.4	96.1	40.0	42.2	105	9.31	75 - 130	30	
Methylene chloride	U	20.0	18.5	92.6	20.0	20.4	102	9.50	55 - 140	30	
n-Butylbenzene	U	20.0	18.9	94.3	20.0	21.1	105	11.2	70 - 135	30	
n-Propylbenzene	U	20.0	20.0	100	20.0	22.3	111	10.6	70 - 130	30	
Naphthalene	U	20.0	19.8	98.8	20.0	22.5	113	13.0	55 - 140	30	
o-Xylene	U	20.0	19.5	97.7	20.0	21.3	106	8.43	80 - 120	30	
p-Isopropyltoluene	U	20.0	20.1	101	20.0	22.5	112	10.9	75 - 130	30	
sec-Butylbenzene	U	20.0	19.3	96.6	20.0	21.6	108	11.1	70 - 125	30	
Styrene	U	20.0	19.4	96.9	20.0	21.8	109	12.0	65 - 135	30	
tert-Butylbenzene	U	20.0	19.6	98.2	20.0	21.9	110	10.9	70 - 130	30	
Tetrachloroethene	U	20.0	18.1	90.3	20.0	19.5	97.7	7.79	45 - 150	30	
Toluene	U	20.0	18.9	94.4	20.0	21.1	105	11.1	75 - 120	30	
trans-1,2-Dichloroethene	U	20.0	18.2	90.9	20.0	19.4	96.9	6.38	60 - 140	30	
trans-1,3-Dichloropropene	U	20.0	18.9	94.5	20.0	20.7	104	9.32	55 - 140	30	
Trichloroethene	U	20.0	17.8	88.9	20.0	19.2	96.1	7.70	70 - 125	30	
Trichlorofluoromethane	U	20.0	15.9	79.6	20.0	16.6	83	4.27	60 - 145	30	
Vinyl chloride	U	20.0	17.8	88.9	20.0	18.5	92.7	4.20	50 - 145	30	

* FAILS %REC LIMIT

FAILS RPD LIMIT



MS/MSD REPORT

Loginnum: L16100409 Cal ID: HPMS11- 13-OCT-16
 Instrument ID: HPMS11 Contract #: _____
 Parent ID: L16100409-05 File ID: 11M14570 Dil: 1
 Sample ID: L16100409-06 MS File ID: 11M14565 Dil: 1
 Sample ID: L16100409-07 MSD File ID: 11M14566 Dil: 1

Worknum: WG587867
 Prep Method: 5030B/5030C/
 Method: 5035A
 Matrix: 8260B
 Units: Water
ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
1,1,1,2-Tetrachloroethane	U	20.0	20.8	104	20.0	18.7	93.7	10.6	80 - 130	30	
1,1,1-Trichloroethane	U	20.0	19.8	98.8	20.0	17.5	87.5	12.1	65 - 130	30	
1,1,2,2-Tetrachloroethane	U	20.0	21.6	108	20.0	20.0	99.8	7.75	65 - 130	30	
1,1,2-Trichloroethane	U	20.0	21.3	106	20.0	19.8	99.1	7.01	75 - 125	30	
1,1-Dichloroethane	U	20.0	20.0	100	20.0	17.9	89.3	11.3	70 - 135	30	
1,1-Dichloroethene	U	20.0	17.9	89.3	20.0	15.9	79.5	11.7	70 - 130	30	
1,1-Dichloropropene	U	20.0	18.6	92.8	20.0	16.6	82.8	11.4	75 - 130	30	
1,2,3-Trichlorobenzene	U	20.0	20.4	102	20.0	18.0	90.2	12.2	55 - 140	30	
1,2,3-Trichloropropane	U	20.0	21.4	107	20.0	19.3	96.7	10.3	75 - 125	30	
1,2,4-Trichlorobenzene	U	20.0	20.5	102	20.0	18.2	90.9	11.8	65 - 135	30	
1,2,4-Trimethylbenzene	U	20.0	21.9	110	20.0	19.3	96.7	12.4	75 - 130	30	
1,2-Dibromo-3-chloropropane	U	20.0	19.0	95	20.0	18.0	90.1	5.32	50 - 130	30	
1,2-Dibromoethane	U	20.0	20.8	104	20.0	18.7	93.5	10.6	80 - 120	30	
1,2-Dichlorobenzene	U	20.0	21.0	105	20.0	18.8	94.1	11.2	70 - 120	30	
1,2-Dichloroethane	U	20.0	20.0	100	20.0	18.4	91.9	8.51	70 - 130	30	
1,2-Dichloropropane	U	20.0	20.9	104	20.0	18.5	92.3	12.3	75 - 125	30	
1,3,5-Trimethylbenzene	U	20.0	21.5	107	20.0	19.4	96.8	10.4	75 - 130	30	
1,3-Dichlorobenzene	U	20.0	20.7	103	20.0	18.5	92.7	10.9	75 - 125	30	
1,3-Dichloropropane	U	20.0	21.9	109	20.0	19.7	98.7	10.4	75 - 125	30	
1,4-Dichlorobenzene	U	20.0	20.6	103	20.0	18.3	91.4	11.7	75 - 125	30	
2,2-Dichloropropane	U	20.0	19.8	98.9	20.0	17.2	86	13.9	70 - 135	30	
2-Butanone	U	20.0	19.7	98.6	20.0	17.1	85.5	14.1	30 - 150	30	
2-Chlorotoluene	U	20.0	21.0	105	20.0	18.5	92.7	12.2	75 - 125	30	
2-Hexanone	U	20.0	19.0	95.1	20.0	17.2	86	10.0	55 - 130	30	
4-Chlorotoluene	U	20.0	21.9	109	20.0	19.8	98.9	10.0	75 - 130	30	
4-Methyl-2-pentanone	U	20.0	19.6	98.1	20.0	17.5	87.4	11.6	60 - 135	30	
Acetone	U	20.0	20.8	104	20.0	19.0	94.8	9.21	40 - 140	30	
Benzene	U	20.0	20.5	103	20.0	18.2	91	11.9	80 - 120	30	
Bromobenzene	U	20.0	20.4	102	20.0	18.6	92.9	9.57	75 - 125	30	
Bromochloromethane	U	20.0	21.2	106	20.0	18.5	92.6	13.5	65 - 130	30	
Bromodichloromethane	U	20.0	19.8	99	20.0	18.3	91.5	7.86	75 - 120	30	
Bromoform	U	20.0	20.3	101	20.0	18.1	90.3	11.6	70 - 130	30	
Bromomethane	U	20.0	22.0	110	20.0	19.8	98.9	10.6	30 - 145	30	
Carbon disulfide	U	20.0	17.1	85.5	20.0	14.9	74.4	13.9	35 - 160	30	
Carbon tetrachloride	U	20.0	18.4	91.9	20.0	16.2	80.9	12.7	65 - 140	30	
Chlorobenzene	U	20.0	20.2	101	20.0	18.3	91.7	9.80	80 - 120	30	
Chloroethane	U	20.0	20.7	103	20.0	18.0	89.8	14.0	60 - 135	30	
Chloroform	U	20.0	20.4	102	20.0	17.9	89.3	13.1	65 - 135	30	
Chloromethane	U	20.0	19.3	96.5	20.0	17.1	85.3	12.3	40 - 125	30	
cis-1,2-Dichloroethene	U	20.0	20.5	103	20.0	18.8	93.9	8.79	70 - 125	30	
cis-1,3-Dichloropropene	U	20.0	22.7	114	20.0	20.1	100	12.3	70 - 130	30	

MS_MSD - Modified 03/06/2008
 PDF File ID: 4981496
 Report generated 10/20/2016 12:35



MS/MSD REPORT

Loginnum: L16100409 Cal ID: HPMS11 13-OCT-16
 Instrument ID: HPMS11 Contract #: _____
 Parent ID: L16100409-05 File ID: 11M14570 Dil: 1
 Sample ID: L16100409-06 MS File ID: 11M14565 Dil: 1
 Sample ID: L16100409-07 MSD File ID: 11M14566 Dil: 1

Worknum: WG587867
 Prep Method: 5030B/5030C/
 Method: 5035A
 Matrix: 8260B
 Units: Water
ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Chlorodibromomethane	U	20.0	20.8	104	20.0	18.2	91	13.4	60 - 135	30	
Dibromomethane	U	20.0	20.4	102	20.0	18.3	91.4	10.7	75 - 125	30	
Dichlorodifluoromethane	U	20.0	12.2	61	20.0	11.1	55.7	9.02	30 - 155	30	
Ethylbenzene	U	20.0	20.4	102	20.0	18.5	92.3	10.1	75 - 125	30	
Hexachlorobutadiene	U	20.0	20.0	99.8	20.0	16.9	84.6	16.4	50 - 140	30	
Isopropylbenzene	U	20.0	20.3	102	20.0	18.3	91.3	10.8	75 - 125	30	
m-,p-Xylene	U	40.0	42.0	105	40.0	37.5	93.8	11.3	75 - 130	30	
Methylene chloride	U	20.0	20.6	103	20.0	18.2	90.9	12.6	55 - 140	30	
n-Butylbenzene	U	20.0	20.3	102	20.0	18.0	89.8	12.4	70 - 135	30	
n-Propylbenzene	U	20.0	21.5	107	20.0	19.1	95.6	11.6	70 - 130	30	
Naphthalene	U	20.0	22.3	112	20.0	20.1	100	10.5	55 - 140	30	
o-Xylene	U	20.0	21.2	106	20.0	19.1	95.6	10.1	80 - 120	30	
p-Isopropyltoluene	U	20.0	21.5	108	20.0	19.3	96.3	11.0	75 - 130	30	
sec-Butylbenzene	U	20.0	20.7	103	20.0	18.3	91.4	12.2	70 - 125	30	
Styrene	U	20.0	21.5	107	20.0	19.4	96.8	10.3	65 - 135	30	
tert-Butylbenzene	U	20.0	20.8	104	20.0	18.9	94.3	9.89	70 - 130	30	
Tetrachloroethene	U	20.0	19.7	98.7	20.0	17.3	86.4	13.3	45 - 150	30	
Toluene	U	20.0	20.7	103	20.0	18.6	92.8	10.9	75 - 120	30	
trans-1,2-Dichloroethene	U	20.0	19.3	96.5	20.0	17.3	86.5	10.9	60 - 140	30	
trans-1,3-Dichloropropene	U	20.0	20.8	104	20.0	18.6	93.2	11.0	55 - 140	30	
Trichloroethene	U	20.0	19.1	95.7	20.0	16.9	84.7	12.2	70 - 125	30	
Trichlorofluoromethane	U	20.0	16.3	81.4	20.0	14.6	73	10.9	60 - 145	30	
Vinyl chloride	U	20.0	18.7	93.6	20.0	16.7	83.5	11.5	50 - 145	30	

* FAILS %REC LIMIT

FAILS RPD LIMIT



BFB

Login Number: L16100409
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



BFB

Login Number: L16100409

Tune ID: WG587480-01

Instrument: HPMS11

Run Date: 10/13/2016

Analyst: FJB

Run Time: 12:50

Workgroup: WG587480

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



BFB

Login Number: L16100409 Tune ID: WG587866-01
 Instrument: HPMS11 Run Date: 10/17/2016
 Analyst: FJB Run Time: 12:08
 Workgroup: WG587866 File ID: 11M14557
 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	25.2	8728	PASS
75.0	95.0	30.0	60.0	46.9	16284	PASS
95.0	95.0	100	100	100	34690	PASS
96.0	95.0	5.00	9.00	6.72	2331	PASS
173	174	0	2.00	0.335	102	PASS
174	95.0	50.0	100	87.9	30490	PASS
175	174	5.00	9.00	8.62	2627	PASS
176	174	95.0	101	96.2	29341	PASS
177	176	5.00	9.00	6.77	1987	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG587866-02	CCV	01	10/17/2016 13:05	
WG587867-01	BLANK	01	10/17/2016 14:07	
WG587867-02	LCS	01	10/17/2016 14:36	
L16100409-02	35AWW01MS-100516	01	10/17/2016 15:05	
L16100409-03	35AWW01MSD-100516	01	10/17/2016 15:34	
L16100409-06	35AWW05MS-100516	01	10/17/2016 16:03	
L16100409-07	35AWW05MSD-100516	01	10/17/2016 16:32	
L16100409-01	35AWW01-100516	01	10/17/2016 17:58	
L16100409-05	35AWW05-100516	01	10/17/2016 18:27	
L16100409-04	35AWW15-100516	01	10/17/2016 18:55	
L16100409-08	35AWW18-100516	01	10/17/2016 19:24	
L16100409-09	35AWW12-100516	01	10/17/2016 19:53	
L16100409-10	35AWW12FD-100516	01	10/17/2016 20:22	
L16100409-11	35AWW13-100616	01	10/17/2016 20:51	
L16100409-12	35AWW22-100616	01	10/17/2016 21:20	
L16100409-13	35AWW14-100616	01	10/17/2016 21:49	

* Sample past 12 hour tune limit



BFB

Login Number: L16100409 Tune ID: WG569084-01
 Instrument: HPMS8 Run Date: 05/17/2016
 Analyst: TMB Run Time: 08:53
 Workgroup: WG569084 File ID: 8M412319
 Cal ID: HPMS8-13-MAY-16

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50.0	95.0	15.0	40.0	19.1	6316	PASS
75.0	95.0	30.0	60.0	54.7	18130	PASS
95.0	95.0	100	100	100	33138	PASS
96.0	95.0	5.00	9.00	6.76	2241	PASS
173	174	0	2.00	0	0	PASS
174	95.0	50.0	100	72.2	23934	PASS
175	174	5.00	9.00	7.88	1886	PASS
176	174	95.0	101	96.8	23159	PASS
177	176	5.00	9.00	7.15	1655	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG569079-01	STD-CCV	01	05/17/2016 09:47	
WG569079-03	STD	01	05/17/2016 10:16	
WG569079-04	STD	01	05/17/2016 10:44	
WG569079-05	STD	01	05/17/2016 11:13	
WG569079-06	STD	01	05/17/2016 11:42	
WG569079-07	STD	01	05/17/2016 12:40	
WG569079-08	STD	01	05/17/2016 13:10	
WG569079-09	STD	01	05/17/2016 13:39	
WG569079-10	SSCV	01	05/17/2016 15:06	

* Sample past 12 hour tune limit



BFB

Login Number: L16100409

Tune ID: WG582739-01

Instrument: HPMS8

Run Date: 09/09/2016

Analyst: TMB

Run Time: 12:56

Workgroup: WG582739

File ID: 8M414702

Cal ID: HPMS8-09-SEP-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	15.4	5318	PASS
75.0	95.0	30.0	60.0	52.3	18038	PASS
95.0	95.0	100	100	100	34461	PASS
96.0	95.0	5.00	9.00	7.06	2433	PASS
173	174	0	2.00	0.307	102	PASS
174	95.0	50.0	100	96.3	33189	PASS
175	174	5.00	9.00	7.94	2635	PASS
176	174	95.0	101	97.8	32461	PASS
177	176	5.00	9.00	6.47	2101	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG582739-02	STD	01	09/09/2016 13:20	
WG582739-03	STD	01	09/09/2016 13:53	
WG582739-04	STD	01	09/09/2016 14:21	
WG582739-05	STD	01	09/09/2016 14:50	
WG582739-06	STD	01	09/09/2016 15:19	
WG582739-07	STD	01	09/09/2016 15:56	
WG582739-08	STD-CCV	01	09/09/2016 16:25	
WG582739-09	STD	01	09/09/2016 16:54	
WG582739-10	STD	01	09/09/2016 17:23	
WG582739-11	STD	01	09/09/2016 17:52	
WG582739-12	SSCV	01	09/09/2016 19:18	

* Sample past 12 hour tune limit



BFB

Login Number: L16100409
Instrument: HPMS8
Analyst: TMB
Workgroup: WG587981

Tune ID: WG587981-01
Run Date: 10/18/2016
Run Time: 08:43
File ID: 8M415556
Cal ID: HPMS8-09-SEP-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	15.4	7792	PASS
75.0	95.0	30.0	60.0	51.0	25812	PASS
95.0	95.0	100	100	100	50634	PASS
96.0	95.0	5.00	9.00	7.51	3802	PASS
173	174	0	2.00	1.00	487	PASS
174	95.0	50.0	100	95.9	48541	PASS
175	174	5.00	9.00	7.17	3479	PASS
176	174	95.0	101	95.0	46120	PASS
177	176	5.00	9.00	6.81	3141	PASS

This check relates to the following samples:

Lab ID	Client ID	Tag	Date Analyzed	Q
WG587981-02	CCV	01	10/18/2016 09:07	
WG587296-01	CCV	01	10/18/2016 09:36	
WG587982-01	BLANK	01	10/18/2016 10:04	
WG587982-02	LCS	01	10/18/2016 12:00	
WG587982-03	LCS2	01	10/18/2016 12:29	
L16100409-16	TRIP BLANK	01	10/18/2016 14:25	
L16100409-14	LHSMW06-100616	01	10/18/2016 15:52	
L16100409-15	35AWW19-100616	01	10/18/2016 16:21	
WG587982-04	BLANK2	01	10/18/2016 21:11	*

* Sample past 12 hour tune limit



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	20	50	100	200	300	400	500	Avg	%RSD	Linear	Quadratic	
	11M13629.D	11M13630.D	11M13631.D	11M13632.D	11M13633.D	11M13634.D	11M13635.D	11M13636.D					
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

Compound	0.3 0.4 1 2 5 20 50 100 200 300										Avg	%RSD	Linear	Quadratic
	11M14501.D	11M14502.D	11M14503.D	11M14504.D	11M14505.D	11M14506.D	11M14507.D	11M14508.D	11M14509.D	11M14510.D				
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			0.003	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	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	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	4.612										
T 1,2-Dibromo-3-Chloropropane				0.121	0.127	0.134	0.132	0.141	0.147	0.146	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	10.880										

Fri Oct 14 09:30:30 2016

Calibration Table Report
 Method: A9FOOWT.M
 Title: A9-FOO Water SOP:MSV01 05-17-16 HPMS8
 Last Calibration: Thu May 19 08:54:31 2016
 Curve: WG569079
 Calibration Files

Compound	5 20 50 100 200 300 400 500									Avg	%RSD
	8M412324.D	8M412323.D	8M412322.D	8M412321.D	8M412325.D	8M412326.D	8M412327.D	8M412328.D			
I Fluorobenzene	ISTD										
T Acetonitrile	0.009	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	2.076	
T 3-Chloro-1-propene	0.306	0.330	0.335	0.331	0.324	0.307	0.304	0.304	0.318	4.307	
T 2-Chloro-1,3-butadiene	0.368	0.420	0.420	0.419	0.419	0.392	0.389	0.387	0.402	5.022	
T Ethyl Acetate	0.080	0.096	0.097	0.100	0.099	0.098	0.100	0.095	0.096	6.751	
T Methacrylonitrile	0.041	0.054	0.055	0.055	0.055	0.054	0.055	0.052	0.053	9.227	
T Isobutyl Alcohol		0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	3.599	
T 1-Butanol										0.000 0.000	
T Methyl methacrylate	0.089	0.106	0.106	0.105	0.106	0.105	0.107	0.102	0.103	5.868	
T 2-Nitropropane	0.041	0.042	0.043	0.046	0.047	0.048	0.046	0.045	0.045	5.992	
I Chlorobenzene-d5	ISTD										
I 1,4-Dichlorobenzene-d4	ISTD										
T Cyclohexanone	0.011	0.010	0.010	0.009	0.010	0.011	0.010	0.010	0.010	4.971	

Thu May 19 09:04:52 2016

Calibration Table Report

Method: 8260WT.M

Title: Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8

Last Calibration: Mon Sep 12 12:00:33 2016

Curve: WG582739

Calibration Files

Compound	0.3 0.4 1 2 5 20 50 100 200 300										Avg	%RSD	Linear	Quad
	8M114703.D	8M114704.D	8M114705.D	8M114706.D	8M114707.D	8M114708.D	8M114709.D	8M114710.D	8M114711.D	8M114712.D				
I Fluorobenzene	ISTD													
T Dichlorodifluoromethane	0.344	0.385	0.353	0.359	0.410	0.423	0.426	0.423	0.399	0.391	8.321			
P Chloromethane		0.383	0.372	0.358	0.352	0.340	0.337	0.330	0.307	0.347	7.030			
C Vinyl Chloride	0.418	0.409	0.408	0.388	0.383	0.379	0.370	0.351	0.315	0.380	8.474			
T 1,3-Butadiene		0.267	0.253	0.285	0.266	0.244	0.236	0.213	0.252	0.267	9.463			
T Bromomethane		0.175	0.171	0.184	0.192	0.207	0.223	0.244	0.251	0.206	14.906			
T Chloroethane	0.118	0.160	0.154	0.156	0.158	0.161	0.164	0.171	0.169	0.157	9.909			
T Trichlorofluoromethane	0.427	0.422	0.413	0.413	0.411	0.425	0.448	0.471	0.464	0.433	5.248			
T Diethyl ether		0.093	0.103	0.102	0.100	0.108	0.116		0.121	0.106	9.142			
T Isoprene			0.273	0.294	0.335	0.350	0.369	0.379	0.384	0.340	12.578			
T Acrolein										0.000	0.000			
T 1,1,2-Trichloro-1,2,2-Trifluoroethane		0.256	0.244	0.237	0.237	0.248	0.262	0.272	0.272	0.254	5.685			
T Acetone				0.018	0.020	0.020	0.022	0.023	0.021	0.021	8.228			
P 1,1-Dichloroethene	0.289	0.320	0.297	0.317	0.307	0.317	0.327	0.349	0.348	0.319	6.363			
T Tert-Butyl Alcohol			0.007	0.007	0.007	0.006	0.007		0.006	0.006	4.223			
T Dimethyl Sulfide	0.192	0.171	0.181	0.180	0.189	0.199	0.208	0.217	0.216	0.195	8.472			
T Iodomethane		0.171	0.180	0.181	0.239	0.274	0.290	0.299	0.287	0.240	22.923	0.998		
T Methyl acetate				0.060	0.058	0.060	0.066	0.066	0.071	0.064	7.691			
T Methylene Chloride		0.259	0.263	0.249	0.242	0.249	0.262	0.271	0.273	0.258	4.228			
T Carbon Disulfide		0.749	0.740	0.758	0.810	0.820	0.847	0.852	0.792	0.796	5.462			
T Acrylonitrile		0.016	0.026	0.025	0.026	0.031	0.034		0.039	0.028	25.668	0.999		
T Methyl Tert Butyl Ether		0.393	0.413	0.437	0.405	0.446	0.476	0.466	0.467	0.438	7.169			
T trans-1,2-Dichloroethene	0.269	0.288	0.295	0.300	0.293	0.303	0.317	0.335	0.335	0.304	7.166			
T n-Hexane				0.261	0.271	0.275	0.281	0.287	0.281	0.276	3.344			
T Diisopropyl ether		0.482	0.513	0.514	0.524	0.542	0.564		0.543	0.526	5.048			
T Vinyl Acetate			0.201	0.220	0.209	0.218	0.230	0.237	0.231	0.221	5.887			
P 1,1-Dichloroethane	0.398	0.390	0.385	0.401	0.393	0.405	0.420	0.437	0.432	0.407	4.569			
T Ethyl-Tert-Butyl ether		0.427	0.486	0.494	0.493	0.518	0.548		0.527	0.499	7.742			
T 2-Butanone				0.030	0.030	0.034	0.036	0.035	0.037	0.033	9.470			
T Propionitrile		0.006	0.009	0.010	0.009	0.010	0.011		0.011	0.010	18.426	0.997		
T 2,2-Dichloropropane	0.362	0.400	0.390	0.389	0.381	0.392	0.403	0.415	0.409	0.393	4.045			
T cis-1,2-Dichloroethene	0.261	0.259	0.263	0.270	0.271	0.283	0.292	0.307	0.308	0.279	6.852			
C Chloroform	0.446	0.457	0.445	0.465	0.473	0.451	0.468	0.478	0.485	0.464	3.015			
T 1-Bromopropane		0.030	0.043	0.047	0.049	0.051	0.052	0.055	0.055	0.048	17.374	0.999		
T Bromochloromethane	0.117	0.139	0.141	0.148	0.142	0.149	0.159	0.163	0.164	0.147	9.960			
T Tetrahydrofuran		0.027	0.022	0.023	0.021	0.023	0.024		0.025	0.023	8.233			
S Dibromofluoromethane		0.195	0.231	0.241	0.246	0.250	0.254	0.259	0.263	0.242	8.908			
T 1,1,1-Trichloroethane	0.394	0.398	0.406	0.401	0.414	0.433	0.452	0.479	0.473	0.428	7.727			
T Cyclohexane		0.332	0.298	0.308	0.329	0.339	0.351	0.370	0.370	0.337	7.821			
T 1,1-Dichloropropene		0.343	0.327	0.342	0.342	0.355	0.369	0.382	0.373	0.354	5.384			
T Tert-Amyl-Methyl ether		0.436	0.479	0.486	0.480	0.507	0.542		0.534	0.495	7.345			
T Carbon Tetrachloride	0.354	0.373	0.366	0.373	0.389	0.405	0.431	0.432	0.441	0.3961	8.16135			
S 1,2-Dichloroethane-d4		0.151	0.195	0.188	0.203	0.2	0.202	0.204	0.206	0.1937	9.33534			
T Heptane										0	0			
T 1,2-Dichloroethane	0.242	0.235	0.25	0.259	0.242	0.252	0.264	0.268	0.272	0.2537	5.0585			
T Benzene	1.075	0.996	0.998	1.026	1.017	1.021	1.033	0.992	0.879	1.0039	5.29539			
T Trichloroethene	0.289	0.271	0.262	0.27	0.283	0.286	0.302	0.319	0.321	0.2892	7.36484			
T Methylcyclohexane				0.404	0.431	0.434	0.449	0.463	0.456	0.4393	4.84402			
C 1,2-Dichloropropane	0.225	0.211	0.196	0.219	0.214	0.223	0.23	0.237	0.239	0.2215	6.11149			
T Bromodichloromethane	0.295	0.312	0.311	0.33	0.325	0.345	0.36	0.368	0.365	0.3345	7.87137			
T 1,4-Dioxane				0.001	0.001	0.001	0.001		0.001	0.001	15.7915	0.999		
T Dibromomethane	0.113	0.105	0.114	0.126	0.122	0.127	0.135	0.137	0.139	0.1243	9.52983			
T 2-Chloroethyl Vinyl Ether			0.072	0.078	0.084	0.089	0.094	0.094	0.097	0.0869	10.6902			
T 4-Methyl-2-Pentanone				0.028	0.032	0.034	0.037	0.036	0.038	0.0341	11.0082			
T cis-1,3-Dichloropropene	0.315	0.351	0.325	0.358	0.358	0.376	0.393	0.398	0.388	0.3625	8.09127			

T	Dimethyl Disulfide			0.148	0.177	0.199	0.216	0.23	0.235	0.2009	16.6769	0.998	
I	Chlorobenzene-d5	ISTD											
S	Toluene-d8		1.008	1.104	1.079	1.176	1.173	1.177	1.154	1.1197	5.44431		
C	Toluene	1.44	1.435	1.449	1.46	1.491	1.51	1.53	1.354	1.108	1.4196	8.98288	
T	Ethyl Methacrylate		0.163	0.215	0.239	0.246	0.267	0.284	0.271	0.266	0.244	16.0496	0.999
T	Paraldehyde									0	0		
T	trans-1,3-Dichloropropene		0.341	0.363	0.4	0.385	0.414	0.436	0.424	0.406	0.3962	8.01297	
T	1,1,2-Trichloroethane	0.127	0.205	0.228	0.221	0.212	0.22	0.233	0.226	0.224	0.2106	15.5094	1.000
T	2-Hexanone				0.035	0.038	0.041	0.044	0.042	0.041	0.0401	8.43214	
T	1,3-Dichloropropane	0.364	0.358	0.351	0.373	0.352	0.368	0.385	0.372	0.358	0.3646	3.08941	
T	Tetrachloroethene	0.314	0.333	0.308	0.322	0.334	0.347	0.374	0.397	0.399	0.3475	9.9457	
T	Dibromochloromethane	0.22	0.245	0.276	0.283	0.283	0.312	0.34	0.336	0.331	0.2918	14.3242	
T	1,2-Dibromoethane	0.206	0.186	0.199	0.211	0.204	0.222	0.235	0.226	0.224	0.2126	7.30146	
T	1-Chlorohexane	0.437	0.465	0.481	0.468	0.506	0.514	0.533	0.53	0.505	0.4932	6.55646	
P	Chlorobenzene	1.279	1.063	1.01	1.004	0.986	1.032	1.086	1.066	0.937	1.0514	9.20992	
T	1,1,1,2-Tetrachloroethane	0.355	0.324	0.31	0.344	0.351	0.385	0.43	0.479	0.487	0.3852	17.0184	1.000
C	Ethylbenzene	0.476	0.521	0.5	0.523	0.535	0.547	0.584	0.646	0.7	0.669	0.57	13.4858
T	m-p-Xylene	0.592	0.614	0.611	0.642	0.665	0.691	0.736	0.674	0.548	0.6414	8.84309	
T	o-Xylene		0.606	0.579	0.623	0.631	0.658	0.707	0.733	0.697	0.6542	8.26562	
T	Styrene	0.73	0.826	0.858	0.98	1.028	1.109	1.178	1.115	0.967	0.9769	15.2369	0.994
P	Bromoform		0.143	0.147	0.165	0.182	0.206	0.232	0.229	0.233	0.1923	19.7445	0.998
T	Isopropylbenzene	1.55	1.549	1.523	1.633	1.662	1.688	1.729	1.491	1.198	1.558	10.0899	
I	1,4-Dichlorobenzene-d4	ISTD											
P	1,1,2,2-Tetrachloroethane	0.336	0.369	0.388	0.43	0.386	0.389	0.42	0.409	0.397	0.3915	7.12587	
S	p-Bromofluorobenzene			0.69	0.669	0.741	0.725	0.752	0.779	0.771	0.7326	5.58718	
T	1,2,3-Trichloropropane		0.083	0.098	0.12	0.104	0.111	0.116	0.117	0.113	0.1077	11.5537	
T	trans-1,4-Dichloro-2-Butene		0.045	0.064	0.067	0.082	0.085	0.093	0.095	0.093	0.078	23.0754	0.999
T	n-Propylbenzene	3.395	3.429	3.337	3.352	3.383	3.297	3.27	2.725		3.2735	6.95538	
T	Bromobenzene	0.748	0.732	0.75	0.777	0.77	0.745	0.767	0.824	0.856	0.83	0.7797	5.39995
T	1,3,5-Trimethylbenzene	2.03	2.252	2.297	2.374	2.389	2.382	2.462	2.263	1.833	2.2538	8.89988	
T	2-Chlorotoluene	2.284	2.135	2.082	2.066	2.033	2.104	2.013	2.251	1.804	2.0859	6.71989	
T	4-Chlorotoluene	1.808	2.035	2.061	2.193	2.152	2.077	2.193	1.705	1.422	1.9607	13.3965	
T	a-Methylstyrene				1.194	1.347	1.388	1.468	1.488	1.333	1.3697	7.76485	
T	tert-Butylbenzene		0.474	0.477	0.493	0.502	0.516	0.569	0.618	0.618	0.5332	11.2747	
T	1,2,4-Trimethylbenzene	2.167	2.475	2.336	2.474	2.509	2.5	2.57	2.325	1.862	2.3575	9.47202	
T	sec-Butylbenzene		3.009	2.992	3.022	3.061	2.993	3.058	2.655	2.082	2.859	11.9027	
T	p-Isopropyltoluene		2.36	2.295	2.468	2.542	2.512	2.615	2.342	1.876	2.3761	9.66773	
T	1,3-Dichlorobenzene	1.434	1.467	1.404	1.489	1.48	1.516	1.598	1.577	1.372	1.4818	5.03268	
T	1,4-Dichlorobenzene	1.586	1.499	1.482	1.495	1.486	1.442	1.474	1.546	1.533	1.332	1.4877	4.5855
T	n-Butylbenzene		2.557	2.41	2.543	2.488	2.433	2.521	2.258	1.787	2.3749	10.7859	
T	1,2-Dichlorobenzene	1.244	1.309	1.206	1.243	1.253	1.257	1.282	1.363	1.363	1.232	1.2752	4.22524
T	1,2-Dibromo-3-Chloropropane			0.05	0.066	0.052	0.057	0.064	0.064	0.062	0.0594	10.3648	
T	1,2,4-Trichlorobenzene	0.896	0.947	0.8	0.893	0.897	0.938	1.067	1.122	1.062	0.9579	10.8969	
T	Hexachlorobutadiene	0.5	0.491	0.486	0.46	0.482	0.488	0.562	0.635	0.652	0.5285	13.4101	
T	Naphthalene	0.957	0.997	0.989	1.013	1.029	1.11	1.217	1.184	1.071	1.0629	8.504	
T	1,2,3-Trichlorobenzene	0.626	0.678	0.731	0.678	0.694	0.699	0.74	0.839	0.867	0.838	0.7389	11.0695

Mon Sep 12 12:36:56 2016

Login Number: L16100409 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: 4981497
 Report generated 10/20/2016 12:22



Login Number: L16100409 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



Login Number: L16100409 Run Date: 09/09/2016 Sample ID: WG582739-12
 Instrument ID: HPMS8 Run Time: 19:18 Method: 8260B
 File ID: 8M414715 Analyst: TMB QC Key: DOD4
 ICal Workgroup: WG582739 Cal ID: HPMS8 - 09-SEP-16

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Chloroform	CCC	50.0	47.6	ug/L	0.442	4.90	20	
1,1-Dichloroethene	CCC	50.0	44.9	ug/L	0.286	10.2	20	
1,2-Dichloropropane	CCC	50.0	49.3	ug/L	0.218	1.40	20	
Ethylbenzene	CCC	50.0	50.3	ug/L	0.573	0.500	20	
Toluene	CCC	50.0	51.0	ug/L	1.45	2.00	20	
Vinyl Chloride	CCC	50.0	46.3	ug/L	0.352	7.50	20	
Bromoform	SPCC	50.0	42.5	ug/L	0.192	15.0	20	
Chlorobenzene	SPCC	50.0	48.5	ug/L	1.02	2.90	20	
Chloromethane	SPCC	50.0	41.7	ug/L	0.290	16.6	20	
1,1-Dichloroethane	SPCC	50.0	45.2	ug/L	0.368	9.60	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	49.1	ug/L	0.384	1.90	20	
Acetone		50.0	50.7	ug/L	0.0208	1.40	20	
Benzene		50.0	48.6	ug/L	0.975	2.90	20	
Bromobenzene		50.0	48.9	ug/L	0.763	2.20	20	
Bromochloromethane		50.0	48.4	ug/L	0.142	3.20	20	
Bromodichloromethane		50.0	49.4	ug/L	0.331	1.20	20	
Bromomethane		50.0	45.3	ug/L	0.187	9.40	20	
2-Butanone		50.0	51.8	ug/L	0.0346	3.60	20	
n-Butylbenzene		50.0	50.4	ug/L	2.39	0.800	20	
sec-Butylbenzene		50.0	53.5	ug/L	3.06	7.00	20	
tert-Butylbenzene		50.0	51.0	ug/L	0.544	1.90	20	
Carbon Disulfide		50.0	47.9	ug/L	0.763	4.20	20	
Carbon Tetrachloride		50.0	49.1	ug/L	0.389	1.90	20	
Dibromochloromethane		50.0	52.4	ug/L	0.306	4.80	20	
Chloroethane		50.0	53.3	ug/L	0.167	6.70	20	
2-Chlorotoluene		50.0	49.2	ug/L	2.05	1.60	20	
4-Chlorotoluene		50.0	54.3	ug/L	2.13	8.50	20	
1,2-Dibromo-3-Chloropropane		50.0	48.7	ug/L	0.0579	2.60	20	
1,2-Dibromoethane		50.0	50.4	ug/L	0.214	0.700	20	
Dibromomethane		50.0	47.1	ug/L	0.117	5.80	20	
1,2-Dichlorobenzene		50.0	51.1	ug/L	1.30	2.20	20	
1,3-Dichlorobenzene		50.0	51.0	ug/L	1.51	1.90	20	
1,4-Dichlorobenzene		50.0	50.7	ug/L	1.51	1.30	20	
Dichlorodifluoromethane		50.0	48.6	ug/L	0.381	2.70	20	
1,2-Dichloroethane		50.0	48.2	ug/L	0.245	3.50	20	
cis-1,2-Dichloroethene		50.0	49.4	ug/L	0.276	1.20	20	
trans-1,2-Dichloroethene		50.0	48.0	ug/L	0.292	4.10	20	
1,3-Dichloropropane		50.0	51.4	ug/L	0.375	2.70	20	
2,2-Dichloropropane		50.0	48.2	ug/L	0.379	3.60	20	
cis-1,3-Dichloropropene		50.0	54.6	ug/L	0.396	9.20	20	
trans-1,3-Dichloropropene		50.0	50.3	ug/L	0.399	0.700	20	
1,1-Dichloropropene		50.0	47.3	ug/L	0.335	5.40	20	

ALT - Modified 09/06/2007
 Version 1.5 PDF File ID: 4981497
 Report generated 10/20/2016 12:22



Login Number: L16100409 Run Date: 09/09/2016 Sample ID: WG582739-12
 Instrument ID: HPMS8 Run Time: 19:18 Method: 8260B
 File ID: 8M414715 Analyst: TMB QC Key: DOD4
 ICal Workgroup: WG582739 Cal ID: HPMS8 - 09-SEP-16

Analyte	Expected	Found	Units	RF	%D	UCL	Q
2-Hexanone	50.0	48.9	ug/L	0.0392	2.30	20	
Hexachlorobutadiene	50.0	52.2	ug/L	0.552	4.50	20	
Isopropylbenzene	50.0	54.5	ug/L	1.70	9.10	20	
p-Isopropyltoluene	50.0	53.5	ug/L	2.54	7.10	20	
4-Methyl-2-Pentanone	50.0	50.1	ug/L	0.0342	0.200	20	
Methylene Chloride	50.0	47.0	ug/L	0.243	6.00	20	
Naphthalene	50.0	45.8	ug/L	0.973	8.50	20	
n-Propylbenzene	50.0	51.2	ug/L	3.35	2.40	20	
Styrene	50.0	52.0	ug/L	1.09	4.00	20	
1,1,1,2-Tetrachloroethane	50.0	47.0	ug/L	0.379	6.10	20	
Tetrachloroethene	50.0	49.3	ug/L	0.343	1.40	20	
1,2,3-Trichlorobenzene	50.0	49.6	ug/L	0.733	0.800	20	
1,2,4-Trichlorobenzene	50.0	49.2	ug/L	0.944	1.50	20	
1,1,1-Trichloroethane	50.0	48.5	ug/L	0.415	3.00	20	
1,1,2-Trichloroethane	50.0	47.2	ug/L	0.212	5.60	20	
Trichloroethene	50.0	50.7	ug/L	0.293	1.40	20	
Trichlorofluoromethane	50.0	46.6	ug/L	0.403	6.80	20	
1,2,3-Trichloropropane	50.0	51.0	ug/L	0.110	1.90	20	
1,2,4-Trimethylbenzene	50.0	51.9	ug/L	2.45	3.80	20	
1,3,5-Trimethylbenzene	50.0	53.7	ug/L	2.42	7.40	20	
o-Xylene	50.0	51.5	ug/L	0.674	3.00	20	
m-,p-Xylene	100	108	ug/L	0.693	8.10	20	

* Exceeds %D Limit

CCC Calibration Check Compounds
 SPCC System Performance Check Compounds



Login Number: L16100409 Run Date: 10/17/2016 Sample ID: WG587866-02
Instrument ID: HPMS11 Run Time: 13:05 Method: 8260B
File ID: 11M14559 Analyst: FJB QC Key: DOD4
Workgroup (AAB#): WG587867 Cal ID: HPMS11 - 13-OCT-16
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloroform	CCC	50.0	45.7	ug/L	0.481	8.51	20	
1,1-Dichloroethene	CCC	50.0	48.7	ug/L	0.502	2.69	20	
1,2-Dichloropropane	CCC	50.0	48.0	ug/L	0.321	4.02	20	
Ethylbenzene	CCC	50.0	49.9	ug/L	0.570	0.215	20	
Toluene	CCC	50.0	50.1	ug/L	1.58	0.210	20	
Vinyl Chloride	CCC	50.0	49.1	ug/L	0.407	1.88	20	
Bromoform	SPCC	50.0	46.9	ug/L	0.250	6.23	20	
Chlorobenzene	SPCC	50.0	48.4	ug/L	1.08	3.15	20	
Chloromethane	SPCC	50.0	46.8	ug/L	0.435	6.50	20	
1,1-Dichloroethane	SPCC	50.0	47.7	ug/L	0.572	4.62	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	47.7	ug/L	0.673	4.59	20	
Xylenes		150	151	ug/L	0.675	0.981	20	
Acetone		50.0	34.5	ug/L	0.0669	31.0	20	*
Benzene		50.0	48.6	ug/L	1.10	2.76	20	
Bromobenzene		50.0	48.7	ug/L	0.929	2.53	20	
Bromochloromethane		50.0	46.9	ug/L	0.195	6.29	20	
Bromodichloromethane		50.0	47.5	ug/L	0.377	5.03	20	
Bromomethane		50.0	57.0	ug/L	0.229	14.1	20	
2-Butanone		50.0	38.8	ug/L	0.127	22.4	20	*
n-Butylbenzene		50.0	53.7	ug/L	2.96	7.43	20	
sec-Butylbenzene		50.0	54.4	ug/L	3.68	8.88	20	
tert-Butylbenzene		50.0	53.5	ug/L	0.624	6.97	20	
Carbon Disulfide		50.0	48.2	ug/L	0.824	3.68	20	
Carbon Tetrachloride		50.0	48.7	ug/L	0.422	2.68	20	
Dibromochloromethane		50.0	48.5	ug/L	0.399	2.91	20	
Chloroethane		50.0	48.3	ug/L	0.235	3.49	20	
2-Chlorotoluene		50.0	50.5	ug/L	2.38	0.962	20	
4-Chlorotoluene		50.0	53.4	ug/L	2.56	6.75	20	
1,2-Dibromo-3-Chloropropane		50.0	44.1	ug/L	0.120	11.7	20	
1,2-Dibromoethane		50.0	46.7	ug/L	0.294	6.70	20	
Dibromomethane		50.0	45.8	ug/L	0.162	8.33	20	
1,2-Dichlorobenzene		50.0	49.7	ug/L	1.67	0.655	20	
1,3-Dichlorobenzene		50.0	50.3	ug/L	1.77	0.699	20	
1,4-Dichlorobenzene		50.0	48.8	ug/L	1.76	2.39	20	
Dichlorodifluoromethane		50.0	50.6	ug/L	0.429	1.20	20	
1,2-Dichloroethane		50.0	46.0	ug/L	0.416	7.91	20	
cis-1,2-Dichloroethene		50.0	48.7	ug/L	0.314	2.55	20	
trans-1,2-Dichloroethene		50.0	47.6	ug/L	0.278	4.79	20	
1,3-Dichloropropane		50.0	46.4	ug/L	0.478	7.12	20	
2,2-Dichloropropane		50.0	51.4	ug/L	0.420	2.81	20	
cis-1,3-Dichloropropene		50.0	49.4	ug/L	0.434	1.27	20	
trans-1,3-Dichloropropene		50.0	49.4	ug/L	0.509	1.18	20	

CCV - Modified 03/05/2008
PDF File ID: 4981499
Report generated 10/20/2016 12:22



Login Number: L16100409 Run Date: 10/17/2016 Sample ID: WG587866-02
Instrument ID: HPMS11 Run Time: 13:05 Method: 8260B
File ID: 11M14559 Analyst: FJB QC Key: DOD4
Workgroup (AAB#): WG587867 Cal ID: HPMS11 - 13-OCT-16
Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloropropene	50.0	48.5	ug/L	0.372	3.05	20	
2-Hexanone	50.0	38.5	ug/L	0.254	23.0	20	*
Hexachlorobutadiene	50.0	55.5	ug/L	0.541	11.0	20	
Isopropylbenzene	50.0	51.6	ug/L	1.75	3.14	20	
p-Isopropyltoluene	50.0	55.1	ug/L	3.24	10.2	20	
4-Methyl-2-Pentanone	50.0	41.5	ug/L	0.0997	17.0	20	
Methylene Chloride	50.0	46.9	ug/L	0.275	6.12	20	
Naphthalene	50.0	50.5	ug/L	2.61	0.940	20	
n-Propylbenzene	50.0	54.2	ug/L	4.03	8.39	20	
Styrene	50.0	51.1	ug/L	1.15	2.25	20	
1,1,1,2-Tetrachloroethane	50.0	49.7	ug/L	0.396	0.633	20	
Tetrachloroethene	50.0	48.9	ug/L	0.334	2.19	20	
1,2,3-Trichlorobenzene	50.0	48.3	ug/L	1.16	3.39	20	
1,2,4-Trichlorobenzene	50.0	50.1	ug/L	1.25	0.176	20	
1,1,1-Trichloroethane	50.0	48.5	ug/L	0.450	2.93	20	
1,1,2-Trichloroethane	50.0	48.1	ug/L	0.294	3.87	20	
Trichloroethene	50.0	47.5	ug/L	0.311	5.05	20	
Trichlorofluoromethane	50.0	49.5	ug/L	0.478	0.925	20	
1,2,3-Trichloropropane	50.0	47.7	ug/L	0.204	4.51	20	
1,2,4-Trimethylbenzene	50.0	53.7	ug/L	2.95	7.41	20	
1,3,5-Trimethylbenzene	50.0	54.3	ug/L	2.90	8.58	20	
o-Xylene	50.0	50.7	ug/L	0.672	1.48	20	
m-,p-Xylene	100	101	ug/L	0.678	0.731	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 4981499
Report generated 10/20/2016 12:22



Login Number: L16100409 Run Date: 10/18/2016 Sample ID: WG587981-02
Instrument ID: HPMS8 Run Time: 09:07 Method: 8260B
File ID: 8M415557 Analyst: TMB QC Key: DOD4
Workgroup (AAB#): WG587982 Cal ID: HPMS8 - 09-SEP-16
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Chloroform	CCC	50.0	51.5	ug/L	0.478	2.99	20	
1,1-Dichloroethene	CCC	50.0	55.2	ug/L	0.352	10.5	20	
1,2-Dichloropropane	CCC	50.0	52.9	ug/L	0.234	5.79	20	
Ethylbenzene	CCC	50.0	52.9	ug/L	0.603	5.85	20	
Toluene	CCC	50.0	56.9	ug/L	1.62	13.8	20	
Vinyl Chloride	CCC	50.0	43.9	ug/L	0.334	12.2	20	
Bromoform	SPCC	50.0	40.5	ug/L	0.183	19.0	20	
Chlorobenzene	SPCC	50.0	49.7	ug/L	1.04	0.699	20	
Chloromethane	SPCC	50.0	35.1	ug/L	0.244	29.7	20	*
1,1-Dichloroethane	SPCC	50.0	54.2	ug/L	0.441	8.46	20	
1,1,2,2-Tetrachloroethane	SPCC	50.0	54.2	ug/L	0.425	8.45	20	
Xylenes		150	162	ug/L	0.689	7.84	20	
Acetone		50.0	55.4	ug/L	0.0227	10.8	20	
Benzene		50.0	53.9	ug/L	1.08	7.79	20	
Bromobenzene		50.0	50.6	ug/L	0.790	1.29	20	
Bromochloromethane		50.0	48.6	ug/L	0.143	2.77	20	
Bromodichloromethane		50.0	51.2	ug/L	0.343	2.50	20	
Bromomethane		50.0	41.0	ug/L	0.169	18.0	20	
2-Butanone		50.0	52.2	ug/L	0.0349	4.33	20	
n-Butylbenzene		50.0	59.1	ug/L	2.81	18.2	20	
sec-Butylbenzene		50.0	59.7	ug/L	3.41	19.4	20	
tert-Butylbenzene		50.0	52.8	ug/L	0.563	5.57	20	
Carbon Disulfide		50.0	50.7	ug/L	0.808	1.47	20	
Carbon Tetrachloride		50.0	51.6	ug/L	0.409	3.14	20	
Dibromochloromethane		50.0	51.0	ug/L	0.298	2.07	20	
Chloroethane		50.0	55.0	ug/L	0.173	9.98	20	
2-Chlorotoluene		50.0	56.1	ug/L	2.34	12.2	20	
4-Chlorotoluene		50.0	59.6	ug/L	2.34	19.2	20	
1,2-Dibromo-3-Chloropropane		50.0	48.1	ug/L	0.0572	3.72	20	
1,2-Dibromoethane		50.0	49.3	ug/L	0.210	1.34	20	
Dibromomethane		50.0	48.5	ug/L	0.121	2.94	20	
1,2-Dichlorobenzene		50.0	51.4	ug/L	1.31	2.78	20	
1,3-Dichlorobenzene		50.0	52.8	ug/L	1.56	5.59	20	
1,4-Dichlorobenzene		50.0	51.5	ug/L	1.53	3.03	20	
Dichlorodifluoromethane		50.0	59.1	ug/L	0.463	18.3	20	
1,2-Dichloroethane		50.0	49.1	ug/L	0.249	1.75	20	
cis-1,2-Dichloroethene		50.0	51.1	ug/L	0.285	2.19	20	
trans-1,2-Dichloroethene		50.0	55.2	ug/L	0.336	10.3	20	
1,3-Dichloropropane		50.0	50.7	ug/L	0.370	1.36	20	
2,2-Dichloropropane		50.0	53.7	ug/L	0.423	7.47	20	
cis-1,3-Dichloropropene		50.0	52.5	ug/L	0.381	5.05	20	
trans-1,3-Dichloropropene		50.0	53.7	ug/L	0.426	7.46	20	

CCV - Modified 03/05/2008
PDF File ID: 4981499
Report generated 10/20/2016 12:22



Login Number: L16100409 Run Date: 10/18/2016 Sample ID: WG587981-02
Instrument ID: HPMS8 Run Time: 09:07 Method: 8260B
File ID: 8M415557 Analyst: TMB QC Key: DOD4
Workgroup (AAB#): WG587982 Cal ID: HPMS8 - 09-SEP-16
Matrix: WATER

Analyte	Expected	Found	UNITS	RF	%D	UCL	Q
1,1-Dichloropropene	50.0	53.1	ug/L	0.376	6.16	20	
2-Hexanone	50.0	52.0	ug/L	0.0418	4.07	20	
Hexachlorobutadiene	50.0	46.1	ug/L	0.487	7.79	20	
Isopropylbenzene	50.0	56.1	ug/L	1.75	12.1	20	
p-Isopropyltoluene	50.0	59.1	ug/L	2.81	18.1	20	
4-Methyl-2-Pentanone	50.0	47.4	ug/L	0.0324	5.17	20	
Methylene Chloride	50.0	48.5	ug/L	0.251	3.00	20	
Naphthalene	50.0	49.2	ug/L	1.05	1.61	20	
n-Propylbenzene	50.0	58.8	ug/L	3.85	17.7	20	
Styrene	50.0	52.6	ug/L	1.11	5.25	20	
1,1,1,2-Tetrachloroethane	50.0	46.1	ug/L	0.372	7.79	20	
Tetrachloroethene	50.0	48.5	ug/L	0.337	3.03	20	
1,2,3-Trichlorobenzene	50.0	47.3	ug/L	0.699	5.42	20	
1,2,4-Trichlorobenzene	50.0	46.4	ug/L	0.889	7.20	20	
1,1,1-Trichloroethane	50.0	50.6	ug/L	0.433	1.26	20	
1,1,2-Trichloroethane	50.0	47.8	ug/L	0.215	4.37	20	
Trichloroethene	50.0	48.3	ug/L	0.280	3.33	20	
Trichlorofluoromethane	50.0	51.2	ug/L	0.443	2.45	20	
1,2,3-Trichloropropane	50.0	50.1	ug/L	0.108	0.298	20	
1,2,4-Trimethylbenzene	50.0	58.9	ug/L	2.78	17.8	20	
1,3,5-Trimethylbenzene	50.0	58.8	ug/L	2.65	17.6	20	
o-Xylene	50.0	51.1	ug/L	0.669	2.26	20	
m-,p-Xylene	100	111	ug/L	0.710	10.6	20	

* Exceeds %D Criteria

CCC Calibration Check Compounds
SPCC System Performance Check Compounds

CCV - Modified 03/05/2008
PDF File ID: 4981499
Report generated 10/20/2016 12:22



Login Number: L16100409
Instrument ID: HPMS11
Workgroup (AAB#): WG587867

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
<u>L16100409-01</u>	1.00	01	226559	486236	644271
L16100409-02	1.00	01	306709	596564	769386
L16100409-03	1.00	01	273211	536855	705348
L16100409-04	1.00	01	232615	497146	667523
L16100409-05	1.00	01	277782	577414	763813
L16100409-06	1.00	01	281224	540169	700672
L16100409-07	1.00	01	310840	596421	780880
L16100409-08	1.00	01	232697	477836	627680
L16100409-09	1.00	01	295846	582124	772516
L16100409-10	1.00	01	254535	507615	665087
L16100409-11	1.00	01	246568	493443	646015
L16100409-12	1.00	01	289766	558511	730140
L16100409-13	1.00	01	250527	502970	652608
WG587867-01	1.00	01	267000	544201	726651
WG587867-02	1.00	01	284712	552337	716821

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

Underline = Response outside limits



Login Number: L16100409
Instrument ID: HPMS8
Workgroup (AAB#): WG587982

ICAL CCV Number: WG582739-08
CAL ID: HPMS8-09-SEP-16
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG582739-08	NA	NA	395187	650726	866914
Upper Limit	NA	NA	790374	1301452	1733828
Lower Limit	NA	NA	197594	325363	433457
<u>L16100409-14</u>	1.00	01	246460	503846	717379
L16100409-15	1.00	01	243824	501941	714804
L16100409-16	1.00	01	319718	610795	832045
WG587982-01	1.00	01	273401	550658	779260
WG587982-02	1.00	01	317960	584316	822688
WG587982-03	1.00	01	330694	616761	859321

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

Underline = Response outside limits



Microbac Laboratories Inc.
INTERNAL STANDARD RETENTION TIME SUMMARY
(COMPARED TO MIDPOINT OF ICAL)

00869787

Login Number: L16100409
Instrument ID: HPMS8
Workgroup (AAB#): WG587982

ICAL CCV Number: WG582739-08
CAL ID: HPMS8-09-SEP-16
Matrix: WATER

Sample Number	Dilution	Tag	IS-1	IS-2	IS-3
WG582739-08	NA	NA	17.58	14.56	10.69
Upper Limit	NA	NA	18.08	15.06	11.19
Lower Limit	NA	NA	17.08	14.06	10.19
<u>L16100409-14</u>	1.00	01	17.59	14.56	10.69
L16100409-15	1.00	01	17.59	14.56	10.69
L16100409-16	1.00	01	17.59	14.56	10.69
WG587982-01	1.00	01	17.59	14.56	10.69
WG587982-02	1.00	01	17.59	14.56	10.69
WG587982-03	1.00	01	17.59	14.56	10.69

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

Underline = Response outside limits



Microbac Laboratories Inc.
 INTERNAL STANDARD RETENTION TIME SUMMARY
 (COMPARED TO MIDPOINT OF ICAL)

00869788

Login Number: L16100409
 Instrument ID: HPMS11
 Workgroup (AAB#): WG587867

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
L16100409-01	1.00	01	17.02	14.2	10.57
L16100409-02	1.00	01	17.01	14.2	10.57
L16100409-03	1.00	01	17.01	14.2	10.57
L16100409-04	1.00	01	17.01	14.2	10.57
L16100409-05	1.00	01	17.01	14.2	10.57
L16100409-06	1.00	01	17.01	14.2	10.57
L16100409-07	1.00	01	17.01	14.2	10.57
L16100409-08	1.00	01	17.02	14.2	10.57
L16100409-09	1.00	01	17.01	14.2	10.57
L16100409-10	1.00	01	17.02	14.2	10.57
L16100409-11	1.00	01	17.01	14.2	10.57
L16100409-12	1.00	01	17.02	14.2	10.57
L16100409-13	1.00	01	17.01	14.2	10.57
WG587867-01	1.00	01	17.02	14.2	10.57
WG587867-02	1.00	01	17.01	14.2	10.57

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

Underline = Response outside limits



2.1.1.3 Sample Data

Data File : C:\MSDCHEM\1\DATA\101716\11M14569.D Vial: 11
 Acq On : 17 Oct 2016 17:58 Operator: FJB
 Sample : L16100409-01 A REF 826-LOW Inst : hpms11
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Oct 18 14:46:46 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	644271	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.20	117	486236	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.02	152	226559	25.00	ug/L	0.01

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.57	111	181798	23.4579	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	93.84%	
43) 1,2-Dichloroethane-d4	10.18	65	212152	24.3829	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	97.52%	
57) Toluene-d8	12.43	98	632837	24.5598	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	98.24%	
78) p-Bromofluorobenzene	15.59	95	229758	25.3484	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	101.40%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
3) Chloromethane	3.67	50	2636	0.2199	ug/L #	1
13) Acetone	6.27	43	3454	1.3818	ug/L #	62
20) Carbon Disulfide	7.31	76	3146	0.1427	ug/L	95
24) n-Hexane	7.79	57	1636	0.1270	ug/L #	75
90) p-Isopropyltoluene	16.74	119	3202	0.1202	ug/L	80
91) 1,3-Dichlorobenzene	16.94	146	2138	0.1342	ug/L	86
92) 1,4-Dichlorobenzene	17.05	146	2317	0.1420	ug/L #	1
93) n-Butylbenzene	17.24	91	4528	0.1812	ug/L #	89
96) 1,2,4-Trichlorobenzene	19.50	180	2625	0.2326	ug/L #	60
97) Hexachlorobutadiene	19.65	225	730	0.1653	ug/L #	61

(#) = qualifier out of range (m) = manual integration
 11M14569.D 8260WT.M Tue Oct 18 14:46:47 2016

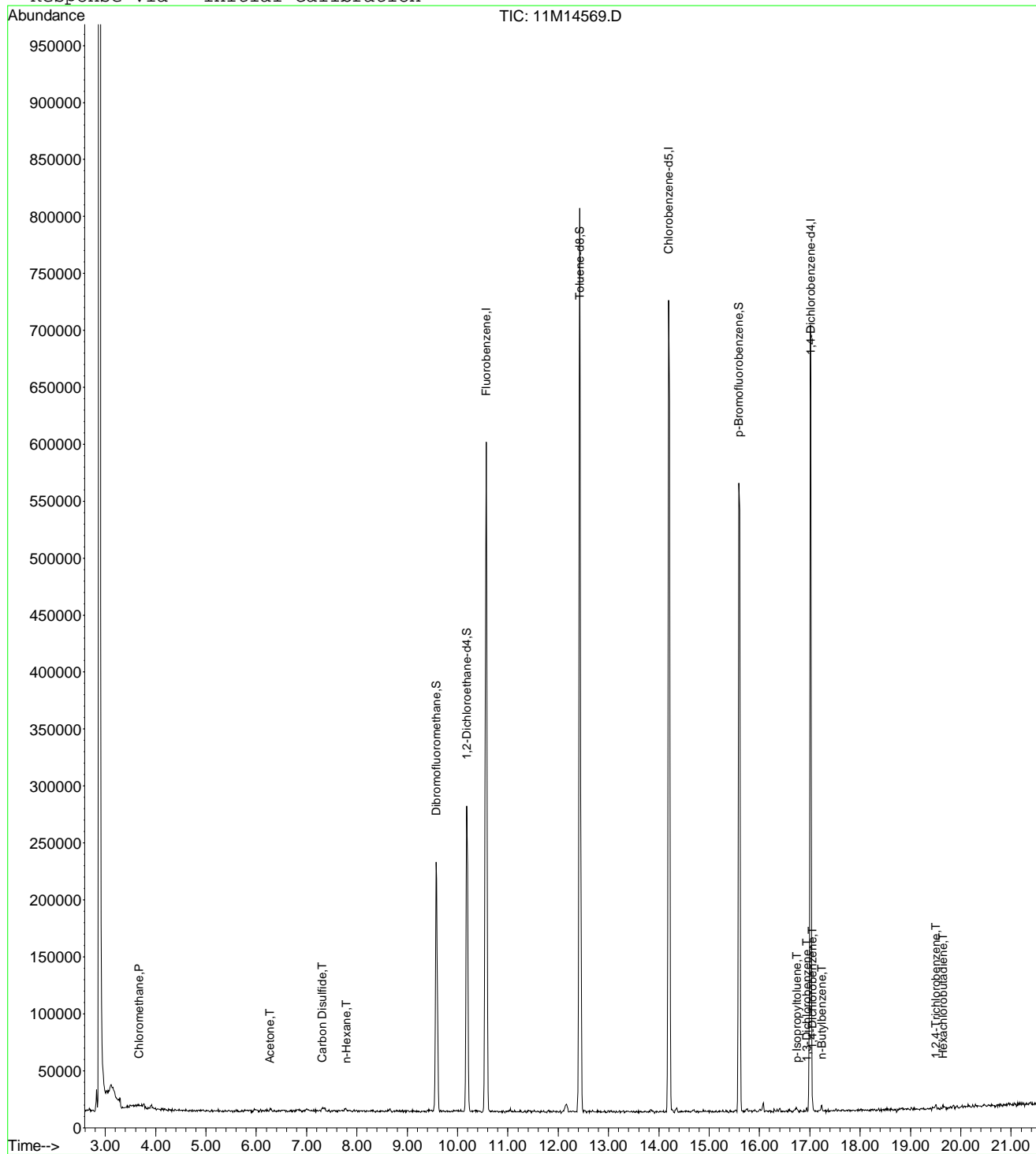
Page 1

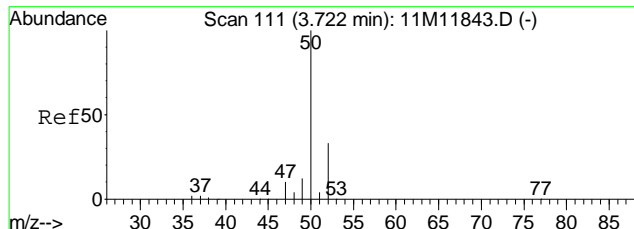
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 Acq On : 17 Oct 2016 17:58
 Sample : L16100409-01 A REF 826-LOW
 Misc : 1,1
 MS Integration Params: rteint.p
 Quant Time: Oct 18 14:46 2016

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

Quant Results File: 8260WT.RES

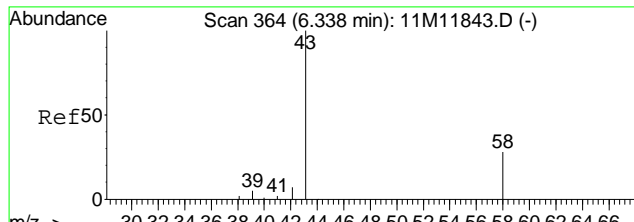
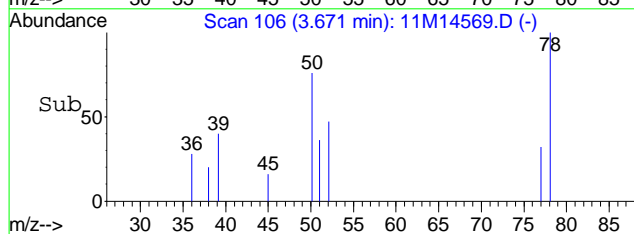
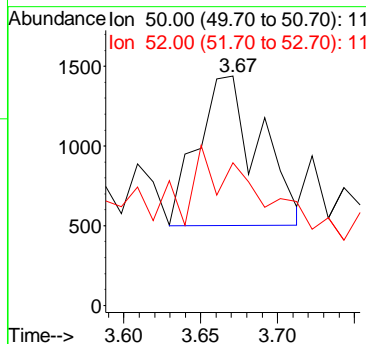
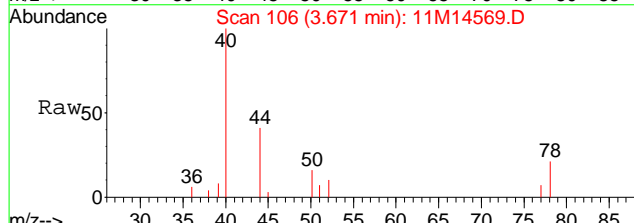
Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
 Last Update : Fri Oct 14 09:20:10 2016
 Response via : Initial Calibration





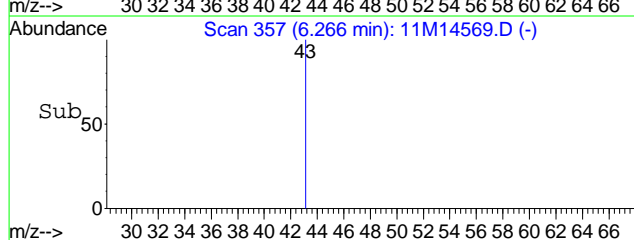
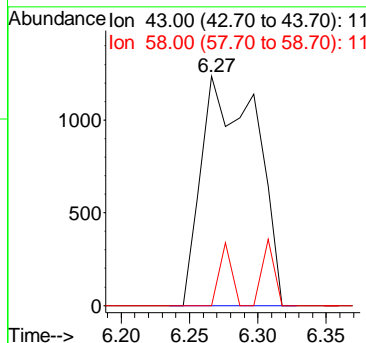
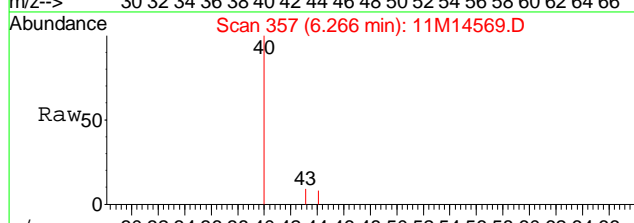
#3
 Chloromethane
 Concen: 0.22 ug/L
 RT: 3.67 min Scan# 106
 Delta R.T. 0.01 min
 Lab File: 11M14569.D
 Acq: 17 Oct 2016 17:58

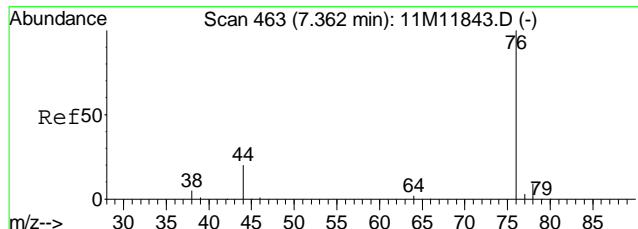
Tgt Ion: 50 Resp: 2636
 Ion Ratio Lower Upper
 50 100
 52 181.9 18.4 42.8#



#13
 Acetone
 Concen: 1.38 ug/L
 RT: 6.27 min Scan# 357
 Delta R.T. -0.01 min
 Lab File: 11M14569.D
 Acq: 17 Oct 2016 17:58

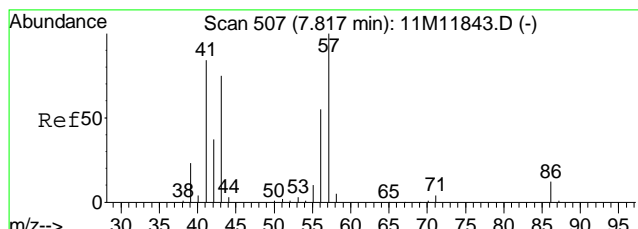
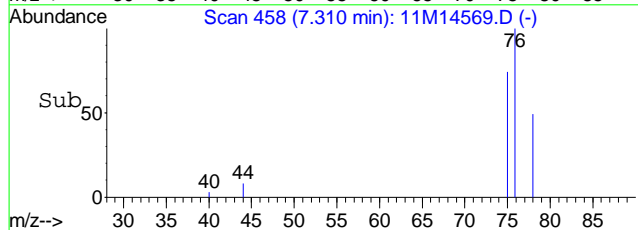
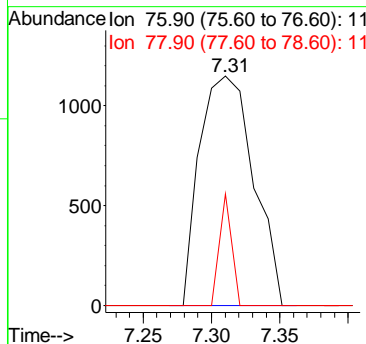
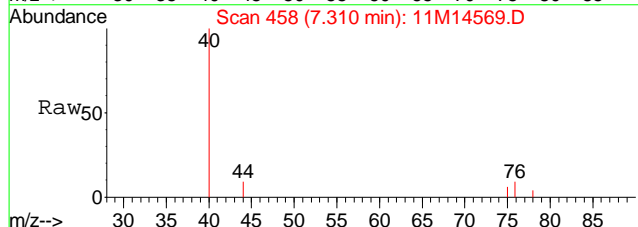
Tgt Ion: 43 Resp: 3454
 Ion Ratio Lower Upper
 43 100
 58 6.1 15.1 35.1#





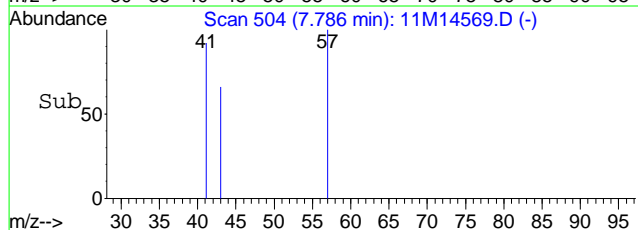
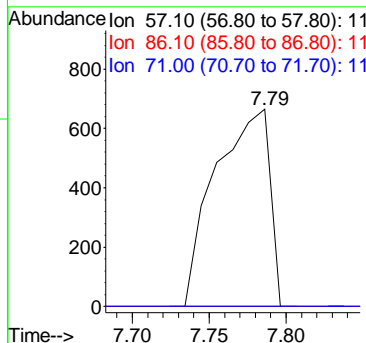
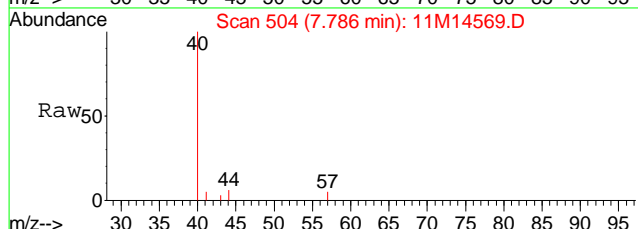
#20
 Carbon Disulfide
 Concen: 0.14 ug/L
 RT: 7.31 min Scan# 458
 Delta R.T. 0.00 min
 Lab File: 11M14569.D
 Acq: 17 Oct 2016 17:58

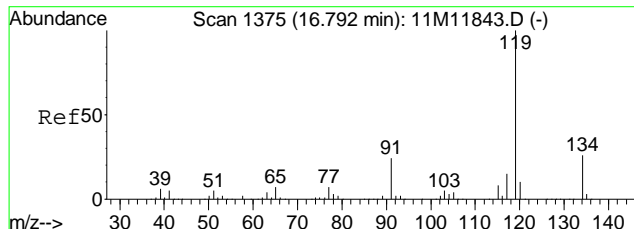
Tgt Ion	Resp	Lower	Upper
76	3146		
76	100		
78	11.0	5.6	13.0



#24
 n-Hexane
 Concen: 0.13 ug/L
 RT: 7.79 min Scan# 504
 Delta R.T. 0.02 min
 Lab File: 11M14569.D
 Acq: 17 Oct 2016 17:58

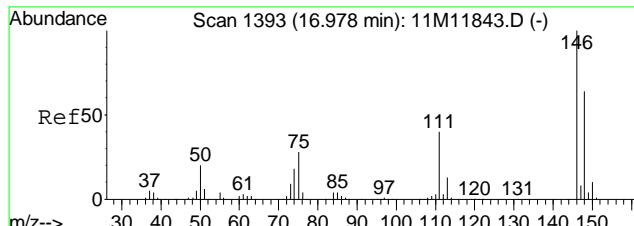
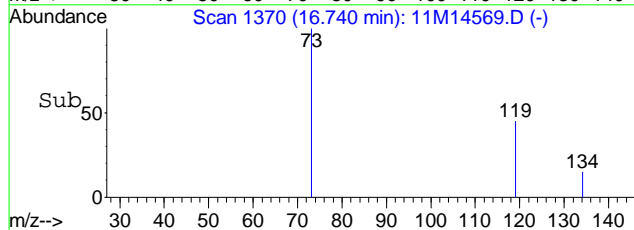
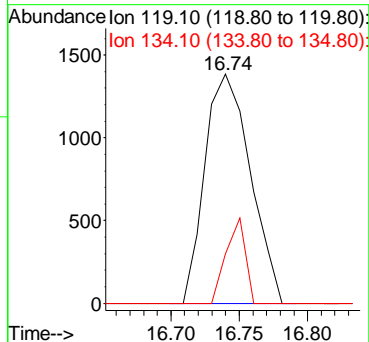
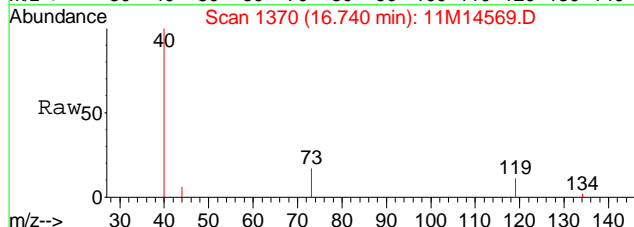
Tgt Ion	Resp	Lower	Upper
57	1636		
57	100		
86	0.0	6.9	16.1#
71	0.0	2.5	5.7#





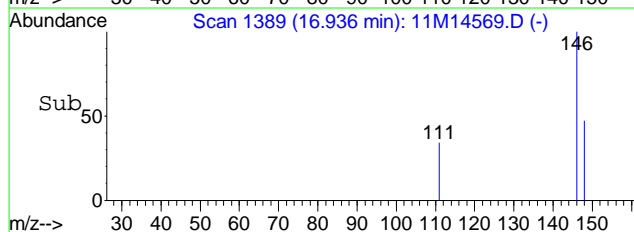
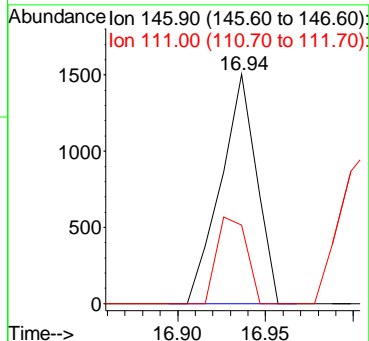
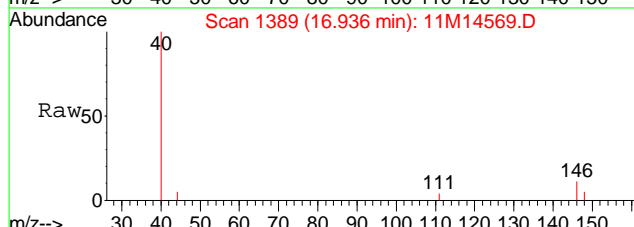
#90
 p-Isopropyltoluene
 Concen: 0.12 ug/L
 RT: 16.74 min Scan# 1370
 Delta R.T. 0.00 min
 Lab File: 11M14569.D
 Acq: 17 Oct 2016 17:58

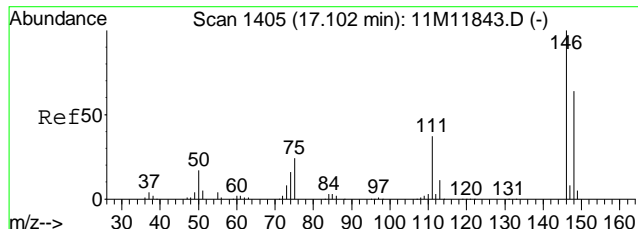
Tgt Ion	Resp	Lower	Upper
119	3202		
119	100		
134	15.8	15.7	36.7



#91
 1,3-Dichlorobenzene
 Concen: 0.13 ug/L
 RT: 16.94 min Scan# 1389
 Delta R.T. 0.00 min
 Lab File: 11M14569.D
 Acq: 17 Oct 2016 17:58

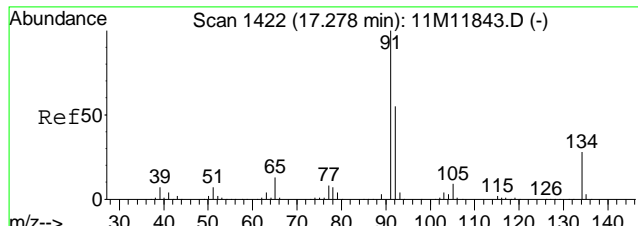
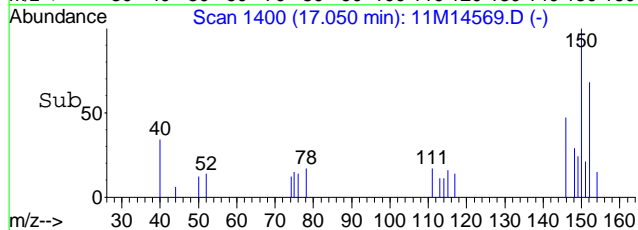
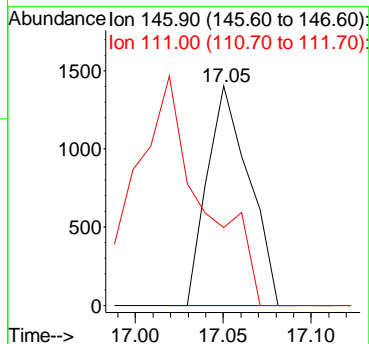
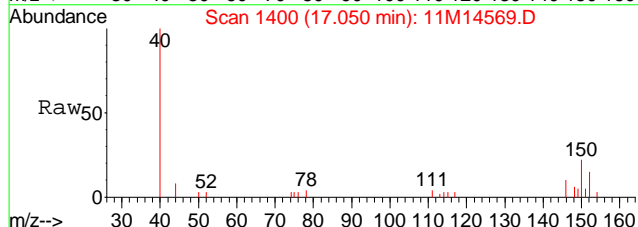
Tgt Ion	Resp	Lower	Upper
146	2138		
146	100		
111	31.4	24.0	56.0





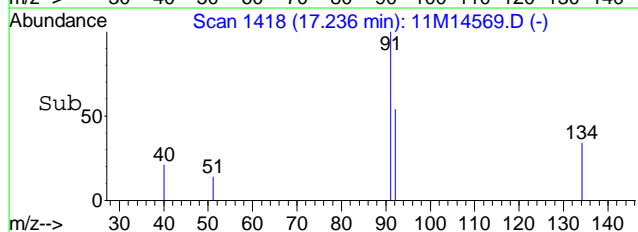
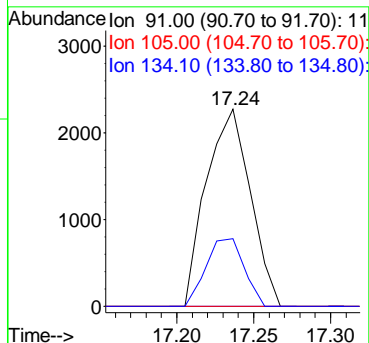
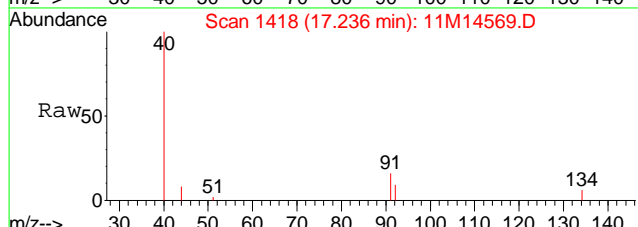
#92
 1,4-Dichlorobenzene
 Concen: 0.14 ug/L
 RT: 17.05 min Scan# 1400
 Delta R.T. 0.00 min
 Lab File: 11M14569.D
 Acq: 17 Oct 2016 17:58

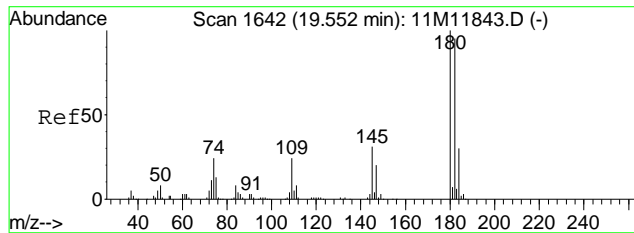
Tgt Ion: 146 Resp: 2317
 Ion Ratio Lower Upper
 146 100
 111 166.1 23.3 54.5#



#93
 n-Butylbenzene
 Concen: 0.18 ug/L
 RT: 17.24 min Scan# 1418
 Delta R.T. 0.01 min
 Lab File: 11M14569.D
 Acq: 17 Oct 2016 17:58

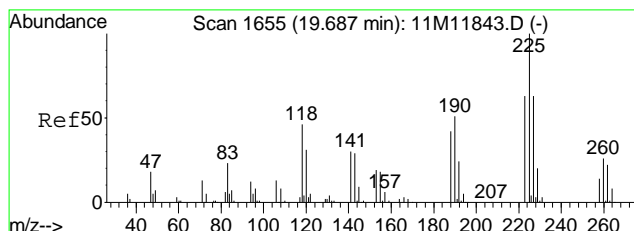
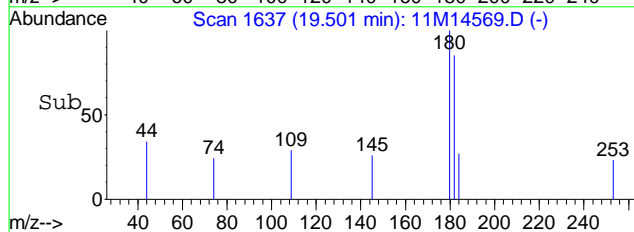
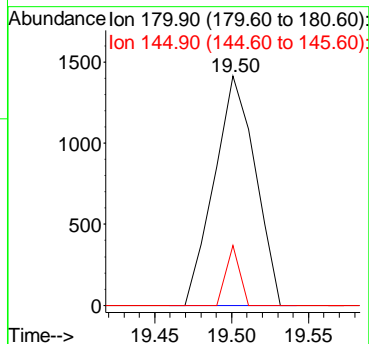
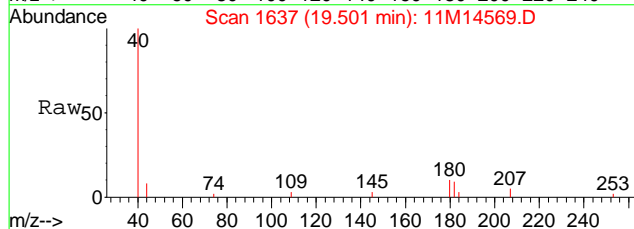
Tgt Ion: 91 Resp: 4528
 Ion Ratio Lower Upper
 91 100
 105 0.0 5.2 12.2#
 134 29.8 16.0 37.4





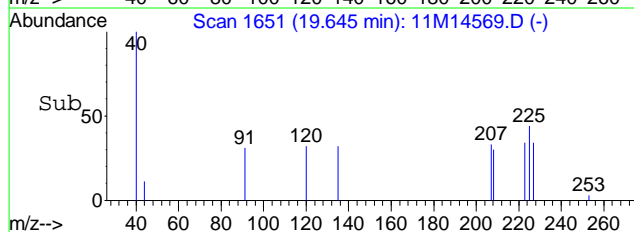
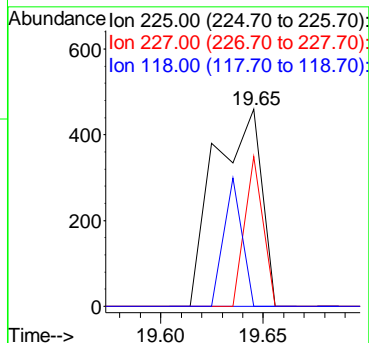
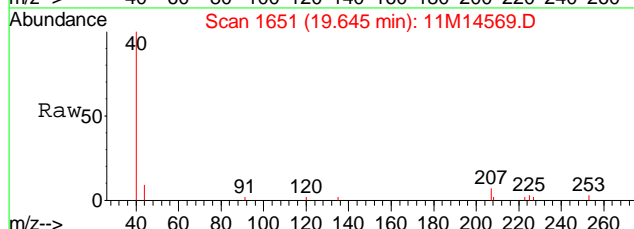
#96
 1,2,4-Trichlorobenzene
 Concen: 0.23 ug/L
 RT: 19.50 min Scan# 1637
 Delta R.T. 0.00 min
 Lab File: 11M14569.D
 Acq: 17 Oct 2016 17:58

Tgt Ion	Ratio	Lower	Upper
180	100		
145	8.7	18.5	43.3#



#97
 Hexachlorobutadiene
 Concen: 0.17 ug/L
 RT: 19.65 min Scan# 1651
 Delta R.T. 0.01 min
 Lab File: 11M14569.D
 Acq: 17 Oct 2016 17:58

Tgt Ion	Ratio	Lower	Upper
225	100		
227	29.7	38.3	89.3#
118	25.5	28.2	65.8#



Data File : C:\MSDCHEM\1\DATA\101716\11M14563.D Vial: 5
 Acq On : 17 Oct 2016 15:05 Operator: FJB
 Sample : L16100409-02 A MS 826-LOW Inst : hpms11
 Misc : 1,1 STD78491 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Oct 18 14:35:09 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 09:20:10 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.57	96	769386	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.20	117	596564	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	306709	25.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.57	111	213531	23.0720	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	92.28%	
43) 1,2-Dichloroethane-d4	10.18	65	229850	22.1211	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	88.48%	
57) Toluene-d8	12.43	98	764038	24.1678	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	96.68%	
78) p-Bromofluorobenzene	15.59	95	288389	23.5025	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	94.00%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.21	85	160147	12.2689	ug/L	93
3) Chloromethane	3.67	50	249433	17.4232	ug/L	95
4) Vinyl Chloride	3.90	62	226875	17.7718	ug/L	99
5) 1,3-Butadiene	3.94	54	161122	15.5045	ug/L	92
6) Bromomethane	4.80	94	128115	20.7113	ug/L	98
7) Chloroethane	4.95	64	141498	18.9195	ug/L	98
8) Trichlorofluoromethane	5.44	101	236410	15.9105	ug/L	98
10) Isoprene	5.99	67	204893	15.1102	ug/L	96
12) 1,1,2-Trichloro-1,2,2-Trif	6.19	101	127453	15.9492	ug/L	96
13) Acetone	6.28	43	54615	18.2967	ug/L	96
14) 1,1-Dichloroethene	6.50	61	268304	16.8978	ug/L	97
15) Tert-Butyl Alcohol	6.61	59	4345	5.6396	ug/L #	72
16) Dimethyl Sulfide	6.75	62	215758	19.8259	ug/L	92
17) Iodomethane	7.00	142	152228	14.6978	ug/L	95
18) Methyl acetate	7.01	43	166047	18.8630	ug/L #	95
19) Methylene Chloride	7.26	84	167104	18.5120	ug/L	92
20) Carbon Disulfide	7.31	76	416569	15.8280	ug/L	100
21) Acrylonitrile	7.43	53	77069	19.2177	ug/L	99
22) Methyl Tert Butyl Ether	7.47	73	450894	20.3158	ug/L	99
23) trans-1,2-Dichloroethene	7.70	96	163527	18.1740	ug/L	95
24) n-Hexane	7.78	57	219353	14.2558	ug/L	99
26) Vinyl Acetate	8.26	43	448105	19.2645	ug/L	98
27) 1,1-Dichloroethane	8.29	63	338683	18.3655	ug/L	99
29) 2-Butanone	8.82	43	84619	16.8719	ug/L	100
30) Propionitrile	8.93	54	204	0.1468	ug/L #	1
31) 2,2-Dichloropropane	9.04	77	237110	18.8673	ug/L	99
32) cis-1,2-Dichloroethene	9.10	96	188811	19.0540	ug/L	98
33) Chloroform	9.31	83	297664	18.3965	ug/L	98
34) 1-Bromopropane	9.43	122	39894	23.5053	ug/L	95
35) Bromochloromethane	9.52	130	121978	19.0956	ug/L	91
36) Tetrahydrofuran	9.55	42	233	Below Cal	#	53
38) 1,1,1-Trichloroethane	9.81	97	262764	18.4183	ug/L	95
39) Cyclohexane	9.84	56	328978	15.7306	ug/L	100
40) 1,1-Dichloropropene	10.00	75	208555	17.6589	ug/L	99
41) Carbon Tetrachloride	10.13	117	231646	17.3782	ug/L	100
44) 1,2-Dichloroethane	10.30	62	254901	18.3380	ug/L	98
45) Benzene	10.34	78	659163	18.8945	ug/L	99
46) Trichloroethene	11.04	130	179503	17.7899	ug/L	98
47) Methylcyclohexane	11.13	83	219749	16.0654	ug/L	95
48) 1,2-Dichloropropane	11.25	63	192353	18.7056	ug/L	100

(#) = qualifier out of range (m) = manual integration
 11M14563.D 8260WT.M Tue Oct 18 14:35:10 2016

Data File : C:\MSDCHEM\1\DATA\101716\11M14563.D Vial: 5
 Acq On : 17 Oct 2016 15:05 Operator: FJB
 Sample : L16100409-02 A MS 826-LOW Inst : hpms11
 Misc : 1,1 STD78491 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Oct 18 14:35:09 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 09:20:10 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
49) 1,4-Dioxane	11.53	88	1242	17.3267	ug/L	93
50) Bromodichloromethane	11.53	83	224580	18.3693	ug/L	99
51) Dibromomethane	11.61	93	103950	19.0658	ug/L	98
53) 4-Methyl-2-Pentanone	11.83	58	62610	16.9310	ug/L	98
54) cis-1,3-Dichloropropene	12.13	75	279906	20.7137	ug/L	98
55) Dimethyl Disulfide	12.38	79	154711	19.0763	ug/L	89
58) Toluene	12.52	91	709343	18.8825	ug/L	100
59) Ethyl Methacrylate	12.59	69	194849	20.2929	ug/L	88
60) trans-1,3-Dichloropropene	12.68	75	232479	18.9016	ug/L	99
61) 1,1,2-Trichloroethane	12.88	97	142281	19.4673	ug/L	97
62) 2-Hexanone	12.82	43	127190	16.1448	ug/L	95
63) 1,3-Dichloropropane	13.17	76	238510	19.4130	ug/L	90
64) Tetrachloroethene	13.29	164	147327	18.0685	ug/L	100
65) Dibromochloromethane	13.53	129	183244	18.7060	ug/L	100
66) 1,2-Dibromoethane	13.78	107	140041	18.6131	ug/L	100
67) 1-Chlorohexane	13.84	91	221971	18.3103	ug/L	95
68) Chlorobenzene	14.25	112	490935	18.4169	ug/L	100
69) 1,1,1,2-Tetrachloroethane	14.27	131	179039	18.8312	ug/L	98
70) Ethylbenzene	14.27	106	257826	18.9156	ug/L	98
71) m-,p-Xylene	14.35	106	617245	38.4369	ug/L	99
72) o-Xylene	14.88	106	308609	19.5361	ug/L	99
73) Styrene	14.91	104	519609	19.3778	ug/L	98
74) Bromoform	15.38	173	111946	17.6220	ug/L	97
75) Isopropylbenzene	15.27	105	759217	18.7588	ug/L	99
77) 1,1,2,2-Tetrachloroethane	15.47	83	169067	19.5463	ug/L	99
79) 1,2,3-Trichloropropane	15.65	110	50454	19.2348	ug/L	97
80) trans-1,4-Dichloro-2-Butene	15.69	53	57261	16.2084	ug/L	91
81) n-Propylbenzene	15.74	91	913677	20.0226	ug/L	100
82) Bromobenzene	15.87	156	223004	19.0670	ug/L	92
83) 1,3,5-Trimethylbenzene	15.91	105	658656	20.1237	ug/L	100
84) 2-Chlorotoluene	16.00	91	550880	19.0775	ug/L	87
85) 4-Chlorotoluene	16.04	91	594058	20.1993	ug/L	89
86) a-Methylstyrene	16.28	118	388263	20.1818	ug/L	100
87) tert-Butylbenzene	16.35	134	140573	19.6318	ug/L	95
88) 1,2,4-Trimethylbenzene	16.40	105	679544	20.1822	ug/L	100
89) sec-Butylbenzene	16.60	105	800449	19.3123	ug/L	99
90) p-Isopropyltoluene	16.74	119	726192	20.1347	ug/L	100
91) 1,3-Dichlorobenzene	16.94	146	410228	19.0251	ug/L	99
92) 1,4-Dichlorobenzene	17.05	146	409714	18.5422	ug/L	100
93) n-Butylbenzene	17.23	91	638314	18.8636	ug/L	99
94) 1,2-Dichlorobenzene	17.52	146	389754	18.9222	ug/L	99
95) 1,2-Dibromo-3-Chloropropane	18.44	75	28721	17.2752	ug/L	90
96) 1,2,4-Trichlorobenzene	19.50	180	283579	18.5640	ug/L	100
97) Hexachlorobutadiene	19.63	225	111341	18.6230	ug/L	99
98) Naphthalene	19.85	128	627503	19.7580	ug/L	99
99) 1,2,3-Trichlorobenzene	20.14	180	273103	18.5281	ug/L	99

(#) = qualifier out of range (m) = manual integration
 11M14563.D 8260WT.M Tue Oct 18 14:35:11 2016

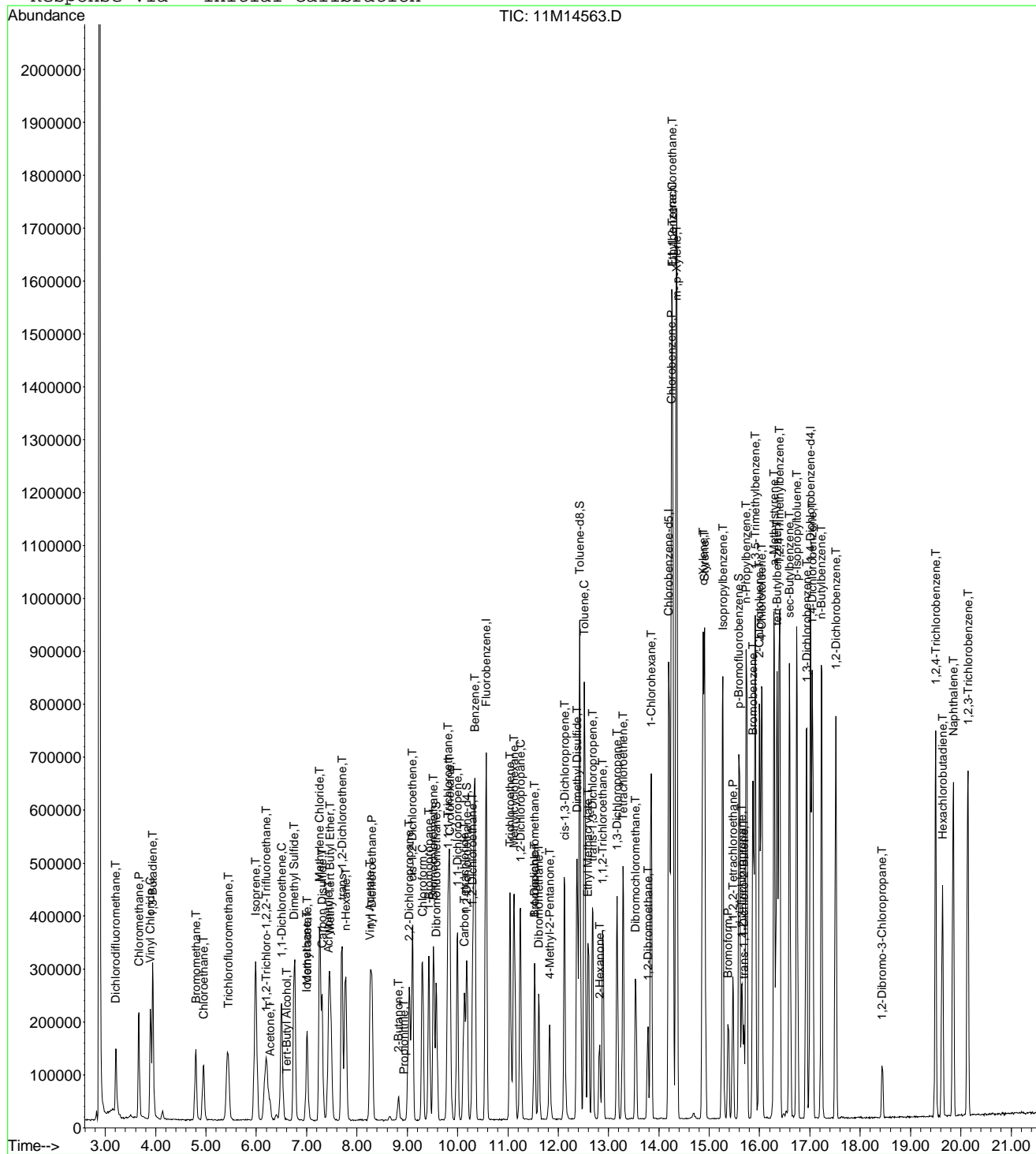
Page 2

Data File : C:\MSDCHEM\1\DATA\101716\11M14563.D
 Acq On : 17 Oct 2016 15:05
 Sample : L16100409-02 A MS 826-LOW
 Misc : 1,1 STD78491
 MS Integration Params: rteint.p
 Quant Time: Oct 18 14:35 2016

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

Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
 Last Update : Fri Oct 14 09:20:10 2016
 Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\101716\11M14564.D Vial: 6
 Acq On : 17 Oct 2016 15:34 Operator: FJB
 Sample : L16100409-03 A MSD 826-LOW Inst : hpms11
 Misc : 1,1 STD78491 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Oct 18 14:35:13 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	705348	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.20	117	536855	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	273211	25.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.57	111	191797	22.6051	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	90.44%	
43) 1,2-Dichloroethane-d4	10.18	65	207671	21.8011	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	87.20%	
57) Toluene-d8	12.43	98	679772	23.8938	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	95.56%	
78) p-Bromofluorobenzene	15.59	95	258601	23.6589	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	94.64%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.21	85	155039	12.9559	ug/L	95
3) Chloromethane	3.66	50	244274	18.6119	ug/L	96
4) Vinyl Chloride	3.90	62	216904	18.5333	ug/L	99
5) 1,3-Butadiene	3.94	54	153397	16.1012	ug/L	89
6) Bromomethane	4.80	94	124350	21.9278	ug/L	99
7) Chloroethane	4.95	64	138068	20.1369	ug/L	98
8) Trichlorofluoromethane	5.43	101	226187	16.6045	ug/L	99
10) Isoprene	5.99	67	198655	15.9803	ug/L	96
12) 1,1,2-Trichloro-1,2,2-Trif	6.19	101	125039	17.0677	ug/L	96
13) Acetone	6.28	43	58139	21.2456	ug/L	93
14) 1,1-Dichloroethene	6.50	61	258121	17.7324	ug/L	95
16) Dimethyl Sulfide	6.76	62	210675	21.1164	ug/L	92
17) Iodomethane	7.01	142	150631	15.8069	ug/L	95
18) Methyl acetate	7.01	43	160343	19.8688	ug/L #	93
19) Methylene Chloride	7.26	84	168476	20.3585	ug/L	91
20) Carbon Disulfide	7.31	76	405455	16.8044	ug/L	99
21) Acrylonitrile	7.43	53	76648	20.8480	ug/L	99
22) Methyl Tert Butyl Ether	7.47	73	436649	21.4601	ug/L	99
23) trans-1,2-Dichloroethene	7.70	96	159793	19.3714	ug/L	94
24) n-Hexane	7.78	57	215434	15.2722	ug/L	99
26) Vinyl Acetate	8.26	43	435728	20.4331	ug/L	99
27) 1,1-Dichloroethane	8.29	63	334656	19.7947	ug/L	100
29) 2-Butanone	8.83	43	85276	18.5465	ug/L	96
31) 2,2-Dichloropropane	9.04	77	233158	20.2372	ug/L	100
32) cis-1,2-Dichloroethene	9.11	96	188577	20.7581	ug/L	96
33) Chloroform	9.31	83	294939	19.8830	ug/L	100
34) 1-Bromopropane	9.43	122	39809	25.5847	ug/L	97
35) Bromochloromethane	9.52	130	121392	20.7292	ug/L	90
38) 1,1,1-Trichloroethane	9.81	97	260505	19.9177	ug/L	94
39) Cyclohexane	9.84	56	319982	16.6895	ug/L	99
40) 1,1-Dichloropropene	10.00	75	204112	18.8518	ug/L	98
41) Carbon Tetrachloride	10.13	117	229924	18.8150	ug/L	99
42) Tert-Amyl-Methyl ether	10.00	73	29782	1.4865	ug/L #	39
44) 1,2-Dichloroethane	10.30	62	256066	20.0944	ug/L	98
45) Benzene	10.34	78	643986	20.1354	ug/L	99
46) Trichloroethene	11.04	130	177737	19.2142	ug/L	98
47) Methylcyclohexane	11.13	83	214243	17.0849	ug/L	98
48) 1,2-Dichloropropane	11.25	63	193654	20.5419	ug/L	99
50) Bromodichloromethane	11.53	83	220892	19.7080	ug/L	99
51) Dibromomethane	11.61	93	99892	19.9849	ug/L	97

(#) = qualifier out of range (m) = manual integration
 11M14564.D 8260WT.M Tue Oct 18 14:35:14 2016

Data File : C:\MSDCHEM\1\DATA\101716\11M14564.D Vial: 6
 Acq On : 17 Oct 2016 15:34 Operator: FJB
 Sample : L16100409-03 A MSD 826-LOW Inst : hpms11
 Misc : 1,1 STD78491 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Oct 18 14:35:13 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
53) 4-Methyl-2-Pentanone	11.83	58	63039	18.5947	ug/L	98
54) cis-1,3-Dichloropropene	12.13	75	276541	22.3226	ug/L	99
55) Dimethyl Disulfide	12.38	79	152087	20.4553	ug/L	93
58) Toluene	12.52	91	713047	21.0922	ug/L	99
59) Ethyl Methacrylate	12.59	69	191283	22.1371	ug/L	88
60) trans-1,3-Dichloropropene	12.69	75	229669	20.7500	ug/L	96
61) 1,1,2-Trichloroethane	12.88	97	140744	21.3987	ug/L	100
62) 2-Hexanone	12.82	43	129224	18.2273	ug/L	95
63) 1,3-Dichloropropane	13.17	76	240834	21.7823	ug/L	87
64) Tetrachloroethene	13.29	164	143332	19.5337	ug/L	99
65) Dibromochloromethane	13.53	129	179701	20.3846	ug/L	100
66) 1,2-Dibromoethane	13.78	107	140777	20.7920	ug/L	97
67) 1-Chlorohexane	13.84	91	214352	19.6484	ug/L	96
68) Chlorobenzene	14.25	112	496440	20.6947	ug/L	99
69) 1,1,1,2-Tetrachloroethane	14.27	131	179121	20.9352	ug/L	97
70) Ethylbenzene	14.27	106	252947	20.6216	ug/L	100
71) m-,p-Xylene	14.35	106	609684	42.1886	ug/L	98
72) o-Xylene	14.88	106	302175	21.2563	ug/L	98
73) Styrene	14.91	104	527185	21.8470	ug/L	97
74) Bromoform	15.38	173	111933	19.5796	ug/L	99
75) Isopropylbenzene	15.27	105	741721	20.3648	ug/L	100
77) 1,1,2,2-Tetrachloroethane	15.47	83	167695	21.7648	ug/L	99
79) 1,2,3-Trichloropropane	15.65	110	50218	21.4921	ug/L	97
80) trans-1,4-Dichloro-2-Buten	15.69	53	57791	18.3641	ug/L	98
81) n-Propylbenzene	15.74	91	904844	22.2602	ug/L	100
82) Bromobenzene	15.87	156	221991	21.3076	ug/L	93
83) 1,3,5-Trimethylbenzene	15.91	105	655455	22.4812	ug/L	98
84) 2-Chlorotoluene	16.00	91	545218	21.1964	ug/L	87
85) 4-Chlorotoluene	16.04	91	588343	22.4577	ug/L	88
86) a-Methylstyrene	16.30	118	381064	22.2362	ug/L	99
87) tert-Butylbenzene	16.35	134	139710	21.9036	ug/L	96
88) 1,2,4-Trimethylbenzene	16.40	105	673382	22.4512	ug/L	99
89) sec-Butylbenzene	16.60	105	796894	21.5839	ug/L	100
90) p-Isopropyltoluene	16.74	119	721590	22.4601	ug/L	99
91) 1,3-Dichlorobenzene	16.94	146	402334	20.9468	ug/L	99
92) 1,4-Dichlorobenzene	17.05	146	414012	21.0340	ug/L	99
93) n-Butylbenzene	17.24	91	635823	21.0938	ug/L	99
94) 1,2-Dichlorobenzene	17.52	146	392281	21.3800	ug/L	99
95) 1,2-Dibromo-3-Chloropropan	18.44	75	28639	19.3379	ug/L	87
96) 1,2,4-Trichlorobenzene	19.50	180	287360	21.1180	ug/L	99
97) Hexachlorobutadiene	19.64	225	112465	21.1174	ug/L	98
98) Naphthalene	19.85	128	636732	22.5067	ug/L	100
99) 1,2,3-Trichlorobenzene	20.14	180	275824	21.0070	ug/L	99

(#) = qualifier out of range (m) = manual integration
 11M14564.D 8260WT.M Tue Oct 18 14:35:15 2016

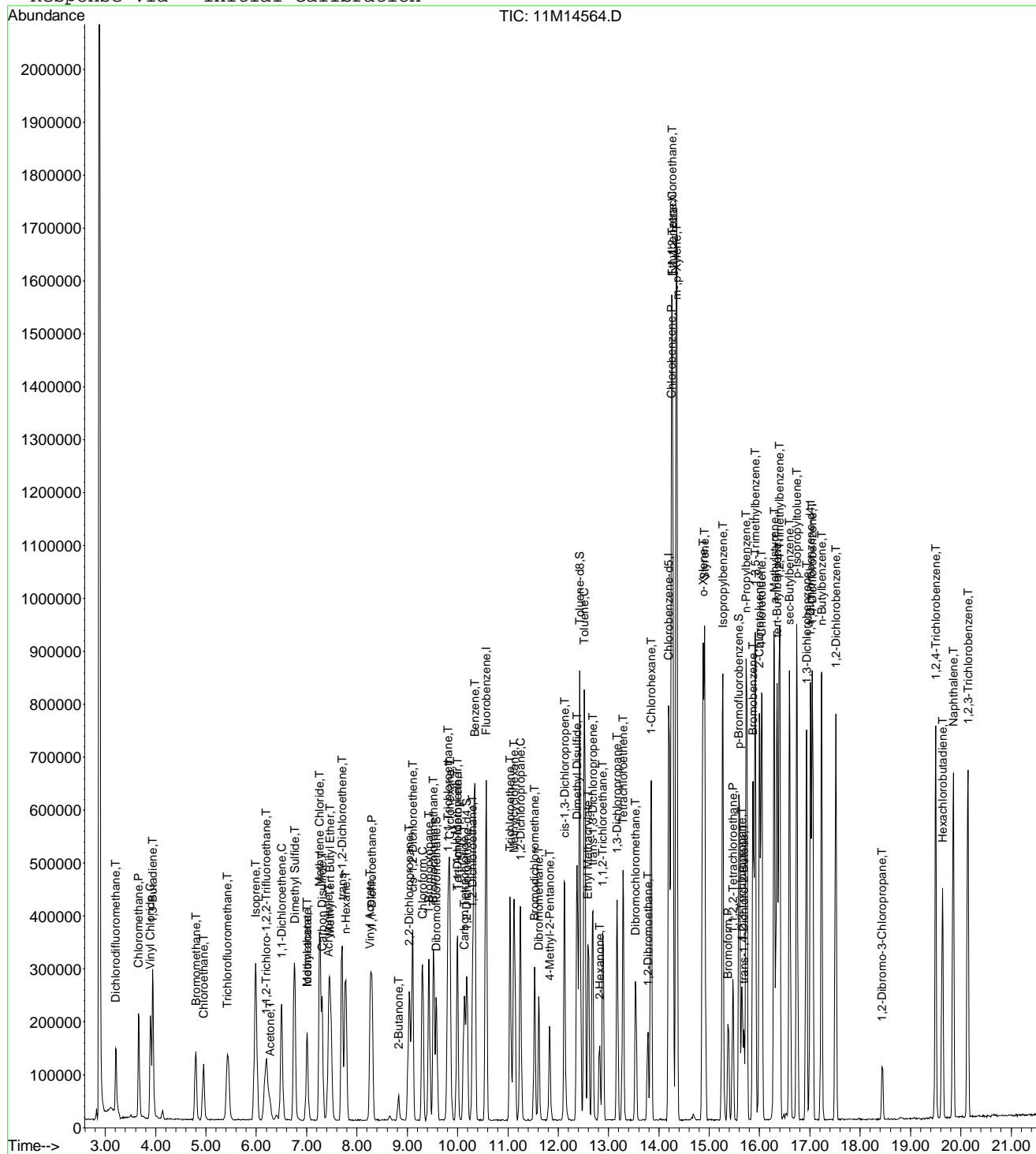
Page 2

Data File : C:\MSDCHEM\1\DATA\101716\11M14564.D
Acq On : 17 Oct 2016 15:34
Sample : L16100409-03 A MSD 826-LOW
Misc : 1,1 STD78491
MS Integration Params: rteint.p
Quant Time: Oct 18 14:35 2016

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

Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:20:10 2016
Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\101716\11M14571.D Vial: 13
 Acq On : 17 Oct 2016 18:55 Operator: FJB
 Sample : L16100409-04 A 826-LOW Inst : hpms11
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Oct 18 14:46:53 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	667523	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.20	117	497146	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	232615	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	186345	23.2071	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	92.84%	
43) 1,2-Dichloroethane-d4	10.18	65	220697	24.4814	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	97.92%	
57) Toluene-d8	12.43	98	654257	24.8338	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	99.32%	
78) p-Bromofluorobenzene	15.59	95	239387	25.7232	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	102.88%	
Target Compounds						
						Qvalue
3) Chloromethane	3.66	50	1726	0.1390	ug/L #	1
13) Acetone	6.28	43	11633	4.4919	ug/L	92
96) 1,2,4-Trichlorobenzene	19.50	180	1474	0.1272	ug/L #	72

(#) = qualifier out of range (m) = manual integration
 11M14571.D 8260WT.M Tue Oct 18 14:46:54 2016

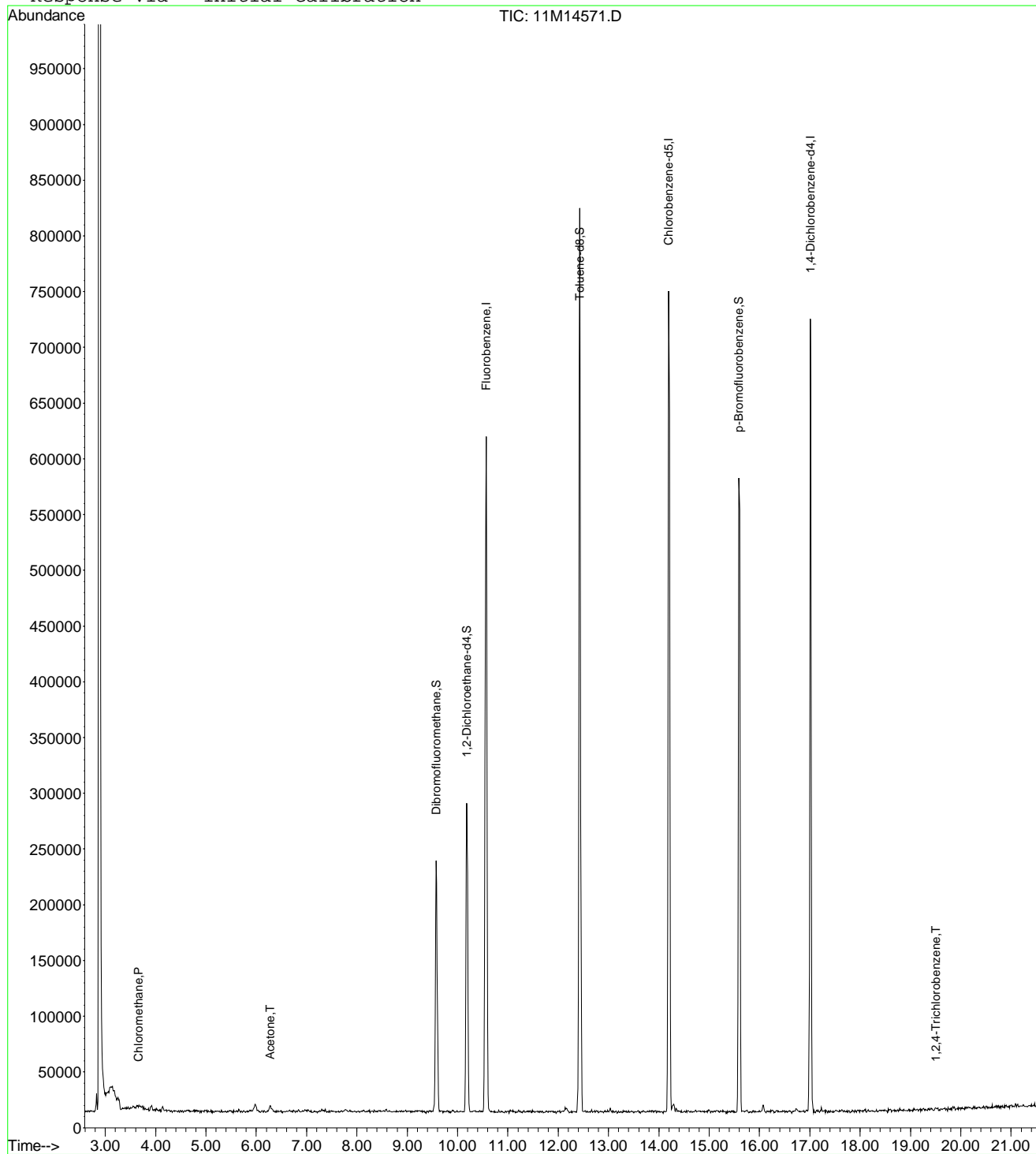
Page 1

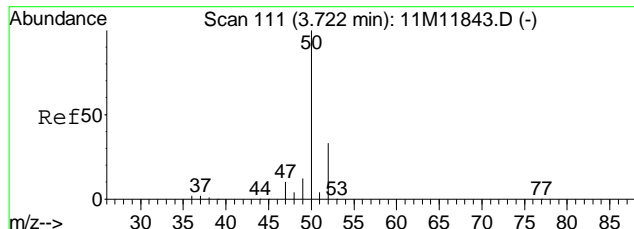
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 Acq On : 17 Oct 2016 18:55
 Sample : L16100409-04 A 826-LOW
 Misc : 1,1
 MS Integration Params: rteint.p
 Quant Time: Oct 18 14:46 2016

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

Quant Results File: 8260WT.RES

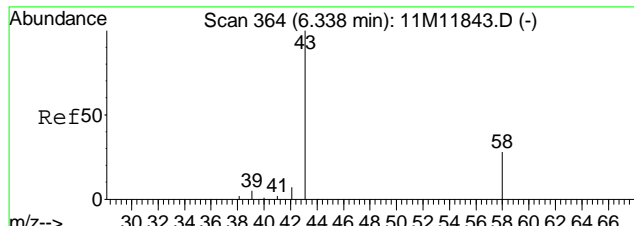
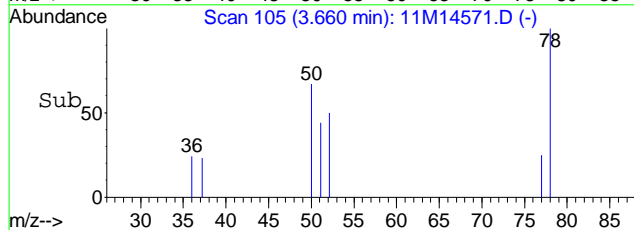
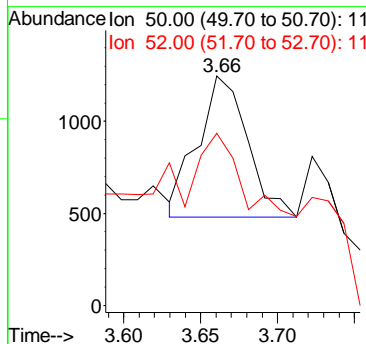
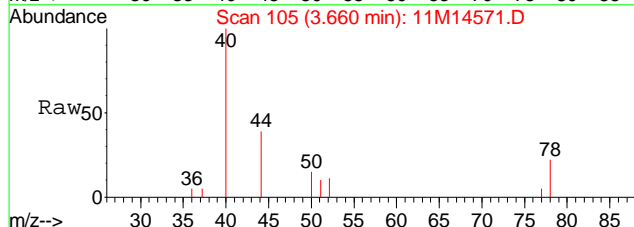
Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
 Last Update : Fri Oct 14 09:20:10 2016
 Response via : Initial Calibration





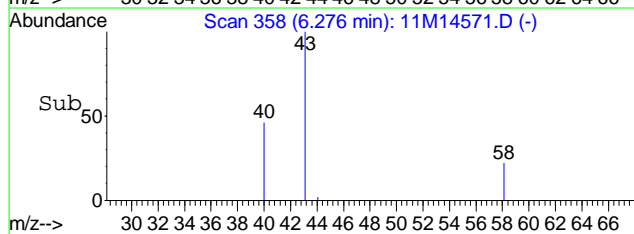
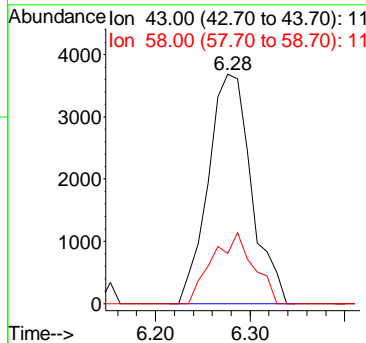
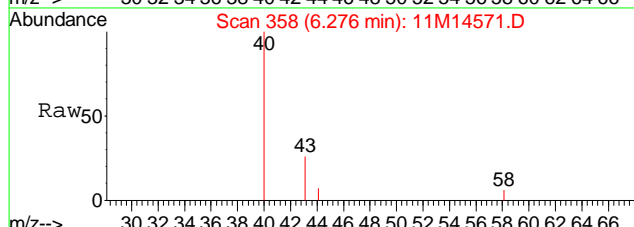
#3
 Chloromethane
 Concen: 0.14 ug/L
 RT: 3.66 min Scan# 105
 Delta R.T. 0.00 min
 Lab File: 11M14571.D
 Acq: 17 Oct 2016 18:55

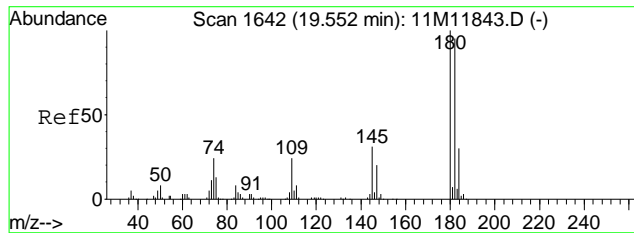
Tgt Ion: 50 Resp: 1726
 Ion Ratio Lower Upper
 50 100
 52 151.3 18.4 42.8#



#13
 Acetone
 Concen: 4.49 ug/L
 RT: 6.28 min Scan# 358
 Delta R.T. 0.00 min
 Lab File: 11M14571.D
 Acq: 17 Oct 2016 18:55

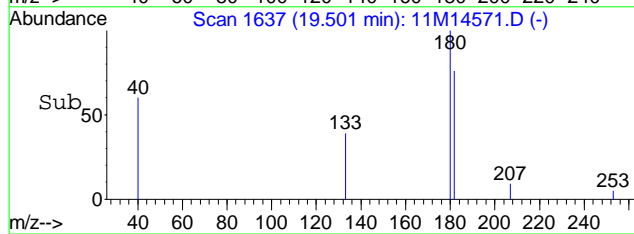
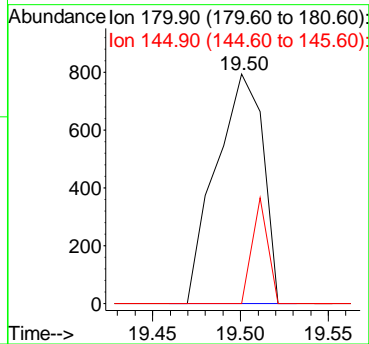
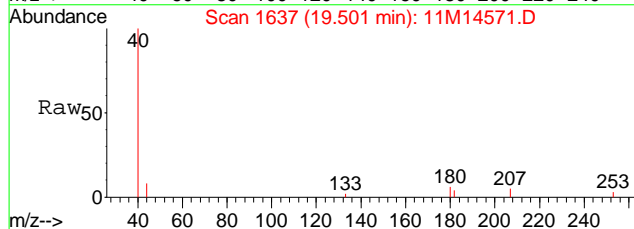
Tgt Ion: 43 Resp: 11633
 Ion Ratio Lower Upper
 43 100
 58 29.3 15.1 35.1





#96
 1,2,4-Trichlorobenzene
 Concen: 0.13 ug/L
 RT: 19.50 min Scan# 1637
 Delta R.T. 0.00 min
 Lab File: 11M14571.D
 Acq: 17 Oct 2016 18:55

Tgt Ion	Ratio	Lower	Upper
180	100		
145	15.3	18.5	43.3#



Data File : C:\MSDCHEM\1\DATA\101716\11M14570.D Vial: 12
 Acq On : 17 Oct 2016 18:27 Operator: FJB
 Sample : L16100409-05 A REF 826-LOW Inst : hpms11
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Oct 18 14:46:50 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	763813	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.20	117	577414	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	277782	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	212193	23.0947	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	92.36%	
43) 1,2-Dichloroethane-d4	10.18	65	243170	23.5738	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	94.28%	
57) Toluene-d8	12.43	98	735356	24.0320	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	96.12%	
78) p-Bromofluorobenzene	15.59	95	267777	24.0952	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	96.40%	
Target Compounds						
						Qvalue
3) Chloromethane	3.67	50	3252	0.2288	ug/L	83
13) Acetone	6.29	43	4256	1.4362	ug/L	96
96) 1,2,4-Trichlorobenzene	19.49	180	2444	0.1767	ug/L	79
97) Hexachlorobutadiene	19.65	225	748	0.1381	ug/L #	23

(#) = qualifier out of range (m) = manual integration
 11M14570.D 8260WT.M Tue Oct 18 14:46:51 2016

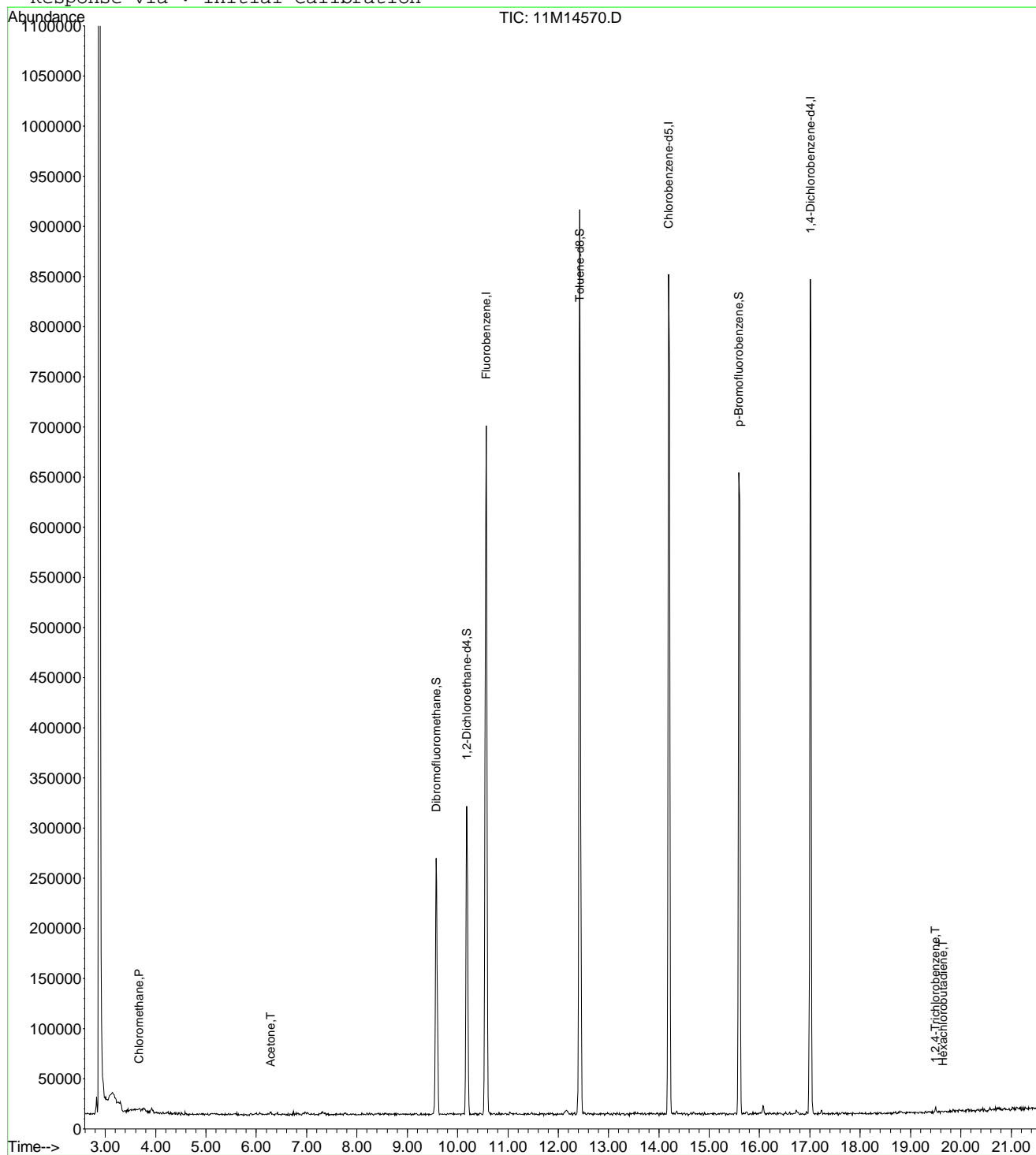
Page 1

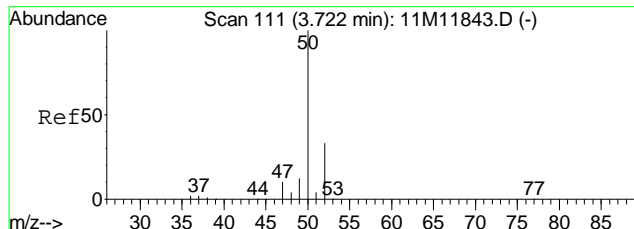
Data File : C:\MSDCHEM\1\DATA\101716\11M14570.D
 Acq On : 17 Oct 2016 18:27
 Sample : L16100409-05 A REF 826-LOW
 Misc : 1,1
 MS Integration Params: rteint.p
 Quant Time: Oct 18 14:46 2016

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

Quant Results File: 8260WT.RES

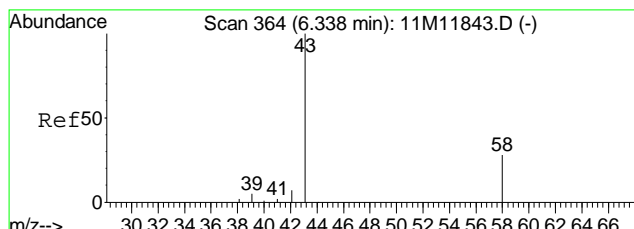
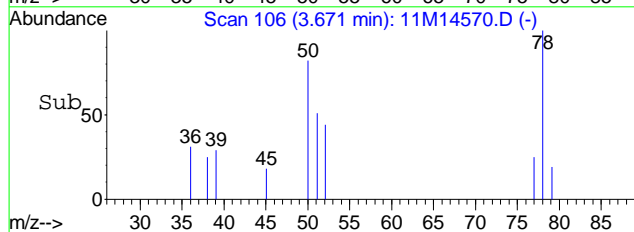
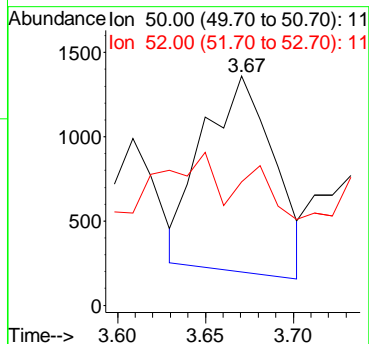
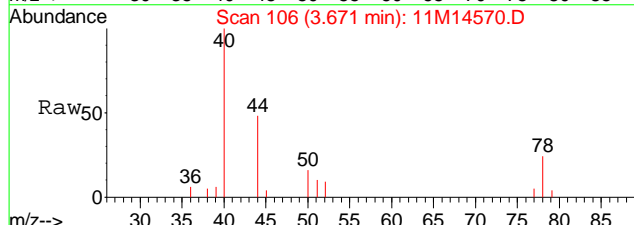
Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
 Last Update : Fri Oct 14 09:20:10 2016
 Response via : Initial Calibration





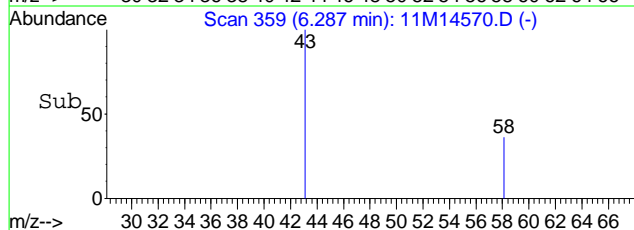
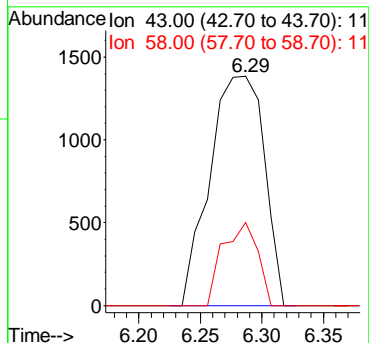
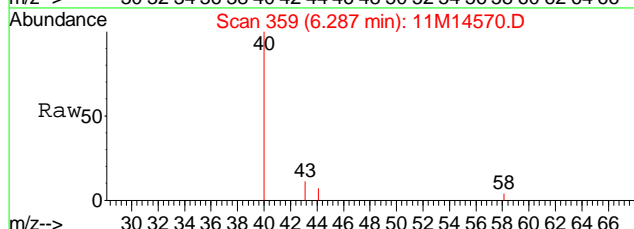
#3
 Chloromethane
 Concen: 0.23 ug/L
 RT: 3.67 min Scan# 106
 Delta R.T. 0.01 min
 Lab File: 11M14570.D
 Acq: 17 Oct 2016 18:27

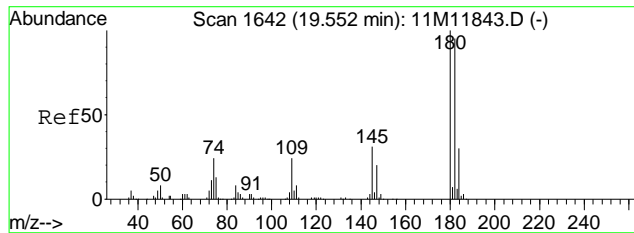
Tgt Ion	Resp	Lower	Upper
50	100		
52	21.2	18.4	42.8



#13
 Acetone
 Concen: 1.44 ug/L
 RT: 6.29 min Scan# 359
 Delta R.T. 0.01 min
 Lab File: 11M14570.D
 Acq: 17 Oct 2016 18:27

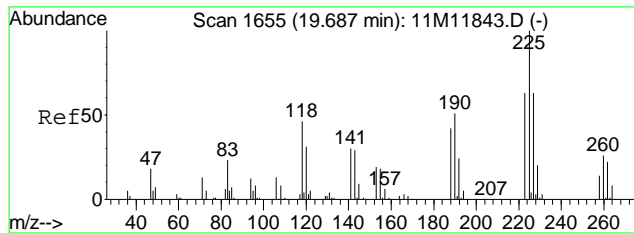
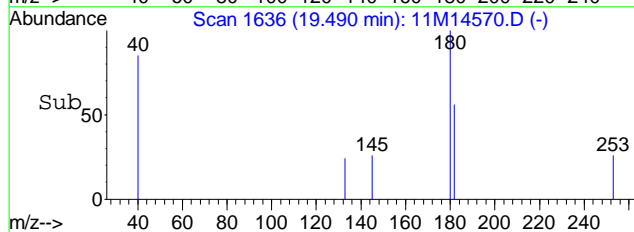
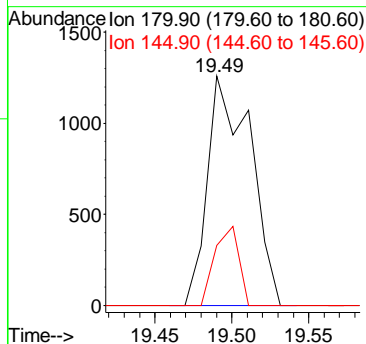
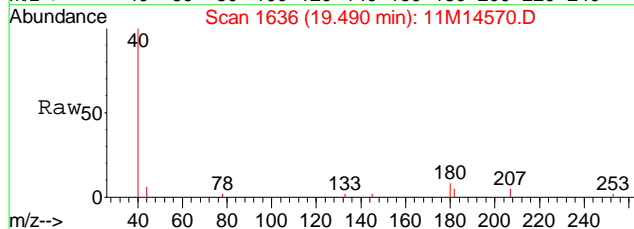
Tgt Ion	Resp	Lower	Upper
43	100		
58	23.1	15.1	35.1





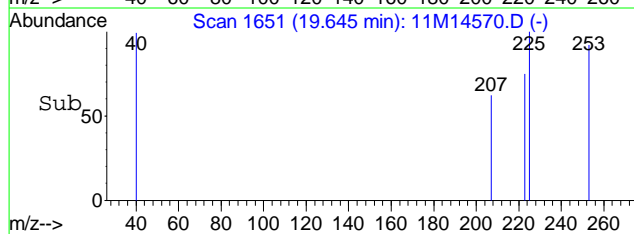
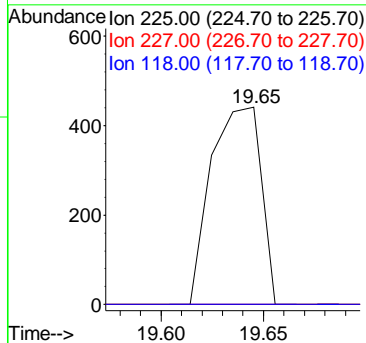
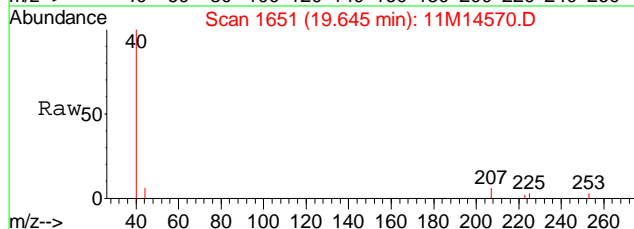
#96
 1,2,4-Trichlorobenzene
 Concen: 0.18 ug/L
 RT: 19.49 min Scan# 1636
 Delta R.T. -0.01 min
 Lab File: 11M14570.D
 Acq: 17 Oct 2016 18:27

Tgt Ion	Ratio	Lower	Upper
180	100		
145	19.4	18.5	43.3



#97
 Hexachlorobutadiene
 Concen: 0.14 ug/L
 RT: 19.65 min Scan# 1651
 Delta R.T. 0.01 min
 Lab File: 11M14570.D
 Acq: 17 Oct 2016 18:27

Tgt Ion	Ratio	Lower	Upper
225	100		
227	0.0	38.3	89.3#
118	0.0	28.2	65.8#



Data File : C:\MSDCHEM\1\DATA\101716\11M14565.D Vial: 7
 Acq On : 17 Oct 2016 16:03 Operator: FJB
 Sample : L16100409-06 A MS 826-LOW Inst : hpms11
 Misc : 1,1 STD78491 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Oct 18 14:35:17 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	700672	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.20	117	540169	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	281224	25.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.57	111	197831	23.4719	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	93.88%	
43) 1,2-Dichloroethane-d4	10.18	65	211392	22.3398	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	89.36%	
57) Toluene-d8	12.43	98	695505	24.2969	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	97.20%	
78) p-Bromofluorobenzene	15.59	95	263920	23.4575	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	93.84%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.21	85	144967	12.1951	ug/L	95
3) Chloromethane	3.66	50	251524	19.2922	ug/L	97
4) Vinyl Chloride	3.90	62	217752	18.7299	ug/L	99
5) 1,3-Butadiene	3.94	54	142830	15.0921	ug/L	91
6) Bromomethane	4.80	94	123901	21.9944	ug/L	99
7) Chloroethane	4.95	64	140724	20.6612	ug/L	97
8) Trichlorofluoromethane	5.44	101	220410	16.2884	ug/L	99
10) Isoprene	5.99	67	190590	15.4338	ug/L	95
12) 1,1,2-Trichloro-1,2,2-Trif	6.20	101	120510	16.5592	ug/L	99
13) Acetone	6.28	43	56535	20.7974	ug/L	96
14) 1,1-Dichloroethene	6.49	61	258354	17.8668	ug/L	96
16) Dimethyl Sulfide	6.75	62	213303	21.5225	ug/L	92
17) Iodomethane	7.00	142	151845	16.0302	ug/L	96
18) Methyl acetate	7.01	43	166226	20.7352	ug/L #	94
19) Methylene Chloride	7.26	84	169602	20.6313	ug/L	91
20) Carbon Disulfide	7.31	76	409911	17.1025	ug/L	100
21) Acrylonitrile	7.43	53	78679	21.5432	ug/L	97
22) Methyl Tert Butyl Ether	7.47	73	457089	22.6146	ug/L	99
23) trans-1,2-Dichloroethene	7.70	96	158125	19.2971	ug/L	97
24) n-Hexane	7.78	57	203126	14.4958	ug/L	100
26) Vinyl Acetate	8.26	43	449937	21.2403	ug/L	98
27) 1,1-Dichloroethane	8.29	63	335790	19.9944	ug/L	99
29) 2-Butanone	8.83	43	90026	19.7103	ug/L	97
31) 2,2-Dichloropropane	9.04	77	226364	19.7786	ug/L	100
32) cis-1,2-Dichloroethene	9.10	96	185149	20.5168	ug/L	98
33) Chloroform	9.30	83	299925	20.3540	ug/L	100
34) 1-Bromopropane	9.43	122	39714	25.6939	ug/L	98
35) Bromochloromethane	9.52	130	123376	21.2086	ug/L	91
38) 1,1,1-Trichloroethane	9.81	97	256825	19.7674	ug/L	96
39) Cyclohexane	9.84	56	302412	15.8784	ug/L	98
40) 1,1-Dichloropropene	10.00	75	199527	18.5513	ug/L	97
41) Carbon Tetrachloride	10.13	117	223099	18.3784	ug/L	99
42) Tert-Amyl-Methyl ether	10.00	73	29088	1.4615	ug/L #	39
44) 1,2-Dichloroethane	10.30	62	253469	20.0233	ug/L	98
45) Benzene	10.34	78	651456	20.5049	ug/L	99
46) Trichloroethene	11.04	130	175909	19.1435	ug/L	99
47) Methylcyclohexane	11.13	83	203746	16.3562	ug/L	97
48) 1,2-Dichloropropane	11.25	63	195507	20.8768	ug/L	100
50) Bromodichloromethane	11.53	83	220521	19.8062	ug/L	99
51) Dibromomethane	11.61	93	101100	20.3616	ug/L	95

(#) = qualifier out of range (m) = manual integration
 11M14565.D 8260WT.M Tue Oct 18 14:35:18 2016

Data File : C:\MSDCHEM\1\DATA\101716\11M14565.D Vial: 7
 Acq On : 17 Oct 2016 16:03 Operator: FJB
 Sample : L16100409-06 A MS 826-LOW Inst : hpms11
 Misc : 1,1 STD78491 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Oct 18 14:35:17 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

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) 4-Methyl-2-Pentanone	11.83	58	66082	19.6224	ug/L	97
54) cis-1,3-Dichloropropene	12.13	75	279411	22.7048	ug/L	100
55) Dimethyl Disulfide	12.38	79	154139	20.8696	ug/L	91
58) Toluene	12.52	91	703957	20.6956	ug/L	100
59) Ethyl Methacrylate	12.59	69	198829	22.8693	ug/L	89
60) trans-1,3-Dichloropropene	12.69	75	231719	20.8067	ug/L	97
61) 1,1,2-Trichloroethane	12.88	97	140640	21.2517	ug/L	100
62) 2-Hexanone	12.82	43	135667	19.0187	ug/L	96
63) 1,3-Dichloropropane	13.17	76	243542	21.8921	ug/L	88
64) Tetrachloroethene	13.29	164	145788	19.7465	ug/L	97
65) Dibromochloromethane	13.53	129	184599	20.8117	ug/L	99
66) 1,2-Dibromoethane	13.78	107	141686	20.7979	ug/L	98
67) 1-Chlorohexane	13.84	91	215981	19.6763	ug/L	94
68) Chlorobenzene	14.25	112	488279	20.2297	ug/L	99
69) 1,1,1,2-Tetrachloroethane	14.27	131	179470	20.8473	ug/L	98
70) Ethylbenzene	14.27	106	251941	20.4136	ug/L	100
71) m-,p-Xylene	14.35	106	611095	42.0269	ug/L	99
72) o-Xylene	14.88	106	302671	21.1606	ug/L	99
73) Styrene	14.91	104	521027	21.4593	ug/L	99
74) Bromoform	15.38	173	116646	20.2788	ug/L	100
75) Isopropylbenzene	15.27	105	744861	20.3255	ug/L	99
77) 1,1,2,2-Tetrachloroethane	15.47	83	171096	21.5735	ug/L	99
79) 1,2,3-Trichloropropane	15.65	110	51560	21.4377	ug/L	99
80) trans-1,4-Dichloro-2-Buten	15.69	53	58650	18.1060	ug/L	88
81) n-Propylbenzene	15.74	91	899216	21.4914	ug/L	100
82) Bromobenzene	15.87	156	219164	20.4368	ug/L	95
83) 1,3,5-Trimethylbenzene	15.91	105	644805	21.4858	ug/L	99
84) 2-Chlorotoluene	16.00	91	554705	20.9508	ug/L	87
85) 4-Chlorotoluene	16.04	91	589534	21.8620	ug/L	89
86) a-Methylstyrene	16.29	118	373837	21.1929	ug/L	99
87) tert-Butylbenzene	16.35	134	136719	20.8239	ug/L	96
88) 1,2,4-Trimethylbenzene	16.40	105	676118	21.9002	ug/L	100
89) sec-Butylbenzene	16.60	105	785212	20.6615	ug/L	99
90) p-Isopropyltoluene	16.74	119	711728	21.5219	ug/L	99
91) 1,3-Dichlorobenzene	16.94	146	408788	20.6764	ug/L	98
92) 1,4-Dichlorobenzene	17.05	146	416592	20.5620	ug/L	98
93) n-Butylbenzene	17.23	91	630962	20.3361	ug/L	99
94) 1,2-Dichlorobenzene	17.52	146	397425	21.0431	ug/L	98
95) 1,2-Dibromo-3-Chloropropan	18.44	75	28971	19.0047	ug/L	86
96) 1,2,4-Trichlorobenzene	19.50	180	286589	20.4612	ug/L	98
97) Hexachlorobutadiene	19.64	225	109428	19.9617	ug/L	97
98) Naphthalene	19.85	128	649899	22.3176	ug/L	99
99) 1,2,3-Trichlorobenzene	20.14	180	275512	20.3854	ug/L	99

(#) = qualifier out of range (m) = manual integration
 11M14565.D 8260WT.M Tue Oct 18 14:35:19 2016

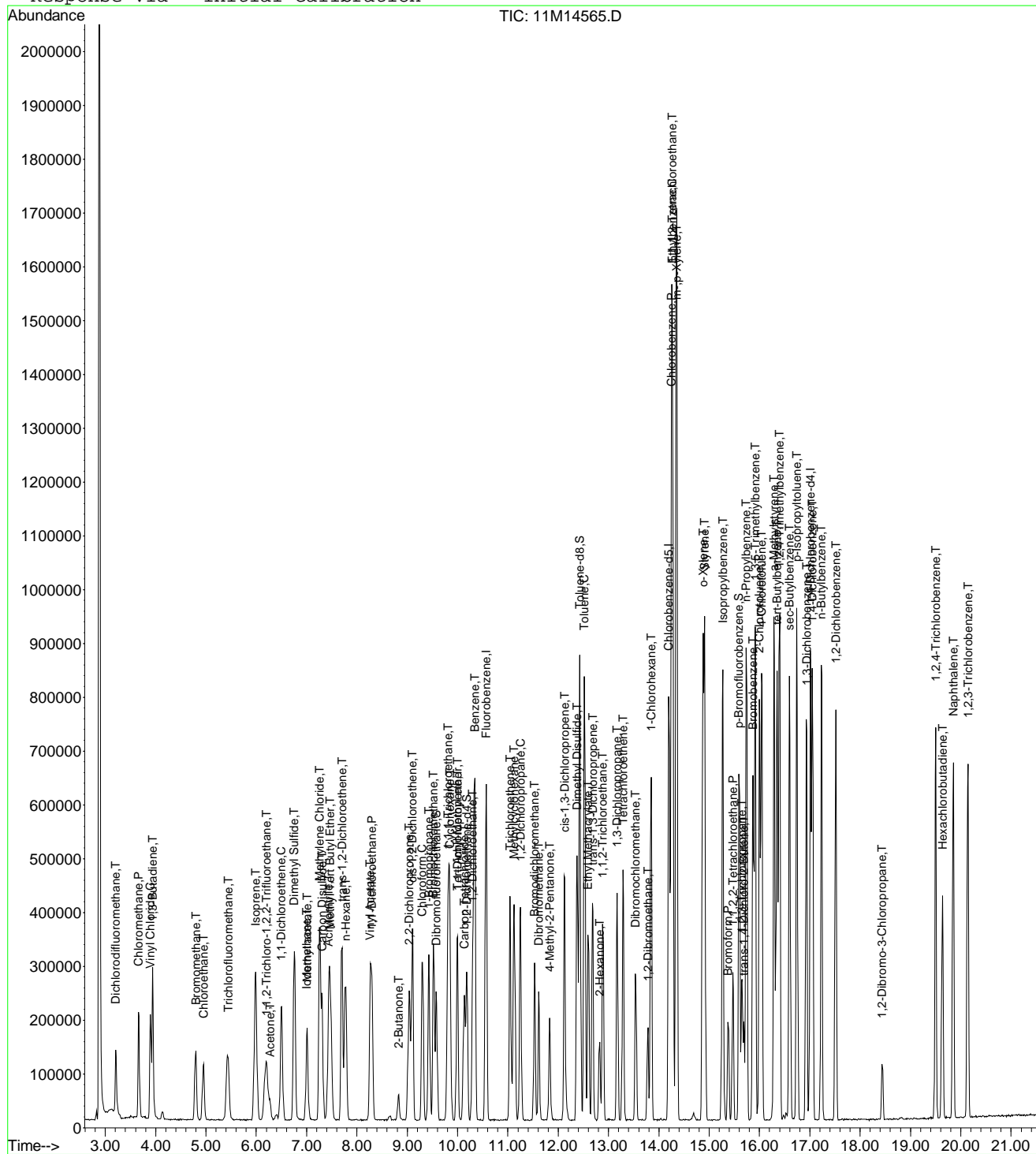
Page 2

Data File : C:\MSDCHEM\1\DATA\101716\11M14565.D
 Acq On : 17 Oct 2016 16:03
 Sample : L16100409-06 A MS 826-LOW
 Misc : 1,1 STD78491
 MS Integration Params: rteint.p
 Quant Time: Oct 18 14:35 2016

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

Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
 Last Update : Fri Oct 14 09:20:10 2016
 Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\101716\11M14566.D Vial: 8
 Acq On : 17 Oct 2016 16:32 Operator: FJB
 Sample : L16100409-07 A MSD 826-LOW Inst : hpms11
 Misc : 1,1 STD78491 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Oct 18 14:35:21 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	780880	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.20	117	596421	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	310840	25.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.57	111	218138	23.2229	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	92.88%	
43) 1,2-Dichloroethane-d4	10.18	65	233115	22.1051	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	88.44%	
57) Toluene-d8	12.43	98	765486	24.2194	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	96.88%	
78) p-Bromofluorobenzene	15.59	95	292420	23.5143	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	94.04%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.21	85	147620	11.1427	ug/L	97
3) Chloromethane	3.66	50	247821	17.0558	ug/L	100
4) Vinyl Chloride	3.90	62	216383	16.7004	ug/L	99
5) 1,3-Butadiene	3.94	54	141986	13.4619	ug/L	92
6) Bromomethane	4.80	94	124219	19.7859	ug/L	98
7) Chloroethane	4.95	64	136342	17.9617	ug/L	98
8) Trichlorofluoromethane	5.43	101	220245	14.6044	ug/L	99
10) Isoprene	5.99	67	188610	13.7047	ug/L	96
12) 1,1,2-Trichloro-1,2,2-Trif	6.19	101	121704	15.0056	ug/L	97
13) Acetone	6.28	43	57460	18.9665	ug/L	96
14) 1,1-Dichloroethene	6.49	61	256136	15.8940	ug/L	96
16) Dimethyl Sulfide	6.76	62	210353	19.0448	ug/L	92
17) Iodomethane	7.00	142	151361	14.4139	ug/L	95
18) Methyl acetate	7.01	43	167866	18.7890	ug/L	# 96
19) Methylene Chloride	7.26	84	166613	18.1859	ug/L	91
20) Carbon Disulfide	7.31	76	397461	14.8797	ug/L	100
21) Acrylonitrile	7.43	53	80379	19.7481	ug/L	98
22) Methyl Tert Butyl Ether	7.47	73	449890	19.9722	ug/L	99
23) trans-1,2-Dichloroethene	7.70	96	158000	17.3013	ug/L	97
24) n-Hexane	7.78	57	206697	13.2355	ug/L	100
26) Vinyl Acetate	8.26	43	448666	19.0047	ug/L	99
27) 1,1-Dichloroethane	8.29	63	334306	17.8614	ug/L	98
29) 2-Butanone	8.83	43	87073	17.1056	ug/L	98
31) 2,2-Dichloropropane	9.04	77	219458	17.2056	ug/L	100
32) cis-1,2-Dichloroethene	9.10	96	188968	18.7891	ug/L	95
33) Chloroform	9.31	83	293233	17.8559	ug/L	97
34) 1-Bromopropane	9.43	122	39739	23.0693	ug/L	96
35) Bromochloromethane	9.52	130	120129	18.5293	ug/L	92
38) 1,1,1-Trichloroethane	9.81	97	253487	17.5065	ug/L	94
39) Cyclohexane	9.84	56	309415	14.5773	ug/L	99
40) 1,1-Dichloropropene	10.00	75	198414	16.5530	ug/L	97
41) Carbon Tetrachloride	10.13	117	218970	16.1854	ug/L	97
42) Tert-Amyl-Methyl ether	10.00	73	27723	1.2499	ug/L	# 39
44) 1,2-Dichloroethane	10.30	62	259433	18.3894	ug/L	97
45) Benzene	10.34	78	644209	18.1941	ug/L	99
46) Trichloroethene	11.04	130	173536	16.9454	ug/L	99
47) Methylcyclohexane	11.13	83	208358	15.0084	ug/L	95
48) 1,2-Dichloropropane	11.25	63	192715	18.4649	ug/L	97
50) Bromodichloromethane	11.53	83	227167	18.3074	ug/L	99
51) Dibromomethane	11.61	93	101181	18.2848	ug/L	96

(#) = qualifier out of range (m) = manual integration
 11M14566.D 8260WT.M Tue Oct 18 14:35:23 2016

Data File : C:\MSDCHEM\1\DATA\101716\11M14566.D Vial: 8
 Acq On : 17 Oct 2016 16:32 Operator: FJB
 Sample : L16100409-07 A MSD 826-LOW Inst : hpms11
 Misc : 1,1 STD78491 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Oct 18 14:35:21 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
53) 4-Methyl-2-Pentanone	11.83	58	65600	17.4784	ug/L	98
54) cis-1,3-Dichloropropene	12.13	75	275377	20.0785	ug/L	99
55) Dimethyl Disulfide	12.38	79	154694	18.7934	ug/L	91
58) Toluene	12.52	91	696843	18.5542	ug/L	99
59) Ethyl Methacrylate	12.59	69	198814	20.7108	ug/L	88
60) trans-1,3-Dichloropropene	12.69	75	229276	18.6457	ug/L	97
61) 1,1,2-Trichloroethane	12.88	97	144769	19.8124	ug/L	97
62) 2-Hexanone	12.82	43	135509	17.2049	ug/L	95
63) 1,3-Dichloropropane	13.17	76	242377	19.7325	ug/L	88
64) Tetrachloroethene	13.29	164	140927	17.2878	ug/L	98
65) Dibromochloromethane	13.53	129	178313	18.2070	ug/L	99
66) 1,2-Dibromoethane	13.78	107	140659	18.6998	ug/L	100
67) 1-Chlorohexane	13.84	91	212790	17.5572	ug/L	94
68) Chlorobenzene	14.25	112	488773	18.3402	ug/L	100
69) 1,1,1,2-Tetrachloroethane	14.27	131	178159	18.7431	ug/L	99
70) Ethylbenzene	14.27	106	251434	18.4511	ug/L	98
71) m-,p-Xylene	14.35	106	602462	37.5253	ug/L	98
72) o-Xylene	14.88	106	302022	19.1237	ug/L	100
73) Styrene	14.91	104	519081	19.3628	ug/L	98
74) Bromoform	15.38	173	114685	18.0574	ug/L	100
75) Isopropylbenzene	15.27	105	738517	18.2517	ug/L	100
77) 1,1,2,2-Tetrachloroethane	15.47	83	174996	19.9629	ug/L	96
79) 1,2,3-Trichloropropane	15.65	110	51405	19.3369	ug/L	99
80) trans-1,4-Dichloro-2-Buten	15.69	53	58912	16.4541	ug/L	87
81) n-Propylbenzene	15.74	91	884638	19.1286	ug/L	100
82) Bromobenzene	15.87	156	220117	18.5701	ug/L	92
83) 1,3,5-Trimethylbenzene	15.91	105	642473	19.3684	ug/L	99
84) 2-Chlorotoluene	16.01	91	542458	18.5362	ug/L	86
85) 4-Chlorotoluene	16.04	91	589436	19.7757	ug/L	89
86) a-Methylstyrene	16.30	118	374530	19.2092	ug/L	99
87) tert-Butylbenzene	16.35	134	136879	18.8619	ug/L	97
88) 1,2,4-Trimethylbenzene	16.40	105	660251	19.3486	ug/L	100
89) sec-Butylbenzene	16.60	105	767728	18.2767	ug/L	100
90) p-Isopropyltoluene	16.74	119	704360	19.2698	ug/L	100
91) 1,3-Dichlorobenzene	16.94	146	404978	18.5320	ug/L	98
92) 1,4-Dichlorobenzene	17.05	146	409460	18.2844	ug/L	100
93) n-Butylbenzene	17.24	91	616227	17.9689	ug/L	98
94) 1,2-Dichlorobenzene	17.52	146	392787	18.8160	ug/L	99
95) 1,2-Dibromo-3-Chloropropan	18.44	75	30364	18.0207	ug/L	93
96) 1,2,4-Trichlorobenzene	19.50	180	281608	18.1900	ug/L	100
97) Hexachlorobutadiene	19.63	225	102572	16.9283	ug/L	96
98) Naphthalene	19.85	128	646480	20.0850	ug/L	99
99) 1,2,3-Trichlorobenzene	20.14	180	269542	18.0435	ug/L	99

(#) = qualifier out of range (m) = manual integration
 11M14566.D 8260WT.M Tue Oct 18 14:35:23 2016

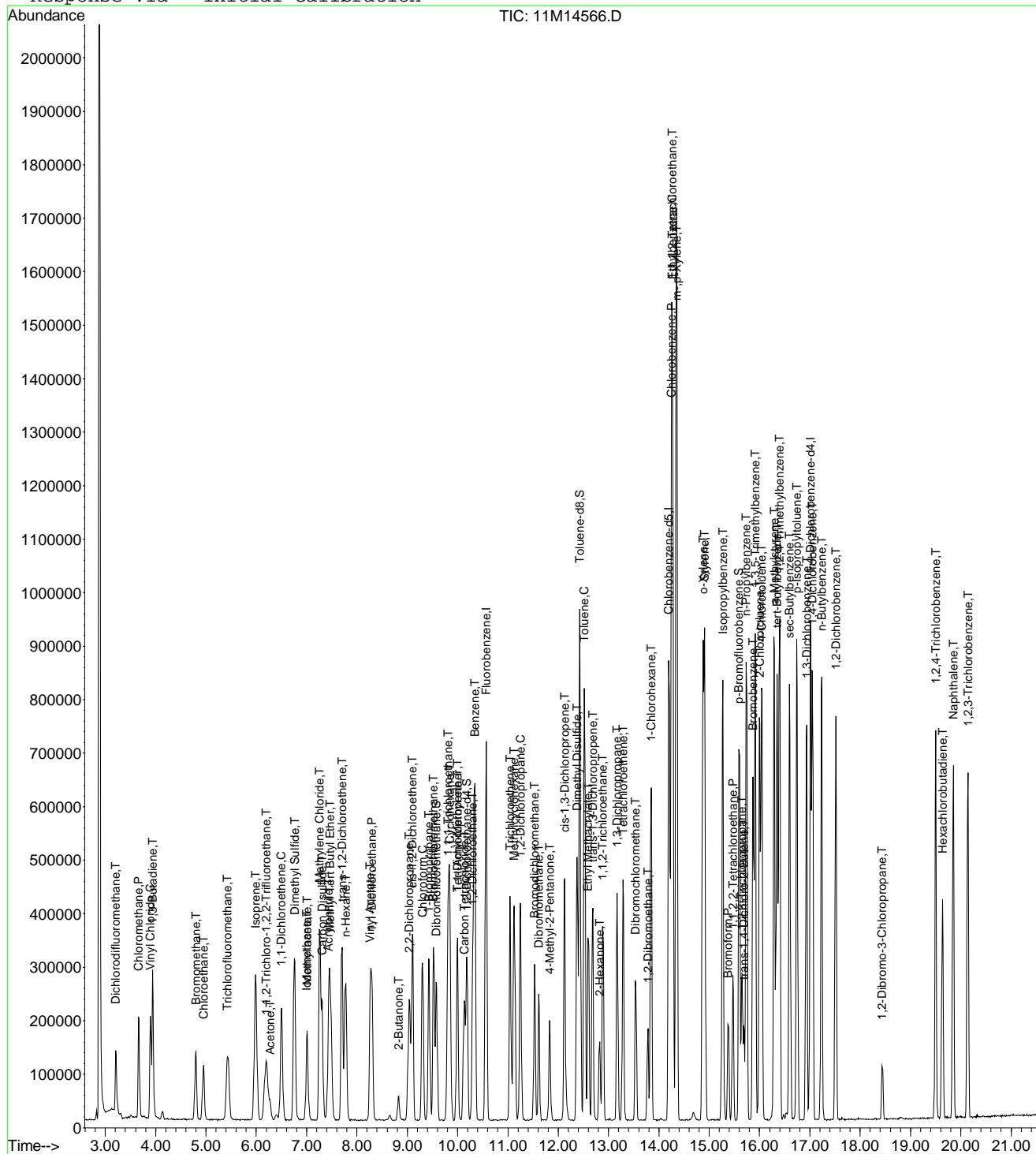
Page 2

Data File : C:\MSDCHEM\1\DATA\101716\11M14566.D
 Acq On : 17 Oct 2016 16:32
 Sample : L16100409-07 A MSD 826-LOW
 Misc : 1,1 STD78491
 MS Integration Params: rteint.p
 Quant Time: Oct 18 14:35 2016

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

Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
 Last Update : Fri Oct 14 09:20:10 2016
 Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\101716\11M14572.D Vial: 14
 Acq On : 17 Oct 2016 19:24 Operator: FJB
 Sample : L16100409-08 A 826-LOW Inst : hpms11
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Oct 18 14:46:56 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	627680	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.20	117	477836	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.02	152	232697	25.00	ug/L	0.01
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	175062	23.1858	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	92.76%	
43) 1,2-Dichloroethane-d4	10.18	65	198723	23.4432	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	93.76%	
57) Toluene-d8	12.43	98	602100	23.7777	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	95.12%	
78) p-Bromofluorobenzene	15.59	95	220450	23.6800	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	94.72%	
Target Compounds						
						Qvalue
3) Chloromethane	3.68	50	7859	0.6729	ug/L	# 62
13) Acetone	6.29	43	9061	3.7209	ug/L	91
14) 1,1-Dichloroethene	6.49	61	12571	0.9705	ug/L	97
27) 1,1-Dichloroethane	8.29	63	8473	0.5632	ug/L	96

(#) = qualifier out of range (m) = manual integration
 11M14572.D 8260WT.M Tue Oct 18 14:46:57 2016

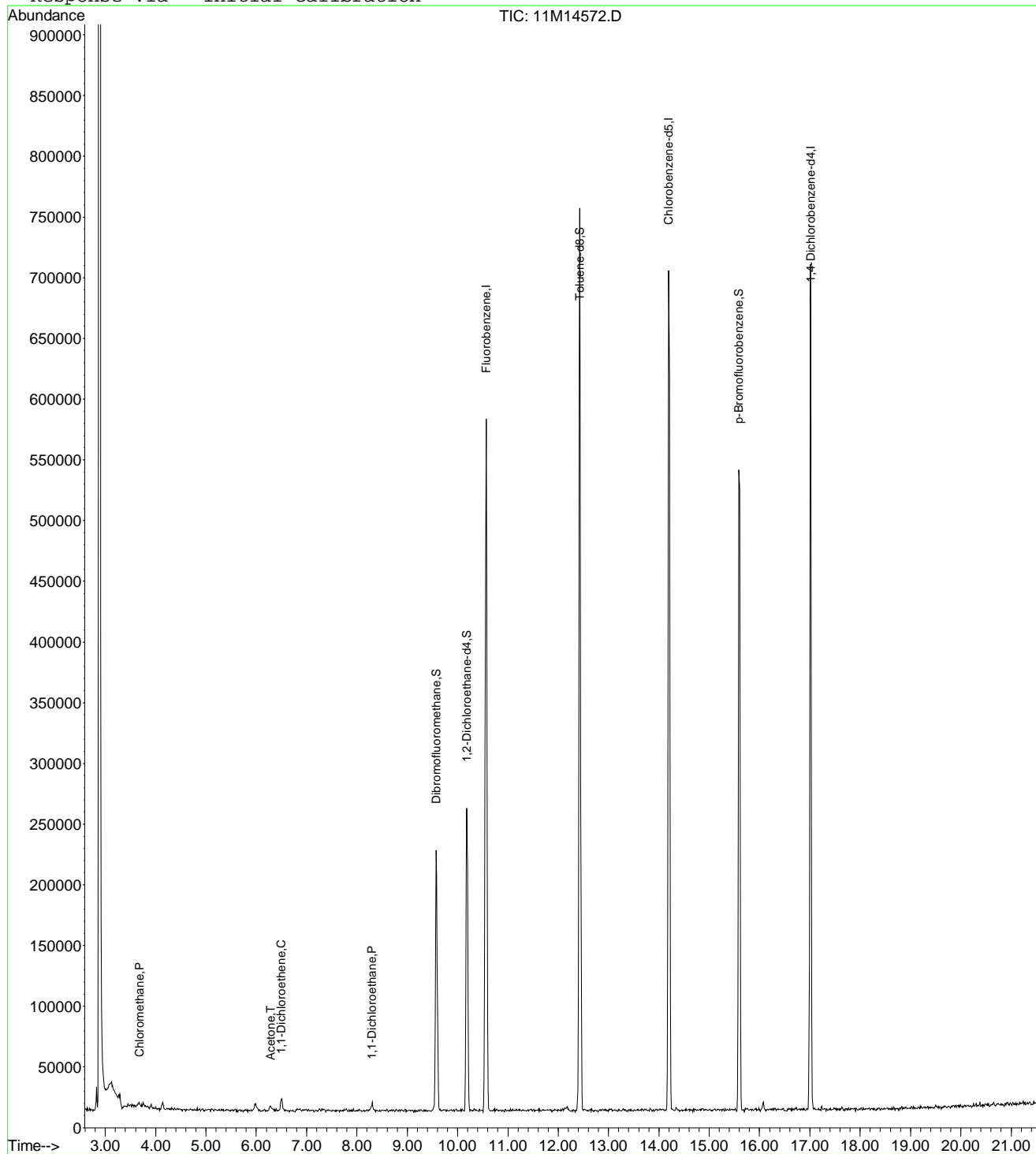
Page 1

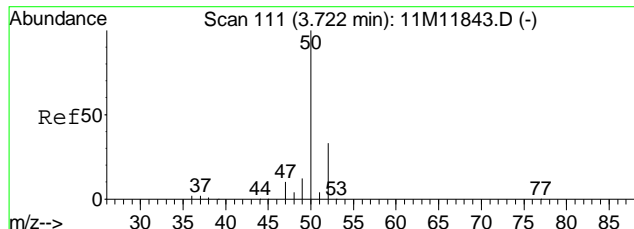
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 Acq On : 17 Oct 2016 19:24
 Sample : L16100409-08 A 826-LOW
 Misc : 1,1
 MS Integration Params: rteint.p
 Quant Time: Oct 18 14:46 2016

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

Quant Results File: 8260WT.RES

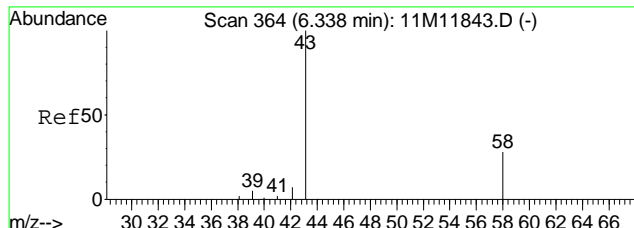
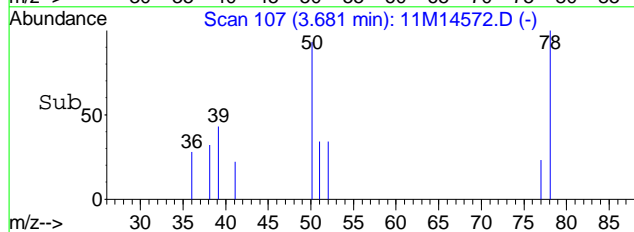
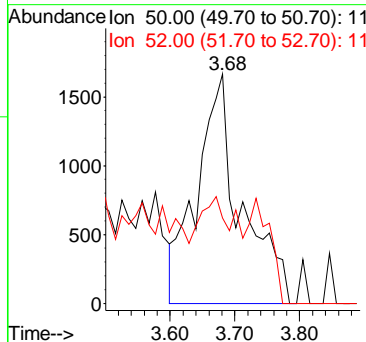
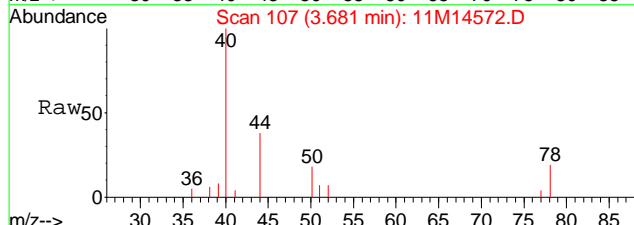
Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
 Last Update : Fri Oct 14 09:20:10 2016
 Response via : Initial Calibration





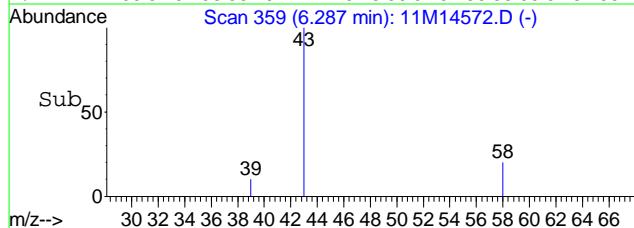
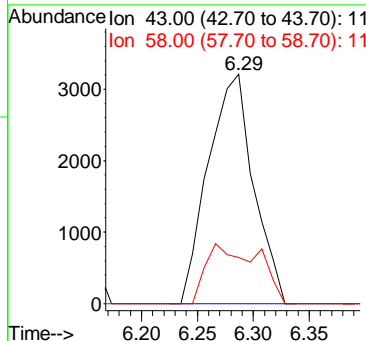
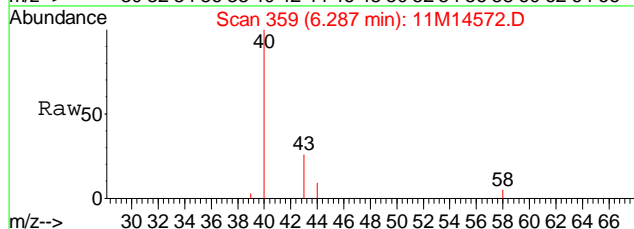
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 Chloromethane
 Concen: 0.67 ug/L
 RT: 3.68 min Scan# 107
 Delta R.T. 0.02 min
 Lab File: 11M14572.D
 Acq: 17 Oct 2016 19:24

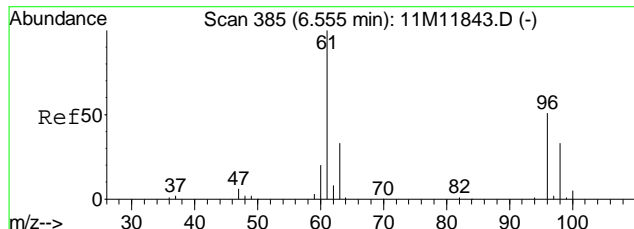
Tgt Ion	Ratio	Lower	Upper
50	100		
52	9.7	18.4	42.8#



#13
 Acetone
 Concen: 3.72 ug/L
 RT: 6.29 min Scan# 359
 Delta R.T. 0.01 min
 Lab File: 11M14572.D
 Acq: 17 Oct 2016 19:24

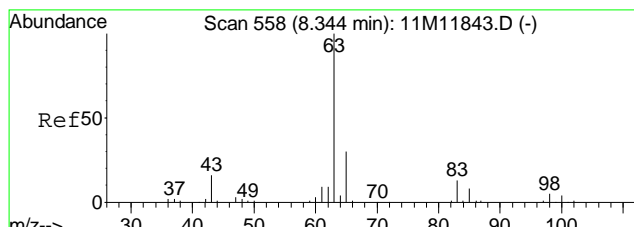
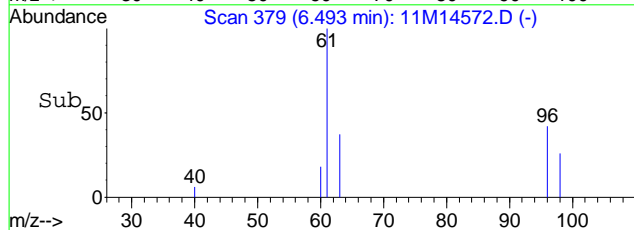
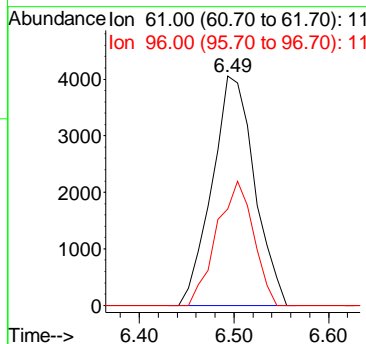
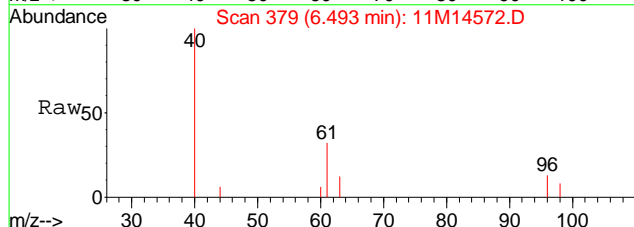
Tgt Ion	Ratio	Lower	Upper
43	100		
58	29.7	15.1	35.1





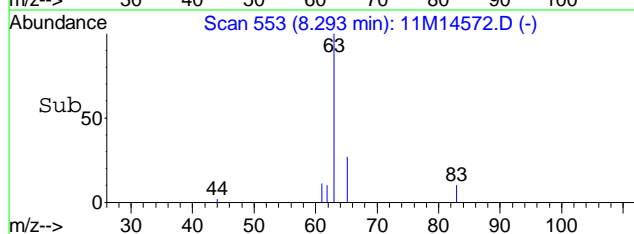
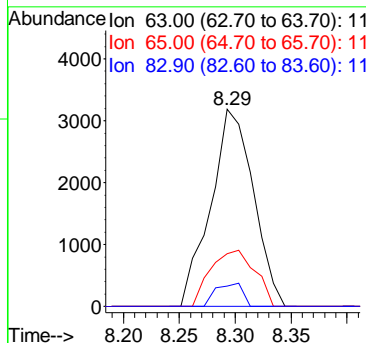
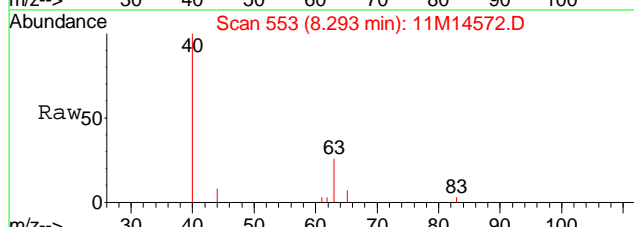
#14
 1,1-Dichloroethene
 Concen: 0.97 ug/L
 RT: 6.49 min Scan# 379
 Delta R.T. -0.00 min
 Lab File: 11M14572.D
 Acq: 17 Oct 2016 19:24

Tgt Ion	Resp	Lower	Upper
61	100		
96	46.9	29.3	68.5



#27
 1,1-Dichloroethane
 Concen: 0.56 ug/L
 RT: 8.29 min Scan# 553
 Delta R.T. -0.00 min
 Lab File: 11M14572.D
 Acq: 17 Oct 2016 19:24

Tgt Ion	Resp	Lower	Upper
63	100		
65	29.6	18.4	43.0
83	7.4	6.8	16.0



Data File : C:\MSDCHEM\1\DATA\101716\11M14573.D Vial: 15
 Acq On : 17 Oct 2016 19:53 Operator: FJB
 Sample : L16100409-09 A 826-LOW Inst : hpms11
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Oct 18 14:46:59 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	772516	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.20	117	582124	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	295846	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	203004	21.8457	ug/L	0.00
Spiked Amount	25.000	Range	86 - 118	Recovery	=	87.40%
43) 1,2-Dichloroethane-d4	10.18	65	225024	21.5689	ug/L	0.00
Spiked Amount	25.000	Range	80 - 120	Recovery	=	86.28%
57) Toluene-d8	12.43	98	707492	22.9343	ug/L	0.00
Spiked Amount	25.000	Range	88 - 110	Recovery	=	91.72%
78) p-Bromofluorobenzene	15.59	95	270243	22.8323	ug/L	0.00
Spiked Amount	25.000	Range	86 - 115	Recovery	=	91.32%
Target Compounds						
						Qvalue
3) Chloromethane	3.66	50	4020	0.2797	ug/L	# 70
13) Acetone	6.28	43	10754	3.5881	ug/L	99

(#) = qualifier out of range (m) = manual integration
 11M14573.D 8260WT.M Tue Oct 18 14:47:00 2016

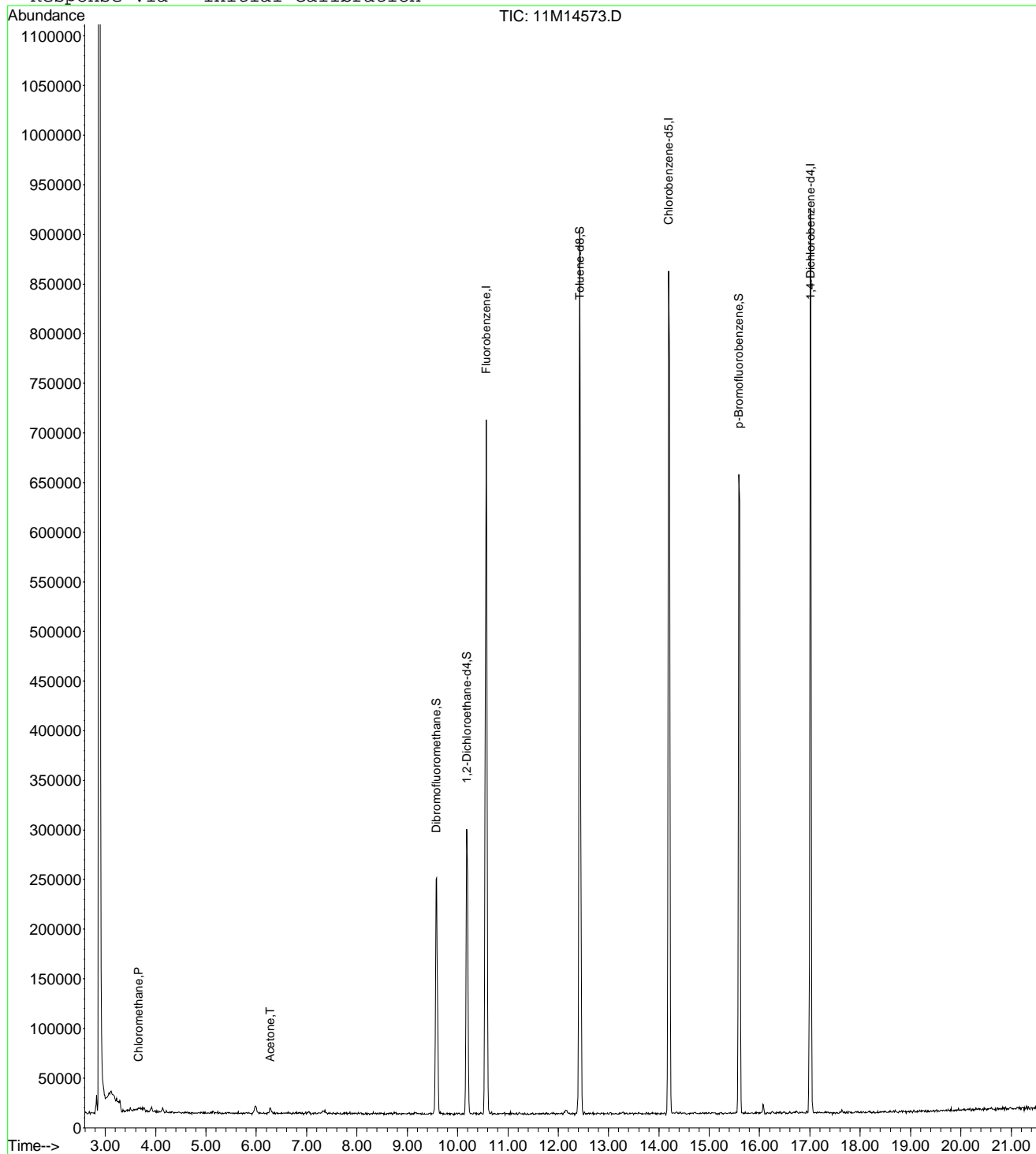
Page 1

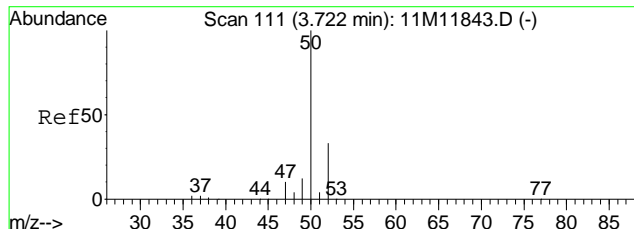
Data File : C:\MSDCHEM\1\DATA\101716\11M14573.D
 Acq On : 17 Oct 2016 19:53
 Sample : L16100409-09 A 826-LOW
 Misc : 1,1
 MS Integration Params: rteint.p
 Quant Time: Oct 18 14:46 2016

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

Quant Results File: 8260WT.RES

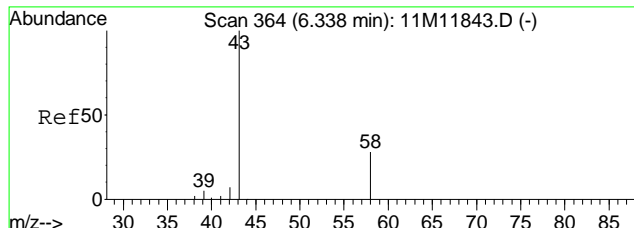
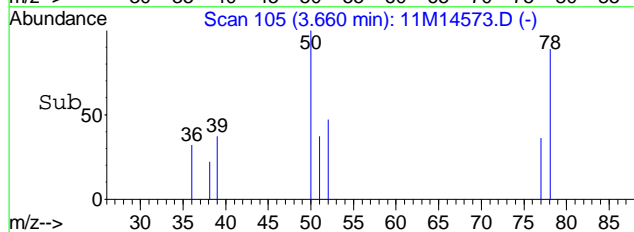
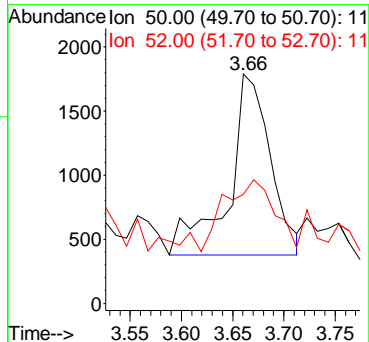
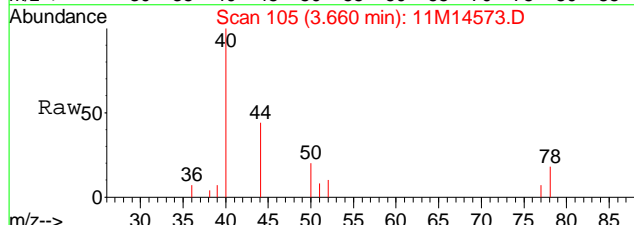
Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
 Last Update : Fri Oct 14 09:20:10 2016
 Response via : Initial Calibration





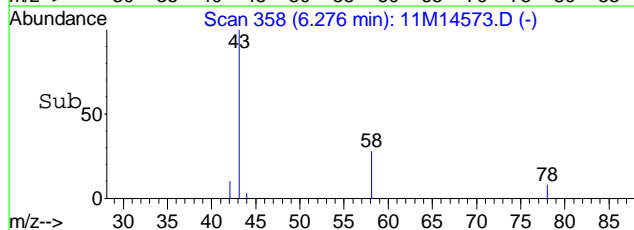
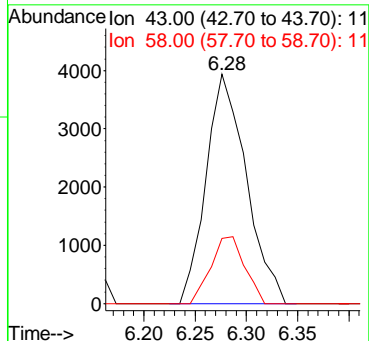
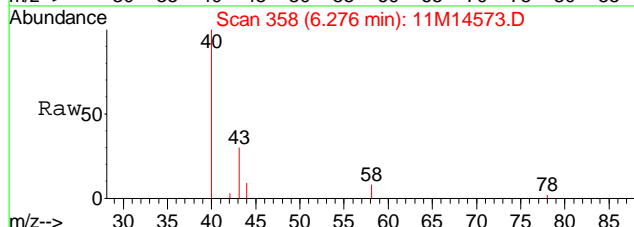
#3
 Chloromethane
 Concen: 0.28 ug/L
 RT: 3.66 min Scan# 105
 Delta R.T. 0.00 min
 Lab File: 11M14573.D
 Acq: 17 Oct 2016 19:53

Tgt Ion: 50 Resp: 4020
 Ion Ratio Lower Upper
 50 100
 52 47.1 18.4 42.8#



#13
 Acetone
 Concen: 3.59 ug/L
 RT: 6.28 min Scan# 358
 Delta R.T. -0.00 min
 Lab File: 11M14573.D
 Acq: 17 Oct 2016 19:53

Tgt Ion: 43 Resp: 10754
 Ion Ratio Lower Upper
 43 100
 58 24.5 15.1 35.1



Data File : C:\MSDCHEM\1\DATA\101716\11M14574.D Vial: 16
 Acq On : 17 Oct 2016 20:22 Operator: FJB
 Sample : L16100409-10 A 826-LOW Inst : hpms11
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Oct 18 14:47:01 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	665087	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.20	117	507615	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.02	152	254535	25.00	ug/L	0.01
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	185506	23.1872	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	92.76%	
43) 1,2-Dichloroethane-d4	10.18	65	199996	22.2664	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	89.08%	
57) Toluene-d8	12.43	98	645363	23.9910	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	95.96%	
78) p-Bromofluorobenzene	15.59	95	245074	24.0664	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	96.28%	
Target Compounds						
						Qvalue
3) Chloromethane	3.67	50	6718	0.5428	ug/L	84
13) Acetone	6.28	43	6111	2.3683	ug/L	94

(#) = qualifier out of range (m) = manual integration
 11M14574.D 8260WT.M Tue Oct 18 14:47:02 2016

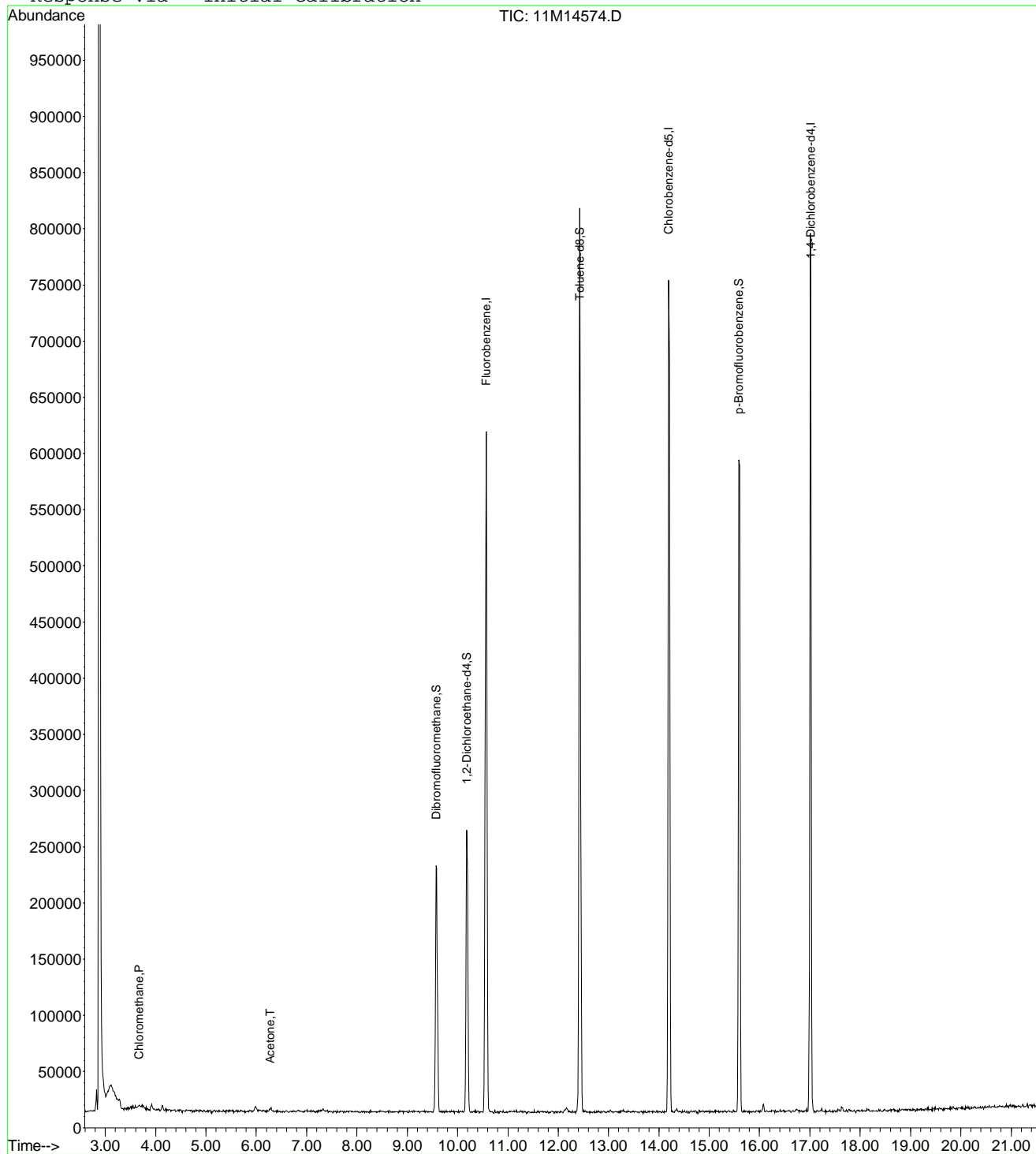
Page 1

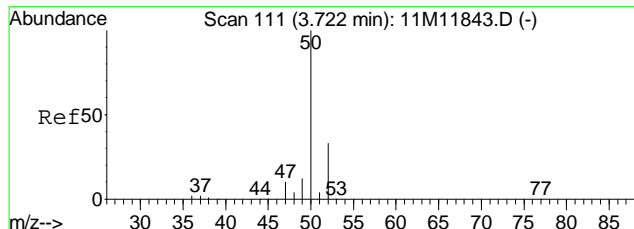
Data File : C:\MSDCHEM\1\DATA\101716\11M14574.D
 Acq On : 17 Oct 2016 20:22
 Sample : L16100409-10 A 826-LOW
 Misc : 1,1
 MS Integration Params: rteint.p
 Quant Time: Oct 18 14:47 2016

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

Quant Results File: 8260WT.RES

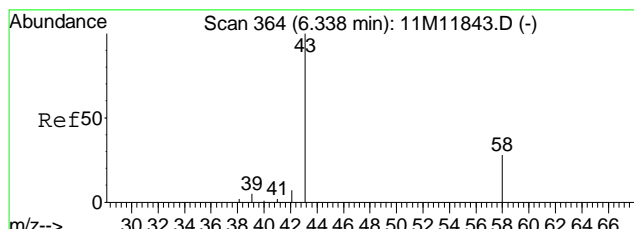
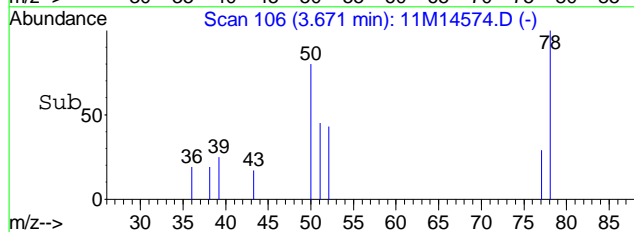
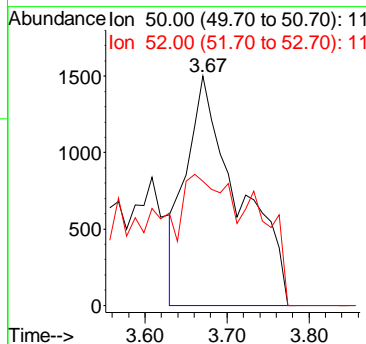
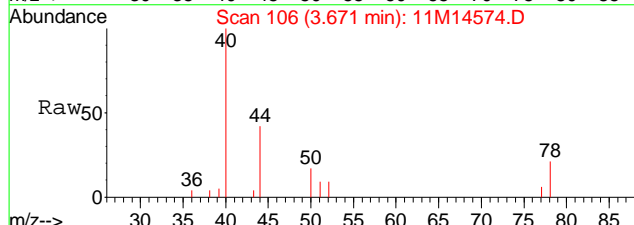
Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
 Last Update : Fri Oct 14 09:20:10 2016
 Response via : Initial Calibration





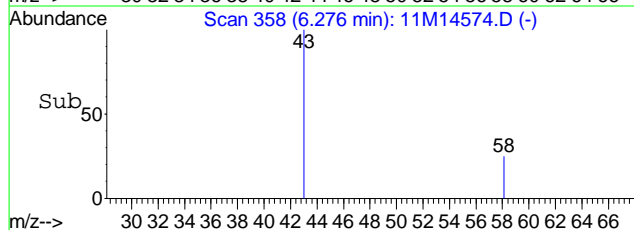
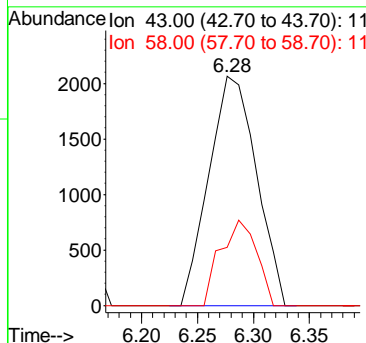
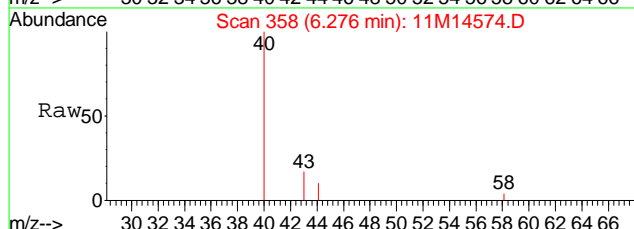
#3
 Chloromethane
 Concen: 0.54 ug/L
 RT: 3.67 min Scan# 106
 Delta R.T. 0.01 min
 Lab File: 11M14574.D
 Acq: 17 Oct 2016 20:22

Tgt Ion	Resp	Lower	Upper
50	100		
52	22.0	18.4	42.8



#13
 Acetone
 Concen: 2.37 ug/L
 RT: 6.28 min Scan# 358
 Delta R.T. -0.00 min
 Lab File: 11M14574.D
 Acq: 17 Oct 2016 20:22

Tgt Ion	Resp	Lower	Upper
43	100		
58	28.3	15.1	35.1



Data File : C:\MSDCHEM\1\DATA\101716\11M14575.D Vial: 17
 Acq On : 17 Oct 2016 20:51 Operator: FJB
 Sample : L16100409-11 A 826-LOW Inst : hpms11
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Oct 18 14:47:04 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	646015	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.20	117	493443	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	246568	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	181710	23.3833	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	93.52%	
43) 1,2-Dichloroethane-d4	10.18	65	200018	22.9262	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	91.72%	
57) Toluene-d8	12.43	98	630002	24.0926	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	96.36%	
78) p-Bromofluorobenzene	15.59	95	234928	23.8155	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	95.28%	
Target Compounds						
						Qvalue
3) Chloromethane	3.67	50	8019	0.6671	ug/L	92
13) Acetone	6.28	43	11141	4.4452	ug/L	92

(#) = qualifier out of range (m) = manual integration
 11M14575.D 8260WT.M Tue Oct 18 14:47:05 2016

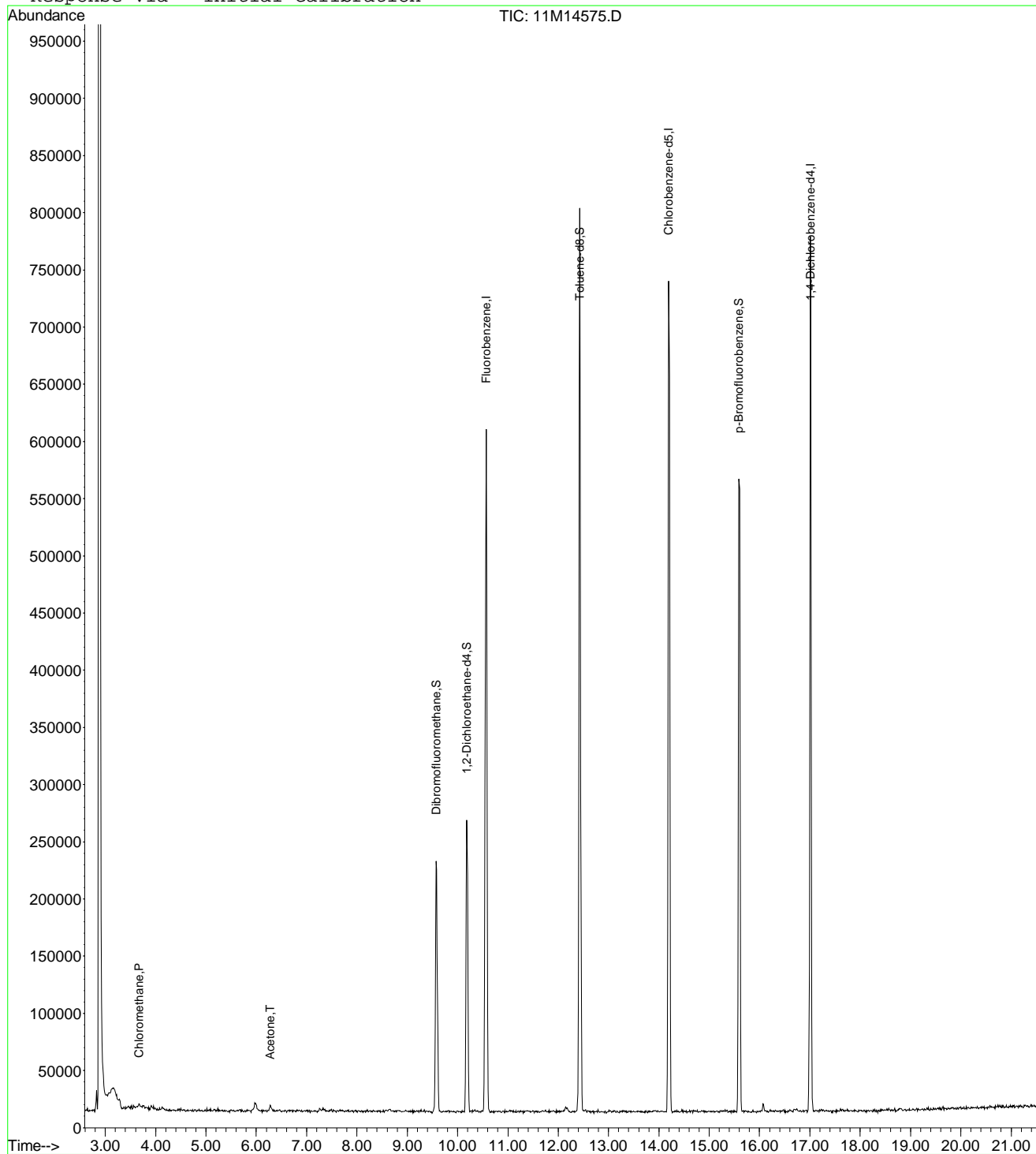
Page 1

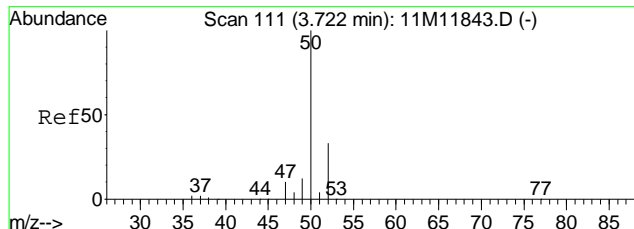
Data File : C:\MSDCHEM\1\DATA\101716\11M14575.D
 Acq On : 17 Oct 2016 20:51
 Sample : L16100409-11 A 826-LOW
 Misc : 1,1
 MS Integration Params: rteint.p
 Quant Time: Oct 18 14:47 2016

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

Quant Results File: 8260WT.RES

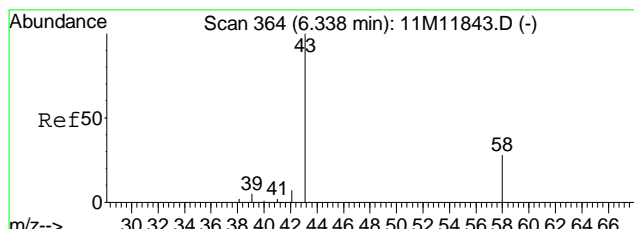
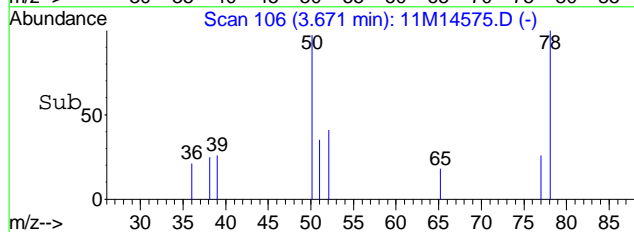
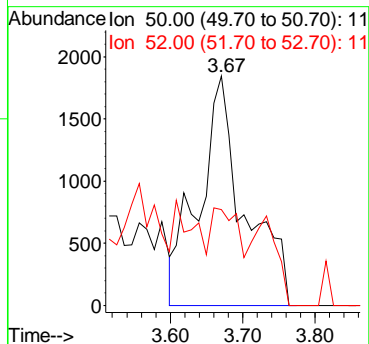
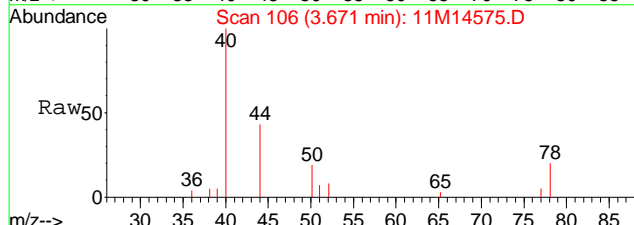
Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
 Last Update : Fri Oct 14 09:20:10 2016
 Response via : Initial Calibration





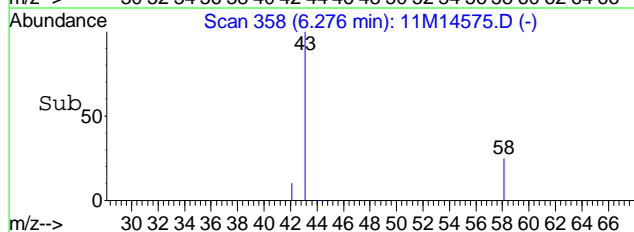
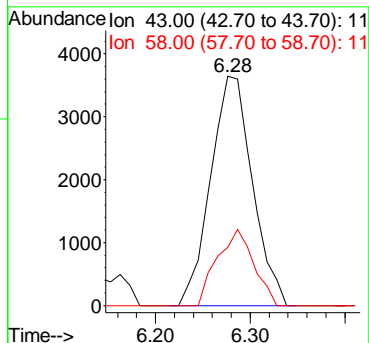
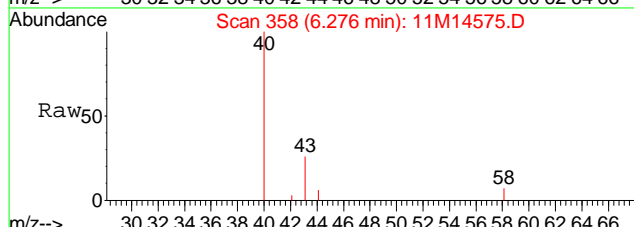
#3
 Chloromethane
 Concen: 0.67 ug/L
 RT: 3.67 min Scan# 106
 Delta R.T. 0.01 min
 Lab File: 11M14575.D
 Acq: 17 Oct 2016 20:51

Tgt Ion	Ratio	Lower	Upper
50	100		
52	26.0	18.4	42.8



#13
 Acetone
 Concen: 4.45 ug/L
 RT: 6.28 min Scan# 358
 Delta R.T. 0.00 min
 Lab File: 11M14575.D
 Acq: 17 Oct 2016 20:51

Tgt Ion	Ratio	Lower	Upper
43	100		
58	28.9	15.1	35.1



Data File : C:\MSDCHEM\1\DATA\101716\11M14576.D Vial: 18
 Acq On : 17 Oct 2016 21:20 Operator: FJB
 Sample : L16100409-12 A 826-LOW Inst : hpms11
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Oct 18 14:47:06 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 09:20:10 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.57	96	730140	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.20	117	558511	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.02	152	289766	25.00	ug/L	0.01
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	204207	23.2506	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	93.00%	
43) 1,2-Dichloroethane-d4	10.18	65	226001	22.9198	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	91.68%	
57) Toluene-d8	12.43	98	712298	24.0663	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	96.28%	
78) p-Bromofluorobenzene	15.59	95	265818	22.9297	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	91.72%	
Target Compounds						
						Qvalue
3) Chloromethane	3.67	50	6063	0.4463	ug/L	# 68
13) Acetone	6.28	43	5071	1.7902	ug/L	95

(#) = qualifier out of range (m) = manual integration
 11M14576.D 8260WT.M Tue Oct 18 14:47:07 2016

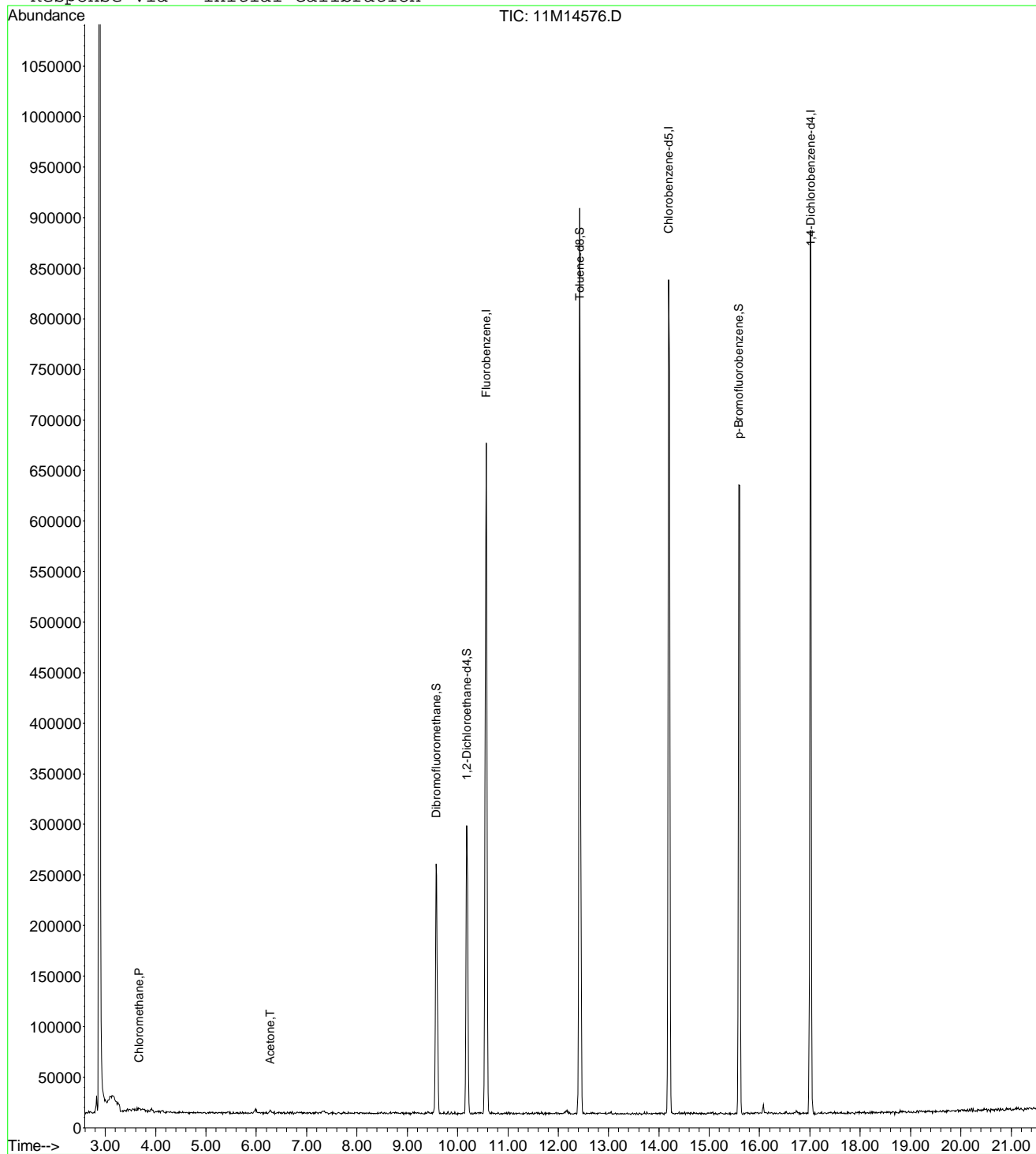
Page 1

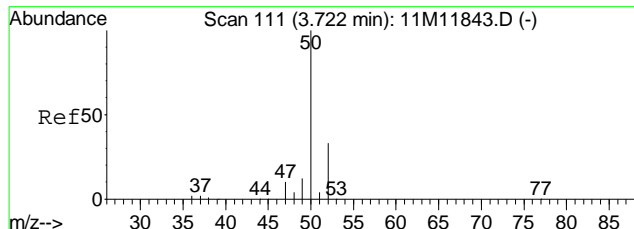
Data File : C:\MSDCHEM\1\DATA\101716\11M14576.D
 Acq On : 17 Oct 2016 21:20
 Sample : L16100409-12 A 826-LOW
 Misc : 1,1
 MS Integration Params: rteint.p
 Quant Time: Oct 18 14:47 2016

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

Quant Results File: 8260WT.RES

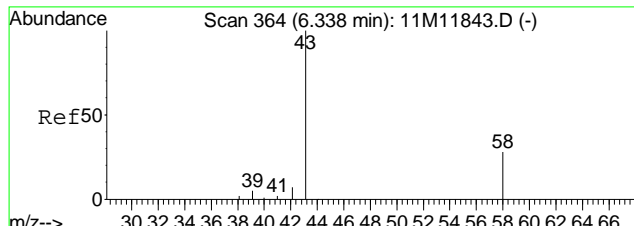
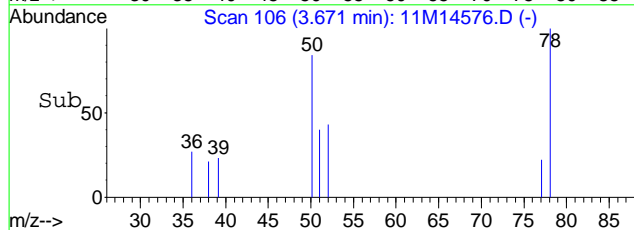
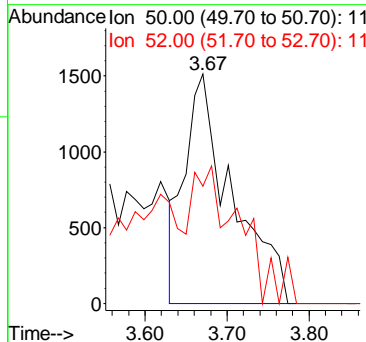
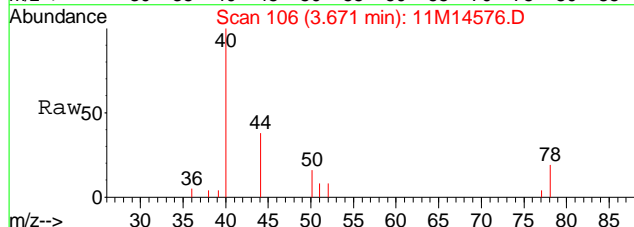
Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
 Last Update : Fri Oct 14 09:20:10 2016
 Response via : Initial Calibration





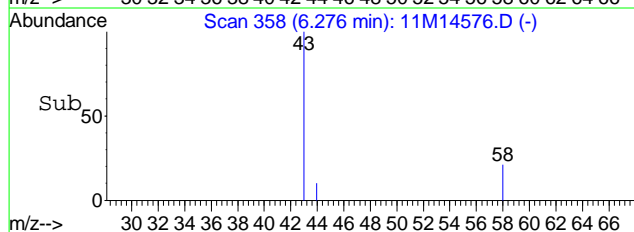
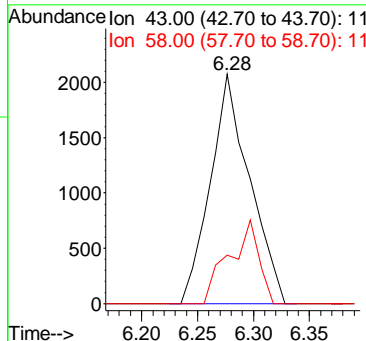
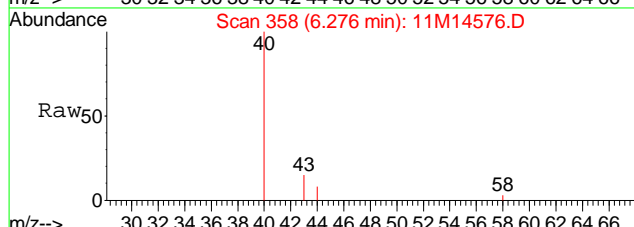
#3
 Chloromethane
 Concen: 0.45 ug/L
 RT: 3.67 min Scan# 106
 Delta R.T. 0.01 min
 Lab File: 11M14576.D
 Acq: 17 Oct 2016 21:20

Tgt Ion: 50 Resp: 6063
 Ion Ratio Lower Upper
 50 100
 52 13.3 18.4 42.8#



#13
 Acetone
 Concen: 1.79 ug/L
 RT: 6.28 min Scan# 358
 Delta R.T. -0.00 min
 Lab File: 11M14576.D
 Acq: 17 Oct 2016 21:20

Tgt Ion: 43 Resp: 5071
 Ion Ratio Lower Upper
 43 100
 58 27.5 15.1 35.1



Data File : C:\MSDCHEM\1\DATA\101716\11M14577.D Vial: 19
 Acq On : 17 Oct 2016 21:49 Operator: FJB
 Sample : L16100409-13 A 826-LOW Inst : hpms11
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Oct 18 14:47:09 2016 Quant Results File: 8260WT.RES

Quant Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 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	652608	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.20	117	502970	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	250527	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	189795	24.1769	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	96.72%	
43) 1,2-Dichloroethane-d4	10.18	65	202570	22.9842	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	91.92%	
57) Toluene-d8	12.43	98	639468	23.9914	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	95.96%	
78) p-Bromofluorobenzene	15.59	95	240095	23.9547	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	95.80%	
Target Compounds						
						Qvalue
3) Chloromethane	3.66	50	3091	0.2545	ug/L	# 72
4) Vinyl Chloride	3.90	62	3279	0.3028	ug/L	89
13) Acetone	6.28	43	10163	4.0140	ug/L	100
14) 1,1-Dichloroethene	6.50	61	139933	10.3900	ug/L	97
22) Methyl Tert Butyl Ether	7.47	73	34057	1.8091	ug/L	98
27) 1,1-Dichloroethane	8.29	63	163092	10.4264	ug/L	100
32) cis-1,2-Dichloroethene	9.11	96	42801	5.0922	ug/L	85
44) 1,2-Dichloroethane	10.30	62	1845	0.1565	ug/L	# 78
46) Trichloroethene	11.04	130	87590	10.2341	ug/L	96
49) 1,4-Dioxane	11.52	88	4834	79.5045	ug/L	97

(#) = qualifier out of range (m) = manual integration
 11M14577.D 8260WT.M Tue Oct 18 14:47:10 2016

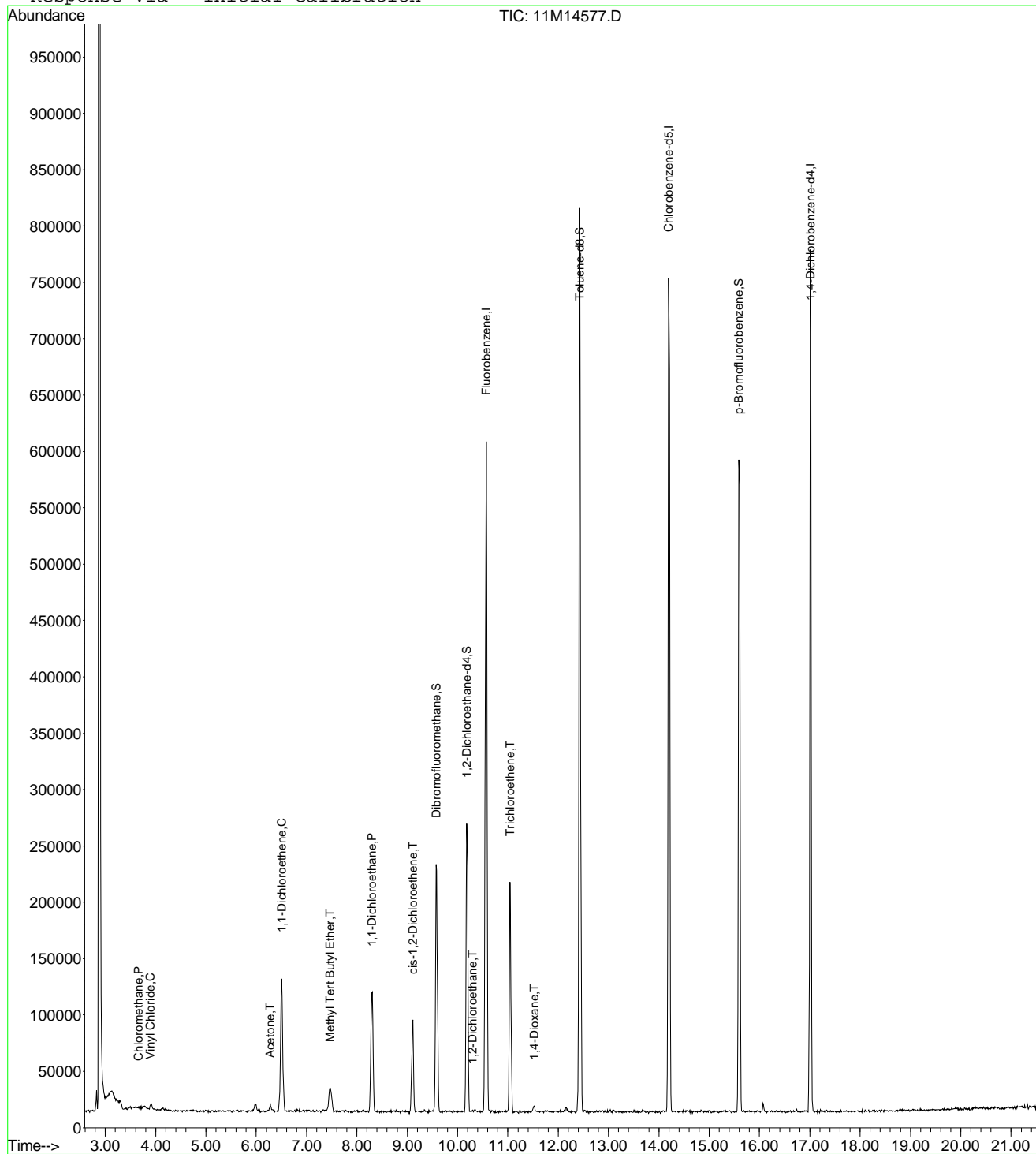
Page 1

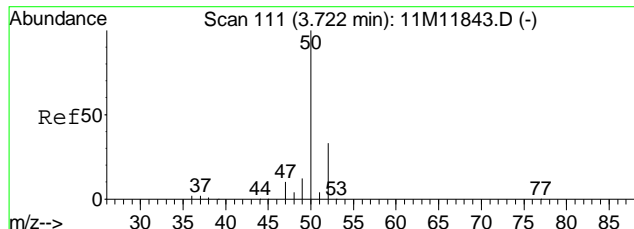
Data File : C:\MSDCHEM\1\DATA\101716\11M14577.D
 Acq On : 17 Oct 2016 21:49
 Sample : L16100409-13 A 826-LOW
 Misc : 1,1
 MS Integration Params: rteint.p
 Quant Time: Oct 18 14:47 2016

Vial: 19
 Operator: FJB
 Inst : hpms11
 Multiplr: 1.00

Quant Results File: 8260WT.RES

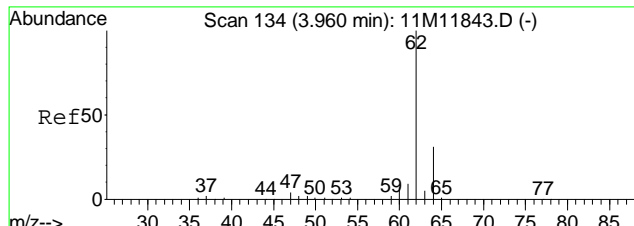
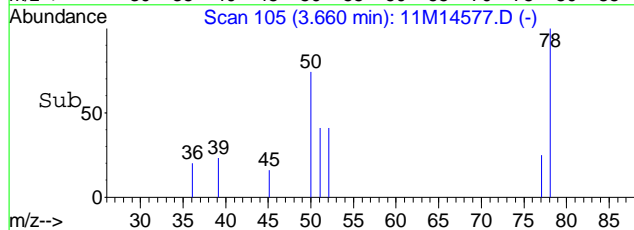
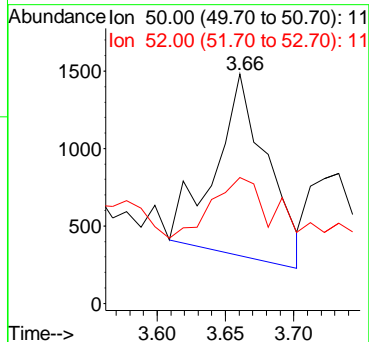
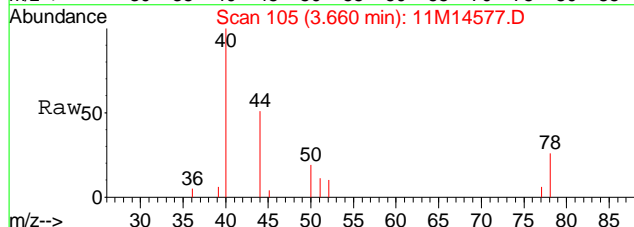
Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
 Last Update : Fri Oct 14 09:20:10 2016
 Response via : Initial Calibration





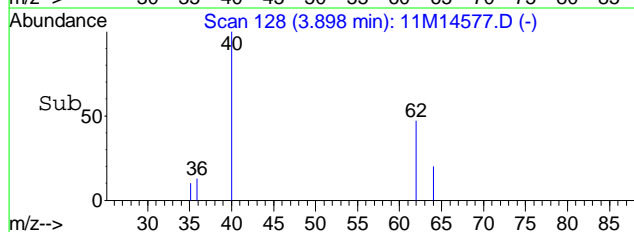
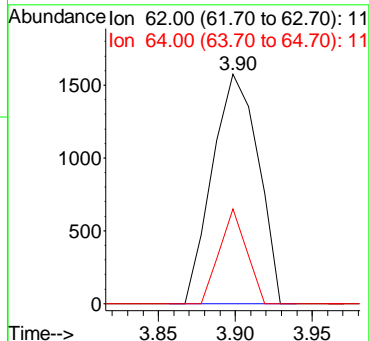
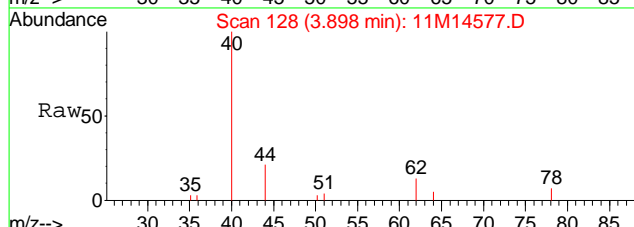
#3
 Chloromethane
 Concen: 0.25 ug/L
 RT: 3.66 min Scan# 105
 Delta R.T. 0.00 min
 Lab File: 11M14577.D
 Acq: 17 Oct 2016 21:49

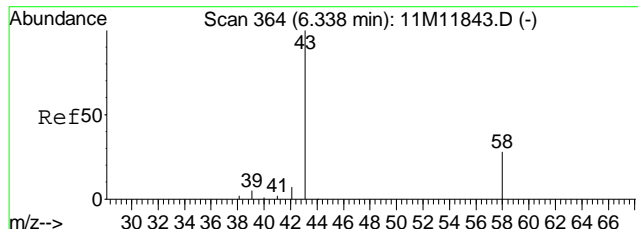
Tgt Ion	Resp	Lower	Upper
50	100		
52	45.8	18.4	42.8#



#4
 Vinyl Chloride
 Concen: 0.30 ug/L
 RT: 3.90 min Scan# 128
 Delta R.T. 0.00 min
 Lab File: 11M14577.D
 Acq: 17 Oct 2016 21:49

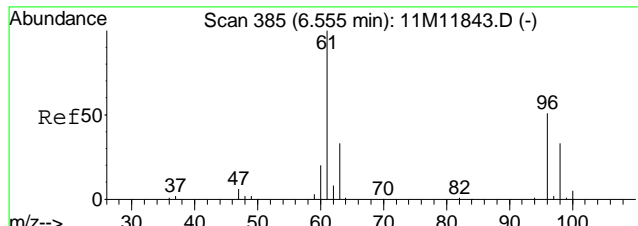
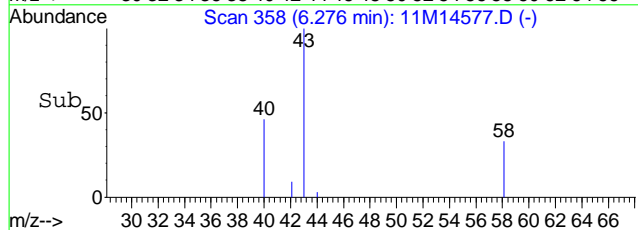
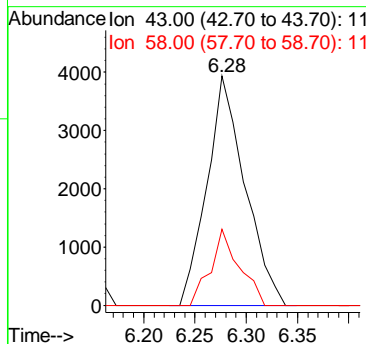
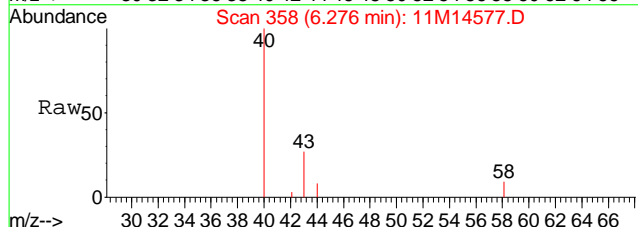
Tgt Ion	Resp	Lower	Upper
62	100		
64	24.4	18.2	42.6





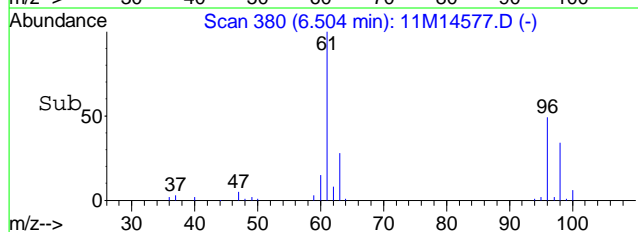
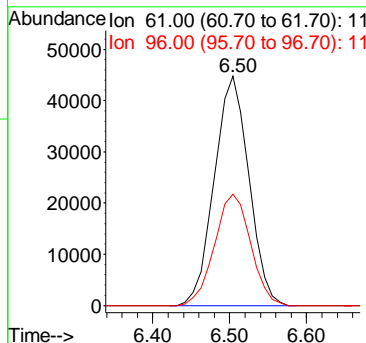
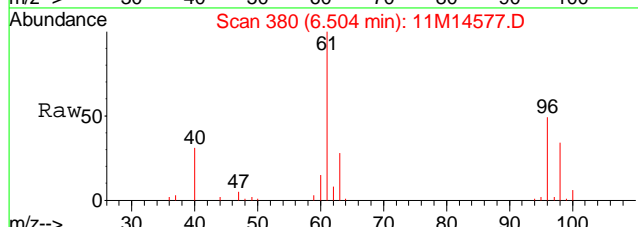
#13
 Acetone
 Concen: 4.01 ug/L
 RT: 6.28 min Scan# 358
 Delta R.T. 0.00 min
 Lab File: 11M14577.D
 Acq: 17 Oct 2016 21:49

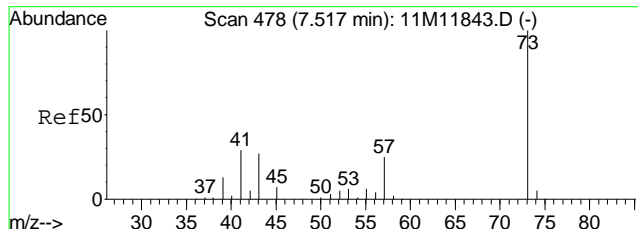
Tgt Ion	Ratio	Lower	Upper
43	100		
58	25.0	15.1	35.1



#14
 1,1-Dichloroethene
 Concen: 10.39 ug/L
 RT: 6.50 min Scan# 380
 Delta R.T. 0.01 min
 Lab File: 11M14577.D
 Acq: 17 Oct 2016 21:49

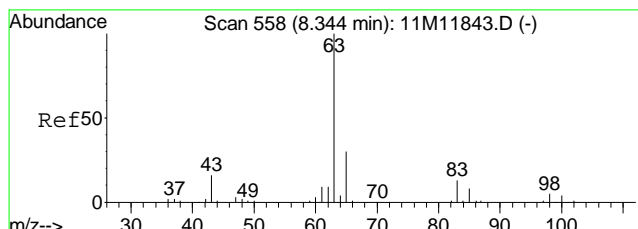
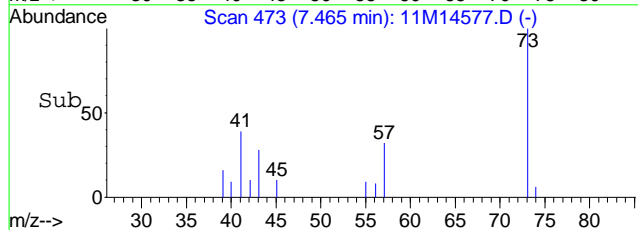
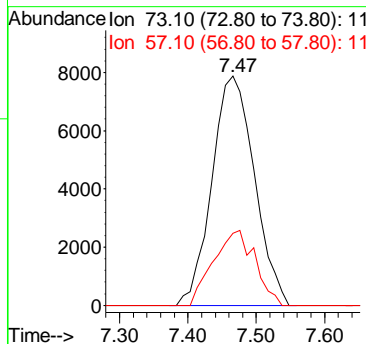
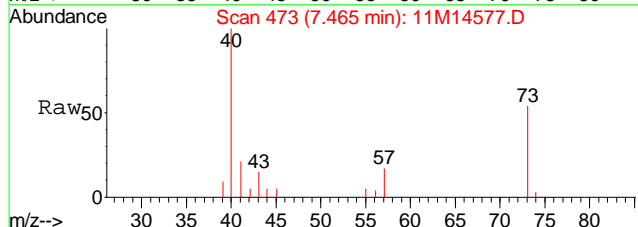
Tgt Ion	Ratio	Lower	Upper
61	100		
96	50.7	29.3	68.5





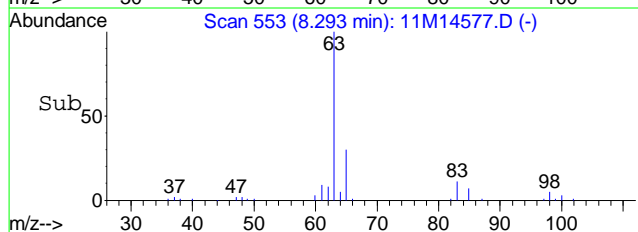
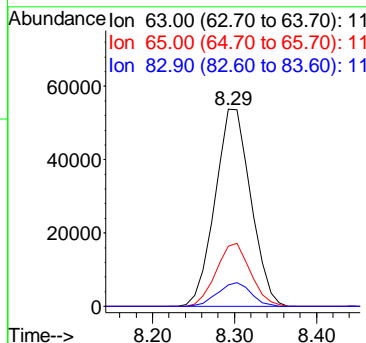
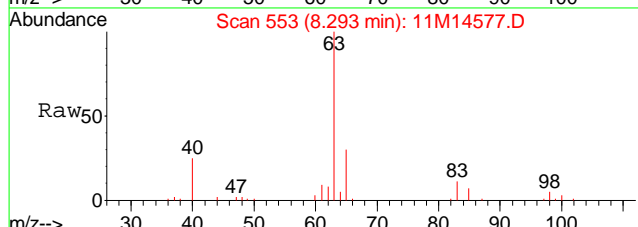
#22
Methyl Tert Butyl Ether
Concen: 1.81 ug/L
RT: 7.47 min Scan# 473
Delta R.T. 0.00 min
Lab File: 11M14577.D
Acq: 17 Oct 2016 21:49

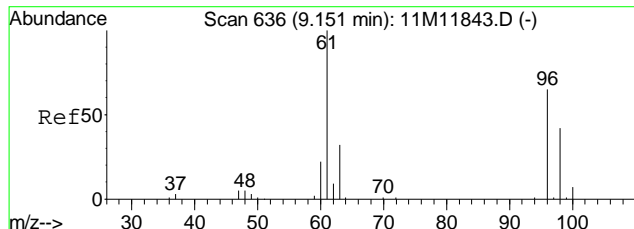
Tgt Ion	Resp	Lower	Upper
73	100		
57	31.9	18.5	43.1



#27
1,1-Dichloroethane
Concen: 10.43 ug/L
RT: 8.29 min Scan# 553
Delta R.T. 0.00 min
Lab File: 11M14577.D
Acq: 17 Oct 2016 21:49

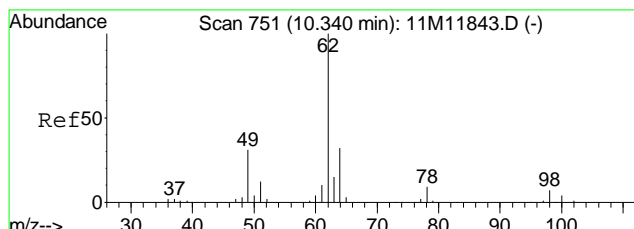
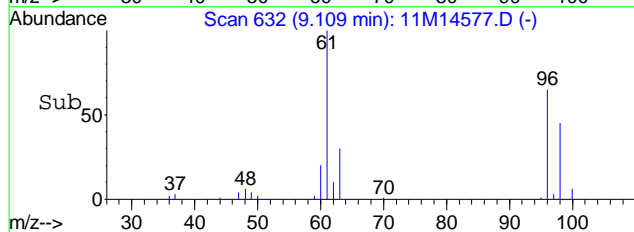
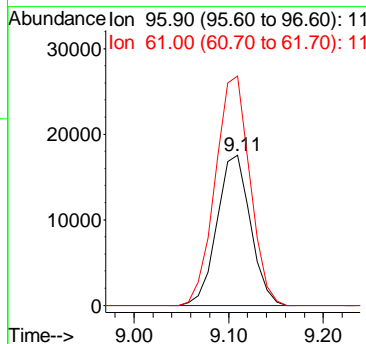
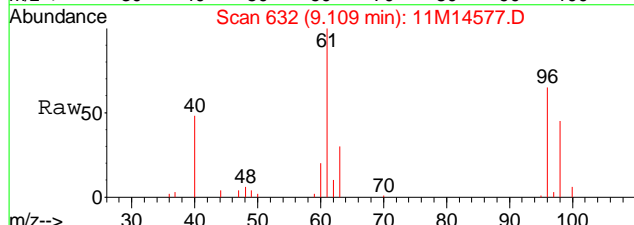
Tgt Ion	Resp	Lower	Upper
63	100		
65	30.7	18.4	43.0
83	11.4	6.8	16.0





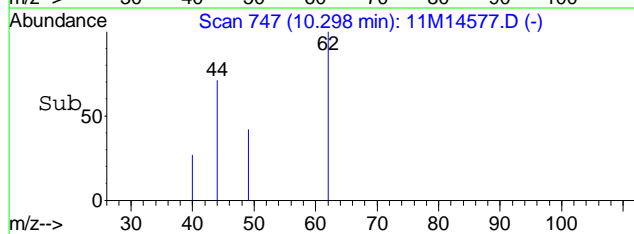
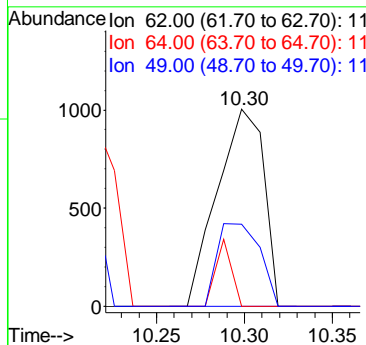
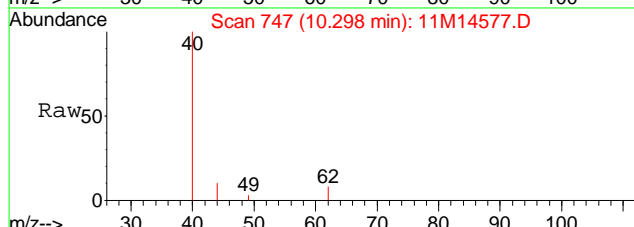
#32
 cis-1,2-Dichloroethene
 Concen: 5.09 ug/L
 RT: 9.11 min Scan# 632
 Delta R.T. 0.01 min
 Lab File: 11M14577.D
 Acq: 17 Oct 2016 21:49

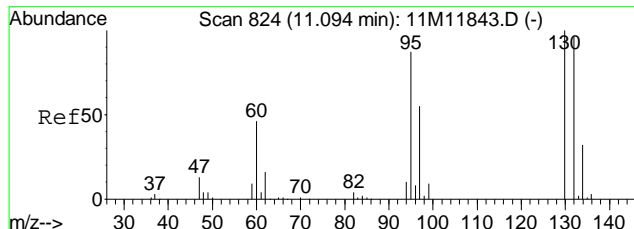
Tgt Ion	Resp	Lower	Upper
96	42801		
96	100		
61	158.4	107.5	250.7



#44
 1,2-Dichloroethane
 Concen: 0.16 ug/L
 RT: 10.30 min Scan# 747
 Delta R.T. 0.00 min
 Lab File: 11M14577.D
 Acq: 17 Oct 2016 21:49

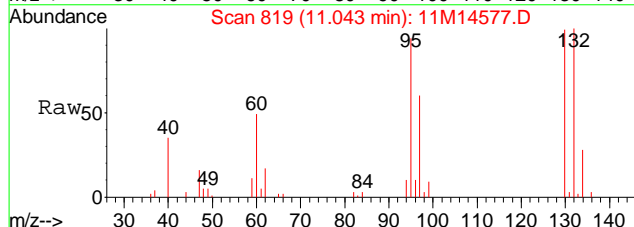
Tgt Ion	Resp	Lower	Upper
62	1845		
62	100		
64	11.5	18.6	43.4#
49	38.3	28.1	65.7



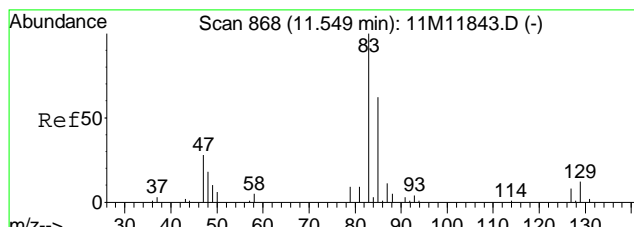
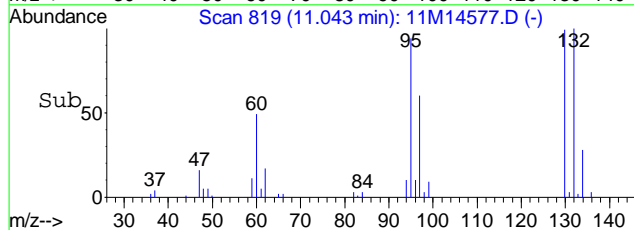
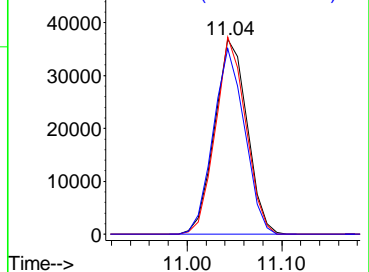


#46
 Trichloroethene
 Concen: 10.23 ug/L
 RT: 11.04 min Scan# 819
 Delta R.T. 0.00 min
 Lab File: 11M14577.D
 Acq: 17 Oct 2016 21:49

Tgt Ion	Resp	Lower	Upper
130	100		
132	94.2	58.4	136.4
95	92.0	58.0	135.4

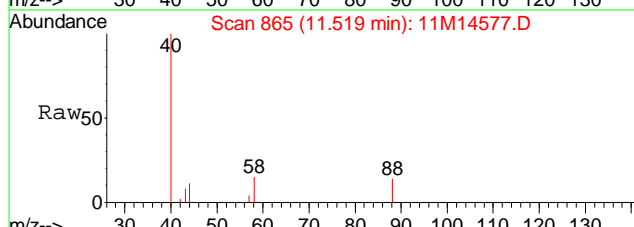


Abundance Ion 129.90 (129.60 to 130.60):
 50000 Ion 131.90 (131.60 to 132.60):
 40000 Ion 94.90 (94.60 to 95.60): 11

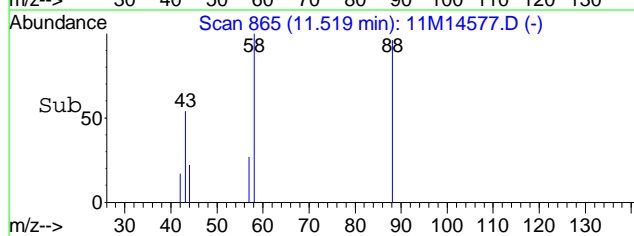
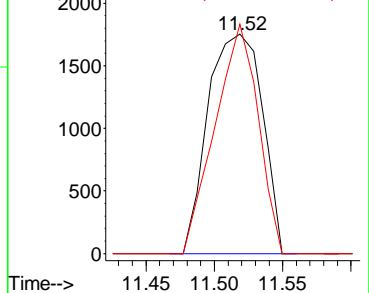


#49
 1,4-Dioxane
 Concen: 79.50 ug/L
 RT: 11.52 min Scan# 865
 Delta R.T. 0.01 min
 Lab File: 11M14577.D
 Acq: 17 Oct 2016 21:49

Tgt Ion	Resp	Lower	Upper
88	100		
58	82.8	51.5	120.3



Abundance Ion 88.00 (87.70 to 88.70): 11
 2000 Ion 58.00 (57.70 to 58.70): 11



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\101816\8M415571.D Vial: 16
 Acq On : 18 Oct 2016 15:52 Operator: TMB
 Sample : L16100409-14 A 826-LOW Inst : HPMS8
 Misc : 1,1 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Oct 19 10:02:34 2016

Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

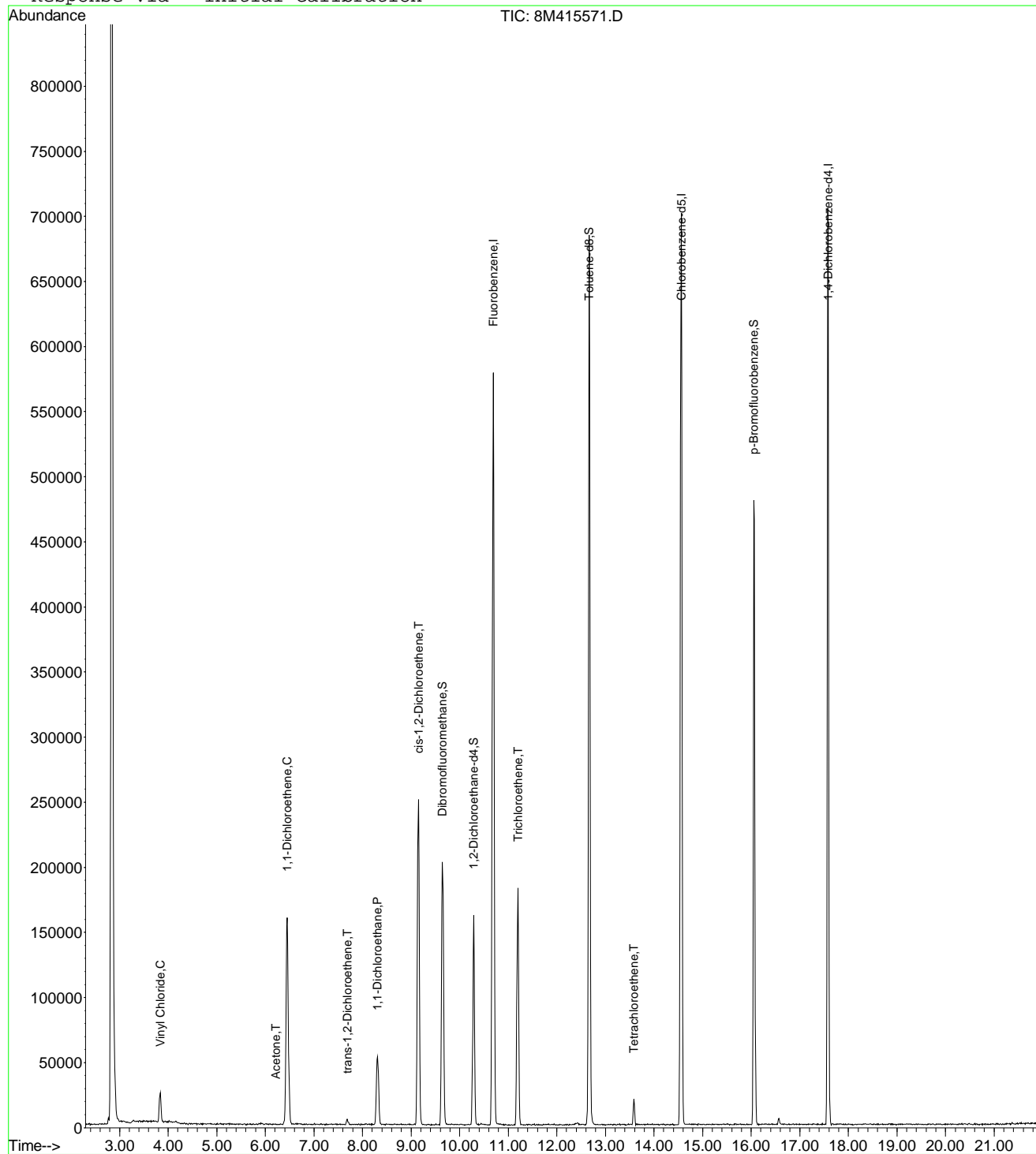
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.69	96	717379	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	503846	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.59	152	246460	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.65	111	167513	24.0788	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	96.32%	
43) 1,2-Dichloroethane-d4	10.29	65	138983	25.0102	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	100.04%	
58) Toluene-d8	12.67	98	625255	27.7075	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	110.84%#	
80) p-Bromofluorobenzene	16.06	95	203166	28.1324	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	112.52%	
Target Compounds						
4) Vinyl Chloride	3.84	62	32010	2.9354	ug/L	98
13) Acetone	6.21	43	210	0.3566	ug/L #	50
14) 1,1-Dichloroethene	6.45	61	176134	19.2435	ug/L	90
23) trans-1,2-Dichloroethene	7.69	61	3408	0.3907	ug/L	94
27) 1,1-Dichloroethane	8.31	63	78794	6.7514	ug/L	98
32) cis-1,2-Dichloroethene	9.15	96	152012	18.9681	ug/L	73
47) Trichloroethene	11.20	130	75203	9.0624	ug/L	96
66) Tetrachloroethene	13.59	164	6301	0.8996	ug/L	93

(#) = qualifier out of range (m) = manual integration
 8M415571.D 8260WT.M Wed Oct 19 10:02:37 2016

Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\101816\8M415571.D Vial: 16
Acq On : 18 Oct 2016 15:52 Operator: TMB
Sample : L16100409-14 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 19 10:02 2016 Quant Results File: 8260WT.RES

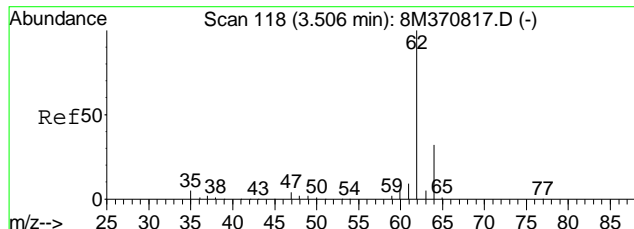
Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
Last Update : Mon Sep 12 12:00:33 2016
Response via : Initial Calibration



8M415571.D 8260WT.M

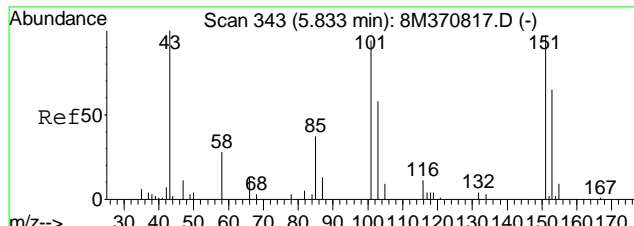
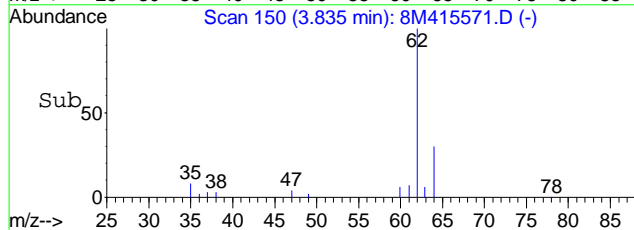
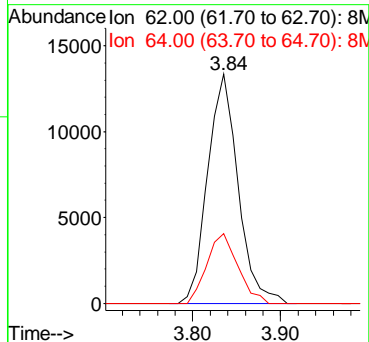
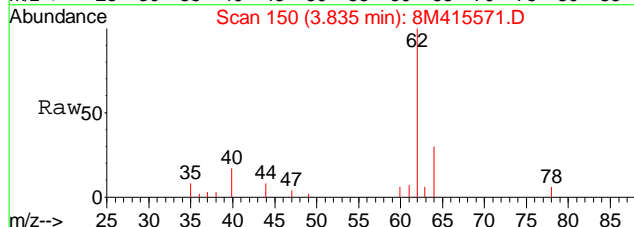
Wed Oct 19 10:02:38 2016

Page 2



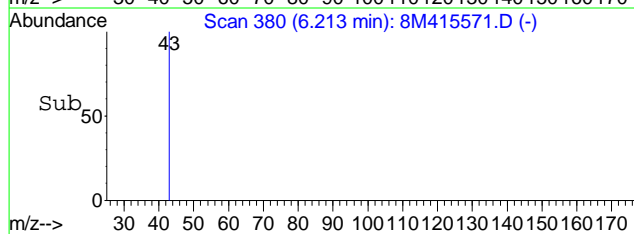
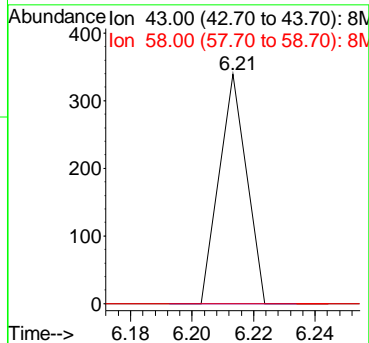
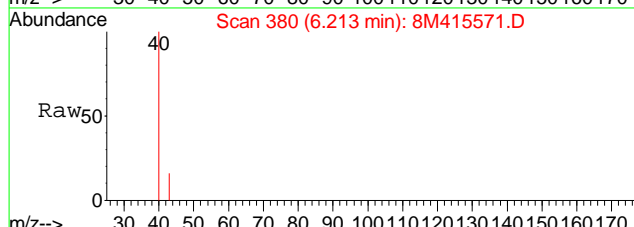
#4
 Vinyl Chloride
 Concen: 2.94 ug/L
 RT: 3.84 min Scan# 150
 Delta R.T. 0.01 min
 Lab File: 8M415571.D
 Acq: 18 Oct 2016 15:52

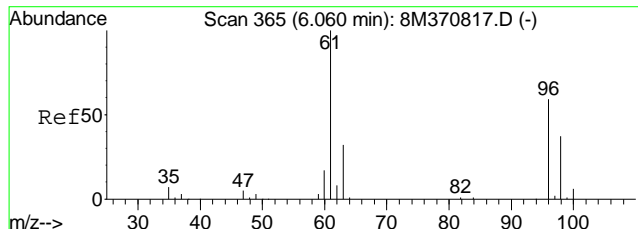
Tgt Ion	Ratio	Lower	Upper
62	100		
64	31.1	19.3	45.1



#13
 Acetone
 Concen: 0.36 ug/L
 RT: 6.21 min Scan# 380
 Delta R.T. -0.01 min
 Lab File: 8M415571.D
 Acq: 18 Oct 2016 15:52

Tgt Ion	Ratio	Lower	Upper
43	100		
58	0.0	15.2	35.4#

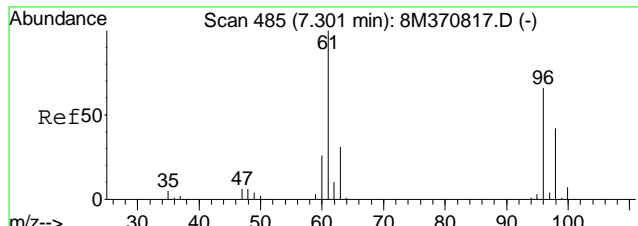
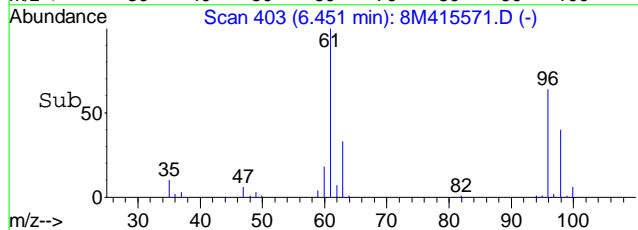
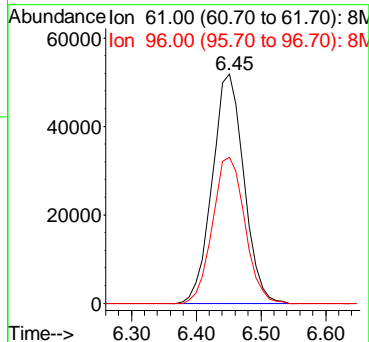
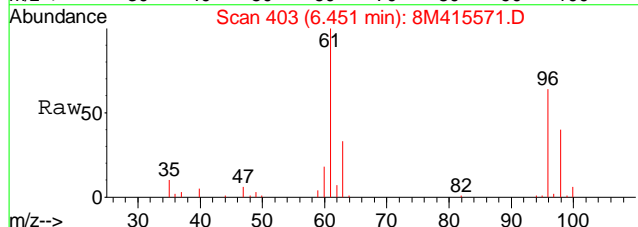




#14
 1,1-Dichloroethene
 Concen: 19.24 ug/L
 RT: 6.45 min Scan# 403
 Delta R.T. 0.01 min
 Lab File: 8M415571.D
 Acq: 18 Oct 2016 15:52

Tgt Ion: 61 Resp: 176134

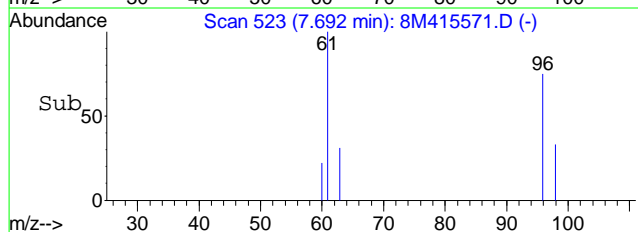
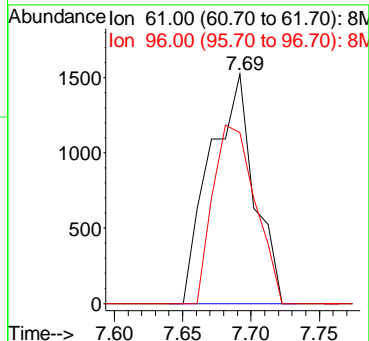
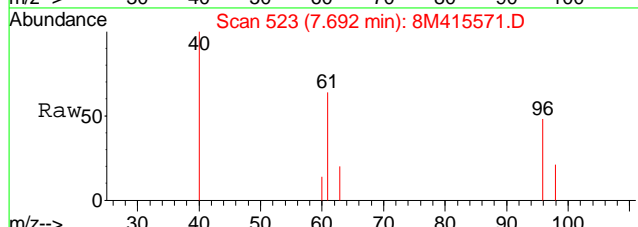
Ion	Ratio	Lower	Upper
61	100		
96	65.0	34.6	80.8

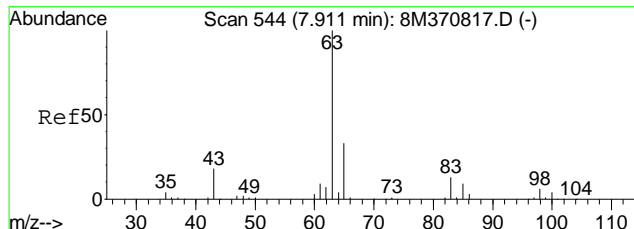


#23
 trans-1,2-Dichloroethene
 Concen: 0.39 ug/L
 RT: 7.69 min Scan# 523
 Delta R.T. 0.01 min
 Lab File: 8M415571.D
 Acq: 18 Oct 2016 15:52

Tgt Ion: 61 Resp: 3408

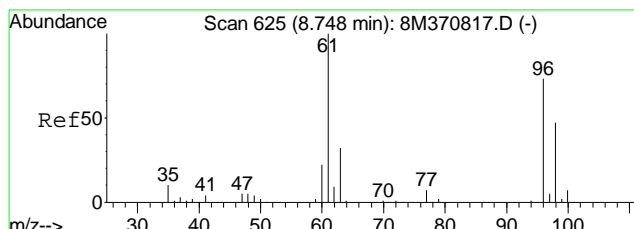
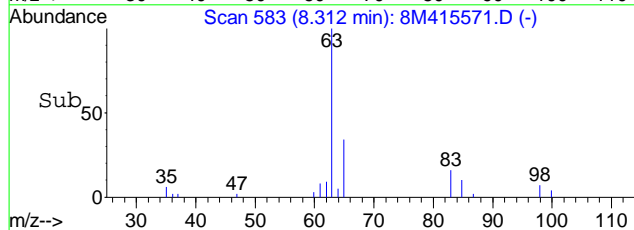
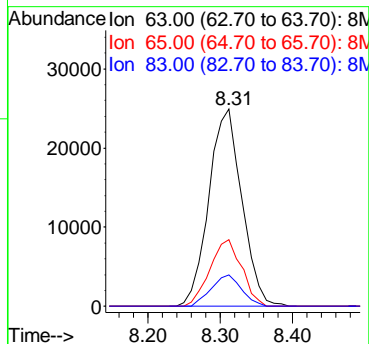
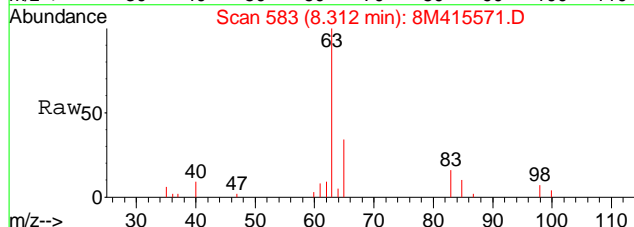
Ion	Ratio	Lower	Upper
61	100		
96	74.9	41.8	97.4





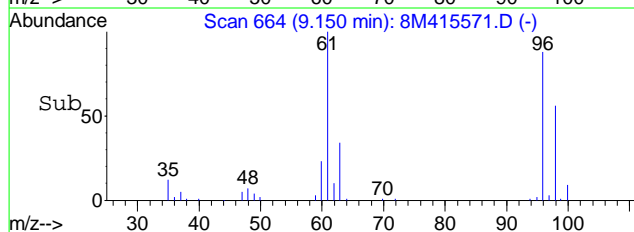
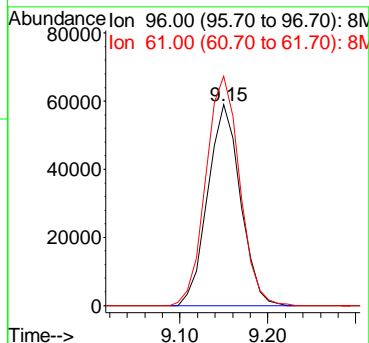
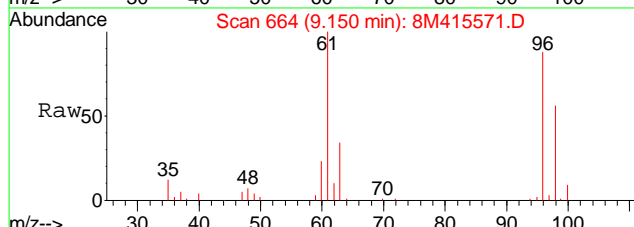
#27
 1,1-Dichloroethane
 Concen: 6.75 ug/L
 RT: 8.31 min Scan# 583
 Delta R.T. 0.01 min
 Lab File: 8M415571.D
 Acq: 18 Oct 2016 15:52

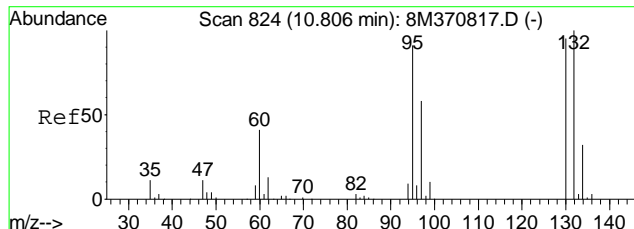
Tgt Ion	Resp	Lower	Upper
63	100		
65	32.5	20.2	47.0
83	14.6	9.1	21.1



#32
 cis-1,2-Dichloroethene
 Concen: 18.97 ug/L
 RT: 9.15 min Scan# 664
 Delta R.T. 0.00 min
 Lab File: 8M415571.D
 Acq: 18 Oct 2016 15:52

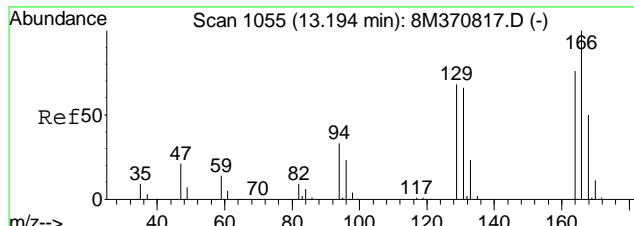
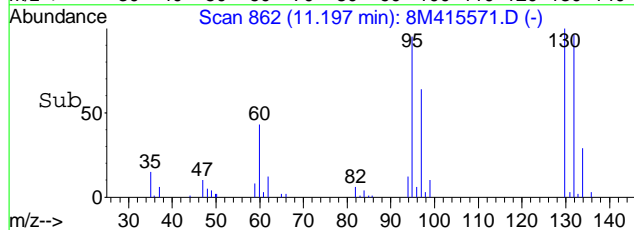
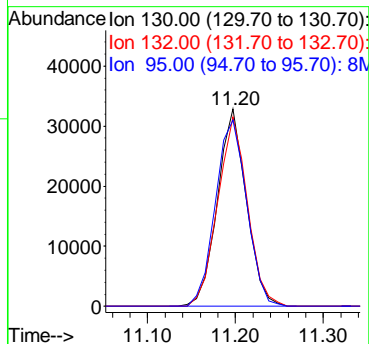
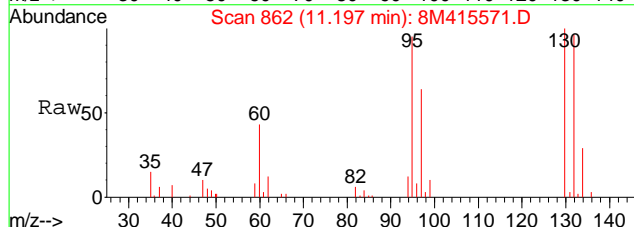
Tgt Ion	Resp	Lower	Upper
96	100		
61	118.2	91.5	213.5





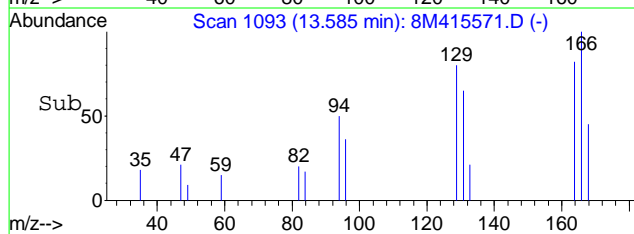
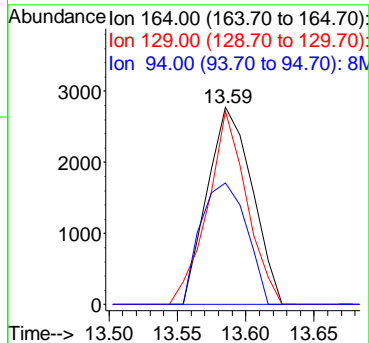
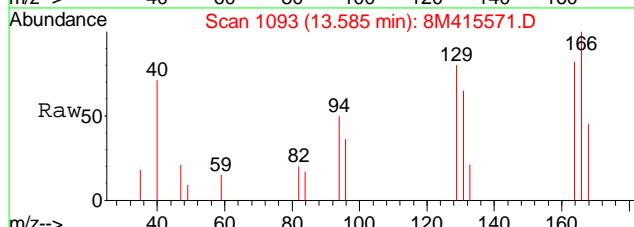
#47
 Trichloroethene
 Concen: 9.06 ug/L
 RT: 11.20 min Scan# 862
 Delta R.T. 0.00 min
 Lab File: 8M415571.D
 Acq: 18 Oct 2016 15:52

Tgt Ion	Resp	Lower	Upper
130	100		
132	98.9	58.0	135.2
95	102.2	64.9	151.5



#66
 Tetrachloroethene
 Concen: 0.90 ug/L
 RT: 13.59 min Scan# 1093
 Delta R.T. 0.00 min
 Lab File: 8M415571.D
 Acq: 18 Oct 2016 15:52

Tgt Ion	Resp	Lower	Upper
164	100		
129	85.9	56.6	132.2
94	63.5	40.7	95.1



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\101816\8M415572.D Vial: 17
 Acq On : 18 Oct 2016 16:21 Operator: TMB
 Sample : L16100409-15 A 826-LOW Inst : HPMS8
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Oct 19 10:02:41 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

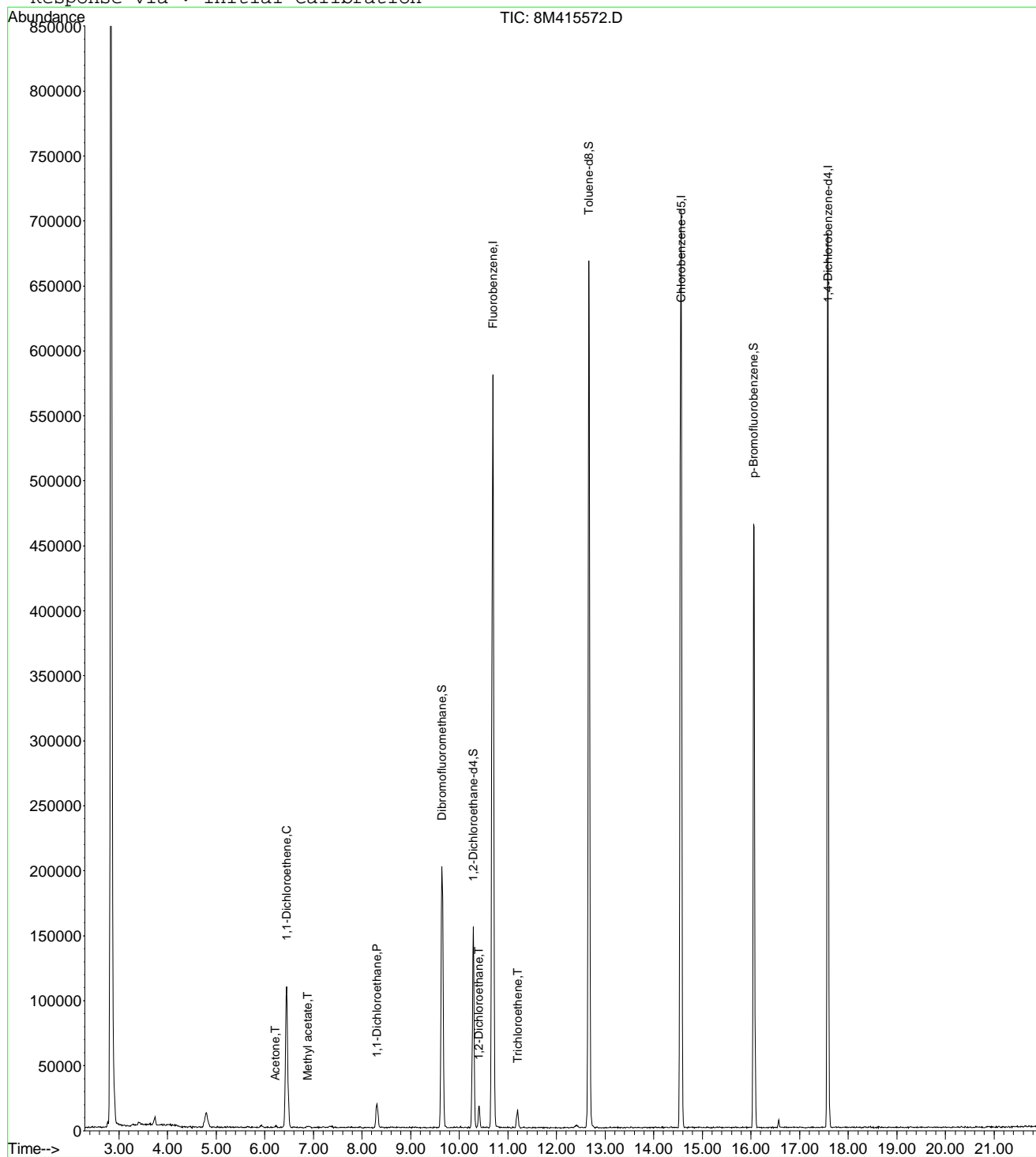
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.69	96	714804	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	501941	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.59	152	243824	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.65	111	168388	24.2918	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	97.16%	
43) 1,2-Dichloroethane-d4	10.29	65	133787	24.1619	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	96.64%	
58) Toluene-d8	12.66	98	622082	27.6716	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	110.68%#	
80) p-Bromofluorobenzene	16.06	95	200303	28.0358	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	112.16%	
Target Compounds						
13) Acetone	6.21	43	2456	4.1860	ug/L #	69
14) 1,1-Dichloroethene	6.45	61	117800	12.9166	ug/L	91
18) Methyl acetate	6.89	43	1586	0.8726	ug/L #	54
27) 1,1-Dichloroethane	8.31	63	28123	2.4184	ug/L	96
45) 1,2-Dichloroethane	10.40	62	19862	2.7384	ug/L	97
47) Trichloroethene	11.20	130	6236	0.7542	ug/L	96

(#) = qualifier out of range (m) = manual integration
 8M415572.D 8260WT.M Wed Oct 19 10:02:44 2016

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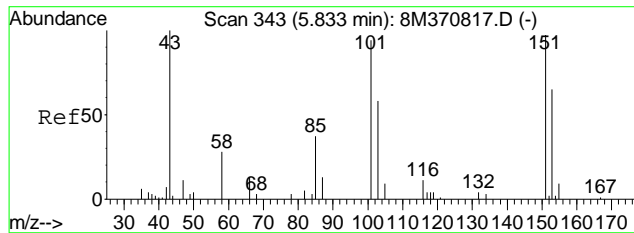
Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\101816\8M415572.D Vial: 17
Acq On : 18 Oct 2016 16:21 Operator: TMB
Sample : L16100409-15 A 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 19 10:02 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
Last Update : Mon Sep 12 12:00:33 2016
Response via : Initial Calibration



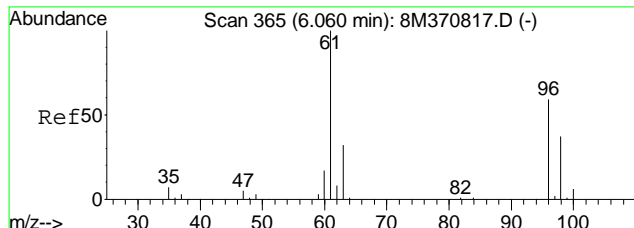
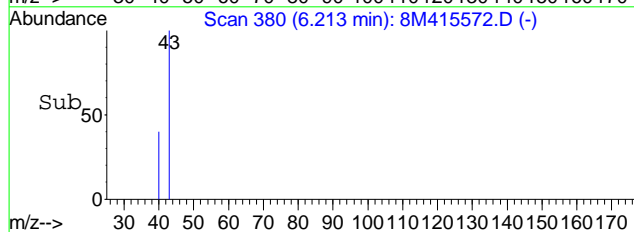
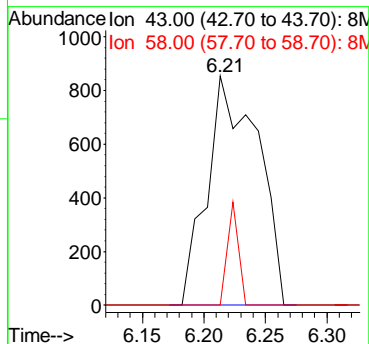
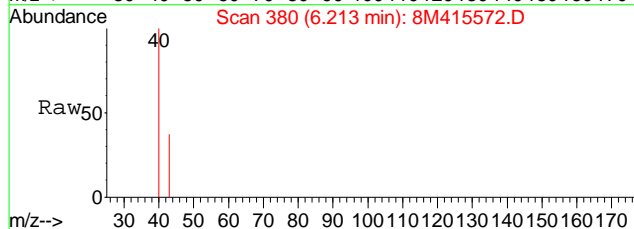
8M415572.D 8260WT.M Wed Oct 19 10:02:45 2016

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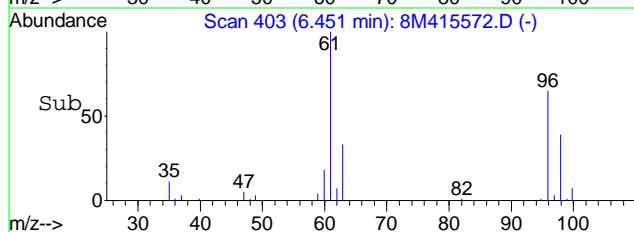
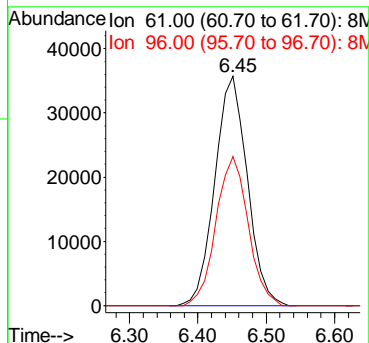
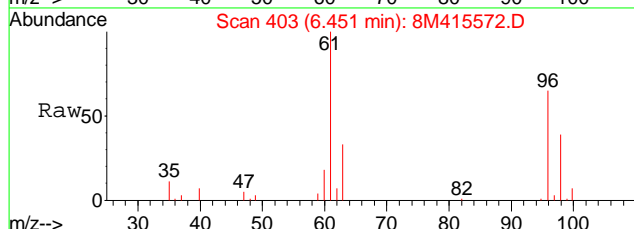
#13
 Acetone
 Concen: 4.19 ug/L
 RT: 6.21 min Scan# 380
 Delta R.T. -0.01 min
 Lab File: 8M415572.D
 Acq: 18 Oct 2016 16:21

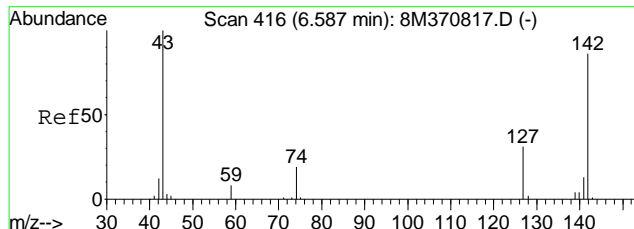
Tgt Ion: 43 Resp: 2456
 Ion Ratio Lower Upper
 43 100
 58 9.7 15.2 35.4#



#14
 1,1-Dichloroethene
 Concen: 12.92 ug/L
 RT: 6.45 min Scan# 403
 Delta R.T. 0.01 min
 Lab File: 8M415572.D
 Acq: 18 Oct 2016 16:21

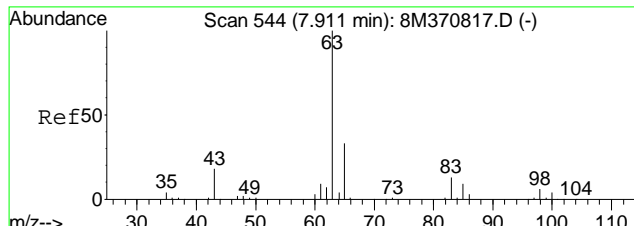
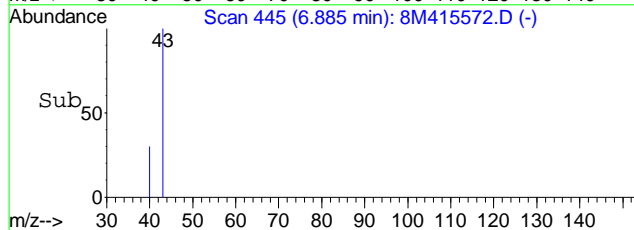
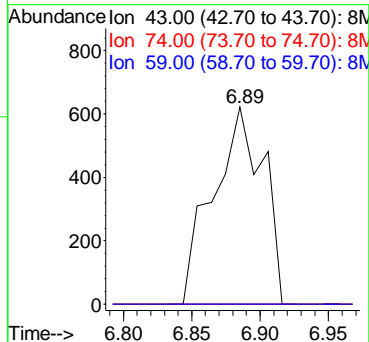
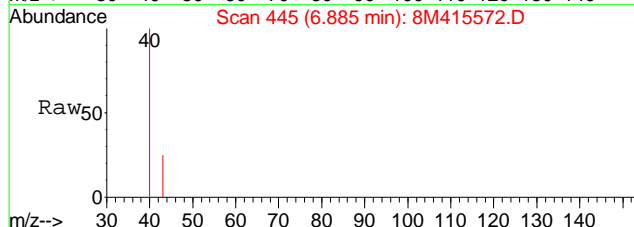
Tgt Ion: 61 Resp: 117800
 Ion Ratio Lower Upper
 61 100
 96 64.4 34.6 80.8





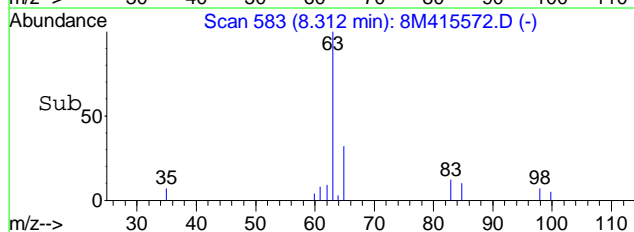
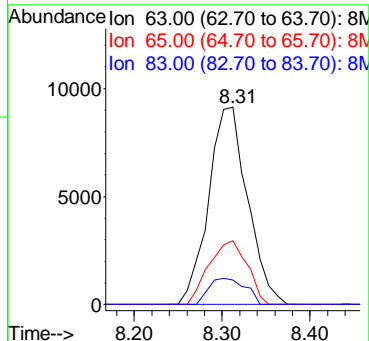
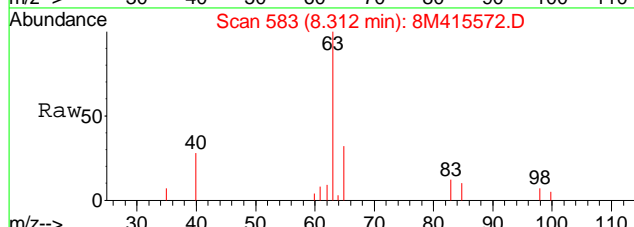
#18
Methyl acetate
Concen: 0.87 ug/L
RT: 6.89 min Scan# 445
Delta R.T. -0.09 min
Lab File: 8M415572.D
Acq: 18 Oct 2016 16:21

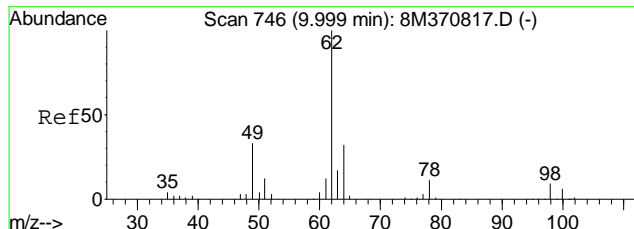
Tgt Ion	Ratio	Lower	Upper
43	100		
74	0.0	16.8	39.2#
59	0.0	6.1	14.1#



#27
1,1-Dichloroethane
Concen: 2.42 ug/L
RT: 8.31 min Scan# 583
Delta R.T. 0.01 min
Lab File: 8M415572.D
Acq: 18 Oct 2016 16:21

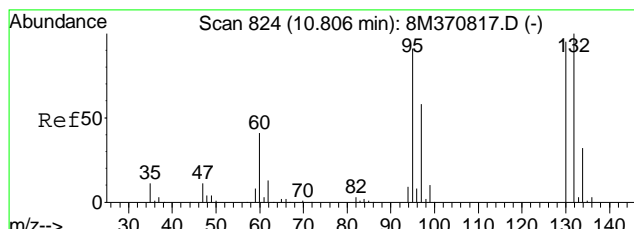
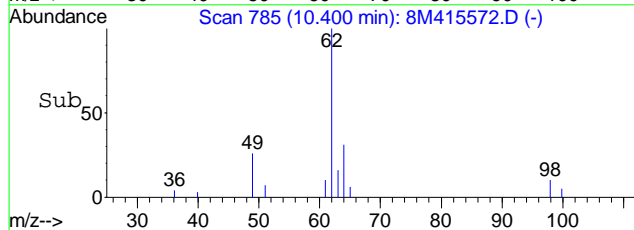
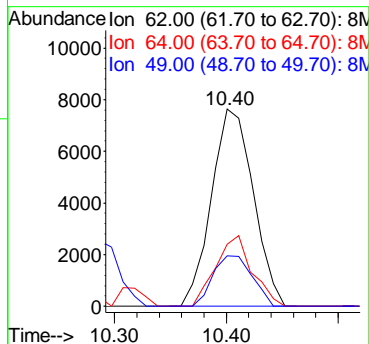
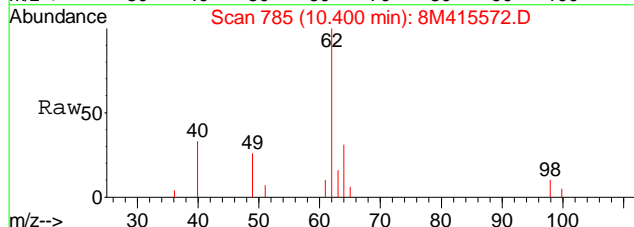
Tgt Ion	Ratio	Lower	Upper
63	100		
65	31.9	20.2	47.0
83	12.4	9.1	21.1





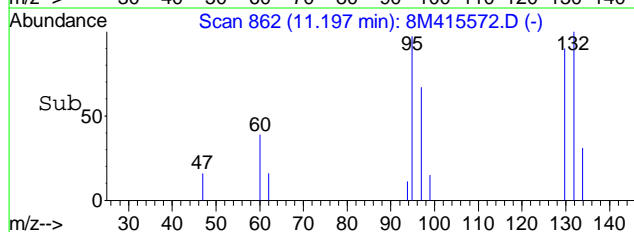
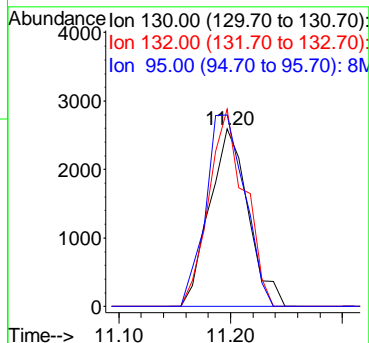
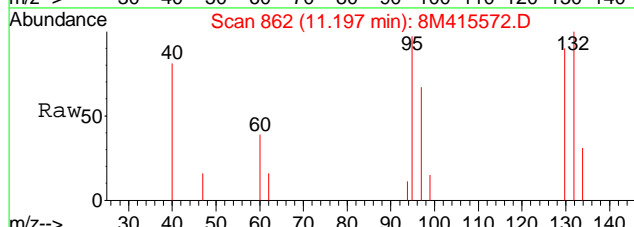
#45
 1,2-Dichloroethane
 Concen: 2.74 ug/L
 RT: 10.40 min Scan# 785
 Delta R.T. 0.00 min
 Lab File: 8M415572.D
 Acq: 18 Oct 2016 16:21

Tgt Ion	Resp	Lower	Upper
62	100		
64	31.2	19.6	45.6
49	24.0	15.5	36.1



#47
 Trichloroethene
 Concen: 0.75 ug/L
 RT: 11.20 min Scan# 862
 Delta R.T. 0.00 min
 Lab File: 8M415572.D
 Acq: 18 Oct 2016 16:21

Tgt Ion	Resp	Lower	Upper
130	100		
132	103.8	58.0	135.2
95	109.5	64.9	151.5



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\101816\8M415568.D Vial: 13
 Acq On : 18 Oct 2016 14:25 Operator: TMB
 Sample : L16100409-16 A TB 826-LOW Inst : HPMS8
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Oct 19 10:02:14 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.69	96	832045	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	610795	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.59	152	319718	25.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.65	111	199324	24.7029	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery =	98.80%		
43) 1,2-Dichloroethane-d4	10.29	65	152859	23.7164	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery =	94.88%		
58) Toluene-d8	12.66	98	717812	26.2394	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery =	104.96%		
80) p-Bromofluorobenzene	16.06	95	237893	25.3932	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery =	101.56%		

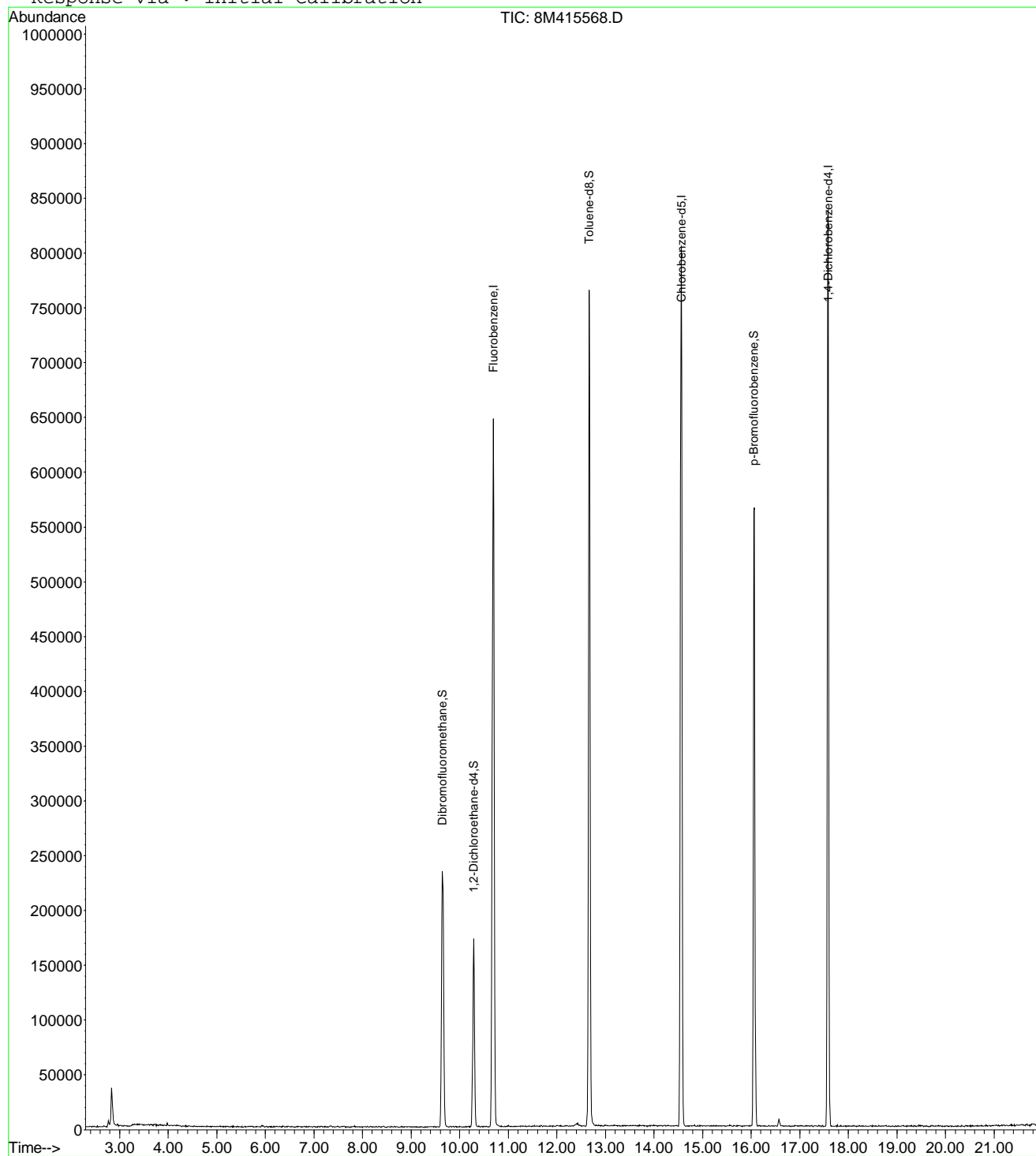
Target Compounds Qvalue

 (#) = qualifier out of range (m) = manual integration
 8M415568.D 8260WT.M Wed Oct 19 10:02:17 2016

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Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\101816\8M415568.D Vial: 13
Acq On : 18 Oct 2016 14:25 Operator: TMB
Sample : L16100409-16 A TB 826-LOW Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 19 10:02 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
Last Update : Mon Sep 12 12:00:33 2016
Response via : Initial Calibration



8M415568.D 8260WT.M

Wed Oct 19 10:02:17 2016

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2.1.1.4 Standards Data

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	R.T.	QIon	Response	Conc	Units	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

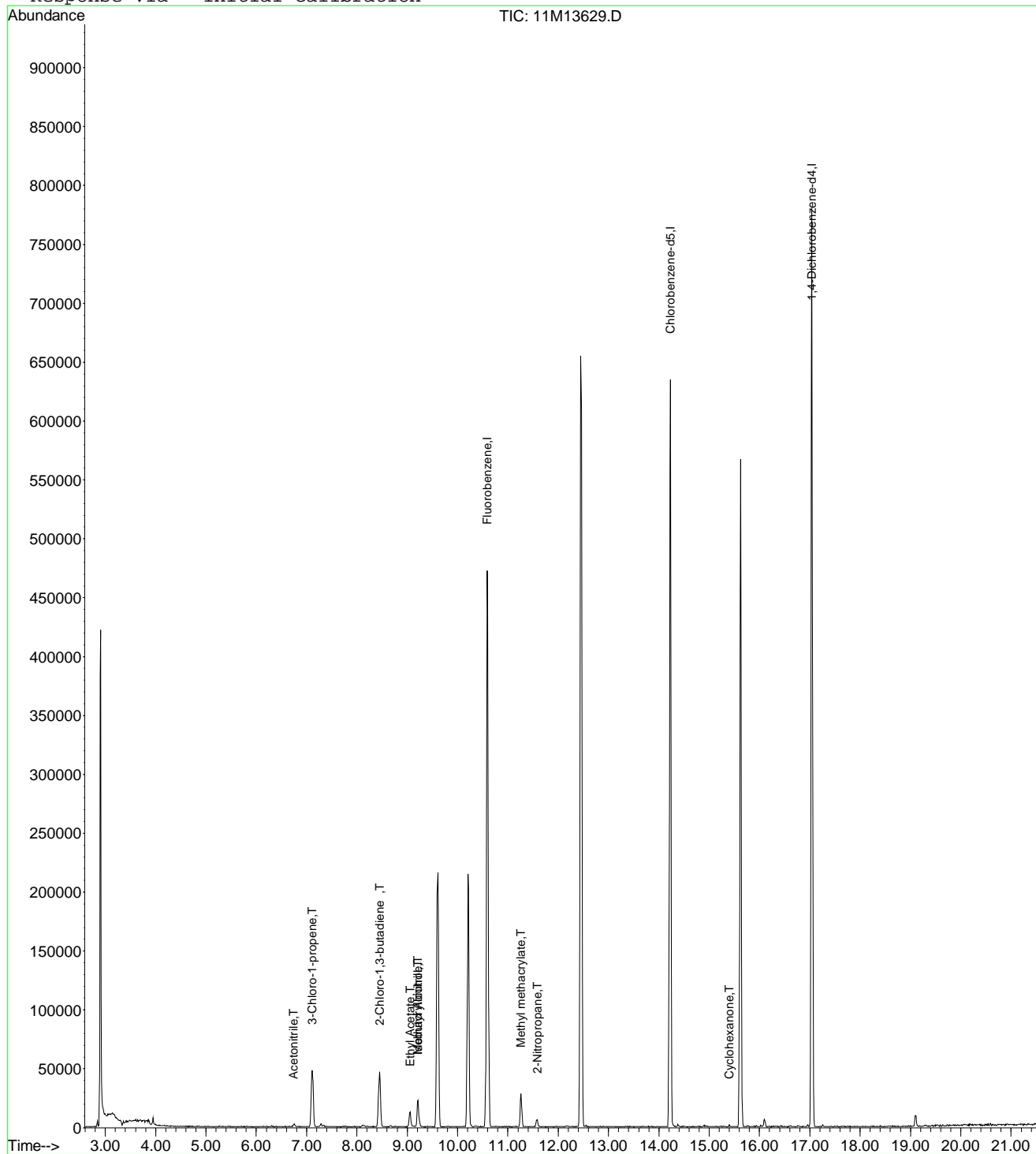
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Data File : C:\MSDCHEM\1\DATA\081516\11M13629.D
 Acq On : 15 Aug 2016 15:17
 Sample : WG580279-02 5ug/L ICAL STD 8260-A9
 Misc : 1,1 STD77502
 MS Integration Params: rteint.p
 Quant Time: Aug 16 8:48 2016

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

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
 Last Update : Tue Aug 16 08:47:42 2016
 Response via : Initial Calibration



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	R.T.	QIon	Response	Conc	Units	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

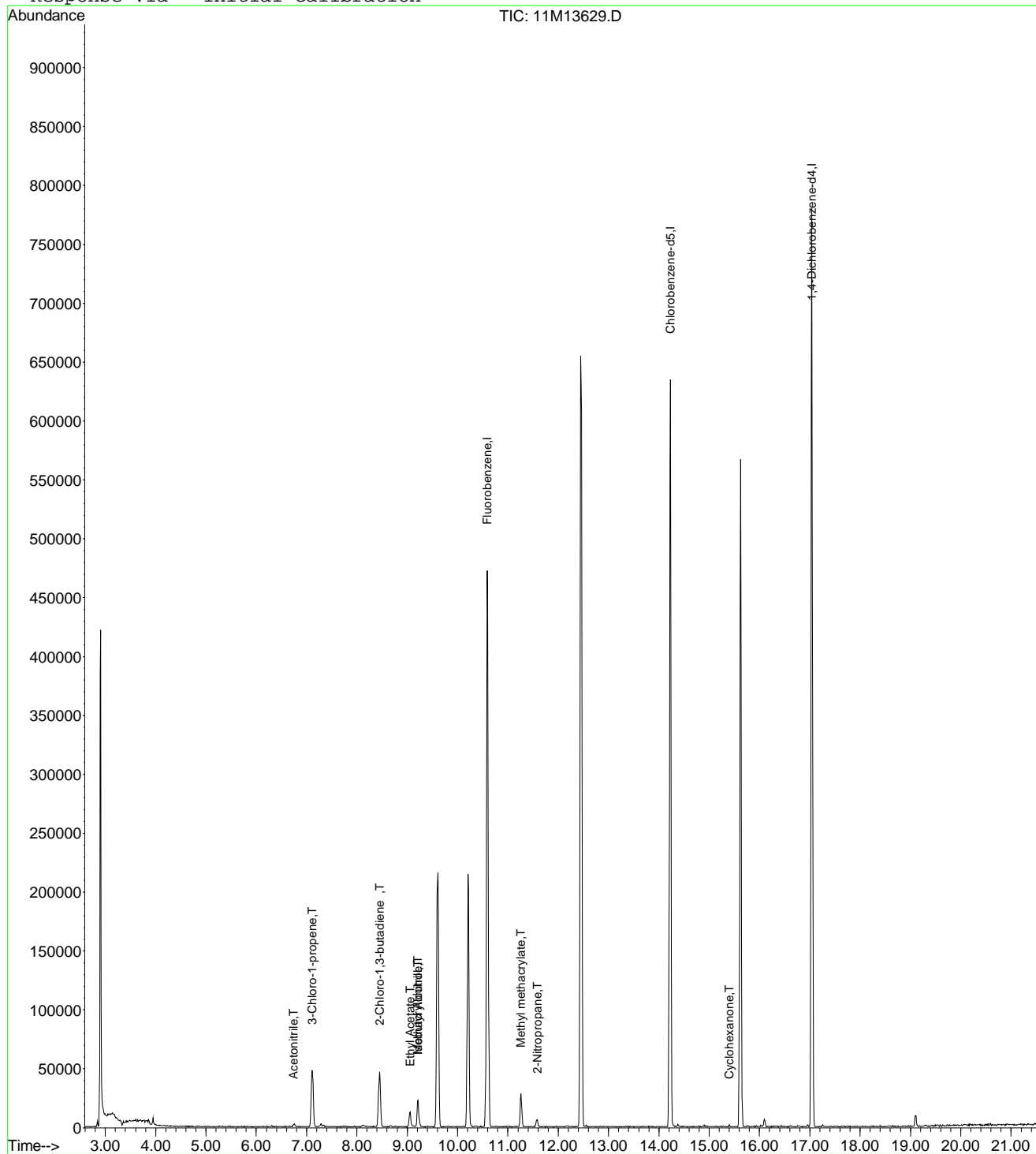
Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13629.D
 Acq On : 15 Aug 2016 15:17
 Sample : WG580279-02 5ug/L ICAL STD 8260-A9
 Misc : 1,1 STD77502
 MS Integration Params: rteint.p
 Quant Time: Aug 16 8:59 2016

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

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
 Last Update : Tue Aug 16 08:51:14 2016
 Response via : Initial Calibration



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	R.T.	QIon	Response	Conc	Units	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

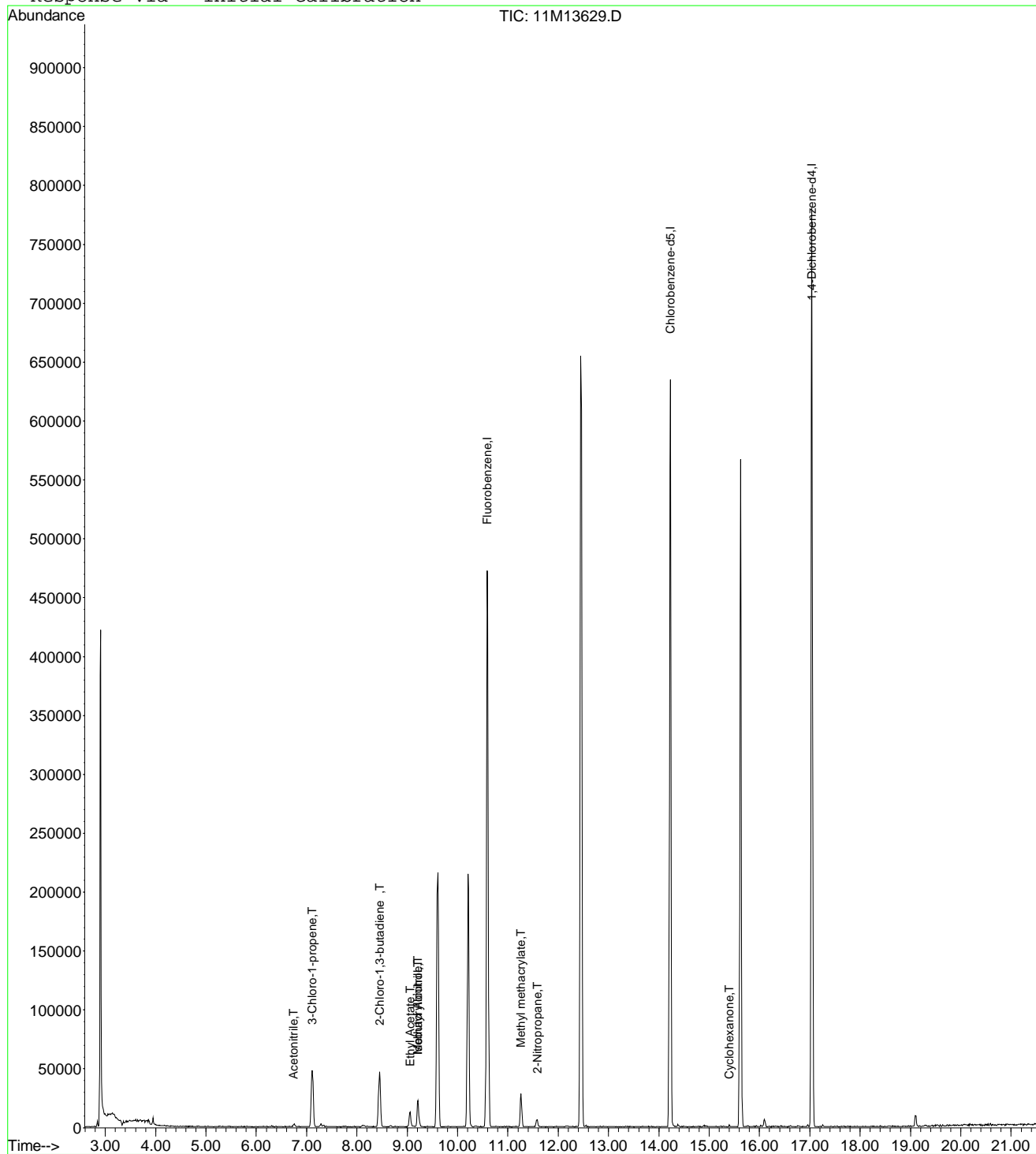
Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13629.D
 Acq On : 15 Aug 2016 15:17
 Sample : WG580279-02 5ug/L ICAL STD 8260-A9
 Misc : 1,1 STD77502
 MS Integration Params: rteint.p
 Quant Time: Aug 16 9:05 2016

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

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
 Last Update : Tue Aug 16 08:51:14 2016
 Response via : Initial Calibration



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	R.T.	QIon	Response	Conc	Units	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

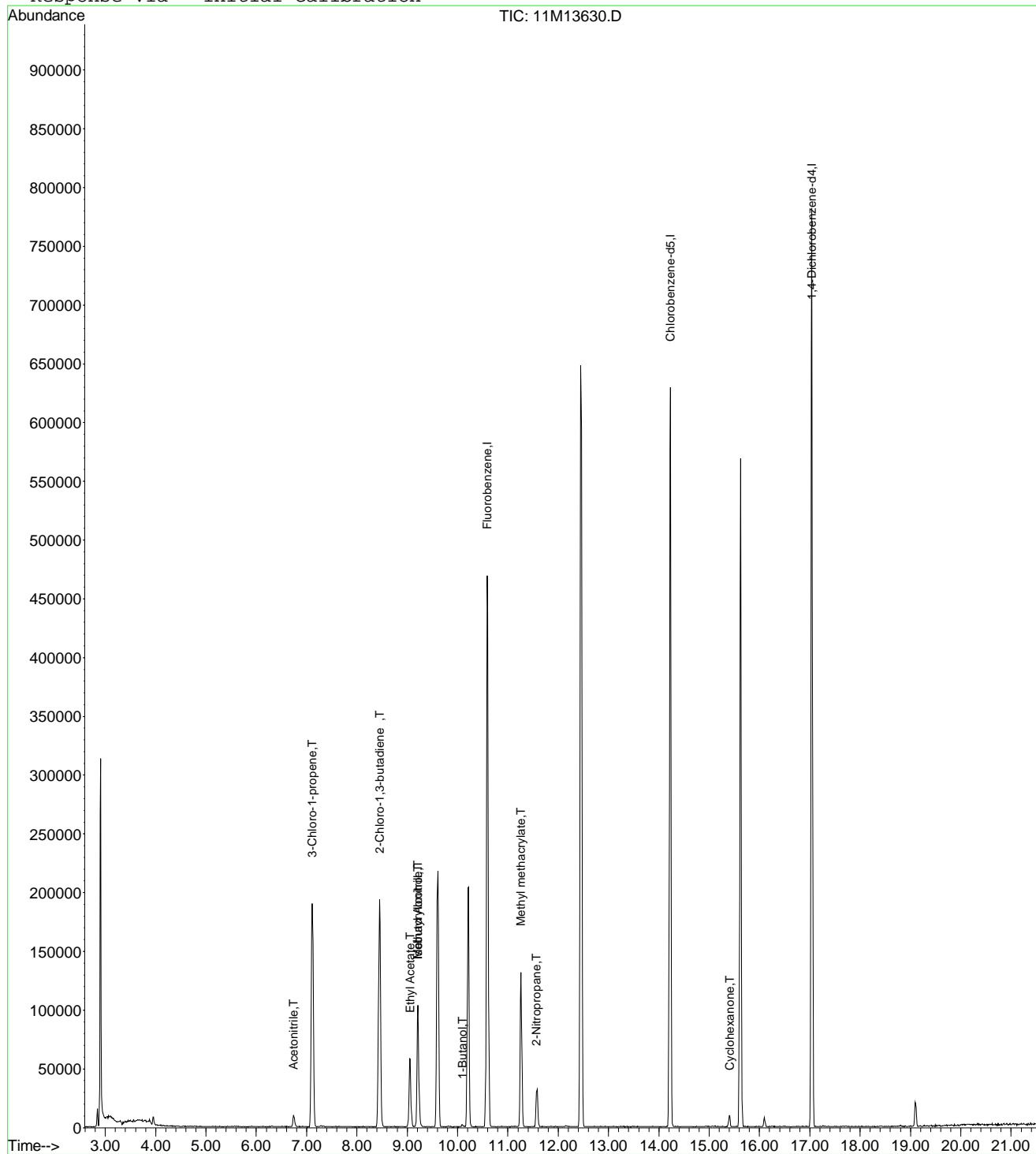
Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13630.D
Acq On : 15 Aug 2016 15:46
Sample : WG580279-03 20ug/L ICAL STD 8260-A9
Misc : 1,1 STD77502
MS Integration Params: rteint.p
Quant Time: Aug 16 8:48 2016

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

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:47:42 2016
Response via : Initial Calibration



11M13630.D A9FOOWT.M

Tue Aug 16 08:48:35 2016

Page 2

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	R.T.	QIon	Response	Conc	Units	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

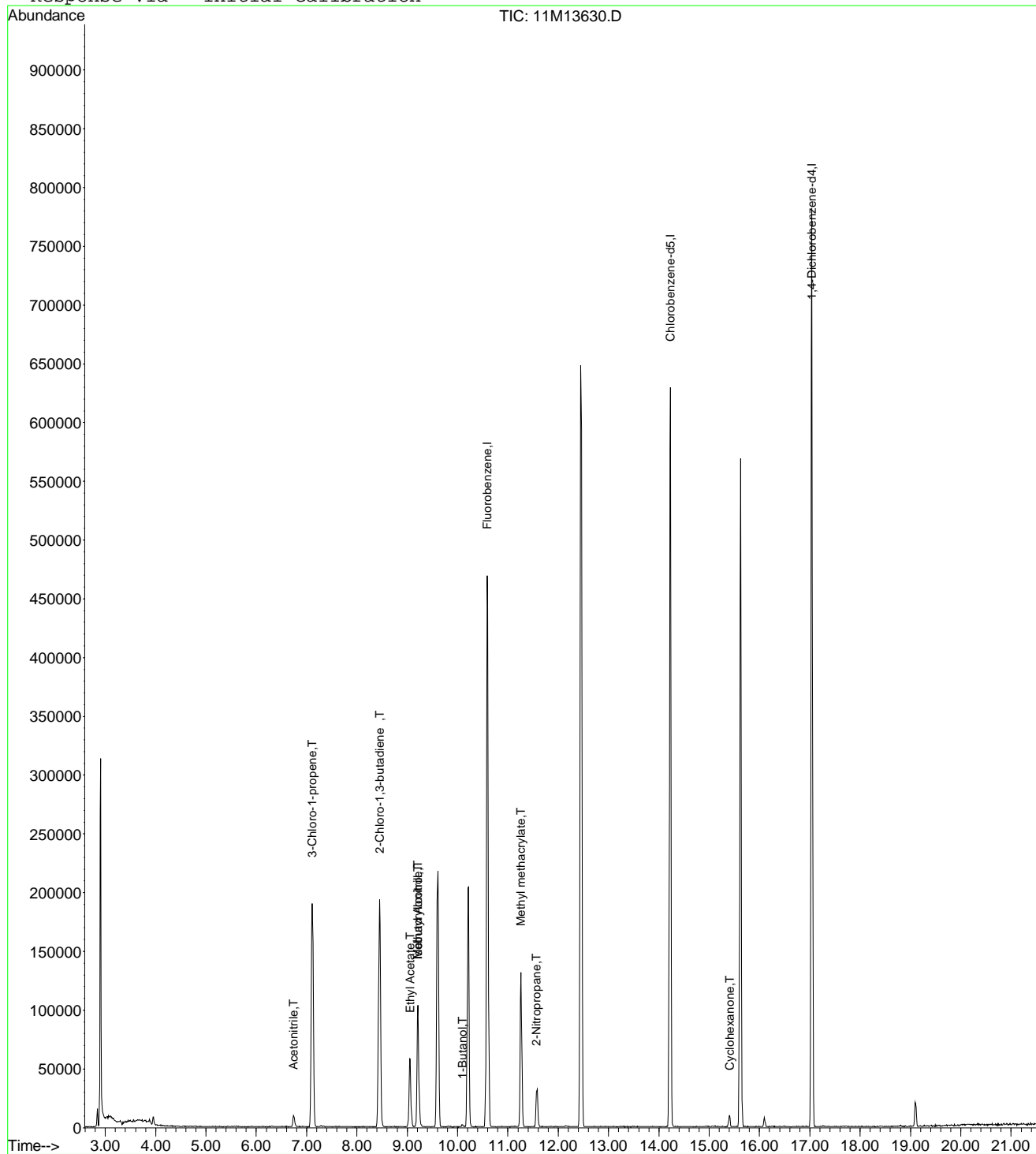
Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13630.D
 Acq On : 15 Aug 2016 15:46
 Sample : WG580279-03 20ug/L ICAL STD 8260-A9
 Misc : 1,1 STD77502
 MS Integration Params: rteint.p
 Quant Time: Aug 16 8:59 2016

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

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
 Last Update : Tue Aug 16 08:51:14 2016
 Response via : Initial Calibration



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	R.T.	QIon	Response	Conc	Units	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

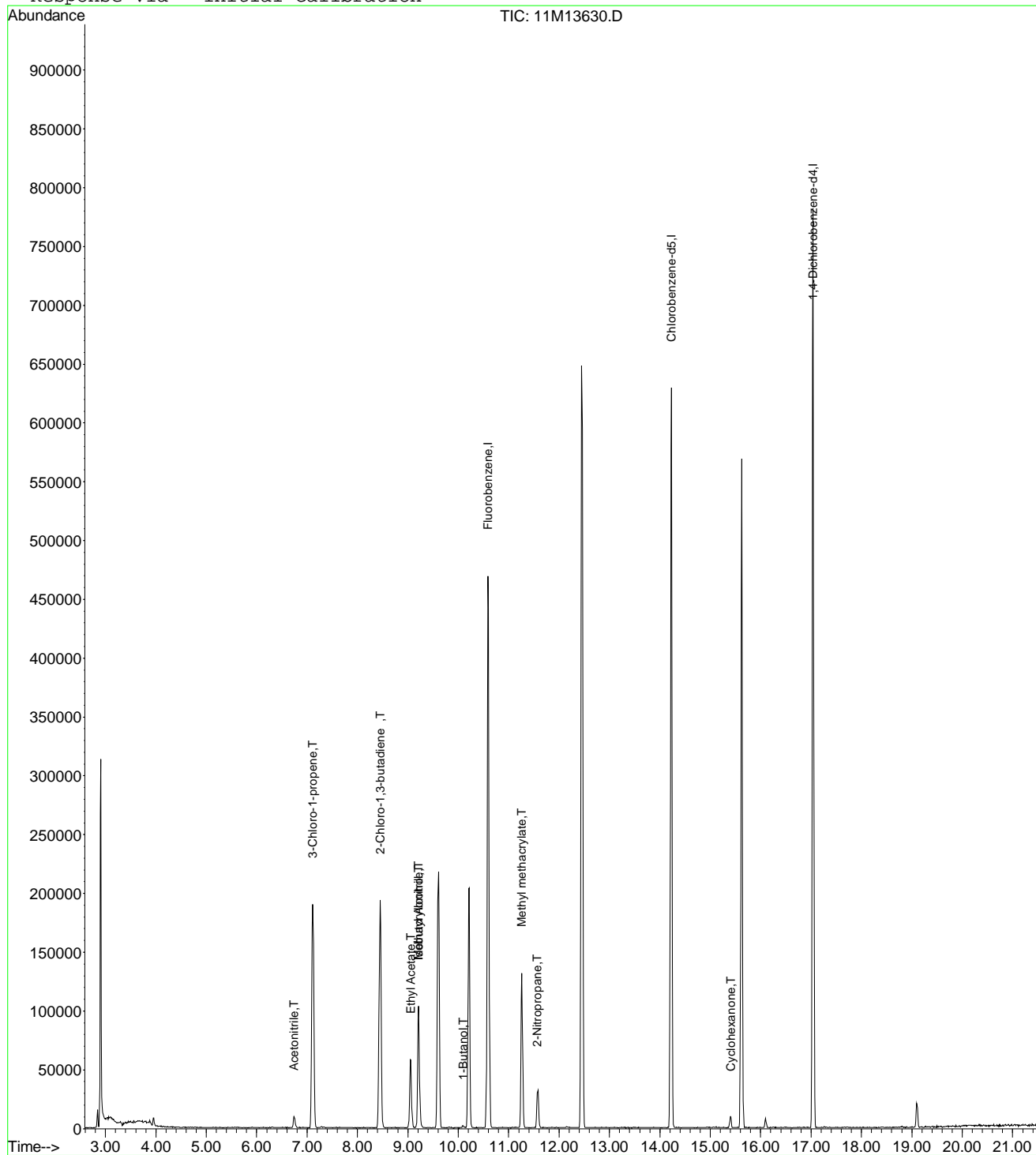
Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13630.D
Acq On : 15 Aug 2016 15:46
Sample : WG580279-03 20ug/L ICAL STD 8260-A9
Misc : 1,1 STD77502
MS Integration Params: rteint.p
Quant Time: Aug 16 9:05 2016

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

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



11M13630.D A9FOOWT.M

Tue Aug 16 09:05:24 2016

Page 2

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	R.T.	QIon	Response	Conc	Units	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

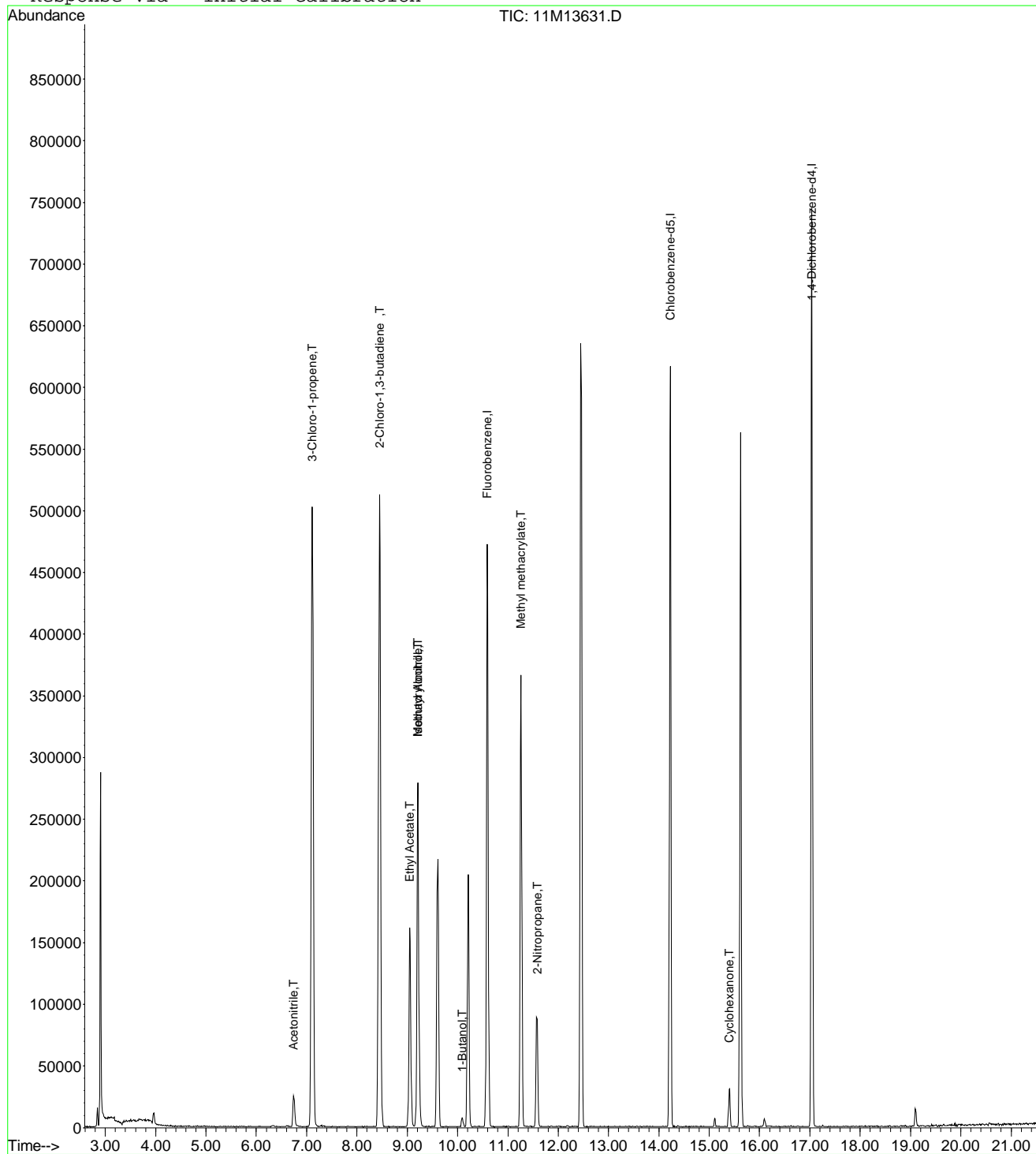
Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13631.D
 Acq On : 15 Aug 2016 16:16
 Sample : WG580279-04 50ug/L ICAL STD 8260-A9
 Misc : 1,1 STD77502
 MS Integration Params: rteint.p
 Quant Time: Aug 16 8:48 2016

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

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
 Last Update : Tue Aug 16 08:47:42 2016
 Response via : Initial Calibration



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	R.T.	QIon	Response	Conc	Units	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

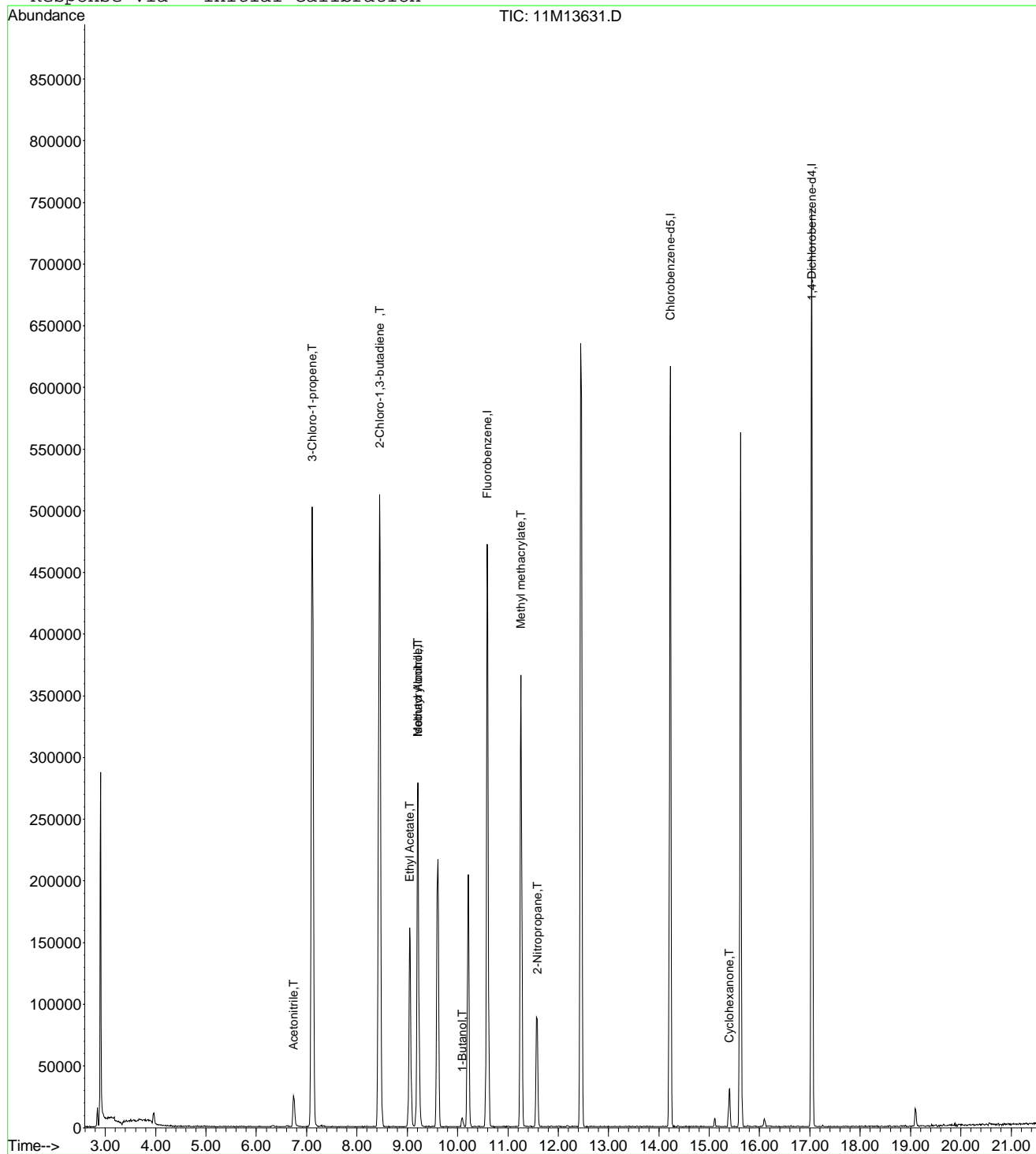
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Data File : C:\MSDCHEM\1\DATA\081516\11M13631.D
Acq On : 15 Aug 2016 16:16
Sample : WG580279-04 50ug/L ICAL STD 8260-A9
Misc : 1,1 STD77502
MS Integration Params: rteint.p
Quant Time: Aug 16 8:59 2016

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

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



11M13631.D A9FOOWT.M

Tue Aug 16 08:59:21 2016

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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	R.T.	QIon	Response	Conc	Units	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

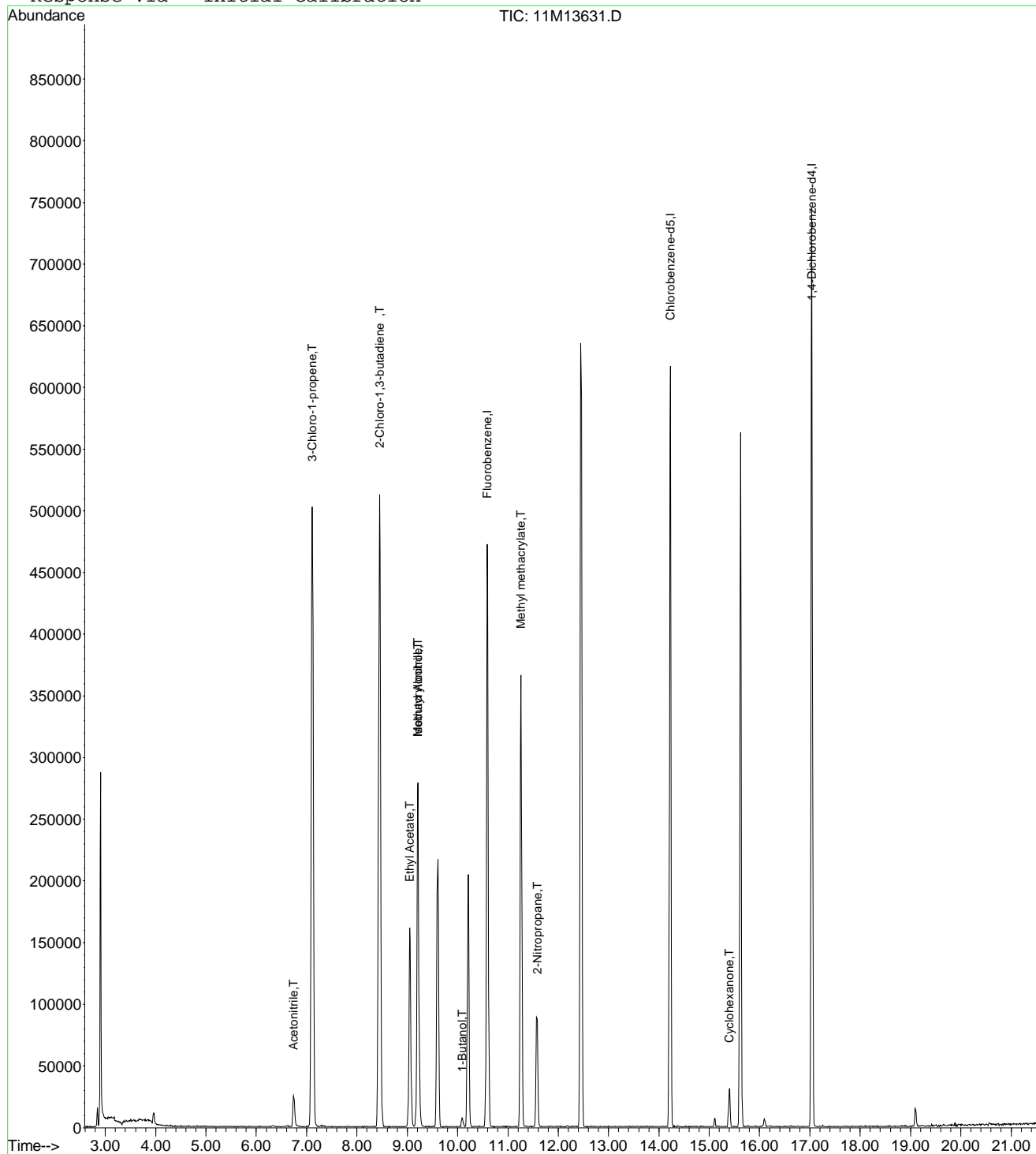
Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13631.D
 Acq On : 15 Aug 2016 16:16
 Sample : WG580279-04 50ug/L ICAL STD 8260-A9
 Misc : 1,1 STD77502
 MS Integration Params: rteint.p
 Quant Time: Aug 16 9:05 2016

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

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
 Last Update : Tue Aug 16 08:51:14 2016
 Response via : Initial Calibration



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	R.T.	QIon	Response	Conc	Units	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

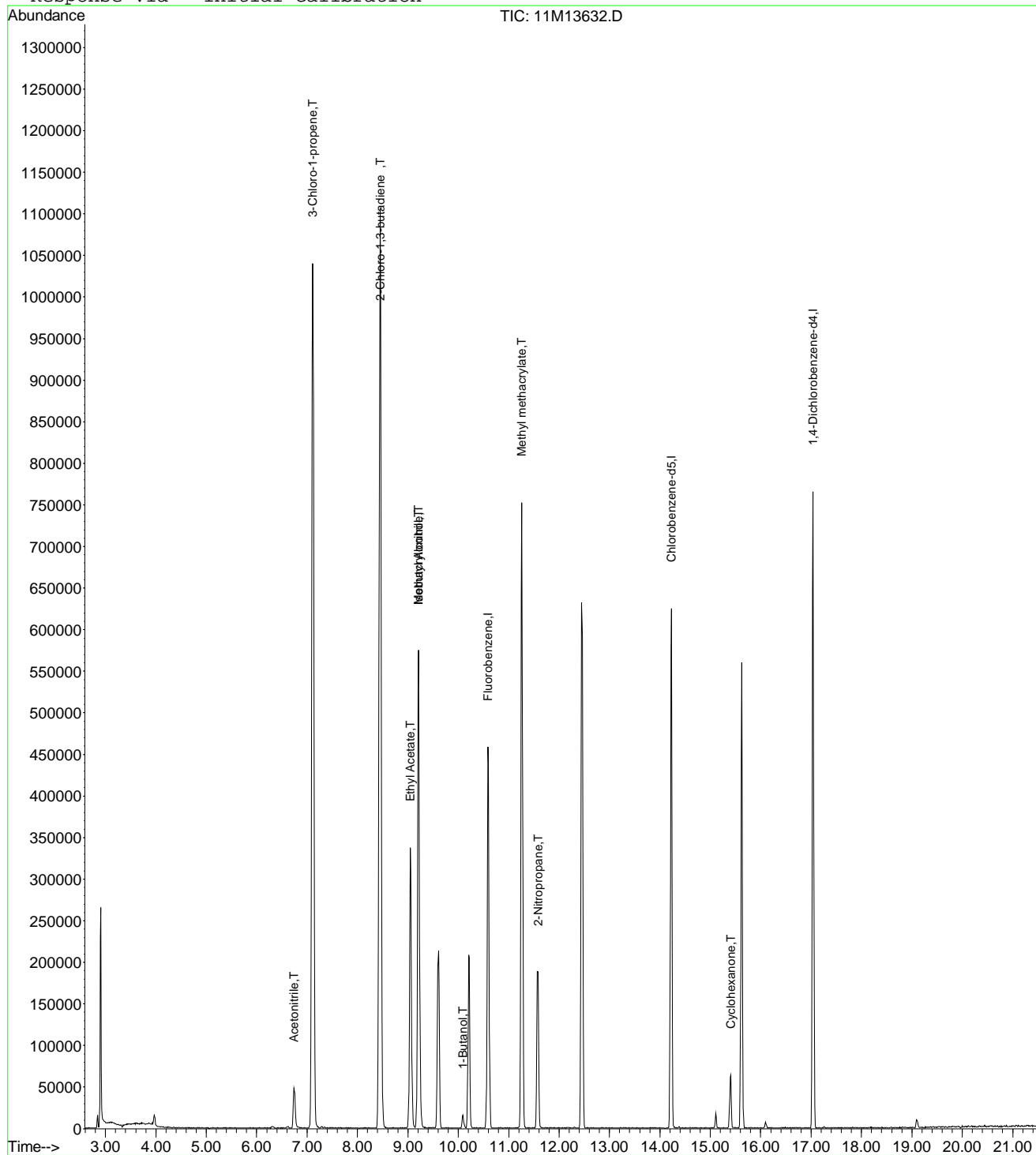
Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13632.D
Acq On : 15 Aug 2016 16:45
Sample : WG580279-05 100ug/L ICAL STD 8260-A9
Misc : 1,1 STD77502
MS Integration Params: rteint.p
Quant Time: Aug 16 8:48 2016

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

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:47:42 2016
Response via : Initial Calibration



11M13632.D A9FOOWT.M

Tue Aug 16 08:48:39 2016

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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	R.T.	QIon	Response	Conc	Units	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

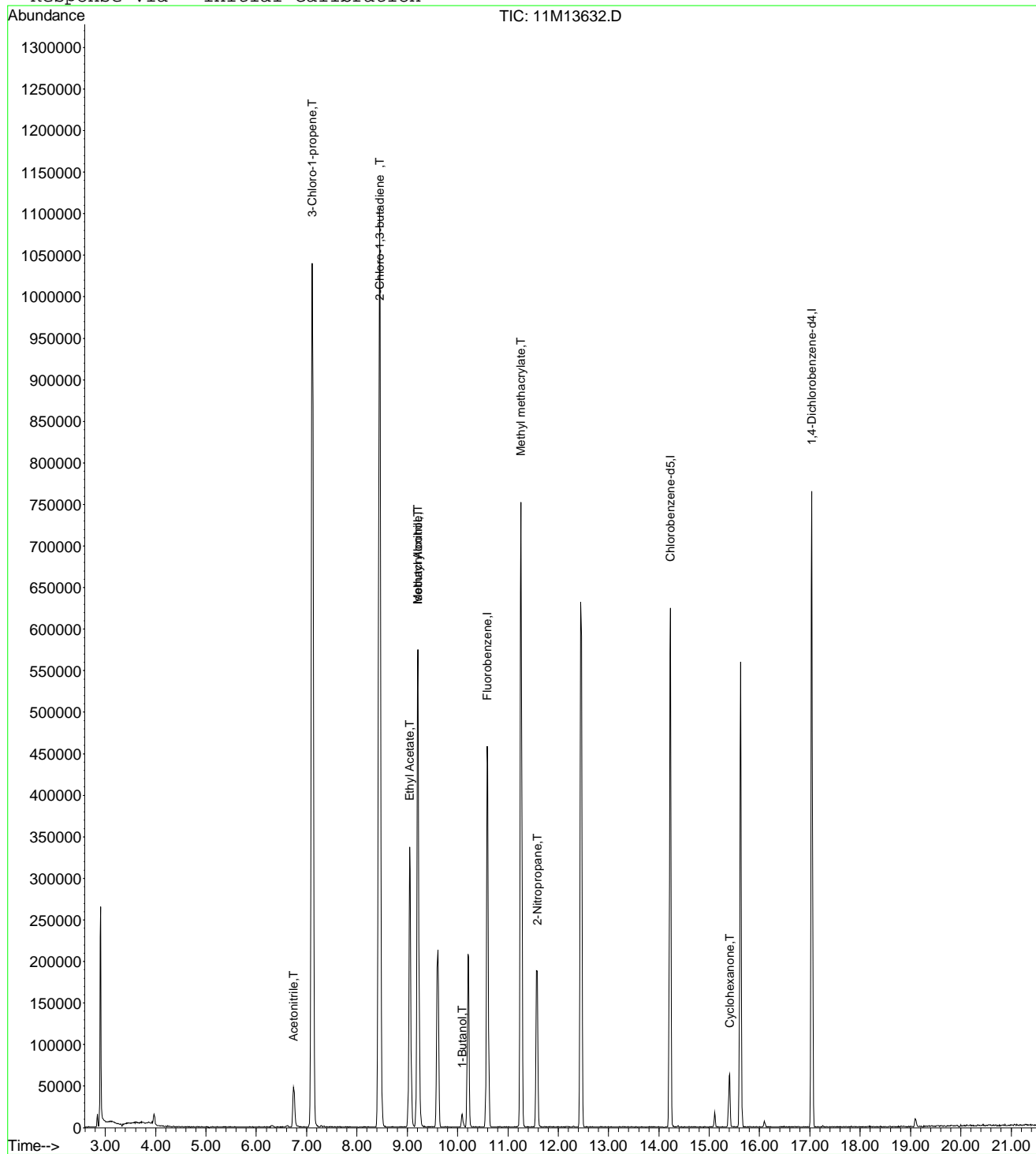
Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13632.D
 Acq On : 15 Aug 2016 16:45
 Sample : WG580279-05 100ug/L ICAL STD 8260-A9
 Misc : 1,1 STD77502
 MS Integration Params: rteint.p
 Quant Time: Aug 16 8:59 2016

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

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
 Last Update : Tue Aug 16 08:51:14 2016
 Response via : Initial Calibration



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	R.T.	QIon	Response	Conc	Units	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

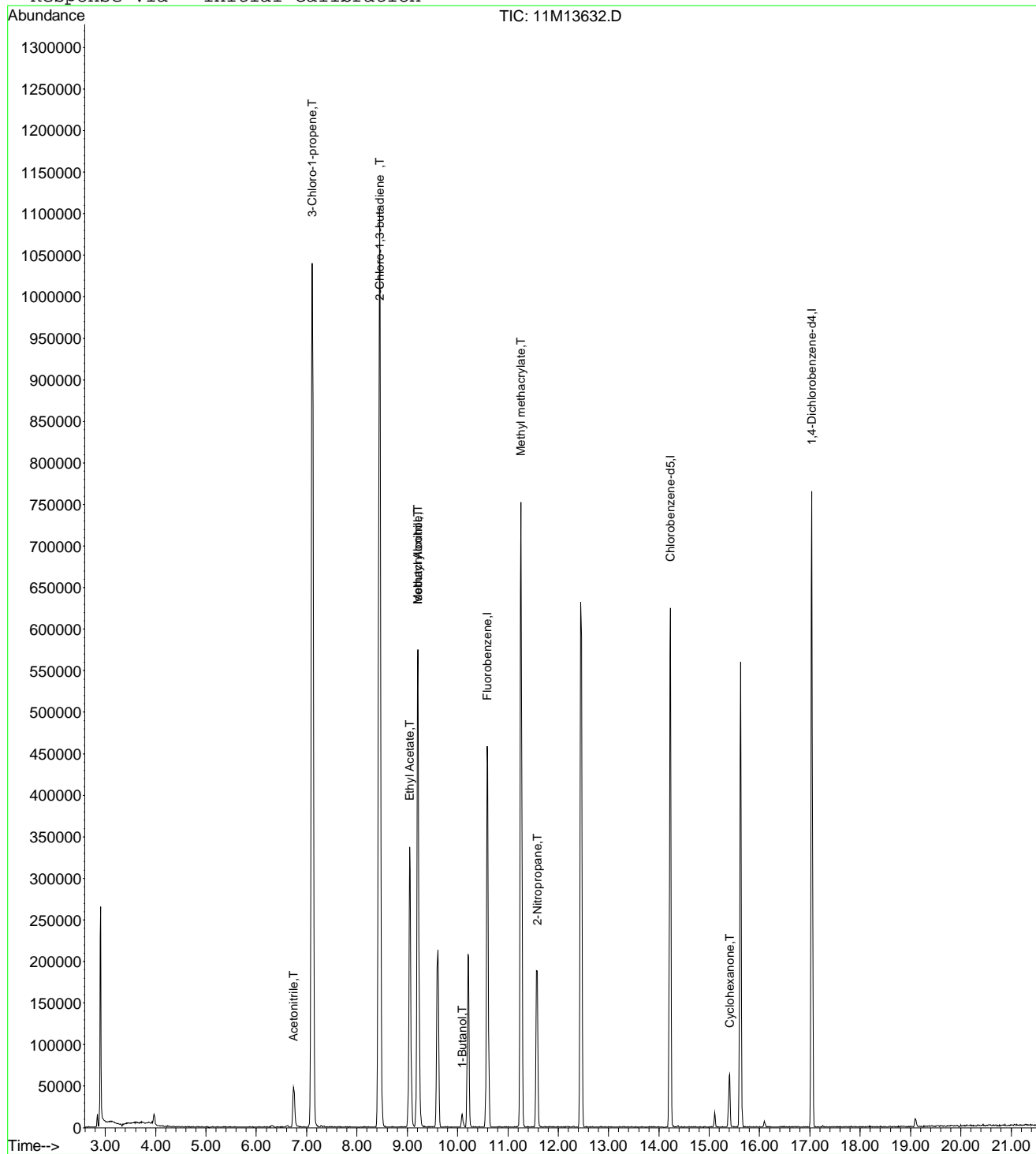
Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13632.D
 Acq On : 15 Aug 2016 16:45
 Sample : WG580279-05 100ug/L ICAL STD 8260-A9
 Misc : 1,1 STD77502
 MS Integration Params: rteint.p
 Quant Time: Aug 16 9:05 2016

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

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
 Last Update : Tue Aug 16 08:51:14 2016
 Response via : Initial Calibration



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	R.T.	QIon	Response	Conc	Units	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

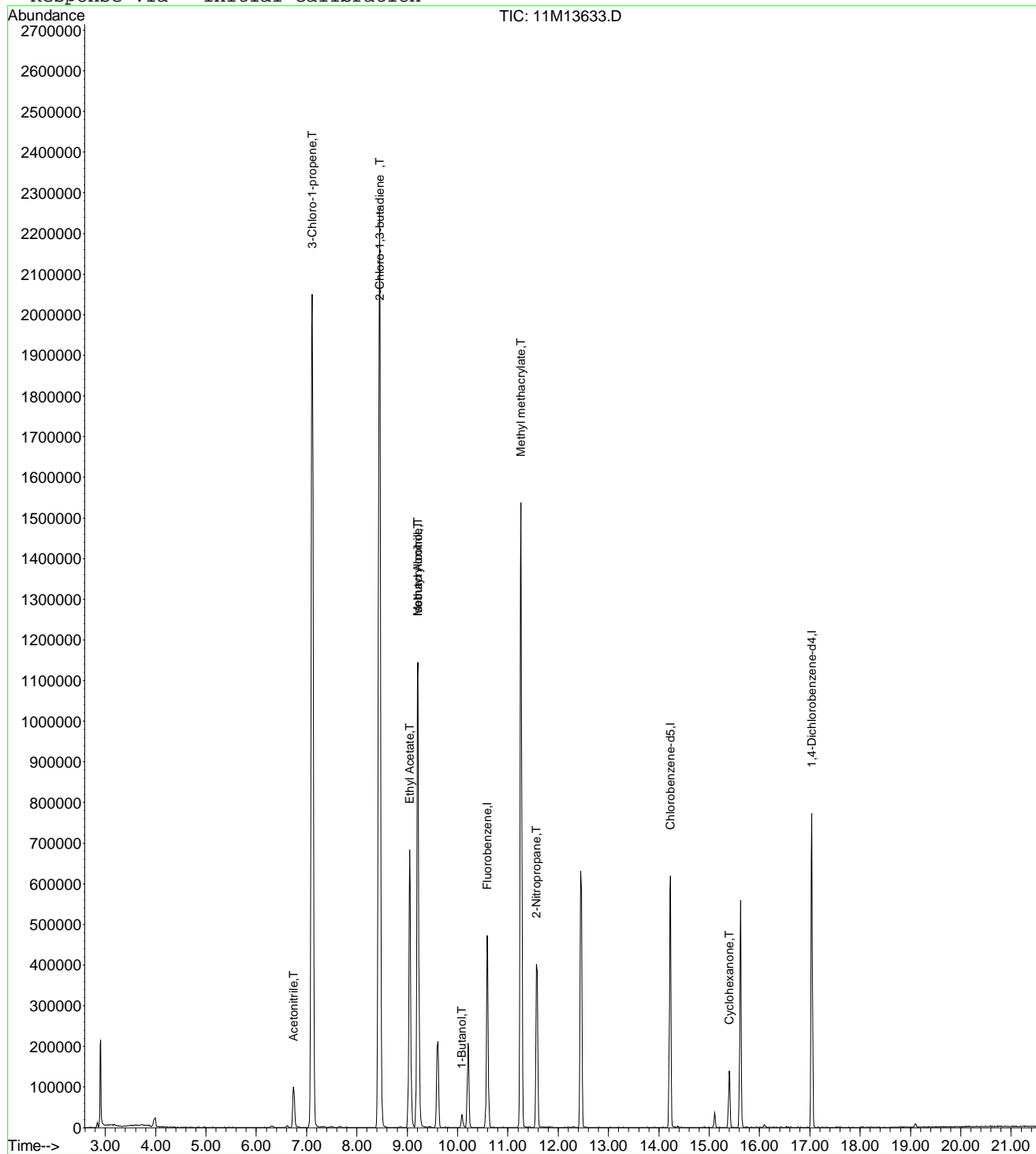
Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13633.D
 Acq On : 15 Aug 2016 17:14
 Sample : WG580279-06 200ug/L ICAL STD 8260-A9
 Misc : 1,1 STD77502
 MS Integration Params: rteint.p
 Quant Time: Aug 16 8:48 2016

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

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
 Last Update : Tue Aug 16 08:47:42 2016
 Response via : Initial Calibration



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	R.T.	QIon	Response	Conc	Units	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

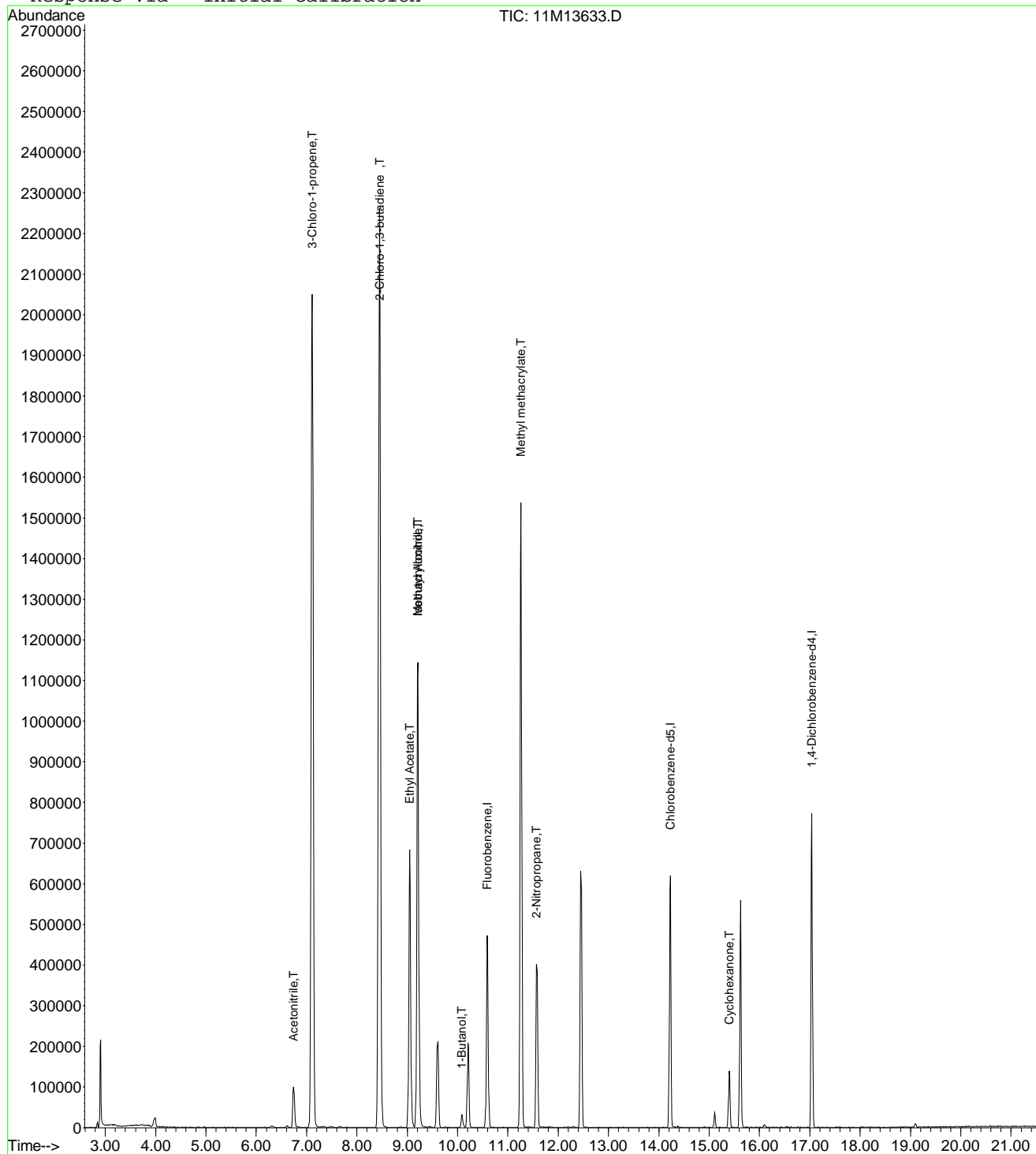
Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13633.D
 Acq On : 15 Aug 2016 17:14
 Sample : WG580279-06 200ug/L ICAL STD 8260-A9
 Misc : 1,1 STD77502
 MS Integration Params: rteint.p
 Quant Time: Aug 16 8:59 2016

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

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
 Last Update : Tue Aug 16 08:51:14 2016
 Response via : Initial Calibration



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	R.T.	QIon	Response	Conc	Units	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

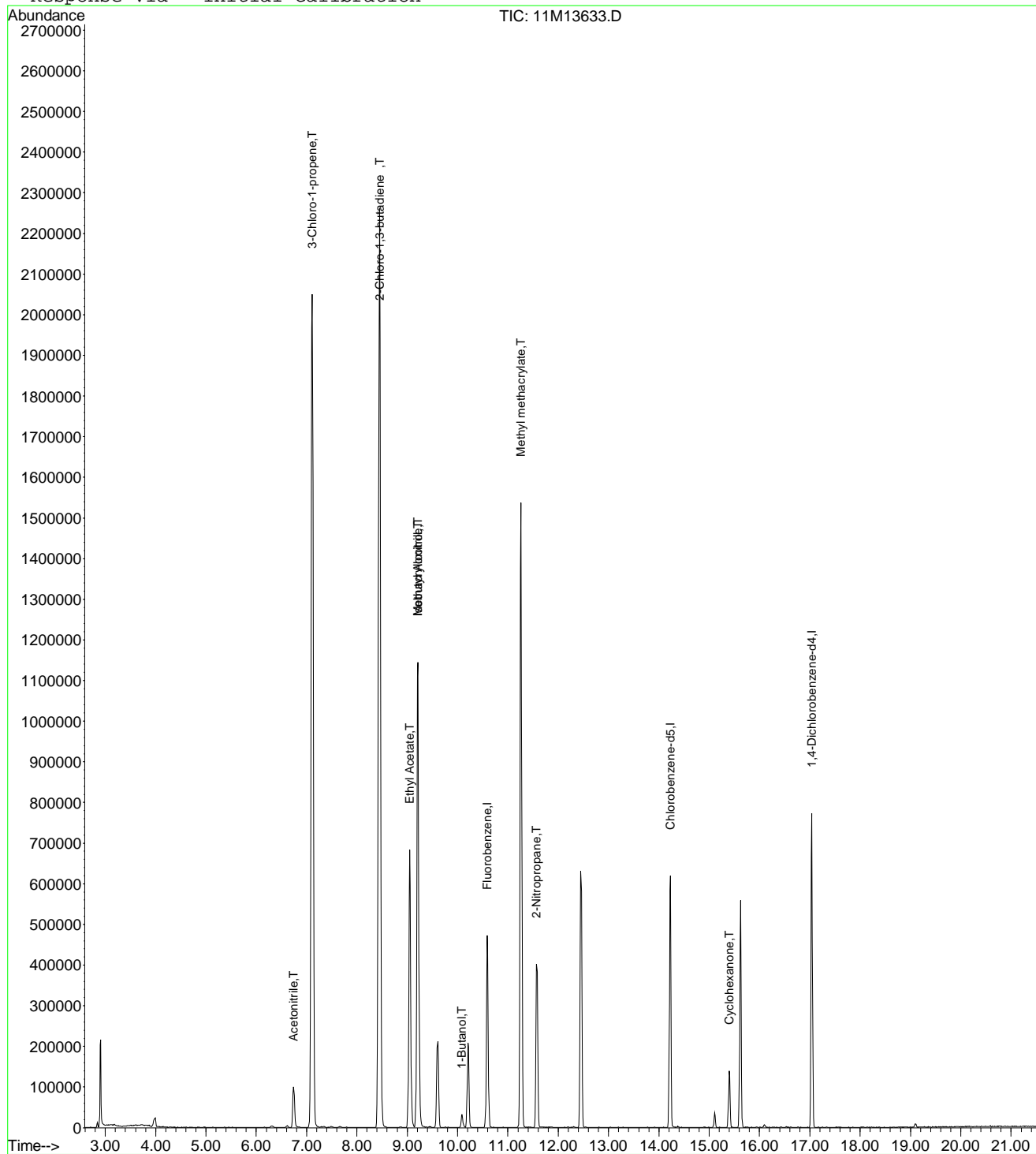
Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13633.D
Acq On : 15 Aug 2016 17:14
Sample : WG580279-06 200ug/L ICAL STD 8260-A9
Misc : 1,1 STD77502
MS Integration Params: rteint.p
Quant Time: Aug 16 9:05 2016

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

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



11M13633.D A9FOOWT.M

Tue Aug 16 09:05:33 2016

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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	R.T.	QIon	Response	Conc	Units	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

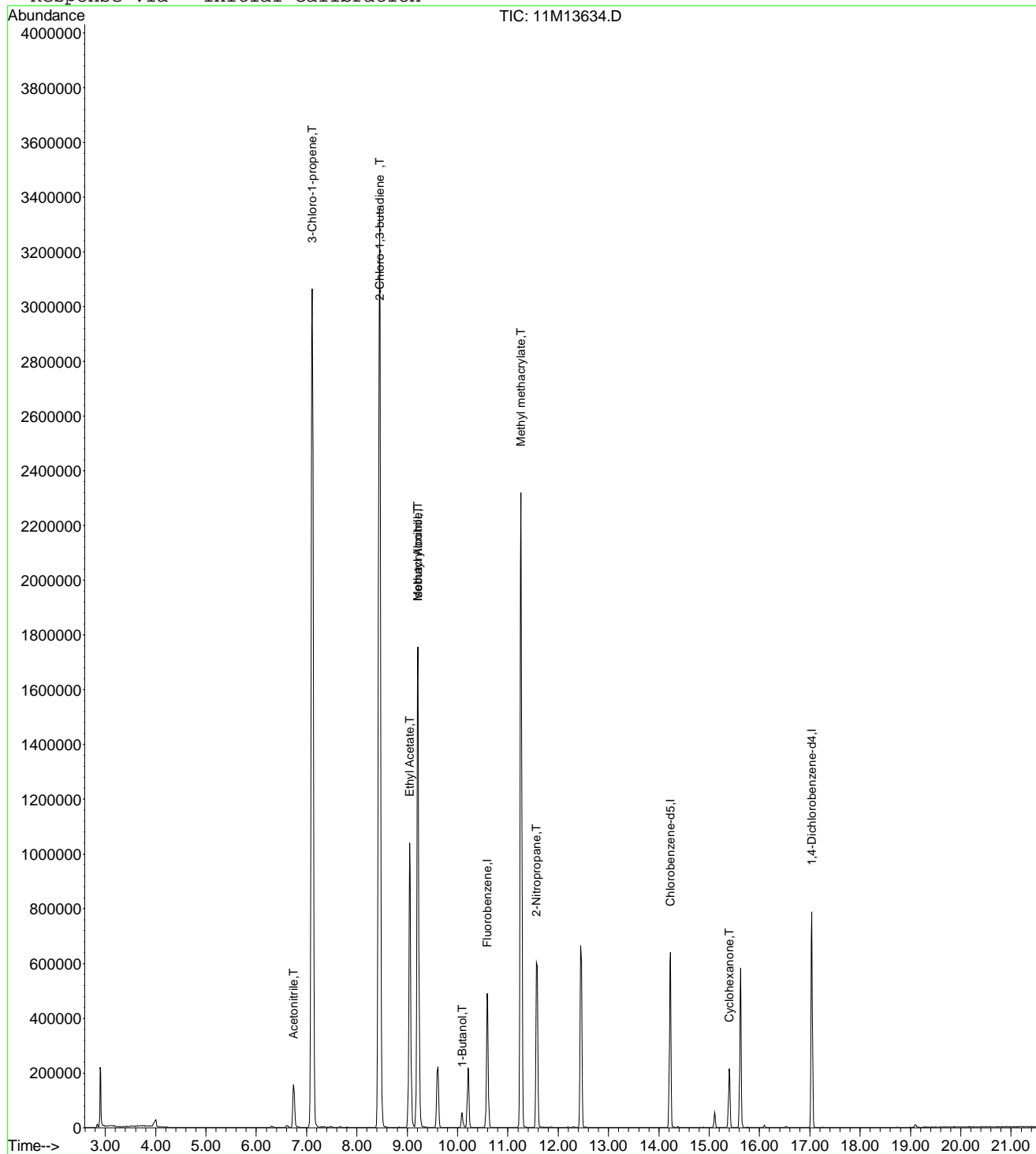
Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13634.D
Acq On : 15 Aug 2016 17:43
Sample : WG580279-07 300ug/L ICAL STD 8260-A9
Misc : 1,1 STD77502
MS Integration Params: rteint.p
Quant Time: Aug 16 8:48 2016

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

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:47:42 2016
Response via : Initial Calibration



11M13634.D A9FOOWT.M

Tue Aug 16 08:48:43 2016

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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	R.T.	QIon	Response	Conc	Units	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

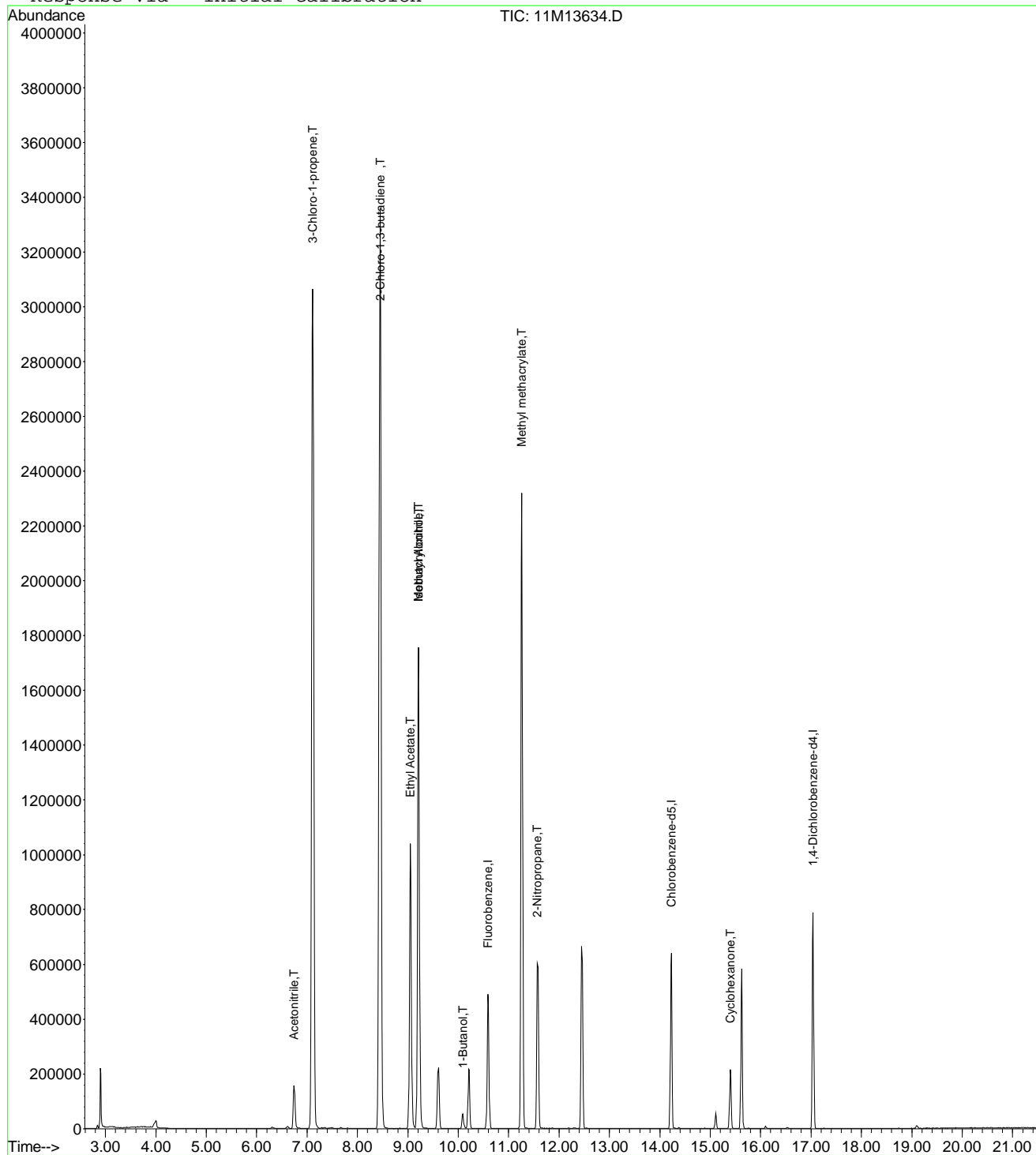
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Data File : C:\MSDCHEM\1\DATA\081516\11M13634.D
Acq On : 15 Aug 2016 17:43
Sample : WG580279-07 300ug/L ICAL STD 8260-A9
Misc : 1,1 STD77502
MS Integration Params: rteint.p
Quant Time: Aug 16 8:59 2016

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

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



11M13634.D A9FOOWT.M Tue Aug 16 08:59:30 2016

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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	R.T.	QIon	Response	Conc	Units	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

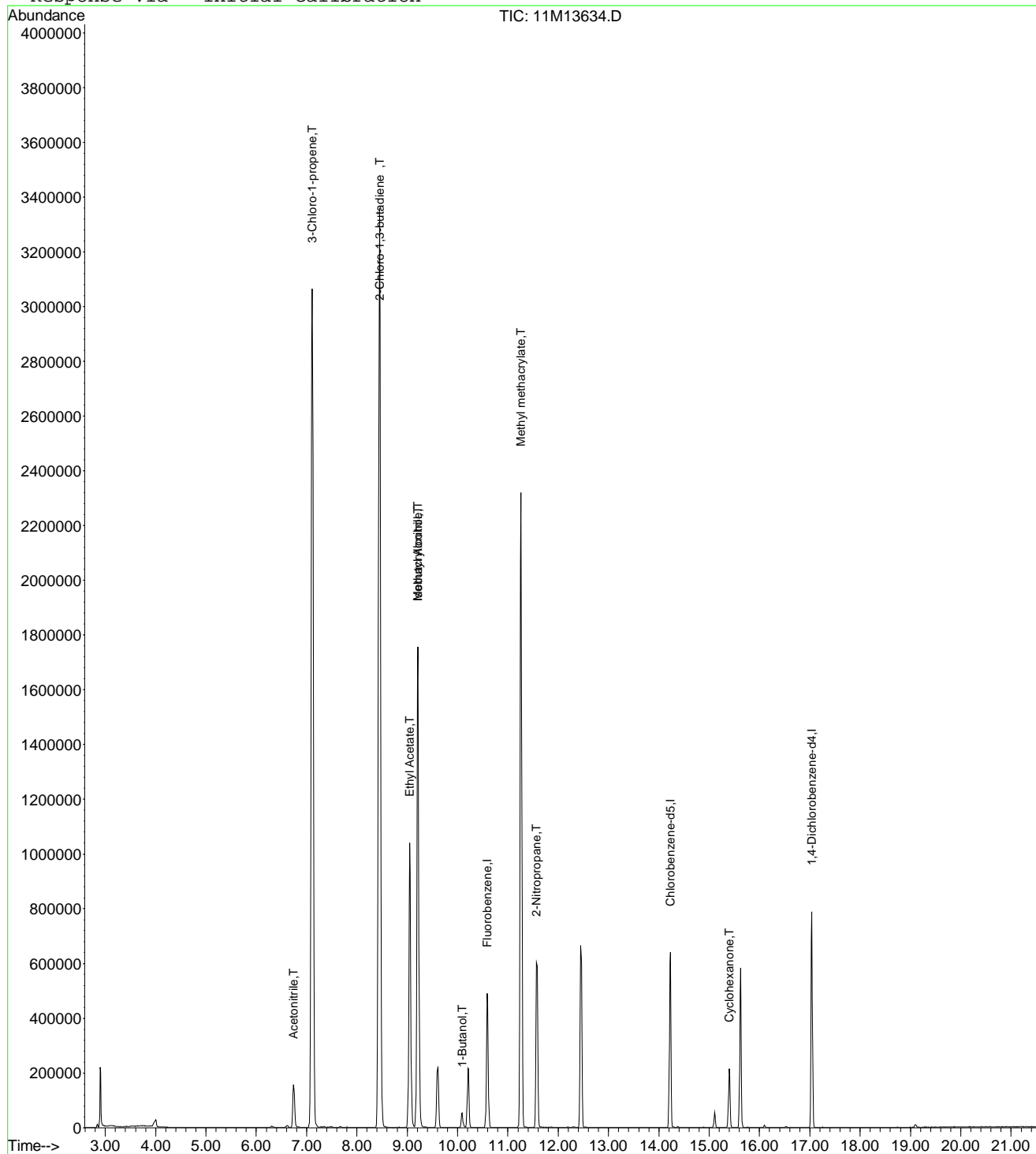
Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13634.D
Acq On : 15 Aug 2016 17:43
Sample : WG580279-07 300ug/L ICAL STD 8260-A9
Misc : 1,1 STD77502
MS Integration Params: rteint.p
Quant Time: Aug 16 9:05 2016

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

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



11M13634.D A9FOOWT.M Tue Aug 16 09:05:36 2016

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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	R.T.	QIon	Response	Conc	Units	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

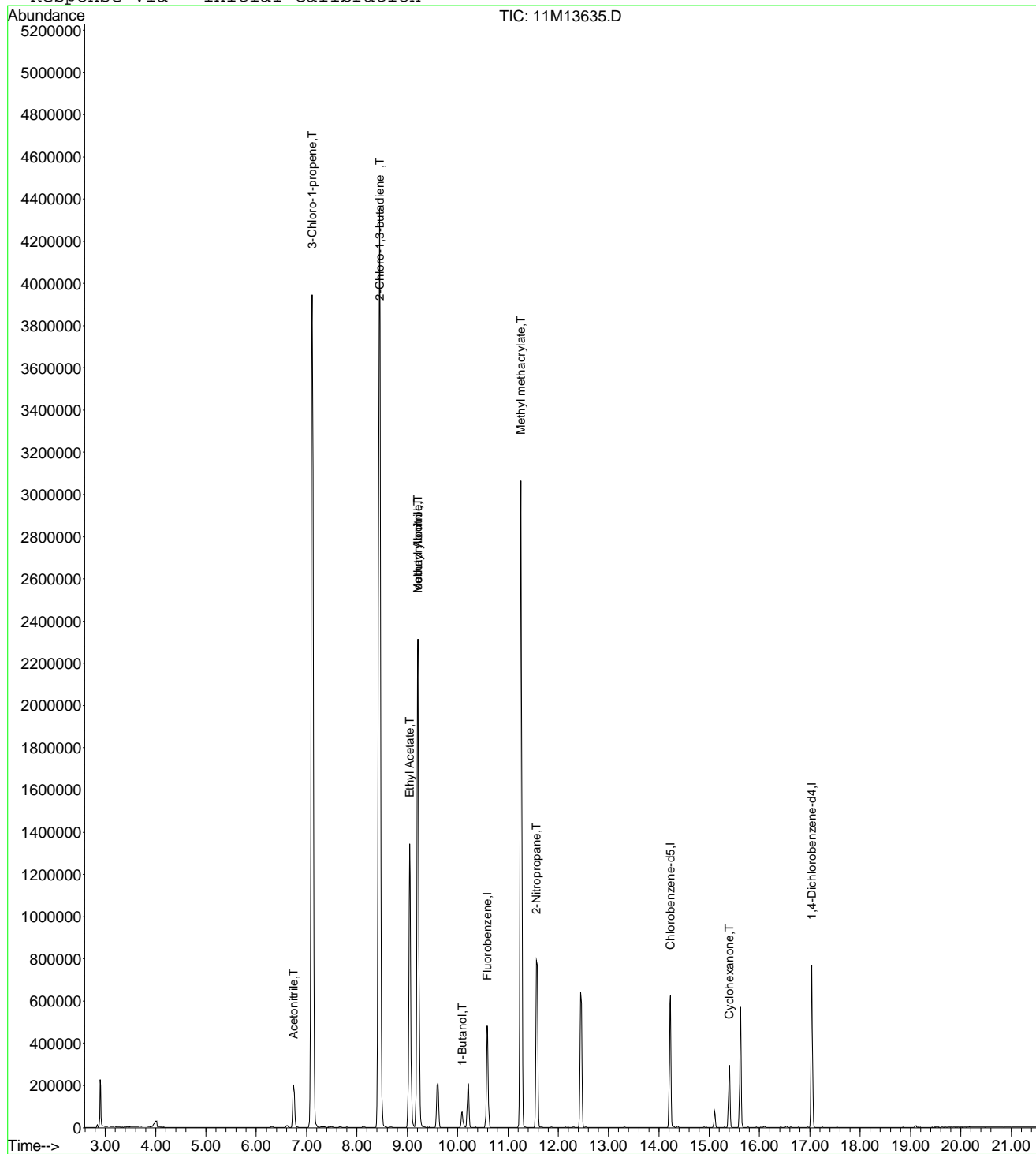
Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13635.D
 Acq On : 15 Aug 2016 18:12
 Sample : WG580279-08 400ug/L ICAL STD 8260-A9
 Misc : 1,1 STD77502
 MS Integration Params: rteint.p
 Quant Time: Aug 16 8:48 2016

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

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 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	R.T.	QIon	Response	Conc	Units	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

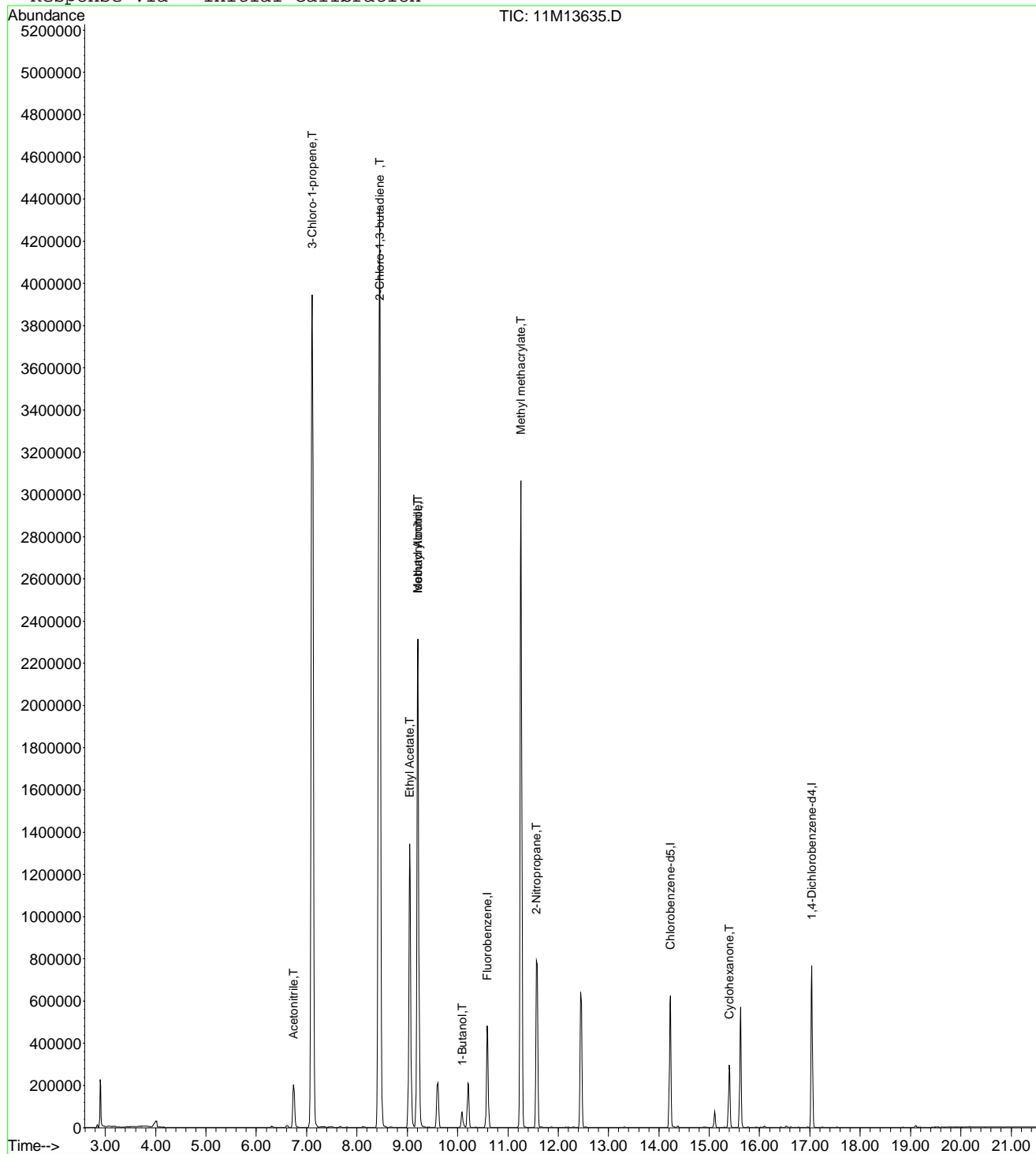
Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13635.D
 Acq On : 15 Aug 2016 18:12
 Sample : WG580279-08 400ug/L ICAL STD 8260-A9
 Misc : 1,1 STD77502
 MS Integration Params: rteint.p
 Quant Time: Aug 16 8:59 2016

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

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 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	R.T.	QIon	Response	Conc	Units	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

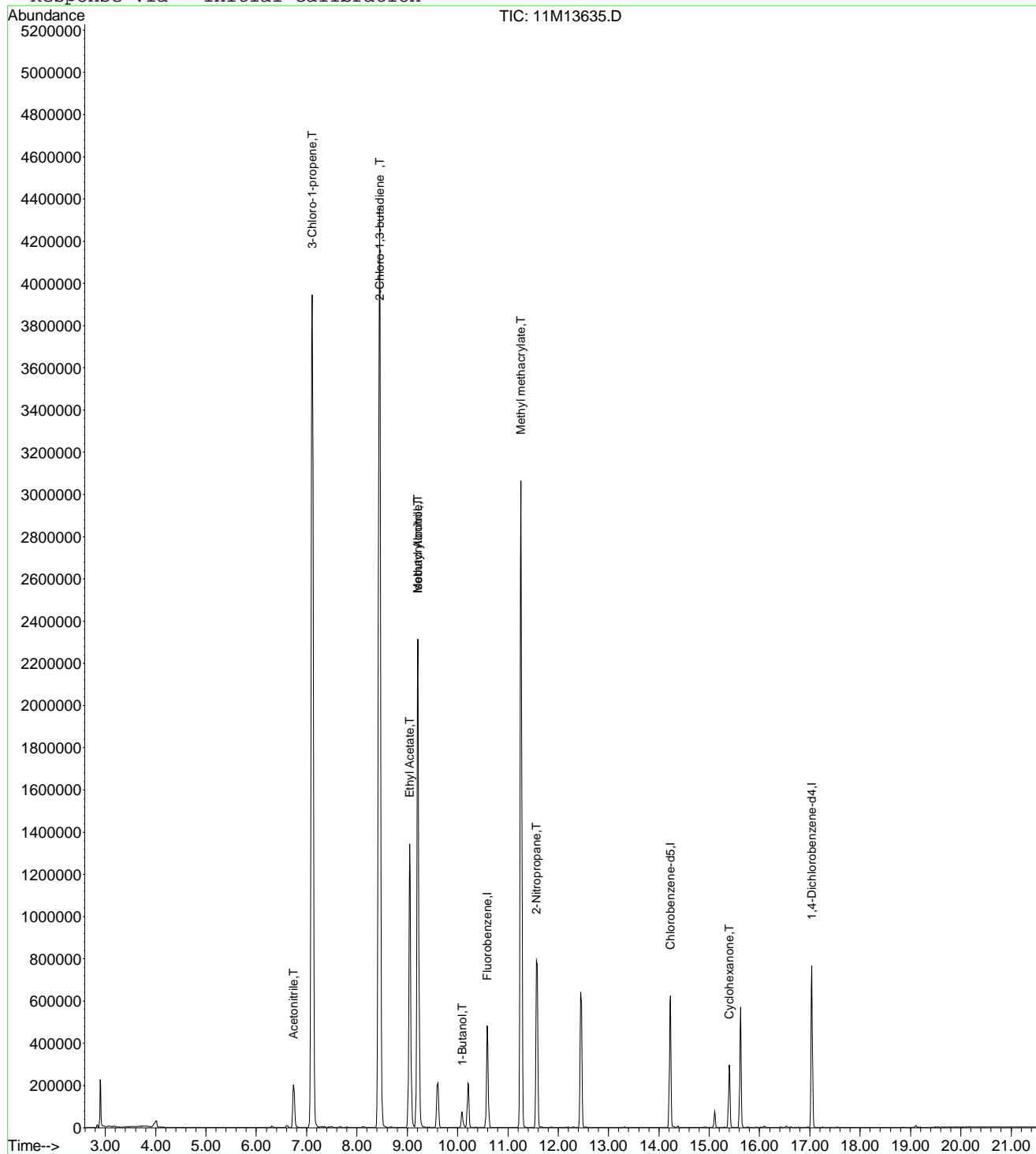
Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13635.D
 Acq On : 15 Aug 2016 18:12
 Sample : WG580279-08 400ug/L ICAL STD 8260-A9
 Misc : 1,1 STD77502
 MS Integration Params: rteint.p
 Quant Time: Aug 16 9:05 2016

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

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
 Last Update : Tue Aug 16 08:51:14 2016
 Response via : Initial Calibration



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	R.T.	QIon	Response	Conc	Units	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

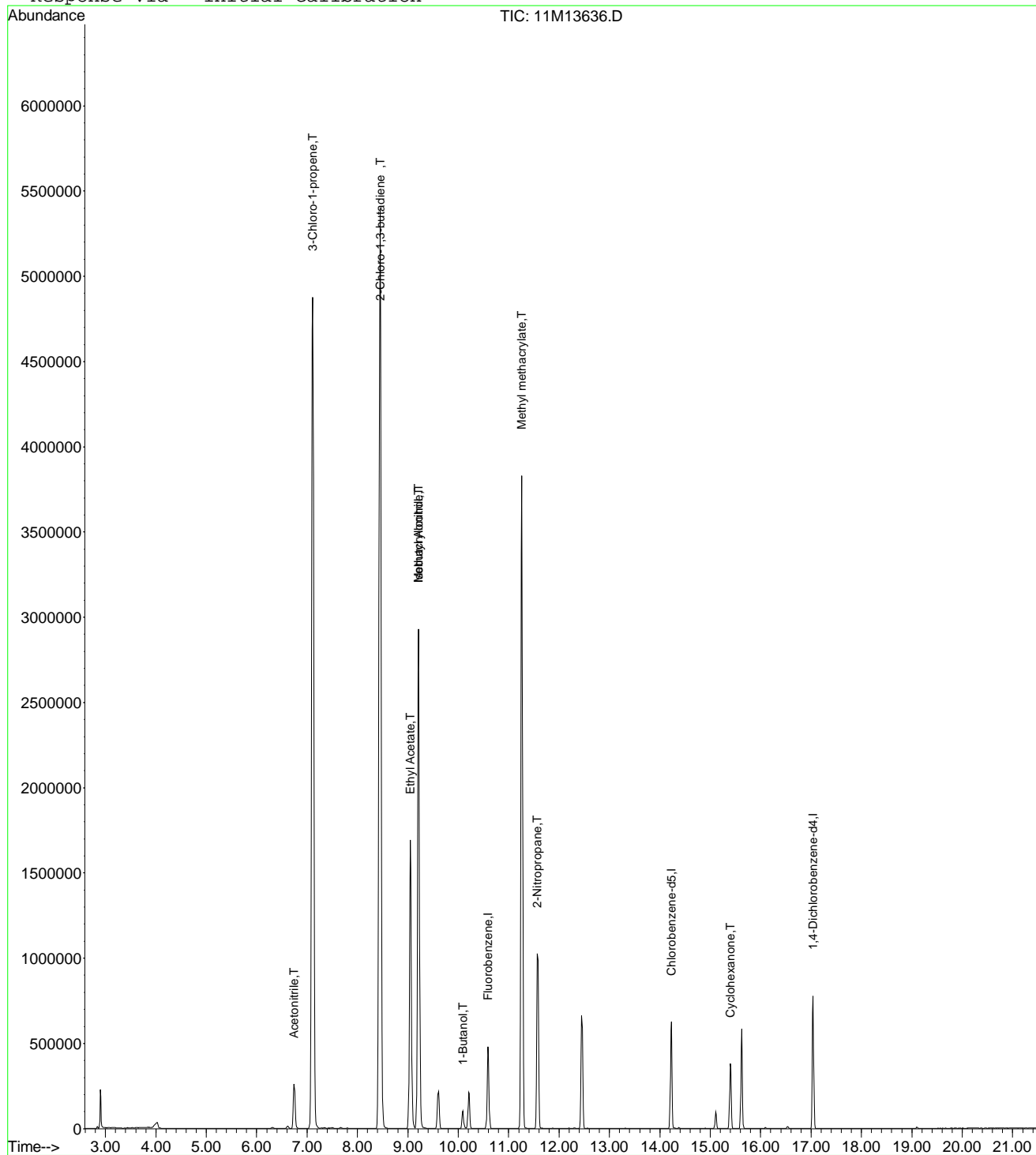
Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13636.D
Acq On : 15 Aug 2016 18:41
Sample : WG580279-09 500ug/L ICAL STD 8260-A9
Misc : 1,1 STD77502
MS Integration Params: rteint.p
Quant Time: Aug 16 8:48 2016

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

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:47:42 2016
Response via : Initial Calibration



11M13636.D A9FOOWT.M

Tue Aug 16 08:48:49 2016

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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	R.T.	QIon	Response	Conc	Units	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

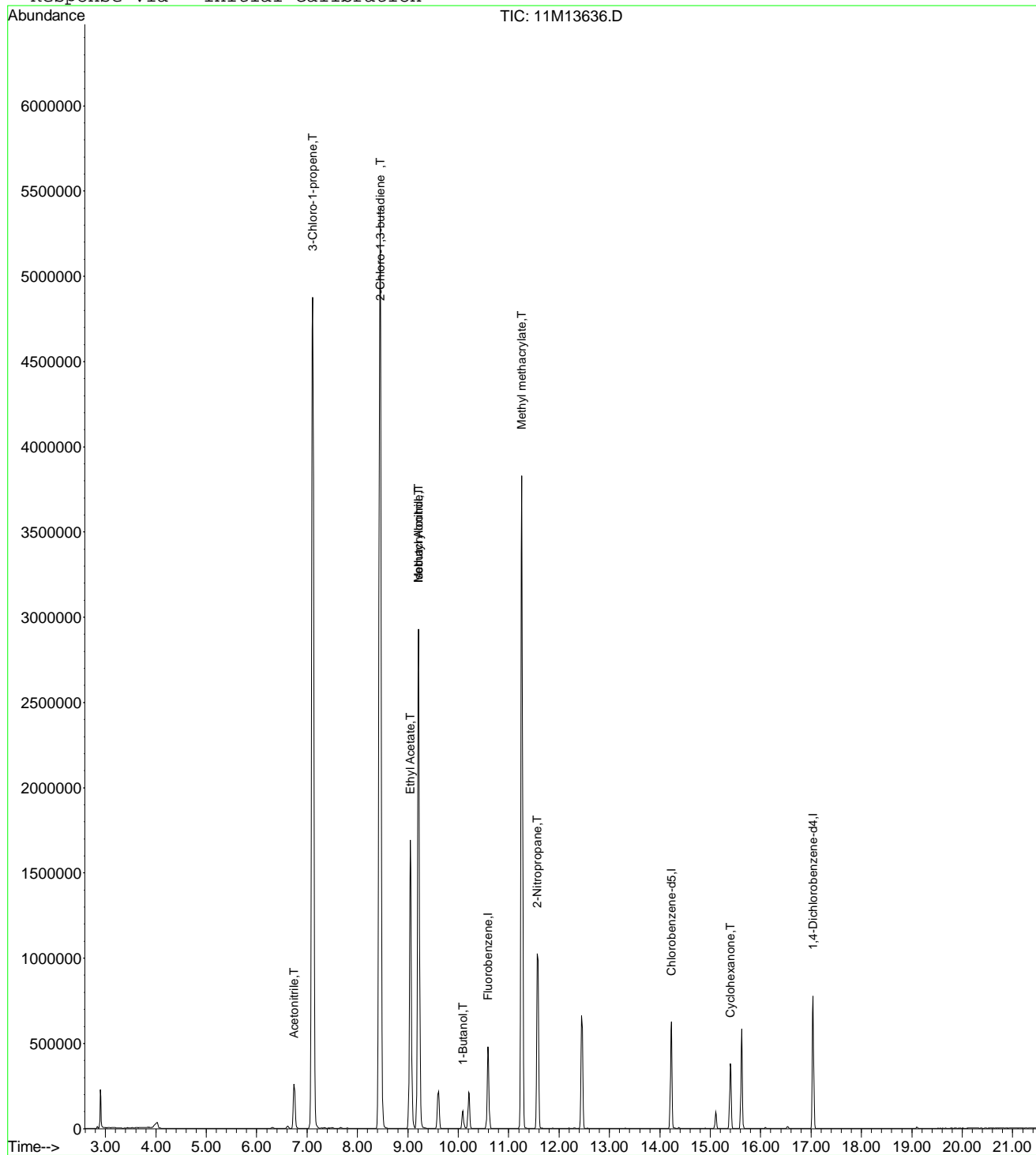
Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13636.D
Acq On : 15 Aug 2016 18:41
Sample : WG580279-09 500ug/L ICAL STD 8260-A9
Misc : 1,1 STD77502
MS Integration Params: rteint.p
Quant Time: Aug 16 8:59 2016

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

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



11M13636.D A9FOOWT.M

Tue Aug 16 08:59:36 2016

Page 2

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	R.T.	QIon	Response	Conc	Units	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

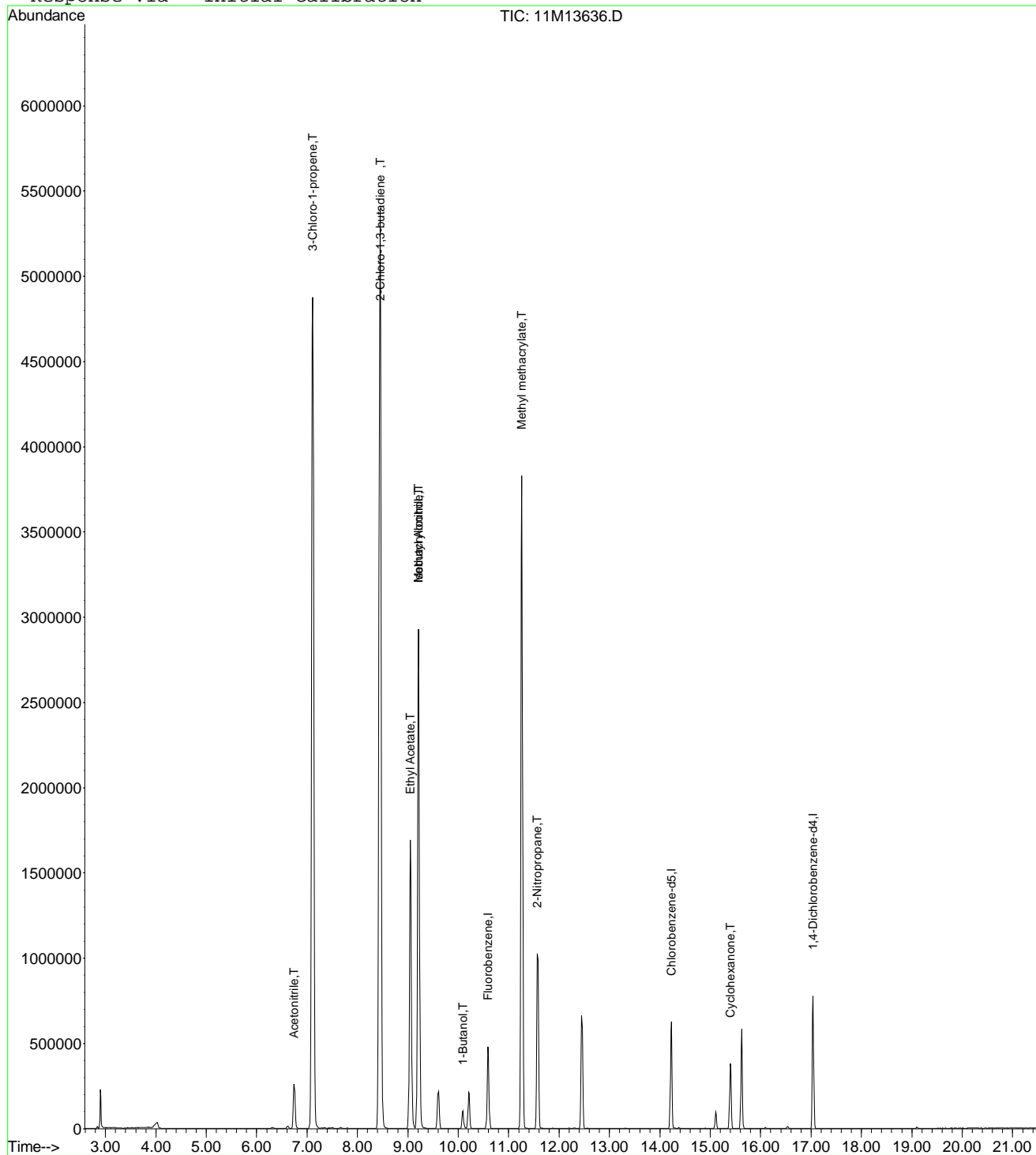
Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13636.D
Acq On : 15 Aug 2016 18:41
Sample : WG580279-09 500ug/L ICAL STD 8260-A9
Misc : 1,1 STD77502
MS Integration Params: rteint.p
Quant Time: Aug 16 9:05 2016

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

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



11M13636.D A9FOOWT.M

Tue Aug 16 09:05:42 2016

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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	R.T.	QIon	Response	Conc	Units	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

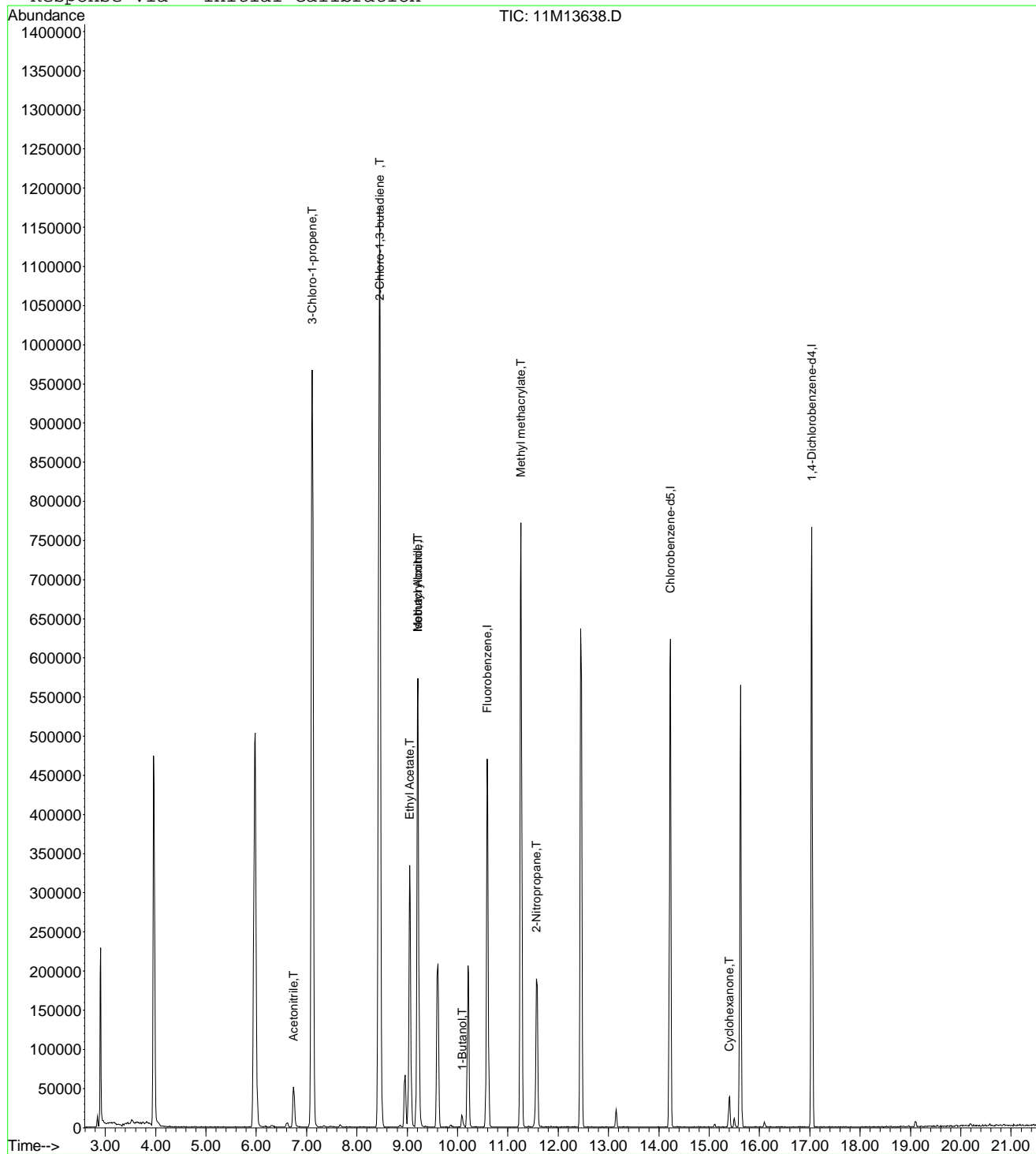
Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13638.D
Acq On : 15 Aug 2016 19:39
Sample : WG580279-10 100ug/L ALT SRC 8260-A9
Misc : 1,1 STD77604
MS Integration Params: rteint.p
Quant Time: Aug 16 8:48 2016

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

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:47:42 2016
Response via : Initial Calibration



11M13638.D A9FOOWT.M

Tue Aug 16 08:48:55 2016

Page 2

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	R.T.	QIon	Response	Conc	Units	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

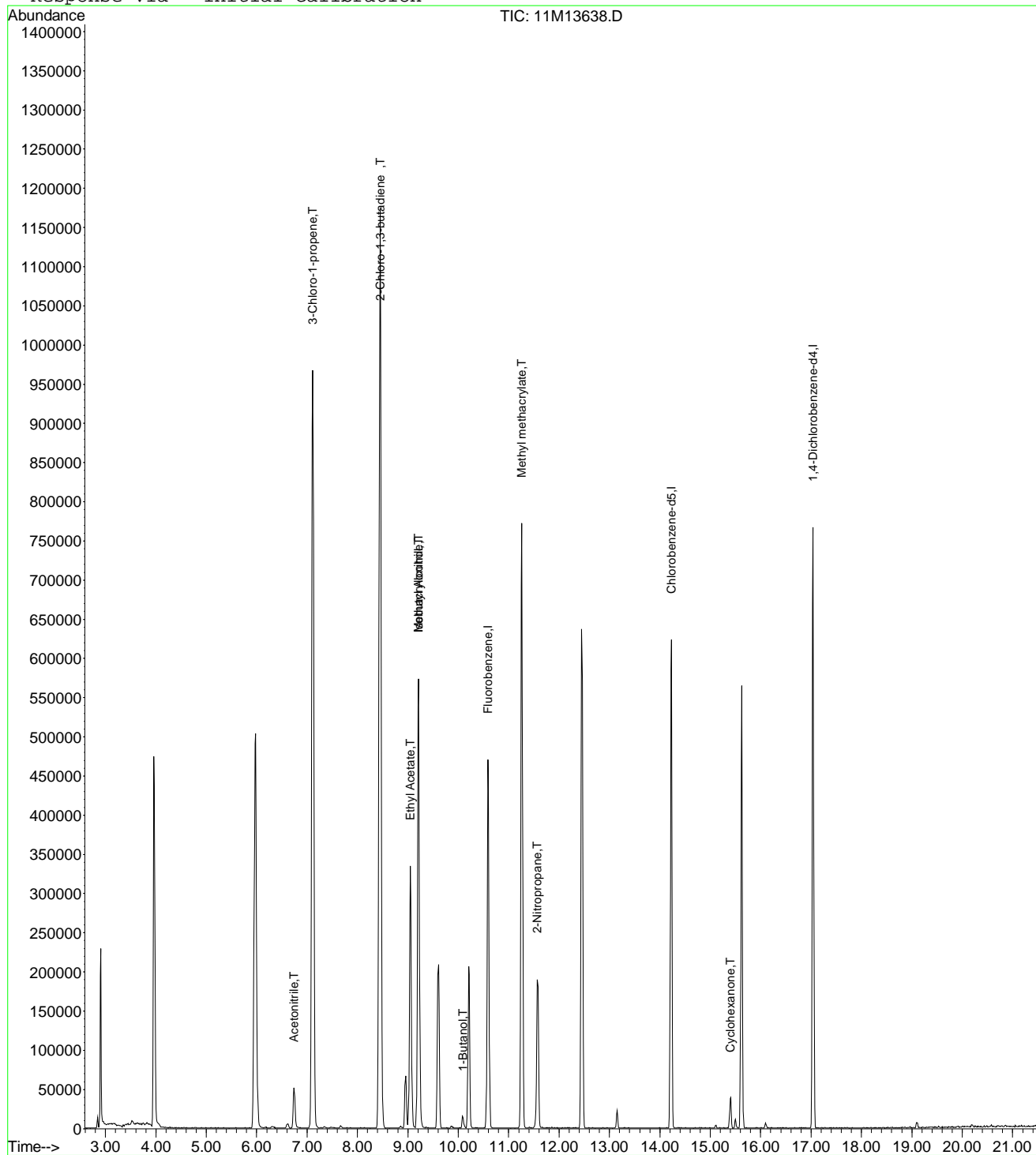
Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13638.D
Acq On : 15 Aug 2016 19:39
Sample : WG580279-10 100ug/L ALT SRC 8260-A9
Misc : 1,1 STD77604
MS Integration Params: rteint.p
Quant Time: Aug 16 8:59 2016

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

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
Last Update : Tue Aug 16 08:51:14 2016
Response via : Initial Calibration



11M13638.D A9FOOWT.M

Tue Aug 16 08:59:43 2016

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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	R.T.	QIon	Response	Conc	Units	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

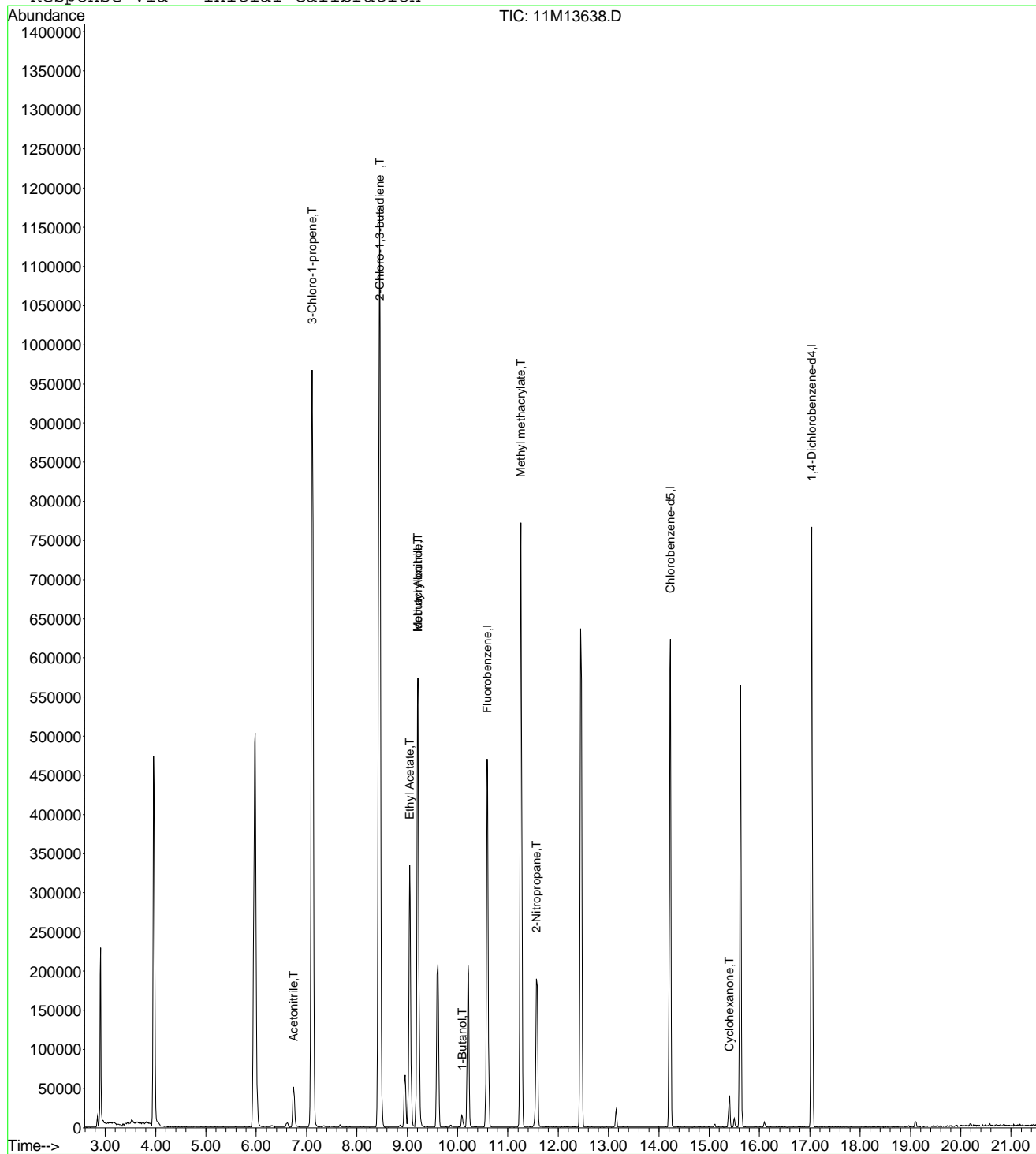
Page 1

Data File : C:\MSDCHEM\1\DATA\081516\11M13638.D
 Acq On : 15 Aug 2016 19:39
 Sample : WG580279-10 100ug/L ALT SRC 8260-A9
 Misc : 1,1 STD77604
 MS Integration Params: rteint.p
 Quant Time: Aug 16 9:05 2016

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

Quant Results File: A9FOOWT.RES

Method : C:\MSDCHEM\1\METHODS\A9FOOWT.M (RTE Integrator)
 Title : Appendix IX (SOP:OVL MSV01) Water 081516 HPMS11
 Last Update : Tue Aug 16 08:51:14 2016
 Response via : Initial Calibration



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

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

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-Butene	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-Chloropropane	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

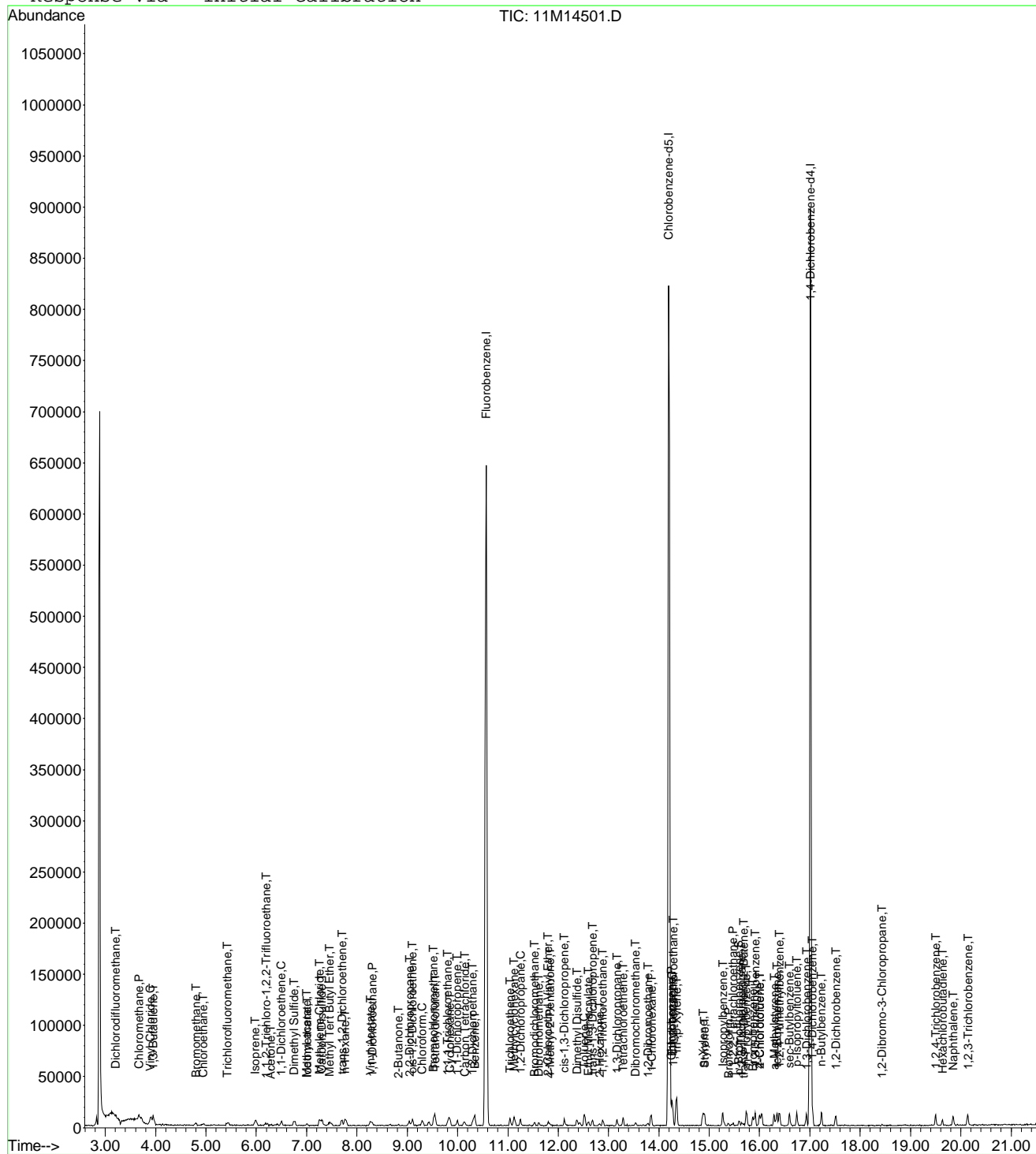
Page 2

Data File : C:\MSDCHEM\1\DATA\101316\11M14501.D
 Acq On : 13 Oct 2016 13:42
 Sample : WG587480-02 0.3ug/L STD 8260
 Misc : 1,1 STD78477
 MS Integration Params: rteint.p
 Quant Time: Oct 14 9:15 2016

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

Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 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

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	R.T.	QIon	Response	Conc	Units	Dev(Min)
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	R.T.	QIon	Response	Conc	Units	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

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-Butene	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-Chloropropane	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

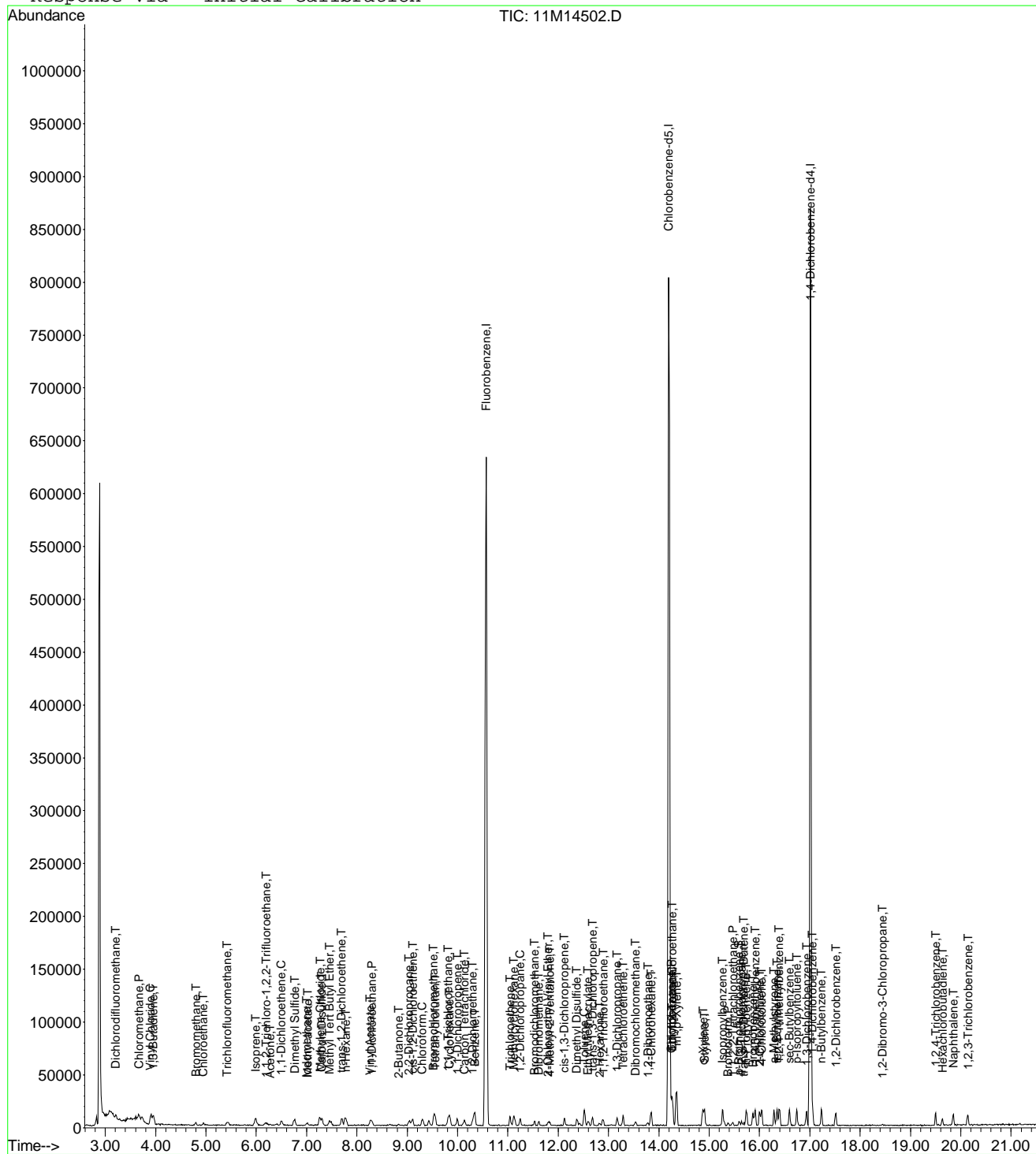
Page 2

Data File : C:\MSDCHEM\1\DATA\101316\11M14502.D
 Acq On : 13 Oct 2016 14:11
 Sample : WG587480-03 0.4ug/L STD 8260
 Misc : 1,1 STD78477
 MS Integration Params: rteint.p
 Quant Time: Oct 14 9:15 2016

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

Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 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

Data File : C:\MSDCHEM\1\DATA\101316\11M14503.D Vial: 5
 Acq On : 13 Oct 2016 14:40 Operator: FJB
 Sample : WG587480-04 lug/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	R.T.	QIon	Response	Conc	Units	Dev(Min)
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	R.T.	QIon	Response	Conc	Units	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

Data File : C:\MSDCHEM\1\DATA\101316\11M14503.D Vial: 5
 Acq On : 13 Oct 2016 14:40 Operator: FJB
 Sample : WG587480-04 lug/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-Butene	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-Chloropropane	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

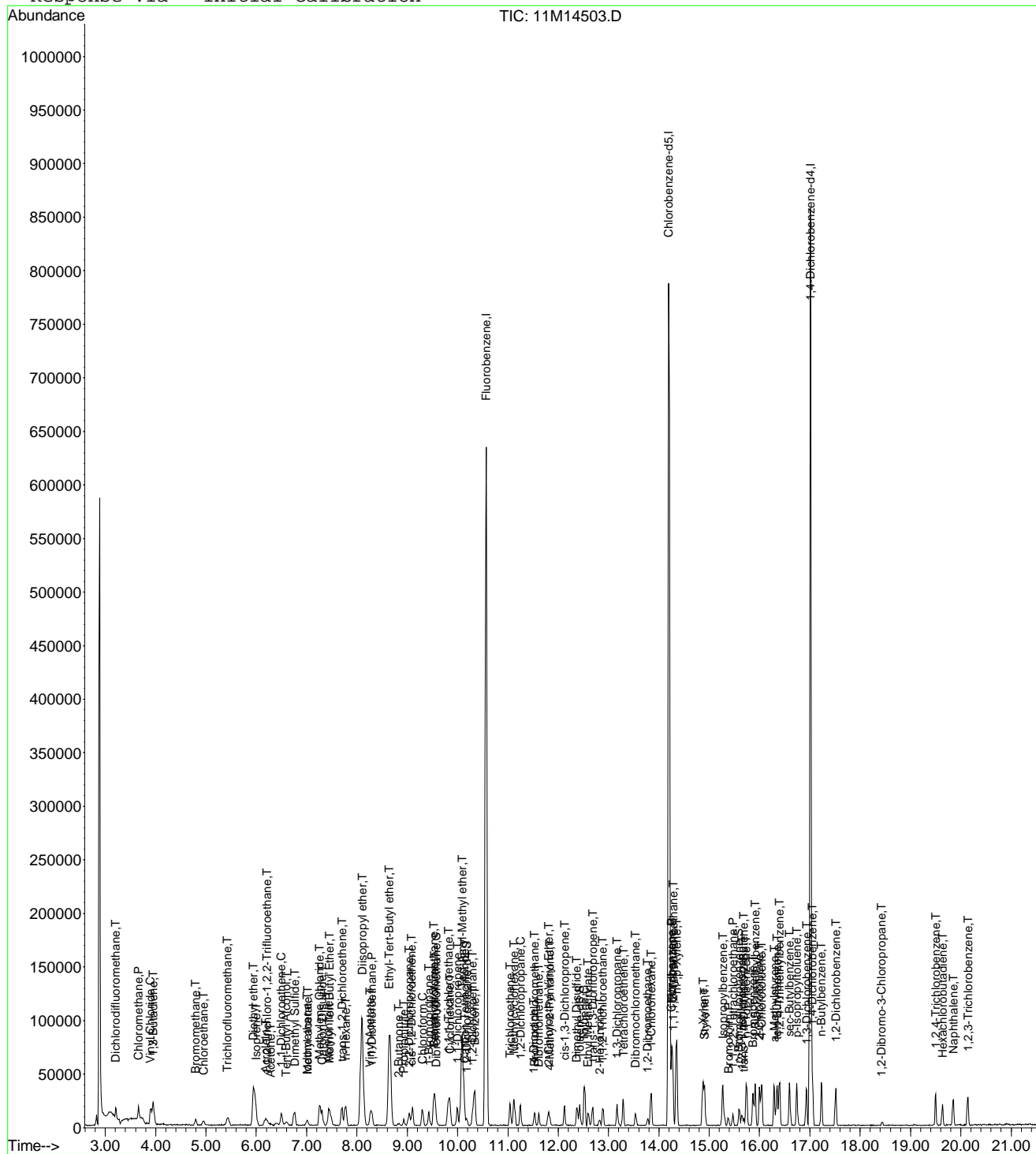
Page 2

Data File : C:\MSDCHEM\1\DATA\101316\11M14503.D
Acq On : 13 Oct 2016 14:40
Sample : WG587480-04 lug/L STD 8260
Misc : 1,1 STD78477
MS Integration Params: rteint.p
Quant Time: Oct 14 9:16 2016

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

Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 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 lug/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 lug/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

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 11M14503.D 8260WT.M Fri Oct 14 09:20:37 2016

Page 2

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	R.T.	QIon	Response	Conc	Units	Dev(Min)
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	R.T.	QIon	Response	Conc	Units	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

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-Butene	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-Chloropropane	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

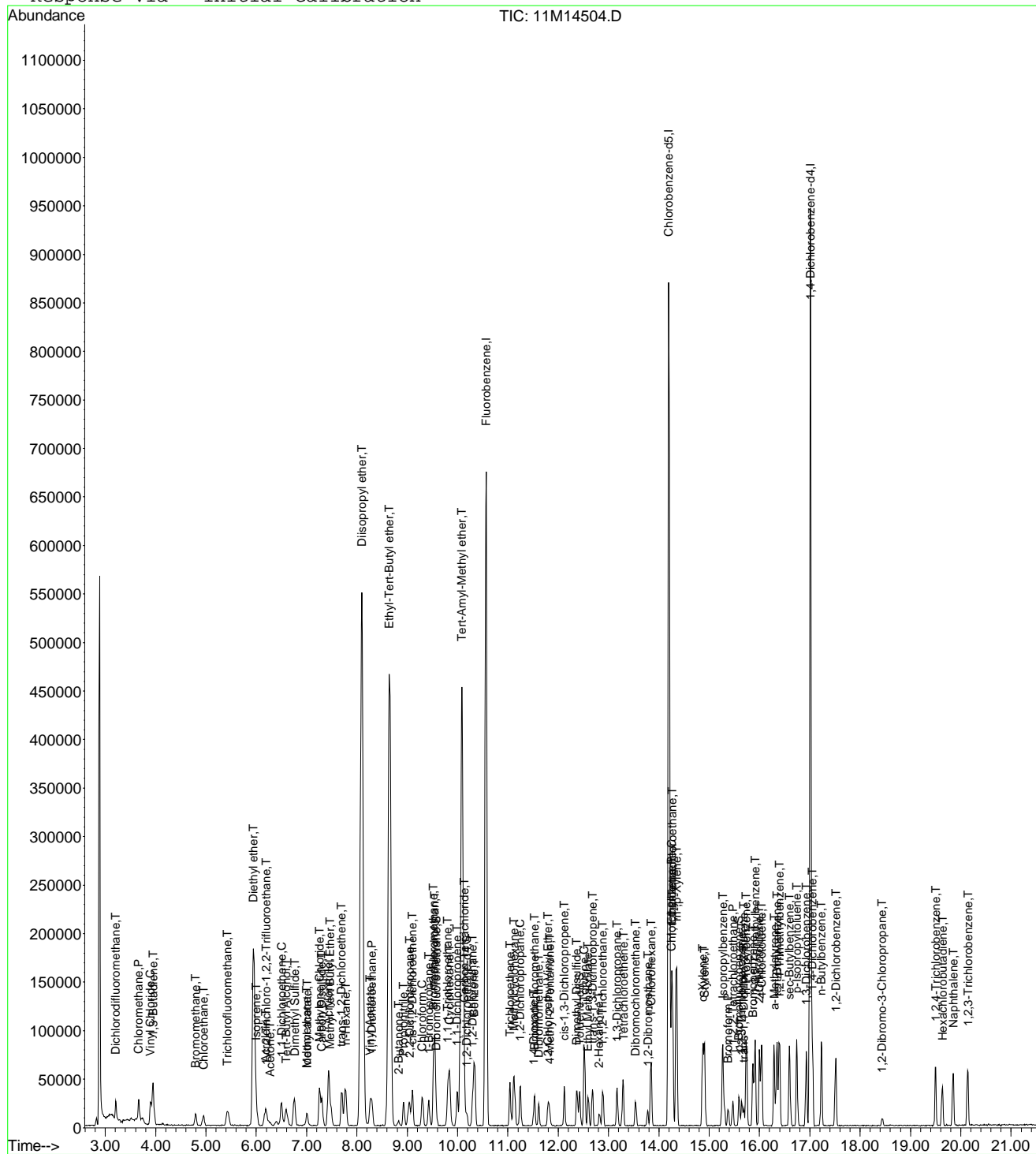
Page 2

Data File : C:\MSDCHEM\1\DATA\101316\11M14504.D
 Acq On : 13 Oct 2016 15:09
 Sample : WG587480-05 2ug/L STD 8260
 Misc : 1,1 STD78477
 MS Integration Params: rteint.p
 Quant Time: Oct 14 9:16 2016

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

Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 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	R.T.	QIon	Response	Conc	Units	Dev(Min)
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	R.T.	QIon	Response	Conc	Units	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

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-Butene	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-Chloropropane	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

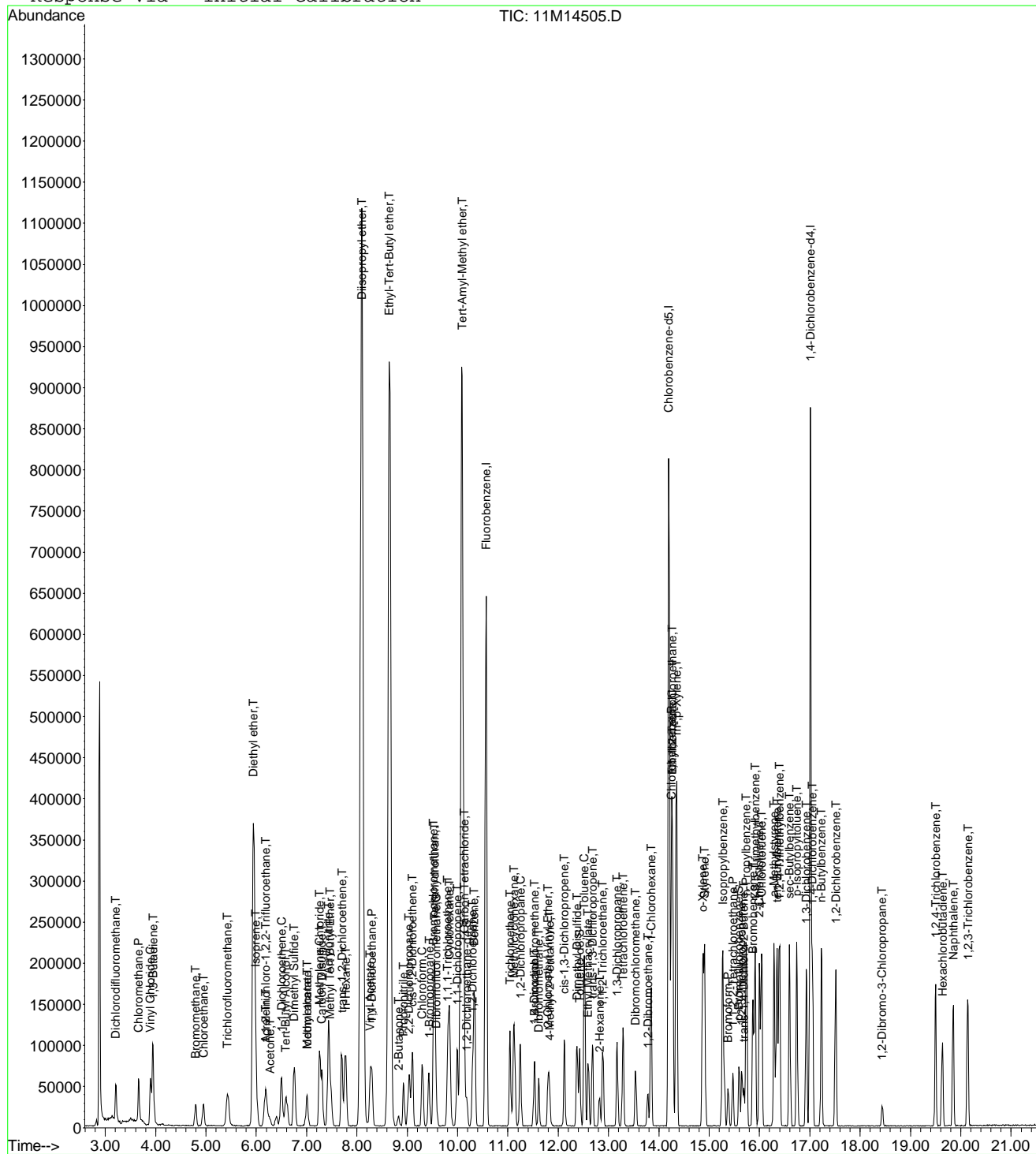
Page 2

Data File : C:\MSDCHEM\1\DATA\101316\11M14505.D
Acq On : 13 Oct 2016 15:38
Sample : WG587480-06 5ug/L STD 8260
Misc : 1,1 STD78477
MS Integration Params: rteint.p
Quant Time: Oct 14 9:16 2016

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

Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 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

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 11M14505.D 8260WT.M Fri Oct 14 09:21:33 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 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	R.T.	QIon	Response	Conc	Units	Dev(Min)
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	R.T.	QIon	Response	Conc	Units	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

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-Butene	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-Chloropropane	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

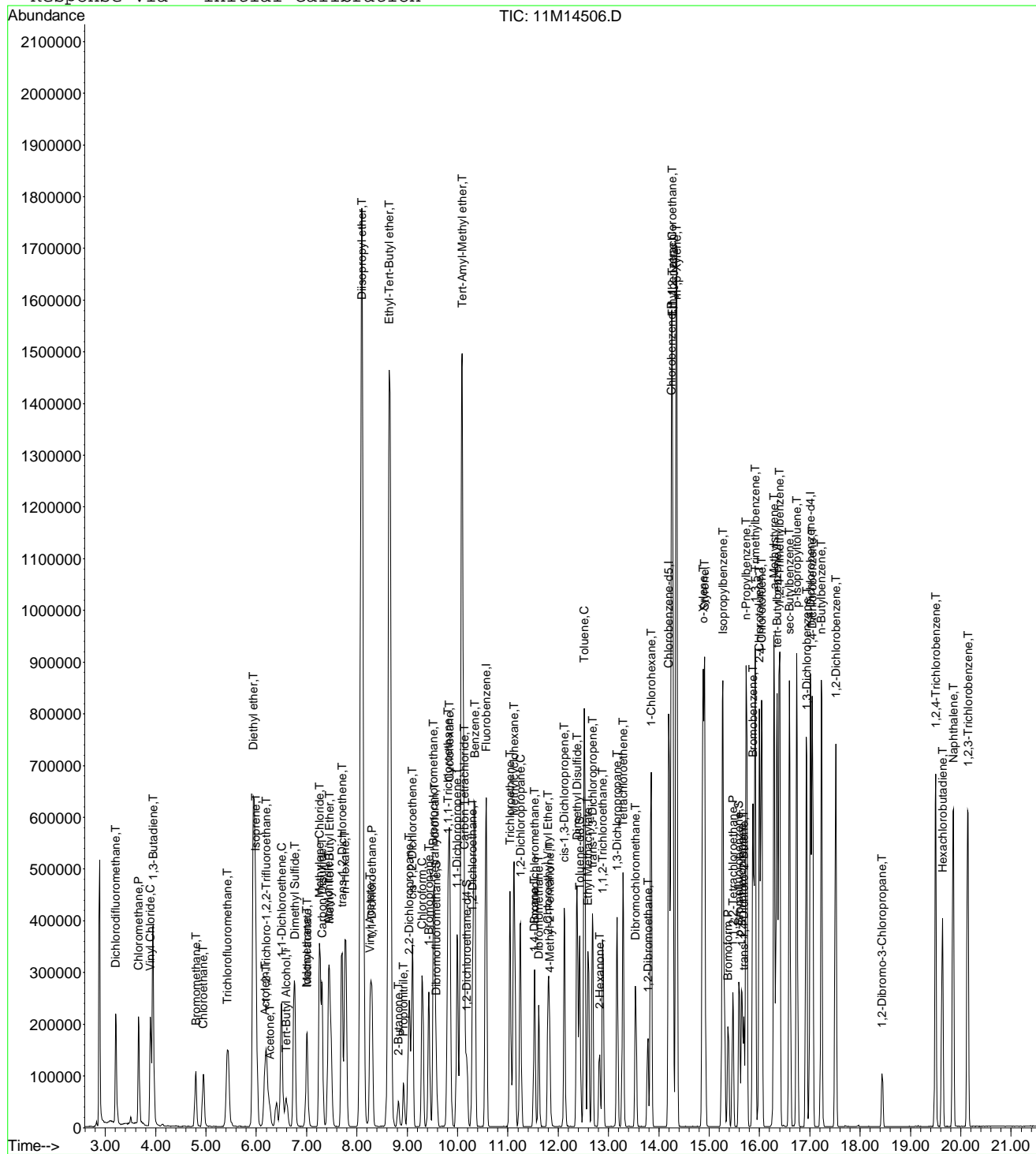
Page 2

Data File : C:\MSDCHEM\1\DATA\101316\11M14506.D
 Acq On : 13 Oct 2016 16:07
 Sample : WG587480-07 20ug/L STD 8260
 Misc : 1,1 STD78477
 MS Integration Params: rteint.p
 Quant Time: Oct 14 9:16 2016

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

Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
 Last Update : Fri Oct 14 09:13:53 2016
 Response via : Initial Calibration



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	R.T.	QIon	Response	Conc	Units	Dev(Min)
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	R.T.	QIon	Response	Conc	Units	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

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-Butene	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-Chloropropane	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

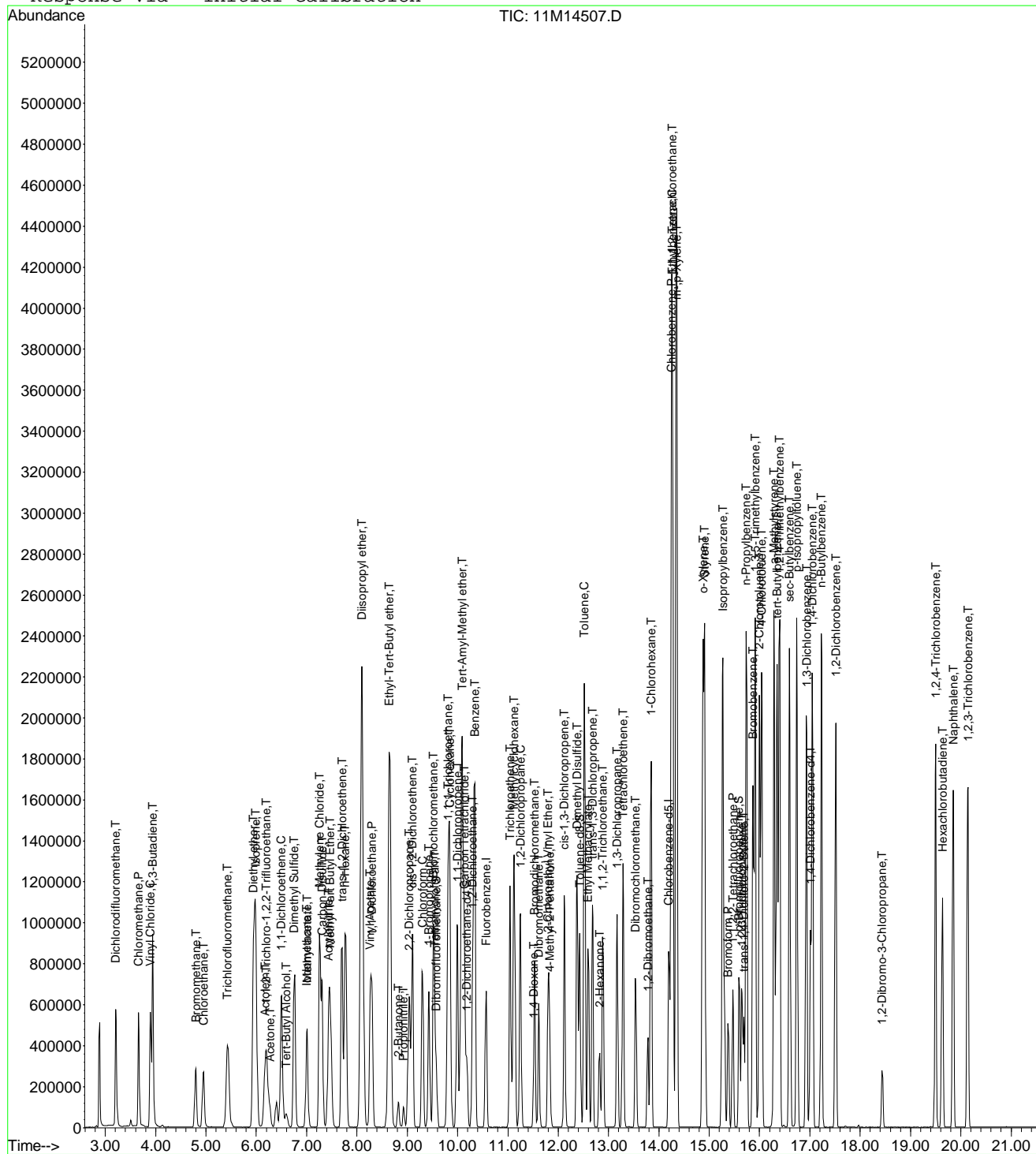
Page 2

Data File : C:\MSDCHEM\1\DATA\101316\11M14507.D
Acq On : 13 Oct 2016 16:36
Sample : WG587480-08 50ug/L STD 8260
Misc : 1,1 STD78477
MS Integration Params: rteint.p
Quant Time: Oct 14 9:16 2016

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

Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 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	R.T.	QIon	Response	Conc	Units	Dev(Min)
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	R.T.	QIon	Response	Conc	Units	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

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-Butene	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-Chloropropane	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

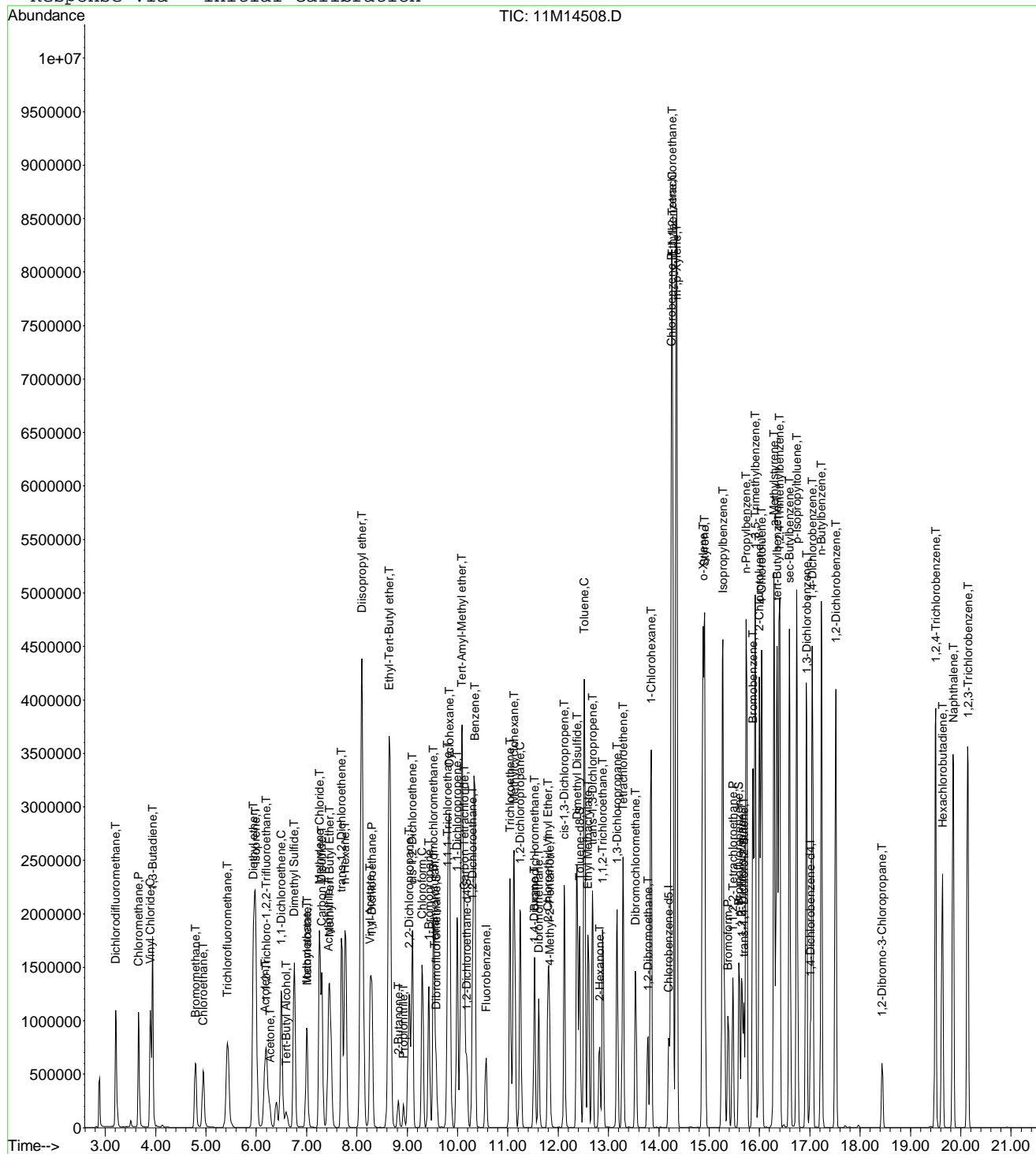
Page 2

Data File : C:\MSDCHEM\1\DATA\101316\11M14508.D
 Acq On : 13 Oct 2016 17:05
 Sample : WG587480-09 100ug/L STD 8260
 Misc : 1,1 STD78477
 MS Integration Params: rteint.p
 Quant Time: Oct 14 9:16 2016

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

Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 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	R.T.	QIon	Response	Conc	Units	Dev(Min)
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	R.T.	QIon	Response	Conc	Units	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

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-Butene	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-Chloropropane	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

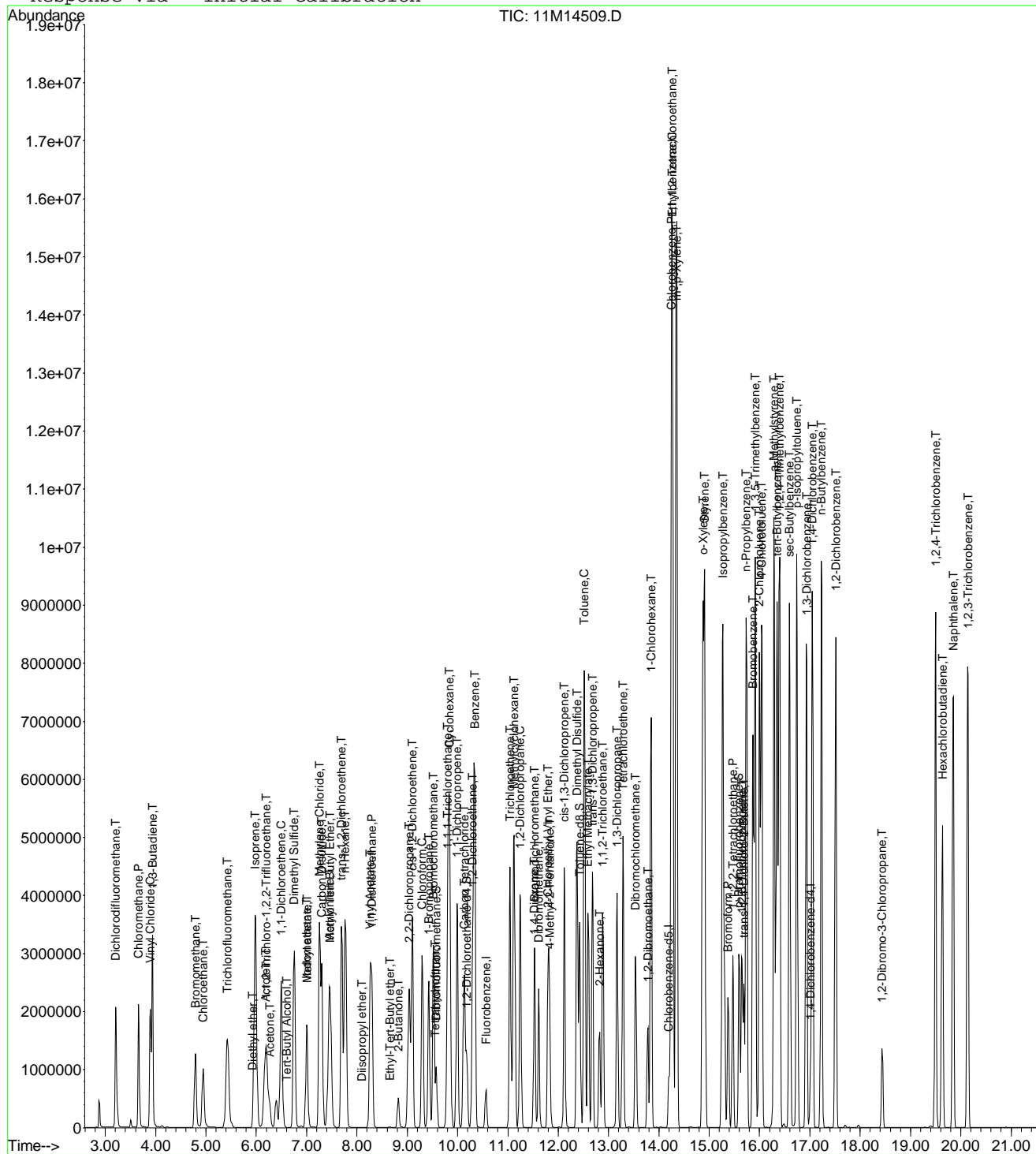
Page 2

Data File : C:\MSDCHEM\1\DATA\101316\11M14509.D
Acq On : 13 Oct 2016 17:33
Sample : WG587480-10 200ug/L STD 8260
Misc : 1,1 STD78477
MS Integration Params: rteint.p
Quant Time: Oct 14 9:16 2016

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

Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
Last Update : Fri Oct 14 09:13:53 2016
Response via : Initial Calibration



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	R.T.	QIon	Response	Conc	Units	Dev(Min)
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	R.T.	QIon	Response	Conc	Units	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

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-Butene	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-Chloropropane	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

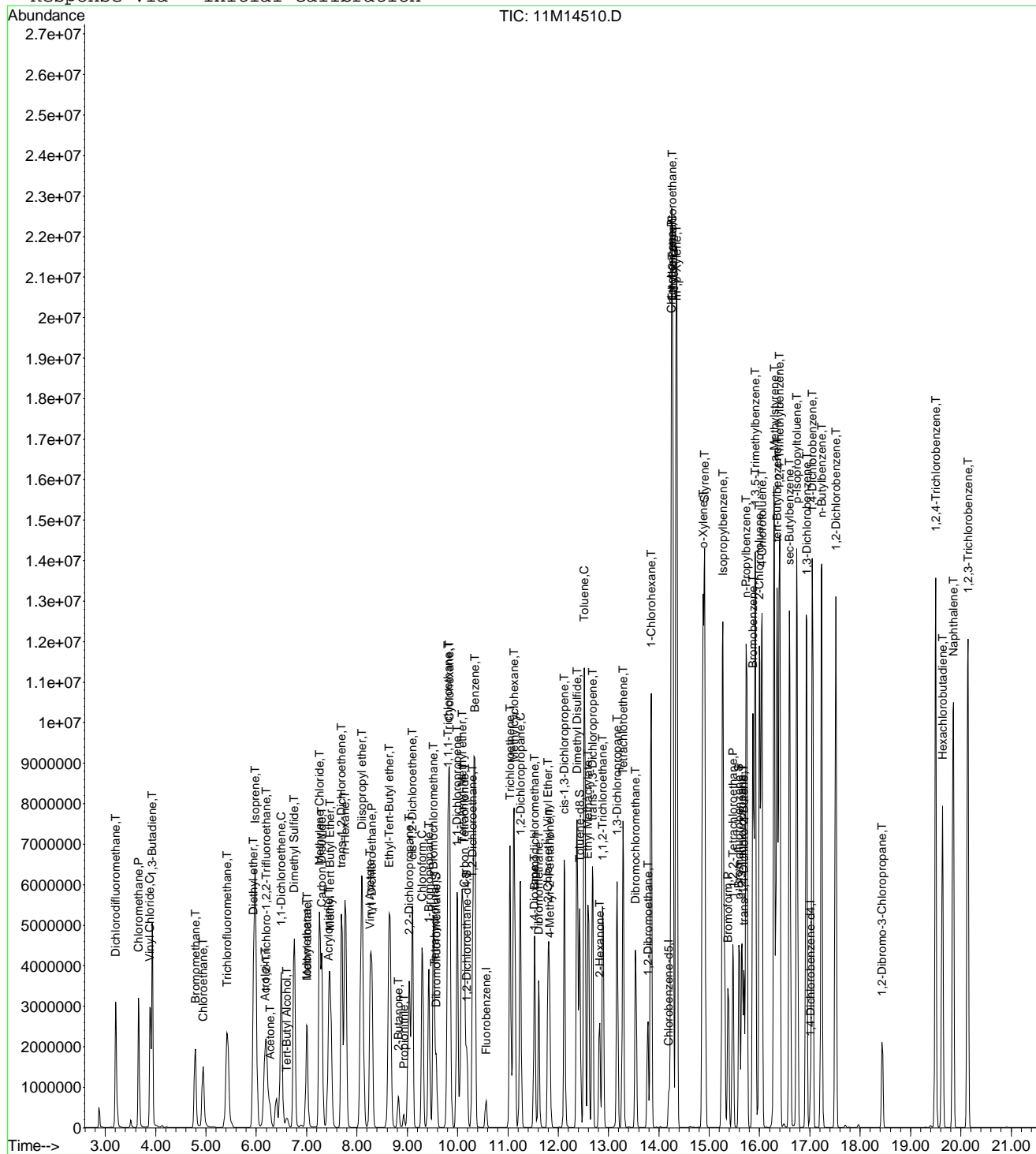
Page 2

Data File : C:\MSDCHEM\1\DATA\101316\11M14510.D
 Acq On : 13 Oct 2016 18:03
 Sample : WG587480-11 300ug/L STD 8260
 Misc : 1,1 STD78477
 MS Integration Params: rteint.p
 Quant Time: Oct 14 9:16 2016

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

Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
 Last Update : Fri Oct 14 09:13:53 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
 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	R.T.	QIon	Response	Conc	Units	Dev(Min)
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	R.T.	QIon	Response	Conc	Units	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

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-Butene	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-Chloropropane	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

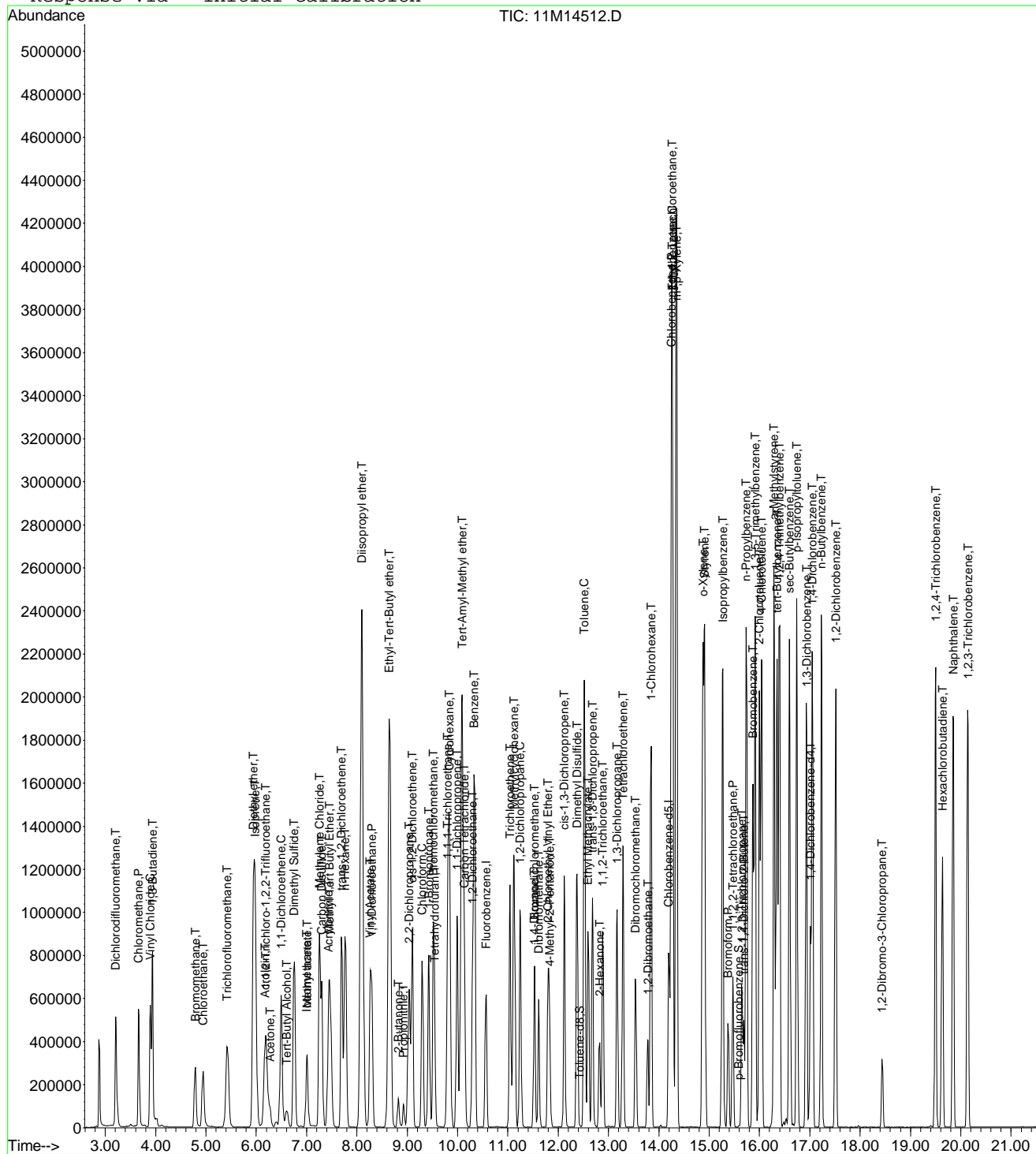
Page 2

Data File : C:\MSDCHEM\1\DATA\101316\11M14512.D
Acq On : 13 Oct 2016 19:00
Sample : WG587480-12 50ug/L ICV 8260
Misc : 1,1 STD78491
MS Integration Params: rteint.p
Quant Time: Oct 14 9:21 2016

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

Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
Title : 8260B/624 (SOP: OVL MSV01) Water 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 : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412321.D Vial: 3
 Acq On : 17 May 2016 9:47 Operator: TMB
 Sample : WG569079-01 100ug/L A9 CCV STD 8260 Inst : HPMS8
 Misc : 1,1 STD76072 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 19 09:01:21 2016 Quant Results File: A9FOOWT.RES

Quant Method : K:\ORGANICS\V...\A9FOOWT.M (RTE Integrator)
 Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
 Last Update : Thu May 19 08:54:31 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIion	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.71	96	709364	25.00	ug/L	0.00
11) Chlorobenzene-d5	14.57	117	505399	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	17.60	152	272922	25.00	ug/L	0.00

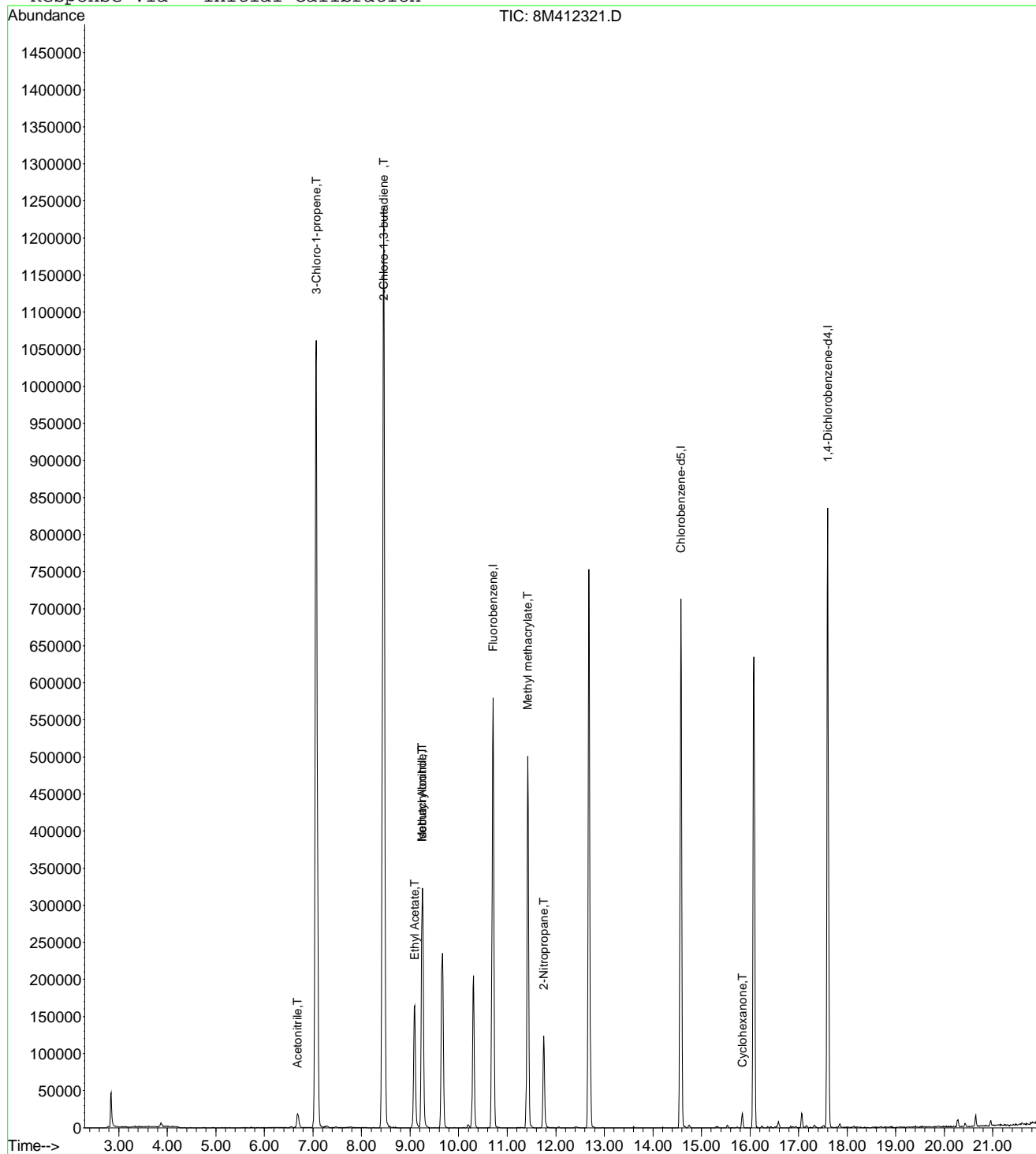
Target Compounds	R.T.	QIion	Response	Conc	Units	Qvalue
2) Acetonitrile	6.69	41	27428	100.2132	ug/L	99
3) 3-Chloro-1-propene	7.07	41	940418	104.3259	ug/L	82
4) 2-Chloro-1,3-butadiene	8.45	53	1188994	104.3183	ug/L	86
5) Ethyl Acetate	9.10	43	283167	104.3264	ug/L	95
6) Methacrylonitrile	9.25	67	155775	104.5365	ug/L #	63
7) Isobutyl Alcohol	9.25	43	17893	197.3629	ug/L #	96
9) Methyl methacrylate	11.42	41	298802	102.0346	ug/L	70
10) 2-Nitropropane	11.75	43	121321	95.8263	ug/L	97
13) Cyclohexanone	15.84	55	11401	102.1363	ug/L #	70

 (#) = qualifier out of range (m) = manual integration
 8M412321.D A9FOOWT.M Thu May 19 09:01:22 2016

Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412321.D Vial: 3
 Acq On : 17 May 2016 9:47 Operator: TMB
 Sample : WG569079-01 100ug/L A9 CCV STD 8260 Inst : HPMS8
 Misc : 1,1 STD76072 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 19 9:00 2016 Quant Results File: A9FOOWT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWT.M (RTE Integrator)
 Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
 Last Update : Thu May 19 08:54:31 2016
 Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412321.D Vial: 3
 Acq On : 17 May 2016 9:47 Operator: TMB
 Sample : WG569079-01 100ug/L A9 CCV STD 8260 Inst : HPMS8
 Misc : 1,1 STD76072 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWT.M (RTE Integrator)
 Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
 Last Update : Thu May 19 08:54:31 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	100.0000	100.2132	-0.2	100	0.00
3 T	3-Chloro-1-propene	100.0000	104.3259	-4.3	100	0.00
4 T	2-Chloro-1,3-butadiene	100.0000	104.3183	-4.3	100	0.00
5 T	Ethyl Acetate	100.0000	104.3264	-4.3	100	0.00
6 T	Methacrylonitrile	100.0000	104.5365	-4.5	100	0.00
7 T	Isobutyl Alcohol	200.0000	197.3629	1.3	100	-0.01
8 T	1-Butanol	-1.0000	0.0000	0.0	0	0.02
9 T	Methyl methacrylate	100.0000	102.0346	-2.0	100	0.00
10 T	2-Nitropropane	100.0000	95.8263	4.2	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	100.0000	102.1363	-2.1	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 8M412321.D A9FOOWT.M Thu May 19 09:02:48 2016

Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412322.D Vial: 4
 Acq On : 17 May 2016 10:16 Operator: TMB
 Sample : WG569079-03 50ug/L A9/FOO STD 8260 Inst : HPMS8
 Misc : 1,1 STD76072 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 19 09:20:35 2016 Quant Results File: A9FOOWT.RES

Quant Method : K:\ORGANICS\V...\A9FOOWT.M (RTE Integrator)
 Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
 Last Update : Thu May 19 08:54:31 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIion	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.71	96	677339	25.00	ug/L	0.00
11) Chlorobenzene-d5	14.57	117	488377	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	17.60	152	260939	25.00	ug/L	0.00

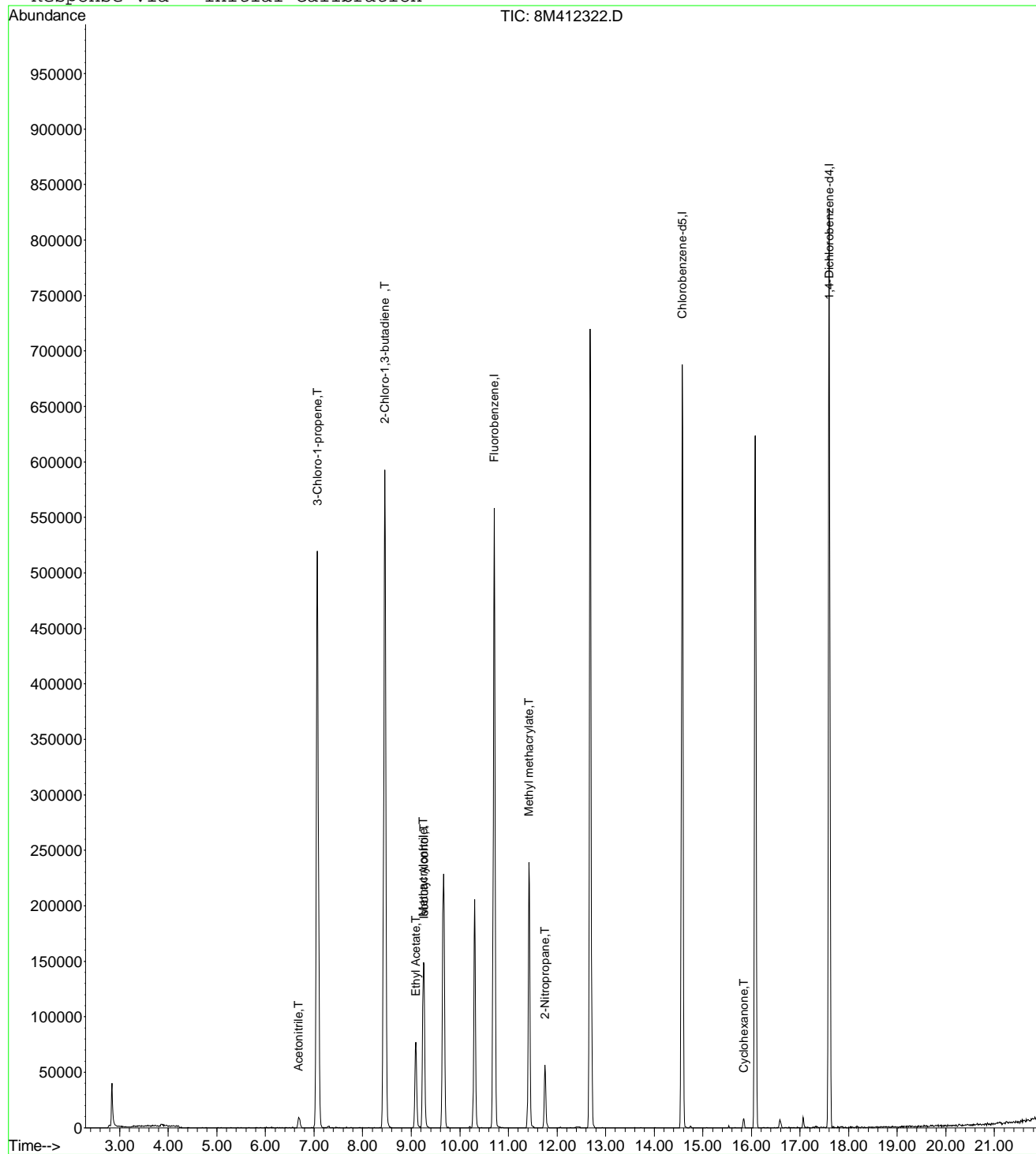
Target Compounds	R.T.	QIion	Response	Conc	Units	Qvalue
2) Acetonitrile	6.69	41	13323	50.9795	ug/L	98
3) 3-Chloro-1-propene	7.07	41	453655	52.7060	ug/L	83
4) 2-Chloro-1,3-butadiene	8.45	53	568765	52.2609	ug/L	87
5) Ethyl Acetate	9.09	43	131636	50.7913	ug/L	97
6) Methacrylonitrile	9.25	67	74064	52.0523	ug/L #	62
7) Isobutyl Alcohol	9.26	43	8483	97.9930	ug/L	95
9) Methyl methacrylate	11.42	41	143892	51.4593	ug/L	70
10) 2-Nitropropane	11.75	43	56559	46.7858	ug/L	95
13) Cyclohexanone	15.84	55	5225	48.9579	ug/L	83

 (#) = qualifier out of range (m) = manual integration
 8M412322.D A9FOOWT.M Thu May 19 09:20:36 2016

Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412322.D Vial: 4
Acq On : 17 May 2016 10:16 Operator: TMB
Sample : WG569079-03 50ug/L A9/FOO STD 8260 Inst : HPMS8
Misc : 1,1 STD76072 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 19 9:19 2016 Quant Results File: A9FOOWT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
Last Update : Thu May 19 08:54:31 2016
Response via : Initial Calibration



8M412322.D A9FOOWT.M Thu May 19 09:20:36 2016

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Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412322.D Vial: 4
 Acq On : 17 May 2016 10:16 Operator: TMB
 Sample : WG569079-03 50ug/L A9/FOO STD 8260 Inst : HPMS8
 Misc : 1,1 STD76072 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWT.M (RTE Integrator)
 Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
 Last Update : Thu May 19 08:54:31 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	50.9795	-2.0	100	0.00
3 T	3-Chloro-1-propene	50.0000	52.7060	-5.4	100	0.00
4 T	2-Chloro-1,3-butadiene	50.0000	52.2609	-4.5	100	0.00
5 T	Ethyl Acetate	50.0000	50.7913	-1.6	100	0.00
6 T	Methacrylonitrile	50.0000	52.0523	-4.1	100	0.00
7 T	Isobutyl Alcohol	100.0000	97.9929	2.0	100	0.00
8 T	1-Butanol	-1.0000	0.0000	0.0	0	0.02
9 T	Methyl methacrylate	50.0000	51.4592	-2.9	100	0.00
10 T	2-Nitropropane	50.0000	46.7858	6.4	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	48.9579	2.1	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 8M412322.D A9FOOWT.M Thu May 19 09:02:32 2016

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Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412323.D Vial: 5
 Acq On : 17 May 2016 10:44 Operator: TMB
 Sample : WG569079-04 20ug/L A9/FOO STD 8260 Inst : HPMS8
 Misc : 1,1 STD76072 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 19 09:22:33 2016 Quant Results File: A9FOOWT.RES

Quant Method : K:\ORGANICS\V...\A9FOOWT.M (RTE Integrator)
 Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
 Last Update : Thu May 19 08:54:31 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.71	96	652985	25.00	ug/L	0.00
11) Chlorobenzene-d5	14.57	117	476539	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	17.60	152	256082	25.00	ug/L	0.00

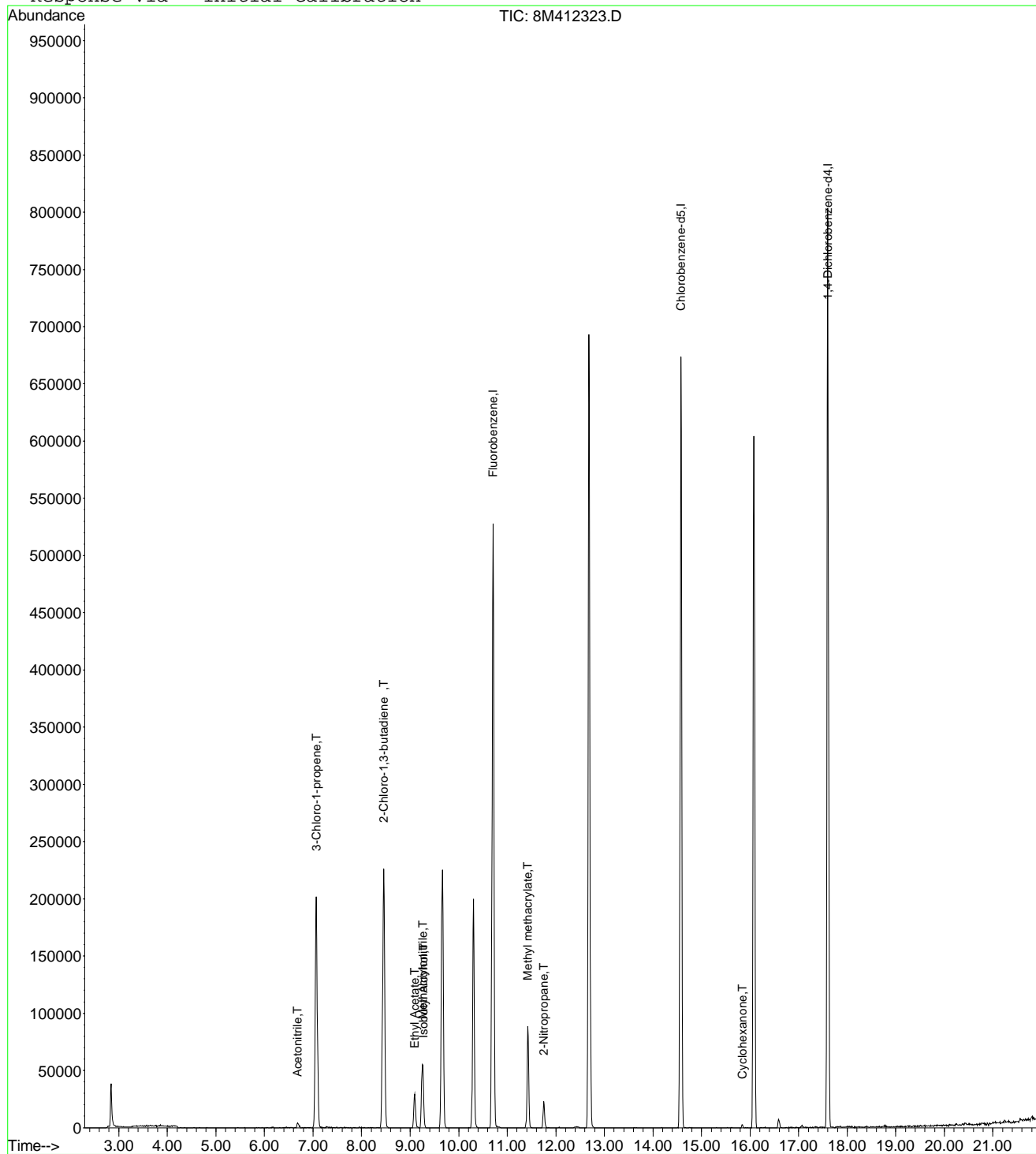
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Acetonitrile	6.69	41	4873	19.3416	ug/L	80
3) 3-Chloro-1-propene	7.07	41	172467	20.7847	ug/L	83
4) 2-Chloro-1,3-butadiene	8.45	53	219296	20.9015	ug/L	87
5) Ethyl Acetate	9.09	43	50385	20.1659	ug/L	100
6) Methacrylonitrile	9.26	67	28119	20.4992	ug/L #	63
7) Isobutyl Alcohol	9.27	43	2774	33.2395	ug/L #	8
9) Methyl methacrylate	11.42	41	55309	20.5176	ug/L	73
10) 2-Nitropropane	11.75	43	21584	18.5202	ug/L	99
13) Cyclohexanone	15.84	55	2230	21.2913	ug/L	87

 (#) = qualifier out of range (m) = manual integration
 8M412323.D A9FOOWT.M Thu May 19 09:22:33 2016

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Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412323.D Vial: 5
Acq On : 17 May 2016 10:44 Operator: TMB
Sample : WG569079-04 20ug/L A9/FOO STD 8260 Inst : HPMS8
Misc : 1,1 STD76072 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 19 9:21 2016 Quant Results File: A9FOOWT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
Last Update : Thu May 19 08:54:31 2016
Response via : Initial Calibration



8M412323.D A9FOOWT.M Thu May 19 09:22:34 2016

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Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412323.D Vial: 5
 Acq On : 17 May 2016 10:44 Operator: TMB
 Sample : WG569079-04 20ug/L A9/FOO STD 8260 Inst : HPMS8
 Misc : 1,1 STD76072 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWT.M (RTE Integrator)
 Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
 Last Update : Thu May 19 08:54:31 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	19.3416	3.3	100	0.00
3 T	3-Chloro-1-propene	20.0000	20.7847	-3.9	100	0.00
4 T	2-Chloro-1,3-butadiene	20.0000	20.9015	-4.5	100	0.00
5 T	Ethyl Acetate	20.0000	20.1659	-0.8	100	0.00
6 T	Methacrylonitrile	20.0000	20.4992	-2.5	100	0.00
7 T	Isobutyl Alcohol	-1.0000	33.2395	0.0	0	0.00
8 T	1-Butanol	-1.0000	0.0000	0.0	0	-10.18#
9 T	Methyl methacrylate	20.0000	20.5176	-2.6	100	0.00
10 T	2-Nitropropane	20.0000	18.5203	7.4	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	20.0000	21.2913	-6.5	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 8M412323.D A9FOOWT.M Thu May 19 09:02:17 2016

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Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412324.D Vial: 6
 Acq On : 17 May 2016 11:13 Operator: TMB
 Sample : WG569079-05 5ug/L A9/FOO STD 8260 Inst : HPMS8
 Misc : 1,1 STD76072 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 19 09:22:43 2016 Quant Results File: A9FOOWT.RES

Quant Method : K:\ORGANICS\V...\A9FOOWT.M (RTE Integrator)
 Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
 Last Update : Thu May 19 08:54:31 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIion	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.71	96	665645	25.00	ug/L	0.00
11) Chlorobenzene-d5	14.58	117	483812	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	17.60	152	257678	25.00	ug/L	0.00

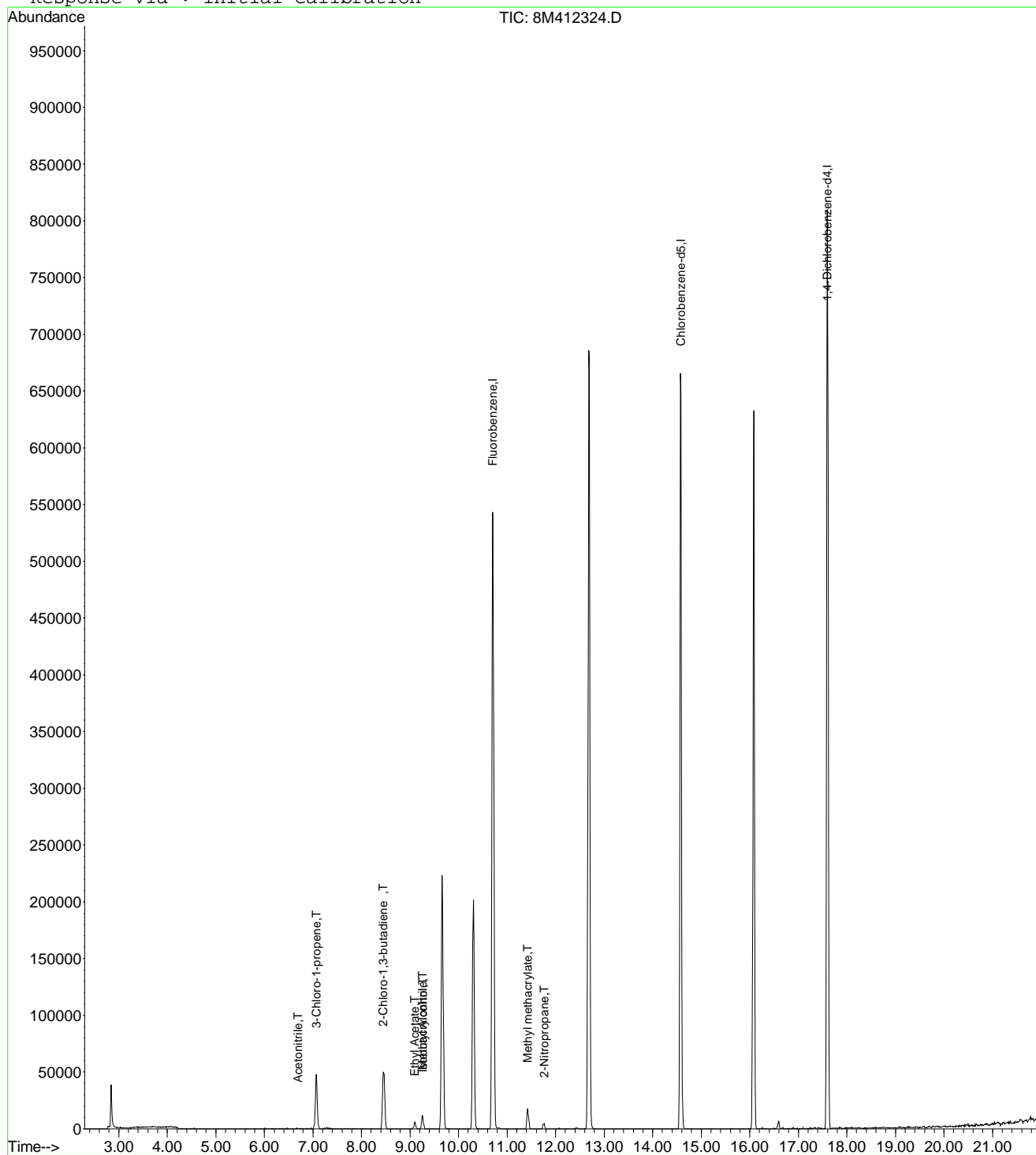
Target Compounds	R.T.	QIion	Response	Conc	Units	Qvalue
2) Acetonitrile	6.70	41	405	1.5769	ug/L #	23
3) 3-Chloro-1-propene	7.07	41	40699	4.8115	ug/L	84
4) 2-Chloro-1,3-butadiene	8.45	53	48973	4.5789	ug/L	81
5) Ethyl Acetate	9.09	43	10675	4.1913	ug/L	95
6) Methacrylonitrile	9.26	67	5417	3.8740	ug/L #	72
7) Isobutyl Alcohol	9.27	43	441	5.1838	ug/L #	8
9) Methyl methacrylate	11.43	41	11811	4.2981	ug/L	65
10) 2-Nitropropane	11.76	43	4170	3.5100	ug/L	98

 (#) = qualifier out of range (m) = manual integration
 8M412324.D A9FOOWT.M Thu May 19 09:22:43 2016

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Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412324.D Vial: 6
Acq On : 17 May 2016 11:13 Operator: TMB
Sample : WG569079-05 5ug/L A9/FOO STD 8260 Inst : HPMS8
Misc : 1,1 STD76072 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 19 9:21 2016 Quant Results File: A9FOOWT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
Last Update : Thu May 19 08:54:31 2016
Response via : Initial Calibration



8M412324.D A9FOOWT.M Thu May 19 09:22:43 2016

Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412324.D Vial: 6
 Acq On : 17 May 2016 11:13 Operator: TMB
 Sample : WG569079-05 5ug/L A9/FOO STD 8260 Inst : HPMS8
 Misc : 1,1 STD76072 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWT.M (RTE Integrator)
 Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
 Last Update : Thu May 19 08:54:31 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	-1.0000	1.5769	0.0	0	0.00
3 T	3-Chloro-1-propene	5.0000	4.8115	3.8	100	0.00
4 T	2-Chloro-1,3-butadiene	5.0000	4.5789	8.4	100	0.00
5 T	Ethyl Acetate	5.0000	4.1913	16.2	100	0.00
6 T	Methacrylonitrile	5.0000	3.8740	22.5	100	0.00
7 T	Isobutyl Alcohol	-1.0000	5.1838	0.0	0	0.00
8 T	1-Butanol	-1.0000	0.0000	0.0	0	-10.18#
9 T	Methyl methacrylate	5.0000	4.2981	14.0	100	0.00
10 T	2-Nitropropane	-1.0000	3.5100	0.0	0	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	0.0000	0.0	0	-15.84#

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 8M412324.D A9FOOWT.M Thu May 19 09:02:03 2016

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Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412325.D Vial: 7
 Acq On : 17 May 2016 11:42 Operator: TMB
 Sample : WG569079-06 200ug/L A9/FOO STD 8260 Inst : HPMS8
 Misc : 1,1 STD76072 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 19 09:01:27 2016 Quant Results File: A9FOOWT.RES

Quant Method : K:\ORGANICS\V...\A9FOOWT.M (RTE Integrator)
 Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
 Last Update : Thu May 19 08:54:31 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.71	96	682012	25.00	ug/L	0.00
11) Chlorobenzene-d5	14.58	117	491515	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	17.60	152	261877	25.00	ug/L	0.00

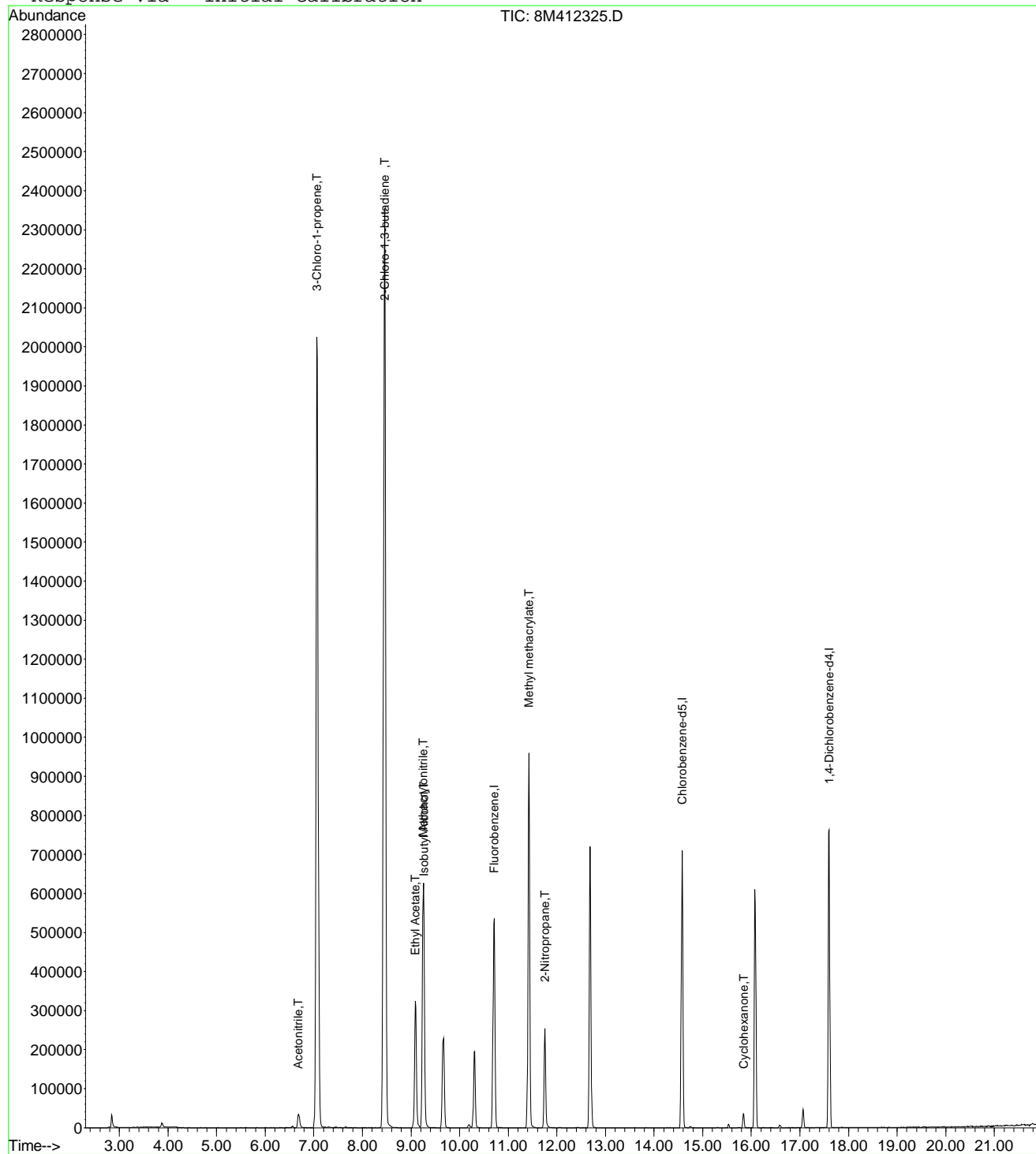
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Acetonitrile	6.68	41	52022	197.6946	ug/L	97
3) 3-Chloro-1-propene	7.06	41	1768403	204.0468	ug/L	83
4) 2-Chloro-1,3-butadiene	8.46	53	2283706	208.4003	ug/L	87
5) Ethyl Acetate	9.09	43	537585	206.0040	ug/L	94
6) Methacrylonitrile	9.25	67	297408	207.5869	ug/L #	63
7) Isobutyl Alcohol	9.26	43	34441	395.1256	ug/L	95
9) Methyl methacrylate	11.42	41	577612	205.1526	ug/L	72
10) 2-Nitropropane	11.75	43	248395	204.0652	ug/L	95
13) Cyclohexanone	15.85	55	19752	184.4122	ug/L #	59

 (#) = qualifier out of range (m) = manual integration
 8M412325.D A9FOOWT.M Thu May 19 09:01:28 2016

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Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412325.D Vial: 7
Acq On : 17 May 2016 11:42 Operator: TMB
Sample : WG569079-06 200ug/L A9/FOO STD 8260 Inst : HPMS8
Misc : 1,1 STD76072 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 19 9:00 2016 Quant Results File: A9FOOWT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
Last Update : Thu May 19 08:54:31 2016
Response via : Initial Calibration



8M412325.D A9FOOWT.M Thu May 19 09:01:28 2016

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Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412326.D Vial: 8
 Acq On : 17 May 2016 12:40 Operator: TMB
 Sample : WG569079-07 300ug/L A9/FOO STD 8260 Inst : HPMS8
 Misc : 1,1 STD76072 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 19 09:01:29 2016 Quant Results File: A9FOOWT.RES

Quant Method : K:\ORGANICS\V...\A9FOOWT.M (RTE Integrator)
 Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
 Last Update : Thu May 19 08:54:31 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.71	96	694903	25.00	ug/L	0.00
11) Chlorobenzene-d5	14.57	117	496643	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	17.60	152	267309	25.00	ug/L	0.00

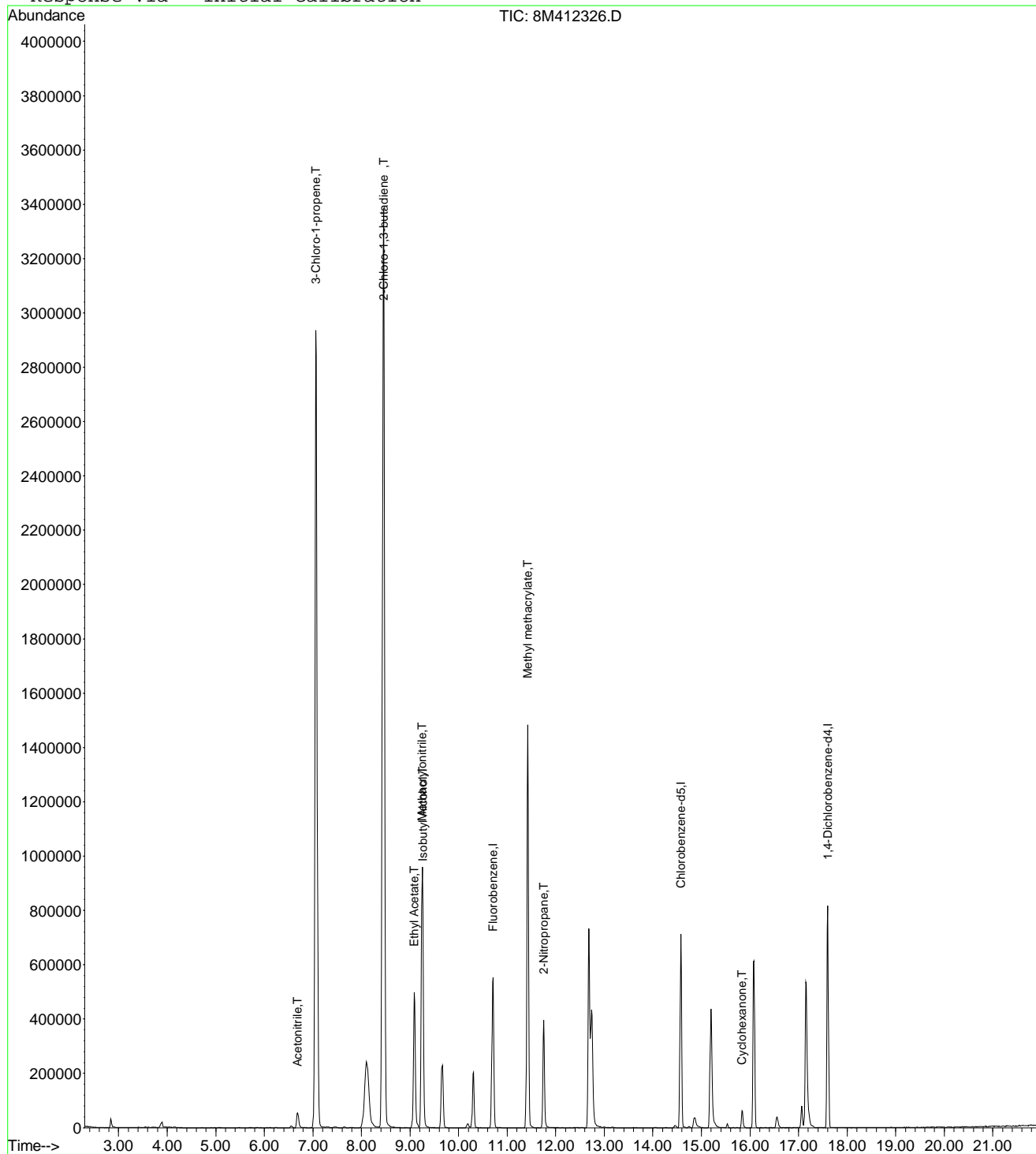
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Acetonitrile	6.69	41	81471	303.8636	ug/L	98
3) 3-Chloro-1-propene	7.06	41	2563559	290.3084	ug/L	83
4) 2-Chloro-1,3-butadiene	8.46	53	3270971	292.9562	ug/L	86
5) Ethyl Acetate	9.09	43	821184	308.8424	ug/L	95
6) Methacrylonitrile	9.25	67	451708	309.4374	ug/L #	62
7) Isobutyl Alcohol	9.26	43	55071	620.0836	ug/L	94
9) Methyl methacrylate	11.42	41	874430	304.8132	ug/L	70
10) 2-Nitropropane	11.75	43	392965	316.8456	ug/L	94
13) Cyclohexanone	15.84	55	33523	306.6233	ug/L #	61

 (#) = qualifier out of range (m) = manual integration
 8M412326.D A9FOOWT.M Thu May 19 09:01:29 2016

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Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412326.D Vial: 8
 Acq On : 17 May 2016 12:40 Operator: TMB
 Sample : WG569079-07 300ug/L A9/FOO STD 8260 Inst : HPMS8
 Misc : 1,1 STD76072 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 19 9:00 2016 Quant Results File: A9FOOWT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWT.M (RTE Integrator)
 Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
 Last Update : Thu May 19 08:54:31 2016
 Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412327.D Vial: 9
 Acq On : 17 May 2016 13:10 Operator: TMB
 Sample : WG569079-08 400ug/L A9/FOO STD 8260 Inst : HPMS8
 Misc : 1,1 STD76072 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 19 09:01:30 2016 Quant Results File: A9FOOWT.RES

Quant Method : K:\ORGANICS\V...\A9FOOWT.M (RTE Integrator)
 Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
 Last Update : Thu May 19 08:54:31 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.71	96	700514	25.00	ug/L	0.00
11) Chlorobenzene-d5	14.57	117	502552	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	17.60	152	270883	25.00	ug/L	0.00

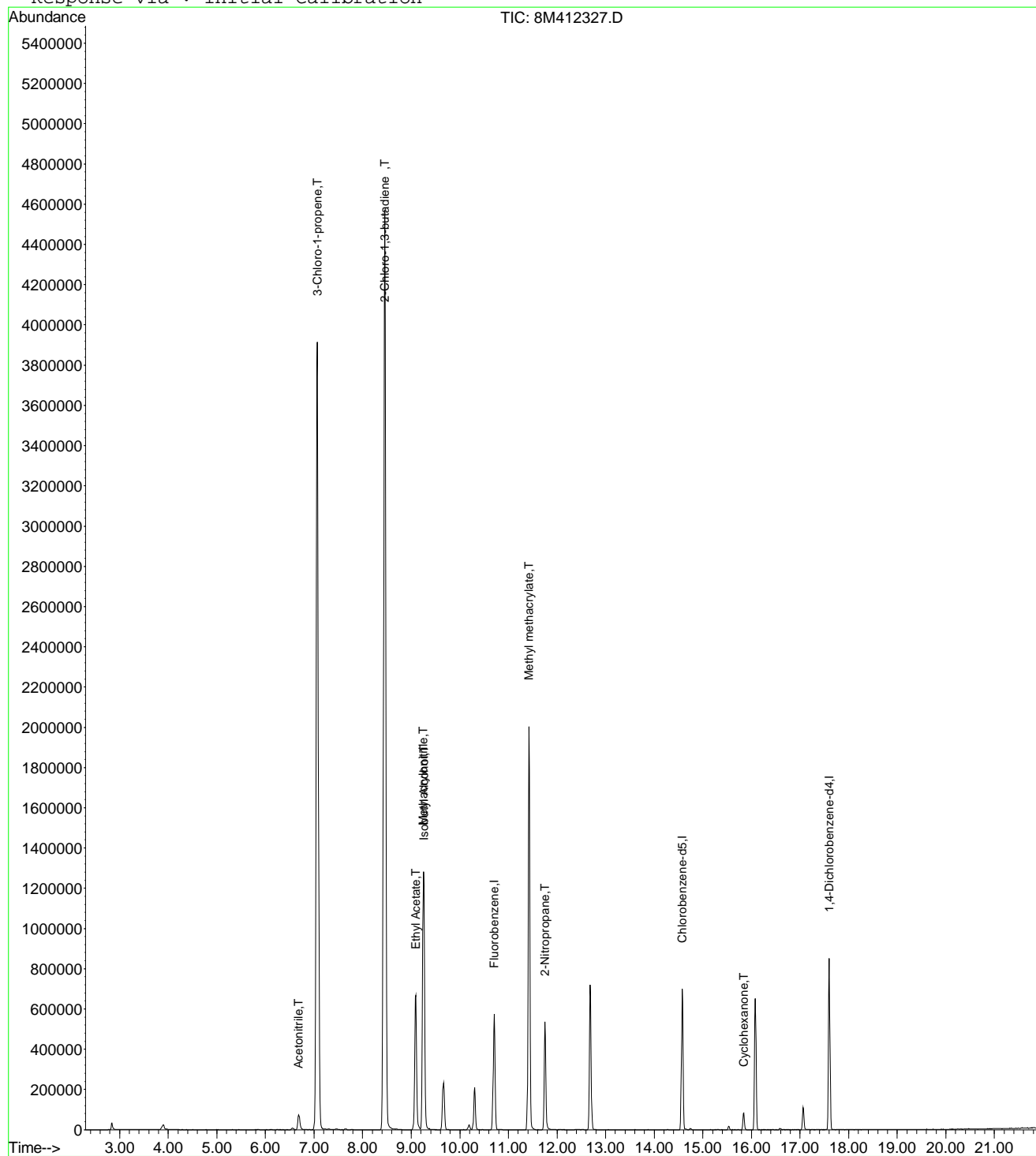
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Acetonitrile	6.69	41	110761	409.7980	ug/L	97
3) 3-Chloro-1-propene	7.07	41	3406131	382.6353	ug/L	82
4) 2-Chloro-1,3-butadiene	8.45	53	4356691	387.0705	ug/L	85
5) Ethyl Acetate	9.09	43	1116818	416.6642	ug/L	94
6) Methacrylonitrile	9.25	67	615482	418.2517	ug/L #	62
7) Isobutyl Alcohol	9.26	43	75472	842.9862	ug/L	97
9) Methyl methacrylate	11.42	41	1199317	414.7153	ug/L	71
10) 2-Nitropropane	11.75	43	538580	430.7760	ug/L	94
13) Cyclohexanone	15.84	55	45874	414.0575	ug/L #	55

 (#) = qualifier out of range (m) = manual integration
 8M412327.D A9FOOWT.M Thu May 19 09:01:31 2016

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Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412327.D Vial: 9
Acq On : 17 May 2016 13:10 Operator: TMB
Sample : WG569079-08 400ug/L A9/FOO STD 8260 Inst : HPMS8
Misc : 1,1 STD76072 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 19 9:00 2016 Quant Results File: A9FOOWT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
Last Update : Thu May 19 08:54:31 2016
Response via : Initial Calibration



8M412327.D A9FOOWT.M Thu May 19 09:01:31 2016

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Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412328.D Vial: 10
 Acq On : 17 May 2016 13:39 Operator: TMB
 Sample : WG569079-09 500ug/L A9/FOO STD 8260 Inst : HPMS8
 Misc : 1,1 STD76072 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 19 09:01:31 2016 Quant Results File: A9FOOWT.RES

Quant Method : K:\ORGANICS\V...\A9FOOWT.M (RTE Integrator)
 Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
 Last Update : Thu May 19 08:54:31 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIion	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.71	96	695694	25.00	ug/L	0.00
11) Chlorobenzene-d5	14.57	117	495257	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	17.60	152	266442	25.00	ug/L	0.00

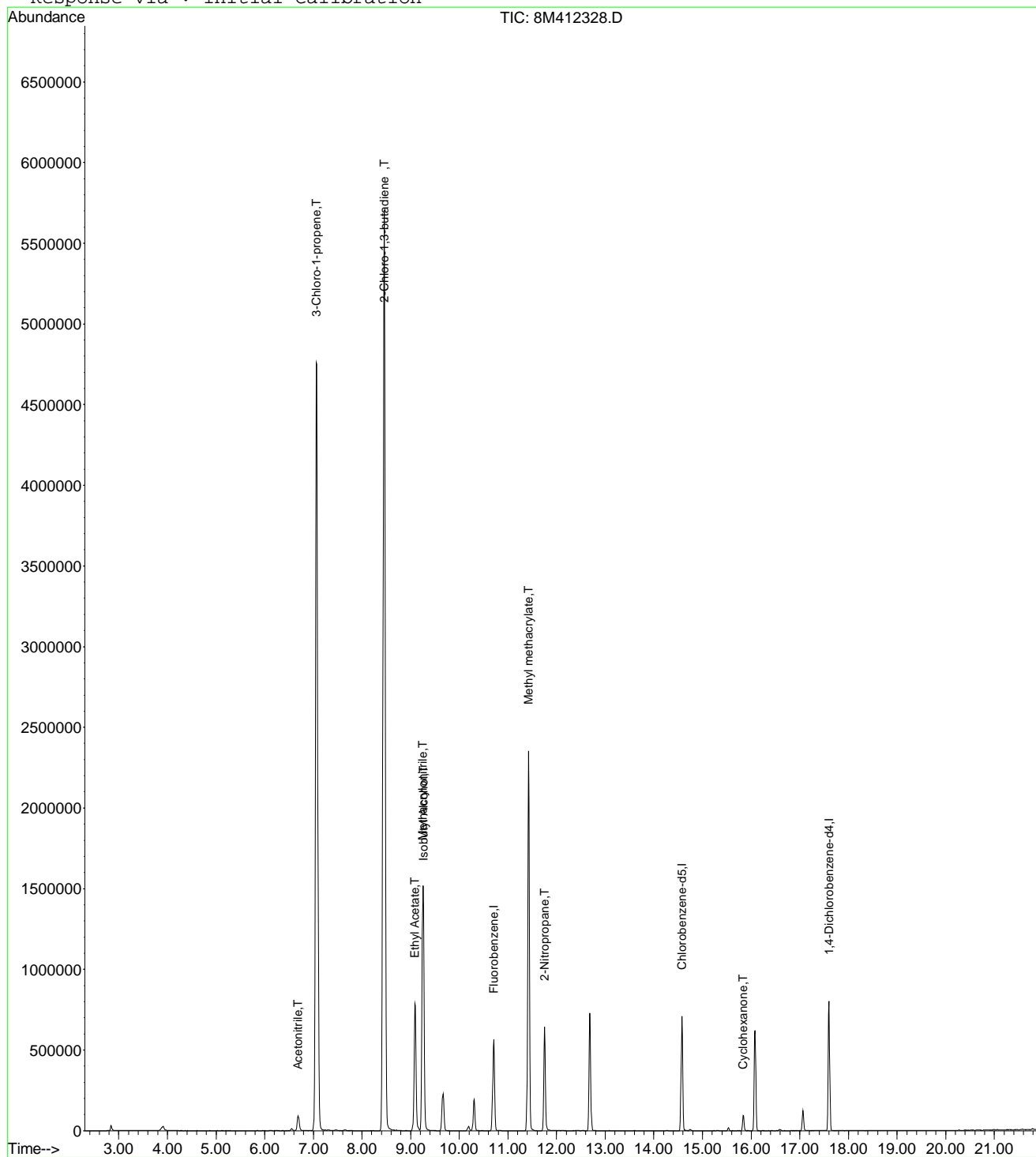
Target Compounds	R.T.	QIion	Response	Conc	Units	Qvalue
2) Acetonitrile	6.69	41	132245	492.6753	ug/L	99
3) 3-Chloro-1-propene	7.06	41	4228273	478.2834	ug/L	82
4) 2-Chloro-1,3-butadiene	8.46	53	5390856	482.2693	ug/L	85
5) Ethyl Acetate	9.09	43	1321922	496.6017	ug/L	95
6) Methacrylonitrile	9.25	67	729852	499.4083	ug/L #	61
7) Isobutyl Alcohol	9.26	43	85200	958.2367	ug/L	96
9) Methyl methacrylate	11.42	41	1416438	493.1877	ug/L	72
10) 2-Nitropropane	11.75	43	637335	513.2956	ug/L	93
13) Cyclohexanone	15.84	55	52070	477.8160	ug/L #	61

 (#) = qualifier out of range (m) = manual integration
 8M412328.D A9FOOWT.M Thu May 19 09:01:32 2016

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Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412328.D Vial: 10
Acq On : 17 May 2016 13:39 Operator: TMB
Sample : WG569079-09 500ug/L A9/FOO STD 8260 Inst : HPMS8
Misc : 1,1 STD76072 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: May 19 9:00 2016 Quant Results File: A9FOOWT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWT.M (RTE Integrator)
Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
Last Update : Thu May 19 08:54:31 2016
Response via : Initial Calibration



8M412328.D A9FOOWT.M Thu May 19 09:01:32 2016

Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412331.D Vial: 13
 Acq On : 17 May 2016 15:06 Operator: TMB
 Sample : WG569079-10 100ug/L ALT SRC STD 8260 Inst : HPMS8
 Misc : 1,1 STD75801 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 19 09:01:32 2016 Quant Results File: A9FOOWT.RES

Quant Method : K:\ORGANICS\V...\A9FOOWT.M (RTE Integrator)
 Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
 Last Update : Thu May 19 08:54:31 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.71	96	676765	25.00	ug/L	0.00
11) Chlorobenzene-d5	14.57	117	486447	25.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4	17.60	152	263036	25.00	ug/L	0.00

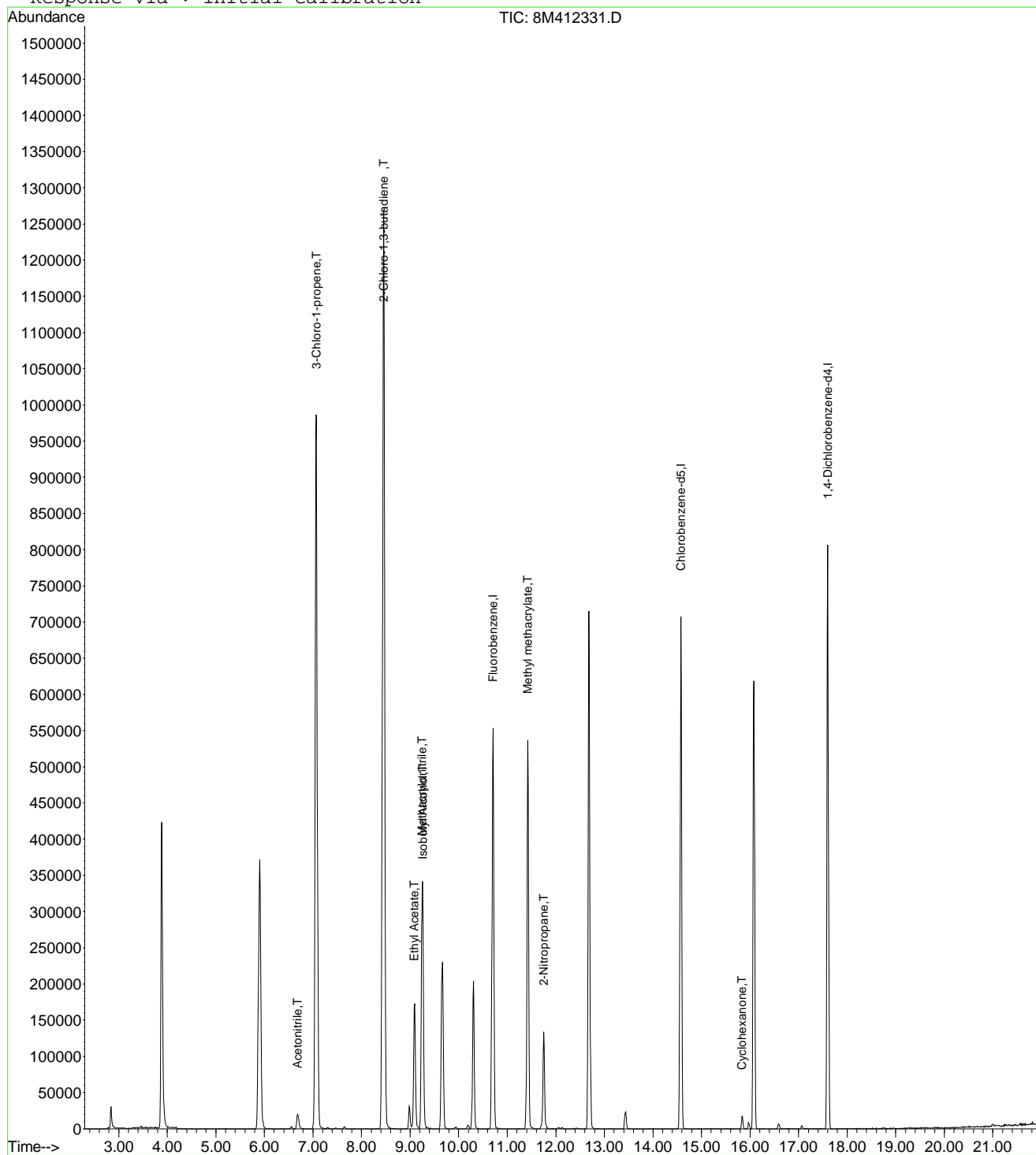
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Acetonitrile	6.69	41	29876	114.4154	ug/L	97
3) 3-Chloro-1-propene	7.07	41	858035	99.7718	ug/L	83
4) 2-Chloro-1,3-butadiene	8.45	53	1224194	112.5803	ug/L	87
5) Ethyl Acetate	9.09	43	295545	114.1317	ug/L	96
6) Methacrylonitrile	9.25	67	161574	113.6509	ug/L #	63
7) Isobutyl Alcohol	9.26	43	19948	230.6285	ug/L	94
9) Methyl methacrylate	11.42	41	326465	116.8508	ug/L	72
10) 2-Nitropropane	11.75	43	131261	108.6716	ug/L	94
13) Cyclohexanone	15.83	55	10459	97.2189	ug/L #	74

 (#) = qualifier out of range (m) = manual integration
 8M412331.D A9FOOWT.M Thu May 19 09:01:33 2016

Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412331.D Vial: 13
 Acq On : 17 May 2016 15:06 Operator: TMB
 Sample : WG569079-10 100ug/L ALT SRC STD 8260 Inst : HPMS8
 Misc : 1,1 STD75801 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: May 19 9:00 2016 Quant Results File: A9FOOWT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWT.M (RTE Integrator)
 Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
 Last Update : Thu May 19 08:54:31 2016
 Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\051716\8M412331.D Vial: 13
 Acq On : 17 May 2016 15:06 Operator: TMB
 Sample : WG569079-10 100ug/L ALT SRC STD 8260 Inst : HPMS8
 Misc : 1,1 STD75801 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWT.M (RTE Integrator)
 Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
 Last Update : Thu May 19 08:54:31 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	95	0.00
2 T	Acetonitrile	100.0000	114.4154	-14.4	109	0.00
3 T	3-Chloro-1-propene	100.0000	99.7718	0.2	91	0.00
4 T	2-Chloro-1,3-butadiene	100.0000	112.5803	-12.6	103	0.00
5 T	Ethyl Acetate	100.0000	114.1317	-14.1	104	0.00
6 T	Methacrylonitrile	100.0000	113.6509	-13.7	104	0.00
7 T	Isobutyl Alcohol	200.0000	230.6285	-15.3	111	0.00
8 T	1-Butanol	-1.0000	0.0000	0.0	0	0.01
9 T	Methyl methacrylate	100.0000	116.8508	-16.9	109	0.00
10 T	2-Nitropropane	100.0000	108.6716	-8.7	108	0.00
11 I	Chlorobenzene-d5	25.0000	25.0000	0.0	96	0.00
12 I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	96	0.00
13 T	Cyclohexanone	100.0000	97.2189	2.8	92	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 8M412331.D A9FOOWT.M Thu May 19 09:03:22 2016

Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414703.D Vial: 2
 Acq On : 9 Sep 2016 13:20 Operator: TMB
 Sample : WG582739-02 0.3ug/L STD 8260 Inst : HPMS8
 Misc : 1,1 STD77942 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Sep 12 12:13:06 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.69	96	791365	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	580437	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.59	152	319377	25.00	ug/L	0.00

System Monitoring Compounds

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

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.15	85	2877	0.2323	ug/L	89
3) Chloromethane	3.61	50	4112	0.3740	ug/L	96
4) Vinyl Chloride	3.82	62	3858	0.3207	ug/L	98
5) 1,3-Butadiene	3.89	54	2698	0.3382	ug/L #	50
6) Bromomethane	4.71	94	1528	0.2344	ug/L	89
7) Chloroethane	4.89	64	1300	0.2618	ug/L #	46
8) Trichlorofluoromethane	5.36	101	3461	0.2527	ug/L #	92
12) 1,1,2-Trichloro-1,2,2-Trif	6.15	101	1363	0.1698	ug/L #	49
14) 1,1-Dichloroethene	6.44	61	2492	0.2468	ug/L	88
16) Dimethyl Sulfide	6.70	62	1540	0.2498	ug/L	90
17) Iodomethane	6.97	142	932	0.8713	ug/L #	27
19) Methylene Chloride	7.24	84	2603	0.3182	ug/L	90
20) Carbon Disulfide	7.28	76	8153	0.3236	ug/L #	74
22) Methyl Tert Butyl Ether	7.45	73	3210	0.2316	ug/L #	60
23) trans-1,2-Dichloroethene	7.69	61	2606	0.2708	ug/L	92
24) n-Hexane	7.75	57	2227	0.2548	ug/L	87
26) Vinyl Acetate	8.27	43	962	0.1375	ug/L #	70
27) 1,1-Dichloroethane	8.30	63	3194	0.2481	ug/L #	75
31) 2,2-Dichloropropane	9.08	77	3329	0.2673	ug/L #	65
32) cis-1,2-Dichloroethene	9.15	96	2510	0.2839	ug/L	71
33) Chloroform	9.37	83	4240	0.2885	ug/L	100
35) Bromochloromethane	9.58	130	1065	0.2291	ug/L	87
36) Tetrahydrofuran	9.61	42	1161	1.5660	ug/L #	49
38) 1,1,1-Trichloroethane	9.88	97	3133	0.2314	ug/L	85
39) Cyclohexane	9.91	56	2701	0.2531	ug/L	90
40) 1,1-Dichloropropene	10.08	75	2566	0.2289	ug/L	85
42) Carbon Tetrachloride	10.24	117	2637	0.2103	ug/L #	87
45) 1,2-Dichloroethane	10.41	62	2353	0.2930	ug/L #	65
46) Benzene	10.44	78	9193	0.2893	ug/L #	81
47) Trichloroethene	11.20	130	2488	0.2718	ug/L	92
48) Methylcyclohexane	11.29	83	3516	0.2528	ug/L	89
49) 1,2-Dichloropropane	11.41	63	1627	0.2320	ug/L #	58
50) Bromodichloromethane	11.71	83	2851	0.2692	ug/L #	82
52) Dibromomethane	11.78	93	950	0.2415	ug/L #	69
55) cis-1,3-Dichloropropene	12.34	75	2924	0.2548	ug/L	94
56) Dimethyl Disulfide	12.60	79	628	2.8217	ug/L #	26
59) Toluene	12.77	91	9524	0.2890	ug/L	98
60) Ethyl Methacrylate	12.87	69	656	0.5421	ug/L	91
62) trans-1,3-Dichloropropene	12.94	75	2503	0.2721	ug/L #	76
63) 1,1,2-Trichloroethane	13.16	97	1103	0.3489	ug/L	100

(#) = qualifier out of range (m) = manual integration
 8M414703.D 8260WT.M Mon Sep 12 12:13:09 2016

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414703.D Vial: 2
 Acq On : 9 Sep 2016 13:20 Operator: TMB
 Sample : WG582739-02 0.3ug/L STD 8260 Inst : HPMS8
 Misc : 1,1 STD77942 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Sep 12 12:13:06 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

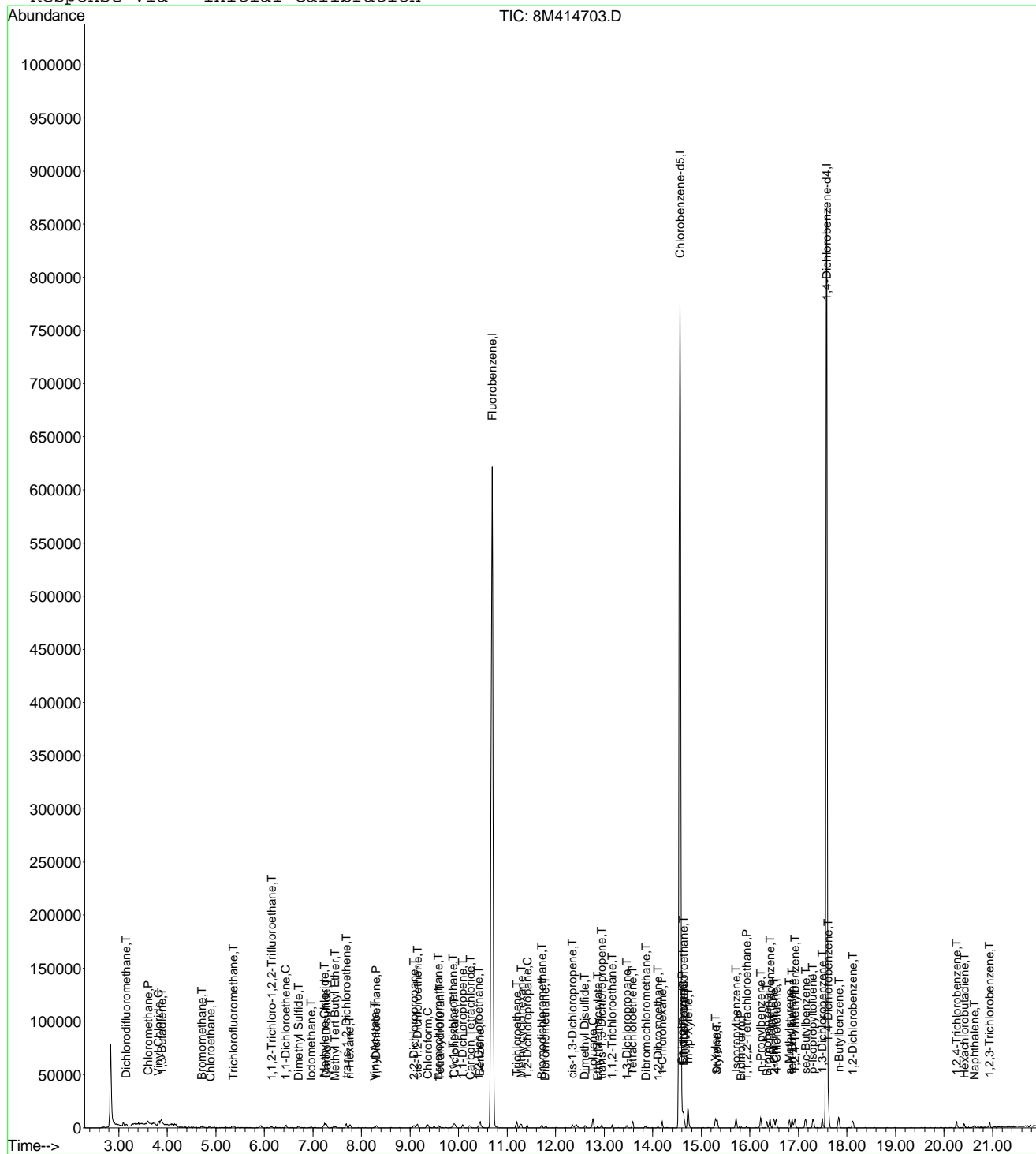
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
65) 1,3-Dichloropropane	13.46	76	2645	0.3125	ug/L	71
66) Tetrachloroethene	13.58	164	2044	0.2533	ug/L	86
67) Dibromochloromethane	13.85	129	1436	0.2120	ug/L	91
68) 1,2-Dibromoethane	14.11	107	805	0.1631	ug/L	78
69) 1-Chlorohexane	14.19	91	2931	0.2559	ug/L	93
70) Chlorobenzene	14.61	112	9750	0.3994	ug/L	80
71) 1,1,1,2-Tetrachloroethane	14.64	131	1973	0.3798	ug/L	74
72) Ethylbenzene	14.64	106	3312	0.2503	ug/L	99
73) m-,p-Xylene	14.73	106	7462	0.5011	ug/L	90
74) o-Xylene	15.29	106	3661	0.2410	ug/L	93
75) Styrene	15.32	104	5905	0.3977	ug/L	94
76) Bromoform	15.82	173	658	0.8483	ug/L #	27
77) Isopropylbenzene	15.71	105	9516	0.2631	ug/L	95
79) 1,1,2,2-Tetrachloroethane	15.93	83	1095	0.2189	ug/L #	95
83) n-Propylbenzene	16.22	91	12160	0.2908	ug/L	98
84) Bromobenzene	16.35	156	2867	0.2878	ug/L	64
85) 1,3,5-Trimethylbenzene	16.42	105	8071	0.2803	ug/L	84
86) 2-Chlorotoluene	16.50	91	7297	0.2738	ug/L	87
87) 4-Chlorotoluene	16.54	91	6878	0.2746	ug/L	88
88) a-Methylstyrene	16.81	118	3567	0.2038	ug/L	83
89) tert-Butylbenzene	16.87	134	1519	0.2230	ug/L	85
90) 1,2,4-Trimethylbenzene	16.92	105	8446	0.2804	ug/L	99
91) sec-Butylbenzene	17.15	105	11063	0.3029	ug/L	92
92) p-Isopropyltoluene	17.30	119	8708	0.2869	ug/L	97
93) 1,3-Dichlorobenzene	17.49	146	5612	0.2965	ug/L	90
94) 1,4-Dichlorobenzene	17.62	146	6079	0.3199	ug/L #	3
95) n-Butylbenzene	17.83	91	9118	0.3005	ug/L	94
96) 1,2-Dichlorobenzene	18.12	146	4769	0.2927	ug/L	94
98) 1,2,4-Trichlorobenzene	20.26	180	3494	0.2855	ug/L #	92
99) Hexachlorobutadiene	20.42	225	1712	0.2536	ug/L	95
100) Naphthalene	20.63	128	3142	0.2314	ug/L #	67
101) 1,2,3-Trichlorobenzene	20.94	180	2400	0.2542	ug/L #	84

(#) = qualifier out of range (m) = manual integration
 8M414703.D 8260WT.M Mon Sep 12 12:13:10 2016

Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414703.D Vial: 2
 Acq On : 9 Sep 2016 13:20 Operator: TMB
 Sample : WG582739-02 0.3ug/L STD 8260 Inst : HPMS8
 Misc : 1,1 STD77942 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Sep 12 12:13 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414703.D Vial: 2
 Acq On : 9 Sep 2016 13:20 Operator: TMB
 Sample : WG582739-02 0.3ug/L STD 8260 Inst : HPMS8
 Misc : 1,1 STD77942 Multiplr: 1.00
 MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 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	0.2323	0.0	100	0.00
3 P	Chloromethane	-1.0000	0.3740	0.0	100	0.01
4 C	Vinyl Chloride	-1.0000	0.3207	0.0	100	0.00
5 T	1,3-Butadiene	-1.0000	0.3382	0.0	100	0.02
6 T	Bromomethane	-1.0000	0.2344	0.0	100	0.01
7 T	Chloroethane	-1.0000	0.2618	0.0	100	0.02
8 T	Trichlorofluoromethane	-1.0000	0.2527	0.0	100	0.01
9 T	Diethyl ether	-1.0000	0.0000	0.0	0	-5.88#
10 T	Isoprene	-1.0000	0.0985	0.0	0	-0.01
11 T	Acrolein	-1.0000	0.0000	0.0	0	-6.12#
12 T	1,1,2-Trichloro-1,2,2-Trifl	-1.0000	0.1698	0.0	100	0.02
13 T	Acetone	-1.0000	0.0000	0.0	0	-6.22#
14 C	1,1-Dichloroethene	-1.0000	0.2468	0.0	100	0.00
15 T	Tert-Butyl Alcohol	-1.0000	0.0000	0.0	0	-6.57#
16 T	Dimethyl Sulfide	-1.0000	0.2498	0.0	100	-0.01
17 T	Iodomethane	-1.0000	0.8713	0.0	0	0.00
18 T	Methyl acetate	-1.0000	0.1039	0.0	100	0.01
19 T	Methylene Chloride	-1.0000	0.3182	0.0	100	0.01
20 T	Carbon Disulfide	-1.0000	0.3236	0.0	100	0.01
21 T	Acrylonitrile	-1.0000	0.0000	0.0	0	-7.41#
22 T	Methyl Tert Butyl Ether	-1.0000	0.2316	0.0	100	0.01
23 T	trans-1,2-Dichloroethene	-1.0000	0.2708	0.0	100	0.01
24 T	n-Hexane	-1.0000	0.2548	0.0	100	-0.01
25 T	Diisopropyl ether	-1.0000	0.0000	0.0	0	-8.10#
26 T	Vinyl Acetate	-1.0000	0.1375	0.0	100	-0.01
27 P	1,1-Dichloroethane	-1.0000	0.2481	0.0	100	0.00
28 T	Ethyl-Tert-Butyl ether	-1.0000	0.0000	0.0	0	-8.68#
29 T	2-Butanone	-1.0000	0.0000	0.0	0	-8.86#
30 T	Propionitrile	-1.0000	0.0000	0.0	0	-8.97#
31 T	2,2-Dichloropropane	-1.0000	0.2673	0.0	100	0.00
32 T	cis-1,2-Dichloroethene	-1.0000	0.2839	0.0	100	0.00
33 C	Chloroform	0.3000	0.2885	3.8	100	0.01
34	1-Bromopropane	-1.0000	0.0000	0.0	0	-9.49#
35 T	Bromochloromethane	-1.0000	0.2291	0.0	100	-0.01
36 T	Tetrahydrofuran	-1.0000	1.5660	0.0	100	0.00
37 S	Dibromofluoromethane	-1.0000	0.0000	0.0	0	-9.64#
38 T	1,1,1-Trichloroethane	-1.0000	0.2314	0.0	100	-0.01
39 T	Cyclohexane	-1.0000	0.2531	0.0	100	0.00
40 T	1,1-Dichloropropene	-1.0000	0.2289	0.0	100	-0.01
41 T	Tert-Amyl-Methyl ether	-1.0000	0.0000	0.0	0	-10.19#
42 T	Carbon Tetrachloride	-1.0000	0.2103	0.0	100	0.02
43 S	1,2-Dichloroethane-d4	-1.0000	0.0000	0.0	0	-10.29#
44	Heptane	-1.0000	0.0000	0.0	0	-2.54#
45 T	1,2-Dichloroethane	-1.0000	0.2930	0.0	100	0.01
46 T	Benzene	-1.0000	0.2893	0.0	100	0.00
47 T	Trichloroethene	-1.0000	0.2718	0.0	100	0.00
48 T	Methylcyclohexane	-1.0000	0.2528	0.0	100	0.01
49 C	1,2-Dichloropropane	-1.0000	0.2320	0.0	100	0.00
50 T	Bromodichloromethane	-1.0000	0.2692	0.0	100	0.00
51 T	1,4-Dioxane	-1.0000	0.0000	0.0	0	-11.70#
52 T	Dibromomethane	-1.0000	0.2415	0.0	100	-0.01
53 T	2-Chloroethyl Vinyl Ether	-1.0000	0.0825	0.0	100	0.00
54 T	4-Methyl-2-Pentanone	-1.0000	0.0000	0.0	0	-12.03#

(#) = Out of Range

8M414703.D 8260WT.M

Mon Sep 12 12:15:12 2016

Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414703.D Vial: 2
 Acq On : 9 Sep 2016 13:20 Operator: TMB
 Sample : WG582739-02 0.3ug/L STD 8260 Inst : HPMS8
 Misc : 1,1 STD77942 Multiplr: 1.00
 MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 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	cis-1,3-Dichloropropene	-1.0000	0.2548	0.0	100	0.00
56 T	Dimethyl Disulfide	-1.0000	2.8217	0.0	100	0.00
57 I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58 S	Toluene-d8	-1.0000	0.0000	0.0	0	-12.66#
59 C	Toluene	-1.0000	0.2890	0.0	100	0.00
60 T	Ethyl Methacrylate	-1.0000	0.5421	0.0	100	0.01
61	Paraldehyde	-1.0000	0.0000	0.0	0	-13.14#
62 T	trans-1,3-Dichloropropene	-1.0000	0.2721	0.0	100	0.00
63 T	1,1,2-Trichloroethane	-1.0000	0.3489	0.0	100	0.00
64 T	2-Hexanone	-1.0000	0.0000	0.0	0	-13.10#
65 T	1,3-Dichloropropane	-1.0000	0.3125	0.0	100	0.00
66 T	Tetrachloroethene	-1.0000	0.2533	0.0	100	0.00
67 T	Dibromochloromethane	-1.0000	0.2120	0.0	100	0.00
68 T	1,2-Dibromoethane	-1.0000	0.1631	0.0	100	0.01
69 T	1-Chlorohexane	-1.0000	0.2559	0.0	100	0.00
70 P	Chlorobenzene	-1.0000	0.3994	0.0	100	0.00
71 T	1,1,1,2-Tetrachloroethane	-1.0000	0.3798	0.0	0	0.00
72 C	Ethylbenzene	0.3000	0.2503	16.6	100	0.00
73 T	m-,p-Xylene	-1.0000	0.5011	0.0	100	0.00
74 T	o-Xylene	-1.0000	0.2410	0.0	100	0.00
75 T	Styrene	-1.0000	0.3977	0.0	0	-0.01
76 P	Bromoform	-1.0000	0.8483	0.0	0	0.00
77 T	Isopropylbenzene	-1.0000	0.2631	0.0	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	-1.0000	0.2189	0.0	100	0.00
80 S	p-Bromofluorobenzene	-1.0000	0.0000	0.0	0	-16.06#
81 T	1,2,3-Trichloropropane	-1.0000	0.0000	0.0	0	-16.13#
82 T	trans-1,4-Dichloro-2-Butene	-1.0000	0.0000	0.0	0	-16.17#
83 T	n-Propylbenzene	-1.0000	0.2908	0.0	100	0.00
84 T	Bromobenzene	0.3000	0.2878	4.1	100	0.00
85 T	1,3,5-Trimethylbenzene	-1.0000	0.2803	0.0	100	0.00
86 T	2-Chlorotoluene	-1.0000	0.2738	0.0	100	0.01
87 T	4-Chlorotoluene	-1.0000	0.2746	0.0	100	0.00
88 T	a-Methylstyrene	-1.0000	0.2038	0.0	100	0.00
89 T	tert-Butylbenzene	-1.0000	0.2230	0.0	100	0.00
90 T	1,2,4-Trimethylbenzene	-1.0000	0.2804	0.0	100	0.00
91 T	sec-Butylbenzene	-1.0000	0.3029	0.0	100	0.01
92 T	p-Isopropyltoluene	-1.0000	0.2869	0.0	100	-0.01
93 T	1,3-Dichlorobenzene	-1.0000	0.2965	0.0	100	0.00
94 T	1,4-Dichlorobenzene	0.3000	0.3199	-6.6	100	-0.01
95 T	n-Butylbenzene	-1.0000	0.3005	0.0	100	0.01
96 T	1,2-Dichlorobenzene	0.3000	0.2927	2.4	100	0.00
97 T	1,2-Dibromo-3-Chloropropane	-1.0000	0.0000	0.0	0	-19.12#
98 T	1,2,4-Trichlorobenzene	-1.0000	0.2855	0.0	100	0.01
99 T	Hexachlorobutadiene	-1.0000	0.2536	0.0	100	0.01
100 T	Naphthalene	-1.0000	0.2314	0.0	100	0.00
101 T	1,2,3-Trichlorobenzene	0.3000	0.2542	15.3	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 8M414703.D 8260WT.M Mon Sep 12 12:15:12 2016

Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414704.D Vial: 3
 Acq On : 9 Sep 2016 13:53 Operator: TMB
 Sample : WG582739-03 0.4ug/L STD 8260 Inst : HPMS8
 Misc : 1,1 STD77942 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Sep 12 12:13:13 2016

Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.69	96	769521	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	577486	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.59	152	318741	25.00	ug/L	0.00

System Monitoring Compounds

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

Target Compounds

					Qvalue
2) Dichlorodifluoromethane	3.15	85	4234	0.3516	ug/L 88
3) Chloromethane	3.61	50	5395	0.5046	ug/L 94
4) Vinyl Chloride	3.82	62	5142	0.4396	ug/L 91
5) 1,3-Butadiene	3.89	54	3239	0.4175	ug/L # 70
6) Bromomethane	4.72	94	2037	0.3214	ug/L 95
7) Chloroethane	4.89	64	1456	0.3016	ug/L # 46
8) Trichlorofluoromethane	5.35	101	5262	0.3951	ug/L # 90
10) Isoprene	5.92	67	2969	0.2833	ug/L 93
12) 1,1,2-Trichloro-1,2,2-Trif	6.13	101	2144	0.2747	ug/L 71
14) 1,1-Dichloroethene	6.45	61	3558	0.3624	ug/L 90
16) Dimethyl Sulfide	6.72	62	2361	0.3938	ug/L 79
17) Iodomethane	6.96	142	1784	0.9696	ug/L # 46
19) Methylene Chloride	7.23	84	3610	0.4538	ug/L 85
20) Carbon Disulfide	7.27	76	10383	0.4238	ug/L 96
22) Methyl Tert Butyl Ether	7.44	73	4580	0.3398	ug/L # 71
23) trans-1,2-Dichloroethene	7.68	61	3307	0.3534	ug/L 72
24) n-Hexane	7.76	57	3021	0.3555	ug/L 86
26) Vinyl Acetate	8.27	43	1808	0.2658	ug/L # 70
27) 1,1-Dichloroethane	8.31	63	4901	0.3915	ug/L # 84
31) 2,2-Dichloropropane	9.10	77	4459	0.3682	ug/L 80
32) cis-1,2-Dichloroethene	9.15	96	3217	0.3742	ug/L 63
33) Chloroform	9.37	83	5622	0.3934	ug/L 94
35) Bromochloromethane	9.58	130	1440	0.3186	ug/L 84
36) Tetrahydrofuran	9.61	42	732	1.0154	ug/L # 24
38) 1,1,1-Trichloroethane	9.89	97	4849	0.3684	ug/L 87
39) Cyclohexane	9.91	56	3789	0.3652	ug/L # 82
40) 1,1-Dichloropropene	10.09	75	3751	0.3442	ug/L 97
42) Carbon Tetrachloride	10.22	117	4362	0.3577	ug/L # 86
45) 1,2-Dichloroethane	10.41	62	2979	0.3815	ug/L # 72
46) Benzene	10.45	78	13230	0.4281	ug/L # 83
47) Trichloroethene	11.20	130	3557	0.3996	ug/L 91
48) Methylcyclohexane	11.28	83	4714	0.3486	ug/L 87
49) 1,2-Dichloropropane	11.41	63	2774	0.4068	ug/L # 56
50) Bromodichloromethane	11.71	83	3632	0.3527	ug/L # 83
52) Dibromomethane	11.79	93	1396	0.3650	ug/L 83
53) 2-Chloroethyl Vinyl Ether	12.01	63	604	0.2257	ug/L # 47
55) cis-1,3-Dichloropropene	12.35	75	3873	0.3471	ug/L 99
56) Dimethyl Disulfide	12.61	79	1388	2.9308	ug/L 86
59) Toluene	12.77	91	13309	0.4059	ug/L 93
60) Ethyl Methacrylate	12.87	69	1501	0.6779	ug/L # 22

(#) = qualifier out of range (m) = manual integration
 8M414704.D 8260WT.M Mon Sep 12 12:13:17 2016

Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414704.D Vial: 3
 Acq On : 9 Sep 2016 13:53 Operator: TMB
 Sample : WG582739-03 0.4ug/L STD 8260 Inst : HPMS8
 Misc : 1,1 STD77942 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Sep 12 12:13:13 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

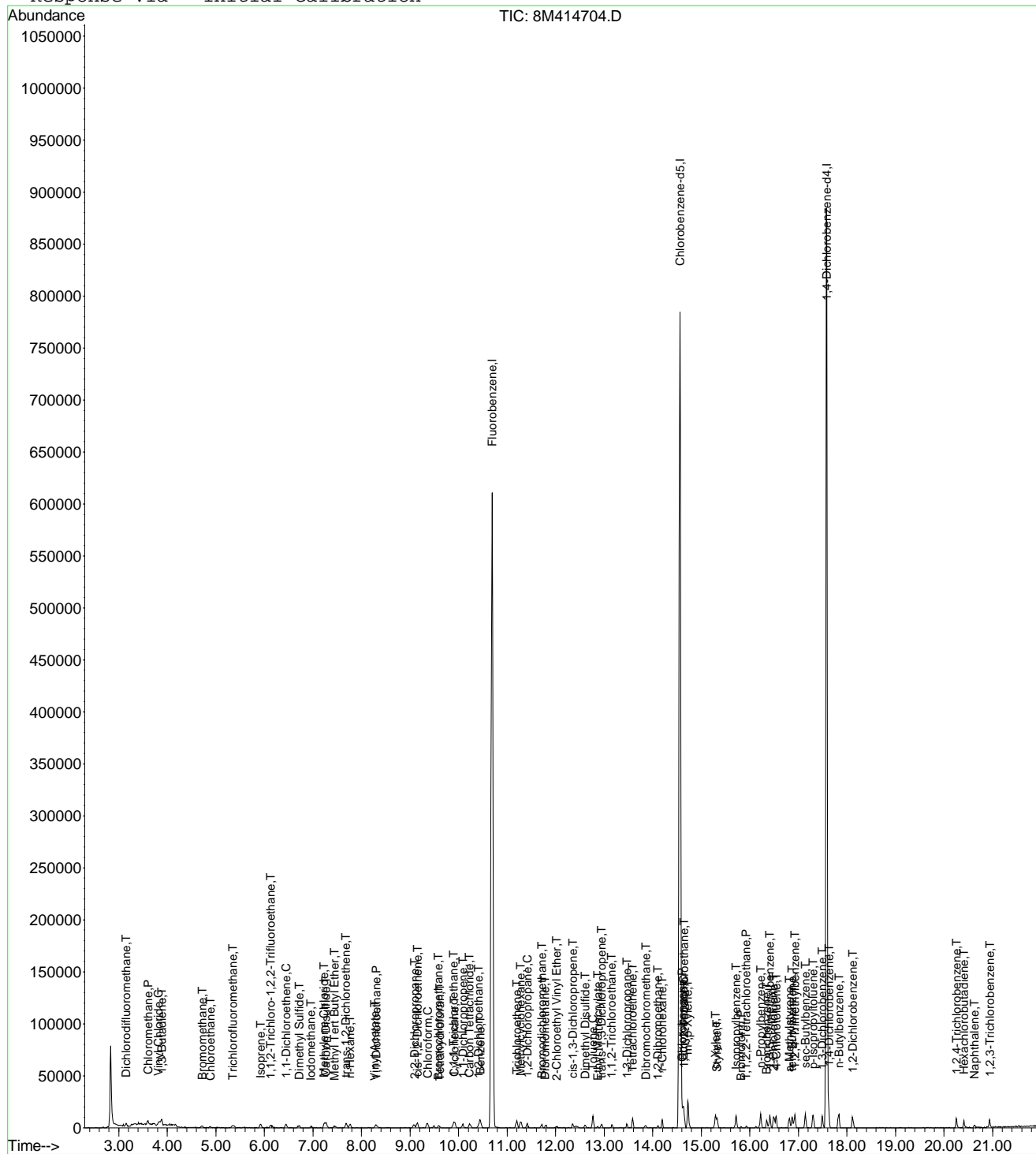
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
62) trans-1,3-Dichloropropene	12.94	75	2808	0.3068	ug/L #	76
63) 1,1,2-Trichloroethane	13.15	97	1169	0.3626	ug/L	91
65) 1,3-Dichloropropane	13.47	76	3362	0.3992	ug/L	84
66) Tetrachloroethene	13.58	164	2904	0.3617	ug/L	92
67) Dibromochloromethane	13.85	129	2033	0.3016	ug/L	97
68) 1,2-Dibromoethane	14.10	107	1899	0.3868	ug/L	73
69) 1-Chlorohexane	14.19	91	4037	0.3543	ug/L	74
70) Chlorobenzene	14.61	112	11814	0.4865	ug/L	70
71) 1,1,1,2-Tetrachloroethane	14.65	131	3279	0.5267	ug/L	81
72) Ethylbenzene	14.64	106	4810	0.3653	ug/L	88
73) m-,p-Xylene	14.72	106	10943	0.7385	ug/L	91
74) o-Xylene	15.29	106	5039	0.3334	ug/L	94
75) Styrene	15.32	104	6748	0.4335	ug/L	100
76) Bromoform	15.82	173	1055	0.9238	ug/L #	27
77) Isopropylbenzene	15.71	105	14321	0.3979	ug/L	99
79) 1,1,2,2-Tetrachloroethane	15.92	83	1714	0.3433	ug/L #	83
83) n-Propylbenzene	16.22	91	17314	0.4149	ug/L	95
84) Bromobenzene	16.35	156	3733	0.3755	ug/L	74
85) 1,3,5-Trimethylbenzene	16.41	105	10355	0.3604	ug/L	88
86) 2-Chlorotoluene	16.49	91	11648	0.4380	ug/L	95
87) 4-Chlorotoluene	16.54	91	9219	0.3688	ug/L	99
88) a-Methylstyrene	16.81	118	4848	0.2776	ug/L	84
89) tert-Butylbenzene	16.87	134	2127	0.3129	ug/L	91
90) 1,2,4-Trimethylbenzene	16.92	105	11050	0.3676	ug/L	98
91) sec-Butylbenzene	17.14	105	14460	0.3967	ug/L	98
92) p-Isopropyltoluene	17.31	119	12258	0.4046	ug/L	98
93) 1,3-Dichlorobenzene	17.49	146	7311	0.3870	ug/L	90
94) 1,4-Dichlorobenzene	17.63	146	7647	0.4032	ug/L	79
95) n-Butylbenzene	17.83	91	12038	0.3976	ug/L #	95
96) 1,2-Dichlorobenzene	18.12	146	6677	0.4107	ug/L	83
98) 1,2,4-Trichlorobenzene	20.26	180	4567	0.3740	ug/L	94
99) Hexachlorobutadiene	20.41	225	2549	0.3783	ug/L	89
100) Naphthalene	20.63	128	4881	0.3602	ug/L #	67
101) 1,2,3-Trichlorobenzene	20.95	180	3456	0.3668	ug/L	98

(#) = qualifier out of range (m) = manual integration
 8M414704.D 8260WT.M Mon Sep 12 12:13:18 2016

Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414704.D Vial: 3
 Acq On : 9 Sep 2016 13:53 Operator: TMB
 Sample : WG582739-03 0.4ug/L STD 8260 Inst : HPMS8
 Misc : 1,1 STD77942 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Sep 12 12:13 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414704.D Vial: 3
 Acq On : 9 Sep 2016 13:53 Operator: TMB
 Sample : WG582739-03 0.4ug/L STD 8260 Inst : HPMS8
 Misc : 1,1 STD77942 Multiplr: 1.00
 MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 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	0.4000	0.3516	12.1	100	0.00
3 P	Chloromethane	-1.0000	0.5046	0.0	100	0.01
4 C	Vinyl Chloride	0.4000	0.4396	-9.9	100	0.00
5 T	1,3-Butadiene	-1.0000	0.4175	0.0	100	0.02
6 T	Bromomethane	-1.0000	0.3214	0.0	100	0.02
7 T	Chloroethane	0.4000	0.3016	24.6	100	0.02
8 T	Trichlorofluoromethane	0.4000	0.3952	1.2	100	0.00
9 T	Diethyl ether	-1.0000	0.0000	0.0	0	-5.88#
10 T	Isoprene	-1.0000	0.2833	0.0	0	0.01
11 T	Acrolein	-1.0000	0.0000	0.0	0	-6.12#
12 T	1,1,2-Trichloro-1,2,2-Trifl	-1.0000	0.2747	0.0	100	0.00
13 T	Acetone	-1.0000	0.0000	0.0	0	-6.22#
14 C	1,1-Dichloroethene	0.4000	0.3624	9.4	100	0.01
15 T	Tert-Butyl Alcohol	-1.0000	0.0000	0.0	0	-6.57#
16 T	Dimethyl Sulfide	0.4000	0.3938	1.5	100	0.01
17 T	Iodomethane	-1.0000	0.9696	0.0	0	0.00
18 T	Methyl acetate	-1.0000	0.1160	0.0	100	0.01
19 T	Methylene Chloride	-1.0000	0.4538	0.0	100	0.00
20 T	Carbon Disulfide	-1.0000	0.4238	0.0	100	0.00
21 T	Acrylonitrile	-1.0000	0.0000	0.0	0	-7.41#
22 T	Methyl Tert Butyl Ether	-1.0000	0.3398	0.0	100	0.00
23 T	trans-1,2-Dichloroethene	0.4000	0.3534	11.7	100	0.00
24 T	n-Hexane	-1.0000	0.3555	0.0	100	0.00
25 T	Diisopropyl ether	-1.0000	0.0000	0.0	0	-8.10#
26 T	Vinyl Acetate	-1.0000	0.2658	0.0	100	0.00
27 P	1,1-Dichloroethane	0.4000	0.3915	2.1	100	0.01
28 T	Ethyl-Tert-Butyl ether	-1.0000	0.0000	0.0	0	-8.68#
29 T	2-Butanone	-1.0000	0.0000	0.0	0	-8.86#
30 T	Propionitrile	-1.0000	0.0000	0.0	0	-8.97#
31 T	2,2-Dichloropropane	0.4000	0.3682	7.9	100	0.02
32 T	cis-1,2-Dichloroethene	0.4000	0.3742	6.4	100	0.00
33 C	Chloroform	0.4000	0.3934	1.6	100	0.01
34	1-Bromopropane	-1.0000	0.0000	0.0	0	-9.49#
35 T	Bromochloromethane	0.4000	0.3186	20.4	100	0.00
36 T	Tetrahydrofuran	-1.0000	1.0154	0.0	100	0.00
37 S	Dibromofluoromethane	-1.0000	0.0000	0.0	0	-9.64#
38 T	1,1,1-Trichloroethane	0.4000	0.3684	7.9	100	0.00
39 T	Cyclohexane	-1.0000	0.3652	0.0	100	0.00
40 T	1,1-Dichloropropene	-1.0000	0.3442	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	0.3577	10.6	100	0.00
43 S	1,2-Dichloroethane-d4	-1.0000	0.0000	0.0	0	-10.29#
44	Heptane	-1.0000	0.0000	0.0	0	-2.54#
45 T	1,2-Dichloroethane	0.4000	0.3815	4.6	100	0.01
46 T	Benzene	0.4000	0.4281	-7.0	100	0.01
47 T	Trichloroethene	0.4000	0.3996	0.1	100	0.00
48 T	Methylcyclohexane	-1.0000	0.3486	0.0	100	0.00
49 C	1,2-Dichloropropane	0.4000	0.4068	-1.7	100	0.00
50 T	Bromodichloromethane	0.4000	0.3527	11.8	100	0.00
51 T	1,4-Dioxane	-1.0000	0.0000	0.0	0	-11.70#
52 T	Dibromomethane	0.4000	0.3650	8.8	100	0.00
53 T	2-Chloroethyl Vinyl Ether	-1.0000	0.2257	0.0	100	0.01
54 T	4-Methyl-2-Pentanone	-1.0000	0.0000	0.0	0	-12.03#

(#) = Out of Range

8M414704.D 8260WT.M

Mon Sep 12 12:15:36 2016

Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414704.D Vial: 3
 Acq On : 9 Sep 2016 13:53 Operator: TMB
 Sample : WG582739-03 0.4ug/L STD 8260 Inst : HPMS8
 Misc : 1,1 STD77942 Multiplr: 1.00
 MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 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	cis-1,3-Dichloropropene	0.4000	0.3471	13.2	100	0.01
56 T	Dimethyl Disulfide	-1.0000	2.9308	0.0	100	0.01
57 I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58 S	Toluene-d8	-1.0000	0.0000	0.0	0	-12.66#
59 C	Toluene	0.4000	0.4059	-1.5	100	0.00
60 T	Ethyl Methacrylate	-1.0000	0.6779	0.0	100	0.01
61	Paraldehyde	-1.0000	0.0000	0.0	0	-13.14#
62 T	trans-1,3-Dichloropropene	-1.0000	0.3068	0.0	100	0.00
63 T	1,1,2-Trichloroethane	0.4000	0.3626	9.3	100	0.00
64 T	2-Hexanone	-1.0000	0.0000	0.0	0	-13.10#
65 T	1,3-Dichloropropane	0.4000	0.3992	0.2	100	0.01
66 T	Tetrachloroethene	0.4000	0.3617	9.6	100	0.00
67 T	Dibromochloromethane	0.4000	0.3016	24.6	100	0.00
68 T	1,2-Dibromoethane	0.4000	0.3868	3.3	100	0.00
69 T	1-Chlorohexane	0.4000	0.3543	11.4	100	0.00
70 P	Chlorobenzene	0.4000	0.4865	-21.6	100	0.00
71 T	1,1,1,2-Tetrachloroethane	0.4000	0.5267	-31.7#	100	0.01
72 C	Ethylbenzene	0.4000	0.3653	8.7	100	0.00
73 T	m-,p-Xylene	0.8000	0.7385	7.7	100	0.00
74 T	o-Xylene	-1.0000	0.3334	0.0	100	0.00
75 T	Styrene	0.4000	0.4335	-8.4	100	0.00
76 P	Bromoform	-1.0000	0.9238	0.0	0	0.00
77 T	Isopropylbenzene	0.4000	0.3979	0.5	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	0.3433	14.2	100	0.00
80 S	p-Bromofluorobenzene	-1.0000	0.0000	0.0	0	-16.06#
81 T	1,2,3-Trichloropropane	-1.0000	0.0000	0.0	0	-16.13#
82 T	trans-1,4-Dichloro-2-Butene	-1.0000	0.0000	0.0	0	-16.17#
83 T	n-Propylbenzene	0.4000	0.4149	-3.7	100	0.00
84 T	Bromobenzene	0.4000	0.3755	6.1	100	0.00
85 T	1,3,5-Trimethylbenzene	0.4000	0.3604	9.9	100	-0.01
86 T	2-Chlorotoluene	0.4000	0.4380	-9.5	100	0.00
87 T	4-Chlorotoluene	0.4000	0.3688	7.8	100	0.00
88 T	a-Methylstyrene	-1.0000	0.2776	0.0	100	0.00
89 T	tert-Butylbenzene	-1.0000	0.3129	0.0	100	0.00
90 T	1,2,4-Trimethylbenzene	0.4000	0.3676	8.1	100	0.00
91 T	sec-Butylbenzene	-1.0000	0.3967	0.0	100	0.00
92 T	p-Isopropyltoluene	-1.0000	0.4046	0.0	100	0.00
93 T	1,3-Dichlorobenzene	0.4000	0.3870	3.3	100	0.00
94 T	1,4-Dichlorobenzene	0.4000	0.4032	-0.8	100	0.00
95 T	n-Butylbenzene	-1.0000	0.3976	0.0	100	0.01
96 T	1,2-Dichlorobenzene	0.4000	0.4107	-2.7	100	0.00
97 T	1,2-Dibromo-3-Chloropropane	-1.0000	0.0000	0.0	0	-19.12#
98 T	1,2,4-Trichlorobenzene	0.4000	0.3740	6.5	100	0.01
99 T	Hexachlorobutadiene	0.4000	0.3783	5.4	100	0.00
100 T	Naphthalene	0.4000	0.3602	10.0	100	0.00
101 T	1,2,3-Trichlorobenzene	0.4000	0.3668	8.3	100	0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 8M414704.D 8260WT.M Mon Sep 12 12:15:36 2016

Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414705.D Vial: 4
 Acq On : 9 Sep 2016 14:21 Operator: TMB
 Sample : WG582739-04 1ug/L STD 8260 Inst : HPMS8
 Misc : 1,1 STD77942 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Sep 12 12:13:21 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.69	96	760007	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	574160	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.58	152	318022	25.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.65	111	2970	0.4030	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	1.60%#	
43) 1,2-Dichloroethane-d4	10.28	65	2300	0.3907	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	1.56%#	
58) Toluene-d8	12.67	98	11570	0.4499	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	1.80%#	
80) p-Bromofluorobenzene	16.06	95	4039	0.4334	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	1.72%#	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.15	85	11691	0.9830	ug/L	96
3) Chloromethane	3.60	50	11650	1.1034	ug/L	90
4) Vinyl Chloride	3.83	62	12433	1.0762	ug/L	95
5) 1,3-Butadiene	3.88	54	8493	1.1085	ug/L	85
6) Bromomethane	4.71	94	5326	0.8509	ug/L	98
7) Chloroethane	4.87	64	4862	1.0197	ug/L	# 82
8) Trichlorofluoromethane	5.36	101	12832	0.9757	ug/L	96
9) Diethyl ether	5.88	59	14090	4.3682	ug/L	93
10) Isoprene	5.93	67	8891	0.8591	ug/L	80
12) 1,1,2-Trichloro-1,2,2-Trif	6.13	101	7787	1.0101	ug/L	96
14) 1,1-Dichloroethene	6.44	61	9738	1.0042	ug/L	97
15) Tert-Butyl Alcohol	6.56	59	1208	6.1745	ug/L	# 62
16) Dimethyl Sulfide	6.70	62	5196	0.8776	ug/L	88
17) Iodomethane	6.95	142	5193	1.3587	ug/L	91
18) Methyl acetate	6.98	43	1055	0.5460	ug/L	# 54
19) Methylene Chloride	7.23	84	7877	1.0027	ug/L	99
20) Carbon Disulfide	7.27	76	22782	0.9416	ug/L	99
21) Acrylonitrile	7.42	53	1223	2.4508	ug/L	93
22) Methyl Tert Butyl Ether	7.46	73	11939	0.8969	ug/L	86
23) trans-1,2-Dichloroethene	7.68	61	8766	0.9485	ug/L	77
24) n-Hexane	7.76	57	8239	0.9817	ug/L	89
25) Diisopropyl ether	8.11	45	73285	4.5835	ug/L	98
26) Vinyl Acetate	8.27	43	4600	0.6847	ug/L	# 70
27) 1,1-Dichloroethane	8.30	63	11864	0.9595	ug/L	98
28) Ethyl-Tert-Butyl ether	8.68	59	64968	4.2819	ug/L	95
30) Propionitrile	8.98	54	911	5.7123	ug/L	# 53
31) 2,2-Dichloropropane	9.08	77	12173	1.0178	ug/L	92
32) cis-1,2-Dichloroethene	9.15	96	7875	0.9275	ug/L	77
33) Chloroform	9.36	83	13517	0.9578	ug/L	98
34) 1-Bromopropane	9.49	122	910	1.0944	ug/L	96
35) Bromochloromethane	9.59	130	4217	0.9446	ug/L	97
36) Tetrahydrofuran	9.62	42	4035	5.6673	ug/L	84
38) 1,1,1-Trichloroethane	9.89	97	12100	0.9307	ug/L	100
39) Cyclohexane	9.93	56	10085	0.9841	ug/L	96
40) 1,1-Dichloropropene	10.08	75	10413	0.9674	ug/L	98
41) Tert-Amyl-Methyl ether	10.20	73	66221	4.4024	ug/L	# 94
42) Carbon Tetrachloride	10.23	117	11349	0.9424	ug/L	96
45) 1,2-Dichloroethane	10.40	62	7132	0.9248	ug/L	92
46) Benzene	10.45	78	30275	0.9920	ug/L	92
47) Trichloroethene	11.20	130	8224	0.9355	ug/L	93

(#) = qualifier out of range (m) = manual integration
 8M414705.D 8260WT.M Mon Sep 12 12:13:25 2016

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414705.D Vial: 4
 Acq On : 9 Sep 2016 14:21 Operator: TMB
 Sample : WG582739-04 Iug/L STD 8260 Inst : HPMS8
 Misc : 1,1 STD77942 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Sep 12 12:13:21 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

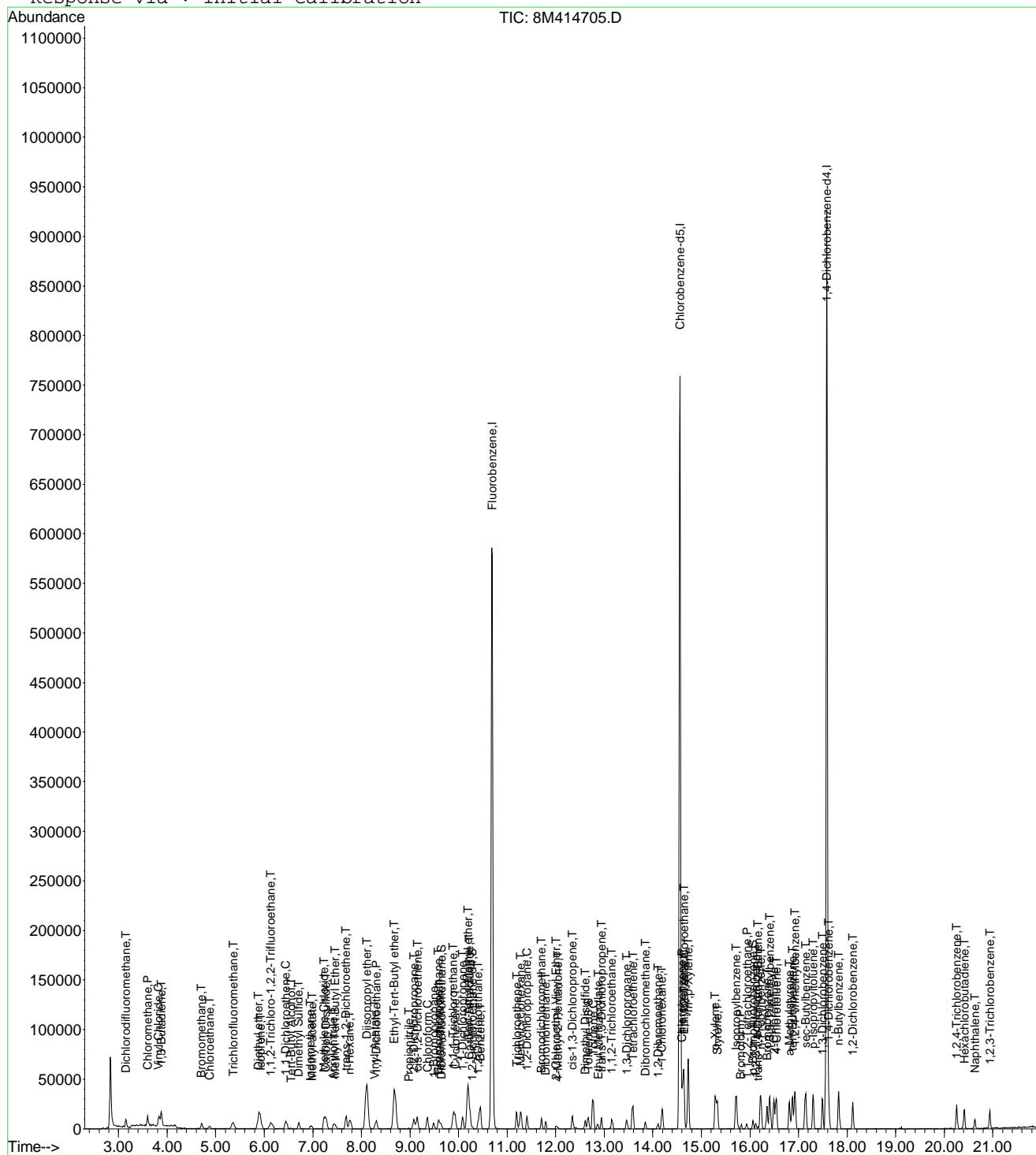
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
48) Methylcyclohexane	11.27	83	14012	1.0491	ug/L	86
49) 1,2-Dichloropropane	11.41	63	6401	0.9505	ug/L	88
50) Bromodichloromethane	11.71	83	9490	0.9331	ug/L	96
52) Dibromomethane	11.79	93	3179	0.8415	ug/L	84
53) 2-Chloroethyl Vinyl Ether	12.01	63	1851	0.7004	ug/L #	47
54) 4-Methyl-2-Pentanone	12.05	58	261	0.2516	ug/L #	29
55) cis-1,3-Dichloropropene	12.35	75	10675	0.9686	ug/L	94
56) Dimethyl Disulfide	12.61	79	3707	3.2630	ug/L	100
59) Toluene	12.77	91	32949	1.0106	ug/L	99
60) Ethyl Methacrylate	12.87	69	3753	1.0417	ug/L	97
62) trans-1,3-Dichloropropene	12.95	75	7837	0.8612	ug/L	98
63) 1,1,2-Trichloroethane	13.15	97	4707	1.0471	ug/L	98
65) 1,3-Dichloropropane	13.46	76	8220	0.9817	ug/L	90
66) Tetrachloroethene	13.59	164	7654	0.9589	ug/L	88
67) Dibromochloromethane	13.85	129	5621	0.8388	ug/L	91
68) 1,2-Dibromoethane	14.11	107	4277	0.8762	ug/L	97
69) 1-Chlorohexane	14.19	91	10679	0.9427	ug/L	80
70) Chlorobenzene	14.60	112	24413	1.0111	ug/L	81
71) 1,1,1,2-Tetrachloroethane	14.64	131	7442	0.9960	ug/L	97
72) Ethylbenzene	14.64	106	11474	0.8765	ug/L	98
73) m-,p-Xylene	14.73	106	28212	1.9151	ug/L	94
74) o-Xylene	15.28	106	13907	0.9256	ug/L	87
75) Styrene	15.33	104	18972	0.9392	ug/L	88
76) Bromoform	15.81	173	3293	1.3496	ug/L	92
77) Isopropylbenzene	15.72	105	35566	0.9940	ug/L	99
79) 1,1,2,2-Tetrachloroethane	15.94	83	4694	0.9424	ug/L #	83
81) 1,2,3-Trichloropropane	16.12	110	1051	0.7670	ug/L #	20
82) trans-1,4-Dichloro-2-Buten	16.16	53	569	1.2168	ug/L #	54
83) n-Propylbenzene	16.22	91	43625	1.0476	ug/L	100
84) Bromobenzene	16.35	156	9535	0.9614	ug/L	85
85) 1,3,5-Trimethylbenzene	16.41	105	28651	0.9993	ug/L	96
86) 2-Chlorotoluene	16.49	91	27155	1.0234	ug/L	94
87) 4-Chlorotoluene	16.55	91	25893	1.0381	ug/L	96
88) a-Methylstyrene	16.81	118	12664	0.7268	ug/L	94
89) tert-Butylbenzene	16.88	134	6028	0.8887	ug/L	91
90) 1,2,4-Trimethylbenzene	16.93	105	31488	1.0500	ug/L	100
91) sec-Butylbenzene	17.15	105	38277	1.0525	ug/L	97
92) p-Isopropyltoluene	17.30	119	30019	0.9932	ug/L	92
93) 1,3-Dichlorobenzene	17.50	146	18659	0.9899	ug/L	86
94) 1,4-Dichlorobenzene	17.62	146	18846	0.9959	ug/L	76
95) n-Butylbenzene	17.83	91	32526	1.0766	ug/L	97
96) 1,2-Dichlorobenzene	18.12	146	15340	0.9457	ug/L	85
98) 1,2,4-Trichlorobenzene	20.26	180	12052	0.9891	ug/L	93
99) Hexachlorobutadiene	20.41	225	6246	0.9291	ug/L	96
100) Naphthalene	20.63	128	12680	0.9378	ug/L	94
101) 1,2,3-Trichlorobenzene	20.94	180	9296	0.9890	ug/L	87

(#) = qualifier out of range (m) = manual integration
 8M414705.D 8260WT.M Mon Sep 12 12:13:26 2016

Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414705.D Vial: 4
 Acq On : 9 Sep 2016 14:21 Operator: TMB
 Sample : WG582739-04 lug/L STD 8260 Inst : HPMS8
 Misc : 1,1 STD77942 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Sep 12 12:13 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414705.D Vial: 4
 Acq On : 9 Sep 2016 14:21 Operator: TMB
 Sample : WG582739-04 lug/L STD 8260 Inst : HPMS8
 Misc : 1,1 STD77942 Multiplr: 1.00
 MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 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	0.9830	1.7	100	0.00
3 P	Chloromethane	1.0000	1.1034	-10.3	100	0.00
4 C	Vinyl Chloride	1.0000	1.0762	-7.6	100	0.00
5 T	1,3-Butadiene	-1.0000	1.1085	0.0	100	0.01
6 T	Bromomethane	1.0000	0.8509	14.9	100	0.00
7 T	Chloroethane	1.0000	1.0197	-2.0	100	0.00
8 T	Trichlorofluoromethane	1.0000	0.9757	2.4	100	0.00
9 T	Diethyl ether	5.0000	4.3682	12.6	100	0.00
10 T	Isoprene	-1.0000	0.8591	0.0	0	0.01
11 T	Acrolein	-1.0000	0.0000	0.0	0	-6.12#
12 T	1,1,2-Trichloro-1,2,2-Trifl	1.0000	1.0102	-1.0	100	0.00
13 T	Acetone	-1.0000	0.0000	0.0	0	-6.22#
14 C	1,1-Dichloroethene	1.0000	1.0043	-0.4	100	0.00
15 T	Tert-Butyl Alcohol	-1.0000	6.1745	0.0	100	-0.02
16 T	Dimethyl Sulfide	1.0000	0.8776	12.2	100	0.00
17 T	Iodomethane	1.0000	1.3587	-35.9#	100	-0.02
18 T	Methyl acetate	-1.0000	0.5460	0.0	100	0.00
19 T	Methylene Chloride	1.0000	1.0027	-0.3	100	0.00
20 T	Carbon Disulfide	1.0000	0.9416	5.8	100	0.00
21 T	Acrylonitrile	2.5000	2.4508	2.0	100	0.00
22 T	Methyl Tert Butyl Ether	1.0000	0.8969	10.3	100	0.01
23 T	trans-1,2-Dichloroethene	1.0000	0.9485	5.2	100	0.00
24 T	n-Hexane	-1.0000	0.9817	0.0	100	0.00
25 T	Diisopropyl ether	5.0000	4.5835	8.3	100	0.00
26 T	Vinyl Acetate	-1.0000	0.6847	0.0	100	0.00
27 P	1,1-Dichloroethane	1.0000	0.9595	4.0	100	0.00
28 T	Ethyl-Tert-Butyl ether	5.0000	4.2819	14.4	100	0.00
29 T	2-Butanone	-1.0000	0.0000	0.0	0	-8.86#
30 T	Propionitrile	5.0000	5.7123	-14.2	100	0.00
31 T	2,2-Dichloropropane	1.0000	1.0178	-1.8	100	0.00
32 T	cis-1,2-Dichloroethene	1.0000	0.9275	7.2	100	0.00
33 C	Chloroform	1.0000	0.9578	4.2	100	0.00
34	1-Bromopropane	1.0000	1.0944	-9.4	100	0.00
35 T	Bromochloromethane	1.0000	0.9446	5.5	100	0.00
36 T	Tetrahydrofuran	5.0000	5.6673	-13.3	100	0.00
37 S	Dibromofluoromethane	0.5000	0.4030	19.4	100	0.00
38 T	1,1,1-Trichloroethane	1.0000	0.9307	6.9	100	0.00
39 T	Cyclohexane	1.0000	0.9841	1.6	100	0.01
40 T	1,1-Dichloropropene	1.0000	0.9674	3.3	100	0.00
41 T	Tert-Amyl-Methyl ether	5.0000	4.4024	12.0	100	0.00
42 T	Carbon Tetrachloride	1.0000	0.9424	5.8	100	0.00
43 S	1,2-Dichloroethane-d4	0.5000	0.3907	21.9	100	0.00
44	Heptane	-1.0000	0.0000	0.0	0	-2.54#
45 T	1,2-Dichloroethane	1.0000	0.9248	7.5	100	0.00
46 T	Benzene	1.0000	0.9920	0.8	100	0.00
47 T	Trichloroethene	1.0000	0.9355	6.5	100	0.00
48 T	Methylcyclohexane	-1.0000	1.0491	0.0	100	0.00
49 C	1,2-Dichloropropane	1.0000	0.9505	5.0	100	0.00
50 T	Bromodichloromethane	1.0000	0.9331	6.7	100	0.00
51 T	1,4-Dioxane	-1.0000	0.0000	0.0	0	-11.70#
52 T	Dibromomethane	1.0000	0.8415	15.8	100	0.00
53 T	2-Chloroethyl Vinyl Ether	-1.0000	0.7004	0.0	100	0.00
54 T	4-Methyl-2-Pentanone	-1.0000	0.2516	0.0	100	0.01

(#) = Out of Range

8M414705.D 8260WT.M

Mon Sep 12 12:15:51 2016

Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414705.D Vial: 4
 Acq On : 9 Sep 2016 14:21 Operator: TMB
 Sample : WG582739-04 lug/L STD 8260 Inst : HPMS8
 Misc : 1,1 STD77942 Multiplr: 1.00
 MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 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	cis-1,3-Dichloropropene	1.0000	0.9686	3.1	100	0.00
56 T	Dimethyl Disulfide	-1.0000	3.2630	0.0	100	0.00
57 I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58 S	Toluene-d8	0.5000	0.4499	10.0	100	0.00
59 C	Toluene	1.0000	1.0106	-1.1	100	0.00
60 T	Ethyl Methacrylate	1.0000	1.0417	-4.2	100	0.01
61	Paraldehyde	-1.0000	0.0000	0.0	0	-13.14#
62 T	trans-1,3-Dichloropropene	1.0000	0.8612	13.9	100	0.00
63 T	1,1,2-Trichloroethane	1.0000	1.0471	-4.7	100	0.00
64 T	2-Hexanone	-1.0000	0.0000	0.0	0	-13.10#
65 T	1,3-Dichloropropane	1.0000	0.9817	1.8	100	0.00
66 T	Tetrachloroethene	1.0000	0.9589	4.1	100	0.00
67 T	Dibromochloromethane	1.0000	0.8388	16.1	100	0.00
68 T	1,2-Dibromoethane	1.0000	0.8762	12.4	100	0.00
69 T	1-Chlorohexane	1.0000	0.9427	5.7	100	0.00
70 P	Chlorobenzene	1.0000	1.0111	-1.1	100	0.00
71 T	1,1,1,2-Tetrachloroethane	1.0000	0.9960	0.4	100	0.00
72 C	Ethylbenzene	1.0000	0.8765	12.3	100	0.00
73 T	m-,p-Xylene	2.0000	1.9151	4.2	100	0.00
74 T	o-Xylene	1.0000	0.9255	7.4	100	0.00
75 T	Styrene	1.0000	0.9392	6.1	100	0.00
76 P	Bromoform	1.0000	1.3496	-35.0#	100	0.00
77 T	Isopropylbenzene	1.0000	0.9940	0.6	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	1.0000	0.9424	5.8	100	0.00
80 S	p-Bromofluorobenzene	-1.0000	0.4334	0.0	100	0.00
81 T	1,2,3-Trichloropropane	1.0000	0.7671	23.3	100	0.00
82 T	trans-1,4-Dichloro-2-Butene	1.0000	1.2168	-21.7	100	0.00
83 T	n-Propylbenzene	1.0000	1.0476	-4.8	100	0.00
84 T	Bromobenzene	1.0000	0.9614	3.9	100	0.00
85 T	1,3,5-Trimethylbenzene	1.0000	0.9993	0.1	100	0.00
86 T	2-Chlorotoluene	1.0000	1.0234	-2.3	100	0.00
87 T	4-Chlorotoluene	1.0000	1.0381	-3.8	100	0.00
88 T	a-Methylstyrene	-1.0000	0.7268	0.0	100	0.00
89 T	tert-Butylbenzene	1.0000	0.8887	11.1	100	0.00
90 T	1,2,4-Trimethylbenzene	1.0000	1.0499	-5.0	100	0.00
91 T	sec-Butylbenzene	1.0000	1.0525	-5.2	100	0.00
92 T	p-Isopropyltoluene	1.0000	0.9932	0.7	100	0.00
93 T	1,3-Dichlorobenzene	1.0000	0.9899	1.0	100	0.00
94 T	1,4-Dichlorobenzene	1.0000	0.9959	0.4	100	0.00
95 T	n-Butylbenzene	1.0000	1.0766	-7.7	100	0.00
96 T	1,2-Dichlorobenzene	1.0000	0.9456	5.4	100	0.00
97 T	1,2-Dibromo-3-Chloropropane	-1.0000	0.0000	0.0	0	-19.12#
98 T	1,2,4-Trichlorobenzene	1.0000	0.9891	1.1	100	0.00
99 T	Hexachlorobutadiene	1.0000	0.9291	7.1	100	0.00
100 T	Naphthalene	1.0000	0.9378	6.2	100	0.00
101 T	1,2,3-Trichlorobenzene	1.0000	0.9890	1.1	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 8M414705.D 8260WT.M Mon Sep 12 12:15:52 2016

Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414706.D Vial: 5
 Acq On : 9 Sep 2016 14:50 Operator: TMB
 Sample : WG582739-05 2ug/L STD 8260 Inst : HPMS8
 Misc : 1,1 STD77942 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Sep 12 12:13:29 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.69	96	781339	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	574504	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.58	152	321265	25.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.65	111	7208	0.9513	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	3.80%#	
43) 1,2-Dichloroethane-d4	10.29	65	6090	1.0062	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	4.04%#	
58) Toluene-d8	12.67	98	25361	0.9856	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	3.96%#	
80) p-Bromofluorobenzene	16.06	95	8863	0.9415	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	3.76%#	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.15	85	22047	1.8031	ug/L	99
3) Chloromethane	3.60	50	23283	2.1450	ug/L	98
4) Vinyl Chloride	3.83	62	25523	2.1489	ug/L	97
5) 1,3-Butadiene	3.88	54	16696	2.1196	ug/L	85
6) Bromomethane	4.72	94	10690	1.6612	ug/L	97
7) Chloroethane	4.87	64	9631	1.9647	ug/L	94
8) Trichlorofluoromethane	5.37	101	25795	1.9078	ug/L	100
9) Diethyl ether	5.88	59	80307	24.2170	ug/L	97
10) Isoprene	5.93	67	17086	1.6058	ug/L	97
12) 1,1,2-Trichloro-1,2,2-Trif	6.13	101	15267	1.9264	ug/L	99
13) Acetone	6.23	43	987	1.5390	ug/L	# 50
14) 1,1-Dichloroethene	6.44	61	18589	1.8647	ug/L	83
15) Tert-Butyl Alcohol	6.56	59	10320	51.3092	ug/L	# 80
16) Dimethyl Sulfide	6.71	62	11290	1.8547	ug/L	87
17) Iodomethane	6.96	142	11262	2.0120	ug/L	85
18) Methyl acetate	6.98	43	3394	1.7084	ug/L	# 81
19) Methylene Chloride	7.24	84	16439	2.0354	ug/L	96
20) Carbon Disulfide	7.27	76	46248	1.8592	ug/L	99
21) Acrylonitrile	7.41	53	10111	13.1607	ug/L	90
22) Methyl Tert Butyl Ether	7.45	73	25800	1.8853	ug/L	92
23) trans-1,2-Dichloroethene	7.68	61	18460	1.9428	ug/L	88
24) n-Hexane	7.77	57	15274	1.7702	ug/L	100
25) Diisopropyl ether	8.11	45	400723	24.3786	ug/L	99
26) Vinyl Acetate	8.28	43	12564	1.8192	ug/L	92
27) 1,1-Dichloroethane	8.30	63	24069	1.8935	ug/L	97
28) Ethyl-Tert-Butyl ether	8.68	59	379480	24.3279	ug/L	96
29) 2-Butanone	8.86	43	1679	1.6066	ug/L	# 47
30) Propionitrile	8.97	54	7393	24.4526	ug/L	94
31) 2,2-Dichloropropane	9.09	77	24381	1.9828	ug/L	96
32) cis-1,2-Dichloroethene	9.15	96	16431	1.8824	ug/L	82
33) Chloroform	9.36	83	29072	2.0037	ug/L	99
34) 1-Bromopropane	9.48	122	2665	2.1136	ug/L	89
35) Bromochloromethane	9.59	130	8795	1.9163	ug/L	92
36) Tetrahydrofuran	9.62	42	17222	23.5285	ug/L	98
38) 1,1,1-Trichloroethane	9.90	97	25362	1.8976	ug/L	99
39) Cyclohexane	9.92	56	18605	1.7659	ug/L	92
40) 1,1-Dichloropropene	10.09	75	20432	1.8464	ug/L	96
41) Tert-Amyl-Methyl ether	10.20	73	374240	24.2004	ug/L	95
42) Carbon Tetrachloride	10.24	117	22857	1.8462	ug/L	96
45) 1,2-Dichloroethane	10.40	62	15608	1.9687	ug/L	95

(#) = qualifier out of range (m) = manual integration
 8M414706.D 8260WT.M Mon Sep 12 12:13:33 2016

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414706.D Vial: 5
 Acq On : 9 Sep 2016 14:50 Operator: TMB
 Sample : WG582739-05 2ug/L STD 8260 Inst : HPMS8
 Misc : 1,1 STD77942 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Sep 12 12:13:29 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

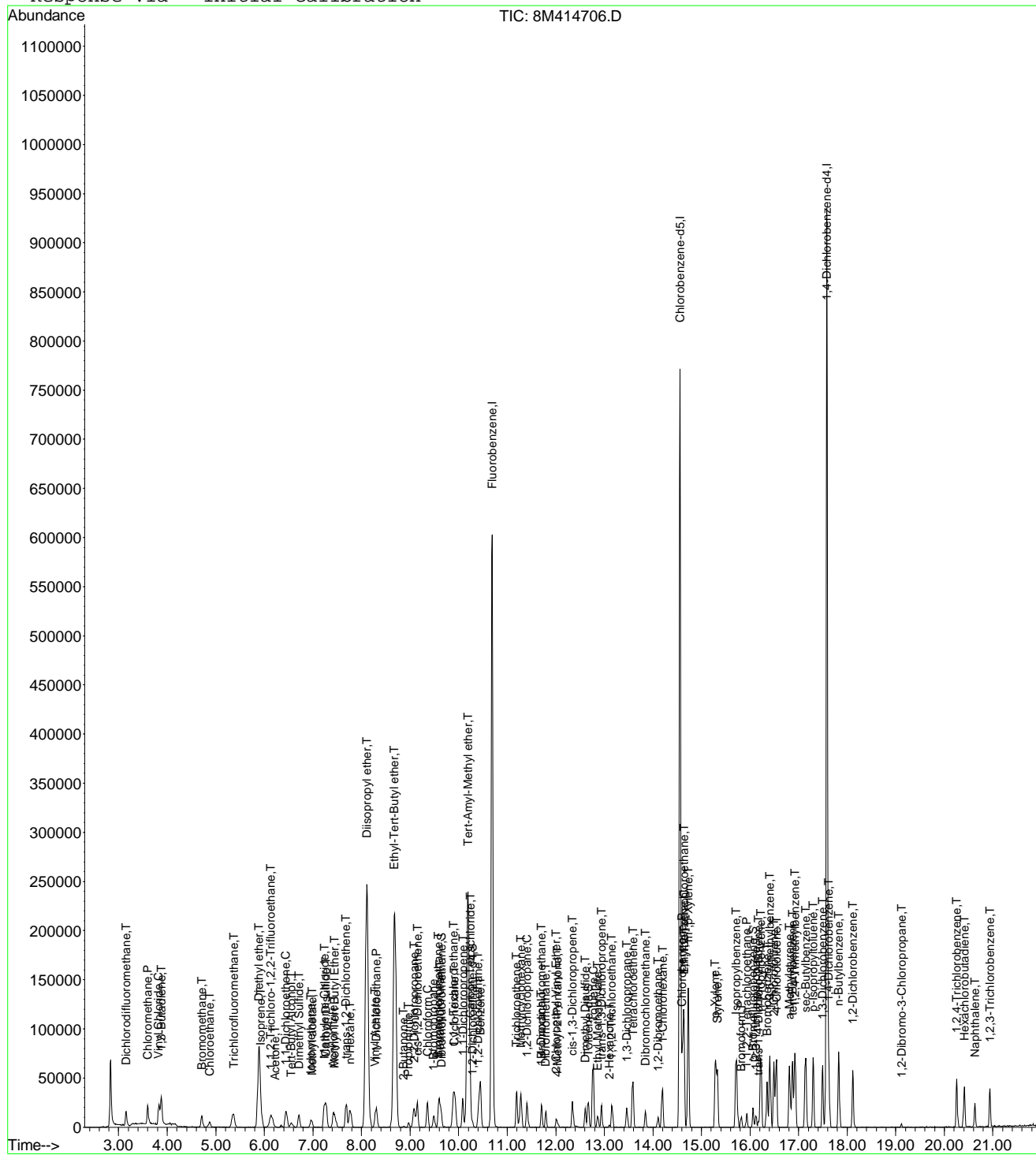
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Benzene	10.44	78	62365	1.9877	ug/L	94
47) Trichloroethene	11.19	130	16347	1.8087	ug/L	94
48) Methylcyclohexane	11.28	83	24531	1.7865	ug/L	93
49) 1,2-Dichloropropane	11.41	63	12259	1.7706	ug/L	92
50) Bromodichloromethane	11.71	83	19416	1.8570	ug/L	99
51) 1,4-Dioxane	11.69	88	1237	73.1008	ug/L	74
52) Dibromomethane	11.79	93	7157	1.8428	ug/L	91
53) 2-Chloroethyl Vinyl Ether	12.01	63	4493	1.6536	ug/L	81
54) 4-Methyl-2-Pentanone	12.04	58	1415	1.3270	ug/L #	53
55) cis-1,3-Dichloropropene	12.35	75	20328	1.7941	ug/L	96
56) Dimethyl Disulfide	12.60	79	7592	3.7859	ug/L	79
59) Toluene	12.77	91	66602	2.0416	ug/L	99
60) Ethyl Methacrylate	12.86	69	9885	2.0278	ug/L	89
62) trans-1,3-Dichloropropene	12.95	75	16704	1.8344	ug/L	97
63) 1,1,2-Trichloroethane	13.15	97	10484	2.1614	ug/L	93
64) 2-Hexanone	13.10	58	1441	1.5624	ug/L #	94
65) 1,3-Dichloropropane	13.46	76	16138	1.9262	ug/L	96
66) Tetrachloroethene	13.59	164	14138	1.7702	ug/L	90
67) Dibromochloromethane	13.85	129	12676	1.8904	ug/L	99
68) 1,2-Dibromoethane	14.10	107	9135	1.8702	ug/L	97
69) 1-Chlorohexane	14.20	91	22123	1.9518	ug/L	81
70) Chlorobenzene	14.60	112	46428	1.9217	ug/L	97
71) 1,1,1,2-Tetrachloroethane	14.64	131	14263	1.7595	ug/L	97
72) Ethylbenzene	14.64	106	24042	1.8355	ug/L	95
73) m-,p-Xylene	14.72	106	56149	3.8092	ug/L	95
74) o-Xylene	15.28	106	26615	1.7702	ug/L	89
75) Styrene	15.32	104	39447	1.7827	ug/L	90
76) Bromoform	15.82	173	6759	2.0064	ug/L	96
77) Isopropylbenzene	15.72	105	69997	1.9550	ug/L	97
79) 1,1,2,2-Tetrachloroethane	15.92	83	9984	1.9843	ug/L	94
81) 1,2,3-Trichloropropane	16.12	110	2522	1.8220	ug/L	92
82) trans-1,4-Dichloro-2-Buten	16.17	53	1636	2.1014	ug/L #	38
83) n-Propylbenzene	16.22	91	85774	2.0390	ug/L	99
84) Bromobenzene	16.35	156	19961	1.9922	ug/L	74
85) 1,3,5-Trimethylbenzene	16.41	105	59036	2.0383	ug/L	98
86) 2-Chlorotoluene	16.49	91	53514	1.9965	ug/L	94
87) 4-Chlorotoluene	16.54	91	52965	2.1021	ug/L	90
88) a-Methylstyrene	16.81	118	27758	1.5770	ug/L	87
89) tert-Butylbenzene	16.88	134	12256	1.7886	ug/L	84
90) 1,2,4-Trimethylbenzene	16.93	105	60028	1.9814	ug/L	94
91) sec-Butylbenzene	17.14	105	76902	2.0932	ug/L	97
92) p-Isopropyltoluene	17.30	119	58975	1.9314	ug/L	98
93) 1,3-Dichlorobenzene	17.50	146	36085	1.8951	ug/L	92
94) 1,4-Dichlorobenzene	17.62	146	38424	2.0099	ug/L	96
95) n-Butylbenzene	17.83	91	61952	2.0300	ug/L	98
96) 1,2-Dichlorobenzene	18.12	146	31934	1.9487	ug/L	91
97) 1,2-Dibromo-3-Chloropropan	19.12	75	1297	1.6978	ug/L	73
98) 1,2,4-Trichlorobenzene	20.26	180	20553	1.6697	ug/L	94
99) Hexachlorobutadiene	20.41	225	12491	1.8393	ug/L	96
100) Naphthalene	20.63	128	25414	1.8606	ug/L	100
101) 1,2,3-Trichlorobenzene	20.94	180	17424	1.8349	ug/L	96

(#) = qualifier out of range (m) = manual integration
 8M414706.D 8260WT.M Mon Sep 12 12:13:34 2016

Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414706.D Vial: 5
Acq On : 9 Sep 2016 14:50 Operator: TMB
Sample : WG582739-05 2ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD77942 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 12 12:13 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
Last Update : Mon Sep 12 12:00:33 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414706.D Vial: 5
 Acq On : 9 Sep 2016 14:50 Operator: TMB
 Sample : WG582739-05 2ug/L STD 8260 Inst : HPMS8
 Misc : 1,1 STD77942 Multiplr: 1.00
 MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 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	1.8031	9.8	100	0.00
3 P	Chloromethane	2.0000	2.1450	-7.2	100	0.00
4 C	Vinyl Chloride	2.0000	2.1489	-7.4	100	0.00
5 T	1,3-Butadiene	2.0000	2.1196	-6.0	100	0.01
6 T	Bromomethane	2.0000	1.6612	16.9	100	0.01
7 T	Chloroethane	2.0000	1.9647	1.8	100	0.00
8 T	Trichlorofluoromethane	2.0000	1.9078	4.6	100	0.01
9 T	Diethyl ether	25.0000	24.2170	3.1	100	0.00
10 T	Isoprene	2.0000	1.6058	19.7	100	0.01
11 T	Acrolein	12.5000	0.0000	100.0#	0	-6.12#
12 T	1,1,2-Trichloro-1,2,2-Trifl	2.0000	1.9264	3.7	100	0.00
13 T	Acetone	-1.0000	1.5390	0.0	100	0.00
14 C	1,1-Dichloroethene	2.0000	1.8647	6.8	100	0.00
15 T	Tert-Butyl Alcohol	50.0000	51.3092	-2.6	100	-0.02
16 T	Dimethyl Sulfide	2.0000	1.8547	7.3	100	0.00
17 T	Iodomethane	2.0000	2.0120	-0.6	100	0.00
18 T	Methyl acetate	-1.0000	1.7084	0.0	100	0.00
19 T	Methylene Chloride	2.0000	2.0354	-1.8	100	0.01
20 T	Carbon Disulfide	2.0000	1.8592	7.0	100	0.00
21 T	Acrylonitrile	12.5000	13.1607	-5.3	100	0.00
22 T	Methyl Tert Butyl Ether	2.0000	1.8853	5.7	100	0.00
23 T	trans-1,2-Dichloroethene	2.0000	1.9428	2.9	100	0.00
24 T	n-Hexane	-1.0000	1.7702	0.0	100	0.00
25 T	Diisopropyl ether	25.0000	24.3786	2.5	100	0.00
26 T	Vinyl Acetate	2.0000	1.8192	9.0	100	0.00
27 P	1,1-Dichloroethane	2.0000	1.8935	5.3	100	0.00
28 T	Ethyl-Tert-Butyl ether	25.0000	24.3279	2.7	100	0.00
29 T	2-Butanone	-1.0000	1.6066	0.0	100	0.00
30 T	Propionitrile	25.0000	24.4526	2.2	100	0.00
31 T	2,2-Dichloropropane	2.0000	1.9828	0.9	100	0.01
32 T	cis-1,2-Dichloroethene	2.0000	1.8824	5.9	100	0.00
33 C	Chloroform	2.0000	2.0037	-0.2	100	0.00
34	1-Bromopropane	2.0000	2.1136	-5.7	100	0.00
35 T	Bromochloromethane	2.0000	1.9163	4.2	100	0.00
36 T	Tetrahydrofuran	25.0000	23.5285	5.9	100	0.00
37 S	Dibromofluoromethane	1.0000	0.9513	4.9	100	0.00
38 T	1,1,1-Trichloroethane	2.0000	1.8976	5.1	100	0.00
39 T	Cyclohexane	2.0000	1.7659	11.7	100	0.00
40 T	1,1-Dichloropropene	2.0000	1.8464	7.7	100	0.00
41 T	Tert-Amyl-Methyl ether	25.0000	24.2004	3.2	100	0.00
42 T	Carbon Tetrachloride	2.0000	1.8462	7.7	100	0.01
43 S	1,2-Dichloroethane-d4	1.0000	1.0062	-0.6	100	0.00
44	Heptane	-1.0000	0.0000	0.0	0	-2.54#
45 T	1,2-Dichloroethane	2.0000	1.9687	1.6	100	0.00
46 T	Benzene	2.0000	1.9877	0.6	100	0.00
47 T	Trichloroethene	2.0000	1.8087	9.6	100	0.00
48 T	Methylcyclohexane	-1.0000	1.7865	0.0	100	0.00
49 C	1,2-Dichloropropane	2.0000	1.7706	11.5	100	0.00
50 T	Bromodichloromethane	2.0000	1.8570	7.2	100	0.00
51 T	1,4-Dioxane	-1.0000	73.1008	0.0	0	0.00
52 T	Dibromomethane	2.0000	1.8428	7.9	100	0.00
53 T	2-Chloroethyl Vinyl Ether	2.0000	1.6536	17.3	100	0.00
54 T	4-Methyl-2-Pentanone	-1.0000	1.3270	0.0	100	0.00

(#) = Out of Range

8M414706.D 8260WT.M

Mon Sep 12 12:16:06 2016

Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414706.D Vial: 5
 Acq On : 9 Sep 2016 14:50 Operator: TMB
 Sample : WG582739-05 2ug/L STD 8260 Inst : HPMS8
 Misc : 1,1 STD77942 Multiplr: 1.00
 MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 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	cis-1,3-Dichloropropene	2.0000	1.7941	10.3	100	0.00
56 T	Dimethyl Disulfide	-1.0000	3.7859	0.0	100	0.00
57 I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58 S	Toluene-d8	1.0000	0.9856	1.4	100	0.00
59 C	Toluene	2.0000	2.0416	-2.1	100	0.00
60 T	Ethyl Methacrylate	2.0000	2.0278	-1.4	100	0.00
61	Paraldehyde	-1.0000	0.0000	0.0	0	-13.14#
62 T	trans-1,3-Dichloropropene	2.0000	1.8344	8.3	100	0.00
63 T	1,1,2-Trichloroethane	2.0000	2.1614	-8.1	100	0.00
64 T	2-Hexanone	-1.0000	1.5624	0.0	100	0.00
65 T	1,3-Dichloropropane	2.0000	1.9262	3.7	100	0.00
66 T	Tetrachloroethene	2.0000	1.7702	11.5	100	0.00
67 T	Dibromochloromethane	2.0000	1.8904	5.5	100	0.00
68 T	1,2-Dibromoethane	2.0000	1.8702	6.5	100	0.00
69 T	1-Chlorohexane	2.0000	1.9518	2.4	100	0.00
70 P	Chlorobenzene	2.0000	1.9217	3.9	100	0.00
71 T	1,1,1,2-Tetrachloroethane	2.0000	1.7595	12.0	100	0.00
72 C	Ethylbenzene	2.0000	1.8355	8.2	100	0.00
73 T	m-,p-Xylene	4.0000	3.8092	4.8	100	0.00
74 T	o-Xylene	2.0000	1.7703	11.5	100	0.00
75 T	Styrene	2.0000	1.7827	10.9	100	0.00
76 P	Bromoform	2.0000	2.0065	-0.3	100	0.00
77 T	Isopropylbenzene	2.0000	1.9551	2.2	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	2.0000	1.9843	0.8	100	0.00
80 S	p-Bromofluorobenzene	1.0000	0.9415	5.8	100	0.00
81 T	1,2,3-Trichloropropane	2.0000	1.8220	8.9	100	0.00
82 T	trans-1,4-Dichloro-2-Butene	2.0000	2.1014	-5.1	100	0.00
83 T	n-Propylbenzene	2.0000	2.0390	-2.0	100	0.00
84 T	Bromobenzene	2.0000	1.9922	0.4	100	0.00
85 T	1,3,5-Trimethylbenzene	2.0000	2.0383	-1.9	100	0.00
86 T	2-Chlorotoluene	2.0000	1.9965	0.2	100	0.00
87 T	4-Chlorotoluene	2.0000	2.1021	-5.1	100	0.00
88 T	a-Methylstyrene	-1.0000	1.5770	0.0	100	0.00
89 T	tert-Butylbenzene	2.0000	1.7886	10.6	100	0.00
90 T	1,2,4-Trimethylbenzene	2.0000	1.9814	0.9	100	0.00
91 T	sec-Butylbenzene	2.0000	2.0932	-4.7	100	0.00
92 T	p-Isopropyltoluene	2.0000	1.9314	3.4	100	0.00
93 T	1,3-Dichlorobenzene	2.0000	1.8951	5.2	100	0.00
94 T	1,4-Dichlorobenzene	2.0000	2.0099	-0.5	100	0.00
95 T	n-Butylbenzene	2.0000	2.0300	-1.5	100	0.00
96 T	1,2-Dichlorobenzene	2.0000	1.9487	2.6	100	0.00
97 T	1,2-Dibromo-3-Chloropropane	2.0000	1.6978	15.1	100	0.00
98 T	1,2,4-Trichlorobenzene	2.0000	1.6697	16.5	100	0.00
99 T	Hexachlorobutadiene	2.0000	1.8393	8.0	100	0.00
100 T	Naphthalene	2.0000	1.8606	7.0	100	0.00
101 T	1,2,3-Trichlorobenzene	2.0000	1.8349	8.3	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 8M414706.D 8260WT.M Mon Sep 12 12:16:07 2016

Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414707.D Vial: 6
 Acq On : 9 Sep 2016 15:19 Operator: TMB
 Sample : WG582739-06 5ug/L STD 8260 Inst : HPMS8
 Misc : 1,1 STD77942 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Sep 12 12:13:37 2016

Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.69	96	783148	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	579134	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.59	152	333421	25.00	ug/L	0.00

System Monitoring Compounds

37) Dibromofluoromethane	9.65	111	18866	2.4841	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	9.92%#	
43) 1,2-Dichloroethane-d4	10.29	65	14703	2.4236	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	9.68%#	
58) Toluene-d8	12.66	98	62500	2.4096	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	9.64%#	
80) p-Bromofluorobenzene	16.06	95	22312	2.2837	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	9.12%#	

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.15	85	56202	4.5858	ug/L	98
3) Chloromethane	3.60	50	56019	5.1488	ug/L	98
4) Vinyl Chloride	3.82	62	60753	5.1033	ug/L	98
5) 1,3-Butadiene	3.88	54	39549	5.0092	ug/L	89
6) Bromomethane	4.71	94	28839	4.4713	ug/L	99
7) Chloroethane	4.87	64	24453	4.9769	ug/L	100
8) Trichlorofluoromethane	5.35	101	64699	4.7740	ug/L	98
9) Diethyl ether	5.88	59	159616	48.0219	ug/L	95
10) Isoprene	5.92	67	45989	4.3123	ug/L	91
12) 1,1,2-Trichloro-1,2,2-Trif	6.13	101	37188	4.6816	ug/L	96
13) Acetone	6.21	43	2777	4.3201	ug/L	# 79
14) 1,1-Dichloroethene	6.44	61	49655	4.9695	ug/L	89
15) Tert-Butyl Alcohol	6.56	59	20498	101.6769	ug/L	96
16) Dimethyl Sulfide	6.71	62	28159	4.6153	ug/L	92
17) Iodomethane	6.96	142	28381	3.8931	ug/L	90
18) Methyl acetate	6.98	43	9320	4.6805	ug/L	# 91
19) Methylene Chloride	7.24	84	38982	4.8154	ug/L	99
20) Carbon Disulfide	7.27	76	118769	4.7636	ug/L	99
21) Acrylonitrile	7.41	53	19952	24.1705	ug/L	85
22) Methyl Tert Butyl Ether	7.45	73	68462	4.9912	ug/L	100
23) trans-1,2-Dichloroethene	7.68	61	47000	4.9350	ug/L	89
24) n-Hexane	7.76	57	40852	4.7237	ug/L	99
25) Diisopropyl ether	8.11	45	804916	48.8552	ug/L	100
26) Vinyl Acetate	8.28	43	34463	4.9784	ug/L	98
27) 1,1-Dichloroethane	8.30	63	62771	4.9268	ug/L	97
28) Ethyl-Tert-Butyl ether	8.68	59	773640	49.4824	ug/L	96
29) 2-Butanone	8.87	43	4626	4.4164	ug/L	94
30) Propionitrile	8.97	54	15930	49.1252	ug/L	84
31) 2,2-Dichloropropane	9.09	77	60860	4.9380	ug/L	99
32) cis-1,2-Dichloroethene	9.15	96	42238	4.8279	ug/L	73
33) Chloroform	9.36	83	74119	5.0966	ug/L	97
34) 1-Bromopropane	9.49	122	7348	4.8635	ug/L	95
35) Bromochloromethane	9.58	130	23224	5.0486	ug/L	91
36) Tetrahydrofuran	9.61	42	35457	48.3290	ug/L	97
38) 1,1,1-Trichloroethane	9.88	97	62749	4.6840	ug/L	99
39) Cyclohexane	9.91	56	48264	4.5704	ug/L	95
40) 1,1-Dichloropropene	10.09	75	53545	4.8276	ug/L	98
41) Tert-Amyl-Methyl ether	10.19	73	761206	49.1101	ug/L	94
42) Carbon Tetrachloride	10.23	117	58470	4.7118	ug/L	99
45) 1,2-Dichloroethane	10.40	62	40613	5.1108	ug/L	94

(#) = qualifier out of range (m) = manual integration
 8M414707.D 8260WT.M Mon Sep 12 12:13:40 2016

Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414707.D Vial: 6
 Acq On : 9 Sep 2016 15:19 Operator: TMB
 Sample : WG582739-06 5ug/L STD 8260 Inst : HPMS8
 Misc : 1,1 STD77942 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Sep 12 12:13:37 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

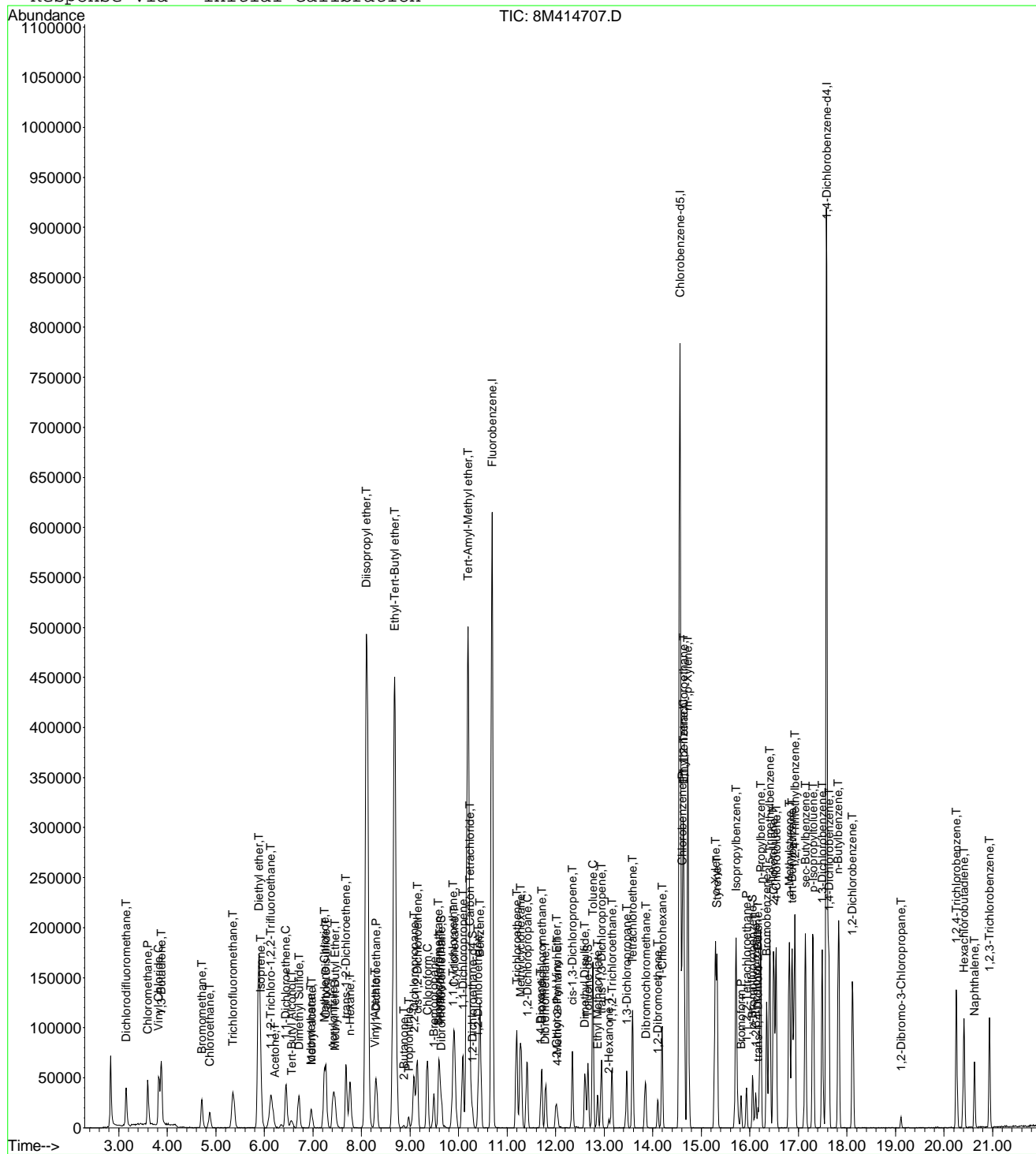
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Benzene	10.44	78	160716	5.1104	ug/L	94
47) Trichloroethene	11.20	130	42246	4.6633	ug/L	93
48) Methylcyclohexane	11.28	83	63291	4.5987	ug/L	93
49) 1,2-Dichloropropane	11.41	63	34293	4.9416	ug/L	87
50) Bromodichloromethane	11.71	83	51690	4.9322	ug/L	99
51) 1,4-Dioxane	11.69	88	2389	102.6924	ug/L	82
52) Dibromomethane	11.79	93	19712	5.0637	ug/L	97
53) 2-Chloroethyl Vinyl Ether	12.01	63	12261	4.5022	ug/L	98
54) 4-Methyl-2-Pentanone	12.03	58	4357	4.0765	ug/L	99
55) cis-1,3-Dichloropropene	12.34	75	56098	4.9397	ug/L	99
56) Dimethyl Disulfide	12.60	79	23194	5.9361	ug/L	89
59) Toluene	12.77	91	169085	5.1416	ug/L	99
60) Ethyl Methacrylate	12.86	69	27733	4.8632	ug/L	95
62) trans-1,3-Dichloropropene	12.94	75	46319	5.0461	ug/L	99
63) 1,1,2-Trichloroethane	13.16	97	25637	5.0462	ug/L	96
64) 2-Hexanone	13.10	58	4014	4.3175	ug/L #	87
65) 1,3-Dichloropropane	13.46	76	43226	5.1181	ug/L	95
66) Tetrachloroethene	13.58	164	37278	4.6303	ug/L	89
67) Dibromochloromethane	13.85	129	32791	4.8510	ug/L	97
68) 1,2-Dibromoethane	14.10	107	24457	4.9671	ug/L	100
69) 1-Chlorohexane	14.19	91	54222	4.7456	ug/L	88
70) Chlorobenzene	14.61	112	116294	4.7749	ug/L	95
71) 1,1,1,2-Tetrachloroethane	14.64	131	39879	4.5836	ug/L	100
72) Ethylbenzene	14.64	106	61926	4.6901	ug/L	90
73) m-,p-Xylene	14.72	106	148767	10.0117	ug/L	91
74) o-Xylene	15.29	106	72139	4.7598	ug/L	86
75) Styrene	15.32	104	113525	4.7985	ug/L	87
76) Bromoform	15.82	173	19118	4.3210	ug/L	97
77) Isopropylbenzene	15.71	105	189184	5.2417	ug/L	97
79) 1,1,2,2-Tetrachloroethane	15.93	83	28660	5.4884	ug/L	99
81) 1,2,3-Trichloropropane	16.12	110	8000	5.5690	ug/L	97
82) trans-1,4-Dichloro-2-Buten	16.17	53	4449	4.3110	ug/L #	23
83) n-Propylbenzene	16.22	91	223512	5.1196	ug/L	99
84) Bromobenzene	16.35	156	51323	4.9356	ug/L	82
85) 1,3,5-Trimethylbenzene	16.41	105	158323	5.2671	ug/L	94
86) 2-Chlorotoluene	16.49	91	137769	4.9524	ug/L	96
87) 4-Chlorotoluene	16.54	91	146221	5.5918	ug/L	95
88) a-Methylstyrene	16.81	118	79636	4.3594	ug/L	89
89) tert-Butylbenzene	16.87	134	32870	4.6220	ug/L	86
90) 1,2,4-Trimethylbenzene	16.92	105	165006	5.2479	ug/L	95
91) sec-Butylbenzene	17.14	105	201501	5.2846	ug/L	99
92) p-Isopropyltoluene	17.31	119	164591	5.1939	ug/L	97
93) 1,3-Dichlorobenzene	17.49	146	99277	5.0236	ug/L	87
94) 1,4-Dichlorobenzene	17.63	146	99114	4.9955	ug/L	95
95) n-Butylbenzene	17.82	91	169606	5.3548	ug/L	99
96) 1,2-Dichlorobenzene	18.11	146	83585	4.9147	ug/L	88
97) 1,2-Dibromo-3-Chloropropan	19.12	75	4401	5.5510	ug/L	88
98) 1,2,4-Trichlorobenzene	20.25	180	59539	4.6606	ug/L	97
99) Hexachlorobutadiene	20.41	225	30703	4.3562	ug/L	95
100) Naphthalene	20.63	128	67518	4.7629	ug/L	97
101) 1,2,3-Trichlorobenzene	20.94	180	46256	4.6937	ug/L	97

(#) = qualifier out of range (m) = manual integration
 8M414707.D 8260WT.M Mon Sep 12 12:13:41 2016

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Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414707.D Vial: 6
Acq On : 9 Sep 2016 15:19 Operator: TMB
Sample : WG582739-06 5ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD77942 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 12 12:13 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
Last Update : Mon Sep 12 12:00:33 2016
Response via : Initial Calibration



8M414707.D 8260WT.M

Mon Sep 12 12:13:43 2016

Page 3

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414707.D Vial: 6
 Acq On : 9 Sep 2016 15:19 Operator: TMB
 Sample : WG582739-06 5ug/L STD 8260 Inst : HPMS8
 Misc : 1,1 STD77942 Multiplr: 1.00
 MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 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	4.5858	8.3	100	0.00
3 P	Chloromethane	5.0000	5.1488	-3.0	100	0.00
4 C	Vinyl Chloride	5.0000	5.1033	-2.1	100	0.00
5 T	1,3-Butadiene	5.0000	5.0092	-0.2	100	0.01
6 T	Bromomethane	5.0000	4.4713	10.6	100	0.01
7 T	Chloroethane	5.0000	4.9769	0.5	100	0.00
8 T	Trichlorofluoromethane	5.0000	4.7740	4.5	100	0.00
9 T	Diethyl ether	50.0000	48.0219	4.0	100	0.00
10 T	Isoprene	5.0000	4.3123	13.8	100	0.01
11 T	Acrolein	25.0000	0.0000	100.0#	0	0.01
12 T	1,1,2-Trichloro-1,2,2-Trifl	5.0000	4.6816	6.4	100	0.00
13 T	Acetone	5.0000	4.3201	13.6	100	0.00
14 C	1,1-Dichloroethene	5.0000	4.9695	0.6	100	0.00
15 T	Tert-Butyl Alcohol	100.0000	101.6769	-1.7	100	0.00
16 T	Dimethyl Sulfide	5.0000	4.6153	7.7	100	0.00
17 T	Iodomethane	5.0000	3.8931	22.1	100	0.00
18 T	Methyl acetate	5.0000	4.6805	6.4	100	0.00
19 T	Methylene Chloride	5.0000	4.8154	3.7	100	0.01
20 T	Carbon Disulfide	5.0000	4.7636	4.7	100	0.00
21 T	Acrylonitrile	25.0000	24.1705	3.3	100	0.00
22 T	Methyl Tert Butyl Ether	5.0000	4.9912	0.2	100	0.01
23 T	trans-1,2-Dichloroethene	5.0000	4.9350	1.3	100	0.00
24 T	n-Hexane	5.0000	4.7237	5.5	100	0.00
25 T	Diisopropyl ether	50.0000	48.8552	2.3	100	0.00
26 T	Vinyl Acetate	5.0000	4.9784	0.4	100	0.00
27 P	1,1-Dichloroethane	5.0000	4.9268	1.5	100	0.00
28 T	Ethyl-Tert-Butyl ether	50.0000	49.4824	1.0	100	0.00
29 T	2-Butanone	5.0000	4.4164	11.7	100	0.01
30 T	Propionitrile	50.0000	49.1252	1.7	100	0.00
31 T	2,2-Dichloropropane	5.0000	4.9380	1.2	100	0.01
32 T	cis-1,2-Dichloroethene	5.0000	4.8279	3.4	100	0.00
33 C	Chloroform	5.0000	5.0966	-1.9	100	0.00
34	1-Bromopropane	5.0000	4.8635	2.7	100	0.00
35 T	Bromochloromethane	5.0000	5.0486	-1.0	100	0.00
36 T	Tetrahydrofuran	50.0000	48.3290	3.3	100	0.00
37 S	Dibromofluoromethane	2.5000	2.4841	0.6	100	0.00
38 T	1,1,1-Trichloroethane	5.0000	4.6840	6.3	100	0.00
39 T	Cyclohexane	5.0000	4.5704	8.6	100	0.00
40 T	1,1-Dichloropropene	5.0000	4.8276	3.4	100	0.00
41 T	Tert-Amyl-Methyl ether	50.0000	49.1101	1.8	100	0.00
42 T	Carbon Tetrachloride	5.0000	4.7118	5.8	100	0.01
43 S	1,2-Dichloroethane-d4	2.5000	2.4236	3.1	100	0.00
44	Heptane	-1.0000	0.0000	0.0	0	-2.54#
45 T	1,2-Dichloroethane	5.0000	5.1108	-2.2	100	0.00
46 T	Benzene	5.0000	5.1104	-2.2	100	0.00
47 T	Trichloroethene	5.0000	4.6634	6.7	100	0.00
48 T	Methylcyclohexane	5.0000	4.5987	8.0	100	0.00
49 C	1,2-Dichloropropane	5.0000	4.9416	1.2	100	0.00
50 T	Bromodichloromethane	5.0000	4.9322	1.4	100	0.00
51 T	1,4-Dioxane	100.0000	102.6924	-2.7	100	0.00
52 T	Dibromomethane	5.0000	5.0637	-1.3	100	0.00
53 T	2-Chloroethyl Vinyl Ether	5.0000	4.5022	10.0	100	0.01
54 T	4-Methyl-2-Pentanone	5.0000	4.0765	18.5	100	0.00

(#) = Out of Range

8M414707.D 8260WT.M

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Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414707.D Vial: 6
 Acq On : 9 Sep 2016 15:19 Operator: TMB
 Sample : WG582739-06 5ug/L STD 8260 Inst : HPMS8
 Misc : 1,1 STD77942 Multiplr: 1.00
 MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 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	cis-1,3-Dichloropropene	5.0000	4.9397	1.2	100	0.00
56 T	Dimethyl Disulfide	5.0000	5.9361	-18.7	100	0.00
57 I	Chlorobenzene-d5	25.0000	25.0000	0.0	100	0.00
58 S	Toluene-d8	2.5000	2.4096	3.6	100	0.00
59 C	Toluene	5.0000	5.1416	-2.8	100	0.00
60 T	Ethyl Methacrylate	5.0000	4.8632	2.7	100	0.00
61	Paraldehyde	-1.0000	0.0000	0.0	0	-13.14#
62 T	trans-1,3-Dichloropropene	5.0000	5.0461	-0.9	100	0.00
63 T	1,1,2-Trichloroethane	5.0000	5.0462	-0.9	100	0.00
64 T	2-Hexanone	5.0000	4.3175	13.7	100	0.00
65 T	1,3-Dichloropropane	5.0000	5.1181	-2.4	100	0.00
66 T	Tetrachloroethene	5.0000	4.6303	7.4	100	0.00
67 T	Dibromochloromethane	5.0000	4.8510	3.0	100	0.00
68 T	1,2-Dibromoethane	5.0000	4.9671	0.7	100	0.00
69 T	1-Chlorohexane	5.0000	4.7456	5.1	100	0.00
70 P	Chlorobenzene	5.0000	4.7749	4.5	100	0.00
71 T	1,1,1,2-Tetrachloroethane	5.0000	4.5836	8.3	100	0.00
72 C	Ethylbenzene	5.0000	4.6901	6.2	100	0.00
73 T	m-,p-Xylene	10.0000	10.0117	-0.1	100	0.00
74 T	o-Xylene	5.0000	4.7598	4.8	100	0.00
75 T	Styrene	5.0000	4.7985	4.0	100	0.00
76 P	Bromoform	5.0000	4.3210	13.6	100	0.00
77 T	Isopropylbenzene	5.0000	5.2417	-4.8	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	5.4884	-9.8	100	0.00
80 S	p-Bromofluorobenzene	2.5000	2.2837	8.7	100	0.00
81 T	1,2,3-Trichloropropane	5.0000	5.5690	-11.4	100	0.00
82 T	trans-1,4-Dichloro-2-Butene	5.0000	4.3110	13.8	100	0.00
83 T	n-Propylbenzene	5.0000	5.1196	-2.4	100	0.00
84 T	Bromobenzene	5.0000	4.9356	1.3	100	0.00
85 T	1,3,5-Trimethylbenzene	5.0000	5.2671	-5.3	100	0.00
86 T	2-Chlorotoluene	5.0000	4.9524	1.0	100	0.00
87 T	4-Chlorotoluene	5.0000	5.5918	-11.8	100	0.00
88 T	a-Methylstyrene	5.0000	4.3594	12.8	100	0.00
89 T	tert-Butylbenzene	5.0000	4.6220	7.6	100	0.00
90 T	1,2,4-Trimethylbenzene	5.0000	5.2479	-5.0	100	0.00
91 T	sec-Butylbenzene	5.0000	5.2846	-5.7	100	0.00
92 T	p-Isopropyltoluene	5.0000	5.1939	-3.9	100	0.00
93 T	1,3-Dichlorobenzene	5.0000	5.0236	-0.5	100	0.00
94 T	1,4-Dichlorobenzene	5.0000	4.9955	0.1	100	0.00
95 T	n-Butylbenzene	5.0000	5.3548	-7.1	100	0.00
96 T	1,2-Dichlorobenzene	5.0000	4.9147	1.7	100	0.00
97 T	1,2-Dibromo-3-Chloropropane	5.0000	5.5510	-11.0	100	0.00
98 T	1,2,4-Trichlorobenzene	5.0000	4.6606	6.8	100	0.00
99 T	Hexachlorobutadiene	5.0000	4.3562	12.9	100	0.00
100 T	Naphthalene	5.0000	4.7629	4.7	100	0.00
101 T	1,2,3-Trichlorobenzene	5.0000	4.6936	6.1	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 8M414707.D 8260WT.M Mon Sep 12 12:16:23 2016

Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414708.D Vial: 7
 Acq On : 9 Sep 2016 15:56 Operator: TMB
 Sample : WG582739-07 20ug/L STD 8260 Inst : HPMS8
 Misc : 1,1 STD77942 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Sep 12 12:13:45 2016

Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.69	96	828145	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	615029	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.59	152	361762	25.00	ug/L	0.00

System Monitoring Compounds

37) Dibromofluoromethane	9.65	111	81565	10.1562	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	40.64%#	
43) 1,2-Dichloroethane-d4	10.29	65	67240	10.4815	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	41.92%#	
58) Toluene-d8	12.66	98	289308	10.5028	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	42.00%#	
80) p-Bromofluorobenzene	16.06	95	107240	10.1166	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	40.48%#	

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.15	85	271842	20.9758	ug/L	99
3) Chloromethane	3.60	50	232914	20.2445	ug/L	99
4) Vinyl Chloride	3.82	62	253703	20.1535	ug/L	97
5) 1,3-Butadiene	3.88	54	189084	22.6478	ug/L	90
6) Bromomethane	4.71	94	127022	18.6238	ug/L	97
7) Chloroethane	4.88	64	104545	20.1218	ug/L	98
8) Trichlorofluoromethane	5.35	101	272359	19.0048	ug/L	99
9) Diethyl ether	5.88	59	266124	75.7154	ug/L	94
10) Isoprene	5.92	67	221673	19.6563	ug/L	90
12) 1,1,2-Trichloro-1,2,2-Trif	6.14	101	156735	18.6591	ug/L	98
13) Acetone	6.21	43	13363	19.6588	ug/L	97
14) 1,1-Dichloroethene	6.45	61	203286	19.2394	ug/L	86
15) Tert-Butyl Alcohol	6.55	59	34736	162.9402	ug/L	97
16) Dimethyl Sulfide	6.71	62	125444	19.4433	ug/L	93
17) Iodomethane	6.97	142	158149	17.2286	ug/L	91
18) Methyl acetate	6.98	43	38724	18.3906	ug/L	95
19) Methylene Chloride	7.24	84	160616	18.7626	ug/L	95
20) Carbon Disulfide	7.27	76	536441	20.3465	ug/L	99
21) Acrylonitrile	7.41	53	35060	37.8734	ug/L	94
22) Methyl Tert Butyl Ether	7.44	73	268415	18.5056	ug/L	97
23) trans-1,2-Dichloroethene	7.68	61	194414	19.3045	ug/L	86
24) n-Hexane	7.76	57	179848	19.6656	ug/L	96
25) Diisopropyl ether	8.10	45	1388093	79.6739	ug/L	99
26) Vinyl Acetate	8.28	43	138470	18.9161	ug/L	99
27) 1,1-Dichloroethane	8.31	63	260423	19.3295	ug/L	98
28) Ethyl-Tert-Butyl ether	8.68	59	1305778	78.9803	ug/L	96
29) 2-Butanone	8.86	43	19562	17.6609	ug/L	93
30) Propionitrile	8.97	54	24669	70.5507	ug/L	95
31) 2,2-Dichloropropane	9.08	77	252191	19.3504	ug/L	99
32) cis-1,2-Dichloroethene	9.15	96	179527	19.4052	ug/L	82
33) Chloroform	9.36	83	298604	19.4172	ug/L	97
34) 1-Bromopropane	9.50	122	32403	18.5599	ug/L	97
35) Bromochloromethane	9.59	130	94387	19.4036	ug/L	92
36) Tetrahydrofuran	9.61	42	54930	70.8032	ug/L	98
38) 1,1,1-Trichloroethane	9.89	97	274186	19.3552	ug/L	100
39) Cyclohexane	9.92	56	217840	19.5078	ug/L	94
40) 1,1-Dichloropropene	10.08	75	226604	19.3204	ug/L	93
41) Tert-Amyl-Methyl ether	10.19	73	1272261	77.6215	ug/L	94
42) Carbon Tetrachloride	10.23	117	257958	19.6582	ug/L	99
45) 1,2-Dichloroethane	10.40	62	160507	19.1009	ug/L	94

(#) = qualifier out of range (m) = manual integration
 8M414708.D 8260WT.M Mon Sep 12 12:13:48 2016

Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414708.D Vial: 7
 Acq On : 9 Sep 2016 15:56 Operator: TMB
 Sample : WG582739-07 20ug/L STD 8260 Inst : HPMS8
 Misc : 1,1 STD77942 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Sep 12 12:13:45 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

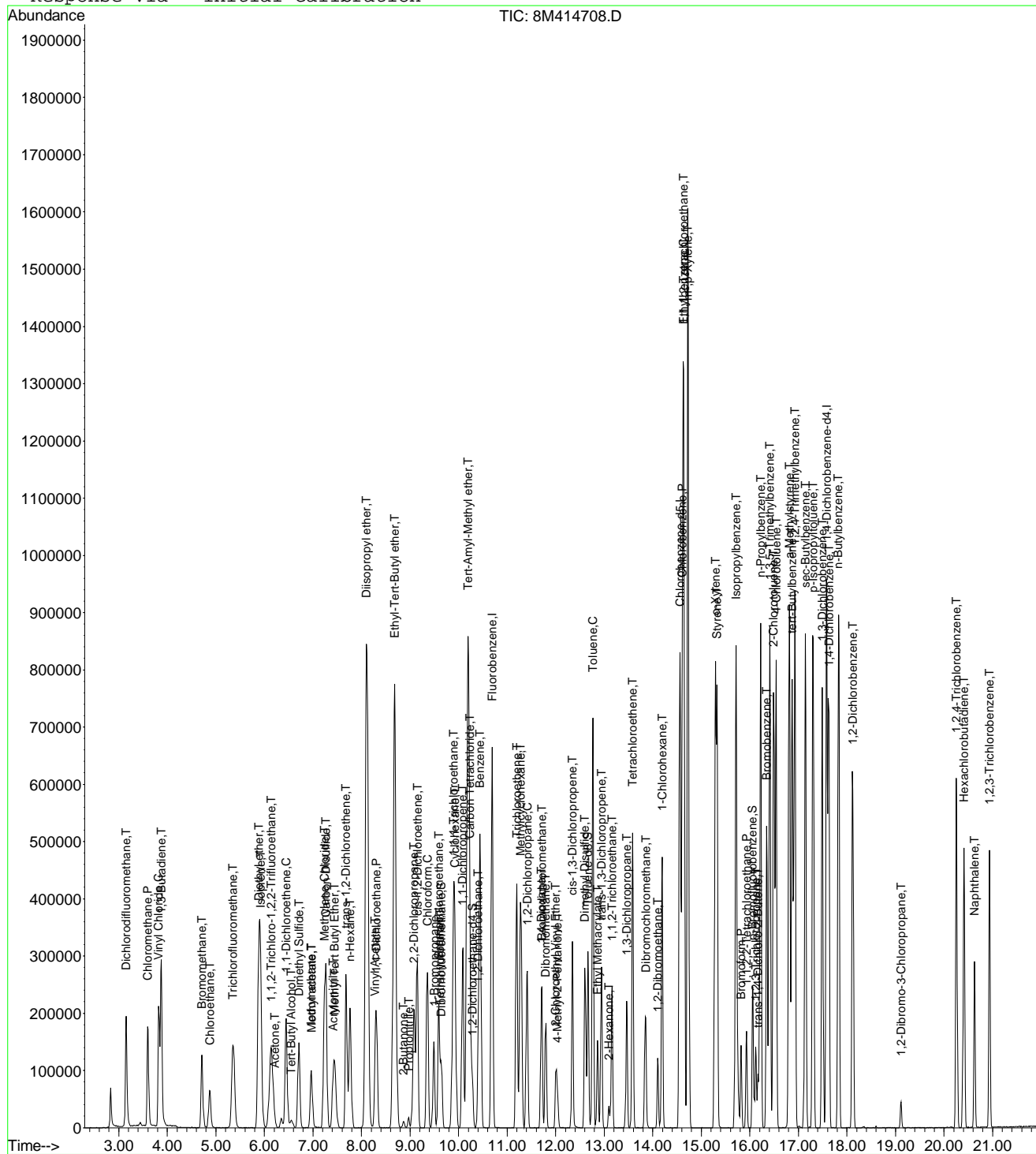
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Benzene	10.44	78	673942	20.2655	ug/L	93
47) Trichloroethene	11.20	130	187682	19.5917	ug/L	94
48) Methylcyclohexane	11.28	83	285222	19.5980	ug/L	94
49) 1,2-Dichloropropane	11.41	63	141780	19.3203	ug/L	83
50) Bromodichloromethane	11.71	83	215360	19.4330	ug/L	96
51) 1,4-Dioxane	11.70	88	4837	158.9632	ug/L	90
52) Dibromomethane	11.80	93	80516	19.5594	ug/L	96
53) 2-Chloroethyl Vinyl Ether	12.00	63	55899	19.4105	ug/L	96
54) 4-Methyl-2-Pentanone	12.03	58	21000	18.5807	ug/L	97
55) cis-1,3-Dichloropropene	12.34	75	237500	19.7766	ug/L	100
56) Dimethyl Disulfide	12.60	79	117166	18.0237	ug/L	88
59) Toluene	12.77	91	733595	21.0055	ug/L	99
60) Ethyl Methacrylate	12.86	69	120974	18.6158	ug/L	94
62) trans-1,3-Dichloropropene	12.94	75	189303	19.4196	ug/L	98
63) 1,1,2-Trichloroethane	13.16	97	104243	18.9298	ug/L	99
64) 2-Hexanone	13.10	58	18501	18.7383	ug/L #	93
65) 1,3-Dichloropropane	13.46	76	173048	19.2937	ug/L	94
66) Tetrachloroethene	13.58	164	164189	19.2036	ug/L	87
67) Dibromochloromethane	13.85	129	139477	19.4296	ug/L	100
68) 1,2-Dibromoethane	14.10	107	100312	19.1838	ug/L	98
69) 1-Chlorohexane	14.19	91	248989	20.5201	ug/L	83
70) Chlorobenzene	14.61	112	485004	18.7517	ug/L	89
71) 1,1,1,2-Tetrachloroethane	14.64	131	172591	17.9636	ug/L	98
72) Ethylbenzene	14.64	106	269055	19.1881	ug/L	91
73) m-,p-Xylene	14.72	106	653950	41.4410	ug/L	89
74) o-Xylene	15.29	106	310259	19.2766	ug/L	88
75) Styrene	15.32	104	505894	19.6343	ug/L	87
76) Bromoform	15.82	173	89624	16.5999	ug/L	99
77) Isopropylbenzene	15.71	105	817696	21.3337	ug/L	97
79) 1,1,2,2-Tetrachloroethane	15.93	83	111605	19.6981	ug/L	98
81) 1,2,3-Trichloropropane	16.12	110	30086	19.3027	ug/L	93
82) trans-1,4-Dichloro-2-Buten	16.17	53	23704	18.2849	ug/L	80
83) n-Propylbenzene	16.22	91	978996	20.6676	ug/L	98
84) Bromobenzene	16.35	156	215561	19.1059	ug/L	82
85) 1,3,5-Trimethylbenzene	16.41	105	691532	21.2037	ug/L	94
86) 2-Chlorotoluene	16.49	91	588482	19.4969	ug/L	85
87) 4-Chlorotoluene	16.54	91	622739	21.9491	ug/L	98
88) a-Methylstyrene	16.81	118	389932	19.6732	ug/L	88
89) tert-Butylbenzene	16.87	134	145210	18.8188	ug/L	84
90) 1,2,4-Trimethylbenzene	16.92	105	726230	21.2879	ug/L	94
91) sec-Butylbenzene	17.14	105	885937	21.4145	ug/L	98
92) p-Isopropyltoluene	17.31	119	735655	21.3959	ug/L	96
93) 1,3-Dichlorobenzene	17.49	146	428292	19.9745	ug/L	90
94) 1,4-Dichlorobenzene	17.63	146	417457	19.3921	ug/L	90
95) n-Butylbenzene	17.82	91	720043	20.9524	ug/L	98
96) 1,2-Dichlorobenzene	18.12	146	363663	19.7079	ug/L	89
97) 1,2-Dibromo-3-Chloropropan	19.12	75	15185	17.6525	ug/L	66
98) 1,2,4-Trichlorobenzene	20.25	180	259496	18.7214	ug/L	98
99) Hexachlorobutadiene	20.41	225	139600	18.2552	ug/L	97
100) Naphthalene	20.63	128	297843	19.3648	ug/L	99
101) 1,2,3-Trichlorobenzene	20.94	180	202164	18.9067	ug/L	97

(#) = qualifier out of range (m) = manual integration
 8M414708.D 8260WT.M Mon Sep 12 12:13:49 2016

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Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414708.D Vial: 7
Acq On : 9 Sep 2016 15:56 Operator: TMB
Sample : WG582739-07 20ug/L STD 8260 Inst : HPMS8
Misc : 1,1 STD77942 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Sep 12 12:13 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
Last Update : Mon Sep 12 12:00:33 2016
Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414709.D Vial: 8
 Acq On : 9 Sep 2016 16:25 Operator: TMB
 Sample : WG582739-08 50ug/L STD 8260 Inst : HPMS8
 Misc : 1,1 STD77942 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Sep 12 12:13:52 2016

Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.69	96	866914	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	650726	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.58	152	395187	25.00	ug/L	0.00

System Monitoring Compounds

37) Dibromofluoromethane	9.65	111	217057	25.8186	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	103.28%	
43) 1,2-Dichloroethane-d4	10.29	65	173797	25.8803	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	103.52%	
58) Toluene-d8	12.67	98	763014	26.1802	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	104.72%	
80) p-Bromofluorobenzene	16.06	95	286493	24.7408	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	98.96%	

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.15	85	732796	54.0151	ug/L	99
3) Chloromethane	3.60	50	589926	48.9824	ug/L	98
4) Vinyl Chloride	3.83	62	656733	49.8361	ug/L	99
5) 1,3-Butadiene	3.87	54	461651	52.8221	ug/L	91
6) Bromomethane	4.72	94	359493	50.3512	ug/L	96
7) Chloroethane	4.87	64	279058	51.3083	ug/L	97
8) Trichlorofluoromethane	5.36	101	736150	49.0702	ug/L	98
9) Diethyl ether	5.88	59	373547	101.5256	ug/L	96
10) Isoprene	5.93	67	606189	51.3484	ug/L	90
12) 1,1,2-Trichloro-1,2,2-Trif	6.14	101	429519	48.8470	ug/L	96
13) Acetone	6.21	43	34542	48.5434	ug/L	88
14) 1,1-Dichloroethene	6.44	61	548989	49.6338	ug/L	85
15) Tert-Butyl Alcohol	6.56	59	41658	186.6711	ug/L	97
16) Dimethyl Sulfide	6.71	62	345488	51.1543	ug/L	91
17) Iodomethane	6.97	142	474616	47.9550	ug/L	91
18) Methyl acetate	6.98	43	104684	47.4926	ug/L	99
19) Methylene Chloride	7.23	84	430956	48.0914	ug/L	95
20) Carbon Disulfide	7.27	76	1421238	51.4951	ug/L	100
21) Acrylonitrile	7.41	53	54213	52.9795	ug/L	99
22) Methyl Tert Butyl Ether	7.45	73	773835	50.9653	ug/L	99
23) trans-1,2-Dichloroethene	7.68	61	525665	49.8620	ug/L	85
24) n-Hexane	7.77	57	477000	49.8254	ug/L	96
25) Diisopropyl ether	8.11	45	1879157	103.0365	ug/L	98
26) Vinyl Acetate	8.28	43	377700	49.2893	ug/L	97
27) 1,1-Dichloroethane	8.30	63	701578	49.7449	ug/L	99
28) Ethyl-Tert-Butyl ether	8.69	59	1797884	103.8823	ug/L	95
29) 2-Butanone	8.86	43	58513	50.4641	ug/L	93
30) Propionitrile	8.98	54	35403	95.6103	ug/L	93
31) 2,2-Dichloropropane	9.08	77	679826	49.8298	ug/L	99
32) cis-1,2-Dichloroethene	9.15	96	489890	50.5845	ug/L	81
33) Chloroform	9.36	83	811346	50.3995	ug/L	97
34) 1-Bromopropane	9.49	122	88364	47.4782	ug/L	97
35) Bromochloromethane	9.59	130	258146	50.6951	ug/L	91
36) Tetrahydrofuran	9.62	42	79457	97.8376	ug/L	99
38) 1,1,1-Trichloroethane	9.89	97	750471	50.6076	ug/L	100
39) Cyclohexane	9.93	56	588007	50.3018	ug/L	96
40) 1,1-Dichloropropene	10.08	75	615615	50.1404	ug/L	92
41) Tert-Amyl-Methyl ether	10.20	73	1759257	102.5335	ug/L	94
42) Carbon Tetrachloride	10.23	117	702695	51.1554	ug/L	99
45) 1,2-Dichloroethane	10.40	62	436149	49.5822	ug/L	93

(#) = qualifier out of range (m) = manual integration
 8M414709.D 8260WT.M Mon Sep 12 12:13:56 2016

Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414709.D Vial: 8
 Acq On : 9 Sep 2016 16:25 Operator: TMB
 Sample : WG582739-08 50ug/L STD 8260 Inst : HPMS8
 Misc : 1,1 STD77942 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Sep 12 12:13:52 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

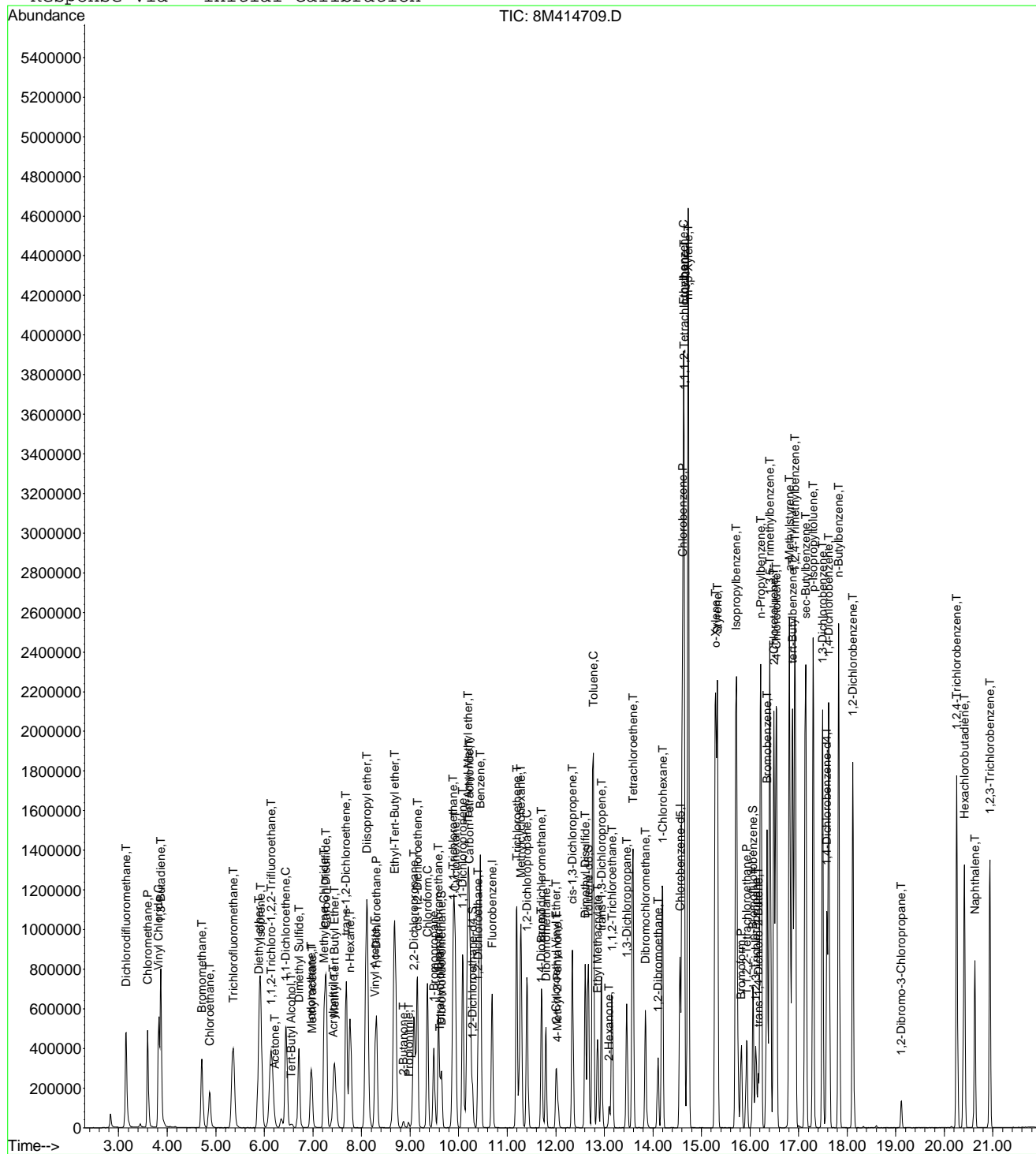
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Benzene	10.44	78	1769539	50.8307	ug/L	94
47) Trichloroethene	11.20	130	496345	49.4953	ug/L	95
48) Methylcyclohexane	11.28	83	752290	49.3793	ug/L	93
49) 1,2-Dichloropropane	11.41	63	385898	50.2345	ug/L	84
50) Bromodichloromethane	11.70	83	598407	51.5824	ug/L	97
51) 1,4-Dioxane	11.69	88	6993	203.8503	ug/L	90
52) Dibromomethane	11.80	93	220737	51.2246	ug/L	94
53) 2-Chloroethyl Vinyl Ether	12.00	63	153674	50.9757	ug/L	94
54) 4-Methyl-2-Pentanone	12.04	58	59604	50.3788	ug/L	92
55) cis-1,3-Dichloropropene	12.35	75	651866	51.8534	ug/L	99
56) Dimethyl Disulfide	12.60	79	345801	45.8380	ug/L	91
59) Toluene	12.77	91	1965354	53.1882	ug/L	100
60) Ethyl Methacrylate	12.86	69	347914	49.8491	ug/L	95
62) trans-1,3-Dichloropropene	12.95	75	538962	52.2562	ug/L	100
63) 1,1,2-Trichloroethane	13.16	97	286207	48.9016	ug/L	97
64) 2-Hexanone	13.09	58	53478	51.1925	ug/L #	95
65) 1,3-Dichloropropane	13.46	76	479560	50.5346	ug/L	95
66) Tetrachloroethene	13.59	164	451786	49.9422	ug/L	86
67) Dibromochloromethane	13.85	129	406380	53.5047	ug/L	100
68) 1,2-Dibromoethane	14.10	107	289147	52.2634	ug/L	98
69) 1-Chlorohexane	14.20	91	669343	52.1368	ug/L	83
70) Chlorobenzene	14.61	112	1343302	49.0869	ug/L	89
71) 1,1,1,2-Tetrachloroethane	14.64	131	501705	47.7682	ug/L	99
72) Ethylbenzene	14.63	106	759522	51.1952	ug/L	88
73) m-,p-Xylene	14.72	106	1797365	107.6513	ug/L	87
74) o-Xylene	15.29	106	856647	50.3043	ug/L	87
75) Styrene	15.32	104	1442970	52.6651	ug/L	86
76) Bromoform	15.82	173	268641	45.6990	ug/L	99
77) Isopropylbenzene	15.72	105	2196384	54.1603	ug/L	95
79) 1,1,2,2-Tetrachloroethane	15.92	83	307494	49.6819	ug/L	96
81) 1,2,3-Trichloropropane	16.12	110	87373	51.3159	ug/L	70
82) trans-1,4-Dichloro-2-Buten	16.17	53	67089	46.2008	ug/L	66
83) n-Propylbenzene	16.22	91	2605852	50.3592	ug/L	96
84) Bromobenzene	16.35	156	605966	49.1662	ug/L	79
85) 1,3,5-Trimethylbenzene	16.41	105	1882942	52.8513	ug/L	92
86) 2-Chlorotoluene	16.49	91	1662760	50.4292	ug/L	93
87) 4-Chlorotoluene	16.53	91	1641563	52.9650	ug/L	92
88) a-Methylstyrene	16.81	118	1097054	50.6680	ug/L	89
89) tert-Butylbenzene	16.87	134	407485	48.3424	ug/L	79
90) 1,2,4-Trimethylbenzene	16.93	105	1975661	53.0142	ug/L	93
91) sec-Butylbenzene	17.14	105	2365353	52.3385	ug/L	96
92) p-Isopropyltoluene	17.30	119	1985269	52.8561	ug/L	95
93) 1,3-Dichlorobenzene	17.50	146	1198349	51.1611	ug/L	89
94) 1,4-Dichlorobenzene	17.62	146	1165088	49.5442	ug/L	89
95) n-Butylbenzene	17.83	91	1923139	51.2279	ug/L	96
96) 1,2-Dichlorobenzene	18.12	146	1013203	50.2641	ug/L	89
97) 1,2-Dibromo-3-Chloropropan	19.11	75	45012	47.9006	ug/L	66
98) 1,2,4-Trichlorobenzene	20.26	180	741087	48.9437	ug/L	99
99) Hexachlorobutadiene	20.41	225	385430	46.1389	ug/L	97
100) Naphthalene	20.63	128	877488	52.2261	ug/L	99
101) 1,2,3-Trichlorobenzene	20.94	180	585054	50.0875	ug/L	97

(#) = qualifier out of range (m) = manual integration
 8M414709.D 8260WT.M Mon Sep 12 12:13:56 2016

Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414709.D Vial: 8
 Acq On : 9 Sep 2016 16:25 Operator: TMB
 Sample : WG582739-08 50ug/L STD 8260 Inst : HPMS8
 Misc : 1,1 STD77942 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Sep 12 12:13 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414710.D Vial: 9
 Acq On : 9 Sep 2016 16:54 Operator: TMB
 Sample : WG582739-09 100ug/L STD 8260 Inst : HPMS8
 Misc : 1,1 STD77942 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Sep 12 12:13:59 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.69	96	921738	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	695749	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.59	152	419503	25.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.65	111	467894	52.3451	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	209.40%#	
43) 1,2-Dichloroethane-d4	10.29	65	372584	52.1820	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	208.72%#	
58) Toluene-d8	12.66	98	1637985	52.5649	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	210.24%#	
80) p-Bromofluorobenzene	16.06	95	631339	51.3605	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	205.44%#	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.15	85	1571176	108.9244	ug/L	100
3) Chloromethane	3.60	50	1241953	96.9875	ug/L	98
4) Vinyl Chloride	3.82	62	1363182	97.2920	ug/L	97
5) 1,3-Butadiene	3.87	54	900987	96.9592	ug/L	96
6) Bromomethane	4.71	94	821843	108.2622	ug/L	99
7) Chloroethane	4.87	64	605892	104.7749	ug/L	98
8) Trichlorofluoromethane	5.35	101	1651066	103.5105	ug/L	99
9) Diethyl ether	5.88	59	859047	219.5917	ug/L	96
10) Isoprene	5.92	67	1360942	108.4245	ug/L	89
12) 1,1,2-Trichloro-1,2,2-Trif	6.14	101	964428	103.1559	ug/L	95
13) Acetone	6.22	43	74810	98.8806	ug/L	82
14) 1,1-Dichloroethene	6.44	61	1206483	102.5896	ug/L	83
15) Tert-Butyl Alcohol	6.56	59	97178	409.5578	ug/L	99
16) Dimethyl Sulfide	6.71	62	767580	106.8911	ug/L	92
17) Iodomethane	6.97	142	1070906	100.9042	ug/L	90
18) Methyl acetate	6.98	43	242404	103.4317	ug/L	99
19) Methylene Chloride	7.23	84	965478	101.3318	ug/L	93
20) Carbon Disulfide	7.27	76	3122811	106.4175	ug/L	99
21) Acrylonitrile	7.41	53	124117	99.0825	ug/L	98
22) Methyl Tert Butyl Ether	7.44	73	1754732	108.6940	ug/L	98
23) trans-1,2-Dichloroethene	7.68	61	1169668	104.3499	ug/L	84
24) n-Hexane	7.76	57	1034875	101.6691	ug/L	96
25) Diisopropyl ether	8.11	45	4158143	214.4351	ug/L	99
26) Vinyl Acetate	8.28	43	849434	104.2566	ug/L	96
27) 1,1-Dichloroethane	8.30	63	1546728	103.1465	ug/L	99
28) Ethyl-Tert-Butyl ether	8.68	59	4041480	219.6285	ug/L	94
29) 2-Butanone	8.86	43	132196	107.2303	ug/L	91
30) Propionitrile	8.96	54	82618	206.2723	ug/L	93
31) 2,2-Dichloropropane	9.09	77	1484868	102.3641	ug/L	100
32) cis-1,2-Dichloroethene	9.15	96	1077730	104.6640	ug/L	81
33) Chloroform	9.36	83	1763951	103.0565	ug/L	97
34) 1-Bromopropane	9.49	122	193062	96.9900	ug/L	97
35) Bromochloromethane	9.58	130	586771	108.3771	ug/L	91
36) Tetrahydrofuran	9.61	42	180151	208.6310	ug/L	98
38) 1,1,1-Trichloroethane	9.89	97	1665538	105.6343	ug/L	100
39) Cyclohexane	9.92	56	1295306	104.2179	ug/L	96
40) 1,1-Dichloropropene	10.08	75	1360682	104.2327	ug/L	92
41) Tert-Amyl-Methyl ether	10.19	73	3995592	219.0211	ug/L	94
42) Carbon Tetrachloride	10.22	117	1588314	108.7500	ug/L	99
45) 1,2-Dichloroethane	10.40	62	974391	104.1819	ug/L	94

(#) = qualifier out of range (m) = manual integration
 8M414710.D 8260WT.M Mon Sep 12 12:14:03 2016

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414710.D Vial: 9
 Acq On : 9 Sep 2016 16:54 Operator: TMB
 Sample : WG582739-09 100ug/L STD 8260 Inst : HPMS8
 Misc : 1,1 STD77942 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Sep 12 12:13:59 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

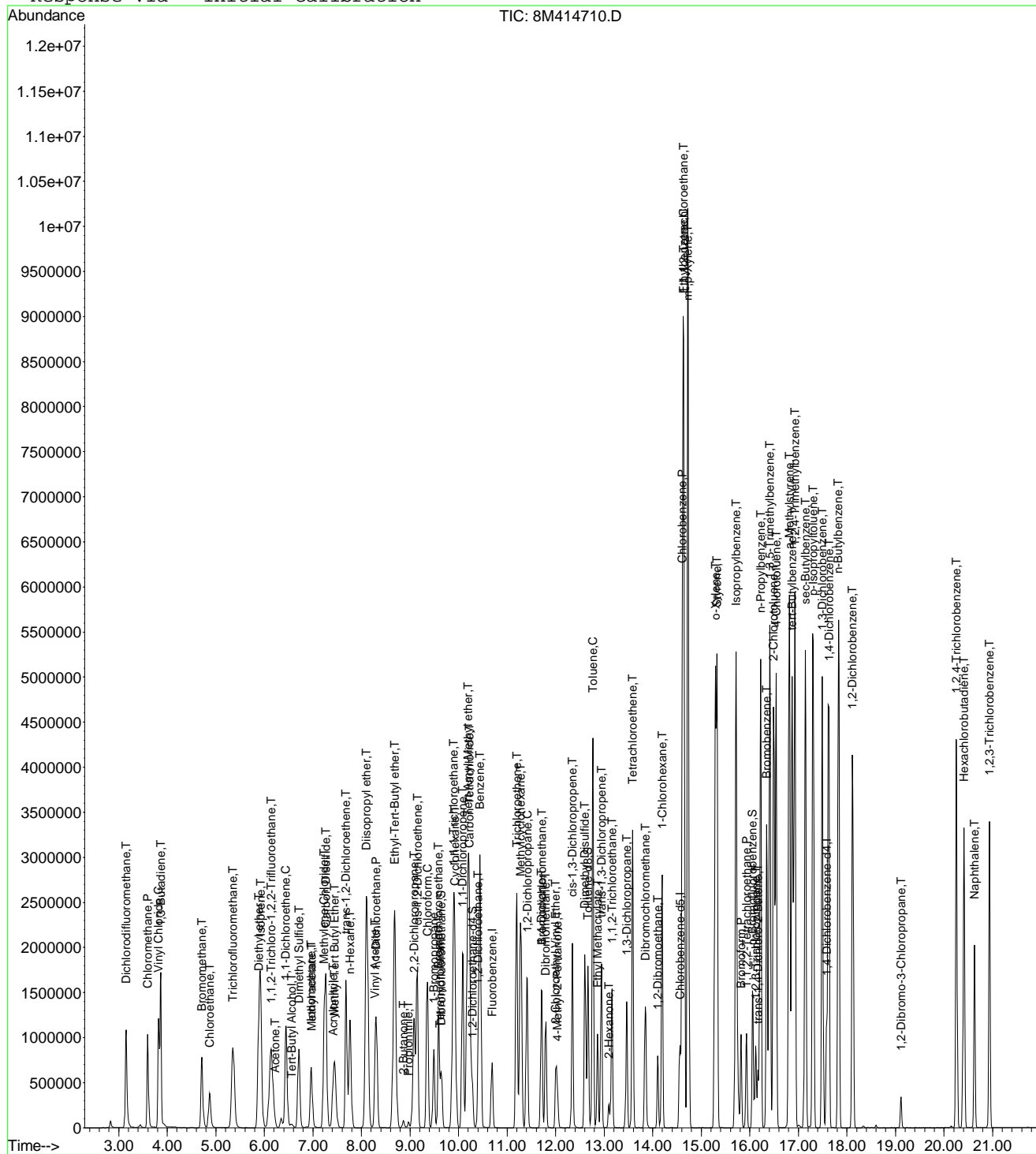
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Benzene	10.44	78	3806985	102.8526	ug/L	96
47) Trichloroethene	11.20	130	1113833	104.4645	ug/L	94
48) Methylcyclohexane	11.28	83	1655213	102.1838	ug/L	93
49) 1,2-Dichloropropane	11.41	63	849010	103.9466	ug/L	84
50) Bromodichloromethane	11.71	83	1327879	107.6544	ug/L	96
51) 1,4-Dioxane	11.70	88	15845	387.8494	ug/L	93
52) Dibromomethane	11.80	93	499031	108.9179	ug/L	94
53) 2-Chloroethyl Vinyl Ether	12.00	63	347130	108.2987	ug/L	95
54) 4-Methyl-2-Pentanone	12.03	58	135781	107.9394	ug/L	93
55) cis-1,3-Dichloropropene	12.34	75	1449552	108.4480	ug/L	99
56) Dimethyl Disulfide	12.60	79	797622	96.2416	ug/L	91
59) Toluene	12.77	91	4257057	107.7530	ug/L	97
60) Ethyl Methacrylate	12.86	69	791474	105.5704	ug/L	95
62) trans-1,3-Dichloropropene	12.94	75	1214694	110.1520	ug/L	98
63) 1,1,2-Trichloroethane	13.16	97	649145	103.5811	ug/L	99
64) 2-Hexanone	13.10	58	121958	109.1911	ug/L #	99
65) 1,3-Dichloropropane	13.46	76	1072759	105.7288	ug/L	95
66) Tetrachloroethene	13.59	164	1040405	107.5680	ug/L	85
67) Dibromochloromethane	13.84	129	944835	116.3485	ug/L	100
68) 1,2-Dibromoethane	14.10	107	654454	110.6379	ug/L	100
69) 1-Chlorohexane	14.20	91	1482145	107.9773	ug/L	83
70) Chlorobenzene	14.61	112	3023324	103.3289	ug/L	92
71) 1,1,1,2-Tetrachloroethane	14.64	131	1197770	101.5782	ug/L	99
72) Ethylbenzene	14.64	106	1797773	113.3365	ug/L	78
73) m-,p-Xylene	14.72	106	4097303	229.5233	ug/L	74
74) o-Xylene	15.29	106	1968260	108.1013	ug/L	82
75) Styrene	15.32	104	3277923	111.7185	ug/L	88
76) Bromoform	15.82	173	645147	101.7421	ug/L	99
77) Isopropylbenzene	15.71	105	4811046	110.9577	ug/L	92
79) 1,1,2,2-Tetrachloroethane	15.93	83	704052	107.1602	ug/L	98
81) 1,2,3-Trichloropropane	16.12	110	194460	107.5901	ug/L	70
82) trans-1,4-Dichloro-2-Buten	16.17	53	156793	100.8303	ug/L	70
83) n-Propylbenzene	16.22	91	5486605	99.8850	ug/L	92
84) Bromobenzene	16.35	156	1381922	105.6256	ug/L	80
85) 1,3,5-Trimethylbenzene	16.41	105	4132008	109.2566	ug/L	89
86) 2-Chlorotoluene	16.49	91	3378147	96.5158	ug/L	79
87) 4-Chlorotoluene	16.54	91	3680112	111.8562	ug/L	99
88) a-Methylstyrene	16.81	118	2462727	107.1494	ug/L	90
89) tert-Butylbenzene	16.87	134	954270	106.6487	ug/L	75
90) 1,2,4-Trimethylbenzene	16.92	105	4312082	109.0019	ug/L	88
91) sec-Butylbenzene	17.14	105	5131666	106.9673	ug/L	93
92) p-Isopropyltoluene	17.31	119	4387381	110.0395	ug/L	91
93) 1,3-Dichlorobenzene	17.49	146	2682007	107.8659	ug/L	91
94) 1,4-Dichlorobenzene	17.63	146	2594289	103.9250	ug/L	91
95) n-Butylbenzene	17.82	91	4230995	106.1711	ug/L	93
96) 1,2-Dichlorobenzene	18.11	146	2287824	106.9181	ug/L	90
97) 1,2-Dibromo-3-Chloropropan	19.12	75	107456	107.7236	ug/L	63
98) 1,2,4-Trichlorobenzene	20.25	180	1790427	111.3915	ug/L	98
99) Hexachlorobutadiene	20.41	225	942840	106.3230	ug/L	97
100) Naphthalene	20.63	128	2042168	114.5000	ug/L	100
101) 1,2,3-Trichlorobenzene	20.94	180	1408153	113.5666	ug/L	98

(#) = qualifier out of range (m) = manual integration
 8M414710.D 8260WT.M Mon Sep 12 12:14:03 2016

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Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414710.D Vial: 9
 Acq On : 9 Sep 2016 16:54 Operator: TMB
 Sample : WG582739-09 100ug/L STD 8260 Inst : HPMS8
 Misc : 1,1 STD77942 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Sep 12 12:14 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414711.D Vial: 10
 Acq On : 9 Sep 2016 17:23 Operator: TMB
 Sample : WG582739-10 200ug/L STD 8260 Inst : HPMS8
 Misc : 1,1 STD77942 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Sep 12 12:14:07 2016

Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.69	96	953740	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	743857	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.59	152	439174	25.00	ug/L	0.00

System Monitoring Compounds

37) Dibromofluoromethane	9.65	111	988830	106.9122	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	427.64%#	
43) 1,2-Dichloroethane-d4	10.29	65	778704	105.4013	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	421.60%#	
58) Toluene-d8	12.66	98	3435089	103.1068	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	412.44%#	
80) p-Bromofluorobenzene	16.06	95	1368579	106.3495	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	425.40%#	

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.15	85	3230230	216.4270	ug/L	98
3) Chloromethane	3.60	50	2517778	190.0227	ug/L	96
4) Vinyl Chloride	3.82	62	2676835	184.6386	ug/L	95
5) 1,3-Butadiene	3.86	54	1799935	187.1996	ug/L	97
6) Bromomethane	4.71	94	1864145	237.3259	ug/L	98
7) Chloroethane	4.87	64	1304872	218.0758	ug/L	97
8) Trichlorofluoromethane	5.35	101	3590414	217.5414	ug/L	99
10) Isoprene	5.92	67	2891762	222.6525	ug/L	91
12) 1,1,2-Trichloro-1,2,2-Trif	6.13	101	2079146	214.9249	ug/L	94
13) Acetone	6.22	43	172549	220.4152	ug/L	88
14) 1,1-Dichloroethene	6.44	61	2660057	218.6001	ug/L	83
15) Tert-Butyl Alcohol	6.55	59	4896	19.9419	ug/L #	68
16) Dimethyl Sulfide	6.71	62	1653154	222.4891	ug/L	91
17) Iodomethane	6.96	142	2281879	206.9762	ug/L	90
18) Methyl acetate	6.98	43	506723	208.9594	ug/L	98
19) Methylene Chloride	7.23	84	2065746	209.5356	ug/L	92
20) Carbon Disulfide	7.27	76	6499310	214.0486	ug/L	97
21) Acrylonitrile	7.45	53	26886	26.4546	ug/L #	32
22) Methyl Tert Butyl Ether	7.44	73	3554283	212.7768	ug/L	98
23) trans-1,2-Dichloroethene	7.68	61	2554854	220.2790	ug/L	83
24) n-Hexane	7.76	57	2191428	208.0682	ug/L	97
26) Vinyl Acetate	8.27	43	1810807	214.7948	ug/L	96
27) 1,1-Dichloroethane	8.30	63	3332659	214.7875	ug/L	99
29) 2-Butanone	8.86	43	269882	211.5683	ug/L	90
31) 2,2-Dichloropropane	9.08	77	3164644	210.8444	ug/L	99
32) cis-1,2-Dichloroethene	9.15	96	2343997	219.9996	ug/L	80
33) Chloroform	9.36	83	3698531	208.8314	ug/L	95
34) 1-Bromopropane	9.49	122	420078	203.3576	ug/L	97
35) Bromochloromethane	9.58	130	1241928	221.6884	ug/L	90
36) Tetrahydrofuran	9.63	42	1538	1.7214	ug/L #	48
38) 1,1,1-Trichloroethane	9.89	97	3654145	223.9823	ug/L	99
39) Cyclohexane	9.91	56	2822238	219.4527	ug/L	95
40) 1,1-Dichloropropene	10.08	75	2918205	216.0432	ug/L	90
42) Carbon Tetrachloride	10.22	117	3298850	218.2895	ug/L	99
45) 1,2-Dichloroethane	10.40	62	2042526	211.0591	ug/L	93
46) Benzene	10.44	78	7566012	197.5508	ug/L	98
47) Trichloroethene	11.20	130	2433656	220.5898	ug/L	94
48) Methylcyclohexane	11.28	83	3530568	210.6445	ug/L	94
49) 1,2-Dichloropropane	11.40	63	1807494	213.8711	ug/L	85
50) Bromodichloromethane	11.70	83	2804037	219.7022	ug/L	96

(#) = qualifier out of range (m) = manual integration
 8M414711.D 8260WT.M Mon Sep 12 12:14:10 2016

Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414711.D Vial: 10

Acq On : 9 Sep 2016 17:23

Operator: TMB

Sample : WG582739-10 200ug/L STD 8260

Inst : HPMS8

Misc : 1,1 STD77942

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Sep 12 12:14:07 2016

Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)

Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8

Last Update : Mon Sep 12 12:00:33 2016

Response via : Initial Calibration

DataAcq Meth : 8260WT

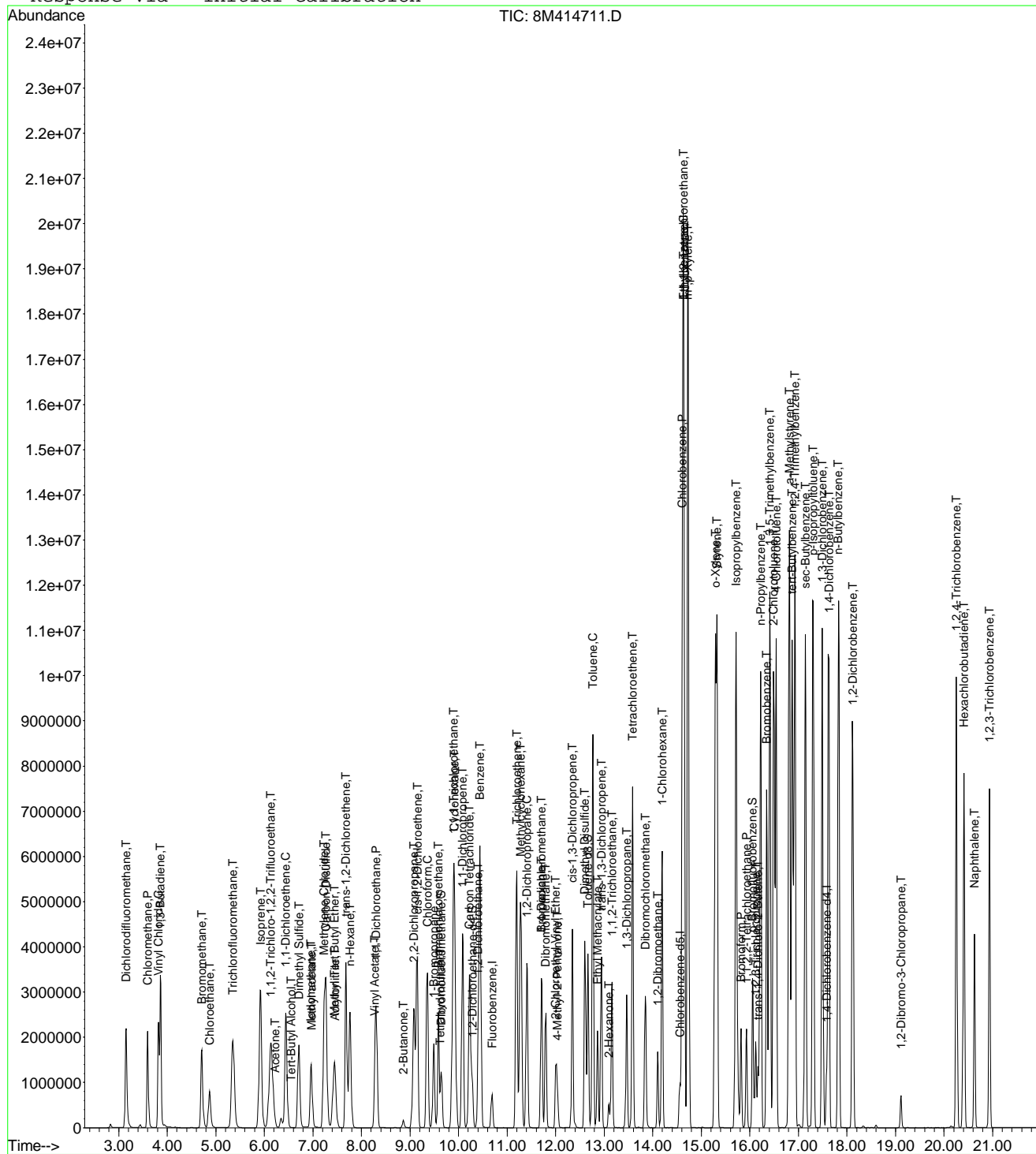
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
51) 1,4-Dioxane	11.70	88	4806	142.7963	ug/L #	32
52) Dibromomethane	11.80	93	1043166	220.0405	ug/L	92
53) 2-Chloroethyl Vinyl Ether	12.00	63	718306	216.5799	ug/L	94
54) 4-Methyl-2-Pentanone	12.03	58	276900	212.7362	ug/L	93
55) cis-1,3-Dichloropropene	12.34	75	3034672	219.4203	ug/L	97
56) Dimethyl Disulfide	12.60	79	1754607	201.5276	ug/L	94
59) Toluene	12.77	91	8056862	190.7431	ug/L	89
60) Ethyl Methacrylate	12.86	69	1613382	200.8856	ug/L	96
62) trans-1,3-Dichloropropene	12.94	75	2524102	214.0895	ug/L	97
63) 1,1,2-Trichloroethane	13.16	97	1346547	200.8365	ug/L	98
64) 2-Hexanone	13.10	58	252241	211.2301	ug/L #	97
65) 1,3-Dichloropropane	13.46	76	2212086	203.9184	ug/L	95
66) Tetrachloroethene	13.59	164	2363850	228.5934	ug/L	85
67) Dibromochloromethane	13.84	129	2002441	230.6364	ug/L	100
68) 1,2-Dibromoethane	14.10	107	1343936	212.5037	ug/L	99
69) 1-Chlorohexane	14.20	91	3152192	214.7916	ug/L	84
70) Chlorobenzene	14.61	112	6341602	202.7213	ug/L	99
71) 1,1,1,2-Tetrachloroethane	14.64	131	2848851	207.1214	ug/L	99
72) Ethylbenzene	14.64	106	4168257	245.7834	ug/L	49
73) m-,p-Xylene	14.72	106	8021947	420.3118	ug/L	54
74) o-Xylene	15.29	106	4362574	224.1065	ug/L	68
75) Styrene	15.32	104	6636617	211.4211	ug/L	96
76) Bromoform	15.82	173	1363327	200.3890	ug/L	99
77) Isopropylbenzene	15.72	105	8870167	191.3432	ug/L #	79
79) 1,1,2,2-Tetrachloroethane	15.93	83	1438074	209.0781	ug/L	96
81) 1,2,3-Trichloropropane	16.12	110	412301	217.8988	ug/L	75
82) trans-1,4-Dichloro-2-Butene	16.17	53	333545	204.1270	ug/L	71
83) n-Propylbenzene	16.22	91	9573196	166.4762	ug/L #	77
84) Bromobenzene	16.35	156	3008048	219.6184	ug/L	78
85) 1,3,5-Trimethylbenzene	16.41	105	7951319	200.8279	ug/L	79
86) 2-Chlorotoluene	16.49	91	7910169	215.8758	ug/L	84
87) 4-Chlorotoluene	16.54	91	5990541	173.9256	ug/L #	76
88) a-Methylstyrene	16.81	118	5227965	217.2723	ug/L	94
89) tert-Butylbenzene	16.87	134	2172419	231.9136	ug/L	65
90) 1,2,4-Trimethylbenzene	16.92	105	8167005	197.2006	ug/L	75
91) sec-Butylbenzene	17.14	105	9328265	185.7343	ug/L #	81
92) p-Isopropyltoluene	17.31	119	8226682	197.0908	ug/L #	79
93) 1,3-Dichlorobenzene	17.49	146	5539083	212.7947	ug/L	96
94) 1,4-Dichlorobenzene	17.63	146	5387691	206.1592	ug/L	96
95) n-Butylbenzene	17.82	91	7934307	190.1828	ug/L	83
96) 1,2-Dichlorobenzene	18.12	146	4787208	213.7025	ug/L	94
97) 1,2-Dibromo-3-Chloropropane	19.12	75	224705	215.1747	ug/L #	59
98) 1,2,4-Trichlorobenzene	20.25	180	3943114	234.3329	ug/L	98
99) Hexachlorobutadiene	20.41	225	2231392	240.3607	ug/L	97
100) Naphthalene	20.63	128	4158504	222.7150	ug/L	98
101) 1,2,3-Trichlorobenzene	20.94	180	3046067	234.6597	ug/L	98

(#) = qualifier out of range (m) = manual integration
 8M414711.D 8260WT.M Mon Sep 12 12:14:10 2016

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Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414711.D Vial: 10
 Acq On : 9 Sep 2016 17:23 Operator: TMB
 Sample : WG582739-10 200ug/L STD 8260 Inst : HPMS8
 Misc : 1,1 STD77942 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Sep 12 12:14 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414712.D Vial: 11
 Acq On : 9 Sep 2016 17:52 Operator: TMB
 Sample : WG582739-11 300ug/L STD 8260 Inst : HPMS8
 Misc : 1,1 STD77942 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Sep 12 12:14:14 2016

Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.69	96	1004188	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	809435	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.59	152	481672	25.00	ug/L	0.00

System Monitoring Compounds

37) Dibromofluoromethane	9.64	111	1584502	162.7097	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	650.84%#	
43) 1,2-Dichloroethane-d4	10.29	65	1239146	159.2983	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	637.20%#	
58) Toluene-d8	12.66	98	5279411	145.6271	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	582.52%#	
80) p-Bromofluorobenzene	16.06	95	2229309	157.9505	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	631.80%#	

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.15	85	4803382	305.6610	ug/L	96
3) Chloromethane	3.60	50	3693502	264.7533	ug/L	94
4) Vinyl Chloride	3.82	62	3797231	248.7613	ug/L	93
5) 1,3-Butadiene	3.87	54	2562275	253.0981	ug/L	97
6) Bromomethane	4.70	94	3018871	365.0270	ug/L	99
7) Chloroethane	4.87	64	2037872	323.4680	ug/L	97
8) Trichlorofluoromethane	5.35	101	5595545	321.9992	ug/L	99
9) Diethyl ether	5.88	59	1454508	341.2774	ug/L	96
10) Isoprene	5.91	67	4624869	338.2046	ug/L	91
12) 1,1,2-Trichloro-1,2,2-Trif	6.13	101	3282574	322.2785	ug/L	92
13) Acetone	6.22	43	253957	308.1089	ug/L	84
14) 1,1-Dichloroethene	6.44	61	4189622	327.0012	ug/L	81
15) Tert-Butyl Alcohol	6.57	59	142166	549.9655	ug/L	96
16) Dimethyl Sulfide	6.71	62	2607166	333.2568	ug/L	92
17) Iodomethane	6.97	142	3459306	297.6721	ug/L	90
18) Methyl acetate	6.98	43	854373	334.6214	ug/L	98
19) Methylene Chloride	7.23	84	3287229	316.6838	ug/L	91
20) Carbon Disulfide	7.27	76	9537876	298.3401	ug/L	95
21) Acrylonitrile	7.41	53	234138	150.2487	ug/L	95
22) Methyl Tert Butyl Ether	7.44	73	5628663	320.0314	ug/L	97
23) trans-1,2-Dichloroethene	7.68	61	4038300	330.6896	ug/L	83
24) n-Hexane	7.76	57	3388185	305.5347	ug/L	96
25) Diisopropyl ether	8.10	45	6544190	309.7739	ug/L	98
26) Vinyl Acetate	8.28	43	2787017	313.9830	ug/L	96
27) 1,1-Dichloroethane	8.30	63	5209169	318.8612	ug/L	97
28) Ethyl-Tert-Butyl ether	8.68	59	6354850	316.9903	ug/L	93
29) 2-Butanone	8.86	43	440905	328.2741	ug/L	90
30) Propionitrile	8.97	54	135174	308.2767	ug/L	93
31) 2,2-Dichloropropane	9.08	77	4934164	312.2236	ug/L	98
32) cis-1,2-Dichloroethene	9.15	96	3707193	330.4646	ug/L	79
33) Chloroform	9.36	83	5718211	306.6491	ug/L	93
34) 1-Bromopropane	9.49	122	660782	303.5428	ug/L	98
35) Bromochloromethane	9.59	130	1972567	334.4208	ug/L	90
36) Tetrahydrofuran	9.61	42	296966	315.6758	ug/L	96
38) 1,1,1-Trichloroethane	9.89	97	5702361	331.9690	ug/L	97
39) Cyclohexane	9.91	56	4460270	329.3999	ug/L	95
40) 1,1-Dichloropropene	10.09	75	4490570	315.7485	ug/L	88
41) Tert-Amyl-Methyl ether	10.19	73	6431024	323.5769	ug/L	94
42) Carbon Tetrachloride	10.22	117	5312005	333.8441	ug/L	99
45) 1,2-Dichloroethane	10.40	62	3274083	321.3226	ug/L	92

(#) = qualifier out of range (m) = manual integration
 8M414712.D 8260WT.M Mon Sep 12 12:14:18 2016

Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414712.D Vial: 11

Acq On : 9 Sep 2016 17:52

Operator: TMB

Sample : WG582739-11 300ug/L STD 8260

Inst : HPMS8

Misc : 1,1 STD77942

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Sep 12 12:14:14 2016

Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)

Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8

Last Update : Mon Sep 12 12:00:33 2016

Response via : Initial Calibration

DataAcq Meth : 8260WT

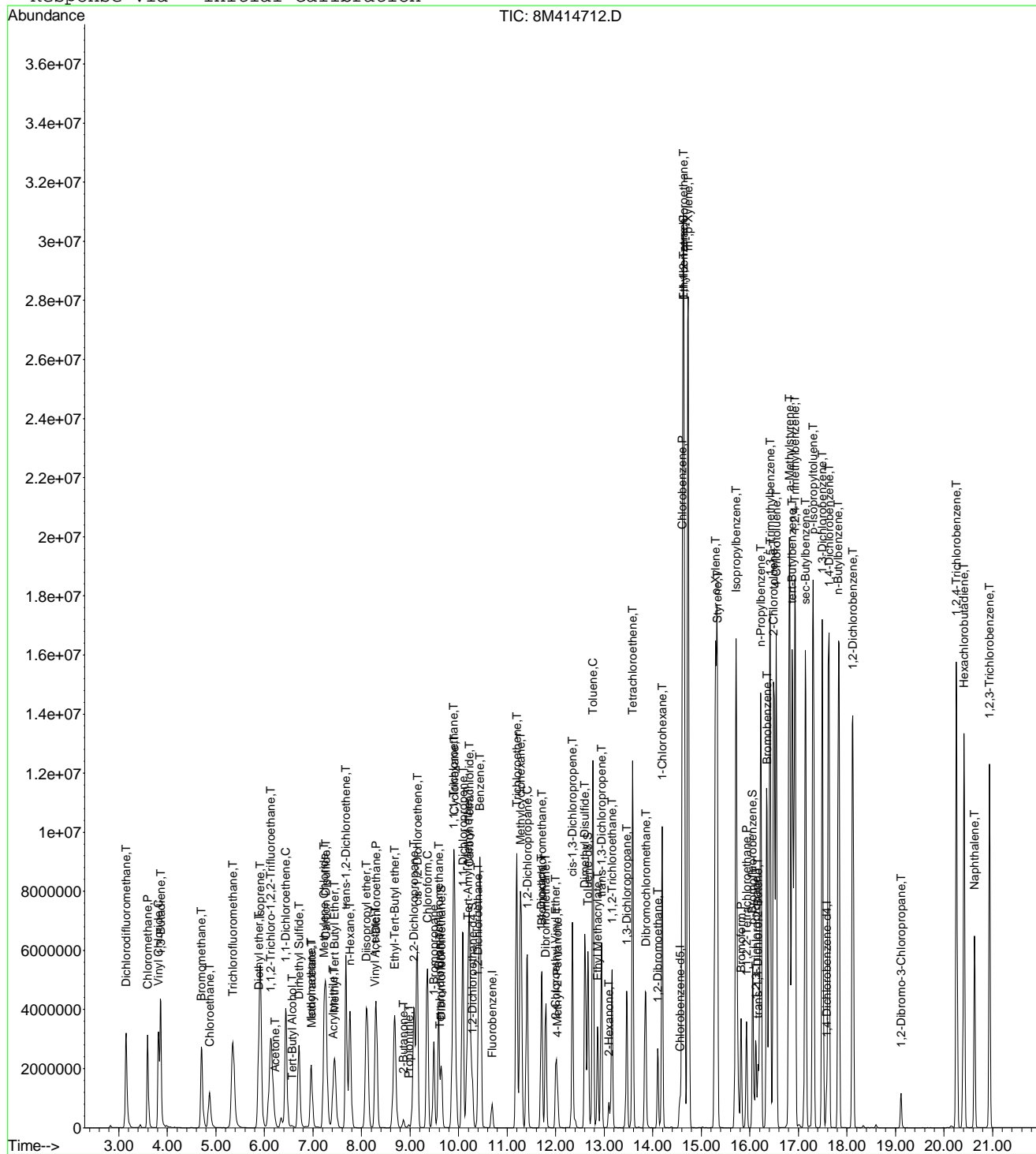
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Benzene	10.44	78	10592340	262.6749	ug/L	96
47) Trichloroethene	11.20	130	3873308	333.4442	ug/L	94
48) Methylcyclohexane	11.28	83	5493880	311.3148	ug/L	94
49) 1,2-Dichloropropane	11.41	63	2881382	323.8105	ug/L	85
50) Bromodichloromethane	11.71	83	4401775	327.5620	ug/L	94
51) 1,4-Dioxane	11.70	88	28157	606.6447	ug/L	88
52) Dibromomethane	11.80	93	1677382	336.0439	ug/L	90
53) 2-Chloroethyl Vinyl Ether	12.00	63	1170001	335.0502	ug/L	94
54) 4-Methyl-2-Pentanone	12.03	58	454311	331.5023	ug/L	94
55) cis-1,3-Dichloropropene	12.34	75	4679797	321.3713	ug/L	94
56) Dimethyl Disulfide	12.60	79	2831621	307.4331	ug/L	98
59) Toluene	12.77	91	10760205	234.1051	ug/L	80
60) Ethyl Methacrylate	12.86	69	2581197	295.1464	ug/L	96
62) trans-1,3-Dichloropropene	12.94	75	3942321	307.2897	ug/L	95
63) 1,1,2-Trichloroethane	13.16	97	2171224	297.5336	ug/L	98
64) 2-Hexanone	13.10	58	400621	308.3055	ug/L #	99
65) 1,3-Dichloropropane	13.46	76	3475026	294.3879	ug/L	97
66) Tetrachloroethene	13.58	164	3875013	344.3693	ug/L	84
67) Dibromochloromethane	13.85	129	3212875	340.0708	ug/L	99
68) 1,2-Dibromoethane	14.10	107	2178127	316.5036	ug/L	100
69) 1-Chlorohexane	14.19	91	4905388	307.1748	ug/L	87
70) Chlorobenzene	14.61	112	9096467	267.2272	ug/L	92
71) 1,1,1,2-Tetrachloroethane	14.64	131	4734896	295.7452	ug/L	99
72) Ethylbenzene	14.64	106	6502235	352.3450	ug/L #	30
73) m-,p-Xylene	14.73	106	10652781	512.9350	ug/L	46
74) o-Xylene	15.29	106	6773551	319.7684	ug/L	55
75) Styrene	15.33	104	9395275	275.0072	ug/L	93
76) Bromoform	15.82	173	2267418	305.8929	ug/L	99
77) Isopropylbenzene	15.71	105	11639862	230.7472	ug/L #	64
79) 1,1,2,2-Tetrachloroethane	15.93	83	2294423	304.1488	ug/L	96
81) 1,2,3-Trichloropropane	16.13	110	654512	315.3867	ug/L	91
82) trans-1,4-Dichloro-2-Buten	16.17	53	539930	300.9278	ug/L	88
83) n-Propylbenzene	16.22	91	12161921	192.8335	ug/L #	60
84) Bromobenzene	16.36	156	4795839	319.2522	ug/L	76
85) 1,3,5-Trimethylbenzene	16.42	105	10594810	243.9851	ug/L #	67
86) 2-Chlorotoluene	16.49	91	10428112	259.4832	ug/L #	71
87) 4-Chlorotoluene	16.54	91	8222045	217.6519	ug/L #	60
88) a-Methylstyrene	16.81	118	7705283	291.9750	ug/L	100
89) tert-Butylbenzene	16.87	134	3571658	347.6464	ug/L	50
90) 1,2,4-Trimethylbenzene	16.92	105	10764963	236.9972	ug/L #	59
91) sec-Butylbenzene	17.14	105	12033517	218.4585	ug/L #	66
92) p-Isopropyltoluene	17.31	119	10844055	236.8747	ug/L #	63
93) 1,3-Dichlorobenzene	17.49	146	7929200	277.7394	ug/L	94
94) 1,4-Dichlorobenzene	17.63	146	7699427	268.6232	ug/L	95
95) n-Butylbenzene	17.82	91	10330794	225.7778	ug/L #	69
96) 1,2-Dichlorobenzene	18.12	146	7121133	289.8422	ug/L	99
97) 1,2-Dibromo-3-Chloropropan	19.12	75	359800	314.1412	ug/L #	56
98) 1,2,4-Trichlorobenzene	20.25	180	6137449	332.5577	ug/L	98
99) Hexachlorobutadiene	20.41	225	3768136	370.0832	ug/L	96
100) Naphthalene	20.63	128	6189751	302.2531	ug/L	94
101) 1,2,3-Trichlorobenzene	20.94	180	4844453	340.2742	ug/L	99

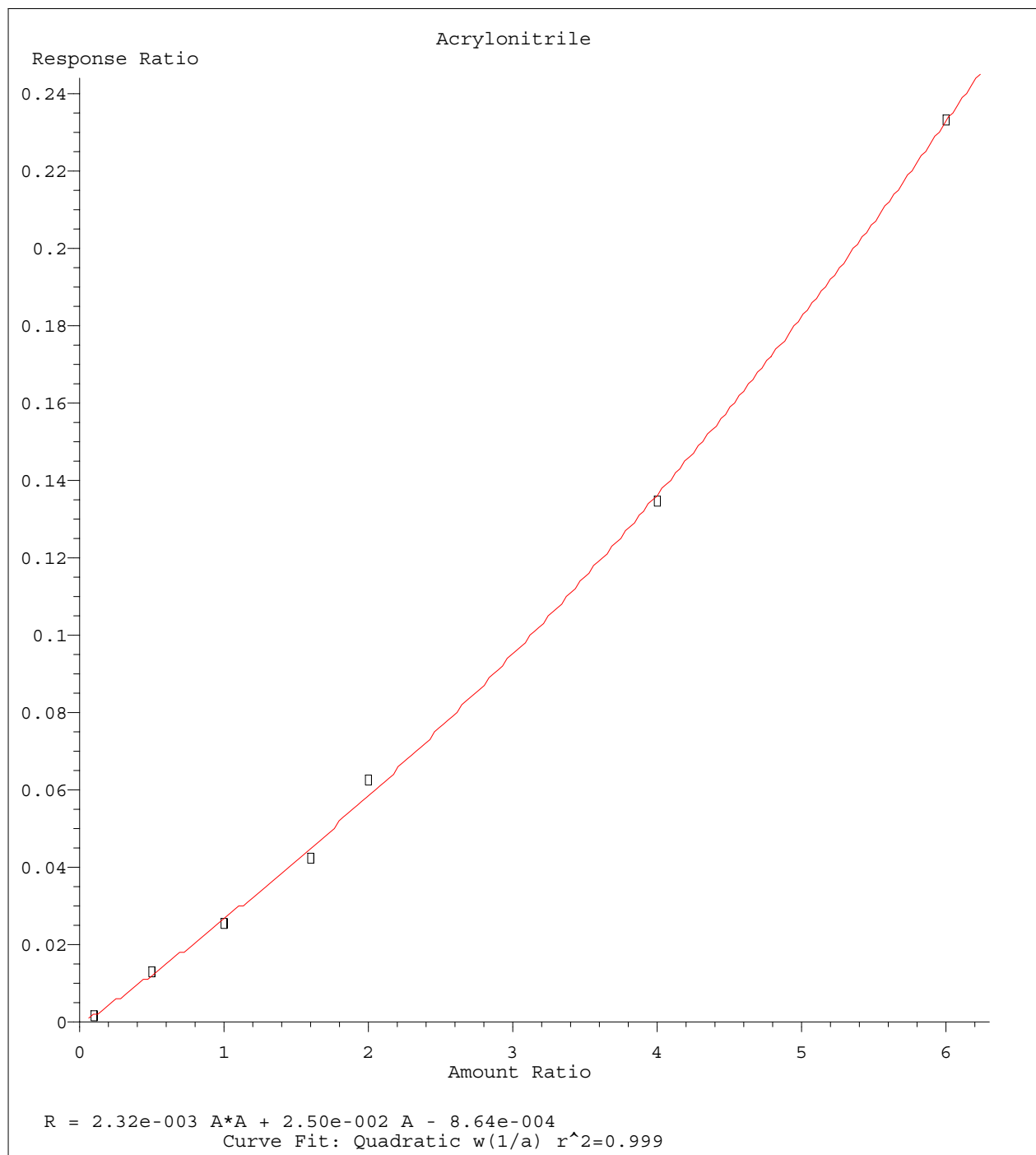
(#) = qualifier out of range (m) = manual integration
 8M414712.D 8260WT.M Mon Sep 12 12:14:18 2016

Page 2

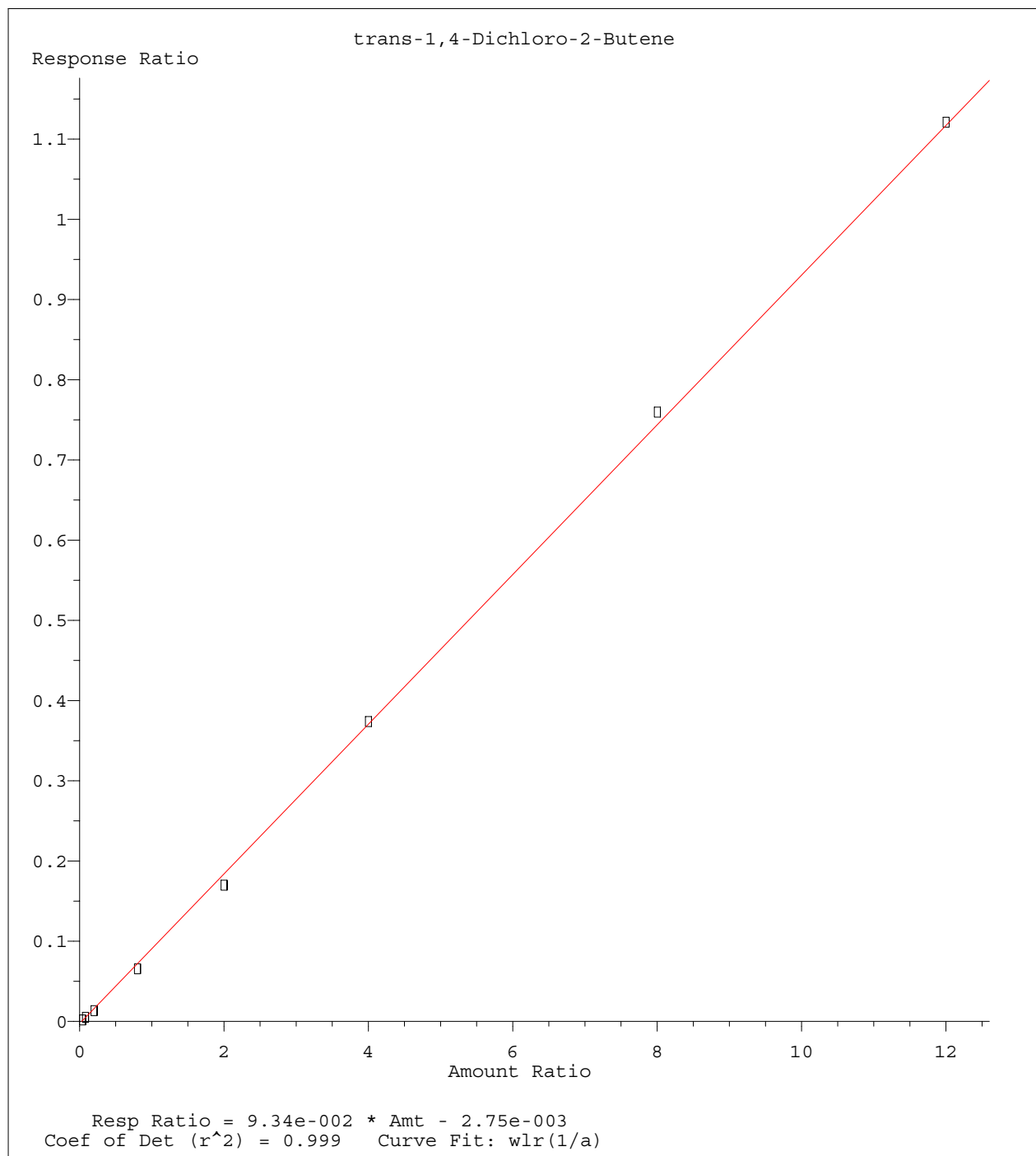
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 Acq On : 9 Sep 2016 17:52 Operator: TMB
 Sample : WG582739-11 300ug/L STD 8260 Inst : HPMS8
 Misc : 1,1 STD77942 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Sep 12 12:14 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration

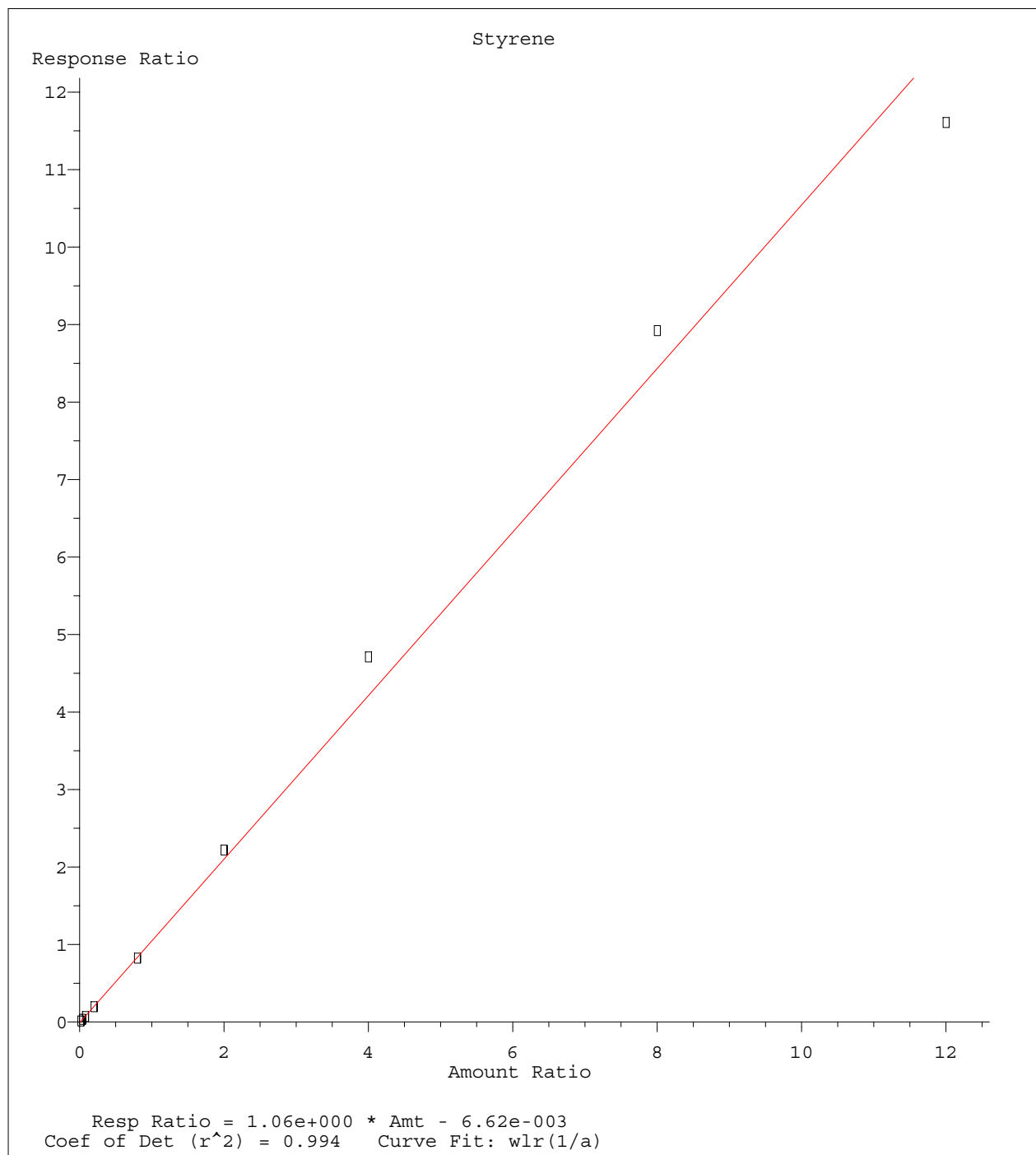




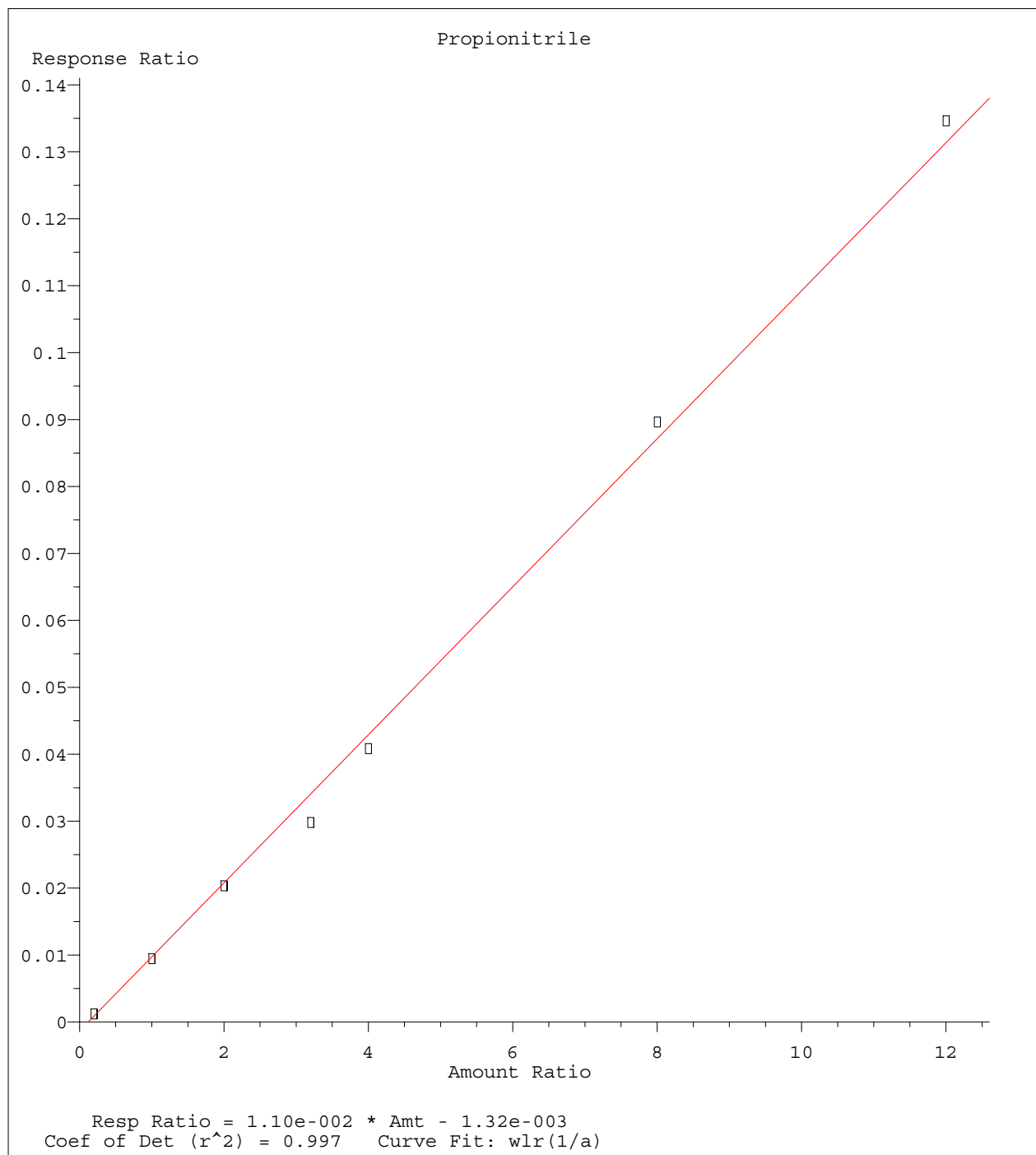
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Calibration Table Last Updated: Mon Sep 12 12:16:56 2016



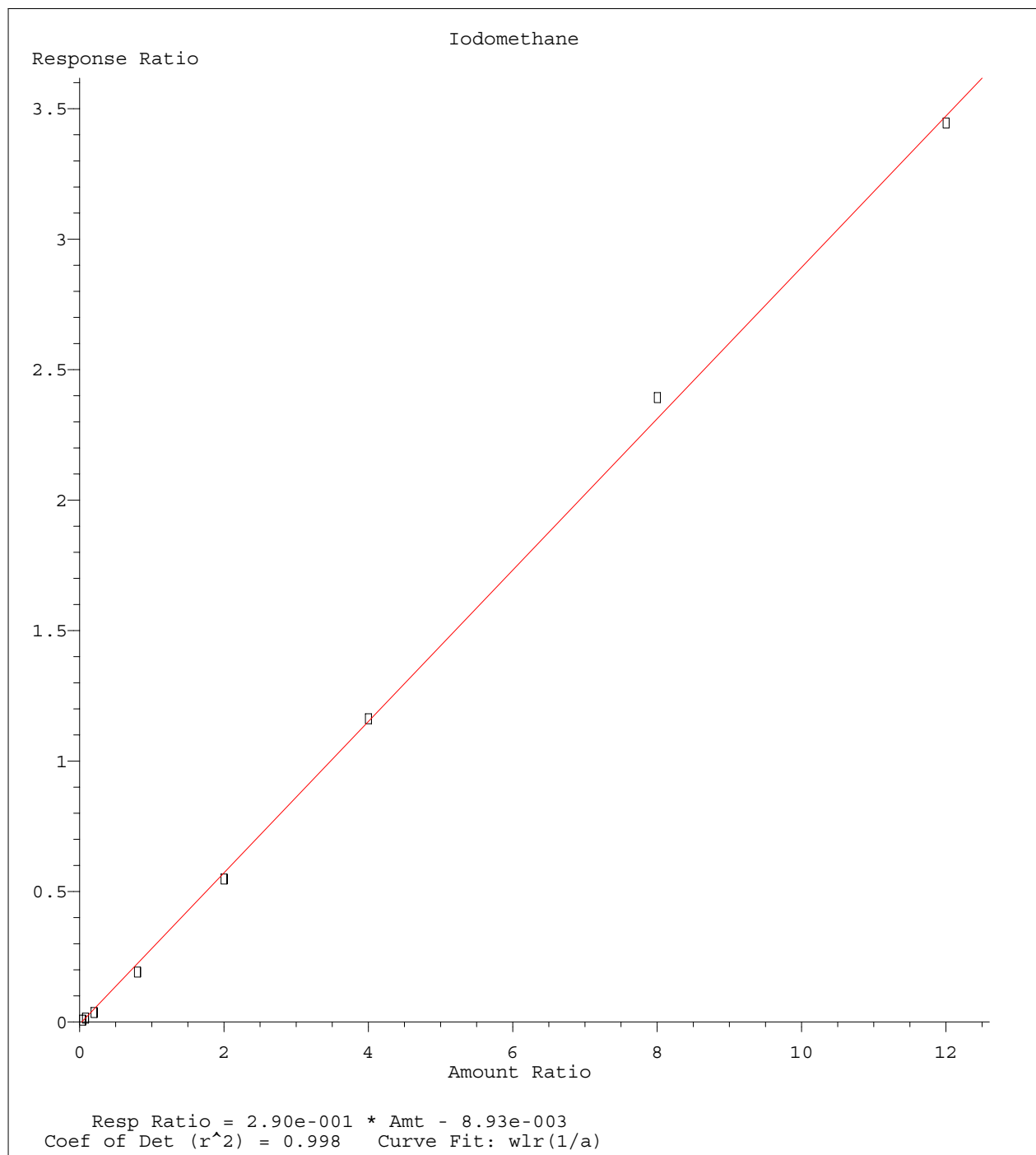
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Calibration Table Last Updated: Mon Sep 12 12:16:56 2016



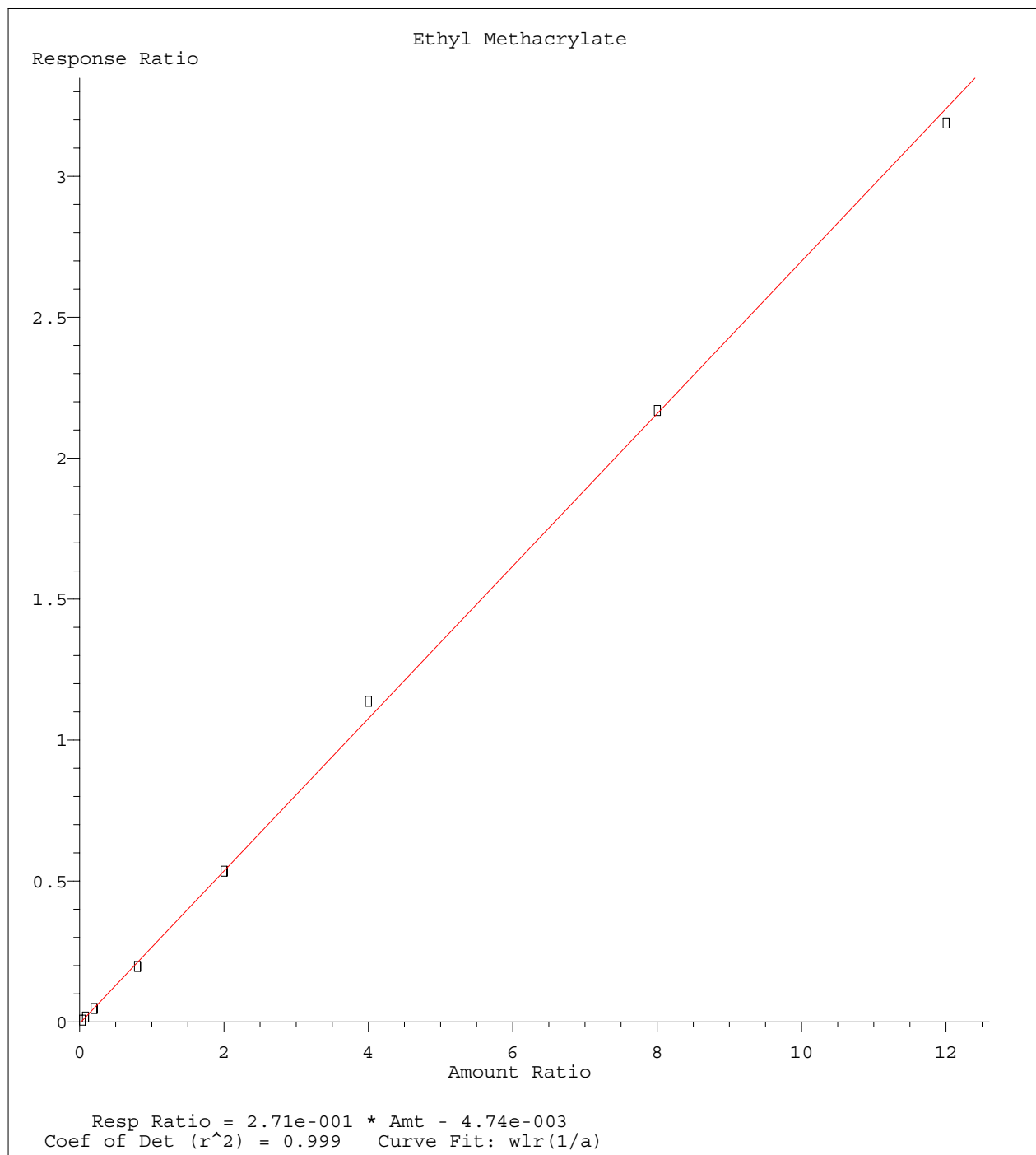
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Calibration Table Last Updated: Mon Sep 12 12:16:56 2016



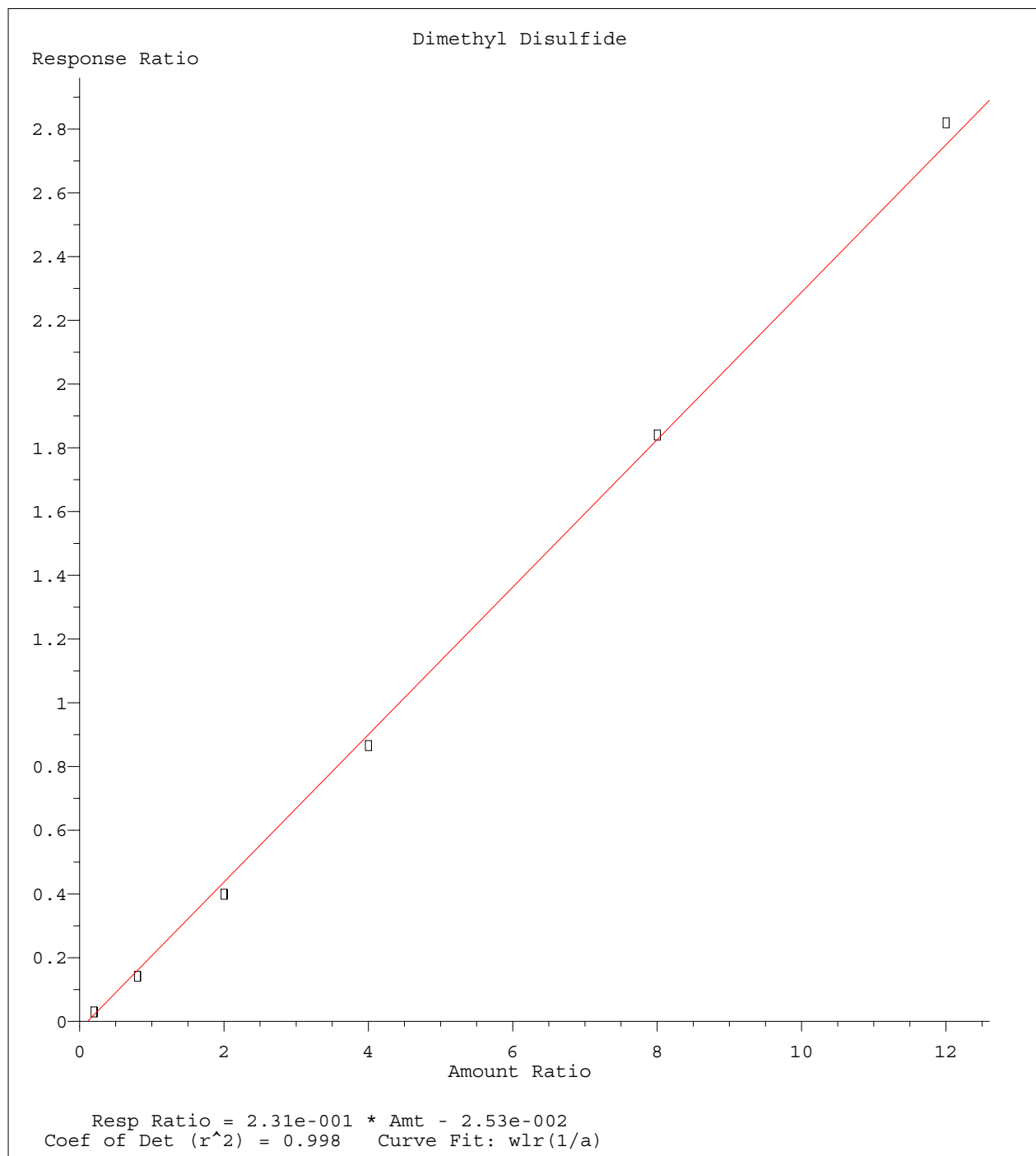
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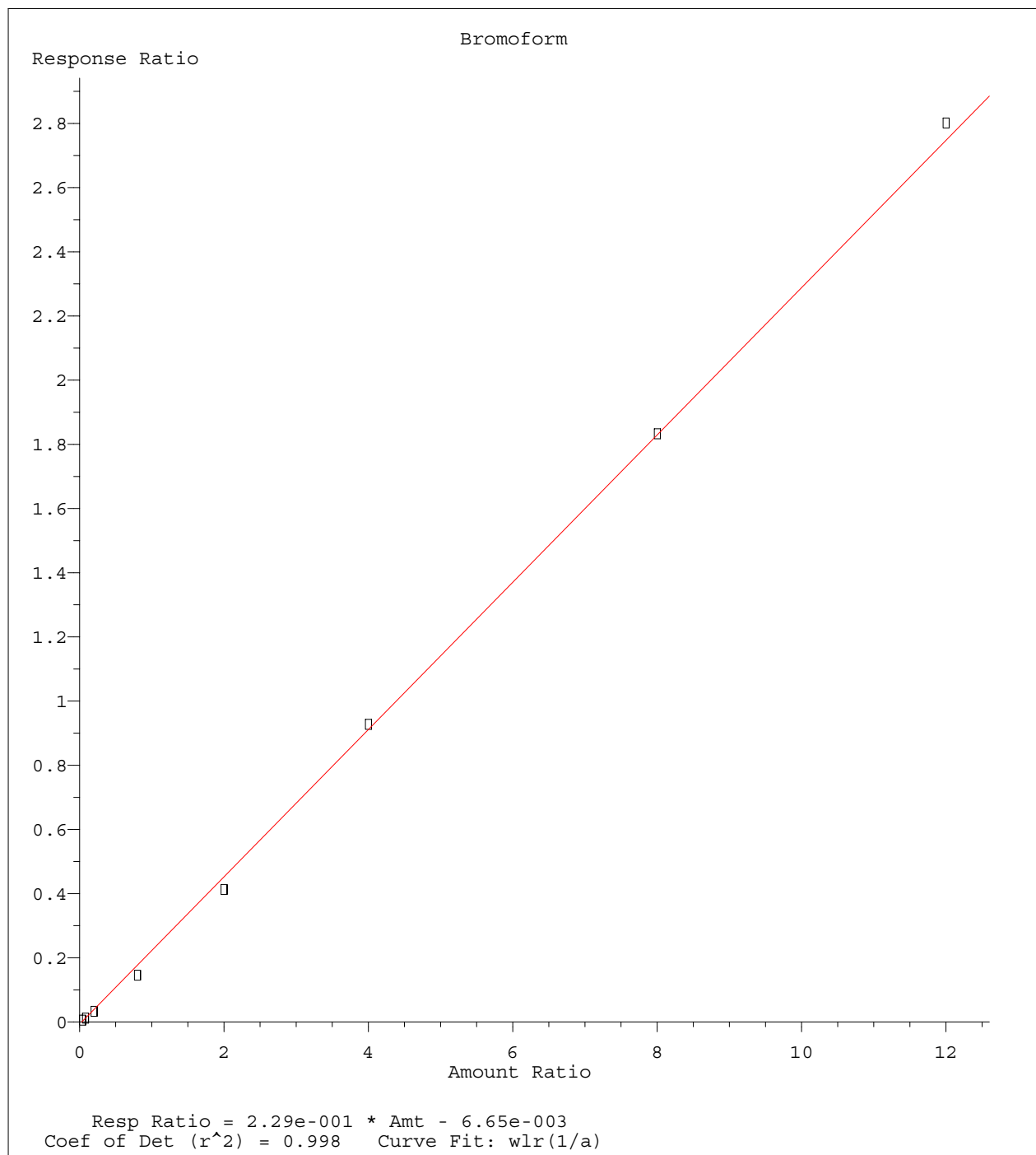
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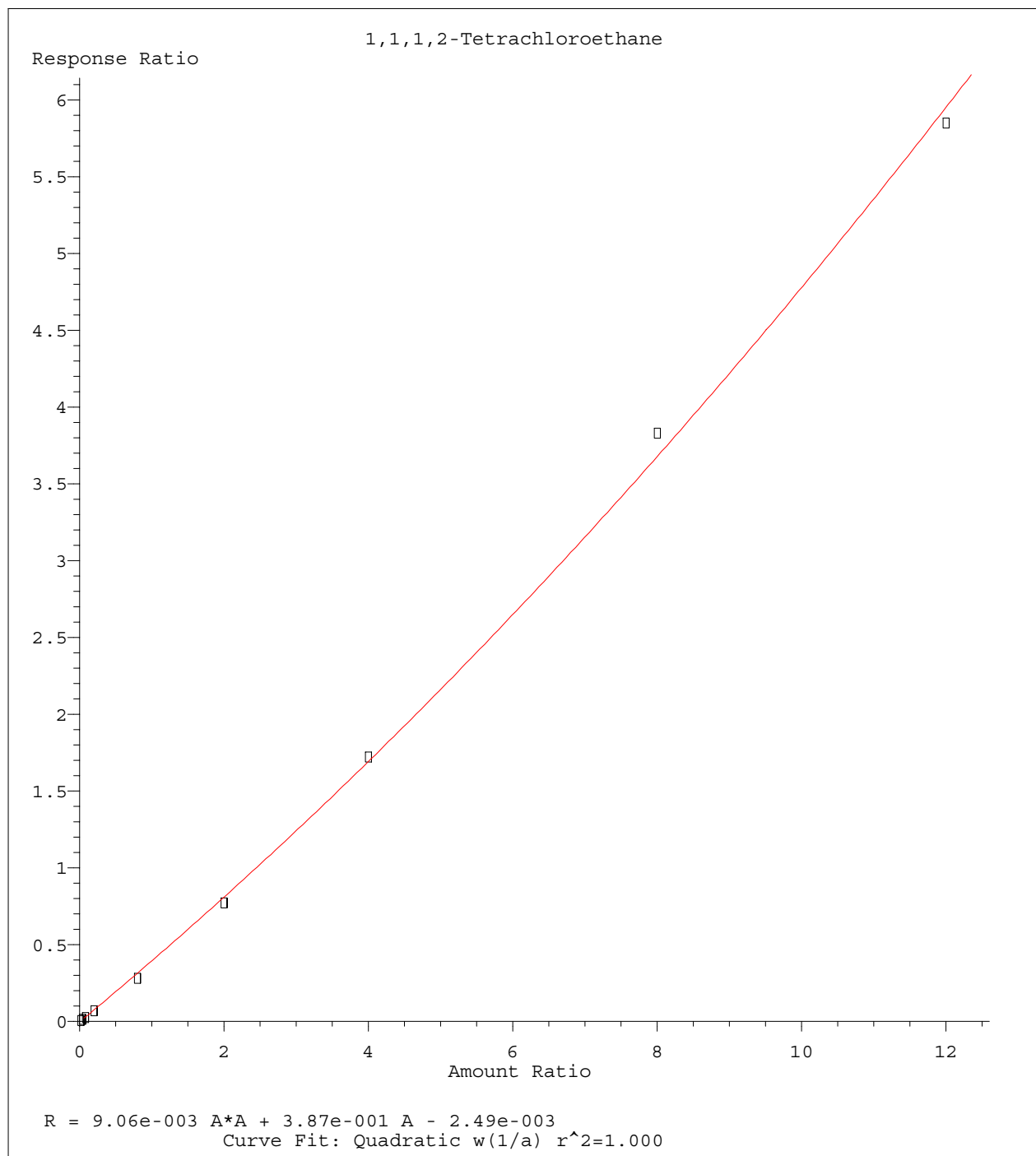
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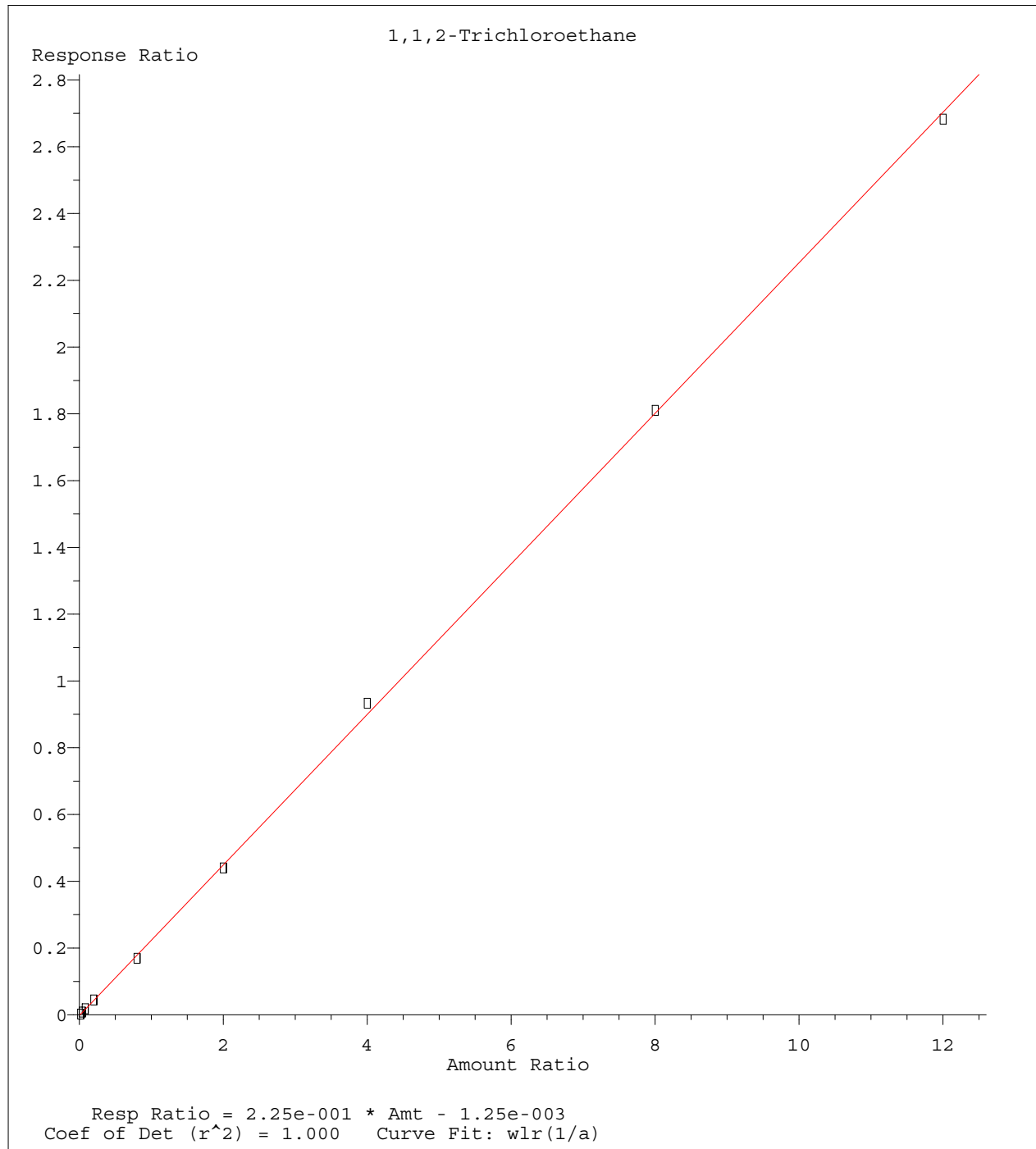
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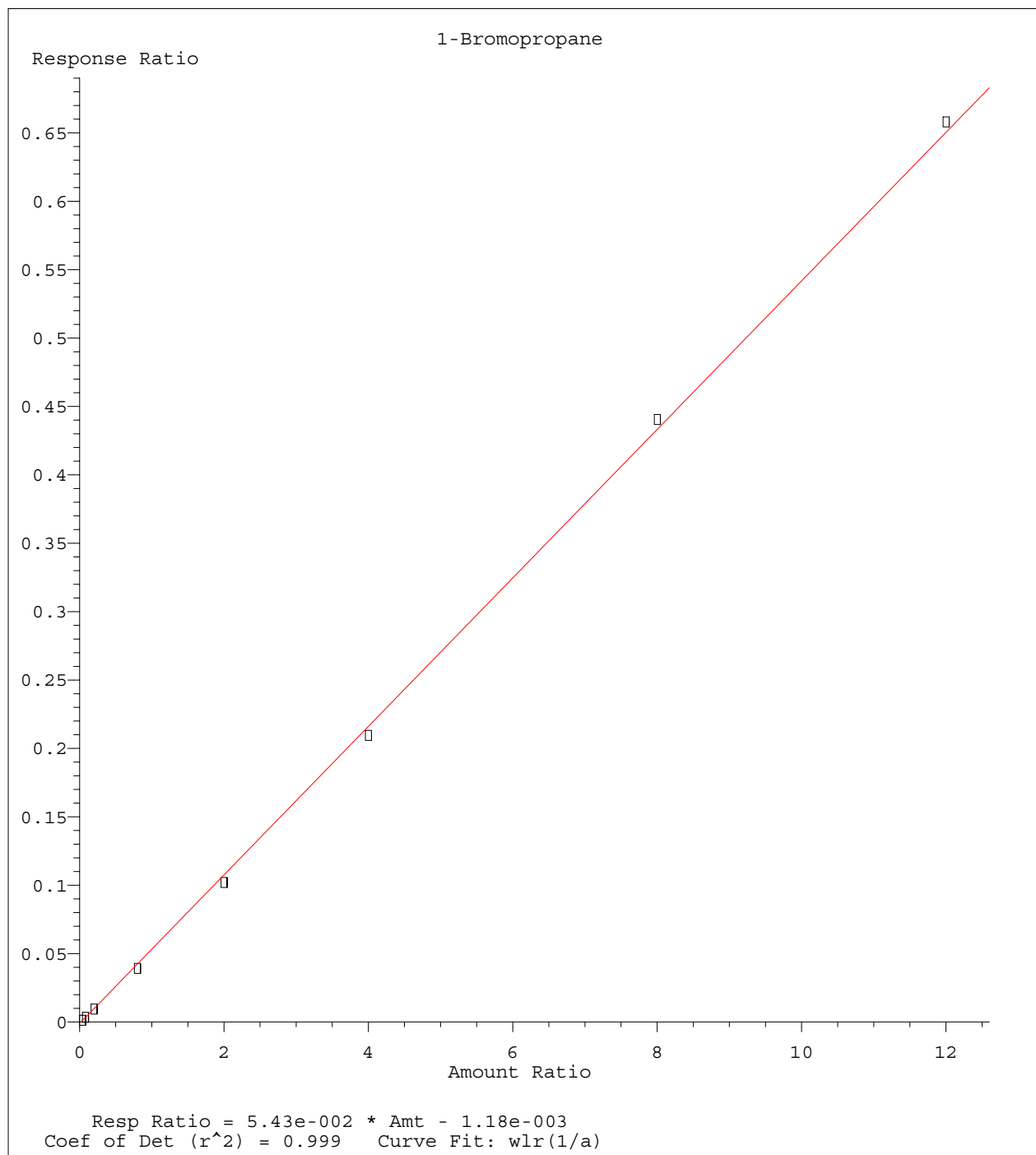
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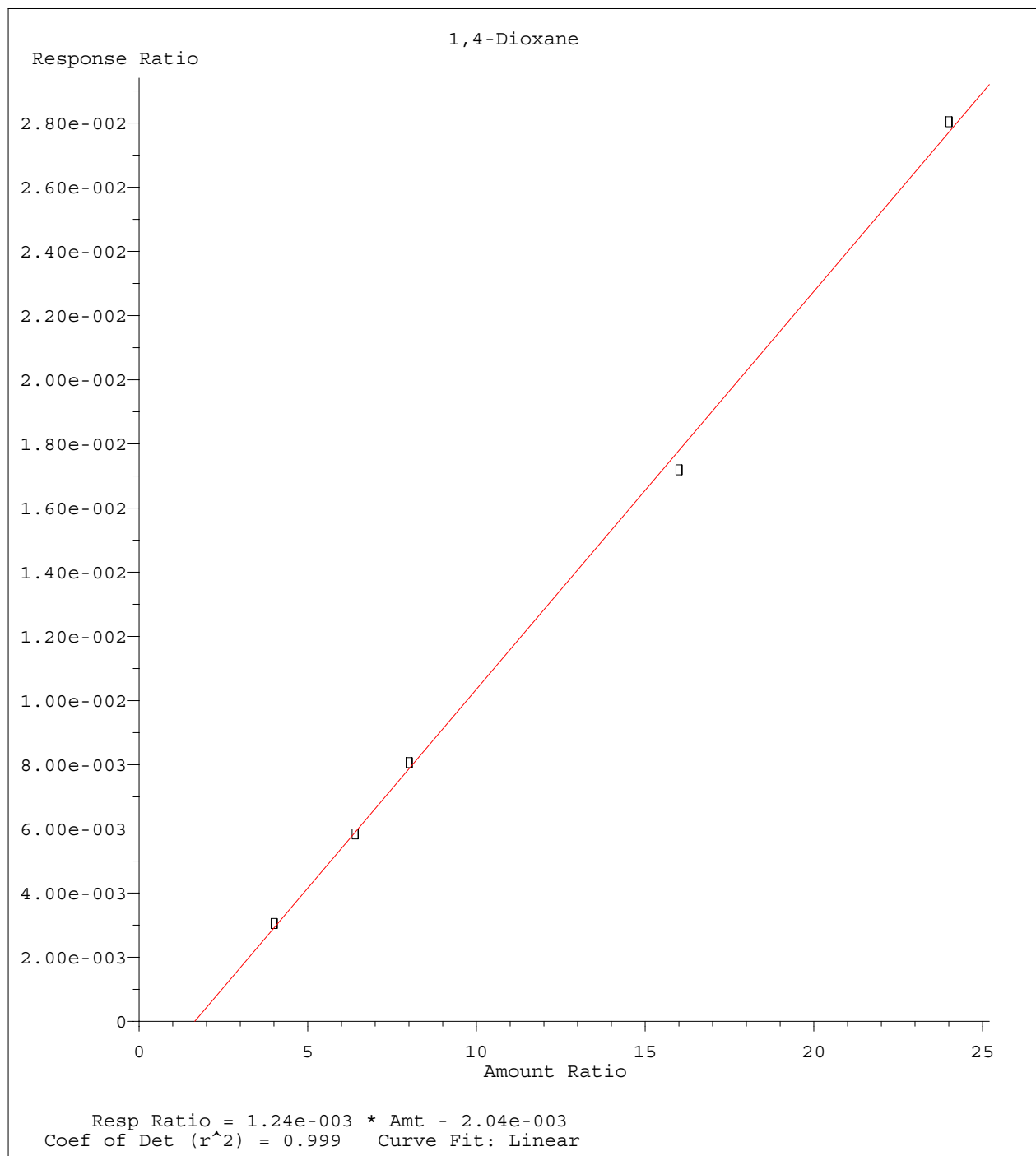
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Calibration Table Last Updated: Mon Sep 12 12:16:56 2016



Method Name: K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M
Calibration Table Last Updated: Mon Sep 12 12:16:56 2016



Method Name: K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M
Calibration Table Last Updated: Mon Sep 12 12:16:56 2016



Method Name: K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M
Calibration Table Last Updated: Mon Sep 12 12:16:56 2016

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414715.D Vial: 14
 Acq On : 9 Sep 2016 19:18 Operator: TMB
 Sample : WG581739-12 50ug/L ALT SRC STD 8260 Inst : HPMS8
 Misc : 1,1 STD77928 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Sep 12 12:14:38 2016

Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.69	96	978208	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	745519	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.58	152	449118	25.00	ug/L	0.00

System Monitoring Compounds

37) Dibromofluoromethane	9.65	111	239162	25.2114	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	100.84%	
43) 1,2-Dichloroethane-d4	10.29	65	189472	25.0045	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	100.00%	
58) Toluene-d8	12.67	98	842006	25.2171	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	100.88%	
80) p-Bromofluorobenzene	16.06	95	325470	24.7316	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	98.92%	

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.15	85	744716	48.6483	ug/L	100
3) Chloromethane	3.60	50	566669	41.6981	ug/L	98
4) Vinyl Chloride	3.82	62	687905	46.2624	ug/L	98
5) 1,3-Butadiene	3.86	54	301141	30.5363	ug/L	96
6) Bromomethane	4.70	94	364802	45.2816	ug/L	97
7) Chloroethane	4.86	64	327269	53.3265	ug/L	97
8) Trichlorofluoromethane	5.36	101	788483	46.5788	ug/L	98
9) Diethyl ether	5.88	59	427012	102.8526	ug/L	95
10) Isoprene	5.91	67	647081	48.5761	ug/L	90
12) 1,1,2-Trichloro-1,2,2-Trif	6.13	101	477495	48.1249	ug/L	93
13) Acetone	6.22	43	40693	50.6813	ug/L	85
14) 1,1-Dichloroethene	6.44	61	560327	44.8952	ug/L	84
15) Tert-Butyl Alcohol	6.56	59	49048	194.7802	ug/L	97
16) Dimethyl Sulfide	6.71	62	411518	53.9987	ug/L	91
17) Iodomethane	6.96	142	502537	45.0466	ug/L	88
18) Methyl acetate	6.98	43	117238	47.1366	ug/L	99
19) Methylene Chloride	7.23	84	475135	46.9891	ug/L	93
20) Carbon Disulfide	7.27	76	1491670	47.8979	ug/L	100
21) Acrylonitrile	7.41	53	60914	52.7895	ug/L	99
22) Methyl Tert Butyl Ether	7.44	73	869171	50.7313	ug/L	99
23) trans-1,2-Dichloroethene	7.68	61	570528	47.9604	ug/L	84
24) n-Hexane	7.76	57	508166	47.0417	ug/L	95
25) Diisopropyl ether	8.11	45	2193621	106.5944	ug/L	98
26) Vinyl Acetate	8.27	43	429796	49.7064	ug/L	97
27) 1,1-Dichloroethane	8.30	63	719405	45.2054	ug/L	98
28) Ethyl-Tert-Butyl ether	8.68	59	1967610	100.7543	ug/L	95
29) 2-Butanone	8.86	43	67753	51.7850	ug/L	92
30) Propionitrile	8.97	54	42153	100.7224	ug/L	91
31) 2,2-Dichloropropane	9.08	77	742229	48.2141	ug/L	100
32) cis-1,2-Dichloroethene	9.15	96	539925	49.4080	ug/L	81
33) Chloroform	9.36	83	863895	47.5583	ug/L	97
34) 1-Bromopropane	9.49	122	118618	56.3796	ug/L	99
35) Bromochloromethane	9.58	130	278055	48.3923	ug/L	90
36) Tetrahydrofuran	9.61	42	85699	93.5178	ug/L	98
38) 1,1,1-Trichloroethane	9.88	97	811823	48.5163	ug/L	100
39) Cyclohexane	9.91	56	644087	48.8304	ug/L	94
40) 1,1-Dichloropropene	10.08	75	655502	47.3149	ug/L	91
41) Tert-Amyl-Methyl ether	10.19	73	2027452	104.7205	ug/L	94
42) Carbon Tetrachloride	10.23	117	760618	49.0722	ug/L	99
45) 1,2-Dichloroethane	10.40	62	478872	48.2453	ug/L	94

(#) = qualifier out of range (m) = manual integration
 8M414715.D 8260WT.M Mon Sep 12 12:14:42 2016

Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414715.D Vial: 14
 Acq On : 9 Sep 2016 19:18 Operator: TMB
 Sample : WG581739-12 50ug/L ALT SRC STD 8260 Inst : HPMS8
 Misc : 1,1 STD77928 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Sep 12 12:14:38 2016

Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

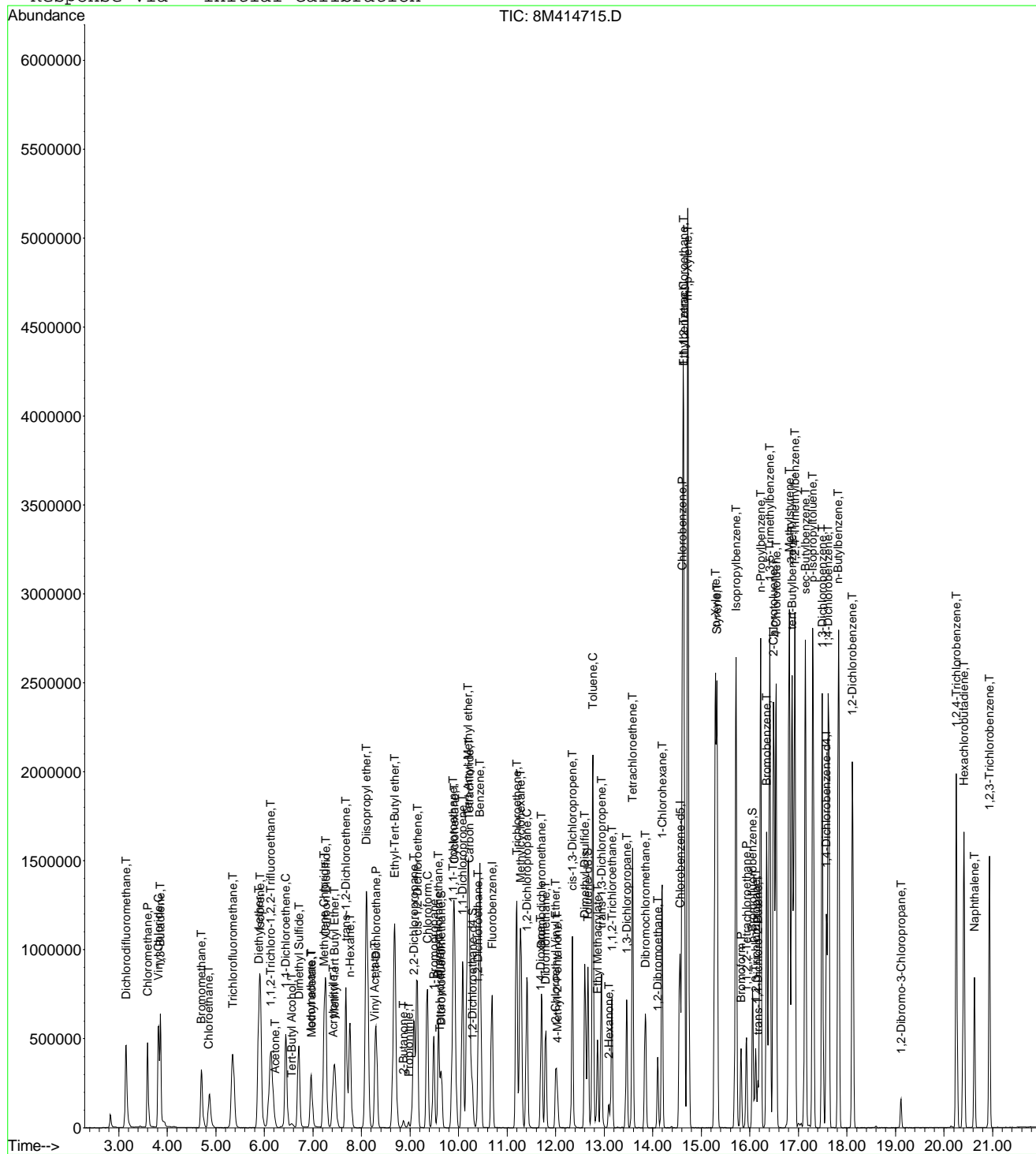
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Benzene	10.44	78	1908004	48.5724	ug/L	95
47) Trichloroethene	11.20	130	573912	50.7190	ug/L	93
48) Methylcyclohexane	11.28	83	830506	48.3111	ug/L	93
49) 1,2-Dichloropropane	11.40	63	427299	49.2953	ug/L	85
50) Bromodichloromethane	11.70	83	646935	49.4208	ug/L	97
51) 1,4-Dioxane	11.69	88	7946	204.9892	ug/L	89
52) Dibromomethane	11.80	93	228947	47.0850	ug/L	90
53) 2-Chloroethyl Vinyl Ether	12.00	63	177106	52.0644	ug/L	95
54) 4-Methyl-2-Pentanone	12.03	58	66889	50.1039	ug/L	93
55) cis-1,3-Dichloropropene	12.34	75	774307	54.5855	ug/L	99
56) Dimethyl Disulfide	12.60	79	382395	44.9764	ug/L	88
59) Toluene	12.77	91	2160010	51.0234	ug/L	100
60) Ethyl Methacrylate	12.86	69	397534	49.7175	ug/L	94
62) trans-1,3-Dichloropropene	12.94	75	594741	50.3323	ug/L	99
63) 1,1,2-Trichloroethane	13.16	97	316543	47.2127	ug/L	99
64) 2-Hexanone	13.10	58	58472	48.8561	ug/L #	100
65) 1,3-Dichloropropane	13.46	76	558407	51.3613	ug/L	94
66) Tetrachloroethene	13.59	164	511087	49.3139	ug/L	84
67) Dibromochloromethane	13.84	129	456062	52.4110	ug/L	100
68) 1,2-Dibromoethane	14.10	107	319224	50.3633	ug/L	100
69) 1-Chlorohexane	14.20	91	751793	51.1133	ug/L	82
70) Chlorobenzene	14.61	112	1521866	48.5409	ug/L	89
71) 1,1,1,2-Tetrachloroethane	14.64	131	564725	46.9681	ug/L	99
72) Ethylbenzene	14.64	106	854138	50.2524	ug/L	85
73) m-,p-Xylene	14.72	106	2067275	108.0739	ug/L	84
74) o-Xylene	15.29	106	1004439	51.4832	ug/L	85
75) Styrene	15.32	104	1632013	51.9931	ug/L	86
76) Bromoform	15.82	173	285835	42.4930	ug/L	99
77) Isopropylbenzene	15.72	105	2533646	54.5328	ug/L	95
79) 1,1,2,2-Tetrachloroethane	15.93	83	345095	49.0617	ug/L	97
81) 1,2,3-Trichloropropane	16.12	110	98632	50.9723	ug/L	92
82) trans-1,4-Dichloro-2-Buten	16.17	53	66373	40.3145	ug/L	62
83) n-Propylbenzene	16.22	91	3009921	51.1831	ug/L	94
84) Bromobenzene	16.35	156	685241	48.9219	ug/L	77
85) 1,3,5-Trimethylbenzene	16.41	105	2174909	53.7158	ug/L	92
86) 2-Chlorotoluene	16.49	91	1843113	49.1866	ug/L	92
87) 4-Chlorotoluene	16.54	91	1911153	54.2587	ug/L	91
88) a-Methylstyrene	16.81	118	1248189	50.7257	ug/L	88
89) tert-Butylbenzene	16.87	134	488217	50.9650	ug/L	76
90) 1,2,4-Trimethylbenzene	16.92	105	2198631	51.9127	ug/L	91
91) sec-Butylbenzene	17.14	105	2746936	53.4830	ug/L	96
92) p-Isopropyltoluene	17.30	119	2284914	53.5288	ug/L	94
93) 1,3-Dichlorobenzene	17.49	146	1356834	50.9713	ug/L	89
94) 1,4-Dichlorobenzene	17.62	146	1353923	50.6606	ug/L	89
95) n-Butylbenzene	17.82	91	2150276	50.4002	ug/L	95
96) 1,2-Dichlorobenzene	18.11	146	1170535	51.0961	ug/L	89
97) 1,2-Dibromo-3-Chloropropan	19.12	75	52032	48.7220	ug/L #	61
98) 1,2,4-Trichlorobenzene	20.25	180	847489	49.2498	ug/L	98
99) Hexachlorobutadiene	20.41	225	495958	52.2407	ug/L	96
100) Naphthalene	20.63	128	874017	45.7729	ug/L	99
101) 1,2,3-Trichlorobenzene	20.94	180	658244	49.5864	ug/L	97

(#) = qualifier out of range (m) = manual integration
 8M414715.D 8260WT.M Mon Sep 12 12:14:42 2016

Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414715.D Vial: 14
 Acq On : 9 Sep 2016 19:18 Operator: TMB
 Sample : WG581739-12 50ug/L ALT SRC STD 8260 Inst : HPMS8
 Misc : 1,1 STD77928 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Sep 12 12:14 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414715.D Vial: 14
 Acq On : 9 Sep 2016 19:18 Operator: TMB
 Sample : WG581739-12 50ug/L ALT SRC STD 8260 Inst : HPMS8
 Misc : 1,1 STD77928 Multiplr: 1.00
 MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:16:56 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	113	0.00
2 T	Dichlorodifluoromethane	50.0000	48.6483	2.7	102	0.00
3 P	Chloromethane	50.0000	41.6981	16.6	96	0.00
4 C	Vinyl Chloride	50.0000	46.2624	7.5	105	0.00
5 T	1,3-Butadiene	50.0000	30.5363	38.9#	65	0.00
6 T	Bromomethane	50.0000	45.2816	9.4	101	0.00
7 T	Chloroethane	50.0000	53.3265	-6.7	117	0.00
8 T	Trichlorofluoromethane	50.0000	46.5788	6.8	107	0.00
9 T	Diethyl ether	100.0000	102.8526	-2.9	114	0.00
10 T	Isoprene	50.0000	48.5761	2.8	107	0.00
11 T	Acrolein	50.0000	0.0000	100.0#	0	0.00
12 T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	48.1249	3.8	111	0.00
13 T	Acetone	50.0000	50.6813	-1.4	118	0.00
14 C	1,1-Dichloroethene	50.0000	44.8952	10.2	102	0.00
15 T	Tert-Butyl Alcohol	200.0000	194.7802	2.6	114	0.00
16 T	Dimethyl Sulfide	50.0000	53.9987	-8.0	119	0.00
17 T	Iodomethane	50.0000	45.0466	9.9	106	0.00
18 T	Methyl acetate	50.0000	47.1366	5.7	112	0.00
19 T	Methylene Chloride	50.0000	46.9891	6.0	110	0.00
20 T	Carbon Disulfide	50.0000	47.8979	4.2	105	0.00
21 T	Acrylonitrile	50.0000	52.7895	-5.6	112	0.00
22 T	Methyl Tert Butyl Ether	50.0000	50.7313	-1.5	112	0.00
23 T	trans-1,2-Dichloroethene	50.0000	47.9604	4.1	109	0.00
24 T	n-Hexane	50.0000	47.0417	5.9	107	0.00
25 T	Diisopropyl ether	100.0000	106.5944	-6.6	117	0.00
26 T	Vinyl Acetate	50.0000	49.7064	0.6	114	0.00
27 P	1,1-Dichloroethane	50.0000	45.2054	9.6	103	0.00
28 T	Ethyl-Tert-Butyl ether	100.0000	100.7543	-0.8	109	0.00
29 T	2-Butanone	50.0000	51.7850	-3.6	116	0.00
30 T	Propionitrile	100.0000	100.7224	-0.7	119	0.00
31 T	2,2-Dichloropropane	50.0000	48.2141	3.6	109	0.00
32 T	cis-1,2-Dichloroethene	50.0000	49.4080	1.2	110	0.00
33 C	Chloroform	50.0000	47.5583	4.9	106	0.00
34	1-Bromopropane	50.0000	56.3796	-12.8	134	0.00
35 T	Bromochloromethane	50.0000	48.3923	3.2	108	0.00
36 T	Tetrahydrofuran	100.0000	93.5178	6.5	108	0.00
37 S	Dibromofluoromethane	25.0000	25.2114	-0.8	110	0.00
38 T	1,1,1-Trichloroethane	50.0000	48.5163	3.0	108	0.00
39 T	Cyclohexane	50.0000	48.8304	2.3	110	0.00
40 T	1,1-Dichloropropene	50.0000	47.3149	5.4	106	0.00
41 T	Tert-Amyl-Methyl ether	100.0000	104.7205	-4.7	115	0.00
42 T	Carbon Tetrachloride	50.0000	49.0722	1.9	108	0.00
43 S	1,2-Dichloroethane-d4	25.0000	25.0045	-0.0	109	0.00
44	Heptane	-1.0000	0.0000	0.0	0	-2.54#
45 T	1,2-Dichloroethane	50.0000	48.2453	3.5	110	0.00
46 T	Benzene	50.0000	48.5724	2.9	108	0.00
47 T	Trichloroethene	50.0000	50.7190	-1.4	116	0.00
48 T	Methylcyclohexane	50.0000	48.3111	3.4	110	0.00
49 C	1,2-Dichloropropane	50.0000	49.2953	1.4	111	0.00
50 T	Bromodichloromethane	50.0000	49.4208	1.2	108	0.00
51 T	1,4-Dioxane	200.0000	204.9892	-2.5	114	0.00
52 T	Dibromomethane	50.0000	47.0850	5.8	104	0.00
53 T	2-Chloroethyl Vinyl Ether	50.0000	52.0644	-4.1	115	0.00
54 T	4-Methyl-2-Pentanone	50.0000	50.1039	-0.2	112	0.00

(#) = Out of Range

8M414715.D 8260WT.M

Mon Sep 12 12:29:27 2016

Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414715.D Vial: 14
 Acq On : 9 Sep 2016 19:18 Operator: TMB
 Sample : WG581739-12 50ug/L ALT SRC STD 8260 Inst : HPMS8
 Misc : 1,1 STD77928 Multiplr: 1.00
 MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:16:56 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	cis-1,3-Dichloropropene	50.0000	54.5855	-9.2	119	0.00
56 T	Dimethyl Disulfide	50.0000	44.9764	10.0	111	0.00
57 I	Chlorobenzene-d5	25.0000	25.0000	0.0	115	0.00
58 S	Toluene-d8	25.0000	25.2171	-0.9	110	0.00
59 C	Toluene	50.0000	51.0234	-2.0	110	0.00
60 T	Ethyl Methacrylate	50.0000	49.7175	0.6	114	0.00
61	Paraldehyde	-1.0000	0.0000	0.0	0	-13.14#
62 T	trans-1,3-Dichloropropene	50.0000	50.3323	-0.7	110	0.00
63 T	1,1,2-Trichloroethane	50.0000	47.2127	5.6	111	0.00
64 T	2-Hexanone	50.0000	48.8561	2.3	109	0.00
65 T	1,3-Dichloropropane	50.0000	51.3613	-2.7	116	0.00
66 T	Tetrachloroethene	50.0000	49.3139	1.4	113	0.00
67 T	Dibromochloromethane	50.0000	52.4110	-4.8	112	0.00
68 T	1,2-Dibromoethane	50.0000	50.3633	-0.7	110	0.00
69 T	1-Chlorohexane	50.0000	51.1133	-2.2	112	0.00
70 P	Chlorobenzene	50.0000	48.5409	2.9	113	0.00
71 T	1,1,1,2-Tetrachloroethane	50.0000	46.9681	6.1	113	0.00
72 C	Ethylbenzene	50.0000	50.2524	-0.5	112	0.00
73 T	m-,p-Xylene	100.0000	108.0739	-8.1	115	0.00
74 T	o-Xylene	50.0000	51.4832	-3.0	117	0.00
75 T	Styrene	50.0000	51.9931	-4.0	113	0.00
76 P	Bromoform	50.0000	42.4930	15.0	106	0.00
77 T	Isopropylbenzene	50.0000	54.5328	-9.1	115	0.00
78 I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	114	0.00
79 P	1,1,2,2-Tetrachloroethane	50.0000	49.0617	1.9	112	0.00
80 S	p-Bromofluorobenzene	25.0000	24.7316	1.1	114	0.00
81 T	1,2,3-Trichloropropane	50.0000	50.9723	-1.9	113	0.00
82 T	trans-1,4-Dichloro-2-Butene	50.0000	40.3145	19.4	99	0.00
83 T	n-Propylbenzene	50.0000	51.1831	-2.4	116	0.00
84 T	Bromobenzene	50.0000	48.9219	2.2	113	0.00
85 T	1,3,5-Trimethylbenzene	50.0000	53.7158	-7.4	116	0.00
86 T	2-Chlorotoluene	50.0000	49.1866	1.6	111	0.00
87 T	4-Chlorotoluene	50.0000	54.2587	-8.5	116	0.00
88 T	a-Methylstyrene	50.0000	50.7257	-1.5	114	0.00
89 T	tert-Butylbenzene	50.0000	50.9650	-1.9	120	0.00
90 T	1,2,4-Trimethylbenzene	50.0000	51.9127	-3.8	111	0.00
91 T	sec-Butylbenzene	50.0000	53.4830	-7.0	116	0.00
92 T	p-Isopropyltoluene	50.0000	53.5288	-7.1	115	0.00
93 T	1,3-Dichlorobenzene	50.0000	50.9713	-1.9	113	0.00
94 T	1,4-Dichlorobenzene	50.0000	50.6606	-1.3	116	0.00
95 T	n-Butylbenzene	50.0000	50.4002	-0.8	112	0.00
96 T	1,2-Dichlorobenzene	50.0000	51.0961	-2.2	116	0.00
97 T	1,2-Dibromo-3-Chloropropane	50.0000	48.7220	2.6	116	0.00
98 T	1,2,4-Trichlorobenzene	50.0000	49.2498	1.5	114	0.00
99 T	Hexachlorobutadiene	50.0000	52.2407	-4.5	129	0.00
100 T	Naphthalene	50.0000	45.7729	8.5	100	0.00
101 T	1,2,3-Trichlorobenzene	50.0000	49.5864	0.8	113	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 8M414715.D 8260WT.M Mon Sep 12 12:29:28 2016

Page 2

Data File : C:\MSDCHEM\1\data\101716\11M14559.D Vial: 1
 Acq On : 17 Oct 2016 13:05 Operator: FJB
 Sample : WG587866-02 50ug/L CCV 8260 Inst : hpms11
 Misc : 1,1 STD78477 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Oct 17 13:26:57 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	816915	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.20	117	624150	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	321680	25.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.57	111	232941	23.7049	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	94.80%	
43) 1,2-Dichloroethane-d4	10.18	65	244905	22.1987	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	88.80%	
57) Toluene-d8	12.43	98	818216	24.7376	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	98.96%	
78) p-Bromofluorobenzene	15.59	95	313070	24.3265	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	97.32%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.21	85	701315	50.6020	ug/L	96
3) Chloromethane	3.66	50	710651	46.7517	ug/L	97
4) Vinyl Chloride	3.90	62	665002	49.0608	ug/L	99
5) 1,3-Butadiene	3.94	54	639158	57.9265	ug/L	98
6) Bromomethane	4.80	94	374585	57.0329	ug/L	100
7) Chloroethane	4.94	64	383207	48.2569	ug/L	99
8) Trichlorofluoromethane	5.43	101	781538	49.5376	ug/L	100
9) Diethyl ether	5.95	59	690335	89.5178	ug/L	95
10) Isoprene	5.99	67	706381	49.0626	ug/L	97
11) Acrolein	6.17	56	43591	67.8418	ug/L	100
12) 1,1,2-Trichloro-1,2,2-Trif	6.19	101	434304	51.1857	ug/L	96
13) Acetone	6.27	43	109329	34.4956	ug/L	90
14) 1,1-Dichloroethene	6.50	61	820267	48.6547	ug/L	95
15) Tert-Butyl Alcohol	6.60	59	88155	107.7645	ug/L	98
16) Dimethyl Sulfide	6.75	62	542908	46.9852	ug/L	93
17) Iodomethane	7.00	142	543556	48.5366	ug/L	97
18) Methyl acetate	7.01	43	387304	41.4381	ug/L	97
19) Methylene Chloride	7.26	84	449883	46.9390	ug/L	91
20) Carbon Disulfide	7.31	76	1345846	48.1618	ug/L	100
21) Acrylonitrile	7.43	53	187267	43.9795	ug/L	100
22) Methyl Tert Butyl Ether	7.47	73	1099214	46.6454	ug/L	99
23) trans-1,2-Dichloroethene	7.70	96	454791	47.6037	ug/L	96
24) n-Hexane	7.77	57	880248	53.8790	ug/L	100
25) Diisopropyl ether	8.10	45	4311491	93.3106	ug/L	97
26) Vinyl Acetate	8.26	43	1224630	49.5851	ug/L	98
27) 1,1-Dichloroethane	8.29	63	933807	47.6908	ug/L	100
28) Ethyl-Tert-Butyl ether	8.64	59	3188566	93.0528	ug/L	99
29) 2-Butanone	8.82	43	206714	38.8179	ug/L	99
30) Propionitrile	8.93	54	112972	76.5673	ug/L	100
31) 2,2-Dichloropropane	9.04	77	685926	51.4048	ug/L	100
32) cis-1,2-Dichloroethene	9.10	96	512678	48.7271	ug/L	97
33) Chloroform	9.31	83	785934	45.7469	ug/L	99
34) 1-Bromopropane	9.43	122	89438	49.6303	ug/L	96
35) Bromochloromethane	9.52	130	317803	46.8573	ug/L	92
36) Tetrahydrofuran	9.54	42	285376	78.7097	ug/L	94
38) 1,1,1-Trichloroethane	9.81	97	735223	48.5366	ug/L	95
39) Cyclohexane	9.84	56	1107379	49.8702	ug/L	100
40) 1,1-Dichloropropene	10.00	75	607856	48.4743	ug/L	99
41) Carbon Tetrachloride	10.13	117	688709	48.6612	ug/L	99
42) Tert-Amyl-Methyl ether	10.09	73	2162128	93.1784	ug/L	95

(#) = qualifier out of range (m) = manual integration
 11M14559.D 8260WT.M Mon Oct 17 13:26:59 2016

Page 1

Data File : C:\MSDCHEM\1\data\101716\11M14559.D Vial: 1
 Acq On : 17 Oct 2016 13:05 Operator: FJB
 Sample : WG587866-02 50ug/L CCV 8260 Inst : hpms11
 Misc : 1,1 STD78477 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Oct 17 13:26:57 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	679590	46.0464	ug/L	99
45) Benzene	10.34	78	1800901	48.6184	ug/L	99
46) Trichloroethene	11.04	130	508599	47.4729	ug/L	98
47) Methylcyclohexane	11.13	83	776730	53.4813	ug/L	97
48) 1,2-Dichloropropane	11.25	63	523964	47.9890	ug/L	98
49) 1,4-Dioxane	11.52	88	6959	91.4339	ug/L	94
50) Bromodichloromethane	11.53	83	616386	47.4834	ug/L	99
51) Dibromomethane	11.61	93	265343	45.8359	ug/L	98
52) 2-Chloroethyl Vinyl Ether	11.80	63	287033	44.8817	ug/L	98
53) 4-Methyl-2-Pentanone	11.83	58	162872	41.4813	ug/L	99
54) cis-1,3-Dichloropropene	12.13	75	708317	49.3673	ug/L	100
55) Dimethyl Disulfide	12.38	79	414746	48.1639	ug/L	97
58) Toluene	12.52	91	1969277	50.1048	ug/L	99
59) Ethyl Methacrylate	12.59	69	477300	47.5121	ug/L	89
60) trans-1,3-Dichloropropene	12.68	75	635808	49.4093	ug/L	99
61) 1,1,2-Trichloroethane	12.88	97	367557	48.0675	ug/L	98
62) 2-Hexanone	12.82	43	317290	38.4950	ug/L	94
63) 1,3-Dichloropropane	13.17	76	596944	46.4396	ug/L	88
64) Tetrachloroethene	13.29	164	417220	48.9073	ug/L	99
65) Dibromochloromethane	13.53	129	497538	48.5451	ug/L	99
66) 1,2-Dibromoethane	13.78	107	367230	46.6521	ug/L	100
67) 1-Chlorohexane	13.84	91	662822	52.2594	ug/L	93
68) Chlorobenzene	14.25	112	1350484	48.4229	ug/L	99
69) 1,1,1,2-Tetrachloroethane	14.27	131	494214	49.6837	ug/L	99
70) Ethylbenzene	14.27	106	711498	49.8925	ug/L	98
71) m-,p-Xylene	14.35	106	1692410	100.7313	ug/L	99
72) o-Xylene	14.88	106	838605	50.7405	ug/L	100
73) Styrene	14.91	104	1434240	51.1232	ug/L	98
74) Bromoform	15.39	173	311632	46.8873	ug/L	98
75) Isopropylbenzene	15.27	105	2183644	51.5690	ug/L	100
77) 1,1,2,2-Tetrachloroethane	15.47	83	432778	47.7061	ug/L	99
79) 1,2,3-Trichloropropane	15.65	110	131353	47.7456	ug/L	97
80) trans-1,4-Dichloro-2-Butene	15.69	53	177022	47.7762	ug/L	94
81) n-Propylbenzene	15.74	91	2593655	54.1928	ug/L	99
82) Bromobenzene	15.87	156	597810	48.7345	ug/L	95
83) 1,3,5-Trimethylbenzene	15.91	105	1863590	54.2878	ug/L	100
84) 2-Chlorotoluene	16.00	91	1528844	50.4812	ug/L	87
85) 4-Chlorotoluene	16.05	91	1646328	53.3735	ug/L	89
86) a-Methylstyrene	16.30	118	1067580	52.9099	ug/L	99
87) tert-Butylbenzene	16.35	134	401668	53.4846	ug/L	98
88) 1,2,4-Trimethylbenzene	16.40	105	1896472	53.7031	ug/L	99
89) sec-Butylbenzene	16.60	105	2366585	54.4409	ug/L	99
90) p-Isopropyltoluene	16.74	119	2083838	55.0884	ug/L	100
91) 1,3-Dichlorobenzene	16.94	146	1138653	50.3496	ug/L	99
92) 1,4-Dichlorobenzene	17.05	146	1131068	48.8059	ug/L	99
93) n-Butylbenzene	17.24	91	1906415	53.7169	ug/L	99
94) 1,2-Dichlorobenzene	17.52	146	1073077	49.6723	ug/L	98
95) 1,2-Dibromo-3-Chloropropane	18.44	75	76953	44.1318	ug/L	90
96) 1,2,4-Trichlorobenzene	19.50	180	802480	50.0881	ug/L	100
97) Hexachlorobutadiene	19.63	225	348142	55.5206	ug/L	98
98) Naphthalene	19.85	128	1681145	50.4701	ug/L	99
99) 1,2,3-Trichlorobenzene	20.14	180	746740	48.3032	ug/L	100

(#) = qualifier out of range (m) = manual integration
 11M14559.D 8260WT.M Mon Oct 17 13:26:59 2016

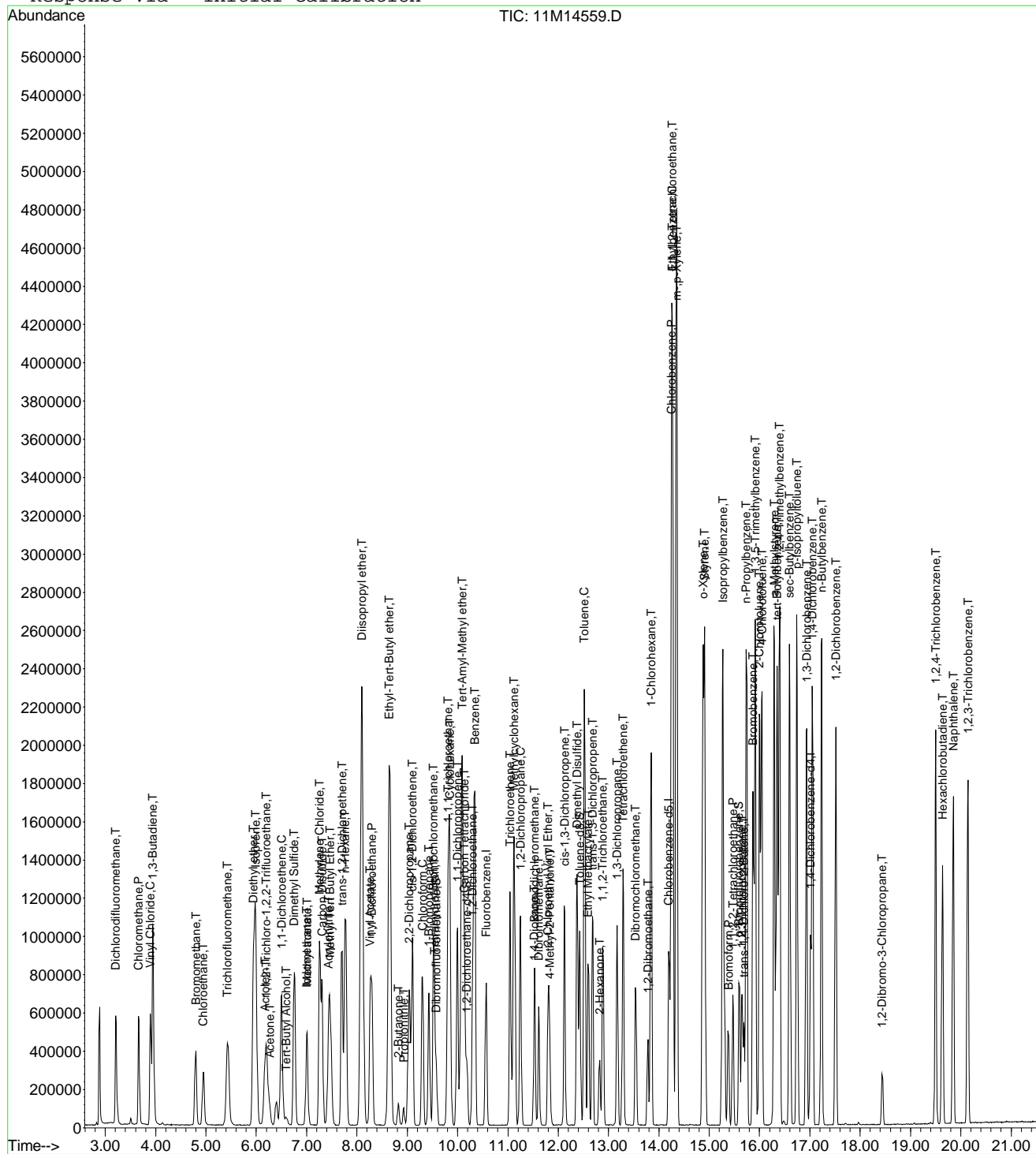
Page 2

Data File : C:\MSDCHEM\1\data\101716\11M14559.D
 Acq On : 17 Oct 2016 13:05
 Sample : WG587866-02 50ug/L CCV 8260
 Misc : 1,1 STD78477
 MS Integration Params: rteint.p
 Quant Time: Oct 17 13:26 2016

Vial: 1
 Operator: FJB
 Inst : hpms11
 Multiplr: 1.00

Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
 Last Update : Fri Oct 14 09:20:10 2016
 Response via : Initial Calibration



Data File : C:\MSDCHEM\1\DATA\101716\11M14559.D Vial: 1
 Acq On : 17 Oct 2016 13:05 Operator: FJB
 Sample : WG587866-02 50ug/L CCV 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	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Fluorobenzene	1.0000	1.0000	0.0	112	0.00
2 T	Dichlorodifluoromethane	0.4241	0.4293	-1.2	104	0.00
3 P	Chloromethane	0.4652	0.4350	6.5	109	0.00
4 C	Vinyl Chloride	0.4148	0.4070	1.9	106	0.00
5 T	1,3-Butadiene	0.3377	0.3912	-15.9	129	0.00
6 T	Bromomethane	0.2010	0.2293	-14.1	131	0.00
7 T	Chloroethane	0.2430	0.2346	3.5	105	-0.01
8 T	Trichlorofluoromethane	0.4828	0.4784	0.9	106	0.00
9 T	Diethyl ether	0.2360	0.2113	10.5	99	0.00
10 T	Isoprene	0.4406	0.4324	1.9	109	0.00
11 T	Acrolein	0.0197	0.0267	-35.7#	164#	0.00
12 T	1,1,2-Trichloro-1,2,2-Trifl	0.2597	0.2658	-2.4	109	0.00
13 T	Acetone	0.0970	0.0669	31.0#	83	-0.01
14 C	1,1-Dichloroethene	0.5159	0.5021	2.7	105	0.01
15 T	Tert-Butyl Alcohol	0.0250	0.0135	46.1#	64	0.00
16 T	Dimethyl Sulfide	0.3536	0.3323	6.0	105	0.00
17 T	Iodomethane	0.2694	0.3327	-23.5	107	0.00
18 T	Methyl acetate	0.2860	0.2371	17.1	97	0.00
19 T	Methylene Chloride	0.2933	0.2753	6.1	104	0.00
20 T	Carbon Disulfide	0.8552	0.8237	3.7	106	0.00
21 T	Acrylonitrile	0.1303	0.1146	12.0	96	0.00
22 T	Methyl Tert Butyl Ether	0.7212	0.6728	6.7	102	0.00
23 T	trans-1,2-Dichloroethene	0.2924	0.2784	4.8	106	0.00
24 T	n-Hexane	0.5000	0.5388	-7.8	117	0.00
25 T	Diisopropyl ether	1.4140	1.3194	6.7	103	0.00
26 T	Vinyl Acetate	0.7558	0.7496	0.8	110	0.00
27 P	1,1-Dichloroethane	0.5992	0.5715	4.6	104	0.00
28 T	Ethyl-Tert-Butyl ether	1.0487	0.9758	6.9	103	0.00
29 T	2-Butanone	0.1630	0.1265	22.4	90	0.00
30 T	Propionitrile	0.0452	0.0346	23.4	88	0.01
31 T	2,2-Dichloropropane	0.4083	0.4198	-2.8	114	0.00
32 T	cis-1,2-Dichloroethene	0.3220	0.3138	2.5	105	0.00
33 C	Chloroform	0.5258	0.4810	8.5	103	0.00
34 T	1-Bromopropane	0.0551	0.0547	0.7	109	0.00
35 T	Bromochloromethane	0.2076	0.1945	6.3	105	0.00
36 T	Tetrahydrofuran	0.1192	0.0873	26.8#	91	0.00
37 S	Dibromofluoromethane	0.3007	0.2852	5.2	105	0.00
38 T	1,1,1-Trichloroethane	0.4636	0.4500	2.9	105	0.00
39 T	Cyclohexane	0.6795	0.6778	0.3	110	0.00
40 T	1,1-Dichloropropene	0.3837	0.3720	3.1	106	0.00
41 T	Carbon Tetrachloride	0.4331	0.4215	2.7	104	0.00
42 T	Tert-Amyl-Methyl ether	0.7101	0.6617	6.8	104	0.00
43 S	1,2-Dichloroethane-d4	0.3376	0.2998	11.2	99	0.00
44 T	1,2-Dichloroethane	0.4517	0.4159	7.9	101	0.00
45 T	Benzene	1.1336	1.1023	2.8	106	0.00
46 T	Trichloroethene	0.3279	0.3113	5.1	105	0.00
47 T	Methylcyclohexane	0.4445	0.4754	-7.0	117	0.00
48 C	1,2-Dichloropropane	0.3341	0.3207	4.0	105	0.00
49 T	1,4-Dioxane	0.0023	0.0011	54.5#	53	0.01
50 T	Bromodichloromethane	0.3973	0.3773	5.0	103	0.00
51 T	Dibromomethane	0.1772	0.1624	8.3	102	0.00
52 T	2-Chloroethyl Vinyl Ether	0.1957	0.1757	10.2	102	0.00
53 T	4-Methyl-2-Pentanone	0.1202	0.0997	17.0	98	0.00
54 T	cis-1,3-Dichloropropene	0.4391	0.4335	1.3	105	0.01

(#) = Out of Range

11M14559.D 8260WT.M

Mon Oct 17 13:32:36 2016

Page 1

Data File : C:\MSDCHEM\1\DATA\101716\11M14559.D Vial: 1
 Acq On : 17 Oct 2016 13:05 Operator: FJB
 Sample : WG587866-02 50ug/L CCV 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	AvgRF	CCRF	%Dev	Area%	Dev(min)
55 T	Dimethyl Disulfide	0.2635	0.2539	3.7	106	0.00
56 I	Chlorobenzene-d5	1.0000	1.0000	0.0	109	0.00
57 S	Toluene-d8	1.3248	1.3109	1.0	107	0.00
58 C	Toluene	1.5743	1.5776	-0.2	106	0.00
59 T	Ethyl Methacrylate	0.4024	0.3824	5.0	102	0.00
60 T	trans-1,3-Dichloropropene	0.5154	0.5093	1.2	105	0.00
61 T	1,1,2-Trichloroethane	0.3063	0.2944	3.9	102	0.00
62 T	2-Hexanone	0.3301	0.2542	23.0	91	0.00
63 T	1,3-Dichloropropane	0.5149	0.4782	7.1	102	0.00
64 T	Tetrachloroethene	0.3417	0.3342	2.2	109	0.00
65 T	Dibromochloromethane	0.4105	0.3986	2.9	104	0.00
66 T	1,2-Dibromoethane	0.3153	0.2942	6.7	102	0.00
67 T	1-Chlorohexane	0.5080	0.5310	-4.5	111	0.00
68 P	Chlorobenzene	1.1171	1.0819	3.2	105	0.00
69 T	1,1,1,2-Tetrachloroethane	0.3984	0.3959	0.6	105	0.00
70 C	Ethylbenzene	0.5712	0.5700	0.2	106	0.00
71 T	m-,p-Xylene	0.6730	0.6779	-0.7	107	0.00
72 T	o-Xylene	0.6620	0.6718	-1.5	106	0.00
73 T	Styrene	1.1237	1.1489	-2.2	105	0.00
74 P	Bromoform	0.2662	0.2497	6.2	100	0.01
75 T	Isopropylbenzene	1.6961	1.7493	-3.1	108	0.00
76 I	1,4-Dichlorobenzene-d4	1.0000	1.0000	0.0	107	0.00
77 P	1,1,2,2-Tetrachloroethane	0.7050	0.6727	4.6	103	0.00
78 S	p-Bromofluorobenzene	1.0002	0.9732	2.7	104	0.00
79 T	1,2,3-Trichloropropane	0.2138	0.2042	4.5	102	0.00
80 T	trans-1,4-Dichloro-2-Butene	0.2880	0.2752	4.4	100	0.00
81 T	n-Propylbenzene	3.7195	4.0314	-8.4	107	0.00
82 T	Bromobenzene	0.9533	0.9292	2.5	106	0.00
83 T	1,3,5-Trimethylbenzene	2.6679	2.8967	-8.6	109	0.00
84 T	2-Chlorotoluene	2.3537	2.3763	-1.0	103	0.00
85 T	4-Chlorotoluene	2.3972	2.5589	-6.7	108	0.01
86 T	a-Methylstyrene	1.5681	1.6594	-5.8	108	0.01
87 T	tert-Butylbenzene	0.5837	0.6243	-7.0	108	0.00
88 T	1,2,4-Trimethylbenzene	2.7445	2.9478	-7.4	107	0.00
89 T	sec-Butylbenzene	3.3784	3.6785	-8.9	109	0.00
90 T	p-Isopropyltoluene	2.9398	3.2390	-10.2	109	0.00
91 T	1,3-Dichlorobenzene	1.7576	1.7698	-0.7	106	0.00
92 T	1,4-Dichlorobenzene	1.8011	1.7581	2.4	105	0.00
93 T	n-Butylbenzene	2.7582	2.9632	-7.4	109	0.01
94 T	1,2-Dichlorobenzene	1.6789	1.6679	0.7	106	0.00
95 T	1,2-Dibromo-3-Chloropropane	0.1355	0.1196	11.7	97	0.00
96 T	1,2,4-Trichlorobenzene	1.2451	1.2473	-0.2	107	0.00
97 T	Hexachlorobutadiene	0.4873	0.5411	-11.0	123	0.00
98 T	Naphthalene	2.5887	2.6131	-0.9	101	0.00
99 T	1,2,3-Trichlorobenzene	1.2015	1.1607	3.4	108	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 11M14559.D 8260WT.M Mon Oct 17 13:32:37 2016

Page 2

Data File : C:\MSDCHEM\1\DATA\101716\11M14559.D Vial: 1
 Acq On : 17 Oct 2016 13:05 Operator: FJB
 Sample : WG587866-02 50ug/L CCV 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	112	0.00
2	T Dichlorodifluoromethane	50.0000	50.6020	-1.2	104	0.00
3	P Chloromethane	50.0000	46.7517	6.5	109	0.00
4	C Vinyl Chloride	50.0000	49.0608	1.9	106	0.00
5	T 1,3-Butadiene	50.0000	57.9265	-15.9	129	0.00
6	T Bromomethane	50.0000	57.0329	-14.1	131	0.00
7	T Chloroethane	50.0000	48.2569	3.5	105	-0.01
8	T Trichlorofluoromethane	50.0000	49.5376	0.9	106	0.00
9	T Diethyl ether	100.0000	89.5178	10.5	99	0.00
10	T Isoprene	50.0000	49.0626	1.9	109	0.00
11	T Acrolein	50.0000	67.8418	-35.7#	164	0.00
12	T 1,1,2-Trichloro-1,2,2-Trifl	50.0000	51.1857	-2.4	109	0.00
13	T Acetone	50.0000	34.4956	31.0#	83	-0.01
14	C 1,1-Dichloroethene	50.0000	48.6547	2.7	105	0.01
15	T Tert-Butyl Alcohol	200.0000	107.7645	46.1#	64	0.00
16	T Dimethyl Sulfide	50.0000	46.9852	6.0	105	0.00
17	T Iodomethane	50.0000	48.5366	2.9	107	0.00
18	T Methyl acetate	50.0000	41.4381	17.1	97	0.00
19	T Methylene Chloride	50.0000	46.9390	6.1	104	0.00
20	T Carbon Disulfide	50.0000	48.1618	3.7	106	0.00
21	T Acrylonitrile	50.0000	43.9795	12.0	96	0.00
22	T Methyl Tert Butyl Ether	50.0000	46.6454	6.7	102	0.00
23	T trans-1,2-Dichloroethene	50.0000	47.6037	4.8	106	0.00
24	T n-Hexane	50.0000	53.8790	-7.8	117	0.00
25	T Diisopropyl ether	100.0000	93.3106	6.7	103	0.00
26	T Vinyl Acetate	50.0000	49.5851	0.8	110	0.00
27	P 1,1-Dichloroethane	50.0000	47.6908	4.6	104	0.00
28	T Ethyl-Tert-Butyl ether	100.0000	93.0528	6.9	103	0.00
29	T 2-Butanone	50.0000	38.8180	22.4	90	0.00
30	T Propionitrile	100.0000	76.5673	23.4	88	0.01
31	T 2,2-Dichloropropane	50.0000	51.4049	-2.8	114	0.00
32	T cis-1,2-Dichloroethene	50.0000	48.7270	2.5	105	0.00
33	C Chloroform	50.0000	45.7469	8.5	103	0.00
34	T 1-Bromopropane	50.0000	49.6303	0.7	109	0.00
35	T Bromochloromethane	50.0000	46.8573	6.3	105	0.00
36	T Tetrahydrofuran	100.0000	78.7097	21.3	91	0.00
37	S Dibromofluoromethane	25.0000	23.7049	5.2	105	0.00
38	T 1,1,1-Trichloroethane	50.0000	48.5366	2.9	105	0.00
39	T Cyclohexane	50.0000	49.8702	0.3	110	0.00
40	T 1,1-Dichloropropene	50.0000	48.4743	3.1	106	0.00
41	T Carbon Tetrachloride	50.0000	48.6612	2.7	104	0.00
42	T Tert-Amyl-Methyl ether	100.0000	93.1784	6.8	104	0.00
43	S 1,2-Dichloroethane-d4	25.0000	22.1987	11.2	99	0.00
44	T 1,2-Dichloroethane	50.0000	46.0464	7.9	101	0.00
45	T Benzene	50.0000	48.6184	2.8	106	0.00
46	T Trichloroethene	50.0000	47.4729	5.1	105	0.00
47	T Methylcyclohexane	50.0000	53.4813	-7.0	117	0.00
48	C 1,2-Dichloropropane	50.0000	47.9890	4.0	105	0.00
49	T 1,4-Dioxane	200.0000	91.4339	54.3#	53	0.01
50	T Bromodichloromethane	50.0000	47.4834	5.0	103	0.00
51	T Dibromomethane	50.0000	45.8359	8.3	102	0.00
52	T 2-Chloroethyl Vinyl Ether	50.0000	44.8817	10.2	102	0.00
53	T 4-Methyl-2-Pentanone	50.0000	41.4813	17.0	98	0.00
54	T cis-1,3-Dichloropropene	50.0000	49.3674	1.3	105	0.01

(#) = Out of Range

11M14559.D 8260WT.M

Mon Oct 17 13:32:40 2016

Page 1

Data File : C:\MSDCHEM\1\DATA\101716\11M14559.D Vial: 1
 Acq On : 17 Oct 2016 13:05 Operator: FJB
 Sample : WG587866-02 50ug/L CCV 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	50.0000	48.1639	3.7	106	0.00
56 I	Chlorobenzene-d5	25.0000	25.0000	0.0	109	0.00
57 S	Toluene-d8	25.0000	24.7376	1.0	107	0.00
58 C	Toluene	50.0000	50.1048	-0.2	106	0.00
59 T	Ethyl Methacrylate	50.0000	47.5121	5.0	102	0.00
60 T	trans-1,3-Dichloropropene	50.0000	49.4093	1.2	105	0.00
61 T	1,1,2-Trichloroethane	50.0000	48.0675	3.9	102	0.00
62 T	2-Hexanone	50.0000	38.4950	23.0	91	0.00
63 T	1,3-Dichloropropane	50.0000	46.4396	7.1	102	0.00
64 T	Tetrachloroethene	50.0000	48.9073	2.2	109	0.00
65 T	Dibromochloromethane	50.0000	48.5451	2.9	104	0.00
66 T	1,2-Dibromoethane	50.0000	46.6521	6.7	102	0.00
67 T	1-Chlorohexane	50.0000	52.2594	-4.5	111	0.00
68 P	Chlorobenzene	50.0000	48.4229	3.2	105	0.00
69 T	1,1,1,2-Tetrachloroethane	50.0000	49.6837	0.6	105	0.00
70 C	Ethylbenzene	50.0000	49.8925	0.2	106	0.00
71 T	m-,p-Xylene	100.0000	100.7313	-0.7	107	0.00
72 T	o-Xylene	50.0000	50.7405	-1.5	106	0.00
73 T	Styrene	50.0000	51.1232	-2.2	105	0.00
74 P	Bromoform	50.0000	46.8873	6.2	100	0.01
75 T	Isopropylbenzene	50.0000	51.5690	-3.1	108	0.00
76 I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	107	0.00
77 P	1,1,2,2-Tetrachloroethane	50.0000	47.7061	4.6	103	0.00
78 S	p-Bromofluorobenzene	25.0000	24.3265	2.7	104	0.00
79 T	1,2,3-Trichloropropane	50.0000	47.7456	4.5	102	0.00
80 T	trans-1,4-Dichloro-2-Butene	50.0000	47.7762	4.4	100	0.00
81 T	n-Propylbenzene	50.0000	54.1928	-8.4	107	0.00
82 T	Bromobenzene	50.0000	48.7345	2.5	106	0.00
83 T	1,3,5-Trimethylbenzene	50.0000	54.2878	-8.6	109	0.00
84 T	2-Chlorotoluene	50.0000	50.4812	-1.0	103	0.00
85 T	4-Chlorotoluene	50.0000	53.3735	-6.7	108	0.01
86 T	a-Methylstyrene	50.0000	52.9099	-5.8	108	0.01
87 T	tert-Butylbenzene	50.0000	53.4846	-7.0	108	0.00
88 T	1,2,4-Trimethylbenzene	50.0000	53.7031	-7.4	107	0.00
89 T	sec-Butylbenzene	50.0000	54.4409	-8.9	109	0.00
90 T	p-Isopropyltoluene	50.0000	55.0884	-10.2	109	0.00
91 T	1,3-Dichlorobenzene	50.0000	50.3496	-0.7	106	0.00
92 T	1,4-Dichlorobenzene	50.0000	48.8059	2.4	105	0.00
93 T	n-Butylbenzene	50.0000	53.7169	-7.4	109	0.01
94 T	1,2-Dichlorobenzene	50.0000	49.6723	0.7	106	0.00
95 T	1,2-Dibromo-3-Chloropropane	50.0000	44.1318	11.7	97	0.00
96 T	1,2,4-Trichlorobenzene	50.0000	50.0881	-0.2	107	0.00
97 T	Hexachlorobutadiene	50.0000	55.5206	-11.0	123	0.00
98 T	Naphthalene	50.0000	50.4701	-0.9	101	0.00
99 T	1,2,3-Trichlorobenzene	50.0000	48.3032	3.4	108	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 11M14559.D 8260WT.M Mon Oct 17 13:32:40 2016

Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\101816\8M415557.D Vial: 2
 Acq On : 18 Oct 2016 9:07 Operator: TMB
 Sample : WG587981-02 50ug/L CCV STD 8260 Inst : HPMS8
 Misc : 1,1 STD78477 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Oct 18 09:47:13 2016

Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.69	96	832847	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	604355	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.58	152	332604	25.00	ug/L	0.00

System Monitoring Compounds

37) Dibromofluoromethane	9.65	111	196835	24.3710	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	97.48%	
43) 1,2-Dichloroethane-d4	10.29	65	153854	23.8477	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	95.40%	
58) Toluene-d8	12.67	98	724921	26.7816	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	107.12%	
80) p-Bromofluorobenzene	16.06	95	253414	26.0019	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	104.00%	

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.16	85	770790	59.1397	ug/L	100
3) Chloromethane	3.61	50	406688	35.1491	ug/L	98
4) Vinyl Chloride	3.83	62	555746	43.8977	ug/L	97
5) 1,3-Butadiene	3.87	54	376763	44.8726	ug/L	91
6) Bromomethane	4.72	94	281334	41.0159	ug/L	97
7) Chloroethane	4.88	64	287318	54.9879	ug/L	98
8) Trichlorofluoromethane	5.37	101	738309	51.2272	ug/L	99
9) Diethyl ether	5.88	59	364021	102.9835	ug/L	96
10) Isoprene	5.93	67	564046	49.7330	ug/L	91
12) 1,1,2-Trichloro-1,2,2-Trif	6.14	101	433295	51.2921	ug/L	95
13) Acetone	6.23	43	37860	55.3827	ug/L	93
14) 1,1-Dichloroethene	6.45	61	587069	55.2476	ug/L	90
15) Tert-Butyl Alcohol	6.56	59	43563	203.1923	ug/L	96
16) Dimethyl Sulfide	6.71	62	305333	47.0581	ug/L	92
17) Iodomethane	6.97	142	212660	22.7767	ug/L	95
18) Methyl acetate	6.98	43	99722	47.0920	ug/L	98
19) Methylene Chloride	7.24	84	417547	48.5010	ug/L	100
20) Carbon Disulfide	7.27	76	1345190	50.7333	ug/L	100
21) Acrylonitrile	7.42	53	51609	52.5709	ug/L	99
22) Methyl Tert Butyl Ether	7.46	73	716552	49.1230	ug/L	98
23) trans-1,2-Dichloroethene	7.68	61	558794	55.1726	ug/L	91
24) n-Hexane	7.77	57	478818	52.0611	ug/L	95
25) Diisopropyl ether	8.11	45	1890866	107.9194	ug/L	97
26) Vinyl Acetate	8.28	43	417599	56.7252	ug/L	100
27) 1,1-Dichloroethane	8.30	63	734794	54.2311	ug/L	99
28) Ethyl-Tert-Butyl ether	8.69	59	1688125	101.5302	ug/L	97
29) 2-Butanone	8.86	43	58108	52.1648	ug/L	96
30) Propionitrile	8.98	54	34685	97.4435	ug/L	93
31) 2,2-Dichloropropane	9.09	77	704323	53.7371	ug/L	99
32) cis-1,2-Dichloroethene	9.15	96	475366	51.0926	ug/L	88
33) Chloroform	9.36	83	796398	51.4946	ug/L	97
34) 1-Bromopropane	9.49	122	73912	41.4078	ug/L	98
35) Bromochloromethane	9.59	130	237833	48.6165	ug/L	97
36) Tetrahydrofuran	9.62	42	93643	120.0217	ug/L	95
38) 1,1,1-Trichloroethane	9.90	97	721317	50.6313	ug/L	99
39) Cyclohexane	9.93	56	577165	51.3940	ug/L	98
40) 1,1-Dichloropropene	10.08	75	626105	53.0807	ug/L	96
41) Tert-Amyl-Methyl ether	10.20	73	1587199	96.2894	ug/L	95
42) Carbon Tetrachloride	10.24	117	680558	51.5704	ug/L	98
45) 1,2-Dichloroethane	10.40	62	415147	49.1251	ug/L	93

(#) = qualifier out of range (m) = manual integration
 8M415557.D 8260WT.M Tue Oct 18 09:47:17 2016

Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\101816\8M415557.D Vial: 2
 Acq On : 18 Oct 2016 9:07 Operator: TMB
 Sample : WG587981-02 50ug/L CCV STD 8260 Inst : HPMS8
 Misc : 1,1 STD78477 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Oct 18 09:47:13 2016

Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

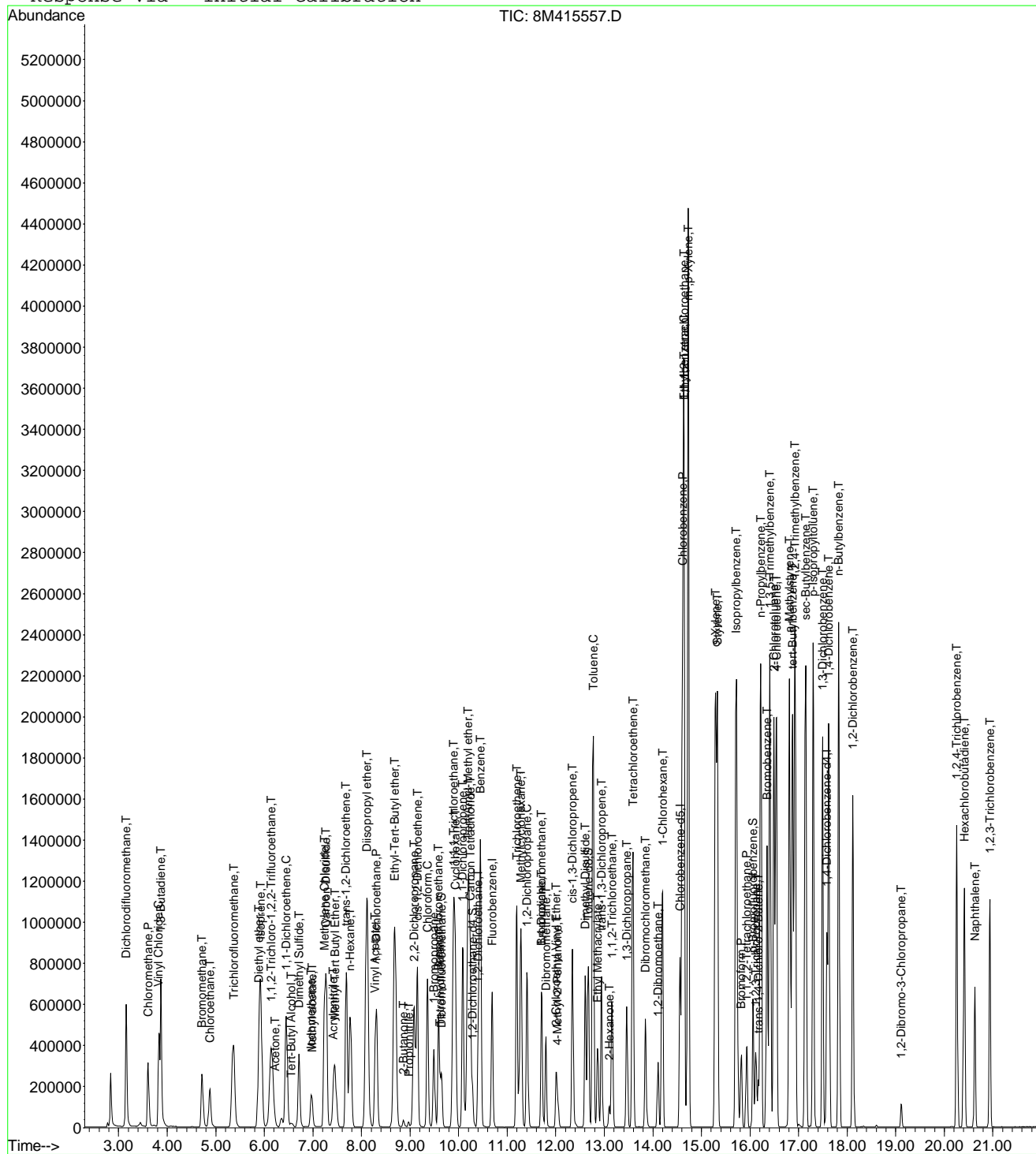
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Benzene	10.44	78	1802439	53.8936	ug/L	95
47) Trichloroethene	11.20	130	465639	48.3326	ug/L	96
48) Methylcyclohexane	11.28	83	699705	47.8063	ug/L	94
49) 1,2-Dichloropropane	11.41	63	390353	52.8929	ug/L	80
50) Bromodichloromethane	11.71	83	571167	51.2482	ug/L	97
51) 1,4-Dioxane	11.71	88	6869	207.5019	ug/L	99
52) Dibromomethane	11.80	93	200900	48.5282	ug/L	100
53) 2-Chloroethyl Vinyl Ether	12.01	63	141820	48.9678	ug/L	100
54) 4-Methyl-2-Pentanone	12.04	58	53893	47.4150	ug/L	99
55) cis-1,3-Dichloropropene	12.35	75	634351	52.5242	ug/L	99
56) Dimethyl Disulfide	12.61	79	305962	42.4323	ug/L	91
59) Toluene	12.77	91	1952916	56.9068	ug/L	99
60) Ethyl Methacrylate	12.86	69	297075	45.8661	ug/L	98
62) trans-1,3-Dichloropropene	12.95	75	514676	53.7304	ug/L	99
63) 1,1,2-Trichloroethane	13.16	97	259895	47.8161	ug/L	96
64) 2-Hexanone	13.10	58	50483	52.0334	ug/L #	98
65) 1,3-Dichloropropane	13.46	76	446664	50.6795	ug/L	96
66) Tetrachloroethene	13.59	164	407331	48.4829	ug/L	92
67) Dibromochloromethane	13.85	129	360003	51.0354	ug/L	99
68) 1,2-Dibromoethane	14.10	107	253464	49.3289	ug/L	99
69) 1-Chlorohexane	14.20	91	607976	50.9904	ug/L	87
70) Chlorobenzene	14.61	112	1261904	49.6505	ug/L	93
71) 1,1,1,2-Tetrachloroethane	14.64	131	449003	46.1047	ug/L	99
72) Ethylbenzene	14.64	106	729246	52.9260	ug/L	89
73) m-,p-Xylene	14.73	106	1715512	110.6326	ug/L	88
74) o-Xylene	15.29	106	808686	51.1315	ug/L	88
75) Styrene	15.32	104	1339073	52.6232	ug/L	88
76) Bromoform	15.82	173	220657	40.5002	ug/L	99
77) Isopropylbenzene	15.72	105	2111442	56.0606	ug/L	96
79) 1,1,2,2-Tetrachloroethane	15.92	83	282472	54.2265	ug/L	97
81) 1,2,3-Trichloropropane	16.12	110	71864	50.1489	ug/L	58
82) trans-1,4-Dichloro-2-Buten	16.17	53	51954	42.5690	ug/L	76
83) n-Propylbenzene	16.22	91	2562783	58.8459	ug/L	98
84) Bromobenzene	16.35	156	525364	50.6470	ug/L	85
85) 1,3,5-Trimethylbenzene	16.41	105	1763687	58.8187	ug/L	93
86) 2-Chlorotoluene	16.49	91	1556471	56.0878	ug/L	95
87) 4-Chlorotoluene	16.54	91	1554766	59.6035	ug/L	94
88) a-Methylstyrene	16.81	118	915845	50.2577	ug/L	91
89) tert-Butylbenzene	16.88	134	374456	52.7828	ug/L	82
90) 1,2,4-Trimethylbenzene	16.93	105	1846749	58.8793	ug/L	93
91) sec-Butylbenzene	17.14	105	2271006	59.7061	ug/L	99
92) p-Isopropyltoluene	17.30	119	1866906	59.0573	ug/L	96
93) 1,3-Dichlorobenzene	17.50	146	1040778	52.7947	ug/L	92
94) 1,4-Dichlorobenzene	17.62	146	1019564	51.5138	ug/L	90
95) n-Butylbenzene	17.83	91	1866823	59.0846	ug/L	99
96) 1,2-Dichlorobenzene	18.12	146	871849	51.3899	ug/L	90
97) 1,2-Dibromo-3-Chloropropan	19.11	75	38074	48.1411	ug/L	73
98) 1,2,4-Trichlorobenzene	20.26	180	591320	46.4008	ug/L	99
99) Hexachlorobutadiene	20.41	225	324138	46.1027	ug/L	98
100) Naphthalene	20.63	128	695675	49.1958	ug/L	99
101) 1,2,3-Trichlorobenzene	20.94	180	464911	47.2910	ug/L	97

(#) = qualifier out of range (m) = manual integration
 8M415557.D 8260WT.M Tue Oct 18 09:47:18 2016

Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\101816\8M415557.D Vial: 2
 Acq On : 18 Oct 2016 9:07 Operator: TMB
 Sample : WG587981-02 50ug/L CCV STD 8260 Inst : HPMS8
 Misc : 1,1 STD78477 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Oct 18 9:47 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration



Continuing Calibration Area and RT check

Instrument: HPMS8

Initial cal date: 9 Sep 2016 16:25

CCV date: 18 Oct 2016 9:07

CCV Filename: 8M415557.D

	Fluorobenzene		Chlorobenzene-d5		1,4-Dichlorobenzene-d4	
	<u>Amount</u>	<u>RT</u>	<u>Amount</u>	<u>RT</u>	<u>Amount</u>	<u>RT</u>
InitCal	866914	10.69	650726	14.56	395187	17.58
CCV	832847	10.69	604355	14.56	332604	17.58

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\101816\8M415557.D Vial: 2
 Acq On : 18 Oct 2016 9:07 Operator: TMB
 Sample : WG587981-02 50ug/L CCV STD 8260 Inst : HPMS8
 Misc : 1,1 STD78477 Multiplr: 1.00
 MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 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	96	0.00
2 T	Dichlorodifluoromethane	0.3912	0.4627	-18.3	105	0.00
3 P	Chloromethane	0.3473	0.2442	29.7#	69	0.01
4 C	Vinyl Chloride	0.3800	0.3336	12.2	85	0.00
5 T	1,3-Butadiene	0.2520	0.2262	10.3	82	0.00
6 T	Bromomethane	0.2059	0.1689	18.0	78	0.01
7 T	Chloroethane	0.1568	0.1725	-10.0	103	0.01
8 T	Trichlorofluoromethane	0.4326	0.4432	-2.5	100	0.00
9 T	Diethyl ether	0.1061	0.1093	-3.0	97	0.00
10 T	Isoprene	0.3404	0.3386	0.5	93	0.01
11 T	Acrolein	0.0000	0.0034	0.0	0#	0.01
12 T	1,1,2-Trichloro-1,2,2-Trifl	0.2536	0.2601	-2.6	101	0.01
13 T	Acetone	0.0205	0.0227	-10.8	110	0.00
14 C	1,1-Dichloroethene	0.3190	0.3524	-10.5	107	0.01
15 T	Tert-Butyl Alcohol	0.0064	0.0065	-1.6	102	-0.02
16 T	Dimethyl Sulfide	0.1948	0.1833	5.9	88	0.00
17 T	Iodomethane	0.2402	0.1277	46.8#	45#	0.00
18 T	Methyl acetate	0.0636	0.0599	5.8	95	0.00
19 T	Methylene Chloride	0.2584	0.2507	3.0	97	0.01
20 T	Carbon Disulfide	0.7959	0.8076	-1.5	95	0.00
21 T	Acrylonitrile	0.0282	0.0310	-9.7	95	0.00
22 T	Methyl Tert Butyl Ether	0.4379	0.4302	1.8	93	0.01
23 T	trans-1,2-Dichloroethene	0.3040	0.3355	-10.3	106	0.00
24 T	n-Hexane	0.2761	0.2875	-4.1	100	0.00
25 T	Diisopropyl ether	0.5259	0.5676	-7.9	101	0.00
26 T	Vinyl Acetate	0.2210	0.2507	-13.5	111	0.00
27 P	1,1-Dichloroethane	0.4067	0.4411	-8.5	105	0.00
28 T	Ethyl-Tert-Butyl ether	0.4991	0.5067	-1.5	94	0.00
29 T	2-Butanone	0.0334	0.0349	-4.3	99	0.00
30 T	Propionitrile	0.0097	0.0104	-7.9	98	0.00
31 T	2,2-Dichloropropane	0.3934	0.4228	-7.5	104	0.01
32 T	cis-1,2-Dichloroethene	0.2793	0.2854	-2.2	97	0.00
33 C	Chloroform	0.4642	0.4781	-3.0	98	0.00
34	1-Bromopropane	0.0477	0.0444	7.0	84	0.00
35 T	Bromochloromethane	0.1469	0.1428	2.8	92	0.00
36 T	Tetrahydrofuran	0.0234	0.0281	-20.0	118	0.00
37 S	Dibromofluoromethane	0.2424	0.2363	2.5	91	0.00
38 T	1,1,1-Trichloroethane	0.4276	0.4330	-1.3	96	0.00
39 T	Cyclohexane	0.3371	0.3465	-2.8	98	0.01
40 T	1,1-Dichloropropene	0.3541	0.3759	-6.2	102	0.00
41 T	Tert-Amyl-Methyl ether	0.4948	0.4764	3.7	90	0.00
42 T	Carbon Tetrachloride	0.3961	0.4086	-3.1	97	0.01
43 S	1,2-Dichloroethane-d4	0.1937	0.1847	4.6	89	0.00
44	Heptane	0.0000	0.0000	0.0	0#	-2.54#
45 T	1,2-Dichloroethane	0.2537	0.2492	1.8	95	0.00
46 T	Benzene	1.0039	1.0821	-7.8	102	0.00
47 T	Trichloroethene	0.2892	0.2796	3.3	94	0.00
48 T	Methylcyclohexane	0.4393	0.4201	4.4	93	0.00
49 C	1,2-Dichloropropane	0.2215	0.2344	-5.8	101	0.00
50 T	Bromodichloromethane	0.3346	0.3429	-2.5	95	0.00
51 T	1,4-Dioxane	0.0010	0.0010	-4.0	98	0.00
52 T	Dibromomethane	0.1243	0.1206	2.9	91	0.00
53 T	2-Chloroethyl Vinyl Ether	0.0869	0.0851	2.1	92	0.00
54 T	4-Methyl-2-Pentanone	0.0341	0.0323	5.2	90	0.00

(#) = Out of Range

8M415557.D 8260WT.M

Tue Oct 18 09:47:27 2016

Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\101816\8M415557.D Vial: 2
 Acq On : 18 Oct 2016 9:07 Operator: TMB
 Sample : WG587981-02 50ug/L CCV STD 8260 Inst : HPMS8
 Misc : 1,1 STD78477 Multiplr: 1.00
 MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 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	cis-1,3-Dichloropropene	0.3625	0.3808	-5.0	97	0.00
56 T	Dimethyl Disulfide	0.2009	0.1837	8.6	88	0.00
57 I	Chlorobenzene-d5	1.0000	1.0000	0.0	93	0.00
58 S	Toluene-d8	1.1197	1.1995	-7.1	95	0.00
59 C	Toluene	1.4196	1.6157	-13.8	99	0.00
60 T	Ethyl Methacrylate	0.2440	0.2458	-0.7	85	0.00
61	Paraldehyde	0.0000	0.0000	0.0	0#	-13.14#
62 T	trans-1,3-Dichloropropene	0.3962	0.4258	-7.5	95	0.00
63 T	1,1,2-Trichloroethane	0.2106	0.2150	-2.1	91	0.00
64 T	2-Hexanone	0.0401	0.0418	-4.1	94	0.00
65 T	1,3-Dichloropropane	0.3646	0.3695	-1.4	93	0.00
66 T	Tetrachloroethene	0.3475	0.3370	3.0	90	0.00
67 T	Dibromochloromethane	0.2918	0.2978	-2.1	89	0.00
68 T	1,2-Dibromoethane	0.2125	0.2097	1.3	88	0.00
69 T	1-Chlorohexane	0.4932	0.5030	-2.0	91	0.00
70 P	Chlorobenzene	1.0514	1.0440	0.7	94	0.00
71 T	1,1,1,2-Tetrachloroethane	0.3852	0.3715	3.6	89	0.00
72 C	Ethylbenzene	0.5700	0.6033	-5.9	96	0.00
73 T	m-,p-Xylene	0.6414	0.7097	-10.6	95	0.00
74 T	o-Xylene	0.6542	0.6691	-2.3	94	0.00
75 T	Styrene	0.9769	1.1079	-13.4	93	0.00
76 P	Bromoform	0.1923	0.1826	5.1	82	0.00
77 T	Isopropylbenzene	1.5580	1.7469	-12.1	96	0.00
78 I	1,4-Dichlorobenzene-d4	1.0000	1.0000	0.0	84	0.00
79 P	1,1,2,2-Tetrachloroethane	0.3915	0.4246	-8.5	92	0.00
80 S	p-Bromofluorobenzene	0.7326	0.7619	-4.0	88	0.00
81 T	1,2,3-Trichloropropane	0.1077	0.1080	-0.3	82	0.00
82 T	trans-1,4-Dichloro-2-Butene	0.0780	0.0781	-0.2	77	0.00
83 T	n-Propylbenzene	3.2735	3.8526	-17.7	98	0.00
84 T	Bromobenzene	0.7797	0.7898	-1.3	87	0.00
85 T	1,3,5-Trimethylbenzene	2.2538	2.6513	-17.6	94	0.00
86 T	2-Chlorotoluene	2.0859	2.3398	-12.2	94	0.00
87 T	4-Chlorotoluene	1.9607	2.3373	-19.2	95	0.00
88 T	a-Methylstyrene	1.3697	1.3768	-0.5	83	0.00
89 T	tert-Butylbenzene	0.5332	0.5629	-5.6	92	0.00
90 T	1,2,4-Trimethylbenzene	2.3575	2.7762	-17.8	93	0.00
91 T	sec-Butylbenzene	2.8590	3.4140	-19.4	96	0.00
92 T	p-Isopropyltoluene	2.3761	2.8065	-18.1	94	0.00
93 T	1,3-Dichlorobenzene	1.4818	1.5646	-5.6	87	0.00
94 T	1,4-Dichlorobenzene	1.4877	1.5327	-3.0	88	0.00
95 T	n-Butylbenzene	2.3749	2.8064	-18.2	97	0.00
96 T	1,2-Dichlorobenzene	1.2752	1.3106	-2.8	86	0.00
97 T	1,2-Dibromo-3-Chloropropane	0.0595	0.0572	3.7	85	0.00
98 T	1,2,4-Trichlorobenzene	0.9579	0.8889	7.2	80	0.00
99 T	Hexachlorobutadiene	0.5285	0.4873	7.8	84	0.00
100 T	Naphthalene	1.0629	1.0458	1.6	79	0.00
101 T	1,2,3-Trichlorobenzene	0.7389	0.6989	5.4	79	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 8M415557.D 8260WT.M Tue Oct 18 09:47:28 2016

Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\101816\8M415557.D Vial: 2
 Acq On : 18 Oct 2016 9:07 Operator: TMB
 Sample : WG587981-02 50ug/L CCV STD 8260 Inst : HPMS8
 Misc : 1,1 STD78477 Multiplr: 1.00
 MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 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	96	0.00
2 T	Dichlorodifluoromethane	50.0000	59.1397	-18.3	105	0.00
3 P	Chloromethane	50.0000	35.1491	29.7#	69	0.01
4 C	Vinyl Chloride	50.0000	43.8977	12.2	85	0.00
5 T	1,3-Butadiene	50.0000	44.8726	10.3	82	0.00
6 T	Bromomethane	50.0000	41.0159	18.0	78	0.01
7 T	Chloroethane	50.0000	54.9879	-10.0	103	0.01
8 T	Trichlorofluoromethane	50.0000	51.2272	-2.5	100	0.01
9 T	Diethyl ether	100.0000	102.9835	-3.0	97	0.00
10 T	Isoprene	50.0000	49.7330	0.5	93	0.01
11 T	Acrolein	50.0000	0.0000	100.0#	0	0.01
12 T	1,1,2-Trichloro-1,2,2-Trifl	50.0000	51.2921	-2.6	101	0.01
13 T	Acetone	50.0000	55.3827	-10.8	110	0.00
14 C	1,1-Dichloroethene	50.0000	55.2476	-10.5	107	0.01
15 T	Tert-Butyl Alcohol	200.0000	203.1923	-1.6	102	-0.02
16 T	Dimethyl Sulfide	50.0000	47.0581	5.9	88	0.00
17 T	Iodomethane	50.0000	22.7767	54.4#	45	0.00
18 T	Methyl acetate	50.0000	47.0920	5.8	95	0.00
19 T	Methylene Chloride	50.0000	48.5010	3.0	97	0.01
20 T	Carbon Disulfide	50.0000	50.7333	-1.5	95	0.00
21 T	Acrylonitrile	50.0000	52.5709	-5.1	95	0.00
22 T	Methyl Tert Butyl Ether	50.0000	49.1230	1.8	93	0.01
23 T	trans-1,2-Dichloroethene	50.0000	55.1726	-10.3	106	0.00
24 T	n-Hexane	50.0000	52.0611	-4.1	100	0.00
25 T	Diisopropyl ether	100.0000	107.9194	-7.9	101	0.00
26 T	Vinyl Acetate	50.0000	56.7252	-13.5	111	0.00
27 P	1,1-Dichloroethane	50.0000	54.2311	-8.5	105	0.00
28 T	Ethyl-Tert-Butyl ether	100.0000	101.5302	-1.5	94	0.00
29 T	2-Butanone	50.0000	52.1648	-4.3	99	0.00
30 T	Propionitrile	100.0000	97.4435	2.6	98	0.00
31 T	2,2-Dichloropropane	50.0000	53.7371	-7.5	104	0.01
32 T	cis-1,2-Dichloroethene	50.0000	51.0926	-2.2	97	0.00
33 C	Chloroform	50.0000	51.4946	-3.0	98	0.00
34	1-Bromopropane	50.0000	41.4078	17.2	84	0.00
35 T	Bromochloromethane	50.0000	48.6165	2.8	92	0.00
36 T	Tetrahydrofuran	100.0000	120.0217	-20.0	118	0.00
37 S	Dibromofluoromethane	25.0000	24.3710	2.5	91	0.00
38 T	1,1,1-Trichloroethane	50.0000	50.6313	-1.3	96	0.00
39 T	Cyclohexane	50.0000	51.3940	-2.8	98	0.01
40 T	1,1-Dichloropropene	50.0000	53.0807	-6.2	102	0.00
41 T	Tert-Amyl-Methyl ether	100.0000	96.2894	3.7	90	0.00
42 T	Carbon Tetrachloride	50.0000	51.5704	-3.1	97	0.01
43 S	1,2-Dichloroethane-d4	25.0000	23.8477	4.6	89	0.00
44	Heptane	-1.0000	0.0000	0.0	0	-2.54#
45 T	1,2-Dichloroethane	50.0000	49.1251	1.7	95	0.00
46 T	Benzene	50.0000	53.8936	-7.8	102	0.00
47 T	Trichloroethene	50.0000	48.3326	3.3	94	0.00
48 T	Methylcyclohexane	50.0000	47.8063	4.4	93	0.00
49 C	1,2-Dichloropropane	50.0000	52.8929	-5.8	101	0.00
50 T	Bromodichloromethane	50.0000	51.2482	-2.5	95	0.00
51 T	1,4-Dioxane	200.0000	207.5019	-3.8	98	0.00
52 T	Dibromomethane	50.0000	48.5282	2.9	91	0.00
53 T	2-Chloroethyl Vinyl Ether	50.0000	48.9678	2.1	92	0.00
54 T	4-Methyl-2-Pentanone	50.0000	47.4150	5.2	90	0.00

(#) = Out of Range

8M415557.D 8260WT.M

Tue Oct 18 09:47:31 2016

Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\101816\8M415557.D Vial: 2
 Acq On : 18 Oct 2016 9:07 Operator: TMB
 Sample : WG587981-02 50ug/L CCV STD 8260 Inst : HPMS8
 Misc : 1,1 STD78477 Multiplr: 1.00
 MS Integration Params: RTEINT.P

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 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	cis-1,3-Dichloropropene	50.0000	52.5242	-5.0	97	0.00
56 T	Dimethyl Disulfide	50.0000	42.4323	15.1	88	0.00
57 I	Chlorobenzene-d5	25.0000	25.0000	0.0	93	0.00
58 S	Toluene-d8	25.0000	26.7816	-7.1	95	0.00
59 C	Toluene	50.0000	56.9068	-13.8	99	0.00
60 T	Ethyl Methacrylate	50.0000	45.8661	8.3	85	0.00
61	Paraldehyde	-1.0000	0.0000	0.0	0	-13.14#
62 T	trans-1,3-Dichloropropene	50.0000	53.7304	-7.5	95	0.00
63 T	1,1,2-Trichloroethane	50.0000	47.8162	4.4	91	0.00
64 T	2-Hexanone	50.0000	52.0334	-4.1	94	0.00
65 T	1,3-Dichloropropane	50.0000	50.6795	-1.4	93	0.00
66 T	Tetrachloroethene	50.0000	48.4829	3.0	90	0.00
67 T	Dibromochloromethane	50.0000	51.0354	-2.1	89	0.00
68 T	1,2-Dibromoethane	50.0000	49.3289	1.3	88	0.00
69 T	1-Chlorohexane	50.0000	50.9904	-2.0	91	0.00
70 P	Chlorobenzene	50.0000	49.6506	0.7	94	0.00
71 T	1,1,1,2-Tetrachloroethane	50.0000	46.1047	7.8	89	0.00
72 C	Ethylbenzene	50.0000	52.9260	-5.9	96	0.00
73 T	m-,p-Xylene	100.0000	110.6325	-10.6	95	0.00
74 T	o-Xylene	50.0000	51.1315	-2.3	94	0.00
75 T	Styrene	50.0000	52.6232	-5.2	93	0.00
76 P	Bromoform	50.0000	40.5002	19.0	82	0.00
77 T	Isopropylbenzene	50.0000	56.0606	-12.1	96	0.00
78 I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	84	0.00
79 P	1,1,2,2-Tetrachloroethane	50.0000	54.2265	-8.5	92	0.00
80 S	p-Bromofluorobenzene	25.0000	26.0019	-4.0	88	0.00
81 T	1,2,3-Trichloropropane	50.0000	50.1489	-0.3	82	0.00
82 T	trans-1,4-Dichloro-2-Butene	50.0000	42.5690	14.9	77	0.00
83 T	n-Propylbenzene	50.0000	58.8459	-17.7	98	0.00
84 T	Bromobenzene	50.0000	50.6470	-1.3	87	0.00
85 T	1,3,5-Trimethylbenzene	50.0000	58.8187	-17.6	94	0.00
86 T	2-Chlorotoluene	50.0000	56.0878	-12.2	94	0.00
87 T	4-Chlorotoluene	50.0000	59.6035	-19.2	95	0.00
88 T	a-Methylstyrene	50.0000	50.2577	-0.5	83	0.00
89 T	tert-Butylbenzene	50.0000	52.7828	-5.6	92	0.00
90 T	1,2,4-Trimethylbenzene	50.0000	58.8793	-17.8	93	0.00
91 T	sec-Butylbenzene	50.0000	59.7061	-19.4	96	0.00
92 T	p-Isopropyltoluene	50.0000	59.0573	-18.1	94	0.00
93 T	1,3-Dichlorobenzene	50.0000	52.7947	-5.6	87	0.00
94 T	1,4-Dichlorobenzene	50.0000	51.5138	-3.0	88	0.00
95 T	n-Butylbenzene	50.0000	59.0846	-18.2	97	0.00
96 T	1,2-Dichlorobenzene	50.0000	51.3899	-2.8	86	0.00
97 T	1,2-Dibromo-3-Chloropropane	50.0000	48.1411	3.7	85	0.00
98 T	1,2,4-Trichlorobenzene	50.0000	46.4008	7.2	80	0.00
99 T	Hexachlorobutadiene	50.0000	46.1027	7.8	84	0.00
100 T	Naphthalene	50.0000	49.1958	1.6	79	0.00
101 T	1,2,3-Trichlorobenzene	50.0000	47.2910	5.4	79	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
 8M415557.D 8260WT.M Tue Oct 18 09:47:32 2016

Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\101816\8M415558.D Vial: 3
 Acq On : 18 Oct 2016 9:36 Operator: TMB
 Sample : WG587296-01 100ug/L A9 CCV STD 8260 Inst : HPMS8
 Misc : 1,1 STD78417 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Oct 18 13:58:09 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

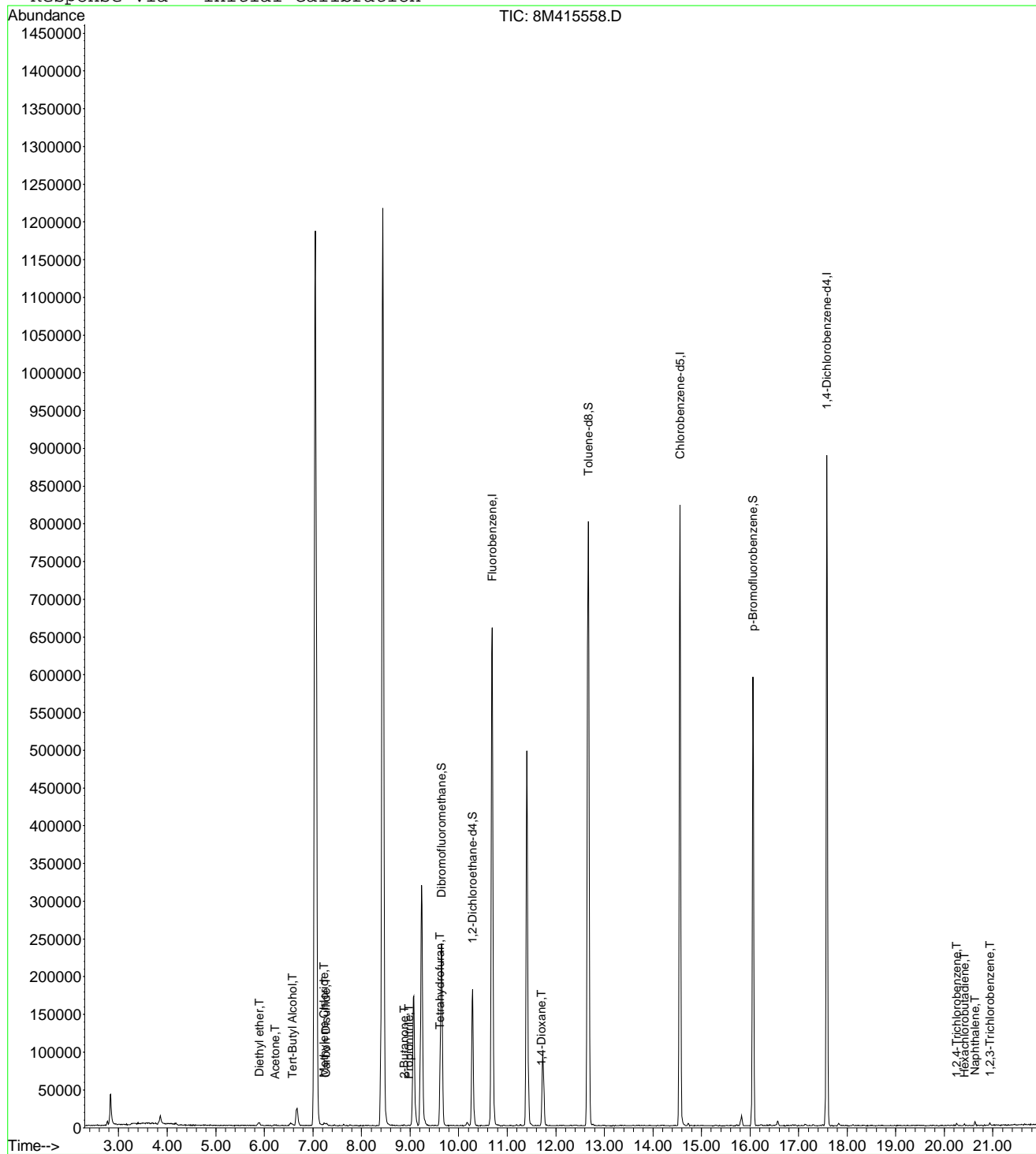
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.69	96	859655	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	602564	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.58	152	295807	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.65	111	202659	24.3096	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	97.24%	
43) 1,2-Dichloroethane-d4	10.29	65	161701	24.2824	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	97.12%	
58) Toluene-d8	12.67	98	738328	27.3580	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	109.44%	
80) p-Bromofluorobenzene	16.06	95	241067	27.8119	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	111.24%	
Target Compounds						
						Qvalue
9) Diethyl ether	5.89	59	4073	1.1163	ug/L	98
13) Acetone	6.23	43	1529	2.1669	ug/L #	50
15) Tert-Butyl Alcohol	6.58	59	5333	24.0992	ug/L #	49
19) Methylene Chloride	7.23	84	2110	0.2374	ug/L	83
20) Carbon Disulfide	7.27	76	4594	0.1679	ug/L #	74
29) 2-Butanone	8.88	43	1320	1.1480	ug/L #	47
30) Propionitrile	8.98	54	1458	6.8402	ug/L #	53
36) Tetrahydrofuran	9.62	42	3194	3.9661	ug/L	86
51) 1,4-Dioxane	11.71	88	211	46.1229	ug/L #	13
98) 1,2,4-Trichlorobenzene	20.26	180	2031	0.1792	ug/L #	82
99) Hexachlorobutadiene	20.41	225	908	0.1452	ug/L #	84
100) Naphthalene	20.63	128	6276	0.4990	ug/L	91
101) 1,2,3-Trichlorobenzene	20.94	180	2401	0.2746	ug/L #	82

(#) = qualifier out of range (m) = manual integration
 8M415558.D 8260WT.M Tue Oct 18 13:58:13 2016

Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\101816\8M415558.D Vial: 3
 Acq On : 18 Oct 2016 9:36 Operator: TMB
 Sample : WG587296-01 100ug/L A9 CCV STD 8260 Inst : HPMS8
 Misc : 1,1 STD78417 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Oct 18 13:58 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\101816\8M415558.D Vial: 3
 Acq On : 18 Oct 2016 9:36 Operator: TMB
 Sample : WG587296-01 100ug/L A9 CCV STD 8260 Inst : HPMS8
 Misc : 1,1 STD78417 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Oct 19 11:05:34 2016 Quant Results File: A9FOOWT.RES

Quant Method : K:\ORGANICS\V...\A9FOOWT.M (RTE Integrator)
 Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
 Last Update : Thu May 19 10:02:03 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.69	96	859655	25.00	ug/L	-0.02
11) Chlorobenzene-d5	14.56	117	602564	25.00	ug/L	-0.02
12) 1,4-Dichlorobenzene-d4	17.58	152	295807	25.00	ug/L	-0.02

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Acetonitrile	6.67	41	34730	104.7081	ug/L	86
3) 3-Chloro-1-propene	7.05	41	1135859	103.9778	ug/L	87
4) 2-Chloro-1,3-butadiene	8.44	53	1045627	75.7012	ug/L	61
5) Ethyl Acetate	9.07	43	293098	89.1065	ug/L	92
6) Methacrylonitrile	9.23	67	161021	89.1656	ug/L #	63
7) Isobutyl Alcohol	9.24	43	20539	186.9419	ug/L #	95
9) Methyl methacrylate	11.41	41	292222	82.3420	ug/L	63
10) 2-Nitropropane	11.74	43	90487	58.9766	ug/L	98
13) Cyclohexanone	15.82	55	6917	57.1722	ug/L #	61

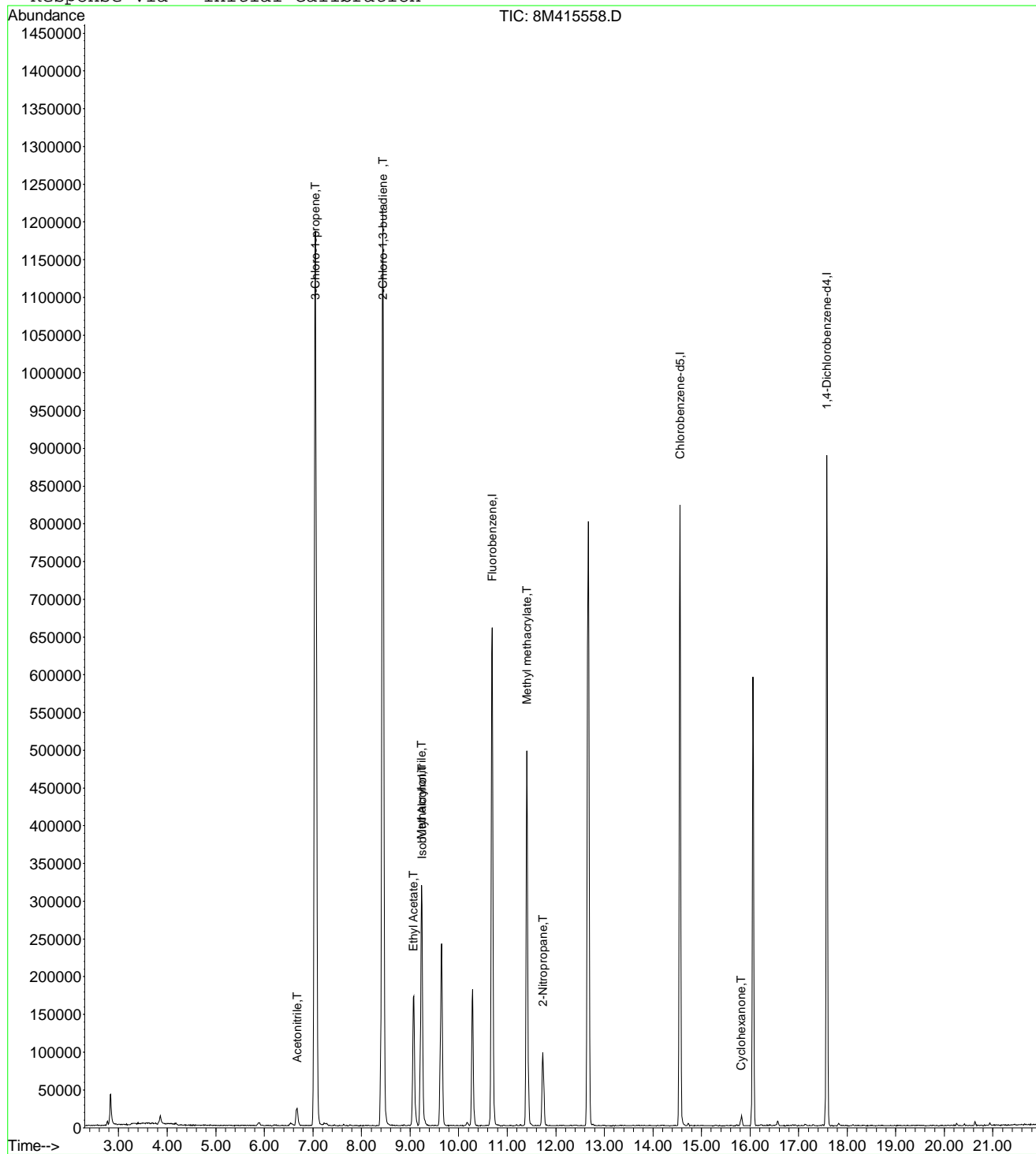
 (#) = qualifier out of range (m) = manual integration
 8M415558.D A9FOOWT.M Wed Oct 19 11:05:36 2016

Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\101816\8M415558.D Vial: 3
 Acq On : 18 Oct 2016 9:36 Operator: TMB
 Sample : WG587296-01 100ug/L A9 CCV STD 8260 Inst : HPMS8
 Misc : 1,1 STD78417 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Oct 19 11:05 2016

Quant Results File: A9FOOWT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWT.M (RTE Integrator)
 Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
 Last Update : Thu May 19 10:02:03 2016
 Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\101816\8M415558.D Vial: 3
 Acq On : 18 Oct 2016 9:36 Operator: TMB
 Sample : WG587296-01 100ug/L A9 CCV STD 8260 Inst : HPMS8
 Misc : 1,1 STD78417 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWT.M (RTE Integrator)
 Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
 Last Update : Thu May 19 10:02:03 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	121	-0.02
2 T	Acetonitrile	100.0000	104.7081	-4.7	127	-0.02
3 T	3-Chloro-1-propene	100.0000	103.9778	-4.0	121	0.00
4 T	2-Chloro-1,3-butadiene	100.0000	75.7012	24.3	88	-0.02
5 T	Ethyl Acetate	100.0000	89.1065	10.9	104	-0.02
6 T	Methacrylonitrile	100.0000	89.1656	10.8	103	-0.02
7 T	Isobutyl Alcohol	200.0000	186.9419	6.5	115	-0.02
8 T	1-Butanol	-1.0000	0.0000	0.0	0	0.00
9 T	Methyl methacrylate	100.0000	82.3420	17.7	98	-0.02
10 T	2-Nitropropane	100.0000	58.9766	41.0	75	-0.02
11 I	Chlorobenzene-d5	25.0000	25.0000	0.0	119	-0.02
12 I	1,4-Dichlorobenzene-d4	25.0000	25.0000	0.0	108	-0.02
13 T	Cyclohexanone	100.0000	57.1722	42.8	61	-0.01

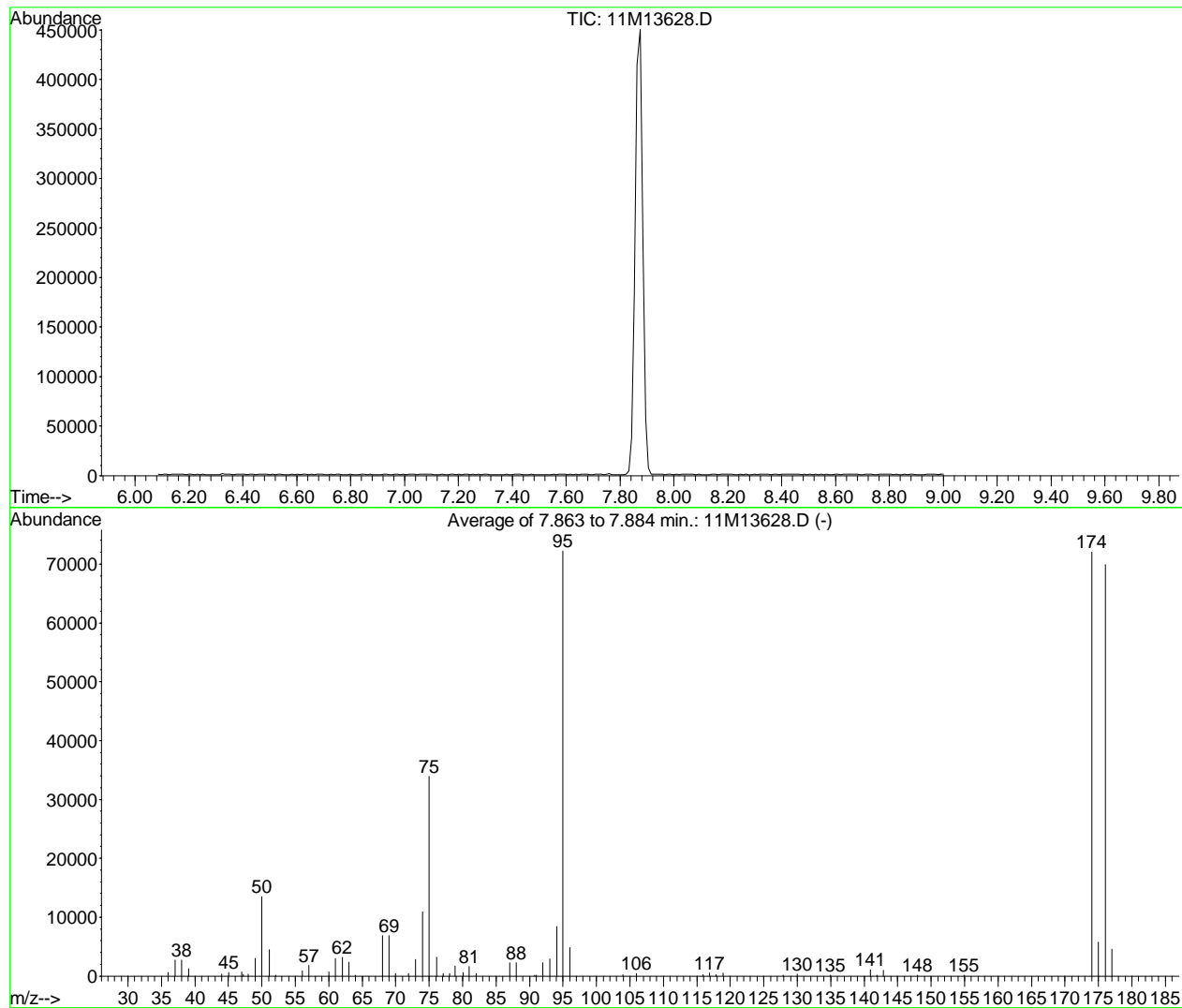
(#) = Out of Range SPCC's out = 0 CCC's out = 0
 8M415558.D A9FOOWT.M Wed Oct 19 11:07:01 2016

Page 1

2.1.1.5 Raw QC Data

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

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

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

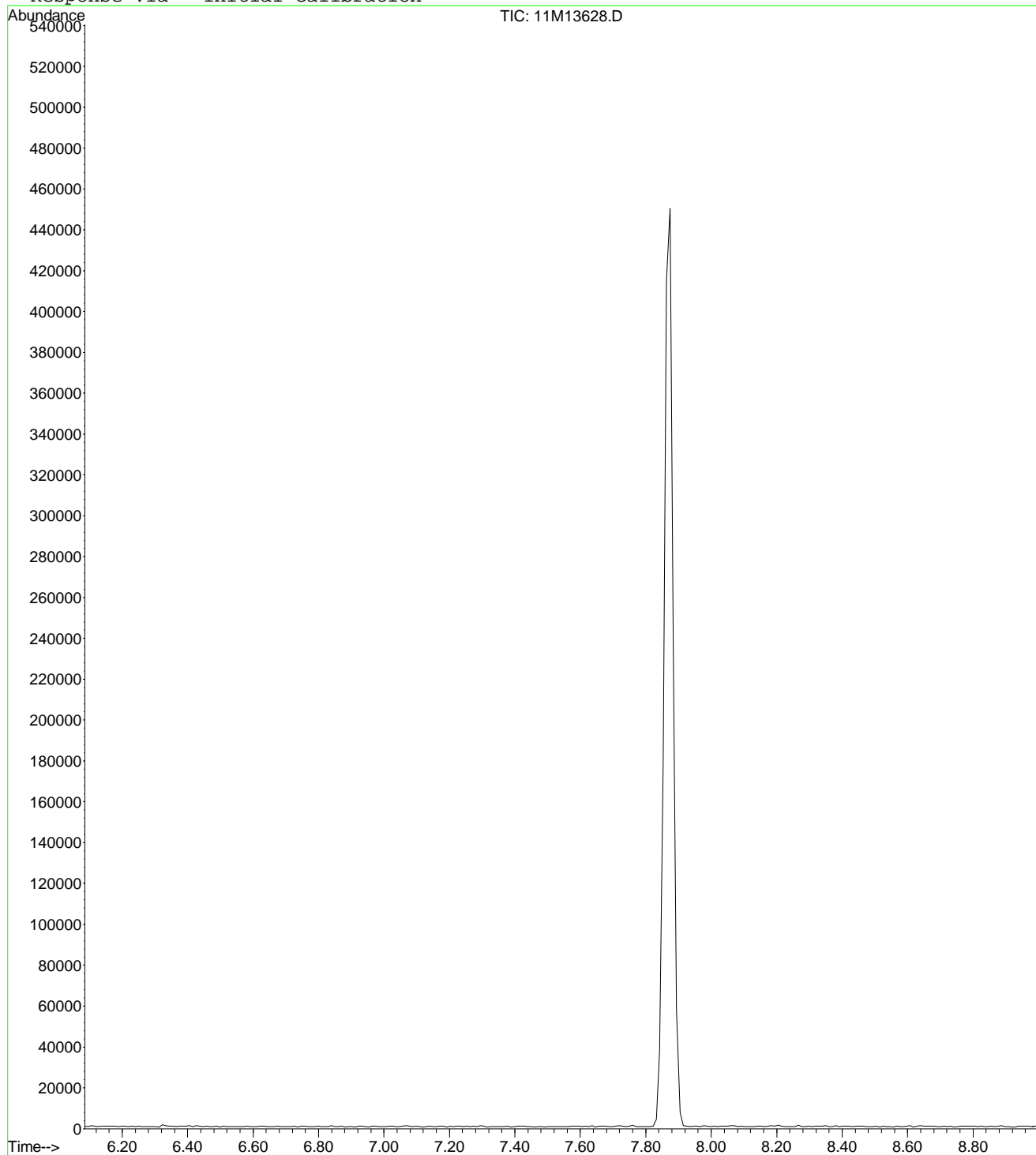
Quant Results File: A9FOOWT.RES

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



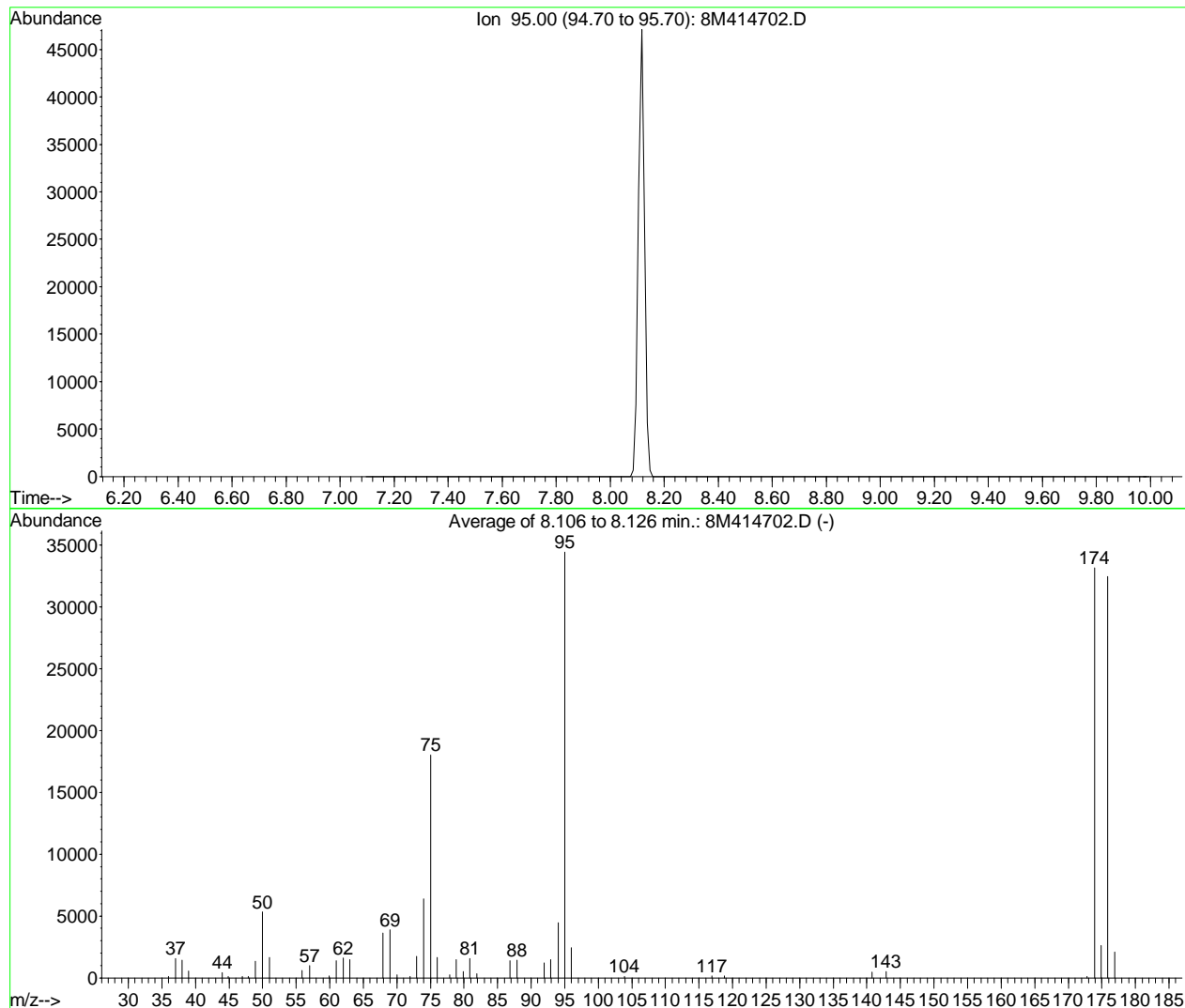
11M13628.D A9FOOWT.M

Tue Aug 16 09:05:18 2016

Page 2

BFB

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\090916\8M414702.D Vial: 1
 Acq On : 9 Sep 2016 12:56 Operator: TMB
 Sample : WG582739-01 50ng BFB STD 8260 Inst : HPMS8
 Misc : 1,1 STD77509 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8



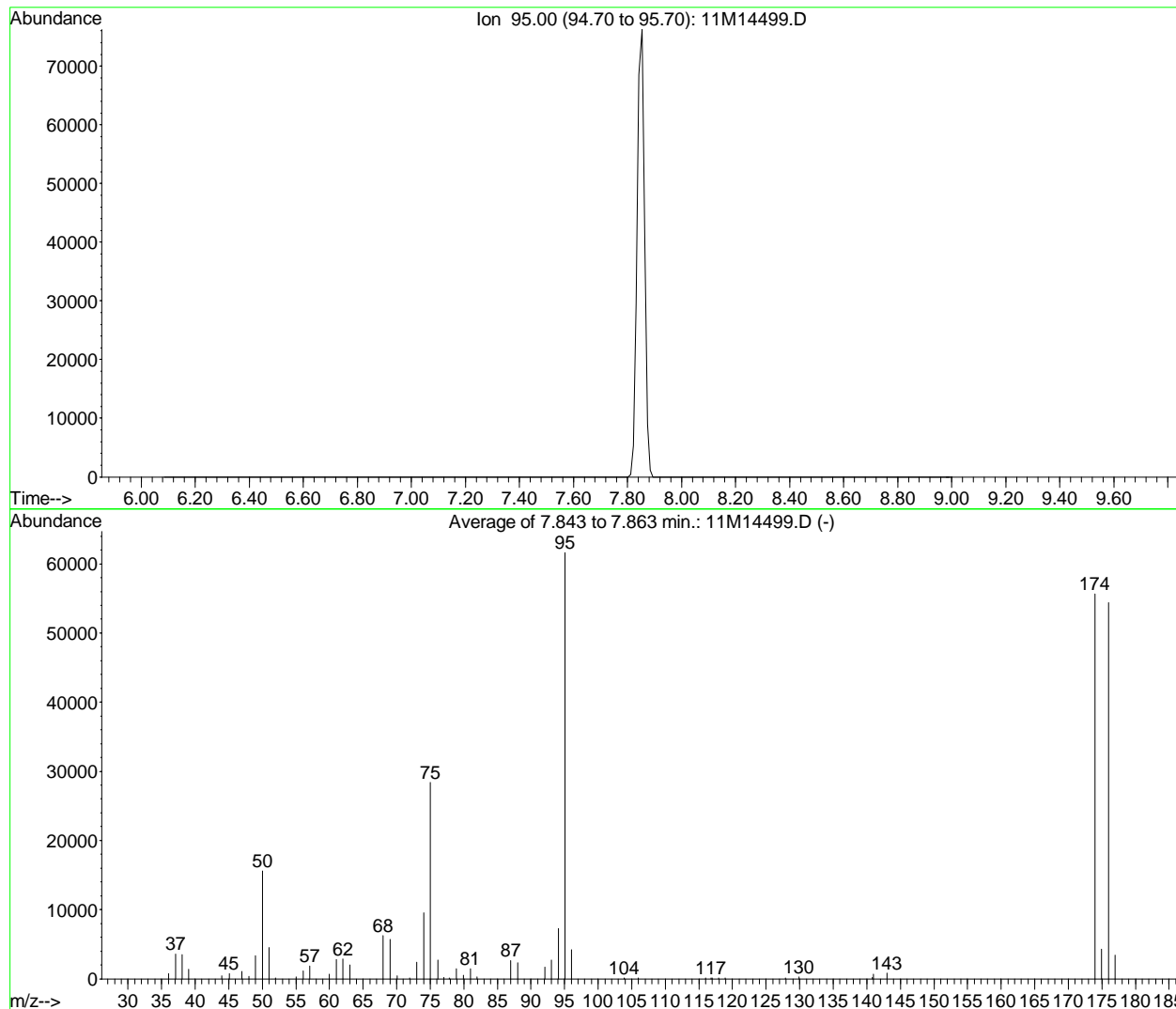
AutoFind: Scans 100, 101, 102; Background Corrected with Scan 95

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	15.4	5318	PASS
75	95	30	60	52.3	18038	PASS
95	95	100	100	100.0	34461	PASS
96	95	5	9	7.1	2433	PASS
173	174	0.00	2	0.3	102	PASS
174	95	50	100	96.3	33189	PASS
175	174	5	9	7.9	2635	PASS
176	174	95	101	97.8	32461	PASS
177	176	5	9	6.5	2101	PASS

8M414702.D 8260WT.M Mon Sep 12 12:18:47 2016

BFB

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



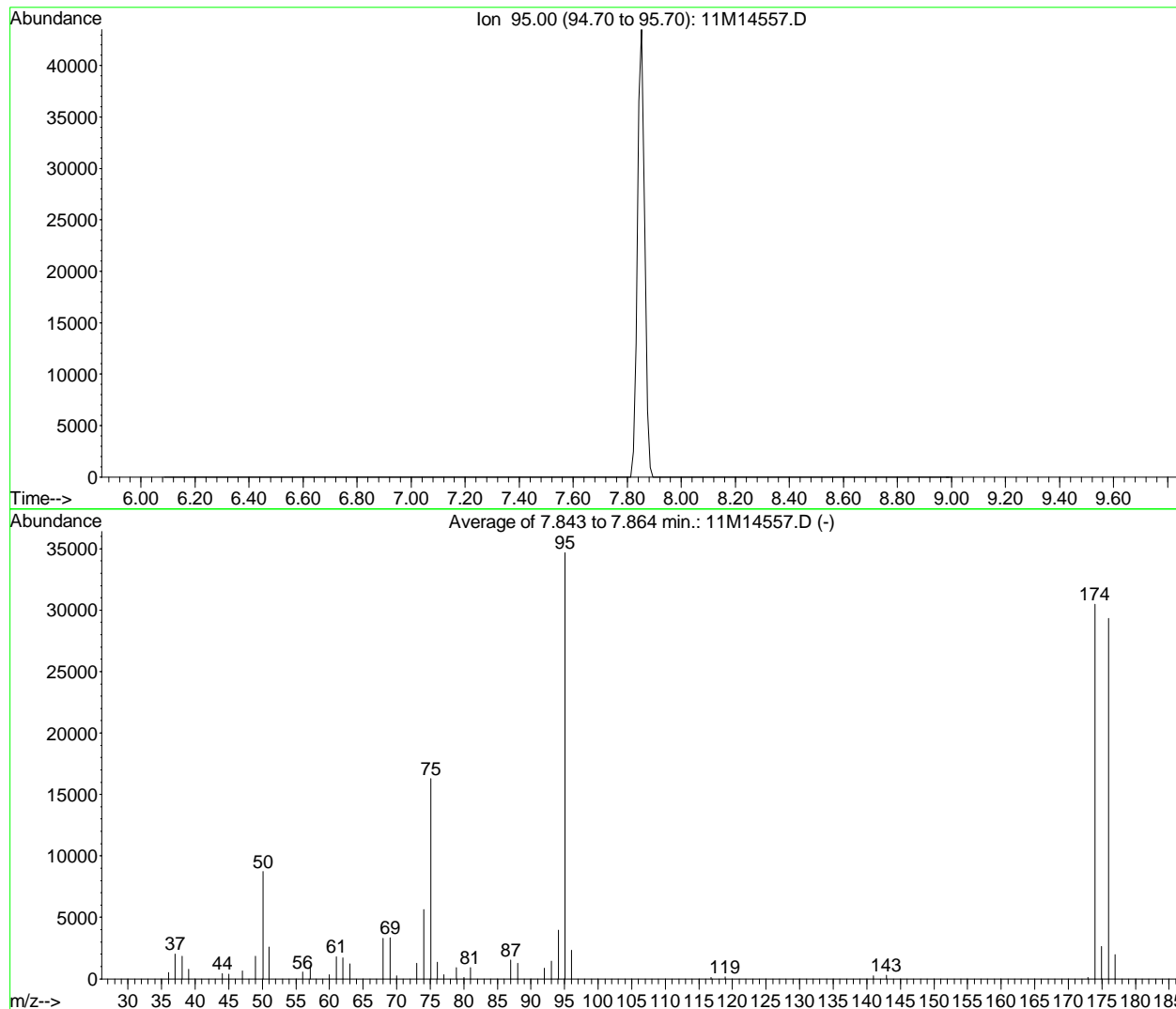
AutoFind: Scans 171, 172, 173; Background Corrected with Scan 165

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

BFB

Data File : C:\MSDCHEM\1\DATA\101716\11M14557.D Vial: 1
 Acq On : 17 Oct 2016 12:08 Operator: FJB
 Sample : WG587866-01 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



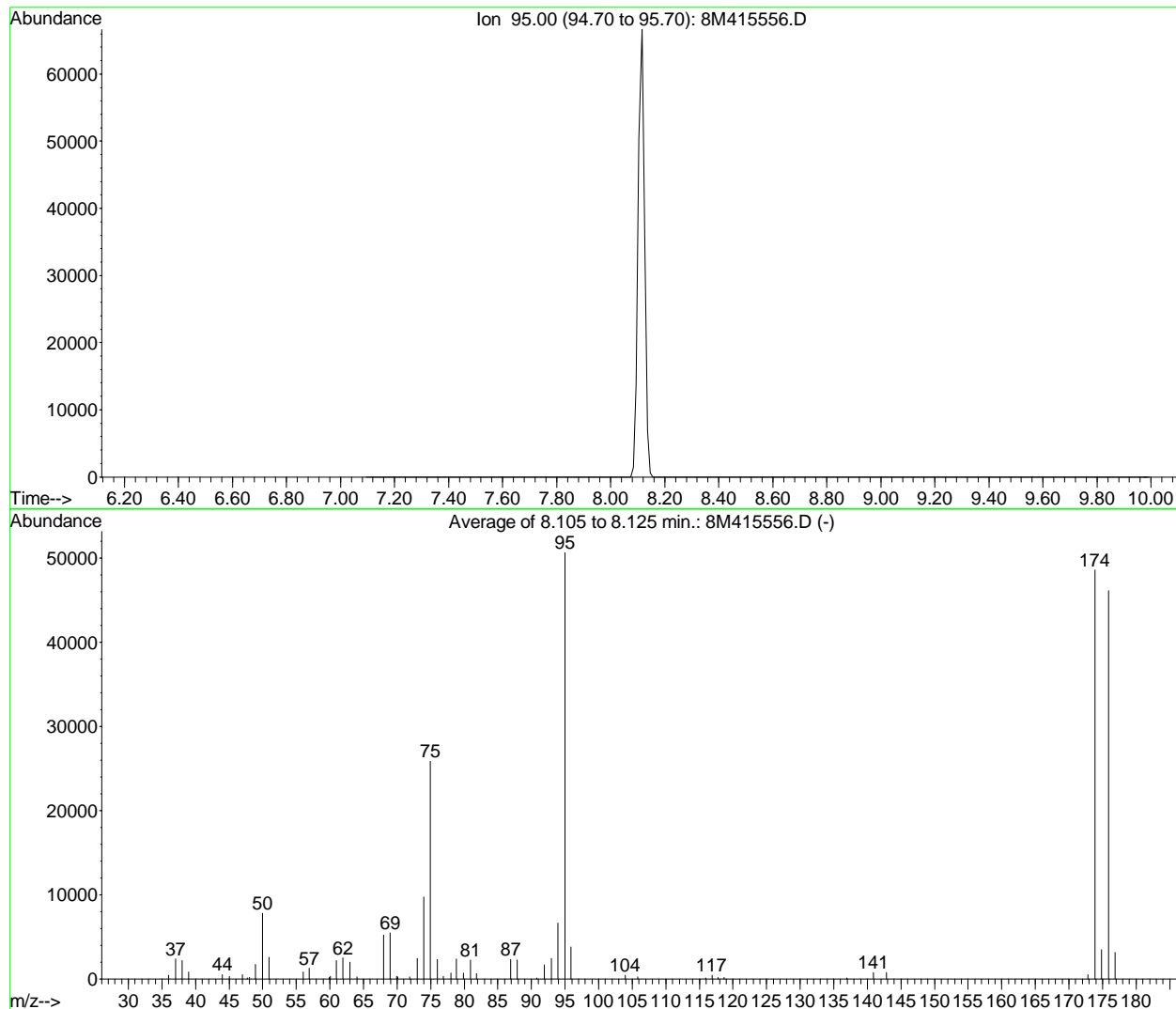
AutoFind: Scans 171, 172, 173; Background Corrected with Scan 166

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	25.2	8728	PASS
75	95	30	60	46.9	16284	PASS
95	95	100	100	100.0	34690	PASS
96	95	5	9	6.7	2331	PASS
173	174	0.00	2	0.3	102	PASS
174	95	50	100	87.9	30490	PASS
175	174	5	9	8.6	2627	PASS
176	174	95	101	96.2	29341	PASS
177	176	5	9	6.8	1987	PASS

11M14557.D 8260WT.M Mon Oct 17 16:00:14 2016

BFB

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\101816\8M415556.D Vial: 1
 Acq On : 18 Oct 2016 8:43 Operator: TMB
 Sample : WG587981-01 50ng BFB STD 8260 Inst : HPMS8
 Misc : 1,1 STD78474 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8



AutoFind: Scans 100, 101, 102; Background Corrected with Scan 95

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	15.4	7792	PASS
75	95	30	60	51.0	25812	PASS
95	95	100	100	100.0	50634	PASS
96	95	5	9	7.5	3802	PASS
173	174	0.00	2	1.0	487	PASS
174	95	50	100	95.9	48541	PASS
175	174	5	9	7.2	3479	PASS
176	174	95	101	95.0	46120	PASS
177	176	5	9	6.8	3141	PASS

8M415556.D 8260WT.M Tue Oct 18 09:47:05 2016

Data File : C:\MSDCHEM\1\DATA\101716\11M14561.D Vial: 3
 Acq On : 17 Oct 2016 14:07 Operator: FJB
 Sample : WG587867-01 BLANK 8260 Inst : hpms11
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Oct 18 14:46:31 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	726651	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.20	117	544201	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.02	152	267000	25.00	ug/L	0.01
System Monitoring Compounds						
37) Dibromofluoromethane	9.57	111	205237	23.4800	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	93.92%	
43) 1,2-Dichloroethane-d4	10.18	65	219326	22.3496	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	89.40%	
57) Toluene-d8	12.43	98	719549	24.9506	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	99.80%	
78) p-Bromofluorobenzene	15.59	95	269814	25.2589	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	101.04%	
Target Compounds						
						Qvalue
13) Acetone	6.28	43	1123	0.3983	ug/L	# 50
20) Carbon Disulfide	7.31	76	4671	0.1879	ug/L	# 87
36) Tetrahydrofuran	9.54	42	6794	Below Cal		93
46) Trichloroethene	11.04	130	1166	0.1224	ug/L	96
84) 2-Chlorotoluene	16.05	91	4622	0.1839	ug/L	# 70
85) 4-Chlorotoluene	16.05	91	4810	0.1879	ug/L	# 67
92) 1,4-Dichlorobenzene	17.05	146	2638	0.1371	ug/L	# 1
93) n-Butylbenzene	17.23	91	5411	0.1837	ug/L	# 86
96) 1,2,4-Trichlorobenzene	19.50	180	3344	0.2515	ug/L	91
97) Hexachlorobutadiene	19.65	225	1095	0.2104	ug/L	# 50
98) Naphthalene	19.85	128	3598	0.1301	ug/L	# 67
99) 1,2,3-Trichlorobenzene	20.13	180	2118	0.1651	ug/L	83

(#) = qualifier out of range (m) = manual integration
 11M14561.D 8260WT.M Tue Oct 18 14:46:32 2016

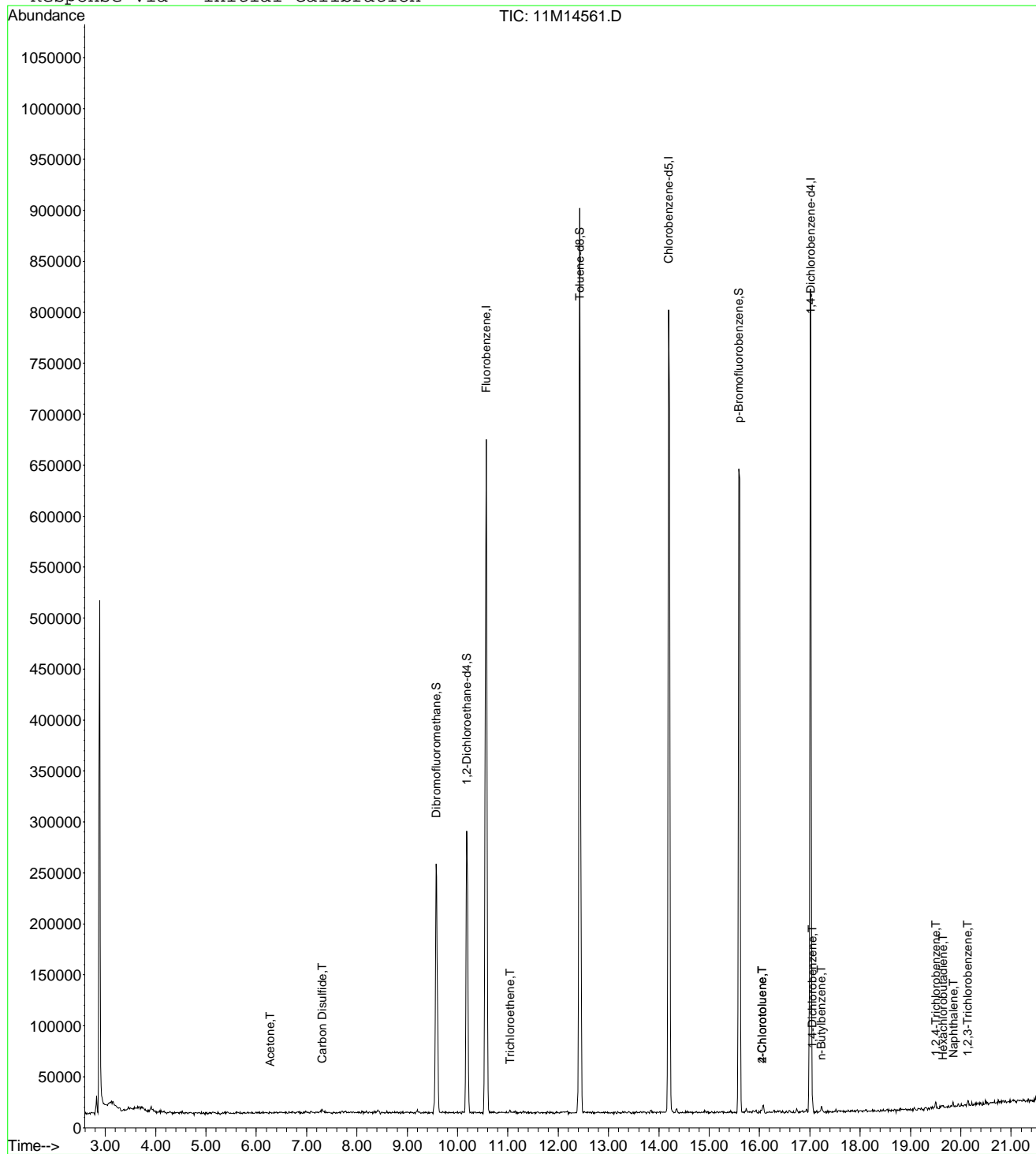
Page 1

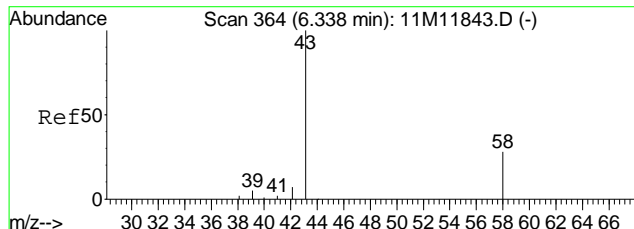
Data File : C:\MSDCHEM\1\DATA\101716\11M14561.D
 Acq On : 17 Oct 2016 14:07
 Sample : WG587867-01 BLANK 8260
 Misc : 1,1
 MS Integration Params: rteint.p
 Quant Time: Oct 18 14:46 2016

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

Quant Results File: 8260WT.RES

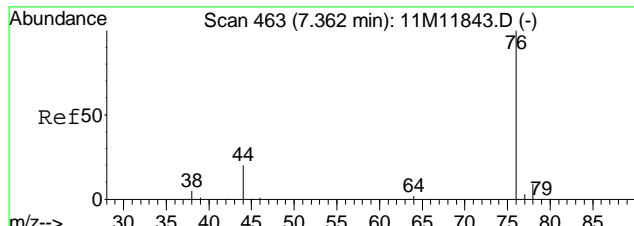
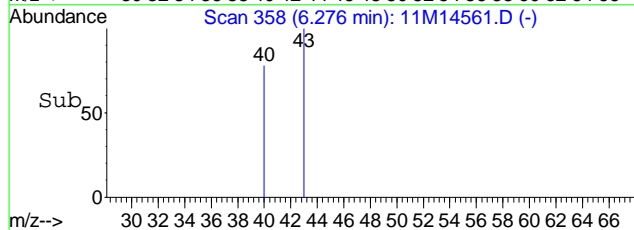
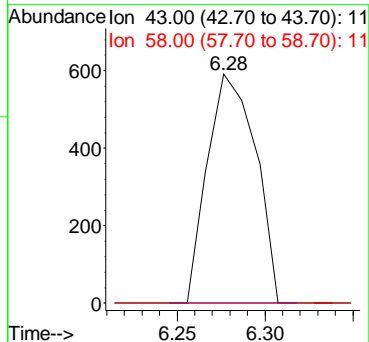
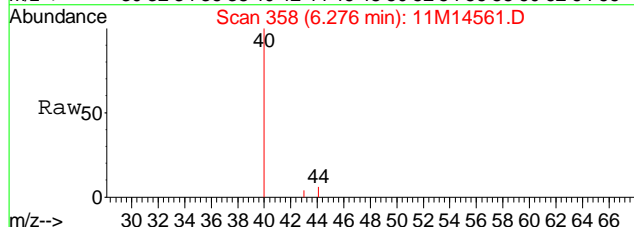
Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
 Last Update : Fri Oct 14 09:20:10 2016
 Response via : Initial Calibration





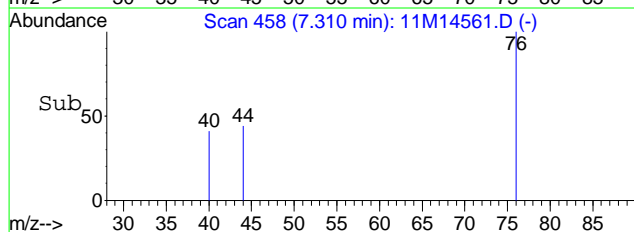
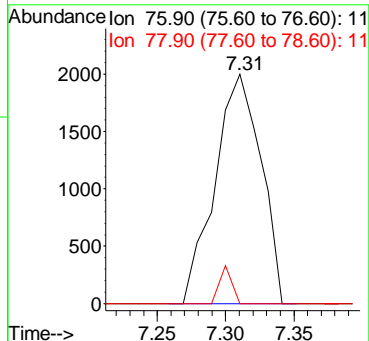
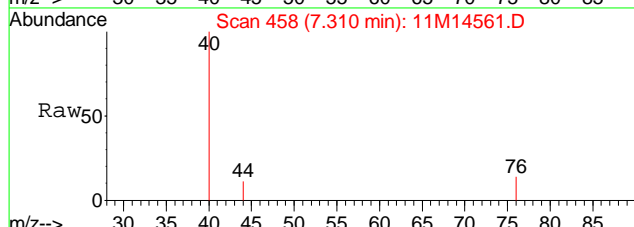
#13
 Acetone
 Concen: 0.40 ug/L
 RT: 6.28 min Scan# 358
 Delta R.T. 0.00 min
 Lab File: 11M14561.D
 Acq: 17 Oct 2016 14:07

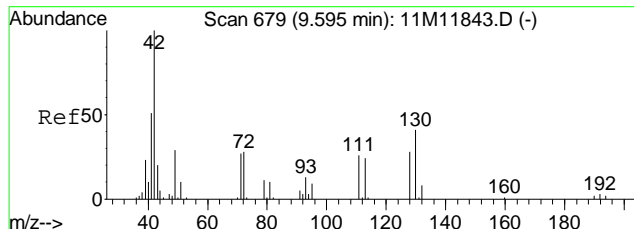
Tgt Ion	Ratio	Lower	Upper
43	100		
58	0.0	15.1	35.1#



#20
 Carbon Disulfide
 Concen: 0.19 ug/L
 RT: 7.31 min Scan# 458
 Delta R.T. 0.00 min
 Lab File: 11M14561.D
 Acq: 17 Oct 2016 14:07

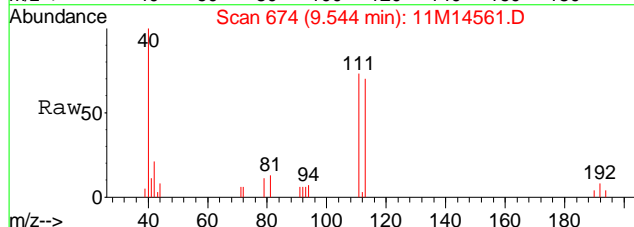
Tgt Ion	Ratio	Lower	Upper
76	100		
78	4.4	5.6	13.0#



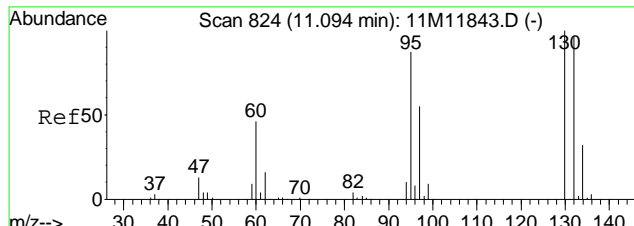
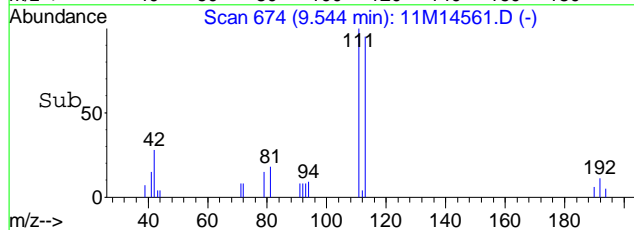
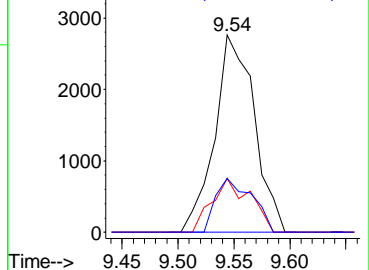


#36
 Tetrahydrofuran
 Concen: Below Cal
 RT: 9.54 min Scan# 674
 Delta R.T. 0.00 min
 Lab File: 11M14561.D
 Acq: 17 Oct 2016 14:07

Tgt Ion	Ratio	Lower	Upper
42	100		
71	26.4	12.8	30.0
72	25.2	14.0	32.6

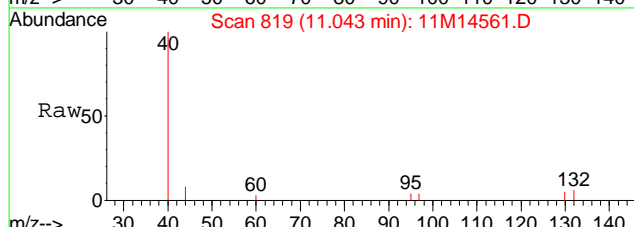


Abundance Ion 42.00 (41.70 to 42.70): 11
 Ion 71.00 (70.70 to 71.70): 11
 Ion 72.00 (71.70 to 72.70): 11

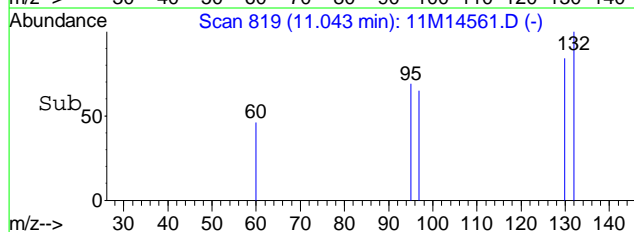
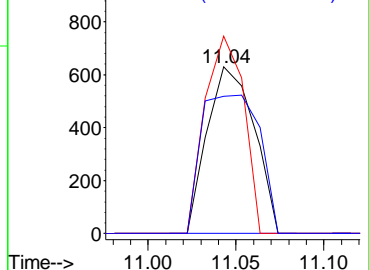


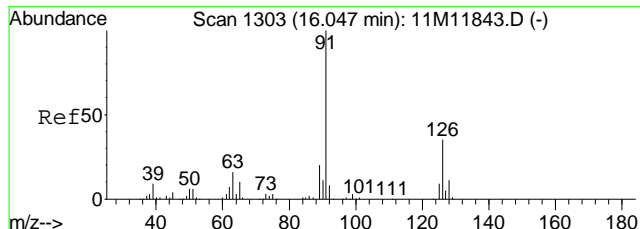
#46
 Trichloroethene
 Concen: 0.12 ug/L
 RT: 11.04 min Scan# 819
 Delta R.T. 0.00 min
 Lab File: 11M14561.D
 Acq: 17 Oct 2016 14:07

Tgt Ion	Ratio	Lower	Upper
130	100		
132	98.3	58.4	136.4
95	103.4	58.0	135.4



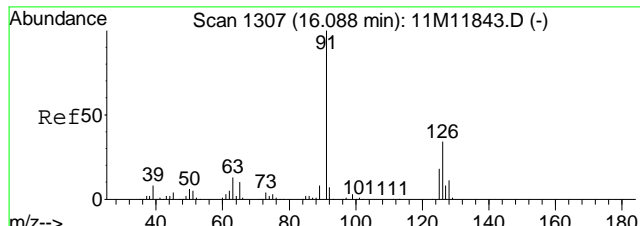
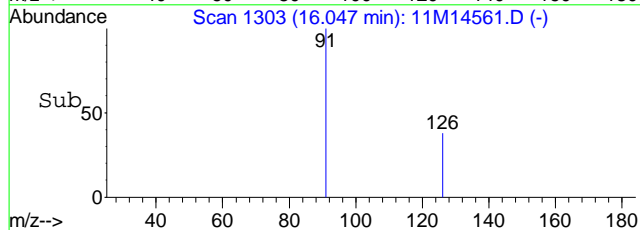
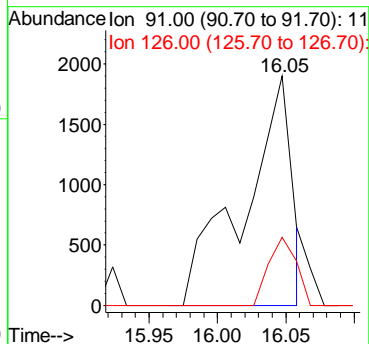
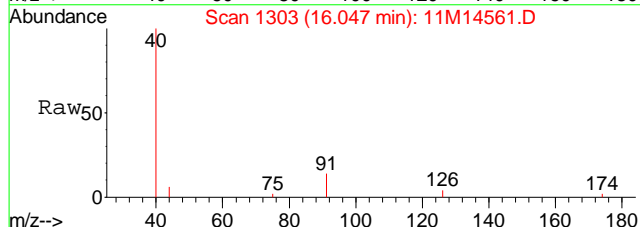
Abundance Ion 129.90 (129.60 to 130.60): 11
 Ion 131.90 (131.60 to 132.60): 11
 Ion 94.90 (94.60 to 95.60): 11





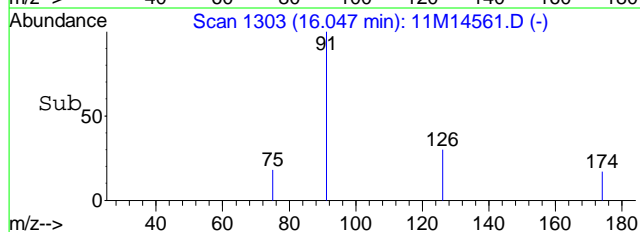
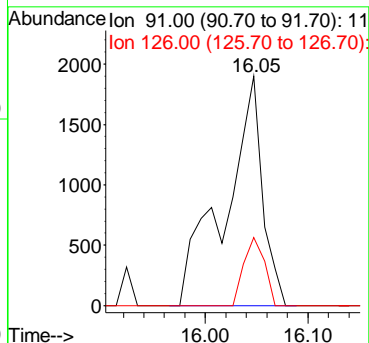
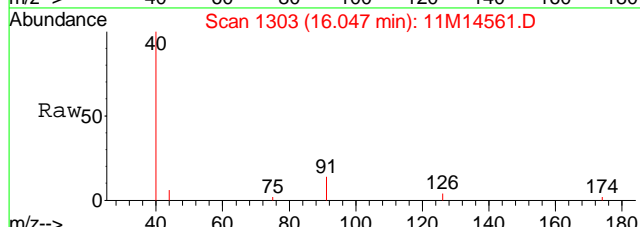
#84
 2-Chlorotoluene
 Concen: 0.18 ug/L
 RT: 16.05 min Scan# 1303
 Delta R.T. 0.05 min
 Lab File: 11M14561.D
 Acq: 17 Oct 2016 14:07

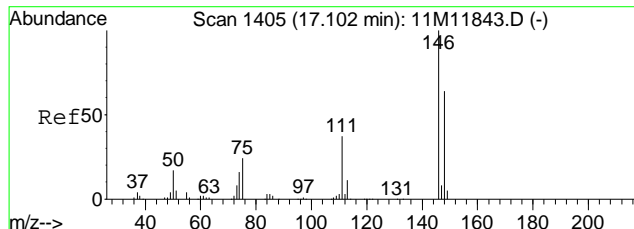
Tgt Ion: 91 Resp: 4622
 Ion Ratio Lower Upper
 91 100
 126 17.1 20.4 47.6#



#85
 4-Chlorotoluene
 Concen: 0.19 ug/L
 RT: 16.05 min Scan# 1303
 Delta R.T. 0.01 min
 Lab File: 11M14561.D
 Acq: 17 Oct 2016 14:07

Tgt Ion: 91 Resp: 4810
 Ion Ratio Lower Upper
 91 100
 126 16.4 21.5 50.1#

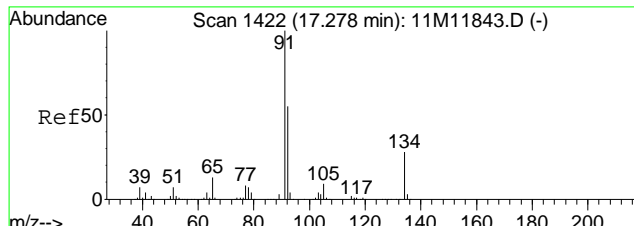
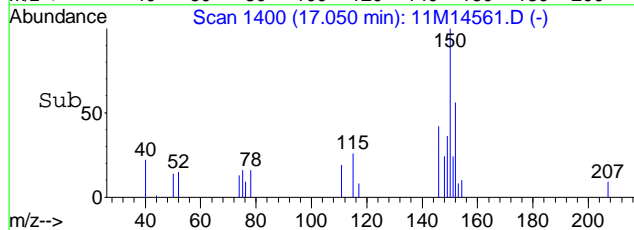
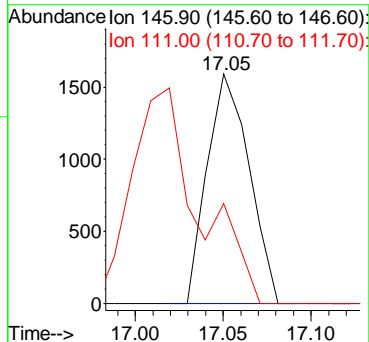
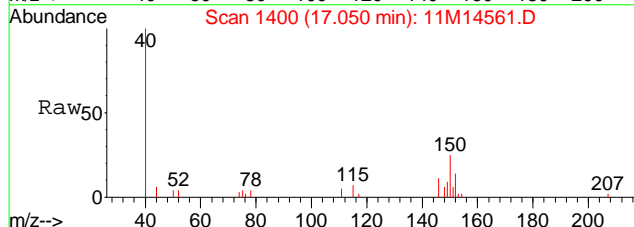




#92
 1,4-Dichlorobenzene
 Concen: 0.14 ug/L
 RT: 17.05 min Scan# 1400
 Delta R.T. 0.00 min
 Lab File: 11M14561.D
 Acq: 17 Oct 2016 14:07

Tgt Ion: 146 Resp: 2638

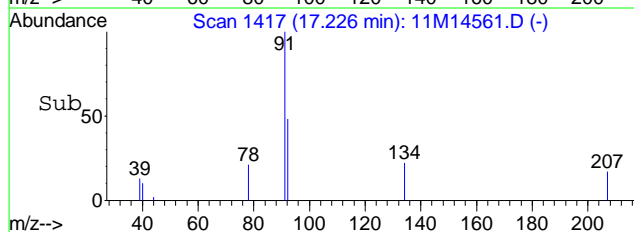
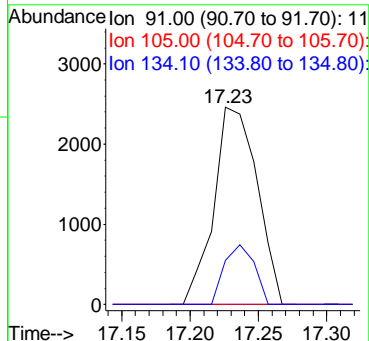
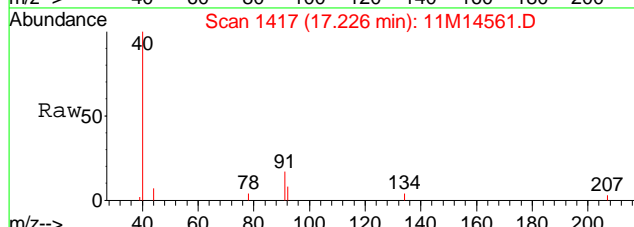
Ion	Ratio	Lower	Upper
146	100		
111	148.9	23.3	54.5#

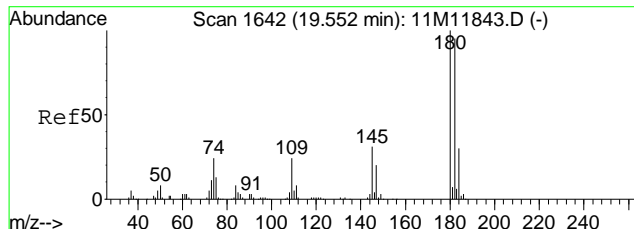


#93
 n-Butylbenzene
 Concen: 0.18 ug/L
 RT: 17.23 min Scan# 1417
 Delta R.T. 0.00 min
 Lab File: 11M14561.D
 Acq: 17 Oct 2016 14:07

Tgt Ion: 91 Resp: 5411

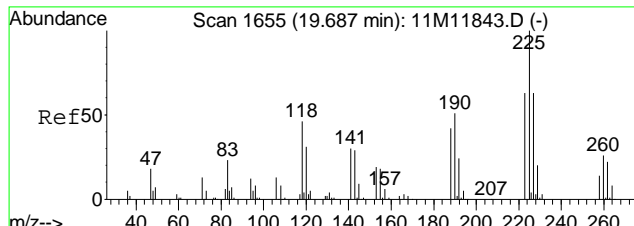
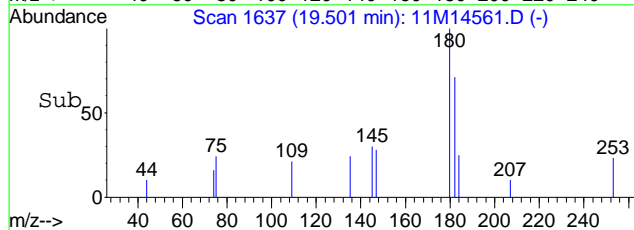
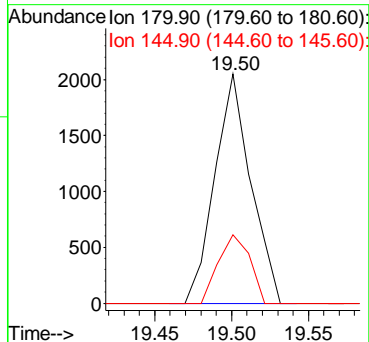
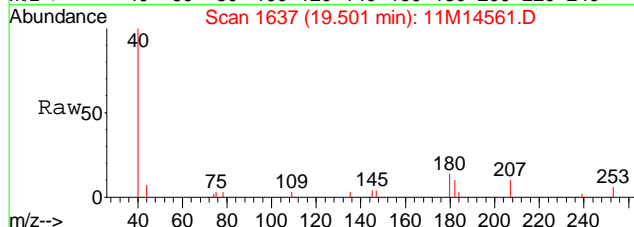
Ion	Ratio	Lower	Upper
91	100		
105	0.0	5.2	12.2#
134	21.0	16.0	37.4





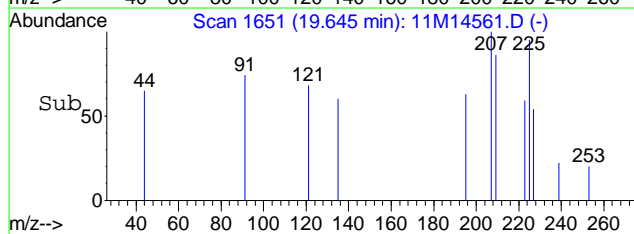
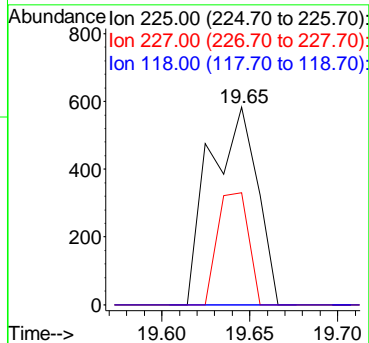
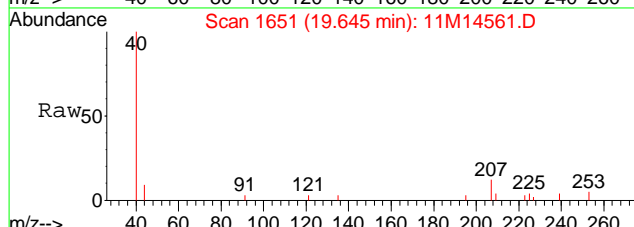
#96
 1,2,4-Trichlorobenzene
 Concen: 0.25 ug/L
 RT: 19.50 min Scan# 1637
 Delta R.T. 0.00 min
 Lab File: 11M14561.D
 Acq: 17 Oct 2016 14:07

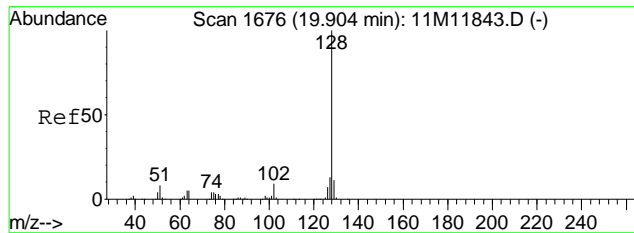
Tgt Ion	Ratio	Lower	Upper
180	100		
145	26.1	18.5	43.3



#97
 Hexachlorobutadiene
 Concen: 0.21 ug/L
 RT: 19.65 min Scan# 1651
 Delta R.T. 0.01 min
 Lab File: 11M14561.D
 Acq: 17 Oct 2016 14:07

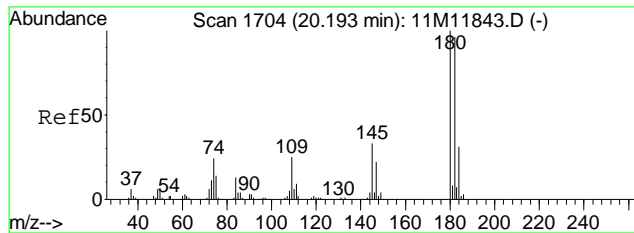
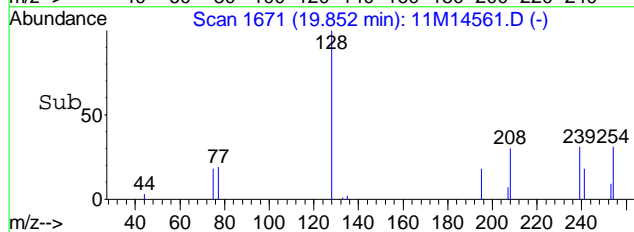
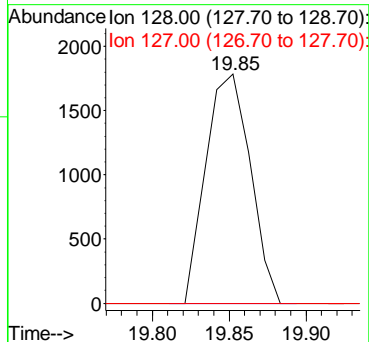
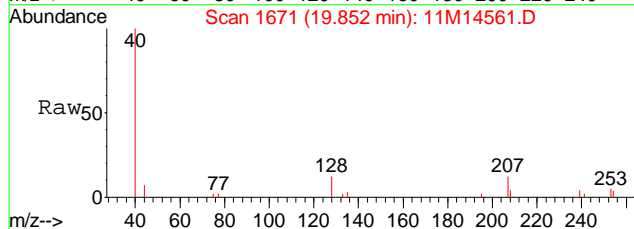
Tgt Ion	Ratio	Lower	Upper
225	100		
227	37.0	38.3	89.3#
118	0.0	28.2	65.8#





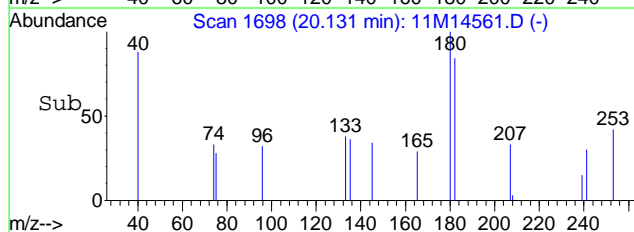
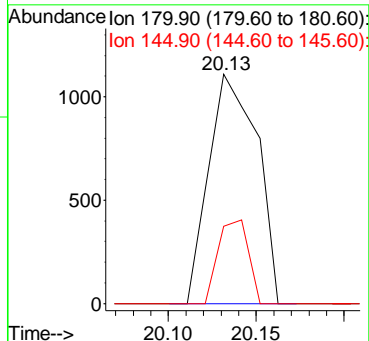
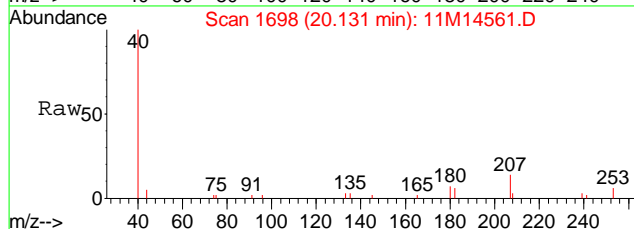
#98
 Naphthalene
 Concen: 0.13 ug/L
 RT: 19.85 min Scan# 1671
 Delta R.T. 0.00 min
 Lab File: 11M14561.D
 Acq: 17 Oct 2016 14:07

Tgt Ion	Ratio	Lower	Upper
128	100		
127	0.0	11.6	14.2#



#99
 1,2,3-Trichlorobenzene
 Concen: 0.17 ug/L
 RT: 20.13 min Scan# 1698
 Delta R.T. -0.01 min
 Lab File: 11M14561.D
 Acq: 17 Oct 2016 14:07

Tgt Ion	Ratio	Lower	Upper
180	100		
145	22.8	19.5	45.5



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\101816\8M415559.D Vial: 4
 Acq On : 18 Oct 2016 10:04 Operator: TMB
 Sample : WG587982-01 VBLK1018 BLANK STD 8260 Inst : HPMS8
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Oct 19 10:01:48 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

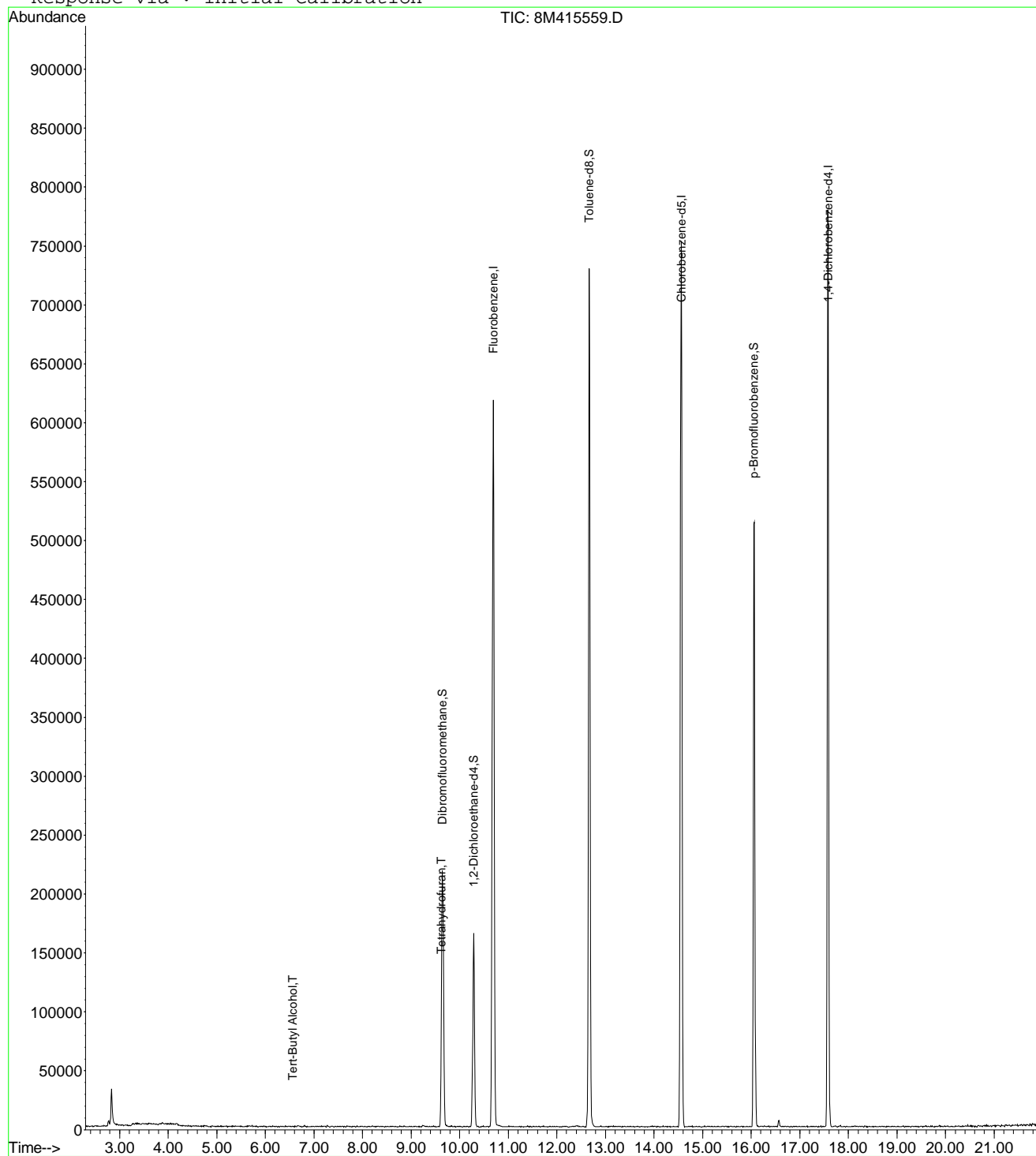
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.69	96	779260	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	550658	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.59	152	273401	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.65	111	181841	24.0627	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	96.24%	
43) 1,2-Dichloroethane-d4	10.29	65	147939	24.5078	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	98.04%	
58) Toluene-d8	12.66	98	684427	27.7513	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	111.00%#	
80) p-Bromofluorobenzene	16.06	95	221720	27.6762	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	110.72%	
Target Compounds						
15) Tert-Butyl Alcohol	6.56	59	266	1.3260	ug/L #	62
36) Tetrahydrofuran	9.62	42	1792	2.4547	ug/L #	72

(#) = qualifier out of range (m) = manual integration
 8M415559.D 8260WT.M Wed Oct 19 10:01:50 2016

Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\101816\8M415559.D Vial: 4
Acq On : 18 Oct 2016 10:04 Operator: TMB
Sample : WG587982-01 VBLK1018 BLANK STD 8260 Inst : HPMS8
Misc : 1,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 19 10:01 2016 Quant Results File: 8260WT.RES

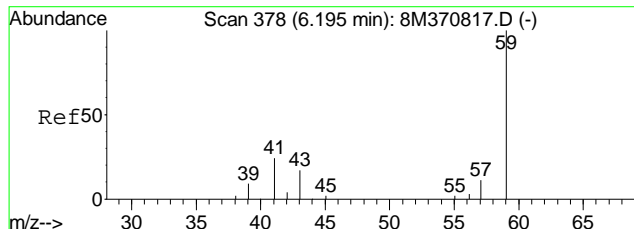
Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
Last Update : Mon Sep 12 12:00:33 2016
Response via : Initial Calibration



8M415559.D 8260WT.M

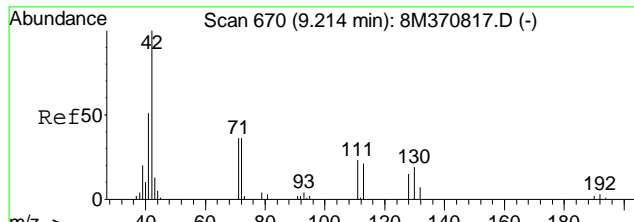
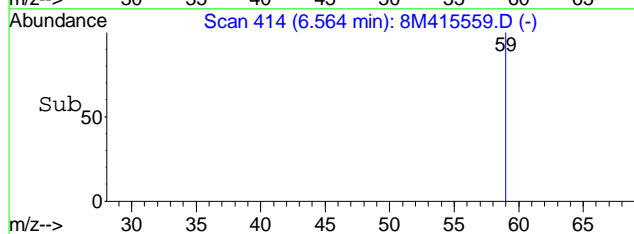
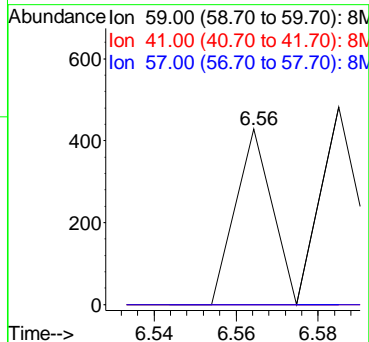
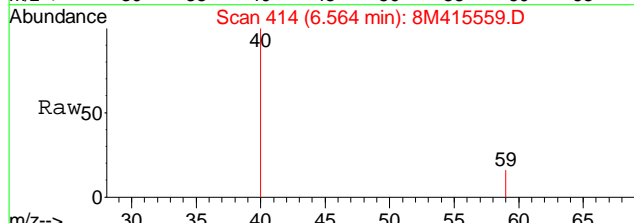
Wed Oct 19 10:01:51 2016

Page 2



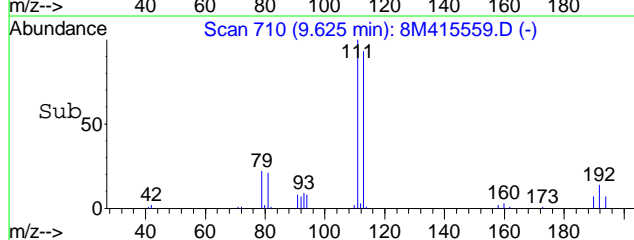
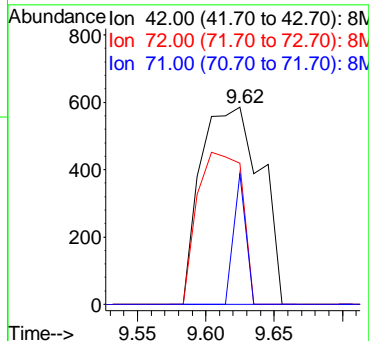
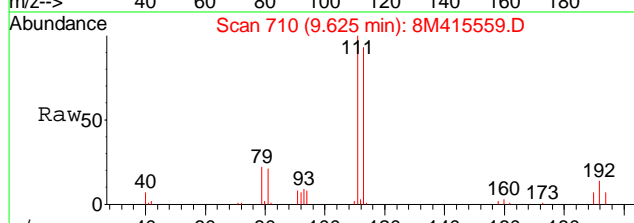
#15
 Tert-Butyl Alcohol
 Concen: 1.33 ug/L
 RT: 6.56 min Scan# 414
 Delta R.T. -0.01 min
 Lab File: 8M415559.D
 Acq: 18 Oct 2016 10:04

Tgt Ion	Resp	Lower	Upper
59	100		
41	0.0	12.0	28.0#
57	0.0	6.2	14.4#



#36
 Tetrahydrofuran
 Concen: 2.45 ug/L
 RT: 9.62 min Scan# 710
 Delta R.T. 0.01 min
 Lab File: 8M415559.D
 Acq: 18 Oct 2016 10:04

Tgt Ion	Resp	Lower	Upper
42	100		
72	56.6	33.8	78.8
71	13.4	32.0	74.8#



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\101816\8M415559.D Vial: 4
 Acq On : 18 Oct 2016 10:04 Operator: TMB
 Sample : WG587982-01 VBLK1018 BLANK STD 8260 Inst : HPMS8
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Oct 19 11:06:47 2016 Quant Results File: A9FOOWT.RES

Quant Method : K:\ORGANICS\V...\A9FOOWT.M (RTE Integrator)
 Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
 Last Update : Thu May 19 10:02:03 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

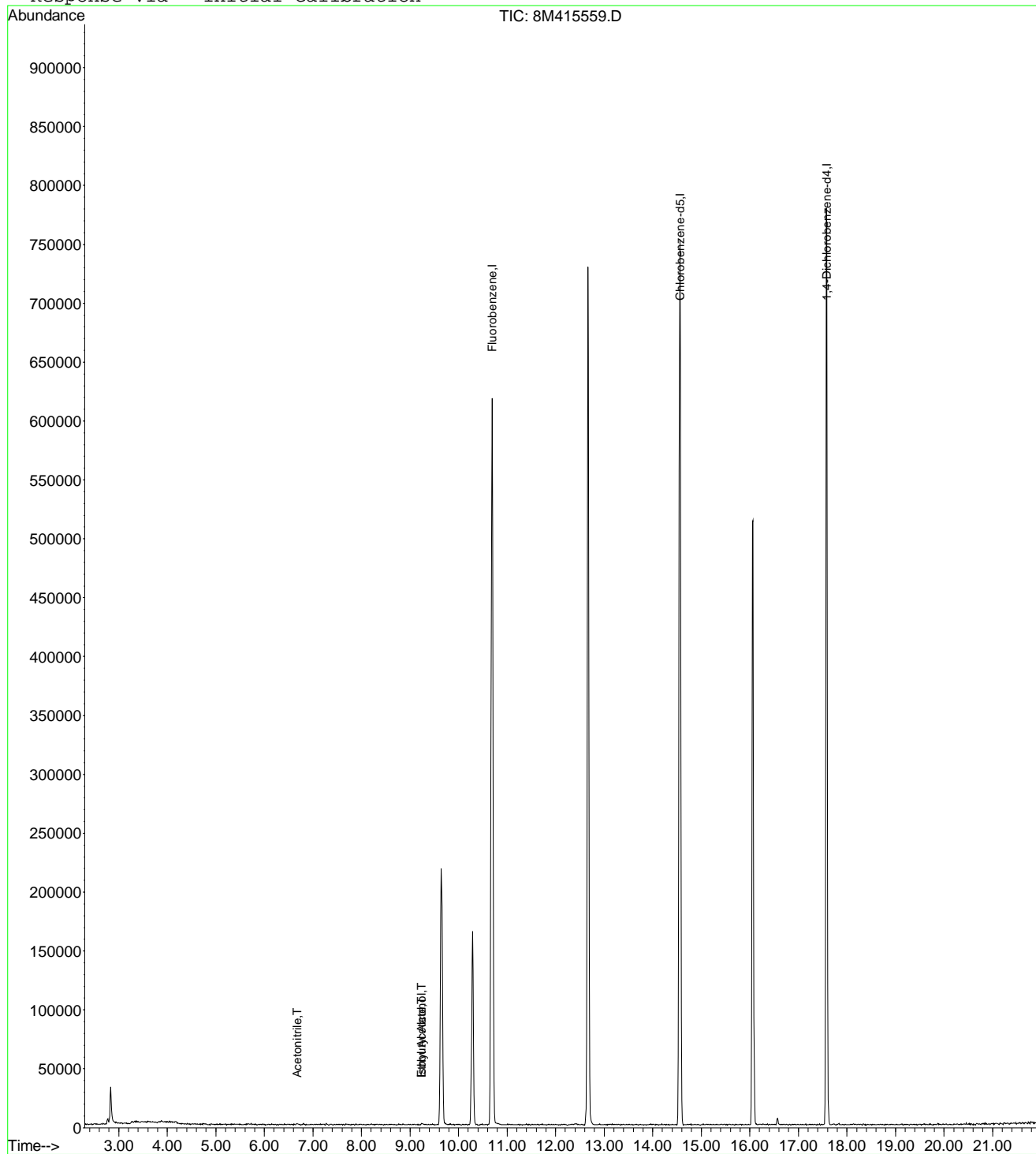
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.69	96	779260	25.00	ug/L	-0.02
11) Chlorobenzene-d5	14.56	117	550658	25.00	ug/L	-0.02
12) 1,4-Dichlorobenzene-d4	17.59	152	273401	25.00	ug/L	-0.02
Target Compounds						Qvalue
2) Acetonitrile	6.68	41	987	3.2827	ug/L #	23
5) Ethyl Acetate	9.24	43	697	0.2338	ug/L #	67
7) Isobutyl Alcohol	9.24	43	697	6.9984	ug/L #	8

 (#) = qualifier out of range (m) = manual integration
 8M415559.D A9FOOWT.M Wed Oct 19 11:06:48 2016

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Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\101816\8M415559.D Vial: 4
 Acq On : 18 Oct 2016 10:04 Operator: TMB
 Sample : WG587982-01 VBLK1018 BLANK STD 8260 Inst : HPMS8
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Oct 19 11:06 2016 Quant Results File: A9FOOWT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWT.M (RTE Integrator)
 Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
 Last Update : Thu May 19 10:02:03 2016
 Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\101816\8M415559.D Vial: 4
 Acq On : 18 Oct 2016 10:04 Operator: TMB
 Sample : WG587982-01 VBLK1018 BLANK STD 8260 Inst : HPMS8
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Oct 19 11:07:20 2016 Quant Results File: A9FOOWT.RES

Quant Method : K:\ORGANICS\V...\A9FOOWT.M (RTE Integrator)
 Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
 Last Update : Thu May 19 10:02:03 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

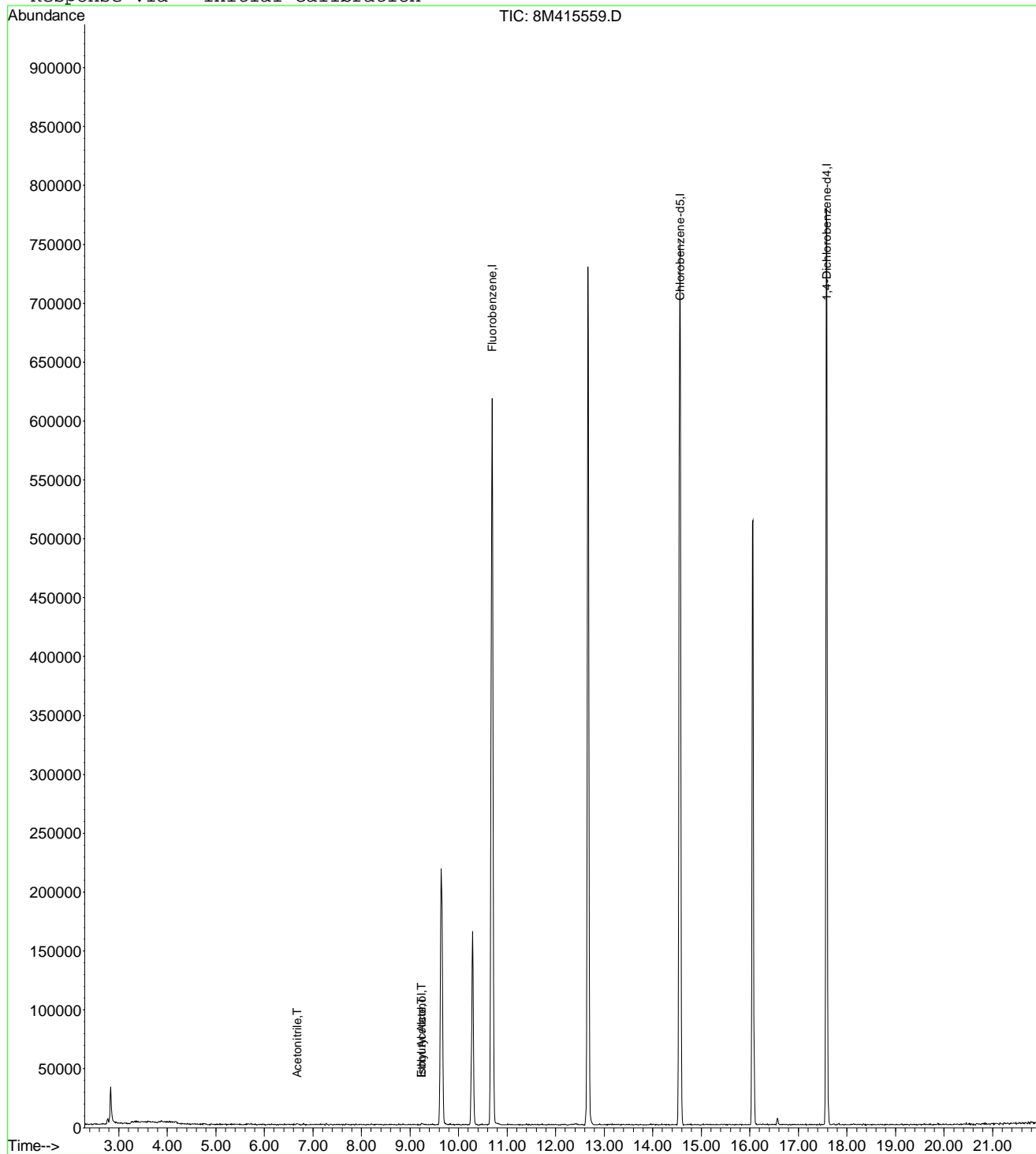
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.69	96	779260	25.00	ug/L	-0.02
11) Chlorobenzene-d5	14.56	117	550658	25.00	ug/L	-0.02
12) 1,4-Dichlorobenzene-d4	17.59	152	273401	25.00	ug/L	-0.02
Target Compounds						Qvalue
2) Acetonitrile	6.68	41	987	3.2827	ug/L #	23
5) Ethyl Acetate	9.24	43	697	0.2338	ug/L #	67
7) Isobutyl Alcohol	9.24	43	697	6.9984	ug/L #	8

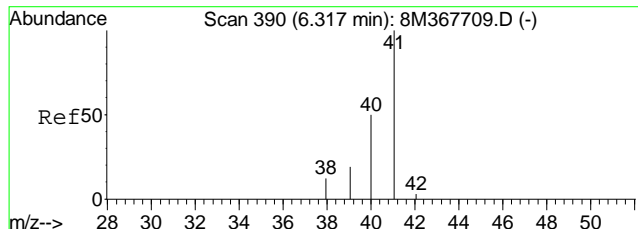
 (#) = qualifier out of range (m) = manual integration
 8M415559.D A9FOOWT.M Wed Oct 19 11:07:21 2016

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Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\101816\8M415559.D Vial: 4
 Acq On : 18 Oct 2016 10:04 Operator: TMB
 Sample : WG587982-01 VBLK1018 BLANK STD 8260 Inst : HPMS8
 Misc : 1,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Oct 19 11:07 2016 Quant Results File: A9FOOWT.RES

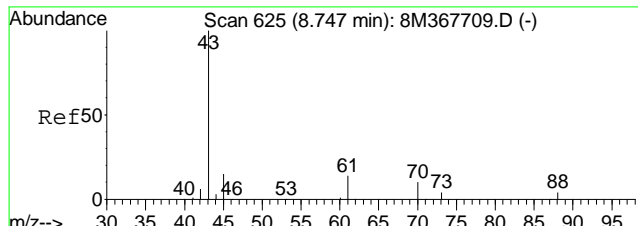
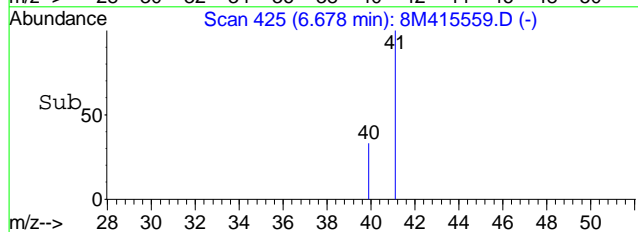
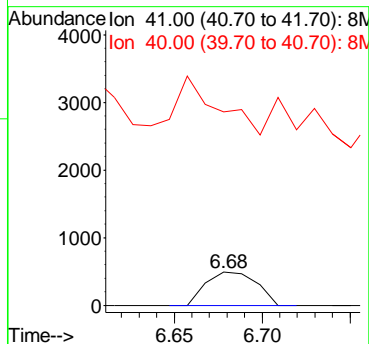
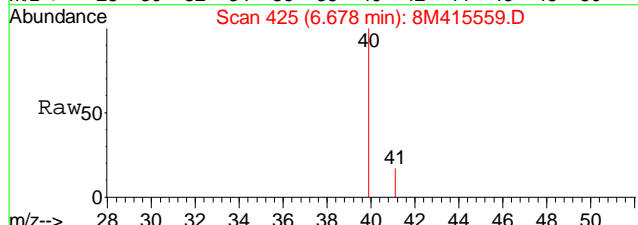
Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\A9FOOWT.M (RTE Integrator)
 Title : A9-FOO Water SOP:MSV01 05-17-16 HPMS8
 Last Update : Thu May 19 10:02:03 2016
 Response via : Initial Calibration





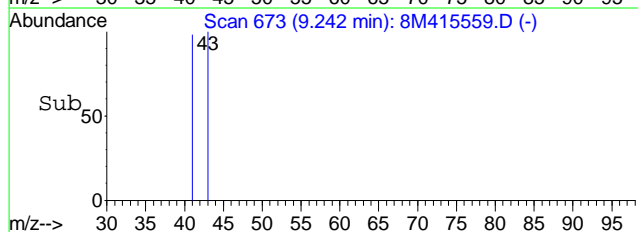
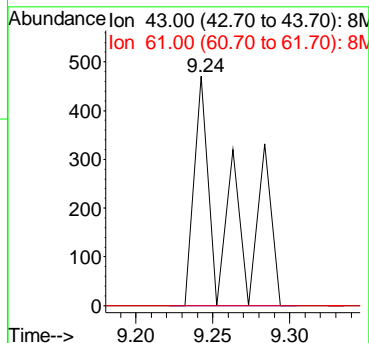
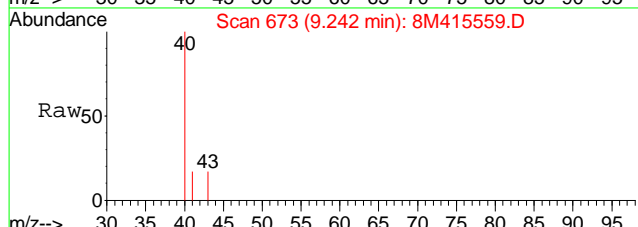
#2
Acetonitrile
Concen: 3.28 ug/L
RT: 6.68 min Scan# 425
Delta R.T. -0.01 min
Lab File: 8M415559.D
Acq: 18 Oct 2016 10:04

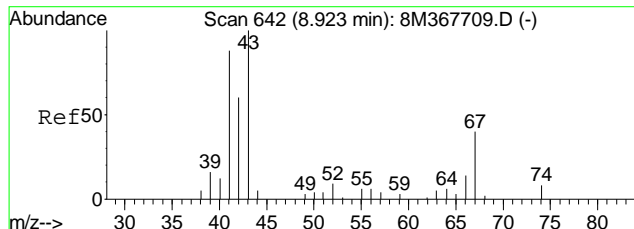
Tgt Ion	Resp	Lower	Upper
41	100		
40	0.0	16.4	96.4#



#5
Ethyl Acetate
Concen: 0.23 ug/L
RT: 9.24 min Scan# 673
Delta R.T. 0.16 min
Lab File: 8M415559.D
Acq: 18 Oct 2016 10:04

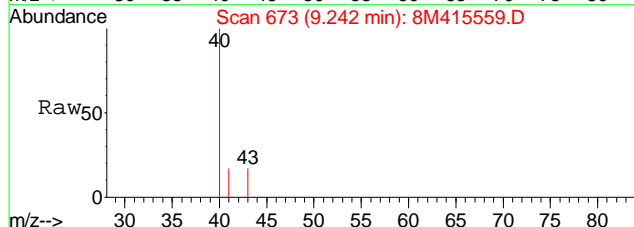
Tgt Ion	Resp	Lower	Upper
43	100		
61	0.0	7.9	18.5#



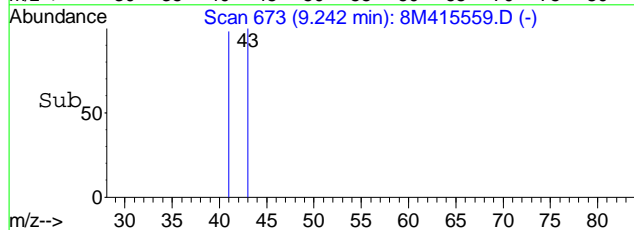
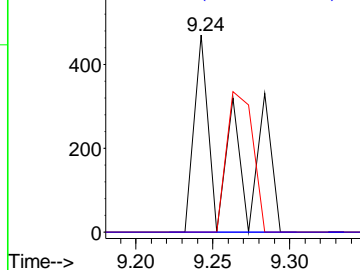


#7
 Isobutyl Alcohol
 Concen: 7.00 ug/L
 RT: 9.24 min Scan# 673
 Delta R.T. -0.02 min
 Lab File: 8M415559.D
 Acq: 18 Oct 2016 10:04

Tgt Ion	Ratio	Lower	Upper
43	100		
42	0.0	53.5	133.5#
74	0.0	0.0	46.9



Abundance Ion 43.00 (42.70 to 43.70): 8N
 Ion 42.00 (41.70 to 42.70): 8N
 Ion 74.00 (73.70 to 74.70): 8N



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\101816\8M415582.D Vial: 27
 Acq On : 18 Oct 2016 21:11 Operator: TMB
 Sample : WG587982-04 VBLK1018 BLANK STD 624 Inst : HPMS8
 Misc : 2,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Oct 19 10:03:56 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

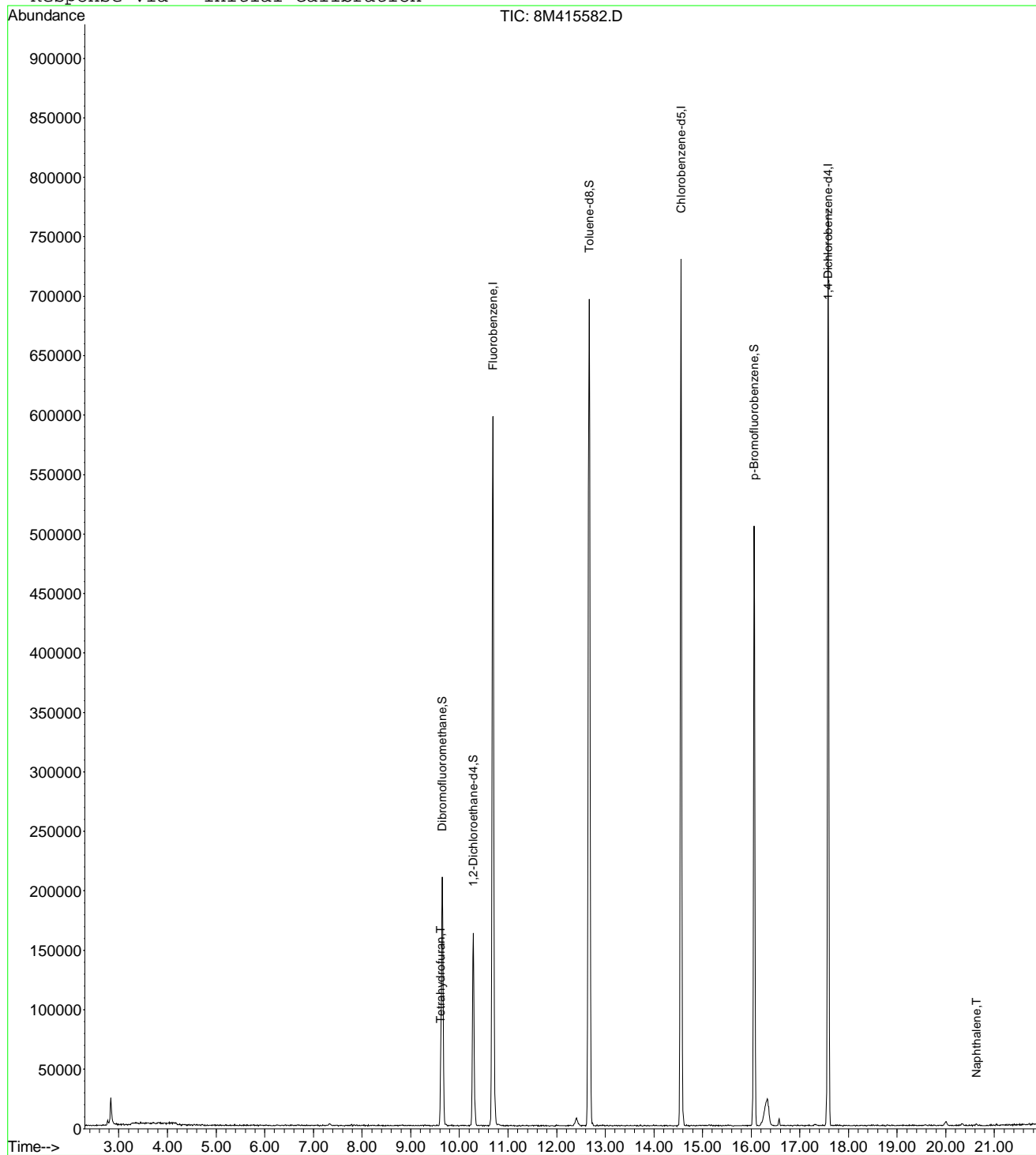
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.69	96	739859	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	516942	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.58	152	254708	25.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.65	111	173646	24.2020	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	96.80%	
43) 1,2-Dichloroethane-d4	10.29	65	142435	24.8526	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	99.40%	
58) Toluene-d8	12.67	98	634096	27.3875	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	109.56%	
80) p-Bromofluorobenzene	16.06	95	209571	28.0796	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	112.32%	
Target Compounds						
36) Tetrahydrofuran	9.62	42	1960	2.8279	ug/L	Qvalue 84
100) Naphthalene	20.63	128	2501	0.2310	ug/L	# 67

 (#) = qualifier out of range (m) = manual integration
 8M415582.D 8260WT.M Wed Oct 19 10:03:59 2016

Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\101816\8M415582.D Vial: 27
Acq On : 18 Oct 2016 21:11 Operator: TMB
Sample : WG587982-04 VBLK1018 BLANK STD 624 Inst : HPMS8
Misc : 2,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 19 10:03 2016 Quant Results File: 8260WT.RES

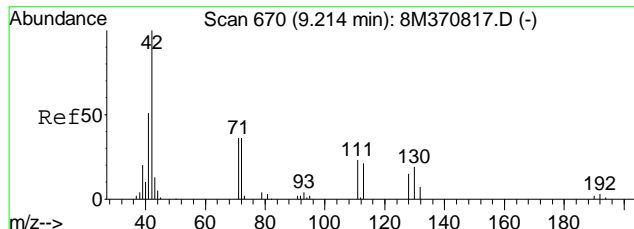
Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
Last Update : Mon Sep 12 12:00:33 2016
Response via : Initial Calibration



8M415582.D 8260WT.M

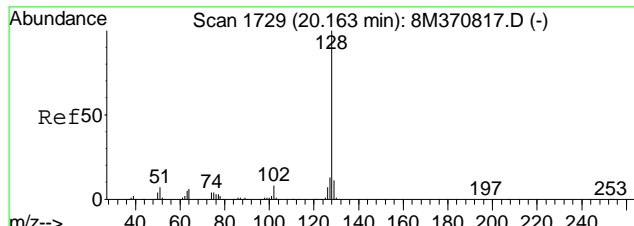
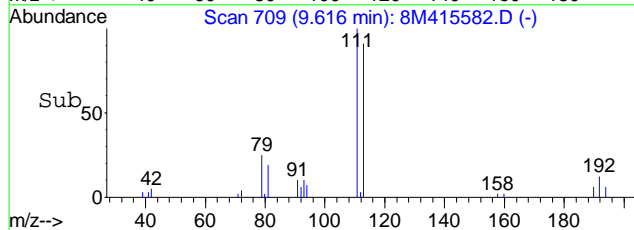
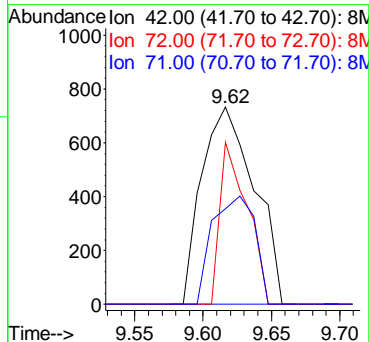
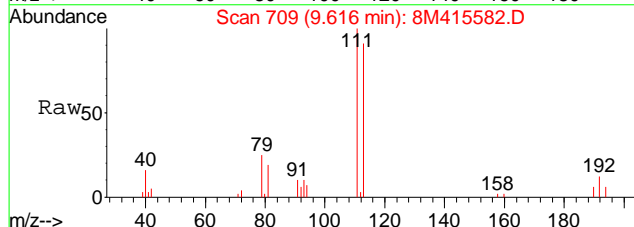
Wed Oct 19 10:03:59 2016

Page 2



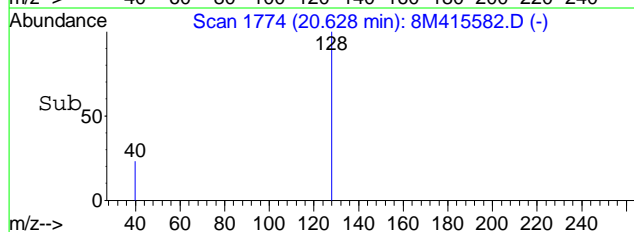
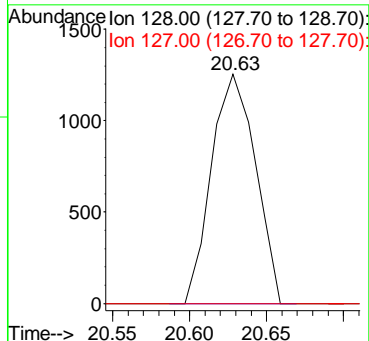
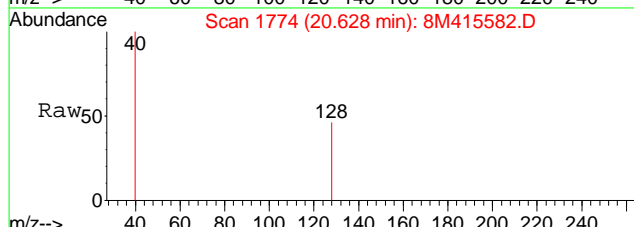
#36
 Tetrahydrofuran
 Concen: 2.83 ug/L
 RT: 9.62 min Scan# 709
 Delta R.T. 0.00 min
 Lab File: 8M415582.D
 Acq: 18 Oct 2016 21:11

Tgt Ion	Ratio	Lower	Upper
42	100		
72	42.4	33.8	78.8
71	44.1	32.0	74.8



#100
 Naphthalene
 Concen: 0.23 ug/L
 RT: 20.63 min Scan# 1774
 Delta R.T. 0.00 min
 Lab File: 8M415582.D
 Acq: 18 Oct 2016 21:11

Tgt Ion	Ratio	Lower	Upper
128	100		
127	0.0	7.8	18.2#



Data File : C:\MSDCHEM\1\DATA\101716\11M14562.D Vial: 4
 Acq On : 17 Oct 2016 14:36 Operator: FJB
 Sample : WG587867-02 20ug/L LCS 8260 Inst : hpms11
 Misc : 1,1 STD78491 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Oct 18 14:35:04 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	716821	25.00	ug/L	0.00
56) Chlorobenzene-d5	14.20	117	552337	25.00	ug/L	0.00
76) 1,4-Dichlorobenzene-d4	17.01	152	284712	25.00	ug/L	0.00

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	Dev(Min)
37) Dibromofluoromethane	9.57	111	196865	22.8311	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	91.32%	
43) 1,2-Dichloroethane-d4	10.18	65	213132	22.0163	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	88.08%	
57) Toluene-d8	12.43	98	687929	23.5028	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	94.00%	
78) p-Bromofluorobenzene	15.59	95	255877	22.4640	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	89.84%	

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.21	85	202095	16.6179	ug/L	97
3) Chloromethane	3.66	50	267506	20.0558	ug/L	97
4) Vinyl Chloride	3.90	62	247223	20.7858	ug/L	99
5) 1,3-Butadiene	3.94	54	176513	18.2311	ug/L	91
6) Bromomethane	4.80	94	128149	22.2360	ug/L	99
7) Chloroethane	4.94	64	148449	21.3044	ug/L	99
8) Trichlorofluoromethane	5.43	101	273802	19.7782	ug/L	99
9) Diethyl ether	5.95	59	834322	123.2961	ug/L	94
10) Isoprene	5.99	67	241656	19.1283	ug/L	97
11) Acrolein	6.17	56	119823	212.5234	ug/L	99
12) 1,1,2-Trichloro-1,2,2-Trif	6.19	101	162894	21.8789	ug/L	99
13) Acetone	6.28	43	51272	18.4364	ug/L	93
14) 1,1-Dichloroethene	6.50	61	292961	19.8037	ug/L	96
15) Tert-Butyl Alcohol	6.60	59	90953	126.7103	ug/L	96
16) Dimethyl Sulfide	6.75	62	216937	21.3961	ug/L	92
17) Iodomethane	7.00	142	153927	15.8903	ug/L	96
18) Methyl acetate	7.01	43	163668	19.9562	ug/L	97
19) Methylene Chloride	7.26	84	168996	20.0945	ug/L	95
20) Carbon Disulfide	7.31	76	443751	18.0973	ug/L	100
21) Acrylonitrile	7.43	53	76298	20.4206	ug/L	99
22) Methyl Tert Butyl Ether	7.47	73	436395	21.1044	ug/L	100
23) trans-1,2-Dichloroethene	7.70	96	171725	20.4846	ug/L	94
24) n-Hexane	7.77	57	279441	19.4927	ug/L	99
25) Diisopropyl ether	8.10	45	4500205	110.9947	ug/L	97
26) Vinyl Acetate	8.26	43	376567	17.3762	ug/L	99
27) 1,1-Dichloroethane	8.29	63	351870	20.4798	ug/L	100
28) Ethyl-Tert-Butyl ether	8.64	59	3127522	104.0161	ug/L	99
29) 2-Butanone	8.82	43	88565	18.9536	ug/L	100
30) Propionitrile	8.93	54	116396	89.9035	ug/L	99
31) 2,2-Dichloropropane	9.04	77	240980	20.5814	ug/L	100
32) cis-1,2-Dichloroethene	9.10	96	193360	20.9439	ug/L	96
33) Chloroform	9.30	83	303625	20.1409	ug/L	98
34) 1-Bromopropane	9.43	122	41705	26.3742	ug/L	97
35) Bromochloromethane	9.52	130	122027	20.5041	ug/L	92
36) Tetrahydrofuran	9.54	42	291000	91.9021	ug/L	94
38) 1,1,1-Trichloroethane	9.81	97	282513	21.2547	ug/L	96
39) Cyclohexane	9.83	56	400481	20.5538	ug/L	99
40) 1,1-Dichloropropene	10.00	75	230071	20.9093	ug/L	100
41) Carbon Tetrachloride	10.13	117	254609	20.5016	ug/L	99
42) Tert-Amyl-Methyl ether	10.09	73	2252577	110.6317	ug/L	94

(#) = qualifier out of range (m) = manual integration
 11M14562.D 8260WT.M Tue Oct 18 14:35:06 2016

Page 1

Data File : C:\MSDCHEM\1\DATA\101716\11M14562.D Vial: 4
 Acq On : 17 Oct 2016 14:36 Operator: FJB
 Sample : WG587867-02 20ug/L LCS 8260 Inst : hpms11
 Misc : 1,1 STD78491 Multiplr: 1.00
 MS Integration Params: rteint.p
 Quant Time: Oct 18 14:35:04 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	257609	19.8919	ug/L	99
45) Benzene	10.34	78	683536	21.0300	ug/L	99
46) Trichloroethene	11.04	130	194288	20.6672	ug/L	98
47) Methylcyclohexane	11.13	83	270637	21.2366	ug/L	98
48) 1,2-Dichloropropane	11.25	63	199955	20.8708	ug/L	97
49) 1,4-Dioxane	11.52	88	5581	83.5677	ug/L	93
50) Bromodichloromethane	11.53	83	227176	19.9442	ug/L	99
51) Dibromomethane	11.61	93	100753	19.8346	ug/L	98
52) 2-Chloroethyl Vinyl Ether	11.80	63	111258	19.8260	ug/L	99
53) 4-Methyl-2-Pentanone	11.83	58	64251	18.6489	ug/L	98
54) cis-1,3-Dichloropropene	12.12	75	280158	22.2526	ug/L	99
55) Dimethyl Disulfide	12.38	79	154005	20.3817	ug/L	94
58) Toluene	12.52	91	738531	21.2337	ug/L	100
59) Ethyl Methacrylate	12.59	69	185835	20.9038	ug/L	89
60) trans-1,3-Dichloropropene	12.68	75	226896	19.9248	ug/L	98
61) 1,1,2-Trichloroethane	12.88	97	138906	20.5273	ug/L	97
62) 2-Hexanone	12.82	43	126096	17.2876	ug/L	93
63) 1,3-Dichloropropane	13.17	76	237168	20.8495	ug/L	89
64) Tetrachloroethene	13.29	164	157672	20.8857	ug/L	99
65) Dibromochloromethane	13.53	129	178210	19.6488	ug/L	100
66) 1,2-Dibromoethane	13.78	107	139888	20.0816	ug/L	97
67) 1-Chlorohexane	13.84	91	240943	21.4668	ug/L	93
68) Chlorobenzene	14.25	112	502910	20.3768	ug/L	99
69) 1,1,1,2-Tetrachloroethane	14.27	131	179555	20.3977	ug/L	99
70) Ethylbenzene	14.27	106	266902	21.1494	ug/L	99
71) m-,p-Xylene	14.35	106	637117	42.8512	ug/L	98
72) o-Xylene	14.88	106	314176	21.4810	ug/L	99
73) Styrene	14.91	104	538494	21.6901	ug/L	97
74) Bromoform	15.38	173	111483	18.9543	ug/L	99
75) Isopropylbenzene	15.27	105	793712	21.1814	ug/L	100
77) 1,1,2,2-Tetrachloroethane	15.47	83	155648	19.3852	ug/L	99
79) 1,2,3-Trichloropropane	15.65	110	49758	20.4350	ug/L	98
80) trans-1,4-Dichloro-2-Butene	15.69	53	56184	17.1323	ug/L	87
81) n-Propylbenzene	15.74	91	957839	22.6121	ug/L	100
82) Bromobenzene	15.87	156	222723	20.5143	ug/L	95
83) 1,3,5-Trimethylbenzene	15.91	105	689495	22.6935	ug/L	100
84) 2-Chlorotoluene	16.00	91	566478	21.1333	ug/L	87
85) 4-Chlorotoluene	16.04	91	606503	22.2157	ug/L	88
86) a-Methylstyrene	16.30	118	389006	21.7827	ug/L	99
87) tert-Butylbenzene	16.35	134	150559	22.6510	ug/L	97
88) 1,2,4-Trimethylbenzene	16.40	105	692093	22.1430	ug/L	99
89) sec-Butylbenzene	16.60	105	853494	22.1831	ug/L	99
90) p-Isopropyltoluene	16.74	119	763349	22.8001	ug/L	100
91) 1,3-Dichlorobenzene	16.94	146	412473	20.6072	ug/L	99
92) 1,4-Dichlorobenzene	17.05	146	413954	20.1815	ug/L	99
93) n-Butylbenzene	17.23	91	671768	21.3861	ug/L	100
94) 1,2-Dichlorobenzene	17.52	146	394448	20.6296	ug/L	98
95) 1,2-Dibromo-3-Chloropropane	18.44	75	28517	18.4777	ug/L	90
96) 1,2,4-Trichlorobenzene	19.50	180	286362	20.1945	ug/L	98
97) Hexachlorobutadiene	19.64	225	120672	21.7432	ug/L	98
98) Naphthalene	19.85	128	624706	21.1896	ug/L	98
99) 1,2,3-Trichlorobenzene	20.14	180	272905	19.9451	ug/L	99

(#) = qualifier out of range (m) = manual integration
 11M14562.D 8260WT.M Tue Oct 18 14:35:06 2016

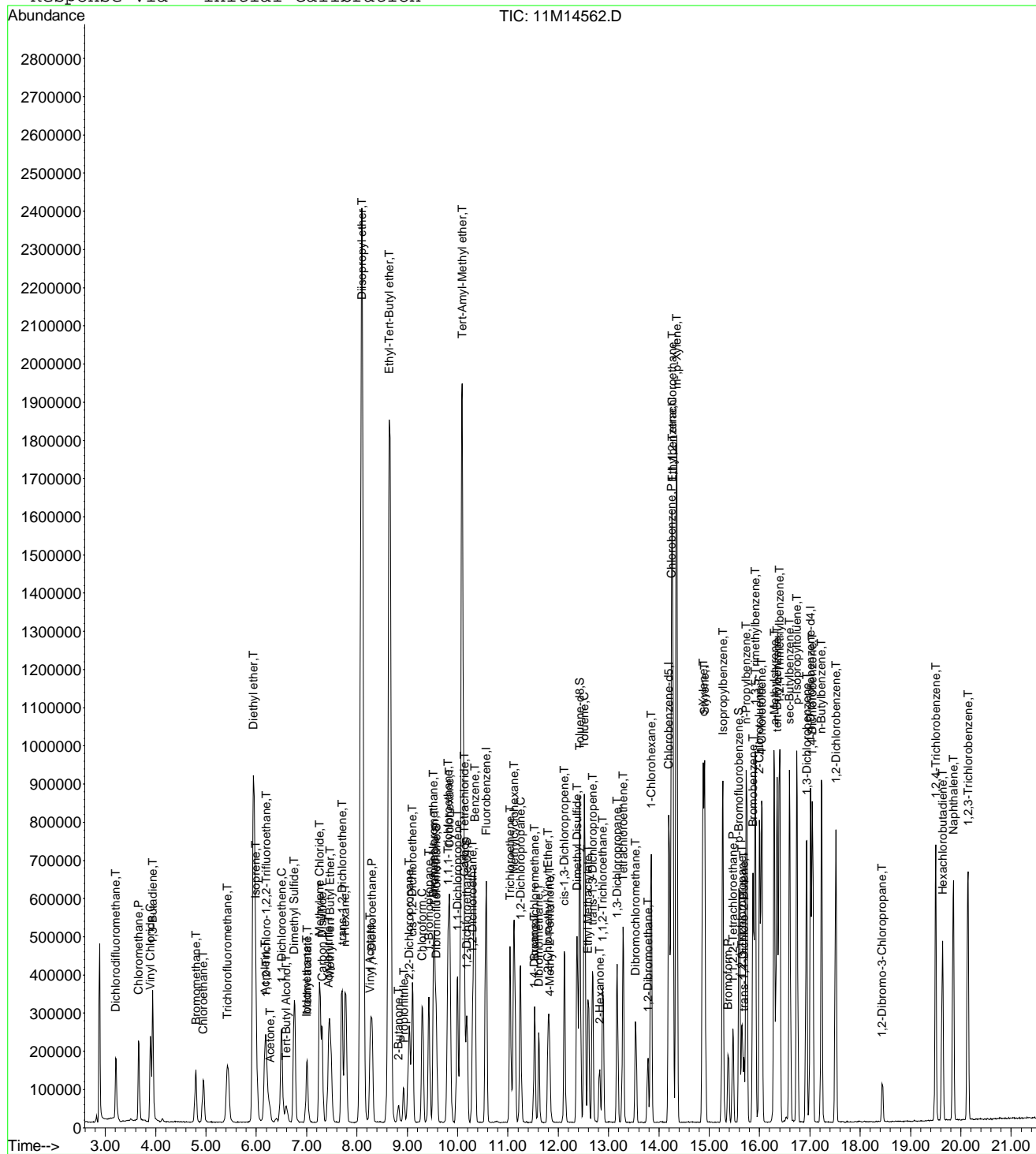
Page 2

Data File : C:\MSDCHEM\1\DATA\101716\11M14562.D
 Acq On : 17 Oct 2016 14:36
 Sample : WG587867-02 20ug/L LCS 8260
 Misc : 1,1 STD78491
 MS Integration Params: rteint.p
 Quant Time: Oct 18 14:35 2016

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

Quant Results File: 8260WT.RES

Method : C:\MSDCHEM\1\METHODS\8260WT.M (RTE Integrator)
 Title : 8260B/624 (SOP: OVL MSV01) Water 101316 HPMS11
 Last Update : Fri Oct 14 09:20:10 2016
 Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\101816\8M415563.D Vial: 8
 Acq On : 18 Oct 2016 12:00 Operator: TMB
 Sample : WG587982-02 20ug/L LCS STD 8260 Inst : HPMS8
 Misc : 1,1 STD78491 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Oct 18 13:58:51 2016

Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.69	96	822688	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	584316	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.59	152	317960	25.00	ug/L	0.00

System Monitoring Compounds

37) Dibromofluoromethane	9.64	111	186902	23.4269	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	93.72%	
43) 1,2-Dichloroethane-d4	10.29	65	150291	23.5831	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	94.32%	
58) Toluene-d8	12.66	98	705650	26.9637	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	107.84%	
80) p-Bromofluorobenzene	16.06	95	245442	26.3438	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	105.36%	

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.15	85	220672	17.1404	ug/L	99
3) Chloromethane	3.60	50	147295	12.8876	ug/L	97
4) Vinyl Chloride	3.82	62	208712	16.6895	ug/L	98
5) 1,3-Butadiene	3.87	54	153064	18.4551	ug/L	93
6) Bromomethane	4.71	94	69777	10.2985	ug/L	99
7) Chloroethane	4.87	64	106799	20.6920	ug/L	97
8) Trichlorofluoromethane	5.35	101	239885	16.8498	ug/L	99
9) Diethyl ether	5.88	59	346448	99.2223	ug/L	96
10) Isoprene	5.92	67	199523	17.8095	ug/L	92
12) 1,1,2-Trichloro-1,2,2-Trif	6.13	101	152487	18.2738	ug/L	96
13) Acetone	6.22	43	14242	21.0909	ug/L	89
14) 1,1-Dichloroethene	6.45	61	192006	18.2923	ug/L	88
15) Tert-Butyl Alcohol	6.57	59	36812	173.8237	ug/L	94
16) Dimethyl Sulfide	6.71	62	123623	19.2881	ug/L	93
17) Iodomethane	6.97	142	50139	6.0224	ug/L	93
18) Methyl acetate	6.98	43	39425	18.8477	ug/L	93
19) Methylene Chloride	7.23	84	153945	18.1026	ug/L	98
20) Carbon Disulfide	7.27	76	448586	17.1272	ug/L	99
21) Acrylonitrile	7.41	53	18215	21.3166	ug/L	96
22) Methyl Tert Butyl Ether	7.44	73	267855	18.5895	ug/L	98
23) trans-1,2-Dichloroethene	7.68	61	194883	19.4794	ug/L	90
24) n-Hexane	7.76	57	160371	17.6522	ug/L	93
25) Diisopropyl ether	8.10	45	1896442	109.5742	ug/L	98
26) Vinyl Acetate	8.28	43	114444	15.7376	ug/L	98
27) 1,1-Dichloroethane	8.30	63	263128	19.6598	ug/L	98
28) Ethyl-Tert-Butyl ether	8.68	59	1616129	98.4003	ug/L	98
29) 2-Butanone	8.86	43	22787	20.7090	ug/L	99
30) Propionitrile	8.97	54	32682	93.0882	ug/L	93
31) 2,2-Dichloropropane	9.08	77	242607	18.7385	ug/L	98
32) cis-1,2-Dichloroethene	9.15	96	172651	18.7858	ug/L	86
33) Chloroform	9.36	83	299396	19.5978	ug/L	98
34) 1-Bromopropane	9.49	122	35981	20.6820	ug/L	99
35) Bromochloromethane	9.59	130	87033	18.0105	ug/L	98
36) Tetrahydrofuran	9.61	42	71262	92.4639	ug/L	98
38) 1,1,1-Trichloroethane	9.89	97	273157	19.4104	ug/L	98
39) Cyclohexane	9.92	56	212678	19.1719	ug/L	99
40) 1,1-Dichloropropene	10.09	75	229696	19.7139	ug/L	97
41) Tert-Amyl-Methyl ether	10.19	73	1604214	98.5234	ug/L	95
42) Carbon Tetrachloride	10.22	117	252726	19.3872	ug/L	97
45) 1,2-Dichloroethane	10.40	62	153565	18.3960	ug/L	92

(#) = qualifier out of range (m) = manual integration
 8M415563.D 8260WT.M Tue Oct 18 13:58:55 2016

Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\101816\8M415563.D Vial: 8
 Acq On : 18 Oct 2016 12:00 Operator: TMB
 Sample : WG587982-02 20ug/L LCS STD 8260 Inst : HPMS8
 Misc : 1,1 STD78491 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Oct 18 13:58:51 2016

Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

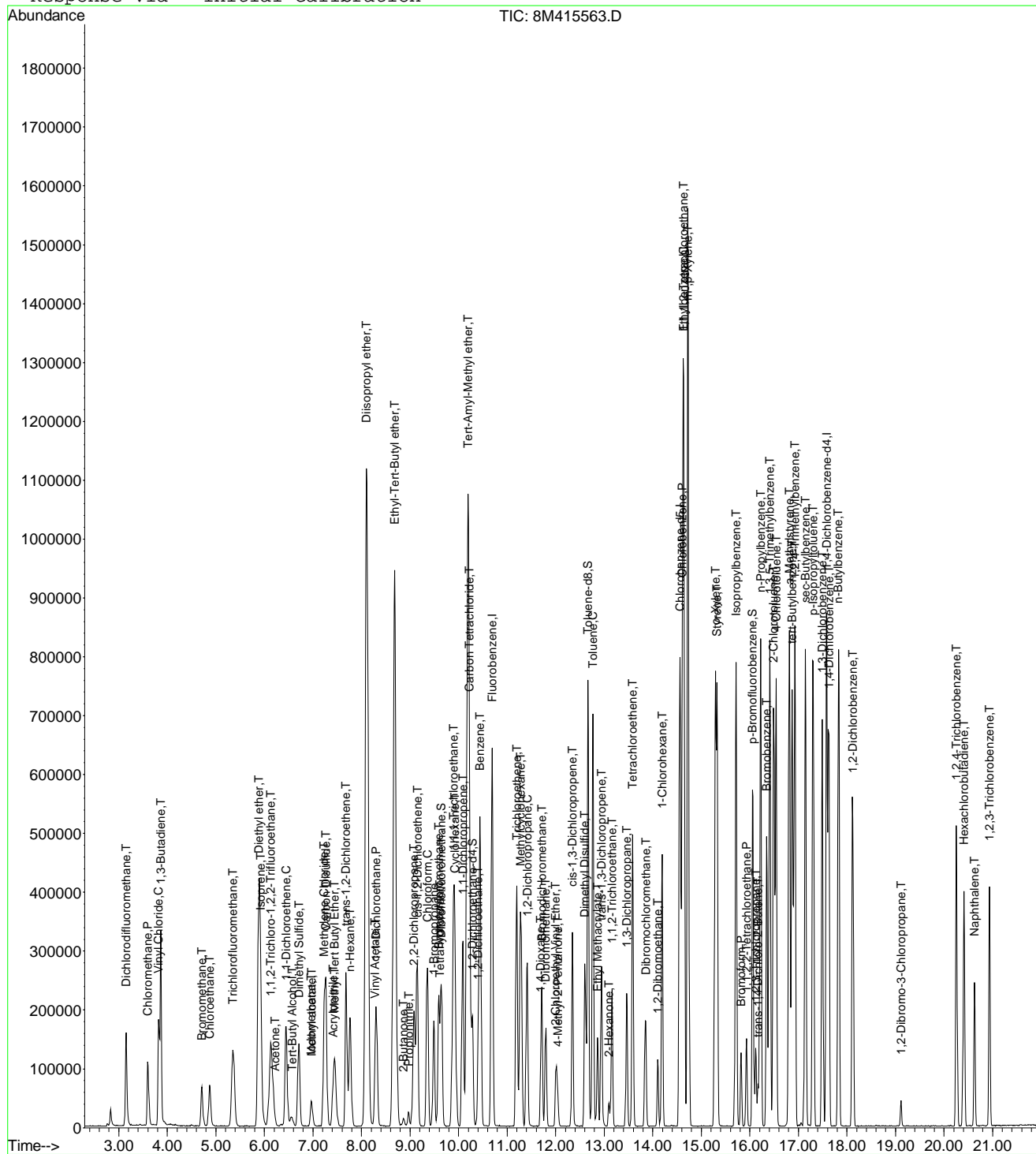
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Benzene	10.44	78	683981	20.7038	ug/L	95
47) Trichloroethene	11.20	130	174511	18.3377	ug/L	96
48) Methylcyclohexane	11.28	83	257549	17.8140	ug/L	95
49) 1,2-Dichloropropane	11.41	63	145863	20.0085	ug/L	81
50) Bromodichloromethane	11.71	83	211632	19.2233	ug/L	99
51) 1,4-Dioxane	11.69	88	4406	149.1792	ug/L	90
52) Dibromomethane	11.80	93	75170	18.3818	ug/L	99
53) 2-Chloroethyl Vinyl Ether	12.00	63	53292	18.6280	ug/L	98
54) 4-Methyl-2-Pentanone	12.04	58	20984	18.6897	ug/L	97
55) cis-1,3-Dichloropropene	12.34	75	242760	20.3487	ug/L	99
56) Dimethyl Disulfide	12.60	79	119465	18.4270	ug/L	89
59) Toluene	12.77	91	723496	21.8052	ug/L	99
60) Ethyl Methacrylate	12.86	69	122825	19.8641	ug/L	97
62) trans-1,3-Dichloropropene	12.94	75	184213	19.8907	ug/L	98
63) 1,1,2-Trichloroethane	13.16	97	97574	18.6521	ug/L	99
64) 2-Hexanone	13.10	58	18298	19.5068	ug/L #	96
65) 1,3-Dichloropropane	13.46	76	178243	20.9174	ug/L	95
66) Tetrachloroethene	13.58	164	151439	18.6433	ug/L	92
67) Dibromochloromethane	13.85	129	130110	19.0775	ug/L	98
68) 1,2-Dibromoethane	14.10	107	93544	18.8298	ug/L	100
69) 1-Chlorohexane	14.19	91	233566	20.2608	ug/L	87
70) Chlorobenzene	14.61	112	459863	18.7142	ug/L	92
71) 1,1,1,2-Tetrachloroethane	14.64	131	160441	17.5863	ug/L	99
72) Ethylbenzene	14.64	106	257981	19.3654	ug/L	94
73) m-,p-Xylene	14.72	106	623370	41.5795	ug/L	91
74) o-Xylene	15.29	106	295204	19.3053	ug/L	88
75) Styrene	15.32	104	486759	19.8826	ug/L	86
76) Bromoform	15.82	173	77309	15.1384	ug/L	99
77) Isopropylbenzene	15.71	105	757303	20.7966	ug/L	98
79) 1,1,2,2-Tetrachloroethane	15.93	83	101478	20.3781	ug/L	96
81) 1,2,3-Trichloropropane	16.12	110	28117	20.5245	ug/L	90
82) trans-1,4-Dichloro-2-Buten	16.17	53	17116	15.1535	ug/L #	50
83) n-Propylbenzene	16.22	91	949970	22.8176	ug/L	100
84) Bromobenzene	16.34	156	190808	19.2418	ug/L	88
85) 1,3,5-Trimethylbenzene	16.41	105	640559	22.3464	ug/L	95
86) 2-Chlorotoluene	16.49	91	546455	20.5986	ug/L	85
87) 4-Chlorotoluene	16.54	91	583089	23.3828	ug/L	97
88) a-Methylstyrene	16.81	118	353975	20.3193	ug/L	89
89) tert-Butylbenzene	16.87	134	131717	19.4218	ug/L	86
90) 1,2,4-Trimethylbenzene	16.92	105	665648	22.2001	ug/L	95
91) sec-Butylbenzene	17.14	105	813045	22.3599	ug/L	100
92) p-Isopropyltoluene	17.31	119	669024	22.1385	ug/L	96
93) 1,3-Dichlorobenzene	17.49	146	373235	19.8047	ug/L	91
94) 1,4-Dichlorobenzene	17.63	146	371597	19.6398	ug/L	92
95) n-Butylbenzene	17.82	91	652857	21.6145	ug/L	100
96) 1,2-Dichlorobenzene	18.12	146	316273	19.5008	ug/L	90
97) 1,2-Dibromo-3-Chloropropan	19.12	75	13952	18.4535	ug/L	77
98) 1,2,4-Trichlorobenzene	20.25	180	207835	17.0599	ug/L	98
99) Hexachlorobutadiene	20.41	225	110842	16.4913	ug/L	98
100) Naphthalene	20.63	128	250453	18.5269	ug/L	100
101) 1,2,3-Trichlorobenzene	20.94	180	164705	17.5255	ug/L	96

(#) = qualifier out of range (m) = manual integration
 8M415563.D 8260WT.M Tue Oct 18 13:58:56 2016

Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\101816\8M415563.D Vial: 8
 Acq On : 18 Oct 2016 12:00 Operator: TMB
 Sample : WG587982-02 20ug/L LCS STD 8260 Inst : HPMS8
 Misc : 1,1 STD78491 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Oct 18 13:58 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration



Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\101816\8M415564.D Vial: 9
 Acq On : 18 Oct 2016 12:29 Operator: TMB
 Sample : WG587982-03 20ug/L LCS2 STD 8260 Inst : HPMS8
 Misc : 1,1 STD78491 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Oct 18 13:59:00 2016

Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	10.69	96	859321	25.00	ug/L	0.00
57) Chlorobenzene-d5	14.56	117	616761	25.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	17.59	152	330694	25.00	ug/L	0.00

System Monitoring Compounds

37) Dibromofluoromethane	9.64	111	200020	24.0023	ug/L	0.00
Spiked Amount	25.000	Range 86 - 118	Recovery	=	96.00%	
43) 1,2-Dichloroethane-d4	10.29	65	157224	23.6193	ug/L	0.00
Spiked Amount	25.000	Range 80 - 120	Recovery	=	94.48%	
58) Toluene-d8	12.66	98	747002	27.0423	ug/L	0.00
Spiked Amount	25.000	Range 88 - 110	Recovery	=	108.16%	
80) p-Bromofluorobenzene	16.06	95	255268	26.3434	ug/L	0.00
Spiked Amount	25.000	Range 86 - 115	Recovery	=	105.36%	

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	3.15	85	237386	17.6526	ug/L	98
3) Chloromethane	3.61	50	161862	13.5584	ug/L	97
4) Vinyl Chloride	3.82	62	218148	16.7004	ug/L	98
5) 1,3-Butadiene	3.87	54	158575	18.3045	ug/L	96
6) Bromomethane	4.71	94	84668	11.9635	ug/L	96
7) Chloroethane	4.88	64	114887	21.3101	ug/L	97
8) Trichlorofluoromethane	5.35	101	261574	17.5900	ug/L	99
9) Diethyl ether	5.88	59	369347	101.2711	ug/L	96
10) Isoprene	5.92	67	212184	18.1323	ug/L	91
12) 1,1,2-Trichloro-1,2,2-Trif	6.14	101	162979	18.6986	ug/L	98
13) Acetone	6.22	43	14785	20.9616	ug/L	89
14) 1,1-Dichloroethene	6.45	61	203601	18.5701	ug/L	89
15) Tert-Butyl Alcohol	6.56	59	42730	193.1667	ug/L	96
16) Dimethyl Sulfide	6.71	62	130071	19.4290	ug/L	94
17) Iodomethane	6.97	142	64285	7.2173	ug/L	88
18) Methyl acetate	6.98	43	40592	18.5783	ug/L	100
19) Methylene Chloride	7.24	84	163052	18.3562	ug/L	99
20) Carbon Disulfide	7.27	76	482724	17.6449	ug/L	99
21) Acrylonitrile	7.41	53	21131	23.4172	ug/L	97
22) Methyl Tert Butyl Ether	7.44	73	288496	19.1684	ug/L	98
23) trans-1,2-Dichloroethene	7.68	61	203177	19.4427	ug/L	88
24) n-Hexane	7.76	57	182643	19.2467	ug/L	95
25) Diisopropyl ether	8.10	45	2017388	111.5933	ug/L	98
26) Vinyl Acetate	8.28	43	150723	19.8429	ug/L	100
27) 1,1-Dichloroethane	8.30	63	273063	19.5324	ug/L	99
28) Ethyl-Tert-Butyl ether	8.68	59	1722488	100.4053	ug/L	97
29) 2-Butanone	8.87	43	24770	21.5515	ug/L	99
30) Propionitrile	8.97	54	35615	96.9882	ug/L	92
31) 2,2-Dichloropropane	9.08	77	267434	19.7755	ug/L	100
32) cis-1,2-Dichloroethene	9.15	96	180724	18.8259	ug/L	87
33) Chloroform	9.36	83	313885	19.6703	ug/L	96
34) 1-Bromopropane	9.49	122	38336	21.0854	ug/L	100
35) Bromochloromethane	9.59	130	93208	18.4661	ug/L	98
36) Tetrahydrofuran	9.61	42	79061	98.2102	ug/L	95
38) 1,1,1-Trichloroethane	9.89	97	286335	19.4795	ug/L	99
39) Cyclohexane	9.92	56	233329	20.1368	ug/L	98
40) 1,1-Dichloropropene	10.09	75	240326	19.7470	ug/L	93
41) Tert-Amyl-Methyl ether	10.19	73	1715999	100.8960	ug/L	95
42) Carbon Tetrachloride	10.23	117	265550	19.5025	ug/L	98
45) 1,2-Dichloroethane	10.40	62	159070	18.2431	ug/L	91

(#) = qualifier out of range (m) = manual integration
 8M415564.D 8260WT.M Tue Oct 18 13:59:04 2016

Page 1

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\101816\8M415564.D Vial: 9
 Acq On : 18 Oct 2016 12:29 Operator: TMB
 Sample : WG587982-03 20ug/L LCS2 STD 8260 Inst : HPMS8
 Misc : 1,1 STD78491 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Oct 18 13:59:00 2016 Quant Results File: 8260WT.RES

Quant Method : K:\ORGANICS\V...\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration
 DataAcq Meth : 8260WT

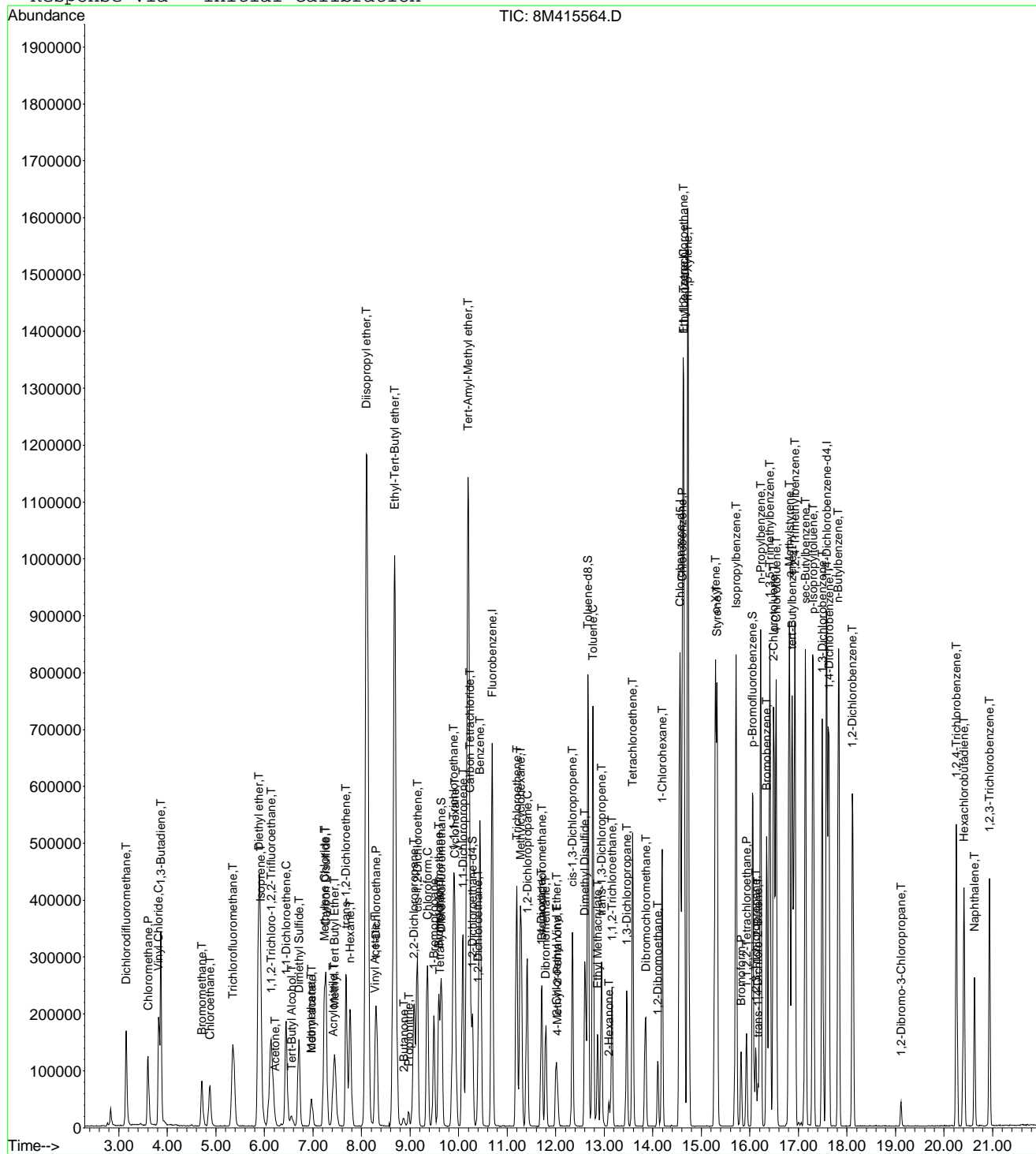
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
46) Benzene	10.44	78	703780	20.3950	ug/L	95
47) Trichloroethene	11.20	130	182706	18.3803	ug/L	96
48) Methylcyclohexane	11.28	83	285797	18.9251	ug/L	93
49) 1,2-Dichloropropane	11.41	63	153209	20.1203	ug/L	79
50) Bromodichloromethane	11.71	83	218845	19.0310	ug/L	98
51) 1,4-Dioxane	11.70	88	5596	172.5023	ug/L	99
52) Dibromomethane	11.80	93	81140	18.9958	ug/L	99
53) 2-Chloroethyl Vinyl Ether	12.01	63	58160	19.4629	ug/L	100
54) 4-Methyl-2-Pentanone	12.03	58	21610	18.4267	ug/L	93
55) cis-1,3-Dichloropropene	12.34	75	259961	20.8616	ug/L	99
56) Dimethyl Disulfide	12.60	79	125987	18.5782	ug/L	86
59) Toluene	12.77	91	758246	21.6504	ug/L	98
60) Ethyl Methacrylate	12.86	69	133724	20.4753	ug/L	96
62) trans-1,3-Dichloropropene	12.94	75	199176	20.3750	ug/L	99
63) 1,1,2-Trichloroethane	13.16	97	102540	18.5709	ug/L	96
64) 2-Hexanone	13.10	58	20124	20.3248	ug/L #	98
65) 1,3-Dichloropropane	13.46	76	182690	20.3115	ug/L	96
66) Tetrachloroethene	13.58	164	156137	18.2105	ug/L	93
67) Dibromochloromethane	13.85	129	139821	19.4229	ug/L	98
68) 1,2-Dibromoethane	14.10	107	98467	18.7781	ug/L	98
69) 1-Chlorohexane	14.19	91	250712	20.6040	ug/L	88
70) Chlorobenzene	14.61	112	474663	18.3003	ug/L	91
71) 1,1,1,2-Tetrachloroethane	14.64	131	163426	16.9861	ug/L	98
72) Ethylbenzene	14.64	106	270568	19.2419	ug/L	92
73) m-,p-Xylene	14.72	106	642046	40.5724	ug/L	92
74) o-Xylene	15.29	106	308935	19.1404	ug/L	88
75) Styrene	15.32	104	497320	19.2504	ug/L	87
76) Bromoform	15.82	173	82104	15.2271	ug/L	97
77) Isopropylbenzene	15.71	105	789161	20.5314	ug/L	98
79) 1,1,2,2-Tetrachloroethane	15.93	83	110942	21.4207	ug/L	98
81) 1,2,3-Trichloropropane	16.12	110	30763	21.5913	ug/L #	16
82) trans-1,4-Dichloro-2-Buten	16.17	53	20189	17.0869	ug/L #	1
83) n-Propylbenzene	16.22	91	979352	22.6175	ug/L	99
84) Bromobenzene	16.34	156	198915	19.2869	ug/L	86
85) 1,3,5-Trimethylbenzene	16.41	105	668669	22.4288	ug/L	95
86) 2-Chlorotoluene	16.49	91	561799	20.3615	ug/L	86
87) 4-Chlorotoluene	16.54	91	607151	23.4102	ug/L	96
88) a-Methylstyrene	16.81	118	369729	20.4064	ug/L	90
89) tert-Butylbenzene	16.87	134	137140	19.4427	ug/L	86
90) 1,2,4-Trimethylbenzene	16.92	105	685691	21.9879	ug/L	95
91) sec-Butylbenzene	17.14	105	844519	22.3311	ug/L	99
92) p-Isopropyltoluene	17.31	119	699803	22.2653	ug/L	97
93) 1,3-Dichlorobenzene	17.49	146	388259	19.8086	ug/L	91
94) 1,4-Dichlorobenzene	17.63	146	381921	19.4081	ug/L	91
95) n-Butylbenzene	17.82	91	681344	21.6890	ug/L	99
96) 1,2-Dichlorobenzene	18.11	146	332708	19.7243	ug/L	90
97) 1,2-Dibromo-3-Chloropropan	19.12	75	14421	18.3394	ug/L	73
98) 1,2,4-Trichlorobenzene	20.25	180	220710	17.4191	ug/L	98
99) Hexachlorobutadiene	20.41	225	115729	16.5554	ug/L	98
100) Naphthalene	20.63	128	265263	18.8668	ug/L	98
101) 1,2,3-Trichlorobenzene	20.94	180	172006	17.5976	ug/L	98

(#) = qualifier out of range (m) = manual integration
 8M415564.D 8260WT.M Tue Oct 18 13:59:05 2016

Page 2

Data File : K:\ORGANICS\VOLATILE\HPMS8\DATA\101816\8M415564.D Vial: 9
 Acq On : 18 Oct 2016 12:29 Operator: TMB
 Sample : WG587982-03 20ug/L LCS2 STD 8260 Inst : HPMS8
 Misc : 1,1 STD78491 Multiplr: 1.00
 MS Integration Params: RTEINT.P
 Quant Time: Oct 18 13:59 2016 Quant Results File: 8260WT.RES

Method : K:\ORGANICS\VOLATILE\HPMS8\METHODS\8260WT.M (RTE Integrator)
 Title : Method 8260B/624 WTR-SOP:OVLMSV01 09-09-16 HPMS 8
 Last Update : Mon Sep 12 12:00:33 2016
 Response via : Initial Calibration



3.0 Attachments

Microbac Laboratories Inc.
Ohio Valley Division Analyst List
October 20, 2016

001 - BIO-CHEM TESTING WVDEP 220	002 - REIC Consultants, Inc. WVDEP 060
003 - Sturm Environmental	004 - MICROBAC PITTSBURGH
005 - ES LABORATORIES	006 - ALCOSAN LABORATORIES
007 - ALS LABORATORIES	008 - BENCHMARK LABORATORIES
010 - MICROBAC CHICAGOLAND	AC - AMBER R. CARMICHAEL
ADC - ANTHONY D. CANTER	ADG - APRIL D. GREENE
AED - ALLEN E. DAVIS	ALS - ADRIANE L. STEED
AMA - ALEXANDRA M. ALFRED	AWE - ANDREW W. ESSIG
AZH - AFTER HOURS	BJO - BRIAN J. OGDEN
BKT - BRENDAN TORRENCE	BLG - BRENDA L. GREENWALT
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	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
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
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	

List of Valid Qualifiers

October 20, 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 receipt exceeded regulatory limit.
DL	Surrogate or spike compound was diluted out
E	Estimated concentration due to sample matrix interference
E,CT1	Estimated results. The cooler temperature at receipt exceeded regulatory guidelines for requested testing.
EDL	Elevated sample reporting limits, presence of non-target analytes
EMPC	Estimated Maximum Possible Concentration
F, S	Estimated result below quantitation limit; method of standard additions(MSA)
F,CT1	Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula
FL	Free Liquid
FP1	Did not ignite.
H1	Sample analysis performed past holding time.
H1,CT1	Sample analysis performed past holding time. The cooler temperature at receipt exceeded regulatory guidelines for reque
I	Semiquantitative result (out of instrument calibration range)
J	Estimated concentration; sample matrix interference.
J	Estimated value ; the analyte concentration was greater than the highest standard
J	Estimated value ; the analyte concentration was less than the LOQ.
J	The reported result is an estimated value.
J,B	Analyte detected in both the method blank and sample above the MDL.
J,CT1	Estimated value ; the analyte concentration was less than the LOQ. Cooler temperature at sample receipt exceeded regu
J,H1	Estimated value ; the analyte concentration was less than the LOQ. Sample analysis performed past holding time.
J,H1	The reported result is an estimated value. Sample was analyzed past holding time.
J,P	Estimate; columns don't agree to within 40%
J,S	Estimated concentration; analyzed by method of standard addition (MSA)
JB	The reported result is an estimated value. The reported result is also associated with a contaminated method blank.
JQ	The reported result is an estimated value and one or more quality control criteria failed. See narrative.
L	Sample reporting limits elevated due to matrix interference
L1	The associated blank spike (LCS) recovery was above the laboratory acceptance limits.
L2	The associated blank spike (LCS) recovery was below the laboratory acceptance limits.
M	Matrix effect; the concentration is an estimate due to matrix effect.
N	Nontarget analyte; the analyte is a tentatively identified compound (TIC) by GC/MS
NA	Not applicable
ND	Not detected at or above the reporting limit (RL)
ND, B	Not detected at or above the reporting limit (RL). Analyte present in method blank.
ND, CT1	Analyte was not detected. The concentration is below the reported LOD. The cooler temperature at receipt exceeded reg
ND, L	Not detected; sample reporting limit (RL) elevated due to interference
ND, S	Not detected; analyzed by method of standard addition (MSA)
ND,H1	Not detected; Sample analysis performed past holding time.
ND,H1,CT1	Not detected; Sample analysis performed past holding time. The cooler temperature at receipt exceeded regulatory guide
NF	Not found by library search
NFL	No free liquid
NI	Non-ignitable
NR	Analyte is not required to be analyzed
NS	Not spiked
P	Concentrations >40% difference between the two GC columns
Q	One or more quality control criteria failed. See narrative.
Q,H1	One or more quality control criteria failed. Sample analyzed past holding time. See narrative.
QNS	Quantity of sample not sufficient to perform analysis
RA	Reanalysis confirms reported results
RE	Reanalysis confirms sample matrix interference
S	Analyzed by method of standard addition (MSA)
SMI	Sample matrix interference on surrogate
SP	Reported results are for spike compounds only
T5	Laboratory not licensed for this parameter
TIC	Library Search Compound



List of Valid Qualifiers

October 20, 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 receipt exceeded
U,H1	Not detected; Sample analysis performed past holding time.
UJ	Undetected; the MDL and RL are estimated due to quality control discrepancies.
UQ	Undetected; the analyte was analyzed for, but not detected.
W	Post-digestion spike for furnace AA out of control limits
X	Exceeds regulatory limit
X, S	Exceeds regulatory limit; method of standard additions (MSA)
Z	Cannot be resolved from isomer - see below





Chain of Custody Record

COC Number:

Laboratory: Microbac POC: Stephanie Mossburg
 Address: 158 Starlite Drive
 Marietta, OH 45750
 Phone: 1-800-373-4071
 Client: AECOM
 Address: 112 East Pecan Ste. 400
 San Antonio, TX 78205
 Turn Around Time: Standard
 Project Name/Location: Longhorn
 Project Number: 60256135.0002HA

Project Manager: Debra Richmann
 Phone/Fax Number: 210-296-2000
 Sampler (print): Scott Beesinger
 Signature: *Scott Beesinger*

Mail to: Linda Raabe
 112 East Pecan STE. 400
 San Antonio, TX 78205
 210-296-2000
 Fed Ex Airbill No:

Site Name	Sample ID/Location ID	SBD	SED	Date	Time	Comp	Grab	Matrix	Number of Containers	VOC	Program:	ERPIMS REQUIRED FIELDS		
												SA CODE	Cooler ID	LOT CONTROL NUMBERS
												ABL	EBL	TBL
SITE 58	35AWW01-100516			10/5/16	0805	X	X	W	3	X				
	35AWW01MS-100516			10/5/16	0805	X	X	W	3	X				
	35AWW01MSD-100516			10/5/16	0805	X	X	W	3	X				
	35AWW15-100516			10/5/16	0900	X	X	W	3	X				
	35AWW05-100516			10/5/16	1000	X	X	W	3	X				
	35AWW05MS-100516			10/5/16	1000	X	X	W	3	X				
	35AWW05MSD-100516			10/5/16	1000	X	X	W	3	X				
	35AWW18-100516			10/5/16	1100	X	X	W	3	X				
	35AWW12-100516			10/5/16	1330	X	X	W	3	X				
	35AWW12FD-100516			10/5/16	1330	X	X	W	3	X				
	35AWW13-100616			10/6/16	0830	X	X	W	3	X				
	35AWW22-100616			10/6/16	0855	X	X	W	3	X				
	35AWW14-100616			10/6/16	0915	X	X	W	3	X				
	LHSMW06-100616			10/6/16	0925	X	X	W	3	X				

Comments: STANDARD TAT

Relinquished by: *Scott Beesinger* Date: 10/6/16 Time: 1500
 Relinquished by: _____ Date: _____ Time: _____
 Relinquished by: _____ Date: _____ Time: _____

Received by: (Signature) _____ Date: _____ Time: _____
 Received by: (Signature) _____ Date: _____ Time: _____

Microbac OVD
 Received: 10/07/2016 12:24
 By: BRENDA GREGORY
 221000091862

marks: _____
 QC Manager: _____

00879096

Relinquish all composite samples prior to analysis

Signature: *Brenda Gregory*

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16100409

Account: 2551

Project: 2551.096

Samples: 16

Due Date: 18-OCT-2016

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L16100409-01	812138	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:56	AWE	CLS	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:56	AWE	CLS	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:56	AWE	CLS	

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L16100409-02	812139	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:56	AWE	CLS	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:56	AWE	CLS	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:56	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: L16100409

Account: 2551

Project: 2551.096

Samples: 16

Due Date: 18-OCT-2016

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L16100409-03	812140	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:56	AWE	CLS	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:56	AWE	CLS	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:56	AWE	CLS	

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L16100409-04	812141	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:56	AWE	CLS	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:56	AWE	CLS	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:56	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: L16100409

Account: 2551

Project: 2551.096

Samples: 16

Due Date: 18-OCT-2016

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L16100409-05	812142	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:56	AWE	CLS	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:56	AWE	CLS	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:56	AWE	CLS	

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L16100409-06	812143	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:56	AWE	CLS	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:56	AWE	CLS	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:56	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: L16100409

Account: 2551

Project: 2551.096

Samples: 16

Due Date: 18-OCT-2016

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L16100409-07	812144	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:56	AWE	CLS	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:56	AWE	CLS	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:56	AWE	CLS	

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L16100409-08	812145	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:56	AWE	CLS	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:56	AWE	CLS	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:56	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: L16100409

Account: 2551

Project: 2551.096

Samples: 16

Due Date: 18-OCT-2016

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L16100409-09	812146	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:56	AWE	CLS	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:56	AWE	CLS	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:56	AWE	CLS	

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L16100409-10	812147	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:56	AWE	CLS	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:56	AWE	CLS	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:56	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: L16100409

Account: 2551

Project: 2551.096

Samples: 16

Due Date: 18-OCT-2016

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L16100409-11	812148	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:56	AWE	CLS	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:56	AWE	CLS	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:56	AWE	CLS	

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L16100409-12	812149	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:56	AWE	CLS	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:56	AWE	CLS	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:56	AWE	CLS	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
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Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16100409

Account: 2551

Project: 2551.096

Samples: 16

Due Date: 18-OCT-2016

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L16100409-13	812150	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:55	AWE	CLS	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:55	AWE	CLS	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:55	AWE	CLS	

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L16100409-14	812151	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:55	AWE	CLS	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:55	AWE	CLS	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:56	AWE	CLS	

A1 - Sample Archive (COLD)
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F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16100409

Account: 2551

Project: 2551.096

Samples: 16

Due Date: 18-OCT-2016

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L16100409-15	812152	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:55	AWE	CLS	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:55	AWE	CLS	

Bottle: 3

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:55	AWE	CLS	

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L16100409-16	812153	826-LOW

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:55	AWE	CLS	

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	V1	07-OCT-2016 16:31	CLS		
2	ANALYZ	V1	ORG4	10-OCT-2016 07:55	AWE	CLS	

A1 - Sample Archive (COLD)
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F1 - Volatiles Freezer in Login
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NELAP Addendum - January 4, 2016

Non-NELAP LIMS Product and Description

The following is a list of those tests that are not included in the Microbac – OVD NELAP Scope of Accreditation:

Heat of Combustion (BTU)
 Total Halide by Bomb Combustion (TX)
 Particle Sizing - 200 Mesh (PS200)
 Specific Gravity/Density (SPGRAV)
 Total Residual Chlorine (CL-TRL)
 Total Volatile Solids (all forms) (TVS)
 Total Coliform Bacteria (all methods)
 Fecal Coliform Bacteria (all methods)
 Sulfite (SO₃)
 Propionaldehyde (HPLC-UV)

SOLID AND HAZARDOUS CHEMICALS

Nitrogen, Ammonia by Method 350.1
 Chromium, Hexavalent, Leachable by SM3500 Cr-B 2009
 Phenolics, Total by Method 420.1
 ASTM D3987-06

NELAP Accreditation by Laboratory SOP

NONPOTABLE WATER

OVD HPLC02/HPLC-UV

Nitroglycerin
 Acetic acid
 Butyric acid
 Lactic acid
 Propionic acid
 Pyruvic acid

OVD MSS01/GC-MS

1,4-Phenylenediamine
 1-Methylnaphthalene
 1,4-Dioxane
 Atrazine
 Benzaldehyde
 Biphenyl
 Caprolactam
 Hexamethylphosphoramide (HMPA)
 Pentachlorobenzene
 Pentachloroethane

NELAP Accreditation by Laboratory SOP**NONPOTABLE WATER**OVD MSV01/GC-MS

1, 1, 2-Trichloro-1,2,2-trifluoroethane
1,3-Butadiene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Methylacetate
Methylcyclohexane
T-amylmethylether (TAME)
Tetrahydrofuran (THF)

OVD HPLC07/HPLC-MS-MS

Hexamethylphosphoramide (XMPA-LCMS)

OVD HPLC12/HPLC/UV

Acetate
Formate

OVD RSK01/GC-FID

Acetylene
Propane

OVD K9305/ISE

Fluoroborate

SOLID AND HAZARDOUS CHEMICALSOVD MSS01/GC-MS

1-Methylnaphthalene
Benzaldehyde
Biphenyl
Caprolactam
Pentachloroethane

NELAP Accreditation by Laboratory SOP**SOLID AND HAZARDOUS CHEMICALS**OVD MSV01/GC-MS

1.3-Butadiene
Cyclohexane
Cyclohexanone
Dimethyl disulfide
Dimethylsulfide
Ethyl-t-butylether (ETBE)
Isoprene
Methylacetate
Methylcyclohexane
n-Hexane
T-amylmethylether (TAME)



10515 Research Drive
Knoxville, TN 37932
Phone: (865) 573-8188
Fax: (865) 573-8133

Client: Linda Raabe
AECOM
112 East Pecan Street
Suite 499
San Antonio, TX 78205

Phone: 210-253-7518

Fax:

Identifier: 006NJ

Date Rec: 10/04/2016

Report Date: 10/06/2016

Client Project #: 60256135.0002HA

Client Project Name: LHAAP

Purchase Order #:

Analysis Requested: CENSUS

Reviewed By:

A handwritten signature in black ink, appearing to read 'John Spurr'. The signature is written in a cursive style with a horizontal line underneath.

NOTICE: This report is intended only for the addressee shown above and may contain confidential or privileged information. If the recipient of this material is not the intended recipient or if you have received this in error, please notify Microbial Insights, Inc. immediately. The data and other information in this report represent only the sample(s) analyzed and are rendered upon condition that it is not to be reproduced without approval from Microbial Insights, Inc. Thank you for your cooperation.

MICROBIAL INSIGHTS, INC.

10515 Research Dr., Knoxville, TN 37932
 Tel. (865) 573-8188 Fax. (865) 573-8133

CENSUS

Client: AECOM
Project: LHAAP

MI Project Number: 006NJ
Date Received: 10/04/2016

Sample Information

Client Sample ID:	35AWW09-1003	35AWW10-1003	35AWW08-1004	03WW01-10041
	16	16	16	6
Sample Date:	10/03/2016	10/03/2016	10/04/2016	10/04/2016
Units:	cells/mL	cells/mL	cells/mL	cells/mL
Analyst:	JS	JS	JS	JS

Dechlorinating Bacteria

<i>Dehalococcoides</i>	<i>DHC</i>	<1.50E+00	<5.00E-01	2.56E+07	9.46E+06
tceA Reductase	TCE	<1.50E+00	<5.00E-01	<4.50E+00	<3.30E+00
BAV1 Vinyl Chloride Reductase	BVC	<1.50E+00	<5.00E-01	<4.50E+00	<3.30E+00
Vinyl Chloride Reductase	VCR	<1.50E+00	<5.00E-01	1.76E+06	5.89E+05
<i>Dehalobacter spp.</i>	<i>DHBt</i>	<1.52E+01	<4.60E+00	6.25E+05	5.33E+04

Legend:

NA = Not Analyzed NS = Not Sampled J = Estimated gene copies below PQL but above LQL I = Inhibited
 < = Result not detected

Quality Assurance/Quality Control Data

Samples Received 10/4/2016

Component	Date Prepared	Date Analyzed	Arrival Temperature	Positive Control	Extraction Blank	Negative Control
DHBt	10/04/2016	10/06/2016	1 °C	96%	non-detect	non-detect
DHC	10/04/2016	10/06/2016	1 °C	101%	non-detect	non-detect
BVC	10/04/2016	10/06/2016	1 °C	104%	non-detect	non-detect
TCE	10/04/2016	10/06/2016	1 °C	103%	non-detect	non-detect
VCR	10/04/2016	10/06/2016	1 °C	100%	non-detect	non-detect

Samples Received 10/5/2016

Component	Date Prepared	Date Analyzed	Arrival Temperature	Positive Control	Extraction Blank	Negative Control
DHC	10/05/2016	10/06/2016	0 °C	110%	non-detect	non-detect
BVC	10/05/2016	10/06/2016	0 °C	104%	non-detect	non-detect
TCE	10/05/2016	10/06/2016	0 °C	103%	non-detect	non-detect
VCR	10/05/2016	10/06/2016	0 °C	100%	non-detect	non-detect
DHBt	10/05/2016	10/06/2016	0 °C	90%	non-detect	non-detect

REPORT TO:

Name: LINDA RAABE
 Company: Aecom
 Address: 112 E. PACAN, Suite 400
SAN ANTONIO, TX. 78205

email: Linda.raabe@aecom.com
 Phone: 210-253-7518
 Fax: _____

Project Manager: Debra Richmann
 Project Name: LHAAP
 Project No.: 60256135.0002HA

INVOICE TO: (For Invoices paid by a third party it is imperative that all information be provided)

Name: _____
 Company: _____
 Address: _____

email: _____
 Phone: _____
 Fax: _____

Purchase Order No. _____
 Subcontract No. _____
 MI Quote No. _____



10515 Research Dr
 Knoxville, TN 37932
 865-573-8188
 www.microbe.com

Please Check One:
 More samples to follow
 No Additional Samples

Report Type: Standard (default) Microbial Insights Level III raw data(15% surcharge) Microbial Insights Level IV (25% surcharge) Comprehensive Interpretive(15%) Historical Interpretive (30%)
 EDD type: Microbial Insights Standard (default) All other available EDDs (5% surcharge) Specify EDD Type: _____

Please contact us with any questions about the analyses or filling out the COC at (865) 573-8188 (9:00 am to 5:00 pm EST, M-F). After hours email: customerservice@microbe.com

Sample Information					Analyses					CENSUS: Please select the target organism/gene																										
MI ID (Laboratory Use Only)	Sample Name	Date Sampled	Time Sampled	Matrix	PLFA	DGGE+3ID	DGGE+5ID	QuantArray Chlor	QuantArray Petro	DHC (Dehalococoides)	DHC Functional genes (bc, to, wt)	DHB (Dehalobacter)	DSM (Desulfuromonas)	DSB (Desulfibacterium)	EBAC (Total)	SRB	Sulfate Reducing Bacteria-APS	MGN (Methanogens)	MOB (Methanotrophs)	SMMO	DNF (Denitrifiers-nitS and nitK)	AOB ammonia oxidizing bacteria	PM1 (MTBE aerobic)	RMO (Toluene Monooxygenase)	RDEG (Toluene Monooxygenase)	PHE (Phenol Hydroxylase)	NAH (Naphthalene-aerobic)	BSSA Toluene/Xylene-Anaerobic)	add. qPCR:	add. qPCR:	RNA (Expression Option)*	Other:	Other:	Other:		
006NJ	35AWW09-100316	10/3/16	0825	W							X	X																								
	2 35AWW10-100316	10/3/16	0940	W							X	X																								
Relinquished by:					Received by:					Date																										
<u>Sally Belsign</u>										<u>10/4/16</u>																										

It is vital that chain of custody is filled out correctly & that all relative information is provided.
 Failure to provide sufficient and/or correct information regarding reporting, invoicing & analyses requested information may result in delays for which MI will not be liable.

REPORT TO:

Name: LINDA RAABE
 Company: Aecom
 Address: 112 E. PECAN, Suite 400
SAN ANTONIO, TX. 78205
 email: Linda.raabe@aecom.com
 Phone: 210-253-7518
 Fax: _____

INVOICE TO: (For Invoices paid by a third party it is imperative that all information be provided)

Name: _____
 Company: _____
 Address: _____
 email: _____
 Phone: _____
 Fax: _____



10515 Research Dr
 Knoxville, TN 37932
 865-573-8188
 www.microbe.com

Project Manager: DEBRA RICHMANN
 Project Name: LHAAP
 Project No.: 60256135.00024A

Purchase Order No. _____
 Subcontract No. _____
 MI Quote No. _____

Please Check One:
 More samples to follow
 No Additional Samples

Report Type: Standard (default) Microbial Insights Level III raw data(15% surcharge) Microbial Insights Level IV (25% surcharge) Comprehensive Interpretive(15%) Historical Interpretive (30%)
 EDD type: Microbial Insights Standard (default) All other available EDDs (5% surcharge) Specify EDD Type: _____

Please contact us with any questions about the analyses or filling out the COC at (865) 573-8188 (9:00 am to 5:00 pm EST, M-F). After hours email: customerservice@microbe.com

Sample Information					Analyses				CENSUS: Please select the target organism/gene																											
MI ID (Laboratory Use Only)	Sample Name	Date Sampled	Time Sampled	Matrix	PLFA	DGGE+3ID	DGGE+5ID	QuantArray Chlor	QuantArray Petro	DHC (Dehalococoides)	DHC Functional genes (bc, tce, vc)	DHB (Dehalobacter)	DSM (Desulfuromonas)	DSB (Desulfobacterium)	EBAC (Total)	SRB	Sulfate Reducing Bacteria-APS	MGN (Methanogens)	MOB (Methanotrophs)	SMMO	DNF (Identifiers-nirS and nirK)	AOB (ammonia oxidizing bacteria)	PM1 (MTBE aerobic)	RMO (Toluene Monooxygenase)	RDEG (Toluene Monooxygenase)	PHE (Phenol Hydroxylase)	NAH (Naphthalene-aerobic)	BSSA (Toluene/Xylene-Anaerobic)	add. qPCR:	add. qPCR:	RNA (Expression Option)*	Other:	Other:	Other:		
006NJ3	35AWW08-100416	10/4/16	0740								X	X																								
4	03WW01-100416	10/4/16	0820								X	X																								
Relinquished by: <u>Scott Beesig</u>		<u>10/4/16 1530</u>		Received by: <u>Jeff Prox</u>		<u>10/5/16</u>																														

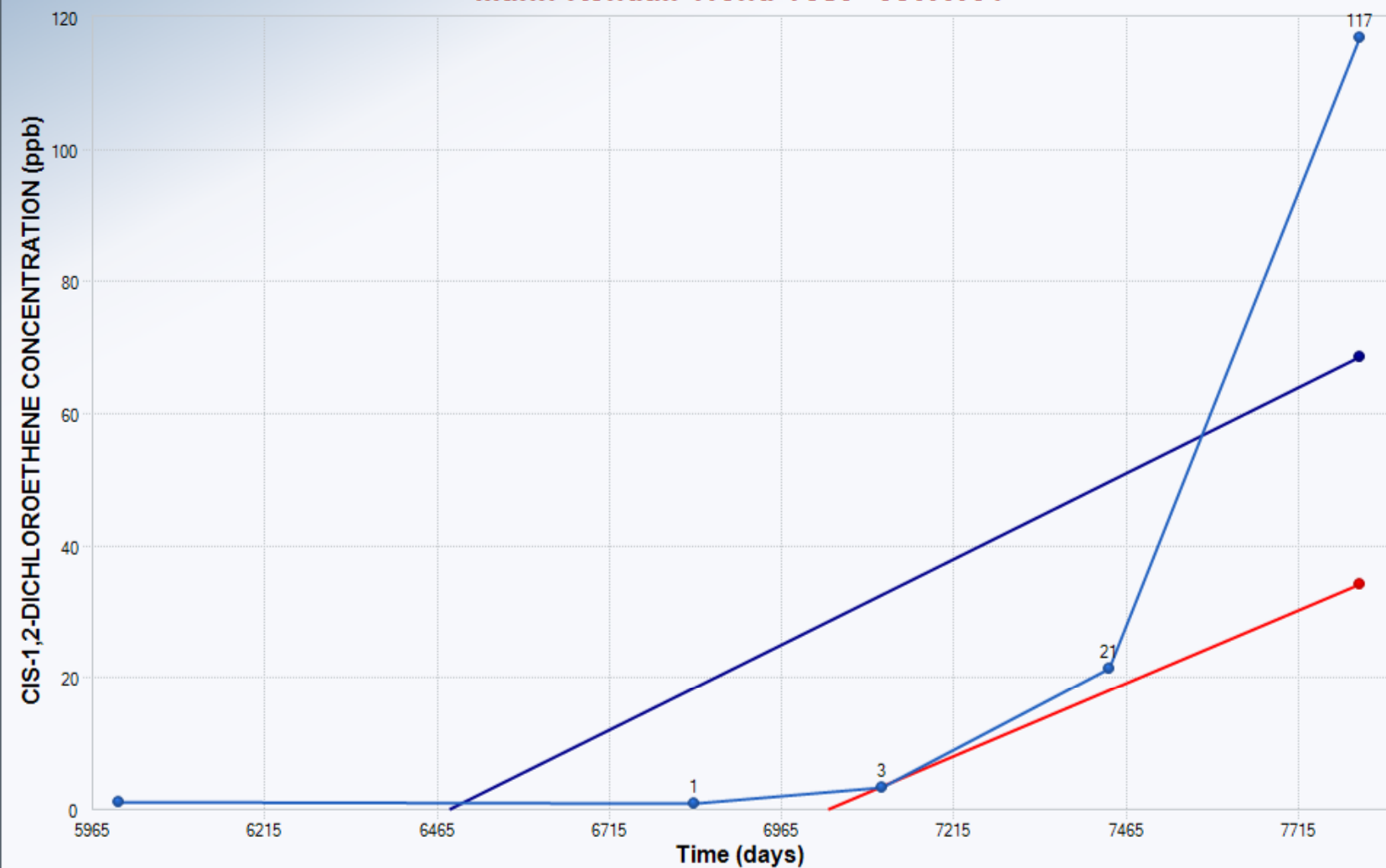
It is vital that chain of custody is filled out correctly & that all relative information is provided.
 Failure to provide sufficient and/or correct information regarding reporting, invoicing & analyses requested information may result in delays for which MI will not be liable.

APPENDIX E
MANN-KENDALL TREND TEST RESULTS

3RD ANNUAL RAO REPORT
LHAAP-35A (58) SHOPS AREA

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Mann-Kendall Trend Test - 03WW01



Mann-Kendall Trend Analysis

n	5
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	4.0825
Standardized Value of S	1.7146
M-K Test Value (S)	8
Tabulated p-value	0.0420
Approximate p-value	0.0432

OLS Regression Line (Blue)

OLS Regression Slope	0.0520
OLS Regression Intercept	-337.2374

Theil-Sen Trend Line (Red)

Theil-Sen Slope	0.0444
Theil-Sen Intercept	-312.7218

Statistically significant evidence of an increasing trend at the specified level of significance.

Mann-Kendall Trend Test - 03WW01



Mann-Kendall Trend Analysis

n	12
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	14.5488
Standardized Value of S	-3.8491
M-K Test Value (S)	-57
Tabulated p-value	0.0000
Approximate p-value	0.0001

OLS Regression Line (Blue)

OLS Regression Slope	-0.8308
OLS Regression Intercept	6,148.3203

Theil-Sen Trend Line (Red)

Theil-Sen Slope	-0.2789
Theil-Sen Intercept	2,106.8166

Statistically significant evidence of a decreasing trend at the specified level of significance.

Mann-Kendall Trend Test - 03WW01



Mann-Kendall Trend Analysis

n	11
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	12.8452
Standardized Value of S	-0.3114
M-K Test Value (S)	-5
Tabulated p-value	0.3810
Approximate p-value	0.3777

OLS Regression Line (Blue)

OLS Regression Slope	-0.0173
OLS Regression Intercept	230.5123

Theil-Sen Trend Line (Red)

Theil-Sen Slope	-0.0107
Theil-Sen Intercept	147.4680

Insufficient statistical evidence of a significant trend at the specified level of significance.

Mann-Kendall Trend Test - 35AWW08



Mann-Kendall Trend Analysis

n	11
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	12.8452
Standardized Value of S	1.5570
M-K Test Value (S)	21
Tabulated p-value	0.0600
Approximate p-value	0.0597

OLS Regression Line (Blue)

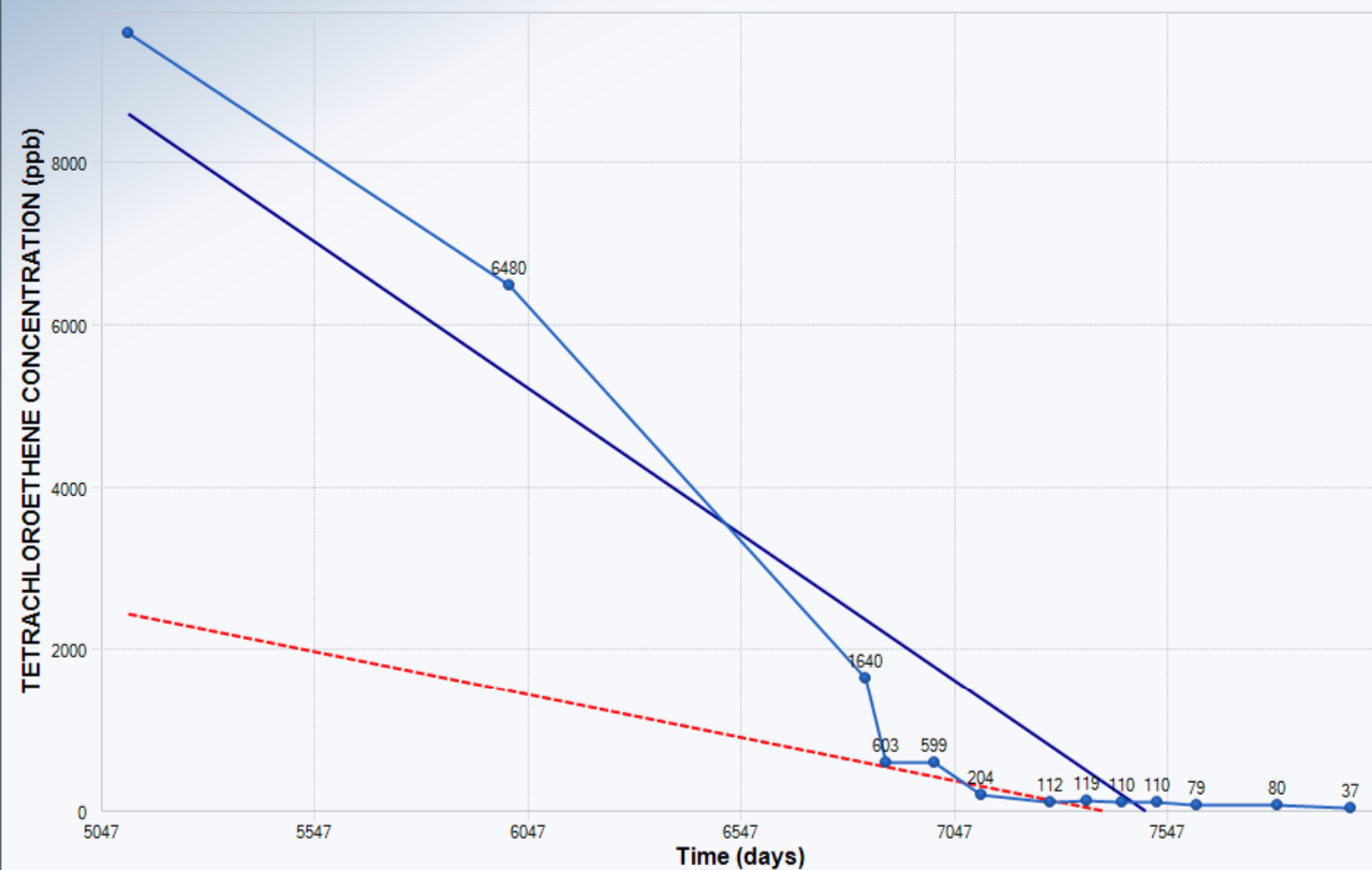
OLS Regression Slope	0.0254
OLS Regression Intercept	-140.8563

Theil-Sen Trend Line (Red)

Theil-Sen Slope	0.0284
Theil-Sen Intercept	-166.8597

Insufficient statistical evidence of a significant trend at the specified level of significance.

Mann-Kendall Trend Test - 35AWW08



Mann-Kendall Trend Analysis

n	13
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	16.3605
Standardized Value of S	-4.4008
M-K Test Value (S)	-73
Tabulated p-value	0.0000
Approximate p-value	0.0000

OLS Regression Line (Blue)

OLS Regression Slope	-3.6074
OLS Regression Intercept	27,030.5090

Theil-Sen Trend Line (Red)

Theil-Sen Slope	-1.0715
Theil-Sen Intercept	7,908.9198

Statistically significant evidence of a decreasing trend at the specified level of significance.

Mann-Kendall Trend Test - 35AWW08



Mann-Kendall Trend Analysis

n	13
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	16.3911
Standardized Value of S	-1.5252
M-K Test Value (S)	-26
Tabulated p-value	0.0640
Approximate p-value	0.0636

OLS Regression Line (Blue)

OLS Regression Slope	-0.1675
OLS Regression Intercept	1,793.2845

Theil-Sen Trend Line (Red)

Theil-Sen Slope	-0.2681
Theil-Sen Intercept	2,556.0978

Insufficient statistical evidence of a significant trend at the specified level of significance.

Mann-Kendall Trend Test - 35AWW09



Mann-Kendall Trend Analysis

n	9
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	9.5917
Standardized Value of S	0.3128
M-K Test Value (S)	4
Tabulated p-value	0.3810
Approximate p-value	0.3772

OLS Regression Line (Blue)

OLS Regression Slope	0.0001
OLS Regression Intercept	-0.0529

Theil-Sen Trend Line (Red)

Theil-Sen Slope	0.0001
Theil-Sen Intercept	0.1098

Insufficient statistical evidence of a significant trend at the specified level of significance.

Mann-Kendall Trend Test - 35AWW09



Mann-Kendall Trend Analysis

n	11
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	12.8452
Standardized Value of S	2.3355
M-K Test Value (S)	31
Tabulated p-value	0.0080
Approximate p-value	0.0098

OLS Regression Line (Blue)

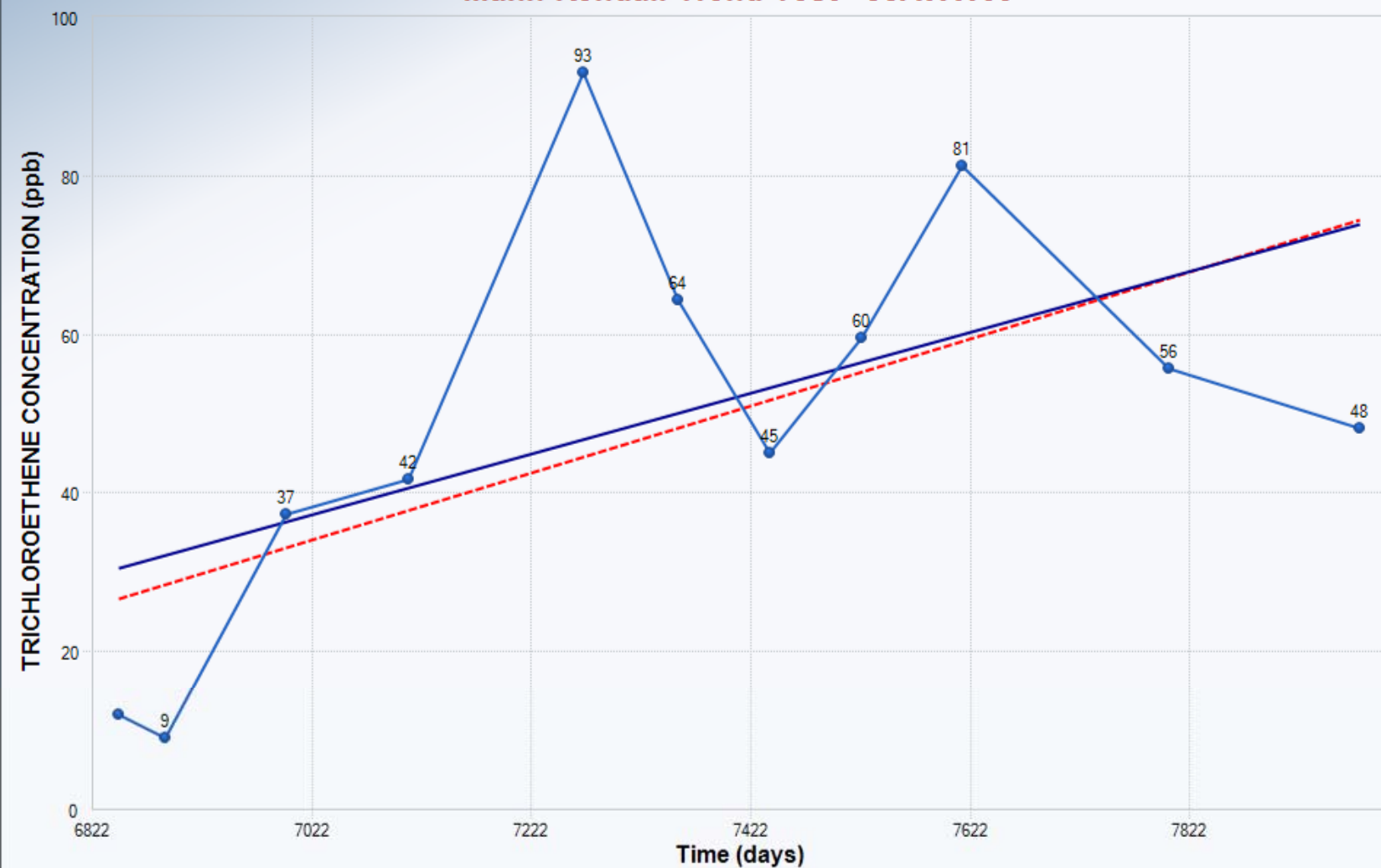
OLS Regression Slope	0.1330
OLS Regression Intercept	-818.8276

Theil-Sen Trend Line (Red)

Theil-Sen Slope	0.1336
Theil-Sen Intercept	-810.7512

Statistically significant evidence of an increasing trend at the specified level of significance.

Mann-Kendall Trend Test - 35AWW09



Mann-Kendall Trend Analysis

n	11
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	12.8452
Standardized Value of S	1.7127
M-K Test Value (S)	23
Tabulated p-value	0.0430
Approximate p-value	0.0434

OLS Regression Line (Blue)

OLS Regression Slope	0.0383
OLS Regression Intercept	-232.0565

Theil-Sen Trend Line (Red)

Theil-Sen Slope	0.0424
Theil-Sen Intercept	-263.4473

Statistically significant evidence of an increasing trend at the specified level of significance.

Mann-Kendall Trend Test - 35AWW20



Mann-Kendall Trend Analysis

n	10
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	11.1803
Standardized Value of S	0.1789
M-K Test Value (S)	3
Tabulated p-value	0.4310
Approximate p-value	0.4290

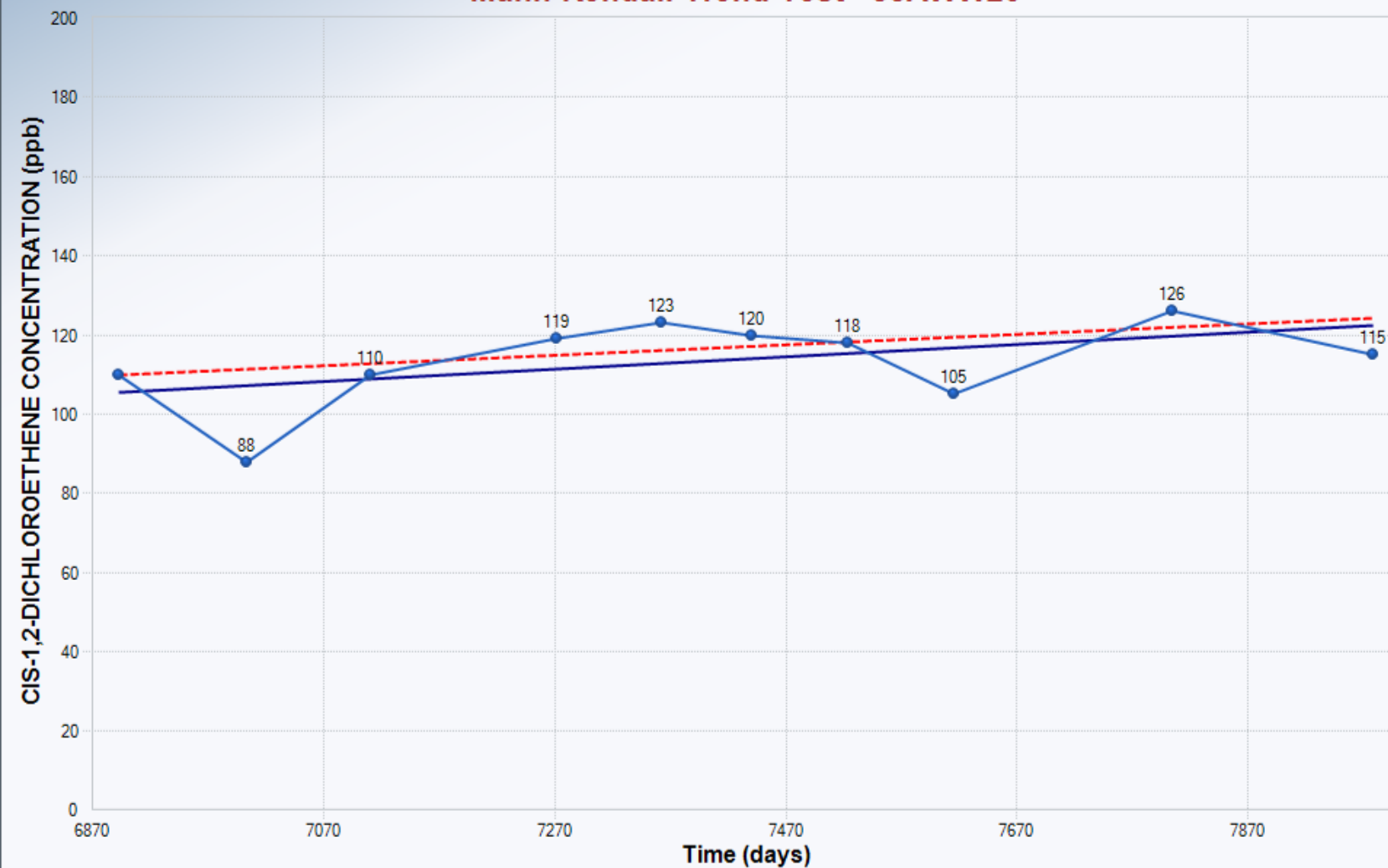
OLS Regression Line (Blue)

OLS Regression Slope	0.5830
OLS Regression Intercept	61.8844

Theil-Sen Trend Line (Red)

Theil-Sen Slope	0.5031
Theil-Sen Intercept	986.7043

Insufficient statistical evidence of a significant trend at the specified level of significance.

Mann-Kendall Trend Test - 35AWW20**Mann-Kendall Trend Analysis**

n	10
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	11.1355
Standardized Value of S	0.9878
M-K Test Value (S)	12
Tabulated p-value	0.1460
Approximate p-value	0.1616

OLS Regression Line (Blue)

OLS Regression Slope	0.0156
OLS Regression Intercept	-2.4164

Theil-Sen Trend Line (Red)

Theil-Sen Slope	0.0132
Theil-Sen Intercept	19.1184

Insufficient statistical evidence of a significant trend at the specified level of significance.

Mann-Kendall Trend Test - 35AWW20**Mann-Kendall Trend Analysis**

n	10
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	11.1803
Standardized Value of S	0.0000
M-K Test Value (S)	1
Tabulated p-value	0.5000
Approximate p-value	0.5000

OLS Regression Line (Blue)

OLS Regression Slope	0.0650
OLS Regression Intercept	177.8266

Theil-Sen Trend Line (Red)

Theil-Sen Slope	0.0173
Theil-Sen Intercept	537.3442

Insufficient statistical evidence of a significant trend at the specified level of significance.

Mann-Kendall Trend Test - 35AWW20



Mann-Kendall Trend Analysis

n	10
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	11.1803
Standardized Value of S	2.5044
M-K Test Value (S)	29
Tabulated p-value	0.0050
Approximate p-value	0.0061

OLS Regression Line (Blue)

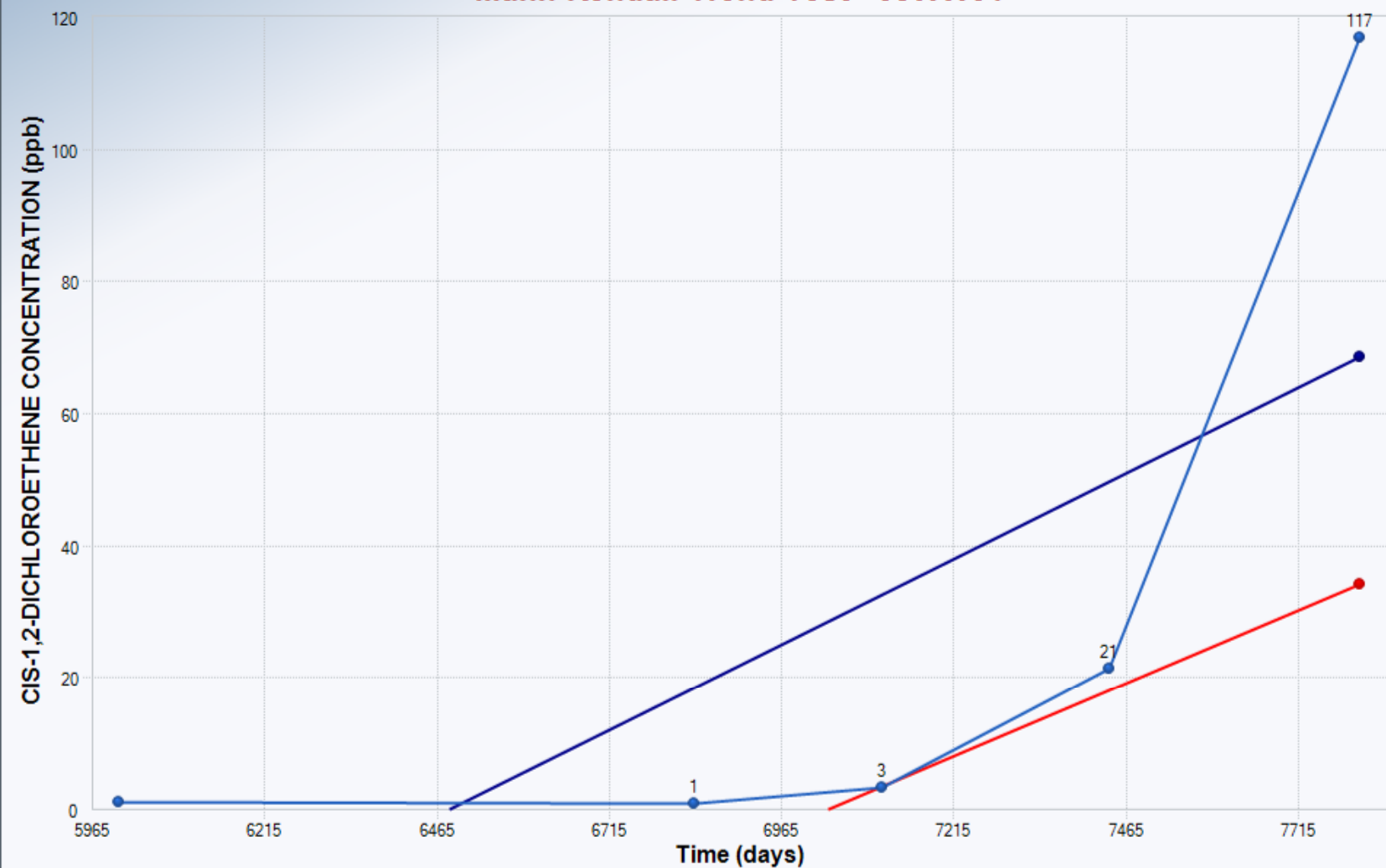
OLS Regression Slope	0.1093
OLS Regression Intercept	-688.5103

Theil-Sen Trend Line (Red)

Theil-Sen Slope	0.1105
Theil-Sen Intercept	-704.2901

Statistically significant evidence of an increasing trend at the specified level of significance.

Mann-Kendall Trend Test - 03WW01



Mann-Kendall Trend Analysis

n	5
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	4.0825
Standardized Value of S	1.7146
M-K Test Value (S)	8
Tabulated p-value	0.0420
Approximate p-value	0.0432

OLS Regression Line (Blue)

OLS Regression Slope	0.0520
OLS Regression Intercept	-337.2374

Theil-Sen Trend Line (Red)

Theil-Sen Slope	0.0444
Theil-Sen Intercept	-312.7218

Statistically significant evidence of an increasing trend at the specified level of significance.

Mann-Kendall Trend Test - 03WW01



Mann-Kendall Trend Analysis

n	12
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	14.5488
Standardized Value of S	-3.8491
M-K Test Value (S)	-57
Tabulated p-value	0.0000
Approximate p-value	0.0001

OLS Regression Line (Blue)

OLS Regression Slope	-0.8308
OLS Regression Intercept	6,148.3203

Theil-Sen Trend Line (Red)

Theil-Sen Slope	-0.2789
Theil-Sen Intercept	2,106.8166

Statistically significant evidence of a decreasing trend at the specified level of significance.

Mann-Kendall Trend Test - 03WW01



Mann-Kendall Trend Analysis

n	11
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	12.8452
Standardized Value of S	-0.3114
M-K Test Value (S)	-5
Tabulated p-value	0.3810
Approximate p-value	0.3777

OLS Regression Line (Blue)

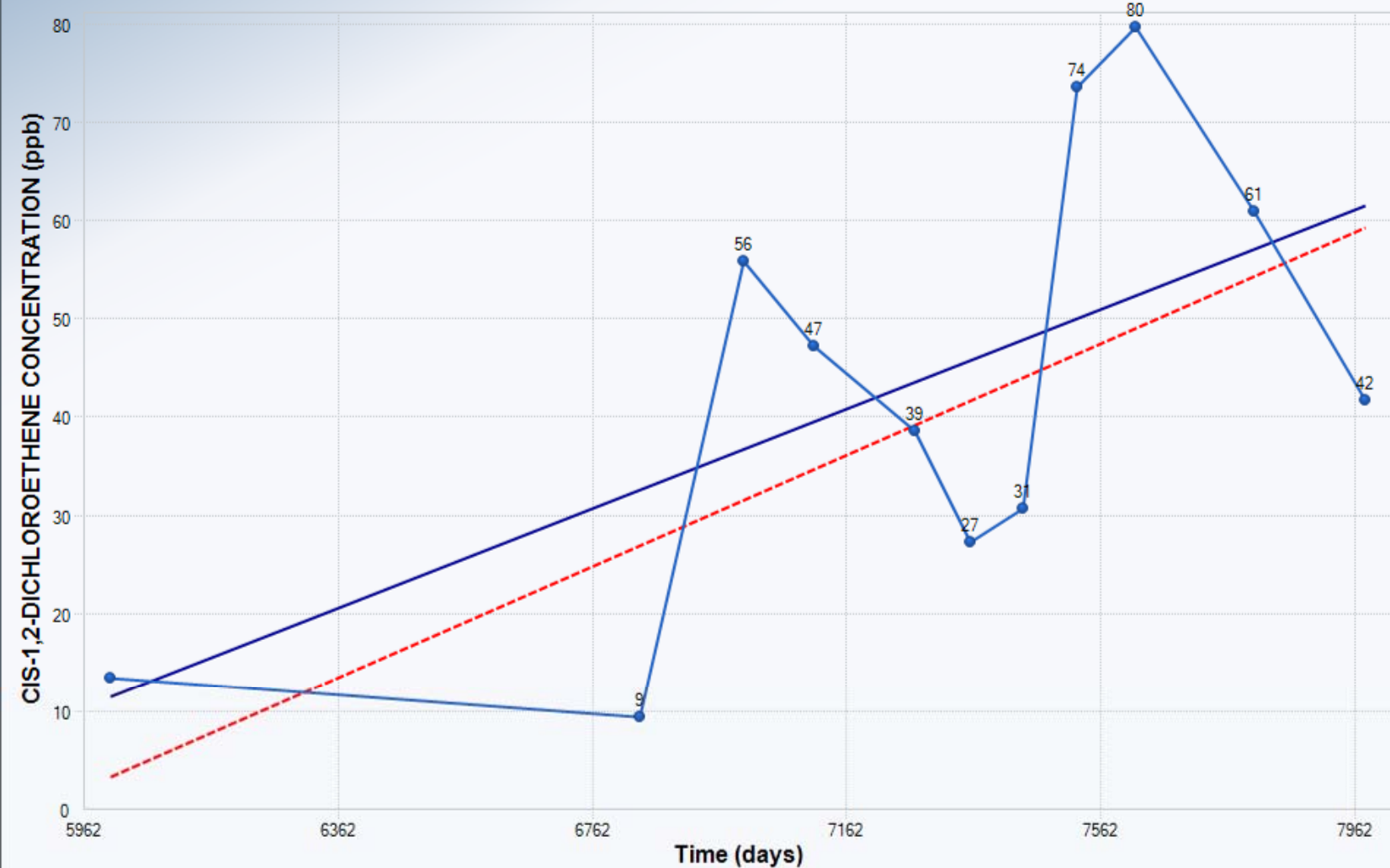
OLS Regression Slope	-0.0173
OLS Regression Intercept	230.5123

Theil-Sen Trend Line (Red)

Theil-Sen Slope	-0.0107
Theil-Sen Intercept	147.4680

Insufficient statistical evidence of a significant trend at the specified level of significance.

Mann-Kendall Trend Test - 35AWW08



Mann-Kendall Trend Analysis

n	11
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	12.8452
Standardized Value of S	1.5570
M-K Test Value (S)	21
Tabulated p-value	0.0600
Approximate p-value	0.0597

OLS Regression Line (Blue)

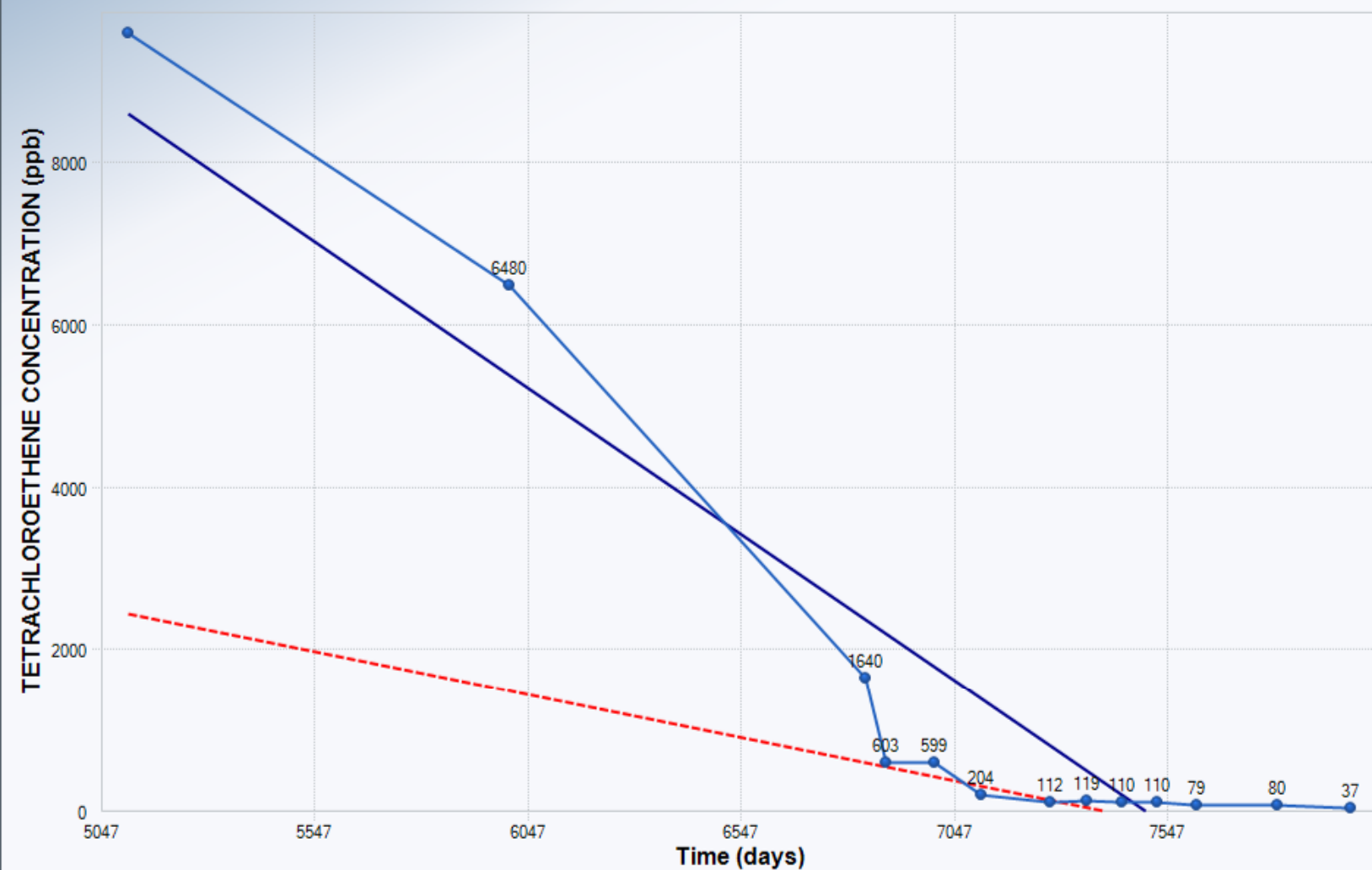
OLS Regression Slope	0.0254
OLS Regression Intercept	-140.8563

Theil-Sen Trend Line (Red)

Theil-Sen Slope	0.0284
Theil-Sen Intercept	-166.8597

Insufficient statistical evidence of a significant trend at the specified level of significance.

Mann-Kendall Trend Test - 35AWW08



Mann-Kendall Trend Analysis

n	13
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	16.3605
Standardized Value of S	-4.4008
M-K Test Value (S)	-73
Tabulated p-value	0.0000
Approximate p-value	0.0000

OLS Regression Line (Blue)

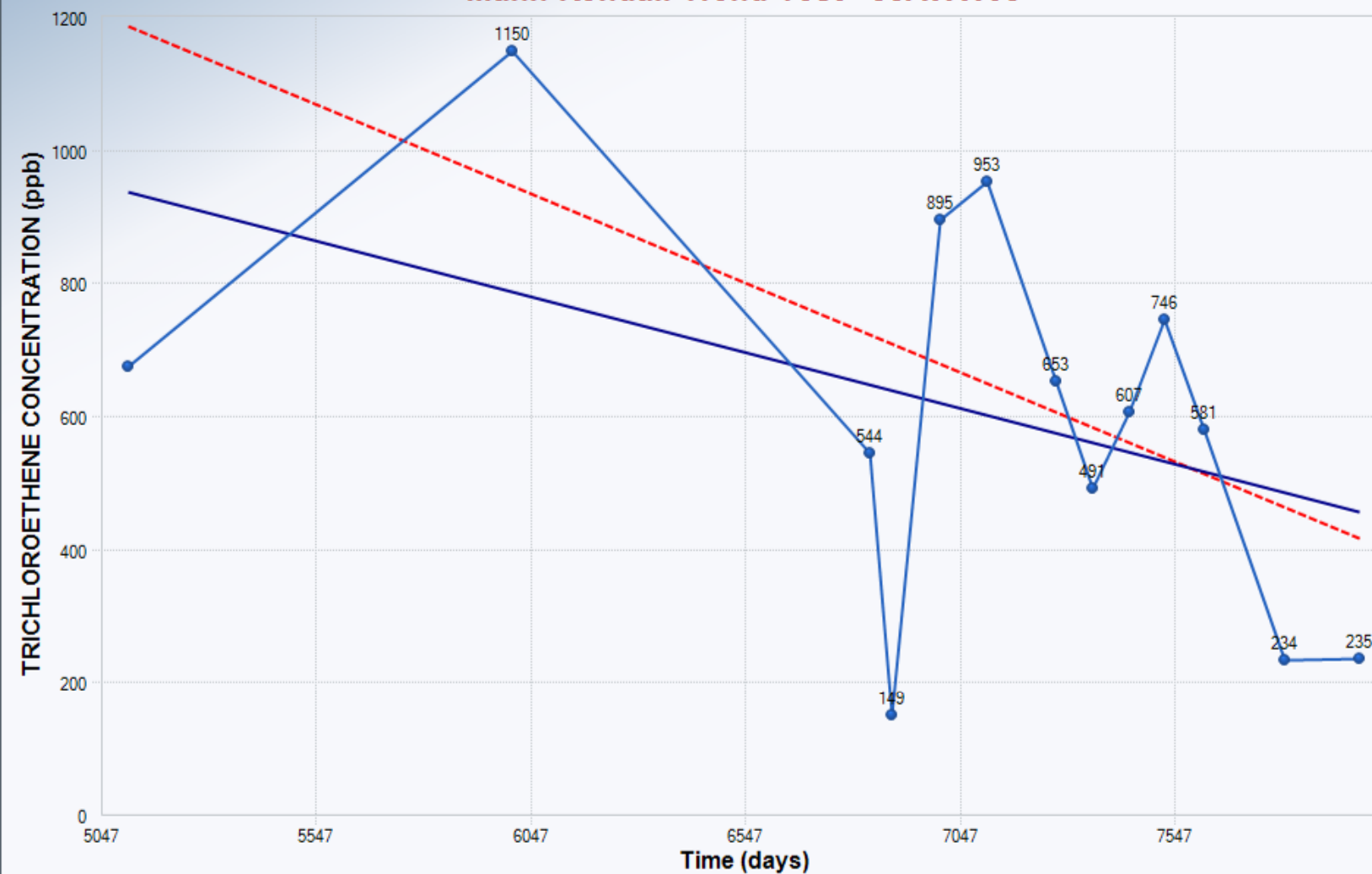
OLS Regression Slope	-3.6074
OLS Regression Intercept	27,030.5090

Theil-Sen Trend Line (Red)

Theil-Sen Slope	-1.0715
Theil-Sen Intercept	7,908.9198

Statistically significant evidence of a decreasing trend at the specified level of significance.

Mann-Kendall Trend Test - 35AWW08



Mann-Kendall Trend Analysis

n	13
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	16.3911
Standardized Value of S	-1.5252
M-K Test Value (S)	-26
Tabulated p-value	0.0640
Approximate p-value	0.0636

OLS Regression Line (Blue)

OLS Regression Slope	-0.1675
OLS Regression Intercept	1,793.2845

Theil-Sen Trend Line (Red)

Theil-Sen Slope	-0.2681
Theil-Sen Intercept	2,556.0978

Insufficient statistical evidence of a significant trend at the specified level of significance.

Mann-Kendall Trend Test - 35AWW09



Mann-Kendall Trend Analysis

n	9
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	9.5917
Standardized Value of S	0.3128
M-K Test Value (S)	4
Tabulated p-value	0.3810
Approximate p-value	0.3772

OLS Regression Line (Blue)

OLS Regression Slope	0.0001
OLS Regression Intercept	-0.0529

Theil-Sen Trend Line (Red)

Theil-Sen Slope	0.0001
Theil-Sen Intercept	0.1098

Insufficient statistical evidence of a significant trend at the specified level of significance.

Mann-Kendall Trend Test - 35AWW09



Mann-Kendall Trend Analysis

n	11
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	12.8452
Standardized Value of S	2.3355
M-K Test Value (S)	31
Tabulated p-value	0.0080
Approximate p-value	0.0098

OLS Regression Line (Blue)

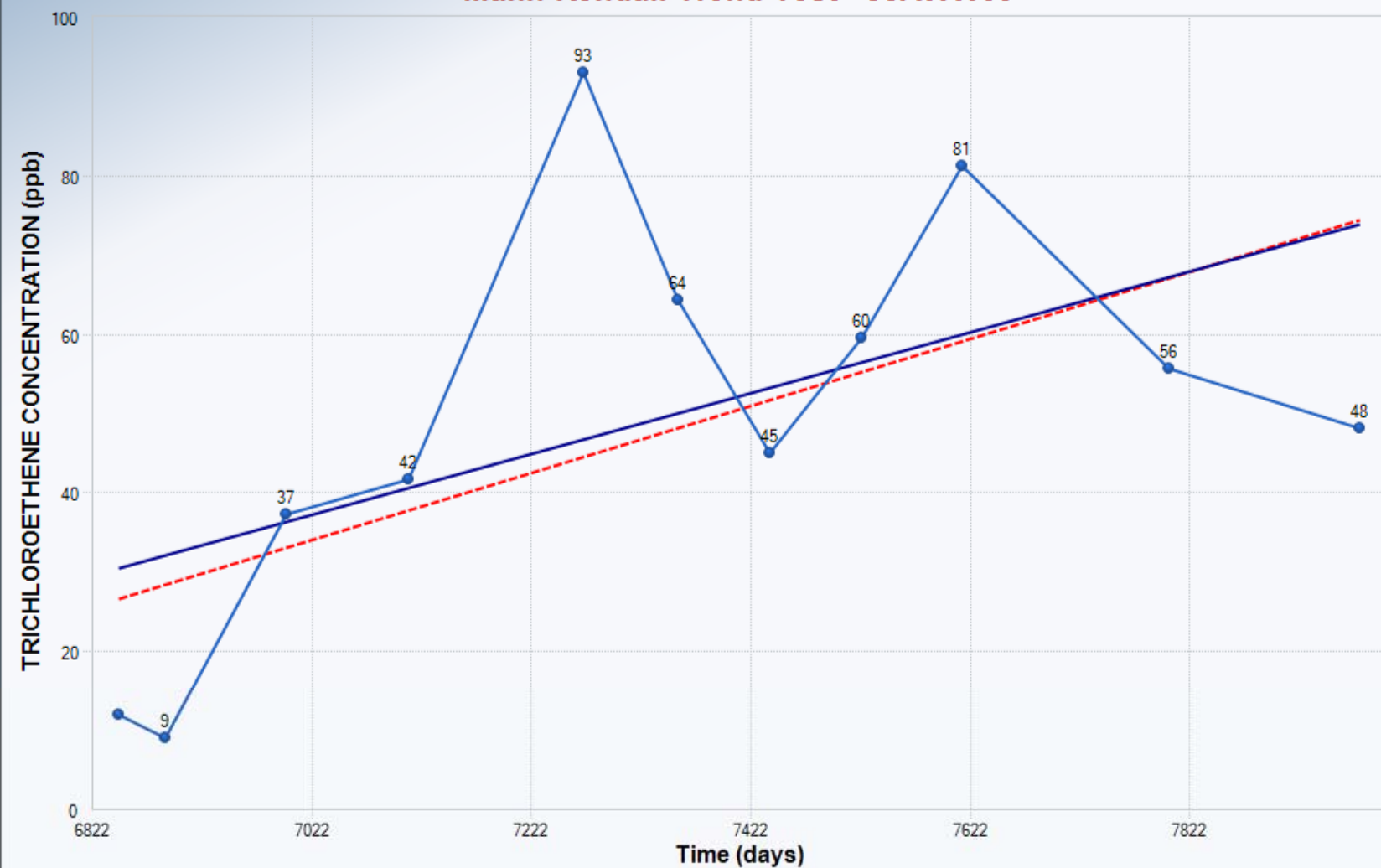
OLS Regression Slope	0.1330
OLS Regression Intercept	-818.8276

Theil-Sen Trend Line (Red)

Theil-Sen Slope	0.1336
Theil-Sen Intercept	-810.7512

Statistically significant evidence of an increasing trend at the specified level of significance.

Mann-Kendall Trend Test - 35AWW09



Mann-Kendall Trend Analysis

n	11
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	12.8452
Standardized Value of S	1.7127
M-K Test Value (S)	23
Tabulated p-value	0.0430
Approximate p-value	0.0434

OLS Regression Line (Blue)

OLS Regression Slope	0.0383
OLS Regression Intercept	-232.0565

Theil-Sen Trend Line (Red)

Theil-Sen Slope	0.0424
Theil-Sen Intercept	-263.4473

Statistically significant evidence of an increasing trend at the specified level of significance.

Mann-Kendall Trend Test - 35AWW20



Mann-Kendall Trend Analysis

n	10
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	11.1803
Standardized Value of S	0.1789
M-K Test Value (S)	3
Tabulated p-value	0.4310
Approximate p-value	0.4290

OLS Regression Line (Blue)

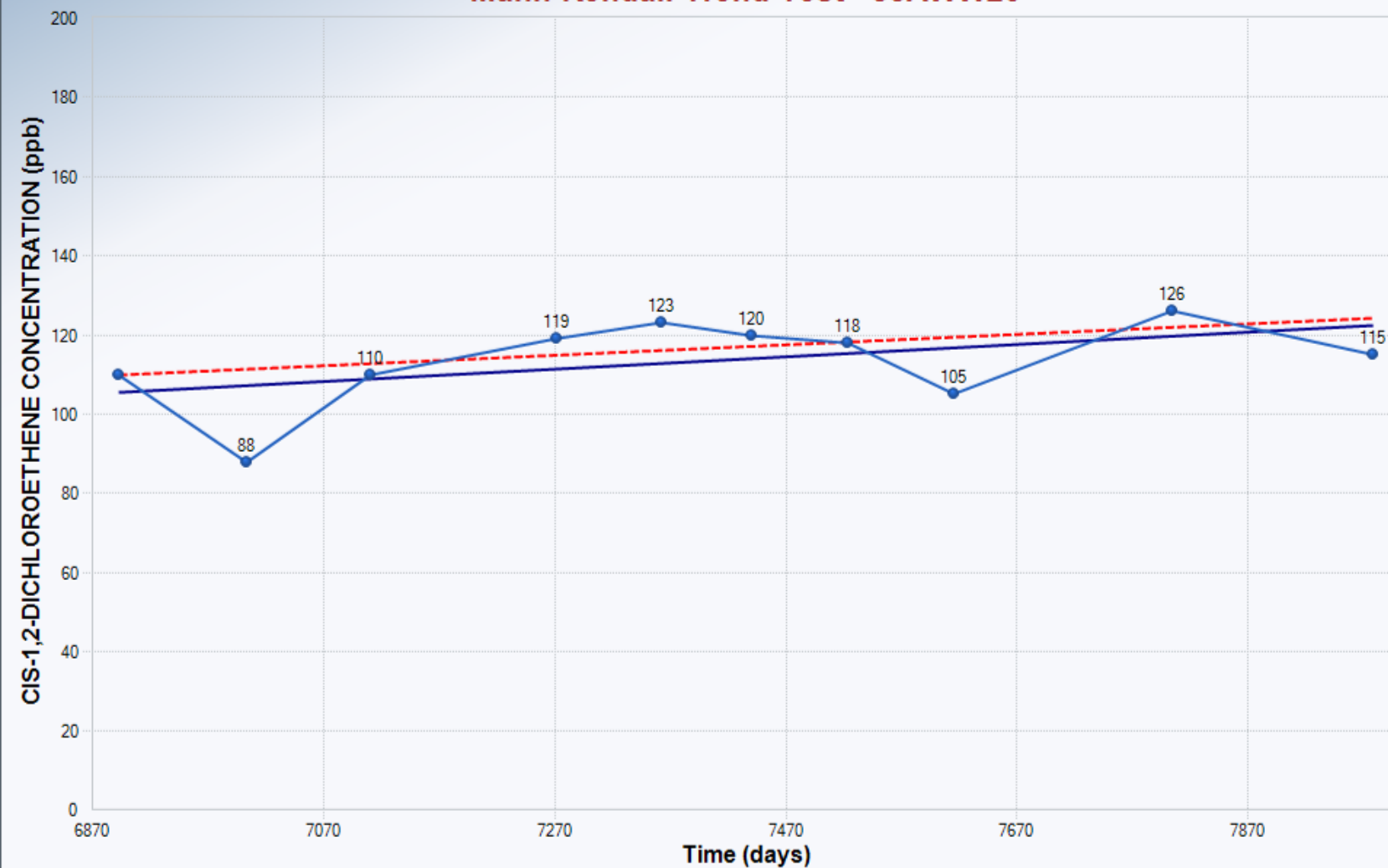
OLS Regression Slope	0.5830
OLS Regression Intercept	61.8844

Theil-Sen Trend Line (Red)

Theil-Sen Slope	0.5031
Theil-Sen Intercept	986.7043

Insufficient statistical evidence of a significant trend at the specified level of significance.

Mann-Kendall Trend Test - 35AWW20



Mann-Kendall Trend Analysis

n	10
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	11.1355
Standardized Value of S	0.9878
M-K Test Value (S)	12
Tabulated p-value	0.1460
Approximate p-value	0.1616

OLS Regression Line (Blue)

OLS Regression Slope	0.0156
OLS Regression Intercept	-2.4164

Theil-Sen Trend Line (Red)

Theil-Sen Slope	0.0132
Theil-Sen Intercept	19.1184

Insufficient statistical evidence of a significant trend at the specified level of significance.

Mann-Kendall Trend Test - 35AWW20



Mann-Kendall Trend Analysis

n	10
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	11.1803
Standardized Value of S	0.0000
M-K Test Value (S)	1
Tabulated p-value	0.5000
Approximate p-value	0.5000

OLS Regression Line (Blue)

OLS Regression Slope	0.0650
OLS Regression Intercept	177.8266

Theil-Sen Trend Line (Red)

Theil-Sen Slope	0.0173
Theil-Sen Intercept	537.3442

Insufficient statistical evidence of a significant trend at the specified level of significance.

Mann-Kendall Trend Test - 35AWW20



Mann-Kendall Trend Analysis

n	10
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	11.1803
Standardized Value of S	2.5044
M-K Test Value (S)	29
Tabulated p-value	0.0050
Approximate p-value	0.0061

OLS Regression Line (Blue)

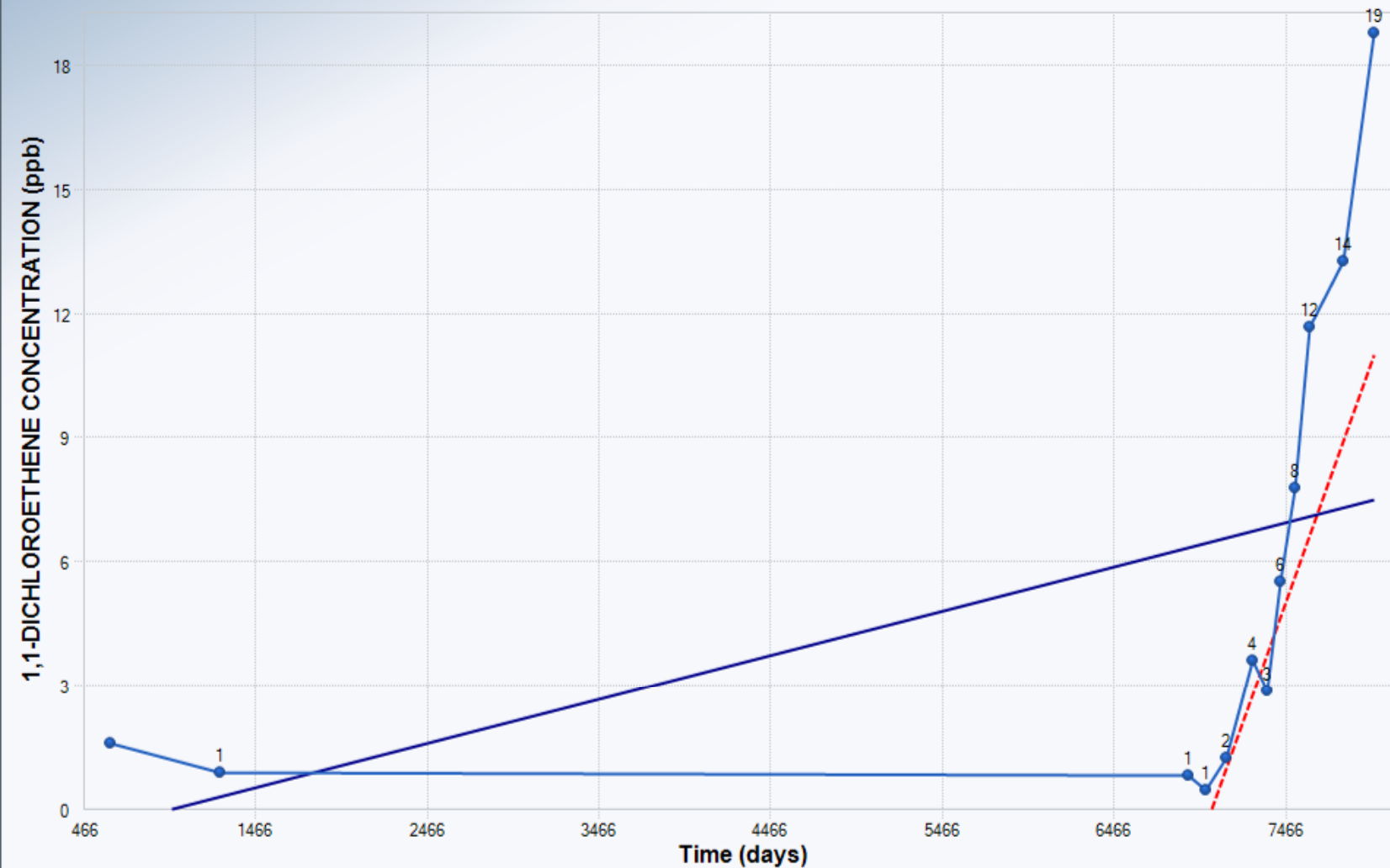
OLS Regression Slope	0.1093
OLS Regression Intercept	-688.5103

Theil-Sen Trend Line (Red)

Theil-Sen Slope	0.1105
Theil-Sen Intercept	-704.2901

Statistically significant evidence of an increasing trend at the specified level of significance.

Mann-Kendall Trend Test - LHSMW06



Mann-Kendall Trend Analysis

n	12
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	14.5831
Standardized Value of S	3.3601
M-K Test Value (S)	50
Tabulated p-value	0.0000
Approximate p-value	0.0004

OLS Regression Line (Blue)

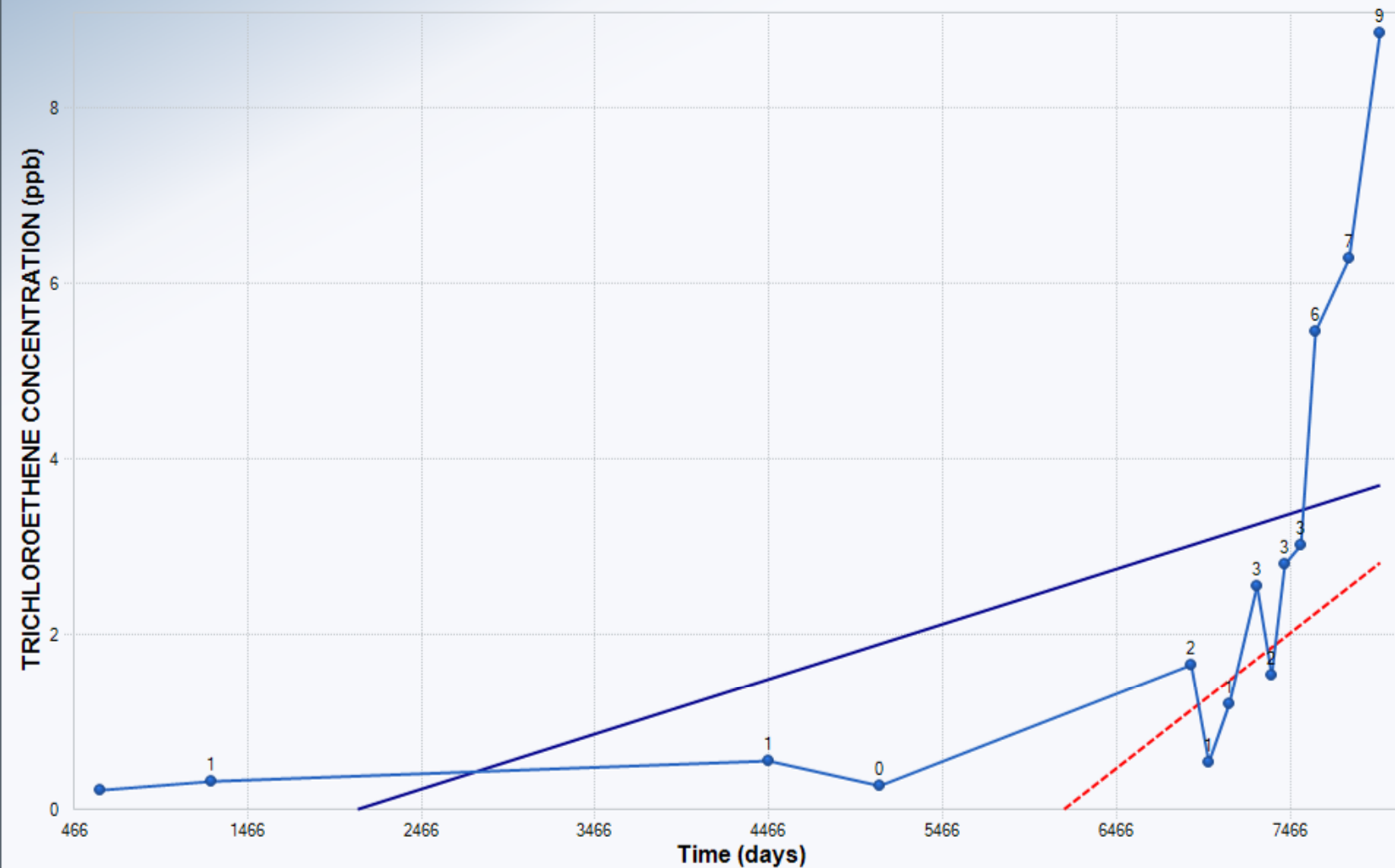
OLS Regression Slope	0.0011
OLS Regression Intercept	-0.6573

Theil-Sen Trend Line (Red)

Theil-Sen Slope	0.0117
Theil-Sen Intercept	-81.6329

Statistically significant evidence of an increasing trend at the specified level of significance.

Mann-Kendall Trend Test - LHSMW06



Mann-Kendall Trend Analysis

n	14
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	18.2665
Standardized Value of S	4.1606
M-K Test Value (S)	.77
Tabulated p-value	0.0000
Approximate p-value	0.0000

OLS Regression Line (Blue)

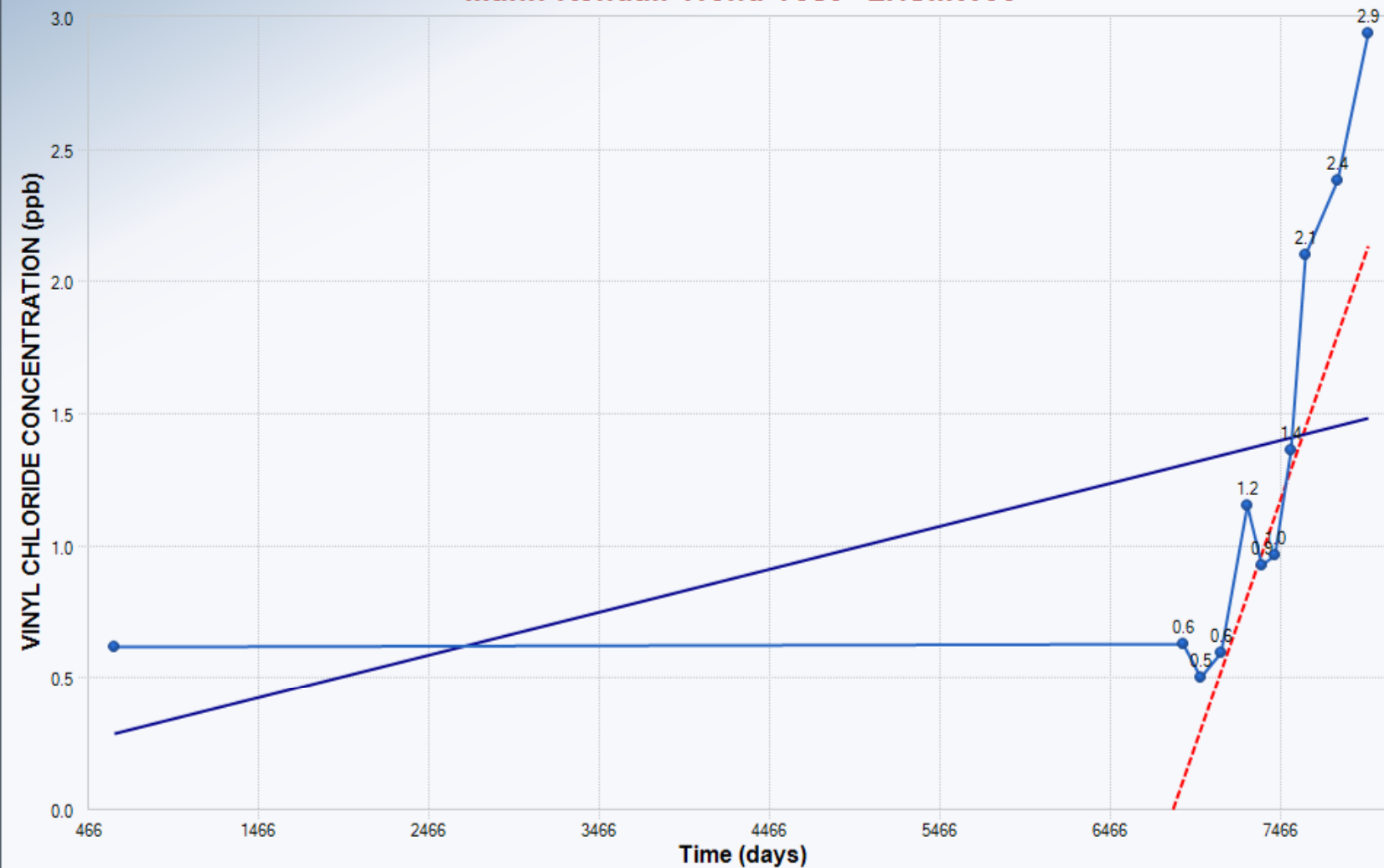
OLS Regression Slope	0.0006
OLS Regression Intercept	-1.1338

Theil-Sen Trend Line (Red)

Theil-Sen Slope	0.0016
Theil-Sen Intercept	-9.3779

Statistically significant evidence of an increasing trend at the specified level of significance.

Mann-Kendall Trend Test - LHSMW06



Mann-Kendall Trend Analysis

n	11
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	12.8452
Standardized Value of S	3.2697
M-K Test Value (S)	43
Tabulated p-value	0.0000
Approximate p-value	0.0005

OLS Regression Line (Blue)

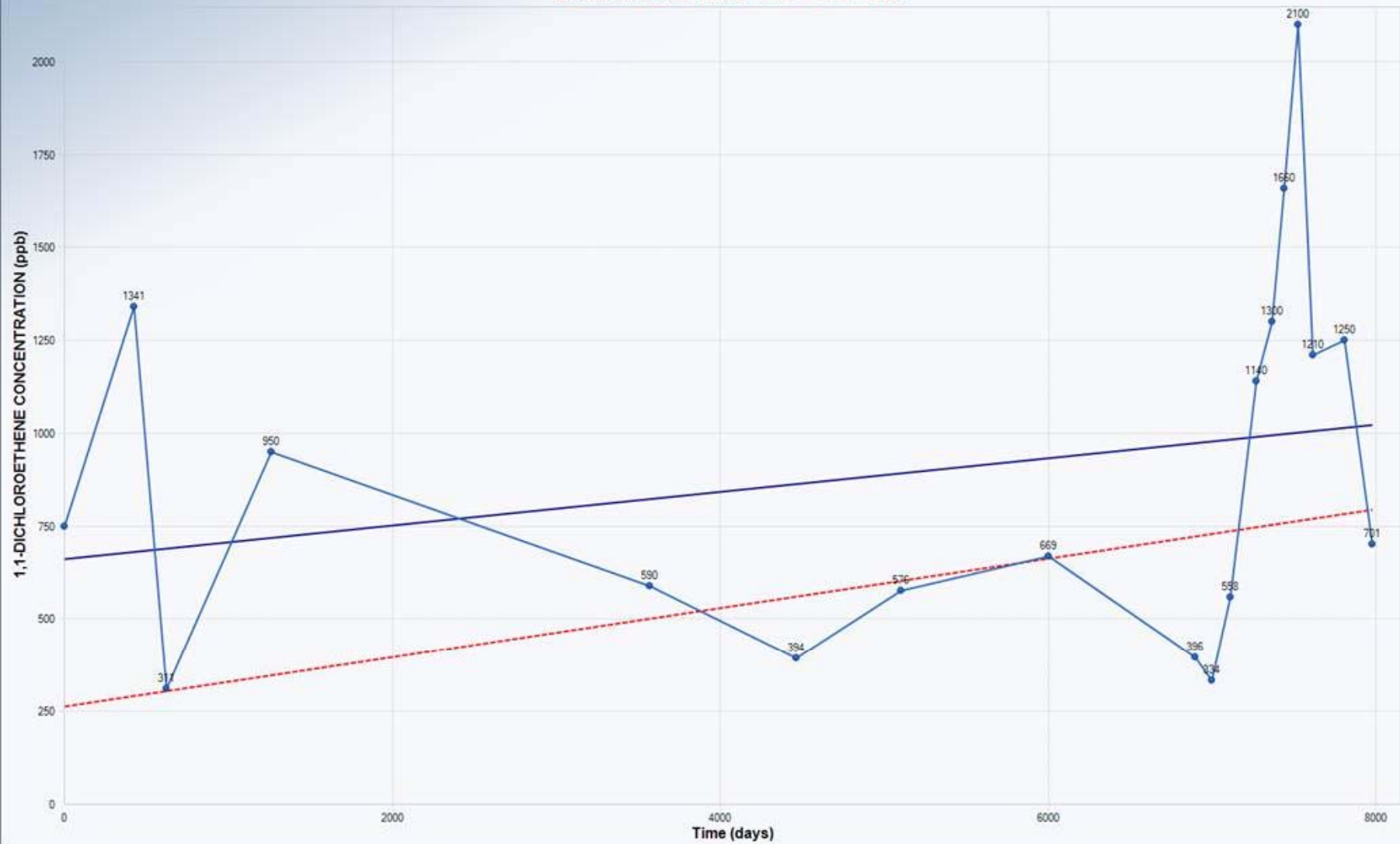
OLS Regression Slope	0.0002
OLS Regression Intercept	0.1839

Theil-Sen Trend Line (Red)

Theil-Sen Slope	0.0019
Theil-Sen Intercept	-12.8232

Statistically significant evidence of an increasing trend at the specified level of significance.

Mann-Kendall Trend Test - LHSMW07



Mann-Kendall Trend Analysis

n	18
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	26.4008
Standardized Value of S	1.5151
M-K Test Value (S)	41
Tabulated p-value	0.0660
Approximate p-value	0.0649

OLS Regression Line (Blue)

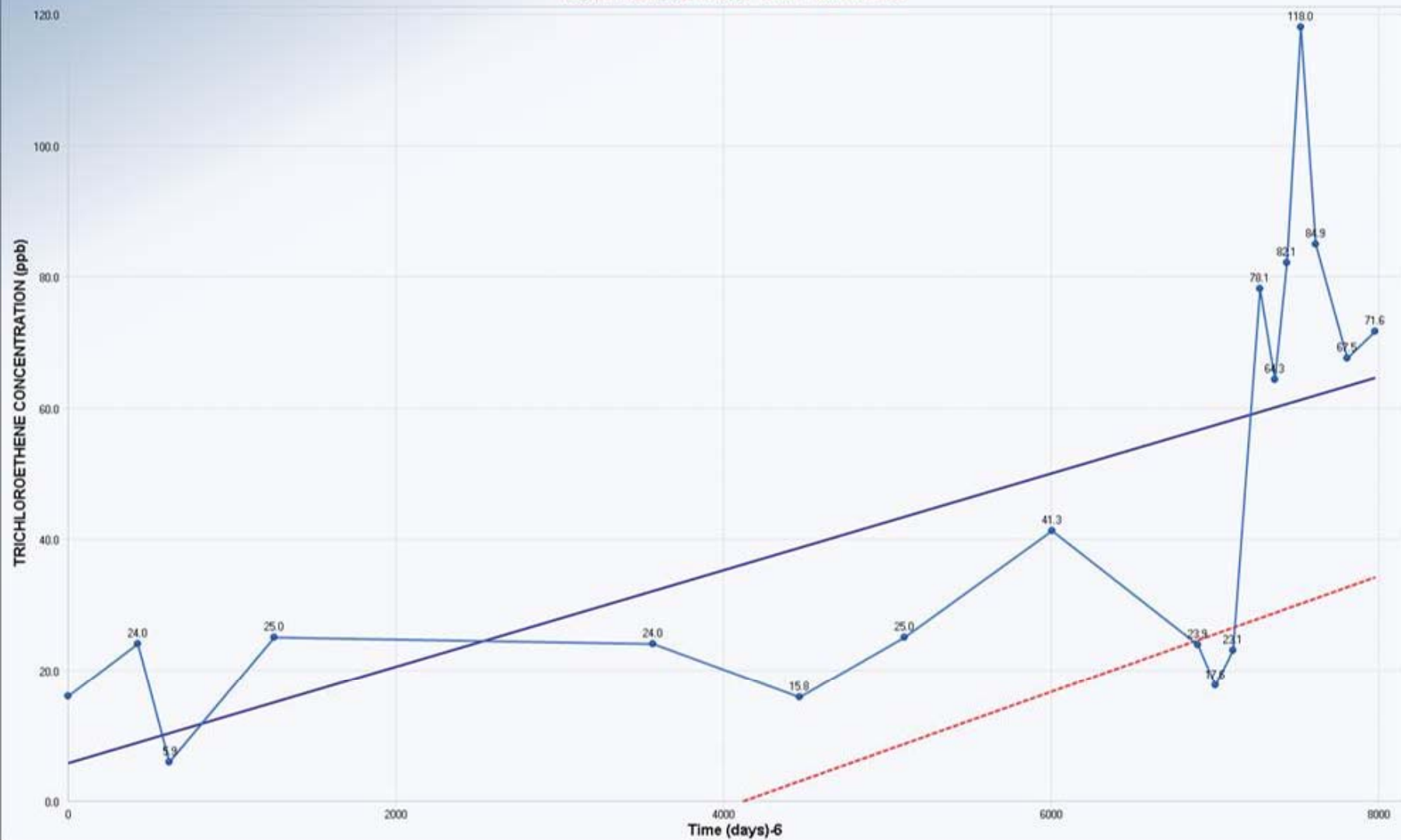
OLS Regression Slope	0.0454
OLS Regression Intercept	661.0489

Theil-Sen Trend Line (Red)

Theil-Sen Slope	0.0665
Theil-Sen Intercept	263.5184

Insufficient statistical evidence of a significant trend at the specified level of significance.

Mann-Kendall Trend Test - LHSMW07



Mann-Kendall Trend Analysis

n	18
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standardized Value of S	26.3629
Standardized Value of S	3.1104
M-K Test Value (S)	83
Tabulated p-value	0.0010
Approximate p-value	0.0009

OLS Regression Line (Blue)

OLS Regression Slope	0.0074
OLS Regression Intercept	5.7050

Theil-Sen Trend Line (Red)

Theil-Sen Slope	0.0089
Theil-Sen Intercept	-36.7195

Statistically significant evidence of an increasing trend at the specified level of significance.

Mann-Kendall Trend Test - LHSMW07



Mann-Kendall Trend Analysis

n	17
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	24.2762
Standardized Value of S	2.7599
M-K Test Value (S)	68
Tabulated p-value	0.0020
Approximate p-value	0.0029

OLS Regression Line (Blue)

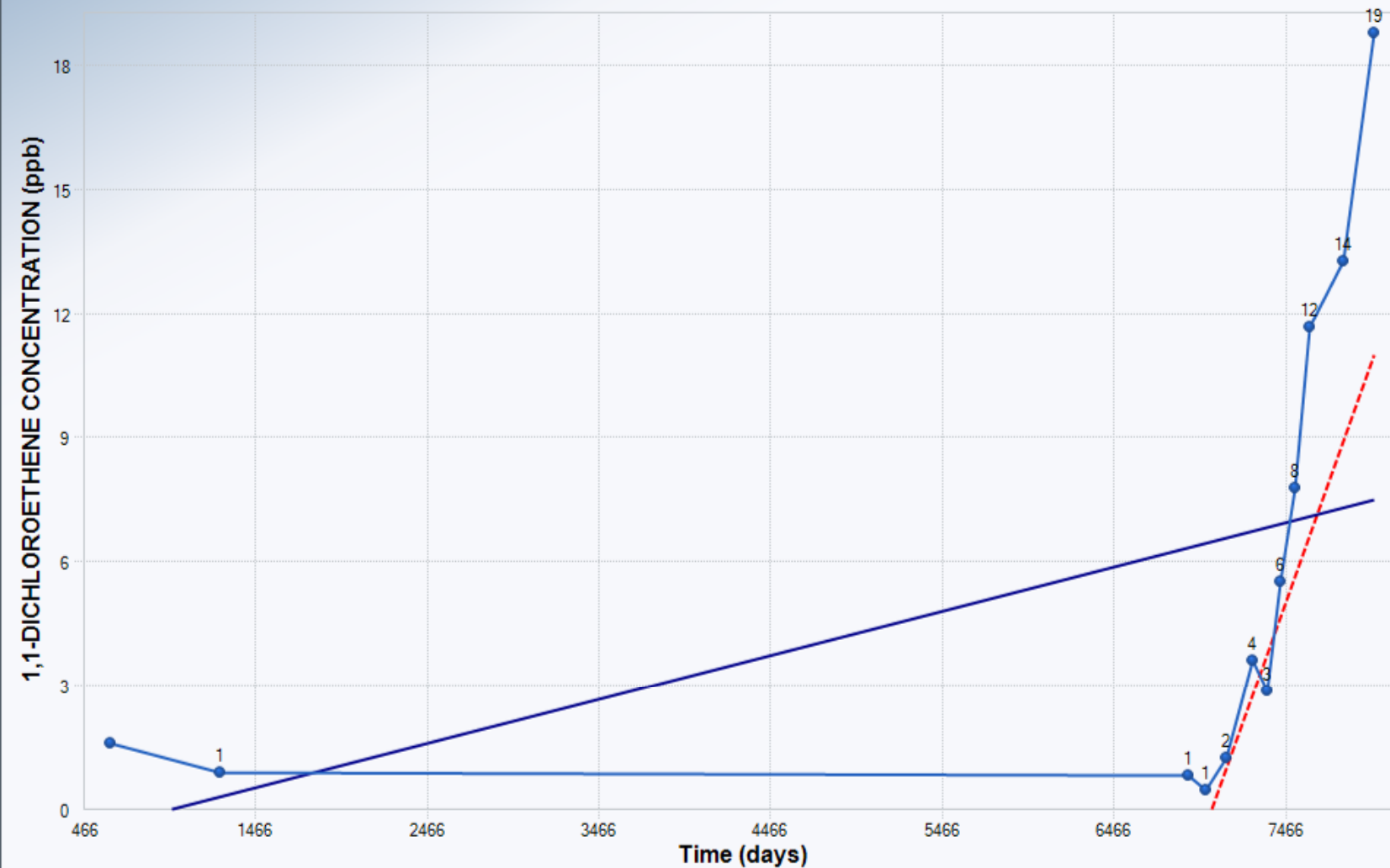
OLS Regression Slope	0.0035
OLS Regression Intercept	-0.5023

Theil-Sen Trend Line (Red)

Theil-Sen Slope	0.0036
Theil-Sen Intercept	-14.5710

Statistically significant evidence of an increasing trend at the specified level of significance.

Mann-Kendall Trend Test - LHSMW06



Mann-Kendall Trend Analysis

n	12
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	14.5831
Standardized Value of S	3.3601
M-K Test Value (S)	50
Tabulated p-value	0.0000
Approximate p-value	0.0004

OLS Regression Line (Blue)

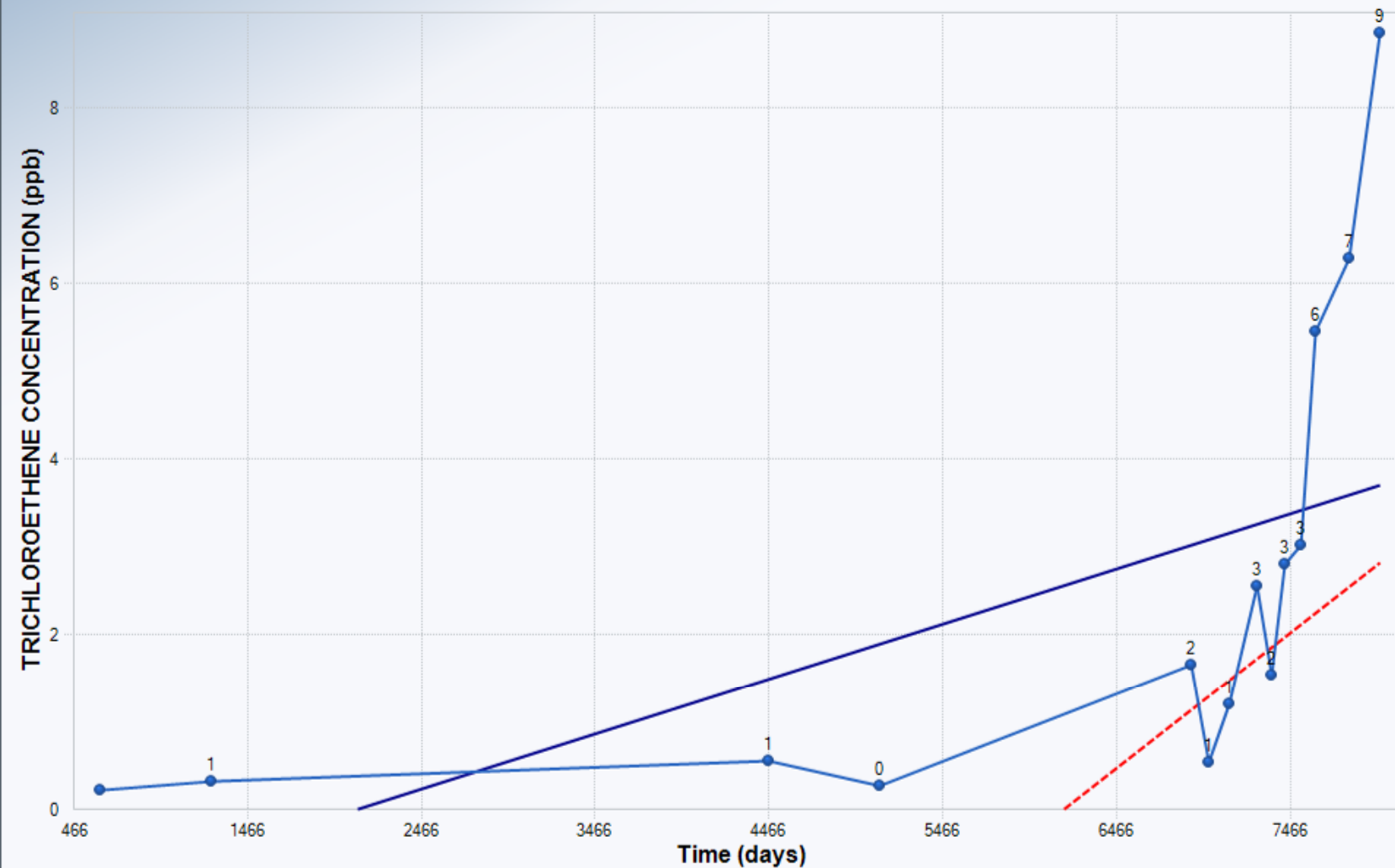
OLS Regression Slope	0.0011
OLS Regression Intercept	-0.6573

Theil-Sen Trend Line (Red)

Theil-Sen Slope	0.0117
Theil-Sen Intercept	-81.6329

Statistically significant evidence of an increasing trend at the specified level of significance.

Mann-Kendall Trend Test - LHSMW06



Mann-Kendall Trend Analysis

n	14
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	18.2665
Standardized Value of S	4.1606
M-K Test Value (S)	.77
Tabulated p-value	0.0000
Approximate p-value	0.0000

OLS Regression Line (Blue)

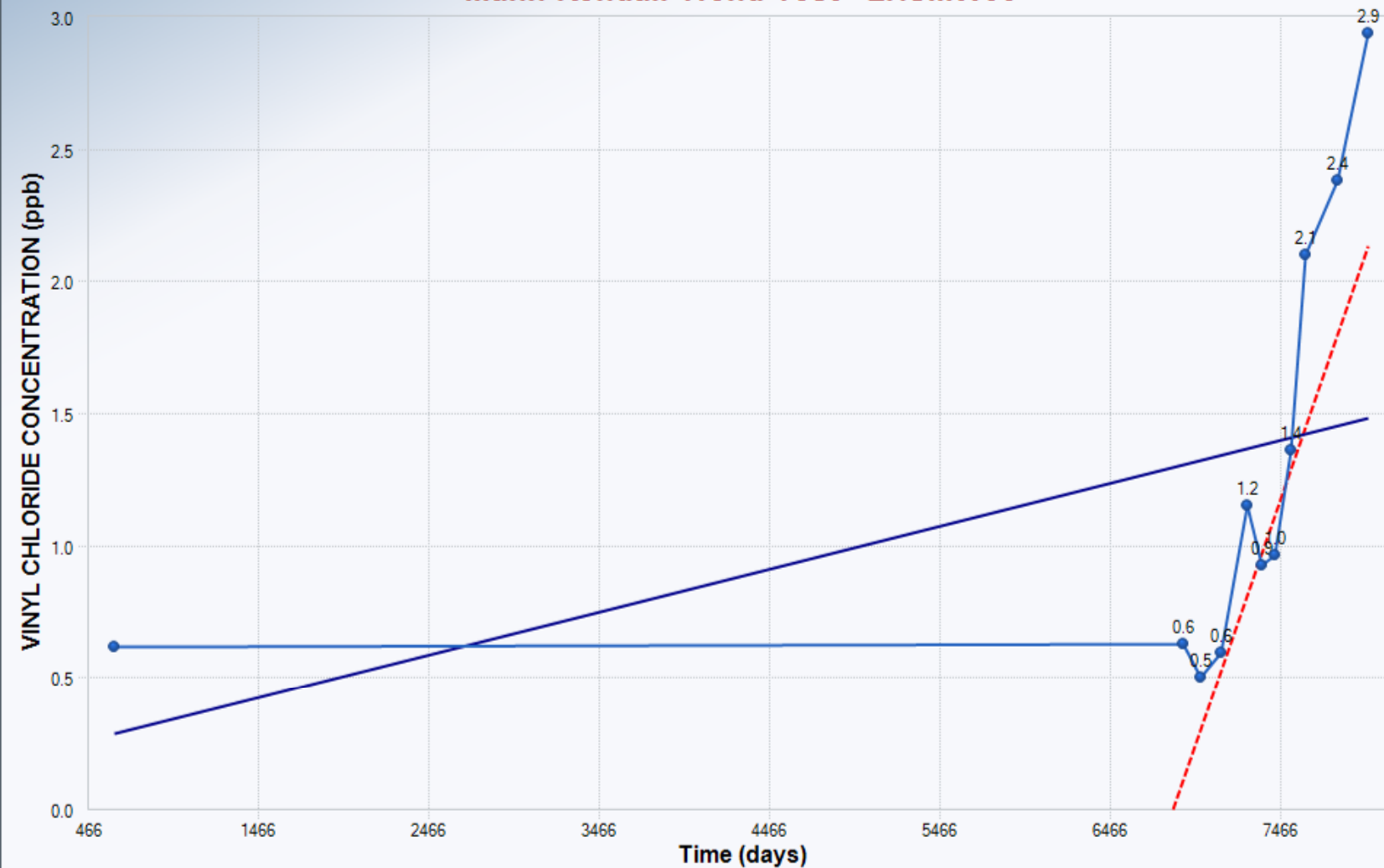
OLS Regression Slope	0.0006
OLS Regression Intercept	-1.1338

Theil-Sen Trend Line (Red)

Theil-Sen Slope	0.0016
Theil-Sen Intercept	-9.3779

Statistically significant evidence of an increasing trend at the specified level of significance.

Mann-Kendall Trend Test - LHSMW06



Mann-Kendall Trend Analysis

n	11
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	12.8452
Standardized Value of S	3.2697
M-K Test Value (S)	43
Tabulated p-value	0.0000
Approximate p-value	0.0005

OLS Regression Line (Blue)

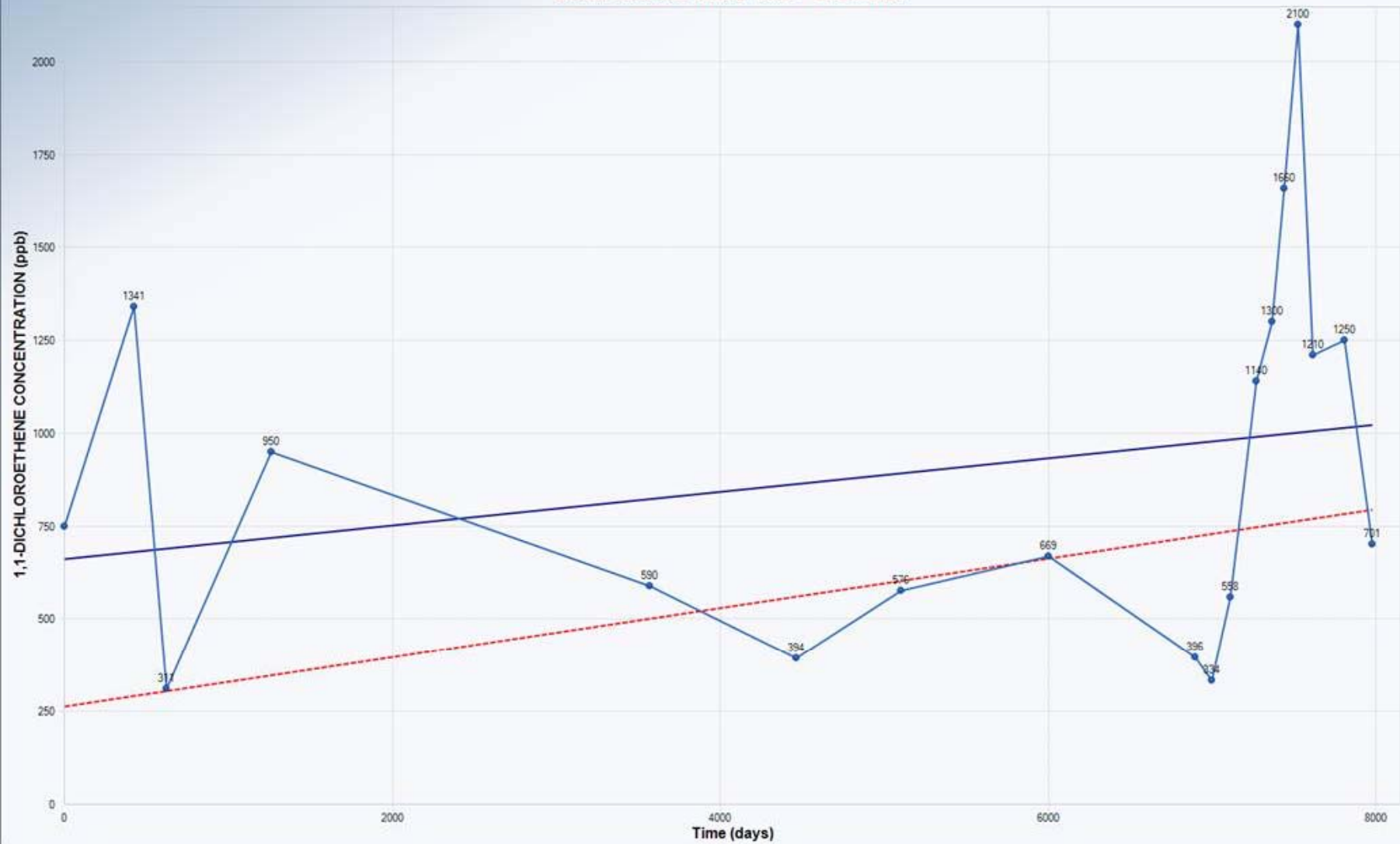
OLS Regression Slope	0.0002
OLS Regression Intercept	0.1839

Theil-Sen Trend Line (Red)

Theil-Sen Slope	0.0019
Theil-Sen Intercept	-12.8232

Statistically significant evidence of an increasing trend at the specified level of significance.

Mann-Kendall Trend Test - LHSMW07



Mann-Kendall Trend Analysis

n	18
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	26.4008
Standardized Value of S	1.5151
M-K Test Value (S)	41
Tabulated p-value	0.0660
Approximate p-value	0.0649

OLS Regression Line (Blue)

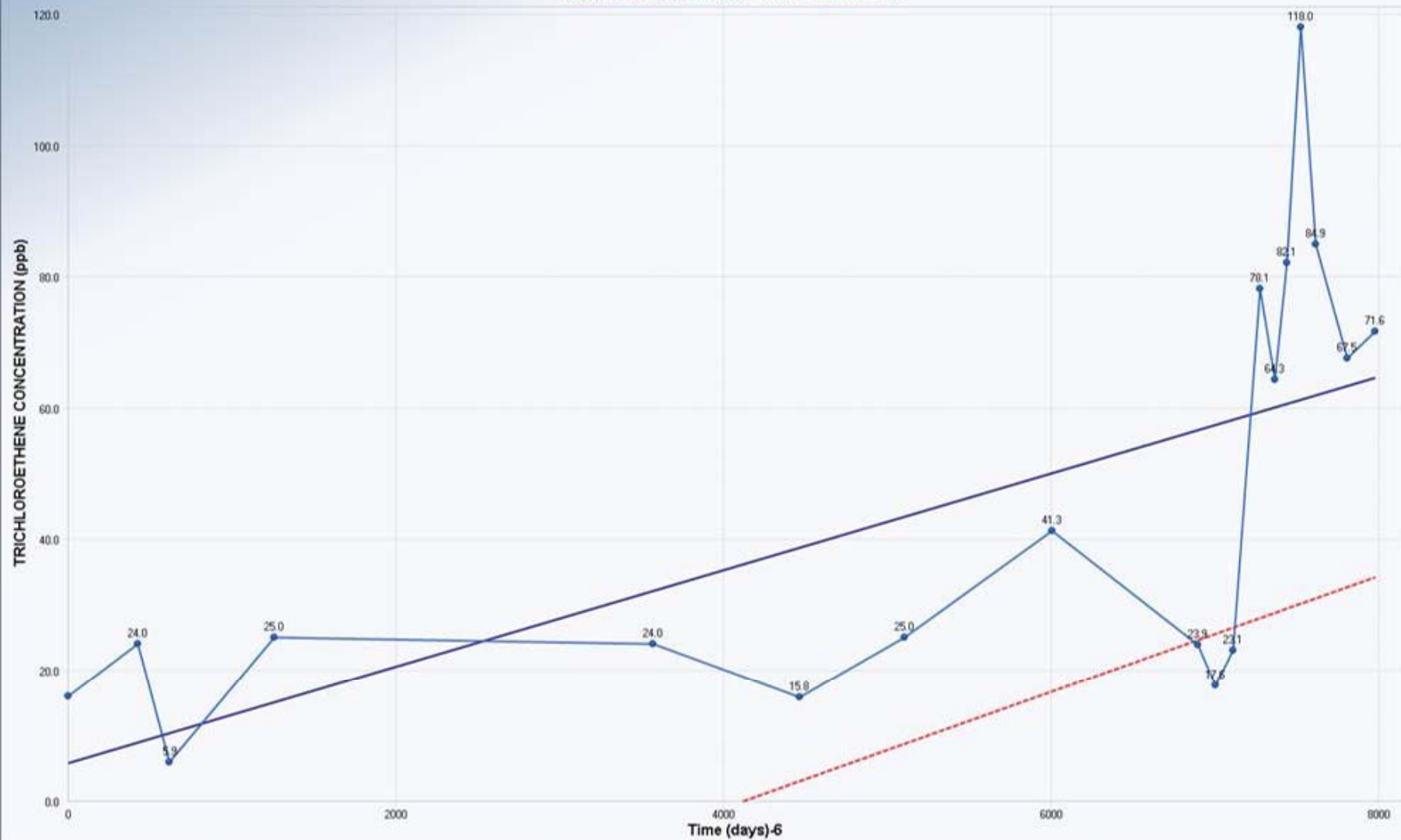
OLS Regression Slope	0.0454
OLS Regression Intercept	661.0489

Theil-Sen Trend Line (Red)

Theil-Sen Slope	0.0665
Theil-Sen Intercept	263.5184

Insufficient statistical evidence of a significant trend at the specified level of significance.

Mann-Kendall Trend Test - LHSMW07



Mann-Kendall Trend Analysis

n	18
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standardized Value of S	26.3629
Standardized Value of S	3.1104
M-K Test Value (S)	83
Tabulated p-value	0.0010
Approximate p-value	0.0009

OLS Regression Line (Blue)

OLS Regression Slope	0.0074
OLS Regression Intercept	5.7050

Theil-Sen Trend Line (Red)

Theil-Sen Slope	0.0089
Theil-Sen Intercept	-36.7195

Statistically significant evidence of an increasing trend at the specified level of significance.

Mann-Kendall Trend Test - LHSMW07



Mann-Kendall Trend Analysis

n	17
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	24.2762
Standardized Value of S	2.7599
M-K Test Value (S)	68
Tabulated p-value	0.0020
Approximate p-value	0.0029

OLS Regression Line (Blue)

OLS Regression Slope	0.0035
OLS Regression Intercept	-5.023

Theil-Sen Trend Line (Red)

Theil-Sen Slope	0.0036
Theil-Sen Intercept	-14.5710

Statistically significant evidence of an increasing trend at the specified level of significance.

APPENDIX F
REGRESSION ANALYSIS

3RD ANNUAL RAO REPORT
LHAAP-35A (58) SHOPS AREA

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Subject: **Final Minutes, Monthly Managers' Meeting (MMM),
Longhorn Army Ammunition Plant (LHAAP)**

Location of Meeting: **Conference Call-In 515-603-3155 with Code 1063533#**

Date of Meeting: **March 15, 2018 – 10:00 AM CDT**

Attendees:

Army BRAC: Rose Zeiler (RMZ)
 EPA: Rich Mayer (RM)
 TCEQ: April Palmie (AP)
 USACE: Aaron Williams (AW)
 AEC: Nick Smith (NS) and Andrew Maly
 Bhate: Kim Nemmers (KN)
 APTIM: William (Bill) Foss (WF) Susan Watson (SW) and Praveen Srivastav (PS)
 USFWS: Paul Bruckwicki (PB)

Action Items

No open action items following the February 15, 2018 MMM. RM noted that Dorelle Harrison and Kent Becher would not be on the call.

Schedule Review

RMZ discussed the Technical Project Planning meeting schedule for March 27, 2018. AP indicated that the meeting needs to start at 1:00 pm Central Daylight Time (CDT) or later on March 27. RMZ stated that the meeting will finish up on March 28, 2018. RM indicated that if the meeting ends early on March 28, 2018 that he may go look at the surface water samplers.

RMZ indicated that the meeting will primarily discuss Sites LHAAP-18/24 and LHAAP-29. The purpose of the meeting is to advance Site LHAAP-29. A recommendation for LHAAP-18/24 may be presented based upon the Feasibility Study.

Defense Environmental Restoration Program (DERP) Performance Based Remediation (PBR) Update

KN asked everyone to refer to the Document and Issues Tracking Table dated February 15, 2018.

- **Task 1 (Project Management)**
 - KN stated that the Final MMM Minutes from last month's call had been sent out the night before. NS indicated that Ms. Heather Smith from Engineer Research and Development Center (ERDC) was planning to demonstrate the perchlorate field analysis following the completion of the next MMM. NS stated that the groundwater treatment plant (GWTP) operators would be trained on the Wednesday before the Thursday MMM. RMZ stated that this would be the first time that the Army was seeing this analysis also.
 - PB mentioned that the signage at LHAAP-16 had collapsed. RMZ asked if he meant the signage inside the old contractor compound at the entrance and said that the sign will be looked at during the next site visit. RMZ stated that she also plans to visit LHAAP-58 the week of March 26, 2018 if work is still ongoing.
 - Restoration Advisory Board (RAB) Meeting – For the site tour, the team discussed logistical concerns with vehicles accessing sites. RMZ indicated that a route similar

to previous tours would likely be followed. KN stated that details would be forthcoming in the next couple of weeks. AP mentioned that the RAB members should be notified that individual vehicles were being used to which everyone concurred.

- Installation Wide Work Plan (IWWP) - KN indicated that the Draft Final IWWP was planned for release onto the portal on March 16, 2018 and that hard copies and compact discs (CDs) would be delivered the following Monday, March 19, 2018.
- **Task 2** (LHAAP-02 Semi-Annual Groundwater Monitoring Report) – KN stated that the next groundwater sampling event was planned for April.
- **Task 3** (LHAAP-03 ROD and Explanation of Significant Difference [ESD]) – PS discussed the status of the ROD and ESD. RMZ stated that legal review is expected soon and that these documents will hopefully be ready for distribution in March but that the schedule was created to allow sufficient time since actual review time is not certain. AP asked if the documents will be draft. PS stated that the ROD will be a revised draft final since a Draft Final was previously submitted to the regulators. SW clarified that ESD will be Draft since it is the first time for Regulatory review of this document.
- **Task 4** (LHAAP-04 Remedial Design [RD]/Remedial Action Work Plan [RAWP]) – PS stated that the combined RD/RAWP has been prepared but there may be a delay in going forward due to the Army's need to obtain funding for additional investigation. Additional direct push borings and monitoring wells are planned southwest of monitoring well 04WW05. RMZ stated that Army has decided to refine the plume delineation and determine where the mass is. AW indicated that the first deliverable planned will be a technical memorandum for the sampling plan and schedule for consensus. AW stated that the contracting will likely result in a 30 day delay but that is just an estimate. Overall, RMZ estimated the field work will cause an approximately eight (8) month delay in delivery of the RD/RAWP.
- **Task 5** (LHAAP-12 Annual Remedial Action – Operation [RA-O] Report) – PS stated that the Annual RA-O Report is being prepared.
- **Task 6** (LHAAP-16 RAWP)
 - The RAWP was submitted to the Regulators. PS asked if the Regulators knew if they had any comments. RM asked about allowing the time between bentonite and placement of grout. PS stated that the standard operating procedures (SOPs) would be followed. WF stated that typically the bentonite chips are placed and hydrated at the time the well is set and then the grout is placed in all of the wells completed at the end of the day. AP stated that she had not yet reviewed the document. RM asked if more time could be given to determine which exact wells would be used for monitored natural attenuation (MNA) evaluation. RMZ stated that the MNA network had been agreed on in the RD phase.
 - RMZ wanted to know if the new wells indicated in the Final RD could be installed before the RAWP was finalized. PS indicated that moving forward with the well installation helps with the field schedule, and the well installations are planned the first week in April 2018. AP indicated that two weeks prior to installing wells, a notice with a map and table would be needed. PS indicated that this would be provided. PS stated that the design includes 27 total new injection and monitoring wells, including 19 shallow wells and 8 intermediate wells. The wells will be a mix of 4-inch diameter monitoring wells and 2-inch diameter injection wells. PS stated that the installation of the wells will take two to three weeks. Pre-remediation sampling will then be completed, followed by the injections in early May.

- AP asked if the underground injection control (UIC) package was under way. SW stated that it was being prepared using LHAAP-58 UIC package as an example. AP clarified that injections cannot start until 30 days from the date of the letter. AP also stated that she liked how the LHAAP-58 letter had been written. SW asked if there was an RN/CN for the LHAAP. AP stated to complete the form like LHAAP-58. AP further elaborated that she will provide any comments within 30 days but work can proceed if no comments are provided in 30 days.
- RM asked if the fluorescein dye or bromide had been removed from the plans as a cost savings. SW stated that there was no method presented for the evaluation in the design using fluorescein and that the bromide approach presented the RAWP would provide the needed data.
- KN stated that the groundwater sampling data was planned for inclusion in the First Quarter 2018 GWTP Report.
- **Task 7** (LHAAP-17 Pre-Design Investigation [PDI] Report) – PS stated that the field work as outlined in the PDI Work Plan had been completed, with the exception of the marshy area where soil samples could not be collected. PS stated that these soil samples will be collected once the marshy area dries out. AP asked if there was a figure showing the soil sample locations. SW suggested that the Figure 3-1 from the PDI Work Plan be used as the locations were as presented in that document. SW clarified that a groundwater sample was collected from previously dry shallow well 17WW12.
- **Task 9** (LHAAP-37) – Groundwater sampling at LHAAP-37 was completed in February 2018.
- **Task 10** (LHAAP-46) – WF discussed a technical memorandum that was provided ahead of the meeting to the Regulators. WF explained that RA-O sampling had been performed since 2013 and that numerous dry wells were located in areas where prior contamination was noted. Based upon review of the groundwater and rainfall event data, the conclusion is that the lack of groundwater not a temporary issue but is long-term. WF explained that this is a straight-forward decline that is not intermittent in nature. The outcome of the technical memorandum is that there is no reason to keep waiting for groundwater to come back in the dry wells to commence the MNA evaluation. RM asked if existing wells will only be evaluated if the site moves to MNA? WF replied that the MNA evaluation will determine if the site has achieved operating properly and successfully (OPS) whereby the next step is long-term monitoring or if other actions are needed. RM stated that he has no issues with the approach. WF clarified that two wells had water in them following a large rainfall in 2016 but that the water was purged dry during the August 2016 and that the water found was below the screen such that the results are not indicative of a recovered water table. The same monitoring wells were again dry in February 2018 following the wet winter months of December and January. WF agreed with RM that the zones may be laterally discontinuous based upon the boring logs but that the well screens appear to be appropriately installed for the lithology. AP stated that she will read the technical memorandum and respond but that the approach seems reasonable.
- **Task 11** (LHAAP-50 RA-O Reports) – The Year 3 RA-O Report is currently under Army review. The next groundwater sampling event is scheduled for May 2018.
- **Task 12** (LHAAP-58 ESD and RA-O Report) – RMZ indicated that she was awaiting BRAC signature on the ESD. The Draft Final Year 3 RA-O Report was issued on March 7, 2018. The next sampling event is planned for June 2018. Injections are planned to commence the week of March 19, 2018. Bioaugmentation will be completed once the aquifer is anaerobic. KN explained that the baseline groundwater sampling forms indicated

that the dissolved oxygen was low but the oxidation reduction potential was high for enhanced reductive dechlorination. KN stated that this indicated that achieving anaerobic optimal conditions for the microbes would likely take less than the 2 to 4 weeks in the Work Plan. KN stated that the Dehalococcoides (DHC) requires one week advanced notice for delivery and that the DHC would be ordered after injections start next week and ease of injecting is evaluated. KN stated that she would know the schedule for the full remediation action implementation later the following week.

- **Task 13** (LHAAP-67) – PS stated that the next sampling event is scheduled for May 2018.
- **Tasks 14 and 15** (MMRP Sites' RD) – RMZ indicated that if the recordation information was provided at the MMM in April, then she would sign and have it notarized.
- **Task 16 (Groundwater Treatment Plant [GWTP])**
 - KN discussed the single detection of perchlorate after the ion exchange vessels that was greater than the protective concentration level (PCL) of 17 micrograms per liter. KN stated that the water was discharged to the INF Pond and that treated water analyzed the week before and after this sample was non-detect for perchlorate. Regardless, two samples were collected from the INF pond (one at the outlet and one at the inlet) for rush-turn around. This data had not been validated so the results were not provided but there did not appear to be any issues. KN went on to explain that the treated water is currently, and in the foreseeable future, being discharged to the bayou where the discharge criteria is higher. Therefore, the water is not currently going through the ion exchange resin. KN also explained that this perchlorate detection resulted in a review of the GWTP operations that found that the ion exchange vessels were not installed in series as had been understood but rather in parallel. Bhate and the Army were working together to resolve this design issue.
 - KN then explained that the performance of the fluidized bed reactor (FBR) was being evaluated. The first step was to determine if sufficient carbon was still present within the column of the FBR and that was being completed this week. If there was sufficient carbon and the system as still not removing the perchlorate to levels observed previously, then the system would need to come down and be cleaned out. KN stated that a similar issue arose nearly 9 years prior and that this action had resolved the issue. KN state that she would keep everyone posted.
 - AP asked if the protocol should be revised at the next MMM. RMZ agreed and stated that the PCL value needed to be included in the revised protocol.
- **Administrative Record (AR)** - SW stated that the transitional documents from AECOM would be included in the next AR posting.

Schedule Next Managers' Meeting

- April 2018 MMM will be held April 19, 2018 at LHAAP at 10:00 AM CDT.

Adjourned at 11:15 AM CDT.

ACRONYM LIST

AEC	United States Army Environmental Command
AP	April Palmie
AR	Administrative Record
AW	Aaron Williams

BRAC	Base Realignment and Closure
CD	Compact disc
CDT	Central Daylight Time
DERP	Defense Environmental Restoration Program
DHC	Dehalococoides
EPA	United States Environmental Protection Agency
ERDC	Engineer Research and Development Center
ESD	Explanation of Significant Differences
FBR	Fluidized bed reactor
GWTP	Ground Water Treatment Plant
IWWP	Installation Wide Work Plan
KN	Kim Nemmers
LHAAP	Longhorn Army Ammunition Plant
LUC	Land Use Control
MMM	Monthly Managers' Meeting
MMRP	Military Munitions Response Program
MNA	Monitored natural attenuation
NS	Nick Smith
OPS	Operating properly and successfully
PB	Paul Bruckwicki
PBR	Performance-Based Remediation
PCL	Protective Concentration level
PDI	Pre-Design Investigation
RAB	Restoration Advisory Board
RA-O	remedial action – operation
RAWP	Remedial Action Work Plan
RD	Remedial Design
ROD	Record of Decision
RM	Rich Mayer
RMZ	Rose M. Zeiler
SOP	Standard Operating Procedure
SW	Susan Watson
TCEQ	Texas Commission on Environmental Quality
UFP-QAPP	Uniform Federal Policy-Quality Assurance Policy Plan
UIC	Underground Injection Control
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
WF	William (Bill) Foss

LHAAP Validated Data Packages for March 2018 MMM Meeting

LHAAP Area	Analytical Method
LHAAP-04	<i>Groundwater Sampling Shallow Well (Dry in Previous Sampling Event)</i> Perchlorate (6850)
LHAAP-16	<i>Annual Sampling – February 2018</i> VOCs (8260C) Perchlorate (6850)
LHAAP-17	<i>Groundwater Sampling Shallow Well (Dry in Previous Sampling Event)</i> Perchlorate (6850) Volatile Organic Compounds (VOCs) (SW8260)
LHAAP-17	<i>Pre-Design Investigation Soil Sampling (Partial) January 2018</i> Metals (SW6020) Percent Moisture (D2216) Explosives (SW8330) Dioxins (SW8290)
LHAAP-37	<i>Year 1 Quarter 2 RA-O Groundwater Sampling</i> VOCs (SW8260)
GWTP Effluent	<i>Weekly Perchlorate Sampling – January 2018</i> Perchlorate (6850)
GWTP Effluent	<i>Weekly, Bi-Weekly, and Monthly Sampling – January 2018</i> Ammonia (350.3) Ortho-Phosphate (365.3) Organic Carbon (415.1) VOCs (8260C) Metals (6020A) Hexavalent Chromium (7196A) 1,4-Dioxane (8270D-SIM) Anions (9056)
GWTP Influent	<i>Monthly Sampling – January 2018</i> Metals (6020A) Perchlorate (6850) Hexavalent Chromium (7196A)
Air Samples	<i>Quarterly Sampling - January 2018</i> VOCs (TO-15)

LHAAP-04 Groundwater Sampling Shallow Well (Dry in Previous Sampling Event)

	Location Code		LHSMW02	
	Sample ID		LHSMW02-021518	
	Sample Date		2/15/2018	
	Location Description:		Shallow Zone, Downgradient to Plume Area	
Parameter	Units	PCL	Result	Val Qual
PERCHLORATE				
Perchlorate	µg/L	17	< 2	U

Notes:

Blue highlighting indicates concentrations above the MCL/PCL.

U - Undetected: The analyte was analyzed for, but not detected.

µg/L - micrograms per liter

ID - identification

MCL - maximum contaminant limit

PCL - Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level.

Val Qual - validation qualifier

LHAAP 16 Annual Sampling - February 2018

Location ID: Sample Date:	Units	MCL/PCL/ MSC	16EW01_ 020718	16EW02_ 020718	16EW03_ 020718	16EW04_ 020718	16EW05_ 020718	16EW05_ 020718 a	16EW06_ 020718	16EW07_ 020718	16EW08_ 020718
Location Description			Site 16 – NE, middle region Sampled Annually	Site 16 – NE, middle region Sampled Annually	Site 16 – NE middle region Sampled Annually	Site 16 – ENE, middle region Sampled Annually	Site 16 – NE middle region Sampled Annually	Site 16 – NE middle region Sampled Annually Duplicate.	Site 16 – NE, middle region Sampled Annually	Site 16 – NE, middle region Sampled Annually	Site 16 – ENE, middle region Sampled Annually
Isopropylbenzene	µg/L	1000	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
m,p-Xylene	µg/L	10000	< 2.0 U	< 100 U	< 100 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
Methylene chloride	µg/L	5	< 2.0 U	< 100 U	< 100 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
Naphthalene	µg/L	2000	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
n-Butylbenzene	µg/L	4100	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
n-Propylbenzene	µg/L	4100	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
o-Xylene	µg/L	10000	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
sec-Butylbenzene	µg/L	4100	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Styrene	µg/L	100	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
tert-Butylbenzene	µg/L	4100	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Tetrachloroethene	µg/L	5	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Toluene	µg/L	1000	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
trans-1,2-Dichloroethene	µg/L	100	5.0	< 50 U	< 50 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
trans-1,3-Dichloropropene	µg/L	29	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Trichloroethene	µg/L	5	3600	19000	24000	67	100 J	280 J	660	130	460
Trichlorofluoromethane	µg/L	31000	< 1.0 U	< 50 U	< 50 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
Vinyl chloride	µg/L	2	31	320	79	< 1.0 U	40 J	110 J	2.4	1.3	1.3

Blue Highlighting Indicates concentrations above the MCL/PCL/MSC

MCL/PCL/MSC - Maximum Contaminant Limit/Protective Concentration Level/Medium-Specific Concentrations

µg/L - micrograms per liter

J - estimated value between the limit of quantitation and the detection limit and/or estimated due to QC discrepancies

UJ - estimated non-detect due to QC discrepancies

U - Undetected: The analyte was analyzed for, but not detected.

*PCL – Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level

LHAAP-17 Pre-Design investigation Soil Sampling
(Partial)
January 2018

Parameter	Units	Location Code				17SB02A								17SB03A			17SB04A									
		Sample ID	Sample Date	Depth	Sample Purpose	17SB02A-11.0-13.0	17SB02A-11.0-13.0-FD	17SB02A-13.0-15.0	17SB02A-13.0-15.0-FD	17SB03A-7.5-9.5	17SB03A-10.0-12.0	17SB03A-12.5-14.5	17SB04A-2.5-4.5	17SB04A-5.0-7.0	17SB04A-7.5-9.5	17SB04A-10.0-12.0										
		Location Description:				Deeper Samples, Same Location as 17SB02				Deeper Samples, Same Location as 17SB03			Deeper Samples, Same Location as 17SB04													
		Industrial Soil (Human Health)	Surface Soil EcoPRG (0-6")	Total Soil EcoPRG (0-3')	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual		
EXPLOSIVES																										
2,4,6-Trinitrotoluene	mg/kg	5.1	Not Est.	4.7	< 0.0302	U	< 0.0292	U	< 0.0311	U	< 0.0309	U	0.28		< 0.0296	U	0.43		< 0.0301	U	< 0.0297	U	< 0.0305	U	< 0.0311	U
2,4-Dinitrotoluene	mg/kg	0.042	Not Est.	12	< 0.0302	U	< 0.0292	U	< 0.0311	U	< 0.0309	U	< 0.032	U	< 0.0296	U	0.0866		< 0.0301	U	< 0.0297	U	0.135		< 0.0311	U
2,6-Dinitrotoluene	mg/kg	0.042	2.7	6.8	< 0.0302	U	< 0.0292	U	< 0.0311	U	< 0.0309	U	< 0.032	U	< 0.0296	U	< 0.0324	U	< 0.0301	U	< 0.0297	U	< 0.0305	U	< 0.0311	U
METALS																										
Barium	mg/kg	Not Est.	222	520																						
DIOXINS																										
2,3,7,8-TCDD TEF	ng/kg	Not Est.	4	4																						

Notes:

Blue Highlighting Indicates concentrations above the Industrial (HH) Soil Standards.

Yellow Highlighting Indicates concentrations above Surface Soil (ECO) Soil Standards.

Orange Highlighting Indicates concentrations above the Total Soil (ECO) Soil Standards.

Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.

Human health and ecological cleanup levels are from the Final Record of Decision, August 2016.

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected.

mg/kg - milligrams per kilogram

ng/kg - nanograms per kilogram

LHAAP-17 Pre-Design investigation Soil Sampling
(Partial)
January 2018

Parameter	Units	Location Code				17SB06A						17SS21A						17SS22A						17SS23A		
		Sample ID	17SB06A-7.5-9.5	17SB06A-10.0-12.0	17SB06A-12.5-14.5	17SS21A-0.0-2.0	17SS21A-3.0-5.0	17SS21A-5.0-7.0	17SS22A-3.0-5.0	17SS22A-5.0-7.0	17SS22A-7.0-9.0	17SS23A-5.0-7.0	17SS23A-7.0-9.0													
Sample Date		1/12/2018	1/12/2018	1/12/2018	1/11/2018	1/11/2018	1/11/2018	1/11/2018	1/11/2018	1/11/2018	1/11/2018	1/11/2018	1/11/2018	1/11/2018	1/11/2018	1/11/2018	1/11/2018	1/11/2018	1/11/2018	1/11/2018	1/11/2018	1/11/2018	1/11/2018	1/11/2018		
Depth		7.5 - 9.5	10 - 12	12.5 - 14.5	0 - 2	3 - 5	5 - 7	3 - 5	5 - 7	7 - 9	5 - 7	7 - 9	5 - 7	7 - 9	5 - 7	7 - 9	5 - 7	7 - 9	5 - 7	7 - 9	5 - 7	7 - 9	5 - 7	7 - 9		
Sample Purpose		REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG		
Location Description:		Deeper Samples, Same Location as 17SB06						Same Location as 17SS21						Same Location as 17SS22						Same Location as 17SS23						
		Industrial Soil (Human Health)	Surface Soil EcoPRG (0-6")	Total Soil EcoPRG (0-3')	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
EXPLOSIVES																										
2,4,6-Trinitrotoluene	mg/kg	5.1	Not Est.	4.7	< 0.029	U	< 0.0288	U	0.727		< 0.0301	U	0.364		< 0.0311	U	< 0.0325	U	< 0.0303	U	< 0.0292	U	< 0.0301	U	< 0.0293	U
2,4-Dinitrotoluene	mg/kg	0.042	Not Est.	12	< 0.029	U	< 0.0288	U	0.488		< 0.0301	U	0.975		< 0.0311	U	< 0.0325	U	< 0.0303	U	< 0.0292	U	< 0.0301	U	< 0.0293	U
2,6-Dinitrotoluene	mg/kg	0.042	2.7	6.8	< 0.029	U	< 0.0288	U	1.96		< 0.0301	U	0.423		< 0.0311	U	< 0.0325	U	< 0.0303	U	< 0.0292	U	< 0.0301	U	< 0.0293	U
METALS																										
Barium	mg/kg	Not Est.	222	520																						
DIOXINS																										
2,3,7,8-TCDD TEF	ng/kg	Not Est.	4	4																						

Notes:

Blue Highlighting Indicates concentrations above the Industrial (HH) Soil Standards.

Yellow Highlighting Indicates concentrations above Surface Soil (ECO) Soil Standards.

Orange Highlighting Indicates concentrations above the Total Soil (ECO) Soil Standards.

Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.

Human health and ecological cleanup levels are from the Final Record of Decision, August 2016.

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected.

mg/kg - milligrams per kilogram

ng/kg - nanograms per kilogram

LHAAP-17 Pre-Design investigation Soil Sampling
(Partial)
January 2018

	Location Code		17SS25A		17SS27A		17SS29A				17SS48	17SS49	17SS50	17SS51	17SS52												
	Sample ID		17SS25A-2.5-4.5	17SS25A-5.0-7.0	17SS27A-2.5-4.5	17SS27A-5.0-7.0	17SS29A-2.5-3.0	17SS29A-3.5-5	17SS29A-5.5-7.0	17SS48-0.0-0.5	17SS49-0.0-0.5	17SS50-0.0-0.5	17SS51-0.0-0.5	17SS52-0.0-0.5													
Sample Date	1/12/2018		1/12/2018		1/11/2018		1/11/2018		1/12/2018		1/12/2018		1/14/2018		1/13/2018												
Depth	2.5 - 4.5		5 - 7		2.5 - 4.5		5 - 7		2.5 - 3		3.5 - 5		5.5 - 7		0 - 0.5												
Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG												
Location Description:	Same Location as 17SS25				Same Location as 17SS27				Same Location as 17SS29				Adjacent to 17SD08		Adjacent to 17SD08		Adjacent to 17SD08		Adjacent to 17SD08		Adjacent to 17SD07						
Parameter	Units	Industrial Soil (Human Health)	Surface Soil EcoPRG (0-6")	Total Soil EcoPRG (0-3')	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	
EXPLOSIVES																											
2,4,6-Trinitrotoluene	mg/kg	5.1	Not Est.	4.7	0.177		< 0.0312	U	< 0.0313	U	< 0.0293	U	24.6		12.5		0.838										
2,4-Dinitrotoluene	mg/kg	0.042	Not Est.	12	0.0873		< 0.0312	U	< 0.0313	U	< 0.0293	U	0.0682		0.0988		< 0.0332	U									
2,6-Dinitrotoluene	mg/kg	0.042	2.7	6.8	< 0.0313	U	< 0.0312	U	< 0.0313	U	< 0.0293	U	< 0.0297	U	0.0718		< 0.0332	U									
METALS																											
Barium	mg/kg	Not Est.	222	520														132		129		511		125		154	
DIOXINS																											
2,3,7,8-TCDD TEF	ng/kg	Not Est.	4	4																							

Notes:
 Blue Highlighting Indicates concentrations above the Industrial (HH) Soil Standards.
 Yellow Highlighting Indicates concentrations above Surface Soil (ECO) Soil Standards.
 Orange Highlighting Indicates concentrations above the Total Soil (ECO) Soil Standards.
 Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.
 Human health and ecological cleanup levels are from the Final Record of Decision, August 2016.
 J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
 U - Undetected: The analyte was analyzed for, but not detected.
 mg/kg - milligrams per kilogram
 ng/kg - nanograms per kilogram

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(Partial)
January 2018

Parameter	Units	Industrial Soil (Human Health)	Surface Soil EcoPRG (0-6")	Total Soil EcoPRG (0-3')	17SS53		17SS54		17SS55		17SS56		17SS57		17SS58		17SS59		17SS60		17SS61		17SS62		17SS63				
					Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
EXPLOSIVES					17SS53-0.0-0.5		17SS54-0.0-0.5		17SS55-0.0-0.5		17SS56-0.0-0.5		17SS57-0.0-0.5		17SS58-0.0-0.5		17SS59-0.0-0.5		17SS60-0.0-2.0		17SS61-0.0-2.0		17SS62-0.0-2.0		17SS63-0.0-2.0				
2,4,6-Trinitrotoluene					mg/kg	5.1	Not Est.	4.7																					
2,4-Dinitrotoluene					mg/kg	0.042	Not Est.	12																					
2,6-Dinitrotoluene					mg/kg	0.042	2.7	6.8																					
METALS																													
Barium					mg/kg	Not Est.	222	520	150																				
DIOXINS																													
2,3,7,8-TCDD TEF					ng/kg	Not Est.	4	4																					

Notes:
 Blue Highlighting Indicates concentrations above the Industrial (HH) Soil Standards.
 Yellow Highlighting Indicates concentrations above Surface Soil (ECO) Soil Standards.
 Orange Highlighting Indicates concentrations above the Total Soil (ECO) Soil Standards.
 Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.
 Human health and ecological cleanup levels are from the Final Record of Decision, August 2016.
 J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
 U - Undetected: The analyte was analyzed for, but not detected.
 mg/kg - milligrams per kilogram
 ng/kg - nanograms per kilogram

**LHAAP-17 Pre-Design investigation Soil Sampling
(Partial)
January 2018**

	Location Code		17SS64	17SS65	17SS66	17SS79	17SS80	17SS81	17SS82	17SS83														
	Sample ID		17SS64-0.0-2.0	17SS65-0.0-2.0	17SS66-0.0-2.0	17SS79-0.0-0.5	17SS80-0.0-0.5	17SS81-0.0-0.5	17SS82-0.0-0.5	17SS83-0.0-2.0	17SS83-2.5-4.5	17SS83-5.0-7.0												
Sample Date	1/14/2018	1/14/2018	1/14/2018	1/15/2018	1/15/2018	1/15/2018	1/15/2018	1/15/2018	1/11/2018	1/11/2018	1/11/2018													
Depth	0 - 2	0 - 2	0 - 2	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 2	2.5 - 4.5	5 - 7													
Sample Purpose	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG													
Location Description:	Adjacent to 17SS22, 17SS23 and 17SS25		Adjacent to 17SS23		Adjacent to 17SS23 and 17SS25		Adjacent to 17SD12		Adjacent to 17SD12		Adjacent to 17SD12		Adjacent to 17SS27 and 17WW01											
Parameter	Units	Industrial Soil (Human Health)	Surface Soil EcoPRG (0-6")	Total Soil EcoPRG (0-3')	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual		
EXPLOSIVES																								
2,4,6-Trinitrotoluene	mg/kg	5.1	Not Est.	4.7	109		0.129		0.572										< 0.0303	U	< 0.0297	U	< 0.0286	U
2,4-Dinitrotoluene	mg/kg	0.042	Not Est.	12	17.1		0.0604		0.112										< 0.0303	U	< 0.0297	U	< 0.0286	U
2,6-Dinitrotoluene	mg/kg	0.042	2.7	6.8	2.05		< 0.0306	U	< 0.0298	U									< 0.0303	U	< 0.0297	U	< 0.0286	U
METALS																								
Barium	mg/kg	Not Est.	222	520							54.5		62		184		95.3							
DIOXINS																								
2,3,7,8-TCDD TEF	ng/kg	Not Est.	4	4							0.113	J	< 1.82	U	0.575	J	< 1.78	U						

Notes:

Blue Highlighting Indicates concentrations above the Industrial (HH) Soil Standards.

Yellow Highlighting Indicates concentrations above Surface Soil (ECO) Soil Standards.

Orange Highlighting Indicates concentrations above the Total Soil (ECO) Soil Standards.

Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.

Human health and ecological cleanup levels are from the Final Record of Decision, August 2016.

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected.

mg/kg - milligrams per kilogram

ng/kg - nanograms per kilogram

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(Partial)
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	Location Code				17SS84						17SS85						17SS86						17SS87									
	Sample ID				17SS84-0.0-2.0		17SS84-2.5-4.5		17SS84-5.0-7.0		17SS85-0.0-2.0		17SS85-2.5-4.5		17SS85-5.0-7.0		17SS86-0.0-2.0		17SS86-2.5-4.5		17SS86-5.0-7.0		17SS87-0.0-2.0		17SS87-2.5-4.5		17SS87-5.0-7.0					
Sample Date	1/11/2018				1/11/2018		1/11/2018		1/11/2018		1/11/2018		1/11/2018		1/11/2018		1/11/2018		1/11/2018		1/11/2018		1/11/2018		1/11/2018		1/11/2018					
Depth	0 - 2				2.5 - 4.5		5 - 7		0 - 2		2.5 - 4.5		5 - 7		0 - 2		2.5 - 4.5		5 - 7		0 - 2		2.5 - 4.5		5 - 7		0 - 2		2.5 - 4.5		5 - 7	
Sample Purpose	REG				REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG			
Location Description:					Adjacent to 17SS27 and 17WW01						Adjacent to 17SS27 and 17WW01						Adjacent to 17SS27 and 17WW01						Adjacent to 17SS27 and 17WW01									
Parameter	Units	Industrial Soil (Human Health)	Surface Soil EcoPRG (0-6")	Total Soil EcoPRG (0-3')	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual		
EXPLOSIVES																																
2,4,6-Trinitrotoluene	mg/kg	5.1	Not Est.	4.7	1.34		< 0.0282	U	< 0.0296	U	0.254		< 0.0291	U	< 0.0292	U	0.227		< 0.0295	U	< 0.0289	U	1480		1.32		< 0.0292	U				
2,4-Dinitrotoluene	mg/kg	0.042	Not Est.	12	3.21		< 0.0282	U	< 0.0296	U	0.0934		< 0.0291	U	< 0.0292	U	0.512		< 0.0295	U	< 0.0289	U	33.8		< 0.0302	U	< 0.0292	U				
2,6-Dinitrotoluene	mg/kg	0.042	2.7	6.8	0.569		< 0.0282	U	< 0.0296	U	< 0.0347	U	< 0.0291	U	< 0.0292	U	< 0.0283	U	< 0.0295	U	< 0.0289	U	27.5		< 0.0302	U	< 0.0292	U				
METALS																																
Barium	mg/kg	Not Est.	222	520																												
DIOXINS																																
2,3,7,8-TCDD TEF	ng/kg	Not Est.	4	4																												

Notes:
 Blue Highlighting Indicates concentrations above the Industrial (HH) Soil Standards.
 Yellow Highlighting Indicates concentrations above Surface Soil (ECO) Soil Standards.
 Orange Highlighting Indicates concentrations above the Total Soil (ECO) Soil Standards.
 Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.
 Human health and ecological cleanup levels are from the Final Record of Decision, August 2016.
 J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
 U - Undetected: The analyte was analyzed for, but not detected.
 mg/kg - milligrams per kilogram
 ng/kg - nanograms per kilogram

LHAAP-17 Pre-Design investigation Soil Sampling
(Partial)
January 2018

	Location Code					17SS88					17SS89													
	Sample ID	17SS88-0.0-2.0	17SS88-2.5-4.5	17SS88-5.0-7.0	17SS88-7.5-9.5	17SS88-10.0-12.0	17SS89-0.0-2.0	17SS89-2.5-4.5	17SS89-5.0-7.0	17SS89-7.5-9.5	17SS89-10.0-12.0	17SS89-0.0-2.0	17SS89-2.5-4.5	17SS89-5.0-7.0	17SS89-7.5-9.5	17SS89-10.0-12.0								
Sample Date	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018								
Depth	0 - 2	2.5 - 4.5	5 - 7	7.5 - 9.5	10 - 12	0 - 2	2.5 - 4.5	5 - 7	7.5 - 9.5	10 - 12	0 - 2	2.5 - 4.5	5 - 7	7.5 - 9.5	10 - 12									
Sample Purpose	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG									
Location Description:	Adjacent to 17SB03, 17SS25 and 17SS29										Adjacent to 17SB03, 17SS25 and 17SS29													
Parameter	Units	Industrial Soil (Human Health)	Surface Soil EcoPRG (0-6")	Total Soil EcoPRG (0-3')	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual		
EXPLOSIVES																								
2,4,6-Trinitrotoluene	mg/kg	5.1	Not Est.	4.7	0.704		< 0.0289	U	< 0.031	U	< 0.0297	U	< 0.0302	U	< 0.0275	U	< 0.0315	U	< 0.0317	U	< 0.0308	U	< 0.0289	U
2,4-Dinitrotoluene	mg/kg	0.042	Not Est.	12	1.48		< 0.0289	U	< 0.031	U	< 0.0297	U	< 0.0302	U	< 0.0275	U	< 0.0315	U	< 0.0317	U	< 0.0308	U	< 0.0289	U
2,6-Dinitrotoluene	mg/kg	0.042	2.7	6.8	0.78		< 0.0289	U	< 0.031	U	< 0.0297	U	< 0.0302	U	< 0.0275	U	< 0.0315	U	< 0.0317	U	< 0.0308	U	< 0.0289	U
METALS																								
Barium	mg/kg	Not Est.	222	520																				
DIOXINS																								
2,3,7,8-TCDD TEF	ng/kg	Not Est.	4	4																				

Notes:

Blue Highlighting Indicates concentrations above the Industrial (HH) Soil Standards.

Yellow Highlighting Indicates concentrations above Surface Soil (ECO) Soil Standards.

Orange Highlighting Indicates concentrations above the Total Soil (ECO) Soil Standards.

Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.

Human health and ecological cleanup levels are from the Final Record of Decision, August 2016.

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected.

mg/kg - milligrams per kilogram

ng/kg - nanograms per kilogram

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(Partial)
January 2018

Location Code	17SS90																							
	Sample ID	17SS90-0.0-2.0	17SS90-0.0-2.0-FD	17SS90-2.5-4.5	17SS90-2.5-4.5-FD	17SS90-5.0-7.0	17SS90-5.0-7.0-FD	17SS90-7.5-9.5	17SS90-7.5-9.5-FD	17SS90-10.0-12.0	17SS90-10.0-12.0-FD													
Sample Date	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018													
Depth	0 - 2	0 - 2	2.5 - 4.5	2.5 - 4.5	5 - 7	5 - 7	7.5 - 9.5	7.5 - 9.5	10 - 12	10 - 12														
Sample Purpose	REG	FD	REG	FD	REG	FD	REG	FD	REG	FD														
Location Description:	Adjacent to 17SB03 and 17SS29																							
Parameter	Units	Industrial Soil (Human Health)	Surface Soil EcoPRG (0-6")	Total Soil EcoPRG (0-3')	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual		
EXPLOSIVES																								
2,4,6-Trinitrotoluene	mg/kg	5.1	Not Est.	4.7	< 0.0275	U	< 0.0292	U	< 0.0307	U	< 0.0314	U	< 0.0311	U	< 0.0314	U	< 0.0302	U	< 0.0304	U	< 0.0313	U	< 0.0295	U
2,4-Dinitrotoluene	mg/kg	0.042	Not Est.	12	< 0.0275	U	< 0.0292	U	< 0.0307	U	< 0.0314	U	< 0.0311	U	< 0.0314	U	< 0.0302	U	< 0.0304	U	< 0.0313	U	< 0.0295	U
2,6-Dinitrotoluene	mg/kg	0.042	2.7	6.8	< 0.0275	U	< 0.0292	U	< 0.0307	U	< 0.0314	U	< 0.0311	U	< 0.0314	U	< 0.0302	U	< 0.0304	U	< 0.0313	U	< 0.0295	U
METALS																								
Barium	mg/kg	Not Est.	222	520																				
DIOXINS																								
2,3,7,8-TCDD TEF	ng/kg	Not Est.	4	4																				

Notes:

Blue Highlighting Indicates concentrations above the Industrial (HH) Soil Standards.

Yellow Highlighting Indicates concentrations above Surface Soil (ECO) Soil Standards.

Orange Highlighting Indicates concentrations above the Total Soil (ECO) Soil Standards.

Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.

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J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected.

mg/kg - milligrams per kilogram

ng/kg - nanograms per kilogram

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Parameter	Units	Industrial Soil (Human Health)	Surface Soil EcoPRG (0-6")	Total Soil EcoPRG (0-3')	17SS91					17SS92					17SS93											
					Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual						
EXPLOSIVES																										
2,4,6-Trinitrotoluene	mg/kg	5.1	Not Est.	4.7	39.6		19.8		< 0.0327	U	688		< 0.0288	U	< 0.029	U	0.0825		< 0.0291	U	0.179		< 0.0299	U	< 0.0306	U
2,4-Dinitrotoluene	mg/kg	0.042	Not Est.	12	0.59		< 0.03	U	< 0.0327	U	1.52		< 0.0288	U	< 0.029	U	0.109		< 0.0291	U	0.263		< 0.0299	U	< 0.0306	U
2,6-Dinitrotoluene	mg/kg	0.042	2.7	6.8	0.213		< 0.03	U	< 0.0327	U	0.822		< 0.0288	U	< 0.029	U	0.0498		< 0.0291	U	< 0.0294	U	< 0.0299	U	< 0.0306	U
METALS																										
Barium	mg/kg	Not Est.	222	520																						
DIOXINS																										
2,3,7,8-TCDD TEF	ng/kg	Not Est.	4	4																						

Notes:

Blue Highlighting Indicates concentrations above the Industrial (HH) Soil Standards.

Yellow Highlighting Indicates concentrations above Surface Soil (ECO) Soil Standards.

Orange Highlighting Indicates concentrations above the Total Soil (ECO) Soil Standards.

Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.

Human health and ecological cleanup levels are from the Final Record of Decision, August 2016.

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected.

mg/kg - milligrams per kilogram

ng/kg - nanograms per kilogram

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(Partial)
January 2018

Parameter	Units	Location Code				17SS94		17SS95	17SS96	17SS97	17SS98	17SS99			17SS100												
		Industrial Soil (Human Health)	Surface Soil EcoPRG (0-6")	Total Soil EcoPRG (0-3')	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual											
EXPLOSIVES																											
2,4,6-Trinitrotoluene	mg/kg	5.1	Not Est.	4.7	0.0701	< 0.0303	U	< 0.0289	U	8.26	0.543	< 0.0294	U	< 0.0285	U	< 0.0306	U	< 0.0301	U	< 0.0305	U	< 0.0295	U	< 0.0298	U	< 0.0302	U
2,4-Dinitrotoluene	mg/kg	0.042	Not Est.	12	0.0908	< 0.0303	U	< 0.0289	U	0.408	0.246	< 0.0294	U	< 0.0285	U	< 0.0306	U	< 0.0301	U	< 0.0305	U	< 0.0295	U	< 0.0298	U	< 0.0302	U
2,6-Dinitrotoluene	mg/kg	0.042	2.7	6.8	0.0627	< 0.0303	U	< 0.0289	U	0.407	0.148	< 0.0294	U	< 0.0285	U	< 0.0306	U	< 0.0301	U	< 0.0305	U	< 0.0295	U	< 0.0298	U	< 0.0302	U
METALS																											
Barium	mg/kg	Not Est.	222	520																							
DIOXINS																											
2,3,7,8-TCDD TEF	ng/kg	Not Est.	4	4																							

Notes:
 Blue Highlighting Indicates concentrations above the Industrial (HH) Soil Standards.
 Yellow Highlighting Indicates concentrations above Surface Soil (ECO) Soil Standards.
 Orange Highlighting Indicates concentrations above the Total Soil (ECO) Soil Standards.
 Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.
 Human health and ecological cleanup levels are from the Final Record of Decision, August 2016.
 J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
 U - Undetected: The analyte was analyzed for, but not detected.
 mg/kg - milligrams per kilogram
 ng/kg - nanograms per kilogram

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(Partial)
January 2018

	Location Code		17SS101			17SS102			17SS103			17SS104			17SS105											
	Sample ID		17SS101-0.0-2.0	17SS101-2.5-4.5	17SS101-5.0-7.0	17SS102-0.0-2.0	17SS102-2.5-4.5	17SS102-5.0-7.0	17SS103-0.0-2.0	17SS103-2.5-4.5	17SS104-0.0-2.0	17SS104-2.5-4.5	17SS105-0.0-2.0	17SS105-2.5-4.5												
Sample Date		1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/13/2018	1/13/2018	1/12/2018	1/12/2018													
Depth		0 - 2	2.5 - 4.5	5 - 7	0 - 2	2.5 - 4.5	5 - 7	0 - 2	2.5 - 4.5	0 - 2	2.5 - 4.5	0 - 2	2.5 - 4.5													
Sample Purpose		REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG													
Location Description:	Adjacent to COE17-14 and COE17-15				Adjacent to COE17-14				Adjacent to COE17-15			Adjacent to COE17-15, COE17-16 and 17SB06			Adjacent to COE17-15 and 17SB06											
Parameter	Units	Industrial Soil (Human Health)	Surface Soil EcoPRG (0-6")	Total Soil EcoPRG (0-3')	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
EXPLOSIVES																										
2,4,6-Trinitrotoluene	mg/kg	5.1	Not Est.	4.7	< 0.0295	U	< 0.0321	U	< 0.0329	U	< 0.0291	U	< 0.0306	U	< 0.03	U	0.707	< 0.0276	U	0.63	< 0.0297	U	2.39	< 0.0335	U	
2,4-Dinitrotoluene	mg/kg	0.042	Not Est.	12	< 0.0295	U	< 0.0321	U	< 0.0329	U	< 0.0291	U	< 0.0306	U	< 0.03	U	1.72	< 0.0276	U	< 0.0302	U	< 0.0297	U	0.088	< 0.0335	U
2,6-Dinitrotoluene	mg/kg	0.042	2.7	6.8	< 0.0295	U	< 0.0321	U	< 0.0329	U	< 0.0291	U	< 0.0306	U	< 0.03	U	3.75	< 0.0276	U	< 0.0302	U	< 0.0297	U	0.0925	< 0.0335	U
METALS																										
Barium	mg/kg	Not Est.	222	520																						
DIOXINS																										
2,3,7,8-TCDD TEF	ng/kg	Not Est.	4	4																						

Notes:

- Blue Highlighting Indicates concentrations above the Industrial (HH) Soil Standards.
- Yellow Highlighting Indicates concentrations above Surface Soil (ECO) Soil Standards.
- Orange Highlighting Indicates concentrations above the Total Soil (ECO) Soil Standards.

Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.

Human health and ecological cleanup levels are from the Final Record of Decision, August 2016.

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected.

mg/kg - milligrams per kilogram

ng/kg - nanograms per kilogram

LHAAP-17 Pre-Design investigation Soil Sampling
(Partial)
January 2018

Parameter	Units	Location Code			17SS106		17SS107		17SS108		17SS109				17SS110				17SS111									
		Industrial Soil (Human Health)	Surface Soil EcoPRG (0-6")	Total Soil EcoPRG (0-3')	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual						
		Location Description:			Adjacent to COE17-16		Adjacent to COE17-16		Adjacent to COE17-16		New Location in SW Quadrant				New Location in SW Quadrant				New Location in SW Quadrant									
		Sample ID			17SS106-0.0-2.0		17SS107-0.0-2.0		17SS108-0.0-2.0		17SS109-0.0-2.0		17SS109-2.5-4.5		17SS109-5.0-7.0		17SS110-0.0-2.0		17SS110-2.5-4.5		17SS110-5.0-7.0		17SS111-0.0-2.0		17SS111-2.5-4.5		17SS111-5.0-7.0	
		Sample Date			1/14/2018		1/14/2018		1/13/2018		1/11/2018		1/11/2018		1/11/2018		1/11/2018		1/11/2018		1/11/2018		1/11/2018		1/11/2018		1/11/2018	
		Depth			0 - 2		0 - 2		0 - 2		0 - 2		2.5 - 4.5		5 - 7		0 - 2		2.5 - 4.5		5 - 7		0 - 2		2.5 - 4.5		5 - 7	
		Sample Purpose			REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	

Notes:

Blue Highlighting Indicates concentrations above the Industrial (HH) Soil Standards.

Yellow Highlighting Indicates concentrations above Surface Soil (ECO) Soil Standards.

Orange Highlighting Indicates concentrations above the Total Soil (ECO) Soil Standards.

Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.

Human health and ecological cleanup levels are from the Final Record of Decision, August 2016.

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected.

mg/kg - milligrams per kilogram

ng/kg - nanograms per kilogram

LHAAP-17 Pre-Design investigation Soil Sampling
(Partial)
January 2018

Parameter	Units	Industrial Soil (Human Health)	Surface Soil EcoPRG (0-6")	Total Soil EcoPRG (0-3')	17SS112						17SS113						17SS114											
					Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual								
EXPLOSIVES																												
2,4,6-Trinitrotoluene	mg/kg	5.1	Not Est.	4.7	< 0.0302	U	< 0.0313	U	< 0.0285	U	< 0.03	U	< 0.0289	U	< 0.0295	U	< 0.0312	U	< 0.0293	U	< 0.0296	U	< 0.0299	U	< 0.0321	U	< 0.0312	U
2,4-Dinitrotoluene	mg/kg	0.042	Not Est.	12	< 0.0302	U	< 0.0313	U	< 0.0285	U	< 0.03	U	< 0.0289	U	< 0.0295	U	< 0.0312	U	< 0.0293	U	< 0.0296	U	< 0.0299	U	< 0.0321	U	< 0.0312	U
2,6-Dinitrotoluene	mg/kg	0.042	2.7	6.8	< 0.0302	U	< 0.0313	U	< 0.0285	U	< 0.03	U	< 0.0289	U	< 0.0295	U	< 0.0312	U	< 0.0293	U	< 0.0296	U	< 0.0299	U	< 0.0321	U	< 0.0312	U
METALS																												
Barium	mg/kg	Not Est.	222	520																								
DIOXINS																												
2,3,7,8-TCDD TEF	ng/kg	Not Est.	4	4																								

Notes:

Blue Highlighting Indicates concentrations above the Industrial (HH) Soil Standards.

Yellow Highlighting Indicates concentrations above Surface Soil (ECO) Soil Standards.

Orange Highlighting Indicates concentrations above the Total Soil (ECO) Soil Standards.

Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.

Human health and ecological cleanup levels are from the Final Record of Decision, August 2016.

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected.

mg/kg - milligrams per kilogram

ng/kg - nanograms per kilogram

LHAAP-17 Pre-Design investigation Soil Sampling
(Partial)
January 2018

Location Code	17SS115						17SS116															
	Sample ID	17SS115-0.0-2.0	17SS115-0.0-2.0-FD	17SS115-2.5-4.5	17SS115-2.5-4.5-FD	17SS115-5.0-7.0	17SS115-5.0-7.0-FD	17SS116-0.0-2.0	17SS116-2.5-4.5	17SS116-5.0-7.0												
Sample Date	1/11/2018	1/11/2018	1/11/2018	1/11/2018	1/11/2018	1/11/2018	1/11/2018	1/12/2018	1/12/2018	1/12/2018												
Depth	0 - 2	0 - 2	2.5 - 4.5	2.5 - 4.5	5 - 7	5 - 7	5 - 7	0 - 2	2.5 - 4.5	5 - 7												
Sample Purpose	REG	FD	REG	FD	REG	FD	REG	REG	REG	REG												
Location Description:	New Location in SW Quadrant						New Location in SW Quadrant															
Parameter	Units	Industrial Soil (Human Health)	Surface Soil EcoPRG (0-6")	Total Soil EcoPRG (0-3')	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual		
EXPLOSIVES																						
2,4,6-Trinitrotoluene	mg/kg	5.1	Not Est.	4.7	< 0.0308	U	< 0.0297	U	< 0.0291	U	< 0.0288	U	< 0.0294	U	< 0.0281	U	< 0.0318	U	< 0.0282	U	< 0.0281	U
2,4-Dinitrotoluene	mg/kg	0.042	Not Est.	12	< 0.0308	U	< 0.0297	U	< 0.0291	U	< 0.0288	U	< 0.0294	U	< 0.0281	U	< 0.0318	U	< 0.0282	U	< 0.0281	U
2,6-Dinitrotoluene	mg/kg	0.042	2.7	6.8	< 0.0308	U	< 0.0297	U	< 0.0291	U	< 0.0288	U	< 0.0294	U	< 0.0281	U	< 0.0318	U	< 0.0282	U	< 0.0281	U
METALS																						
Barium	mg/kg	Not Est.	222	520																		
DIOXINS																						
2,3,7,8-TCDD TEF	ng/kg	Not Est.	4	4																		

Notes:

Blue Highlighting Indicates concentrations above the Industrial (HH) Soil Standards.

Yellow Highlighting Indicates concentrations above Surface Soil (ECO) Soil Standards.

Orange Highlighting Indicates concentrations above the Total Soil (ECO) Soil Standards.

Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.

Human health and ecological cleanup levels are from the Final Record of Decision, August 2016.

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected.

mg/kg - milligrams per kilogram

ng/kg - nanograms per kilogram

LHAAP-17 Pre-Design investigation Soil Sampling
(Partial)
January 2018

Location Code	17SS117					17SS118			17SS119																	
	Sample ID	17SS117-0.0-2.0	17SS117-0.0-2.0-FD	17SS117-2.5-4.5	17SS117-2.5-4.5-FD	17SS117-5.0-7.0	17SS118-0.0-2.0	17SS118-2.5-4.5	17SS118-5.0-7.0	17SS119-0.0-2.0	17SS119-2.5-4.5	17SS119-5.0-7.0														
Sample Date	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018														
Depth	0 - 2	0 - 2	2.5 - 4.5	2.5 - 4.5	5 - 7	0 - 2	2.5 - 4.5	5 - 7	0 - 2	2.5 - 4.5	5 - 7															
Sample Purpose	REG	FD	REG	FD	REG	REG	REG	REG	REG	REG	REG															
Location Description:	New Location in SW Quadrant					New Location in SW Quadrant			New Location in SW Quadrant																	
Parameter	Units	Industrial Soil (Human Health)	Surface Soil EcoPRG (0-6")	Total Soil EcoPRG (0-3')	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual		
EXPLOSIVES																										
2,4,6-Trinitrotoluene	mg/kg	5.1	Not Est.	4.7	< 0.0308	U	< 0.0303	U	< 0.029	U	< 0.0301	U	< 0.0288	U	< 0.0344	U	< 0.0299	U	< 0.0288	U	< 0.0299	U	< 0.0302	U	< 0.0286	U
2,4-Dinitrotoluene	mg/kg	0.042	Not Est.	12	< 0.0308	U	< 0.0303	U	< 0.029	U	< 0.0301	U	< 0.0288	U	< 0.0344	U	< 0.0299	U	< 0.0288	U	< 0.0299	U	< 0.0302	U	< 0.0286	U
2,6-Dinitrotoluene	mg/kg	0.042	2.7	6.8	< 0.0308	U	< 0.0303	U	< 0.029	U	< 0.0301	U	< 0.0288	U	< 0.0344	U	< 0.0299	U	< 0.0288	U	< 0.0299	U	< 0.0302	U	< 0.0286	U
METALS																										
Barium	mg/kg	Not Est.	222	520																						
DIOXINS																										
2,3,7,8-TCDD TEF	ng/kg	Not Est.	4	4																						

Notes:

Blue Highlighting Indicates concentrations above the Industrial (HH) Soil Standards.

Yellow Highlighting Indicates concentrations above Surface Soil (ECO) Soil Standards.

Orange Highlighting Indicates concentrations above the Total Soil (ECO) Soil Standards.

Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.

Human health and ecological cleanup levels are from the Final Record of Decision, August 2016.

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected.

mg/kg - milligrams per kilogram

ng/kg - nanograms per kilogram

LHAAP-17 Pre-Design investigation Soil Sampling
(Partial)
January 2018

	Location Code				17SS120						17SS121						17SS122											
	Sample ID	17SS120-0.0-2.0	17SS120-2.5-4.5	17SS120-5.0-7.0	17SS121-0.0-2.0	17SS121-0.0-2.0-FD	17SS121-2.5-4.5	17SS121-2.5-4.5-FD	17SS121-5.0-7.0	17SS121-5.0-7.0-FD	17SS122-0.0-2.0	17SS122-2.5-4.5	17SS122-5.0-7.0	17SS122-0.0-2.0	17SS122-2.5-4.5	17SS122-5.0-7.0												
Sample Date	1/11/2018	1/11/2018	1/11/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018												
Depth	0 - 2	2.5 - 4.5	5 - 7	0 - 2	0 - 2	2.5 - 4.5	2.5 - 4.5	5 - 7	5 - 7	0 - 2	2.5 - 4.5	5 - 7	0 - 2	2.5 - 4.5	5 - 7													
Sample Purpose	REG	REG	REG	REG	FD	REG	FD	REG	FD	REG	REG	REG	REG	REG	REG													
Location Description:	New Location in SW Quadrant						New Location in SW Quadrant						New Location in SW Quadrant															
Parameter	Units	Industrial Soil (Human Health)	Surface Soil EcoPRG (0-6")	Total Soil EcoPRG (0-3')	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual		
EXPLOSIVES																												
2,4,6-Trinitrotoluene	mg/kg	5.1	Not Est.	4.7	< 0.0313	U	< 0.0287	U	< 0.0293	U	< 0.0336	U	< 0.0327	U	< 0.0314	U	< 0.0279	U	< 0.0278	U	< 0.0284	U	< 0.0316	U	< 0.0292	U	< 0.028	U
2,4-Dinitrotoluene	mg/kg	0.042	Not Est.	12	< 0.0313	U	< 0.0287	U	< 0.0293	U	< 0.0336	U	< 0.0327	U	< 0.0314	U	< 0.0279	U	< 0.0278	U	< 0.0284	U	< 0.0316	U	< 0.0292	U	< 0.028	U
2,6-Dinitrotoluene	mg/kg	0.042	2.7	6.8	< 0.0313	U	< 0.0287	U	< 0.0293	U	< 0.0336	U	< 0.0327	U	< 0.0314	U	< 0.0279	U	< 0.0278	U	< 0.0284	U	< 0.0316	U	< 0.0292	U	< 0.028	U
METALS																												
Barium	mg/kg	Not Est.	222	520																								
DIOXINS																												
2,3,7,8-TCDD TEF	ng/kg	Not Est.	4	4																								

Notes:
 Blue Highlighting Indicates concentrations above the Industrial (HH) Soil Standards.
 Yellow Highlighting Indicates concentrations above Surface Soil (ECO) Soil Standards.
 Orange Highlighting Indicates concentrations above the Total Soil (ECO) Soil Standards.
 Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.
 Human health and ecological cleanup levels are from the Final Record of Decision, August 2016.
 J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
 U - Undetected: The analyte was analyzed for, but not detected.
 mg/kg - milligrams per kilogram
 ng/kg - nanograms per kilogram

LHAAP-17 Pre-Design investigation Soil Sampling
(Partial)
January 2018

	Location Code		17SS123			17SS124						17SS125																
	Sample ID		17SS123-0.0-2.0	17SS123-2.5-4.5	17SS123-5.0-7.0	17SS124-0.0-2.0	17SS124-0.0-2.0-FD	17SS124-2.5-4.5	17SS124-2.5-4.5-FD	17SS124-5.0-7.0	17SS124-5.0-7.0-FD	17SS125-0.0-2.0	17SS125-2.5-4.5	17SS125-5.0-7.0														
Sample Date		1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018														
Depth		0 - 2	2.5 - 4.5	5 - 7	0 - 2	0 - 2	2.5 - 4.5	2.5 - 4.5	5 - 7	5 - 7	0 - 2	2.5 - 4.5	5 - 7															
Sample Purpose		REG	REG	REG	REG	FD	REG	FD	REG	FD	REG	REG	REG															
Location Description:	New Location in SW Quadrant			New Location in SW Quadrant						New Location in SW Quadrant																		
Parameter	Units	Industrial Soil (Human Health)	Surface Soil EcoPRG (0-6")	Total Soil EcoPRG (0-3')	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual		
EXPLOSIVES																												
2,4,6-Trinitrotoluene	mg/kg	5.1	Not Est.	4.7	< 0.0303	U	< 0.0303	U	< 0.0293	U	< 0.0306	U	< 0.0294	U	< 0.0293	U	< 0.0292	U	< 0.0298	U	< 0.0306	U	< 0.0296	U	< 0.03	U	< 0.0285	U
2,4-Dinitrotoluene	mg/kg	0.042	Not Est.	12	< 0.0303	U	< 0.0293	U	< 0.0293	U	< 0.0306	U	< 0.0294	U	< 0.0293	U	< 0.0292	U	< 0.0298	U	< 0.0306	U	< 0.0296	U	< 0.03	U	< 0.0285	U
2,6-Dinitrotoluene	mg/kg	0.042	2.7	6.8	< 0.0303	U	< 0.0293	U	< 0.0293	U	< 0.0306	U	< 0.0294	U	< 0.0293	U	< 0.0292	U	< 0.0298	U	< 0.0306	U	< 0.0296	U	< 0.03	U	< 0.0285	U
METALS																												
Barium	mg/kg	Not Est.	222	520																								
DIOXINS																												
2,3,7,8-TCDD TEF	ng/kg	Not Est.	4	4																								

Notes:
 Blue Highlighting Indicates concentrations above the Industrial (HH) Soil Standards.
 Yellow Highlighting Indicates concentrations above Surface Soil (ECO) Soil Standards.
 Orange Highlighting Indicates concentrations above the Total Soil (ECO) Soil Standards.
 Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.
 Human health and ecological cleanup levels are from the Final Record of Decision, August 2016.
 J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
 U - Undetected: The analyte was analyzed for, but not detected.
 mg/kg - milligrams per kilogram
 ng/kg - nanograms per kilogram

**LHAAP-17 Pre-Design investigation Soil Sampling
(Partial)
January 2018**

Parameter	Units	Location Code				17SS126						17WW01A			COE17-08A				COE17-14A							
		Industrial Soil (Human Health)	Surface Soil EcoPRG (0-6")	Total Soil EcoPRG (0-3')		Sample ID	17SS126-0.0-2.0	17SS126-2.5-4.5	17SS126-5.0-7.0	17WW01A-2.5-4.5	17WW01A-5.0-7.0	17WW01A-8.0-10.0	COE17-08A-0.0-2.0	COE17-08A-2.5-4.5	COE17-14A-0.0-2.0	COE17-14A-2.5-4.5	COE17-14A-5.0-7.0									
Sample Date	Sample Purpose	Location Description:				1/12/2018	1/12/2018	1/12/2018	1/11/2018	1/11/2018	1/11/2018	1/14/2018	1/14/2018	1/12/2018	1/12/2018	1/12/2018										
Depth	Sample Purpose	Location Description:				0 - 2	2.5 - 4.5	5 - 7	2.5 - 4.5	5 - 7	8 - 10	0 - 2	2.5 - 4.5	0 - 2	2.5 - 4.5	5 - 7										
Sample Purpose	Sample Purpose	Location Description:				REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG										
Location Description:	Location Description:	Location Description:				New Location in SW Quadrant						Adjacent to 17SS27 and 17WW01			Same Location as COE17-08				Same Location as COE17-14							
Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	
EXPLOSIVES																										
2,4,6-Trinitrotoluene	mg/kg	5.1	Not Est.	4.7	< 0.0301	U	< 0.0288	U	< 0.0289	U	< 0.0293	U	< 0.0285	U	< 0.03	U	< 0.0284	U	< 0.0299	U	0.438	J	< 0.0279	U	< 0.0302	U
2,4-Dinitrotoluene	mg/kg	0.042	Not Est.	12	< 0.0301	U	< 0.0288	U	< 0.0289	U	< 0.0293	U	< 0.0285	U	< 0.03	U	0.0693		< 0.0299	U	0.719	J	< 0.0279	U	< 0.0302	U
2,6-Dinitrotoluene	mg/kg	0.042	2.7	6.8	< 0.0301	U	< 0.0288	U	< 0.0289	U	< 0.0293	U	< 0.0285	U	< 0.03	U	< 0.0284	U	< 0.0299	U	0.254	J	< 0.0279	U	< 0.0302	U
METALS																										
Barium	mg/kg	Not Est.	222	520																						
DIOXINS																										
2,3,7,8-TCDD TEF	ng/kg	Not Est.	4	4																						

Notes:
 Blue Highlighting Indicates concentrations above the Industrial (HH) Soil Standards.
 Yellow Highlighting Indicates concentrations above Surface Soil (ECO) Soil Standards.
 Orange Highlighting Indicates concentrations above the Total Soil (ECO) Soil Standards.
 Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.
 Human health and ecological cleanup levels are from the Final Record of Decision, August 2016.
 J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
 U - Undetected: The analyte was analyzed for, but not detected.
 mg/kg - milligrams per kilogram
 ng/kg - nanograms per kilogram

**LHAAP-17 Pre-Design investigation Soil Sampling
(Partial)
January 2018**

	Location Code				COE17-15A				COE17-16A			
	Sample ID				COE17-15A-4.0-5.0	COE17-15A-5.0-7.0			COE17-16A-4.0-5.0	COE17-16A-5.0-7.0		
	Sample Date				1/12/2018	1/12/2018			1/12/2018	1/12/2018		
	Depth				4 - 5	5 - 7			4 - 5	5 - 7		
	Sample Purpose				REG	REG			REG	REG		
	Location Description:				Same Location as COE17-15				Same Location as COE17-16			
Parameter	Units	Industrial Soil (Human Health)	Surface Soil EcoPRG (0-6")	Total Soil EcoPRG (0-3')	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual
EXPLOSIVES												
2,4,6-Trinitrotoluene	mg/kg	5.1	Not Est.	4.7	< 0.0308	U	< 0.0315	U	0.183		< 0.0314	U
2,4-Dinitrotoluene	mg/kg	0.042	Not Est.	12	< 0.0308	U	< 0.0315	U	0.0393		< 0.0314	U
2,6-Dinitrotoluene	mg/kg	0.042	2.7	6.8	< 0.0308	U	< 0.0315	U	< 0.0303	U	< 0.0314	U
METALS												
Barium	mg/kg	Not Est.	222	520								
DIOXINS												
2,3,7,8-TCDD TEF	ng/kg	Not Est.	4	4								

Notes:

Blue Highlighting Indicates concentrations above the Industrial (HH) Soil Standards.

Yellow Highlighting Indicates concentrations above Surface Soil (ECO) Soil Standards.

Orange Highlighting Indicates concentrations above the Total Soil (ECO) Soil Standards.

Some samples may have been diluted due to the concentration(s) of one or more analytes exceeding the upper limit of the calibration curve.

Human health and ecological cleanup levels are from the Final Record of Decision, August 2016.

J - Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

U - Undetected: The analyte was analyzed for, but not detected.

mg/kg - milligrams per kilogram

ng/kg - nanograms per kilogram

**LHAAP-17 Groundwater Sampling Shallow Well
(Dry in Previous Sampling Event)**

	Location Code		17WW12	
	Sample ID		17WW12-021518	
	Sample Date		2/15/2018	
	Location Description:		Shallow Zone, Unimpacted, within Site Boundary	
Parameter	Units	MCL/PCL	Result	Val Qual
PERCHLORATE				
Perchlorate	µg/L	17	< 4	U
VOLATILES				
1,1-Dichloroethene	µg/L	7	< 0.5	U
1,2-Dichloroethane	µg/L	5	< 0.5	U
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U
Trichloroethene	µg/L	5	< 0.5	U
Vinyl chloride	µg/L	2	< 0.5	U

Notes:

Blue highlighting indicates concentrations above the MCL/PCL.

U - Undetected: The analyte was analyzed for, but not detected.

µg/L - micrograms per liter

ID - identification

MCL - maximum contaminant limit

PCL - Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Residential Protective Concentration Level.

Val Qual - validation qualifier

LHAAP-37 Year 1 Quarter 2 RA-O Groundwater Sampling

Parameter	Location		35BSW01	35BSW02	35BWW01	35BWW04		35BWW05	35BWW06	35BWW07	35BWW08	35BWW09	35BWW10	35BWW11	35BWW12	35BWW13																
	Sample ID		35BSW01-021218	35BSW02-021218	35BWW01-021418	35BWW04-021418	35BWW04-021418-FD	35BWW05-021618	35BWW06-021618	35BWW07-021318	35BWW08-021418	35BWW09-021318	35BWW10-021618	35BWW11-021218	35BWW12-021418	35BWW13-021318	35BWW13-021318FD															
	Sample Date		2/12/2018	2/12/2018	2/14/2018	2/14/2018	2/14/2018	2/16/2018	2/16/2018	2/13/2018	2/14/2018	2/13/2018	2/16/2018	2/12/2018	2/14/2018	2/13/2018	2/13/2018															
	Location Description		Surface Water, Upgradient	Surface Water, Downgradient	Shallow Zone, Unimpacted, within Site Boundary	Shallow Zone, Impacted, within Site Boundary	Shallow Zone, Impacted, within Site Boundary	Shallow Zone, Impacted, within Site Boundary	Lower Shallow Zone, Unimpacted, within Site Boundary	Shallow Zone, Unimpacted Downgradient	Shallow Zone, Unimpacted, within Site Boundary	Shallow Zone, Impacted Outside Site Boundary	Shallow, Impacted, within Site Boundary	Shallow Zone, v. Low Impact, within Site Boundary	Shallow Zone, Unimpacted, within Site Boundary	Shallow Zone, v. Low Impact, Crossgradient	Shallow Zone, v. Low Impact, Crossgradient															
Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual			
VOLATILES																																
1,1-Dichloroethene	µg/L	7	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
cis-1,2-Dichloroethene	µg/L	70	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		
Tetrachloroethene	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	10		10		2.8		< 0.5	U	< 0.5	U	< 0.5	U	29		< 0.5	U	7.1		1.9		1.9			
Trichloroethene	µg/L	5	< 0.5	U	< 0.5	U	< 0.5	U	1.3		1.2		10		< 0.5	U	< 0.5	U	< 0.5	U	180		39		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Vinyl chloride	µg/L	2	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U		

Notes:

Blue highlighting indicates concentrations above the MCL.

U - Undetected: The analyte was analyzed for, but not detected.

µg/L - micrograms per liter

ID - identification

MCL - maximum contaminant limit

RA-O - remedial action operation

Val Qual - validation qualifier

LHAAP-37 Year 1 Quarter 2 RA-O Groundwater Sampling

Parameter	Location		35BWW14	35BWW15	35BWW16	35BWW17	35BWW18	35BWW19	35BWW20	35BWW23	35BWW24	35BWW25		35BWW26	LHSMW58													
	Sample ID		35BWW14-021518	35BWW15-021318	35BWW16-021318	35BWW17-021318	35BWW18-021318	35BWW19-021318	35BWW20-021218	35BWW23-021518	35BWW24-021618	35BWW25-021618	35BWW25-021618-FD	35BWW26-021418	LHSMW58-021218													
	Sample Date		2/15/2018	2/13/2018	2/13/2018	2/13/2018	2/13/2018	2/13/2018	2/12/2018	2/15/2018	2/16/2018	2/16/2018	2/16/2018	2/14/2018	2/12/2018													
	Location Description		Shallow Zone, Impacted, within Site Boundary	Shallow Zone, Impacted, within Site Boundary	Shallow Zone, Impacted, Outside Site Boundary	Shallow Zone, Unimpacted, within Site Boundary	Shallow Zone, Unimpacted, Outside Site Boundary	Shallow Zone, Unimpacted, Outside Site Boundary	Shallow Zone, Impacted, within Site Boundary	Shallow Zone, Unimpacted, Outside Site Boundary	Shallow Zone, Unimpacted, Outside Site Boundary	Shallow Zone, Impacted, Outside Site Boundary	Shallow Zone, Impacted, Outside Site Boundary	Shallow Zone, Unimpacted, within Site Boundary	Shallow Zone, Impacted, within Site Boundary													
Units	MCL	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual	Result	Val Qual			
VOLATILES																												
1,1-Dichloroethene	µg/L	7	< 0.5	U	2.2		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
cis-1,2-Dichloroethene	µg/L	70	1.1		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Tetrachloroethene	µg/L	5	44		12		12		7.5		< 0.5	U	< 0.5	U	34		< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	14	
Trichloroethene	µg/L	5	20		14		5.8		2.9		< 0.5	U	< 0.5	U	5.7		< 0.5	U	< 0.5	U	11		11		< 0.5	U	< 0.5	U
Vinyl chloride	µg/L	2	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U

Notes:

Blue highlighting indicates concentrations above the MCL.

U - Undetected: The analyte was analyzed for, but not detected.

µg/L - micrograms per liter

ID - identification

MCL - maximum contaminant limit

RA-O - remedial action operation

Val Qual - validation qualifier

GWTP Bi-Weekly Sampling - January 2018

Location ID: Sample Date:	Units	Daily Maximum Conc	LH18/24- SP650_011018 1/10/18	LH18/24- SP650_012518 1/25/18
Location Description		GWTP – Collected from a spigot on the discharge of effluent TK-650. Sampled Biweekly.		
Volatile Organic Compounds (8260C)				
1,1,1-Trichloroethane	µg/L	7,230	< 1.0 U	< 1.0 U
1,1,2-Trichloroethane	µg/L	216.9	< 1.0 U	< 1.0 U
1,1-Dichloroethane	µg/L	14,032	< 1.0 U	< 1.0 U
1,1-Dichloroethene	µg/L	253	< 1.0 U	< 1.0 U
1,2-Dichloroethane	µg/L	181	< 1.0 U	< 1.0 U
1,2-Dichloropropane	µg/L	5	< 1.0 U	< 1.0 U
Acetone	µg/L	2,395	< 2.0 U	< 2.0 U
Benzene	µg/L	181	< 1.0 U	< 1.0 U
Carbon tetrachloride	µg/L	181	< 1.0 U	< 1.0 U
Chlorobenzene	µg/L	47,180	< 1.0 U	< 1.0 U
Chloroform	µg/L	3,615	< 1.0 U	< 1.0 U
Ethylbenzene	µg/L	57,025	< 1.0 U	< 1.0 U
m,p-Xylene	µg/L	83.6	< 2.0 U	< 2.0 U
Methylene chloride	µg/L	1,699	< 2.0 U	< 2.0 U
o-Xylene	µg/L	83.6	< 1.0 U	< 1.0 U
Styrene	µg/L	5,987	< 1.0 U	< 1.0 U
Tetrachloroethene	µg/L	180.7	< 1.0 U	< 1.0 U
Toluene	µg/L	4,189	< 1.0 U	< 1.0 U
Trichloroethene	µg/L	181	< 1.0 U	< 1.0 U
Vinyl chloride	µg/L	72	< 1.0 U	< 1.0 U
Anions (9056)				
Chloride	mg/L	NV	546	618
Sulfate	mg/L	NV	47.8	81.9

µg/L - micrograms per liter

mg/L - milligrams per liter

U - Undetected: The analyte was analyzed for, but not detected.

NV - No Value

GWTP Weekly Sampling - January 2018

Location ID: Sample Date:	Units	Daily Maximum Conc	LH18/24- SP650_011018 1/10/18	LH18/24- SP650_012518 1/25/18	LH18/24- SP650_013118
Location Description			GWTP--Collected from a spigot on the discharge of effluent TK-650. Sampled Weekly.		
Ammonia as N (350.3)					
Ammonia as N	mg/L	NV	16	18	8.7
Ortho-Phosphate (365.3)					
Ortho-Phosphate	mg/L	NV	2.5	3.23	1.73
Organic Carbon (415.1)					
Total Organic Carbon (TOC)	mg/L	NV	28.6	15.4	36.2

mg/L - milligrams per liter

NV - No Value

GWTP Monthly Effluent Sampling - January 2018

Location ID: Sample Date:	Units	Daily Maximum Conc	LH18/24- SP650 013118
Location Description			GWTP – Collected from a spigot on the discharge of effluent TK-650. Sampled Quarterly.
Volatile Organic Compounds (8260C)			
1,1,1-Trichloroethane	µg/L	7,230	< 1.0 U
1,1,2-Trichloroethane	µg/L	216.9	< 1.0 U
1,1-Dichloroethane	µg/L	14,032	< 1.0 U
1,1-Dichloroethene	µg/L	253	< 1.0 U
1,2-Dichloroethane	µg/L	181	< 1.0 U
1,2-Dichloropropane	µg/L	5	< 1.0 U
Acetone	µg/L	2,395	< 2.0 U
Benzene	µg/L	181	< 1.0 U
Carbon tetrachloride	µg/L	181	< 1.0 U
Chlorobenzene	µg/L	47,180	< 1.0 U
Chloroform	µg/L	3,615	< 1.0 U
Ethylbenzene	µg/L	57,025	< 1.0 U
m,p-Xylene	µg/L	83.6	< 2.0 U
Methylene chloride	µg/L	1,699	< 2.0 U
o-Xylene	µg/L	83.6	< 1.0 U
Styrene	µg/L	5,987	< 1.0 U
Tetrachloroethene	µg/L	180.7	< 1.0 U
Toluene	µg/L	4,189	< 1.0 U
Trichloroethene	µg/L	181	< 1.0 U
Vinyl chloride	µg/L	72	< 1.0 U
Metals (6020A)			
Barium	mg/L	2	0.295
Lead	mg/L	0.0046	< 0.00200 U
Selenium	mg/L	0.012	< 0.00200 U
Silver	mg/L	0.003	< 0.00200 U
Hexavalent Chromium (7196A)			
Hexavalent Chromium	mg/L	0.1244	< 0.0100 U
Semi-Volatile Organic Compounds (8270D SIM)			
1,4-Dioxane	µg/L	134.2	8.3

µg/L - micrograms per liter

mg/L - milligrams per liter

U- Undetected: The analyte was analyzed for, but not detected.

GWTP Monthly Influent Sampling - January 2018

Location ID: Sample Date:	Units	LH18/24- SP140_013118
Location Description	GWTP – Collected from a spigot on the influent to TK-140. Sampled Monthly.	
Metals (6020A)		
Selenium	mg/L	0.00120 J
Silver	mg/L	< 0.00200 U
Hexavalent Chromium (7196A)		
Hexavalent Chromium	mg/L	< 0.0100 U
Perchlorate (6850)		
Perchlorate	µg/L	7,800

mg/L - milligrams per liter

µg/L - micrograms per liter

U- Undetected: The analyte was analyzed for, but not detected.

J - estimated value between the limit of quantitation and the detection limit

GWTP Weekly/Effluent Perchlorate Sampling - January 2018

Location ID: Sample Date:	Units	Daily Maximum Conc	LH18/24- SP650_011018 1/10/18	LH18/24- SP650_012518 1/25/18	LH18/24- SP650_013118	LH18/24- SP650_013118
Location Description		GWTP-Collected from a spigot on the discharge of effluent TK-650.				
		Weekly	Weekly	Monthly EFF	Weekly	
Perchlorate (6850)						
Perchlorate	µg/L	589	2.3 J	< 4.0 U	66	51

µg/L - micrograms per liter

U- Undetected: The analyte was analyzed for, but not detected.

J - estimated value between the limit of quantitation and the detection limit

GWTP Air Sampling - January 2018

Location ID: Sample Date:	Units	LH18/24- AIR_012918_G WTP 1/29/18	LH18/24- AIR_012918_S tripper 1/29/18	LH18/24- AIR_012918_S tripper_Dup 1/29/18	LH18/24- AIR_013018_D ownwind 1/30/18
Volatile Organic Compounds (TO-15)					
1,1,1-Trichloroethane	UG/M3	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	UG/M3	ND	ND	ND	ND
1,1,2-Trichloroethane	UG/M3	ND	ND	ND	ND
1,1,2-Trichlorotrifluoroethane	UG/M3	1.4	31000	27000	1.6
1,1-Dichloroethane	UG/M3	ND	ND	ND	ND
1,1-Dichloroethene	UG/M3	ND	280	260	ND
1,2,4-Trichlorobenzene	UG/M3	ND	ND	ND	ND
1,2,4-Trimethylbenzene	UG/M3	ND	ND	ND	ND
1,2-Dibromo 3-Chloropropane	UG/M3	ND	ND	ND	ND
1,2-Dibromoethane	UG/M3	ND	ND	ND	ND
1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	UG/M3	ND	ND	ND	ND
1,2-Dichlorobenzene	UG/M3	ND	ND	ND	ND
1,2-Dichloroethane	UG/M3	ND	290	290	ND
1,2-Dichloropropane	UG/M3	ND	ND	ND	ND
1,3,5-Trimethylbenzene	UG/M3	ND	ND	ND	ND
1,3-Butadiene	UG/M3	ND	ND	ND	ND
1,3-Dichlorobenzene	UG/M3	ND	ND	ND	ND
1,4-Dichlorobenzene	UG/M3	ND	ND	ND	ND
1,4-Dioxane	UG/M3	ND	ND	ND	ND
2-Butanone (MEK)	UG/M3	ND	ND	ND	ND
2-Hexanone	UG/M3	ND	ND	ND	ND
2-Propanol (Isopropyl Alcohol)	UG/M3	ND	ND	ND	ND
3-Chloro-1-propene (Allyl Chloride)	UG/M3	ND	ND	ND	ND
4-Ethyltoluene	UG/M3	ND	ND	ND	ND
4-Methyl-2-pentanone	UG/M3	ND	ND	ND	ND
Acetone	UG/M3	ND	ND	ND	ND
Acetonitrile	UG/M3	ND	ND	ND	ND
Acrolein	UG/M3	ND	ND	ND	ND
Acrylonitrile	UG/M3	ND	ND	ND	ND
alpha-Pinene	UG/M3	ND	ND	ND	ND
Benzene	UG/M3	ND	ND	ND	ND
Benzyl Chloride	UG/M3	ND	ND	ND	ND
Bromodichloromethane	UG/M3	ND	ND	ND	ND
Bromoform	UG/M3	ND	ND	ND	ND
Bromomethane	UG/M3	ND	ND	ND	ND
Carbon Disulfide	UG/M3	ND	ND	ND	ND
Carbon Tetrachloride	UG/M3	ND	ND	ND	ND
Chlorobenzene	UG/M3	ND	ND	ND	ND
Chloroethane	UG/M3	ND	ND	ND	ND
Chloroform	UG/M3	ND	ND	ND	ND
Chloromethane	UG/M3	ND	ND	ND	ND
cis-1,2-Dichloroethene	UG/M3	0.66	19000	18000	ND
cis-1,3-Dichloropropene	UG/M3	ND	ND	ND	ND
Cumene	UG/M3	ND	ND	ND	ND
Cyclohexane	UG/M3	ND	ND	ND	ND
Dibromochloromethane	UG/M3	ND	ND	ND	ND
Dichlorodifluoromethane (CFC 12)	UG/M3	2.2	ND	ND	2.3
Dichloromethane (Methylene Chloride)	UG/M3	ND	220	200	0.72
d-Limonene	UG/M3	ND	ND	ND	ND
Ethanol	UG/M3	20	ND	ND	ND
Ethyl Acetate	UG/M3	22	ND	ND	3.9

Location ID: Sample Date:	Units	LH18/24- AIR_012918_G WTP 1/29/18	LH18/24- AIR_012918_S tripper 1/29/18	LH18/24- AIR_012918_S tripper_Dup 1/29/18	LH18/24- AIR_013018_D ownwind 1/30/18
Volatile Organic Compounds (TO-15)					
Ethylbenzene	UG/M3	ND	ND	ND	ND
Hexachlorobutadiene	UG/M3	ND	ND	ND	ND
m,p-Xylenes	UG/M3	ND	ND	ND	ND
Methyl Methacrylate	UG/M3	ND	ND	ND	ND
Methyl tert-Butyl Ether	UG/M3	ND	ND	ND	ND
Naphthalene	UG/M3	ND	ND	ND	ND
n-Butyl Acetate	UG/M3	ND	ND	ND	ND
n-Heptane	UG/M3	ND	ND	ND	ND
n-Hexane	UG/M3	0.81	ND	ND	0.7
n-Nonane	UG/M3	ND	ND	ND	ND
n-Octane	UG/M3	ND	ND	ND	ND
n-Propylbenzene	UG/M3	ND	ND	ND	ND
o-Xylene	UG/M3	ND	ND	ND	ND
Propene	UG/M3	ND	ND	ND	ND
Styrene	UG/M3	ND	ND	ND	ND
Tetrachloroethene	UG/M3	ND	ND	180	ND
Tetrahydrofuran (THF)	UG/M3	ND	ND	ND	0.88
Toluene	UG/M3	ND	ND	ND	ND
trans-1,2-Dichloroethene	UG/M3	ND	ND	ND	ND
trans-1,3-Dichloropropene	UG/M3	ND	ND	ND	ND
Trichloroethene	UG/M3	1.4	37000	36000 D	ND
Trichlorofluoromethane	UG/M3	1.1	ND	ND	1.2
Vinyl Acetate	UG/M3	ND	ND	ND	ND
Vinyl Chloride	UG/M3	ND	340	310	ND

D - dilution

UG/M3 - micrograms per cubic meter

ND - Non detect

**FINAL
EXPLANATION OF SIGNIFICANT DIFFERENCES
RECORD OF DECISION (ROD) FOR WESTERN PLUME
CONTINGENCY REMEDY AT LHAAP-35A(58),
SHOPS AREA,
LONGHORN ARMY AMMUNITION PLANT
KARNACK, TEXAS**

March 2018

Contract Number: W9128F-13-D-0012

Task Order Number: W912BV17F0150

Performance Based Remediation (PBR)

Longhorn Army Ammunition Plant

Karnack, Texas

Prepared For:



**Longhorn Army Ammunition Plant
Karnack, Texas**

Under Contract To:



**U.S. Army Corps of Engineers
Tulsa District
Tulsa, Oklahoma**

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DEPARTMENT OF THE ARMY
LONGHORN ARMY AMMUNITION PLANT
POST OFFICE BOX 220
RATCLIFF, AR 72951

April 26, 2018

DAIM-ODB-LO

Mr. Rich Mayer
US Environmental Protection Agency
Federal Facilities Section R6
1445 Ross Avenue
Dallas, TX 75202-2733

Re: Final Explanation of Significant Differences Record of Decision (ROD) for Western
Plume Contingency Remedy at LHAAP-35A(58), Shops Area
Longhorn Army Ammunition Plant, Karnack, Texas, March 2018

Dear Mr. Mayer,

The above-referenced document which includes the completed signature page is being transmitted for your records. The document was prepared by Bhate Environmental Associates, Inc., (Bhate) on behalf of the Army as part of Bhate's Performance Based Remediation contract for the facility.

The point of contact for this action is the undersigned. I ask that Kim Nemmers, Bhate's Project Manager, be copied on any communications related to the project. I may be contacted at 479-635-0110, or by email at rose.m.zeiler.civ@mail.mil.

Sincerely,

A handwritten signature in cursive script that reads "Rose M. Zeiler".

Rose M. Zeiler, Ph.D.
Longhorn AAP Site Manager

Copies furnished:

A. Palmie, TCEQ, Austin, TX
P. Bruckwicki, Caddo Lake NWR, TX
R. Smith, USACE, Tulsa District, OK
A. Williams, USACE, Tulsa District, OK
N. Smith, USAEC, San Antonio, TX
K. Nemmers, Bhate, Lakewood, CO (for project files)



DEPARTMENT OF THE ARMY
LONGHORN ARMY AMMUNITION PLANT
POST OFFICE BOX 220
RATCLIFF, AR 72951

April 26, 2018

DAIM-ODB-LO

Ms. April Palmie
Texas Commission on Environmental Quality Superfund Section, MC-136
12100 Park 35 Circle, Bldg D
Austin, TX 78753

Re: Final Explanation of Significant Differences Record of Decision (ROD) for Western
Plume Contingency Remedy at LHAAP-35A(58), Shops Area
Longhorn Army Ammunition Plant, Karnack, Texas, March 2018

Dear Ms. Palmie,

The above-referenced document which includes the completed signature page is being transmitted for your records. The document was prepared by Bhate Environmental Associates, Inc., (Bhate) on behalf of the Army as part of Bhate's Performance Based Remediation contract for the facility.

The point of contact for this action is the undersigned. I ask that Kim Nemmers, Bhate's Project Manager, be copied on any communications related to the project. I may be contacted at 479-635-0110, or by email at rose.m.zeiler.civ@mail.mil.

Sincerely,

A handwritten signature in cursive script that reads "Rose M. Zeiler".

Rose M. Zeiler, Ph.D.
Longhorn AAP Site Manager

Copies furnished:

R. Mayer, USEPA Region 6, Dallas, TX
P. Bruckwicki, Caddo Lake NWR, TX
R. Smith, USACE, Tulsa District, OK
A. Williams, USACE, Tulsa District, OK
N. Smith, USAEC, San Antonio, TX
K. Nemmers, Bhate, Lakewood, CO (for project files)

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Stephanie Bergeron Perdue, *Interim Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

April 23, 2018

Mr. Thomas E. Lederle
Chief, ACSIM BRAC Division
2530 Crystal Drive, Room 5000
Taylor Bldg./NC3
Arlington, VA 22202

Re: Explanation of Significant Differences Record of Decision for Western Plume
Contingency Remedy at LHAAP-35A(58), Shops Area
Longhorn Army Ammunition Plant Federal Superfund Site TX6213820529
Karnack, Harrison County, Texas

Dear Mr. Lederle:

The Texas Commission on Environmental Quality (TCEQ) received the final Explanation of Significant Differences Record of Decision (ROD) for Western Plume Contingency Remedy at LHAAP-35A(58), Shops Area, Longhorn Army Ammunition Plant Federal Superfund Site in Karnack, Texas on March 29, 2018. The TCEQ has completed the review of the above referenced document and concurs that the described action is appropriate.

Sincerely,

A handwritten signature in cursive script that reads "Beth Seaton".

Beth Seaton, Director
Remediation Division

BS/AP/ms

cc: Carl Edlund, P.E., Director, Superfund Division, US Environmental Protection Agency,
Region 6

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Attachment 1: Response to Comments

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ACRONYMS AND ABBREVIATIONS

§	Section
ARAR	Applicable or Relevant and Appropriate Requirement
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
C.F.R.	Code of Federal Regulations
COC	Chemical of Concern
DCE	Dichloroethylene
ESD	Explanation of Significant Differences
LHAAP	Longhorn Army Ammunition Plant
LTM	Long-Term Monitoring
LUC	Land Use Control
µg/L	micrograms per liter
MNA	Monitored Natural Attenuation
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPL	National Priorities List
RAO	Remedial Action Objectives
RD	Remedial Design
ROD	Record of Decision
TCE	Trichloroethylene
TCEQ	Texas Commission on Environmental Quality
TNRCC	Texas Natural Resources Conservation Commission
U.S. Army	U.S. Department of the Army
UEP	Unlined Evaporation Pond
U.S.C.	United States Code
USEPA	United States Environmental Protection Agency
VC	Vinyl Chloride
VOC	Volatile Organic Compound

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1 INTRODUCTION AND STATEMENT OF PURPOSE

Site and Location: Longhorn Army Ammunition Plant (LHAAP)-35A(58) is an industrial paved area consisting of 11 acres in the north-central section of LHAAP.

Lead Agency and Supporting Agency:

Lead Agency – United States Department of the Army (U.S. Army)

Lead Oversight Agency United States Environmental Protection Agency Region 6 (USEPA)

Support Agency – Texas Commission on Environmental Quality

This ESD is in Compliance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) §117 (c), 42 United States Code (U.S.C.) Section (§) 9617 (c) and National Oil and Hazardous Substances Pollution Contingency Plan (NCP) 40 Code of Federal Regulations (C.F.R.) §300.435(c)(2)(i).

Date of Record of Decision (ROD) Signature: September 2010, Administrative Record, Bates Stamp 00098704-00098797

Need for Explanation of Significant Differences (ESD): The September 2010 ROD (Shaw, 2010), Section 1.4, specified the implementation of monitored natural attenuation (MNA) as the selected remedy for the western plume to verify that the trichloroethylene (TCE) plume is stable and will not migrate to nearby surface water at levels that may present an unacceptable risk to human health and the environment. The ROD also specified that performance objectives will be evaluated after 2 years of monitoring and if MNA is found to be ineffective, a contingency remedy of in situ bioremediation to enhance MNA will be implemented and documented in an ESD.

The 2nd Annual Remedial Action Operation Report for LHAAP-35A(58) (AECOM, 2016) evaluated the performance of MNA for the western plume. The report presented evidence of plume migration, increasing chemical of concern (COC) trends and geochemical conditions that are not optimal for MNA and recommended that the contingency remedy (in situ bioremediation) be implemented at this time to enhance MNA in the western plume.

The purpose of this ESD is to document the significant change from the ROD selected remedy of MNA to implementation of the contingency remedy. The contingency remedy is consistent with the ROD requirement to enhance MNA, if necessary, and involves in situ bioremediation.

This ESD will become part of the Administrative Record file in accordance with NCP 40 C.F.R §300.825(a)(2). The file will be located at the Marshall Public Library:

Marshall Public Library
300 South Alamo Blvd.
Marshall, TX 75670

Phone: 903.935.4465

Hours:

Monday, Tuesday, and Thursday 9:30AM-7:30PM

Wednesday and Friday 9:30AM-5:30PM

Saturday 9:30AM-3:30PM

2 SITE HISTORY, CONTAMINATION, AND SELECTED REMEDY

2.1 Site History and Contamination

LHAAP-35A(58), the Shops Area, was established in 1942 as part of the installation's initial construction. Plant-operated laundry, automotive, woodworking, metalworking, painting, refrigeration, and electrical shops served the needs of the overall facility. The site was active throughout LHAAP's mission and became inactive in 1996-1997, along with the entire installation.

Concentrations of solvents (volatile organic compounds [VOCs]), primarily 1,1-dichloroethene, cis-1,2-dichloroethene, trichloroethylene, and vinyl chloride have been detected within the uppermost water-bearing zone at the site. The concentrations of 1,1-dichloroethene as of October 2015, ranged from approximately 3,630 micrograms per liter ($\mu\text{g/L}$), near the center of the plume, to 14.7 $\mu\text{g/L}$, near the southern and eastern edges of the plume. The concentration of trichloroethylene, as of October 2015, ranged from approximately 582 $\mu\text{g/L}$ near the center of the plume, to less than 0.5 $\mu\text{g/L}$ near the eastern edge of the plume. LHAAP was placed on the National Priorities List (NPL) on August 9, 1990. A Federal Facilities Agreement became effective December 30, 1991, among U.S. Environmental Protection Agency (USEPA), the U.S. Army, and the former Texas Natural Resources Conservation Commission (TNRCC), now the Texas Commission on Environmental Quality (TCEQ). LHAAP-58 was not one of the originally listed NPL sites; however, it is being managed in the same manner because of the presence of contaminated groundwater under the site. The site has been added to the list of NPL sites at LHAAP with concurrence from the U.S. Army and USEPA Headquarters.

2.2 Selected Remedy

The selected remedy, identified as Alternative 4 in Section 2.12 of the ROD, included in situ bioremediation followed by MNA and land use control (LUC) for the eastern plume and MNA and LUC for the western plume. This alternative was selected because it was consistent with the intended future use of the site as a wildlife refuge. The alternative also satisfied the Remedial Action Objectives (RAOs) for the site through LUC groundwater restriction, which would ensure protection of human health by preventing human exposure to contaminated groundwater and MNA and in situ bioremediation, which would return the contaminated water to its potential beneficial use, wherever practicable. Furthermore, Long-Term Monitoring (LTM) would assure that human health and the environment are being protected by verifying that contaminated groundwater does not migrate into nearby surface water bodies at levels that exceed maximum contaminant levels (MCLs). This alternative offered a high degree of long-term effectiveness that could be easily implemented at a lower cost than other alternatives.

The following discussion is taken from Section 2.12.2, Description of the Selected Remedy, of the ROD for the western plume groundwater remedy:

MNA to return groundwater to its potential beneficial use, wherever practicable.

Historic data suggests that natural attenuation of COCs is occurring at the site; however, additional data collection is necessary to fully evaluate natural attenuation. Monitoring wells will be sampled for eight consecutive quarters to evaluate and confirm the occurrence of natural attenuation in conjunction with historical data. Data from the eight quarterly events will be combined with historic data to evaluate the effectiveness of various natural physical, chemical, and biological processes in reducing contaminant concentrations.

– *Performance objectives to evaluate the MNA remedy performance after two years.* During the Remedial Design prior to implementing the remedy, the specific evaluation criteria will be developed. However, each of the general performance objectives must be met as indicated below. If the criteria are not met to illustrate that MNA is an effective remedy, a contingency action would be initiated. If MNA is effective, a baseline will be established from the data to this point in time. The MNA evaluation will be based on the USEPA lines of evidence (USEPA, 1999) and the anaerobic screening (USEPA, 1998) as follows:

- MNA potential based on evaluating biodegradation screening scores using USEPA guidance
- Plume stability (i.e., the plume concentrations are decreasing in the majority of performance wells, and the plume is not expanding in area as demonstrated with compliance wells)
- MNA Process Evaluation demonstrated based on an attenuation rate calculated with empirical performance monitoring data and MNA Process Demonstration based on the presence of daughter products and bacterial culture counts
- *A contingency remedy to enhance MNA to reach the RAOs if MNA is found to be ineffective.* The contingency remedy will use elements from the active remedial alternative included in this ROD to address the ineffective aspects of MNA. The area and the elements of the contingency remedy would be selected based on the entire data set available. If a contingency remedy is implemented, it will be documented in an ESD.

3 BASIS FOR THE DOCUMENT

The September 2010 ROD (Shaw, 2010), Section 2.12.2, Western plume, contingency remedy component states that if a contingency remedy is implemented, it will be documented in an ESD. The 2nd Annual Remedial Action Operation Report for LHAAP-35A(58) (AECOM, 2016) presented evidence of plume migration, increasing COC trends and geochemical conditions that are not optimal for MNA in the western plume. The concentrations of COCs in in-plume, downgradient well LHSMW07 has increased significantly. The increase in concentration of all the COCs in LHSMW07 indicates likely migration of COCs from the upgradient area of 35AWW20 to the area of LHSMW07. Boundary well LHSMW06, a cross-gradient well, exhibited a significant increase of 1,1-dichloroethylene (DCE), TCE, and vinyl chloride (VC) to above their MCLs, which could indicate plume expansion. Concentrations of 1,1-DCE in 35AWW19, a downgradient boundary well, increased from below the MCL in October 2013 to above the MCL in subsequent sampling events, indicating plume expansion in the downgradient direction. The oxidation reduction potential for the highest impacted wells in the western plume ranged from -7mV and 486mV for the two year period which indicates that conditions within the western plume are generally aerobic and not supportive of anaerobic degradation. Total organic carbon in the western plume area wells, 35AWW20 and LHSMW07, were below the 20 mg/L threshold to support microbial activity at concentrations of 17.6 mg/L and 4.54 mg/L, respectively. The U.S. Army, USEPA and TCEQ are in agreement that MNA is not effective in the western plume based on the USEPA lines of evidence (USEPA, 1999) and that the contingency remedy should be implemented at this time.

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4 DESCRIPTION OF SIGNIFICANT DIFFERENCES

ROD Groundwater Remedy, Section 2.9.1 Description of Remedy Components, Alternative 4, Western Plume:

- MNA to return groundwater to its potential beneficial use, wherever practicable
- Performance objectives to evaluate the MNA remedy performance after two years
- LTM semiannually for three years, annually until the next five-year review, then once every five years to evaluate remedy performance and determine if plume conditions remain constant, improve, or worsen until cleanup levels are reached
- A contingency remedy to enhance MNA to reach the RAOs if MNA is found to be ineffective

Change to Remedy Presented in the ROD:

The only change to the remedy proposed in the ROD is the implementation of the contingency remedy (in situ bioremediation) to enhance MNA in the western plume. After two years of MNA performance monitoring, MNA was found to be ineffective in the western plume (AECOM, 2016). Upon implementation of the contingency remedy, two years of quarterly performance monitoring will be conducted.

ROD Performance Objectives for the Groundwater Remedy, Section 2.12.2 Description of the Selected Remedy, Western Plume, paragraph 2:

The MNA evaluation will be based on the USEPA lines of evidence (USEPA, 1999) and the anaerobic screening (USEPA, 1998) as follows:

- MNA potential based on evaluating biodegradation screening scores using USEPA guidance
- Plume stability (i.e., the plume concentrations are decreasing in the majority of performance wells, and the plume is not expanding in area as demonstrated with compliance wells)
- MNA Process Evaluation demonstrated based on an attenuation rate calculated with empirical performance monitoring data and MNA Process Demonstration based on the presence of daughter products and bacterial culture counts

Change to Performance Objectives:

No change to the performance objectives in the ROD is proposed. MNA is not currently meeting the performance objectives. The 2nd Annual Remedial Action Operation Report for LHAAP-35A(58) (AECOM, 2016) presented evidence of plume migration, increasing COC trends and geochemical conditions that are not optimal for MNA. The contingency remedy (in situ

bioremediation) will enhance MNA and performance objectives will be re-evaluated after two years of quarterly monitoring.

ROD Implementability Determination, Section 2.10.6, Implementability, paragraph 2:

Alternative 2 (MNA) is easily implemented from a technical standpoint with minimal construction activities followed by long-term sampling, maintenance and enforcement of the LUC.

Change to Implementability:

The contingency remedy (in situ bioremediation) would be somewhat more difficult to implement due to the specialized expertise required for design and construction. However, in situ bioremediation has been implemented in the eastern plume at LHAAP-35A(58) and over two years of monitoring has been shown to be effective in reducing the VOC concentrations and groundwater conditions remain conducive to continued reductions of VOCs (AECOM, 2016).

ROD Protection of Human Health and the Environment, Section 2.13.1, Protection of Human Health and the Environment, paragraph 1:

At LHAAP-35A(58) the evaluation of historical groundwater contamination trends indicates that natural attenuation processes are occurring at the site and have stabilized the western plume and slowed migration of the eastern plume. The monitoring activities associated with MNA will ensure that COCs and by-product (daughter) contaminants in groundwater do not discharge to nearby surface water bodies at such levels that ARARs are exceeded.

Change to Protection of Human Health and the Environment:

Currently, based on the 2nd Annual Remedial Action Operation Report for LHAAP-35A(58) (AECOM, 2016), there is evidence of plume migration, increasing COC trends and geochemical conditions that are not optimal for MNA in the western plume. The implementation of the contingency remedy (in situ bioremediation) in the western plume will enhance MNA and reduce groundwater contaminant concentrations which would prevent contaminated groundwater from migrating into nearby surface water at levels that may present an unacceptable risk to human health and the environment. Monitoring activities associated with the enhanced MNA would assure the protection of human health and the environment by documenting the return of the groundwater to its potential beneficial use as a drinking water supply, by documenting reduction of the contaminant mass and protection of surface water through containment of the plume.

ROD Cost Estimate for the Selected Remedy, Section 2.12.3, paragraphs 1 and 2:

Table 2-10 presents the present worth analysis of the cost for the selected remedy, Alternative 4. The information in this table is based on the best available information regarding the anticipated scope of the remedial alternative. The

quantities used in the estimate are for estimating purposes only. Changes in the cost estimates are likely to occur as a result of new information and data collected during the engineering design of the remedial alternative. Major changes may be documented in the form of a ROD amendment, while significant changes may be included in an ESD. Minor changes may be documented in a memorandum included in the Administrative Record. This is an order-of-magnitude engineering cost estimate that is expected to be within -30 to +50 percent of the actual project cost.

The total project present worth cost of this alternative is approximately \$785,000, using a discount rate of 2.8%. The capital cost is estimated at \$191,000. The total O&M present value cost is estimated at approximately \$594,000. The O&M cost includes evaluation of MNA, maintenance of LUC and LTM through year 30. The LTM would support the required CERCLA five-year reviews.

Change to Cost Estimate for the Selected Remedy:

The implementation of the contingency remedy (in situ bioremediation) for Alternative 4 will increase the overall costs associated with this remedial alternative. This increase in cost is due to the capital cost associated with the use of in situ bioremediation technology to enhance MNA in the western plume.

It is estimated that implementation of the contingency remedy (in situ bioremediation) associated with ROD Alternative 4 will increase the original estimate for this alternative by approximately \$250,000.00.

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5 SUPPORT AGENCY COMMENTS

The USEPA and TCEQ have reviewed this ESD and support the changes to the selected remedy. Technical review comments by the regulators and the associated responses are presented in **Attachment 1** to this ESD.

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6 STATUTORY DETERMINATIONS

The modification presented herein satisfies CERCLA §121, 42 U.S.C. §9621. The contingency remedy (in situ bioremediation) in the western plume will enhance MNA and reduce groundwater contaminant concentrations.

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7 PUBLIC PARTICIPATION

A notice summarizing the ESD shall be published in the Marshall News Messenger upon finalization of the ESD. This ESD and all supporting ESD documentation will be made a part of the Administrative Record file in accordance with the NCP at 40 C.F.R. §300.825(a)(2). The Administrative Record will be located at the repository identified in Section 1.0 of this document. All public participation requirements set out in the NCP at 40 C.F.R. §300.435(c)(2)(i) have been met.

The Proposed Plan for Remedial Action at the site was released for public comments on 25 January 2010. The Proposed Plan identified the preferred alternative to be Alternative 4:

- In Situ Bioremediation for Eastern Plume followed by MNA and LUCs, and
- MNA and LUCs for Western Plume

The U.S. Army reviewed all written and oral comments submitted during the public comment period. There were no significant comments captured related to the groundwater remedy.

Authorizing Signature:



Thomas E. Lederle
Chief BRAC Division, ACSIM
United States Army

Date: 27 MARCH 2017

Authorizing Signature:

I have reviewed this document, and any comments I had have been addressed and/or incorporated:



Carl Edlund
Director
Superfund Division
U.S. Environmental Protection Agency, Region 6

Date: Apr 13, 2018

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8 REFERENCES

AECOM Technical Services, Inc. (AECOM), 2016, *Draft Final 2nd Annual Remedial Action Operation Report (January 2015 – October 2015) LHAAP-35A(58) Shops Area, Longhorn Army Ammunition Plant, Karnack, Texas*. May.

Shaw Environmental Inc. (Shaw), 2010, *Final Record of Decision LHAAP-35A(58), Shops Area, Group 4, Longhorn Army Ammunition Plant, Karnack, Texas*. September.

Shaw, 2011, *Final Remedial Design LHAAP-35A(58), Shops Area, Group 4, Longhorn Army Ammunition Plant, Karnack, Texas*. September.

U.S. Environmental Protection Agency (USEPA), 1998, *Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Ground Water, EPA/600/R-98/128*, September.

USEPA, 1999, *Use of Monitored Natural Attenuation at Superfund, RCRA Corrective Action, and Underground Storage Tank Sites, Directive 9200.4-17P*, April.

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ATTACHMENT 1

**Responses to Comments on
Draft Explanation of Significant Differences (ESD) Record of Decision (ROD) for Western plume Contingency Remedy at LHAAP-35A(58), Shops Area
Longhorn Ammunition Plant, Karnack, Texas
2 February 2018**

1. Respondent Concur (C), Does Not Concur (D), Takes Exception (E), or Delete (X).
2. Commenter Agrees (A) with response or Does not Agree (D) with response.

Comment #	Page	Section/ Paragraph	Comment (December 5, 2017)	C,D,E or X ¹	Response (December 8, 2017)	A or D ²	Comment	C,D,E or X ¹	Response	A or D ²
Reviewer: April Palmie, TCEQ Respondent: Kim Nemmers, Bhate										
1	Cover Letter and Cover Page		The title in the cover letter does not match the title on the cover page. It would be nice if they both matched and both may need to be revised. Do we really need to reference Group 4? This is how the last ESD was named (ignore the all caps from copy/paste): <i>Final Explanation of Significant Differences Record of Decision for Early Interim Remedial Action at Burning Ground No. 3 Longhorn Ammunition Plant Karnack, Texas</i> . If we follow this format, the title could be "Explanation of Significant Differences Record of Decision (ROD) for Western Plume Contingency Remedy at LHAAP-35A(58), Shops Area, Longhorn Ammunition Plant Karnack, Texas"	C	The title on the cover letter and the title on the document cover page will be revised to match. Group 4 will also be removed from the title. The suggested revised title will be used "Explanation of Significant Differences Record of Decision (ROD) for Western Plume Contingency Remedy at LHAAP-35A(58), Shops Area, Longhorn Army Ammunition Plant Karnack, Texas".					
2	Attachment 1		Please change the title to "Response to Comments" and remove email addresses and phone numbers. Historically, the RTCs refer to reviewer and respondent where EPA and TCEQ are the reviewer and the contractor is the respondent. I've attached an example page from an RTC for this site. Please revise, as the previous format is more informative.	C	The RTC Matrix for the Draft LHAAP-35A(58) document has been revised using the provided example and is currently presented here. This format will be used in all future RTC correspondence. Title will be "Response to Comments" without email addresses and phone numbers presented.					
			END of TCEQ Comments							

**Responses to Comments on
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2 February 2018**

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2. Commenter Agrees (A) with response or Does not Agree (D) with response.

Comment #	Page	Section/ Paragraph	Comment (November 30, 2017)	C,D, E or X ¹	Response (December 8, 2017)	A or D ²	Comment	C,D,E or X ¹	Response	A or D ²
Reviewer: Richard Mayer, USEPA, Region 6 Respondent: Kim Nemmers, Bhate										
1	[iii] Acronyms and Abbreviations Page		"RAO" should be "Remedial Action Objectives" (in the context it is used in this document).	C	The acronym "RAO" has been revised on the Acronyms and Abbreviations page to read "Remedial Action Objectives".					
2	Page 1-1		Please change USEPA's role from "Supporting Agency" to "Lead Oversight Agency". Similarly, change TCEQ's role from "FFA Partner" to "Support Agency".	C	These changes have been made on page 1-1. The Army remains listed as the Lead Agency.					
3	Page 1-1		Change the citation to - "This ESD is in Compliance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) §117 (c), 42 U.S.C. §9617 (c) , and National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. §300.435(c)(s)(i) ."	C	This change was made to the citation on page 1-1.					
4	Page 1-1		Change the citation to - "This ESD will become part of the Administrative Record file in accordance with NCP, 40 C.F.R. §300.825 (a)(2) ."	C	This change was made to the citation on page 1-1.					
5	Page 1-1		It is not clear what the actual remedy is and the purpose of the ESD. Please explain further.	C	Under the Need for Explanation of Significant Differences (ESD) , a modification of the first sentence was made to include "...the implementation of monitored natural attenuation (MNA) as the selected remedy...". This clarifies that MNA was the remedy under the ROD. The last sentence will be revised to indicate in situ bioremediation is the contingency remedy. The remaining language contained in the first and second paragraph adequately explain the terms of the remedy and what will be required (contingency remedy) if the remedy identified in the ROD is ineffective. A third paragraph has been added to this section to explain what the contingency remedy is. It reads as follows: "The purpose of this ESD is to document the significant change from the ROD selected remedy of MNA to implementation of the contingency remedy. The contingency remedy is consistent with the ROD requirement to enhance MNA, if necessary, and involves in situ bioremediation."					
6	Page 2-1		Please spell out "LTM" to "Long Term Monitoring".	C	LTM was spelled out as "Long Term Monitoring" on Page 2-1.					

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Comment #	Page	Section/ Paragraph	Comment (November 30, 2017)	C,D, E or X ¹	Response (December 8, 2017)	A or D ²	Comment	C,D,E or X ¹	Response	A or D ²
7	Page 2-1		The acronym FFA needs to be written in full - "Federal Facilities Agreement"	C	FFA was spelled out as "Federal Facilities Agreement" on Page 2-1.					
8	Page 2-1	2.2/1 st	First Paragraph , please spell out "RAO" to Remedial Action Objectives".	C	RAO is now spelled out as "Remedial Action Objectives" on page 2-1, section 2.2.					
9	Page 2-2	2.2/4 th	Fourth Paragraph , please spell out "RD" to Remedial Design.	C	RD is now spelled out as "Remedial Design" on page 2-2, section 2.2.					
10	Page 4-1		Under the "Change to Remedy Presented in the ROD" section - Change "implementation of the contingency remedy" to "implementation of the contingency remedy (in situ bioremediation)".	C	This change was made under the "Change to Remedy Presented in the ROD" on page 4-1.					
11	Page 4-2		At the top of the page - Change "the contingency remedy" to "the contingency remedy (in situ bioremediation)".	C	This change was made to the sentence at the top of page 4-2.					
12	Page 4-2		At the last full paragraph - Change "the contingency remedy" to "the contingency remedy (in situ bioremediation)".	C	This change was made to the applicable sentence in the last full paragraph on page 4-2.					
13	Page 4-3		The last two paragraphs - Change "the contingency remedy" to "the remedy (in situ bioremediation)".	C	This change was made to both paragraphs located at the bottom of page 4-3.					
14	Page 4-3		On page 4-3, the sentence - "Major changes may be documented in the form of a memorandum in the Administrative Record, an ESD, or a ROD Amendment" should be modified to something like-"Major changes may be documented in the form of a ROD Amendment, while significant changes may be included in an ESD. Minor changes may be documented in a memorandum included in the Administrative Record."	C	The original sentence "Major changes may be documented in the form of a memorandum in the Administrative Record, an ESD, or a ROD Amendment" has been deleted and replaced with the suggested "Major changes may be documented in the form of a ROD Amendment, while significant changes may be included in an ESD. Minor changes may be documented in a memorandum included in the Administrative Record."					
15	Page 6-1		Change "the contingency remedy" to "the contingency remedy (in situ bioremediation)".	C	This change was made to the single sentence on page 6-1.					
16	Page 6-1		Change the citation to - "The modification presented herein satisfies CERCLA §121, 42 U.S.C. §9621. "	C	The addition to the citation has been made on page 6-1.					
17	Page 7-1		Page 7-1, Change the citation to - "This ESD and all supporting ESD documentation will be made a part of the Administrative Record file in accordance with the NCP at 40 C.F.R §300.825 (a)(2). The Administrative Record will be located at the repository identified in Section 1.0 of this document. All public participation requirements set out in the NCP at 40 C.F.R. §300.435(c)(2)(i) have been met."	C	The applicable additions to the citation on page 7-1 have been made.					

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Comment #	Page	Section/ Paragraph	Comment (November 30, 2017)	C,D, E or X ¹	Response (December 8, 2017)	A or D ²	Comment	C,D,E or X ¹	Response	A or D ²
18	Page 7-1		Page 7-1, Both signatures should be listed as "authorizing" as EPA is the lead oversight agency and has joint remedy selection authority with the Army.	C	This change has been made and both signatures are now identified as "Authorizing Signature".					
			END of EPA Comments							