LONGHORN ARMY AMMUNITION PLANT KARNACK, TEXAS

ADMINISTRATIVE RECORD

Volume 15

2022

Bate Stamp Numbers
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Department of the Army
Longhorn Army Ammunition Plant

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

VOLUME 15

2022

A.	Title:	(Cont'd) Report – Appendix D Level IV DOD (March 2020) to Final First Annual Remediation Action Operation Report, LHAAP-16 Landfill, Longhorn Army Ammunition Plant, Karnack, Texas, April 2022
	Author(s):	Department of the Army
	Recipient:	U.S. Environmental Protection Agency and Texas Commission on Environmental Quality
	Date:	April 19, 2022
	Bate Stamp:	01098687 – 01098801

B.	Title:	(Cont'd) Report – Appendix D Level IV DOD (Oct 2020) to Final First Annual Remediation Action Operation Report, LHAAP-16 Landfill, Longhorn Army Ammunition Plant, Karnack, Texas, April 2022
	Author(s):	Department of the Army
	Recipient:	U.S. Environmental Protection Agency and Texas Commission on Environmental Quality
	Date:	April 19, 2022
	Bate Stamp:	01098802 – 01100687

Calibration Standard Report

Sample Table

Sample Name	200/1000/20K
Data File Name	223CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T20:01:10-05:00
Sample Type	CalStd
Level	6
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	1155516	0.00
V	51	2	He	1787766	0.00
Cr	52	2	He	2160007	0.00
Fe	56	2	He	184868571	0.00
Se	78	2	He	24441	0.00
Sn	118	2	He	1990122	0.00
As	75	2	He	295544	0.00
Ca	44	2	He	833558	0.00
Na	23	2	He	23811826	0.00
Mg	24	2	He	12539487	0.00
K	39	2	He	15096581	0.00
Mn	55	2	He	1376282	0.00
Co	59	2	He	3421602	0.00
Ni	60	2	He	902180	0.00
Cu	63	2	He	2478476	0.00
Zn	66	2	He	412887	0.00
Al	27	2	He	58875	0.00
B	11	1	No Gas	3793364	0.00
Al	27	1	No Gas	5495456	0.00
Si	28	1	No Gas	14861832	0.00
P	31	1	No Gas	1482542	0.00
Ag	107	1	No Gas	7381696	0.00
Cd	111	1	No Gas	1505987	0.00
Sr	88	1	No Gas	15317250	0.00
Mo	95	1	No Gas	2815525	0.00
Sn	118	1	No Gas	4748482	0.00
Sb	121	1	No Gas	5970506	0.00
Ba	137	1	No Gas	2272263	0.00
Tl	205	1	No Gas	11737576	0.00
Tl	203	1	No Gas	4891973	0.00
Pb	208	1	No Gas	16522800	0.00
U	238	1	No Gas	15503803	0.00
Ca	43	2	He	47780	0.00
Sb	121	2	He	2367390	0.00
Cu	63	1	No Gas	5104372	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1939909	1.52	2076007	93.44	70	120	

Calibration Standard Report

Ge	72	2	He	1270062	1.99	1283119	98.98	70	120	
Ge	72	1	No Gas	5724952	2.22	5854434	97.79	70	120	
In	115	1	No Gas	7014135	1.01	7184199	97.63	70	120	
Bi	209	1	No Gas	5393299	0.39	5632659	95.75	70	120	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICCV
Data File Name	225_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T20:04:47-05:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	No Gas	96.416	2.082	2527914	1.92	100	96.4	90	110	
Be	9	1	No Gas	99.455	0.286	605193	0.18	100	99.5	90	110	
V	51	2	He	97.022	3.920	892133	0.92	100	97.0	90	110	
Cr	52	2	He	98.259	3.675	1097770	0.99	100	98.3	90	110	
Fe	56	2	He	9881.418	3.251	94606472	0.34	10000	98.8	90	110	
Se	78	2	He	100.800	2.971	12810	1.07	100	100.8	90	110	
Sn	118	2	He	89.443	0.353	924177	0.41	100	89.4	90	110	ICV Main CR1 Failed
As	75	2	He	102.740	3.265	157458	0.22	100	102.7	90	110	
Ca	44	2	He	9832.022	3.266	424168	0.53	10000	98.3	90	110	
Na	23	2	He	9879.271	3.812	12219396	0.73	10000	98.8	90	110	
Mg	24	2	He	10060.235	4.748	6538140	2.38	10000	100.6	90	110	
K	39	2	He	9863.571	3.715	7733375	0.87	10000	98.6	90	110	
Mn	55	2	He	98.828	2.692	702087	0.45	100	98.8	90	110	
Co	59	2	He	104.559	1.221	1869946	2.08	100	104.6	90	110	
Ni	60	2	He	99.529	2.824	464353	0.36	100	99.5	90	110	
Cu	63	2	He	100.883	3.570	1298372	1.31	100	100.9	90	110	
Zn	66	2	He	100.729	2.963	215462	0.81	100	100.7	90	110	
Al	27	2	He	98.625	2.361	30324	1.02	100	98.6	90	110	
B	11	1	No Gas	488.465	0.806	1957425	0.93	500	97.7	90	110	
Al	27	1	No Gas	100.970	0.478	2877080	0.69	100	101.0	90	110	
Si	28	1	No Gas	544.809	1.269	8613724	1.35	500	109.0	90	110	
P	31	1	No Gas	511.787	1.312	796899	1.20	500	102.4	90	110	
Ag	107	1	No Gas	99.588	1.329	3748449	2.52	100	99.6	90	110	
Cd	111	1	No Gas	99.094	1.543	757797	1.59	100	99.1	90	110	
Sr	88	1	No Gas	97.049	3.389	7543257	2.56	100	97.0	90	110	
Mo	95	1	No Gas	99.961	2.714	1429770	1.79	100	100.0	90	110	
Sn	118	1	No Gas	98.220	2.638	2386196	4.79	100	98.2	90	110	
Sb	121	1	No Gas	102.208	0.676	3154115	0.47	100	102.2	90	110	
Ba	137	1	No Gas	97.309	1.976	1128125	0.95	100	97.3	90	110	
Tl	205	1	No Gas	102.601	3.519	6057312	2.78	100	102.6	90	110	
Tl	203	1	No Gas	105.705	2.608	2610383	1.98	100	105.7	90	110	
Pb	208	1	No Gas	100.446	1.658	8292261	1.42	100	100.4	90	110	
U	238	1	No Gas	94.514	1.909	7310336	1.67	100	94.5	90	110	
Ca	43	2	He	9738.008	2.377	24065	0.83	10000	97.4	90	110	
Sb	121	2	He	100.938	2.737	1241071	1.03	100	100.9	90	110	
Ti	47	2	He	99.385	5.564	29111	2.89	100	99.4	90	110	
Cu	63	1	No Gas	102.865	0.681	2710294	0.81	100	102.9	90	110	

QC ISTD Table

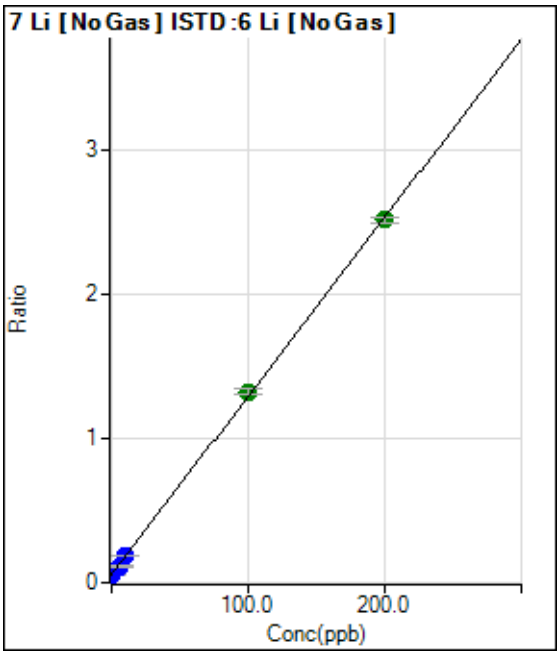
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2024532	0.19	2076007	97.52	70	120	
Ge	72	2	He	1304810	3.13	1283119	101.69	70	120	
Ge	72	1	No Gas	5836183	0.22	5854434	99.69	70	120	
In	115	1	No Gas	7090524	2.92	7184199	98.70	70	120	
Bi	209	1	No Gas	5337360	0.82	5632659	94.76	70	120	

Calibration for 225_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\041420A.b\
Analysis File: 041420A.batch.bin
DA Date-Time: 4/14/2020 8:58:31 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	218CALB.d	CAL BLK	4/14/2020 7:51:57 PM
2	219CALS.d	2/10/200	4/14/2020 7:53:50 PM
3	220CALS.d	5/25/500	4/14/2020 7:55:42 PM
4	221CALS.d	10/50/100	4/14/2020 7:57:35 PM
5	222CALS.d	100/500/10K	4/14/2020 7:59:26 PM
6	223CALS.d	200/1000/20K	4/14/2020 8:01:10 PM

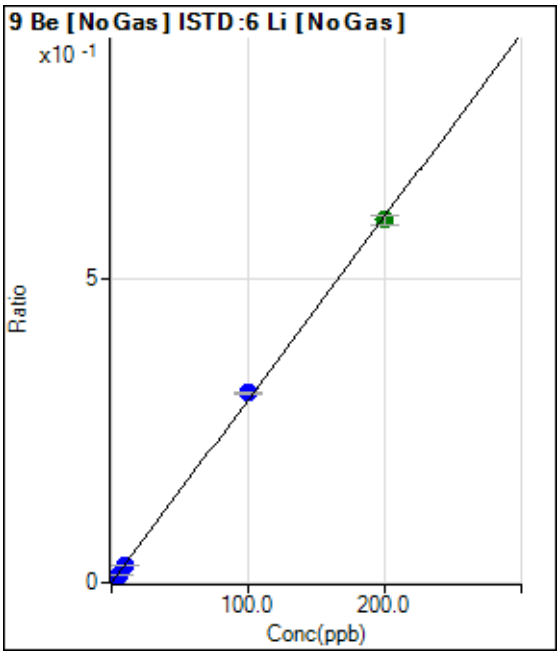
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	117560.68	0.0566	P	0.7
2	☐	2.000	1.774	165723.09	0.0786	P	1.6
3	☐	5.000	4.506	238155.57	0.1123	P	2.5
4	☐	10.000	10.442	381647.38	0.1857	P	1.1
5	☐	100.000	102.390	2609249.65	1.3225	A	2.7
6	☐	200.000	198.798	4877017.85	2.5144	A	1.6

y = 0.0124 * x + 0.0566
R = 0.9999
DL = 0.09319
BEC = 4.58

Weight: <None>
Min Conc: <None>

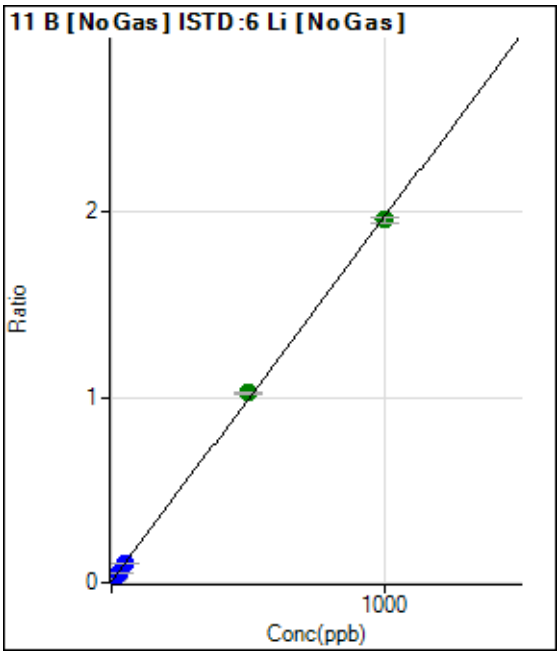


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	20.00	0.0000	P	0.8
2	☐	2.000	1.849	11748.31	0.0056	P	2.2
3	☐	5.000	4.657	29698.05	0.0140	P	1.9
4	☐	10.000	9.923	61304.37	0.0298	P	0.3
5	☐	100.000	103.587	614364.04	0.3114	P	1.4
6	☐	200.000	198.221	1155516.03	0.5958	A	2.6

y = 0.0030 * x + 9.6343E-006
R = 0.9998
DL = 7.427E-05
BEC = 0.003205

Weight: <None>
Min Conc: <None>

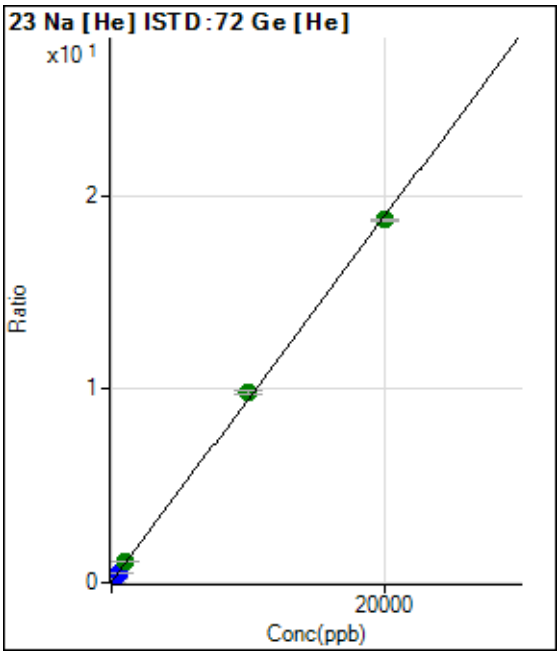
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	14844.61	0.0072	P	2.2
2	☐	10.000	8.810	51585.96	0.0245	P	2.9
3	☐	25.000	22.321	108125.34	0.0510	P	3.0
4	☐	50.000	48.835	211844.78	0.1031	P	1.4
5	☐	500.000	516.717	2017444.97	1.0224	A	0.9
6	☐	1000.000	991.778	3793364.21	1.9557	A	1.5

y = 0.0020 * x + 0.0072
R = 0.9998
DL = 0.24
BEC = 3.639

Weight: <None>
Min Conc: <None>

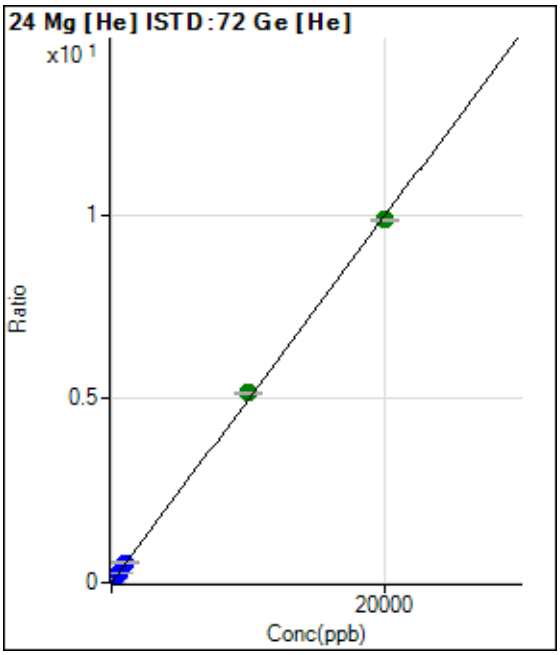


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	54201.96	0.0422	P	3.1
2	☐	200.000	199.661	297679.10	0.2308	P	2.4
3	☐	500.000	493.656	661261.68	0.5085	P	2.2
4	☐	1000.000	1075.172	1348069.04	1.0576	A	2.4
5	☐	10000.00	10374.87	12624036.48	9.8403	A	1.5
6	☐	20000.00	19808.96	23811826.31	18.7500	A	0.7

y = 9.4441E-004 * x + 0.0422
R = 0.9997
DL = 4.154
BEC = 44.74

Weight: <None>
Min Conc: <None>

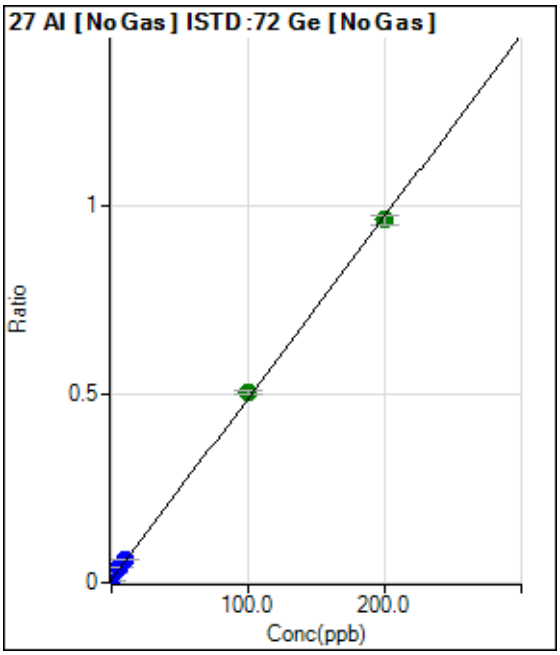
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	610.02	0.0005	P	2.1
2	☐	200.000	204.244	131892.96	0.1023	P	3.9
3	☐	500.000	504.543	327681.95	0.2520	P	2.8
4	☐	1000.000	1089.533	692857.99	0.5436	P	2.3
5	☐	10000.00	10379.82	6637792.61	5.1746	A	1.2
6	☐	20000.00	19805.45	12539487.31	9.8731	A	0.5

y = 4.9848E-004 * x + 4.7546E-004
R = 0.9997
DL = 0.06097
BEC = 0.9538

Weight: <None>
Min Conc: <None>

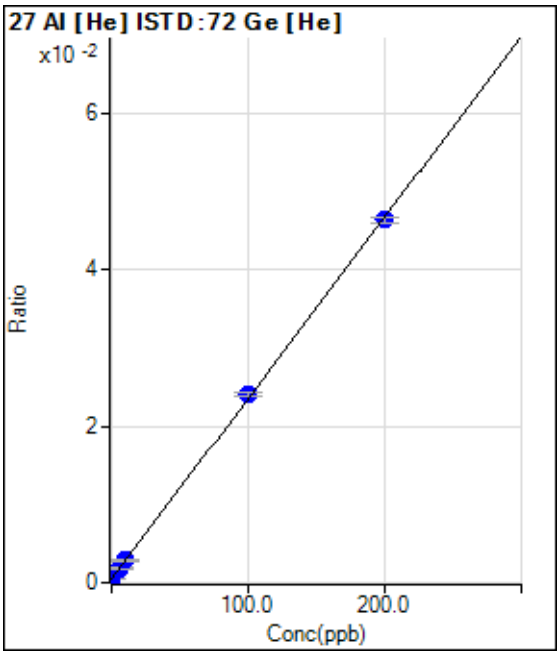


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	43708.86	0.0075	P	0.5
2	☐	2.000	3.299	139005.58	0.0233	P	0.9
3	☐	5.000	6.522	231166.06	0.0388	P	0.9
4	☐	10.000	11.314	362355.55	0.0619	P	0.2
5	☐	100.000	103.452	2932348.29	0.5049	A	2.0
6	☐	200.000	198.157	5495455.54	0.9603	A	2.8

y = 0.0048 * x + 0.0075
R = 0.9998
DL = 0.02327
BEC = 1.553

Weight: <None>
Min Conc: <None>

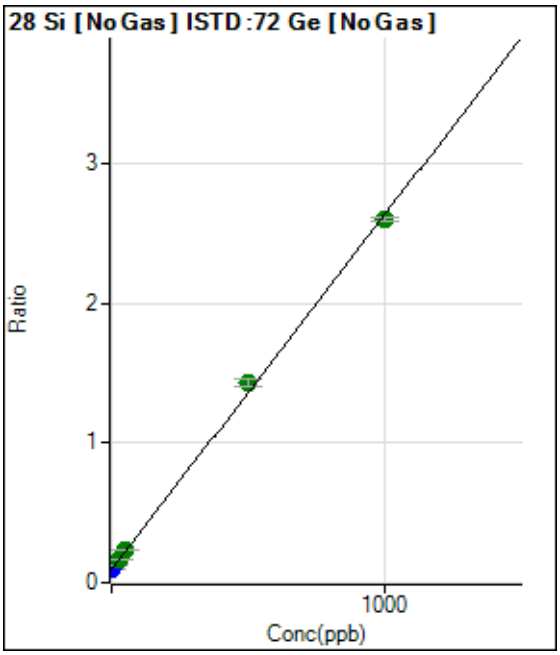
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	580.03	0.0005	P	6.6
2	☐	2.000	3.169	1530.12	0.0012	P	8.7
3	☐	5.000	5.819	2340.25	0.0018	P	6.0
4	☐	10.000	10.276	3600.55	0.0028	P	13.0
5	☐	100.000	102.694	31034.84	0.0242	P	1.9
6	☐	200.000	198.607	58874.68	0.0464	P	1.5

y = 2.3116E-004 * x + 4.5218E-004
R = 0.9999
DL = 0.3887
BEC = 1.956

Weight: <None>
Min Conc: <None>

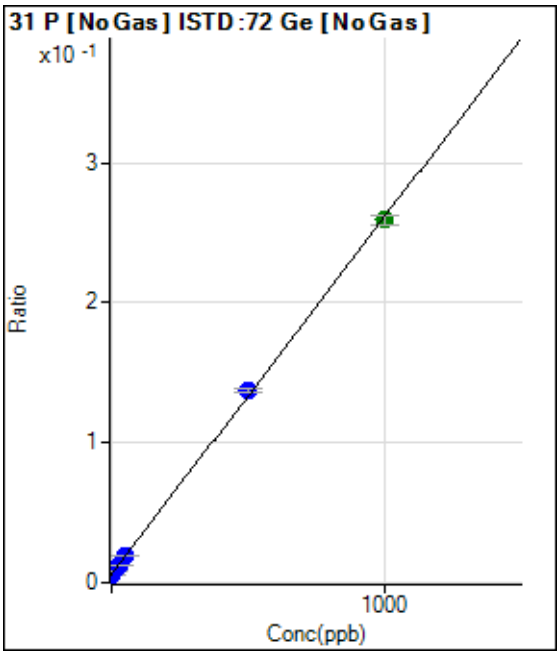


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	542048.82	0.0926	P	0.6
2	☐	10.000	9.991	702863.77	0.1180	P	1.4
3	☐	25.000	26.854	957190.77	0.1608	A	1.8
4	☐	50.000	55.848	1372764.77	0.2344	A	2.6
5	☐	500.000	527.070	8308417.17	1.4309	A	3.3
6	☐	1000.000	986.126	14861831.86	2.5964	A	1.2

y = 0.0025 * x + 0.0926
R = 0.9995
DL = 0.6942
BEC = 36.47

Weight: <None>
Min Conc: <None>

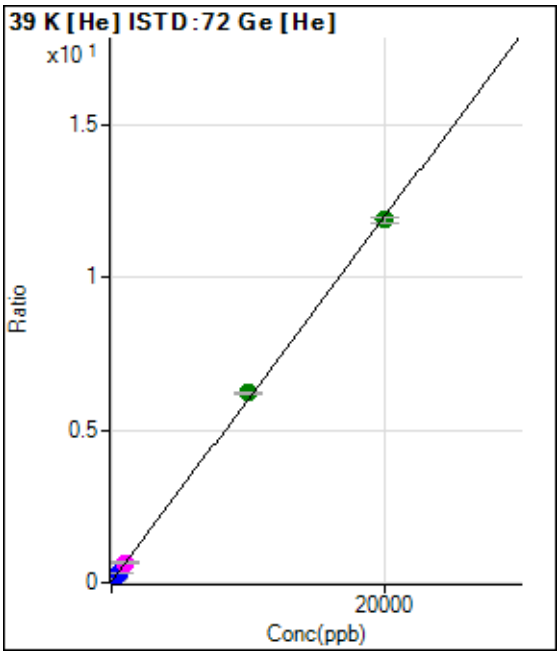
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	34847.55	0.0060	P	0.5
2	☐	10.000	8.003	47635.35	0.0080	P	1.8
3	☐	25.000	23.029	70428.23	0.0118	P	0.3
4	☐	50.000	52.191	112859.55	0.0193	P	0.8
5	☐	500.000	516.033	799289.31	0.1376	P	2.1
6	☐	1000.000	991.943	1482542.06	0.2591	A	2.9

y = 2.5517E-004 * x + 0.0060
R = 0.9998
DL = 0.3371
BEC = 23.33

Weight: <None>
Min Conc: <None>

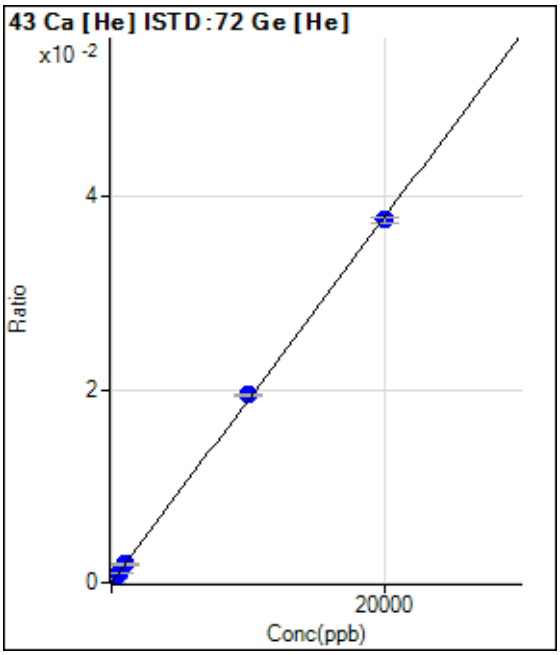


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	43707.13	0.0341	P	0.9
2	☐	200.000	197.438	196145.24	0.1521	P	3.4
3	☐	500.000	488.282	423994.90	0.3260	P	2.0
4	☐	1000.000	1047.639	841844.57	0.6604	M	1.6
5	☐	10000.00	10339.02	7973459.26	6.2156	A	0.5
6	☐	20000.00	19828.42	15096581.44	11.8891	A	1.8

y = 5.9788E-004 * x + 0.0341
R = 0.9998
DL = 1.461
BEC = 56.97

Weight: <None>
Min Conc: <None>

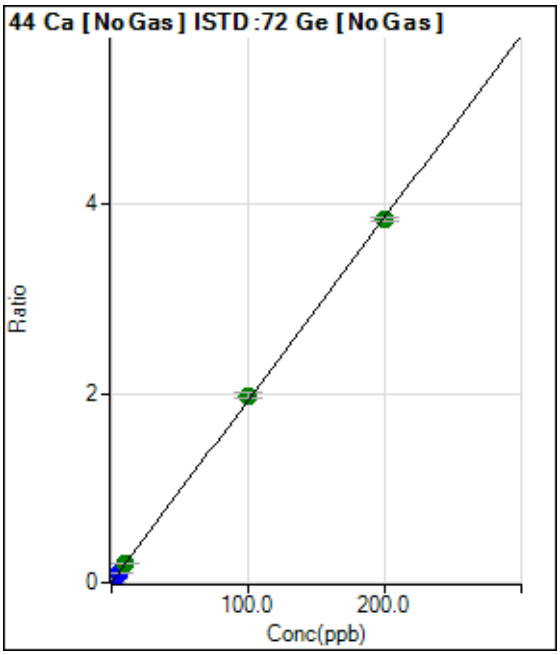
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10.00	0.0000	P	0.8
2	☐	200.000	245.917	610.02	0.0005	P	11.8
3	☐	500.000	520.171	1290.09	0.0010	P	12.0
4	☐	1000.000	1011.613	2453.60	0.0019	P	4.1
5	☐	10000.00	10273.87	24973.01	0.0195	P	1.5
6	☐	20000.00	19861.51	47779.81	0.0376	P	1.6

y = 1.8941E-006 * x + 7.7938E-006
R = 0.9999
DL = 0.09259
BEC = 4.115

Weight: <None>
Min Conc: <None>

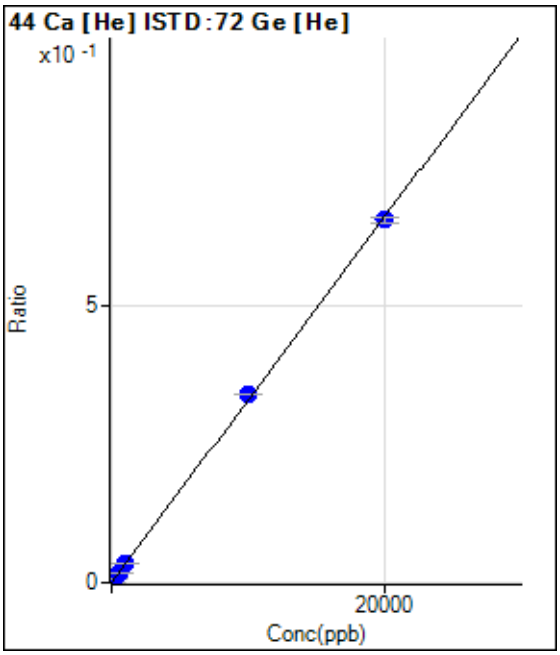


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	12455.81	0.0021	P	6.0
2	☐	2.000	1.998	242067.76	0.0406	P	0.8
3	☐	5.000	4.866	570878.83	0.0959	P	2.0
4	☐	10.000	10.707	1220883.58	0.2085	A	2.7
5	☐	100.000	102.339	11463469.00	1.9742	A	3.3
6	☐	200.000	198.799	21941067.18	3.8329	A	1.0

y = 0.0193 * x + 0.0021
R = 0.9999
DL = 0.01972
BEC = 0.1104

Weight: <None>
Min Conc: <None>

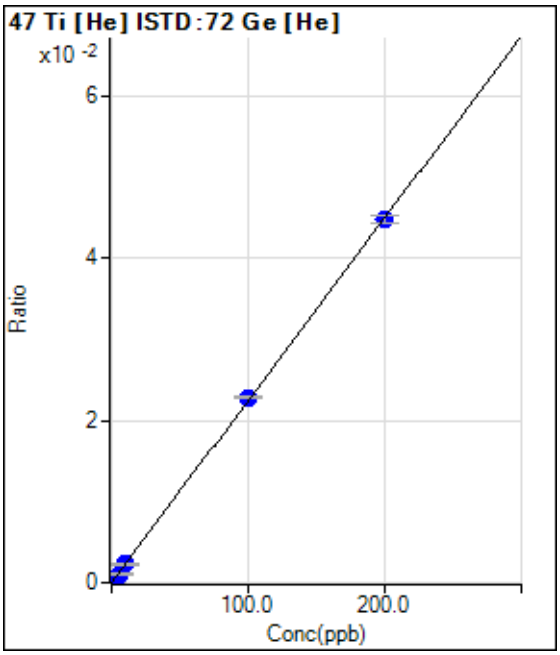
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	303.34	0.0002	P	13.0
2	☐	200.000	195.384	8632.86	0.0067	P	4.9
3	☐	500.000	482.327	21039.72	0.0162	P	4.5
4	☐	1000.000	1024.560	43488.99	0.0341	P	1.2
5	☐	10000.00	10302.09	437225.33	0.3408	P	0.4
6	☐	20000.00	19848.21	833558.27	0.6564	P	1.6

y = 3.3062E-005 * x + 2.3654E-004
R = 0.9998
DL = 2.799
BEC = 7.155

Weight: <None>
Min Conc: <None>

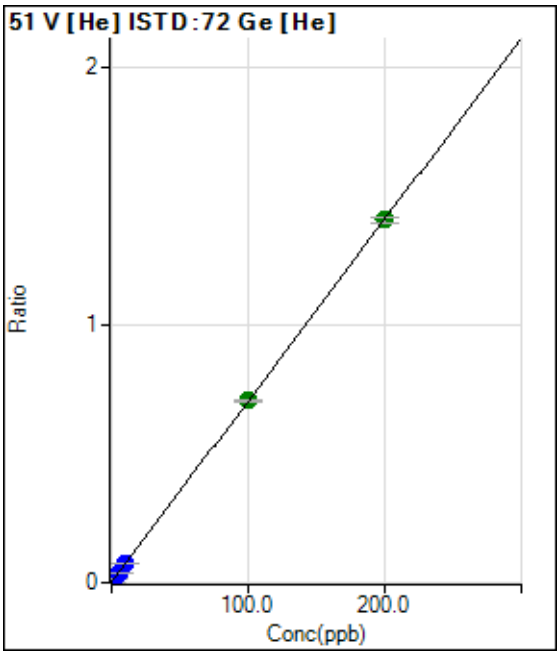


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3.33	0.0000	P	173.2
2	☐	2.000	2.031	593.36	0.0005	P	18.2
3	☐	5.000	4.565	1336.76	0.0010	P	10.9
4	☐	10.000	10.279	2950.37	0.0023	P	6.9
5	☐	100.000	101.723	29324.99	0.0229	P	1.5
6	☐	200.000	199.135	56824.37	0.0447	P	2.3

y = 2.2470E-004 * x + 2.6169E-006
R = 0.9999
DL = 0.06052
BEC = 0.01165

Weight: <None>
Min Conc: <None>

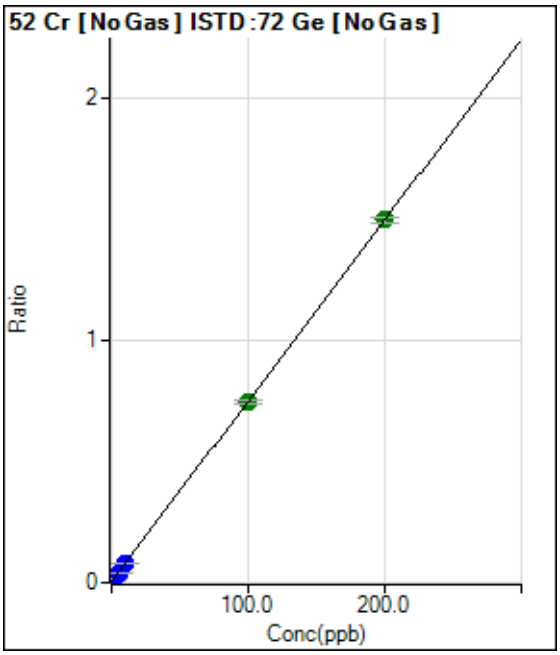
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1960.15	0.0015	P	4.8
2	☐	2.000	1.895	19170.12	0.0149	P	1.8
3	☐	5.000	4.679	44807.33	0.0345	P	1.9
4	☐	10.000	9.969	91376.72	0.0717	P	1.8
5	☐	100.000	100.315	907539.37	0.7075	A	1.2
6	☐	200.000	199.853	1787766.11	1.4079	A	1.5

y = 0.0070 * x + 0.0015
R = 1.0000
DL = 0.03121
BEC = 0.2171

Weight: <None>
Min Conc: <None>

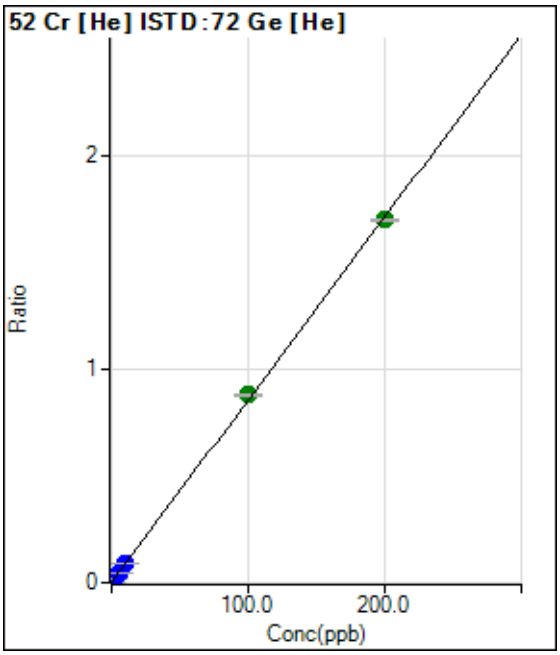


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	28914.21	0.0049	P	2.3
2	☐	2.000	1.915	114401.15	0.0192	P	0.7
3	☐	5.000	4.820	243077.09	0.0408	P	1.3
4	☐	10.000	10.348	480224.28	0.0820	P	0.0
5	☐	100.000	99.373	4326184.63	0.7449	A	1.9
6	☐	200.000	200.301	8565096.75	1.4964	A	1.5

y = 0.0074 * x + 0.0049
R = 1.0000
DL = 0.04568
BEC = 0.6633

Weight: <None>
Min Conc: <None>

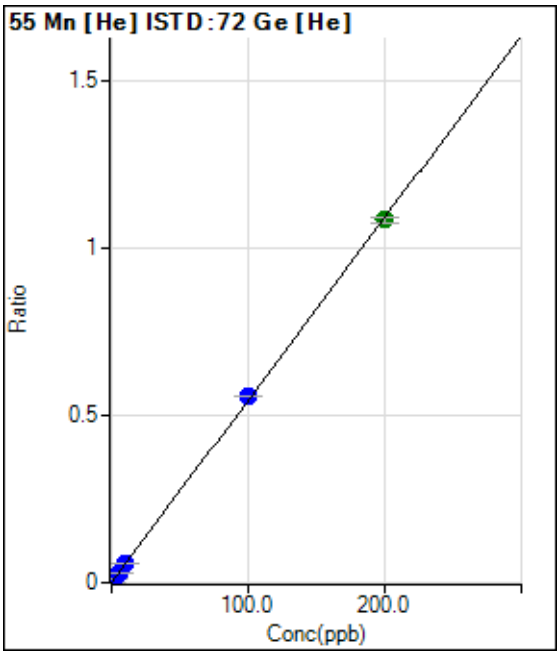
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1323.41	0.0010	P	9.6
2	☐	2.000	2.018	23617.44	0.0183	P	1.8
3	☐	5.000	4.870	55539.44	0.0427	P	3.7
4	☐	10.000	10.333	114045.58	0.0895	P	1.0
5	☐	100.000	102.724	1129007.95	0.8802	A	1.6
6	☐	200.000	198.625	2160006.94	1.7009	A	0.8

y = 0.0086 * x + 0.0010
R = 0.9999
DL = 0.03463
BEC = 0.1206

Weight: <None>
Min Conc: <None>

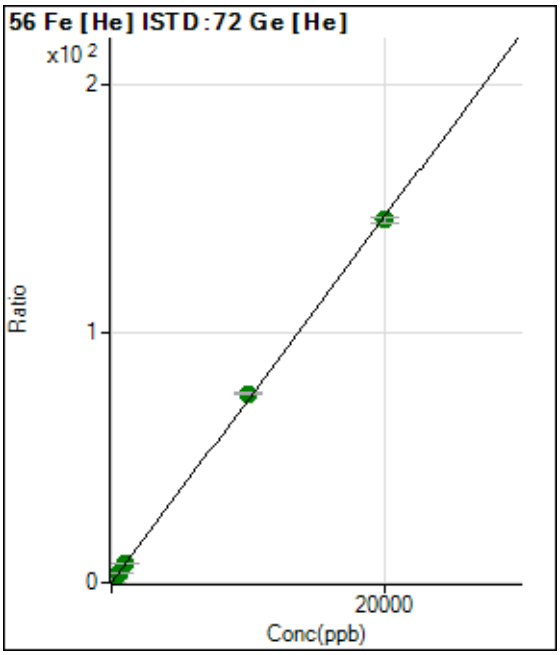


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	483.35	0.0004	P	15.1
2	☐	2.000	1.968	14301.03	0.0111	P	2.2
3	☐	5.000	4.919	35312.74	0.0272	P	4.3
4	☐	10.000	10.245	71577.32	0.0561	P	0.8
5	☐	100.000	102.091	713400.28	0.5561	P	0.6
6	☐	200.000	198.945	1376281.80	1.0834	A	1.7

y = 0.0054 * x + 3.7664E-004
R = 0.9999
DL = 0.03128
BEC = 0.06919

Weight: <None>
Min Conc: <None>

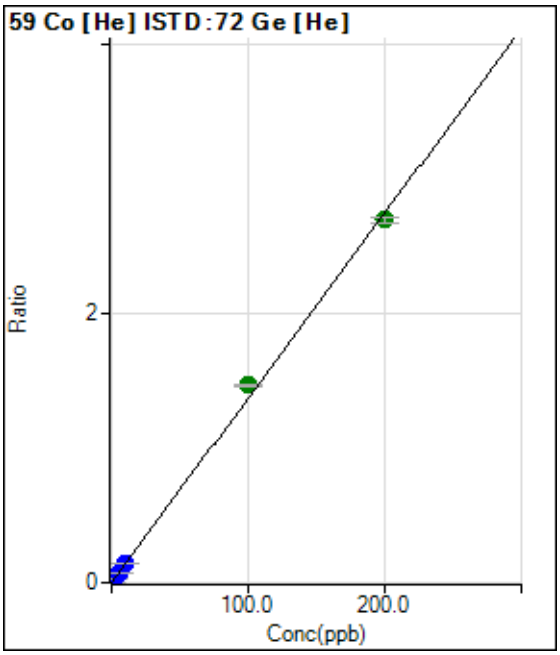
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10841.11	0.0085	P	5.9
2	☐	200.000	201.936	1923039.50	1.4910	A	2.5
3	☐	500.000	489.254	4681862.22	3.6004	A	3.0
4	☐	1000.000	1046.663	9806555.69	7.6927	A	1.1
5	☐	10000.00	10337.19	97365098.55	75.9010	A	0.4
6	☐	20000.00	19829.32	184868570.5	145.589	A	1.6

y = 0.0073 * x + 0.0085
R = 0.9998
DL = 0.2022
BEC = 1.151

Weight: <None>
Min Conc: <None>

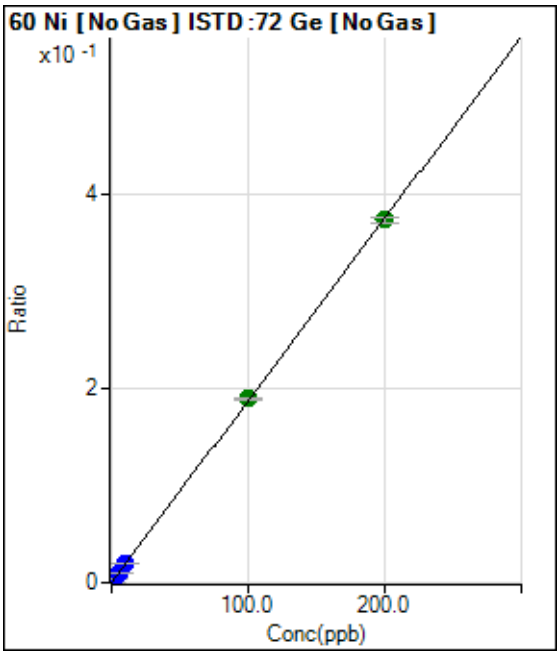


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	196.67	0.0002	P	2.4
2	☐	2.000	1.999	35546.69	0.0276	P	2.7
3	☐	5.000	4.976	88915.96	0.0684	P	3.0
4	☐	10.000	10.615	185659.09	0.1457	P	2.7
5	☐	100.000	106.907	1880216.01	1.4656	A	1.0
6	☐	200.000	196.516	3421601.62	2.6940	A	1.3

y = 0.0137 * x + 1.5326E-004
R = 0.9991
DL = 0.0007889
BEC = 0.01118

Weight: <None>
Min Conc: <None>

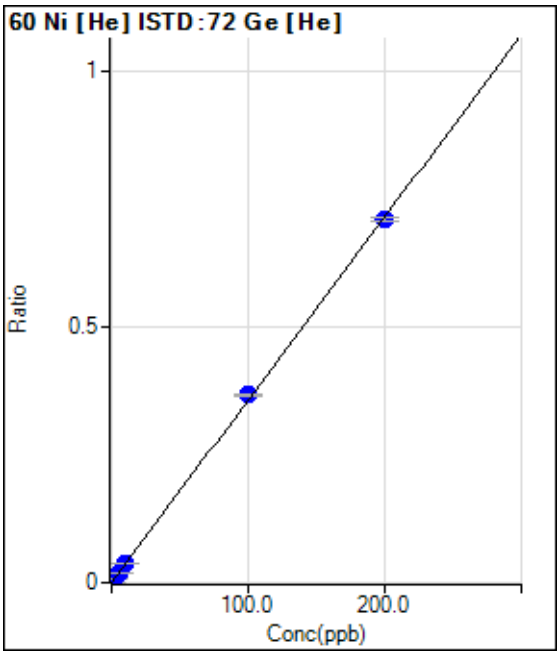
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	580.02	0.0001	P	6.0
2	☐	2.000	1.977	22669.21	0.0038	P	3.2
3	☐	5.000	5.113	57652.24	0.0097	P	1.2
4	☐	10.000	10.607	117023.01	0.0200	P	1.9
5	☐	100.000	101.234	1102684.33	0.1898	A	0.9
6	☐	200.000	199.350	2139117.42	0.3737	A	1.6

y = 0.0019 * x + 9.9073E-005
R = 1.0000
DL = 0.009438
BEC = 0.05286

Weight: <None>
Min Conc: <None>

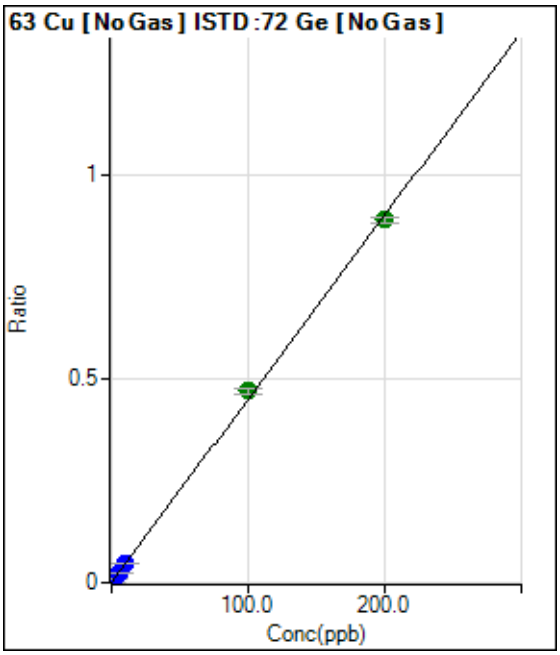


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	190.01	0.0001	P	40.7
2	☐	2.000	1.945	9159.88	0.0071	P	4.9
3	☐	5.000	5.110	23967.98	0.0184	P	0.2
4	☐	10.000	10.568	48349.49	0.0379	P	4.4
5	☐	100.000	102.710	471384.42	0.3675	P	1.3
6	☐	200.000	198.614	902179.57	0.7104	P	1.0

y = 0.0036 * x + 1.4784E-004
R = 0.9999
DL = 0.05052
BEC = 0.04134

Weight: <None>
Min Conc: <None>

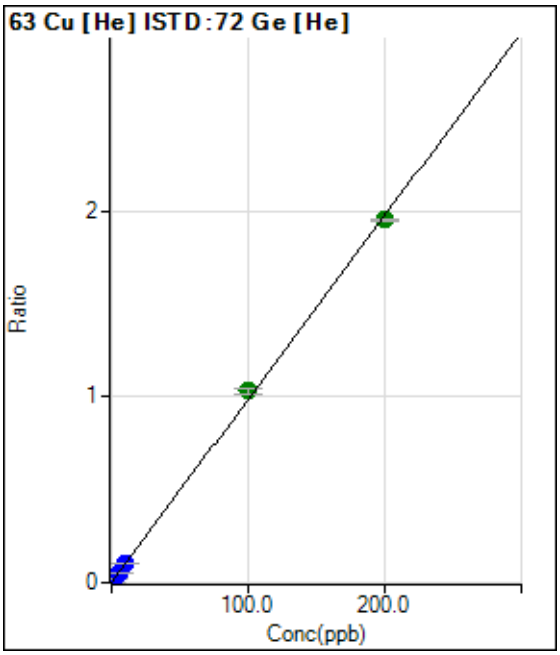
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3003.73	0.0005	P	2.3
2	☐	2.000	2.017	57264.18	0.0096	P	2.5
3	☐	5.000	5.044	138459.59	0.0233	P	2.9
4	☐	10.000	10.558	281852.52	0.0481	P	0.3
5	☐	100.000	104.661	2744117.04	0.4725	A	3.1
6	☐	200.000	197.640	5104372.01	0.8918	A	1.5

y = 0.0045 * x + 5.1308E-004
R = 0.9996
DL = 0.007849
BEC = 0.1138

Weight: <None>
Min Conc: <None>

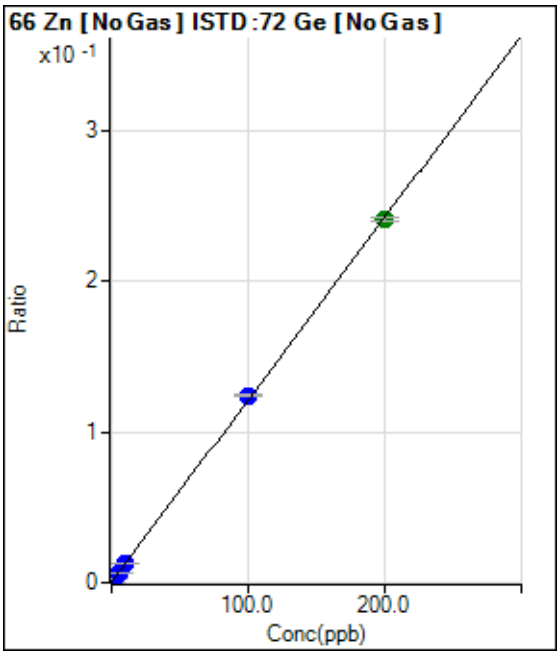


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1300.09	0.0010	P	4.3
2	☐	2.000	1.942	25998.54	0.0202	P	2.8
3	☐	5.000	4.965	64995.33	0.0500	P	2.3
4	☐	10.000	10.394	131898.34	0.1035	P	3.6
5	☐	100.000	104.337	1320889.12	1.0298	A	3.0
6	☐	200.000	197.813	2478475.59	1.9515	A	0.3

y = 0.0099 * x + 0.0010
R = 0.9997
DL = 0.01319
BEC = 0.1028

Weight: <None>
Min Conc: <None>

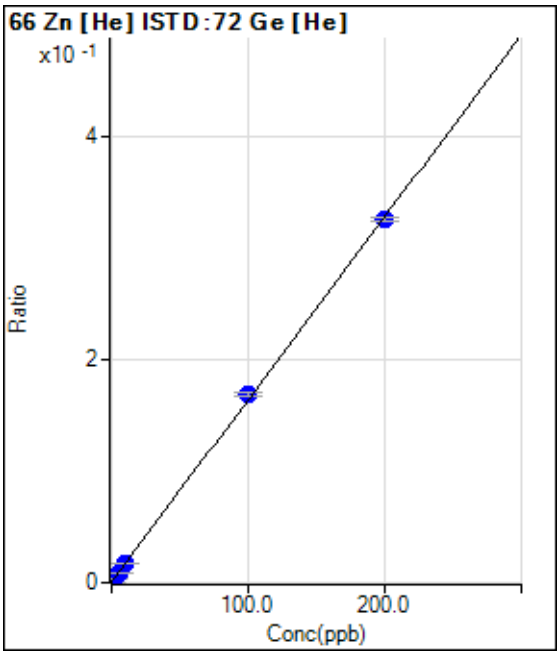
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2343.59	0.0004	P	3.2
2	☐	2.000	2.195	18209.20	0.0031	P	2.4
3	☐	5.000	5.105	39140.01	0.0066	P	1.2
4	☐	10.000	10.392	75958.88	0.0130	P	1.4
5	☐	100.000	102.265	720749.31	0.1241	P	1.2
6	☐	200.000	198.843	1378962.17	0.2409	A	1.0

y = 0.0012 * x + 4.0031E-004
R = 0.9999
DL = 0.0315
BEC = 0.331

Weight: <None>
Min Conc: <None>

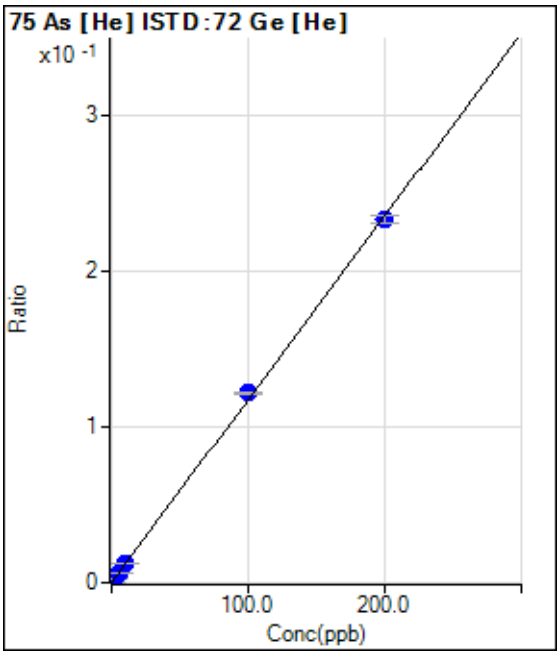


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	696.70	0.0005	P	15.5
2	☐	2.000	2.296	5544.56	0.0043	P	2.4
3	☐	5.000	5.228	11822.01	0.0091	P	3.5
4	☐	10.000	10.452	22475.60	0.0176	P	3.9
5	☐	100.000	102.854	216397.50	0.1687	P	2.1
6	☐	200.000	198.542	412886.66	0.3251	P	1.2

y = 0.0016 * x + 5.4338E-004
R = 0.9999
DL = 0.1543
BEC = 0.3324

Weight: <None>
Min Conc: <None>

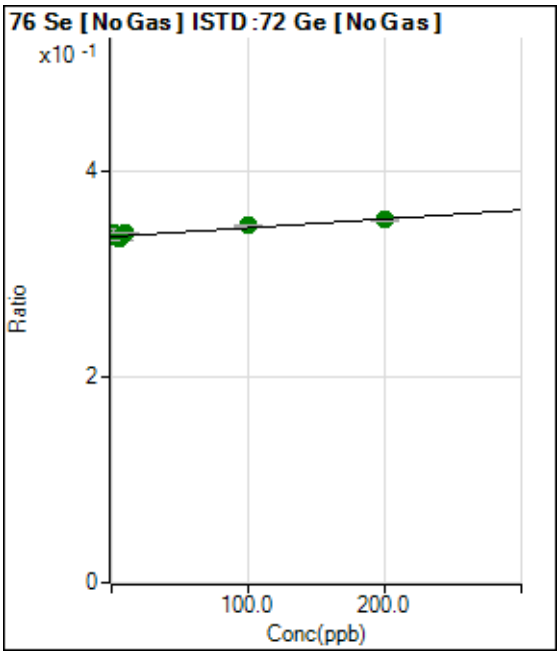
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	80.00	0.0001	P	22.9
2	☐	2.000	1.875	2921.45	0.0023	P	0.9
3	☐	5.000	4.929	7613.30	0.0059	P	2.4
4	☐	10.000	10.168	15305.37	0.0120	P	2.8
5	☐	100.000	103.826	156544.39	0.1220	P	1.1
6	☐	200.000	198.082	295544.41	0.2328	P	1.9

y = 0.0012 * x + 6.2322E-005
R = 0.9997
DL = 0.03638
BEC = 0.05305

Weight: <None>
Min Conc: <None>

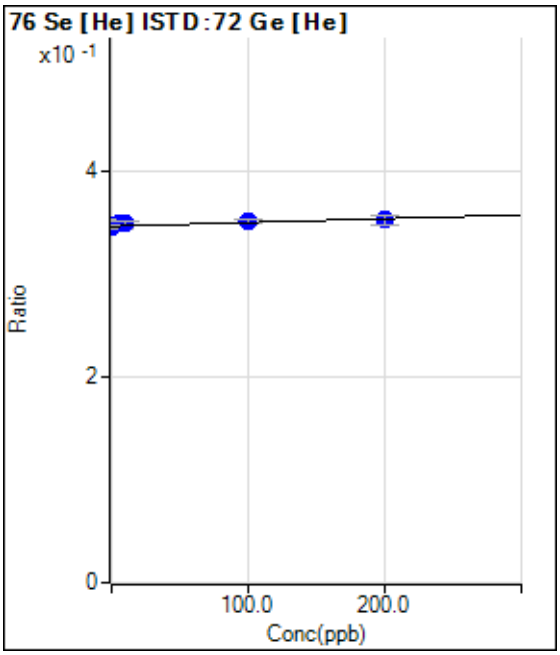


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1967477.42	0.3361	A	0.9
2	☐	2.000	34.690	2020141.95	0.3391	A	3.2
3	☐	5.000	-18.390	1991306.27	0.3345	A	1.4
4	☐	10.000	45.406	1991237.73	0.3400	A	0.2
5	☐	100.000	120.167	2012479.87	0.3464	A	0.3
6	☐	200.000	188.404	2016839.97	0.3523	A	0.8

y = 8.6316E-005 * x + 0.3361
R = 0.9550
DL = 105
BEC = 3893

Weight: <None>
Min Conc: <None>

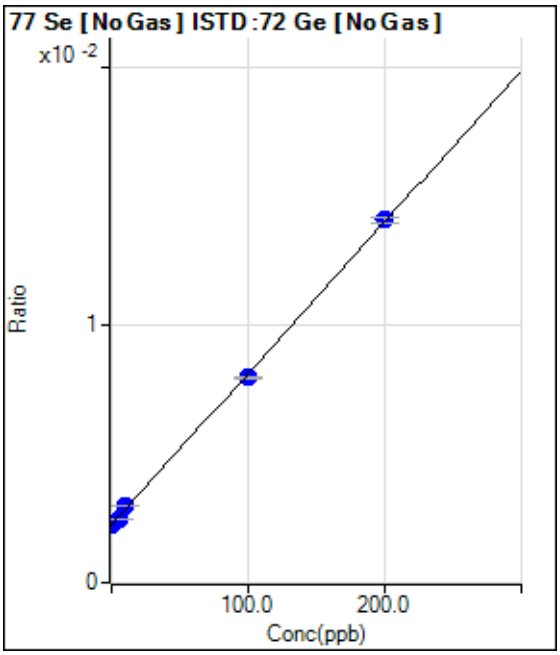
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	444365.30	0.3463	P	0.9
2	☐	2.000	49.205	449078.44	0.3482	P	1.7
3	☐	5.000	58.422	453237.47	0.3485	P	2.2
4	☐	10.000	87.603	445633.55	0.3496	P	1.3
5	☐	100.000	156.372	451742.30	0.3521	P	1.0
6	☐	200.000	166.126	447545.64	0.3525	P	2.7

y = 3.7163E-005 * x + 0.3463
R = 0.8626
DL = 242.2
BEC = 9319

Weight: <None>
Min Conc: <None>

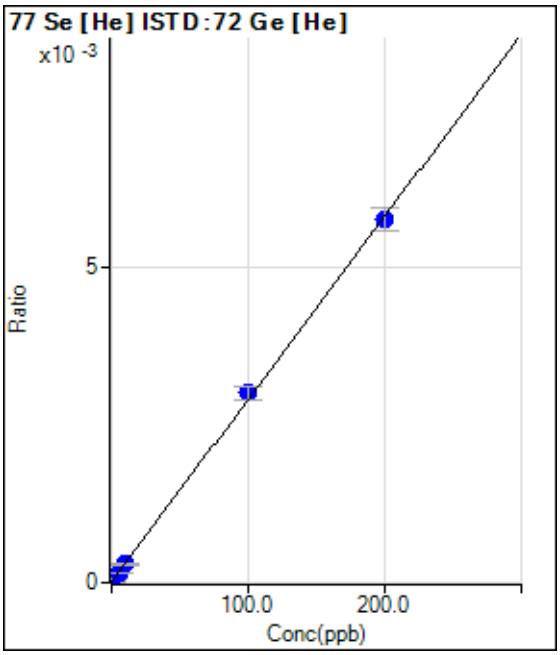


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13220.10	0.0023	P	2.8
2	☐	2.000	1.598	14017.56	0.0024	P	2.0
3	☐	5.000	3.938	14825.08	0.0025	P	0.8
4	☐	10.000	12.288	17458.33	0.0030	P	0.7
5	☐	100.000	97.167	46313.26	0.0080	P	1.3
6	☐	200.000	201.332	80701.47	0.0141	P	1.8

y = 5.8818E-005 * x + 0.0023
R = 0.9998
DL = 3.174
BEC = 38.39

Weight: <None>
Min Conc: <None>

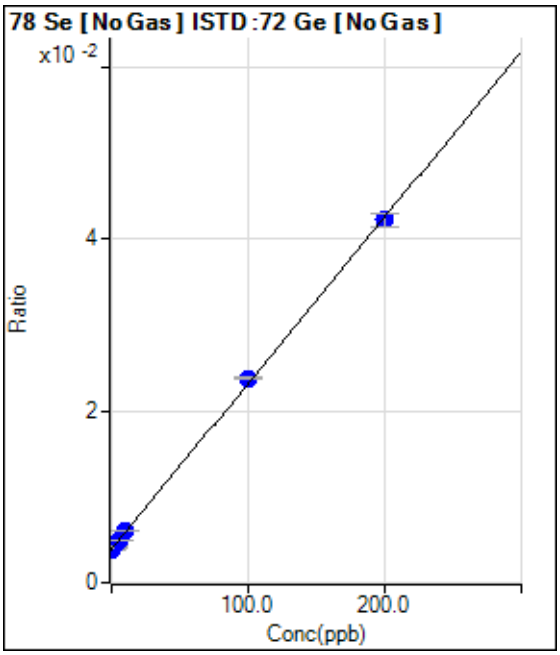
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	16.67	0.0000	P	91.8
2	☐	2.000	2.506	110.00	0.0001	P	27.6
3	☐	5.000	4.873	200.01	0.0002	P	15.0
4	☐	10.000	9.959	383.34	0.0003	P	9.3
5	☐	100.000	103.394	3847.31	0.0030	P	7.8
6	☐	200.000	198.303	7282.09	0.0057	P	6.2

y = 2.8872E-005 * x + 1.3049E-005
R = 0.9998
DL = 1.245
BEC = 0.452

Weight: <None>
Min Conc: <None>

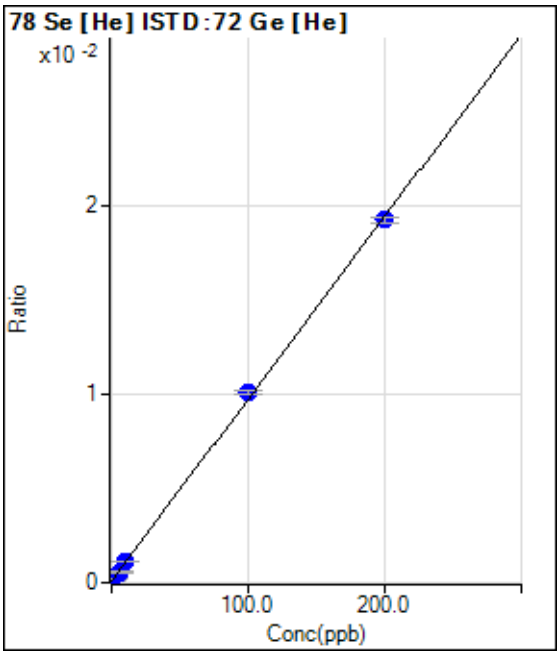


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	22802.87	0.0039	P	2.0
2	☐	2.000	1.535	24973.46	0.0042	P	2.5
3	☐	5.000	4.999	28934.73	0.0049	P	1.7
4	☐	10.000	10.675	34885.47	0.0060	P	0.3
5	☐	100.000	102.999	138157.59	0.0238	P	1.4
6	☐	200.000	198.472	241582.89	0.0422	P	3.5

y = 1.9310E-004 * x + 0.0039
R = 0.9998
DL = 1.193
BEC = 20.17

Weight: <None>
Min Conc: <None>

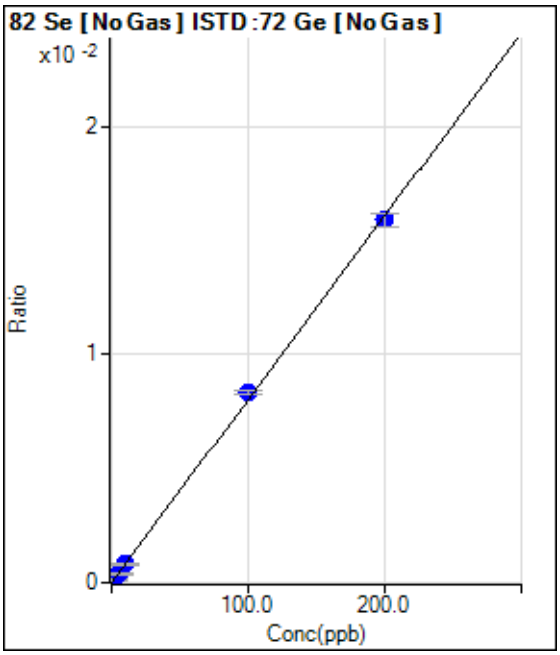
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	102.67	0.0001	P	14.4
2	☐	2.000	1.823	330.67	0.0003	P	1.9
3	☐	5.000	4.963	727.36	0.0006	P	9.2
4	☐	10.000	10.654	1414.75	0.0011	P	1.4
5	☐	100.000	103.328	12914.19	0.0101	P	2.3
6	☐	200.000	198.306	24441.43	0.0192	P	1.7

y = 9.6658E-005 * x + 8.0071E-005
R = 0.9998
DL = 0.3581
BEC = 0.8284

Weight: <None>
Min Conc: <None>

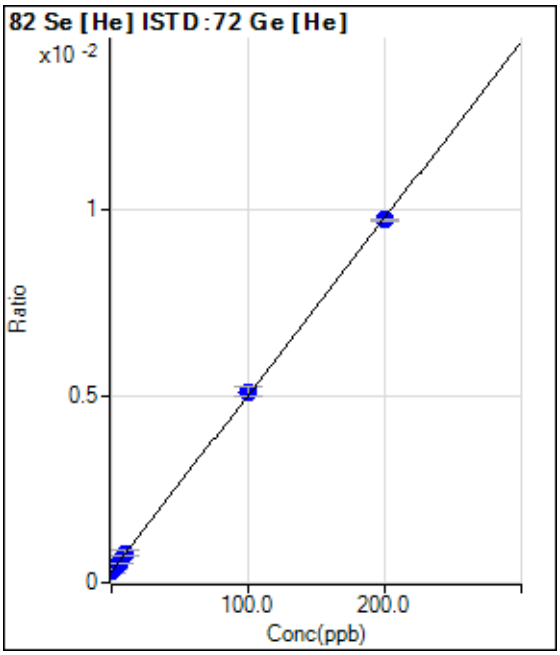


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	-121.12	0.0000	P	-418.2
2	☐	2.000	1.646	665.61	0.0001	P	52.9
3	☐	5.000	5.023	2286.75	0.0004	P	19.3
4	☐	10.000	9.975	4585.96	0.0008	P	8.0
5	☐	100.000	103.878	48511.39	0.0083	P	1.2
6	☐	200.000	198.065	91198.06	0.0159	P	3.8

y = 8.0577E-005 * x - 2.0683E-005
R = 0.9997
DL = 3.22
BEC = -0.2567

Weight: <None>
Min Conc: <None>

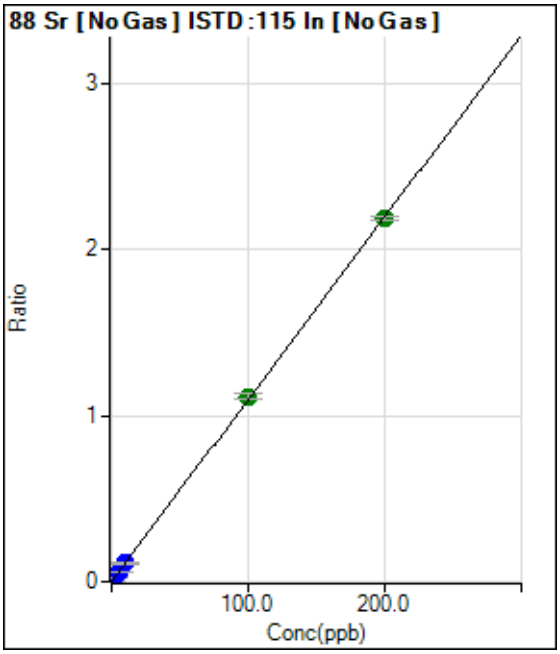
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	380.01	0.0003	P	28.6
2	☐	2.000	1.313	463.35	0.0004	P	10.7
3	☐	5.000	4.554	666.70	0.0005	P	5.4
4	☐	10.000	10.206	993.39	0.0008	P	18.4
5	☐	100.000	101.880	6571.74	0.0051	P	4.7
6	☐	200.000	199.068	12352.59	0.0097	P	0.7

y = 4.7363E-005 * x + 2.9656E-004
R = 0.9999
DL = 5.369
BEC = 6.261

Weight: <None>
Min Conc: <None>

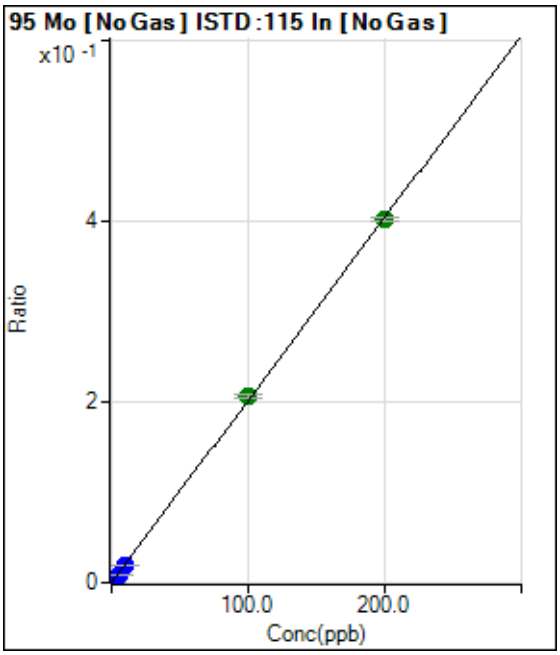


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3160.44	0.0004	P	4.9
2	☐	2.000	1.950	153629.64	0.0218	P	1.8
3	☐	5.000	4.749	375570.31	0.0525	P	1.5
4	☐	10.000	10.090	805955.98	0.1110	P	2.9
5	☐	100.000	101.691	7872586.96	1.1152	A	2.5
6	☐	200.000	199.157	15317249.77	2.1837	A	1.1

y = 0.0110 * x + 4.3983E-004
R = 0.9999
DL = 0.005954
BEC = 0.04012

Weight: <None>
Min Conc: <None>

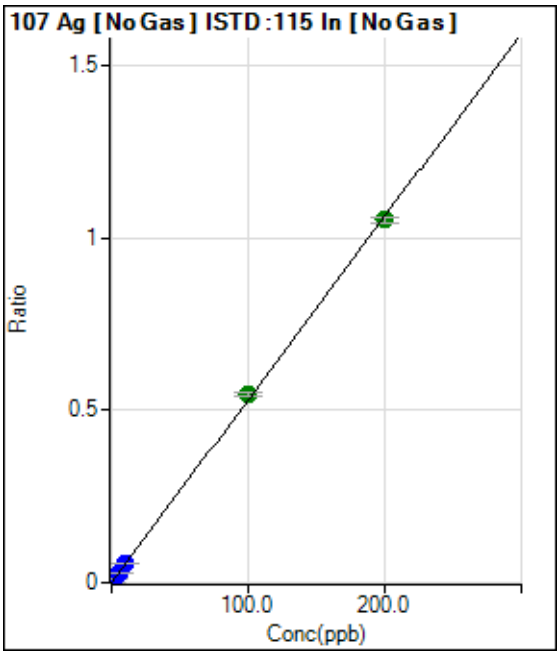
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	140.00	0.0000	P	30.4
2	☐	2.000	1.873	26743.89	0.0038	P	1.2
3	☐	5.000	4.650	67263.86	0.0094	P	0.5
4	☐	10.000	9.694	142117.06	0.0196	P	2.9
5	☐	100.000	102.212	1456186.70	0.2063	A	2.4
6	☐	200.000	198.919	2815524.96	0.4014	A	1.0

y = 0.0020 * x + 1.9451E-005
R = 0.9999
DL = 0.008797
BEC = 0.009639

Weight: <None>
Min Conc: <None>

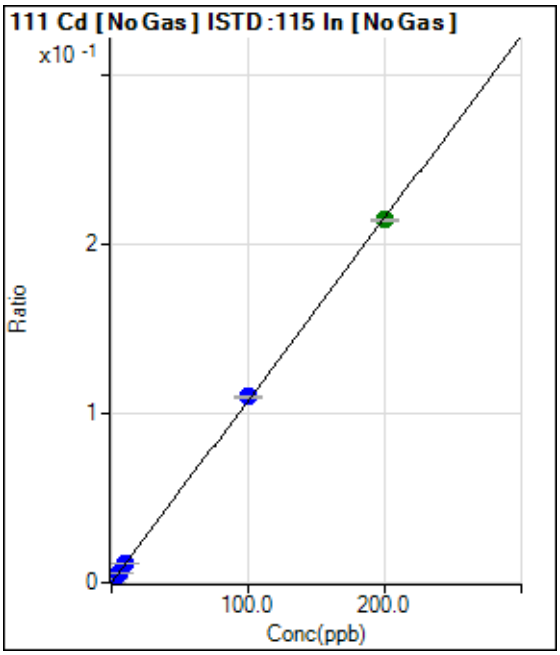


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	356.68	0.0000	P	5.6
2	☐	2.000	2.065	77531.23	0.0110	P	1.2
3	☐	5.000	4.938	187922.35	0.0263	P	0.5
4	☐	10.000	10.488	404437.09	0.0557	P	3.1
5	☐	100.000	103.436	3876816.19	0.5492	A	1.9
6	☐	200.000	198.259	7381696.14	1.0525	A	1.9

y = 0.0053 * x + 4.9631E-005
R = 0.9998
DL = 0.001573
BEC = 0.009349

Weight: <None>
Min Conc: <None>

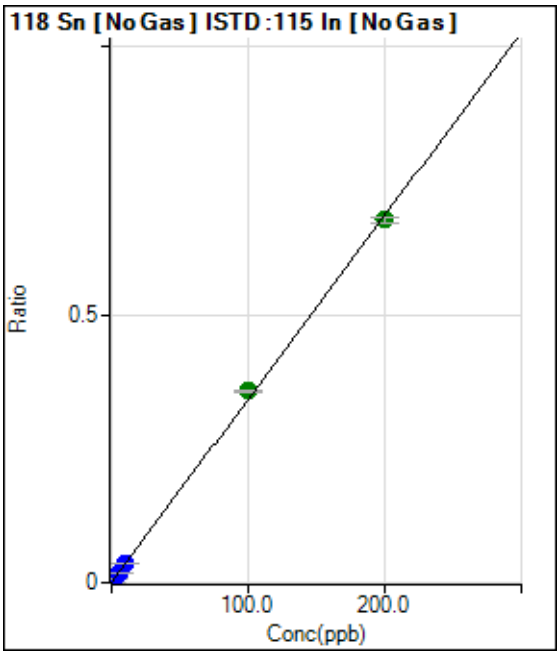
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	36.67	0.0000	P	16.3
2	☐	2.000	1.960	14925.38	0.0021	P	1.5
3	☐	5.000	4.937	38145.78	0.0053	P	2.7
4	☐	10.000	10.282	80569.91	0.0111	P	1.2
5	☐	100.000	101.931	776423.51	0.1100	P	1.0
6	☐	200.000	199.022	1505987.22	0.2147	A	0.4

y = 0.0011 * x + 5.1074E-006
R = 0.9999
DL = 0.002317
BEC = 0.004734

Weight: <None>
Min Conc: <None>

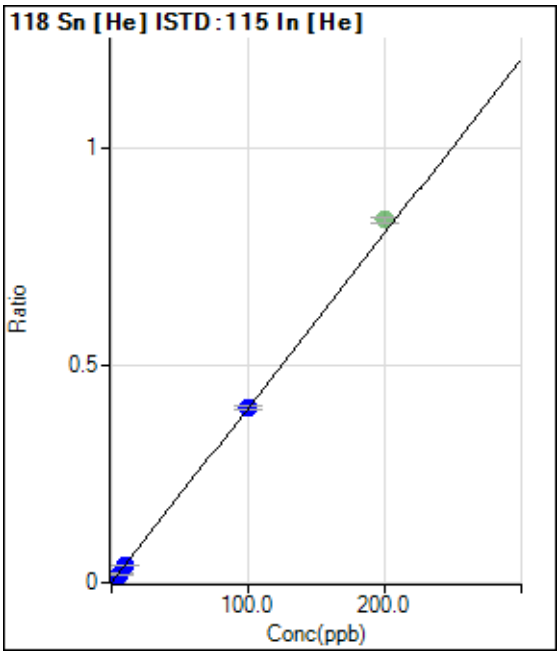


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3563.89	0.0005	P	8.3
2	☐	2.000	1.995	51525.31	0.0073	P	1.4
3	☐	5.000	4.901	123467.30	0.0173	P	1.7
4	☐	10.000	10.356	260719.36	0.0359	P	2.1
5	☐	100.000	104.370	2524397.20	0.3575	A	0.3
6	☐	200.000	197.800	4748482.43	0.6771	A	1.5

y = 0.0034 * x + 4.9588E-004
R = 0.9997
DL = 0.03625
BEC = 0.145

Weight: <None>
Min Conc: <None>

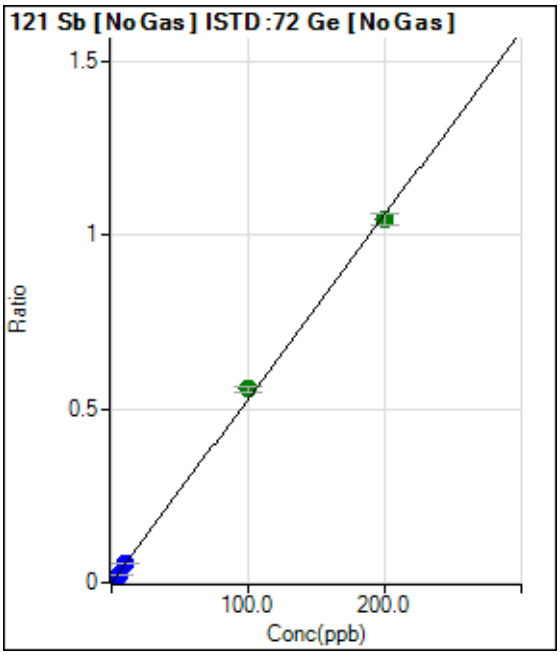
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1523.45	0.0006	P	5.5
2	☐	2.000	1.922	20750.06	0.0083	P	1.6
3	☐	5.000	4.782	49574.95	0.0198	P	2.3
4	☐	10.000	10.214	103241.28	0.0416	P	1.0
5	☐	100.000	99.991	976547.62	0.4016	P	1.7
6	☑	200.000		1990122.21	0.8338	A	1.9

y = 0.0040 * x + 6.1397E-004
R = 1.0000
DL = 0.0254
BEC = 0.1531

Weight: <None>
Min Conc: <None>

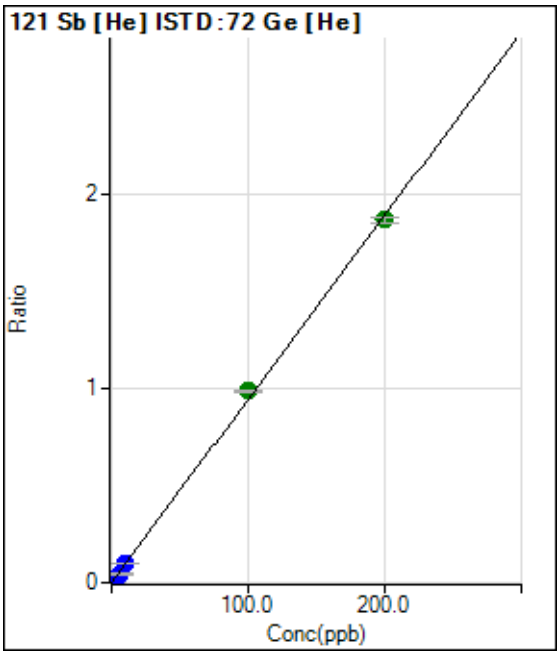


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	890.05	0.0002	P	9.1
2	☐	2.000	1.862	59552.51	0.0100	P	1.1
3	☐	5.000	4.638	146885.12	0.0247	P	0.9
4	☐	10.000	10.143	314927.15	0.0538	P	0.6
5	☐	100.000	105.334	3234429.32	0.5570	A	2.5
6	☐	200.000	197.336	5970505.75	1.0433	A	3.3

y = 0.0053 * x + 1.5202E-004
R = 0.9995
DL = 0.007875
BEC = 0.02876

Weight: <None>
Min Conc: <None>

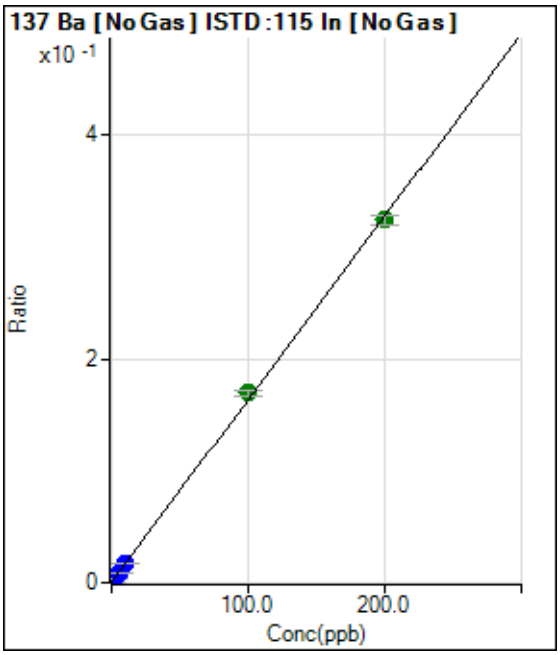
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	326.68	0.0003	P	14.6
2	☐	2.000	1.832	22606.54	0.0175	P	1.3
3	☐	5.000	4.637	57161.30	0.0440	P	3.0
4	☐	10.000	10.031	120857.61	0.0948	P	0.7
5	☐	100.000	104.549	1264523.29	0.9857	A	1.4
6	☐	200.000	197.735	2367390.22	1.8640	A	1.5

y = 0.0094 * x + 2.5446E-004
R = 0.9996
DL = 0.01182
BEC = 0.027

Weight: <None>
Min Conc: <None>

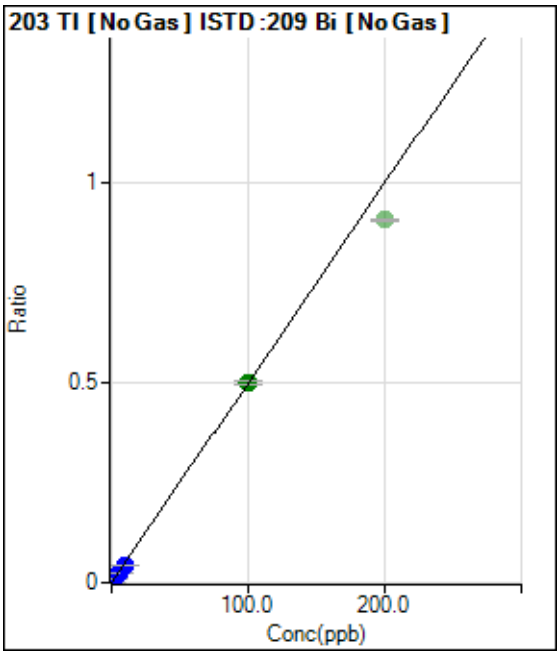


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2090.20	0.0003	P	3.5
2	☐	2.000	2.053	25642.29	0.0036	P	2.1
3	☐	5.000	4.928	59644.05	0.0083	P	1.4
4	☐	10.000	10.173	122665.95	0.0169	P	2.3
5	☐	100.000	103.561	1195568.76	0.1694	A	2.6
6	☐	200.000	198.212	2272263.46	0.3239	A	2.4

y = 0.0016 * x + 2.9089E-004
R = 0.9998
DL = 0.01848
BEC = 0.1782

Weight: <None>
Min Conc: <None>

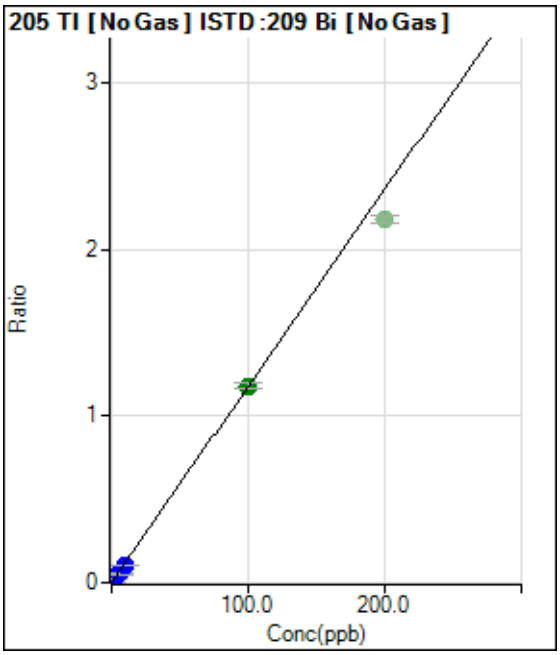
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	170.00	0.0000	P	24.6
2	☐	2.000	1.785	49007.41	0.0089	P	6.1
3	☐	5.000	4.432	121442.81	0.0221	P	2.9
4	☐	10.000	9.103	253210.47	0.0455	P	0.9
5	☐	100.000	100.122	2637551.00	0.4997	A	2.6
6	☑	200.000		4891973.05	0.9071	A	0.3

y = 0.0050 * x + 3.0226E-005
R = 1.0000
DL = 0.004461
BEC = 0.006057

Weight: <None>
Min Conc: <None>

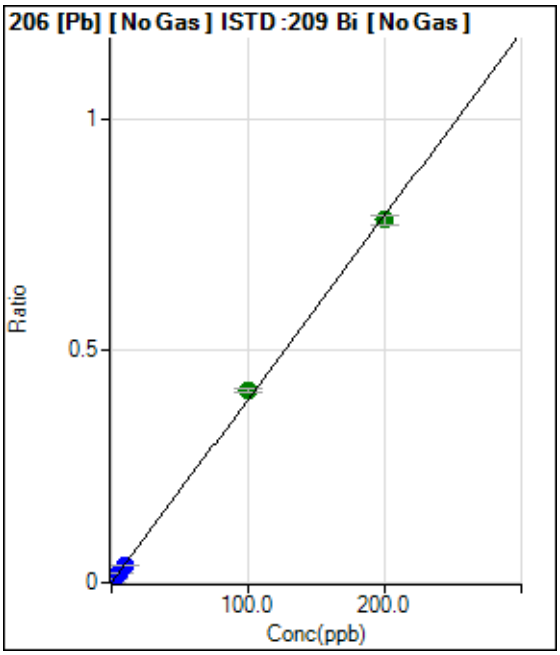


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	333.35	0.0001	P	21.0
2	☐	2.000	1.820	117891.97	0.0215	P	5.4
3	☐	5.000	4.479	289597.91	0.0528	P	4.0
4	☐	10.000	9.135	599715.38	0.1077	P	2.9
5	☐	100.000	100.116	6225833.24	1.1795	A	2.5
6	☑	200.000		11737576.07	2.1762	A	2.2

y = 0.0118 * x + 5.9050E-005
R = 1.0000
DL = 0.003153
BEC = 0.005013

Weight: <None>
Min Conc: <None>

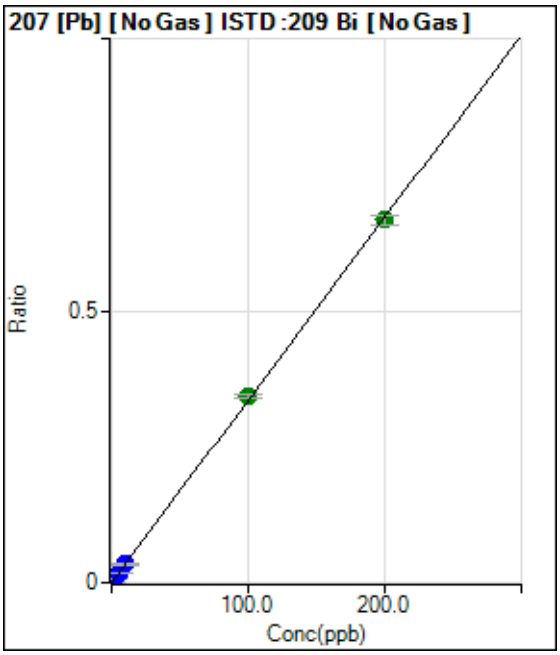
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	380.01	0.0001	P	3.7
2	☐	2.000	1.878	41052.38	0.0075	P	4.5
3	☐	5.000	4.770	103694.92	0.0189	P	2.9
4	☐	10.000	9.494	209246.67	0.0376	P	3.5
5	☐	100.000	104.601	2181426.94	0.4133	A	2.3
6	☐	200.000	197.732	4213805.35	0.7812	A	2.9

y = 0.0040 * x + 6.7440E-005
R = 0.9996
DL = 0.001883
BEC = 0.01707

Weight: <None>
Min Conc: <None>

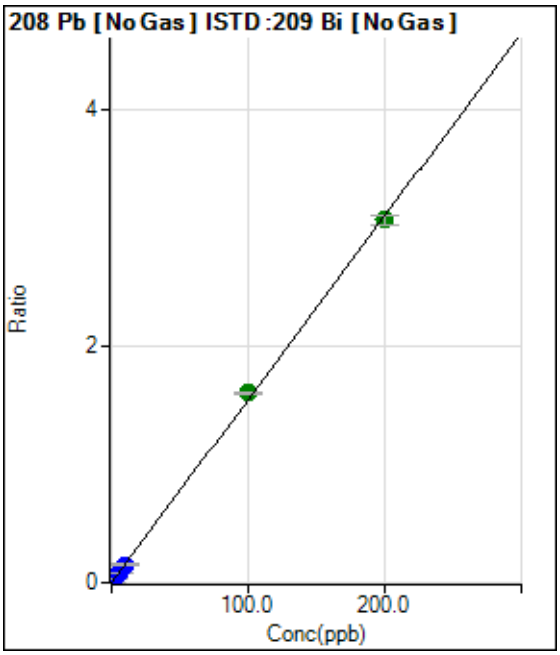


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	363.34	0.0001	P	10.3
2	☐	2.000	1.866	34709.61	0.0063	P	3.8
3	☐	5.000	4.863	89870.56	0.0164	P	1.5
4	☐	10.000	10.011	187496.27	0.0337	P	2.3
5	☐	100.000	102.353	1813194.29	0.3436	A	1.8
6	☐	200.000	198.828	3599494.11	0.6674	A	2.5

y = 0.0034 * x + 6.4469E-005
R = 0.9999
DL = 0.005931
BEC = 0.01921

Weight: <None>
Min Conc: <None>

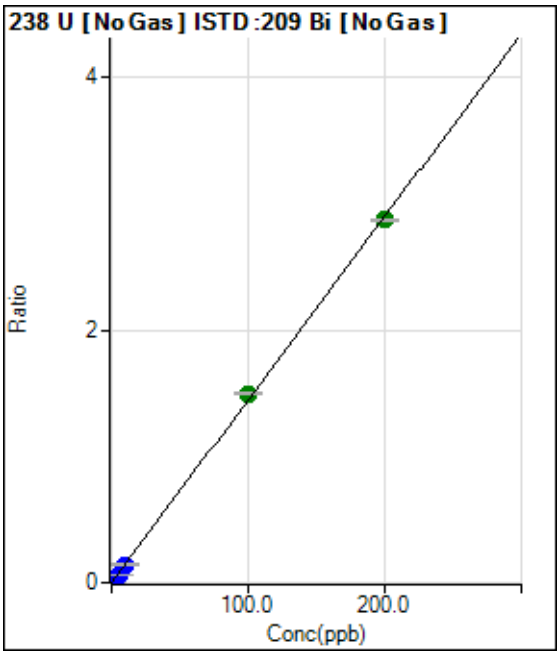
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1650.08	0.0003	P	4.0
2	☐	2.000	1.880	161151.09	0.0294	P	2.6
3	☐	5.000	4.779	406863.95	0.0742	P	2.5
4	☐	10.000	9.938	857644.88	0.1540	P	2.0
5	☐	100.000	103.895	8482721.59	1.6070	A	1.0
6	☐	200.000	198.063	16522800.38	3.0634	A	2.9

y = 0.0155 * x + 2.9285E-004
R = 0.9997
DL = 0.002261
BEC = 0.01894

Weight: <None>
Min Conc: <None>

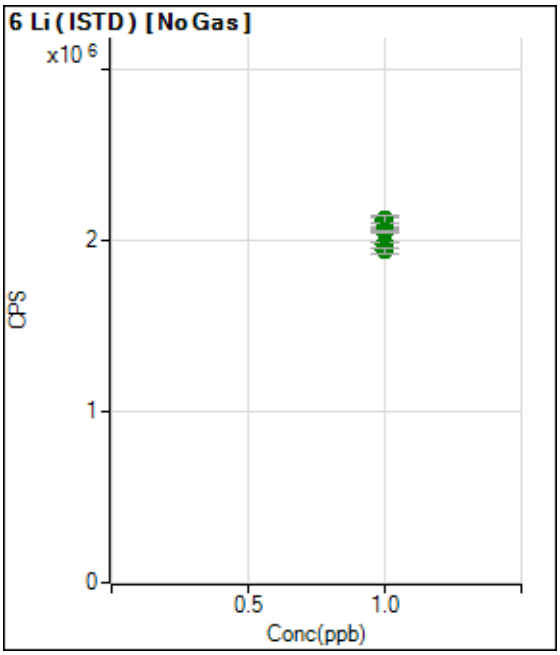


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	33.33	0.0000	P	18.8
2	☐	2.000	1.861	148037.80	0.0270	P	3.2
3	☐	5.000	4.651	369811.87	0.0674	P	0.5
4	☐	10.000	9.926	801177.85	0.1439	P	3.5
5	☐	100.000	103.309	7903940.72	1.4972	A	1.4
6	☐	200.000	198.359	15503802.69	2.8747	A	0.5

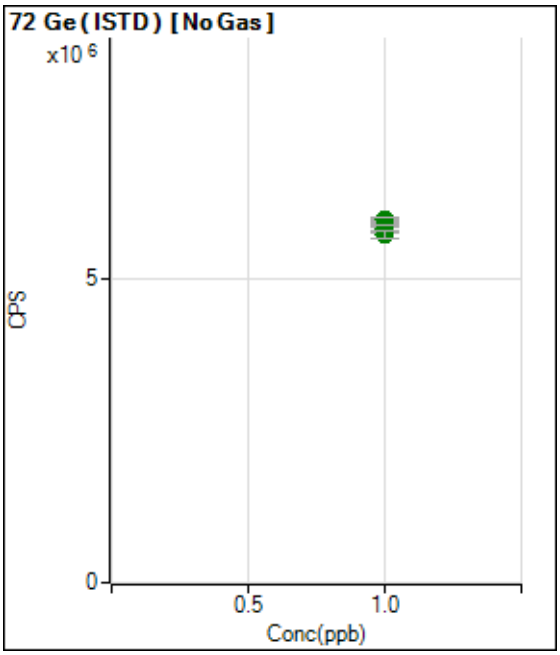
y = 0.0145 * x + 5.9284E-006
R = 0.9998
DL = 0.0002311
BEC = 0.0004091

Weight: <None>
Min Conc: <None>

Calibration for 225_ICV.d

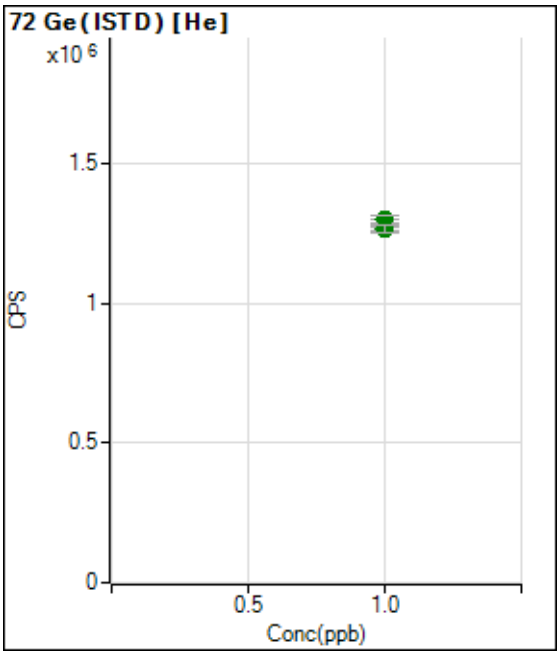


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		2076006.97		A	0.8
2	☐	1.000		2110097.15		A	2.7
3	☐	1.000		2120843.18		A	2.3
4	☐	1.000		2054928.81		A	0.6
5	☐	1.000		1973480.47		A	1.5
6	☐	1.000		1939908.73		A	1.5

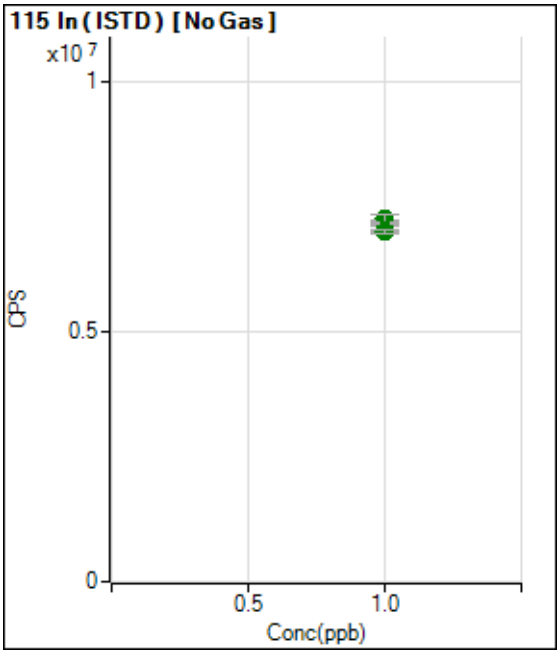


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		5854434.29		A	0.1
2	☐	1.000		5959027.00		A	0.8
3	☐	1.000		5954110.54		A	1.2
4	☐	1.000		5856828.25		A	0.2
5	☐	1.000		5809304.71		A	2.2
6	☐	1.000		5724952.21		A	2.2

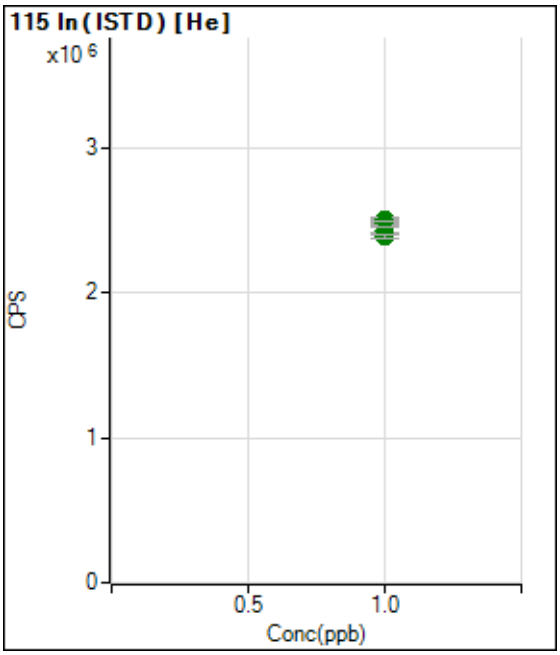
Calibration for 225_ICV.d



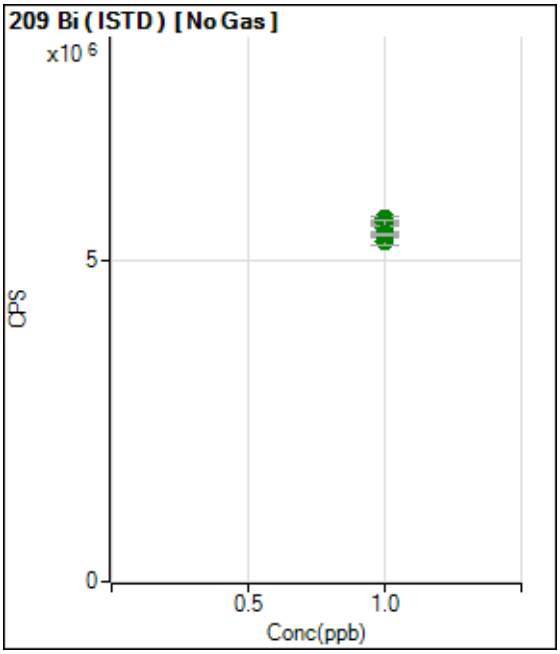
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1283118.52		A	0.8
2	☐	1.000		1290210.92		A	2.4
3	☐	1.000		1300933.81		A	2.1
4	☐	1.000		1274944.93		A	1.8
5	☐	1.000		1282806.44		A	0.6
6	☐	1.000		1270062.01		A	2.0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		7184199.16		A	0.9
2	☐	1.000		7040829.79		A	0.6
3	☐	1.000		7154600.31		A	1.2
4	☐	1.000		7260771.49		A	2.2
5	☐	1.000		7061805.20		A	2.5
6	☐	1.000		7014134.89		A	1.0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		2482663.88		A	2.5
2	☐	1.000		2493912.51		A	2.3
3	☐	1.000		2506058.01		A	1.9
4	☐	1.000		2483642.03		A	1.1
5	☐	1.000		2432278.47		A	1.7
6	☐	1.000		2387123.49		A	1.3



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		5632659.08		A	1.6
2	☐	1.000		5489551.17		A	3.2
3	☐	1.000		5485664.92		A	2.2
4	☐	1.000		5570838.25		A	1.7
5	☐	1.000		5278137.53		A	2.1
6	☐	1.000		5393299.08		A	0.4

Sample Report

Sample Table

Sample Name	LLICCV2
Data File Name	226LCV2.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T20:06:32-05:00
Sample Type	LLCCV2
Dilution	1
Comment	
ISTD Ref FileName	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	1.984	1.984	5.48	169133	0.00	2	
Be	9	1	No Gas	1.895	1.895	2.09	11888	0.02	2	
V	51	2	He	1.824	1.824	3.23	18757	0.01	2	
Cr	52	2	He	1.952	1.952	1.53	23160	0.01	2	
Fe	56	2	He	199.843	199.843	1.87	1926405	0.01	200	
Se	78	2	He	2.011	2.011	15.48	358	0.56	2	
Sn	118	2	He	1.933	1.933	3.59	21665	0.01	2	
As	75	2	He	1.956	1.956	2.82	3081	0.06	2	
Ca	44	2	He	197.436	197.436	2.79	8830	2.24	200	
Na	23	2	He	199.444	199.444	1.73	301064	0.07	200	
Mg	24	2	He	202.102	202.102	0.91	132152	0.15	200	
K	39	2	He	194.684	194.684	2.43	196422	0.10	200	
Mn	55	2	He	1.954	1.954	1.64	14384	0.01	2	
Co	59	2	He	2.013	2.013	2.84	36228	0.01	2	
Ni	60	2	He	1.989	1.989	5.66	9483	0.02	2	
Cu	63	2	He	2.030	2.030	0.35	27455	0.01	2	
Zn	66	2	He	2.355	2.355	5.69	5735	0.04	2	
Al	27	2	He	2.993	2.993	6.87	1493	0.20	2	NewName Main CR1 Failed
B	11	1	No Gas	13.512	13.512	1.44	70233	0.02	10	NewName Main CR1 Failed
Al	27	1	No Gas	3.298	3.298	2.46	141554	0.00	2	NewName Main CR1 Failed
Si	28	1	No Gas	11.011	11.011	7.84	731638	0.00	10	
P	31	1	No Gas	7.928	7.928	6.28	48408	0.02	10	
Ag	107	1	No Gas	1.943	1.943	3.34	76730	0.00	2	
Cd	111	1	No Gas	1.940	1.940	4.32	15533	0.01	2	
Sr	88	1	No Gas	1.856	1.856	2.58	153858	0.00	2	
Mo	95	1	No Gas	1.834	1.834	4.07	27539	0.01	2	
Sn	118	1	No Gas	2.062	2.062	2.67	55886	0.00	2	
Sb	121	1	No Gas	1.895	1.895	2.78	61726	0.00	2	
Ba	137	1	No Gas	1.982	1.982	3.06	26110	0.01	2	
Tl	205	1	No Gas	2.065	2.065	2.22	124902	0.00	2	
Tl	203	1	No Gas	2.040	2.040	1.04	51659	0.00	2	
Pb	208	1	No Gas	1.921	1.921	1.17	163699	0.00	2	
U	238	1	No Gas	1.893	1.893	2.00	149738	0.00	2	
Ca	43	2	He	215.857	215.857	13.57	543	39.73	200	
Sb	121	2	He	1.919	1.919	1.60	23949	0.01	2	
Ti	47	2	He	1.843	1.843	23.37	543	0.34	200	
Cu	63	1	No Gas	2.049	2.049	3.23	59202	0.00	2	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2084240	1.42	2076007	100.40	70	120	
Ge	72	2	He	1305688	1.33	1283119	101.76	70	120	
Ge	72	1	No Gas	6070337	1.35	5854434	103.69	70	120	
In	115	1	No Gas	7405764	2.38	7184199	103.08	70	120	
Bi	209	1	No Gas	5455421	1.06	5632659	96.85	70	120	

Sample Report

Sample Table

Sample Name	LLICCV5
Data File Name	227LCV5.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T20:08:24-05:00
Sample Type	LLCCV5
Dilution	1
Comment	
ISTD Ref FileName	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	4.818	4.818	4.51	241207	0.00	5	
Be	9	1	No Gas	4.750	4.750	1.86	29661	0.02	5	
V	51	2	He	4.719	4.719	2.51	45562	0.01	5	
Cr	52	2	He	4.979	4.979	2.73	57237	0.01	5	
Fe	56	2	He	490.694	490.694	1.54	4736612	0.01	500	
Se	78	2	He	5.143	5.143	7.48	757	0.68	5	
Sn	118	2	He	4.812	4.812	3.45	50357	0.01	5	
As	75	2	He	4.846	4.846	1.92	7550	0.06	5	
Ca	44	2	He	497.609	497.609	4.92	21888	2.27	500	
Na	23	2	He	494.473	494.473	2.33	667935	0.07	500	
Mg	24	2	He	506.716	506.716	1.19	331969	0.15	500	
K	39	2	He	488.099	488.099	2.03	427460	0.11	500	
Mn	55	2	He	4.934	4.934	3.59	35717	0.01	5	
Co	59	2	He	5.055	5.055	0.30	91110	0.01	5	
Ni	60	2	He	5.181	5.181	1.28	24499	0.02	5	
Cu	63	2	He	4.977	4.977	3.20	65685	0.01	5	
Zn	66	2	He	5.240	5.240	2.22	11952	0.04	5	
Al	27	2	He	6.134	6.134	0.73	2454	0.25	5	
B	11	1	No Gas	25.331	25.331	3.55	118149	0.02	25	
Al	27	1	No Gas	6.675	6.675	1.36	236796	0.00	5	NewName2 Main CR1 Failed
Si	28	1	No Gas	26.927	26.927	2.78	963401	0.00	25	
P	31	1	No Gas	23.349	23.349	1.60	71290	0.03	25	
Ag	107	1	No Gas	4.978	4.978	1.17	191439	0.00	5	
Cd	111	1	No Gas	4.829	4.829	1.68	37708	0.01	5	
Sr	88	1	No Gas	4.826	4.826	2.82	385578	0.00	5	
Mo	95	1	No Gas	4.693	4.693	1.28	68613	0.01	5	
Sn	118	1	No Gas	4.915	4.915	1.32	125120	0.00	5	
Sb	121	1	No Gas	4.663	4.663	0.82	148455	0.00	5	
Ba	137	1	No Gas	4.911	4.911	4.35	60050	0.01	5	
Tl	205	1	No Gas	4.910	4.910	6.27	297731	0.00	5	
Tl	203	1	No Gas	4.868	4.868	4.25	123560	0.00	5	
Pb	208	1	No Gas	4.846	4.846	3.44	412228	0.00	5	
U	238	1	No Gas	4.753	4.753	2.46	377526	0.00	5	
Ca	43	2	He	535.698	535.698	12.43	1340	39.97	500	
Sb	121	2	He	4.602	4.602	5.78	57195	0.01	5	
Ti	47	2	He	5.056	5.056	9.65	1493	0.34	5	
Cu	63	1	No Gas	5.091	5.091	0.61	140503	0.00	5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2076548	1.88	2076007	100.03	70	120	
Ge	72	2	He	1311995	2.00	1283119	102.25	70	120	
Ge	72	1	No Gas	5985608	0.46	5854434	102.24	70	120	
In	115	1	No Gas	7231131	1.81	7184199	100.65	70	120	
Bi	209	1	No Gas	5483948	4.07	5632659	97.36	70	120	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICCB
Data File Name	228_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T20:10:16-05:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.038	144.1	120983	0.4	0.5	
Be	9	1	No Gas	0.014	13.5	108	9.6	0.5	
V	51	2	He	-0.039	-24.5	1672	7.0	2.5	
Cr	52	2	He	0.000	-22758.0	1370	13.3	2.5	
Fe	56	2	He	0.536	0.4	16487	2.0	100	
Se	78	2	He	0.085	161.7	117	13.0	1	
Sn	118	2	He	0.025	115.5	1787	14.2	2.5	
As	75	2	He	0.006	191.4	92	19.9	2.5	
Ca	44	2	He	12.461	23.0	863	14.8	100	
Na	23	2	He	0.910	112.6	57371	0.7	100	
Mg	24	2	He	0.789	9.2	1157	5.8	100	
K	39	2	He	2.946	15.4	47687	1.3	100	
Mn	55	2	He	0.099	5.6	1220	1.6	2.5	
Co	59	2	He	0.000	810.1	210	23.8	2.5	
Ni	60	2	He	0.035	24.3	363	9.7	2.5	
Cu	63	2	He	0.037	30.6	1830	6.0	1	
Zn	66	2	He	0.930	9.0	2747	6.9	2.5	
Al	27	2	He	1.757	164.8	1131	76.0	5	
B	11	1	No Gas	2.307	1.4	24755	1.1	0.5	ICB Main CR1 Failed
Al	27	1	No Gas	0.374	17.0	56067	1.0	5	
Si	28	1	No Gas	0.479	198.4	567828	0.2	10	
P	31	1	No Gas	0.069	753.4	36141	0.8	10	
Ag	107	1	No Gas	0.000	290.8	370	7.2	2.5	
Cd	111	1	No Gas	0.000	-1223.7	33	124.9	1	
Sr	88	1	No Gas	0.018	24.2	4624	6.8	2.5	
Mo	95	1	No Gas	0.059	14.8	997	11.8	2.5	
Sn	118	1	No Gas	0.032	26.2	4381	4.5	5	
Sb	121	1	No Gas	0.012	29.4	1293	7.9	2.5	
Ba	137	1	No Gas	-0.025	-86.7	1814	12.9	2.5	
Tl	205	1	No Gas	0.025	16.0	1824	10.2	1	
Tl	203	1	No Gas	0.022	32.5	710	23.1	1	
Pb	208	1	No Gas	0.013	16.0	2680	4.9	2.5	
U	238	1	No Gas	0.001	34.6	103	22.3	2.5	
Ca	43	2	He	13.080	35.3	43	26.6	100	
Sb	121	2	He	0.008	56.0	437	13.0	2.5	
Ti	47	2	He	0.011	181.3	7	86.6	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2118924	1.62	2076007	102.07	70	120	
Ge	72	2	He	1331268	2.05	1283119	103.75	70	120	
Ge	72	1	No Gas	6055815	2.42	5854434	103.44	70	120	
In	115	1	No Gas	7242160	1.59	7184199	100.81	70	120	
Bi	209	1	No Gas	5418241	3.25	5632659	96.19	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	237_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T20:27:28-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	102.681	0.958	2886878	1.13	100	102.7	90	110	
Be	9	1	No Gas	105.520	0.779	690429	0.75	100	105.5	90	110	
V	51	2	He	103.919	2.376	983677	0.97	100	103.9	90	110	
Cr	52	2	He	104.410	3.660	1200632	1.87	100	104.4	90	110	
Fe	56	2	He	10512.008	2.055	103609018	0.27	10000	105.1	90	110	
Se	78	2	He	104.183	2.338	13625	0.73	100	104.2	90	110	
Sn	118	2	He	102.203	1.187	1002723	0.58	100	102.2	90	110	
As	75	2	He	107.251	1.551	169224	0.54	100	107.3	90	110	
Ca	44	2	He	10399.974	1.971	461878	0.30	10000	104.0	90	110	
Na	23	2	He	10649.797	0.924	13559885	1.17	10000	106.5	90	110	
Mg	24	2	He	10446.326	1.668	6991006	0.13	10000	104.5	90	110	
K	39	2	He	10611.957	2.473	8562300	1.05	10000	106.1	90	110	
Mn	55	2	He	102.949	2.092	752807	0.65	100	102.9	90	110	
Co	59	2	He	108.362	2.964	1993970	1.21	100	108.4	90	110	
Ni	60	2	He	103.902	1.535	499038	1.03	100	103.9	90	110	
Cu	63	2	He	105.082	2.019	1392280	0.77	100	105.1	90	110	
Zn	66	2	He	106.563	2.176	234598	0.87	100	106.6	90	110	
Al	27	2	He	108.445	0.562	34266	1.80	100	108.4	90	110	
B	11	1	No Gas	525.145	0.283	2261615	0.04	500	105.0	90	110	
Al	27	1	No Gas	112.948	0.962	3308327	2.66	100	112.9	90	110	CCV Main CR1-2 Failed
Si	28	1	No Gas	609.601	3.187	9852265	0.52	5000	12.2	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	565.479	2.455	902494	0.87	500	113.1	90	110	CCV Main CR1-2 Failed
Ag	107	1	No Gas	108.532	2.255	3980871	1.50	100	108.5	90	110	
Cd	111	1	No Gas	104.485	1.047	778872	1.60	100	104.5	90	110	
Sr	88	1	No Gas	104.913	0.788	7949598	1.00	100	104.9	90	110	
Mo	95	1	No Gas	106.873	2.203	1490065	1.38	100	106.9	90	110	
Sn	118	1	No Gas	106.032	1.777	2509549	2.49	100	106.0	90	110	
Sb	121	1	No Gas	101.682	3.925	3228747	1.52	100	101.7	90	110	
Ba	137	1	No Gas	107.194	1.150	1211236	0.95	100	107.2	90	110	
Tl	205	1	No Gas	108.296	2.254	6035922	0.61	100	108.3	90	110	
Tl	203	1	No Gas	110.221	1.711	2569739	0.79	100	110.2	90	110	CCV Main CR1-2 Failed
Pb	208	1	No Gas	105.059	1.604	8187620	0.59	100	105.1	90	110	
U	238	1	No Gas	102.166	1.253	7460779	1.64	100	102.2	90	110	
Ca	43	2	He	10555.618	1.393	26853	1.87	10000	105.6	90	110	
Sb	121	2	He	104.637	0.517	1324520	1.29	100	104.6	90	110	
Ti	47	2	He	104.442	1.361	31510	0.98	100	104.4	90	110	
Cu	63	1	No Gas	108.839	2.070	2951561	1.37	100	108.8	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2176916	0.25	2076007	104.86	70	120	
Ge	72	2	He	1342686	1.80	1283119	104.64	70	120	
Ge	72	1	No Gas	6008994	2.51	5854434	102.64	70	120	
In	115	1	No Gas	6909595	0.83	7184199	96.18	70	120	
Bi	209	1	No Gas	5039590	2.20	5632659	89.47	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	238_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T20:29:13-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.035	340.4	131032	1.1	0.5	
Be	9	1	No Gas	0.029	17.3	220	16.4	0.5	
V	51	2	He	-0.028	-12.9	1798	2.9	2.5	
Cr	52	2	He	-0.001	-1977.5	1383	8.8	2.5	
Fe	56	2	He	0.908	10.9	20379	3.8	100	
Se	78	2	He	0.102	119.2	121	14.0	2	
As	75	2	He	0.018	88.2	112	21.5	2.5	
Ca	44	2	He	3.463	22.8	473	7.4	100	
Na	23	2	He	58.458	1.1	131417	0.5	100	
Mg	24	2	He	1.309	18.4	1520	9.7	100	
K	39	2	He	5.738	15.7	50557	0.9	100	
Mn	55	2	He	0.031	31.6	737	10.3	2.5	
Co	59	2	He	0.005	53.4	300	17.6	2.5	
Ni	60	2	He	0.015	117.9	270	31.6	2.5	
Cu	63	2	He	0.063	27.3	2204	11.3	2	
Zn	66	2	He	0.189	22.6	1150	9.2	2.5	
Al	27	2	He	-0.577	-41.6	430	17.6	5	
B	11	1	No Gas	12.889	7.8	74523	3.3	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	-0.179	-20.9	40105	2.0	5	
Si	28	1	No Gas	5.514	13.9	646978	1.2	10	
P	31	1	No Gas	1.475	27.9	38417	1.3	10	
Ag	107	1	No Gas	0.017	16.8	960	11.0	2.5	
Cd	111	1	No Gas	0.004	125.2	67	56.8	1	
Sr	88	1	No Gas	0.020	34.9	4598	9.9	2.5	
Mo	95	1	No Gas	0.036	31.6	640	23.6	2.5	
Sn	118	1	No Gas	0.165	10.3	7412	4.6	5	
Sb	121	1	No Gas	0.080	13.9	3501	9.3	2.5	
Ba	137	1	No Gas	-0.084	-9.5	1077	6.7	2.5	
Tl	205	1	No Gas	0.083	26.7	5301	28.5	1	
Tl	203	1	No Gas	0.088	24.2	2387	26.0	1	
Pb	208	1	No Gas	0.024	1.6	3380	4.8	2.5	
U	238	1	No Gas	0.005	9.7	423	13.0	2.5	
Ca	43	2	He	5.006	43.0	23	24.7	100	
Sb	121	2	He	0.054	15.3	1030	10.3	2.5	
Ti	47	2	He	0.022	154.2	10	100.0	2.5	
Cu	63	1	No Gas	0.092	5.0	5645	1.9	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2297665	3.21	2076007	110.68	70	120	
Ge	72	2	He	1348518	1.06	1283119	105.10	70	120	
Ge	72	1	No Gas	6070624	1.22	5854434	103.69	70	120	
In	115	1	No Gas	6989545	1.66	7184199	97.29	70	120	
Bi	209	1	No Gas	5077907	4.01	5632659	90.15	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	248_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T20:47:53-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	-0.021	-342.9	129721	0.9	0.5	
Be	9	1	No Gas	0.024	10.0	187	6.7	0.5	
V	51	2	He	-0.032	-24.7	1708	3.8	2.5	
Cr	52	2	He	0.004	350.6	1400	11.2	2.5	
Fe	56	2	He	0.677	4.0	17612	1.3	100	
Se	78	2	He	0.039	486.2	110	21.8	2	
As	75	2	He	0.014	177.3	103	37.2	2.5	
Ca	44	2	He	3.675	59.2	470	20.5	100	
Na	23	2	He	36.237	5.3	100332	2.0	100	
Mg	24	2	He	0.468	31.2	930	10.4	100	
K	39	2	He	5.646	17.4	49122	1.2	100	
Mn	55	2	He	0.026	19.1	677	4.8	2.5	
Co	59	2	He	0.004	73.6	270	19.2	2.5	
Ni	60	2	He	0.008	195.4	233	33.3	2.5	
Cu	63	2	He	0.029	48.7	1710	10.3	2	
Zn	66	2	He	0.216	12.6	1177	4.9	2.5	
Al	27	2	He	-0.560	-45.7	423	18.0	5	
B	11	1	No Gas	12.824	5.5	74439	4.1	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	-0.121	-51.2	41578	3.3	5	
Si	28	1	No Gas	2.998	19.8	605357	0.4	10	
P	31	1	No Gas	2.273	21.9	39477	3.1	10	
Ag	107	1	No Gas	0.010	21.6	730	9.9	2.5	
Cd	111	1	No Gas	0.001	151.1	43	26.6	1	
Sr	88	1	No Gas	0.016	22.6	4327	4.6	2.5	
Mo	95	1	No Gas	0.031	38.7	567	28.7	2.5	
Sn	118	1	No Gas	0.103	6.5	5928	2.9	5	
Sb	121	1	No Gas	0.058	24.0	2767	17.2	2.5	
Ba	137	1	No Gas	-0.090	-8.1	1003	9.3	2.5	
Tl	205	1	No Gas	0.080	41.7	5105	38.6	1	
Tl	203	1	No Gas	0.072	37.9	2004	34.3	1	
Pb	208	1	No Gas	0.017	18.5	2827	8.0	2.5	
U	238	1	No Gas	0.005	7.3	393	6.4	2.5	
Ca	43	2	He	14.692	57.8	47	44.6	100	
Sb	121	2	He	0.025	4.0	640	1.6	2.5	
Ti	47	2	He	0.169	151.9	53	142.0	2.5	
Cu	63	1	No Gas	0.040	14.4	4204	4.4	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2301754	2.02	2076007	110.87	70	120	
Ge	72	2	He	1312108	0.53	1283119	102.26	70	120	
Ge	72	1	No Gas	6042252	1.20	5854434	103.21	70	120	
In	115	1	No Gas	6992261	1.98	7184199	97.33	70	120	
Bi	209	1	No Gas	5122315	0.70	5632659	90.94	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	251_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T20:59:39-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	103.364	1.241	2901188	1.07	100	103.4	90	110	
Be	9	1	No Gas	107.342	1.016	701381	0.95	100	107.3	90	110	
V	51	2	He	107.484	2.375	988279	1.63	100	107.5	90	110	
Cr	52	2	He	108.446	2.392	1211577	1.73	100	108.4	90	110	
Fe	56	2	He	10656.319	1.819	102029158	0.87	10000	106.6	90	110	
Se	78	2	He	106.404	2.663	13516	2.34	100	106.4	90	110	
Sn	118	2	He	99.906	0.493	975820	0.72	100	99.9	90	110	
As	75	2	He	110.314	0.566	169083	0.70	100	110.3	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	10575.044	1.532	456224	0.40	10000	105.8	90	110	
Na	23	2	He	10987.850	2.099	13586114	0.89	10000	109.9	90	110	
Mg	24	2	He	10827.305	1.173	7039363	1.57	10000	108.3	90	110	
K	39	2	He	10839.517	0.172	8496344	1.21	10000	108.4	90	110	
Mn	55	2	He	105.019	2.702	745929	1.63	100	105.0	90	110	
Co	59	2	He	111.450	2.640	1992249	1.53	100	111.5	90	110	CCV Main CR1-2 Failed
Ni	60	2	He	106.680	1.551	497687	0.54	100	106.7	90	110	
Cu	63	2	He	110.274	1.175	1419541	2.36	100	110.3	90	110	CCV Main CR1-2 Failed
Zn	66	2	He	107.574	0.481	230083	1.55	100	107.6	90	110	
Al	27	2	He	111.794	4.192	34281	2.90	100	111.8	90	110	CCV Main CR1-2 Failed
B	11	1	No Gas	537.414	1.815	2310873	1.66	500	107.5	90	110	
Al	27	1	No Gas	111.286	3.065	3280356	1.30	100	111.3	90	110	CCV Main CR1-2 Failed
Si	28	1	No Gas	602.165	2.516	9804563	1.06	5000	12.0	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	563.145	1.758	904916	0.31	500	112.6	90	110	CCV Main CR1-2 Failed
Ag	107	1	No Gas	113.045	1.694	4065241	0.96	100	113.0	90	110	CCV Main CR1-2 Failed
Cd	111	1	No Gas	106.449	2.252	777786	0.27	100	106.4	90	110	
Sr	88	1	No Gas	109.891	2.017	8162568	1.11	100	109.9	90	110	
Mo	95	1	No Gas	111.832	1.630	1528676	0.84	100	111.8	90	110	CCV Main CR1-2 Failed
Sn	118	1	No Gas	106.995	2.522	2481915	0.45	100	107.0	90	110	
Sb	121	1	No Gas	101.995	1.499	3261306	0.66	100	102.0	90	110	
Ba	137	1	No Gas	106.973	1.212	1185078	1.33	100	107.0	90	110	
Tl	205	1	No Gas	101.718	2.335	6032329	3.53	100	101.7	90	110	
Tl	203	1	No Gas	100.439	1.348	2522515	0.76	100	100.4	90	110	
Pb	208	1	No Gas	105.237	0.929	8193104	2.06	100	105.2	90	110	
U	238	1	No Gas	103.583	1.139	7555095	1.54	100	103.6	90	110	
Ca	43	2	He	10851.624	1.116	26813	0.45	10000	108.5	90	110	
Sb	121	2	He	106.467	1.831	1308905	0.84	100	106.5	90	110	
Ti	47	2	He	107.861	2.065	31607	0.89	100	107.9	90	110	
Cu	63	1	No Gas	109.418	2.752	2986652	1.77	100	109.4	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2173921	0.23	2076007	104.72	70	120	
Ge	72	2	He	1304161	1.20	1283119	101.64	70	120	
Ge	72	1	No Gas	6048019	1.74	5854434	103.31	70	120	
In	115	1	No Gas	6775031	2.15	7184199	94.30	70	120	
Bi	209	1	No Gas	5032977	1.31	5632659	89.35	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	259_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T21:14:37-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	102.249	0.401	2793275	0.92	100	102.2	90	110	
Be	9	1	No Gas	105.260	0.545	669087	0.47	100	105.3	90	110	
V	51	2	He	105.025	2.163	941939	1.37	100	105.0	90	110	
Cr	52	2	He	106.815	1.586	1164030	0.86	100	106.8	90	110	
Fe	56	2	He	10495.263	2.826	98004272	1.66	10000	105.0	90	110	
Se	78	2	He	101.685	3.018	12602	2.10	100	101.7	90	110	
Sn	118	2	He	100.169	1.527	973664	0.40	100	100.2	90	110	
As	75	2	He	107.195	1.608	160246	0.42	100	107.2	90	110	
Ca	44	2	He	10411.687	1.451	438126	0.48	10000	104.1	90	110	
Na	23	2	He	10771.438	1.005	12992829	0.37	10000	107.7	90	110	
Mg	24	2	He	10624.285	2.469	6736071	1.30	10000	106.2	90	110	
K	39	2	He	10534.446	2.967	8053244	1.78	10000	105.3	90	110	
Mn	55	2	He	102.834	1.317	712511	0.40	100	102.8	90	110	
Co	59	2	He	110.545	0.350	1927814	1.36	100	110.5	90	110	CCV Main CR1-2 Failed
Ni	60	2	He	105.871	1.164	481768	0.39	100	105.9	90	110	
Cu	63	2	He	107.269	1.334	1346626	0.41	100	107.3	90	110	
Zn	66	2	He	107.554	1.376	224347	0.37	100	107.6	90	110	
Al	27	2	He	105.872	0.732	31706	1.19	100	105.9	90	110	
B	11	1	No Gas	526.256	1.681	2201582	0.74	500	105.3	90	110	
Al	27	1	No Gas	112.120	0.927	3205356	1.18	100	112.1	90	110	CCV Main CR1-2 Failed
Si	28	1	No Gas	591.034	0.345	9343331	0.56	5000	11.8	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	547.222	2.235	853771	2.25	500	109.4	90	110	
Ag	107	1	No Gas	107.224	0.575	3976564	1.99	100	107.2	90	110	
Cd	111	1	No Gas	103.470	0.851	779646	0.58	100	103.5	90	110	
Sr	88	1	No Gas	103.895	1.245	7957668	0.61	100	103.9	90	110	
Mo	95	1	No Gas	104.999	1.851	1479876	0.90	100	105.0	90	110	
Sn	118	1	No Gas	104.880	2.401	2508728	1.29	100	104.9	90	110	
Sb	121	1	No Gas	105.201	0.870	3262051	0.80	100	105.2	90	110	
Ba	137	1	No Gas	103.908	3.674	1186640	2.37	100	103.9	90	110	
Tl	205	1	No Gas	102.344	2.531	6154746	1.04	100	102.3	90	110	
Tl	203	1	No Gas	102.156	4.140	2602035	2.65	100	102.2	90	110	
Pb	208	1	No Gas	105.586	1.803	8337475	0.32	100	105.6	90	110	
U	238	1	No Gas	105.413	2.601	7799992	2.89	100	105.4	90	110	
Ca	43	2	He	10446.243	2.580	25173	1.48	10000	104.5	90	110	
Sb	121	2	He	108.026	0.400	1295525	1.04	100	108.0	90	110	
Ti	47	2	He	102.714	3.208	29355	2.10	100	102.7	90	110	
Cu	63	1	No Gas	109.402	0.506	2896202	0.62	100	109.4	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2114899	0.95	2076007	101.87	70	120	
Ge	72	2	He	1272051	1.20	1283119	99.14	70	120	
Ge	72	1	No Gas	5864238	0.28	5854434	100.17	70	120	
In	115	1	No Gas	6985067	1.43	7184199	97.23	70	120	
Bi	209	1	No Gas	5106016	1.67	5632659	90.65	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	260_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T21:16:21-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.032	110.5	122887	0.5	0.5	
Be	9	1	No Gas	0.022	38.1	160	33.1	0.5	
V	51	2	He	-0.021	-31.8	1740	3.1	2.5	
Cr	52	2	He	0.006	31.0	1363	1.5	2.5	
Fe	56	2	He	0.651	1.4	16667	0.5	100	
Se	78	2	He	-0.084	-41.8	91	4.6	2	
As	75	2	He	0.020	23.2	108	6.4	2.5	
Ca	44	2	He	1.411	44.6	357	7.1	100	
Na	23	2	He	32.447	4.7	91821	1.6	100	
Mg	24	2	He	0.459	25.6	887	8.0	100	
K	39	2	He	6.085	19.9	47493	1.8	100	
Mn	55	2	He	0.124	19.3	1327	12.0	2.5	
Co	59	2	He	0.003	110.5	237	20.0	2.5	
Ni	60	2	He	0.005	112.3	210	12.6	2.5	
Cu	63	2	He	0.018	47.9	1497	7.0	2	
Zn	66	2	He	0.075	23.2	840	4.8	2.5	
Al	27	2	He	-0.377	-109.5	460	26.4	5	
B	11	1	No Gas	5.898	6.6	40380	4.2	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	0.013	978.1	44321	8.5	5	
Si	28	1	No Gas	2.198	21.4	577816	1.4	10	
P	31	1	No Gas	1.884	38.4	37859	2.1	10	
Ag	107	1	No Gas	0.007	31.0	630	15.1	2.5	
Cd	111	1	No Gas	0.004	100.6	67	45.8	1	
Sr	88	1	No Gas	0.003	106.2	3337	7.6	2.5	
Mo	95	1	No Gas	0.032	24.1	600	17.6	2.5	
Sn	118	1	No Gas	0.063	26.8	5024	6.4	5	
Sb	121	1	No Gas	0.050	9.4	2464	6.1	2.5	
Ba	137	1	No Gas	-0.104	-8.5	850	10.2	2.5	
Tl	205	1	No Gas	0.078	27.0	5158	24.5	1	
Tl	203	1	No Gas	0.081	34.6	2304	31.3	1	
Pb	208	1	No Gas	0.014	18.3	2714	7.2	2.5	
U	238	1	No Gas	0.008	29.8	607	28.2	2.5	
Ca	43	2	He	0.084	5010.4	10	100.0	100	
Sb	121	2	He	0.033	20.9	717	11.3	2.5	
Ti	47	2	He	0.024	149.1	10	100.0	2.5	
Cu	63	1	No Gas	0.021	12.6	3567	2.8	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2154827	0.28	2076007	103.80	70	120	
Ge	72	2	He	1259743	0.47	1283119	98.18	70	120	
Ge	72	1	No Gas	5886278	1.45	5854434	100.54	70	120	
In	115	1	No Gas	7066833	2.14	7184199	98.37	70	120	
Bi	209	1	No Gas	5283752	1.29	5632659	93.81	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	269_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T21:48:20-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	103.327	1.319	2610927	0.62	100	103.3	90	110	
Be	9	1	No Gas	104.675	2.254	615658	0.42	100	104.7	90	110	
V	51	2	He	102.140	2.322	912094	1.60	100	102.1	90	110	
Cr	52	2	He	102.826	2.915	1115441	0.41	100	102.8	90	110	
Fe	56	2	He	10369.530	2.019	96409762	0.53	10000	103.7	90	110	
Se	78	2	He	105.179	3.239	12972	1.08	100	105.2	90	110	
Sn	118	2	He	100.212	2.452	972060	0.69	100	100.2	90	110	
As	75	2	He	105.296	1.608	156724	1.22	100	105.3	90	110	
Ca	44	2	He	10398.660	1.966	435634	0.67	10000	104.0	90	110	
Na	23	2	He	10433.086	3.462	12526863	0.93	10000	104.3	90	110	
Mg	24	2	He	10619.843	3.256	6702538	0.97	10000	106.2	90	110	
K	39	2	He	10395.431	2.595	7913017	1.57	10000	104.0	90	110	
Mn	55	2	He	102.813	2.391	709142	0.18	100	102.8	90	110	
Co	59	2	He	109.548	1.755	1901817	1.06	100	109.5	90	110	
Ni	60	2	He	104.628	2.239	473969	0.65	100	104.6	90	110	
Cu	63	2	He	106.162	2.304	1326734	0.46	100	106.2	90	110	
Zn	66	2	He	105.957	2.626	220022	0.57	100	106.0	90	110	
Al	27	2	He	108.320	4.029	32271	2.17	100	108.3	90	110	
B	11	1	No Gas	518.889	3.161	2008729	1.47	500	103.8	90	110	
Al	27	1	No Gas	108.259	1.607	3008502	0.16	100	108.3	90	110	
Si	28	1	No Gas	572.309	0.644	8808193	1.28	5000	11.4	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	528.167	2.200	801804	1.25	500	105.6	90	110	
Ag	107	1	No Gas	105.755	2.066	3951486	1.56	100	105.8	90	110	
Cd	111	1	No Gas	103.121	2.671	782828	0.84	100	103.1	90	110	
Sr	88	1	No Gas	102.878	4.041	7936799	1.33	100	102.9	90	110	
Mo	95	1	No Gas	103.835	2.463	1474602	1.00	100	103.8	90	110	
Sn	118	1	No Gas	103.390	1.331	2492691	2.11	100	103.4	90	110	
Sb	121	1	No Gas	106.397	1.515	3206009	2.16	100	106.4	90	110	
Ba	137	1	No Gas	102.064	1.494	1175449	4.10	100	102.1	90	110	
Tl	205	1	No Gas	99.392	2.712	6291101	1.33	100	99.4	90	110	
Tl	203	1	No Gas	98.517	4.942	2641064	3.70	100	98.5	90	110	
Pb	208	1	No Gas	103.900	0.601	8636692	1.58	100	103.9	90	110	
U	238	1	No Gas	103.151	1.433	8034695	2.87	100	103.2	90	110	
Ca	43	2	He	10416.438	2.702	24990	0.92	10000	104.2	90	110	
Sb	121	2	He	105.517	4.044	1259262	1.53	100	105.5	90	110	
Ti	47	2	He	103.449	3.177	29432	0.71	100	103.4	90	110	
Cu	63	1	No Gas	108.166	0.730	2782503	1.20	100	108.2	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1957377	1.88	2076007	94.29	70	120	
Ge	72	2	He	1266671	2.52	1283119	98.72	70	120	
Ge	72	1	No Gas	5698668	1.58	5854434	97.34	70	120	
In	115	1	No Gas	7041068	3.46	7184199	98.01	70	120	
Bi	209	1	No Gas	5374123	1.60	5632659	95.41	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	270_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T21:50:05-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	-0.030	-80.4	117524	0.4	0.5	
Be	9	1	No Gas	0.023	7.5	165	6.1	0.5	
V	51	2	He	-0.055	-5.8	1467	3.3	2.5	
Cr	52	2	He	0.012	55.8	1467	7.0	2.5	
Fe	56	2	He	0.605	17.4	16604	5.8	100	
Se	78	2	He	0.071	81.6	112	6.2	2	
As	75	2	He	0.024	41.4	117	13.1	2.5	
Ca	44	2	He	2.487	53.2	410	12.2	100	
Na	23	2	He	17.125	15.5	75222	2.0	100	
Mg	24	2	He	0.737	9.5	1087	6.3	100	
K	39	2	He	0.315	676.6	44118	3.3	100	
Mn	55	2	He	0.112	4.0	1270	2.8	2.5	
Co	59	2	He	0.004	113.4	263	29.0	2.5	
Ni	60	2	He	0.015	68.8	257	15.7	2.5	
Cu	63	2	He	0.008	135.4	1403	11.8	2	
Zn	66	2	He	0.052	76.5	810	11.0	2.5	
Al	27	2	He	-0.510	-41.6	430	12.9	5	
B	11	1	No Gas	5.345	5.1	36872	2.5	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	-0.099	-21.2	41215	1.3	5	
Si	28	1	No Gas	0.076	321.1	547033	0.7	10	
P	31	1	No Gas	0.043	715.1	35158	1.0	10	
Ag	107	1	No Gas	0.008	24.7	683	11.8	2.5	
Cd	111	1	No Gas	0.002	349.5	50	91.7	1	
Sr	88	1	No Gas	0.051	11.9	7309	5.3	2.5	
Mo	95	1	No Gas	0.030	40.4	577	29.2	2.5	
Sn	118	1	No Gas	0.067	15.2	5275	3.4	5	
Sb	121	1	No Gas	0.078	11.2	3337	8.0	2.5	
Ba	137	1	No Gas	-0.105	-5.2	870	6.9	2.5	
Tl	205	1	No Gas	0.101	31.7	6785	30.1	1	
Tl	203	1	No Gas	0.095	38.0	2737	35.6	1	
Pb	208	1	No Gas	0.017	23.0	3014	11.0	2.5	
U	238	1	No Gas	0.007	21.3	570	20.2	2.5	
Ca	43	2	He	4.209	264.8	20	132.3	100	
Sb	121	2	He	0.052	21.9	953	11.9	2.5	
Ti	47	2	He	0.000	13993.4	3	173.2	2.5	
Cu	63	1	No Gas	0.013	53.9	3381	5.4	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2088987	0.75	2076007	100.63	70	120	
Ge	72	2	He	1288468	2.59	1283119	100.42	70	120	
Ge	72	1	No Gas	5896012	0.70	5854434	100.71	70	120	
In	115	1	No Gas	7283629	1.50	7184199	101.38	70	120	
Bi	209	1	No Gas	5420492	0.64	5632659	96.23	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	279_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T22:07:11-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	103.540	1.984	2843517	1.22	100	103.5	90	110	
Be	9	1	No Gas	102.482	2.718	655143	0.63	100	102.5	90	110	
V	51	2	He	106.925	0.819	966852	0.45	100	106.9	90	110	
Cr	52	2	He	105.657	1.278	1160856	0.79	100	105.7	90	110	
Fe	56	2	He	10488.093	1.039	98759705	1.61	10000	104.9	90	110	
Se	78	2	He	102.528	1.404	12811	1.48	100	102.5	90	110	
Sn	118	2	He	98.329	2.781	961550	0.77	100	98.3	90	110	
As	75	2	He	106.071	0.787	159878	1.07	100	106.1	90	110	
Ca	44	2	He	10508.458	1.908	445810	1.39	10000	105.1	90	110	
Na	23	2	He	10802.559	2.055	13136621	1.80	10000	108.0	90	110	
Mg	24	2	He	10697.274	1.043	6838560	0.46	10000	107.0	90	110	
K	39	2	He	10638.398	1.212	8200175	1.08	10000	106.4	90	110	
Mn	55	2	He	103.553	0.640	723381	0.46	100	103.6	90	110	
Co	59	2	He	107.971	1.183	1898246	1.37	100	108.0	90	110	
Ni	60	2	He	104.747	0.208	480577	0.67	100	104.7	90	110	
Cu	63	2	He	105.834	2.689	1339461	2.24	100	105.8	90	110	
Zn	66	2	He	105.547	0.495	221986	0.47	100	105.5	90	110	
Al	27	2	He	113.426	3.977	34210	4.54	100	113.4	90	110	CCV Main CR1-2 Failed
B	11	1	No Gas	541.876	3.608	2279185	0.94	500	108.4	90	110	
Al	27	1	No Gas	110.501	3.786	3233164	2.26	100	110.5	90	110	CCV Main CR1-2 Failed
Si	28	1	No Gas	576.390	3.589	9337575	1.52	5000	11.5	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	533.916	2.820	853499	2.63	500	106.8	90	110	
Ag	107	1	No Gas	103.927	2.095	3903607	0.38	100	103.9	90	110	
Cd	111	1	No Gas	101.111	2.662	771661	0.61	100	101.1	90	110	
Sr	88	1	No Gas	101.783	1.710	7897728	1.12	100	101.8	90	110	
Mo	95	1	No Gas	102.519	1.836	1464133	2.79	100	102.5	90	110	
Sn	118	1	No Gas	104.355	3.265	2528870	2.77	100	104.4	90	110	
Sb	121	1	No Gas	104.020	3.259	3300880	2.20	100	104.0	90	110	
Ba	137	1	No Gas	106.594	2.248	1233295	0.53	100	106.6	90	110	
Tl	205	1	No Gas	101.064	4.250	5841356	2.24	100	101.1	90	110	
Tl	203	1	No Gas	102.624	4.167	2512694	2.17	100	102.6	90	110	
Pb	208	1	No Gas	104.790	2.491	7954233	0.95	100	104.8	90	110	
U	238	1	No Gas	102.919	3.312	7325037	5.36	100	102.9	90	110	
Ca	43	2	He	10588.760	1.560	25728	1.04	10000	105.9	90	110	
Sb	121	2	He	106.351	2.881	1285685	2.28	100	106.4	90	110	
Ti	47	2	He	102.891	3.878	29649	3.50	100	102.9	90	110	
Cu	63	1	No Gas	106.838	1.654	2894833	0.49	100	106.8	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2128049	3.08	2076007	102.51	70	120	
Ge	72	2	He	1282397	0.63	1283119	99.94	70	120	
Ge	72	1	No Gas	6003256	1.95	5854434	102.54	70	120	
In	115	1	No Gas	7077268	2.47	7184199	98.51	70	120	
Bi	209	1	No Gas	4908906	2.08	5632659	87.15	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	280_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T22:08:55-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.349	37.2	132538	0.8	0.5	
Be	9	1	No Gas	0.019	16.1	147	12.0	0.5	
V	51	2	He	-0.059	-14.1	1440	4.4	2.5	
Cr	52	2	He	-0.005	-162.0	1280	7.5	2.5	
Fe	56	2	He	0.569	12.9	16383	4.0	100	
Se	78	2	He	0.064	204.8	112	15.6	2	
As	75	2	He	0.021	96.1	113	28.1	2.5	
Ca	44	2	He	3.107	20.3	440	6.0	100	
Na	23	2	He	117.522	2.6	198749	1.0	100	CCB Main CR1 Failed
Mg	24	2	He	0.526	46.0	957	16.2	100	
K	39	2	He	10.111	15.2	52026	2.4	100	
Mn	55	2	He	0.124	3.4	1363	2.2	2.5	
Co	59	2	He	0.003	140.7	243	25.1	2.5	
Ni	60	2	He	-0.005	-73.2	170	10.2	2.5	
Cu	63	2	He	0.049	27.8	1937	8.0	2	
Zn	66	2	He	0.033	223.7	777	21.3	2.5	
Al	27	2	He	-0.589	-13.0	410	6.5	5	
B	11	1	No Gas	33.348	4.0	158029	1.8	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	-0.061	-28.8	42836	1.2	5	
Si	28	1	No Gas	1.427	18.4	574778	0.8	10	
P	31	1	No Gas	0.656	45.9	36558	0.6	10	
Ag	107	1	No Gas	0.016	11.6	950	5.6	2.5	
Cd	111	1	No Gas	0.005	32.0	70	14.3	1	
Sr	88	1	No Gas	0.057	5.6	7412	4.1	2.5	
Mo	95	1	No Gas	0.031	31.1	567	23.0	2.5	
Sn	118	1	No Gas	0.080	11.4	5338	5.2	5	
Sb	121	1	No Gas	0.051	26.3	2510	17.2	2.5	
Ba	137	1	No Gas	-0.108	-8.7	790	14.9	2.5	
Tl	205	1	No Gas	0.073	31.6	4774	29.6	1	
Tl	203	1	No Gas	0.070	48.5	1964	44.6	1	
Pb	208	1	No Gas	0.014	11.3	2654	5.3	2.5	
U	238	1	No Gas	0.007	26.2	537	24.8	2.5	
Ca	43	2	He	1.325	181.6	13	43.3	100	
Sb	121	2	He	0.037	34.8	780	20.6	2.5	
Ti	47	2	He	0.000	-9001.1	3	173.2	2.5	
Cu	63	1	No Gas	0.075	13.5	5094	4.4	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2175566	1.83	2076007	104.80	70	120	
Ge	72	2	He	1297152	0.91	1283119	101.09	70	120	
Ge	72	1	No Gas	5974281	1.10	5854434	102.05	70	120	
In	115	1	No Gas	6933777	1.85	7184199	96.51	70	120	
Bi	209	1	No Gas	5176885	0.89	5632659	91.91	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	285_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T22:18:26-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	101.655	0.649	2675460	1.18	100	101.7	90	110	
Be	9	1	No Gas	104.463	0.447	639561	0.33	100	104.5	90	110	
V	51	2	He	100.576	1.116	901227	1.20	100	100.6	90	110	
Cr	52	2	He	103.510	1.386	1126873	1.19	100	103.5	90	110	
Fe	56	2	He	10235.516	0.959	95490095	0.62	10000	102.4	90	110	
Se	78	2	He	100.107	1.123	12396	1.08	100	100.1	90	110	
Sn	118	2	He	97.680	0.787	926629	0.20	100	97.7	90	110	
As	75	2	He	105.876	0.493	158115	0.34	100	105.9	90	110	
Ca	44	2	He	10218.439	0.835	429565	1.07	10000	102.2	90	110	
Na	23	2	He	10451.528	1.453	12595027	1.31	10000	104.5	90	110	
Mg	24	2	He	10486.285	0.522	6642302	0.37	10000	104.9	90	110	
K	39	2	He	10392.081	0.179	7937851	0.31	10000	103.9	90	110	
Mn	55	2	He	101.346	0.126	701484	0.40	100	101.3	90	110	
Co	59	2	He	106.267	0.597	1851143	1.02	100	106.3	90	110	
Ni	60	2	He	102.111	0.440	464186	0.74	100	102.1	90	110	
Cu	63	2	He	104.795	1.033	1314203	0.67	100	104.8	90	110	
Zn	66	2	He	103.643	0.554	215990	0.27	100	103.6	90	110	
Al	27	2	He	100.954	1.921	30227	1.85	100	101.0	90	110	
B	11	1	No Gas	537.479	2.004	2165409	1.41	500	107.5	90	110	
Al	27	1	No Gas	105.775	1.011	3023678	1.15	100	105.8	90	110	
Si	28	1	No Gas	556.367	1.385	8819224	1.40	5000	11.1	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	533.668	1.171	832720	1.03	500	106.7	90	110	
Ag	107	1	No Gas	105.531	2.849	3780556	3.35	100	105.5	90	110	
Cd	111	1	No Gas	102.022	1.506	742619	1.85	100	102.0	90	110	
Sr	88	1	No Gas	104.053	3.858	7697934	3.32	100	104.1	90	110	
Mo	95	1	No Gas	104.144	4.142	1417825	3.65	100	104.1	90	110	
Sn	118	1	No Gas	102.522	2.096	2369053	1.23	100	102.5	90	110	
Sb	121	1	No Gas	100.184	1.290	3103786	1.40	100	100.2	90	110	
Ba	137	1	No Gas	106.041	3.216	1169773	1.66	100	106.0	90	110	
Tl	205	1	No Gas	100.232	3.010	5939106	3.16	100	100.2	90	110	
Tl	203	1	No Gas	99.577	2.761	2499812	3.59	100	99.6	90	110	
Pb	208	1	No Gas	103.704	0.944	8069105	2.54	100	103.7	90	110	
U	238	1	No Gas	99.651	1.333	7264825	2.83	100	99.7	90	110	
Ca	43	2	He	10118.149	1.955	24362	2.41	10000	101.2	90	110	
Sb	121	2	He	102.897	1.314	1232615	0.97	100	102.9	90	110	
Ti	47	2	He	100.612	1.927	28730	2.34	100	100.6	90	110	
Cu	63	1	No Gas	104.214	0.135	2756497	0.03	100	104.2	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2036953	0.59	2076007	98.12	70	120	
Ge	72	2	He	1270616	0.49	1283119	99.03	70	120	
Ge	72	1	No Gas	5858945	0.16	5854434	100.08	70	120	
In	115	1	No Gas	6747651	1.79	7184199	93.92	70	120	
Bi	209	1	No Gas	5030935	3.01	5632659	89.32	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	286_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T22:20:10-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.154	32.4	127958	0.1	0.5	
Be	9	1	No Gas	0.021	5.4	160	5.4	0.5	
V	51	2	He	-0.047	-10.1	1538	3.2	2.5	
Cr	52	2	He	-0.009	-140.2	1223	11.0	2.5	
Fe	56	2	He	0.656	10.6	17038	3.5	100	
Se	78	2	He	0.095	58.7	115	6.6	2	
As	75	2	He	0.008	213.7	92	28.1	2.5	
Ca	44	2	He	2.266	27.4	400	6.6	100	
Na	23	2	He	78.200	0.8	149114	0.6	100	
Mg	24	2	He	0.754	13.3	1093	6.1	100	
K	39	2	He	7.719	2.7	49677	0.8	100	
Mn	55	2	He	0.113	9.9	1270	5.5	2.5	
Co	59	2	He	0.002	64.6	240	11.0	2.5	
Ni	60	2	He	0.014	146.6	253	36.7	2.5	
Cu	63	2	He	0.029	35.5	1670	7.8	2	
Zn	66	2	He	0.090	25.3	887	5.1	2.5	
Al	27	2	He	-0.552	-17.0	417	6.0	5	
B	11	1	No Gas	28.267	2.2	137057	2.4	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	-0.064	-57.7	42629	2.1	5	
Si	28	1	No Gas	1.774	54.4	578103	1.3	10	
P	31	1	No Gas	0.889	103.8	36786	2.2	10	
Ag	107	1	No Gas	0.015	11.6	897	5.5	2.5	
Cd	111	1	No Gas	0.002	214.9	50	60.0	1	
Sr	88	1	No Gas	0.015	13.2	4257	3.1	2.5	
Mo	95	1	No Gas	0.035	34.6	633	27.5	2.5	
Sn	118	1	No Gas	0.075	39.5	5328	13.8	5	
Sb	121	1	No Gas	0.043	15.6	2250	8.1	2.5	
Ba	137	1	No Gas	-0.113	-6.0	750	10.9	2.5	
Tl	205	1	No Gas	0.073	34.0	4744	32.9	1	
Tl	203	1	No Gas	0.068	35.4	1927	33.7	1	
Pb	208	1	No Gas	0.014	26.3	2624	12.3	2.5	
U	238	1	No Gas	0.008	20.5	650	20.8	2.5	
Ca	43	2	He	0.014	29436.5	10	100.0	100	
Sb	121	2	He	0.028	14.7	667	6.9	2.5	
Ti	47	2	He	0.011	175.2	7	86.6	2.5	
Cu	63	1	No Gas	0.048	26.3	4344	6.4	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2186324	1.11	2076007	105.31	70	120	
Ge	72	2	He	1284356	0.66	1283119	100.10	70	120	
Ge	72	1	No Gas	5955604	1.62	5854434	101.73	70	120	
In	115	1	No Gas	7080104	1.96	7184199	98.55	70	120	
Bi	209	1	No Gas	5167466	1.37	5632659	91.74	70	120	

Sample Report

Sample Table

Sample Name	MBLK-152654
Data File Name	287SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T22:22:09-05:00
Sample Type	Sample
Dilution	1
Comment	TW B152654
ISTD Ref FileName	218CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	0.090	0.090	66.66	131864	0.00	2000	
Be	9	1	No Gas	0.008	0.008	23.75	78	0.01	2000	
V	51	2	He	-0.070	-0.070	-3.77	1362	-0.01	2000	
Cr	52	2	He	0.091	0.091	24.46	2384	0.00	2000	
Fe	56	2	He	1.043	1.043	5.26	21213	0.00	200000	
Se	78	2	He	0.014	0.014	573.72	107	0.01	2000	
Sn	118	2	He	0.022	0.022	102.74	1733	0.00	200	
As	75	2	He	-0.006	-0.006	-213.43	73	-0.01	2000	
Ca	44	2	He	3.796	3.796	22.60	477	0.80	200000	
Na	23	2	He	72.389	72.389	4.97	145677	0.05	200000	
Mg	24	2	He	22.104	22.104	5.00	15135	0.15	200000	
K	39	2	He	6.326	6.326	30.45	49851	0.01	200000	
Mn	55	2	He	-0.014	-0.014	-37.00	393	0.00	2000	
Co	59	2	He	0.001	0.001	7.54	227	0.00	2000	
Ni	60	2	He	-0.017	-0.017	-20.42	117	-0.01	2000	
Cu	63	2	He	0.013	0.013	30.46	1510	0.00	2000	
Zn	66	2	He	-0.016	-0.016	-204.97	680	0.00	2000	
Al	27	2	He	8.366	8.366	0.76	3144	0.27	2000	
B	11	1	No Gas	22.850	22.850	0.86	118861	0.02	2000	
Al	27	1	No Gas	9.556	9.556	2.03	324360	0.00	2000	
Si	28	1	No Gas	101.726	101.726	3.61	2130539	0.00	2000	
Ag	107	1	No Gas	0.006	0.006	55.91	590	0.00	2000	
Cd	111	1	No Gas	-0.003	-0.003	-38.59	10	-0.03	2000	
Sr	88	1	No Gas	0.027	0.027	2.06	5208	0.00	2000	
Mo	95	1	No Gas	0.076	0.076	7.05	1230	0.01	2000	
Sn	118	1	No Gas	0.053	0.053	26.62	4794	0.00	2000	
Sb	121	1	No Gas	-0.006	-0.006	-33.14	723	0.00	2000	
Ba	137	1	No Gas	-0.053	-0.053	-3.91	1447	0.00	2000	
Tl	205	1	No Gas	0.005	0.005	2.74	597	0.00	2000	
Tl	203	1	No Gas	0.006	0.006	10.36	320	0.00	2000	
Pb	208	1	No Gas	0.003	0.003	63.09	1763	0.00	2000	
U	238	1	No Gas	0.001	0.001	52.60	77	0.00	2000	
Ca	43	2	He	5.304	5.304	119.34	23	22.73	200000	
Sb	121	2	He	-0.004	-0.004	-63.61	280	0.00	2000	
Ti	47	2	He	0.067	0.067	76.11	23	0.29	2000	
Cu	63	1	No Gas	0.032	0.032	40.11	3984	0.00	2000	
Zn	66	1	No Gas	-0.049	-0.049	-69.35	2074	0.00	2000	
Se	82	1	No Gas	0.511	0.511	51.98	124	0.41	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2283720	1.14	2076007	110.01	70	120	
Ge	72	2	He	1317471	1.79	1283119	102.68	70	120	
Ge	72	1	No Gas	6073463	1.58	5854434	103.74	70	120	

Sample Report

In	115	1	No Gas	7084027	1.55	7184199	98.61	70	120	
Bi	209	1	No Gas	5197373	1.70	5632659	92.27	70	120	

Sample Report

Sample Table

Sample Name	LCS-152654
Data File Name	288SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T22:24:08-05:00
Sample Type	Sample
Dilution	1
Comment	TW B152654
ISTD Ref FileName	218CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	0.094	0.094	95.48	131339	0.00	2000	
Be	9	1	No Gas	46.121	46.121	1.64	315084	0.01	2000	
V	51	2	He	46.606	46.606	2.76	428112	0.01	2000	
Cr	52	2	He	47.103	47.103	3.62	524999	0.01	2000	
Fe	56	2	He	4795.381	4795.381	3.34	45749743	0.01	200000	
Se	78	2	He	49.242	49.242	2.24	6289	0.78	2000	
Sn	118	2	He	0.049	0.049	13.42	1964	0.00	200	
As	75	2	He	49.204	49.204	3.82	75166	0.07	2000	
Ca	44	2	He	4645.559	4645.559	2.83	199865	2.32	200000	
Na	23	2	He	5009.922	5009.922	3.19	6201730	0.08	200000	
Mg	24	2	He	4986.820	4986.820	3.77	3229696	0.15	200000	
K	39	2	He	4968.310	4968.310	4.57	3902386	0.13	200000	
Mn	55	2	He	46.959	46.959	3.53	332582	0.01	2000	
Co	59	2	He	48.450	48.450	3.03	863063	0.01	2000	
Ni	60	2	He	47.977	47.977	4.23	223050	0.02	2000	
Cu	63	2	He	47.953	47.953	3.74	615550	0.01	2000	
Zn	66	2	He	50.545	50.545	2.70	108075	0.05	2000	
Al	27	2	He	53.014	53.014	4.59	16510	0.32	2000	
B	11	1	No Gas	22.452	22.452	1.89	116509	0.02	2000	
Al	27	1	No Gas	57.256	57.256	2.65	1741881	0.00	2000	
Si	28	1	No Gas	113.859	113.859	1.50	2351764	0.00	2000	
Ag	107	1	No Gas	49.908	49.908	3.04	1879324	0.00	2000	
Cd	111	1	No Gas	47.254	47.254	2.68	361577	0.01	2000	
Sr	88	1	No Gas	0.067	0.067	3.94	8356	0.00	2000	
Mo	95	1	No Gas	45.948	45.948	2.26	657820	0.01	2000	
Sn	118	1	No Gas	0.062	0.062	16.34	5014	0.00	2000	
Sb	121	1	No Gas	45.035	45.035	3.79	1467227	0.00	2000	
Ba	137	1	No Gas	44.403	44.403	2.96	516203	0.01	2000	
Tl	205	1	No Gas	47.631	47.631	5.26	2784913	0.00	2000	
Tl	203	1	No Gas	43.602	43.602	6.31	1079785	0.00	2000	
Pb	208	1	No Gas	47.453	47.453	2.78	3645175	0.00	2000	
U	238	1	No Gas	0.000	0.000	92.64	47	0.00	2000	
Ca	43	2	He	4640.721	4640.721	5.22	11428	40.61	200000	
Sb	121	2	He	45.903	45.903	3.02	562446	0.01	2000	
Ti	47	2	He	44.996	44.996	0.53	13147	0.34	2000	
Cu	63	1	No Gas	49.263	49.263	5.07	1371267	0.00	2000	
Zn	66	1	No Gas	48.228	48.228	1.30	361836	0.01	2000	
Se	82	1	No Gas	45.418	45.418	1.74	22426	0.20	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2273144	1.42	2076007	109.50	70	120	
Ge	72	2	He	1300033	3.19	1283119	101.32	70	120	
Ge	72	1	No Gas	6161733	1.77	5854434	105.25	70	120	

Sample Report

In	115	1	No Gas	7094880	2.04	7184199	98.76	70	120	
Bi	209	1	No Gas	4967328	2.72	5632659	88.19	70	120	

Sample Report

Sample Table

Sample Name	HS20040284-01SD
Data File Name	290SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T22:28:02-05:00
Sample Type	Sample
Dilution	5
Comment	TW B152654
ISTD Ref FileName	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	3.659	18.297	1.28	224045	0.00	2000	
Be	9	1	No Gas	0.018	0.092	6.86	143	0.01	2000	
V	51	2	He	0.055	0.276	12.63	2499	0.00	2000	
Cr	52	2	He	0.345	1.727	7.59	5201	0.01	2000	
Fe	56	2	He	71.046	355.231	3.37	691302	0.01	200000	
Se	78	2	He	0.187	0.933	42.83	128	0.15	2000	
Sn	118	2	He	-0.001	-0.005	-766.44	1457	0.00	200	
As	75	2	He	0.173	0.866	2.84	347	0.05	2000	
Ca	44	2	He	1805.831	9029.155	0.52	78185	2.31	200000	
Na	23	2	He	51244.315	256221.574	0.88	63179542	0.08	200000	
Mg	24	2	He	3961.897	19809.484	1.11	2576601	0.15	200000	
K	39	2	He	270.492	1352.460	1.18	255380	0.11	200000	
Mn	55	2	He	22.967	114.836	0.66	163574	0.01	2000	
Co	59	2	He	0.446	2.231	2.23	8179	0.01	2000	
Ni	60	2	He	1.013	5.064	4.08	4918	0.02	2000	
Cu	63	2	He	0.312	1.559	5.04	5331	0.01	2000	
Zn	66	2	He	11.667	58.334	1.58	25588	0.05	2000	
Al	27	2	He	16.945	84.726	10.59	5702	0.30	2000	
B	11	1	No Gas	27.165	135.825	2.47	133097	0.02	2000	
Al	27	1	No Gas	17.378	86.888	14.65	545735	0.00	2000	
Si	28	1	No Gas	3150.549	15752.744	0.73	48530188	0.01	2000	>LDR
Ag	107	1	No Gas	0.008	0.038	26.99	617	0.00	2000	
Cd	111	1	No Gas	0.021	0.104	34.16	190	0.01	2000	
Sr	88	1	No Gas	29.456	147.282	2.13	2222250	0.00	2000	
Mo	95	1	No Gas	0.250	1.250	10.66	3601	0.01	2000	
Sn	118	1	No Gas	0.025	0.126	44.90	4001	0.00	2000	
Sb	121	1	No Gas	0.064	0.320	12.72	2937	0.00	2000	
Ba	137	1	No Gas	18.162	90.809	1.39	205805	0.01	2000	
Tl	205	1	No Gas	0.009	0.043	11.69	783	0.00	2000	
Tl	203	1	No Gas	0.006	0.032	50.73	303	0.00	2000	
Pb	208	1	No Gas	0.026	0.132	2.02	3430	0.00	2000	
U	238	1	No Gas	0.076	0.379	2.03	5415	0.00	2000	
Ca	43	2	He	1878.277	9391.383	2.26	4651	40.39	200000	
Sb	121	2	He	0.052	0.258	16.52	967	0.01	2000	
Ti	47	2	He	0.170	0.851	10.86	53	0.32	2000	
Cu	63	1	No Gas	0.755	3.773	3.62	23484	0.00	2000	
Zn	66	1	No Gas	11.384	56.921	0.54	84979	0.01	2000	
Se	82	1	No Gas	0.902	4.511	47.33	311	0.29	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2199332	1.07	2076007	105.94	70	120	
Ge	72	2	He	1304398	0.68	1283119	101.66	70	120	
Ge	72	1	No Gas	5997222	0.35	5854434	102.44	70	120	

Sample Report

In	115	1	No Gas	6873838	1.40	7184199	95.68	70	120	
Bi	209	1	No Gas	4903361	1.09	5632659	87.05	70	120	

Sample Report

Sample Table

Sample Name	HS20040284-01MS
Data File Name	291SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T22:30:00-05:00
Sample Type	Sample
Dilution	1
Comment	TW B152654
ISTD Ref FileName	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	19.085	19.085	1.74	634344	0.00	2000	
Be	9	1	No Gas	48.833	48.833	2.20	318210	0.02	2000	
V	51	2	He	47.350	47.350	1.19	433360	0.01	2000	
Cr	52	2	He	48.498	48.498	2.44	538613	0.01	2000	
Fe	56	2	He	5105.816	5105.816	1.09	48541554	0.01	200000	
Se	78	2	He	48.394	48.394	1.67	6160	0.79	2000	
Sn	118	2	He	0.074	0.074	20.18	2130	0.00	200	
As	75	2	He	50.092	50.092	1.46	76263	0.07	2000	
Ca	44	2	He	14454.409	14454.409	1.17	619039	2.33	200000	
Na	23	2	He	283306.173	283306.173	1.33	346440915	0.08	200000	>LDR
Mg	24	2	He	25879.464	25879.464	1.93	16700826	0.15	200000	
K	39	2	He	6346.481	6346.481	0.86	4956830	0.13	200000	
Mn	55	2	He	173.754	173.754	2.22	1224954	0.01	2000	
Co	59	2	He	49.306	49.306	1.33	875209	0.01	2000	
Ni	60	2	He	51.207	51.207	1.22	237274	0.02	2000	
Cu	63	2	He	46.729	46.729	1.06	597863	0.01	2000	
Zn	66	2	He	107.990	107.990	2.33	229254	0.05	2000	
Al	27	2	He	131.369	131.369	6.04	39886	0.33	2000	
B	11	1	No Gas	48.203	48.203	2.00	220819	0.02	2000	
Al	27	1	No Gas	143.064	143.064	10.62	4068801	0.00	2000	
Si	28	1	No Gas	17225.196	17225.196	1.17	256486883	0.01	2000	>LDR
Ag	107	1	No Gas	48.593	48.593	2.96	1699062	0.00	2000	
Cd	111	1	No Gas	47.424	47.424	1.97	336946	0.01	2000	
Sr	88	1	No Gas	155.694	155.694	1.63	11243927	0.00	2000	
Mo	95	1	No Gas	49.424	49.424	2.20	656926	0.01	2000	
Sn	118	1	No Gas	0.082	0.082	3.47	5121	0.00	2000	
Sb	121	1	No Gas	46.818	46.818	2.05	1449165	0.00	2000	
Ba	137	1	No Gas	146.748	146.748	1.64	1580021	0.01	2000	
Tl	205	1	No Gas	47.345	47.345	1.08	2451812	0.00	2000	
Tl	203	1	No Gas	43.661	43.661	1.71	957764	0.00	2000	
Pb	208	1	No Gas	47.667	47.667	2.62	3241013	0.00	2000	
U	238	1	No Gas	0.434	0.434	2.24	27689	0.00	2000	
Ca	43	2	He	14921.868	14921.868	0.65	36602	40.77	200000	
Sb	121	2	He	44.803	44.803	1.44	547035	0.01	2000	
Ti	47	2	He	48.904	48.904	2.37	14234	0.34	2000	
Cu	63	1	No Gas	52.003	52.003	2.80	1375208	0.00	2000	
Zn	66	1	No Gas	106.609	106.609	1.12	756949	0.01	2000	
Se	82	1	No Gas	47.716	47.716	3.57	22375	0.21	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2168260	1.10	2076007	104.44	70	120	
Ge	72	2	He	1294787	1.52	1283119	100.91	70	120	
Ge	72	1	No Gas	5852584	1.25	5854434	99.97	70	120	
In	115	1	No Gas	6586677	1.27	7184199	91.68	70	120	
Bi	209	1	No Gas	4396010	1.61	5632659	78.05	70	120	

Sample Report

Sample Table

Sample Name	HS20040284-01MSD
Data File Name	292SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T22:31:58-05:00
Sample Type	Sample
Dilution	1
Comment	TW B152654
ISTD Ref FileName	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	18.470	18.470	0.37	639448	0.00	2000	
Be	9	1	No Gas	47.575	47.575	0.63	320862	0.01	2000	
V	51	2	He	47.534	47.534	1.68	433014	0.01	2000	
Cr	52	2	He	48.384	48.384	2.68	534845	0.01	2000	
Fe	56	2	He	5088.625	5088.625	1.35	48157168	0.01	200000	
Se	78	2	He	48.637	48.637	1.78	6161	0.79	2000	
Sn	118	2	He	0.031	0.031	47.13	1713	0.00	200	
As	75	2	He	50.410	50.410	1.63	76394	0.07	2000	
Ca	44	2	He	14524.053	14524.053	1.33	619120	2.35	200000	
Na	23	2	He	283113.552	283113.552	2.56	344565995	0.08	200000	>LDR
Mg	24	2	He	26086.081	26086.081	2.32	16756064	0.16	200000	
K	39	2	He	6392.780	6392.780	2.59	4968655	0.13	200000	
Mn	55	2	He	174.555	174.555	1.81	1225040	0.01	2000	
Co	59	2	He	49.265	49.265	2.31	870369	0.01	2000	
Ni	60	2	He	50.740	50.740	1.99	234015	0.02	2000	
Cu	63	2	He	46.689	46.689	2.53	594486	0.01	2000	
Zn	66	2	He	108.125	108.125	1.64	228501	0.05	2000	
Al	27	2	He	132.220	132.220	6.75	40004	0.33	2000	
B	11	1	No Gas	46.444	46.444	0.36	220790	0.02	2000	
Al	27	1	No Gas	147.370	147.370	21.59	4156263	0.00	2000	
Si	28	1	No Gas	17502.274	17502.274	1.23	258671776	0.01	2000	>LDR
Ag	107	1	No Gas	47.484	47.484	1.15	1661260	0.00	2000	
Cd	111	1	No Gas	46.731	46.731	1.30	332210	0.01	2000	
Sr	88	1	No Gas	156.864	156.864	2.43	11333677	0.00	2000	
Mo	95	1	No Gas	48.954	48.954	2.59	650946	0.01	2000	
Sn	118	1	No Gas	0.041	0.041	27.85	4187	0.00	2000	
Sb	121	1	No Gas	46.739	46.739	0.83	1436072	0.00	2000	
Ba	137	1	No Gas	145.942	145.942	1.46	1571901	0.01	2000	
Tl	205	1	No Gas	45.691	45.691	2.15	2429535	0.00	2000	
Tl	203	1	No Gas	42.103	42.103	1.32	948489	0.00	2000	
Pb	208	1	No Gas	46.953	46.953	2.35	3278478	0.00	2000	
U	238	1	No Gas	0.420	0.420	2.49	27509	0.00	2000	
Ca	43	2	He	14610.889	14610.889	3.26	35663	40.97	200000	
Sb	121	2	He	44.755	44.755	2.28	543888	0.01	2000	
Ti	47	2	He	49.895	49.895	3.85	14454	0.35	2000	
Cu	63	1	No Gas	52.050	52.050	1.91	1366405	0.00	2000	
Zn	66	1	No Gas	107.757	107.757	1.05	759386	0.01	2000	
Se	82	1	No Gas	47.609	47.609	2.69	22161	0.21	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2243826	0.68	2076007	108.08	70	120	
Ge	72	2	He	1288940	2.16	1283119	100.45	70	120	
Ge	72	1	No Gas	5809038	0.82	5854434	99.22	70	120	
In	115	1	No Gas	6589268	0.91	7184199	91.72	70	120	
Bi	209	1	No Gas	4514164	1.63	5632659	80.14	70	120	

Sample Report

Sample Table

Sample Name	HS20040284-01PDS
Data File Name	293SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T22:33:57-05:00
Sample Type	Sample
Dilution	1
Comment	TW B152654
ISTD Ref FileName	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	18.520	18.520	0.77	629488	0.00	2000	
Be	9	1	No Gas	107.870	107.870	1.66	714650	0.02	2000	
V	51	2	He	107.449	107.449	1.78	999506	0.01	2000	
Cr	52	2	He	106.561	106.561	1.48	1204516	0.01	2000	
Fe	56	2	He	10782.215	10782.215	1.94	104454955	0.01	200000	
Se	78	2	He	106.253	106.253	0.44	13656	0.78	2000	
Sn	118	2	He	0.093	0.093	29.66	2327	0.00	200	
As	75	2	He	110.282	110.282	1.08	170999	0.06	2000	
Ca	44	2	He	19718.087	19718.087	1.38	860337	2.29	200000	
Na	23	2	He	279685.647	279685.647	0.80	348533008	0.08	200000	>LDR
Mg	24	2	He	31385.472	31385.472	0.73	20642216	0.15	200000	
K	39	2	He	12268.479	12268.479	2.67	9720681	0.13	200000	
Mn	55	2	He	224.432	224.432	1.52	1612275	0.01	2000	
Co	59	2	He	108.770	108.770	0.56	1967335	0.01	2000	
Ni	60	2	He	104.987	104.987	2.11	495485	0.02	2000	
Cu	63	2	He	104.016	104.016	2.71	1354615	0.01	2000	
Zn	66	2	He	163.063	163.063	1.18	352429	0.05	2000	
Al	27	2	He	192.089	192.089	5.35	59169	0.32	2000	
B	11	1	No Gas	44.790	44.790	0.26	209720	0.02	2000	
Al	27	1	No Gas	198.776	198.776	8.51	5756759	0.00	2000	
Si	28	1	No Gas	16745.553	16745.553	1.19	254495416	0.01	2000	>LDR
Ag	107	1	No Gas	87.689	87.689	3.46	3137560	0.00	2000	
Cd	111	1	No Gas	101.374	101.374	2.23	737071	0.01	2000	
Sr	88	1	No Gas	148.854	148.854	2.23	11000977	0.00	2000	
Mo	95	1	No Gas	107.824	107.824	3.20	1466537	0.01	2000	
Sn	118	1	No Gas	0.113	0.113	11.42	5951	0.00	2000	
Sb	121	1	No Gas	94.888	94.888	1.17	2996522	0.00	2000	
Ba	137	1	No Gas	198.340	198.340	0.59	2184703	0.01	2000	
Tl	205	1	No Gas	99.066	99.066	2.17	5305223	0.00	2000	
Tl	203	1	No Gas	96.503	96.503	2.50	2189176	0.00	2000	
Pb	208	1	No Gas	103.685	103.685	0.77	7289574	0.00	2000	
U	238	1	No Gas	0.420	0.420	2.60	27689	0.00	2000	
Ca	43	2	He	19888.874	19888.874	2.35	49703	40.02	200000	
Sb	121	2	He	98.316	98.316	1.43	1223136	0.01	2000	
Ti	47	2	He	108.213	108.213	2.10	32081	0.34	2000	
Cu	63	1	No Gas	108.053	108.053	1.66	2913012	0.00	2000	
Zn	66	1	No Gas	161.609	161.609	1.35	1169721	0.01	2000	
Se	82	1	No Gas	100.704	100.704	3.63	48325	0.21	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2204087	0.37	2076007	106.17	70	120	
Ge	72	2	He	1319380	1.17	1283119	102.83	70	120	
Ge	72	1	No Gas	5972896	1.60	5854434	102.02	70	120	
In	115	1	No Gas	6740505	0.90	7184199	93.82	70	120	
Bi	209	1	No Gas	4544965	1.03	5632659	80.69	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	294_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T22:35:46-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	100.463	1.751	2774337	1.28	100	100.5	90	110	
Be	9	1	No Gas	103.477	1.875	664386	0.86	100	103.5	90	110	
V	51	2	He	101.824	4.025	925523	2.50	100	101.8	90	110	
Cr	52	2	He	103.828	3.259	1146721	1.75	100	103.8	90	110	
Fe	56	2	He	10330.551	1.971	97786542	0.46	10000	103.3	90	110	
Se	78	2	He	103.116	2.792	12952	1.43	100	103.1	90	110	
Sn	118	2	He	96.805	1.683	958070	1.44	100	96.8	90	110	
As	75	2	He	106.270	1.870	161025	0.52	100	106.3	90	110	
Ca	44	2	He	10091.018	2.019	430402	0.51	10000	100.9	90	110	
Na	23	2	He	10633.130	1.304	13001709	1.13	10000	106.3	90	110	
Mg	24	2	He	10495.560	2.786	6745134	1.78	10000	105.0	90	110	
K	39	2	He	10433.740	3.080	8085102	1.61	10000	104.3	90	110	
Mn	55	2	He	101.565	2.371	713239	0.93	100	101.6	90	110	
Co	59	2	He	108.604	1.938	1919458	0.58	100	108.6	90	110	
Ni	60	2	He	103.509	2.081	477410	0.92	100	103.5	90	110	
Cu	63	2	He	105.098	2.050	1337290	0.74	100	105.1	90	110	
Zn	66	2	He	103.697	1.345	219276	0.19	100	103.7	90	110	
Al	27	2	He	102.661	1.708	31185	2.70	100	102.7	90	110	
B	11	1	No Gas	525.988	1.790	2223021	1.79	500	105.2	90	110	
Al	27	1	No Gas	108.070	3.457	3146599	1.94	100	108.1	90	110	
Si	28	1	No Gas	590.032	3.598	9495445	1.55	5000	11.8	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	549.520	3.399	872680	2.41	500	109.9	90	110	
Ag	107	1	No Gas	105.194	1.882	3899140	0.34	100	105.2	90	110	
Cd	111	1	No Gas	101.724	1.057	766323	1.90	100	101.7	90	110	
Sr	88	1	No Gas	103.281	0.778	7908832	1.32	100	103.3	90	110	
Mo	95	1	No Gas	106.393	1.982	1499000	0.39	100	106.4	90	110	
Sn	118	1	No Gas	102.635	1.602	2454839	2.17	100	102.6	90	110	
Sb	121	1	No Gas	102.389	1.104	3232717	0.83	100	102.4	90	110	
Ba	137	1	No Gas	101.273	4.060	1156118	2.31	100	101.3	90	110	
Tl	205	1	No Gas	98.614	2.763	5758921	1.05	100	98.6	90	110	
Tl	203	1	No Gas	99.468	1.709	2461072	1.17	100	99.5	90	110	
Pb	208	1	No Gas	102.559	1.702	7865002	1.17	100	102.6	90	110	
U	238	1	No Gas	100.439	2.346	7219898	4.23	100	100.4	90	110	
Ca	43	2	He	10675.749	1.864	26078	0.76	10000	106.8	90	110	
Sb	121	2	He	106.143	1.648	1290146	0.22	100	106.1	90	110	
Ti	47	2	He	100.883	3.040	29225	1.77	100	100.9	90	110	
Cu	63	1	No Gas	107.465	1.732	2896618	1.02	100	107.5	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2136443	1.17	2076007	102.91	70	120	
Ge	72	2	He	1289424	1.50	1283119	100.49	70	120	
Ge	72	1	No Gas	5971778	1.87	5854434	102.00	70	120	
In	115	1	No Gas	6983148	1.76	7184199	97.20	70	120	
Bi	209	1	No Gas	4958883	2.22	5632659	88.04	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	295_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T22:37:30-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.119	13.9	126553	0.8	0.5	
Be	9	1	No Gas	0.037	6.1	262	4.8	0.5	
V	51	2	He	-0.038	-29.2	1612	5.6	2.5	
Cr	52	2	He	0.006	197.3	1390	8.7	2.5	
Fe	56	2	He	1.038	3.9	20622	2.5	100	
Se	78	2	He	0.085	186.5	113	17.7	2	
As	75	2	He	0.020	60.0	110	16.9	2.5	
Ca	44	2	He	2.736	71.2	420	20.3	100	
Na	23	2	He	84.894	2.2	157096	0.8	100	
Mg	24	2	He	1.828	8.6	1780	6.3	100	
K	39	2	He	7.858	18.3	49738	1.5	100	
Mn	55	2	He	0.136	14.3	1437	9.5	2.5	
Co	59	2	He	0.008	50.5	330	21.0	2.5	
Ni	60	2	He	0.013	151.3	250	36.0	2.5	
Cu	63	2	He	0.039	22.2	1790	5.3	2	
Zn	66	2	He	0.060	80.8	823	13.0	2.5	
Al	27	2	He	-0.551	-42.0	417	16.0	5	
B	11	1	No Gas	19.526	4.1	99150	3.9	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	-0.075	-49.4	42829	1.1	5	
Si	28	1	No Gas	4.579	35.7	628223	4.2	10	
P	31	1	No Gas	0.744	10.2	37026	1.4	10	
Ag	107	1	No Gas	0.016	14.5	947	10.6	2.5	
Cd	111	1	No Gas	0.007	20.7	87	13.3	1	
Sr	88	1	No Gas	0.012	27.8	4004	5.1	2.5	
Mo	95	1	No Gas	0.041	19.8	713	16.7	2.5	
Sn	118	1	No Gas	0.074	7.9	5274	1.2	5	
Sb	121	1	No Gas	0.284	4.7	9964	4.9	2.5	
Ba	137	1	No Gas	-0.095	-5.4	953	7.7	2.5	
Tl	205	1	No Gas	0.077	28.1	4971	26.3	1	
Tl	203	1	No Gas	0.075	33.4	2090	30.9	1	
Pb	208	1	No Gas	0.020	2.6	3107	1.3	2.5	
U	238	1	No Gas	0.006	18.4	470	16.9	2.5	
Ca	43	2	He	-0.020	-20886.7	10	100.0	100	
Sb	121	2	He	0.265	3.0	3534	2.6	2.5	
Ti	47	2	He	0.035	57.2	13	43.3	2.5	
Cu	63	1	No Gas	0.048	22.7	4394	8.0	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2178344	0.99	2076007	104.93	70	120	
Ge	72	2	He	1283303	0.73	1283119	100.01	70	120	
Ge	72	1	No Gas	6028136	1.38	5854434	102.97	70	120	
In	115	1	No Gas	7044088	1.78	7184199	98.05	70	120	
Bi	209	1	No Gas	5142559	0.39	5632659	91.30	70	120	

Sample Report

Sample Table

Sample Name	HS20040041-05
Data File Name	296SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T22:39:29-05:00
Sample Type	Sample
Dilution	1
Comment	TW B152654
ISTD Ref FileName	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	4.164	4.164	6.32	240765	0.00	2000	
Be	9	1	No Gas	0.130	0.130	9.25	890	0.01	2000	
V	51	2	He	3.735	3.735	3.07	36526	0.01	2000	
Cr	52	2	He	2.065	2.065	1.84	24559	0.01	2000	
Fe	56	2	He	2819.567	2819.567	5.49	27195330	0.01	200000	
Se	78	2	He	0.517	0.517	26.14	171	0.30	2000	
Sn	118	2	He	0.062	0.062	29.86	2114	0.00	200	
As	75	2	He	1.195	1.195	3.65	1926	0.06	2000	
Ca	44	2	He	8096.351	8096.351	0.25	351827	2.30	200000	
Na	23	2	He	11288.175	11288.175	1.74	14054546	0.08	200000	
Mg	24	2	He	4516.623	4516.623	1.10	2957281	0.15	200000	
K	39	2	He	2341.589	2341.589	3.60	1882893	0.12	200000	
Mn	55	2	He	135.837	135.837	2.83	971481	0.01	2000	
Co	59	2	He	0.902	0.902	2.94	16444	0.01	2000	
Ni	60	2	He	4.361	4.361	0.62	20676	0.02	2000	
Cu	63	2	He	1.679	1.679	2.14	23067	0.01	2000	
Zn	66	2	He	5.449	5.449	0.44	12413	0.04	2000	
Al	27	2	He	2283.703	2283.703	2.07	693833	0.33	2000	>LDR
B	11	1	No Gas	28.361	28.361	2.11	140027	0.02	2000	
Al	27	1	No Gas	2744.112	2744.112	1.69	80510129	0.00	2000	>LDR
Si	28	1	No Gas	10061.446	10061.446	2.47	156384198	0.01	2000	>LDR
Ag	107	1	No Gas	0.020	0.020	18.01	1063	0.00	2000	
Cd	111	1	No Gas	0.022	0.022	43.87	200	0.01	2000	
Sr	88	1	No Gas	135.660	135.660	2.73	10279642	0.00	2000	
Mo	95	1	No Gas	0.152	0.152	4.17	2250	0.01	2000	
Sn	118	1	No Gas	0.093	0.093	16.00	5631	0.00	2000	
Sb	121	1	No Gas	0.188	0.188	6.35	6982	0.00	2000	
Ba	137	1	No Gas	93.382	93.382	1.13	1055678	0.01	2000	
Tl	205	1	No Gas	0.033	0.033	4.12	2307	0.00	2000	
Tl	203	1	No Gas	0.030	0.030	16.96	930	0.00	2000	
Pb	208	1	No Gas	1.198	1.198	5.09	98065	0.00	2000	
U	238	1	No Gas	0.138	0.138	9.56	10445	0.00	2000	
Ca	43	2	He	8278.439	8278.439	3.41	20602	40.18	200000	
Sb	121	2	He	0.199	0.199	10.31	2797	0.01	2000	
Ti	47	2	He	62.779	62.779	7.30	18536	0.34	2000	
Cu	63	1	No Gas	1.883	1.883	2.26	54911	0.00	2000	
Zn	66	1	No Gas	5.960	5.960	0.85	46407	0.01	2000	
Se	82	1	No Gas	1.136	1.136	17.01	432	0.26	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2227572	1.49	2076007	107.30	70	120	
Ge	72	2	He	1313212	0.88	1283119	102.35	70	120	
Ge	72	1	No Gas	6098857	0.96	5854434	104.17	70	120	

Sample Report

In	115	1	No Gas	6910426	1.33	7184199	96.19	70	120	
Bi	209	1	No Gas	5215331	3.72	5632659	92.59	70	120	

Sample Report

Sample Table

Sample Name	HS20040041-06
Data File Name	297SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T22:41:28-05:00
Sample Type	Sample
Dilution	1
Comment	TW B152654
ISTD Ref FileName	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	3.119	3.119	4.53	217166	0.00	2000	
Be	9	1	No Gas	0.100	0.100	6.69	707	0.01	2000	
V	51	2	He	2.484	2.484	3.40	25381	0.01	2000	
Cr	52	2	He	1.379	1.379	4.63	17139	0.01	2000	
Fe	56	2	He	2180.617	2180.617	0.80	21396021	0.01	200000	
Se	78	2	He	0.303	0.303	22.49	146	0.21	2000	
Sn	118	2	He	0.008	0.008	83.02	1603	0.00	200	
As	75	2	He	1.018	1.018	4.97	1682	0.06	2000	
Ca	44	2	He	7017.708	7017.708	2.28	310149	2.26	200000	
Na	23	2	He	9725.346	9725.346	2.26	12321786	0.08	200000	
Mg	24	2	He	3867.217	3867.217	2.77	2574870	0.15	200000	
K	39	2	He	1966.438	1966.438	3.98	1615292	0.12	200000	
Mn	55	2	He	114.312	114.312	2.26	831528	0.01	2000	
Co	59	2	He	0.728	0.728	4.90	13534	0.01	2000	
Ni	60	2	He	3.491	3.491	2.19	16874	0.02	2000	
Cu	63	2	He	1.328	1.328	2.76	18843	0.01	2000	
Zn	66	2	He	4.305	4.305	3.12	10127	0.04	2000	
Al	27	2	He	1313.870	1313.870	2.85	406169	0.32	2000	
B	11	1	No Gas	25.162	25.162	2.04	129102	0.02	2000	
Al	27	1	No Gas	1452.849	1452.849	3.06	42824289	0.00	2000	
Si	28	1	No Gas	6855.732	6855.732	2.09	107183808	0.01	2000	>LDR
Ag	107	1	No Gas	0.015	0.015	33.13	900	0.00	2000	
Cd	111	1	No Gas	0.019	0.019	15.89	183	0.01	2000	
Sr	88	1	No Gas	115.834	115.834	2.05	8997170	0.00	2000	
Mo	95	1	No Gas	0.117	0.117	10.17	1807	0.01	2000	
Sn	118	1	No Gas	0.018	0.018	10.67	3944	0.00	2000	
Sb	121	1	No Gas	0.207	0.207	5.87	7629	0.00	2000	
Ba	137	1	No Gas	76.708	76.708	0.68	889233	0.01	2000	
Tl	205	1	No Gas	0.016	0.016	19.17	1303	0.00	2000	
Tl	203	1	No Gas	0.015	0.015	29.48	540	0.00	2000	
Pb	208	1	No Gas	1.106	1.106	16.83	90229	0.00	2000	
U	238	1	No Gas	0.109	0.109	9.81	8190	0.00	2000	
Ca	43	2	He	7330.213	7330.213	4.24	18546	39.52	200000	
Sb	121	2	He	0.218	0.218	6.10	3087	0.01	2000	
Ti	47	2	He	37.880	37.880	29.41	11346	0.33	2000	
Cu	63	1	No Gas	1.516	1.516	2.34	44992	0.00	2000	
Zn	66	1	No Gas	4.388	4.388	5.47	34950	0.01	2000	
Se	82	1	No Gas	0.319	0.319	44.71	31	1.04	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2281980	1.91	2076007	109.92	70	120	
Ge	72	2	He	1335798	2.01	1283119	104.11	70	120	
Ge	72	1	No Gas	6124181	0.98	5854434	104.61	70	120	

Sample Report

In	115	1	No Gas	7083371	1.55	7184199	98.60	70	120	
Bi	209	1	No Gas	5173637	2.54	5632659	91.85	70	120	

Sample Report

Sample Table

Sample Name	HS20040041-07
Data File Name	298SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T22:43:25-05:00
Sample Type	Sample
Dilution	1
Comment	TW B152654
ISTD Ref FileName	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	3.877	3.877	2.64	228540	0.00	2000	
Be	9	1	No Gas	0.120	0.120	13.61	812	0.01	2000	
V	51	2	He	3.343	3.343	3.01	33423	0.01	2000	
Cr	52	2	He	1.851	1.851	4.99	22503	0.01	2000	
Fe	56	2	He	2418.263	2418.263	1.01	23697743	0.01	200000	
Se	78	2	He	0.355	0.355	42.22	153	0.23	2000	
Sn	118	2	He	0.202	0.202	9.69	3491	0.01	200	
As	75	2	He	1.065	1.065	5.92	1752	0.06	2000	
Ca	44	2	He	7228.336	7228.336	1.14	319124	2.27	200000	
Na	23	2	He	10115.126	10115.126	1.08	12800514	0.08	200000	
Mg	24	2	He	4053.887	4053.887	0.59	2696562	0.15	200000	
K	39	2	He	2079.788	2079.788	1.17	1704473	0.12	200000	
Mn	55	2	He	122.821	122.821	1.22	892451	0.01	2000	
Co	59	2	He	0.816	0.816	1.69	15129	0.01	2000	
Ni	60	2	He	3.968	3.968	1.79	19127	0.02	2000	
Cu	63	2	He	1.438	1.438	1.54	20265	0.01	2000	
Zn	66	2	He	4.817	4.817	4.62	11232	0.04	2000	
Al	27	2	He	2110.437	2110.437	4.26	651608	0.32	2000	>LDR
B	11	1	No Gas	26.462	26.462	0.81	129262	0.02	2000	
Al	27	1	No Gas	2504.136	2504.136	11.69	74539714	0.00	2000	>LDR
Si	28	1	No Gas	8971.639	8971.639	6.27	141557181	0.01	2000	>LDR
Ag	107	1	No Gas	0.014	0.014	14.21	880	0.00	2000	
Cd	111	1	No Gas	0.016	0.016	45.05	157	0.01	2000	
Sr	88	1	No Gas	118.486	118.486	1.28	9241438	0.00	2000	
Mo	95	1	No Gas	0.129	0.129	5.40	1984	0.01	2000	
Sn	118	1	No Gas	0.199	0.199	4.28	8359	0.00	2000	
Sb	121	1	No Gas	0.156	0.156	1.09	6048	0.00	2000	
Ba	137	1	No Gas	79.948	79.948	2.39	930375	0.01	2000	
Tl	205	1	No Gas	0.021	0.021	5.58	1593	0.00	2000	
Tl	203	1	No Gas	0.017	0.017	33.23	590	0.00	2000	
Pb	208	1	No Gas	1.033	1.033	1.99	84439	0.00	2000	
U	238	1	No Gas	0.115	0.115	3.50	8667	0.00	2000	
Ca	43	2	He	7434.558	7434.558	3.69	18793	39.56	200000	
Sb	121	2	He	0.170	0.170	6.60	2474	0.01	2000	
Ti	47	2	He	70.369	70.369	33.90	21129	0.33	2000	
Cu	63	1	No Gas	1.622	1.622	0.99	48480	0.00	2000	
Zn	66	1	No Gas	5.162	5.162	2.86	41133	0.01	2000	
Se	82	1	No Gas	0.840	0.840	76.57	294	0.29	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2185622	0.18	2076007	105.28	70	120	
Ge	72	2	He	1334118	0.80	1283119	103.97	70	120	
Ge	72	1	No Gas	6192261	1.34	5854434	105.77	70	120	

Sample Report

In	115	1	No Gas	7113489	1.56	7184199	99.02	70	120	
Bi	209	1	No Gas	5190238	1.94	5632659	92.15	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	301_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T22:49:09-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	100.303	3.021	2685559	3.03	100	100.3	90	110	
Be	9	1	No Gas	104.250	0.633	648924	0.30	100	104.2	90	110	
V	51	2	He	101.514	0.602	916191	1.41	100	101.5	90	110	
Cr	52	2	He	103.236	1.080	1131937	0.07	100	103.2	90	110	
Fe	56	2	He	10209.982	0.585	95936955	0.43	10000	102.1	90	110	
Se	78	2	He	99.787	0.765	12446	0.66	100	99.8	90	110	
Sn	118	2	He	96.180	0.131	925287	0.76	100	96.2	90	110	
As	75	2	He	105.295	1.107	158373	0.62	100	105.3	90	110	
Ca	44	2	He	9982.567	0.849	422654	0.28	10000	99.8	90	110	
Na	23	2	He	10331.138	1.443	12539515	0.82	10000	103.3	90	110	
Mg	24	2	He	10258.341	1.551	6544396	1.20	10000	102.6	90	110	
K	39	2	He	10137.004	1.658	7800447	2.39	10000	101.4	90	110	
Mn	55	2	He	99.540	1.452	693914	1.13	100	99.5	90	110	
Co	59	2	He	107.732	1.858	1889918	0.84	100	107.7	90	110	
Ni	60	2	He	101.787	1.840	465990	0.86	100	101.8	90	110	
Cu	63	2	He	104.749	2.379	1323050	2.18	100	104.7	90	110	
Zn	66	2	He	103.851	1.224	217969	0.36	100	103.9	90	110	
Al	27	2	He	98.692	0.201	29776	1.18	100	98.7	90	110	
B	11	1	No Gas	519.718	1.527	2129419	1.10	500	103.9	90	110	
Al	27	1	No Gas	105.275	0.887	3061457	1.57	100	105.3	90	110	
Si	28	1	No Gas	559.344	0.632	9016158	1.28	5000	11.2	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	538.671	1.202	854614	0.44	500	107.7	90	110	
Ag	107	1	No Gas	103.829	4.066	3916135	1.08	100	103.8	90	110	
Cd	111	1	No Gas	100.844	2.384	773170	1.15	100	100.8	90	110	
Sr	88	1	No Gas	99.617	4.134	7761046	1.01	100	99.6	90	110	
Mo	95	1	No Gas	101.799	3.820	1459631	1.45	100	101.8	90	110	
Sn	118	1	No Gas	102.889	3.883	2504108	2.14	100	102.9	90	110	
Sb	121	1	No Gas	102.503	0.488	3230186	0.77	100	102.5	90	110	
Ba	137	1	No Gas	100.271	2.782	1165494	1.52	100	100.3	90	110	
Tl	205	1	No Gas	103.883	3.690	5900104	2.14	100	103.9	90	110	
Tl	203	1	No Gas	105.788	4.680	2545299	3.78	100	105.8	90	110	
Pb	208	1	No Gas	105.048	0.466	7836039	1.07	100	105.0	90	110	
U	238	1	No Gas	100.186	0.709	7002322	1.74	100	100.2	90	110	
Ca	43	2	He	10354.559	1.995	25107	1.45	10000	103.5	90	110	
Sb	121	2	He	102.909	1.336	1241582	0.46	100	102.9	90	110	
Ti	47	2	He	101.199	0.596	29105	1.02	100	101.2	90	110	
Cu	63	1	No Gas	105.328	1.804	2833644	1.17	100	105.3	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2071001	0.42	2076007	99.76	70	120	
Ge	72	2	He	1279771	1.01	1283119	99.74	70	120	
Ge	72	1	No Gas	5959749	0.72	5854434	101.80	70	120	
In	115	1	No Gas	7110309	3.19	7184199	98.97	70	120	
Bi	209	1	No Gas	4822770	1.54	5632659	85.62	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	302_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T22:50:54-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.189	12.4	124007	0.5	0.5	
Be	9	1	No Gas	0.028	9.7	195	9.2	0.5	
V	51	2	He	-0.050	-18.7	1535	5.3	2.5	
Cr	52	2	He	-0.005	-322.0	1287	14.4	2.5	
Fe	56	2	He	0.749	13.9	18189	5.4	100	
Se	78	2	He	0.050	66.1	111	3.8	2	
As	75	2	He	0.014	39.7	103	8.5	2.5	
Ca	44	2	He	1.041	27.2	353	3.3	100	
Na	23	2	He	54.576	0.8	122312	0.6	100	
Mg	24	2	He	1.046	7.8	1300	4.1	100	
K	39	2	He	6.161	7.2	49225	0.6	100	
Mn	55	2	He	0.114	16.1	1303	9.8	2.5	
Co	59	2	He	0.005	40.2	287	12.3	2.5	
Ni	60	2	He	0.004	76.7	213	7.2	2.5	
Cu	63	2	He	0.009	79.9	1440	6.4	2	
Zn	66	2	He	0.083	39.6	887	8.2	2.5	
Al	27	2	He	-0.087	-275.8	563	12.6	5	
B	11	1	No Gas	16.154	3.3	81790	3.2	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	-0.062	-110.2	43572	4.9	5	
Si	28	1	No Gas	2.183	9.3	596492	0.3	10	
P	31	1	No Gas	0.225	404.6	36528	3.6	10	
Ag	107	1	No Gas	0.009	16.8	700	8.9	2.5	
Cd	111	1	No Gas	0.002	130.3	57	44.4	1	
Sr	88	1	No Gas	0.012	11.1	4197	1.8	2.5	
Mo	95	1	No Gas	0.027	31.0	540	22.5	2.5	
Sn	118	1	No Gas	0.089	16.6	5815	5.6	5	
Sb	121	1	No Gas	0.074	15.3	3314	11.2	2.5	
Ba	137	1	No Gas	-0.090	-14.4	1053	14.3	2.5	
Tl	205	1	No Gas	0.075	24.7	4814	22.6	1	
Tl	203	1	No Gas	0.069	41.3	1917	37.5	1	
Pb	208	1	No Gas	0.016	21.9	2770	9.6	2.5	
U	238	1	No Gas	0.005	7.4	427	6.8	2.5	
Ca	43	2	He	10.732	78.5	37	56.8	100	
Sb	121	2	He	0.051	28.1	963	18.3	2.5	
Ti	47	2	He	0.000	-6648.8	3	173.2	2.5	
Cu	63	1	No Gas	0.023	16.0	3751	3.0	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2103048	0.68	2076007	101.30	70	120	
Ge	72	2	He	1304093	0.23	1283119	101.63	70	120	
Ge	72	1	No Gas	6078607	0.28	5854434	103.83	70	120	
In	115	1	No Gas	7279441	0.85	7184199	101.33	70	120	
Bi	209	1	No Gas	5107315	0.59	5632659	90.67	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	308_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T23:02:25-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	101.787	3.612	2728952	1.30	100	101.8	90	110	
Be	9	1	No Gas	104.485	2.072	651844	0.75	100	104.5	90	110	
V	51	2	He	103.557	0.943	918744	1.41	100	103.6	90	110	
Cr	52	2	He	105.618	3.020	1138222	1.79	100	105.6	90	110	
Fe	56	2	He	10481.025	2.378	96802202	1.21	10000	104.8	90	110	
Se	78	2	He	104.084	3.604	12754	2.22	100	104.1	90	110	
Sn	118	2	He	98.162	1.184	930482	2.09	100	98.2	90	110	
As	75	2	He	108.565	2.492	160500	1.09	100	108.6	90	110	
Ca	44	2	He	10169.001	1.010	423247	0.47	10000	101.7	90	110	
Na	23	2	He	10437.700	0.639	12454508	0.94	10000	104.4	90	110	
Mg	24	2	He	10591.855	1.832	6642222	0.52	10000	105.9	90	110	
K	39	2	He	10516.001	2.266	7951539	1.00	10000	105.2	90	110	
Mn	55	2	He	102.084	1.549	699547	0.15	100	102.1	90	110	
Co	59	2	He	111.243	1.096	1918554	0.41	100	111.2	90	110	CCV Main CR1-2 Failed
Ni	60	2	He	104.377	1.318	469761	0.27	100	104.4	90	110	
Cu	63	2	He	106.302	1.569	1319890	1.08	100	106.3	90	110	
Zn	66	2	He	105.704	1.429	218098	1.50	100	105.7	90	110	
Al	27	2	He	103.945	1.987	30794	0.84	100	103.9	90	110	
B	11	1	No Gas	517.878	3.739	2126262	1.77	500	103.6	90	110	
Al	27	1	No Gas	106.186	1.621	3101317	0.73	100	106.2	90	110	
Si	28	1	No Gas	560.281	2.575	9069782	1.03	5000	11.2	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	529.694	2.539	844677	0.47	500	105.9	90	110	
Ag	107	1	No Gas	106.344	2.358	3840337	0.64	100	106.3	90	110	
Cd	111	1	No Gas	102.288	1.663	750681	0.91	100	102.3	90	110	
Sr	88	1	No Gas	103.544	1.927	7725415	2.23	100	103.5	90	110	
Mo	95	1	No Gas	105.988	3.067	1454815	1.63	100	106.0	90	110	
Sn	118	1	No Gas	105.248	1.189	2452965	2.82	100	105.2	90	110	
Sb	121	1	No Gas	99.629	2.956	3153790	2.64	100	99.6	90	110	
Ba	137	1	No Gas	104.617	1.416	1164182	2.59	100	104.6	90	110	
Tl	205	1	No Gas	97.264	0.885	5817505	1.11	100	97.3	90	110	
Tl	203	1	No Gas	96.828	1.674	2453048	0.54	100	96.8	90	110	
Pb	208	1	No Gas	101.526	0.653	7972579	0.49	100	101.5	90	110	
U	238	1	No Gas	100.155	0.865	7368706	0.33	100	100.2	90	110	
Ca	43	2	He	10369.647	0.762	24719	1.08	10000	103.7	90	110	
Sb	121	2	He	104.993	2.888	1245070	1.47	100	105.0	90	110	
Ti	47	2	He	103.718	2.895	29318	1.82	100	103.7	90	110	
Cu	63	1	No Gas	104.966	1.579	2836787	0.60	100	105.0	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2076357	2.66	2076007	100.02	70	120	
Ge	72	2	He	1258139	1.44	1283119	98.05	70	120	
Ge	72	1	No Gas	5987844	2.19	5854434	102.28	70	120	
In	115	1	No Gas	6803887	1.81	7184199	94.71	70	120	
Bi	209	1	No Gas	5077037	1.14	5632659	90.14	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	309_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T23:04:09-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.055	98.4	123736	0.3	0.5	
Be	9	1	No Gas	0.033	24.1	237	23.4	0.5	
V	51	2	He	-0.046	-10.2	1553	4.1	2.5	
Cr	52	2	He	0.000	2552.7	1333	2.6	2.5	
Fe	56	2	He	0.854	11.7	19010	5.8	100	
Se	78	2	He	0.005	2326.9	104	13.5	2	
As	75	2	He	0.025	49.4	119	16.4	2.5	
Ca	44	2	He	0.977	108.7	347	12.0	100	
Na	23	2	He	40.436	4.8	103818	1.1	100	
Mg	24	2	He	1.175	11.2	1370	6.3	100	
K	39	2	He	5.519	34.7	48239	3.9	100	
Mn	55	2	He	0.050	9.6	840	4.1	2.5	
Co	59	2	He	0.008	27.9	333	10.5	2.5	
Ni	60	2	He	0.011	37.1	243	8.6	2.5	
Cu	63	2	He	0.009	100.3	1423	8.8	2	
Zn	66	2	He	-0.042	-114.5	613	17.4	2.5	
Al	27	2	He	-0.234	-121.5	513	15.6	5	
B	11	1	No Gas	14.389	5.3	76472	4.2	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	0.350	138.1	55123	23.9	5	
Si	28	1	No Gas	3.773	19.0	617041	0.6	10	
P	31	1	No Gas	1.145	63.3	37718	3.1	10	
Ag	107	1	No Gas	0.013	32.0	850	20.1	2.5	
Cd	111	1	No Gas	0.003	64.6	57	20.4	1	
Sr	88	1	No Gas	0.011	8.6	4051	0.9	2.5	
Mo	95	1	No Gas	0.040	15.9	713	14.0	2.5	
Sn	118	1	No Gas	0.089	14.9	5735	3.1	5	
Sb	121	1	No Gas	0.131	14.4	5088	10.7	2.5	
Ba	137	1	No Gas	-0.111	-5.8	790	11.3	2.5	
Tl	205	1	No Gas	0.069	29.8	4498	27.8	1	
Tl	203	1	No Gas	0.070	30.5	1974	28.1	1	
Pb	208	1	No Gas	0.020	15.7	3090	7.4	2.5	
U	238	1	No Gas	0.006	36.8	507	34.5	2.5	
Ca	43	2	He	2.697	87.0	17	34.6	100	
Sb	121	2	He	0.114	7.5	1720	7.3	2.5	
Ti	47	2	He	0.023	150.7	10	100.0	2.5	
Cu	63	1	No Gas	0.028	49.8	3851	8.7	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2159151	1.40	2076007	104.00	70	120	
Ge	72	2	He	1290915	1.32	1283119	100.61	70	120	
Ge	72	1	No Gas	6040521	1.50	5854434	103.18	70	120	
In	115	1	No Gas	7176666	2.63	7184199	99.90	70	120	
Bi	209	1	No Gas	5171549	0.64	5632659	91.81	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	314_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T23:13:45-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	101.821	1.567	2740827	0.37	100	101.8	90	110	
Be	9	1	No Gas	104.928	0.989	657137	0.66	100	104.9	90	110	
V	51	2	He	99.583	0.412	921192	2.56	100	99.6	90	110	
Cr	52	2	He	101.681	1.681	1142463	0.86	100	101.7	90	110	
Fe	56	2	He	10089.716	1.912	97159972	2.31	10000	100.9	90	110	
Se	78	2	He	99.922	3.234	12767	0.71	100	99.9	90	110	
Sn	118	2	He	96.691	1.491	936828	1.55	100	96.7	90	110	
As	75	2	He	104.164	2.575	160523	0.76	100	104.2	90	110	
Ca	44	2	He	9925.713	2.323	430585	0.36	10000	99.3	90	110	
Na	23	2	He	10254.626	2.353	12753677	0.80	10000	102.5	90	110	
Mg	24	2	He	10146.493	1.830	6633836	2.21	10000	101.5	90	110	
K	39	2	He	9984.347	1.993	7872083	0.55	10000	99.8	90	110	
Mn	55	2	He	98.573	1.908	704134	0.66	100	98.6	90	110	
Co	59	2	He	103.913	3.326	1867581	0.81	100	103.9	90	110	
Ni	60	2	He	100.785	2.384	472778	0.46	100	100.8	90	110	
Cu	63	2	He	102.759	3.641	1329614	1.52	100	102.8	90	110	
Zn	66	2	He	102.203	2.238	219813	1.11	100	102.2	90	110	
Al	27	2	He	98.333	4.040	30400	3.64	100	98.3	90	110	
B	11	1	No Gas	521.215	2.201	2148601	2.01	500	104.2	90	110	
Al	27	1	No Gas	105.631	3.696	3127423	1.15	100	105.6	90	110	
Si	28	1	No Gas	557.837	2.976	9158044	0.22	5000	11.2	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	534.167	1.301	863617	1.65	500	106.8	90	110	
Ag	107	1	No Gas	103.555	1.750	3880932	0.50	100	103.6	90	110	
Cd	111	1	No Gas	100.436	1.401	764903	0.98	100	100.4	90	110	
Sr	88	1	No Gas	99.760	1.721	7722867	0.58	100	99.8	90	110	
Mo	95	1	No Gas	101.513	3.799	1445824	2.34	100	101.5	90	110	
Sn	118	1	No Gas	101.164	3.264	2445810	2.21	100	101.2	90	110	
Sb	121	1	No Gas	99.681	2.672	3198993	0.33	100	99.7	90	110	
Ba	137	1	No Gas	101.795	4.018	1174867	1.86	100	101.8	90	110	
Tl	205	1	No Gas	98.223	1.887	5903229	1.04	100	98.2	90	110	
Tl	203	1	No Gas	100.381	3.121	2554993	0.44	100	100.4	90	110	
Pb	208	1	No Gas	101.603	1.562	8018458	2.02	100	101.6	90	110	
U	238	1	No Gas	98.223	1.063	7263990	2.83	100	98.2	90	110	
Ca	43	2	He	10186.608	5.689	25294	3.19	10000	101.9	90	110	
Sb	121	2	He	102.525	1.883	1267502	0.65	100	102.5	90	110	
Ti	47	2	He	97.413	3.519	28700	1.90	100	97.4	90	110	
Cu	63	1	No Gas	105.248	2.082	2884005	0.51	100	105.2	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2083798	1.42	2076007	100.38	70	120	
Ge	72	2	He	1311686	2.54	1283119	102.23	70	120	
Ge	72	1	No Gas	6071989	2.61	5854434	103.72	70	120	
In	115	1	No Gas	7060740	2.13	7184199	98.28	70	120	
Bi	209	1	No Gas	5103278	2.90	5632659	90.60	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	315_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T23:15:29-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.071	38.3	125360	1.5	0.5	
Be	9	1	No Gas	0.024	7.0	175	5.7	0.5	
V	51	2	He	-0.055	-4.5	1475	1.4	2.5	
Cr	52	2	He	-0.005	-157.0	1280	6.2	2.5	
Fe	56	2	He	0.635	27.7	16953	9.5	100	
Se	78	2	He	0.009	247.2	105	2.2	2	
As	75	2	He	0.011	138.1	98	25.6	2.5	
Ca	44	2	He	1.818	40.4	383	6.6	100	
Na	23	2	He	56.450	4.1	123563	0.7	100	
Mg	24	2	He	0.824	5.4	1147	4.1	100	
K	39	2	He	6.784	22.0	49289	0.7	100	
Mn	55	2	He	0.066	21.6	953	11.0	2.5	
Co	59	2	He	0.001	108.3	220	12.0	2.5	
Ni	60	2	He	0.002	573.1	200	25.0	2.5	
Cu	63	2	He	0.001	1961.2	1320	16.1	2	
Zn	66	2	He	-0.028	-71.9	643	7.0	2.5	
Al	27	2	He	-0.441	-32.6	453	10.4	5	
B	11	1	No Gas	12.217	4.9	67906	3.5	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	-0.026	-156.7	44465	2.6	5	
Si	28	1	No Gas	2.997	6.9	606958	0.3	10	
P	31	1	No Gas	1.137	53.2	37815	2.6	10	
Ag	107	1	No Gas	0.009	19.7	703	11.4	2.5	
Cd	111	1	No Gas	0.005	73.0	77	39.8	1	
Sr	88	1	No Gas	0.010	33.4	3997	6.5	2.5	
Mo	95	1	No Gas	0.026	23.6	523	19.6	2.5	
Sn	118	1	No Gas	0.097	5.8	5985	4.9	5	
Sb	121	1	No Gas	0.060	14.2	2844	9.4	2.5	
Ba	137	1	No Gas	-0.108	-4.1	830	5.3	2.5	
Tl	205	1	No Gas	0.079	34.2	5025	30.7	1	
Tl	203	1	No Gas	0.075	33.7	2057	29.8	1	
Pb	208	1	No Gas	0.016	22.6	2774	8.5	2.5	
U	238	1	No Gas	0.007	14.3	550	14.2	2.5	
Ca	43	2	He	-0.051	-8035.3	10	100.0	100	
Sb	121	2	He	0.055	14.9	1007	11.6	2.5	
Ti	47	2	He	0.000	401874.0	3	173.2	2.5	
Cu	63	1	No Gas	0.024	32.2	3761	5.4	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2180096	1.38	2076007	105.01	70	120	
Ge	72	2	He	1293358	1.66	1283119	100.80	70	120	
Ge	72	1	No Gas	6057724	0.32	5854434	103.47	70	120	
In	115	1	No Gas	7226421	2.64	7184199	100.59	70	120	
Bi	209	1	No Gas	5109635	2.20	5632659	90.71	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	321_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T23:26:54-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.041	178.2	127932	0.2	0.5	
Be	9	1	No Gas	0.017	4.8	137	5.6	0.5	
V	51	2	He	-0.039	-19.1	1656	3.5	2.5	
Cr	52	2	He	-0.003	-176.0	1330	3.8	2.5	
Fe	56	2	He	0.542	4.5	16430	1.8	100	
Se	78	2	He	-0.014	-185.7	104	3.8	2	
As	75	2	He	0.024	86.7	120	27.8	2.5	
Ca	44	2	He	0.859	98.5	350	9.9	100	
Na	23	2	He	99.993	0.7	180667	1.1	100	
Mg	24	2	He	0.614	31.2	1033	12.8	100	
K	39	2	He	9.399	10.7	52450	1.3	100	
Mn	55	2	He	0.045	19.7	820	8.4	2.5	
Co	59	2	He	0.006	54.0	320	20.5	2.5	
Ni	60	2	He	-0.005	-40.3	170	5.9	2.5	
Cu	63	2	He	0.013	34.7	1513	4.2	2	
Zn	66	2	He	-0.055	-31.7	600	5.8	2.5	
Al	27	2	He	-0.178	-288.1	543	28.7	5	
B	11	1	No Gas	11.636	4.5	67203	3.4	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	0.088	24.7	48384	1.3	5	
Si	28	1	No Gas	3.304	14.4	619125	0.3	10	
P	31	1	No Gas	0.347	261.8	37030	2.5	10	
Ag	107	1	No Gas	0.012	1.3	817	2.5	2.5	
Cd	111	1	No Gas	0.003	88.0	60	33.3	1	
Sr	88	1	No Gas	0.005	46.6	3494	6.7	2.5	
Mo	95	1	No Gas	0.065	17.4	1073	13.3	2.5	
Sn	118	1	No Gas	0.095	7.8	5865	2.2	5	
Sb	121	1	No Gas	0.092	11.0	3907	9.2	2.5	
Ba	137	1	No Gas	-0.107	-2.0	827	3.9	2.5	
Tl	205	1	No Gas	0.066	32.9	4248	29.1	1	
Tl	203	1	No Gas	0.059	32.1	1663	27.3	1	
Pb	208	1	No Gas	0.015	20.1	2660	6.3	2.5	
U	238	1	No Gas	0.007	21.5	527	17.9	2.5	
Ca	43	2	He	3.870	207.1	20	100.0	100	
Sb	121	2	He	0.074	23.4	1260	17.6	2.5	
Ti	47	2	He	0.000	-5304.9	3	173.2	2.5	
Cu	63	1	No Gas	0.043	15.9	4331	5.4	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2239398	1.71	2076007	107.87	70	120	
Ge	72	2	He	1321780	0.71	1283119	103.01	70	120	
Ge	72	1	No Gas	6132016	1.32	5854434	104.74	70	120	
In	115	1	No Gas	7133697	2.16	7184199	99.30	70	120	
Bi	209	1	No Gas	5128638	2.68	5632659	91.05	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	323_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T23:30:40-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	103.723	2.595	2770766	1.30	100	103.7	90	110	
Be	9	1	No Gas	102.505	2.038	637569	0.89	100	102.5	90	110	
V	51	2	He	98.937	2.912	895617	2.15	100	98.9	90	110	
Cr	52	2	He	101.490	1.507	1116253	0.42	100	101.5	90	110	
Fe	56	2	He	10073.591	0.828	94950529	0.44	10000	100.7	90	110	
Se	78	2	He	99.304	1.805	12424	0.85	100	99.3	90	110	
Sn	118	2	He	96.770	1.502	932538	0.82	100	96.8	90	110	
As	75	2	He	103.033	0.938	155457	0.29	100	103.0	90	110	
Ca	44	2	He	9869.455	1.651	419149	0.47	10000	98.7	90	110	
Na	23	2	He	10214.100	1.477	12436563	0.27	10000	102.1	90	110	
Mg	24	2	He	10219.597	0.543	6540846	1.69	10000	102.2	90	110	
K	39	2	He	9962.656	1.768	7689568	0.70	10000	99.6	90	110	
Mn	55	2	He	98.029	0.928	685538	0.77	100	98.0	90	110	
Co	59	2	He	104.773	1.479	1843888	1.25	100	104.8	90	110	
Ni	60	2	He	101.249	1.238	464995	0.28	100	101.2	90	110	
Cu	63	2	He	101.944	0.513	1291803	1.41	100	101.9	90	110	
Zn	66	2	He	102.061	1.093	214898	0.61	100	102.1	90	110	
Al	27	2	He	97.683	3.447	29562	2.26	100	97.7	90	110	
B	11	1	No Gas	508.102	1.602	2080675	0.42	500	101.6	90	110	
Al	27	1	No Gas	102.560	2.203	3018233	1.27	100	102.6	90	110	
Si	28	1	No Gas	515.697	2.231	8452578	1.14	5000	10.3	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	508.921	2.144	818835	1.21	500	101.8	90	110	
Ag	107	1	No Gas	102.473	2.391	3826852	1.26	100	102.5	90	110	
Cd	111	1	No Gas	98.487	0.999	747462	0.65	100	98.5	90	110	
Sr	88	1	No Gas	100.217	1.362	7731899	1.37	100	100.2	90	110	
Mo	95	1	No Gas	100.404	1.982	1425315	0.84	100	100.4	90	110	
Sn	118	1	No Gas	101.557	2.437	2447073	1.95	100	101.6	90	110	
Sb	121	1	No Gas	97.427	0.345	3106338	0.76	100	97.4	90	110	
Ba	137	1	No Gas	99.843	1.859	1148786	1.43	100	99.8	90	110	
Tl	205	1	No Gas	96.380	2.137	5729436	2.13	100	96.4	90	110	
Tl	203	1	No Gas	95.673	3.758	2408917	3.18	100	95.7	90	110	
Pb	208	1	No Gas	100.531	0.813	7846931	1.56	100	100.5	90	110	
U	238	1	No Gas	99.710	2.201	7291390	2.13	100	99.7	90	110	
Ca	43	2	He	10178.291	3.968	24753	3.03	10000	101.8	90	110	
Sb	121	2	He	101.237	0.374	1225345	1.11	100	101.2	90	110	
Ti	47	2	He	98.619	0.472	28453	1.70	100	98.6	90	110	
Cu	63	1	No Gas	102.357	2.364	2786305	2.39	100	102.4	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2069710	1.23	2076007	99.70	70	120	
Ge	72	2	He	1283795	1.23	1283119	100.05	70	120	
Ge	72	1	No Gas	6029807	0.94	5854434	103.00	70	120	
In	115	1	No Gas	7035382	1.15	7184199	97.93	70	120	
Bi	209	1	No Gas	5046306	1.51	5632659	89.59	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	331_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T23:46:01-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	96.522	2.405	2681224	0.99	100	96.5	90	110	
Be	9	1	No Gas	98.392	2.522	634326	0.44	100	98.4	90	110	
V	51	2	He	98.055	1.684	931497	1.61	100	98.1	90	110	
Cr	52	2	He	100.540	0.857	1160397	0.88	100	100.5	90	110	
Fe	56	2	He	9991.327	0.207	98817799	0.35	10000	99.9	90	110	
Se	78	2	He	98.027	1.777	12870	1.32	100	98.0	90	110	
Sn	118	2	He	97.235	1.990	982634	2.31	100	97.2	90	110	
As	75	2	He	99.344	0.958	157281	0.53	100	99.3	90	110	
Ca	44	2	He	9768.448	0.258	435345	0.49	10000	97.7	90	110	
Na	23	2	He	10210.671	0.577	13045836	0.24	10000	102.1	90	110	
Mg	24	2	He	9919.068	1.560	6660960	1.80	10000	99.2	90	110	
K	39	2	He	9962.884	0.977	8069222	0.61	10000	99.6	90	110	
Mn	55	2	He	98.680	0.233	724106	0.42	100	98.7	90	110	
Co	59	2	He	104.542	0.797	1930554	0.94	100	104.5	90	110	
Ni	60	2	He	99.005	0.591	477120	0.41	100	99.0	90	110	
Cu	63	2	He	99.768	1.916	1326459	1.85	100	99.8	90	110	
Zn	66	2	He	99.144	1.067	219064	0.66	100	99.1	90	110	
Al	27	2	He	95.155	2.672	30236	2.34	100	95.2	90	110	
B	11	1	No Gas	492.864	3.307	2092114	1.31	500	98.6	90	110	
Al	27	1	No Gas	99.439	1.963	3015881	0.88	100	99.4	90	110	
Si	28	1	No Gas	504.805	2.058	8535249	0.89	5000	10.1	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	505.213	2.463	837586	1.49	500	101.0	90	110	
Ag	107	1	No Gas	101.052	1.063	3949700	1.68	100	101.1	90	110	
Cd	111	1	No Gas	97.851	1.109	777166	1.78	100	97.9	90	110	
Sr	88	1	No Gas	99.795	2.151	8055518	0.47	100	99.8	90	110	
Mo	95	1	No Gas	99.818	1.365	1483074	2.19	100	99.8	90	110	
Sn	118	1	No Gas	100.239	1.328	2528133	2.79	100	100.2	90	110	
Sb	121	1	No Gas	99.747	2.704	3275432	1.59	100	99.7	90	110	
Ba	137	1	No Gas	100.309	3.518	1207353	1.45	100	100.3	90	110	
Tl	205	1	No Gas	95.421	4.801	6036598	6.63	100	95.4	90	110	
Tl	203	1	No Gas	94.094	1.796	2520613	3.64	100	94.1	90	110	
Pb	208	1	No Gas	100.525	1.245	8345238	2.75	100	100.5	90	110	
U	238	1	No Gas	99.122	3.256	7708250	3.33	100	99.1	90	110	
Ca	43	2	He	9939.850	2.869	25370	3.02	10000	99.4	90	110	
Sb	121	2	He	98.595	0.178	1252130	0.34	100	98.6	90	110	
Ti	47	2	He	97.203	1.587	29425	1.94	100	97.2	90	110	
Cu	63	1	No Gas	101.646	0.693	2850272	0.79	100	101.6	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2145741	2.37	2076007	103.36	70	120	
Ge	72	2	He	1347001	0.51	1283119	104.98	70	120	
Ge	72	1	No Gas	6211353	1.11	5854434	106.10	70	120	
In	115	1	No Gas	7363087	2.45	7184199	102.49	70	120	
Bi	209	1	No Gas	5367835	3.30	5632659	95.30	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	332_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T23:47:45-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.172	39.9	125925	0.7	0.5	
Be	9	1	No Gas	0.017	31.7	132	27.5	0.5	
V	51	2	He	-0.060	-16.0	1468	5.5	2.5	
Cr	52	2	He	-0.002	-466.7	1340	10.4	2.5	
Fe	56	2	He	0.412	26.4	15209	6.7	100	
Se	78	2	He	0.150	93.7	125	13.8	2	
As	75	2	He	0.008	102.4	94	13.4	2.5	
Ca	44	2	He	-0.078	-1218.7	310	12.9	100	
Na	23	2	He	192.087	1.0	296483	0.1	100	CCB Main CR1 Failed
Mg	24	2	He	0.272	17.5	810	4.5	100	
K	39	2	He	9.329	9.9	52548	1.0	100	
Mn	55	2	He	0.047	2.2	840	1.2	2.5	
Co	59	2	He	0.000	-1513.1	200	26.0	2.5	
Ni	60	2	He	-0.011	-50.0	143	17.6	2.5	
Cu	63	2	He	0.012	36.8	1503	4.0	2	
Zn	66	2	He	-0.045	-140.8	623	21.4	2.5	
Al	27	2	He	-0.260	-75.6	520	12.0	5	
B	11	1	No Gas	4.967	9.1	36240	5.3	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	0.191	22.7	51676	1.7	5	
Si	28	1	No Gas	0.294	152.9	575172	0.3	10	
P	31	1	No Gas	-2.179	-20.6	33257	2.2	10	
Ag	107	1	No Gas	0.016	12.7	1023	8.9	2.5	
Cd	111	1	No Gas	-0.001	-383.9	33	62.4	1	
Sr	88	1	No Gas	0.006	63.4	3781	8.3	2.5	
Mo	95	1	No Gas	0.030	16.2	607	14.4	2.5	
Sn	118	1	No Gas	0.051	16.6	5071	2.8	5	
Sb	121	1	No Gas	0.077	3.8	3431	3.5	2.5	
Ba	137	1	No Gas	-0.115	-11.0	777	19.5	2.5	
Tl	205	1	No Gas	0.074	46.2	5011	41.5	1	
Tl	203	1	No Gas	0.068	42.4	1987	37.1	1	
Pb	208	1	No Gas	0.013	38.9	2660	14.0	2.5	
U	238	1	No Gas	0.007	30.0	583	26.6	2.5	
Ca	43	2	He	1.212	380.7	13	86.6	100	
Sb	121	2	He	0.055	13.2	1023	9.5	2.5	
Ti	47	2	He	0.022	153.2	10	100.0	2.5	
Cu	63	1	No Gas	0.086	17.1	5548	6.8	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2143183	0.93	2076007	103.24	70	120	
Ge	72	2	He	1325671	0.73	1283119	103.32	70	120	
Ge	72	1	No Gas	6163148	1.47	5854434	105.27	70	120	
In	115	1	No Gas	7557980	2.92	7184199	105.20	70	120	
Bi	209	1	No Gas	5436373	2.20	5632659	96.52	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	340_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-15T00:03:25-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	97.911	3.462	2505013	1.69	100	97.9	90	110	
Be	9	1	No Gas	97.354	2.233	578570	1.39	100	97.4	90	110	
V	51	2	He	96.299	1.485	876659	0.39	100	96.3	90	110	
Cr	52	2	He	98.322	1.184	1087467	0.30	100	98.3	90	110	
Fe	56	2	He	9878.964	0.659	93635512	1.08	10000	98.8	90	110	
Se	78	2	He	99.396	1.224	12504	0.31	100	99.4	90	110	
Sn	118	2	He	96.785	2.297	966295	1.15	100	96.8	90	110	
As	75	2	He	98.787	1.321	149875	0.26	100	98.8	90	110	
Ca	44	2	He	9705.185	1.211	414477	0.46	10000	97.1	90	110	
Na	23	2	He	9875.925	0.872	12094082	0.95	10000	98.8	90	110	
Mg	24	2	He	9799.586	0.670	6306415	1.14	10000	98.0	90	110	
K	39	2	He	9842.225	1.682	7639392	0.98	10000	98.4	90	110	
Mn	55	2	He	97.835	1.273	687952	0.81	100	97.8	90	110	
Co	59	2	He	105.067	3.016	1858936	1.57	100	105.1	90	110	
Ni	60	2	He	99.155	1.352	457909	0.86	100	99.2	90	110	
Cu	63	2	He	100.175	0.169	1276450	1.53	100	100.2	90	110	
Zn	66	2	He	98.788	2.435	209153	1.14	100	98.8	90	110	
Al	27	2	He	93.142	1.897	28383	3.11	100	93.1	90	110	
B	11	1	No Gas	489.648	2.382	1916147	0.74	500	97.9	90	110	
Al	27	1	No Gas	97.447	1.166	2852149	0.48	100	97.4	90	110	
Si	28	1	No Gas	492.857	1.147	8052529	0.20	5000	9.9	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	485.675	0.503	778235	0.85	500	97.1	90	110	
Ag	107	1	No Gas	99.785	1.744	3909626	1.85	100	99.8	90	110	
Cd	111	1	No Gas	98.295	1.682	782552	1.43	100	98.3	90	110	
Sr	88	1	No Gas	98.112	1.479	7939882	0.30	100	98.1	90	110	
Mo	95	1	No Gas	97.429	1.383	1450989	1.18	100	97.4	90	110	
Sn	118	1	No Gas	100.029	2.548	2528785	2.99	100	100.0	90	110	
Sb	121	1	No Gas	100.971	2.741	3198489	1.59	100	101.0	90	110	
Ba	137	1	No Gas	98.858	0.940	1193457	2.41	100	98.9	90	110	
Tl	205	1	No Gas	95.427	4.299	6127326	0.66	100	95.4	90	110	
Tl	203	1	No Gas	94.876	6.430	2578914	2.07	100	94.9	90	110	
Pb	208	1	No Gas	100.618	2.496	8487063	1.98	100	100.6	90	110	
U	238	1	No Gas	98.921	2.280	7818846	2.82	100	98.9	90	110	
Ca	43	2	He	9794.130	2.857	23951	1.53	10000	97.9	90	110	
Sb	121	2	He	100.637	2.243	1224760	2.11	100	100.6	90	110	
Ti	47	2	He	98.972	1.647	28717	3.08	100	99.0	90	110	
Cu	63	1	No Gas	101.418	1.712	2743448	1.83	100	101.4	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1977635	1.76	2076007	95.26	70	120	
Ge	72	2	He	1290928	1.46	1283119	100.61	70	120	
Ge	72	1	No Gas	5992058	1.26	5854434	102.35	70	120	
In	115	1	No Gas	7380322	1.52	7184199	102.73	70	120	
Bi	209	1	No Gas	5457243	4.54	5632659	96.89	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	341_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-15T00:05:10-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.096	59.8	116248	0.5	0.5	
Be	9	1	No Gas	0.033	18.9	218	16.6	0.5	
V	51	2	He	-0.052	-6.5	1516	2.0	2.5	
Cr	52	2	He	-0.010	-12.3	1233	1.2	2.5	
Fe	56	2	He	0.817	7.1	18877	2.2	100	
Se	78	2	He	0.022	412.0	107	10.3	2	
As	75	2	He	0.020	60.4	112	16.4	2.5	
Ca	44	2	He	6.826	19.6	603	8.2	100	
Na	23	2	He	126.299	1.5	211009	0.3	100	CCB Main CR1 Failed
Mg	24	2	He	2.622	11.0	2327	6.7	100	
K	39	2	He	8.178	20.2	50885	2.1	100	
Mn	55	2	He	0.080	31.3	1060	16.4	2.5	
Co	59	2	He	0.004	88.7	277	23.5	2.5	
Ni	60	2	He	-0.001	-2676.5	190	55.0	2.5	
Cu	63	2	He	0.013	39.2	1490	4.7	2	
Zn	66	2	He	-0.048	-151.0	607	24.1	2.5	
Al	27	2	He	-0.180	-97.8	537	10.6	5	
B	11	1	No Gas	5.920	1.7	37762	1.3	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	0.148	7.0	50002	0.6	5	
Si	28	1	No Gas	0.465	37.0	573347	0.4	10	
P	31	1	No Gas	-2.926	-13.6	31830	2.0	10	
Ag	107	1	No Gas	0.014	32.1	927	18.3	2.5	
Cd	111	1	No Gas	0.002	126.3	57	40.8	1	
Sr	88	1	No Gas	0.049	18.2	7272	9.3	2.5	
Mo	95	1	No Gas	0.035	13.3	667	9.6	2.5	
Sn	118	1	No Gas	0.045	9.9	4854	3.2	5	
Sb	121	1	No Gas	0.343	3.0	12012	2.8	2.5	
Ba	137	1	No Gas	-0.097	-5.1	993	7.1	2.5	
Tl	205	1	No Gas	0.049	23.2	3594	24.3	1	
Tl	203	1	No Gas	0.047	32.8	1493	32.2	1	
Pb	208	1	No Gas	0.021	19.0	3440	12.8	2.5	
U	238	1	No Gas	0.006	38.5	533	39.3	2.5	
Ca	43	2	He	5.267	115.0	23	65.5	100	
Sb	121	2	He	0.281	3.9	3794	3.6	2.5	
Ti	47	2	He	0.057	121.5	20	100.0	2.5	
Cu	63	1	No Gas	0.040	17.9	4251	4.7	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2010696	1.16	2076007	96.85	70	120	
Ge	72	2	He	1306473	1.36	1283119	101.82	70	120	
Ge	72	1	No Gas	6114447	0.04	5854434	104.44	70	120	
In	115	1	No Gas	7476909	1.11	7184199	104.07	70	120	
Bi	209	1	No Gas	5576476	3.45	5632659	99.00	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	352_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-15T00:27:04-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	98.656	2.708	2906508	1.72	100	98.7	90	110	
Be	9	1	No Gas	97.903	1.997	670098	0.34	100	97.9	90	110	
V	51	2	He	99.405	0.456	975267	0.30	100	99.4	90	110	
Cr	52	2	He	98.737	1.094	1176986	1.10	100	98.7	90	110	
Fe	56	2	He	9984.485	0.161	101988728	0.07	10000	99.8	90	110	
Se	78	2	He	96.991	1.263	13154	1.40	100	97.0	90	110	
Sn	118	2	He	95.265	1.496	986802	0.72	100	95.3	90	110	
As	75	2	He	99.756	0.220	163116	0.32	100	99.8	90	110	
Ca	44	2	He	9823.407	0.734	452152	0.88	10000	98.2	90	110	
Na	23	2	He	10506.500	0.783	13862505	0.76	10000	105.1	90	110	
Mg	24	2	He	10035.875	3.298	6960282	3.31	10000	100.4	90	110	
K	39	2	He	10183.057	1.067	8517263	1.20	10000	101.8	90	110	
Mn	55	2	He	97.582	0.629	739532	0.56	100	97.6	90	110	
Co	59	2	He	103.767	1.223	1979066	1.19	100	103.8	90	110	
Ni	60	2	He	98.456	0.320	490040	0.24	100	98.5	90	110	
Cu	63	2	He	101.539	1.706	1394266	1.62	100	101.5	90	110	
Zn	66	2	He	99.142	0.930	226250	1.04	100	99.1	90	110	
Al	27	2	He	97.407	0.887	31954	0.78	100	97.4	90	110	
B	11	1	No Gas	499.584	2.569	2251248	0.38	500	99.9	90	110	
Al	27	1	No Gas	103.054	2.153	3250506	2.42	100	103.1	90	110	
Si	28	1	No Gas	523.195	2.144	9182792	2.09	5000	10.5	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	516.479	2.076	890102	2.01	500	103.3	90	110	
Ag	107	1	No Gas	100.507	0.877	3941830	1.98	100	100.5	90	110	
Cd	111	1	No Gas	97.306	1.178	775374	0.75	100	97.3	90	110	
Sr	88	1	No Gas	102.124	1.419	8272979	2.00	100	102.1	90	110	
Mo	95	1	No Gas	101.051	2.481	1506130	1.66	100	101.1	90	110	
Sn	118	1	No Gas	103.373	1.915	2615581	2.57	100	103.4	90	110	
Sb	121	1	No Gas	95.159	1.255	3251654	1.49	100	95.2	90	110	
Ba	137	1	No Gas	101.279	3.871	1223305	3.10	100	101.3	90	110	
Tl	205	1	No Gas	100.361	6.664	5899299	2.83	100	100.4	90	110	
Tl	203	1	No Gas	100.724	5.783	2508949	2.98	100	100.7	90	110	
Pb	208	1	No Gas	101.571	4.420	7843274	0.80	100	101.6	90	110	
U	238	1	No Gas	97.198	1.586	7038622	3.40	100	97.2	90	110	
Ca	43	2	He	9914.189	3.350	26135	3.50	10000	99.1	90	110	
Sb	121	2	He	96.244	0.400	1262368	0.33	100	96.2	90	110	
Ti	47	2	He	98.840	2.915	30902	3.06	100	98.8	90	110	
Cu	63	1	No Gas	99.623	1.152	2906341	0.42	100	99.6	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2277868	2.26	2076007	109.72	70	120	
Ge	72	2	He	1391171	0.15	1283119	108.42	70	120	
Ge	72	1	No Gas	6462166	0.75	5854434	110.38	70	120	
In	115	1	No Gas	7386695	1.12	7184199	102.82	70	120	
Bi	209	1	No Gas	4997664	3.71	5632659	88.73	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	353_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-15T00:28:48-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.438	33.5	137527	1.3	0.5	
Be	9	1	No Gas	0.022	26.7	165	21.0	0.5	
V	51	2	He	-0.038	-16.2	1689	1.9	2.5	
Cr	52	2	He	-0.005	-221.0	1320	11.9	2.5	
Fe	56	2	He	0.742	16.9	18600	6.3	100	
Se	78	2	He	0.121	212.9	123	26.1	2	
As	75	2	He	0.008	11.0	97	0.0	2.5	
Ca	44	2	He	12.265	8.7	860	7.0	100	
Na	23	2	He	209.776	1.3	321800	1.5	100	CCB Main CR1 Failed
Mg	24	2	He	4.108	5.2	3377	3.4	100	
K	39	2	He	14.778	9.6	57424	0.6	100	
Mn	55	2	He	0.151	8.5	1603	5.7	2.5	
Co	59	2	He	0.003	145.8	270	35.7	2.5	
Ni	60	2	He	-0.002	-721.5	190	32.9	2.5	
Cu	63	2	He	0.002	481.7	1387	9.8	2	
Zn	66	2	He	-0.020	-90.3	683	7.4	2.5	
Al	27	2	He	-0.181	-128.2	550	14.5	5	
B	11	1	No Gas	14.884	6.4	80653	3.5	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	0.259	13.1	54965	3.0	5	
Si	28	1	No Gas	3.561	18.6	641103	0.6	10	
P	31	1	No Gas	-0.703	-4.8	36421	1.2	10	
Ag	107	1	No Gas	0.013	25.8	893	17.1	2.5	
Cd	111	1	No Gas	0.000	1086.5	40	50.0	1	
Sr	88	1	No Gas	0.104	4.7	11735	2.2	2.5	
Mo	95	1	No Gas	0.029	2.6	583	2.0	2.5	
Sn	118	1	No Gas	0.082	17.3	5775	8.1	5	
Sb	121	1	No Gas	0.101	11.1	4344	9.9	2.5	
Ba	137	1	No Gas	-0.116	-4.6	760	10.4	2.5	
Tl	205	1	No Gas	0.049	40.5	3431	35.7	1	
Tl	203	1	No Gas	0.047	27.2	1430	22.9	1	
Pb	208	1	No Gas	0.009	26.6	2287	6.4	2.5	
U	238	1	No Gas	0.007	30.6	537	27.7	2.5	
Ca	43	2	He	17.024	88.3	53	71.0	100	
Sb	121	2	He	0.074	3.8	1273	2.0	2.5	
Ti	47	2	He	0.010	370.7	7	173.2	2.5	
Cu	63	1	No Gas	0.074	6.4	5334	3.6	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2217541	2.09	2076007	106.82	70	120	
Ge	72	2	He	1338860	1.50	1283119	104.34	70	120	
Ge	72	1	No Gas	6308972	1.18	5854434	107.76	70	120	
In	115	1	No Gas	7444392	1.88	7184199	103.62	70	120	
Bi	209	1	No Gas	5364459	2.00	5632659	95.24	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	364_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-15T00:50:37-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	98.539	1.810	2397629	0.88	100	98.5	90	110	
Be	9	1	No Gas	97.433	1.838	550744	0.83	100	97.4	90	110	
V	51	2	He	94.433	1.637	809717	0.34	100	94.4	90	110	
Cr	52	2	He	98.492	3.318	1025757	1.42	100	98.5	90	110	
Fe	56	2	He	9672.809	1.122	86348079	0.87	10000	96.7	90	110	
Se	78	2	He	96.037	0.417	11384	1.63	100	96.0	90	110	
Sn	118	2	He	97.607	0.375	889503	1.60	100	97.6	90	110	
As	75	2	He	99.291	1.413	141881	0.64	100	99.3	90	110	
Ca	44	2	He	9381.829	2.408	377334	0.79	10000	93.8	90	110	
Na	23	2	He	9744.119	2.101	11239235	1.87	10000	97.4	90	110	
Mg	24	2	He	9575.119	2.046	5802777	0.32	10000	95.8	90	110	
K	39	2	He	9424.425	2.161	6891203	1.05	10000	94.2	90	110	
Mn	55	2	He	94.279	1.437	624427	1.06	100	94.3	90	110	
Co	59	2	He	103.325	1.048	1722220	1.13	100	103.3	90	110	
Ni	60	2	He	97.890	1.536	425768	0.39	100	97.9	90	110	
Cu	63	2	He	99.466	2.123	1193484	0.22	100	99.5	90	110	
Zn	66	2	He	97.858	1.523	195162	0.51	100	97.9	90	110	
Al	27	2	He	91.424	3.777	26238	2.67	100	91.4	90	110	
B	11	1	No Gas	486.365	2.183	1810738	2.47	500	97.3	90	110	
Al	27	1	No Gas	96.018	1.493	2685610	0.92	100	96.0	90	110	
Si	28	1	No Gas	490.193	0.488	7654984	0.38	5000	9.8	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	485.529	1.342	743272	0.55	500	97.1	90	110	
Ag	107	1	No Gas	101.076	1.167	3692646	0.43	100	101.1	90	110	
Cd	111	1	No Gas	96.740	1.096	718170	0.61	100	96.7	90	110	
Sr	88	1	No Gas	99.953	1.028	7543991	2.04	100	100.0	90	110	
Mo	95	1	No Gas	98.678	1.005	1370400	1.16	100	98.7	90	110	
Sn	118	1	No Gas	102.117	2.100	2406747	1.07	100	102.1	90	110	
Sb	121	1	No Gas	100.595	1.725	3044793	0.97	100	100.6	90	110	
Ba	137	1	No Gas	99.682	3.644	1121698	2.56	100	99.7	90	110	
Tl	205	1	No Gas	93.250	2.019	5648156	0.60	100	93.3	90	110	
Tl	203	1	No Gas	94.523	0.877	2425880	2.19	100	94.5	90	110	
Pb	208	1	No Gas	99.428	0.193	7909525	2.41	100	99.4	90	110	
U	238	1	No Gas	99.810	1.974	7437589	1.96	100	99.8	90	110	
Ca	43	2	He	9543.059	2.521	21981	1.07	10000	95.4	90	110	
Sb	121	2	He	100.161	1.677	1148018	0.42	100	100.2	90	110	
Ti	47	2	He	95.425	2.240	26068	0.64	100	95.4	90	110	
Cu	63	1	No Gas	99.901	2.913	2581711	2.46	100	99.9	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1880877	1.33	2076007	90.60	70	120	
Ge	72	2	He	1215936	1.89	1283119	94.76	70	120	
Ge	72	1	No Gas	5724665	0.79	5854434	97.78	70	120	
In	115	1	No Gas	6882096	1.58	7184199	95.79	70	120	
Bi	209	1	No Gas	5143046	2.57	5632659	91.31	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	365_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-15T00:52:22-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.486	45.0	119811	1.5	0.5	
Be	9	1	No Gas	0.024	2.7	157	1.8	0.5	
V	51	2	He	-0.051	-14.8	1411	4.6	2.5	
Cr	52	2	He	-0.005	-188.4	1197	8.4	2.5	
Fe	56	2	He	0.525	11.7	14892	2.4	100	
Se	78	2	He	0.132	177.5	112	22.3	2	
As	75	2	He	0.003	82.6	80	4.2	2.5	
Ca	44	2	He	1.666	52.3	353	11.4	100	
Na	23	2	He	170.400	3.4	245849	0.8	100	CCB Main CR1 Failed
Mg	24	2	He	1.496	12.3	1477	5.5	100	
K	39	2	He	10.590	21.3	48875	1.4	100	
Mn	55	2	He	0.086	2.6	1023	1.5	2.5	
Co	59	2	He	0.002	155.5	220	25.3	2.5	
Ni	60	2	He	-0.002	-513.0	170	23.5	2.5	
Cu	63	2	He	0.020	28.2	1463	6.0	2	
Zn	66	2	He	-0.064	-79.4	530	18.2	2.5	
Al	27	2	He	-0.177	-213.8	497	19.3	5	
B	11	1	No Gas	12.728	7.1	61497	2.7	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	0.177	22.5	47348	1.3	5	
Si	28	1	No Gas	2.380	17.7	561540	0.8	10	
P	31	1	No Gas	-1.240	-13.8	32088	0.8	10	
Ag	107	1	No Gas	0.013	20.1	833	10.3	2.5	
Cd	111	1	No Gas	0.000	460.3	37	15.7	1	
Sr	88	1	No Gas	0.031	23.8	5408	8.9	2.5	
Mo	95	1	No Gas	0.026	35.1	493	24.4	2.5	
Sn	118	1	No Gas	0.078	38.2	5285	12.1	5	
Sb	121	1	No Gas	0.097	20.9	3777	15.7	2.5	
Ba	137	1	No Gas	-0.109	-8.2	780	12.2	2.5	
Tl	205	1	No Gas	0.053	33.6	3671	31.7	1	
Tl	203	1	No Gas	0.052	36.1	1557	33.3	1	
Pb	208	1	No Gas	0.008	43.3	2227	13.2	2.5	
U	238	1	No Gas	0.006	26.9	510	26.4	2.5	
Ca	43	2	He	-1.187	-213.7	7	86.6	100	
Sb	121	2	He	0.074	13.1	1147	8.9	2.5	
Ti	47	2	He	0.062	61.4	20	50.0	2.5	
Cu	63	1	No Gas	0.038	8.7	3907	3.3	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1914316	2.74	2076007	92.21	70	120	
Ge	72	2	He	1210440	1.92	1283119	94.34	70	120	
Ge	72	1	No Gas	5693702	1.25	5854434	97.25	70	120	
In	115	1	No Gas	6922858	1.91	7184199	96.36	70	120	
Bi	209	1	No Gas	5356594	1.06	5632659	95.10	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	367_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-15T00:56:20-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	54.684	37.552	2067370	8.35	100	54.7	90	110	CCV Main CR1-2 Failed
Be	9	1	No Gas	50.992	38.338	429733	11.90	100	51.0	90	110	CCV Main CR1-2 Failed
V	51	2	He	95.024	0.928	796868	0.32	100	95.0	90	110	
Cr	52	2	He	97.930	2.978	997574	2.00	100	97.9	90	110	
Fe	56	2	He	9709.665	1.608	84762039	0.61	10000	97.1	90	110	
Se	78	2	He	96.457	1.344	11181	1.87	100	96.5	90	110	
Sn	118	2	He	96.813	2.104	880886	1.08	100	96.8	90	110	
As	75	2	He	100.058	1.040	139829	0.26	100	100.1	90	110	
Ca	44	2	He	9520.277	1.679	374492	0.47	10000	95.2	90	110	
Na	23	2	He	9696.383	1.403	10938807	1.85	10000	97.0	90	110	
Mg	24	2	He	9663.573	1.143	5727856	0.22	10000	96.6	90	110	
K	39	2	He	9586.466	1.356	6855537	1.68	10000	95.9	90	110	
Mn	55	2	He	95.880	1.737	620993	0.59	100	95.9	90	110	
Co	59	2	He	102.964	2.721	1678125	1.68	100	103.0	90	110	
Ni	60	2	He	98.491	0.924	418964	0.30	100	98.5	90	110	
Cu	63	2	He	100.632	3.359	1180753	2.13	100	100.6	90	110	
Zn	66	2	He	99.098	0.688	193286	0.74	100	99.1	90	110	
Al	27	2	He	92.249	2.083	25891	1.57	100	92.2	90	110	
B	11	1	No Gas	249.394	40.012	1392278	13.06	500	49.9	90	110	CCV Main CR1-2 Failed
Al	27	1	No Gas	66.122	22.414	2807285	10.39	100	66.1	90	110	CCV Main CR1-2 Failed
Si	28	1	No Gas	321.497	22.126	7926227	19.64	5000	6.4	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	247.167	43.376	575815	12.55	500	49.4	90	110	CCV Main CR1-2 Failed
Ag	107	1	No Gas	53.858	40.152	2882813	11.37	100	53.9	90	110	CCV Main CR1-2 Failed
Cd	111	1	No Gas	50.831	41.849	550983	13.08	100	50.8	90	110	CCV Main CR1-2 Failed
Sr	88	1	No Gas	52.295	40.688	5778662	11.86	100	52.3	90	110	CCV Main CR1-2 Failed
Mo	95	1	No Gas	51.991	42.696	1053304	13.83	100	52.0	90	110	CCV Main CR1-2 Failed
Sn	118	1	No Gas	54.457	42.560	1874763	13.62	100	54.5	90	110	CCV Main CR1-2 Failed
Sb	121	1	No Gas	52.481	39.963	2315181	12.83	100	52.5	90	110	CCV Main CR1-2 Failed
Ba	137	1	No Gas	52.800	43.247	867412	14.24	100	52.8	90	110	CCV Main CR1-2 Failed
Tl	205	1	No Gas	50.740	42.411	4532222	13.56	100	50.7	90	110	CCV Main CR1-2 Failed
Tl	203	1	No Gas	49.640	41.010	1881979	12.27	100	49.6	90	110	CCV Main CR1-2 Failed
Pb	208	1	No Gas	53.487	42.679	6274749	13.84	100	53.5	90	110	CCV Main CR1-2 Failed
U	238	1	No Gas	53.497	41.911	5884979	13.07	100	53.5	90	110	CCV Main CR1-2 Failed
Ca	43	2	He	9501.992	1.453	21407	0.75	10000	95.0	90	110	
Sb	121	2	He	100.250	2.262	1123943	2.91	100	100.3	90	110	
Ti	47	2	He	96.708	3.953	25838	3.58	100	96.7	90	110	
Cu	63	1	No Gas	54.392	39.304	2052855	12.13	100	54.4	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2989235	25.02	2076007	143.99	70	120	ISTD Failed
Ge	72	2	He	1189056	1.21	1283119	92.67	70	120	
Ge	72	1	No Gas	8924473	25.32	5854434	152.44	70	120	ISTD Failed
In	115	1	No Gas	10817013	25.98	7184199	150.57	70	120	ISTD Failed
Bi	209	1	No Gas	8194588	27.38	5632659	145.48	70	120	ISTD Failed

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	368_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-15T00:58:05-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.424	9.8	115968	0.4	0.5	
Be	9	1	No Gas	0.017	17.0	117	15.1	0.5	
V	51	2	He	-0.054	-15.0	1376	4.3	2.5	
Cr	52	2	He	-0.010	-24.4	1137	2.2	2.5	
Fe	56	2	He	0.625	8.2	15649	3.3	100	
Se	78	2	He	0.298	15.0	131	4.9	2	
As	75	2	He	0.000	-2527.6	74	14.4	2.5	
Ca	44	2	He	-0.008	-12328.2	283	12.4	100	
Na	23	2	He	146.134	3.4	216263	2.1	100	CCB Main CR1 Failed
Mg	24	2	He	1.489	19.4	1460	11.2	100	
K	39	2	He	9.091	13.4	47396	2.4	100	
Mn	55	2	He	0.068	17.5	897	7.8	2.5	
Co	59	2	He	0.004	36.1	247	8.4	2.5	
Ni	60	2	He	-0.001	-510.9	173	12.0	2.5	
Cu	63	2	He	0.018	40.1	1427	6.9	2	
Zn	66	2	He	-0.033	-30.9	587	3.9	2.5	
Al	27	2	He	-0.238	-145.5	477	20.4	5	
B	11	1	No Gas	12.031	4.6	57698	3.3	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	0.144	57.4	47012	3.8	5	
Si	28	1	No Gas	0.130	372.5	535552	0.5	10	
P	31	1	No Gas	-1.749	-3.7	31740	1.8	10	
Ag	107	1	No Gas	0.013	22.5	830	12.8	2.5	
Cd	111	1	No Gas	0.004	109.1	63	48.2	1	
Sr	88	1	No Gas	0.013	29.7	4021	6.5	2.5	
Mo	95	1	No Gas	0.029	36.4	543	27.3	2.5	
Sn	118	1	No Gas	0.097	17.2	5728	6.2	5	
Sb	121	1	No Gas	0.103	16.8	4004	11.6	2.5	
Ba	137	1	No Gas	-0.101	-4.8	873	6.3	2.5	
Tl	205	1	No Gas	0.061	37.1	3971	36.0	1	
Tl	203	1	No Gas	0.060	38.8	1707	36.9	1	
Pb	208	1	No Gas	0.011	21.5	2397	9.7	2.5	
U	238	1	No Gas	0.007	26.8	563	26.4	2.5	
Ca	43	2	He	6.154	109.8	23	65.5	100	
Sb	121	2	He	0.064	2.9	1030	1.9	2.5	
Ti	47	2	He	0.001	2689.4	3	173.2	2.5	
Cu	63	1	No Gas	0.033	13.3	3804	4.4	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1874197	0.74	2076007	90.28	70	120	
Ge	72	2	He	1199877	0.94	1283119	93.51	70	120	
Ge	72	1	No Gas	5764463	1.55	5854434	98.46	70	120	
In	115	1	No Gas	6926884	0.69	7184199	96.42	70	120	
Bi	209	1	No Gas	5124136	1.75	5632659	90.97	70	120	

Sample Report

Sample Table

Sample Name	LLCCV2
Data File Name	370LCV2.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-15T01:01:50-05:00
Sample Type	LLCCV2
Dilution	1
Comment	
ISTD Ref FileName	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	2.229	2.229	2.70	157705	0.00	2	
Be	9	1	No Gas	1.888	1.888	3.61	10649	0.02	2	
V	51	2	He	1.842	1.842	1.95	17240	0.01	2	
Cr	52	2	He	1.957	1.957	1.26	21160	0.01	2	
Fe	56	2	He	199.937	199.937	0.78	1756699	0.01	200	
Se	78	2	He	1.960	1.960	4.82	321	0.61	2	
Sn	118	2	He	1.920	1.920	2.27	19451	0.01	2	
As	75	2	He	1.886	1.886	0.62	2710	0.07	2	
Ca	44	2	He	188.988	188.988	2.11	7716	2.45	200	
Na	23	2	He	330.577	330.577	1.27	421748	0.08	200	NewName Main CR1 Failed
Mg	24	2	He	194.218	194.218	1.67	115758	0.17	200	
K	39	2	He	194.836	194.836	0.39	179144	0.11	200	
Mn	55	2	He	1.995	1.995	3.04	13370	0.01	2	
Co	59	2	He	1.985	1.985	0.90	32566	0.01	2	
Ni	60	2	He	1.960	1.960	0.95	8516	0.02	2	
Cu	63	2	He	2.013	2.013	1.02	24823	0.01	2	
Zn	66	2	He	2.404	2.404	2.22	5324	0.05	2	
Al	27	2	He	2.787	2.787	30.04	1303	0.21	2	NewName Main CR1 Failed
B	11	1	No Gas	17.305	17.305	1.42	77088	0.02	10	NewName Main CR1 Failed
Al	27	1	No Gas	3.439	3.439	0.95	136316	0.00	2	NewName Main CR1 Failed
Si	28	1	No Gas	11.441	11.441	5.75	690812	0.00	10	
P	31	1	No Gas	7.319	7.319	6.08	44415	0.02	10	
Ag	107	1	No Gas	1.967	1.967	2.62	73638	0.00	2	
Cd	111	1	No Gas	1.868	1.868	2.27	14175	0.01	2	
Sr	88	1	No Gas	1.940	1.940	0.69	152328	0.00	2	
Mo	95	1	No Gas	1.864	1.864	1.40	26537	0.01	2	
Sn	118	1	No Gas	1.993	1.993	2.42	51325	0.00	2	
Sb	121	1	No Gas	1.894	1.894	0.99	57734	0.00	2	
Ba	137	1	No Gas	2.092	2.092	5.27	26006	0.01	2	
Tl	205	1	No Gas	1.777	1.777	2.87	111739	0.00	2	
Tl	203	1	No Gas	1.691	1.691	2.71	45063	0.00	2	
Pb	208	1	No Gas	1.875	1.875	2.36	155907	0.00	2	
U	238	1	No Gas	1.817	1.817	2.04	140206	0.00	2	
Ca	43	2	He	216.292	216.292	4.69	497	43.55	200	
Sb	121	2	He	1.918	1.918	1.81	21808	0.01	2	
Ti	47	2	He	1.611	1.611	23.30	433	0.37	200	
Cu	63	1	No Gas	2.046	2.046	1.74	55326	0.00	2	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1873475	0.84	2076007	90.24	70	120	
Ge	72	2	He	1189932	0.80	1283119	92.74	70	120	
Ge	72	1	No Gas	5679536	0.53	5854434	97.01	70	120	
In	115	1	No Gas	7018314	0.94	7184199	97.69	70	120	
Bi	209	1	No Gas	5323833	2.72	5632659	94.52	70	120	

Sample Report

Sample Table

Sample Name	LLCCV5
Data File Name	371LCV5.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-15T01:03:43-05:00
Sample Type	LLCCV5
Dilution	1
Comment	
ISTD Ref FileName	218CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	4.924	4.924	3.81	221452	0.00	5	
Be	9	1	No Gas	4.681	4.681	2.28	26532	0.02	5	
V	51	2	He	4.562	4.562	0.55	40574	0.01	5	
Cr	52	2	He	4.782	4.782	1.63	50627	0.01	5	
Fe	56	2	He	486.067	486.067	1.04	4315919	0.01	500	
Se	78	2	He	5.048	5.048	3.68	685	0.74	5	
Sn	118	2	He	4.733	4.733	1.94	46299	0.01	5	
As	75	2	He	4.859	4.859	1.87	6962	0.07	5	
Ca	44	2	He	458.710	458.710	1.37	18583	2.47	500	
Na	23	2	He	602.508	602.508	1.99	737451	0.08	500	
Mg	24	2	He	474.261	474.261	0.67	285808	0.17	500	
K	39	2	He	467.494	467.494	2.23	378299	0.12	500	
Mn	55	2	He	4.731	4.731	2.22	31523	0.02	5	
Co	59	2	He	4.882	4.882	2.74	80930	0.01	5	
Ni	60	2	He	4.911	4.911	1.54	21367	0.02	5	
Cu	63	2	He	4.899	4.899	1.97	59500	0.01	5	
Zn	66	2	He	5.238	5.238	1.93	10988	0.05	5	
Al	27	2	He	5.634	5.634	9.11	2117	0.27	5	
B	11	1	No Gas	29.810	29.810	1.91	123847	0.02	25	
Al	27	1	No Gas	6.449	6.449	1.67	222141	0.00	5	
Si	28	1	No Gas	26.921	26.921	3.29	929520	0.00	25	
P	31	1	No Gas	21.048	21.048	2.52	65397	0.03	25	
Ag	107	1	No Gas	5.052	5.052	0.58	183584	0.00	5	
Cd	111	1	No Gas	4.889	4.889	1.75	36070	0.01	5	
Sr	88	1	No Gas	4.828	4.828	2.04	364590	0.00	5	
Mo	95	1	No Gas	4.767	4.767	1.14	65853	0.01	5	
Sn	118	1	No Gas	4.996	4.996	2.16	120128	0.00	5	
Sb	121	1	No Gas	4.731	4.731	0.70	145285	0.00	5	
Ba	137	1	No Gas	5.154	5.154	3.49	59464	0.01	5	
Tl	205	1	No Gas	4.591	4.591	1.23	283324	0.00	5	
Tl	203	1	No Gas	4.396	4.396	3.72	114909	0.00	5	
Pb	208	1	No Gas	4.754	4.754	2.09	386178	0.00	5	
U	238	1	No Gas	4.517	4.517	2.74	342755	0.00	5	
Ca	43	2	He	435.024	435.024	4.54	1003	43.36	500	
Sb	121	2	He	4.717	4.717	2.40	53948	0.01	5	
Ti	47	2	He	4.669	4.669	18.48	1270	0.37	5	
Cu	63	1	No Gas	4.996	4.996	2.50	133043	0.00	5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1885019	2.41	2076007	90.80	70	120	
Ge	72	2	He	1206539	0.66	1283119	94.03	70	120	

Sample Report

Ge	72	1	No Gas	5774761	1.61	5854434	98.64	70	120	
In	115	1	No Gas	6832153	1.11	7184199	95.10	70	120	
Bi	209	1	No Gas	5233208	2.11	5632659	92.91	70	120	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA
Data File Name	372ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-15T01:05:35-05:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.802	6.4	117632	0.4	0	ICSA Main CR1 Failed
Be	9	1	No Gas	0.003	188.8	32	87.0	0	ICSA Main CR1 Failed
V	51	2	He	0.012	100.6	1909	5.2	0	ICSA Main CR1 Failed
Cr	52	2	He	0.994	5.4	11318	4.4	0	ICSA Main CR1 Failed
Fe	56	2	He	101747.043	1.3	886353187	0.5	0	
Se	78	2	He	0.230	64.8	121	13.3	0	ICSA Main CR1 Failed
Sn	118	2	He	0.017	28.1	1483	2.4	0	ICSA Main CR1 Failed
As	75	2	He	0.117	6.8	238	5.3	0	ICSA Main CR1 Failed
Ca	44	2	He	99466.174	1.3	3902352	1.1	0	
Na	23	2	He	100968.033	0.4	113197858	0.4	0	
Mg	24	2	He	99020.132	1.1	58568567	0.3	0	
K	39	2	He	102595.298	1.6	72822076	0.9	0	
Mn	55	2	He	0.209	5.6	1800	4.5	0	ICSA Main CR1 Failed
Co	59	2	He	0.197	0.5	3391	1.2	0	ICSA Main CR1 Failed
Ni	60	2	He	0.236	17.9	1177	15.7	0	ICSA Main CR1 Failed
Cu	63	2	He	0.440	1.4	6345	1.3	0	ICSA Main CR1 Failed
Zn	66	2	He	0.382	29.6	1387	16.5	0	ICSA Main CR1 Failed
Al	27	2	He	94329.030	1.8	25872951	1.1	0	
B	11	1	No Gas	8.837	2.4	43333	2.3	0	
Al	27	1	No Gas	98537.402	1.2	2595381668	1.3	0	
Si	28	1	No Gas	22.546	6.4	820714	2.3	0	
P	31	1	No Gas	97339.310	2.5	136065651	1.4	0	
Ag	107	1	No Gas	0.016	15.1	860	9.9	0	ICSA Main CR1 Failed
Cd	111	1	No Gas	1.462	2.4	10171	1.9	0	ICSA Main CR1 Failed
Sr	88	1	No Gas	0.991	0.6	72684	0.9	0	ICSA Main CR1 Failed
Mo	95	1	No Gas	2112.665	1.8	27404151	0.9	0	
Sn	118	1	No Gas	0.028	21.0	3801	4.4	0	ICSA Main CR1 Failed
Sb	121	1	No Gas	0.021	16.7	1447	8.1	0	ICSA Main CR1 Failed
Ba	137	1	No Gas	0.046	38.4	2350	8.3	0	ICSA Main CR1 Failed
Tl	205	1	No Gas	0.007	34.2	660	18.9	0	ICSA Main CR1 Failed
Tl	203	1	No Gas	0.010	22.9	363	16.1	0	ICSA Main CR1 Failed
Pb	208	1	No Gas	0.030	9.5	3460	4.7	0	ICSA Main CR1 Failed
U	238	1	No Gas	0.003	17.2	237	13.6	0	ICSA Main CR1 Failed
Ca	43	2	He	97329.162	2.4	218734	1.8	0	
Sb	121	2	He	0.017	67.9	490	25.5	0	ICSA Main CR1 Failed
Ti	47	2	He	1958.915	0.8	522299	0.3	0	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1767758	0.63	2076007	85.15	70	120	
Ge	72	2	He	1186618	0.75	1283119	92.48	70	120	
Ge	72	1	No Gas	5477839	1.21	5854434	93.57	70	120	
In	115	1	No Gas	6428918	1.01	7184199	89.49	70	120	
Bi	209	1	No Gas	4614303	1.91	5632659	81.92	70	120	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB
Data File Name	373ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-15T01:07:34-05:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	No Gas	107.065	2.606	2506919	1.09	100	107.1	180	120	ICSB Main CR1 Failed
Be	9	1	No Gas	104.097	2.129	568281	0.83	100	104.1	80	120	
V	51	2	He	100.877	0.511	846426	0.28	100	100.9	80	120	
Cr	52	2	He	105.729	1.808	1077842	1.97	100	105.7	80	120	
Fe	56	2	He	114171.285	1.010	997323798	1.11	100	114171.3	80	120	ICSB Main CR1 Failed
Se	78	2	He	107.898	1.814	12504	2.05	100	107.9	80	120	
Sn	118	2	He	101.795	0.459	919454	1.23	100	101.8	80	120	
As	75	2	He	108.603	0.613	151873	0.78	100	108.6	80	120	
Ca	44	2	He	110761.387	0.351	4357320	0.68	100	110761.4	80	120	
Na	23	2	He	110487.838	0.407	124200338	0.27	100	110487.8	80	120	
Mg	24	2	He	111008.032	1.686	65836484	1.34	100	111008.0	80	120	
K	39	2	He	114256.469	0.304	81317797	0.15	100	114256.5	80	120	
Mn	55	2	He	99.735	0.906	646453	1.27	100	99.7	80	120	
Co	59	2	He	105.537	1.716	1721566	2.09	100	105.5	80	120	
Ni	60	2	He	100.536	0.875	427963	1.09	100	100.5	80	120	
Cu	63	2	He	99.493	1.081	1168443	0.86	100	99.5	80	120	
Zn	66	2	He	102.945	0.336	200900	0.68	100	102.9	80	120	
Al	27	2	He	95153.801	1.226	26170935	0.89	100	95153.8	80	120	ICSB Main CR1 Failed
B	11	1	No Gas	517.703	2.375	1860528	1.98	100	517.7	80	120	
Al	27	1	No Gas	98303.254	1.456	2643241027	2.15	100	98303.3	80	120	ICSB Main CR1 Failed
Si	28	1	No Gas	535.447	0.262	8119688	0.85	100	535.4	80	120	
P	31	1	No Gas	98273.382	0.088	140250251	0.79	100	98273.4	80	120	ICSB Main CR1 Failed
Ag	107	1	No Gas	102.392	1.721	3597673	0.85	100	102.4	80	120	
Cd	111	1	No Gas	103.625	1.088	739880	0.28	100	103.6	80	120	
Sr	88	1	No Gas	110.847	1.066	8045446	1.19	100	110.8	80	120	
Mo	95	1	No Gas	2200.619	1.945	29388514	1.31	100	2200.6	80	120	
Sn	118	1	No Gas	110.223	1.633	2498752	2.34	100	110.2	80	120	
Sb	121	1	No Gas	105.258	0.410	3112125	1.11	100	105.3	80	120	
Ba	137	1	No Gas	109.980	1.836	1190324	1.52	100	110.0	80	120	
Tl	205	1	No Gas	103.596	0.458	5702086	1.04	100	103.6	80	120	
Tl	203	1	No Gas	103.820	1.787	2420663	1.94	100	103.8	80	120	
Pb	208	1	No Gas	107.139	0.982	7742801	1.68	100	107.1	80	120	
U	238	1	No Gas	107.892	1.522	7304696	1.06	100	107.9	80	120	
Ca	43	2	He	109135.527	1.165	245948	0.98	100	109135.5	80	120	
Sb	121	2	He	106.047	1.588	1189587	1.63	100	106.0	80	120	
Ti	47	2	He	2095.607	0.699	560279	1.09	100	2095.6	80	120	ICSB Main CR1 Failed
Cu	63	1	No Gas	102.539	2.324	2588139	1.49	100	102.5	80	120	

QC ISTD Table

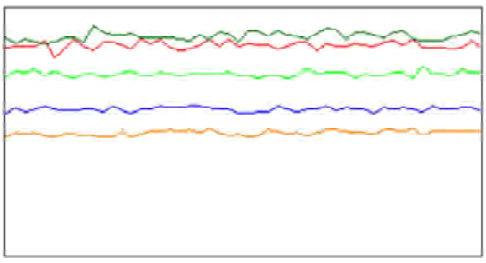
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1816628	1.42	2076007	87.51	70	120	
Ge	72	2	He	1189809	0.39	1283119	92.73	70	120	
Ge	72	1	No Gas	5591592	0.86	5854434	95.51	70	120	
In	115	1	No Gas	6618748	0.93	7184199	92.13	70	120	
Bi	209	1	No Gas	4672052	1.00	5632659	82.95	70	120	

Tune Check Report

Operator Name	ALSHS NoUser
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\041320A.b
Acq. Date-Time	4/13/2020 12:24:44 PM
Report Comment	---
Instrument Name	G8421A SG18523544

[No Gas]

Sensitivity



Sampling Period [sec]	0.514
Integration Time [sec]	0.1

Mass	Range	Count	Resp [cps/ug/l]	Resp (Required) [cps/ug/l]	Resp (Flag)
9	10000	8520	85195.24		
24	50000	36748	367479.81		
59	100000	59222	592219.47		
115	200000	99263	992627.84		
208	50000	44431	444308.06		

Mass	Resp Ratio	Resp Ratio (Required)	Resp Ratio (Flag)
9		-	
24		-	
59		-	
115		-	
208		-	

Mass	RSD%	RSD% (Required)	RSD% (Flag)
9	1.776	5.000	
24	1.357	5.000	
59	1.408	5.000	
115	1.887	5.000	
208	1.943	5.000	

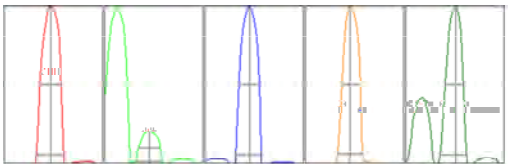
Mass	Background	Background (Required)	Background (Flag)
9	0.300		
24	0.100		
59	0.400		
115	1.000		
208	1.700		

Oxide/Doubly Charged Ratio

Oxide	156 / 140 0.822 %
Doubly Charged	70 / 140 0.887 %

Tune Check Report

Resolution/Axis



Integration Time [sec]	0.1
Acquisition Time [sec]	37.4
Y Axis	Linear

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	8626.29	8.95	8.90 - 9.10	
24	37622.85	23.90	23.90 - 24.10	
59	62012.82	58.90	58.90 - 59.10	
115	103891.83	114.90	114.90 - 115.10	
208	44608.48	208.05	207.90 - 208.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.65	0.828		
24	0.64	0.822		
59	0.60	0.779		
115	0.55	0.767		
208	0.57	0.808		

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.60 L/min	Dilution Gas	0.40 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.80 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	9.1 V	Deflect	12.6 V
Extract 2	-195.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-90 V	Cell Exit	-50 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	---	OctP RF	190 V		

QP Parameters

Mass Gain	130	Axis Gain	1.0002	QP Bias	-3.0 V
Mass Offset	125	Axis Offset	0.03		

Hardware Settings

Torch

Torch H	0.5 mm	Torch V	0.0 mm

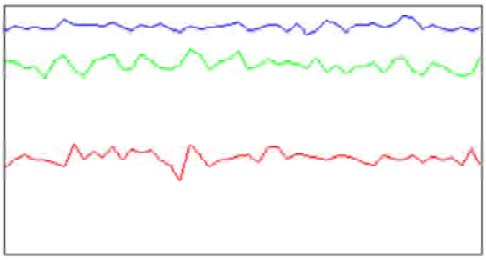
EM

Discriminator	3.2 mV	Analog HV	2390 V	Pulse HV	1162 V

[He]

Tune Check Report

Sensitivity



Sampling Period [sec]	0.306
Integration Time [sec]	0.1

Mass	Range	Count	Resp [cps/ug/l]	Resp (Required) [cps/ug/l]	Resp (Flag)
9	500	194	1937.13		
24	1000	765	7648.88		
59	20000	18389	183889.54		

Mass	Resp Ratio	Resp Ratio (Required)	Resp Ratio (Flag)
9		-	
24		-	
59		-	

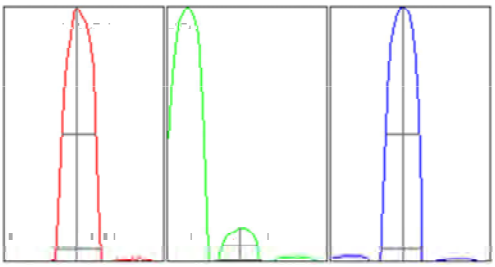
Mass	RSD%	RSD% (Required)	RSD% (Flag)
9	7.004	5.000	Fail
24	3.620	5.000	
59	1.604	5.000	

Mass	Background	Background (Required)	Background (Flag)
9	0.100		
24	0.000		
59	0.200		

Oxide/Doubly Charged Ratio

Oxide	156 / 140 0.282 %
Doubly Charged	70 / 140 0.931 %

Resolution/Axis



Integration Time [sec]	0.1
Acquisition Time [sec]	22.24
Y Axis	Linear

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	205.27	8.90	8.90 - 9.10	
24	769.74	23.90	23.90 - 24.10	
59	18958.97	58.90	58.90 - 59.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.65	0.827		
24	0.64	0.806		

Tune Check Report

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
59	0.61	0.779		

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.60 L/min	Dilution Gas	0.40 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.80 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.0 V	Deflect	0.0 V
Extract 2	-195.0 V	Cell Entrance	-40 V	Plate Bias	-70 V
Omega Bias	-80 V	Cell Exit	-60 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	---	Energy Discrimination	3.0 V
He Flow	5.0 mL/min	OctP Bias	-18.0 V		
H2 Flow	---	OctP RF	200 V		

QP Parameters

Mass Gain	130	Axis Gain	1.0002	QP Bias	-15.0 V
Mass Offset	125	Axis Offset	0.03		

Hardware Settings

Torch

Torch H	0.5 mm	Torch V	0.0 mm

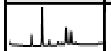
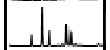
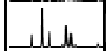
EM

Discriminator	3.2 mV	Analog HV	2390 V	Pulse HV	1162 V

HS20040041 Wet Chem Raw Data (IC)

ALS WO# HS20040041

Sequence: 041520
Last Update Operator: alshs.nouser

CD	Name	Comment	Type	Position	Dilution	Level	Instrument Method	Processing Method	Volume	Status	Inject Time
	STD1	2970209205	Calibration	GA1	1.0000	1	Anions Program	Anions Proces	5.0	Finished	2/5/2020 7:39:11 PM -0
	STD2	NEW PRGM	Calibration	GA2	1.0000	2	Anions Program	Anions Proces	5.0	Finished	2/5/2020 7:57:16 PM -0
	STD3		Calibration	GA3	1.0000	3	Anions Program	Anions Proces	5.0	Finished	2/5/2020 8:15:24 PM -0
	STD4		Calibration	GA4	1.0000	4	Anions Program	Anions Proces	5.0	Finished	2/5/2020 8:33:31 PM -0
	STD5	NO2/PO4	Calibration	GA5	1.0000	5	Anions Program	Anions Proces	5.0	Finished	2/5/2020 8:51:36 PM -0
	STD6	MAX 10PPM	Calibration	GA6	1.0000	6	Anions Program	Anions Proces	5.0	Finished	2/5/2020 9:09:41 PM -0
	ICV	2970209123	Unknown	GA7	1.0000		Anions Program	Anions Proces	5.0	Finished	2/5/2020 9:27:48 PM -0
	ICB		Unknown	GA8	1.0000		Anions Program	Anions Proces	5.0	Finished	2/5/2020 9:45:53 PM -0
	CCV		Unknown	GA1	1.0000		Anions Program	Anions Proces	5.0	Finished	4/15/2020 11:01:16 AM
	CCB		Unknown	GA2	1.0000		Anions Program	Anions Proces	5.0	Finished	4/15/2020 11:19:26 AM
	MBLK041520	9056_W	Unknown	GB1	1.0000		Anions Program	Anions Proces	5.0	Finished	4/15/2020 11:37:33 AM
	LCS		Unknown	GB2	1.0000		Anions Program	Anions Proces	5.0	Finished	4/15/2020 11:55:43 AM
	HS20040041-01DF5	BR	Unknown	GB4	5.0000		Anions Program	Anions Proces	5.0	Finished	4/15/2020 12:13:52 PM
	HS20040041-01DF20		Unknown	GB5	20.0000		Anions Program	Anions Proces	5.0	Finished	4/15/2020 12:31:57 PM
	HS20040583-01	300_W	Unknown	GB6	1.0000		Anions Program	Anions Proces	5.0	Finished	4/15/2020 12:50:05 PM
	HS20040583-01MS		Unknown	GB7	1.0000		Anions Program	Anions Proces	5.0	Finished	4/15/2020 1:08:11 PM -
	HS20040583-01MSD		Unknown	GB8	1.0000		Anions Program	Anions Proces	5.0	Finished	4/15/2020 1:26:17 PM -
	CCV1		Unknown	GA3	1.0000		Anions Program	Anions Proces	5.0	Finished	4/15/2020 1:44:22 PM -
	CCB		Unknown	GA4	1.0000		Anions Program	Anions Proces	5.0	Finished	4/15/2020 2:02:29 PM -

Sequence: 041520
Last Update Operator: alshs.nouser

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Sequence: 041520
Injection #6: STD6

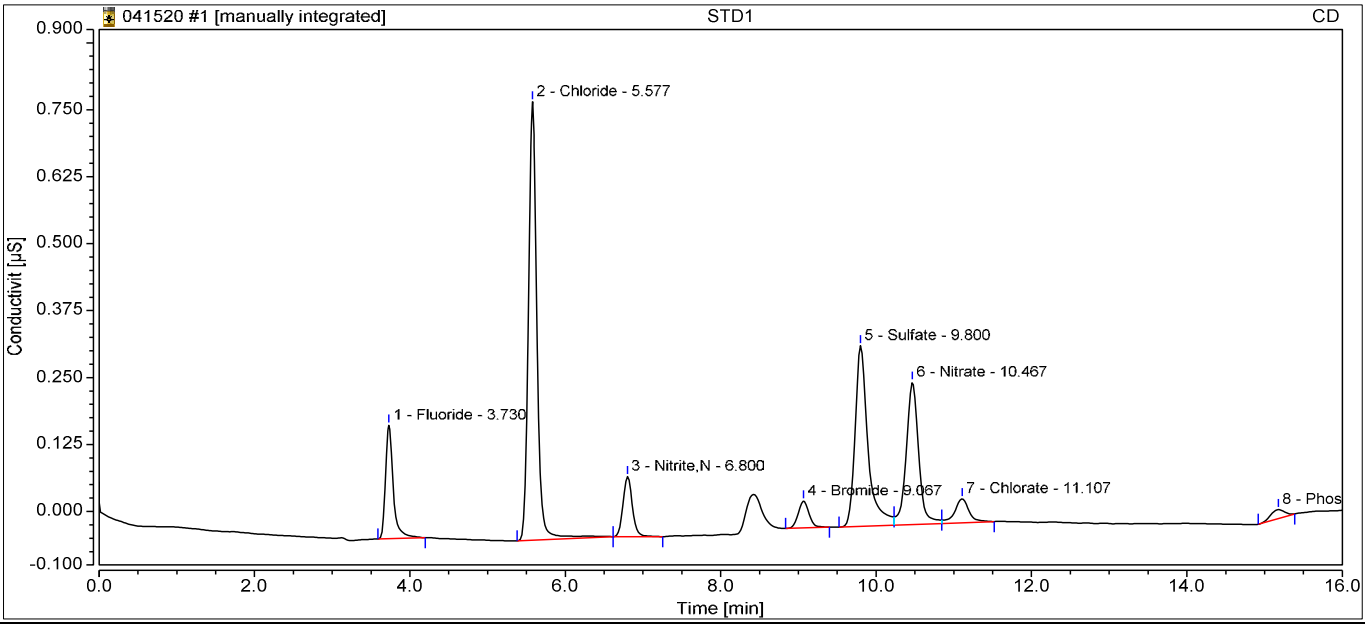
Calibration

Peak No.	Peak Name	Cal.Type	Eval.Type	Number of Points	Rel.Std.Dev. %	Coeff.of Determination	C0 (Offset)	C1 (Slope)	C2 (Curve)
1	*Fluoride*	*Lin, WithOffset, 1/*	*Area*	*6*	*13.4314*	*0.99915*	*-0.0083*	*0.3414*	*0.0000*
2	Chloride	Lin, WithOffset, 1/	Area	6	2.2020	0.99998	-0.0141	0.2320	0.0000
3	Nitrite,N	Lin, WithOffset, 1/	Area	5	19.9747	0.99771	-0.0251	0.4962	0.0000
4	Bromide	Lin, WithOffset, 1/	Area	6	12.1436	0.99933	-0.0033	0.0991	0.0000
5	Sulfate	Lin, WithOffset, 1/	Area	6	4.2312	0.99991	-0.0170	0.1679	0.0000
6	Nitrate	Lin, WithOffset, 1/	Area	6	2.3081	0.99997	-0.0076	0.5843	0.0000
7	Chlorate	Lin, WithOffset, 1/	Area	6	9.7729	0.99945	0.0017	0.0949	0.0000
8	Phosphate	Lin, WithOffset, 1/	Area	5	18.6678	0.99857	-0.0214	0.2119	0.0000
Maximum					**19.9747**	0.99998			
Minimum					2.2020	**0.99771**			

1 STD1

Sample Name:	**STD1**	*Injection Volume:*	**5.00**
Vial Number:	**GA1**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**02/05/2020 19:39**	*Sample Weight:*	**1.0000**

Run Time:



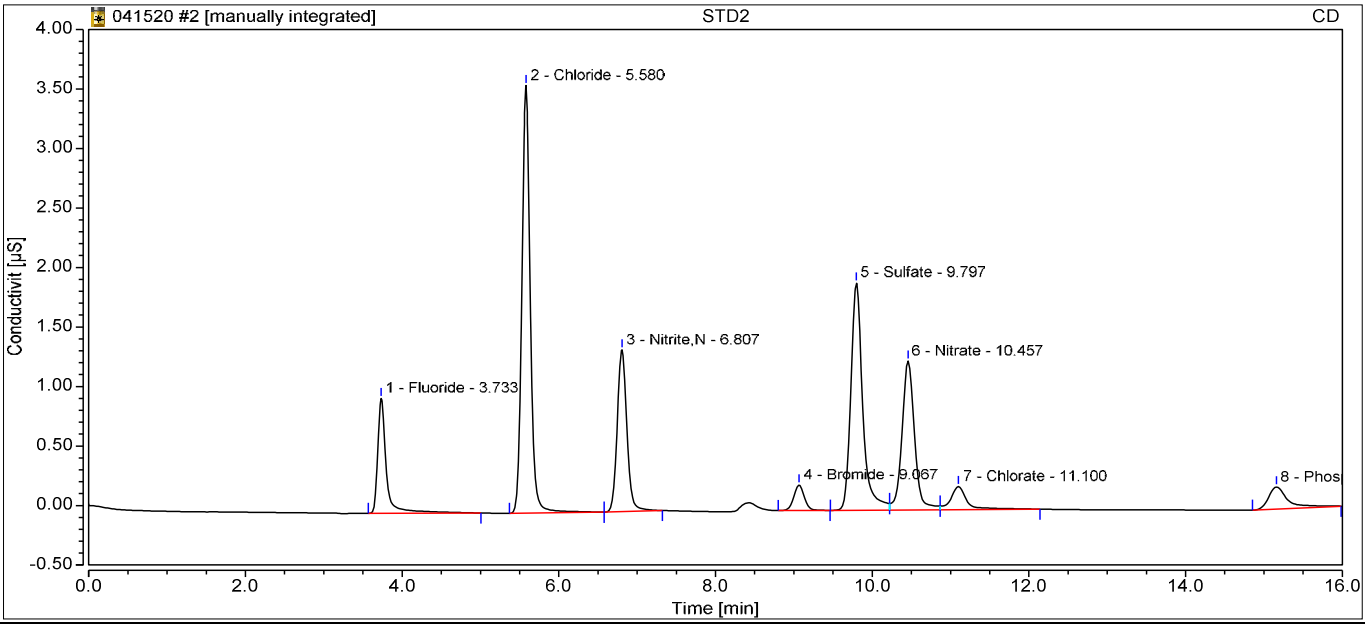
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.024	0.0955	0.0955	1.0000
2	5.58	Chloride	BMB	0.103	0.5065	0.5065	1.0000
3	6.80	Nitrite,N	BMB	0.016	0.0821	0.0821	1.0000
4	9.07	Bromide	BMB	0.008	0.1156	0.1156	1.0000
5	9.80	Sulfate	BM	0.065	0.4885	0.4885	1.0000
6	10.47	Nitrate	M	0.049	0.0974	0.0974	1.0000
7	11.11	Chlorate	MB	0.010	0.0834	0.0834	1.0000
8	15.18	Phosphate	BMB*	0.003	0.1173	0.1173	1.0000
Total:			**0.000**	**0.279**		**1.59**	

2 STD2

Sample Name:	**STD2**	*Injection Volume:*	**5.00**
Vial Number:	**GA2**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**02/05/2020 19:57**	*Sample Weight:*	**1.0000**

Run Time:

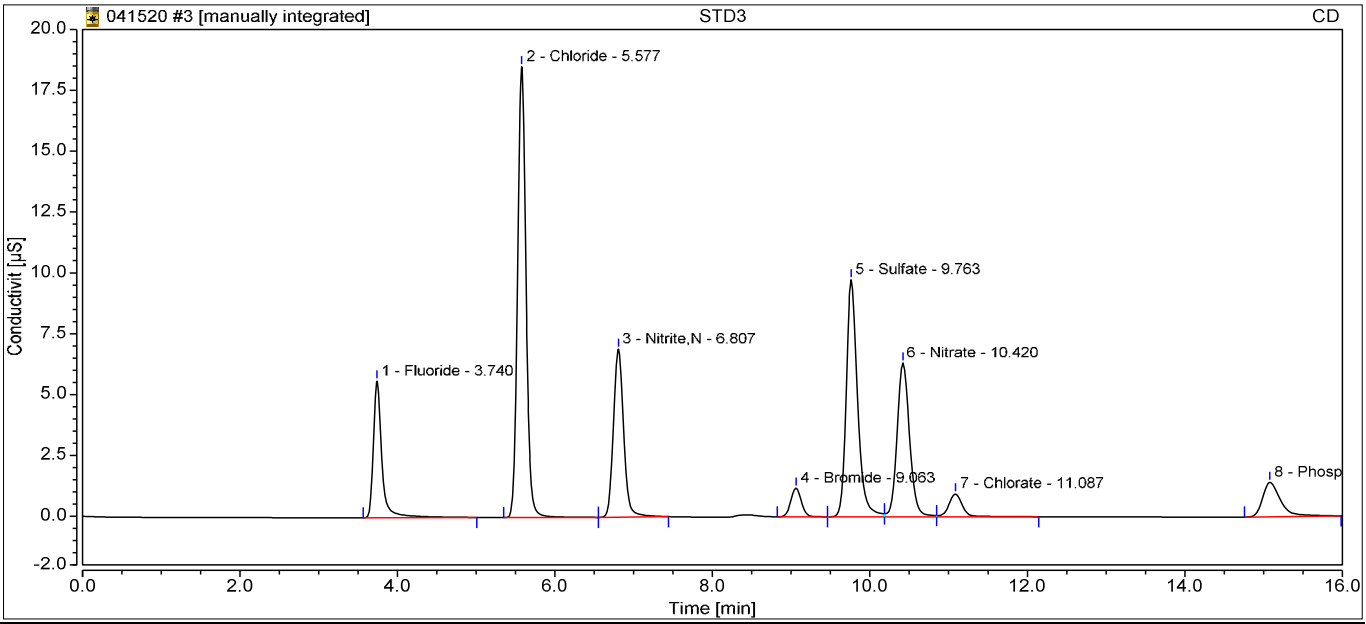


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.123	0.3833	0.3833	1.0000
2	5.58	Chloride	BMb*	0.449	1.9963	1.9963	1.0000
3	6.81	Nitrite,N	bMB*	0.194	0.4423	0.4423	1.0000
4	9.07	Bromide	BMB	0.034	0.3722	0.3722	1.0000
5	9.80	Sulfate	BM	0.335	2.0973	2.0973	1.0000
6	10.46	Nitrate	M	0.232	0.4103	0.4103	1.0000
7	11.10	Chlorate	MB	0.047	0.4759	0.4759	1.0000
8	15.16	Phosphate	BMB	0.053	0.3518	0.3518	1.0000
Total:			**0.000**	**1.467**		**6.53**	

3 STD3			
Sample Name:	**STD3**	*Injection Volume:*	**5.00**
Vial Number:	**GA3**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**02/05/2020 20:15**	*Sample Weight:*	**1.0000**

Run Time:



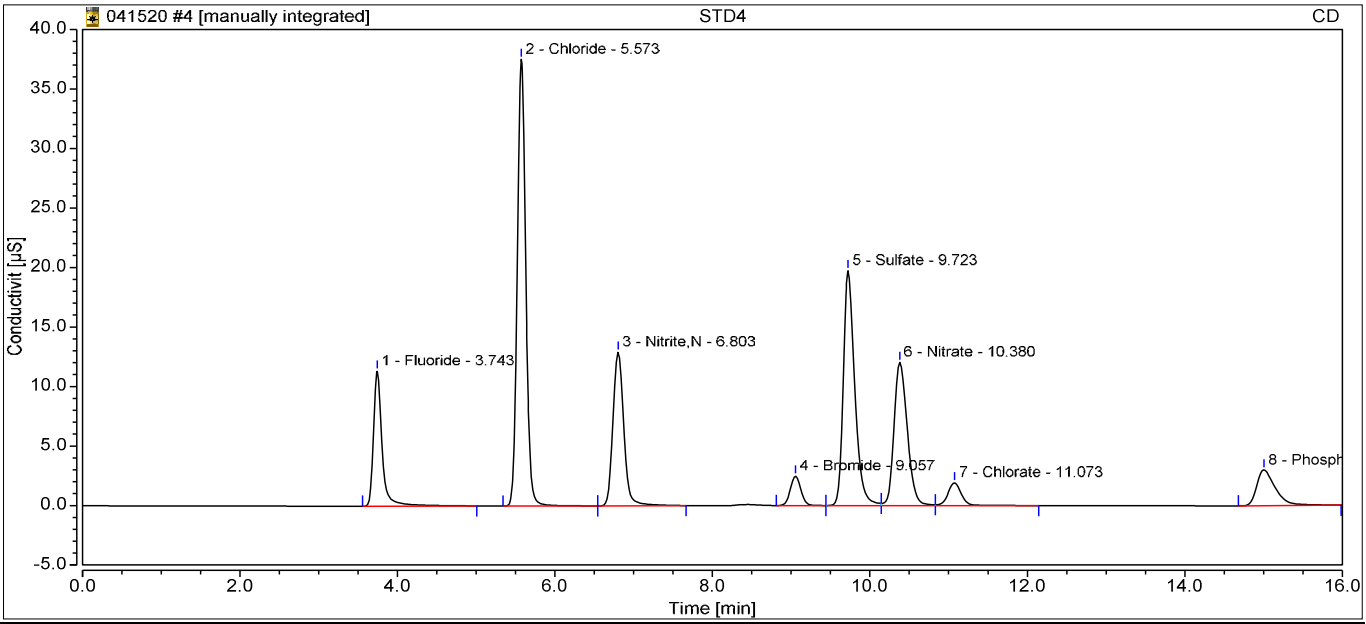
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	0.701	2.0769	2.0769	1.0000
2	5.58	Chloride	BMb*	2.284	9.9073	9.9073	1.0000
3	6.81	Nitrite,N	bMB*	1.029	2.1245	2.1245	1.0000
4	9.06	Bromide	BM	0.182	1.8657	1.8657	1.0000
5	9.76	Sulfate	M	1.624	9.7730	9.7730	1.0000
6	10.42	Nitrate	M	1.160	1.9980	1.9980	1.0000
7	11.09	Chlorate	MB	0.189	1.9689	1.9689	1.0000
8	15.08	Phosphate	BMB	0.374	1.8664	1.8664	1.0000
Total:			**0.000**	**7.542**		**31.58**	

4 STD4

Sample Name:	**STD4**	*Injection Volume:*	**5.00**
Vial Number:	**GA4**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**02/05/2020 20:33**	*Sample Weight:*	**1.0000**

Run Time:



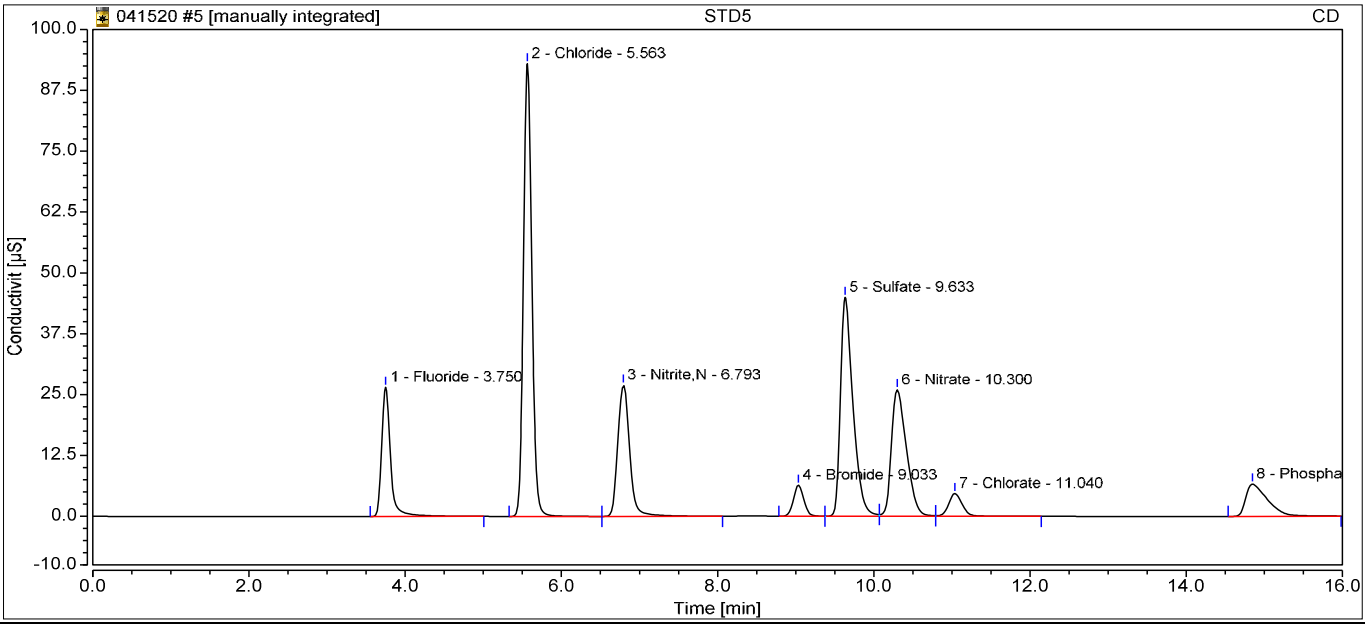
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.428	4.2080	4.2080	1.0000
2	5.57	Chloride	BMb*	4.627	20.0069	20.0069	1.0000
3	6.80	Nitrite,N	bMB*	2.046	4.1745	4.1745	1.0000
4	9.06	Bromide	BM	0.382	3.8871	3.8871	1.0000
5	9.72	Sulfate	M	3.337	19.9713	19.9713	1.0000
6	10.38	Nitrate	M	2.343	4.0228	4.0228	1.0000
7	11.07	Chlorate	MB	0.380	3.9830	3.9830	1.0000
8	15.00	Phosphate	BMB	0.824	3.9874	3.9874	1.0000
Total:			**0.000**	**15.366**		**64.24**	

5 STD5

Sample Name:	**STD5**	*Injection Volume:*	**5.00**
Vial Number:	**GA5**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**02/05/2020 20:51**	*Sample Weight:*	**1.0000**

Run Time:



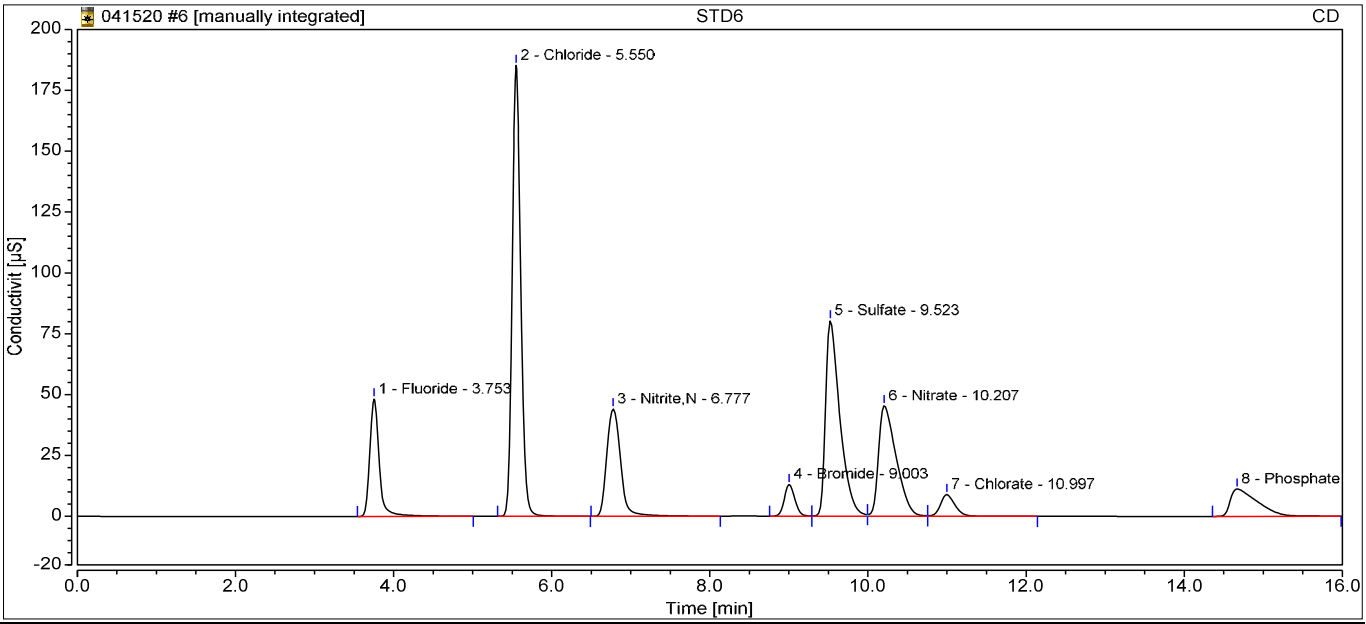
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.75	Fluoride	BMB	3.472	10.1940	10.1940	1.0000
2	5.56	Chloride	BMB	11.516	49.7057	49.7057	1.0000
3	6.79	Nitrite,N	BMB*	4.776	9.6766	9.6766	1.0000
4	9.03	Bromide	BM	0.981	9.9279	9.9279	1.0000
5	9.63	Sulfate	M	8.325	49.6811	49.6811	1.0000
6	10.30	Nitrate	M	5.799	9.9382	9.9382	1.0000
7	11.04	Chlorate	MB	0.944	9.9252	9.9252	1.0000
8	14.85	Phosphate	BMB	2.135	10.1771	10.1771	1.0000
Total:			**0.000**	**37.949**		**159.23**	

6 STD6

Sample Name:	**STD6**	*Injection Volume:*	**5.00**
Vial Number:	**GA6**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**02/05/2020 21:09**	*Sample Weight:*	**1.0000**

Run Time:



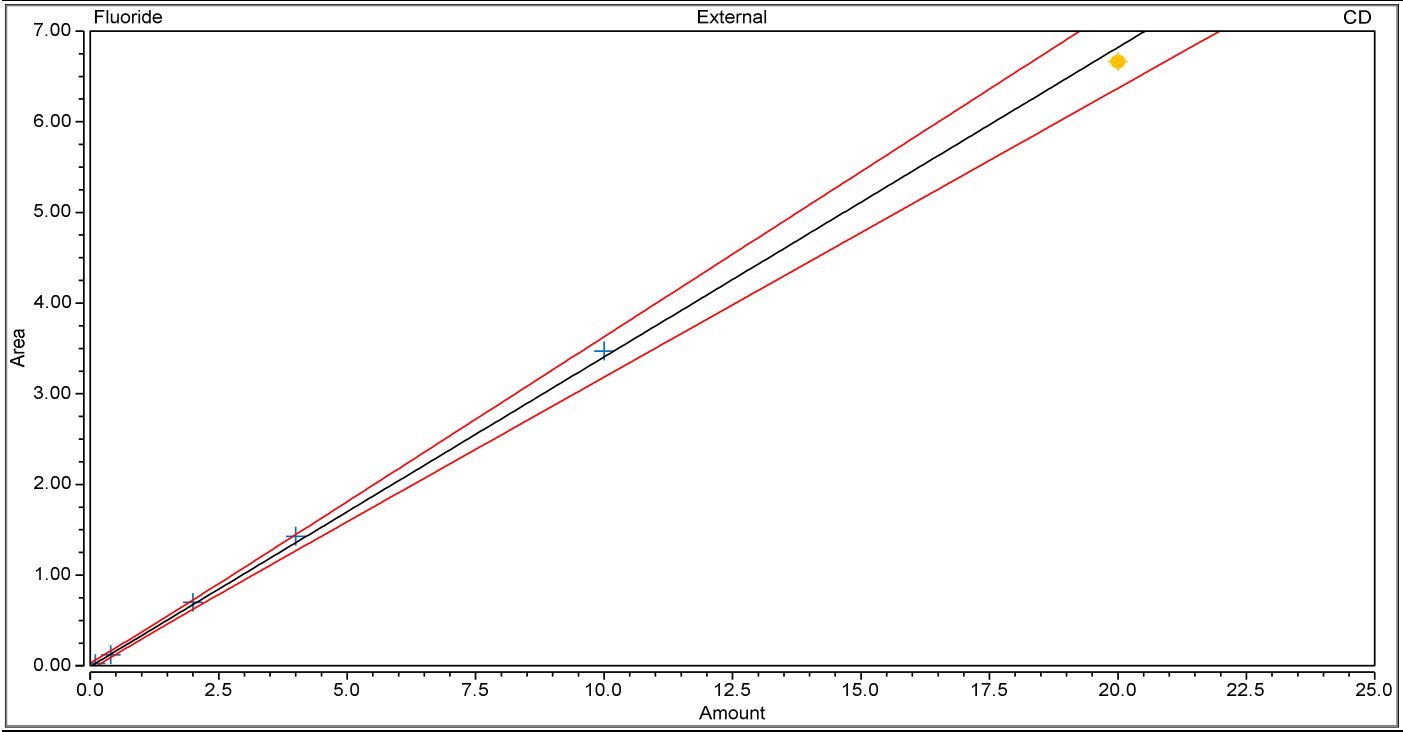
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.75	Fluoride	BMB	6.664	19.5424	19.5424	1.0000
2	5.55	Chloride	BMB	23.270	100.3774	100.3774	1.0000
3	6.78	Nitrite,N	BMB*	8.893	17.9725	17.9725	1.0000
4	9.00	Bromide	BM	2.012	20.3316	20.3316	1.0000
5	9.52	Sulfate	M	16.857	100.4888	100.4888	1.0000
6	10.21	Nitrate	M	11.698	20.0333	20.0333	1.0000
7	11.00	Chlorate	MB	1.906	20.0635	20.0635	1.0000
8	14.67	Phosphate	BMB	4.450	21.0985	21.0985	1.0000
Total:			**0.000**	**75.750**		**319.91**	

Calibration

Calibration Details	Fluoride		
Calibration Type	Lin, WithOffset, 1/A	*Offset (C0)*	-0.0083
Evaluation Type	Area	*Slope (C1)*	0.3414
Number of Calibration Points	6	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.9991

Calibration Plot **Fluoride**



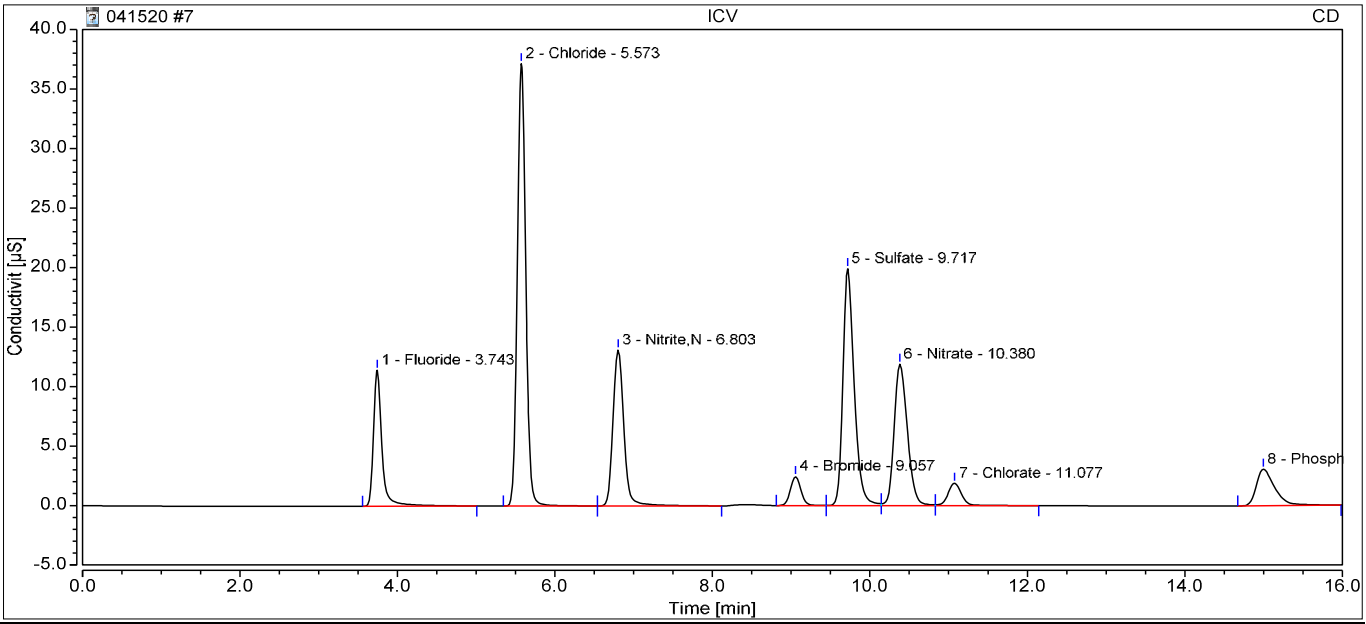
Calibration Results **Fluoride**

No.	Injection Name	Calibration Level	X Value CD Fluoride	Y Value CD Fluoride	Y Value CD Fluoride	Area µS*min CD Fluoride	Height µS CD Fluoride
1	STD1	1	0.1000	0.0243	0.0243	0.024	0.212
2	STD2	2	0.4000	0.1226	0.1226	0.123	0.964
3	STD3	3	2.0000	0.7008	0.7008	0.701	5.614
4	STD4	4	4.0000	1.4284	1.4284	1.428	11.345
5	STD5	5	10.0000	3.4723	3.4723	3.472	26.547
6	STD6	6	20.0000	6.6641	6.6641	6.664	48.233

7 ICV

Sample Name:	**ICV**	*Injection Volume:*	**5.00**
Vial Number:	**GA7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**02/05/2020 21:27**	*Sample Weight:*	**1.0000**

Run Time:



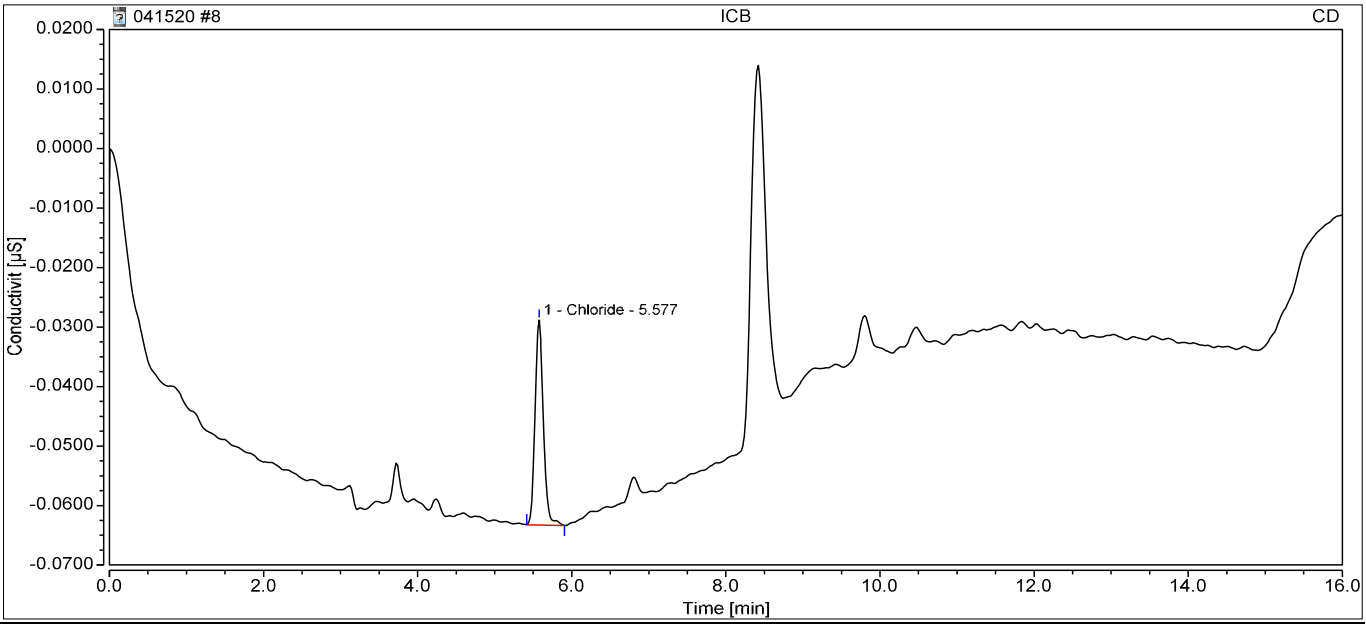
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.412	4.1607	4.1607	1.0000
2	5.57	Chloride	BMB	4.570	19.7627	19.7627	1.0000
3	6.80	Nitrite,N	BMB	2.081	4.2442	4.2442	1.0000
4	9.06	Bromide	BM	0.374	3.8104	3.8104	1.0000
5	9.72	Sulfate	M	3.327	19.9126	19.9126	1.0000
6	10.38	Nitrate	M	2.299	3.9478	3.9478	1.0000
7	11.08	Chlorate	MB	0.379	3.9799	3.9799	1.0000
8	15.00	Phosphate	BMB	0.835	4.0417	4.0417	1.0000
Total:			**0.000**	**15.278**		**63.86**	

8 ICB

Sample Name:	**ICB**	*Injection Volume:*	**5.00**
Vial Number:	**GA8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**02/05/2020 21:45**	*Sample Weight:*	**1.0000**

Run Time:



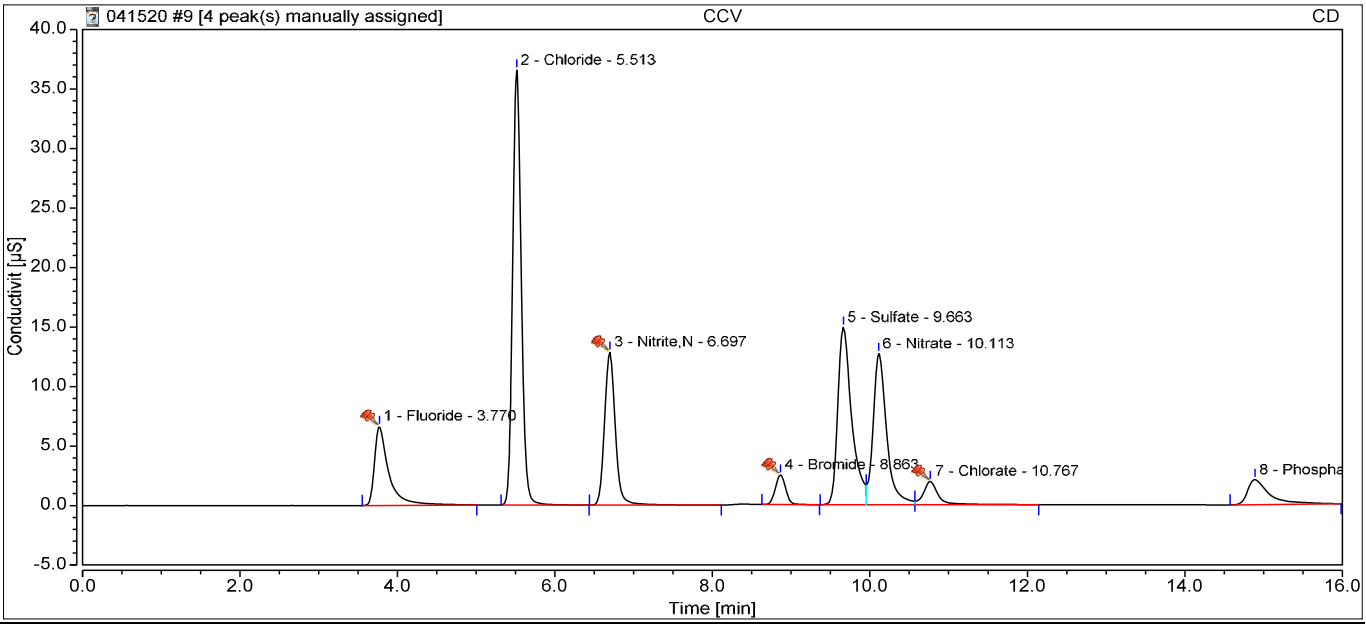
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.58	Chloride	BMB	0.004	0.0794	0.0794	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.004**		**0.08**	

9 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**GA1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/15/2020 11:01**	*Sample Weight:*	**1.0000**

Run Time:



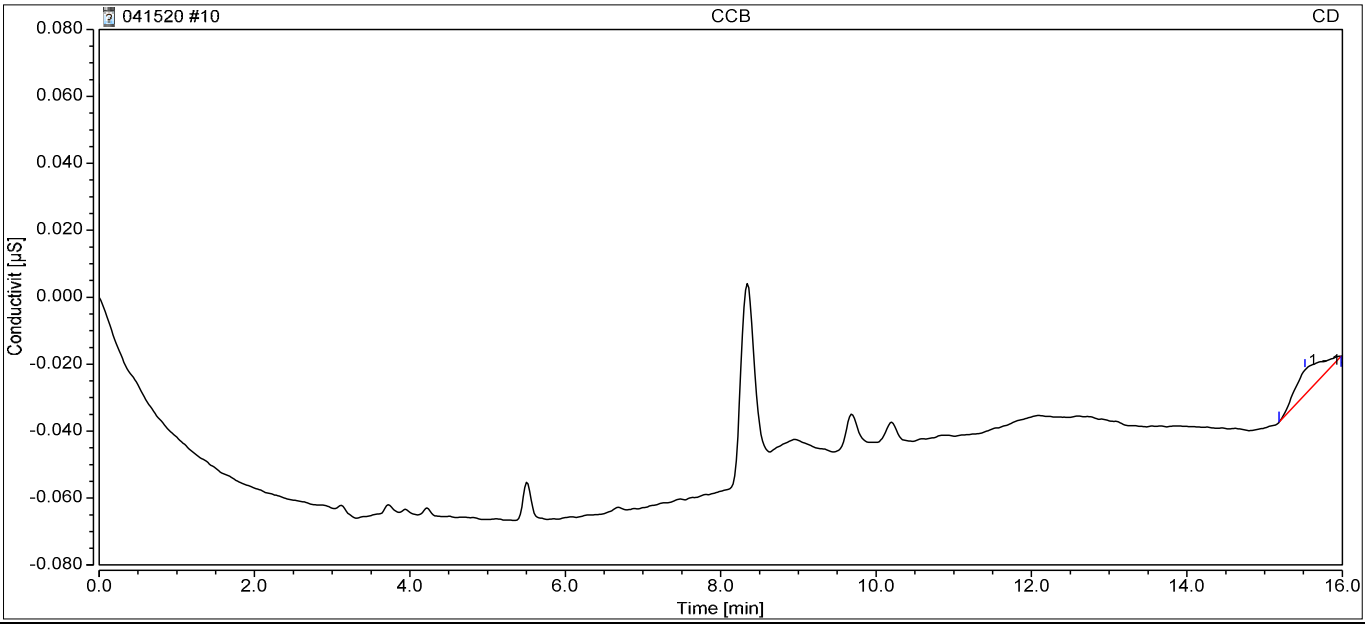
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.77	Fluoride	BMB^	1.385	4.0817	4.0817	1.0000
2	5.51	Chloride	BMB	4.585	19.8285	19.8285	1.0000
3	6.70	Nitrite,N	BMB^	2.060	4.2014	4.2014	1.0000
4	8.86	Bromide	BMB^	0.376	3.8241	3.8241	1.0000
5	9.66	Sulfate	BM	3.065	18.3514	18.3514	1.0000
6	10.11	Nitrate	M	2.508	4.3060	4.3060	1.0000
7	10.77	Chlorate	MB^	0.431	4.5194	4.5194	1.0000
8	14.89	Phosphate	BMB	0.677	3.2941	3.2941	1.0000
Total:			**0.000**	**15.086**		**62.41**	

10 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**GA2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/15/2020 11:19**	*Sample Weight:*	**1.0000**

Run Time:



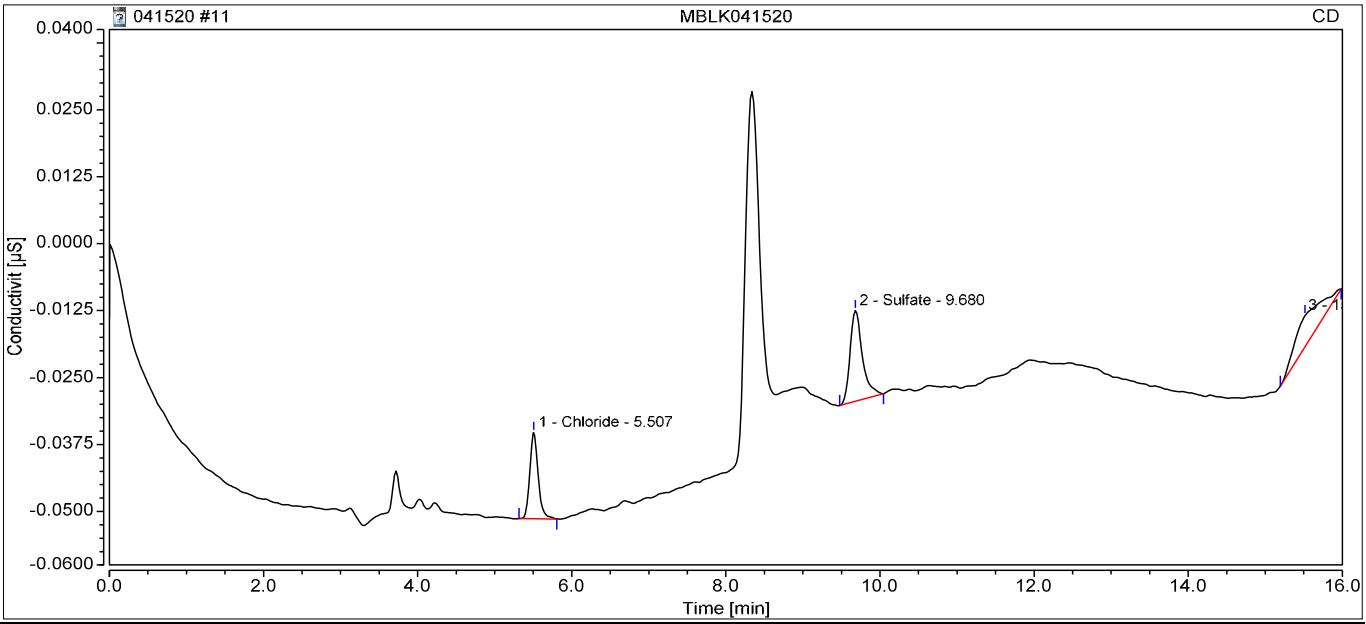
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.000**		**0.00**	

11 MBLK041520

Sample Name:	**MBLK041520**	*Injection Volume:*	**5.00**
Vial Number:	**GB1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/15/2020 11:37**	*Sample Weight:*	**1.0000**

Run Time:



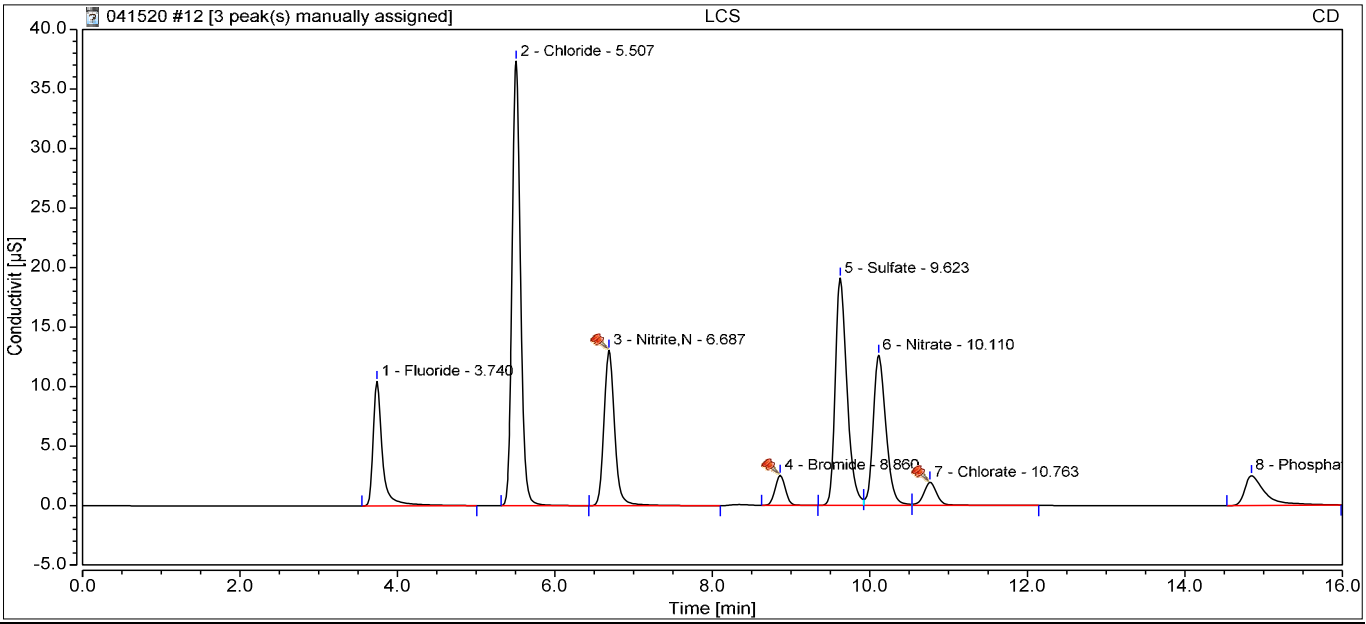
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.51	Chloride	BMB	0.002	0.0697	0.0697	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
2	9.68	Sulfate	BMB	0.003	0.1200	0.1200	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.005**		**0.19**	

12 LCS

Sample Name:	**LCS**	*Injection Volume:*	**5.00**
Vial Number:	**GB2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/15/2020 11:55**	*Sample Weight:*	**1.0000**

Run Time:



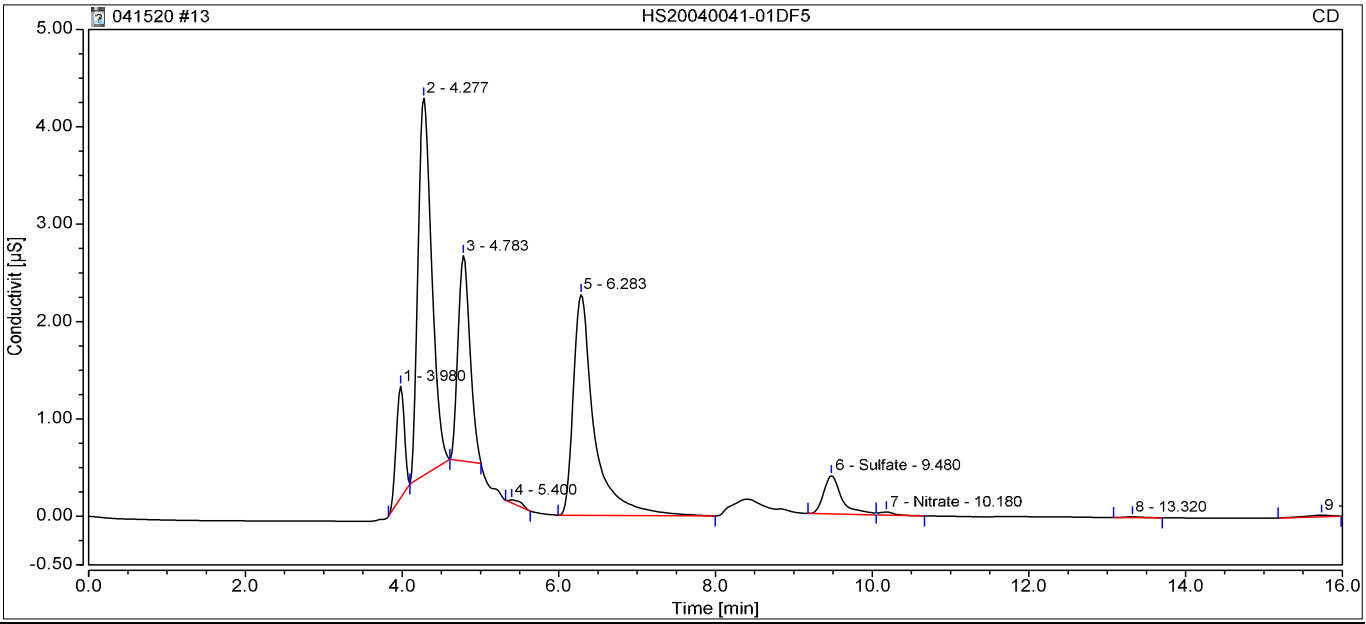
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.426	4.2000	4.2000	1.0000
2	5.51	Chloride	BMB	4.589	19.8426	19.8426	1.0000
3	6.69	Nitrite,N	BMB^	2.066	4.2137	4.2137	1.0000
4	8.86	Bromide	BMB^	0.378	3.8499	3.8499	1.0000
5	9.62	Sulfate	BM	3.282	19.6487	19.6487	1.0000
6	10.11	Nitrate	M	2.353	4.0393	4.0393	1.0000
7	10.76	Chlorate	MB^	0.383	4.0193	4.0193	1.0000
8	14.85	Phosphate	BMB	0.757	3.6713	3.6713	1.0000
Total:			**0.000**	**15.233**		**63.48**	

13 HS20040041-01DF5

Sample Name:	**HS20040041-01DF5**	*Injection Volume:*	**5.00**
Vial Number:	**GB4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**5.0000**
Recording Time:	**04/15/2020 12:13**	*Sample Weight:*	**1.0000**

Run Time:



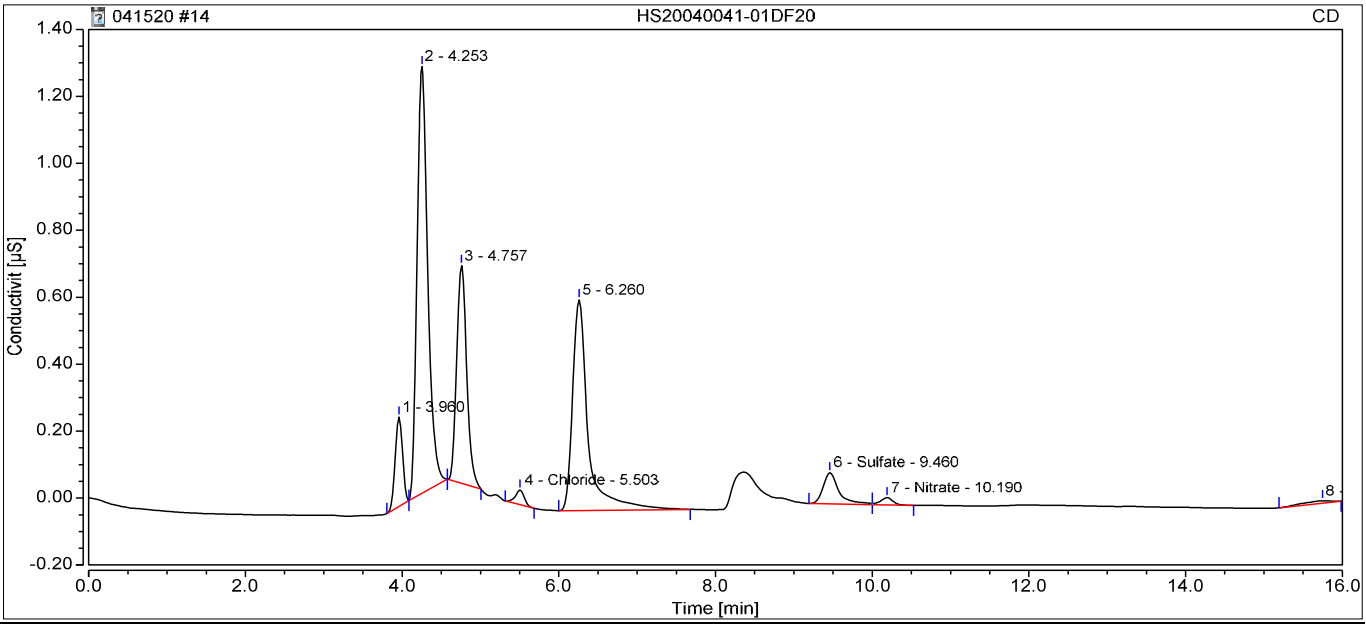
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	5.0000
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	5.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	5.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	5.0000
6	9.48	Sulfate	BM	0.105	0.7282	3.6410	5.0000
7	10.18	Nitrate	MB	0.007	0.0250	0.1250	5.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	5.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	5.0000
Total:			**0.000**	**0.112**		**3.77**	

14 HS20040041-01DF20

Sample Name:	**HS20040041-01DF20**	*Injection Volume:*	**5.00**
Vial Number:	**GB5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**20.0000**
Recording Time:	**04/15/2020 12:31**	*Sample Weight:*	**1.0000**

Run Time:



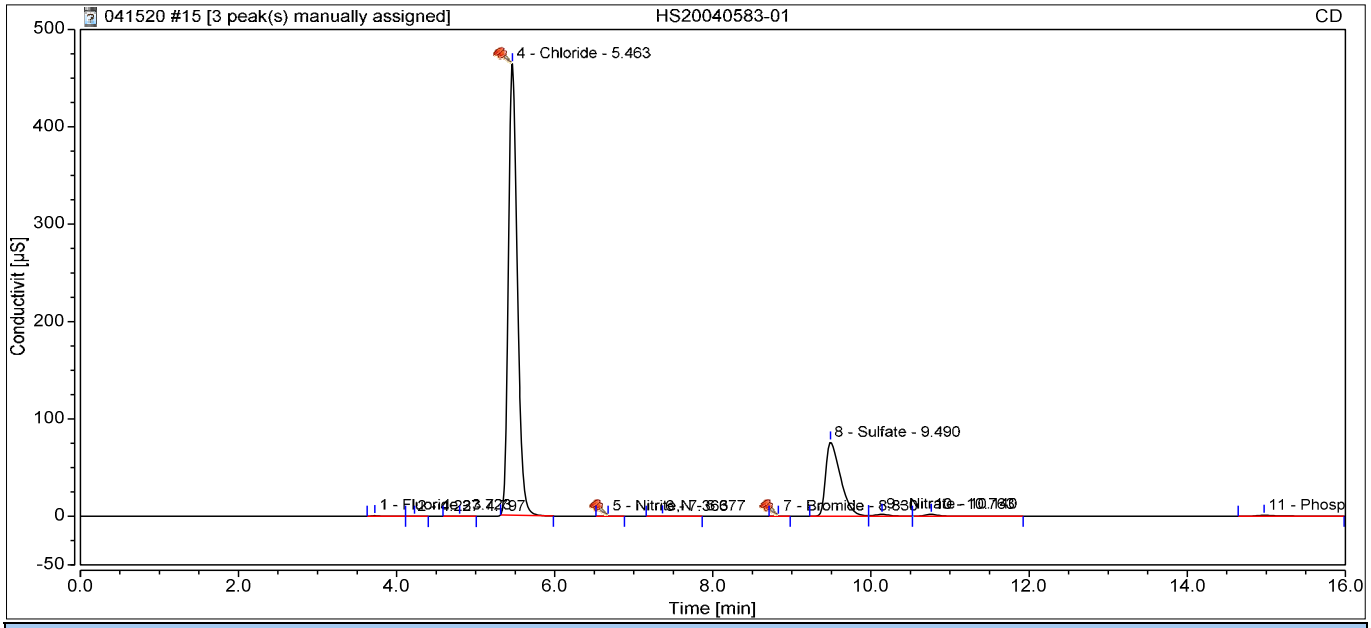
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	20.0000
4	5.50	Chloride	BMB	0.006	0.0856	1.7129	20.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	20.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	20.0000
6	9.46	Sulfate	BM	0.022	0.2301	4.6010	20.0000
7	10.19	Nitrate	MB	0.004	0.0198	0.3957	20.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	20.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	20.0000
Total:			**0.000**	**0.031**		**6.71**	

15 HS20040583-01

Sample Name:	**HS20040583-01**	*Injection Volume:*	**5.00**
Vial Number:	**GB6**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/15/2020 12:50**	*Sample Weight:*	**1.0000**

Run Time:



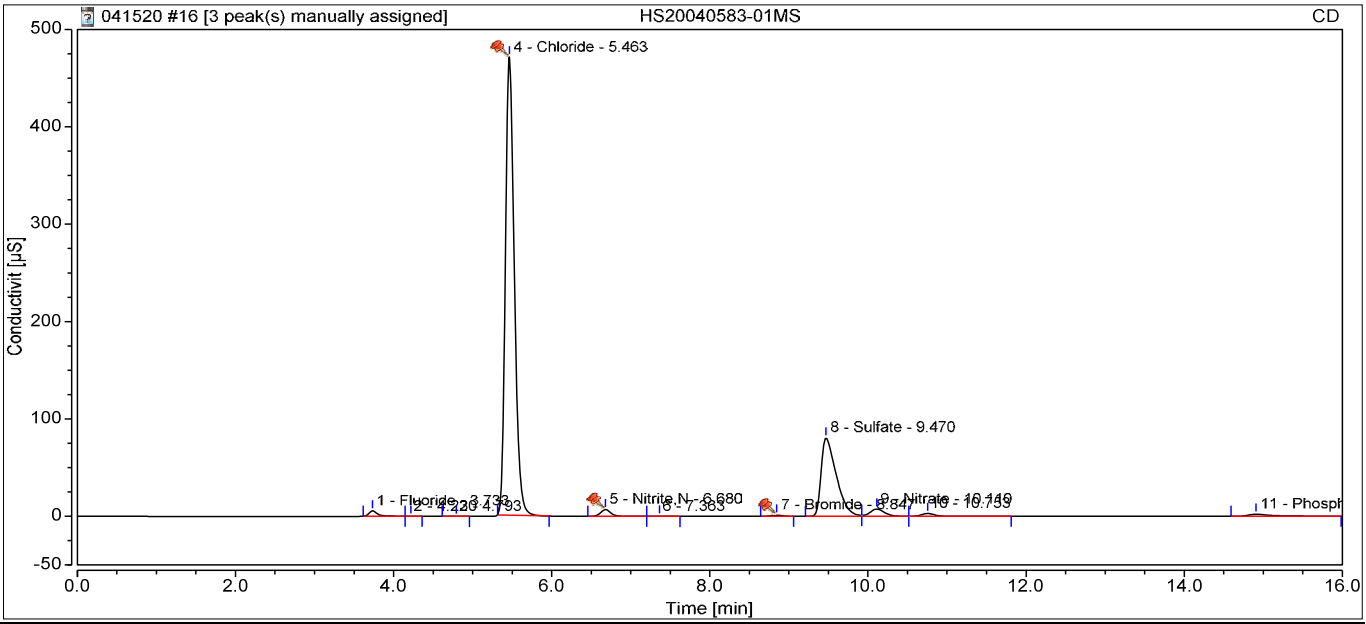
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.079	0.2554	0.2554	1.0000
4	5.46	Chloride	BMB^	60.513	260.9293	260.9293	1.0000
5	6.68	Nitrite,N	BMB^	0.009	0.0690	0.0690	1.0000
7	8.83	Bromide	BMB^	0.003	0.0607	0.0607	1.0000
8	9.49	Sulfate	BM	16.527	98.5211	98.5211	1.0000
9	10.14	Nitrate	M	0.426	0.7423	0.7423	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
11	14.97	Phosphate	BMB	0.361	1.8043	1.8043	1.0000
Total:			**0.000**	**77.917**		**362.38**	

16 HS20040583-01MS

Sample Name:	**HS20040583-01MS**	*Injection Volume:*	**5.00**
Vial Number:	**GB7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/15/2020 13:08**	*Sample Weight:*	**1.0000**

Run Time:



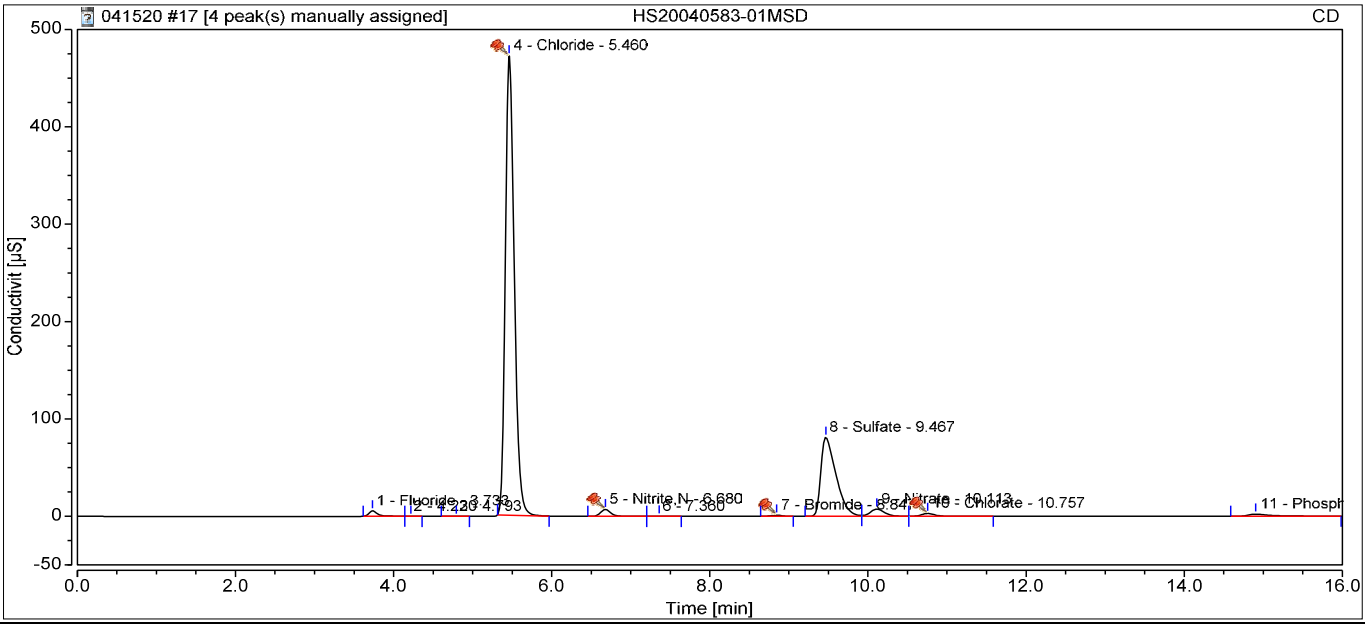
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.698	2.0688	2.0688	1.0000
4	5.46	Chloride	BMB^	61.494	265.1607	265.1607	1.0000
5	6.68	Nitrite,N	BMB^	1.022	2.1106	2.1106	1.0000
7	8.85	Bromide	BMB^	0.165	1.6966	1.6966	1.0000
8	9.47	Sulfate	BM	17.736	105.7222	105.7222	1.0000
9	10.11	Nitrate	M	1.545	2.6578	2.6578	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
11	14.91	Phosphate	BMB	0.742	3.6044	3.6044	1.0000
Total:			**0.000**	**83.403**		**383.02**	

17 HS20040583-01MSD

Sample Name:	**HS20040583-01MSD**	*Injection Volume:*	**5.00**
Vial Number:	**GB8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/15/2020 13:26**	*Sample Weight:*	**1.0000**

Run Time:



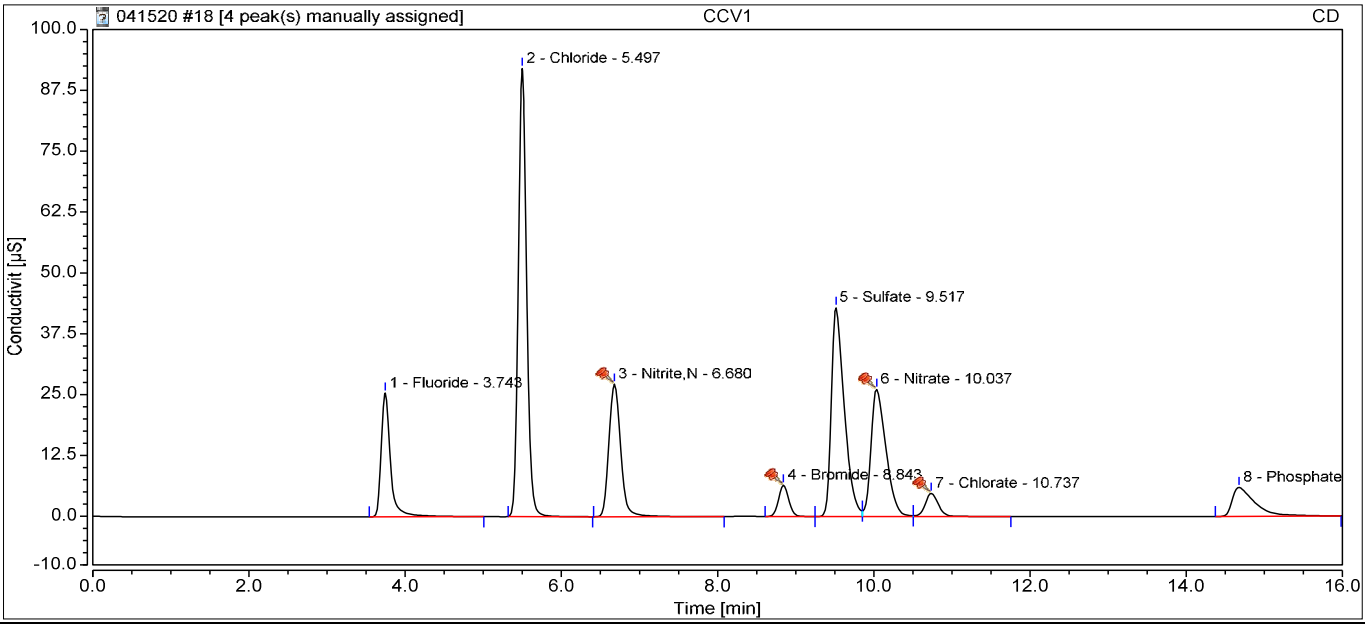
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.699	2.0724	2.0724	1.0000
4	5.46	Chloride	BMB^	61.571	265.4935	265.4935	1.0000
5	6.68	Nitrite,N	BMB^	1.026	2.1182	2.1182	1.0000
7	8.85	Bromide	BMB^	0.164	1.6915	1.6915	1.0000
8	9.47	Sulfate	BM	17.838	106.3326	106.3326	1.0000
9	10.11	Nitrate	M	1.543	2.6540	2.6540	1.0000
10	10.76	Chlorate	MB^	0.562	5.9025	5.9025	1.0000
11	14.90	Phosphate	BMB	0.761	3.6941	3.6941	1.0000
Total:			**0.000**	**84.166**		**389.96**	

18 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**GA3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/15/2020 13:44**	*Sample Weight:*	**1.0000**

Run Time:



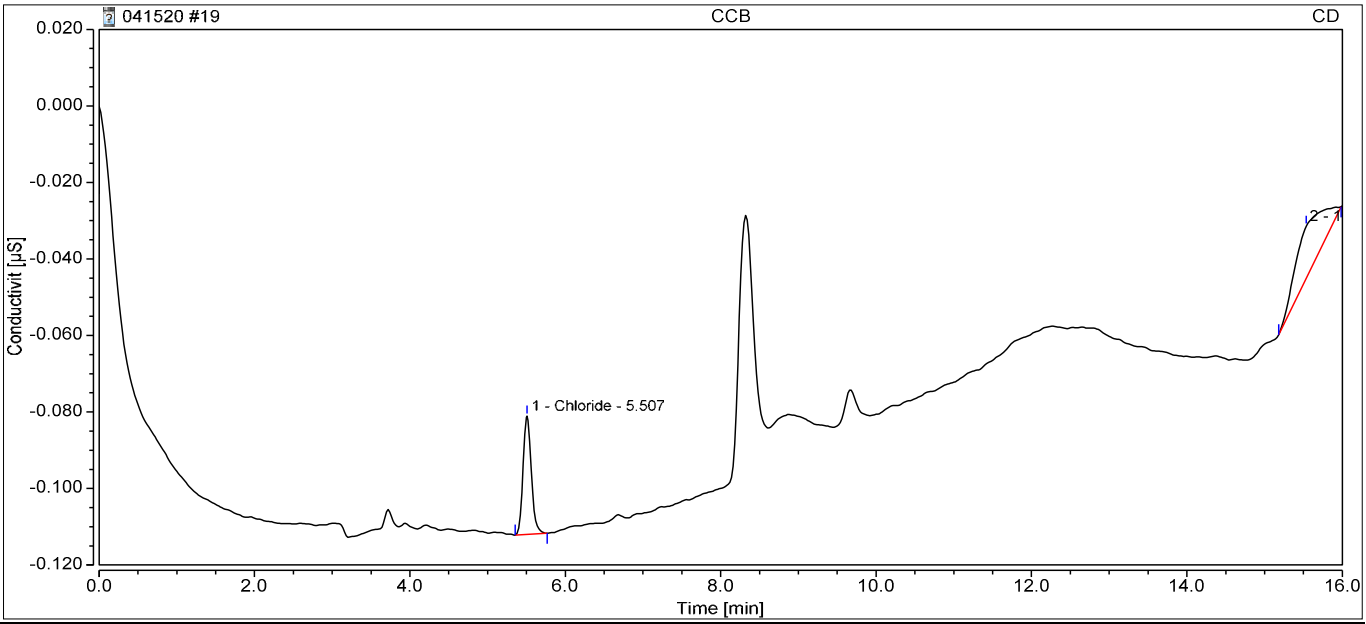
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.500	10.2754	10.2754	1.0000
2	5.50	Chloride	BMB	11.382	49.1281	49.1281	1.0000
3	6.68	Nitrite,N	BMB^	4.786	9.6955	9.6955	1.0000
4	8.84	Bromide	BMB^	0.975	9.8713	9.8713	1.0000
5	9.52	Sulfate	BM	8.271	49.3592	49.3592	1.0000
6	10.04	Nitrate	M ^	5.792	9.9252	9.9252	1.0000
7	10.74	Chlorate	MB^	0.934	9.8172	9.8172	1.0000
8	14.68	Phosphate	BMB	2.050	9.7766	9.7766	1.0000
Total:			**0.000**	**37.690**		**157.85**	

19 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**GA4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 02052020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**04/15/2020 14:02**	*Sample Weight:*	**1.0000**

Run Time:



Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.51	Chloride	BMB	0.004	0.0774	0.0774	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.004**		**0.08**	

microbialinsights
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Knoxville, TN 37932
Phone: (865) 573-8188
Fax: (865) 573-8133

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

Client: Susan Huang
APTIM
4005 Port Chicago Hwy
Concord, CA 94520

Phone: 925-288-2099

Fax:

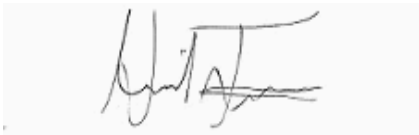
Identifier: 037RJ **Date Rec:** 10/09/2020 **Report Date:** 10/29/2020

Client Project #: 501032 **Client Project Name:** LHAAP 16 October 2020

Purchase Order #: 204818

Test results provided for: CENSUS

Reviewed By:



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Results relate only to the items tested and the sample(s) as received by the laboratory.

MICROBIAL INSIGHTS, INC.

10515 Research Dr., Knoxville, TN 37932
Tel. (865) 573-8188 Fax. (865) 573-8133

CENSUS

Client: **APTIM**
Project: LHAAP 16 October 2020

MI Project Number: **037RJ**
Date Received: 10/09/2020

Sample Information

Client Sample ID:		**16WW58-201008**	**16WW57-201008**	**16WW16-201008**	**16WW36-201013**	**16WW35-201013**
Sample Date:		10/08/2020	10/08/2020	10/08/2020	10/13/2020	10/13/2020
Units:		cells/mL	cells/mL	cells/mL	cells/mL	cells/mL
Analyst/Reviewer:		HT/HT	HT/HT	HT/HT	HT/HT	HT/HT
Dechlorinating Bacteria						
Dehalococcoides	*DHC*	**1.03E+01**	**2.60E+00**	**5.00E-01 (J)**	**1.68E+03**	**7.62E+01**

Legend:
NA = Not Analyzed NS = Not Sampled J = Estimated gene copies below PQL but above LQL I = Inhibited
< = Result not detected

MICROBIAL INSIGHTS, INC.

10515 Research Dr., Knoxville, TN 37932
Tel. (865) 573-8188 Fax. (865) 573-8133

CENSUS

Client: **APTIM**
Project: LHAAP 16 October 2020

MI Project Number: **037RJ**
Date Received: 10/09/2020

Sample Information

Client Sample ID:		**16IW09-201013**	**16WW55-201013**	**16IW03-201013**	**16IW10-201013**	**16WW25-201014**
Sample Date:		10/13/2020	10/13/2020	10/13/2020	10/13/2020	10/14/2020
Units:		cells/mL	cells/mL	cells/mL	cells/mL	cells/mL
Analyst/Reviewer:		HT/HT	HT/HT	HT/HT	HT/HT	HT/HT
Dechlorinating Bacteria						
Dehalococcoides	*DHC*	<7.20E+00	<5.00E-01	**6.34E+02**	**5.95E+04**	**3.50E+00**

Legend:
NA = Not Analyzed NS = Not Sampled J = Estimated gene copies below PQL but above LQL I = Inhibited
< = Result not detected

MICROBIAL INSIGHTS, INC.

10515 Research Dr., Knoxville, TN 37932
Tel. (865) 573-8188 Fax. (865) 573-8133

CENSUS

Client: **APTIM**
Project: LHAAP 16 October 2020

MI Project Number: **037RJ**
Date Received: 10/09/2020

Sample Information

Client Sample ID:		**16WW26-201014**	**16WW29-201014**	**16WW22-201014**	**16WW41-201014**	**16EW01-201020**
Sample Date:		10/14/2020	10/14/2020	10/14/2020	10/14/2020	10/20/2020
Units:		cells/mL	cells/mL	cells/mL	cells/mL	cells/mL
Analyst/Reviewer:		HT/HT	HT/HT	HT/HT	HT/HT	HT/HT
Dechlorinating Bacteria						
Dehalococcoides	*DHC*	**2.19E+01**	**3.22E+01**	**1.11E+01**	**3.00E-01 (J)**	**4.00E-01 (J)**

Legend:
NA = Not Analyzed NS = Not Sampled J = Estimated gene copies below PQL but above LQL I = Inhibited
< = Result not detected

MICROBIAL INSIGHTS, INC.

10515 Research Dr., Knoxville, TN 37932
Tel. (865) 573-8188 Fax. (865) 573-8133

CENSUS

Client: **APTIM**
Project: LHAAP 16 October 2020

MI Project Number: **037RJ**
Date Received: 10/09/2020

Sample Information

Client Sample ID:		**16WW48-201020**	**16WW56-201021**	**16IW20-201021**	**16EW02-201021**
Sample Date:		10/20/2020	10/21/2020	10/21/2020	10/21/2020
Units:		cells/mL	cells/mL	cells/mL	cells/mL
Analyst/Reviewer:		HT/HT	HT/HT	HT/HT	HT/HT
Dechlorinating Bacteria					
Dehalococcoides	*DHC*	**1.90E+00**	**4.15E+01**	**5.54E+04**	**4.06E+02**

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 **10/9/2020**

Component	Date Prepared	Date Analyzed	Arrival Temperature	Positive Control	Extraction Blank	Negative Control
DHC	10/09/2020	10/29/2020	0 °C	103%	non-detect	non-detect

Samples Received **10/14/2020**

Component	Date Prepared	Date Analyzed	Arrival Temperature	Positive Control	Extraction Blank	Negative Control
DHC	10/14/2020	10/29/2020	2 °C	104%	non-detect	non-detect

Samples Received **10/15/2020**

Component	Date Prepared	Date Analyzed	Arrival Temperature	Positive Control	Extraction Blank	Negative Control
DHC	10/15/2020	10/29/2020	1 °C	105%	non-detect	non-detect

Samples Received **10/21/2020**

Component	Date Prepared	Date Analyzed	Arrival Temperature	Positive Control	Extraction Blank	Negative Control
DHC	10/21/2020	10/29/2020	0 °C	104%	non-detect	non-detect

Samples Received **10/22/2020**

Component	Date Prepared	Date Analyzed	Arrival Temperature	Positive Control	Extraction Blank	Negative Control
DHC	10/22/2020	10/29/2020	0 °C	104%	non-detect	non-detect

10450 Stancliff Rd. Suite 210
Houston, TX 77099
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F: +1 281 530 5887

October 26, 2020

Susan Huang
Aptim Environmental & Infrastucture, Inc.
2500 City West Blvd., Suite 1700
Houston, TX 77042

Work Order: **HS20100455**

Laboratory Results for: **LHAAP 16**

Dear Susan Huang,

ALS Environmental received 6 sample(s) on Oct 09, 2020 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL
RJ Modashia
Project Manager

ALS Houston, US Date: 26-Oct-20

Client: Aptim Environmental & Infrastructure, Inc.
Project: LHAAP 16
Work Order: HS20100455

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20100455-01	16WW58-201008	Groundwater		08-Oct-2020 07:50	09-Oct-2020 09:45	☐
HS20100455-02	16WW57-201008	Groundwater		08-Oct-2020 07:50	09-Oct-2020 09:45	☐
HS20100455-03	16WW23-201008	Groundwater		08-Oct-2020 09:45	09-Oct-2020 09:45	☐
HS20100455-04	16WW24-201008	Groundwater		08-Oct-2020 10:30	09-Oct-2020 09:45	☐
HS20100455-05	16WW16-201008	Groundwater		08-Oct-2020 11:15	09-Oct-2020 09:45	☐
HS20100455-06	Trip blank-201008	Water		09-Oct-2020 00:00	09-Oct-2020 09:45	☐

ALS Houston, US Date: 26-Oct-20

Client: Aptim Environmental & Infrastucture, Inc. **CASE NARRATIVE**
Project: LHAAP 16
Work Order: HS20100455

Work Order Comments

• Analysis of Perchlorate was performed by ALS Houston TX, High Resolution. Laboratory. Final report attached.

The analysis for TOC was subcontracted to ALS Environmental in Kelso WA. Final report attached.

GC Semivolatiles by Method RSK-175

Batch ID: R370661

Sample ID: 16WW58-201008 (HS20100455-01DUP)

• The RPD between the sample and its duplicate was outside the control limit. Ethene

GCMS Volatiles by Method SW8260

Batch ID: R370739

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SM2320B

Batch ID: R370437

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SW9056

Batch ID: R370227

Sample ID: 16WW16-201008 (HS20100455-05)

• Sample ran at 10X due to matrix

Sample ID: 16WW57-201008 (HS20100455-02)

• Sample ran at 10X due to high concentration of Sulfate

Sample ID: 16WW58-201008 (HS20100455-01)

• Sample ran at 10X due to matrix

Sample ID: HS20100362-01MS

• MS and MSD are for an unrelated sample (Nitrogen, Nitrate (As N),

Batch ID: R371285

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

ALS Houston, US Date: 26-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16
Sample ID: 16WW58-201008
Collection Date: 08-Oct-2020 07:50

ANALYTICAL REPORT
WorkOrder:HS20100455
Lab ID:HS20100455-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	2.5	U	1.5	2.5	5.0	UG/L	5	16-Oct-2020 19:47
1,1-Dichloroethene	**3.3**	J	**1.0**	**2.5**	**5.0**	**UG/L**	5	16-Oct-2020 19:47
1,2-Dichloroethane	2.5	U	1.0	2.5	5.0	UG/L	5	16-Oct-2020 19:47
cis-1,2-Dichloroethene	**140**		**1.0**	**2.5**	**5.0**	**UG/L**	5	16-Oct-2020 19:47
Methylene chloride	**5.7**	J	**2.0**	**5.0**	**10**	**UG/L**	5	16-Oct-2020 19:47
Trichloroethene	**4,400**		**10**	**25**	**50**	**UG/L**	50	16-Oct-2020 21:23
Vinyl chloride	2.5	U	1.0	2.5	5.0	UG/L	5	16-Oct-2020 19:47
Surr: 1,2-Dichloroethane-d4	*85.7*			**0**	*81-118*	*%REC*	*5*	*16-Oct-2020 19:47*
Surr: 1,2-Dichloroethane-d4	*87.2*			**0**	*81-118*	*%REC*	*50*	*16-Oct-2020 21:23*
Surr: 4-Bromofluorobenzene	*102*			**0**	*85-114*	*%REC*	*5*	*16-Oct-2020 19:47*
Surr: 4-Bromofluorobenzene	*100*			**0**	*85-114*	*%REC*	*50*	*16-Oct-2020 21:23*
Surr: Dibromofluoromethane	*90.7*			**0**	*80-119*	*%REC*	*50*	*16-Oct-2020 21:23*
Surr: Dibromofluoromethane	*87.8*			**0**	*80-119*	*%REC*	*5*	*16-Oct-2020 19:47*
Surr: Toluene-d8	*100*			**0**	*89-112*	*%REC*	*5*	*16-Oct-2020 19:47*
Surr: Toluene-d8	*95.1*			**0**	*89-112*	*%REC*	*50*	*16-Oct-2020 21:23*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PVL
Ethane	0.000250	U	0.000144	0.000250	0.00100	mg/L	1	15-Oct-2020 10:01
Ethene	**0.000645**	J	**0.000234**	**0.000500**	**0.00100**	**mg/L**	1	15-Oct-2020 10:01
Methane	**0.00659**		**0.000107**	**0.000250**	**0.000500**	**mg/L**	1	15-Oct-2020 10:01
ALKALINITY BY SM2320B		**Method:SM2320B**						Analyst: TH
Alkalinity, Total (As CaCO3)	**41.9**	a	**5.00**	**5.00**	**5.00**	**mg/L**	1	13-Oct-2020 21:40
ANIONS BY SW9056A		**Method:SW9056**						Analyst: KVL
Bromide	**4.33**		**0.150**	**0.500**	**0.500**	**mg/L**	5	09-Oct-2020 19:57
Nitrogen, Nitrate (As N)	0.500	U	0.150	0.500	0.500	mg/L	5	09-Oct-2020 19:57
Sulfate	**383**		**4.00**	**10.0**	**10.0**	**mg/L**	20	23-Oct-2020 17:47
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	22-Oct-2020 13:19
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	19-Oct-2020 09:23

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 26-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16
Sample ID: 16WW57-201008
Collection Date: 08-Oct-2020 07:50

ANALYTICAL REPORT
WorkOrder:HS20100455
Lab ID:HS20100455-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	16-Oct-2020 18:35
1,1-Dichloroethene	**1.3**		**0.20**	**0.50**	**1.0**	**UG/L**	1	16-Oct-2020 18:35
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	16-Oct-2020 18:35
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	16-Oct-2020 18:35
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	16-Oct-2020 18:35
Trichloroethene	**72**		**0.20**	**0.50**	**1.0**	**UG/L**	1	16-Oct-2020 18:35
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	16-Oct-2020 18:35
Surr: 1,2-Dichloroethane-d4	*92.0*			**0**	*81-118*	*%REC*	*1*	*16-Oct-2020 18:35*
Surr: 4-Bromofluorobenzene	*107*			**0**	*85-114*	*%REC*	*1*	*16-Oct-2020 18:35*
Surr: Dibromofluoromethane	*89.7*			**0**	*80-119*	*%REC*	*1*	*16-Oct-2020 18:35*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*1*	*16-Oct-2020 18:35*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PVL
Ethane	0.000250	U	0.000144	0.000250	0.00100	mg/L	1	15-Oct-2020 10:14
Ethene	**0.00125**		**0.000234**	**0.000500**	**0.00100**	**mg/L**	1	15-Oct-2020 10:14
Methane	**0.00299**		**0.000107**	**0.000250**	**0.000500**	**mg/L**	1	15-Oct-2020 10:14
ALKALINITY BY SM2320B		**Method:SM2320B**						Analyst: TH
Alkalinity, Total (As CaCO3)	**77.6**	a	**5.00**	**5.00**	**5.00**	**mg/L**	1	13-Oct-2020 21:45
ANIONS BY SW9056A		**Method:SW9056**						Analyst: KVL
Bromide	**5.69**		**0.300**	**1.00**	**1.00**	**mg/L**	10	09-Oct-2020 19:39
Nitrogen, Nitrate (As N)	1.00	U	0.300	1.00	1.00	mg/L	10	09-Oct-2020 19:39
Sulfate	**2,440**		**20.0**	**50.0**	**50.0**	**mg/L**	100	23-Oct-2020 18:23
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	22-Oct-2020 13:19
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	19-Oct-2020 09:23

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 26-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16
Sample ID: 16WW23-201008
Collection Date: 08-Oct-2020 09:45

ANALYTICAL REPORT
WorkOrder:HS20100455
Lab ID:HS20100455-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	16-Oct-2020 18:59
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	16-Oct-2020 18:59
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	16-Oct-2020 18:59
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	16-Oct-2020 18:59
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	16-Oct-2020 18:59
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	16-Oct-2020 18:59
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	16-Oct-2020 18:59
Surr: 1,2-Dichloroethane-d4	*85.5*			**0**	*81-118*	*%REC*	*1*	*16-Oct-2020 18:59*
Surr: 4-Bromofluorobenzene	*102*			**0**	*85-114*	*%REC*	*1*	*16-Oct-2020 18:59*
Surr: Dibromofluoromethane	*88.0*			**0**	*80-119*	*%REC*	*1*	*16-Oct-2020 18:59*
Surr: Toluene-d8	*98.5*			**0**	*89-112*	*%REC*	*1*	*16-Oct-2020 18:59*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	22-Oct-2020 13:19

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 26-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16
Sample ID: 16WW24-201008
Collection Date: 08-Oct-2020 10:30

ANALYTICAL REPORT
WorkOrder:HS20100455
Lab ID:HS20100455-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	16-Oct-2020 19:23
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	16-Oct-2020 19:23
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	16-Oct-2020 19:23
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	16-Oct-2020 19:23
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	16-Oct-2020 19:23
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	16-Oct-2020 19:23
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	16-Oct-2020 19:23
Surr: 1,2-Dichloroethane-d4	*89.1*			**0**	*81-118*	*%REC*	*1*	*16-Oct-2020 19:23*
Surr: 4-Bromofluorobenzene	*102*			**0**	*85-114*	*%REC*	*1*	*16-Oct-2020 19:23*
Surr: Dibromofluoromethane	*90.4*			**0**	*80-119*	*%REC*	*1*	*16-Oct-2020 19:23*
Surr: Toluene-d8	*98.2*			**0**	*89-112*	*%REC*	*1*	*16-Oct-2020 19:23*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	22-Oct-2020 13:19

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 26-Oct-20

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 16 WorkOrder:HS20100455
Sample ID: 16WW16-201008 Lab ID:HS20100455-05
Collection Date: 08-Oct-2020 11:15 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	12	U	7.5	12	25	UG/L	25	16-Oct-2020 20:11
1,1-Dichloroethene	**59**		**5.0**	**12**	**25**	**UG/L**	25	16-Oct-2020 20:11
1,2-Dichloroethane	**33**		**5.0**	**12**	**25**	**UG/L**	25	16-Oct-2020 20:11
cis-1,2-Dichloroethene	**17,000**		**100**	**250**	**500**	**UG/L**	500	16-Oct-2020 21:48
Methylene chloride	**44**	J	**10**	**25**	**50**	**UG/L**	25	16-Oct-2020 20:11
Trichloroethene	**32,000**		**100**	**250**	**500**	**UG/L**	500	16-Oct-2020 21:48
Vinyl chloride	**470**		**5.0**	**12**	**25**	**UG/L**	25	16-Oct-2020 20:11
Surr: 1,2-Dichloroethane-d4	*87.9*			**0**	*81-118*	*%REC*	*25*	*16-Oct-2020 20:11*
Surr: 1,2-Dichloroethane-d4	*85.2*			**0**	*81-118*	*%REC*	*500*	*16-Oct-2020 21:48*
Surr: 4-Bromofluorobenzene	*102*			**0**	*85-114*	*%REC*	*25*	*16-Oct-2020 20:11*
Surr: 4-Bromofluorobenzene	*102*			**0**	*85-114*	*%REC*	*500*	*16-Oct-2020 21:48*
Surr: Dibromofluoromethane	*90.5*			**0**	*80-119*	*%REC*	*25*	*16-Oct-2020 20:11*
Surr: Dibromofluoromethane	*88.1*			**0**	*80-119*	*%REC*	*500*	*16-Oct-2020 21:48*
Surr: Toluene-d8	*101*			**0**	*89-112*	*%REC*	*500*	*16-Oct-2020 21:48*
Surr: Toluene-d8	*99.0*			**0**	*89-112*	*%REC*	*25*	*16-Oct-2020 20:11*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PVL
Ethane	**0.00564**		**0.000144**	**0.000250**	**0.00100**	**mg/L**	1	15-Oct-2020 10:25
Ethene	**0.0116**		**0.000234**	**0.000500**	**0.00100**	**mg/L**	1	15-Oct-2020 10:25
Methane	**0.907**		**0.0107**	**0.0250**	**0.0500**	**mg/L**	100	15-Oct-2020 14:28
ALKALINITY BY SM2320B		**Method:SM2320B**						Analyst: TH
Alkalinity, Total (As CaCO3)	**391**	a	**5.00**	**5.00**	**5.00**	**mg/L**	1	13-Oct-2020 21:52
ANIONS BY SW9056A		**Method:SW9056**						Analyst: KVL
Bromide	**6.75**		**0.150**	**0.500**	**0.500**	**mg/L**	5	10-Oct-2020 01:04
Nitrogen, Nitrate (As N)	0.500	U	0.150	0.500	0.500	mg/L	5	10-Oct-2020 01:04
Sulfate	**491**		**4.00**	**10.0**	**10.0**	**mg/L**	20	23-Oct-2020 18:41
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	22-Oct-2020 13:19
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	19-Oct-2020 09:23

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 26-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16
Sample ID: Trip blank-201008
Collection Date: 09-Oct-2020 00:00

ANALYTICAL REPORT
WorkOrder:HS20100455
Lab ID:HS20100455-06
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	16-Oct-2020 18:11
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	16-Oct-2020 18:11
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	16-Oct-2020 18:11
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	16-Oct-2020 18:11
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	16-Oct-2020 18:11
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	16-Oct-2020 18:11
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	16-Oct-2020 18:11
Surr: 1,2-Dichloroethane-d4	*86.9*			**0**	*81-118*	*%REC*	*1*	*16-Oct-2020 18:11*
Surr: 4-Bromofluorobenzene	*94.1*			**0**	*85-114*	*%REC*	*1*	*16-Oct-2020 18:11*
Surr: Dibromofluoromethane	*88.5*			**0**	*80-119*	*%REC*	*1*	*16-Oct-2020 18:11*
Surr: Toluene-d8	*103*			**0**	*89-112*	*%REC*	*1*	*16-Oct-2020 18:11*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 26-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16
WorkOrder: HS20100455

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R370227 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS20100455-01	16WW58-201008	08 Oct 2020 07:50			09 Oct 2020 19:57	5
HS20100455-02	16WW57-201008	08 Oct 2020 07:50			09 Oct 2020 19:39	10
HS20100455-05	16WW16-201008	08 Oct 2020 11:15			10 Oct 2020 01:04	5
Batch ID: R370437 (0)	**Test Name :** ALKALINITY BY SM2320B				**Matrix:** Groundwater	
HS20100455-01	16WW58-201008	08 Oct 2020 07:50			13 Oct 2020 21:40	1
HS20100455-02	16WW57-201008	08 Oct 2020 07:50			13 Oct 2020 21:45	1
HS20100455-05	16WW16-201008	08 Oct 2020 11:15			13 Oct 2020 21:52	1
Batch ID: R370661 (0)	**Test Name :** DISSOLVED GASES BY RSK-175				**Matrix:** Groundwater	
HS20100455-01	16WW58-201008	08 Oct 2020 07:50			15 Oct 2020 10:01	1
HS20100455-02	16WW57-201008	08 Oct 2020 07:50			15 Oct 2020 10:14	1
HS20100455-05	16WW16-201008	08 Oct 2020 11:15			15 Oct 2020 14:28	100
HS20100455-05	16WW16-201008	08 Oct 2020 11:15			15 Oct 2020 10:25	1
Batch ID: R370739 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS20100455-06	Trip blank-201008	09 Oct 2020 00:00			16 Oct 2020 18:11	1
Batch ID: R370739 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS20100455-01	16WW58-201008	08 Oct 2020 07:50			16 Oct 2020 21:23	50
HS20100455-01	16WW58-201008	08 Oct 2020 07:50			16 Oct 2020 19:47	5
HS20100455-02	16WW57-201008	08 Oct 2020 07:50			16 Oct 2020 18:35	1
HS20100455-03	16WW23-201008	08 Oct 2020 09:45			16 Oct 2020 18:59	1
HS20100455-04	16WW24-201008	08 Oct 2020 10:30			16 Oct 2020 19:23	1
HS20100455-05	16WW16-201008	08 Oct 2020 11:15			16 Oct 2020 21:48	500
HS20100455-05	16WW16-201008	08 Oct 2020 11:15			16 Oct 2020 20:11	25
Batch ID: R370759 (0)	**Test Name :** SUBCONTRACT ANALYSIS - TOC ANALYSIS				**Matrix:** Groundwater	
HS20100455-01	16WW58-201008	08 Oct 2020 07:50			19 Oct 2020 09:23	1
HS20100455-02	16WW57-201008	08 Oct 2020 07:50			19 Oct 2020 09:23	1
HS20100455-05	16WW16-201008	08 Oct 2020 11:15			19 Oct 2020 09:23	1
Batch ID: R371062 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Groundwater	
HS20100455-01	16WW58-201008	08 Oct 2020 07:50			22 Oct 2020 13:19	1
HS20100455-02	16WW57-201008	08 Oct 2020 07:50			22 Oct 2020 13:19	1
HS20100455-03	16WW23-201008	08 Oct 2020 09:45			22 Oct 2020 13:19	1
HS20100455-04	16WW24-201008	08 Oct 2020 10:30			22 Oct 2020 13:19	1
HS20100455-05	16WW16-201008	08 Oct 2020 11:15			22 Oct 2020 13:19	1
Batch ID: R371285 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS20100455-01	16WW58-201008	08 Oct 2020 07:50			23 Oct 2020 17:47	20
HS20100455-02	16WW57-201008	08 Oct 2020 07:50			23 Oct 2020 18:23	100
HS20100455-05	16WW16-201008	08 Oct 2020 11:15			23 Oct 2020 18:41	20

ALS Houston, US Date: 26-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16
WorkOrder: HS20100455

QC BATCH REPORT

Batch ID: R370661 (0) **Instrument: FID-4** **Method: DISSOLVED GASES BY RSK-175**

MBLK Sample ID: **MBLK-201015** Units: **mg/L** Analysis Date: **15-Oct-2020 09:35**
Client ID: Run ID: **FID-4_370661** SeqNo: **5785474** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.000250	0.00100								U
Ethene	0.000500	0.00100								U
Methane	0.000250	0.000500								U

LCS Sample ID: **LCS-201015** Units: **mg/L** Analysis Date: **15-Oct-2020 09:43**
Client ID: Run ID: **FID-4_370661** SeqNo: **5785475** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0169	0.00100	0.01804	0	93.5	75 - 125				
Ethene	0.0165	0.00100	0.0168	0	98.4	75 - 125				
Methane	0.00978	0.000500	0.009647	0	101	75 - 125				

LCSD Sample ID: **LCSD-201015** Units: **mg/L** Analysis Date: **15-Oct-2020 09:51**
Client ID: Run ID: **FID-4_370661** SeqNo: **5785476** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0151	0.00100	0.01804	0	83.8	75 - 125	0.01688	10.9	30	
Ethene	0.0143	0.00100	0.0168	0	85.2	75 - 125	0.01653	14.4	30	
Methane	0.00778	0.000500	0.009647	0	80.7	75 - 125	0.009778	22.7	30	

DUP Sample ID: **HS20100455-01DUP** Units: **mg/L** Analysis Date: **15-Oct-2020 14:06**
Client ID: **16WW58-201008** Run ID: **FID-4_370661** SeqNo: **5785497** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.000250	0.00100					0	0	30	U
Ethene	0.00142	0.00100					0.0006453	75.2	30	R
Methane	0.00762	0.000500					0.006594	14.4	30	

The following samples were analyzed in this batch: HS20100455-01 HS20100455-02 HS20100455-05

ALS Houston, US Date: 26-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16
WorkOrder: HS20100455

QC BATCH REPORT

Batch ID: R370739 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-201016** Units: **UG/L** Analysis Date: **16-Oct-2020 16:11**
Client ID: Run ID: **VOA6_370739** SeqNo: **5787499** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	0.50	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,2-Dichloroethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
Methylene chloride	1.0	2.0								U
Trichloroethene	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*44.61*	*1.0*	*50*	*0*	*89.2*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.42*	*1.0*	*50*	*0*	*98.8*	*85 - 114*				
Surr: Dibromofluoromethane	*44.27*	*1.0*	*50*	*0*	*88.5*	*80 - 119*				
Surr: Toluene-d8	*50.71*	*1.0*	*50*	*0*	*101*	*89 - 112*				

LCS Sample ID: **VLCSW-201016** Units: **UG/L** Analysis Date: **16-Oct-2020 15:23**
Client ID: Run ID: **VOA6_370739** SeqNo: **5787498** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	19.42	1.0	20	0	97.1	80 - 119				
1,1-Dichloroethene	18.89	1.0	20	0	94.5	71 - 131				
1,2-Dichloroethane	19.21	1.0	20	0	96.1	73 - 128				
cis-1,2-Dichloroethene	20.17	1.0	20	0	101	78 - 123				
Methylene chloride	24.3	2.0	20	0	121	74 - 124				
Trichloroethene	19.03	1.0	20	0	95.1	79 - 123				
Vinyl chloride	18.53	1.0	20	0	92.6	58 - 137				
Surr: 1,2-Dichloroethane-d4	*46.76*	*1.0*	*50*	*0*	*93.5*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.89*	*1.0*	*50*	*0*	*102*	*85 - 114*				
Surr: Dibromofluoromethane	*48.62*	*1.0*	*50*	*0*	*97.2*	*80 - 119*				
Surr: Toluene-d8	*49.49*	*1.0*	*50*	*0*	*99.0*	*89 - 112*				

ALS Houston, US Date: 26-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16
WorkOrder: HS20100455

QC BATCH REPORT

Batch ID: R370739 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20100455-03MS** Units: **UG/L** Analysis Date: **16-Oct-2020 20:35**
Client ID: **16WW23-201008** Run ID: **VOA6_370739** SeqNo: **5787510** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	22.91	1.0	20	0	115	80 - 119				
1,1-Dichloroethene	22.76	1.0	20	0	114	71 - 131				
1,2-Dichloroethane	21.07	1.0	20	0	105	73 - 128				
cis-1,2-Dichloroethene	22.26	1.0	20	0	111	78 - 123				
Methylene chloride	22.43	2.0	20	0	112	74 - 124				
Trichloroethene	24.05	1.0	20	0	120	79 - 123				
Vinyl chloride	21.77	1.0	20	0	109	58 - 137				
Surr: 1,2-Dichloroethane-d4	*43.91*	*1.0*	*50*	*0*	*87.8*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*51.37*	*1.0*	*50*	*0*	*103*	*85 - 114*				
Surr: Dibromofluoromethane	*45.88*	*1.0*	*50*	*0*	*91.8*	*80 - 119*				
Surr: Toluene-d8	*54.04*	*1.0*	*50*	*0*	*108*	*89 - 112*				

MSD Sample ID: **HS20100455-03MSD** Units: **UG/L** Analysis Date: **16-Oct-2020 20:59**
Client ID: **16WW23-201008** Run ID: **VOA6_370739** SeqNo: **5787511** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	20.14	1.0	20	0	101	80 - 119	22.91	12.8	20	
1,1-Dichloroethene	21.57	1.0	20	0	108	71 - 131	22.76	5.4	20	
1,2-Dichloroethane	20.02	1.0	20	0	100	73 - 128	21.07	5.1	20	
cis-1,2-Dichloroethene	20.08	1.0	20	0	100	78 - 123	22.26	10.3	20	
Methylene chloride	20.81	2.0	20	0	104	74 - 124	22.43	7.49	20	
Trichloroethene	22.1	1.0	20	0	111	79 - 123	24.05	8.42	20	
Vinyl chloride	20.66	1.0	20	0	103	58 - 137	21.77	5.22	20	
Surr: 1,2-Dichloroethane-d4	*42.7*	*1.0*	*50*	*0*	*85.4*	*81 - 118*	*43.91*	*2.78*	*20*	
Surr: 4-Bromofluorobenzene	*50.15*	*1.0*	*50*	*0*	*100*	*85 - 114*	*51.37*	*2.41*	*20*	
Surr: Dibromofluoromethane	*43.92*	*1.0*	*50*	*0*	*87.8*	*80 - 119*	*45.88*	*4.35*	*20*	
Surr: Toluene-d8	*47.49*	*1.0*	*50*	*0*	*95.0*	*89 - 112*	*54.04*	*12.9*	*20*	

The following samples were analyzed in this batch: HS20100455-01 HS20100455-02 HS20100455-03 HS20100455-04 HS20100455-05 HS20100455-06

ALS Houston, US Date: 26-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16
WorkOrder: HS20100455

QC BATCH REPORT

Batch ID: R370227 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK-10.08.20** Units: **mg/L** Analysis Date: **08-Oct-2020 19:37**
Client ID: Run ID: **ICS-Integrion_370227** SeqNo: **5774420** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	0.100	0.100								U
Nitrogen, Nitrate (As N)	0.100	0.100								U

LCS Sample ID: **LCS** Units: **mg/L** Analysis Date: **08-Oct-2020 19:55**
Client ID: Run ID: **ICS-Integrion_370227** SeqNo: **5774421** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	3.989	0.100	4	0	99.7	80 - 120				
Nitrogen, Nitrate (As N)	3.906	0.100	4	0	97.6	80 - 120				

LCSD Sample ID: **LCSD** Units: **mg/L** Analysis Date: **10-Oct-2020 04:22**
Client ID: Run ID: **ICS-Integrion_370227** SeqNo: **5788647** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	3.861	0.100	4	0	96.5	80 - 120	3.989	3.28	20	
Nitrogen, Nitrate (As N)	3.983	0.100	4	0	99.6	80 - 120	3.906	1.96	20	

MS Sample ID: **HS20100362-01MS** Units: **mg/L** Analysis Date: **09-Oct-2020 09:26**
Client ID: Run ID: **ICS-Integrion_370227** SeqNo: **5788637** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	2.264	0.100	2	0.308	97.8	80 - 120				
Nitrogen, Nitrate (As N)	2.873	0.100	2	0	144	80 - 120				S

MSD Sample ID: **HS20100362-01MSD** Units: **mg/L** Analysis Date: **09-Oct-2020 09:44**
Client ID: Run ID: **ICS-Integrion_370227** SeqNo: **5788638** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	2.264	0.100	2	0.308	97.8	80 - 120	2.264	0.00883	20	
Nitrogen, Nitrate (As N)	2.871	0.100	2	0	144	80 - 120	2.873	0.0696	20	S

The following samples were analyzed in this batch: HS20100455-01 HS20100455-02 HS20100455-05

ALS Houston, US Date: 26-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16
WorkOrder: HS20100455

QC BATCH REPORT

Batch ID: R370437 (0) **Instrument: ManTech01** **Method: ALKALINITY BY SM2320B**

MBLK Sample ID: **WBLKW2-201013** Units: **mg/L** Analysis Date: **13-Oct-2020 19:34**
Client ID: Run ID: **ManTech01_370437** SeqNo: **5779994** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	5.00	5.00								U

LCS Sample ID: **LCS2-201013** Units: **mg/L** Analysis Date: **13-Oct-2020 19:43**
Client ID: Run ID: **ManTech01_370437** SeqNo: **5779995** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	1028	5.00	1000	0	103	85 - 115				

LCSD Sample ID: **LCSD2-201013** Units: **mg/L** Analysis Date: **13-Oct-2020 19:52**
Client ID: Run ID: **ManTech01_370437** SeqNo: **5779996** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	1025	5.00	1000	0	103	85 - 115	1028	0.267	20	

DUP Sample ID: **HS20100284-07DUP** Units: **mg/L** Analysis Date: **13-Oct-2020 20:06**
Client ID: Run ID: **ManTech01_370437** SeqNo: **5779998** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	249.2	5.00					248.5	0.249	20	

The following samples were analyzed in this batch: HS20100455-01 HS20100455-02 HS20100455-05

ALS Houston, US Date: 26-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16
WorkOrder: HS20100455

QC BATCH REPORT

Batch ID: R371285 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK-102320** Units: **mg/L** Analysis Date: **23-Oct-2020 19:53**
Client ID: Run ID: **ICS-Integrion_371285** SeqNo: **5799757** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	0.500	0.500								U

LCS Sample ID: **LCS-102320** Units: **mg/L** Analysis Date: **23-Oct-2020 20:11**
Client ID: Run ID: **ICS-Integrion_371285** SeqNo: **5799758** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	18.24	0.500	20	0	91.2	80 - 120				

MS Sample ID: **HS20100361-02MS** Units: **mg/L** Analysis Date: **23-Oct-2020 14:28**
Client ID: Run ID: **ICS-Integrion_371285** SeqNo: **5799743** PrepDate: DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	3309	50.0	1000	2487	82.2	80 - 120				

MSD Sample ID: **HS20100361-02MSD** Units: **mg/L** Analysis Date: **23-Oct-2020 14:46**
Client ID: Run ID: **ICS-Integrion_371285** SeqNo: **5799744** PrepDate: DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	3340	50.0	1000	2487	85.4	80 - 120	3309	0.952	20	

The following samples were analyzed in this batch: HS20100455-01 HS20100455-02 HS20100455-05

ALS Houston, US Date: 26-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16
WorkOrder: **HS20100455**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	20-030-0	26-Mar-2021
California	2919, 2020-2021	30-Apr-2021
Dept of Defense	PJLA L20-507	22-Dec-2021
Florida	E87611-30-07/01/2020	30-Jun-2021
Illinois	2000322020-4	09-May-2021
Kansas	E-10352 2020-2021	31-Jul-2021
Kentucky	123043, 2020-2021	30-Apr-2021
Louisiana	03087, 2020-2021	30-Jun-2021
North Carolina	624-2020	31-Dec-2020
North Dakota	R-193 2020-2021	30-Apr-2021
Texas	T104704231-20-26	30-Apr-2021

ALS Houston, US Date: 26-Oct-20

Sample Receipt Checklist

Work Order ID: HS20100455 **Date/Time Received:** **09-Oct-2020 09:45**

Client Name: CBI-Houston **Received by:** **Jared R. Makan**

Completed By:	/S/ Jared R. Makan	09-Oct-2020 13:01	**Reviewed by:**	/S/ RJ Modashia	09-Oct-2020 16:30
	eSignature	Date/Time		eSignature	Date/Time

Matrices: **Water** Carrier name: **FedEx Priority Overnight**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☐	No ☑	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	2.1°C/2.1°C/ UC/C	IR31
Cooler(s)/Kit(s):	45957	
Date/Time sample(s) sent to storage:	10/09/2020 13:10	

Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes: Trip Blank received, not listed on COC. placed on hold.

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd. Suite 210 Houston, TX. 77099 (281)530-5656 ATTN: R.J Modashia

Project: APTIM
LONGHORN ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No. 501032

Job: **LHAAP 16 October 2020**

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D. / Time	Sample Matrix	Date /	MS / MSD	No. OF CONTAINERS	VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (bromide, sulfate, nitrate) by SW9056 and Alkalinity by SM2320	Bromide by SW9056	Perchlorate by SW6850	Metals (arsenic, chromium, manganese, nickel, thallium) by SW6020				Remarks (Preservatives, etc.)	Lab I.D.#
16WW58-201008	WG	10/8/20/0750		10	X	X	X	X	X	X						
16WW57-201008	WG	10/8/20/0840		10	X	X	X	X	X	X						
16WW23-201008	WG	10/8/20/0945		4	X					X						
16WW24-201008	WG	10/8/20/1030		4	X					X						
16WW16-201008	WG	10/8/20/1115		10	X	X	X	X	X	X						

Additional Remarks: **Standard TAT on all parameters. Please email results to Susan.Huang@aptim.com and invoices to fedinvoices@aptim.com**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	10/8/20	1430									

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
JM	10/09/20	9:45					2.1		45957

Remarks: #R31 C/F-0

HS20100455

Aptim Environmental & Infrastucture, Inc.
Longhorn Army Ammunition Plant LHAAP 16

(Word) S:\I-ces\Forms\Chain of Custody - BiWeekly

ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

45957

CUSTODY SEAL

Date: 10/8/20 Time: 1430
Name: [illegible]
Company: BHATS

Seal Broken By:
Date: 10/09/20

45957

Must Deliver Next Bus.
Time and Temperature Sen. e!

45957

ORIGIN ID:SGRA (903) 930-8193
SCOTT BEESINGER
APTIM
1203-B EAST GRAND AVE.
PMB202
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 23JUN20
ACTWGT: 1.00 LB MAN
CAD: 3001[illegible]/CAFE3211
DIMS: 19x1[illegible]x13 IN

TO CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099
(281) 530-5656
REF: LHAAP 16 - BO72394 - RJ
RMA:

FedEx Express

FedEx
TRK# 0221 1891 8877 8299

FRI - 09 OCT AA
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US
IAH

FID: 162785 BBOct2020 GGGA 560G2/A27E/05A2

October 22, 2020 Service Request No:E2000971

RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Suite 210
Houston, TX 77099-4338

Laboratory Results for: HS20100455

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory October 09, 2020
For your reference, these analyses have been assigned our service request number **E2000971.**

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

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Corey Grandits
Project Manager

ADDRESS 10450 Stancliff Rd., Suite 210, Houston, TX 77099
PHONE +1 281 530 5656 | FAX +1 281 530 5887
ALS Group USA, Corp.
dba ALS Environmental

Certificate of Analysis

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

ALS Environmental

Client:	ALS Houston	**Service Request No.:**	E2000971
Project:	HS20100455	**Date Received:**	10/09/20
Sample Matrix:	W		

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Five samples were received for analysis at ALS Environmental in Houston on 10/09/20.

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

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2000512: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of a MS/MSD for this extraction batch. The LCS and DLCS recoveries are within QC limits.

DoD Certification is held for the method/matrix/analytes provided in this report.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

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

Client: ALS Environmental - US **Service Request:**E2000971
Project: HS20100455

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2000971-001	16WW58-201008	10/8/2020	0750
E2000971-002	16WW57-201008	10/8/2020	0750
E2000971-003	16WW23-201008	10/8/2020	0945
E2000971-004	50WW24-201008	10/8/2020	1030
E2000971-005	16WW16-201008	10/8/2020	1115

Service Request Summary

Folder #: **E2000971**
Client Name: ALS Environmental - US
Project Name: HS20100455
Project Number:

Report To: RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 10/09/20
Internal Due Date: 10/23/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20100455
EDD: No EDD Specified

5 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 7E
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2000971-001	16WW58-201008	Ground Water	10/08/20 0750	**IV**
E2000971-002	16WW57-201008	Ground Water	10/08/20 0750	**IV**
E2000971-003	16WW23-201008	Ground Water	10/08/20 0945	**IV**
E2000971-004	50WW24-201008	Ground Water	10/08/20 1030	**IV**
E2000971-005	16WW16-201008	Ground Water	10/08/20 1115	**IV**

Service Request Summary

Folder #:	**E2000971**
Client Name:	ALS Environmental - US
Project Name:	HS20100455
Project Number:	

Report To:	RJ Modashia ALS Laboratory Group 10450 Stancliff Road Houston, TX 77099-4338 USA
Phone Number:	281-530-5656
Cell Number:	
Fax Number:	281-530-5887
E-mail:	rj.modashia@alsglobal.com

Project Chemist:	Corey Grandits
Originating Lab:	HOUSTON
Logged By:	CGRANDITS
Date Received:	10/09/20
Internal Due Date:	10/23/2020
QAP:	LAB QAP
Qualifier Set:	Lab Standard
Formset:	Lab Standard
Merged?:	Y
Report to MDL?:	Y
P.O. Number:	HS20100455
EDD:	No EDD Specified

5 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved

Location: EHRMS-WIC 7E

Pressure Gas:

Test Comments:

Group	Test/Method	Samples	Comments
Semivoa GCMS	ClO4 DOD/6850	5	Level II due 10/23,level IV 10/30

Data Qualifiers

Lab Standard

+	Possible Tedlar bag artifact.
A	TIC is a suspected aldol-condensation product
B	Analyte found in the associated method blank as well as in the sample.
BC	Reported results are not blank corrected.
BH	The back section of the tube yielded higher results than the front.
BT	Results indicated possible breakthrough; back section >=10% front section.
C	Result identification confirmed.
D	Compound identified in an analysis at a secondary dilution factor
D	Spike was diluted out
DE	Reported results are corrected for desorption efficiency.
E	Estimated value. Concentration above calibration range
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
H1	Sample analysis performed past holding time. See case narrative.
H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
H3	Sample was received and analyzed past holding time.
H4	Sample was extracted past required extraction holding time, but analyzed within analysis holding time. See case narrative.
I	Internal standard not within the specified limits. See case narrative.
J	Estimated Value. Concentration found below MRL.
K	A deflection in the QC ion may indicate interference with the quantitation of this ion. The concentration of this analyte should be considered as an estimate.
K	Analyte was detected above the method reporting limit prior to normalization.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
L1	Laboratory control sample recovery outside the specified limits; results may be biased high.
L2	Laboratory control sample recovery outside the specified limits; results may be biased low.
L3	Laboratory control sample recovery outside the specified limits.
M	Matrix interference; results may be biased high.
M	The duplicate injection precision not met.
M1	Matrix interference due to coelution with a non-target compound; results may be biased high.
N	Presumptive evidence of a compound for TICs that have been identified based on a mass spectral library search.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.

Data Qualifiers

Lab Standard

P	Indicates chlorodiphenyl ether interference present at the retention time of the target compound.
P	Pesticide/Aroclor target analyte > 40% difference for detected concentrations between GC columns
Q	Indicates as estimated value because the P and P + 2 theoretical abundance ratio does not meet method criteria.
R	Duplicate Precision not met.
R1	Duplicate precision not within the specified limits; however, the results are below the MRL and considered estimated.
S	Surrogate recovery not within specified limits.
S	The reported value was determined by the Method of Standard Additions (MSA).
T	Analyte is a tentatively identified compound, result is estimated.
U	Compound was analyzed for, but was not detected (ND).
V1	The continuing calibration verification standard was outside (biased high) the specified limits for this compound.
V2	The continuing calibration verification standard was outside (biased low) the specified limits for this compound.
W	Result quantified, but the corresponding peak was detected outside the generated retention time window.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
X	See case narrative.
Y	Recovery outside limits
Y	The chromatogram resembles a petroleum product but does not match the calibration standard.
Z	The chromatogram does not resemble a petroleum product.
i	The MRL/MDL has been elevated due to a matrix interference.

ALS Laboratory Group

Acronyms

Cal	Calibration
Conc	CONCentration
Dioxin(s)	Polychlorinated dibenzo-p-dioxin(s)
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
Flags	Data qualifiers
Furan(s)	Polychlorinated dibenzofuran(s)
g	Grams
ICAL	Initial CALibration
ID	IDentifier
Ions	Masses monitored for the analyte during data acquisition
L	Liter (s)
LCS	Laboratory Control Sample
DLCS	Duplicate Laboratory Control Sample
MB	Method Blank
MCL	Method Calibration Limit
MDL	Method Detection Limit
mL	Milliliters
MS	Matrix Spiked sample
DMS	Duplicate Matrix Spiked sample
NO	Number of peaks meeting all identification criteria
PCDD(s)	Polychlorinated dibenzo-p-dioxin(s)
PCDF(s)	Polychlorinated dibenzofuran(s)
ppb	Parts per billion
ppm	Parts per million
ppq	Parts per quadrillion
ppt	Parts per trillion
QA	Quality Assurance
QC	Quality Control
Ratio	Ratio of areas from monitored ions for an analyte
% Rec.	Percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
SDG	Sample Delivery Group
S/N	Signal-to-noise ratio
TEF	Toxicity Equivalence Factor
TEQ	Toxicity Equivalence Quotient

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ALS Environmental

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
American Association for Laboratory Accreditation	2897.01 2020	11/30/2021
Arizona Department of Health Services	AZ0793-2020	5/27/2021
Arkansas Department of Environmental Quality	20-030-0	3/26/2021
California Department of Health Services	2919-2020	4/30/2021
Department of Defense	A2LA 2897.01	11/30/2021
Florida Department of Health	E87611-2020	6/30/2021
Hawaii Department of Health	2020	4/30/2021
Illinois Environmental Protection Agency	2000322020-4	5/9/2021
Kansas Department of Health and Environment	E-10352-2020	7/31/2021
Louisiana Department of Environmental Quality	03087-2020	6/30/2021
Louisiana Department of Health and Hospitals	LA028-2020	12/31/2020
Maine Department of Health and Human Services	2020016	6/5/2022
Maryland Department of the Environment	343-2020	6/30/2021
Michigan Depratment of Environmental Quality	9971-2020	4/30/2021
Minnesota Department of Health	1785988	12/31/2020
Nebraska Department of Health and Human Services	NE-OS-25-13 (2020)	4/30/2021
Nevada Department of Concervation and Natural Resources	TX026932021-1	7/31/2021
New Hampshire Environmental Laboratory Accreditation Program	209420	4/24/2021
New Jersey Department of Environmental Protection	TX008	6/30/2021
New York Department of Health	11707	3/31/2021
Oklahoma Department of Environmental Quality	2020-123	8/31/2021
Pennsylvania Department of Environmental Protection	014	6/30/2021
Tennessee Department of Environment and Concervation	04016-2020	4/30/2021
Texas Commision on Environmental Quality	T104704231-20-26	4/30/2021
United States Department of Agriculture	P330-19-00299	10/10/2022
Washington Department of Health	C819	11/14/2020

Chain of Custody

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Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14895**

SUBCONTRACT TO:

ALS Environmental
10450 Stancliff RoadSuite 210
Houston, TX 77084

Phone: +1 281 530 5656

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	RJ Modashia
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	RJ.Modashia@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS20100455
TSR:	Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20100455-01**	**16WW58-201008**	**Groundwater**	**08 Oct 2020 07:50**
	SUB_Perch-6850			19 Oct 2020
2.	**HS20100455-02**	**16WW57-201008**	**Groundwater**	**08 Oct 2020 07:50**
	SUB_Perch-6850			19 Oct 2020
3.	**HS20100455-03**	**16WW23-201008**	**Groundwater**	**08 Oct 2020 09:45**
	SUB_Perch-6850			19 Oct 2020
4.	**HS20100455-04**	**16WW24-201008**	**Groundwater**	**08 Oct 2020 10:30**
	SUB_Perch-6850			19 Oct 2020
5.	**HS20100455-05**	**16WW16-201008**	**Groundwater**	**08 Oct 2020 11:15**
	SUB_Perch-6850			19 Oct 2020

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: DOD IV (DoD Data Package)

RIGHT SOLUTIONS. RIGHT PARTNER.

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14895**

Relinquished By:	J. Morgan	Date/Time:	
Received By:	COURIER	Date/Time:	10/9/26 1206
Cooler ID(s):		Temperature(s):	

ALS Environmental

Cooler Receipt Form

Project Chemist CG

Client/Project ALS-H

Thermometer ID IR21

Date/Time Received: 10/9/20 Initials: CG Date/Time Logged in: 10/9/20 Initials CG

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ⊘ Courier (Ais) ○ Client

2. Samples received in: ⊘ Cooler ○ Box ○ Envelope ○ Other

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

4. Packing Material: ○ Inserts ⊘ Baggies ○ Bubble Wrap ○ Gel Packs ⊘ Wet Ice ○ Sleeves ○ Other

5. Foreign or Regulated Soil? ○ Yes ○ No Location of Sampling:

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
—		10/9/20	1200	CG	2.8	☒
						☐
						☐
						☐

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

Notes, Discrepancies, & Resolutions:

Service request Label:

10450 Stancliff Rd., Suite 210
Houston, TX 77099
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F: +1 713 266 1599
www.alsglobal.com

SAMPLE ACCEPTANCE POLICY

This policy outlines the criteria samples must meet to be accepted by ALS Environmental – Houston HRMS.

Cooler Custody Seals (desirable, mandatory if specified in SAP):

- ✓ Intact on outside of cooler, signed and dated

Chain-of-Custody (COC) documentation (mandatory):

The following is required on each COC:

- ✓ Sample ID, the location, date and time of collection, collector's name, preservation type, sample type, and any other special remarks concerning the sampleThe COC must be completed in ink.
- ✓ Signature and date of relinquishing party.

In the absence of a COC at sample receipt, the COC will be requested from the client.

Sample Integrity (mandatory):

Samples are inspected upon arrival to ensure that sample integrity was not compromised during transfer to the laboratory.

- ✓ Sample containers must arrive in good condition (not broken or leaking).
- ✓ Samples must be labeled appropriately, including Sample IDs, and requested test using durable labels and indelible ink.
- ✓ The correct type of sample bottle must be used for the method requested.
- ✓ An appropriate sample volume, or weight, must be received.
- ✓ Sample IDs and number of containers must reconcile with the COC.
- ✓ Samples must be received within the method defined holding time.

Temperature Requirement (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6ºC.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10ºC.
- ✓ Air samples are shipped and stored cold, at 0 to 6ºC
- ✓ The sample temperature must be recorded on the COC

All cooler inspections are documented on the Cooler Receipt Form (CRF). A separate CRF is completed for each service request. Any samples not meeting the above criteria are noted on the CRF and the Project Manager notified. The Project Manager must resolve any sample integrity issues with the client prior to proceeding with the analysis. Such resolutions are documented in writing and filed with the project folder. Data associated with samples received outside of this acceptance policy will be qualified on the case narrative of the final report

Preparation Information Benchsheets

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

Preparation Information Benchsheet

Prep Run#: 368004 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 10/19/20 09:25

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2000965-001	CDG-15-10062020	.01	6850/ClO4 DOD			Ground Water	10mL	
2	E2000965-002	HEDG-FB-10062020	.01	6850/ClO4 DOD			Ground Water	10mL	
3	E2000965-003	CDG-12-10062020	.01	6850/ClO4 DOD			Ground Water	10mL	
4	E2000965-004	CDG-1-10062020	.01	6850/ClO4 DOD			Ground Water	10mL	
5	E2000965-005	CDG-17-10062020	.01	6850/ClO4 DOD			Ground Water	10mL	
6	E2000966-001	HEDG IDW-052020	.01	6850/ClO4 DOD			Ground Water	10mL	
7	E2000966-002	Test Area IDW-012020	.01	6850/ClO4 DOD			Ground Water	10mL	
8	E2000968-001	CDG-13-10072020	.01	6850/ClO4 DOD			Ground Water	10mL	
9	E2000968-002	CDG-11-10072020	.01	6850/ClO4 DOD			Ground Water	10mL	
10	E2000968-003	HEDG-FD-10072020	.01	6850/ClO4 DOD			Ground Water	10mL	
11	E2000968-004	CDG-2-10072020	.01	6850/ClO4 DOD			Ground Water	10mL	
12	E2000968-005	CDG-10-10072020	.01	6850/ClO4 DOD			Ground Water	10mL	
13	E2000968-006	CDG-14-10072020	.01	6850/ClO4 DOD			Ground Water	10mL	
14	E2000968-007	CDG-16-10072020	.01	6850/ClO4 DOD			Ground Water	10mL	
15	E2000971-001	16WW58-201008	.01	6850/ClO4 DOD			Ground Water	10mL	
16	E2000971-002	16WW57-201008	.01	6850/ClO4 DOD			Ground Water	10mL	
17	E2000971-003	16WW23-201008	.01	6850/ClO4 DOD			Ground Water	10mL	
18	E2000971-004	50WW24-201008	.01	6850/ClO4 DOD			Ground Water	10mL	
19	E2000971-005	16WW16-201008	.01	6850/ClO4 DOD			Ground Water	10mL	
20	EQ2000512-01	MB		6850/ClO4 DOD			Liquid	10mL	
21	EQ2000512-02	LCS		6850/ClO4 DOD			Liquid	10mL	
22	EQ2000512-03	DLCS		6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 209764 Logbook Ref: Perchlorate Int. Stock1 51820 Expires On: 11/18/2020

EQ2000512-02 1.00µL EQ2000512-03 1.00µL

Name: Sodium Perchlorate 1 ug/mL (IS) (18-O) as CLO4 Inventory ID 212340 Logbook Ref: Sodium Perchlorate Expires On: 07/13/2022

E2000965-001	100.00µL	E2000965-002	100.00µL	E2000965-003	100.00µL	E2000965-004	100.00µL	E2000965-005	100.00µL	E2000966-001	100.00µL
E2000966-002	100.00µL	E2000968-001	100.00µL	E2000968-002	100.00µL	E2000968-003	100.00µL	E2000968-004	100.00µL	E2000968-005	100.00µL
E2000968-006	100.00µL	E2000968-007	100.00µL	E2000971-001	100.00µL	E2000971-002	100.00µL	E2000971-003	100.00µL	E2000971-004	100.00µL
E2000971-005	100.00µL	EQ2000512-01	100.00µL	EQ2000512-02	100.00µL	EQ2000512-03	100.00µL				

Preparation Information Benchsheet

Prep Run#: 368004 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 10/19/20 09:25

Preparation Steps

Step: Preparation
Started: 10/19/20 09:25
Finished: 10/19/20 14:58
By: GRIVERA
Comments

Comments: _____

Reviewed By: GR Date: 10/19/2020

Chain of Custody

Relinquished By:		Date:		Extracts Examined
Received By:		Date:		Yes No

Analytical Results

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000971
Project:	HS20100455	**Date Collected:**	10/ 8/20 0750
Sample Matrix:	Ground Water	**Date Received:**	10/ 9/20
Sample Name:	16WW58-201008	**Units:**	µg/L
Lab Code:	E2000971-001	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	10/19/20	10/21/20 10:47	368004	700177	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000971
Project:	HS20100455	**Date Collected:**	10/ 8/20 0750
Sample Matrix:	Ground Water	**Date Received:**	10/ 9/20
Sample Name:	16WW57-201008	**Units:**	µg/L
Lab Code:	E2000971-002	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	10/19/20	10/19/20 19:36	368004	700168	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000971
Project:	HS20100455	**Date Collected:**	10/ 8/20 0945
Sample Matrix:	Ground Water	**Date Received:**	10/ 9/20
Sample Name:	16WW23-201008	**Units:**	µg/L
Lab Code:	E2000971-003	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	10/19/20	10/21/20 10:55	368004	700177	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000971
Project:	HS20100455	**Date Collected:**	10/ 8/20 1030
Sample Matrix:	Ground Water	**Date Received:**	10/ 9/20
Sample Name:	50WW24-201008	**Units:**	µg/L
Lab Code:	E2000971-004	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	10/19/20	10/21/20 11:03	368004	700177	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000971
Project:	HS20100455	**Date Collected:**	10/ 8/20 1115
Sample Matrix:	Ground Water	**Date Received:**	10/ 9/20
Sample Name:	16WW16-201008	**Units:**	µg/L
Lab Code:	E2000971-005	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**480**		1.00	0.500	0.250	10	10/19/20	10/20/20 19:48	368004	700170	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000971
Project:	HS20100455	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000512-01	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	10/19/20	10/19/20 17:05	368004	700168	

Accuracy & Precision

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston TX 77099
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www.alsglobal.com

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000971
Project:	HS20100455	**Date Analyzed:**	10/19/20 - 10/20/20
Sample Matrix:	Ground Water		

Lab Control Sample Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Units:**	µg/L
Prep Method:	Method	**Basis:**	NA
		Extraction Lot:	368004

	Lab Control Sample EQ2000512-02			Duplicate Lab Control Sample EQ2000512-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.106	0.100	106	0.104	0.100	104	84 - 119	2	15

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

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

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000971
Project:	HS20100455	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000512-02	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.106**		0.100	0.0500	0.0250	1	10/19/20	10/19/20 17:13	368004	700168	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000971
Project:	HS20100455	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000512-03	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.104**		0.100	0.0500	0.0250	1	10/19/20	10/20/20 19:01	368004	700170	

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October 16, 2020

Analytical Report for Service Request No: K2009172

RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Suite 210
Houston, TX 77099-4338

RE: ALS Houston DOD TOC / HS20100455

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory October 13, 2020
For your reference, these analyses have been assigned our service request number **K2009172.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3350. You may also contact me via email at Kelley.Lovejoy@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

for Kelley Lovejoy
Project Manager

RIGHT SOLUTIONS | RIGHT PARTNER

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Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjlabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water-	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Case Narrative

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Client: ALS Environmental - US
Project: ALS Houston DOD TOC
Sample Matrix: Ground Water

Service Request: K2009172
Date Received: 10/13/2020

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier level IV requested by the client.

Sample Receipt:

Three ground water samples were received for analysis at ALS Environmental on 10/13/2020. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

General Chemistry:

No significant anomalies were noted with this analysis.

Approved by Noe D. Davis Date 10/16/2020

Chain of Custody

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K2009172

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Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14894**

SUBCONTRACT TO:

ALS Environmental Kelso
1317 S. 13th Avenue
Kelso, WA 98626

Phone: +1 360 501 3312

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	RJ Modashia
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	RJ.Modashia@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS20100455
TSR:	Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20100455-01**	**16WW58-201008**	**Groundwater**	**08 Oct 2020 07:50**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			19 Oct 2020
2.	**HS20100455-02**	**16WW57-201008**	**Groundwater**	**08 Oct 2020 07:50**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			19 Oct 2020
3.	**HS20100455-05**	**16WW16-201008**	**Groundwater**	**08 Oct 2020 11:15**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			19 Oct 2020

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: DOD IV (DoD Data Package)

Relinquished By: J. Lawal Date/Time: 10/12/20 18:00

Received By: N Pedersen Date/Time: 10/13/20 1015

Cooler ID(s): Temperature(s):

PM IK

Cooler Receipt and Preservation Form

Client AIS Houston Service Request K20 09172

Received: 10/13/20 Opened: 10/13/20 By: AP Unloaded: 10/13/20 By: AP

1. Samples were received via? *USPS* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 2 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Was a Temperature Blank present in cooler? NA (Y) N If yes, notate the temperature in the appropriate column below:
   If no, take the temperature of a representative sample bottle contained within the cooler; notate in the column "Sample Temp":
5. Were samples received within the method specified temperature ranges? NA (Y) N
   If no, were they received on ice and same day as collected? If not, notate the cooler # below and notify the PM. (NA) Y N

If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*

Temp Blank	Sample Temp	IR Gun	Cooler #/COC ID / NA	Out of temp indicate with "X"	PM Notified If out of temp	Tracking Number NA	Filed
1.3	—	IR01		—	—	1591 8881 4073	
			148941				
			148971				

6. Packing material: *Inserts* (*Baggies*) *Bubble Wrap* *Gel Packs* (*Wet Ice*) *Dry Ice* *Sleeves* _____
7. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
8. Were samples received in good condition (unbroken) NA (Y) N
9. Were all sample labels complete (ie, analysis, preservation, etc.)? NA (Y) N
10. Did all sample labels and tags agree with custody papers? NA (Y) N
11. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
12. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
13. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
14. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, Resolutions: _____

General Chemistry

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ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	K2009172
Project:	ALS Houston DOD TOC/HS20100455	**Date Collected:**	10/8/20
Sample Matrix:	Ground Water	**Date Received:**	10/13/20
Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Carbon, Total Organic

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
16WW58-201008	K2009172-001	**4.13**	0.50	0.20	0.07	1	10/14/20 09:53	
16WW57-201008	K2009172-002	**13.1**	0.50	0.20	0.07	1	10/14/20 09:53	
16WW16-201008	K2009172-003	**3.35**	0.50	0.20	0.07	1	10/14/20 09:53	
Method Blank	K2009172-MB	ND U	0.50	0.20	0.07	1	10/14/20 09:53	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2009172
Project	ALS Houston DOD TOC/HS20100455	**Date Collected:**	10/08/20
Sample Matrix:	Ground Water	**Date Received:**	10/13/20
		Date Analyzed:	10/14/20

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	16WW58-201008	**Units:**	mg/L
Lab Code:	K2009172-001	**Basis:**	NA

Analyte Name	Analysis Method	LOQ	LOD	MDL	Sample Result	Duplicate Sample K2009172-001DUP Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	0.50	0.20	0.07	4.13	4.00	4.06	3	10

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

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

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

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2009172
Project:	ALS Houston DOD TOC/HS20100455	**Date Collected:**	10/08/20
Sample Matrix:	Ground Water	**Date Received:**	10/13/20
		Date Analyzed:	10/14/20
		Date Extracted:	NA

Matrix Spike Summary
Carbon, Total Organic

Sample Name:	16WW58-201008	**Units:**	mg/L
Lab Code:	K2009172-001	**Basis:**	NA
Analysis Method:	SM 5310 C		
Prep Method:	None		

Matrix Spike
K2009172-001MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	4.13	27.3	25.0	93	83-117

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

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

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

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2009172
Project:	ALS Houston DOD TOC/HS20100455	**Date Analyzed:**	10/14/20
Sample Matrix:	Ground Water	**Date Extracted:**	NA

Lab Control Sample Summary
Carbon, Total Organic

Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	699336

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2009172-LCS	23.8	25.0	95	83-117

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:** K2009172
Project: ALS Houston DOD TOC/HS20100455

Continuing Calibration Verification (CCV) Summary

Carbon, Total Organic

Analysis Method: SM 5310 C **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	699336	KQ2015677-13	10/14/20 09:53	25.0	24.9	99	90-110
CCV2	699336	KQ2015677-14	10/14/20 09:53	25.0	25.1	100	90-110
CCV3	699336	KQ2015677-15	10/14/20 09:53	25.0	24.5	98	90-110
CCV4	699336	KQ2015677-16	10/14/20 09:53	25.0	24.4	98	90-110
CCV5	699336	KQ2015677-17	10/14/20 09:53	25.0	24.5	98	90-110
CCV6	699336	KQ2015677-18	10/14/20 09:53	25.0	24.8	99	90-110

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:**K2009172
Project: ALS Houston DOD TOC/HS20100455

Continuing Calibration Blank (CCB) Summary
Carbon, Total Organic

Analysis Method: SM 5310 C **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	699336	KQ2015677-07	10/14/20 09:53	0.50	0.20	0.07	ND	U
CCB2	699336	KQ2015677-08	10/14/20 09:53	0.50	0.20	0.07	ND	U
CCB3	699336	KQ2015677-09	10/14/20 09:53	0.50	0.20	0.07	ND	U
CCB4	699336	KQ2015677-10	10/14/20 09:53	0.50	0.20	0.07	ND	U
CCB5	699336	KQ2015677-11	10/14/20 09:53	0.50	0.20	0.07	ND	U
CCB6	699336	KQ2015677-12	10/14/20 09:53	0.50	0.20	0.07	ND	U

Raw Data

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General Chemistry

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Work Request # 8395 8919 9036 8568 8767 8787 9172

Tier: IV IV IV IV I II IV

Date Analyzed: 10-14-70 8870 IV 9059 I

Analyst: MK

Analysis: TOC/DOC

Run # 699335/699336 699515

DATA QUALITY REPORT
INORGANICS

Explain any "no" responses to questions below, and any corrective actions in the comments section below.

1.	Is the method name and number correct and appropriate?	yes/no/NA
2.	Holding times met for all analyses and for all samples?	yes/no/NA
3.	Are calculations correct?	yes/no/NA
4.	Is the reporting basis correct? (Dry Weight)	yes/no/NA
5.	All quality control criteria met?	yes/no
6.	Is the calibration curve correlation coefficient ≥ 0.995?	yes/no/NA
7.	MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency?	yes/no/NA
8.	Are ICVs, CCVs, and CCBs all within acceptance limits?	yes/no/NA
9.	Are results for methods blanks all ND?	yes/no/NA
10.	Are all QC samples within acceptance criteria? (LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.)	yes/no/NA
11.	Are all exceptions explained?	yes/no/NA
12.	Have all applicable service requests been reviewed?	yes/no/NA
13.	Are all samples labeled correctly?	yes/no/NA
14.	Have all instructions on the service request been followed? (e.g. Special MRLs, QC on a specific sample, Form V)	yes/no/NA
15.	Are detection limits and units reported correctly?	yes/no/NA
16.	Is the unused space on the benchsheet crossed out?	yes/no/NA
17.	Was analysis turned in by the due date? (n-2) (If not record SR#)	yes/no/NA

COMMENTS:

8767-3 high RPD less than 5 times MRL

9059-1 "

Final Approved by: _____ Date: 10/16/20

DOREPORT

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 699335 **Method/Testcode:** SM 5310 C/TOC D

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
K2008395-008	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	1.76 mg/L	10 mL	1.76 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	IV
K2008919-001	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	1.43 mg/L	10 mL	1.43 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	IV
K2008919-002	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	1.40 mg/L	10 mL	1.40 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	IV
K2008919-003	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	2.57 mg/L	10 mL	2.57 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	IV
K2008919-004	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	1.33 mg/L	10 mL	1.33 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	IV
K2008919-005	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	1.35 mg/L	10 mL	1.35 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	IV
K2009036-001	Carbon, Dissolved Organic (DOC)	N/A		Wastewater	1.81 mg/L	10 mL	1.81 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	II
K2009036-002	Carbon, Dissolved Organic (DOC)	N/A		Wastewater	2.66 mg/L	10 mL	2.66 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	II
K2009036-003	Carbon, Dissolved Organic (DOC)	N/A		Wastewater	2.16 mg/L	10 mL	2.16 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	II
K2009036-004	Carbon, Dissolved Organic (DOC)	N/A		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	II
KQ2015676-01	Carbon, Dissolved Organic (DOC)	LCS		Surface Water	23.60 mg/L	10 mL	23.6 mg/L	1	0.07	0.50	94		10/14/20 09:53:00	N	IV
KQ2015676-02	Carbon, Dissolved Organic (DOC)	DLCS		Surface Water	23.87 mg/L	10 mL	23.9 mg/L	1	0.07	0.50	95	1	10/14/20 09:53:00	N	IV
KQ2015676-03	Carbon, Dissolved Organic (DOC)	MB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	IV
KQ2015676-04	Carbon, Dissolved Organic (DOC)	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	IV
KQ2015676-05	Carbon, Dissolved Organic (DOC)	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	IV
KQ2015676-06	Carbon, Dissolved Organic (DOC)	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	IV
KQ2015676-07	Carbon, Dissolved Organic (DOC)	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	IV
KQ2015676-08	Carbon, Dissolved Organic (DOC)	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	IV
KQ2015676-09	Carbon, Dissolved Organic (DOC)	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	IV
KQ2015676-10	Carbon, Dissolved Organic (DOC)	CCV		Surface Water	24.86 mg/L	10 mL	24.9 mg/L	1					10/14/20 09:53:00	N	IV
KQ2015676-11	Carbon, Dissolved Organic (DOC)	CCV		Surface Water	25.06 mg/L	10 mL	25.1 mg/L	1					10/14/20 09:53:00	N	IV
KQ2015676-12	Carbon, Dissolved Organic (DOC)	CCV		Surface Water	24.49 mg/L	10 mL	24.5 mg/L	1					10/14/20 09:53:00	N	IV
KQ2015676-13	Carbon, Dissolved Organic (DOC)	CCV		Surface Water	24.44 mg/L	10 mL	24.4 mg/L	1					10/14/20 09:53:00	N	IV

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 699335 **Method/Testcode:** SM 5310 C/TOC D

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
KQ2015676-14	Carbon, Dissolved Organic (DOC)	CCV		Surface Water	24.53 mg/L	10 mL	24.5 mg/L	1					10/14/20 09:53:00	N	IV
KQ2015676-15	Carbon, Dissolved Organic (DOC)	CCV		Surface Water	24.80 mg/L	10 mL	24.8 mg/L	1					10/14/20 09:53:00	N	IV

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 699336 **Method/Testcode:** SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
K2008568-001	Carbon, Total Organic	N/A		Surface Water	1.93 mg/L	10 mL	1.93 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	IV
K2008568-002	Carbon, Total Organic	N/A		Surface Water	1.83 mg/L	10 mL	1.83 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	IV
K2008568-007	Carbon, Total Organic	N/A		Surface Water	2.03 mg/L	10 mL	2.03 mg/L	1	0.07	0.50			10/14/20 09:53:00	Y	IV
K2008767-003	Carbon, Total Organic	N/A		Drinking Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	I
K2008787-001	Carbon, Total Organic	N/A		Water	2.04 mg/L	10 mL	2.04 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	II
K2008919-001	Carbon, Total Organic	N/A		Surface Water	1.56 mg/L	10 mL	1.56 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	IV
K2008919-002	Carbon, Total Organic	N/A		Surface Water	1.61 mg/L	10 mL	1.61 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	IV
K2008919-003	Carbon, Total Organic	N/A		Surface Water	3.15 mg/L	10 mL	3.15 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	IV
K2008919-004	Carbon, Total Organic	N/A		Surface Water	1.47 mg/L	10 mL	1.47 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	IV
K2008919-005	Carbon, Total Organic	N/A		Surface Water	1.95 mg/L	10 mL	1.95 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	IV
K2009036-001	Carbon, Total Organic	N/A		Wastewater	1.77 mg/L	10 mL	1.77 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	II
K2009172-001	Carbon, Total Organic	N/A		Ground Water	4.13 mg/L	10 mL	4.13 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	IV
K2009172-002	Carbon, Total Organic	N/A		Ground Water	13.11 mg/L	10 mL	13.1 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	IV
K2009172-003	Carbon, Total Organic	N/A		Ground Water	3.35 mg/L	10 mL	3.35 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	IV
KQ2015677-01	Carbon, Total Organic	DUP	K2008787-001	Water	2.04 mg/L	10 mL	2.04 mg/L	1	0.07	0.50		<1	10/14/20 09:53:00	N	II
KQ2015677-02	Carbon, Total Organic	MS	K2008787-001	Water	28.37 mg/L	10 mL	28.4 mg/L	1	0.07	0.50	105		10/14/20 09:53:00	N	II
KQ2015677-03	Carbon, Total Organic	DUP	K2008568-007	Surface Water	2.16 mg/L	10 mL	2.16 mg/L	1	0.07	0.50		6	10/14/20 09:53:00	N	IV
KQ2015677-04	Carbon, Total Organic	MS	K2008568-007	Surface Water	29.00 mg/L	10 mL	29.0 mg/L	1	0.07	0.50	108		10/14/20 09:53:00	N	IV
KQ2015677-05	Carbon, Total Organic	LCS		Surface Water	23.85 mg/L	10 mL	23.8 mg/L	1	0.07	0.50	95		10/14/20 09:53:00	N	IV
KQ2015677-06	Carbon, Total Organic	MB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	IV
KQ2015677-07	Carbon, Total Organic	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	IV
KQ2015677-08	Carbon, Total Organic	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	IV
KQ2015677-09	Carbon, Total Organic	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	IV
KQ2015677-10	Carbon, Total Organic	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	IV

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 699336 **Method/Testcode:** SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
KQ2015677-11	Carbon, Total Organic	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	IV
KQ2015677-12	Carbon, Total Organic	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	IV
KQ2015677-13	Carbon, Total Organic	CCV		Surface Water	24.86 mg/L	10 mL	24.9 mg/L	1					10/14/20 09:53:00	N	IV
KQ2015677-14	Carbon, Total Organic	CCV		Surface Water	25.06 mg/L	10 mL	25.1 mg/L	1					10/14/20 09:53:00	N	IV
KQ2015677-15	Carbon, Total Organic	CCV		Surface Water	24.49 mg/L	10 mL	24.5 mg/L	1					10/14/20 09:53:00	N	IV
KQ2015677-16	Carbon, Total Organic	CCV		Surface Water	24.44 mg/L	10 mL	24.4 mg/L	1					10/14/20 09:53:00	N	IV
KQ2015677-17	Carbon, Total Organic	CCV		Surface Water	24.53 mg/L	10 mL	24.5 mg/L	1					10/14/20 09:53:00	N	IV
KQ2015677-18	Carbon, Total Organic	CCV		Surface Water	24.80 mg/L	10 mL	24.8 mg/L	1					10/14/20 09:53:00	N	IV
KQ2015677-19	Carbon, Total Organic	DUP	K2009172-001	Ground Water	4.00 mg/L	10 mL	4.00 mg/L	1	0.07	0.50		3	10/14/20 09:53:00	N	IV
KQ2015677-20	Carbon, Total Organic	MS	K2009172-001	Ground Water	27.29 mg/L	10 mL	27.3 mg/L	1	0.07	0.50	93		10/14/20 09:53:00	N	IV

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 699515 **Method/Testcode:** SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
K2008870-001	Carbon, Total Organic	N/A		Water	1.45 mg/L	10 mL	1.45 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	IV
K2009036-002	Carbon, Total Organic	N/A		Wastewater	2.70 mg/L	10 mL	2.70 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	II
K2009036-003	Carbon, Total Organic	N/A		Wastewater	2.07 mg/L	10 mL	2.07 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	II
K2009036-004	Carbon, Total Organic	N/A		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	II
K2009059-001	Carbon, Total Organic	N/A		Drinking Water	4951.00 mg/L	10 mL	4950 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	I
KQ2015678-01	Carbon, Total Organic	DUP	K2008870-001	Water	1.49 mg/L	10 mL	1.49 mg/L	1	0.07	0.50		3	10/14/20 09:53:00	N	IV
KQ2015678-02	Carbon, Total Organic	MS	K2008870-001	Water	27.84 mg/L	10 mL	27.8 mg/L	1	0.07	0.50	106		10/14/20 09:53:00	N	IV
KQ2015678-03	Carbon, Total Organic	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	IV
KQ2015678-04	Carbon, Total Organic	LCS		Water	23.95 mg/L	10 mL	24.0 mg/L	1	0.07	0.50	96		10/14/20 09:53:00	N	IV
KQ2015678-05	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	IV
KQ2015678-06	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	IV
KQ2015678-07	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	IV
KQ2015678-08	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	IV
KQ2015678-09	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	IV
KQ2015678-10	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	IV
KQ2015678-11	Carbon, Total Organic	CCV		Water	24.86 mg/L	10 mL	24.9 mg/L	1					10/14/20 09:53:00	N	IV
KQ2015678-12	Carbon, Total Organic	CCV		Water	25.06 mg/L	10 mL	25.1 mg/L	1					10/14/20 09:53:00	N	IV
KQ2015678-13	Carbon, Total Organic	CCV		Water	24.49 mg/L	10 mL	24.5 mg/L	1					10/14/20 09:53:00	N	IV
KQ2015678-14	Carbon, Total Organic	CCV		Water	24.44 mg/L	10 mL	24.4 mg/L	1					10/14/20 09:53:00	N	IV
KQ2015678-15	Carbon, Total Organic	CCV		Water	24.53 mg/L	10 mL	24.5 mg/L	1					10/14/20 09:53:00	N	IV
KQ2015678-16	Carbon, Total Organic	CCV		Water	24.80 mg/L	10 mL	24.8 mg/L	1					10/14/20 09:53:00	N	IV

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Schedule: 101420

Version: 17
Instrument: Fusion1
Last Saved by: Fusion1 (Fusion1)
Last Saved on: 2020/10/14 19:45 - Wednesday

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
(Clean)	Clean	Clean		1	True	Ready
(Clean)	Clean	Clean		1	True	Ready
(Clean)	Clean	Clean		1	True	Ready
(Blank)	Blank	Reagent/Acid Blank		1	True	Ready
D	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
1	Sample	MB1	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
2	Sample	ICS	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
74	Sample	LOD	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
73	Sample	LOQ	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
3	Sample	K2008787-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
4	Sample	K2008787-001D	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
5	Sample	K2008787-001MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
6	Sample	K2009172-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
7	Sample	K2009172-001D	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
8	Sample	K2009172-001MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
9	Sample	K2009172-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
10	Sample	K2009172-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
11	Sample	K2008395-003*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
12	Sample	K2008568-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
13	Sample	K2008568-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
14	Sample	K2008568-007	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
15	Sample	K2008568-007D	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
16	Sample	K2008568-007MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
17	Sample	K2009059-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
18	Sample	K2008994-001*5	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
19	Sample	K2008787-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
20	Sample	MB2	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
21	Sample	K2008974-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
22	Sample	K2008974-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
23	Sample	K2008919-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
24	Sample	K2008919-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
25	Sample	K2008919-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
26	Sample	K2008919-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
27	Sample	K2008919-005	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
28	Sample	K2008919-001*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
29	Sample	K2008919-002*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
30	Sample	K2008919-003*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
31	Sample	K2008919-004*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
32	Sample	K2008919-005*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
33	Sample	K2009036-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
34	Sample	K2009036-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
35	Sample	K2009036-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
36	Sample	K2009036-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready

Schedule: 101420

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
37	Sample	K2009036-001*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
38	Sample	K2009036-002*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
39	Sample	MB3	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
40	Sample	K2009036-003*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
41	Sample	K2009036-004*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
43	Sample	LOD	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
44	Sample	LOQ	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
45	Sample	K2008870-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
46	Sample	K2008870-001D	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
47	Sample	K2008870-001MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
					False	

Fusion Report - 101420
Wednesday, October 14, 2020 09:53 AM

(View - Reps, Unused Reps, Meta-Data, Signature, History)
Printed on 2020/10/15 18:49 - Thursday

Report Summary Information

*DOC

Company Location:	Gen Chem Lab		
Schedule Name:	101420	Engine Version:	1.1.5.1
Instrument Name:	Fusion1	Firmware Version:	1.2.0696
Report Version:	1 of 1	Connection:	RS232 COM1
Report Creation by Operators (schedule version):	Fusion1 (Fusion1) (v2) Fusion1 (Fusion1) (v5) Fusion1 (Fusion1) (v6) Fusion1 (Fusion1) (v7) Fusion1 (Fusion1) (v12) Fusion1 (Fusion1) (v15) Fusion1 (Fusion1) (v16) Fusion1 (Fusion1) (v17)		
Comment:			

Report Results

Sample Type: Clean — From Schedule Version 2

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/10/14 09:53

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	13.54	27.93	14.39	49.66	05:28
2	TC Clean	7.77	20.96	13.19	50.00	04:07
3	TC Clean	0.96	14.32	13.36	49.96	03:59
4	TC Clean	0.82	13.99	13.17	50.01	04:00

Sample Type: Clean — From Schedule Version 5

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/10/14 10:15

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.27	12.84	13.11	49.60	05:26

2	TC Clean	3.54	16.73	13.19	49.91	04:05
3	TC Clean	0.80	14.15	13.36	49.93	03:50
4	TC Clean	0.67	13.77	13.10	49.99	03:53

Sample Type: Clean From Schedule Version 6

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/10/14 10:37

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.51	12.71	13.21	49.64	05:26
2	TC Clean	3.55	16.85	13.31	49.92	04:06
3	TC Clean	0.85	14.05	13.19	49.99	03:49
4	TC Clean	0.58	13.79	13.21	49.95	03:49

Sample Type: Blank (Creating v1461) From Schedule Version 6

	Pos	Analysis Type	Sample ID	Start Time
◆	(blank)		Reagent/Acid Blank	2020/10/14 10:59

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.58	12.42	13.00	49.70	05:16
2	TC Clean	3.85	17.01	13.15	49.95	04:04
3	TC Clean	1.29	14.19	12.90	49.94	03:58
4	TC Clean	0.93	13.96	13.04	49.96	03:59
5	Reagent Blank	5.12	17.97	12.85	49.94	05:09
6	Acid Blank	0.24	13.04	12.80	49.67	05:32

Sample Type: Sample From Schedule Version 6

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	D	TOC	RB	0.0531 ppm	0.0000 ppm	0.0000%	2020/10/14 11:33

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0531	0.5310	9.62	22.57	12.95	50.17	10:31

Dilution **Blank Contribution** **Method** **Calibration**

1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 6

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.8648 ppm (PASS)	0.0000 ppm	0%	2020/10/14 11:48

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.8648	248.6476	184.31	197.28	12.96	50.12	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 6

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/10/14 12:03

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	7.23	20.42	13.19	50.08	10:35

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 6

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	1	TOC	MB1	0.0000 ppm	0.0000 ppm	0.0000%	2020/10/14 12:18

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	7.06	19.92	12.86	50.05	10:32

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 6

	Pos	BAT	Concentration	Dil	Sample ID	Min / Max	Result	Std. Dev.	RSD	Start Time

			(ppm)			(% dev)				
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	23.8479 ppm (PASS)	0.0000 ppm	0%	2020/10/14 12:32

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	23.8479	238.4791	177.18	190.14	12.96	50.15	10:27

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample From Schedule Version 6

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	2	TOC	ICS	0.0000 ppm	0.0000 ppm	0.0000%	2020/10/14 12:47

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	8.98	21.93	12.95	50.13	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	74	TOC	LOD	0.0000 ppm	0.0000 ppm	0.0000%	2020/10/14 13:02

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	7.18	20.23	13.05	50.12	10:28
2	TOC	0.0000	0.0000	7.35	20.32	12.96	50.19	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	73	TOC	LOQ	0.1572 ppm	0.0078 ppm	4.9400%	2020/10/14 13:30

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1517	1.5175	10.31	23.39	13.08	50.12	10:31
2	TOC	0.1627	1.6272	10.39	23.49	13.10	50.13	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	3	TOC	K2008787-001	2.0411 ppm	0.0271 ppm	1.3300%	2020/10/14 13:58

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.0219	20.2193	23.43	36.31	12.89	50.21	10:25
2	TOC	2.0603	20.6028	23.70	36.74	13.05	50.11	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	4	TOC	K2008787-001D	2.0430 ppm	0.0532 ppm	2.6100%	2020/10/14 14:26

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.0054	20.0539	23.31	36.44	13.13	50.08	10:25
2	TOC	2.0807	20.8066	23.84	36.82	12.98	50.20	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	5	TOC	K2008787-001MS	28.3726 ppm	0.0574 ppm	0.2000%	2020/10/14 14:54

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	28.4132	284.1317	208.56	221.59	13.04	50.09	10:27
2	TOC	28.3321	283.3206	207.99	220.99	13.00	50.16	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	6	TOC	K2009172-001	4.1262 ppm	0.1258 ppm	3.0500%	2020/10/14 15:22

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.2151	42.1514	38.81	51.73	12.91	50.11	10:26
2	TOC	4.0372	40.3723	37.57	50.51	12.95	50.11	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample From Schedule Version 7

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	7	TOC	K2009172-001D	4.0013 ppm	0.0359 ppm	0.9000%	2020/10/14 15:50

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.9759	39.7593	37.14	50.10	12.96	50.09	10:30

2	TOC	4.0267	40.2668	37.49	50.36	12.87	50.16	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	8	TOC	K2009172-001MS	27.2894 ppm	0.9292 ppm	3.4000%	2020/10/14 16:18

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	26.6324	266.3237	196.07	209.24	13.18	50.08	10:27
2	TOC	27.9464	279.4645	205.28	218.36	13.08	50.22	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	9	TOC	K2009172-002	13.1133 ppm	0.1966 ppm	1.5000%	2020/10/14 16:46

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	13.2523	132.5229	102.21	115.21	13.00	50.08	10:27
2	TOC	12.9743	129.7430	100.26	113.34	13.08	50.16	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 7

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	25.0616 ppm (PASS)	0.0000 ppm	0%	2020/10/14 17:14

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.0616	250.6162	185.70	198.68	12.99	50.06	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 7

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/10/14 17:29

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	6.96	19.95	12.98	50.15	10:28

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 7

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	10	TOC	K2009172-003	3.3538 ppm	0.1190 ppm	3.5500%	2020/10/14 17:43

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.4379	34.3793	33.36	46.43	13.07	50.06	10:30
2	TOC	3.2696	32.6957	32.18	45.05	12.87	50.20	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample From Schedule Version 12

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	11	TOC	K2008395-003	1.7566 ppm	0.0224 ppm	1.2700%	2020/10/14 18:11

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.7408	17.4081	21.46	34.54	13.08	50.09	10:28
2	TOC	1.7725	17.7246	21.68	34.57	12.89	50.05	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample From Schedule Version 15

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	12	TOC	K2008568-001	1.9343 ppm	0.0014 ppm	0.0700%	2020/10/14 18:39

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.9353	19.3526	22.82	35.69	12.87	50.19	10:26
2	TOC	1.9333	19.3326	22.81	35.86	13.06	50.12	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	13	TOC	K2008568-002	1.8298 ppm	0.0181 ppm	0.9900%	2020/10/14 19:07

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.8169	18.1694	21.99	35.08	13.09	50.08	10:28
2	TOC	1.8426	18.4260	22.17	35.09	12.92	50.04	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample From Schedule Version 16

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	14	TOC	K2008568-007	2.0272 ppm	0.0167 ppm	0.8300%	2020/10/14 19:36

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.0154	20.1537	23.38	36.39	13.01	50.02	10:28
2	TOC	2.0390	20.3904	23.55	36.72	13.17	50.02	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample From Schedule Version 17

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	15	TOC	K2008568-007D	2.1584 ppm	0.0380 ppm	1.7600%	2020/10/14 20:03

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.1853	21.8530	24.57	37.64	13.07	50.19	10:29
2	TOC	2.1316	21.3155	24.20	37.12	12.92	50.16	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	16	TOC	K2008568-007MS	29.0019 ppm	1.1530 ppm	3.9800%	2020/10/14 20:32

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	28.1867	281.8665	206.97	219.98	13.01	50.15	10:25
2	TOC	29.8172	298.1720	218.41	231.51	13.10	50.14	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	17	TOC	K2009059-001	0.4951 ppm	0.0860 ppm	17.3700%	2020/10/14 21:00

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5559	5.5589	13.14	25.95	12.81	50.13	10:27
2	TOC	0.4343	4.3429	12.29	25.27	12.98	50.13	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	18	TOC	K2008994-001*5	4.0367 ppm	0.0315 ppm	0.7800%	2020/10/14 21:28

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.0589	40.5890	37.72	50.73	13.01	50.13	10:27
2	TOC	4.0144	40.1442	37.40	50.52	13.12	50.17	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	19	TOC	K2008787-003	0.0017 ppm	0.0025 ppm	141.4200%	2020/10/14 21:56

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	8.93	22.00	13.08	50.18	10:27
2	TOC	0.0035	0.0349	9.27	22.31	13.05	50.21	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 17

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◈	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.4881 ppm (PASS)	0.0000 ppm	0%	2020/10/14 22:24

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.4881	244.8812	181.67	194.71	13.04	50.20	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 17

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/10/14 22:39

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	6.50	19.64	13.14	50.20	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 17

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	20	TOC	MB2	0.0000 ppm	0.0000 ppm	0.0000%	2020/10/14 22:53

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	6.06	19.23	13.16	50.22	10:37

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 17

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	23.5967 ppm (PASS)	0.0000 ppm	0%	2020/10/14 23:08

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	23.5967	235.9673	175.42	188.56	13.14	50.23	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Check Standard --> LCS From Schedule Version 17

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	23.8709 ppm (PASS)	0.0000 ppm	0%	2020/10/14 23:23

	Base									

Pos	Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	23.8709	238.7086	177.34	190.57	13.23	50.22	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample From Schedule Version 17

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	21	TOC	K2008974-001	0.9286 ppm	0.0541 ppm	5.8300%	2020/10/14 23:37

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9669	9.6688	16.03	29.20	13.17	50.26	10:25
2	TOC	0.8903	8.9033	15.49	28.85	13.36	50.33	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	22	TOC	K2008974-002	0.9251 ppm	0.0256 ppm	2.7700%	2020/10/15 00:05

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9432	9.4321	15.86	28.92	13.06	50.34	10:25
2	TOC	0.9070	9.0701	15.61	28.97	13.36	50.37	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	23	TOC	K2008919-001	1.5620 ppm	0.0018 ppm	0.1200%	2020/10/15 00:33

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.5633	15.6333	20.21	33.58	13.37	50.39	10:25
2	TOC	1.5608	15.6076	20.19	33.39	13.20	50.47	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	24	TOC	K2008919-002	1.6082 ppm	0.0503 ppm	3.1300%	2020/10/15 01:01

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.5726	15.7260	20.28	33.30	13.03	50.45	10:28
2	TOC	1.6437	16.4373	20.78	33.90	13.12	50.49	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	25	TOC	K2008919-003	3.1466 ppm	0.0162 ppm	0.5200%	2020/10/15 01:29

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.1351	31.3514	31.24	44.54	13.30	50.51	10:28
2	TOC	3.1581	31.5809	31.40	44.81	13.41	50.54	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	26	TOC	K2008919-004	1.4710 ppm	0.0317 ppm	2.1500%	2020/10/15 01:57

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.4486	14.4857	19.41	32.88	13.47	50.57	10:25
2	TOC	1.4933	14.9333	19.72	33.13	13.41	50.57	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	27	TOC	K2008919-005	1.9526 ppm	0.0261 ppm	1.3400%	2020/10/15 02:25

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.9341	19.3412	22.81	36.16	13.35	50.62	10:32
2	TOC	1.9710	19.7104	23.07	36.53	13.46	50.63	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	28	TOC	K2008919-001*	1.4295 ppm	0.0025 ppm	0.1800%	2020/10/15 02:53

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.4278	14.2776	19.26	32.58	13.32	50.65	10:27
2	TOC	1.4313	14.3132	19.28	32.50	13.22	50.67	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 17

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.4407 ppm (PASS)	0.0000 ppm	0%	2020/10/15 03:21

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.4407	244.4065	181.34	194.71	13.37	50.70	10:35

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 17

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/10/15 03:36

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	6.80	20.13	13.32	50.73	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 17

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	29	TOC	K2008919-002*	1.3953 ppm	0.0171 ppm	1.2300%	2020/10/15 03:51

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.4074	14.0737	19.12	32.44	13.32	50.78	10:29
2	TOC	1.3831	13.8314	18.95	32.34	13.39	50.78	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	30	TOC	K2008919-003*	2.5685 ppm	0.0167 ppm	0.6500%	2020/10/15 04:19

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.5803	25.8032	27.34	40.69	13.35	50.80	10:29
2	TOC	2.5567	25.5665	27.18	40.72	13.54	50.81	10:26

Dilution	Blank Contribution	Method	Calibration

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	31	TOC	K2008919-004*	1.3309 ppm	0.0366 ppm	2.7500%	2020/10/15 04:47

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.3568	13.5677	18.76	31.98	13.22	50.81	10:26
2	TOC	1.3050	13.0502	18.40	31.82	13.42	50.81	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	32	TOC	K2008919-005*	1.3484 ppm	0.0717 ppm	5.3200%	2020/10/15 05:15

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.2977	12.9775	18.35	31.82	13.47	50.84	10:30
2	TOC	1.3991	13.9911	19.06	32.28	13.22	50.84	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	33	TOC	K2009036-001	1.7664 ppm	0.0078 ppm	0.4400%	2020/10/15 05:43

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.7719	17.7189	21.67	35.24	13.56	50.84	10:30
2	TOC	1.7609	17.6091	21.60	35.15	13.56	50.85	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	34	TOC	K2009036-002	2.7030 ppm	0.0322 ppm	1.1900%	2020/10/15 06:11

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.7257	27.2572	28.36	41.83	13.47	50.86	10:29
2	TOC	2.6802	26.8025	28.05	41.56	13.52	50.85	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	35	TOC	K2009036-003	2.0660 ppm	0.0119 ppm	0.5800%	2020/10/15 06:39

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.0576	20.5757	23.68	37.19	13.52	50.87	10:25
2	TOC	2.0744	20.7439	23.80	37.42	13.62	50.86	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	36	TOC	K2009036-004	0.0000 ppm	0.0000 ppm	0.0000%	2020/10/15 07:07

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	7.52	21.03	13.51	50.84	10:31
2	TOC	0.0000	0.0000	7.22	20.81	13.60	50.82	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	37	TOC	K2009036-001*	1.8119 ppm	0.0306 ppm	1.6900%	2020/10/15 07:35

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.7903	17.9028	21.80	35.32	13.51	50.81	10:25
2	TOC	1.8336	18.3361	22.11	35.51	13.41	50.82	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	38	TOC	K2009036-002*	2.6632 ppm	0.0251 ppm	0.9400%	2020/10/15 08:03

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.6455	26.4547	27.80	41.35	13.55	50.79	10:28
2	TOC	2.6810	26.8096	28.05	41.49	13.44	50.80	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 17

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.5283 ppm (PASS)	0.0000 ppm	0%	2020/10/15 08:31

Pos	Base Analysis	ID	Rep	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run

	Type		#							Time
B	TOC	25 ppm	1	24.5283	245.2833	181.95	195.42	13.46	50.81	10:34

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 17

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/10/15 08:46

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	7.43	20.86	13.43	50.78	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 17

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	39	TOC	MB3	0.0000 ppm	0.0000 ppm	0.0000%	2020/10/15 09:00

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	7.16	20.47	13.30	50.76	10:32

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 17

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	23.9527 ppm (PASS)	0.0000 ppm	0%	2020/10/15 09:15

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	23.9527	239.5269	177.92	191.19	13.28	50.73	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Check Standard --> LCS From Schedule Version 17

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	24.1889 ppm (PASS)	0.0000 ppm	0%	2020/10/15 09:30

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	24.1889	241.8890	179.57	192.98	13.41	50.73	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample From Schedule Version 17

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	40	TOC	K2009036-003*	2.1628 ppm	0.0708 ppm	3.2700%	2020/10/15 09:44

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.2128	22.1281	24.77	38.29	13.53	50.72	10:30
2	TOC	2.1127	21.1274	24.06	37.68	13.62	50.69	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	41	TOC	K2009036-004*	0.0000 ppm	0.0000 ppm	0.0000%	2020/10/15 10:12

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	8.15	21.60	13.44	50.68	10:25
2	TOC	0.0000	0.0000	8.16	21.56	13.40	50.65	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	43	TOC	LOD	0.0000 ppm	0.0000 ppm	0.0000%	2020/10/15 10:40

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	8.26	21.56	13.30	50.61	10:27
2	TOC	0.0000	0.0000	8.38	21.67	13.29	50.59	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

		Analysis			Std. Dev.		

	Pos	Type	Sample ID	Result (ppmC)	(ppmC)	RSD	Start Time
◆	44	TOC	LOQ	0.1670 ppm	0.0222 ppm	13.2800%	2020/10/15 11:09

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1513	1.5132	10.31	23.59	13.28	50.57	10:24
2	TOC	0.1827	1.8268	10.53	23.72	13.19	50.54	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	45	TOC	K2008870-001	1.4549 ppm	0.0791 ppm	5.4400%	2020/10/15 11:36

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.3990	13.9896	19.06	32.28	13.23	50.52	10:29
2	TOC	1.5109	15.1087	19.84	32.88	13.04	50.48	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	46	TOC	K2008870-001D	1.4933 ppm	0.0481 ppm	3.2200%	2020/10/15 12:05

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.5273	15.2726	19.96	33.04	13.08	50.45	10:24
2	TOC	1.4593	14.5926	19.48	32.82	13.34	50.45	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	47	TOC	K2008870-001MS	27.8353 ppm	0.1468 ppm	0.5300%	2020/10/15 12:33

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	27.7315	277.3147	203.78	216.79	13.01	50.40	10:27
2	TOC	27.9390	279.3904	205.23	218.26	13.02	50.37	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 17

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.7966 ppm (PASS)	0.0000 ppm	0%	2020/10/15 13:01

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.7966	247.9661	183.84	196.78	12.94	50.32	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 17

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/10/15 13:16

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	7.50	20.40	12.90	50.30	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Meta Data Used in this Report

Blanks

Version	Reagent (Abs)	Acid (Abs)	DI IC (Abs)	DI TC (Abs)	DI TOC (Abs)	Save Time	Operator
v1460	1.7417	0.1200	0.0000	0.0000	0.0000	2020/10/12 11:28	Fusion1 (Fusion1)
v1461	1.7083	0.2430	0.0000	0.0000	0.0000	2020/10/14 11:33	Fusion1 (Fusion1)

Calibrations

Name: CAS_salt_010711 (TOC)

Version:	v38	Calibration curve formula:	TOC: y = 7.015x + 9.892
Ver Creation:	2020/06/13 16:40	r^2 value:	TOC: r^2 = 0.99974
Comment:			
Operator:	Fusion1 (Fusion1)		
Basic Analysis Type	TOC		

Basic Analysis Type: TOC

Sample ID	Y Raw Value	X Expected	Message	End Time

DI Water	9.5750	0.0000		2020/06/13 15:13
0.500 ppm	12.9010	0.5000		2020/06/13 15:28
1.0 ppm	15.6320	1.0000		2020/06/13 15:42
5.0 ppm	43.2510	5.0000		2020/06/13 15:56
10 ppm	82.4040	10.0000		2020/06/13 16:11
25 ppm	188.6880	25.0000		2020/06/13 16:25
50 ppm	358.6500	50.0000		2020/06/13 16:39

Methods

Name: CAS_salt_010711 (TOC)

Version: v4 Operator: Fusion1 (Fusion1)

Ver Creation: 2019/02/21 17:57

Comment:

Parameter	Value
SampleVolume	10.0 mL
Dilution	1:10
AcidVolume	0.5 ml
ReagentVolume	2.0 ml
UVReactorPrerinse	Off
UVReactorPrerinseVolume	5.0
NumberOfUVReactorPrerinses	1
ICSpargeTime	1.00 mins
DetectorSweepFlow	500 ml/min
PreSpargeTime	2.00 mins
SystemFlow	500 ml/min

Advanced Parameter	Value
NeedleRinseVolume	5.0 ml
VialPrimeVolume	2.0 ml
ICSamplePrimeVolume	2.0 ml
ICSpargeRinseVolume	12.0 ml
BaselineStabilizeTime	0.70 min
DetectorPressureFlow	150 ml/min
SyringeSpeedWaste	10
SyringeSpeedAcid	7
SyringeSpeedReagent	7
SyringeSpeedDIWater	7
NDIRPressurization	60 psig
SyringeSpeedSampleDispense	5
SyringeSpeedSampleAspirate	4
SyringeSpeedUVDispense	5
SyringeSpeedUVAspirate	5
SyringeSpeedICDispense	5
SyringeSpeedICAspirate	5
NDIRPressureStabilize	1.75 min
SampleMixing	Off
SampleMixingCycles	1
SampleMixingVolume	10.0
LowLevelFilterNDIR	Off

Acceptance / Approval

Electronic Signatures

Report				

Version	User Name	Acceptance	Reason	Date

Report History

Report History

Report Version	User Name	System Reason	User Reason	Date
1	Fusion1 (Fusion1)	Schedule completed	Schedule completed	2020/10/15 13:31

ALS Environmental

StarLIMS Run: 699335/699336/699515

Analysis: DOC/TOC

Method: SM 5310 C, 9060A, 415.1, 9060

CCV: 19-GEN-8-40-C 50 ppm LCS: 19-GEN-8-41-k 25.0 ppm

ICAL Date: 6/16/2020

ICAL ID: 19-GEN-8-22-G

ICS ID: 19-GEN-8-35-J

ICS TV: 25.0 ppm ICS % R < 1

Spike ID: 19-GEN-8-15-B 0.05 ml of 5000 ppm stock ---> 10.0 ml = 25.0 ppm x dilution factor

Sodium Persulfate: 19-GEN-08-45-J

21 % H3PO4: 19-GEN-08-46-F

Equipment ID: K-TOC-03

PIPETTE ID: 124276B, 129001F, N11314F, Marge

FILTER ID: 16967789

Analyzed By: MME	Date Analyzed: 10/15/20
Reviewed By:	Date Reviewed:

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WorkOrder: HS20100455

LHAAP 16

Aptim Environmental & Infrastucture, Inc.

Susan Huang
2500 City West Blvd., Suite 1700
Houston TX 77042

30-Nov-2020

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HS20100455 LHAAP 16 Final

ALS WO# HS20100455

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October 26, 2020

Susan Huang
Aptim Environmental & Infrastucture, Inc.
2500 City West Blvd., Suite 1700
Houston, TX 77042

Work Order: **HS20100455**

Laboratory Results for: **LHAAP 16**

Dear Susan Huang,

ALS Environmental received 6 sample(s) on Oct 09, 2020 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL
RJ Modashia
Project Manager

ALS Houston, US Date: 26-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16
Work Order: HS20100455

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20100455-01	16WW58-201008	Groundwater		08-Oct-2020 07:50	09-Oct-2020 09:45	☐
HS20100455-02	16WW57-201008	Groundwater		08-Oct-2020 07:50	09-Oct-2020 09:45	☐
HS20100455-03	16WW23-201008	Groundwater		08-Oct-2020 09:45	09-Oct-2020 09:45	☐
HS20100455-04	16WW24-201008	Groundwater		08-Oct-2020 10:30	09-Oct-2020 09:45	☐
HS20100455-05	16WW16-201008	Groundwater		08-Oct-2020 11:15	09-Oct-2020 09:45	☐
HS20100455-06	Trip blank-201008	Water		09-Oct-2020 00:00	09-Oct-2020 09:45	☐

ALS Houston, US Date: 26-Oct-20

Client: Aptim Environmental & Infrastucture, Inc. **CASE NARRATIVE**
Project: LHAAP 16
Work Order: HS20100455

Work Order Comments

• Analysis of Perchlorate was performed by ALS Houston TX, High Resolution. Laboratory. Final report attached.

The analysis for TOC was subcontracted to ALS Environmental in Kelso WA. Final report attached.

GC Semivolatiles by Method RSK-175

Batch ID: R370661

Sample ID: 16WW58-201008 (HS20100455-01DUP)

• The RPD between the sample and its duplicate was outside the control limit. Ethene

GCMS Volatiles by Method SW8260

Batch ID: R370739

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SM2320B

Batch ID: R370437

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SW9056

Batch ID: R370227

Sample ID: 16WW16-201008 (HS20100455-05)

• Sample ran at 10X due to matrix

Sample ID: 16WW57-201008 (HS20100455-02)

• Sample ran at 10X due to high concentration of Sulfate

Sample ID: 16WW58-201008 (HS20100455-01)

• Sample ran at 10X due to matrix

Sample ID: HS20100362-01MS

• MS and MSD are for an unrelated sample (Nitrogen, Nitrate (As N),

Batch ID: R371285

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

ALS Houston, US Date: 26-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16
Sample ID: 16WW58-201008
Collection Date: 08-Oct-2020 07:50

ANALYTICAL REPORT
WorkOrder:HS20100455
Lab ID:HS20100455-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	2.5	U	1.5	2.5	5.0	UG/L	5	16-Oct-2020 19:47
1,1-Dichloroethene	**3.3**	J	**1.0**	**2.5**	**5.0**	**UG/L**	5	16-Oct-2020 19:47
1,2-Dichloroethane	2.5	U	1.0	2.5	5.0	UG/L	5	16-Oct-2020 19:47
cis-1,2-Dichloroethene	**140**		**1.0**	**2.5**	**5.0**	**UG/L**	5	16-Oct-2020 19:47
Methylene chloride	**5.7**	J	**2.0**	**5.0**	**10**	**UG/L**	5	16-Oct-2020 19:47
Trichloroethene	**4,400**		**10**	**25**	**50**	**UG/L**	50	16-Oct-2020 21:23
Vinyl chloride	2.5	U	1.0	2.5	5.0	UG/L	5	16-Oct-2020 19:47
Surr: 1,2-Dichloroethane-d4	*85.7*			**0**	*81-118*	*%REC*	*5*	*16-Oct-2020 19:47*
Surr: 1,2-Dichloroethane-d4	*87.2*			**0**	*81-118*	*%REC*	*50*	*16-Oct-2020 21:23*
Surr: 4-Bromofluorobenzene	*102*			**0**	*85-114*	*%REC*	*5*	*16-Oct-2020 19:47*
Surr: 4-Bromofluorobenzene	*100*			**0**	*85-114*	*%REC*	*50*	*16-Oct-2020 21:23*
Surr: Dibromofluoromethane	*90.7*			**0**	*80-119*	*%REC*	*50*	*16-Oct-2020 21:23*
Surr: Dibromofluoromethane	*87.8*			**0**	*80-119*	*%REC*	*5*	*16-Oct-2020 19:47*
Surr: Toluene-d8	*100*			**0**	*89-112*	*%REC*	*5*	*16-Oct-2020 19:47*
Surr: Toluene-d8	*95.1*			**0**	*89-112*	*%REC*	*50*	*16-Oct-2020 21:23*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PVL
Ethane	0.000250	U	0.000144	0.000250	0.00100	mg/L	1	15-Oct-2020 10:01
Ethene	**0.000645**	J	**0.000234**	**0.000500**	**0.00100**	**mg/L**	1	15-Oct-2020 10:01
Methane	**0.00659**		**0.000107**	**0.000250**	**0.000500**	**mg/L**	1	15-Oct-2020 10:01
ALKALINITY BY SM2320B		**Method:SM2320B**						Analyst: TH
Alkalinity, Total (As CaCO3)	**41.9**	a	**5.00**	**5.00**	**5.00**	**mg/L**	1	13-Oct-2020 21:40
ANIONS BY SW9056A		**Method:SW9056**						Analyst: KVL
Bromide	**4.33**		**0.150**	**0.500**	**0.500**	**mg/L**	5	09-Oct-2020 19:57
Nitrogen, Nitrate (As N)	0.500	U	0.150	0.500	0.500	mg/L	5	09-Oct-2020 19:57
Sulfate	**383**		**4.00**	**10.0**	**10.0**	**mg/L**	20	23-Oct-2020 17:47
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	22-Oct-2020 13:19
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	19-Oct-2020 09:23

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 26-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16
Sample ID: 16WW57-201008
Collection Date: 08-Oct-2020 07:50

ANALYTICAL REPORT
WorkOrder:HS20100455
Lab ID:HS20100455-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	16-Oct-2020 18:35
1,1-Dichloroethene	**1.3**		**0.20**	**0.50**	**1.0**	**UG/L**	1	16-Oct-2020 18:35
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	16-Oct-2020 18:35
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	16-Oct-2020 18:35
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	16-Oct-2020 18:35
Trichloroethene	**72**		**0.20**	**0.50**	**1.0**	**UG/L**	1	16-Oct-2020 18:35
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	16-Oct-2020 18:35
Surr: 1,2-Dichloroethane-d4	*92.0*			**0**	*81-118*	*%REC*	*1*	*16-Oct-2020 18:35*
Surr: 4-Bromofluorobenzene	*107*			**0**	*85-114*	*%REC*	*1*	*16-Oct-2020 18:35*
Surr: Dibromofluoromethane	*89.7*			**0**	*80-119*	*%REC*	*1*	*16-Oct-2020 18:35*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*1*	*16-Oct-2020 18:35*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PVL
Ethane	0.000250	U	0.000144	0.000250	0.00100	mg/L	1	15-Oct-2020 10:14
Ethene	**0.00125**		**0.000234**	**0.000500**	**0.00100**	**mg/L**	1	15-Oct-2020 10:14
Methane	**0.00299**		**0.000107**	**0.000250**	**0.000500**	**mg/L**	1	15-Oct-2020 10:14
ALKALINITY BY SM2320B		**Method:SM2320B**						Analyst: TH
Alkalinity, Total (As CaCO3)	**77.6**	a	**5.00**	**5.00**	**5.00**	**mg/L**	1	13-Oct-2020 21:45
ANIONS BY SW9056A		**Method:SW9056**						Analyst: KVL
Bromide	**5.69**		**0.300**	**1.00**	**1.00**	**mg/L**	10	09-Oct-2020 19:39
Nitrogen, Nitrate (As N)	1.00	U	0.300	1.00	1.00	mg/L	10	09-Oct-2020 19:39
Sulfate	**2,440**		**20.0**	**50.0**	**50.0**	**mg/L**	100	23-Oct-2020 18:23
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	22-Oct-2020 13:19
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	19-Oct-2020 09:23

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 26-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16
Sample ID: 16WW23-201008
Collection Date: 08-Oct-2020 09:45

ANALYTICAL REPORT
WorkOrder:HS20100455
Lab ID:HS20100455-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	16-Oct-2020 18:59
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	16-Oct-2020 18:59
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	16-Oct-2020 18:59
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	16-Oct-2020 18:59
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	16-Oct-2020 18:59
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	16-Oct-2020 18:59
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	16-Oct-2020 18:59
Surr: 1,2-Dichloroethane-d4	*85.5*			**0**	*81-118*	*%REC*	*1*	*16-Oct-2020 18:59*
Surr: 4-Bromofluorobenzene	*102*			**0**	*85-114*	*%REC*	*1*	*16-Oct-2020 18:59*
Surr: Dibromofluoromethane	*88.0*			**0**	*80-119*	*%REC*	*1*	*16-Oct-2020 18:59*
Surr: Toluene-d8	*98.5*			**0**	*89-112*	*%REC*	*1*	*16-Oct-2020 18:59*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	22-Oct-2020 13:19

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 26-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16
Sample ID: 16WW24-201008
Collection Date: 08-Oct-2020 10:30

ANALYTICAL REPORT
WorkOrder:HS20100455
Lab ID:HS20100455-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	16-Oct-2020 19:23
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	16-Oct-2020 19:23
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	16-Oct-2020 19:23
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	16-Oct-2020 19:23
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	16-Oct-2020 19:23
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	16-Oct-2020 19:23
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	16-Oct-2020 19:23
Surr: 1,2-Dichloroethane-d4	*89.1*			**0**	*81-118*	*%REC*	*1*	*16-Oct-2020 19:23*
Surr: 4-Bromofluorobenzene	*102*			**0**	*85-114*	*%REC*	*1*	*16-Oct-2020 19:23*
Surr: Dibromofluoromethane	*90.4*			**0**	*80-119*	*%REC*	*1*	*16-Oct-2020 19:23*
Surr: Toluene-d8	*98.2*			**0**	*89-112*	*%REC*	*1*	*16-Oct-2020 19:23*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	22-Oct-2020 13:19

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 26-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16
Sample ID: 16WW16-201008
Collection Date: 08-Oct-2020 11:15

ANALYTICAL REPORT
WorkOrder:HS20100455
Lab ID:HS20100455-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	12	U	7.5	12	25	UG/L	25	16-Oct-2020 20:11
1,1-Dichloroethene	**59**		**5.0**	**12**	**25**	**UG/L**	25	16-Oct-2020 20:11
1,2-Dichloroethane	**33**		**5.0**	**12**	**25**	**UG/L**	25	16-Oct-2020 20:11
cis-1,2-Dichloroethene	**17,000**		**100**	**250**	**500**	**UG/L**	500	16-Oct-2020 21:48
Methylene chloride	**44**	J	**10**	**25**	**50**	**UG/L**	25	16-Oct-2020 20:11
Trichloroethene	**32,000**		**100**	**250**	**500**	**UG/L**	500	16-Oct-2020 21:48
Vinyl chloride	**470**		**5.0**	**12**	**25**	**UG/L**	25	16-Oct-2020 20:11
Surr: 1,2-Dichloroethane-d4	*87.9*			**0**	*81-118*	*%REC*	*25*	*16-Oct-2020 20:11*
Surr: 1,2-Dichloroethane-d4	*85.2*			**0**	*81-118*	*%REC*	*500*	*16-Oct-2020 21:48*
Surr: 4-Bromofluorobenzene	*102*			**0**	*85-114*	*%REC*	*25*	*16-Oct-2020 20:11*
Surr: 4-Bromofluorobenzene	*102*			**0**	*85-114*	*%REC*	*500*	*16-Oct-2020 21:48*
Surr: Dibromofluoromethane	*90.5*			**0**	*80-119*	*%REC*	*25*	*16-Oct-2020 20:11*
Surr: Dibromofluoromethane	*88.1*			**0**	*80-119*	*%REC*	*500*	*16-Oct-2020 21:48*
Surr: Toluene-d8	*101*			**0**	*89-112*	*%REC*	*500*	*16-Oct-2020 21:48*
Surr: Toluene-d8	*99.0*			**0**	*89-112*	*%REC*	*25*	*16-Oct-2020 20:11*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PVL
Ethane	**0.00564**		**0.000144**	**0.000250**	**0.00100**	**mg/L**	1	15-Oct-2020 10:25
Ethene	**0.0116**		**0.000234**	**0.000500**	**0.00100**	**mg/L**	1	15-Oct-2020 10:25
Methane	**0.907**		**0.0107**	**0.0250**	**0.0500**	**mg/L**	100	15-Oct-2020 14:28
ALKALINITY BY SM2320B		**Method:SM2320B**						Analyst: TH
Alkalinity, Total (As CaCO3)	**391**	a	**5.00**	**5.00**	**5.00**	**mg/L**	1	13-Oct-2020 21:52
ANIONS BY SW9056A		**Method:SW9056**						Analyst: KVL
Bromide	**6.75**		**0.150**	**0.500**	**0.500**	**mg/L**	5	10-Oct-2020 01:04
Nitrogen, Nitrate (As N)	0.500	U	0.150	0.500	0.500	mg/L	5	10-Oct-2020 01:04
Sulfate	**491**		**4.00**	**10.0**	**10.0**	**mg/L**	20	23-Oct-2020 18:41
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	22-Oct-2020 13:19
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	19-Oct-2020 09:23

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 26-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16
Sample ID: Trip blank-201008
Collection Date: 09-Oct-2020 00:00

ANALYTICAL REPORT
WorkOrder:HS20100455
Lab ID:HS20100455-06
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	16-Oct-2020 18:11
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	16-Oct-2020 18:11
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	16-Oct-2020 18:11
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	16-Oct-2020 18:11
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	16-Oct-2020 18:11
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	16-Oct-2020 18:11
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	16-Oct-2020 18:11
Surr: 1,2-Dichloroethane-d4	*86.9*			**0**	*81-118*	*%REC*	*1*	*16-Oct-2020 18:11*
Surr: 4-Bromofluorobenzene	*94.1*			**0**	*85-114*	*%REC*	*1*	*16-Oct-2020 18:11*
Surr: Dibromofluoromethane	*88.5*			**0**	*80-119*	*%REC*	*1*	*16-Oct-2020 18:11*
Surr: Toluene-d8	*103*			**0**	*89-112*	*%REC*	*1*	*16-Oct-2020 18:11*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 26-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16
WorkOrder: HS20100455

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R370227 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS20100455-01	16WW58-201008	08 Oct 2020 07:50			09 Oct 2020 19:57	5
HS20100455-02	16WW57-201008	08 Oct 2020 07:50			09 Oct 2020 19:39	10
HS20100455-05	16WW16-201008	08 Oct 2020 11:15			10 Oct 2020 01:04	5
Batch ID: R370437 (0)	**Test Name :** ALKALINITY BY SM2320B				**Matrix:** Groundwater	
HS20100455-01	16WW58-201008	08 Oct 2020 07:50			13 Oct 2020 21:40	1
HS20100455-02	16WW57-201008	08 Oct 2020 07:50			13 Oct 2020 21:45	1
HS20100455-05	16WW16-201008	08 Oct 2020 11:15			13 Oct 2020 21:52	1
Batch ID: R370661 (0)	**Test Name :** DISSOLVED GASES BY RSK-175				**Matrix:** Groundwater	
HS20100455-01	16WW58-201008	08 Oct 2020 07:50			15 Oct 2020 10:01	1
HS20100455-02	16WW57-201008	08 Oct 2020 07:50			15 Oct 2020 10:14	1
HS20100455-05	16WW16-201008	08 Oct 2020 11:15			15 Oct 2020 14:28	100
HS20100455-05	16WW16-201008	08 Oct 2020 11:15			15 Oct 2020 10:25	1
Batch ID: R370739 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS20100455-06	Trip blank-201008	09 Oct 2020 00:00			16 Oct 2020 18:11	1
Batch ID: R370739 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS20100455-01	16WW58-201008	08 Oct 2020 07:50			16 Oct 2020 21:23	50
HS20100455-01	16WW58-201008	08 Oct 2020 07:50			16 Oct 2020 19:47	5
HS20100455-02	16WW57-201008	08 Oct 2020 07:50			16 Oct 2020 18:35	1
HS20100455-03	16WW23-201008	08 Oct 2020 09:45			16 Oct 2020 18:59	1
HS20100455-04	16WW24-201008	08 Oct 2020 10:30			16 Oct 2020 19:23	1
HS20100455-05	16WW16-201008	08 Oct 2020 11:15			16 Oct 2020 21:48	500
HS20100455-05	16WW16-201008	08 Oct 2020 11:15			16 Oct 2020 20:11	25
Batch ID: R370759 (0)	**Test Name :** SUBCONTRACT ANALYSIS - TOC ANALYSIS				**Matrix:** Groundwater	
HS20100455-01	16WW58-201008	08 Oct 2020 07:50			19 Oct 2020 09:23	1
HS20100455-02	16WW57-201008	08 Oct 2020 07:50			19 Oct 2020 09:23	1
HS20100455-05	16WW16-201008	08 Oct 2020 11:15			19 Oct 2020 09:23	1
Batch ID: R371062 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Groundwater	
HS20100455-01	16WW58-201008	08 Oct 2020 07:50			22 Oct 2020 13:19	1
HS20100455-02	16WW57-201008	08 Oct 2020 07:50			22 Oct 2020 13:19	1
HS20100455-03	16WW23-201008	08 Oct 2020 09:45			22 Oct 2020 13:19	1
HS20100455-04	16WW24-201008	08 Oct 2020 10:30			22 Oct 2020 13:19	1
HS20100455-05	16WW16-201008	08 Oct 2020 11:15			22 Oct 2020 13:19	1
Batch ID: R371285 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS20100455-01	16WW58-201008	08 Oct 2020 07:50			23 Oct 2020 17:47	20
HS20100455-02	16WW57-201008	08 Oct 2020 07:50			23 Oct 2020 18:23	100
HS20100455-05	16WW16-201008	08 Oct 2020 11:15			23 Oct 2020 18:41	20

ALS Houston, US Date: 26-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16
WorkOrder: HS20100455

QC BATCH REPORT

Batch ID: R370661 (0) **Instrument:** FID-4 **Method:** DISSOLVED GASES BY RSK-175

MBLK Sample ID: **MBLK-201015** Units: **mg/L** Analysis Date: **15-Oct-2020 09:35**
Client ID: Run ID: **FID-4_370661** SeqNo: **5785474** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.000250	0.00100								U
Ethene	0.000500	0.00100								U
Methane	0.000250	0.000500								U

LCS Sample ID: **LCS-201015** Units: **mg/L** Analysis Date: **15-Oct-2020 09:43**
Client ID: Run ID: **FID-4_370661** SeqNo: **5785475** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0169	0.00100	0.01804	0	93.5	75 - 125				
Ethene	0.0165	0.00100	0.0168	0	98.4	75 - 125				
Methane	0.00978	0.000500	0.009647	0	101	75 - 125				

LCSD Sample ID: **LCSD-201015** Units: **mg/L** Analysis Date: **15-Oct-2020 09:51**
Client ID: Run ID: **FID-4_370661** SeqNo: **5785476** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0151	0.00100	0.01804	0	83.8	75 - 125	0.01688	10.9	30	
Ethene	0.0143	0.00100	0.0168	0	85.2	75 - 125	0.01653	14.4	30	
Methane	0.00778	0.000500	0.009647	0	80.7	75 - 125	0.009778	22.7	30	

DUP Sample ID: **HS20100455-01DUP** Units: **mg/L** Analysis Date: **15-Oct-2020 14:06**
Client ID: **16WW58-201008** Run ID: **FID-4_370661** SeqNo: **5785497** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.000250	0.00100					0	0	30	U
Ethene	0.00142	0.00100					0.0006453	75.2	30	R
Methane	0.00762	0.000500					0.006594	14.4	30	

The following samples were analyzed in this batch: HS20100455-01 HS20100455-02 HS20100455-05

ALS Houston, US Date: 26-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16
WorkOrder: HS20100455

QC BATCH REPORT

Batch ID: R370739 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-201016** Units: **UG/L** Analysis Date: **16-Oct-2020 16:11**
Client ID: Run ID: **VOA6_370739** SeqNo: **5787499** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	0.50	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,2-Dichloroethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
Methylene chloride	1.0	2.0								U
Trichloroethene	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*44.61*	*1.0*	*50*	*0*	*89.2*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.42*	*1.0*	*50*	*0*	*98.8*	*85 - 114*				
Surr: Dibromofluoromethane	*44.27*	*1.0*	*50*	*0*	*88.5*	*80 - 119*				
Surr: Toluene-d8	*50.71*	*1.0*	*50*	*0*	*101*	*89 - 112*				

LCS Sample ID: **VLCSW-201016** Units: **UG/L** Analysis Date: **16-Oct-2020 15:23**
Client ID: Run ID: **VOA6_370739** SeqNo: **5787498** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	19.42	1.0	20	0	97.1	80 - 119				
1,1-Dichloroethene	18.89	1.0	20	0	94.5	71 - 131				
1,2-Dichloroethane	19.21	1.0	20	0	96.1	73 - 128				
cis-1,2-Dichloroethene	20.17	1.0	20	0	101	78 - 123				
Methylene chloride	24.3	2.0	20	0	121	74 - 124				
Trichloroethene	19.03	1.0	20	0	95.1	79 - 123				
Vinyl chloride	18.53	1.0	20	0	92.6	58 - 137				
Surr: 1,2-Dichloroethane-d4	*46.76*	*1.0*	*50*	*0*	*93.5*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.89*	*1.0*	*50*	*0*	*102*	*85 - 114*				
Surr: Dibromofluoromethane	*48.62*	*1.0*	*50*	*0*	*97.2*	*80 - 119*				
Surr: Toluene-d8	*49.49*	*1.0*	*50*	*0*	*99.0*	*89 - 112*				

ALS Houston, US Date: 26-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16
WorkOrder: HS20100455

QC BATCH REPORT

Batch ID: R370739 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20100455-03MS** Units: **UG/L** Analysis Date: **16-Oct-2020 20:35**
Client ID: **16WW23-201008** Run ID: **VOA6_370739** SeqNo: **5787510** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	22.91	1.0	20	0	115	80 - 119				
1,1-Dichloroethene	22.76	1.0	20	0	114	71 - 131				
1,2-Dichloroethane	21.07	1.0	20	0	105	73 - 128				
cis-1,2-Dichloroethene	22.26	1.0	20	0	111	78 - 123				
Methylene chloride	22.43	2.0	20	0	112	74 - 124				
Trichloroethene	24.05	1.0	20	0	120	79 - 123				
Vinyl chloride	21.77	1.0	20	0	109	58 - 137				
Surr: 1,2-Dichloroethane-d4	*43.91*	*1.0*	*50*	*0*	*87.8*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*51.37*	*1.0*	*50*	*0*	*103*	*85 - 114*				
Surr: Dibromofluoromethane	*45.88*	*1.0*	*50*	*0*	*91.8*	*80 - 119*				
Surr: Toluene-d8	*54.04*	*1.0*	*50*	*0*	*108*	*89 - 112*				

MSD Sample ID: **HS20100455-03MSD** Units: **UG/L** Analysis Date: **16-Oct-2020 20:59**
Client ID: **16WW23-201008** Run ID: **VOA6_370739** SeqNo: **5787511** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	20.14	1.0	20	0	101	80 - 119	22.91	12.8	20	
1,1-Dichloroethene	21.57	1.0	20	0	108	71 - 131	22.76	5.4	20	
1,2-Dichloroethane	20.02	1.0	20	0	100	73 - 128	21.07	5.1	20	
cis-1,2-Dichloroethene	20.08	1.0	20	0	100	78 - 123	22.26	10.3	20	
Methylene chloride	20.81	2.0	20	0	104	74 - 124	22.43	7.49	20	
Trichloroethene	22.1	1.0	20	0	111	79 - 123	24.05	8.42	20	
Vinyl chloride	20.66	1.0	20	0	103	58 - 137	21.77	5.22	20	
Surr: 1,2-Dichloroethane-d4	*42.7*	*1.0*	*50*	*0*	*85.4*	*81 - 118*	*43.91*	*2.78*	*20*	
Surr: 4-Bromofluorobenzene	*50.15*	*1.0*	*50*	*0*	*100*	*85 - 114*	*51.37*	*2.41*	*20*	
Surr: Dibromofluoromethane	*43.92*	*1.0*	*50*	*0*	*87.8*	*80 - 119*	*45.88*	*4.35*	*20*	
Surr: Toluene-d8	*47.49*	*1.0*	*50*	*0*	*95.0*	*89 - 112*	*54.04*	*12.9*	*20*	

The following samples were analyzed in this batch: HS20100455-01 HS20100455-02 HS20100455-03 HS20100455-04 HS20100455-05 HS20100455-06

ALS Houston, US Date: 26-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16
WorkOrder: HS20100455

QC BATCH REPORT

Batch ID: R370227 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK-10.08.20** Units: **mg/L** Analysis Date: **08-Oct-2020 19:37**
Client ID: Run ID: **ICS-Integrion_370227** SeqNo: **5774420** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	0.100	0.100								U
Nitrogen, Nitrate (As N)	0.100	0.100								U

LCS Sample ID: **LCS** Units: **mg/L** Analysis Date: **08-Oct-2020 19:55**
Client ID: Run ID: **ICS-Integrion_370227** SeqNo: **5774421** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	3.989	0.100	4	0	99.7	80 - 120				
Nitrogen, Nitrate (As N)	3.906	0.100	4	0	97.6	80 - 120				

LCSD Sample ID: **LCSD** Units: **mg/L** Analysis Date: **10-Oct-2020 04:22**
Client ID: Run ID: **ICS-Integrion_370227** SeqNo: **5788647** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	3.861	0.100	4	0	96.5	80 - 120	3.989	3.28	20	
Nitrogen, Nitrate (As N)	3.983	0.100	4	0	99.6	80 - 120	3.906	1.96	20	

MS Sample ID: **HS20100362-01MS** Units: **mg/L** Analysis Date: **09-Oct-2020 09:26**
Client ID: Run ID: **ICS-Integrion_370227** SeqNo: **5788637** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	2.264	0.100	2	0.308	97.8	80 - 120				
Nitrogen, Nitrate (As N)	2.873	0.100	2	0	144	80 - 120				S

MSD Sample ID: **HS20100362-01MSD** Units: **mg/L** Analysis Date: **09-Oct-2020 09:44**
Client ID: Run ID: **ICS-Integrion_370227** SeqNo: **5788638** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	2.264	0.100	2	0.308	97.8	80 - 120	2.264	0.00883	20	
Nitrogen, Nitrate (As N)	2.871	0.100	2	0	144	80 - 120	2.873	0.0696	20	S

The following samples were analyzed in this batch: HS20100455-01 HS20100455-02 HS20100455-05

ALS Houston, US Date: 26-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16
WorkOrder: HS20100455

QC BATCH REPORT

Batch ID: R370437 (0) **Instrument: ManTech01** **Method: ALKALINITY BY SM2320B**

MBLK Sample ID: **WBLKW2-201013** Units: **mg/L** Analysis Date: **13-Oct-2020 19:34**
Client ID: Run ID: **ManTech01_370437** SeqNo: **5779994** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	5.00	5.00								U

LCS Sample ID: **LCS2-201013** Units: **mg/L** Analysis Date: **13-Oct-2020 19:43**
Client ID: Run ID: **ManTech01_370437** SeqNo: **5779995** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	1028	5.00	1000	0	103	85 - 115				

LCSD Sample ID: **LCSD2-201013** Units: **mg/L** Analysis Date: **13-Oct-2020 19:52**
Client ID: Run ID: **ManTech01_370437** SeqNo: **5779996** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	1025	5.00	1000	0	103	85 - 115	1028	0.267	20	

DUP Sample ID: **HS20100284-07DUP** Units: **mg/L** Analysis Date: **13-Oct-2020 20:06**
Client ID: Run ID: **ManTech01_370437** SeqNo: **5779998** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	249.2	5.00					248.5	0.249	20	

The following samples were analyzed in this batch: HS20100455-01 HS20100455-02 HS20100455-05

ALS Houston, US Date: 26-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16
WorkOrder: HS20100455

QC BATCH REPORT

Batch ID: R371285 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK-102320** Units: **mg/L** Analysis Date: **23-Oct-2020 19:53**
Client ID: Run ID: **ICS-Integrion_371285** SeqNo: **5799757** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	0.500	0.500								U

LCS Sample ID: **LCS-102320** Units: **mg/L** Analysis Date: **23-Oct-2020 20:11**
Client ID: Run ID: **ICS-Integrion_371285** SeqNo: **5799758** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	18.24	0.500	20	0	91.2	80 - 120				

MS Sample ID: **HS20100361-02MS** Units: **mg/L** Analysis Date: **23-Oct-2020 14:28**
Client ID: Run ID: **ICS-Integrion_371285** SeqNo: **5799743** PrepDate: DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	3309	50.0	1000	2487	82.2	80 - 120				

MSD Sample ID: **HS20100361-02MSD** Units: **mg/L** Analysis Date: **23-Oct-2020 14:46**
Client ID: Run ID: **ICS-Integrion_371285** SeqNo: **5799744** PrepDate: DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	3340	50.0	1000	2487	85.4	80 - 120	3309	0.952	20	

The following samples were analyzed in this batch: HS20100455-01 HS20100455-02 HS20100455-05

ALS Houston, US Date: 26-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16
WorkOrder: **HS20100455**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	20-030-0	26-Mar-2021
California	2919, 2020-2021	30-Apr-2021
Dept of Defense	PJLA L20-507	22-Dec-2021
Florida	E87611-30-07/01/2020	30-Jun-2021
Illinois	2000322020-4	09-May-2021
Kansas	E-10352 2020-2021	31-Jul-2021
Kentucky	123043, 2020-2021	30-Apr-2021
Louisiana	03087, 2020-2021	30-Jun-2021
North Carolina	624-2020	31-Dec-2020
North Dakota	R-193 2020-2021	30-Apr-2021
Texas	T104704231-20-26	30-Apr-2021

ALS Houston, US Date: 26-Oct-20

Sample Receipt Checklist

Work Order ID: HS20100455 **Date/Time Received:** 09-Oct-2020 09:45

Client Name: CBI-Houston **Received by:** Jared R. Makan

Completed By:	/S/ Jared R. Makan	09-Oct-2020 13:01	**Reviewed by:**	/S/ RJ Modashia	09-Oct-2020 16:30
	eSignature	Date/Time		eSignature	Date/Time

Matrices: **Water** Carrier name: **FedEx Priority Overnight**

Shipping container/cooler in good condition?	Yes	☑	No	☐	Not Present	☐
Custody seals intact on shipping container/cooler?	Yes	☑	No	☐	Not Present	☐
Custody seals intact on sample bottles?	Yes	☐	No	☐	Not Present	☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes	☐	No	☐	Not Present	☑
Chain of custody present?	Yes	☑	No	☐	1 Page(s)	
Chain of custody signed when relinquished and received?	Yes	☑	No	☐		
Samplers name present on COC?	Yes	☑	No	☐		
Chain of custody agrees with sample labels?	Yes	☐	No	☑		
Samples in proper container/bottle?	Yes	☑	No	☐		
Sample containers intact?	Yes	☑	No	☐		
Sufficient sample volume for indicated test?	Yes	☑	No	☐		
All samples received within holding time?	Yes	☑	No	☐		
Container/Temp Blank temperature in compliance?	Yes	☑	No	☐		

Temperature(s)/Thermometer(s):	2.1°C/2.1°C/ UC/C	IR31
Cooler(s)/Kit(s):	45957	
Date/Time sample(s) sent to storage:	10/09/2020 13:10	

Water - VOA vials have zero headspace?	Yes	☑	No	☐	No VOA vials submitted	☐
Water - pH acceptable upon receipt?	Yes	☐	No	☐	N/A	☑
pH adjusted?	Yes	☐	No	☐	N/A	☑

pH adjusted by:

Login Notes: Trip Blank received, not listed on COC. placed on hold.

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd. Suite 210 Houston, TX. 77099 (281) 530-5656 ATTN: R.J Modashia

Project: APTIM
LONGHORN ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No. 501032

Job: **LHAAP 16 October 2020**

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D. / Time	Sample Matrix	Date /	MS / MSD	No. OF CONTAINERS	VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (bromide, sulfate, nitrate) by SW9056 and Alkalinity by SM2320	Bromide by SW9056	Perchlorate by SW6850	Metals (arsenic, chromium, manganese, nickel, thallium) by SW6020				Remarks (Preservatives, etc.)	Lab I.D.#
16WW58-201008	WG	10/8/20/0750		10	X	X	X	X	X	X						
16WW57-201008	WG	10/8/20/0840		10	X	X	X	X	X	X						
16WW23-201008	WG	10/8/20/0945		4	X					X						
16WW24-201008	WG	10/8/20/1030		4	X					X						
16WW16-201008	WG	10/8/20/1115		10	X	X	X	X	X	X						

Additional Remarks: **Standard TAT on all parameters. Please email results to Susan.Huang@aptim.com and invoices to fedinvoices@aptim.com**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
	10/8/20	1430									

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
JM	10/09/20	9:45					2.1		45957

Remarks: #R31 C/F-0

HS20100455

Aptim Environmental & Infrastucture, Inc.
Longhorn Army Ammunition Plant LHAAP 16

(Word) S:\I-ees\Forms\Chain of Custody - BiWeekly

ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

45957

CUSTODY SEAL

Date: 10/8/20 Time: 1430
Name: [illegible]
Company: BHATS

Seal Broken By: [illegible]
Date: 10/09/20

45957

Must Deliver Next Bus.
Time and Temperature Sen. e!

45957

ORIGIN ID:SGRA (903) 930-8193
SCOTT BEESINGER
APTIM
1203-B EAST GRAND AVE.
PMB202
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 23JUN20
ACTWGT: 1.00 LB MAN
CAD: 3001[illegible]/CAFE3211
DIMS: 19x1[illegible]x13 IN

TO CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099
(281) 530-5656
REF: LHAAP 16 - BO72394 - RJ
RMA:

FedEx Express

FedEx
TRK# 0221 1891 8877 8299

FRI - 09 OCT AA
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US
IAH

FID: 162785 BBOct2020 GGGA 560G2/A27E/05A2

October 22, 2020 Service Request No:E2000971

RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Suite 210
Houston, TX 77099-4338

Laboratory Results for: HS20100455

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory October 09, 2020
For your reference, these analyses have been assigned our service request number **E2000971.**

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

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Corey Grandits
Project Manager

ADDRESS 10450 Stancliff Rd., Suite 210, Houston, TX 77099
PHONE +1 281 530 5656 | FAX +1 281 530 5887
ALS Group USA, Corp.
dba ALS Environmental

Certificate of Analysis

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

ALS Environmental

Client:	ALS Houston	**Service Request No.:**	E2000971
Project:	HS20100455	**Date Received:**	10/09/20
Sample Matrix:	W		

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Five samples were received for analysis at ALS Environmental in Houston on 10/09/20.

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

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2000512: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of a MS/MSD for this extraction batch. The LCS and DLCS recoveries are within QC limits.

DoD Certification is held for the method/matrix/analytes provided in this report.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

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

Client: ALS Environmental - US **Service Request:**E2000971
Project: HS20100455

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2000971-001	16WW58-201008	10/8/2020	0750
E2000971-002	16WW57-201008	10/8/2020	0750
E2000971-003	16WW23-201008	10/8/2020	0945
E2000971-004	50WW24-201008	10/8/2020	1030
E2000971-005	16WW16-201008	10/8/2020	1115

Service Request Summary

Folder #: **E2000971**
Client Name: ALS Environmental - US
Project Name: HS20100455
Project Number:

Report To: RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 10/09/20
Internal Due Date: 10/23/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20100455
EDD: No EDD Specified

5 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 7E
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2000971-001	16WW58-201008	Ground Water	10/08/20 0750	**IV**
E2000971-002	16WW57-201008	Ground Water	10/08/20 0750	**IV**
E2000971-003	16WW23-201008	Ground Water	10/08/20 0945	**IV**
E2000971-004	50WW24-201008	Ground Water	10/08/20 1030	**IV**
E2000971-005	16WW16-201008	Ground Water	10/08/20 1115	**IV**

Service Request Summary

Folder #: **E2000971**
Client Name: ALS Environmental - US
Project Name: HS20100455
Project Number:

Report To: RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 10/09/20
Internal Due Date: 10/23/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20100455
EDD: No EDD Specified

5 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 7E
Pressure Gas:

Test Comments:

Group	Test/Method	Samples	Comments
Semivoa GCMS	ClO4 DOD/6850	5	Level II due 10/23,level IV 10/30

Data Qualifiers

Lab Standard

+	Possible Tedlar bag artifact.
A	TIC is a suspected aldol-condensation product
B	Analyte found in the associated method blank as well as in the sample.
BC	Reported results are not blank corrected.
BH	The back section of the tube yielded higher results than the front.
BT	Results indicated possible breakthrough; back section >=10% front section.
C	Result identification confirmed.
D	Compound identified in an analysis at a secondary dilution factor
D	Spike was diluted out
DE	Reported results are corrected for desorption efficiency.
E	Estimated value. Concentration above calibration range
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
H1	Sample analysis performed past holding time. See case narrative.
H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
H3	Sample was received and analyzed past holding time.
H4	Sample was extracted past required extraction holding time, but analyzed within analysis holding time. See case narrative.
I	Internal standard not within the specified limits. See case narrative.
J	Estimated Value. Concentration found below MRL.
K	A deflection in the QC ion may indicate interference with the quantitation of this ion. The concentration of this analyte should be considered as an estimate.
K	Analyte was detected above the method reporting limit prior to normalization.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
L1	Laboratory control sample recovery outside the specified limits; results may be biased high.
L2	Laboratory control sample recovery outside the specified limits; results may be biased low.
L3	Laboratory control sample recovery outside the specified limits.
M	Matrix interference; results may be biased high.
M	The duplicate injection precision not met.
M1	Matrix interference due to coelution with a non-target compound; results may be biased high.
N	Presumptive evidence of a compound for TICs that have been identified based on a mass spectral library search.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.

Data Qualifiers

Lab Standard

P	Indicates chlorodiphenyl ether interference present at the retention time of the target compound.
P	Pesticide/Aroclor target analyte > 40% difference for detected concentrations between GC columns
Q	Indicates as estimated value because the P and P + 2 theoretical abundance ratio does not meet method criteria.
R	Duplicate Precision not met.
R1	Duplicate precision not within the specified limits; however, the results are below the MRL and considered estimated.
S	Surrogate recovery not within specified limits.
S	The reported value was determined by the Method of Standard Additions (MSA).
T	Analyte is a tentatively identified compound, result is estimated.
U	Compound was analyzed for, but was not detected (ND).
V1	The continuing calibration verification standard was outside (biased high) the specified limits for this compound.
V2	The continuing calibration verification standard was outside (biased low) the specified limits for this compound.
W	Result quantified, but the corresponding peak was detected outside the generated retention time window.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
X	See case narrative.
Y	Recovery outside limits
Y	The chromatogram resembles a petroleum product but does not match the calibration standard.
Z	The chromatogram does not resemble a petroleum product.
i	The MRL/MDL has been elevated due to a matrix interference.

ALS Laboratory Group

Acronyms

Cal	Calibration
Conc	CONCentration
Dioxin(s)	Polychlorinated dibenzo-p-dioxin(s)
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
Flags	Data qualifiers
Furan(s)	Polychlorinated dibenzofuran(s)
g	Grams
ICAL	Initial CALibration
ID	IDentifier
Ions	Masses monitored for the analyte during data acquisition
L	Liter (s)
LCS	Laboratory Control Sample
DLCS	Duplicate Laboratory Control Sample
MB	Method Blank
MCL	Method Calibration Limit
MDL	Method Detection Limit
mL	Milliliters
MS	Matrix Spiked sample
DMS	Duplicate Matrix Spiked sample
NO	Number of peaks meeting all identification criteria
PCDD(s)	Polychlorinated dibenzo-p-dioxin(s)
PCDF(s)	Polychlorinated dibenzofuran(s)
ppb	Parts per billion
ppm	Parts per million
ppq	Parts per quadrillion
ppt	Parts per trillion
QA	Quality Assurance
QC	Quality Control
Ratio	Ratio of areas from monitored ions for an analyte
% Rec.	Percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
SDG	Sample Delivery Group
S/N	Signal-to-noise ratio
TEF	Toxicity Equivalence Factor
TEQ	Toxicity Equivalence Quotient

10450 Stancliff Rd, Houston, TX 77099 | 281-530-5656 | www.alsglobal.com

ALS Environmental

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
American Association for Laboratory Accreditation	2897.01 2020	11/30/2021
Arizona Department of Health Services	AZ0793-2020	5/27/2021
Arkansas Department of Environmental Quality	20-030-0	3/26/2021
California Department of Health Services	2919-2020	4/30/2021
Department of Defense	A2LA 2897.01	11/30/2021
Florida Department of Health	E87611-2020	6/30/2021
Hawaii Department of Health	2020	4/30/2021
Illinois Environmental Protection Agency	2000322020-4	5/9/2021
Kansas Department of Health and Environment	E-10352-2020	7/31/2021
Louisiana Department of Environmental Quality	03087-2020	6/30/2021
Louisiana Department of Health and Hospitals	LA028-2020	12/31/2020
Maine Department of Health and Human Services	2020016	6/5/2022
Maryland Department of the Environment	343-2020	6/30/2021
Michigan Depratment of Environmental Quality	9971-2020	4/30/2021
Minnesota Department of Health	1785988	12/31/2020
Nebraska Department of Health and Human Services	NE-OS-25-13 (2020)	4/30/2021
Nevada Department of Concervation and Natural Resources	TX026932021-1	7/31/2021
New Hampshire Environmental Laboratory Accreditation Program	209420	4/24/2021
New Jersey Department of Environmental Protection	TX008	6/30/2021
New York Department of Health	11707	3/31/2021
Oklahoma Department of Environmental Quality	2020-123	8/31/2021
Pennsylvania Department of Environmental Protection	014	6/30/2021
Tennessee Department of Environment and Concervation	04016-2020	4/30/2021
Texas Commision on Environmental Quality	T104704231-20-26	4/30/2021
United States Department of Agriculture	P330-19-00299	10/10/2022
Washington Department of Health	C819	11/14/2020

ALS

Chain of Custody

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14895**

SUBCONTRACT TO:

ALS Environmental
10450 Stancliff RoadSuite 210
Houston, TX 77084

Phone: +1 281 530 5656

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	RJ Modashia
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	RJ.Modashia@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS20100455
TSR:	Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20100455-01**	**16WW58-201008**	**Groundwater**	**08 Oct 2020 07:50**
	SUB_Perch-6850			19 Oct 2020
2.	**HS20100455-02**	**16WW57-201008**	**Groundwater**	**08 Oct 2020 07:50**
	SUB_Perch-6850			19 Oct 2020
3.	**HS20100455-03**	**16WW23-201008**	**Groundwater**	**08 Oct 2020 09:45**
	SUB_Perch-6850			19 Oct 2020
4.	**HS20100455-04**	**16WW24-201008**	**Groundwater**	**08 Oct 2020 10:30**
	SUB_Perch-6850			19 Oct 2020
5.	**HS20100455-05**	**16WW16-201008**	**Groundwater**	**08 Oct 2020 11:15**
	SUB_Perch-6850			19 Oct 2020

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: DOD IV (DoD Data Package)

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14895**

Relinquished By: J. Morgan Date/Time:

Received By: COURIER G Date/Time: 10/9/26 1206

Cooler ID(s): Temperature(s):

ALS Environmental

Cooler Receipt Form

Project Chemist CG

Client/Project ALS-H

Thermometer ID IR21

Date/Time Received: 10/9/20 Initials: CG Date/Time Logged in: 10/9/20 Initials CG

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ⊘ Courier (ALS) ○ Client

2. Samples received in: ⊘ Cooler ○ Box ○ Envelope ○ Other

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

4. Packing Material: ○ Inserts ⊘ Baggies ○ Bubble Wrap ○ Gel Packs ⊘ Wet Ice ○ Sleeves ○ Other

5. Foreign or Regulated Soil? ○ Yes ○ No Location of Sampling:

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
—		10/9/20	1200	CG	2.8	☒
						☐
						☐
						☐

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

Notes, Discrepancies, & Resolutions:

Service request Label:

10450 Stancliff Rd., Suite 210
Houston, TX 77099
T: +1 713 266 1599
F: +1 713 266 1599
www.alsglobal.com

SAMPLE ACCEPTANCE POLICY

This policy outlines the criteria samples must meet to be accepted by ALS Environmental – Houston HRMS.

Cooler Custody Seals (desirable, mandatory if specified in SAP):

- ✓ Intact on outside of cooler, signed and dated

Chain-of-Custody (COC) documentation (mandatory):

The following is required on each COC:

- ✓ Sample ID, the location, date and time of collection, collector's name, preservation type, sample type, and any other special remarks concerning the sampleThe COC must be completed in ink.
- ✓ Signature and date of relinquishing party.

In the absence of a COC at sample receipt, the COC will be requested from the client.

Sample Integrity (mandatory):

Samples are inspected upon arrival to ensure that sample integrity was not compromised during transfer to the laboratory.

- ✓ Sample containers must arrive in good condition (not broken or leaking).
- ✓ Samples must be labeled appropriately, including Sample IDs, and requested test using durable labels and indelible ink.
- ✓ The correct type of sample bottle must be used for the method requested.
- ✓ An appropriate sample volume, or weight, must be received.
- ✓ Sample IDs and number of containers must reconcile with the COC.
- ✓ Samples must be received within the method defined holding time.

Temperature Requirement (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6ºC.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10ºC.
- ✓ Air samples are shipped and stored cold, at 0 to 6ºC
- ✓ The sample temperature must be recorded on the COC

All cooler inspections are documented on the Cooler Receipt Form (CRF). A separate CRF is completed for each service request. Any samples not meeting the above criteria are noted on the CRF and the Project Manager notified. The Project Manager must resolve any sample integrity issues with the client prior to proceeding with the analysis. Such resolutions are documented in writing and filed with the project folder. Data associated with samples received outside of this acceptance policy will be qualified on the case narrative of the final report

Preparation Information Benchsheets

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

Preparation Information Benchsheet

Prep Run#: 368004 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 10/19/20 09:25

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2000965-001	CDG-15-10062020	.01	6850/ClO4 DOD			Ground Water	10mL	
2	E2000965-002	HEDG-FB-10062020	.01	6850/ClO4 DOD			Ground Water	10mL	
3	E2000965-003	CDG-12-10062020	.01	6850/ClO4 DOD			Ground Water	10mL	
4	E2000965-004	CDG-1-10062020	.01	6850/ClO4 DOD			Ground Water	10mL	
5	E2000965-005	CDG-17-10062020	.01	6850/ClO4 DOD			Ground Water	10mL	
6	E2000966-001	HEDG IDW-052020	.01	6850/ClO4 DOD			Ground Water	10mL	
7	E2000966-002	Test Area IDW-012020	.01	6850/ClO4 DOD			Ground Water	10mL	
8	E2000968-001	CDG-13-10072020	.01	6850/ClO4 DOD			Ground Water	10mL	
9	E2000968-002	CDG-11-10072020	.01	6850/ClO4 DOD			Ground Water	10mL	
10	E2000968-003	HEDG-FD-10072020	.01	6850/ClO4 DOD			Ground Water	10mL	
11	E2000968-004	CDG-2-10072020	.01	6850/ClO4 DOD			Ground Water	10mL	
12	E2000968-005	CDG-10-10072020	.01	6850/ClO4 DOD			Ground Water	10mL	
13	E2000968-006	CDG-14-10072020	.01	6850/ClO4 DOD			Ground Water	10mL	
14	E2000968-007	CDG-16-10072020	.01	6850/ClO4 DOD			Ground Water	10mL	
15	E2000971-001	16WW58-201008	.01	6850/ClO4 DOD			Ground Water	10mL	
16	E2000971-002	16WW57-201008	.01	6850/ClO4 DOD			Ground Water	10mL	
17	E2000971-003	16WW23-201008	.01	6850/ClO4 DOD			Ground Water	10mL	
18	E2000971-004	50WW24-201008	.01	6850/ClO4 DOD			Ground Water	10mL	
19	E2000971-005	16WW16-201008	.01	6850/ClO4 DOD			Ground Water	10mL	
20	EQ2000512-01	MB		6850/ClO4 DOD			Liquid	10mL	
21	EQ2000512-02	LCS		6850/ClO4 DOD			Liquid	10mL	
22	EQ2000512-03	DLCS		6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 209764 Logbook Ref: Perchlorate Int. Stock1 51820 Expires On: 11/18/2020

EQ2000512-02 1.00µL EQ2000512-03 1.00µL

Name: Sodium Perchlorate 1 ug/mL (IS) (18-O) as CLO4 Inventory ID 212340 Logbook Ref: Sodium Perchlorate Expires On: 07/13/2022

E2000965-001	100.00µL	E2000965-002	100.00µL	E2000965-003	100.00µL	E2000965-004	100.00µL	E2000965-005	100.00µL	E2000966-001	100.00µL
E2000966-002	100.00µL	E2000968-001	100.00µL	E2000968-002	100.00µL	E2000968-003	100.00µL	E2000968-004	100.00µL	E2000968-005	100.00µL
E2000968-006	100.00µL	E2000968-007	100.00µL	E2000971-001	100.00µL	E2000971-002	100.00µL	E2000971-003	100.00µL	E2000971-004	100.00µL
E2000971-005	100.00µL	EQ2000512-01	100.00µL	EQ2000512-02	100.00µL	EQ2000512-03	100.00µL				

Preparation Information Benchsheet

Prep Run#: 368004 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 10/19/20 09:25

Preparation Steps

Step: Preparation
Started: 10/19/20 09:25
Finished: 10/19/20 14:58
By: GRIVERA
Comments

Comments: _____

Reviewed By: GR Date: 10/19/2020

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Analytical Results

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000971
Project:	HS20100455	**Date Collected:**	10/ 8/20 0750
Sample Matrix:	Ground Water	**Date Received:**	10/ 9/20
Sample Name:	16WW58-201008	**Units:**	µg/L
Lab Code:	E2000971-001	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	10/19/20	10/21/20 10:47	368004	700177	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000971
Project:	HS20100455	**Date Collected:**	10/ 8/20 0750
Sample Matrix:	Ground Water	**Date Received:**	10/ 9/20
Sample Name:	16WW57-201008	**Units:**	µg/L
Lab Code:	E2000971-002	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	10/19/20	10/19/20 19:36	368004	700168	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000971
Project:	HS20100455	**Date Collected:**	10/ 8/20 0945
Sample Matrix:	Ground Water	**Date Received:**	10/ 9/20
Sample Name:	16WW23-201008	**Units:**	µg/L
Lab Code:	E2000971-003	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	10/19/20	10/21/20 10:55	368004	700177	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000971
Project:	HS20100455	**Date Collected:**	10/ 8/20 1030
Sample Matrix:	Ground Water	**Date Received:**	10/ 9/20
Sample Name:	50WW24-201008	**Units:**	µg/L
Lab Code:	E2000971-004	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	10/19/20	10/21/20 11:03	368004	700177	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000971
Project:	HS20100455	**Date Collected:**	10/ 8/20 1115
Sample Matrix:	Ground Water	**Date Received:**	10/ 9/20
Sample Name:	16WW16-201008	**Units:**	µg/L
Lab Code:	E2000971-005	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**480**		1.00	0.500	0.250	10	10/19/20	10/20/20 19:48	368004	700170	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000971
Project:	HS20100455	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000512-01	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	10/19/20	10/19/20 17:05	368004	700168	

Accuracy & Precision

ALS Environmental - Houston HRMS
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Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000971
Project:	HS20100455	**Date Analyzed:**	10/19/20 - 10/20/20
Sample Matrix:	Ground Water		

Lab Control Sample Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Units:**	µg/L
Prep Method:	Method	**Basis:**	NA
		Extraction Lot:	368004

	Lab Control Sample EQ2000512-02			Duplicate Lab Control Sample EQ2000512-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.106	0.100	106	0.104	0.100	104	84 - 119	2	15

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

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

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000971
Project:	HS20100455	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000512-02	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.106**		0.100	0.0500	0.0250	1	10/19/20	10/19/20 17:13	368004	700168	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000971
Project:	HS20100455	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000512-03	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.104**		0.100	0.0500	0.0250	1	10/19/20	10/20/20 19:01	368004	700170	

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October 16, 2020

Analytical Report for Service Request No: K2009172

RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Suite 210
Houston, TX 77099-4338

RE: ALS Houston DOD TOC / HS20100455

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory October 13, 2020
For your reference, these analyses have been assigned our service request number **K2009172.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3350. You may also contact me via email at Kelley.Lovejoy@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

for Kelley Lovejoy
Project Manager

RIGHT SOLUTIONS | RIGHT PARTNER

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Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjlabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water-	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Case Narrative

ALS Environmental—Kelso Laboratory
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1317 South 13th Ave, Kelso, WA 98626 | 1-360-577-7222 | www.alsglobal.com

Client: ALS Environmental - US
Project: ALS Houston DOD TOC
Sample Matrix: Ground Water

Service Request: K2009172
Date Received: 10/13/2020

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier level IV requested by the client.

Sample Receipt:

Three ground water samples were received for analysis at ALS Environmental on 10/13/2020. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

General Chemistry:

No significant anomalies were noted with this analysis.

Approved by Noe D. Davis Date 10/16/2020

Chain of Custody

ALS Environmental—Kelso Laboratory
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Phone (360)577-7222 Fax (360)636-1068
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K2009172

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www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14894**

SUBCONTRACT TO:

ALS Environmental Kelso
1317 S. 13th Avenue
Kelso, WA 98626

Phone: +1 360 501 3312

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	RJ Modashia
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	RJ.Modashia@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS20100455
TSR:	Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20100455-01**	**16WW58-201008**	**Groundwater**	**08 Oct 2020 07:50**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			19 Oct 2020
2.	**HS20100455-02**	**16WW57-201008**	**Groundwater**	**08 Oct 2020 07:50**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			19 Oct 2020
3.	**HS20100455-05**	**16WW16-201008**	**Groundwater**	**08 Oct 2020 11:15**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			19 Oct 2020

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: DOD IV (DoD Data Package)

Relinquished By:	J. Lawal	Date/Time:	10/12/20 18:00
Received By:	N Pedersen	Date/Time:	10/13/20 1015
Cooler ID(s):		Temperature(s):	

PM KK

Cooler Receipt and Preservation Form

Client ALS Houston Service Request K20 09172

Received: 10/13/20 Opened: 10/13/20 By: AP Unloaded: 10/13/20 By: AP

1. Samples were received via? *USPS* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 2 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Was a Temperature Blank present in cooler? NA (Y) N If yes, notate the temperature in the appropriate column below:
   If no, take the temperature of a representative sample bottle contained within the cooler; notate in the column "Sample Temp":
5. Were samples received within the method specified temperature ranges? NA (Y) N
   If no, were they received on ice and same day as collected? If not, notate the cooler # below and notify the PM. (NA) Y N

If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*

Temp Blank	Sample Temp	IR Gun	Cooler #/COC ID / NA	Out of temp indicate with "X"	PM Notified If out of temp	Tracking Number NA	Filed
1.3	—	IR01		—	—	1591 8881 4073	
			148941				
			148971				

6. Packing material: *Inserts* (Baggies) *Bubble Wrap* *Gel Packs* (Wet Ice) *Dry Ice* *Sleeves* _____
7. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
8. Were samples received in good condition (unbroken) NA (Y) N
9. Were all sample labels complete (ie, analysis, preservation, etc.)? NA (Y) N
10. Did all sample labels and tags agree with custody papers? NA (Y) N
11. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
12. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
13. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
14. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, Resolutions: _____

General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	K2009172
Project:	ALS Houston DOD TOC/HS20100455	**Date Collected:**	10/8/20
Sample Matrix:	Ground Water	**Date Received:**	10/13/20
Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Carbon, Total Organic

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
16WW58-201008	K2009172-001	**4.13**	0.50	0.20	0.07	1	10/14/20 09:53	
16WW57-201008	K2009172-002	**13.1**	0.50	0.20	0.07	1	10/14/20 09:53	
16WW16-201008	K2009172-003	**3.35**	0.50	0.20	0.07	1	10/14/20 09:53	
Method Blank	K2009172-MB	ND U	0.50	0.20	0.07	1	10/14/20 09:53	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2009172
Project	ALS Houston DOD TOC/HS20100455	**Date Collected:**	10/08/20
Sample Matrix:	Ground Water	**Date Received:**	10/13/20
		Date Analyzed:	10/14/20

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	16WW58-201008	**Units:**	mg/L
Lab Code:	K2009172-001	**Basis:**	NA

Analyte Name	Analysis Method	LOQ	LOD	MDL	Sample Result	Duplicate Sample K2009172-001DUP Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	0.50	0.20	0.07	4.13	4.00	4.06	3	10

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

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

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

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2009172
Project:	ALS Houston DOD TOC/HS20100455	**Date Collected:**	10/08/20
Sample Matrix:	Ground Water	**Date Received:**	10/13/20
		Date Analyzed:	10/14/20
		Date Extracted:	NA

Matrix Spike Summary
Carbon, Total Organic

Sample Name:	16WW58-201008	**Units:**	mg/L
Lab Code:	K2009172-001	**Basis:**	NA
Analysis Method:	SM 5310 C		
Prep Method:	None		

Matrix Spike
K2009172-001MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	4.13	27.3	25.0	93	83-117

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

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

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

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2009172
Project:	ALS Houston DOD TOC/HS20100455	**Date Analyzed:**	10/14/20
Sample Matrix:	Ground Water	**Date Extracted:**	NA

Lab Control Sample Summary
Carbon, Total Organic

Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	699336

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2009172-LCS	23.8	25.0	95	83-117

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:** K2009172
Project: ALS Houston DOD TOC/HS20100455

Continuing Calibration Verification (CCV) Summary

Carbon, Total Organic

Analysis Method: SM 5310 C **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	699336	KQ2015677-13	10/14/20 09:53	25.0	24.9	99	90-110
CCV2	699336	KQ2015677-14	10/14/20 09:53	25.0	25.1	100	90-110
CCV3	699336	KQ2015677-15	10/14/20 09:53	25.0	24.5	98	90-110
CCV4	699336	KQ2015677-16	10/14/20 09:53	25.0	24.4	98	90-110
CCV5	699336	KQ2015677-17	10/14/20 09:53	25.0	24.5	98	90-110
CCV6	699336	KQ2015677-18	10/14/20 09:53	25.0	24.8	99	90-110

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:**K2009172
Project: ALS Houston DOD TOC/HS20100455

Continuing Calibration Blank (CCB) Summary
Carbon, Total Organic

Analysis Method: SM 5310 C **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	699336	KQ2015677-07	10/14/20 09:53	0.50	0.20	0.07	ND	U
CCB2	699336	KQ2015677-08	10/14/20 09:53	0.50	0.20	0.07	ND	U
CCB3	699336	KQ2015677-09	10/14/20 09:53	0.50	0.20	0.07	ND	U
CCB4	699336	KQ2015677-10	10/14/20 09:53	0.50	0.20	0.07	ND	U
CCB5	699336	KQ2015677-11	10/14/20 09:53	0.50	0.20	0.07	ND	U
CCB6	699336	KQ2015677-12	10/14/20 09:53	0.50	0.20	0.07	ND	U

Raw Data

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General Chemistry

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Work Request # 8395 8919 9036 8868 8767 8787 9172

Tier: IV IV IV IV I II IV

Date Analyzed: 10-14-70 8870 IV 9059 I

Analyst: MK

Analysis: TOC | DOC

Run # 699335/699336 699515

DATA QUALITY REPORT
INORGANICS

Explain any "no" responses to questions below, and any corrective actions in the comments section below.

1.	Is the method name and number correct and appropriate?	yes/no/NA
2.	Holding times met for all analyses and for all samples?	yes/no/NA
3.	Are calculations correct?	yes/no/NA
4.	Is the reporting basis correct? (Dry Weight)	yes/no/NA
5.	All quality control criteria met?	yes/no
6.	Is the calibration curve correlation coefficient ≥ 0.995?	yes/no/NA
7.	MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency?	yes/no/NA
8.	Are ICVs, CCVs, and CCBs all within acceptance limits?	yes/no/NA
9.	Are results for methods blanks all ND?	yes/no/NA
10.	Are all QC samples within acceptance criteria? (LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.)	yes/no/NA
11.	Are all exceptions explained?	yes/no/NA
12.	Have all applicable service requests been reviewed?	yes/no/NA
13.	Are all samples labeled correctly?	yes/no/NA
14.	Have all instructions on the service request been followed? (e.g. Special MRLs, QC on a specific sample, Form V)	yes/no/NA
15.	Are detection limits and units reported correctly?	yes/no/NA
16.	Is the unused space on the benchsheet crossed out?	yes/no/NA
17.	Was analysis turned in by the due date? (n-2) (If not record SR#)	yes/no/NA

COMMENTS:

8767-3 high RPD less than 5 times MRL
9059-1 II

Final Approved by: _____ Date: 10/16/20

DQREPORT

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 699335 **Method/Testcode:** SM 5310 C/TOC D

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
K2008395-008	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	1.76 mg/L	10 mL	1.76 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	IV
K2008919-001	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	1.43 mg/L	10 mL	1.43 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	IV
K2008919-002	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	1.40 mg/L	10 mL	1.40 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	IV
K2008919-003	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	2.57 mg/L	10 mL	2.57 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	IV
K2008919-004	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	1.33 mg/L	10 mL	1.33 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	IV
K2008919-005	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	1.35 mg/L	10 mL	1.35 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	IV
K2009036-001	Carbon, Dissolved Organic (DOC)	N/A		Wastewater	1.81 mg/L	10 mL	1.81 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	II
K2009036-002	Carbon, Dissolved Organic (DOC)	N/A		Wastewater	2.66 mg/L	10 mL	2.66 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	II
K2009036-003	Carbon, Dissolved Organic (DOC)	N/A		Wastewater	2.16 mg/L	10 mL	2.16 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	II
K2009036-004	Carbon, Dissolved Organic (DOC)	N/A		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	II
KQ2015676-01	Carbon, Dissolved Organic (DOC)	LCS		Surface Water	23.60 mg/L	10 mL	23.6 mg/L	1	0.07	0.50	94		10/14/20 09:53:00	N	IV
KQ2015676-02	Carbon, Dissolved Organic (DOC)	DLCS		Surface Water	23.87 mg/L	10 mL	23.9 mg/L	1	0.07	0.50	95	1	10/14/20 09:53:00	N	IV
KQ2015676-03	Carbon, Dissolved Organic (DOC)	MB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	IV
KQ2015676-04	Carbon, Dissolved Organic (DOC)	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	IV
KQ2015676-05	Carbon, Dissolved Organic (DOC)	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	IV
KQ2015676-06	Carbon, Dissolved Organic (DOC)	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	IV
KQ2015676-07	Carbon, Dissolved Organic (DOC)	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	IV
KQ2015676-08	Carbon, Dissolved Organic (DOC)	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	IV
KQ2015676-09	Carbon, Dissolved Organic (DOC)	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	IV
KQ2015676-10	Carbon, Dissolved Organic (DOC)	CCV		Surface Water	24.86 mg/L	10 mL	24.9 mg/L	1					10/14/20 09:53:00	N	IV
KQ2015676-11	Carbon, Dissolved Organic (DOC)	CCV		Surface Water	25.06 mg/L	10 mL	25.1 mg/L	1					10/14/20 09:53:00	N	IV
KQ2015676-12	Carbon, Dissolved Organic (DOC)	CCV		Surface Water	24.49 mg/L	10 mL	24.5 mg/L	1					10/14/20 09:53:00	N	IV
KQ2015676-13	Carbon, Dissolved Organic (DOC)	CCV		Surface Water	24.44 mg/L	10 mL	24.4 mg/L	1					10/14/20 09:53:00	N	IV

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 699335 **Method/Testcode:** SM 5310 C/TOC D

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
KQ2015676-14	Carbon, Dissolved Organic (DOC)	CCV		Surface Water	24.53 mg/L	10 mL	24.5 mg/L	1					10/14/20 09:53:00	N	IV
KQ2015676-15	Carbon, Dissolved Organic (DOC)	CCV		Surface Water	24.80 mg/L	10 mL	24.8 mg/L	1					10/14/20 09:53:00	N	IV

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 699336 **Method/Testcode:** SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
K2008568-001	Carbon, Total Organic	N/A		Surface Water	1.93 mg/L	10 mL	1.93 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	IV
K2008568-002	Carbon, Total Organic	N/A		Surface Water	1.83 mg/L	10 mL	1.83 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	IV
K2008568-007	Carbon, Total Organic	N/A		Surface Water	2.03 mg/L	10 mL	2.03 mg/L	1	0.07	0.50			10/14/20 09:53:00	Y	IV
K2008767-003	Carbon, Total Organic	N/A		Drinking Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	I
K2008787-001	Carbon, Total Organic	N/A		Water	2.04 mg/L	10 mL	2.04 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	II
K2008919-001	Carbon, Total Organic	N/A		Surface Water	1.56 mg/L	10 mL	1.56 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	IV
K2008919-002	Carbon, Total Organic	N/A		Surface Water	1.61 mg/L	10 mL	1.61 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	IV
K2008919-003	Carbon, Total Organic	N/A		Surface Water	3.15 mg/L	10 mL	3.15 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	IV
K2008919-004	Carbon, Total Organic	N/A		Surface Water	1.47 mg/L	10 mL	1.47 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	IV
K2008919-005	Carbon, Total Organic	N/A		Surface Water	1.95 mg/L	10 mL	1.95 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	IV
K2009036-001	Carbon, Total Organic	N/A		Wastewater	1.77 mg/L	10 mL	1.77 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	II
K2009172-001	Carbon, Total Organic	N/A		Ground Water	4.13 mg/L	10 mL	4.13 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	IV
K2009172-002	Carbon, Total Organic	N/A		Ground Water	13.11 mg/L	10 mL	13.1 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	IV
K2009172-003	Carbon, Total Organic	N/A		Ground Water	3.35 mg/L	10 mL	3.35 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	IV
KQ2015677-01	Carbon, Total Organic	DUP	K2008787-001	Water	2.04 mg/L	10 mL	2.04 mg/L	1	0.07	0.50		<1	10/14/20 09:53:00	N	II
KQ2015677-02	Carbon, Total Organic	MS	K2008787-001	Water	28.37 mg/L	10 mL	28.4 mg/L	1	0.07	0.50	105		10/14/20 09:53:00	N	II
KQ2015677-03	Carbon, Total Organic	DUP	K2008568-007	Surface Water	2.16 mg/L	10 mL	2.16 mg/L	1	0.07	0.50		6	10/14/20 09:53:00	N	IV
KQ2015677-04	Carbon, Total Organic	MS	K2008568-007	Surface Water	29.00 mg/L	10 mL	29.0 mg/L	1	0.07	0.50	108		10/14/20 09:53:00	N	IV
KQ2015677-05	Carbon, Total Organic	LCS		Surface Water	23.85 mg/L	10 mL	23.8 mg/L	1	0.07	0.50	95		10/14/20 09:53:00	N	IV
KQ2015677-06	Carbon, Total Organic	MB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	IV
KQ2015677-07	Carbon, Total Organic	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	IV
KQ2015677-08	Carbon, Total Organic	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	IV
KQ2015677-09	Carbon, Total Organic	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	IV
KQ2015677-10	Carbon, Total Organic	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	IV

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 699336 **Method/Testcode:** SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
KQ2015677-11	Carbon, Total Organic	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	IV
KQ2015677-12	Carbon, Total Organic	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	IV
KQ2015677-13	Carbon, Total Organic	CCV		Surface Water	24.86 mg/L	10 mL	24.9 mg/L	1					10/14/20 09:53:00	N	IV
KQ2015677-14	Carbon, Total Organic	CCV		Surface Water	25.06 mg/L	10 mL	25.1 mg/L	1					10/14/20 09:53:00	N	IV
KQ2015677-15	Carbon, Total Organic	CCV		Surface Water	24.49 mg/L	10 mL	24.5 mg/L	1					10/14/20 09:53:00	N	IV
KQ2015677-16	Carbon, Total Organic	CCV		Surface Water	24.44 mg/L	10 mL	24.4 mg/L	1					10/14/20 09:53:00	N	IV
KQ2015677-17	Carbon, Total Organic	CCV		Surface Water	24.53 mg/L	10 mL	24.5 mg/L	1					10/14/20 09:53:00	N	IV
KQ2015677-18	Carbon, Total Organic	CCV		Surface Water	24.80 mg/L	10 mL	24.8 mg/L	1					10/14/20 09:53:00	N	IV
KQ2015677-19	Carbon, Total Organic	DUP	K2009172-001	Ground Water	4.00 mg/L	10 mL	4.00 mg/L	1	0.07	0.50		3	10/14/20 09:53:00	N	IV
KQ2015677-20	Carbon, Total Organic	MS	K2009172-001	Ground Water	27.29 mg/L	10 mL	27.3 mg/L	1	0.07	0.50	93		10/14/20 09:53:00	N	IV

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 699515 **Method/Testcode:** SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
K2008870-001	Carbon, Total Organic	N/A		Water	1.45 mg/L	10 mL	1.45 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	IV
K2009036-002	Carbon, Total Organic	N/A		Wastewater	2.70 mg/L	10 mL	2.70 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	II
K2009036-003	Carbon, Total Organic	N/A		Wastewater	2.07 mg/L	10 mL	2.07 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	II
K2009036-004	Carbon, Total Organic	N/A		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	II
K2009059-001	Carbon, Total Organic	N/A		Drinking Water	4951.00 mg/L	10 mL	4950 mg/L	1	0.07	0.50			10/14/20 09:53:00	N	I
KQ2015678-01	Carbon, Total Organic	DUP	K2008870-001	Water	1.49 mg/L	10 mL	1.49 mg/L	1	0.07	0.50		3	10/14/20 09:53:00	N	IV
KQ2015678-02	Carbon, Total Organic	MS	K2008870-001	Water	27.84 mg/L	10 mL	27.8 mg/L	1	0.07	0.50	106		10/14/20 09:53:00	N	IV
KQ2015678-03	Carbon, Total Organic	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	IV
KQ2015678-04	Carbon, Total Organic	LCS		Water	23.95 mg/L	10 mL	24.0 mg/L	1	0.07	0.50	96		10/14/20 09:53:00	N	IV
KQ2015678-05	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	IV
KQ2015678-06	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	IV
KQ2015678-07	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	IV
KQ2015678-08	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	IV
KQ2015678-09	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	IV
KQ2015678-10	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/14/20 09:53:00	N	IV
KQ2015678-11	Carbon, Total Organic	CCV		Water	24.86 mg/L	10 mL	24.9 mg/L	1					10/14/20 09:53:00	N	IV
KQ2015678-12	Carbon, Total Organic	CCV		Water	25.06 mg/L	10 mL	25.1 mg/L	1					10/14/20 09:53:00	N	IV
KQ2015678-13	Carbon, Total Organic	CCV		Water	24.49 mg/L	10 mL	24.5 mg/L	1					10/14/20 09:53:00	N	IV
KQ2015678-14	Carbon, Total Organic	CCV		Water	24.44 mg/L	10 mL	24.4 mg/L	1					10/14/20 09:53:00	N	IV
KQ2015678-15	Carbon, Total Organic	CCV		Water	24.53 mg/L	10 mL	24.5 mg/L	1					10/14/20 09:53:00	N	IV
KQ2015678-16	Carbon, Total Organic	CCV		Water	24.80 mg/L	10 mL	24.8 mg/L	1					10/14/20 09:53:00	N	IV

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Schedule: 101420

Version: 17
Instrument: Fusion1
Last Saved by: Fusion1 (Fusion1)
Last Saved on: 2020/10/14 19:45 - Wednesday

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
(Clean)	Clean	Clean		1	True	Ready
(Clean)	Clean	Clean		1	True	Ready
(Clean)	Clean	Clean		1	True	Ready
(Blank)	Blank	Reagent/Acid Blank		1	True	Ready
D	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
1	Sample	MB1	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
2	Sample	ICS	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
74	Sample	LOD	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
73	Sample	LOQ	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
3	Sample	K2008787-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
4	Sample	K2008787-001D	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
5	Sample	K2008787-001MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
6	Sample	K2009172-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
7	Sample	K2009172-001D	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
8	Sample	K2009172-001MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
9	Sample	K2009172-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
10	Sample	K2009172-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
11	Sample	K2008395-003*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
12	Sample	K2008568-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
13	Sample	K2008568-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
14	Sample	K2008568-007	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
15	Sample	K2008568-007D	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
16	Sample	K2008568-007MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
17	Sample	K2009059-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
18	Sample	K2008994-001*5	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
19	Sample	K2008787-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
20	Sample	MB2	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
21	Sample	K2008974-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
22	Sample	K2008974-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
23	Sample	K2008919-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
24	Sample	K2008919-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
25	Sample	K2008919-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
26	Sample	K2008919-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
27	Sample	K2008919-005	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
28	Sample	K2008919-001*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
29	Sample	K2008919-002*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
30	Sample	K2008919-003*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
31	Sample	K2008919-004*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
32	Sample	K2008919-005*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
33	Sample	K2009036-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
34	Sample	K2009036-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
35	Sample	K2009036-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
36	Sample	K2009036-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready

Printed on: October 15, 2020 18:49:22

Schedule: 101420

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
37	Sample	K2009036-001*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
38	Sample	K2009036-002*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
39	Sample	MB3	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
40	Sample	K2009036-003*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
41	Sample	K2009036-004*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
43	Sample	LOD	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
44	Sample	LOQ	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
45	Sample	K2008870-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
46	Sample	K2008870-001D	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
47	Sample	K2008870-001MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
					False	

Fusion Report - 101420
Wednesday, October 14, 2020 09:53 AM

(View - Reps, Unused Reps, Meta-Data, Signature, History)
Printed on 2020/10/15 18:49 - Thursday

Report Summary Information

*DOC

Company Location:	Gen Chem Lab		
Schedule Name:	101420	Engine Version:	1.1.5.1
Instrument Name:	Fusion1	Firmware Version:	1.2.0696
Report Version:	1 of 1	Connection:	RS232 COM1
Report Creation by Operators (schedule version):	Fusion1 (Fusion1) (v2) Fusion1 (Fusion1) (v5) Fusion1 (Fusion1) (v6) Fusion1 (Fusion1) (v7) Fusion1 (Fusion1) (v12) Fusion1 (Fusion1) (v15) Fusion1 (Fusion1) (v16) Fusion1 (Fusion1) (v17)		
Comment:			

Report Results

Sample Type: Clean — From Schedule Version 2

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/10/14 09:53

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	13.54	27.93	14.39	49.66	05:28
2	TC Clean	7.77	20.96	13.19	50.00	04:07
3	TC Clean	0.96	14.32	13.36	49.96	03:59
4	TC Clean	0.82	13.99	13.17	50.01	04:00

Sample Type: Clean — From Schedule Version 5

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/10/14 10:15

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.27	12.84	13.11	49.60	05:26

2	TC Clean	3.54	16.73	13.19	49.91	04:05
3	TC Clean	0.80	14.15	13.36	49.93	03:50
4	TC Clean	0.67	13.77	13.10	49.99	03:53

Sample Type: Clean From Schedule Version 6

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/10/14 10:37

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.51	12.71	13.21	49.64	05:26
2	TC Clean	3.55	16.85	13.31	49.92	04:06
3	TC Clean	0.85	14.05	13.19	49.99	03:49
4	TC Clean	0.58	13.79	13.21	49.95	03:49

Sample Type: Blank (Creating v1461) From Schedule Version 6

	Pos	Analysis Type	Sample ID	Start Time
◆	(blank)		Reagent/Acid Blank	2020/10/14 10:59

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.58	12.42	13.00	49.70	05:16
2	TC Clean	3.85	17.01	13.15	49.95	04:04
3	TC Clean	1.29	14.19	12.90	49.94	03:58
4	TC Clean	0.93	13.96	13.04	49.96	03:59
5	Reagent Blank	5.12	17.97	12.85	49.94	05:09
6	Acid Blank	0.24	13.04	12.80	49.67	05:32

Sample Type: Sample From Schedule Version 6

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	D	TOC	RB	0.0531 ppm	0.0000 ppm	0.0000%	2020/10/14 11:33

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0531	0.5310	9.62	22.57	12.95	50.17	10:31

Dilution **Blank Contribution** **Method** **Calibration**

1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 6

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.8648 ppm (PASS)	0.0000 ppm	0%	2020/10/14 11:48

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.8648	248.6476	184.31	197.28	12.96	50.12	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 6

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/10/14 12:03

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	7.23	20.42	13.19	50.08	10:35

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 6

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	1	TOC	MB1	0.0000 ppm	0.0000 ppm	0.0000%	2020/10/14 12:18

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	7.06	19.92	12.86	50.05	10:32

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 6

	Pos	BAT	Concentration	Dil	Sample ID	Min / Max	Result	Std. Dev.	RSD	Start Time

			(ppm)			(% dev)				
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	23.8479 ppm (PASS)	0.0000 ppm	0%	2020/10/14 12:32

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	23.8479	238.4791	177.18	190.14	12.96	50.15	10:27

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample From Schedule Version 6

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	2	TOC	ICS	0.0000 ppm	0.0000 ppm	0.0000%	2020/10/14 12:47

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	8.98	21.93	12.95	50.13	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	74	TOC	LOD	0.0000 ppm	0.0000 ppm	0.0000%	2020/10/14 13:02

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	7.18	20.23	13.05	50.12	10:28
2	TOC	0.0000	0.0000	7.35	20.32	12.96	50.19	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	73	TOC	LOQ	0.1572 ppm	0.0078 ppm	4.9400%	2020/10/14 13:30

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1517	1.5175	10.31	23.39	13.08	50.12	10:31
2	TOC	0.1627	1.6272	10.39	23.49	13.10	50.13	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	3	TOC	K2008787-001	2.0411 ppm	0.0271 ppm	1.3300%	2020/10/14 13:58

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.0219	20.2193	23.43	36.31	12.89	50.21	10:25
2	TOC	2.0603	20.6028	23.70	36.74	13.05	50.11	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	4	TOC	K2008787-001D	2.0430 ppm	0.0532 ppm	2.6100%	2020/10/14 14:26

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.0054	20.0539	23.31	36.44	13.13	50.08	10:25
2	TOC	2.0807	20.8066	23.84	36.82	12.98	50.20	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	5	TOC	K2008787-001MS	28.3726 ppm	0.0574 ppm	0.2000%	2020/10/14 14:54

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	28.4132	284.1317	208.56	221.59	13.04	50.09	10:27
2	TOC	28.3321	283.3206	207.99	220.99	13.00	50.16	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	6	TOC	K2009172-001	4.1262 ppm	0.1258 ppm	3.0500%	2020/10/14 15:22

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.2151	42.1514	38.81	51.73	12.91	50.11	10:26
2	TOC	4.0372	40.3723	37.57	50.51	12.95	50.11	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample From Schedule Version 7

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	7	TOC	K2009172-001D	4.0013 ppm	0.0359 ppm	0.9000%	2020/10/14 15:50

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.9759	39.7593	37.14	50.10	12.96	50.09	10:30

2	TOC	4.0267	40.2668	37.49	50.36	12.87	50.16	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	8	TOC	K2009172-001MS	27.2894 ppm	0.9292 ppm	3.4000%	2020/10/14 16:18

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	26.6324	266.3237	196.07	209.24	13.18	50.08	10:27
2	TOC	27.9464	279.4645	205.28	218.36	13.08	50.22	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	9	TOC	K2009172-002	13.1133 ppm	0.1966 ppm	1.5000%	2020/10/14 16:46

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	13.2523	132.5229	102.21	115.21	13.00	50.08	10:27
2	TOC	12.9743	129.7430	100.26	113.34	13.08	50.16	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 7

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	25.0616 ppm (PASS)	0.0000 ppm	0%	2020/10/14 17:14

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.0616	250.6162	185.70	198.68	12.99	50.06	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 7

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/10/14 17:29

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	6.96	19.95	12.98	50.15	10:28

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 7

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	10	TOC	K2009172-003	3.3538 ppm	0.1190 ppm	3.5500%	2020/10/14 17:43

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.4379	34.3793	33.36	46.43	13.07	50.06	10:30
2	TOC	3.2696	32.6957	32.18	45.05	12.87	50.20	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample From Schedule Version 12

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	11	TOC	K2008395-003	1.7566 ppm	0.0224 ppm	1.2700%	2020/10/14 18:11

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.7408	17.4081	21.46	34.54	13.08	50.09	10:28
2	TOC	1.7725	17.7246	21.68	34.57	12.89	50.05	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample From Schedule Version 15

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	12	TOC	K2008568-001	1.9343 ppm	0.0014 ppm	0.0700%	2020/10/14 18:39

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.9353	19.3526	22.82	35.69	12.87	50.19	10:26
2	TOC	1.9333	19.3326	22.81	35.86	13.06	50.12	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	13	TOC	K2008568-002	1.8298 ppm	0.0181 ppm	0.9900%	2020/10/14 19:07

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.8169	18.1694	21.99	35.08	13.09	50.08	10:28
2	TOC	1.8426	18.4260	22.17	35.09	12.92	50.04	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample From Schedule Version 16

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	14	TOC	K2008568-007	2.0272 ppm	0.0167 ppm	0.8300%	2020/10/14 19:36

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.0154	20.1537	23.38	36.39	13.01	50.02	10:28
2	TOC	2.0390	20.3904	23.55	36.72	13.17	50.02	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample From Schedule Version 17

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	15	TOC	K2008568-007D	2.1584 ppm	0.0380 ppm	1.7600%	2020/10/14 20:03

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.1853	21.8530	24.57	37.64	13.07	50.19	10:29
2	TOC	2.1316	21.3155	24.20	37.12	12.92	50.16	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	16	TOC	K2008568-007MS	29.0019 ppm	1.1530 ppm	3.9800%	2020/10/14 20:32

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	28.1867	281.8665	206.97	219.98	13.01	50.15	10:25
2	TOC	29.8172	298.1720	218.41	231.51	13.10	50.14	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	17	TOC	K2009059-001	0.4951 ppm	0.0860 ppm	17.3700%	2020/10/14 21:00

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5559	5.5589	13.14	25.95	12.81	50.13	10:27
2	TOC	0.4343	4.3429	12.29	25.27	12.98	50.13	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	18	TOC	K2008994-001*5	4.0367 ppm	0.0315 ppm	0.7800%	2020/10/14 21:28

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.0589	40.5890	37.72	50.73	13.01	50.13	10:27
2	TOC	4.0144	40.1442	37.40	50.52	13.12	50.17	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	19	TOC	K2008787-003	0.0017 ppm	0.0025 ppm	141.4200%	2020/10/14 21:56

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	8.93	22.00	13.08	50.18	10:27
2	TOC	0.0035	0.0349	9.27	22.31	13.05	50.21	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 17

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.4881 ppm (PASS)	0.0000 ppm	0%	2020/10/14 22:24

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.4881	244.8812	181.67	194.71	13.04	50.20	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 17

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/10/14 22:39

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	6.50	19.64	13.14	50.20	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 17

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	20	TOC	MB2	0.0000 ppm	0.0000 ppm	0.0000%	2020/10/14 22:53

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	6.06	19.23	13.16	50.22	10:37

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 17

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	23.5967 ppm (PASS)	0.0000 ppm	0%	2020/10/14 23:08

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	23.5967	235.9673	175.42	188.56	13.14	50.23	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Check Standard --> LCS From Schedule Version 17

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	23.8709 ppm (PASS)	0.0000 ppm	0%	2020/10/14 23:23

	Base									

Pos	Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	23.8709	238.7086	177.34	190.57	13.23	50.22	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample From Schedule Version 17

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	21	TOC	K2008974-001	0.9286 ppm	0.0541 ppm	5.8300%	2020/10/14 23:37

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9669	9.6688	16.03	29.20	13.17	50.26	10:25
2	TOC	0.8903	8.9033	15.49	28.85	13.36	50.33	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	22	TOC	K2008974-002	0.9251 ppm	0.0256 ppm	2.7700%	2020/10/15 00:05

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9432	9.4321	15.86	28.92	13.06	50.34	10:25
2	TOC	0.9070	9.0701	15.61	28.97	13.36	50.37	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	23	TOC	K2008919-001	1.5620 ppm	0.0018 ppm	0.1200%	2020/10/15 00:33

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.5633	15.6333	20.21	33.58	13.37	50.39	10:25
2	TOC	1.5608	15.6076	20.19	33.39	13.20	50.47	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	24	TOC	K2008919-002	1.6082 ppm	0.0503 ppm	3.1300%	2020/10/15 01:01

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.5726	15.7260	20.28	33.30	13.03	50.45	10:28
2	TOC	1.6437	16.4373	20.78	33.90	13.12	50.49	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	25	TOC	K2008919-003	3.1466 ppm	0.0162 ppm	0.5200%	2020/10/15 01:29

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.1351	31.3514	31.24	44.54	13.30	50.51	10:28
2	TOC	3.1581	31.5809	31.40	44.81	13.41	50.54	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	26	TOC	K2008919-004	1.4710 ppm	0.0317 ppm	2.1500%	2020/10/15 01:57

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.4486	14.4857	19.41	32.88	13.47	50.57	10:25
2	TOC	1.4933	14.9333	19.72	33.13	13.41	50.57	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	27	TOC	K2008919-005	1.9526 ppm	0.0261 ppm	1.3400%	2020/10/15 02:25

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.9341	19.3412	22.81	36.16	13.35	50.62	10:32
2	TOC	1.9710	19.7104	23.07	36.53	13.46	50.63	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	28	TOC	K2008919-001*	1.4295 ppm	0.0025 ppm	0.1800%	2020/10/15 02:53

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.4278	14.2776	19.26	32.58	13.32	50.65	10:27
2	TOC	1.4313	14.3132	19.28	32.50	13.22	50.67	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 17

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.4407 ppm (PASS)	0.0000 ppm	0%	2020/10/15 03:21

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.4407	244.4065	181.34	194.71	13.37	50.70	10:35

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 17

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/10/15 03:36

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	6.80	20.13	13.32	50.73	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 17

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	29	TOC	K2008919-002*	1.3953 ppm	0.0171 ppm	1.2300%	2020/10/15 03:51

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.4074	14.0737	19.12	32.44	13.32	50.78	10:29
2	TOC	1.3831	13.8314	18.95	32.34	13.39	50.78	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	30	TOC	K2008919-003*	2.5685 ppm	0.0167 ppm	0.6500%	2020/10/15 04:19

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.5803	25.8032	27.34	40.69	13.35	50.80	10:29
2	TOC	2.5567	25.5665	27.18	40.72	13.54	50.81	10:26

Dilution	Blank Contribution	Method	Calibration

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	31	TOC	K2008919-004*	1.3309 ppm	0.0366 ppm	2.7500%	2020/10/15 04:47

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.3568	13.5677	18.76	31.98	13.22	50.81	10:26
2	TOC	1.3050	13.0502	18.40	31.82	13.42	50.81	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	32	TOC	K2008919-005*	1.3484 ppm	0.0717 ppm	5.3200%	2020/10/15 05:15

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.2977	12.9775	18.35	31.82	13.47	50.84	10:30
2	TOC	1.3991	13.9911	19.06	32.28	13.22	50.84	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	33	TOC	K2009036-001	1.7664 ppm	0.0078 ppm	0.4400%	2020/10/15 05:43

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.7719	17.7189	21.67	35.24	13.56	50.84	10:30
2	TOC	1.7609	17.6091	21.60	35.15	13.56	50.85	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	34	TOC	K2009036-002	2.7030 ppm	0.0322 ppm	1.1900%	2020/10/15 06:11

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.7257	27.2572	28.36	41.83	13.47	50.86	10:29
2	TOC	2.6802	26.8025	28.05	41.56	13.52	50.85	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	35	TOC	K2009036-003	2.0660 ppm	0.0119 ppm	0.5800%	2020/10/15 06:39

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.0576	20.5757	23.68	37.19	13.52	50.87	10:25
2	TOC	2.0744	20.7439	23.80	37.42	13.62	50.86	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	36	TOC	K2009036-004	0.0000 ppm	0.0000 ppm	0.0000%	2020/10/15 07:07

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	7.52	21.03	13.51	50.84	10:31
2	TOC	0.0000	0.0000	7.22	20.81	13.60	50.82	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	37	TOC	K2009036-001*	1.8119 ppm	0.0306 ppm	1.6900%	2020/10/15 07:35

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.7903	17.9028	21.80	35.32	13.51	50.81	10:25
2	TOC	1.8336	18.3361	22.11	35.51	13.41	50.82	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	38	TOC	K2009036-002*	2.6632 ppm	0.0251 ppm	0.9400%	2020/10/15 08:03

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.6455	26.4547	27.80	41.35	13.55	50.79	10:28
2	TOC	2.6810	26.8096	28.05	41.49	13.44	50.80	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 17

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.5283 ppm (PASS)	0.0000 ppm	0%	2020/10/15 08:31

Pos	Base Analysis	ID	Rep	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run

	Type		#							Time
B	TOC	25 ppm	1	24.5283	245.2833	181.95	195.42	13.46	50.81	10:34

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 17

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/10/15 08:46

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	7.43	20.86	13.43	50.78	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 17

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	39	TOC	MB3	0.0000 ppm	0.0000 ppm	0.0000%	2020/10/15 09:00

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	7.16	20.47	13.30	50.76	10:32

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 17

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	23.9527 ppm (PASS)	0.0000 ppm	0%	2020/10/15 09:15

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	23.9527	239.5269	177.92	191.19	13.28	50.73	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Check Standard --> LCS From Schedule Version 17

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	24.1889 ppm (PASS)	0.0000 ppm	0%	2020/10/15 09:30

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	24.1889	241.8890	179.57	192.98	13.41	50.73	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample From Schedule Version 17

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	40	TOC	K2009036-003*	2.1628 ppm	0.0708 ppm	3.2700%	2020/10/15 09:44

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.2128	22.1281	24.77	38.29	13.53	50.72	10:30
2	TOC	2.1127	21.1274	24.06	37.68	13.62	50.69	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	41	TOC	K2009036-004*	0.0000 ppm	0.0000 ppm	0.0000%	2020/10/15 10:12

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	8.15	21.60	13.44	50.68	10:25
2	TOC	0.0000	0.0000	8.16	21.56	13.40	50.65	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	43	TOC	LOD	0.0000 ppm	0.0000 ppm	0.0000%	2020/10/15 10:40

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	8.26	21.56	13.30	50.61	10:27
2	TOC	0.0000	0.0000	8.38	21.67	13.29	50.59	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

		Analysis			Std. Dev.		

	Pos	Type	Sample ID	Result (ppmC)	(ppmC)	RSD	Start Time
◆	44	TOC	LOQ	0.1670 ppm	0.0222 ppm	13.2800%	2020/10/15 11:09

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1513	1.5132	10.31	23.59	13.28	50.57	10:24
2	TOC	0.1827	1.8268	10.53	23.72	13.19	50.54	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	45	TOC	K2008870-001	1.4549 ppm	0.0791 ppm	5.4400%	2020/10/15 11:36

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.3990	13.9896	19.06	32.28	13.23	50.52	10:29
2	TOC	1.5109	15.1087	19.84	32.88	13.04	50.48	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	46	TOC	K2008870-001D	1.4933 ppm	0.0481 ppm	3.2200%	2020/10/15 12:05

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.5273	15.2726	19.96	33.04	13.08	50.45	10:24
2	TOC	1.4593	14.5926	19.48	32.82	13.34	50.45	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	47	TOC	K2008870-001MS	27.8353 ppm	0.1468 ppm	0.5300%	2020/10/15 12:33

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	27.7315	277.3147	203.78	216.79	13.01	50.40	10:27
2	TOC	27.9390	279.3904	205.23	218.26	13.02	50.37	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2445 (IC) (v1461)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 17

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.7966 ppm (PASS)	0.0000 ppm	0%	2020/10/15 13:01

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.7966	247.9661	183.84	196.78	12.94	50.32	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 17

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/10/15 13:16

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	7.50	20.40	12.90	50.30	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Meta Data Used in this Report

Blanks

Version	Reagent (Abs)	Acid (Abs)	DI IC (Abs)	DI TC (Abs)	DI TOC (Abs)	Save Time	Operator
v1460	1.7417	0.1200	0.0000	0.0000	0.0000	2020/10/12 11:28	Fusion1 (Fusion1)
v1461	1.7083	0.2430	0.0000	0.0000	0.0000	2020/10/14 11:33	Fusion1 (Fusion1)

Calibrations

Name: CAS_salt_010711 (TOC)

Version:	v38	Calibration curve formula:	TOC: y = 7.015x + 9.892
Ver Creation:	2020/06/13 16:40	r^2 value:	TOC: r^2 = 0.99974
Comment:			
Operator:	Fusion1 (Fusion1)		
Basic Analysis Type	TOC		

Basic Analysis Type: TOC

Sample ID	Y Raw Value	X Expected	Message	End Time

DI Water	9.5750	0.0000		2020/06/13 15:13
0.500 ppm	12.9010	0.5000		2020/06/13 15:28
1.0 ppm	15.6320	1.0000		2020/06/13 15:42
5.0 ppm	43.2510	5.0000		2020/06/13 15:56
10 ppm	82.4040	10.0000		2020/06/13 16:11
25 ppm	188.6880	25.0000		2020/06/13 16:25
50 ppm	358.6500	50.0000		2020/06/13 16:39

Methods

Name: CAS_salt_010711 (TOC)

Version: v4 Operator: Fusion1 (Fusion1)

Ver Creation: 2019/02/21 17:57

Comment:

Parameter	Value
SampleVolume	10.0 mL
Dilution	1:10
AcidVolume	0.5 ml
ReagentVolume	2.0 ml
UVReactorPrerinse	Off
UVReactorPrerinseVolume	5.0
NumberOfUVReactorPrerinses	1
ICSpargeTime	1.00 mins
DetectorSweepFlow	500 ml/min
PreSpargeTime	2.00 mins
SystemFlow	500 ml/min

Advanced Parameter	Value
NeedleRinseVolume	5.0 ml
VialPrimeVolume	2.0 ml
ICSamplePrimeVolume	2.0 ml
ICSpargeRinseVolume	12.0 ml
BaselineStabilizeTime	0.70 min
DetectorPressureFlow	150 ml/min
SyringeSpeedWaste	10
SyringeSpeedAcid	7
SyringeSpeedReagent	7
SyringeSpeedDIWater	7
NDIRPressurization	60 psig
SyringeSpeedSampleDispense	5
SyringeSpeedSampleAspirate	4
SyringeSpeedUVDispense	5
SyringeSpeedUVAspirate	5
SyringeSpeedICDispense	5
SyringeSpeedICAspirate	5
NDIRPressureStabilize	1.75 min
SampleMixing	Off
SampleMixingCycles	1
SampleMixingVolume	10.0
LowLevelFilterNDIR	Off

Acceptance / Approval

Electronic Signatures

Report				

Version	User Name	Acceptance	Reason	Date

Report History

Report History

Report Version	User Name	System Reason	User Reason	Date
1	Fusion1 (Fusion1)	Schedule completed	Schedule completed	2020/10/15 13:31

ALS Environmental

StarLIMS Run: 699335/699336/699515

Analysis: DOC/TOC

Method: SM 5310 C, 9060A, 415.1, 9060

CCV: 19-GEN-8-40-C 50 ppm LCS: 19-GEN-8-41-k 25.0 ppm

ICAL Date: 6/16/2020

ICAL ID: 19-GEN-8-22-G

ICS ID: 19-GEN-8-35-J

ICS TV: 25.0 ppm ICS % R < 1

Spike ID: 19-GEN-8-15-B 0.05 ml of 5000 ppm stock ---> 10.0 ml = 25.0 ppm x dilution factor

Sodium Persulfate: 19-GEN-08-45-J

21 % H3PO4: 19-GEN-08-46-F

Equipment ID: K-TOC-03

PIPETTE ID: 124276B, 129001F, N11314F, Marge

FILTER ID: 16967789

Analyzed By:	Date Analyzed: 10/15/20
Reviewed By:	Date Reviewed:

HS20100455 8260_W_DOD Raw Data

ALS WO# HS20100455

MSVOA06 -Logbook

Batch: 41874 **Analyst:** Presenta Cabascango

Date: 09-24-2020 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	09-24-2020 11:10 am	1.00	50 mL	50 mL	X092401.D	Liquid	Y	NA
	Auto find/ purged									
2	VSTD000.25	ICAL1	09-24-2020 11:34 am	1.00	50 mL	50 mL	X092402.D	Liquid	Y	NA
	0.10 uL cal std/100 mL DI									
3	VSTD000.5	ICAL2	09-24-2020 11:58 am	1.00	50 mL	50 mL	X092403.D	Liquid	Y	NA
	0.10 uL cal std/50 mL DI									
4	VSTD001	ICAL3	09-24-2020 12:46 pm	1.00	50 mL	50 mL	X092404.D	Liquid	Y	NA
	0.20 uL cal std/50 mL DI									
5	VSTD002	ICAL4	09-24-2020 01:10 pm	1.00	50 mL	50 mL	X092405.D	Liquid	Y	NA
	0.40 uL cal std/50 mL DI									
6	VSTD005	ICAL5	09-24-2020 01:33 pm	1.00	50 mL	50 mL	X092406.D	Liquid	Y	NA
	1.0 uL cal std/50 mL DI									
7	VSTD020	ICAL6	09-24-2020 01:57 pm	1.00	50 mL	50 mL	X092407.D	Liquid	Y	NA
	4.0 uL cal std/50 mL DI									
8	VSTD050	ICAL7	09-24-2020 02:21 pm	1.00	50 mL	50 mL	X092408.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
9	VSTD100	ICAL8	09-24-2020 02:45 pm	1.00	50 mL	50 mL	X092409.D	Liquid	Y	NA
	20 uL cal std/50 mL DI									
10	VSTD150	ICAL9	09-24-2020 03:09 pm	1.00	50 mL	50 mL	X092410.D	Liquid	Y	NA
	30 uL cal std/50 mL DI									
11	VSTD200	ICAL	09-24-2020 03:33 pm	1.00	50 mL	50 mL	X092411.D	Liquid	Y	NA
	40 uL cal std/50 mL DI									
12	BLANK	SAMP	09-24-2020 03:57 pm	1.00	50 mL	50 mL	X092412.D	Liquid	Y	NA
13	BLANK	SAMP	09-24-2020 04:21 pm	1.00	50 mL	50 mL	X092413.D	Liquid	Y	NA
14	VSTD050	ICV	09-24-2020 04:45 pm	1.00	50 mL	50 mL	X092414.D	Liquid	Y	NA
	10 uL ical std/50 mL DI									
15	CCB	SAMP	09-24-2020 05:09 pm	1.00	50 mL	50 mL	X092415.D	Liquid	Y	NA
16	VLCSW-200924	LCS	09-24-2020 05:33 pm	1.00	50 mL	50 mL	X092416.D	Liquid	Y	na
	4.0 uL cal std/50 mL DI									
17	BLK	SAMP	09-24-2020 05:57 pm	1.00	50 mL	50 mL	X092417.D	Liquid	Y	na
18	BLK	SAMP	09-24-2020 06:21 pm	1.00	50 mL	50 mL	X092418.D	Liquid	Y	na
19	VBLKW-200924	MBLK	09-24-2020 06:45 pm	1.00	50 mL	50 mL	X092419.D	Liquid	Y	na
20	HS20090748-03	SAMP	09-24-2020 07:09 pm	1.00	50 mL	50 mL	X092420.D	Liquid	Y	<2
21	HS20091030-02	SAMP	09-24-2020 07:33 pm	1.00	50 mL	50 mL	X092421.D	Liquid	Y	<2
22	HS20090748-01	SAMP	09-24-2020 07:58 pm	1.00	50 mL	50 mL	X092422.D	Liquid	Y	<2
23	HS20091030-01	SAMP	09-24-2020 08:22 pm	1.00	50 mL	50 mL	X092423.D	Liquid	Y	<2
24	HS20090796-01	SAMP	09-24-2020 08:46 pm	1.00	50 mL	50 mL	X092424.D	Liquid	Y	<2
25	HS20090748-01MS	MS	09-24-2020 09:10 pm	1.00	50 mL	50 mL	X092425.D	Liquid	Y	<2
	3.5 uL cal std/40 mL amp									
26	HS20090748-01MSD	MSD	09-24-2020 09:34 pm	1.00	50 mL	50 mL	X092426.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
27	CCV-END	CCV	09-24-2020 09:58 pm	1.00	50 mL	50 mL	X092427.D	Liquid	Y	na
	10 uL cal std/50 mL DI									

Chemical	Value
SURR SPK ID	31106-47-06
IS ID	31106-47-06
CAL STD ID	31106-48-01/02
BFB ID	31106-47-06
pH Paper	634-64-10

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100455

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
cis-1,2-Dichloroethene	50.00	44.88	90	80-120
Vinyl Chloride	50.00	43.77	88	80-120
Methylene Chloride	50.00	48.15	96	80-120
1,1-Dichloroethene	50.00	43.02	86	80-120
1,2-Dichloroethane	50.00	45.12	90	80-120
Trichloroethene	50.00	44.33	89	80-120
1,1,2-Trichloroethane	50.00	44.55	89	80-120
Tetrachloroethene	50.00	41.29	82	80-120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

_____

FORM III VOA

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100455

Lab File ID: X092401 BFB Injection Date: 09/24/20

Instrument ID: VOA6 BFB Injection Time: 1110

GC Column: DB624 ID: 0.25 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.0
75	30.0 - 60.0% of mass 95	50.3
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.5
173	Less than 2.0% of mass 174	0.5 (0.9)1
174	Greater than 50.0% of mass 95	61.7
175	5.0 - 9.0% of mass 174	4.5 (7.4)1
176	95.0 - 101.0% of mass 174	59.2 (95.9)1
177	5.0 - 9.0% of mass 176	4.1 (7.0)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD000.25	VSTD000.25	X092402	09/24/20	1134
02	VSTD000.5	VSTD000.5	X092403	09/24/20	1158
03	VSTD001	VSTD001	X092404	09/24/20	1246
04	VSTD002	VSTD002	X092405	09/24/20	1310
05	VSTD005	VSTD005	X092406	09/24/20	1333
06	VSTD020	VSTD020	X092407	09/24/20	1357
07	VSTD050	VSTD050	X092408	09/24/20	1421
08	VSTD100	VSTD100	X092409	09/24/20	1445
09	VSTD150	VSTD150	X092410	09/24/20	1509
10	VSTD200	VSTD200	X092411	09/24/20	1533
11	ICV	ICV	X092414	09/24/20	1645
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100455

Instrument ID: VOA6 Calibration Date(s): 09/24/20 09/24/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1134 1533

LAB FILE ID: RF0.25: X092402 RF0.5: X092403 RF1: X092404
RF2: X092405 RF5: X092406 RF20: X092407

COMPOUND	RF0.25	RF0.5	RF1	RF2	RF5	RF20
Vinyl Chloride		0.636	0.723	0.606	0.632	0.612
Methylene Chloride		5505	9684	16648	39690	137362
1,1-Dichloroethene		0.476	0.539	0.431	0.448	0.435
1,2-Dichloroethane		0.464	0.540	0.412	0.472	0.402
Trichloroethene		0.372	0.414	0.359	0.376	0.338
1,1,2-Trichloroethane		0.329	0.353	0.304	0.315	0.282
Tetrachloroethene		0.330	0.385	0.342	0.326	0.303
Dibromofluoromethane		0.609	0.515	0.484	0.562	0.504
1,2-Dichloroethane-d4		0.637	0.580	0.541	0.589	0.547
Toluene-d8		1.586	1.355	1.300	1.446	1.276
4-Bromofluorobenzene		6772	10018	18232	43900	154353

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2010045

Instrument ID: VOA6 Calibration Date(s): 09/24/20 09/24/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1134 1533

LAB FILE ID: RF50: X092408 RF100: X092409 RF150: X092410
RF200: X092411

COMPOUND	RF50	RF100	RF150	RF200
Vinyl Chloride	0.579	0.668	0.670	0.686
Methylene Chloride	303593	605902	861961	1112263
1,1-Dichloroethene	0.402	0.438	0.438	0.436
1,2-Dichloroethane	0.392	0.397	0.401	0.401
Trichloroethene	0.312	0.346	0.350	0.351
1,1,2-Trichloroethane	0.267	0.267	0.269	0.265
Tetrachloroethene	0.253	0.302	0.303	0.299
Dibromofluoromethane	0.491	0.491	0.483	0.485
1,2-Dichloroethane-d4	0.545	0.544	0.536	0.539
Toluene-d8	1.241	1.226	1.208	1.191
4-Bromofluorobenzene	368645	706326	1011330	1311827

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2010045

Instrument ID: VOA6 Calibration Date(s): 09/24/20 09/24/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1134 1533

COMPOUND	CURVE	COEFFICENTS A0	COEFFICENTS A1	%RSD OR R^2	MAX %RSD OR R^2
Vinyl Chloride	AVRG		0.64586993	6.955	15.000
Methylene Chloride	LINR	-1.42e-002	1.85325576	0.9998633	0.9900000
1,1-Dichloroethene	AVRG		0.44955963	8.570	15.000
1,2-Dichloroethane	AVRG		0.43110842	11.681	15.000
Trichloroethene	AVRG		0.35763128	7.969	15.000
1,1,2-Trichloroethane	AVRG		0.29447500	10.989	15.000
Tetrachloroethene	AVRG		0.31588869	11.507	15.000
Dibromofluoromethane	AVRG		0.51378762	8.475	15.000
1,2-Dichloroethane-d4	AVRG		0.56206107	6.062	15.000
Toluene-d8	AVRG		1.31453904	9.856	15.000
4-Bromofluorobenzene	LINR	-1.66e-002	2.33275892	0.9999120	0.9900000

FORM VI VOA

Data File: \\nahstws005\Target\chem\voa6.i\X200924.b\CBI-Houston\X092401.D

Date : 24-SEP-2020 11:10

Client ID: BFB

Instrument: voa6.i

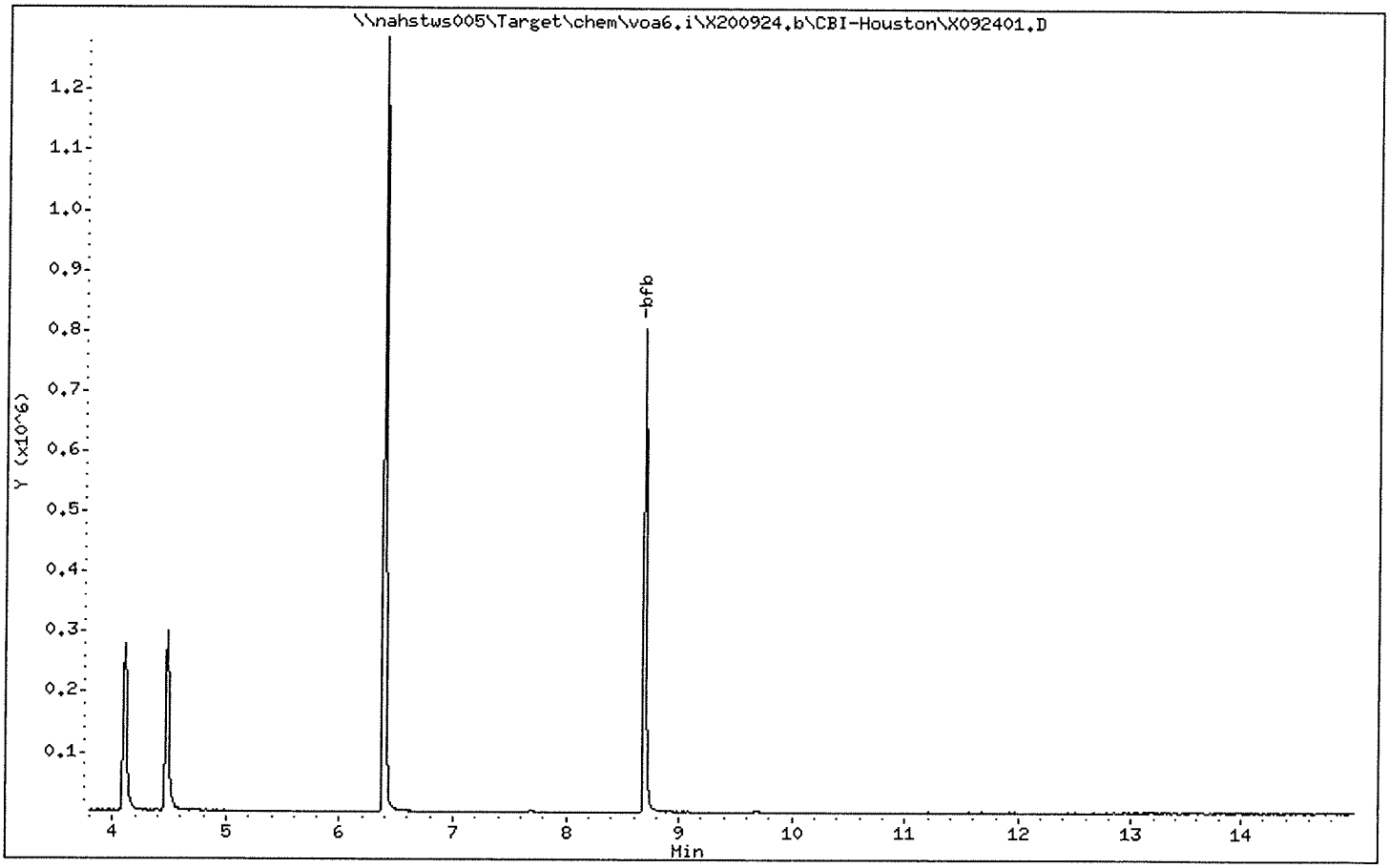
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\nahstws005\Target\chem\voa6.i\X200924.b\CBI-Houston\X092401.D

Date : 24-SEP-2020 11:10

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

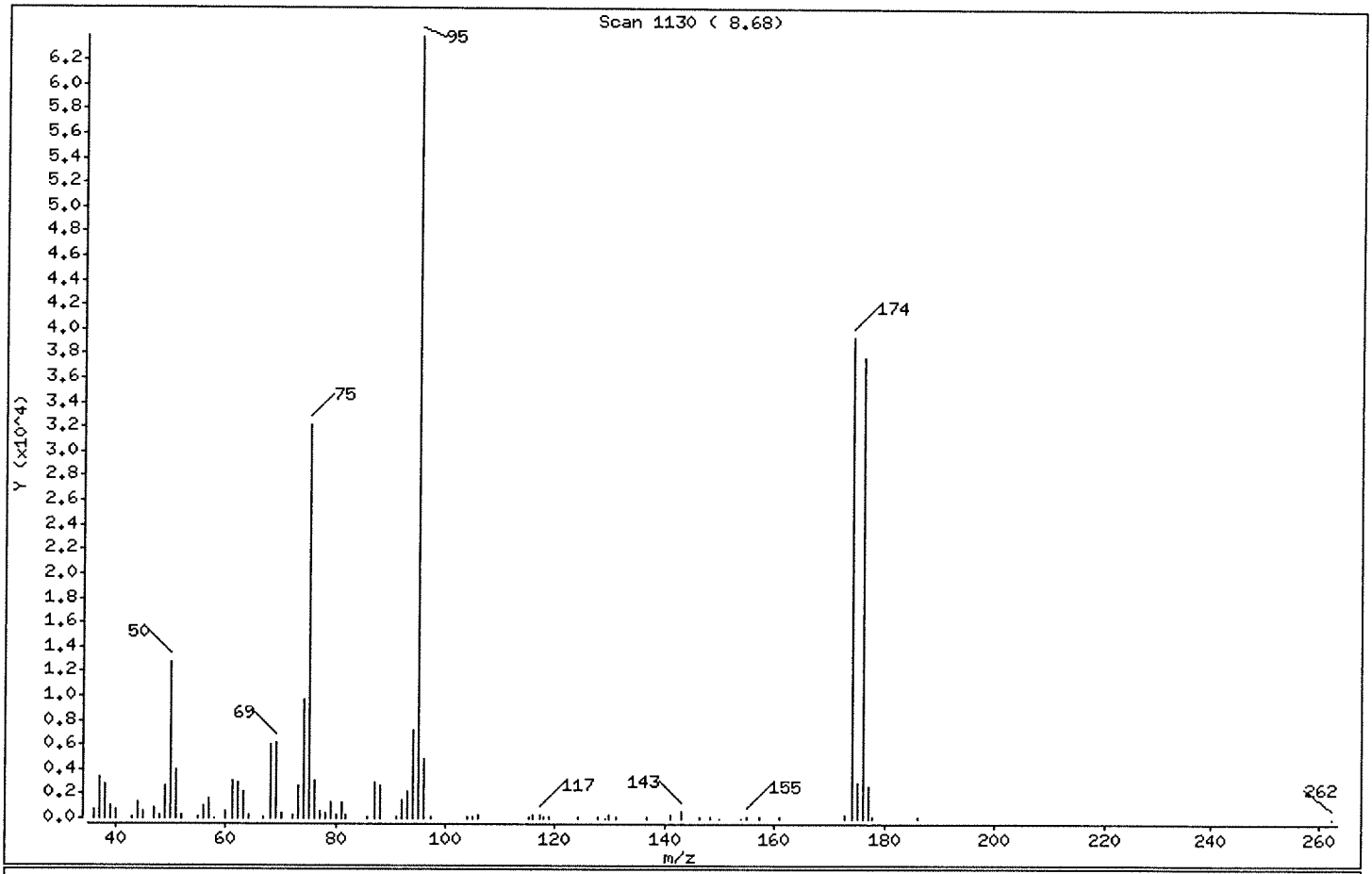
Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	19.97
75	30.00 - 60.00% of mass 95	50.32
96	5.00 - 9.00% of mass 95	7.53
173	Less than 2.00% of mass 174	0.54 (0.87)
174	Greater than 50.00% of mass 95	61.71
175	5.00 - 9.00% of mass 174	4.54 (7.36)
176	95.00 - 101.00% of mass 174	59.18 (95.90)
177	5.00 - 9.00% of mass 176	4.14 (6.99)

Data File: \\nahstws005\Target\chem\voa6.i\X200924.b\CBI-Houston\X092401.D

Date : 24-SEP-2020 11:10

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

Data File: X092401.D
Spectrum: Scan 1130 (8.68)
Location of Maximum: 95.10
Number of points: 79

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.10	680	62.10	2916	88.00	2589	131.00	177
37.10	3328	63.10	2146	90.90	197	136.90	95
38.10	2848	64.20	251	92.10	1499	141.00	363
39.10	1092	67.00	144	93.10	2228	143.00	535
40.10	702	68.10	6060	94.10	7204	146.20	84
43.20	90	69.10	6113	95.10	63928	148.20	88
44.10	1373	70.10	387	96.10	4811	149.90	62
45.10	600	72.10	357	97.20	145	153.90	52
47.10	929	73.10	2682	104.00	204	155.00	162
48.00	358	74.10	9632	105.00	136	157.10	128
49.10	2668	75.10	32168	105.80	273	160.80	100
50.10	12768	76.10	3061	115.20	130	172.90	344
51.10	4025	77.00	582	116.00	238	174.00	39448
52.10	271	78.10	388	117.10	274	175.10	2905
55.00	135	79.00	1342	117.90	175	176.00	37832
56.10	1094	80.00	329	119.00	202	177.00	2644
57.10	1650	81.10	1363	124.00	76	177.90	81
58.10	54	81.90	267	127.90	200	186.10	193
60.00	635	85.90	78	129.00	73	262.20	52
61.10	3138	87.10	3005	129.90	222		

Data File: X092402.D
Report Date: 26-Oct-2020 07:27

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200924.b\CBI-Houston\X092402.D
Lab Smp Id: VSTD000.25 Client Smp ID: VSTD000.25
Inj Date : 24-SEP-2020 11:34
Operator : PC Inst ID: voa6.i
Smp Info : VSTD000.25;VSTD000.25;1;1;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200924.b\CBI-Houston\8260W.m
Meth Date : 26-Oct-2020 07:27 voa6.i Quant Type: ISTD
Cal Date : 24-SEP-2020 15:33 Cal File: X092411.D
Als bottle: 2 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-HOUSTON.sub
Target Version: 4.14
Processing Host: NAHSTW7056

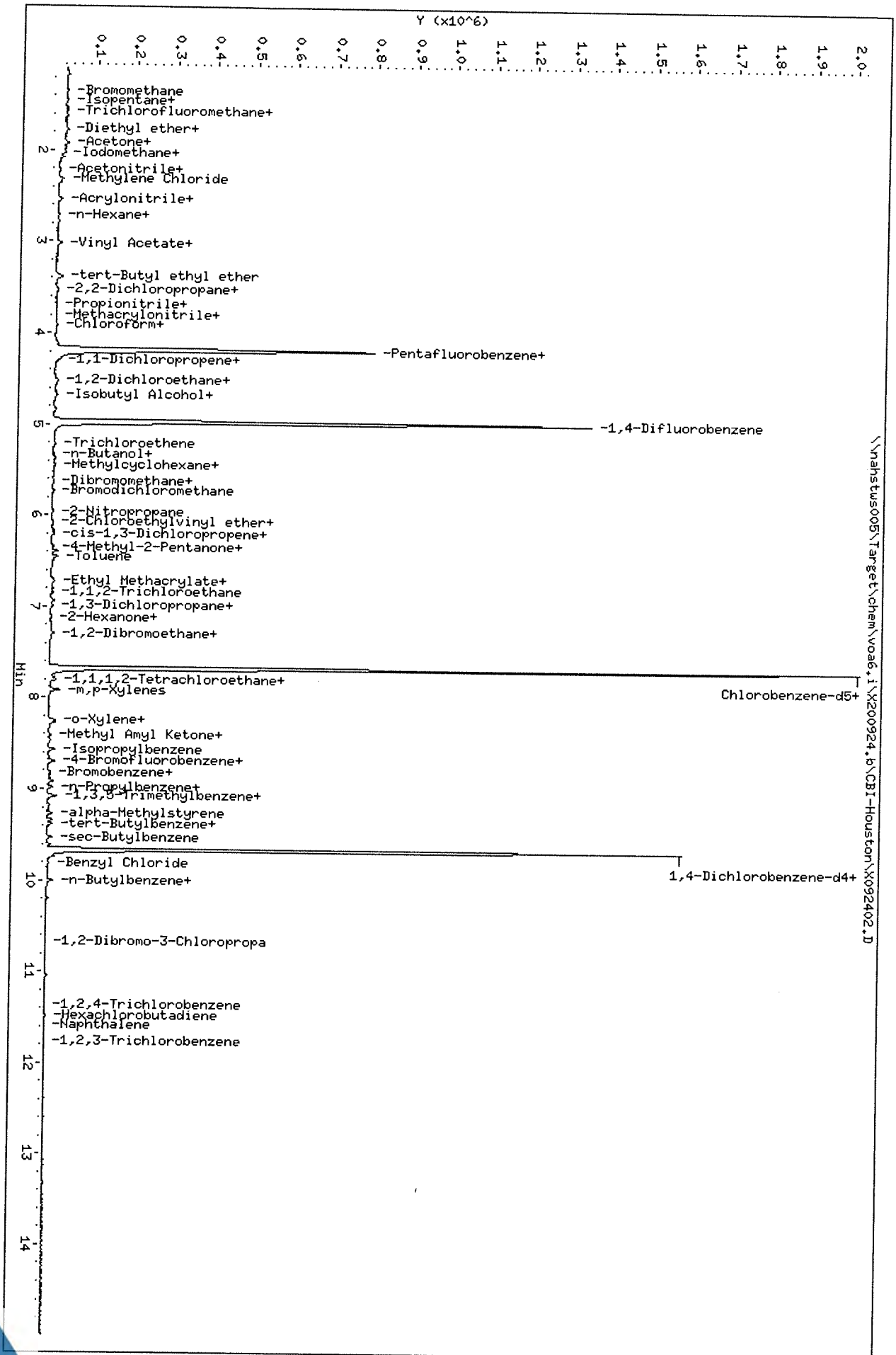
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	689255	50.0000	
$ 30 Dibromofluoromethane	113	4.110	4.110	(0.981)	2163	0.25000	0.30(a)
$ 35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.070)	3033	0.25000	0.39(Ta)
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	1110772	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	970158	50.0000	
$ 48 Toluene-d8	98	6.395	6.395	(0.834)	9651	0.25000	0.37(a)
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	5599	0.25000	(a)
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	403723	50.0000	
56 Tetrachloroethene	164	6.933	6.933	(0.904)	1901	0.25000	0.31(a)

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).



Data File: \\nahstws005\Target\chem\voa6.i\X200924.b\CBI-Houston\X092402.D
Date : 24-SEP-2020 11:34
Client ID: VSTD000.25
Sample Info: VSTD000.25;VSTD000.25;1;1;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: X092403.D
Report Date: 26-Oct-2020 07:27

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200924.b\CBI-Houston\X092403.D
Lab Smp Id: VSTD000.5 Client Smp ID: VSTD000.5
Inj Date : 24-SEP-2020 11:58
Operator : PC Inst ID: voa6.i
Smp Info : VSTD000.5;VSTD000.5;1;2;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200924.b\CBI-Houston\8260W.m
Meth Date : 26-Oct-2020 07:27 voa6.i Quant Type: ISTD
Cal Date : 24-SEP-2020 11:34 Cal File: X092402.D
Als bottle: 3 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-HOUSTON.sub
Target Version: 4.14
Processing Host: NAHSTW7056

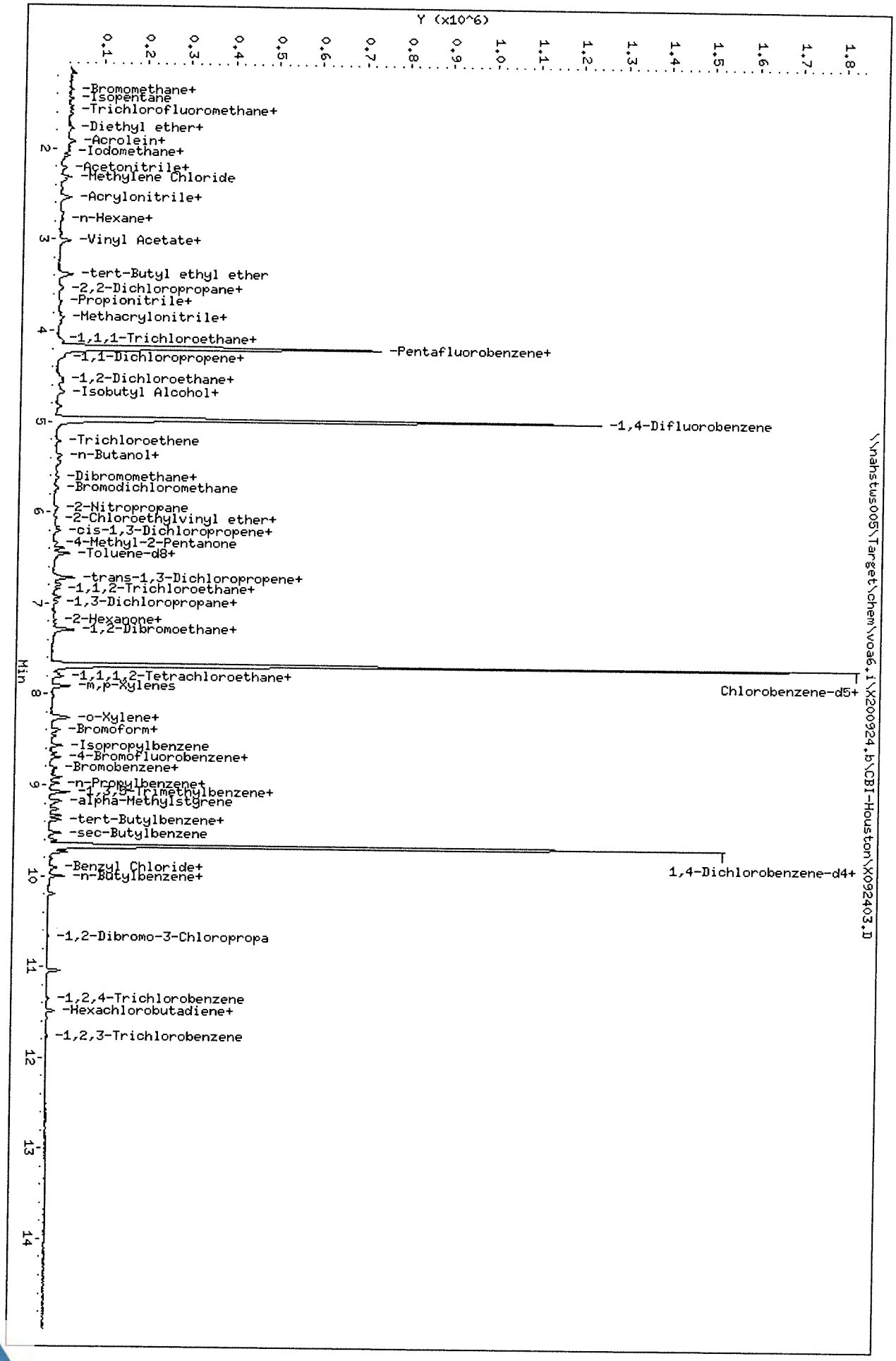
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	642784	50.0000	
$ 30 Dibromofluoromethane	113	4.111	4.111	(0.981)	3913	0.50000	0.59(a)
$ 35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.070)	4097	0.50000	0.56(a)
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	1019136	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	901245	50.0000	
$ 48 Toluene-d8	98	6.396	6.396	(0.834)	14296	0.50000	0.60(a)
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	6772	0.50000	0.04(aM)
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	392686	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.273)	4088	0.50000	0.49(a)
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	3062	0.50000	0.52(a)
27 cis-1,2-Dichloroethene	96	3.538	3.538	(0.844)	4012	0.50000	0.50(a)
33 1,2-Dichloroethane	62	4.569	4.569	(0.919)	4729	0.50000	0.53(aM)
38 Trichloroethene	130	5.221	5.221	(1.050)	3796	0.50000	0.52(a)
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	2965	0.50000	0.55(a)
56 Tetrachloroethene	164	6.933	6.933	(0.904)	2972	0.50000	0.52(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.



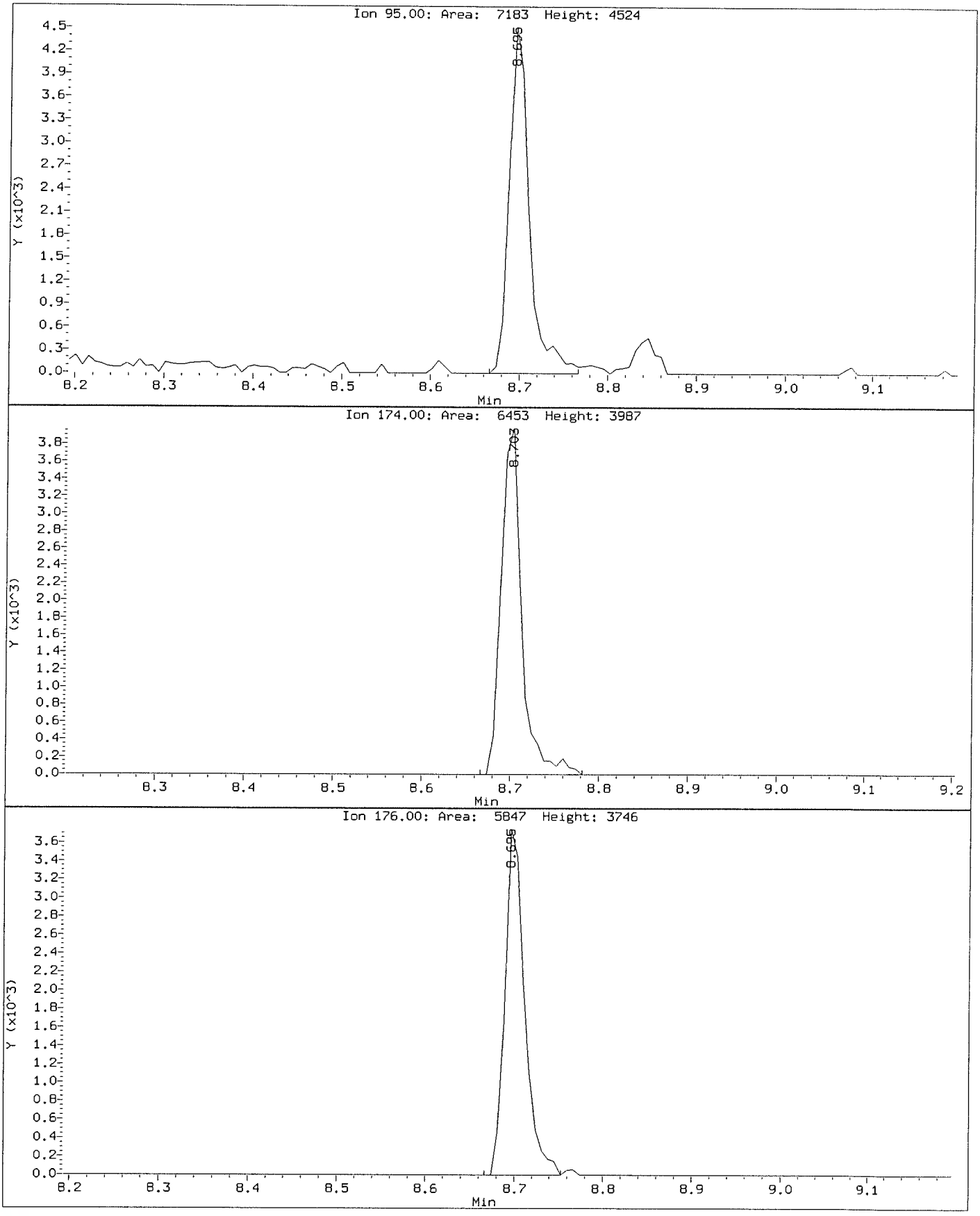
Data File: \\nahstws005\Target\chem\voa6.i\X200924.b\CBI-Houston\X092403.D
Date : 24-SEP-2020 11:58
Client ID: VSTD000.5
Sample Info: VSTD000.5;VSTD000.5;1;2;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

\\nahstws005\Target\chem\voa6.i\X200924.b\CBI-Houston\X092403.D

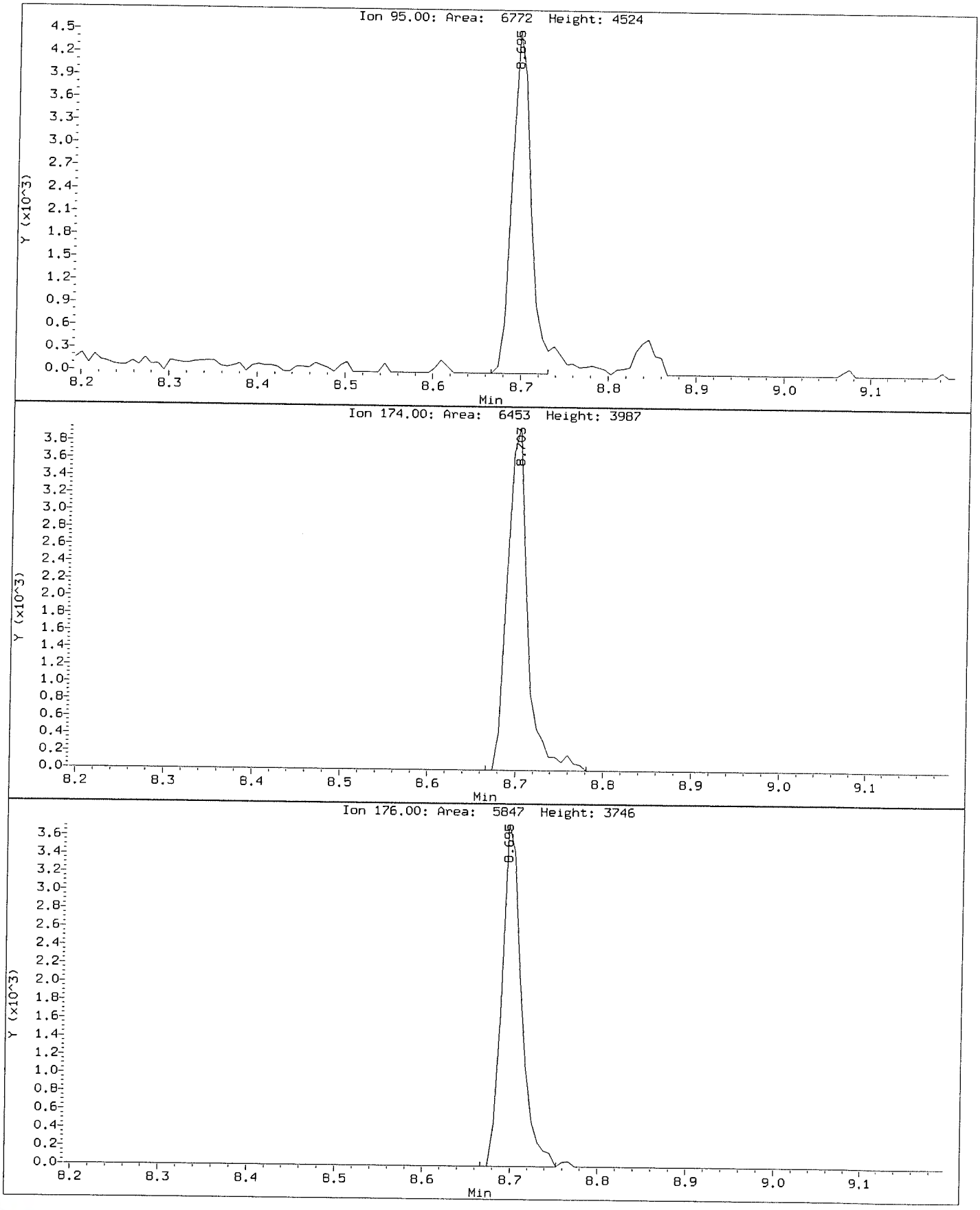
Data File: \\nahstws005\Target\chem\voa6.i\X200924.b\CBI-Houston\Before\X092403.D
Injection Date: 24-SEP-2020 11:58
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 4-Bromofluorobenzene
CAS Number: 460-00-4



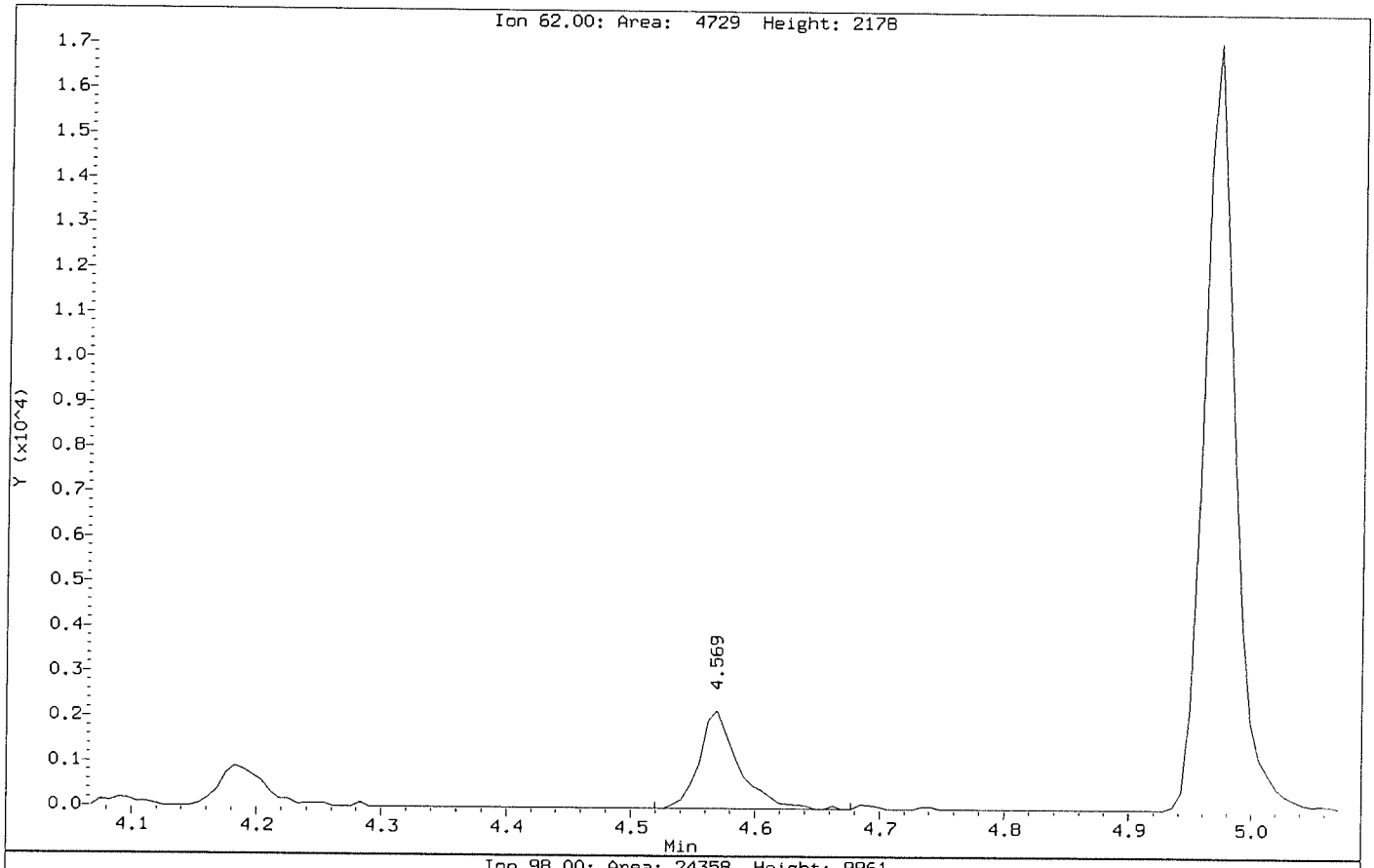
Data File: \\nahstws005\Target\chem\voa6.i\X200924.b\CBI-Houston\X092403.D
Injection Date: 24-SEP-2020 11:58
Instrument: voa6.i
Client Sample ID: VSTD000.5

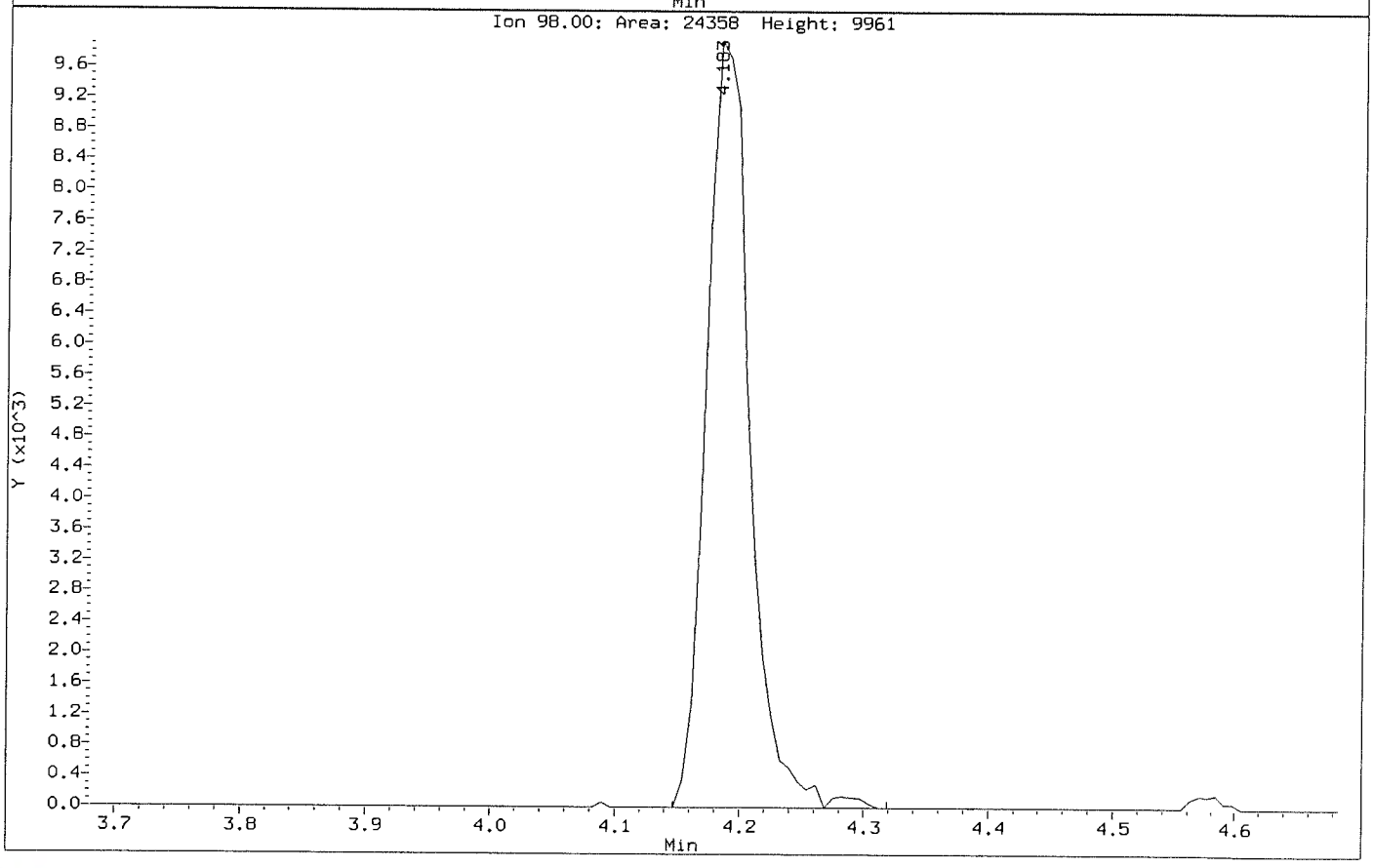
Compound: 4-Bromofluorobenzene
CAS Number: 460-00-4



Data File: \\nahstws005\Target\chem\voa6.i\X200924.b\CBI-Houston\Before\X092403.D
Injection Date: 24-SEP-2020 11:58
Instrument: voa6.i
Client Sample ID: VSTD000.5

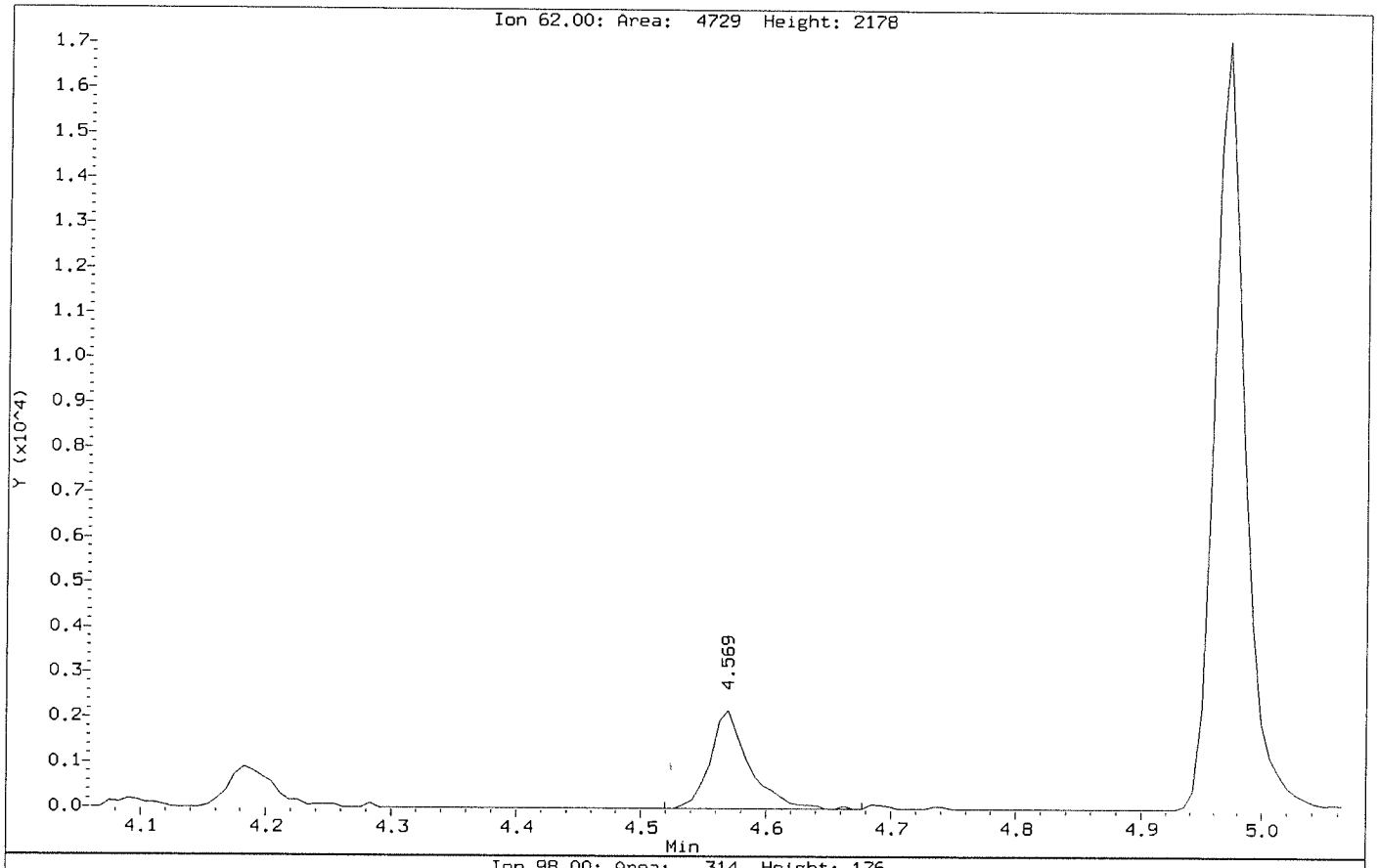
Compound: 1,2-Dichloroethane
CAS Number: 107-06-2

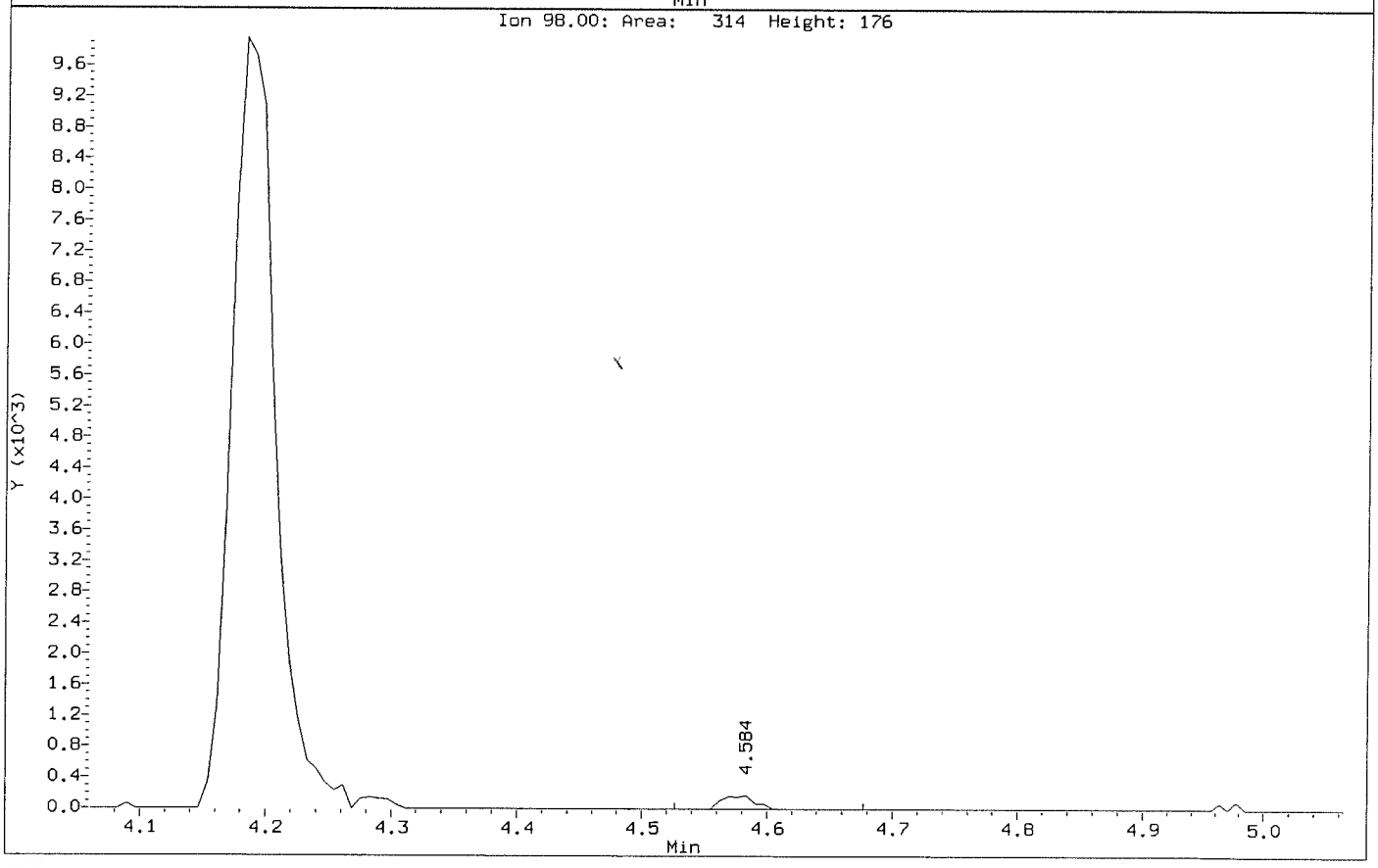




Data File: \\nahstws005\Target\chem\voa6.i\X200924.b\CBI-Houston\X092403.D
Injection Date: 24-SEP-2020 11:58
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2-Dichloroethane
CAS Number: 107-06-2





Data File: X092404.D
Report Date: 26-Oct-2020 07:27

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200924.b\CBI-Houston\X092404.D
Lab Smp Id: VSTD001 Client Smp ID: VSTD001
Inj Date : 24-SEP-2020 12:46
Operator : PC Inst ID: voa6.i
Smp Info : VSTD001;VSTD001;1;3;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200924.b\CBI-Houston\8260W.m
Meth Date : 26-Oct-2020 07:27 voa6.i Quant Type: ISTD
Cal Date : 24-SEP-2020 11:58 Cal File: X092403.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-HOUSTON.sub
Target Version: 4.14
Processing Host: NAHSTW7056

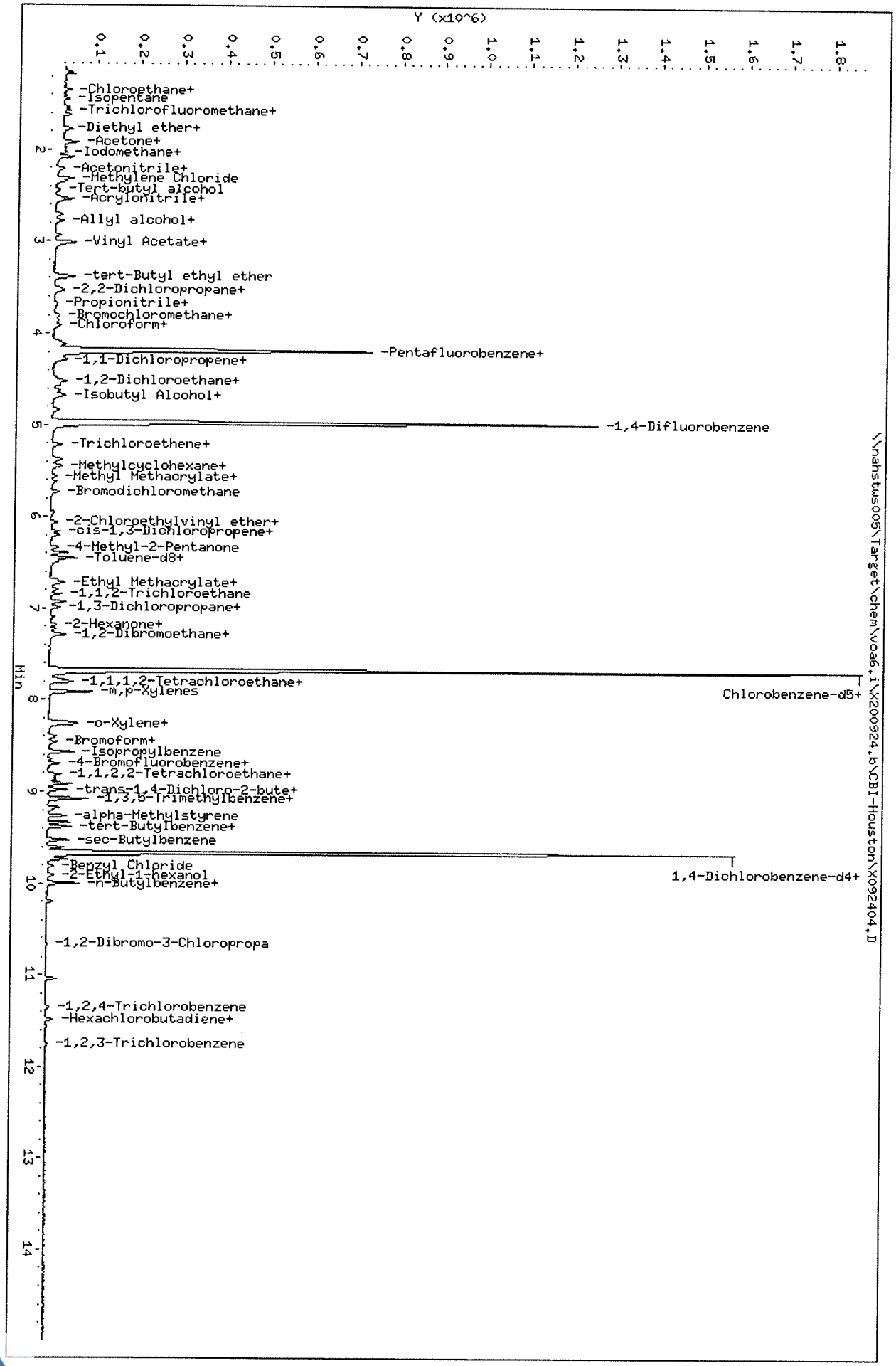
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	632214	50.0000	
$	30 Dibromofluoromethane	113	4.111	4.111	(0.981)	6507	1.00000	1.00(a)
$	35 1,2-Dichloroethane-d4	65	4.490	4.490	(1.072)	7341	1.00000	1.03(a)
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	1010972	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	898139	50.0000	
$	48 Toluene-d8	98	6.396	6.396	(0.834)	24343	1.00000	1.03(a)
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	10018	1.00000	0.47(a)
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	383057	50.0000	
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	9143	1.00000	1.11(a)
	11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	6814	1.00000	1.19(a)
	17 Methylene Chloride	84	2.313	2.313	(0.552)	9684	1.00000	0.71(a)
	27 cis-1,2-Dichloroethene	96	3.537	3.537	(0.844)	9071	1.00000	1.17(a)
	33 1,2-Dichloroethane	62	4.569	4.569	(0.919)	10910	1.00000	1.25(a)
	38 Trichloroethene	130	5.214	5.214	(1.049)	8381	1.00000	1.15(a)
	53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	6343	1.00000	1.19(a)
	56 Tetrachloroethene	164	6.933	6.933	(0.904)	6913	1.00000	1.21(a)

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).



Data File: \\nahstws005\Target\chem\voa6.i\X200924.b\CBI-Houston\X092404.D
Date : 24-SEP-2020 12:46
Client ID: VSTD001
Sample Info: VSTD001;VSTD001;1;3;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: X092405.D
Report Date: 26-Oct-2020 07:27

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200924.b\CBI-Houston\X092405.D
Lab Smp Id: VSTD002 Client Smp ID: VSTD002
Inj Date : 24-SEP-2020 13:10
Operator : PC Inst ID: voa6.i
Smp Info : VSTD002;VSTD002;1;4;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200924.b\CBI-Houston\8260W.m
Meth Date : 26-Oct-2020 07:27 voa6.i Quant Type: ISTD
Cal Date : 24-SEP-2020 12:46 Cal File: X092404.D
Als bottle: 6 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-HOUSTON.sub
Target Version: 4.14
Processing Host: NAHSTW7056

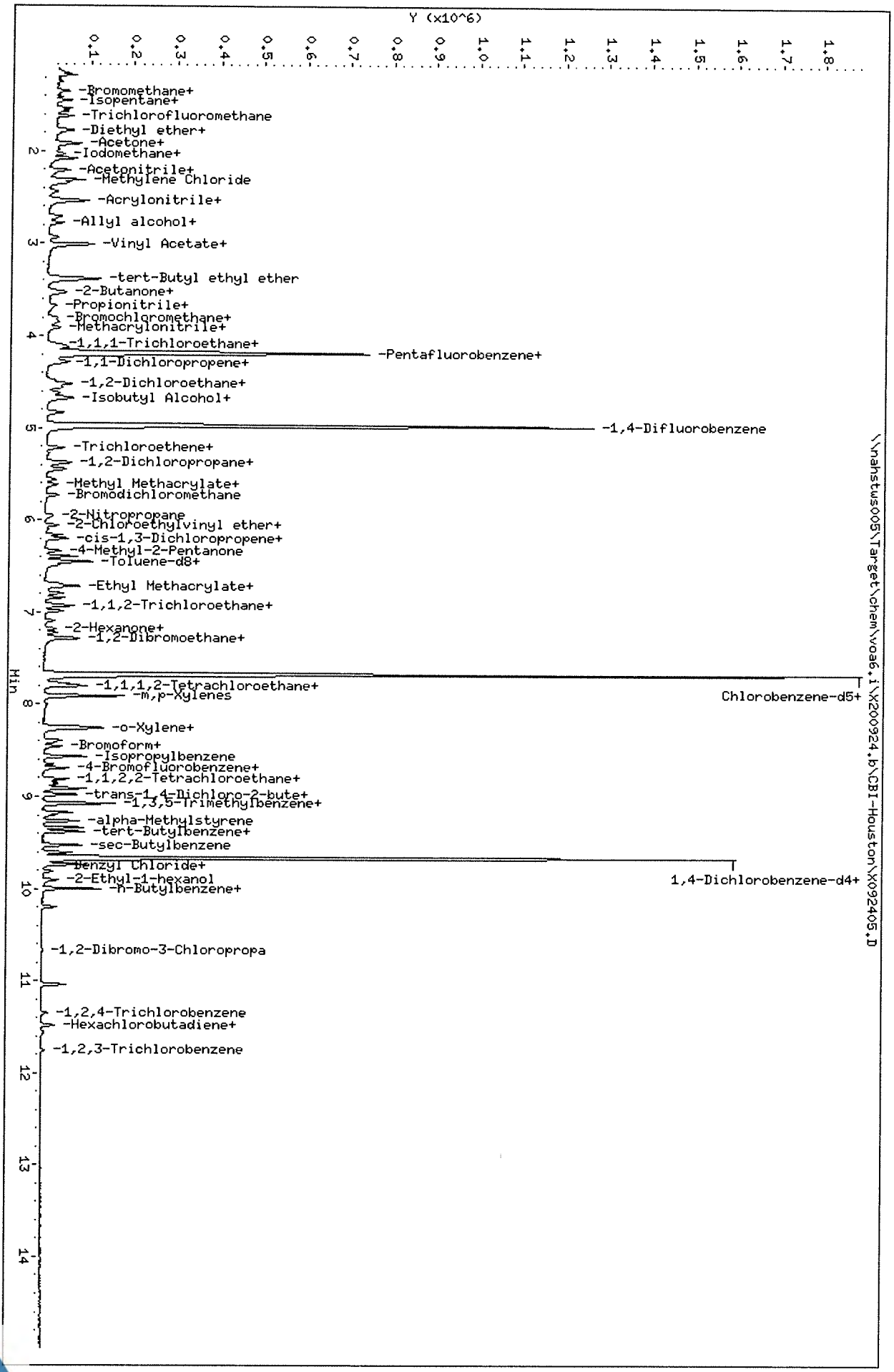
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	644357	50.0000	
$ 30 Dibromofluoromethane	113	4.111	4.111	(0.981)	12469	2.00000	1.88(a)
$ 35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.070)	13937	2.00000	1.92(a)
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	1019524	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	903632	50.0000	
$ 48 Toluene-d8	98	6.396	6.396	(0.834)	46992	2.00000	1.97(a)
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	18232	2.00000	1.52(a)
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	382631	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.273)	15623	2.00000	1.87(a)
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	11109	2.00000	1.91(a)
17 Methylene Chloride	84	2.313	2.313	(0.552)	16648	2.00000	1.68(a)
27 cis-1,2-Dichloroethene	96	3.538	3.538	(0.844)	15564	2.00000	1.97(a)
33 1,2-Dichloroethane	62	4.569	4.569	(0.919)	16818	2.00000	1.91(a)
38 Trichloroethene	130	5.214	5.214	(1.049)	14627	2.00000	2.00(a)
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	10973	2.00000	2.06(a)
56 Tetrachloroethene	164	6.933	6.933	(0.904)	12381	2.00000	2.16(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).



Data File: \\nahstws005\Target\chem\voa6.i\X200924.b\CBI-Houston\X092405.D
Date : 24-SEP-2020 13:10
Client ID: VSTD002
Sample Info: VSTD002;VSTD002;1;4;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: X092406.D
Report Date: 26-Oct-2020 07:27

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200924.b\CBI-Houston\X092406.D
Lab Smp Id: VSTD005 Client Smp ID: VSTD005
Inj Date : 24-SEP-2020 13:33
Operator : PC Inst ID: voa6.i
Smp Info : VSTD005;VSTD005;1;5;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200924.b\CBI-Houston\8260W.m
Meth Date : 26-Oct-2020 07:27 voa6.i Quant Type: ISTD
Cal Date : 24-SEP-2020 13:10 Cal File: X092405.D
Als bottle: 7 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-HOUSTON.sub
Target Version: 4.14
Processing Host: NAHSTW7056

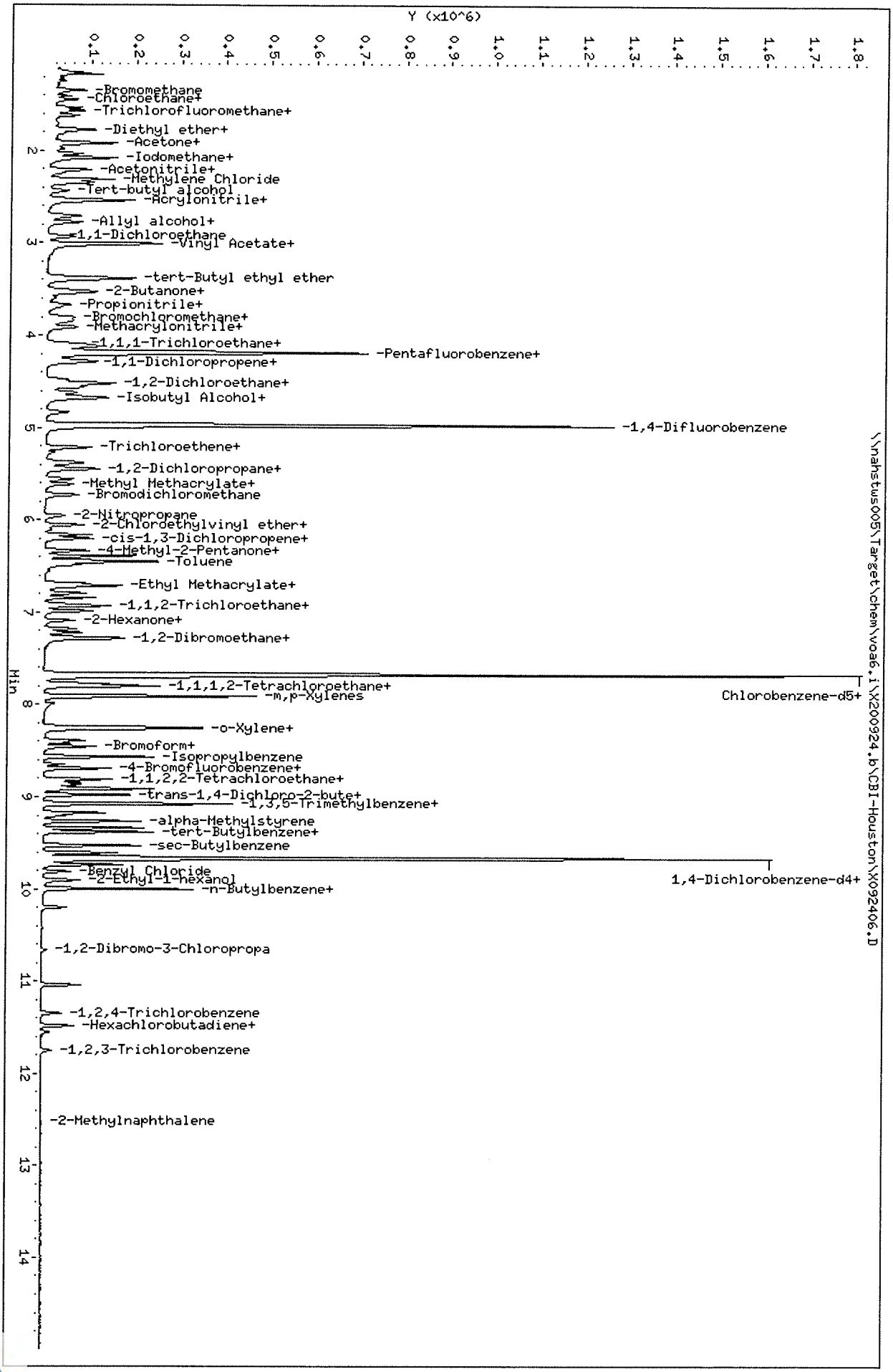
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	604947	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	34017	5.00000	5.47
$ 35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.070)	35655	5.00000	5.24
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	968132	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	862629	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	124776	5.00000	5.50
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	43900	5.00000	5.10
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	366206	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.273)	38248	5.00000	4.89(a)
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	27129	5.00000	4.98(a)
17 Methylene Chloride	84	2.313	2.313	(0.552)	39690	5.00000	5.37
27 cis-1,2-Dichloroethene	96	3.537	3.537	(0.844)	40006	5.00000	5.39
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	45690	5.00000	5.47
38 Trichloroethene	130	5.214	5.214	(1.049)	36421	5.00000	5.25
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	27209	5.00000	5.35
56 Tetrachloroethene	164	6.933	6.933	(0.904)	28143	5.00000	5.16

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).



Data File: \\nahstws005\Target\chem\voa6,i\X200924.b\CBI-Houston\X092406.D
Date : 24-SEP-2020 13:33
Client ID: VSTD005
Sample Info: VSTD005,VSTD005,1,5;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6,i
Operator: PC
Column diameter: 0.18

Data File: X092407.D
Report Date: 26-Oct-2020 07:27

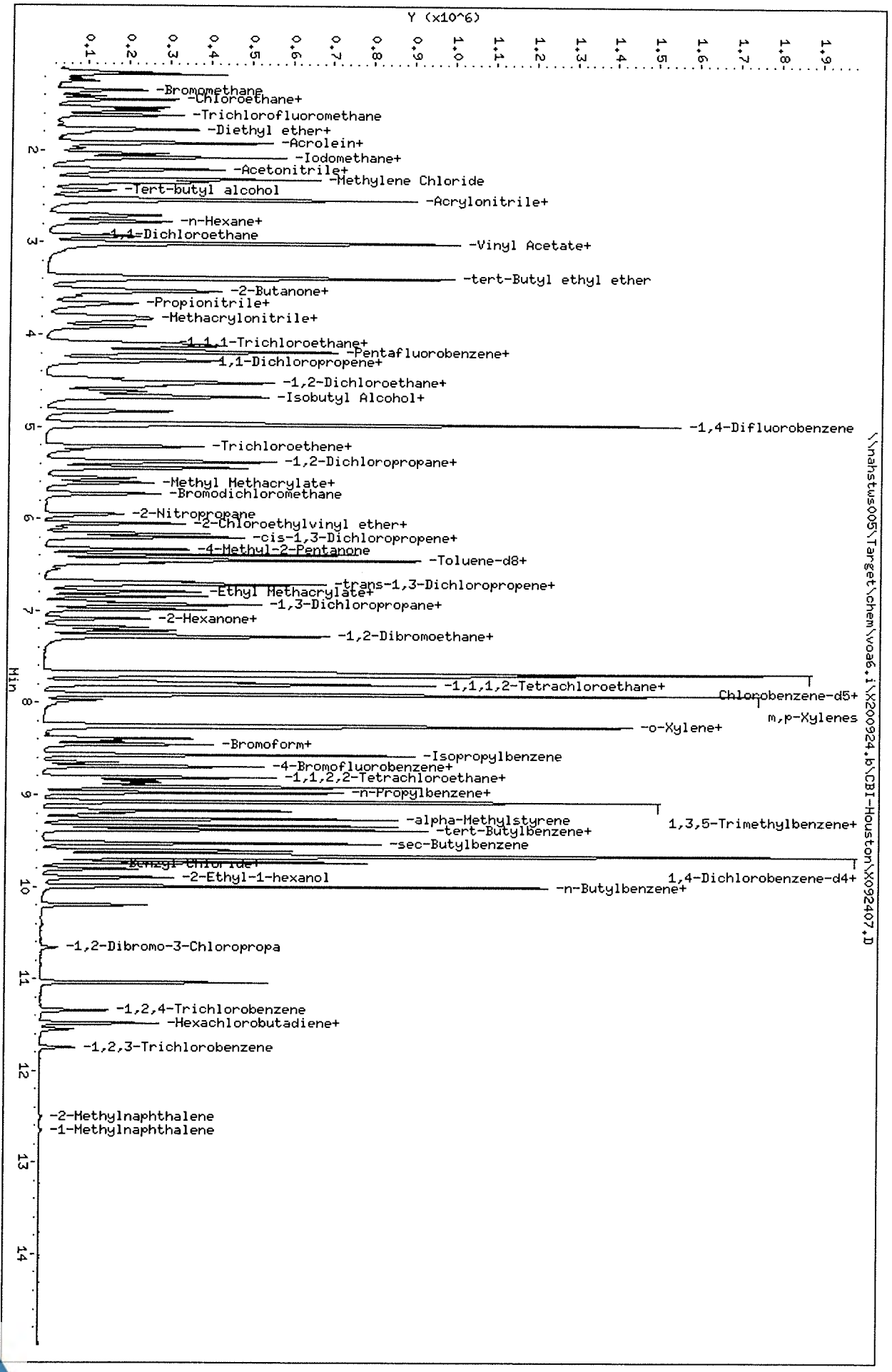
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200924.b\CBI-Houston\X092407.D
Lab Smp Id: VSTD020 Client Smp ID: VSTD020
Inj Date : 24-SEP-2020 13:57
Operator : PC Inst ID: voa6.i
Smp Info : VSTD020;VSTD020;1;6;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200924.b\CBI-Houston\8260W.m
Meth Date : 26-Oct-2020 07:27 voa6.i Quant Type: ISTD
Cal Date : 24-SEP-2020 13:33 Cal File: X092406.D
Als bottle: 8 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-HOUSTON.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	597686	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.979)	120544	20.0000	19.62
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	130718	20.0000	19.45
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	958262	50.0000	
*	47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	861110	50.0000	
$	48 Toluene-d8	98	6.388	6.388	(0.833)	439641	20.0000	19.41
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	154353	20.0000	20.07
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	364939	50.0000	
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	146437	20.0000	18.96
	11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	104067	20.0000	19.36
	17 Methylene Chloride	84	2.305	2.305	(0.550)	137362	20.0000	20.58
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	142521	20.0000	19.46
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	153916	20.0000	18.62
	38 Trichloroethene	130	5.214	5.214	(1.049)	129379	20.0000	18.87
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	97092	20.0000	19.14
	56 Tetrachloroethene	164	6.933	6.933	(0.904)	104308	20.0000	19.17



Data File: \\nahstws005\Target\chem\voa6.i\X200924.b\CBI-Houston\X092407.D
Date : 24-SEP-2020 13:57
Client ID: VSTD020
Sample Info: VSTD020;VSTD020;1;6;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: X092408.D
Report Date: 26-Oct-2020 07:27

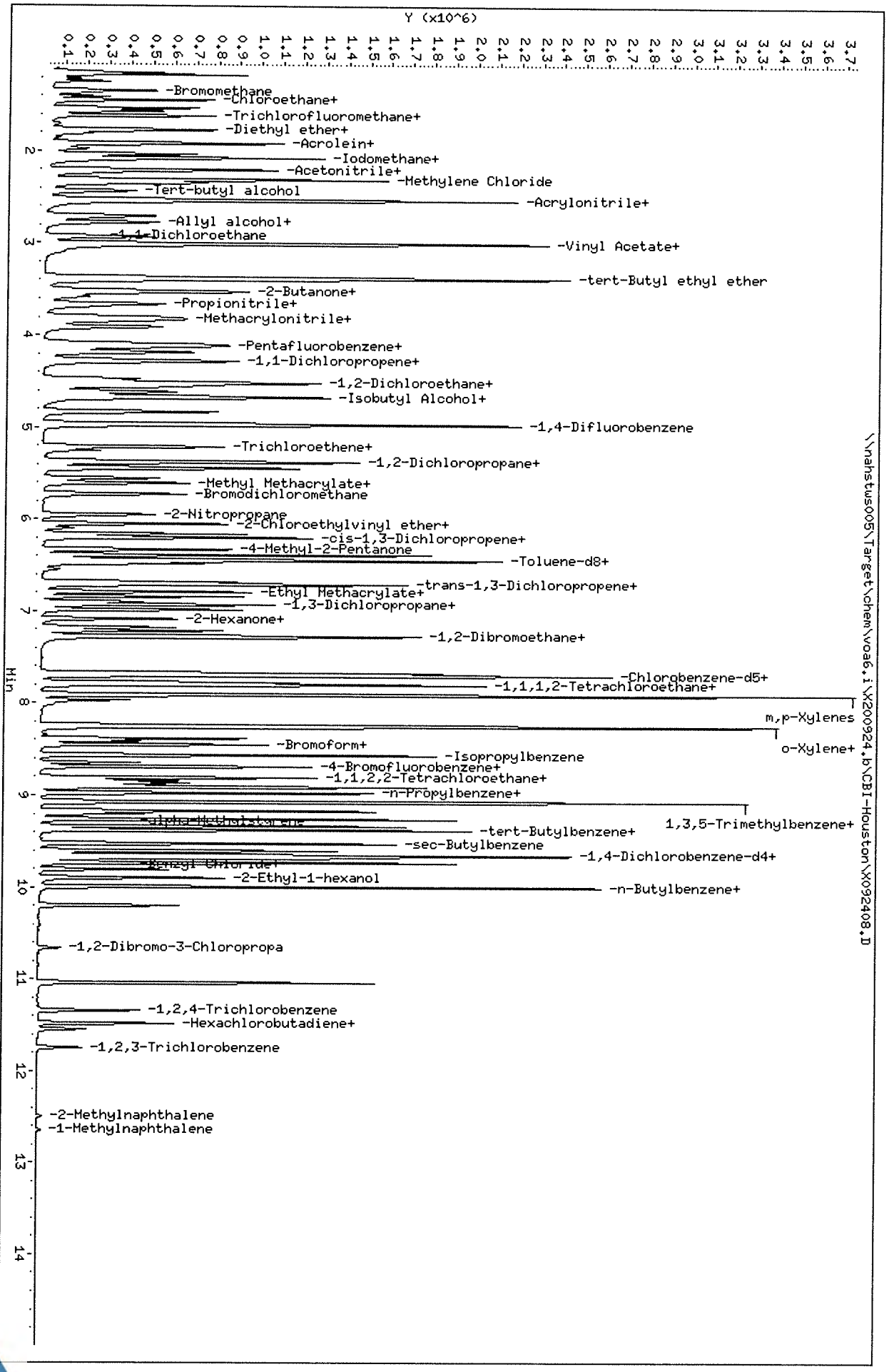
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200924.b\CBI-Houston\X092408.D
Lab Smp Id: VSTD050 Client Smp ID: VSTD050
Inj Date : 24-SEP-2020 14:21
Operator : PC Inst ID: voa6.i
Smp Info : VSTD050;VSTD050;1;7;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200924.b\CBI-Houston\8260W.m
Meth Date : 26-Oct-2020 07:27 voa6.i Quant Type: ISTD
Cal Date : 24-SEP-2020 13:57 Cal File: X092407.D
Als bottle: 9 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-HOUSTON.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	565166	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	277712	50.0000	47.81
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	307872	50.0000	48.45
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	910705	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	829935	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	1029825	50.0000	47.19
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	368645	50.0000	50.98
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	353927	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.273)	327079	50.0000	44.80
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	227518	50.0000	44.77
17 Methylene Chloride	84	2.305	2.305	(0.550)	303593	50.0000	49.06
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	318945	50.0000	46.06
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	356652	50.0000	45.42
38 Trichloroethene	130	5.214	5.214	(1.049)	284429	50.0000	43.66
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	221270	50.0000	45.26
56 Tetrachloroethene	164	6.933	6.933	(0.904)	209713	50.0000	39.99


Data File: \\nahstws005\Target\chem\voa6.i\X200924.b\CBI-Houston\X092408.D
Date : 24-SEP-2020 14:21
Client ID: VSTD050
Sample Info: VSTD050;VSTD050;1;7;
Purge Volume: 5.0
Column phase: DB624
Instrument: voa6.i
Operator: PC
Column diameter: 0.18
\\nahstws005\Target\chem\voa6.i\X200924.b\CBI-Houston\X092408.D
Y (x10^6)
Min
-Bromomethane
-Chloroethane+
-Trichlorofluoromethane+
-Diethyl ether+
-Acrolein+
-Iodomethane+
-Acetonitrile+
-Methylene Chloride
-Tert-butyl alcohol
-Acrylonitrile+
-Allyl alcohol+
-1,1-Dichloroethane
-Vinyl Acetate+
-tert-Butyl ethyl ether
-2-Butanone+
-Propionitrile+
-Methacrylonitrile+
-Pentafluorobenzene+
-1,1-Dichloropropene+
-1,2-Dichloroethane+
-Isobutyl Alcohol+
-1,4-Difluorobenzene
-Trichloroethene+
-1,2-Dichloropropane+
-Methyl Methacrylate+
-Bromodichloromethane
-2-Nitropropane
-2-Chloroethylvinyl ether+
-cis-1,3-Dichloropropene+
-4-Methyl-2-Pentanone
-Toluene-d8+
-trans-1,3-Dichloropropene+
-Ethyl Methacrylate+
-1,3-Dichloropropane+
-2-Hexanone+
-1,2-Dibromoethane+
-Chlorobenzene-d5+
-1,1,1,2-Tetrachloroethane+
m,p-Xylenes
o-Xylene+
-Bromoform+
-Isopropylbenzene
-4-Bromofluorobenzene+
-1,1,2,2-Tetrachloroethane+
-n-Propylbenzene+
1,3,5-Trimethylbenzene+
-alpha-Methylstyrene
-tert-Butylbenzene+
-sec-Butylbenzene
-1,4-Dichlorobenzene-d4+
-Benzyl Chloride+
-2-Ethyl-1-hexanol
-n-Butylbenzene+
-1,2-Dibromo-3-Chloropropa
-1,2,4-Trichlorobenzene
-Hexachlorobutadiene+
-1,2,3-Trichlorobenzene
-2-Methylnaphthalene
-1-Methylnaphthalene

Data File: X092409.D
Report Date: 26-Oct-2020 07:27

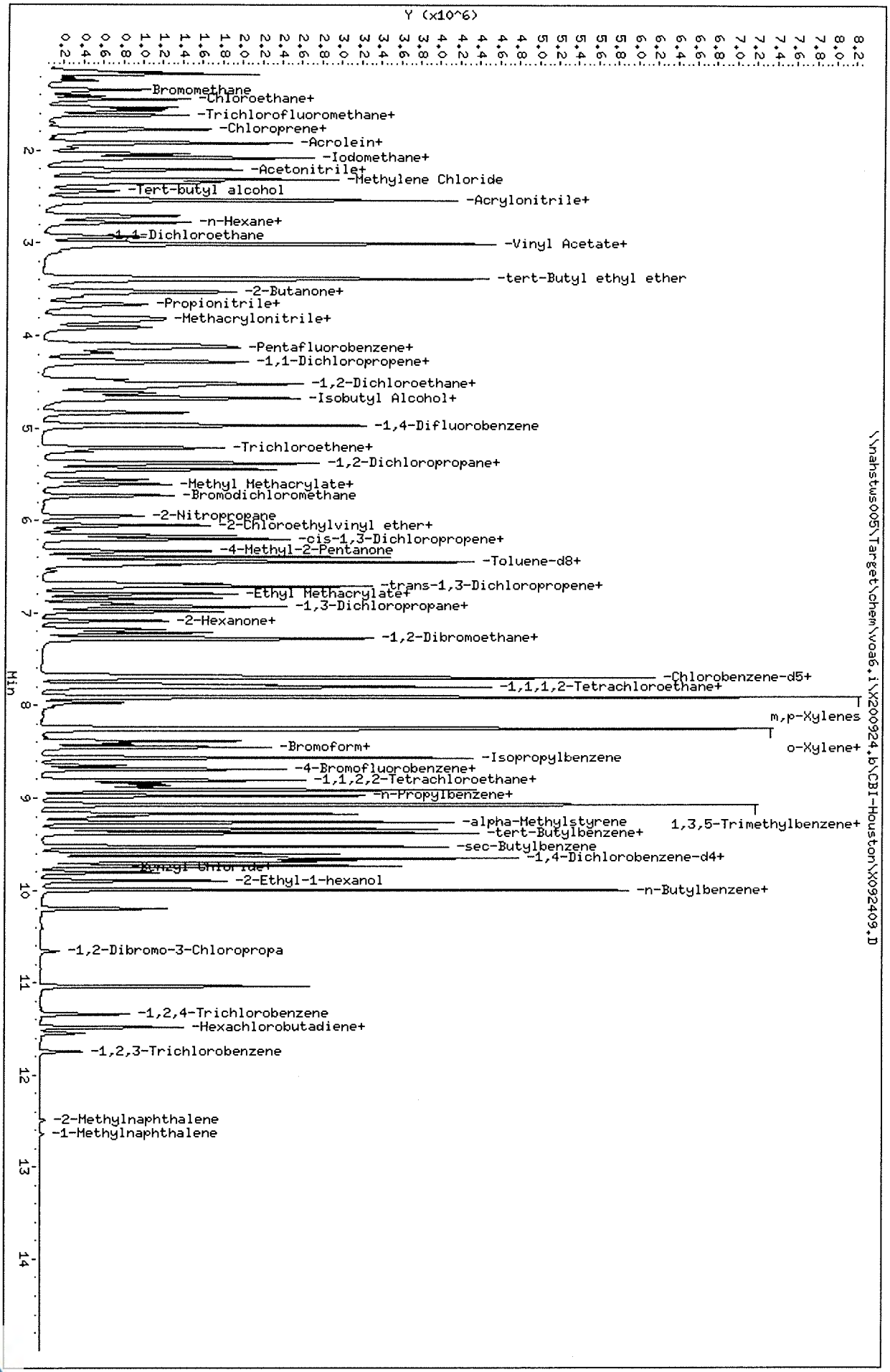
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200924.b\CBI-Houston\X092409.D
Lab Smp Id: VSTD100 Client Smp ID: VSTD100
Inj Date : 24-SEP-2020 14:45
Operator : PC Inst ID: voa6.i
Smp Info : VSTD100;VSTD100;1;8;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200924.b\CBI-Houston\8260W.m
Meth Date : 26-Oct-2020 07:27 voa6.i Quant Type: ISTD
Cal Date : 24-SEP-2020 14:21 Cal File: X092408.D
Als bottle: 10 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-HOUSTON.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	546812	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	537287	100.000	95.62
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	594732	100.000	96.75
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	873571	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	810573	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	1988260	100.000	93.29
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	706326	100.000	100.80
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	336603	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.273)	730234	100.000	103.38
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	479537	100.000	97.53
17 Methylene Chloride	84	2.306	2.306	(0.550)	605902	100.000	101.96
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	637736	100.000	95.19
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	692994	100.000	92.00
38 Trichloroethene	130	5.214	5.214	(1.049)	604179	100.000	96.69
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	433386	100.000	90.78
56 Tetrachloroethene	164	6.933	6.933	(0.904)	489193	100.000	95.52



Data File: \\nahstws005\Target\chem\voa6.i\X200924.b\CBI-Houston\X092409.D
Date : 24-SEP-2020 14:45
Client ID: VSTD100
Sample Info: VSTD100;VSTD100;1;8;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: X092410.D
Report Date: 26-Oct-2020 07:27

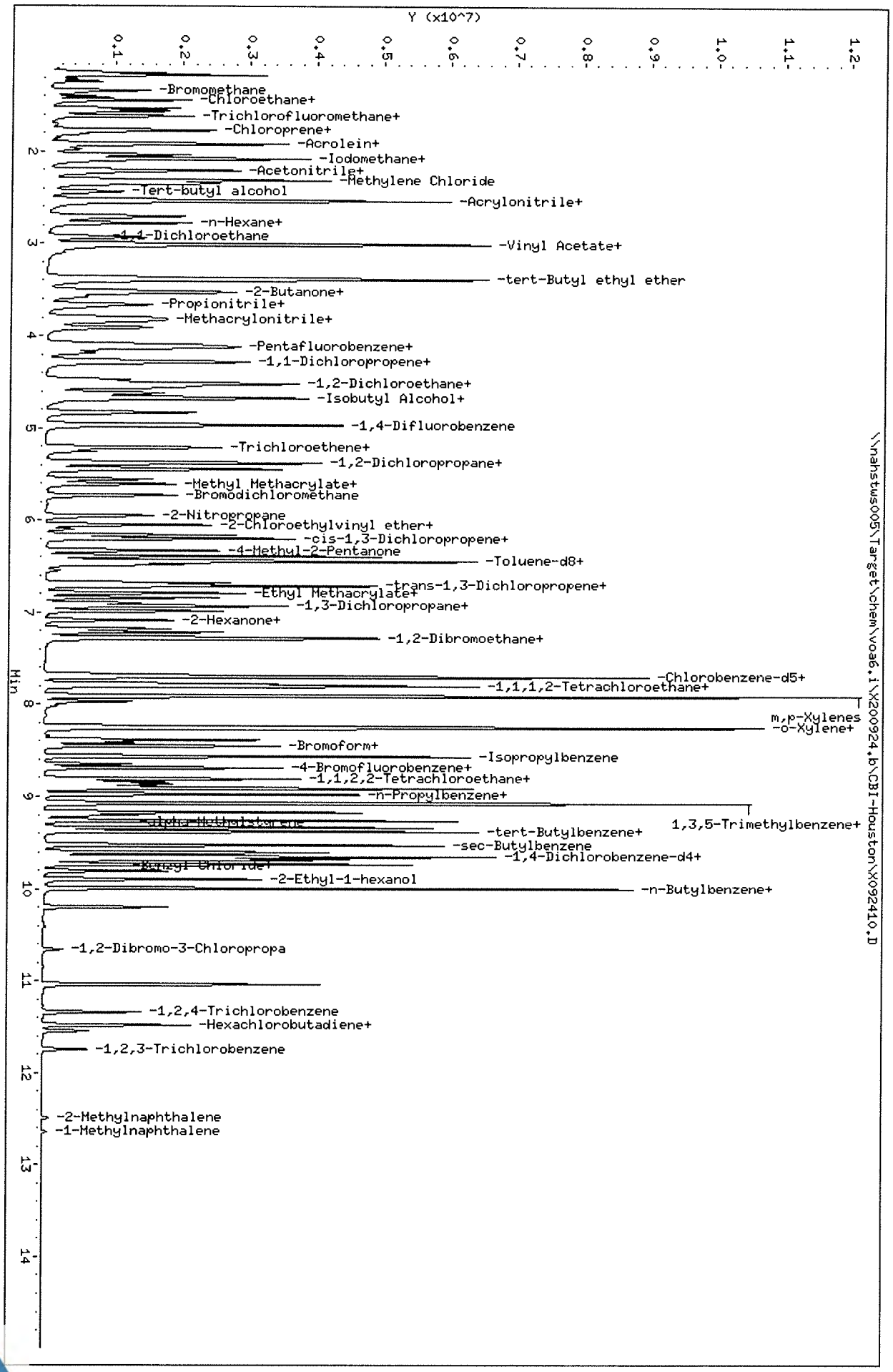
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200924.b\CBI-Houston\X092410.D
Lab Smp Id: VSTD150 Client Smp ID: VSTD150
Inj Date : 24-SEP-2020 15:09
Operator : PC Inst ID: voa6.i
Smp Info : VSTD150;VSTD150;1;9;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200924.b\CBI-Houston\8260W.m
Meth Date : 26-Oct-2020 07:27 voa6.i Quant Type: ISTD
Cal Date : 24-SEP-2020 14:45 Cal File: X092409.D
Als bottle: 11 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-HOUSTON.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	531920	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	770629	150.000	140.98
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	856168	150.000	143.18
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	840978	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	779079	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	2823072	150.000	137.82
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	1011330	150.000	150.58
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	329958	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.273)	1069212	150.000	155.61
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	699764	150.000	146.31
17 Methylene Chloride	84	2.305	2.305	(0.550)	861961	150.000	149.44
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	926983	150.000	142.24
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	1012585	150.000	139.64
38 Trichloroethene	130	5.207	5.207	(1.048)	882316	150.000	146.68
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	627933	150.000	136.85
56 Tetrachloroethene	164	6.933	6.933	(0.904)	708095	150.000	143.86



Data File: \\nahstws005\Target\chem\voa6.i\X200924.b\CBI-Houston\X092410.D
Date : 24-SEP-2020 15:09
Client ID: VSTD150
Sample Info: VSTD150;VSTD150;1;9;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: X092411.D
Report Date: 26-Oct-2020 07:27

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200924.b\CBI-Houston\X092411.D
Lab Smp Id: VSTD200 Client Smp ID: VSTD200
Inj Date : 24-SEP-2020 15:33
Operator : PC Inst ID: voa6.i
Smp Info : VSTD200;VSTD200;1;10;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200924.b\CBI-Houston\8260W.m
Meth Date : 26-Oct-2020 07:27 voa6.i Quant Type: ISTD
Cal Date : 24-SEP-2020 15:09 Cal File: X092410.D
Als bottle: 12 Calibration Sample, Level: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-HOUSTON.sub
Target Version: 4.14
Processing Host: NAHSTW7056

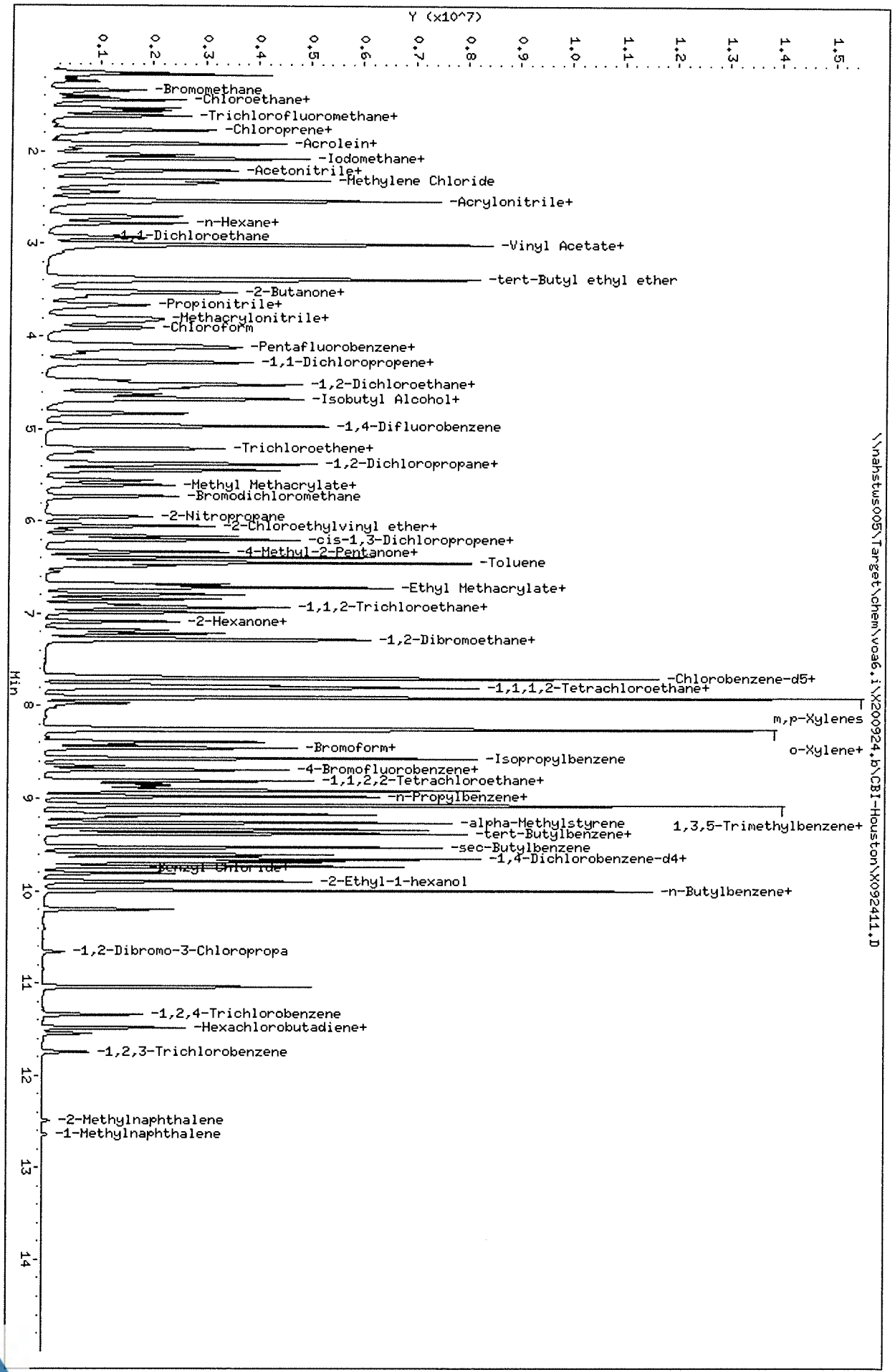
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	514617	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	997974	200.000	188.72
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	1108704	200.000	191.65
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	818151	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	766117	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	3650737	200.000	181.25
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	1311827	200.000	198.89
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	319805	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.273)	1412833	200.000	212.53(A)
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	898417	200.000	194.16
17 Methylene Chloride	84	2.305	2.305	(0.550)	1112263	200.000	199.56
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	1197643	200.000	189.96
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	1311886	200.000	185.97
38 Trichloroethene	130	5.214	5.214	(1.049)	1150173	200.000	196.54
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	811095	200.000	179.76
56 Tetrachloroethene	164	6.933	6.933	(0.904)	917390	200.000	189.53

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.



Data File: \\nahstws005\Target\chem\voa6.i\X200924.b\CBI-Houston\X092411.D
Date : 24-SEP-2020 15:33
Client ID: VSTD200
Sample Info: VSTD200;VSTD200;1;10;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: X092414.D
Report Date: 26-Oct-2020 07:27

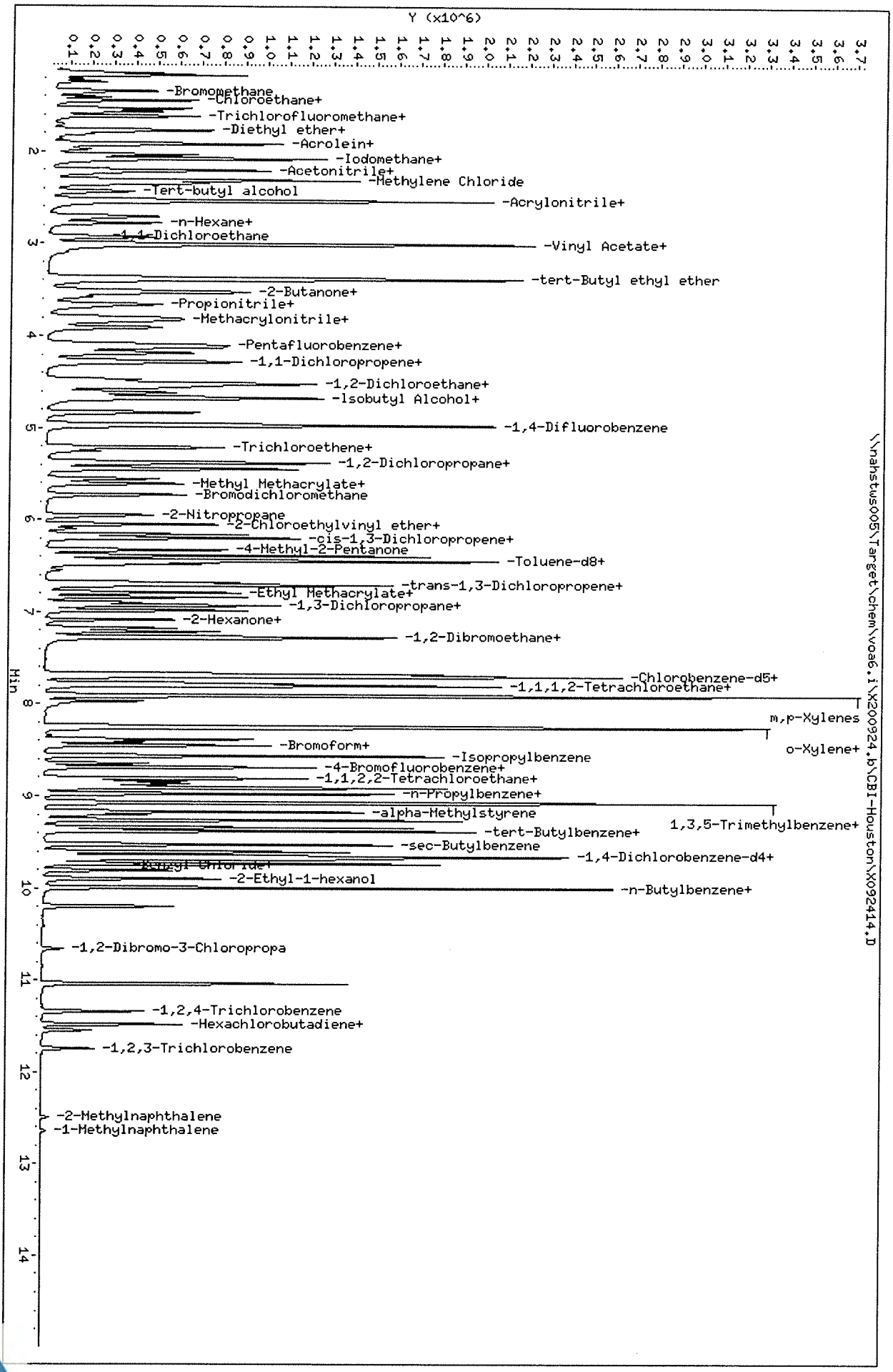
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X200924.b\CBI-Houston\X092414.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 24-SEP-2020 16:45
Operator : PC Inst ID: voa6.i
Smp Info : VSTD050;VSTD050;2;;ICV
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X200924.b\CBI-Houston\8260W.m
Meth Date : 26-Oct-2020 07:27 voa6.i Quant Type: ISTD
Cal Date : 24-SEP-2020 15:33 Cal File: X092411.D
Als bottle: 15 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-HOUSTON.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	555853	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	270370	47.3353	47.33
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	292397	46.7950	46.79
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	880879	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	809143	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	992617	46.6609	46.66
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	357664	50.7296	50.72
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	340955	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.273)	314294	43.7725	43.77
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	215034	43.0259	43.02
17 Methylene Chloride	84	2.306	2.305	(0.550)	293086	48.1510	48.15
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	305678	44.8873	44.88
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	342758	45.1289	45.12
38 Trichloroethene	130	5.214	5.214	(1.049)	279338	44.3352	44.33
53 1,1,2-Trichloroethane	83	6.840	6.847	(0.892)	212341	44.5585	44.55
56 Tetrachloroethene	164	6.933	6.933	(0.904)	211119	41.2989	41.29



Data File: \\nahstws005\Target\chem\voa6.i\X200924.b\CBI-Houston\X092414.D
Date : 24-SEP-2020 16:45
Client ID: ICV
Sample Info: VSTD050;VSTD050;2;;ICV
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

MSVOA06 -Logbook

Batch: 42115 **Analyst:** Presenta Cabascango

Date: 10-16-2020 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	10-16-2020 01:47 pm	1.00	50 mL	50 mL	X011601.D	Liquid	Y	NA
	Auto find/ purged									
2	CCV	CCV	10-16-2020 02:11 pm	1.00	50 mL	50 mL	X011602.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
3	BLANK	SAMP	10-16-2020 02:35 pm	1.00	50 mL	50 mL	X011603.D	Liquid	Y	NA
4	CCB	SAMP	10-16-2020 02:59 pm	1.00	50 mL	50 mL	X011604.D	Liquid	Y	NA
5	VLCSW-201016	LCS	10-16-2020 03:23 pm	1.00	50 mL	50 mL	X011605.D	Liquid	Y	NA
	4.0 uL cal std/50 mL DI									
6	BLANK	SAMP	10-16-2020 03:47 pm	1.00	50 mL	50 mL	X011606.D	Liquid	Y	NA
7	VBLKW-201016	MBLK	10-16-2020 04:11 pm	1.00	50 mL	50 mL	X011607.D	Liquid	Y	NA
8	HS20100443-03	SAMP	10-16-2020 04:35 pm	1.00	50 mL	50 mL	X011608.D	Liquid	Y	<2
9	HS20100443-02	SAMP	10-16-2020 04:59 pm	1.00	50 mL	50 mL	X011609.D	Liquid	Y	<2
10	HS20100443-01	SAMP	10-16-2020 05:23 pm	1.00	50 mL	50 mL	X011610.D	Liquid	Y	<2
11	HS20100448-01	SAMP	10-16-2020 05:47 pm	1.00	50 mL	50 mL	X011611.D	Liquid	Y	<2
12	HS20100455-06	SAMP	10-16-2020 06:11 pm	1.00	50 mL	50 mL	X011612.D	Liquid	Y	<2
13	HS20100455-02	SAMP	10-16-2020 06:35 pm	1.00	50 mL	50 mL	X011613.D	Liquid	Y	<2
14	HS20100455-03	SAMP	10-16-2020 06:59 pm	1.00	50 mL	50 mL	X011614.D	Liquid	Y	<2
15	HS20100455-04	SAMP	10-16-2020 07:23 pm	1.00	50 mL	50 mL	X011615.D	Liquid	Y	<2
16	HS20100455-01	SAMP	10-16-2020 07:47 pm	5.00	10 mL	50 mL	X011616.D	Liquid	Y	<2
17	HS20100455-05	SAMP	10-16-2020 08:11 pm	25.00	2 mL	50 mL	X011617.D	Liquid	Y	<2
18	HS20100455-03MS	MS	10-16-2020 08:35 pm	1.00	50 mL	50 mL	X011618.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
19	HS20100455-03MSD	MSD	10-16-2020 08:59 pm	1.00	50 mL	50 mL	X011619.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
20	HS20100455-01	SAMP	10-16-2020 09:23 pm	50.00	1 mL	50 mL	X011620.D	Liquid	Y	<2
21	HS20100455-05	SAMP	10-16-2020 09:48 pm	500.0(	100 µL	50 mL	X011621.D	Liquid	Y	<2
22	CCV-END	CCV	10-16-2020 10:12 pm	1.00	50 mL	50 mL	X011622.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
23	HS20100670-01	SAMP	10-16-2020 10:36 pm	5000.0	10 µL	50 mL	X011623.D	Liquid	Y	<2
24	HS20100671-01	SAMP	10-16-2020 11:00 pm	250.0(	200 µL	50 mL	X011624.D	Liquid	Y	<2
25	HS20100666-01	SAMP	10-16-2020 11:24 pm	250.0(	200 µL	50 mL	X011625.D	Liquid	Y	<2
26	HS20100824-01	SAMP	10-16-2020 11:48 pm	1.00	50 mL	50 mL	X011626.D	Liquid	Y	<2
27	HS20100824-02	SAMP	10-17-2020 12:12 am	1.00	50 mL	50 mL	X011627.D	Liquid	Y	<2
28	HS20100824-03	SAMP	10-17-2020 12:36 am	1.00	50 mL	50 mL	X011628.D	Liquid	Y	<2
29	HS20100824-04	SAMP	10-17-2020 01:00 am	1.00	50 mL	50 mL	X011629.D	Liquid	Y	<2
30	HS20100824-05	SAMP	10-17-2020 01:24 am	1.00	50 mL	50 mL	X011630.D	Liquid	Y	<2
31	BFB	TUNE	10-17-2020 01:48 am	1.00	50 mL	50 mL	Y011601.D	Liquid	Y	NA
	Auto find/ purged									
32	CCV	CCV	10-17-2020 02:12 am	1.00	50 mL	50 mL	Y011602.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
33	BLANK	SAMP	10-17-2020 02:36 am	1.00	50 mL	50 mL	Y011603.D	Liquid	Y	NA
34	CCB	SAMP	10-17-2020 03:00 am	1.00	50 mL	50 mL	Y011604.D	Liquid	Y	NA
35	VLCSW-201016	LCS	10-17-2020 03:24 am	1.00	50 mL	50 mL	Y011605.D	Liquid	Y	NA
	4.0 uL cal std/50 mL DI									
36	BLANK	SAMP	10-17-2020 03:48 am	1.00	50 mL	50 mL	Y011606.D	Liquid	Y	NA

MSVOA06 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
37	VBLKW-201016	MBLK	10-17-2020 04:12 am	1.00	50 mL	50 mL	Y011607.D	Liquid	Y	NA
38	HS20100673-16	SAMP	10-17-2020 04:36 am	1.00	50 mL	50 mL	Y011608.D	Liquid	Y	<2
39	HS20100673-15	SAMP	10-17-2020 05:00 am	1.00	50 mL	50 mL	Y011609.D	Liquid	Y	<2
40	HS20100672-01	SAMP	10-17-2020 05:24 am	1.00	50 mL	50 mL	Y011610.D	Liquid	Y	<2
41	HS20100673-17	SAMP	10-17-2020 05:48 am	1.00	50 mL	50 mL	Y011611.D	Liquid	Y	<2
42	HS20100673-17MS	MS	10-17-2020 06:12 am	1.00	50 mL	50 mL	Y011612.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
43	HS20100673-17MSD	MSD	10-17-2020 06:36 am	1.00	50 mL	50 mL	Y011613.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
44	HS20100673-09	SAMP	10-17-2020 07:00 am	1.00	50 mL	50 mL	Y011614.D	Liquid	Y	<2
45	HS20100673-10	SAMP	10-17-2020 07:24 am	1.00	50 mL	50 mL	Y011615.D	Liquid	Y	<2
46	HS20100673-11	SAMP	10-17-2020 07:48 am	1.00	50 mL	50 mL	Y011616.D	Liquid	Y	<2
47	HS20100673-12	SAMP	10-17-2020 08:12 am	1.00	50 mL	50 mL	Y011617.D	Liquid	Y	<2
48	HS20100673-05	SAMP	10-17-2020 08:37 am	1.00	50 mL	50 mL	Y011618.D	Liquid	Y	<2
49	HS20100817-01	SAMP	10-17-2020 09:01 am	1.00	50 mL	50 mL	Y011619.D	Liquid	Y	<2
50	HS20100673-08	SAMP	10-17-2020 09:25 am	1.00	50 mL	50 mL	Y011620.D	Liquid	Y	<2
51	HS20100817-02	SAMP	10-17-2020 09:49 am	1.00	50 mL	50 mL	Y011621.D	Liquid	Y	<2
52	HS20100673-04	SAMP	10-17-2020 10:13 am	10.00	5 mL	50 mL	Y011622.D	Liquid	Y	<2
53	HS20100817-03	SAMP	10-17-2020 10:37 am	1.00	50 mL	50 mL	Y011623.D	Liquid	Y	<2
54	HS20100673-06	SAMP	10-17-2020 11:01 am	10.00	5 mL	50 mL	Y011624.D	Liquid	Y	<2
55	HS20100817-04	SAMP	10-17-2020 11:25 am	1.00	50 mL	50 mL	Y011625.D	Liquid	Y	<2
56	HS20100673-14	SAMP	10-17-2020 11:49 am	10.00	5 mL	50 mL	Y011626.D	Liquid	Y	<2
57	HS20100817-05	SAMP	10-17-2020 12:13 pm	1.00	50 mL	50 mL	Y011627.D	Liquid	Y	<2
58	HS20100817-06	SAMP	10-17-2020 12:37 pm	1.00	50 mL	50 mL	Y011628.D	Liquid	Y	<2
59	HS20100817-07	SAMP	10-17-2020 01:01 pm	1.00	50 mL	50 mL	Y011629.D	Liquid	Y	NA

Chemical	Value
SURR SPK ID	31106-51-06
IS ID	31106-51-06
CAL STD ID	31106-51-01/02
BFB ID	31106-51-06
pH Paper	634-64-10

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100455

	CLIENT SAMPLE NO.	SMC1 #	SMC2 (DCE)#	SMC3 (TOL)#	OTHER #	TOT OUT
01	VLCSW-201016	97	94	99	102	0
02	VBLKW-201016	88	89	101	99	0
03	HS20100455-06	88	87	103	94	0
04	HS20100455-02	90	92	107	107	0
05	HS20100455-03	88	86	98	102	0
06	HS20100455-04	90	89	98	102	0
07	HS20100455-01	88	86	100	102	0
08	HS20100455-05	90	88	99	102	0
09	HS20100455-01	91	87	95	100	0
10	HS20100455-05	88	85	101	102	0
11						
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		QC LIMITS
SMC1	= Dibromofluoromethane	(70-130)
SMC2 (DCE)	= 1,2-Dichloroethane-d4	(70-130)
SMC3 (TOL)	= Toluene-d8	(70-130)
OTHER	= 4-Bromofluorobenzene	(70-130)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 4
VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

VBLKW-201016

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100455

Lab File ID: X011607 Lab Sample ID: VBLKW-201016

Date Analyzed: 10/16/20 Time Analyzed: 1611

GC Column: DB624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Instrument ID: VOA6

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VLCSW-201016	VLCSW-201016	X011605	1523
02	HS20100455-0	HS20100455-06	X011612	1811
03	HS20100455-0	HS20100455-02	X011613	1835
04	HS20100455-0	HS20100455-03	X011614	1859
05	HS20100455-0	HS20100455-04	X011615	1923
06	HS20100455-0	HS20100455-01	X011616	1947
07	HS20100455-0	HS20100455-05	X011617	2011
08	HS20100455-0	HS20100455-03M	X011618	2035
09	HS20100455-0	HS20100455-03M	X011619	2059
10	HS20100455-0	HS20100455-01	X011620	2123
11	HS20100455-0	HS20100455-05	X011621	2148
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COMMENTS:

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100455

Lab File ID: X011601 BFB Injection Date: 10/16/20

Instrument ID: VOA6 BFB Injection Time: 1347

GC Column: DB624 ID: 0.25 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	19.7
75	30.0 - 60.0% of mass 95	49.2
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.6
173	Less than 2.0% of mass 174	0.6 (0.9)1
174	Greater than 50.0% of mass 95	64.6
175	5.0 - 9.0% of mass 174	5.3 (8.1)1
176	95.0 - 101.0% of mass 174	62.1 (96.2)1
177	5.0 - 9.0% of mass 176	4.0 (6.4)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CCV	CCV	X011602	10/16/20	1411
02	VLCSW-201016	VLCSW-201016	X011605	10/16/20	1523
03	VBLKW-201016	VBLKW-201016	X011607	10/16/20	1611
04	HS20100455-0	HS20100455-06	X011612	10/16/20	1811
05	HS20100455-0	HS20100455-02	X011613	10/16/20	1835
06	HS20100455-0	HS20100455-03	X011614	10/16/20	1859
07	HS20100455-0	HS20100455-04	X011615	10/16/20	1923
08	HS20100455-0	HS20100455-01	X011616	10/16/20	1947
09	HS20100455-0	HS20100455-05	X011617	10/16/20	2011
10	HS20100455-0	HS20100455-03M	X011618	10/16/20	2035
11	HS20100455-0	HS20100455-03M	X011619	10/16/20	2059
12	HS20100455-0	HS20100455-01	X011620	10/16/20	2123
13	HS20100455-0	HS20100455-05	X011621	10/16/20	2148
14	CCV-END	CCV-END	X011622	10/16/20	2212
15					
16					
17					
18					
19					
20					
21					
22					

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100455

Instrument ID: VOA6 Calibration Date: 10/16/20 Time: 1411

Lab File ID: X011602 Init. Calib. Date(s): 09/24/20 09/24/20

Init. Calib. Times: 1134 1533

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
Vinyl Chloride	0.6460000	0.6676549	0.6676549	0.1	-3.35	20.00	AVRG
Methylene Chloride	52.862158	50.000000	0.5781149	0.1	-5.72	20.00	LINR
1,1-Dichloroethene	0.4490000	0.4560362	0.4560362	0.1	-1.57	20.00	AVRG
1,2-Dichloroethane	0.4310000	0.4287737	0.4287737	0.1	0.52	20.00	AVRG
Trichloroethene	0.3580000	0.3520736	0.3520736	0.2	1.66	20.00	AVRG
1,1,2-Trichloroethane	0.2940000	0.2823029	0.2823029	0.1	3.98	20.00	AVRG
Tetrachloroethene	0.3160000	0.2853174	0.2853174	0.2	9.71	20.00	AVRG
Dibromofluoromethane	0.5140000	0.4897182	0.4897182	0.1	4.72	20.00	AVRG
1,2-Dichloroethane-d4	0.5620000	0.5364483	0.5364483	0.1	4.55	20.00	AVRG
Toluene-d8	1.3140000	1.2170973	1.2170973	0.1	7.37	20.00	AVRG
4-Bromofluorobenzene	50.459760	50.000000	0.4397144	0.1	-0.92	20.00	LINR

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100455

Instrument ID: VOA6 Calibration Date: 10/16/20 Time: 2212

Lab File ID: X011622 Init. Calib. Date(s): 09/24/20 09/24/20

Init. Calib. Times: 1134 1533

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
Vinyl Chloride	0.6460000	0.7299596	0.7299596	0.1	-13.00	50.00	AVRG
Methylene Chloride	57.800478	50.000000	0.6314083	0.1	-15.60	50.00	LINR
1,1-Dichloroethene	0.4490000	0.4895968	0.4895968	0.1	-9.04	50.00	AVRG
1,2-Dichloroethane	0.4310000	0.4264224	0.4264224	0.1	1.06	50.00	AVRG
Trichloroethene	0.3580000	0.3577323	0.3577323	0.2	0.07	50.00	AVRG
1,1,2-Trichloroethane	0.2940000	0.2826550	0.2826550	0.1	3.86	50.00	AVRG
Tetrachloroethene	0.3160000	0.2837746	0.2837746	0.2	10.20	50.00	AVRG
Dibromofluoromethane	0.5140000	0.4756947	0.4756947	0.1	7.45	50.00	AVRG
1,2-Dichloroethane-d4	0.5620000	0.5218713	0.5218713	0.1	7.14	50.00	AVRG
Toluene-d8	1.3140000	1.2137271	1.2137271	0.1	7.63	50.00	AVRG
4-Bromofluorobenzene	49.594822	50.000000	0.4322989	0.1	0.81	50.00	LINR

FORM VII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100455

Lab File ID (Standard): X011602 Date Analyzed: 10/16/20

Instrument ID: VOA6 Time Analyzed: 1411

GC Column: DB624 ID: 0.18 (mm) Heated Purge: (Y/N) N

		IS1 AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CBZ) AREA #	RT #
	12 HOUR STD	526513	4.19	838890	4.97	761990	7.67
	UPPER LIMIT	1053026	4.69	1677780	5.47	1523980	8.17
	LOWER LIMIT	263257	3.69	419445	4.47	380995	7.17
	CLIENT SAMPLE NO.						
01	VLCSW-201016	576974	4.19	899413	4.97	793549	7.67
02	VBLKW-201016	621567	4.19	942957	4.97	796980	7.67
03	HS20100455-06	614056	4.19	936752	4.97	786126	7.67
04	HS20100455-02	616673	4.19	925765	4.97	758485	7.67
05	HS20100455-03	578507	4.19	876853	4.97	800261	7.67
06	HS20100455-04	610460	4.19	925183	4.97	816922	7.67
07	HS20100455-01	580572	4.19	887633	4.97	714825	7.67
08	HS20100455-05	569225	4.19	899339	4.97	737437	7.67
09	HS20100455-03	557204	4.19	845107	4.97	680537	7.67
10	HS20100455-03	534448	4.19	811903	4.97	759534	7.67
11	HS20100455-01	611945	4.19	892333	4.97	806124	7.67
12	HS20100455-05	578223	4.19	879066	4.97	752169	7.67
13							
14							
15							
16							
17							
18							
19							
20							

IS1 = Pentafluorobenzene
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

FORM VIII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100455

Lab File ID (Standard): X011602 Date Analyzed: 10/16/20

Instrument ID: VOA6 Time Analyzed: 1411

GC Column: DB624 ID: 0.18 (mm) Heated Purge: (Y/N) N

		IS4 (DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	308217	9.66				
	UPPER LIMIT	616434	10.16				
	LOWER LIMIT	154109	9.16				
	CLIENT SAMPLE NO.						
01	VLCSW-201016	315830	9.66				
02	VBLKW-201016	296704	9.67				
03	HS20100455-06	289268	9.67				
04	HS20100455-02	312721	9.67				
05	HS20100455-03	316505	9.67				
06	HS20100455-04	332602	9.67				
07	HS20100455-01	300878	9.67				
08	HS20100455-05	301040	9.67				
09	HS20100455-03	279653	9.66				
10	HS20100455-03	299689	9.66				
11	HS20100455-01	320118	9.66				
12	HS20100455-05	307808	9.67				
13							
14							
15							
16							
17							
18							
19							
20							

IS4 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

FORM VIII VOA

Data File: \\nahstws005\Target\chem\voa6.i\X201016.b\X011601.D

Date : 16-OCT-2020 13:47

Client ID: BFB

Instrument: voa6.i

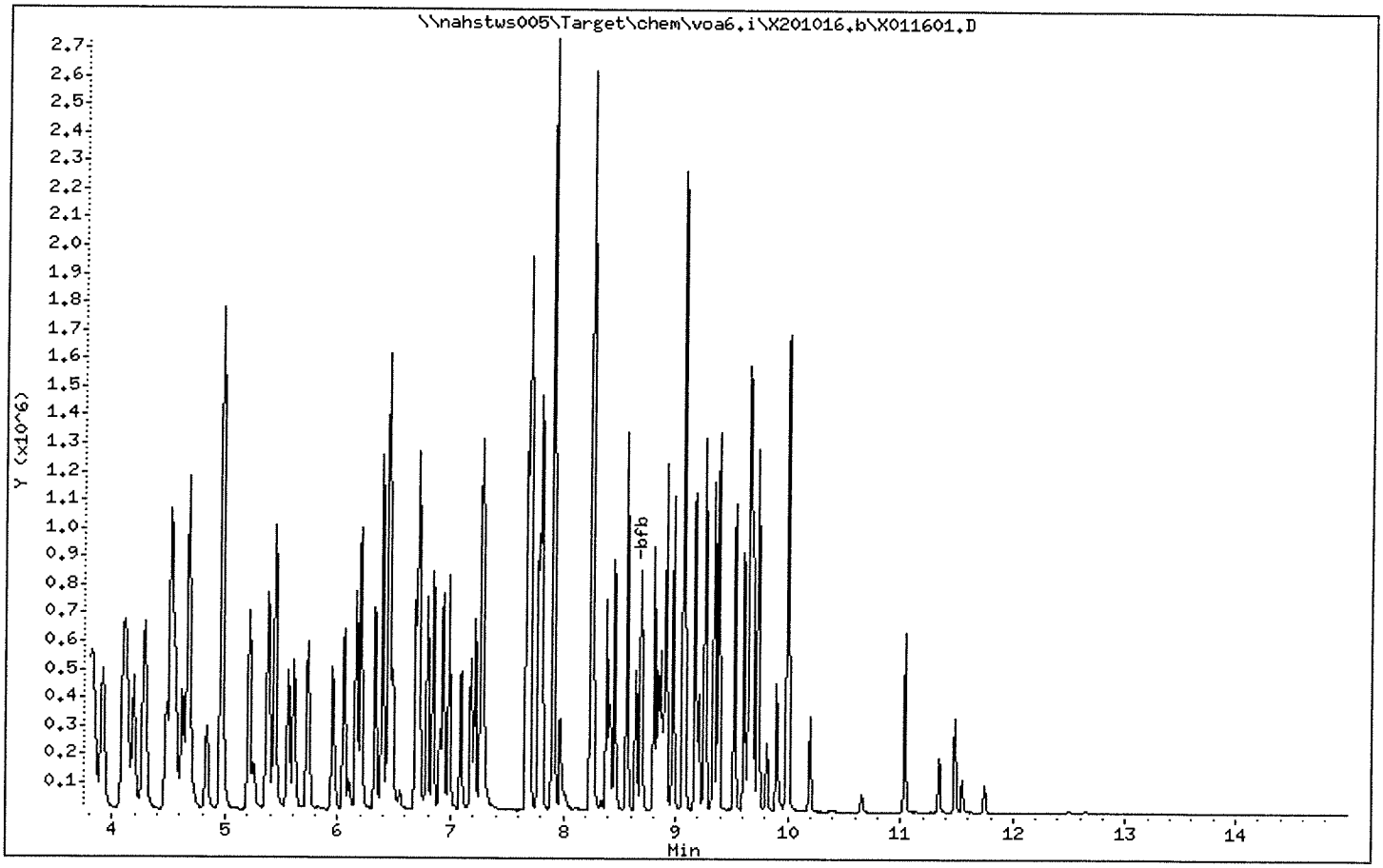
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\nahstws005\Target\chem\voa6.i\X201016.b\X011601.D

Date : 16-OCT-2020 13:47

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

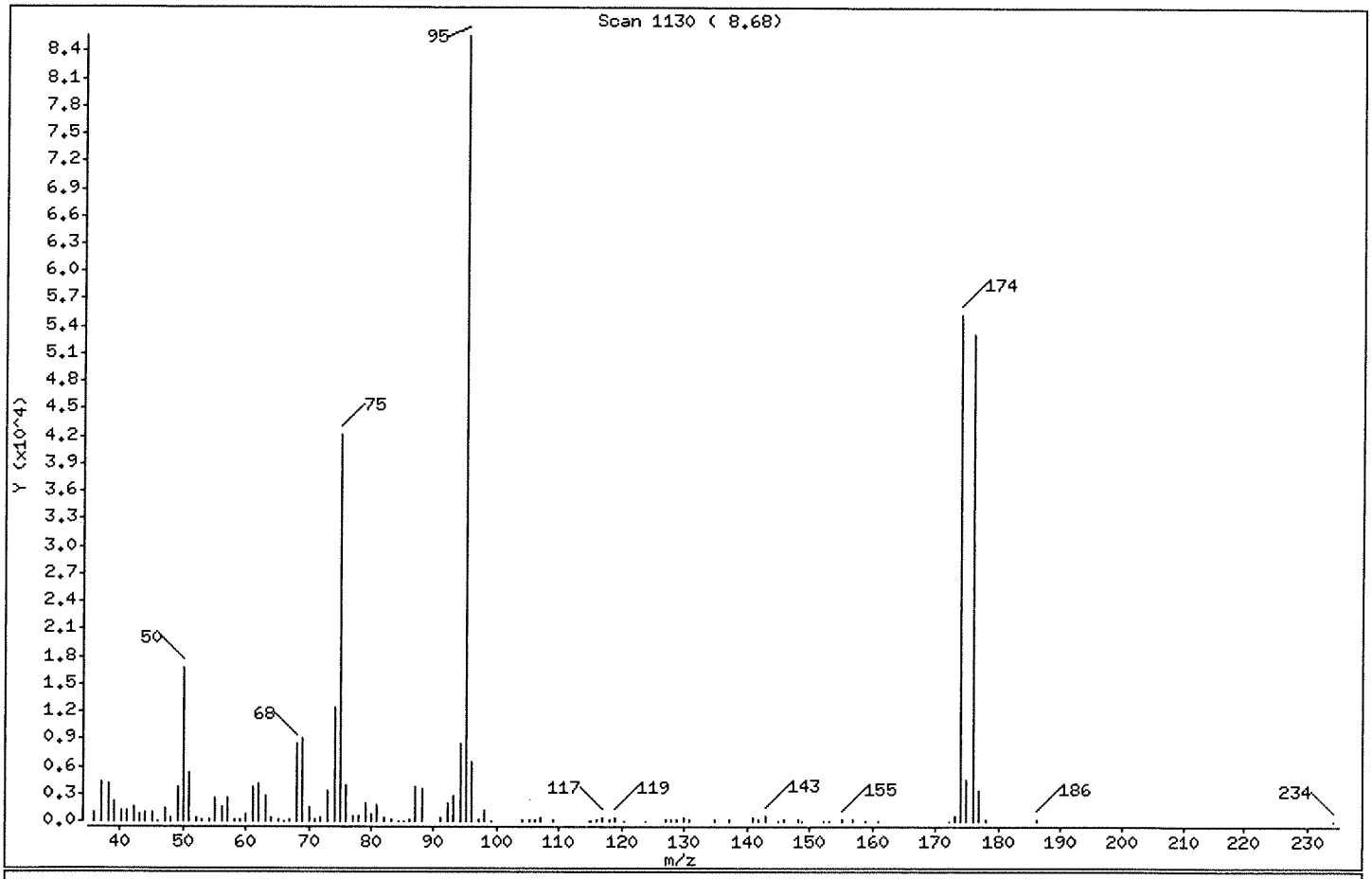
Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	19.65
75	30.00 - 60.00% of mass 95	49.19
96	5.00 - 9.00% of mass 95	7.59
173	Less than 2.00% of mass 174	0.59 (0.91)
174	Greater than 50.00% of mass 95	64.58
175	5.00 - 9.00% of mass 174	5.26 (8.14)
176	95.00 - 101.00% of mass 174	62.10 (96.17)
177	5.00 - 9.00% of mass 176	3.96 (6.37)

Data File: \\nahstws005\Target\chem\voa6.i\X201016.b\X011601.D

Date : 16-OCT-2020 13:47

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

Data File: X011601.D
Spectrum: Scan 1130 (8.68)
Location of Maximum: 95.10
Number of points: 104

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	1000	63.10	2766	92.10	2041	137.10	110
37.10	4273	64.10	383	93.10	2774	140.90	404
38.10	4080	65.10	106	94.10	8563	141.90	160
39.10	2172	66.00	95	95.10	85640	142.90	507
40.10	1228	67.00	234	96.10	6502	145.10	72
41.20	1091	68.10	8541	97.10	278	145.90	104
42.20	1553	69.10	9140	98.10	1160	148.10	133
43.10	851	70.10	1505	99.20	69	148.80	60
44.10	1058	71.10	140	104.00	289	152.20	60
45.10	1044	72.00	463	105.30	280	153.00	89
46.10	75	73.10	3412	106.00	283	155.10	242
47.10	1421	74.10	12334	106.90	311	157.00	192
48.00	402	75.10	42128	109.00	245	159.00	78
49.10	3649	76.00	3898	114.70	60	160.90	69
50.10	16832	77.10	564	115.10	58	172.30	82
51.10	5360	78.10	630	116.00	229	173.10	502
52.00	375	79.00	1901	116.90	430	174.00	55304
53.10	159	80.10	738	118.00	284	175.00	4502
54.10	274	81.00	1793	119.00	349	176.00	53184
55.10	2647	82.00	350	120.20	94	177.00	3389
56.10	1505	83.20	240	123.90	58	178.10	126
57.10	2598	84.30	58	127.00	152	186.10	183
58.10	248	85.10	66	128.00	267	234.00	80
59.20	174	86.20	124	128.90	161		
60.10	785	87.00	3713	130.00	298		
61.10	3770	88.00	3566	130.90	117		
62.10	4043	91.00	474	134.80	140		

Data File: \\nahstws005\Target\chem\voa6.i\X201016.b\X011602.D Page 1
Report Date: 26-Oct-2020 07:42

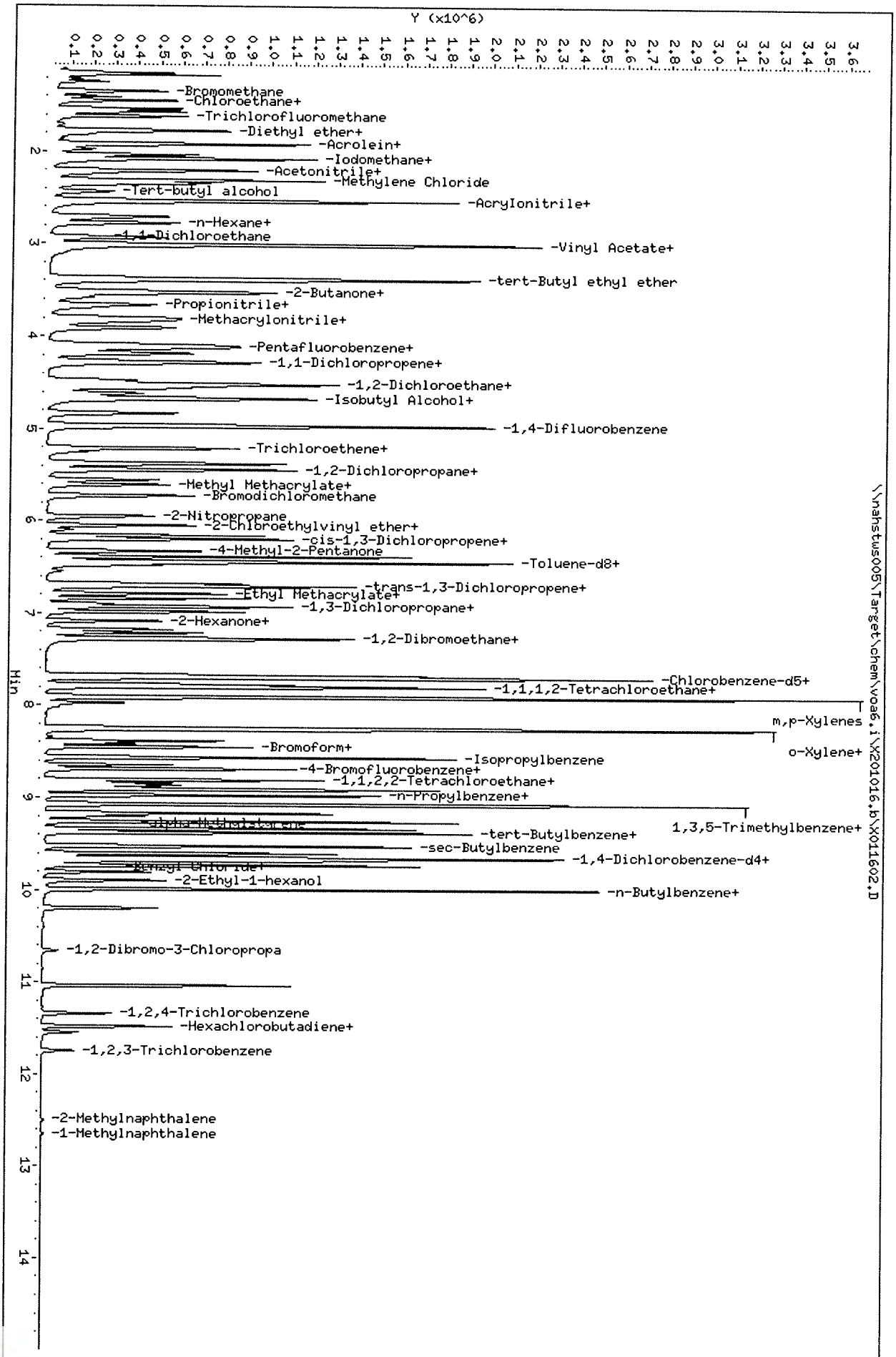
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201016.b\X011602.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 16-OCT-2020 14:11
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201016.b\8260W.m
Meth Date : 26-Oct-2020 07:42 voa6.i Quant Type: ISTD
Cal Date : 24-SEP-2020 14:21 Cal File: X092408.D
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-HOUSTON.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	526513	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	257843	50.0000	47.65
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	282447	50.0000	47.72
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	838890	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	761990	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	927416	50.0000	46.29
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	335058	50.0000	50.45
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	308217	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.273)	351529	50.0000	51.68
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	240109	50.0000	50.72
17 Methylene Chloride	84	2.313	2.313	(0.552)	304385	50.0000	52.86
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	333166	50.0000	51.65
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	359694	50.0000	49.72
38 Trichloroethene	130	5.214	5.214	(1.049)	295351	50.0000	49.22
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	215112	50.0000	47.93
56 Tetrachloroethene	164	6.933	6.933	(0.904)	217409	50.0000	45.16



Data File: \\nahstws005\Target\chem\voa6.i\X201016.b\X011602.D
Date : 16-OCT-2020 14:11
Client ID: CCV
Sample Info: CCV;CCV;2;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

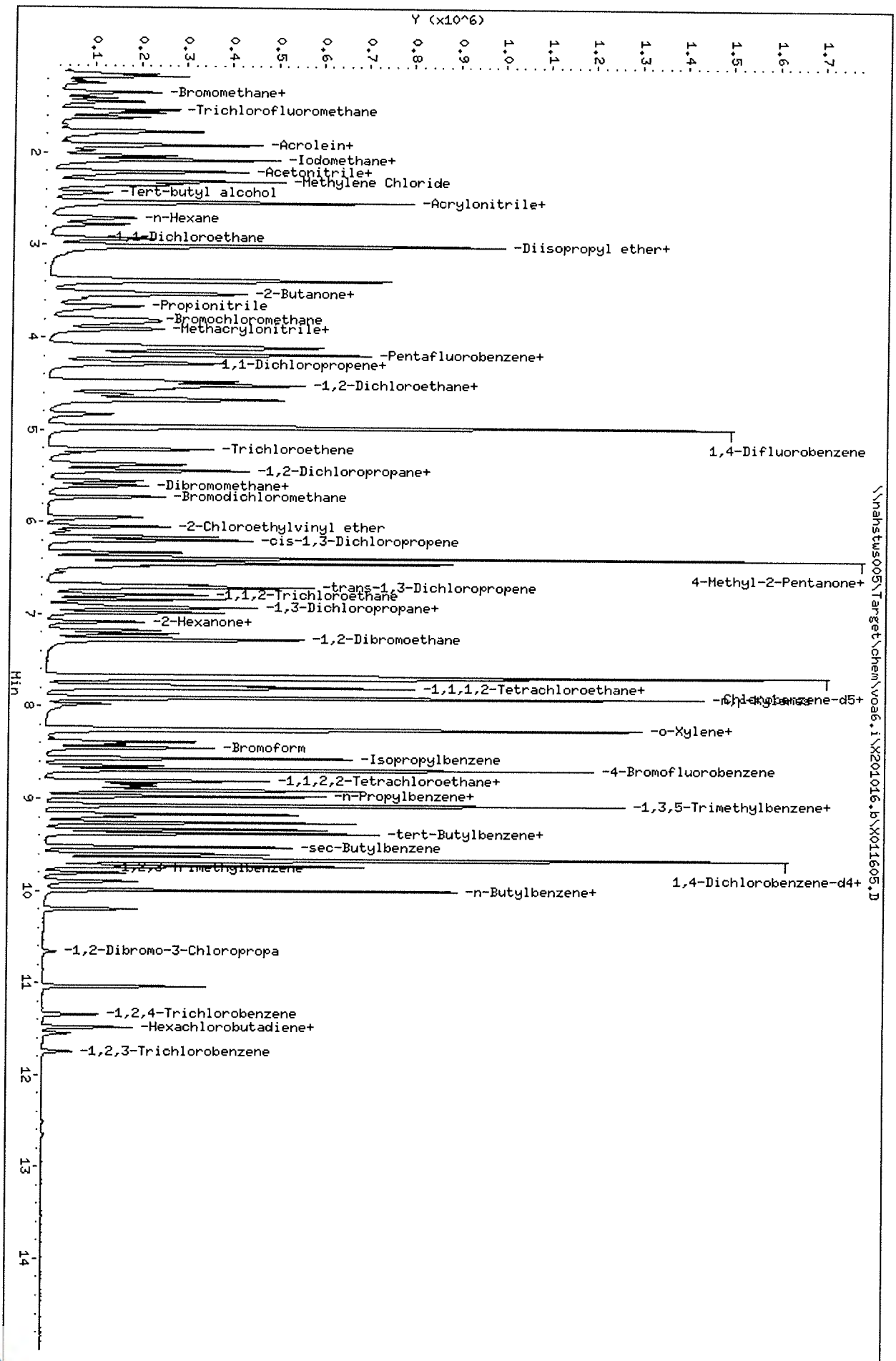
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201016.b\X011605.D
Lab Smp Id: VLCSW-201016 Client Smp ID: VLCSW-201016
Inj Date : 16-OCT-2020 15:23
Operator : PC Inst ID: voa6.i
Smp Info : VLCSW-201016;VLCSW-201016;3;;LCS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201016.b\8260W.m
Meth Date : 26-Oct-2020 07:42 voa6.i Quant Type: ISTD
Cal Date : 24-SEP-2020 14:21 Cal File: X092408.D
Als bottle: 5 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-HOUSTON.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	576974	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	288231	48.6151	48.61
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	303295	46.7623	46.76
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	899413	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	793549	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	1032519	49.4904	49.49
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	351872	50.8915	50.89
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	315830	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.273)	138082	18.5270	18.52
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	98015	18.8938	18.89
17 Methylene Chloride	84	2.313	2.313	(0.552)	155692	24.2968	24.29
27 cis-1,2-Dichloroethene	96	3.538	3.530	(0.844)	142556	20.1673	20.16
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	148983	19.2115	19.21
38 Trichloroethene	130	5.214	5.214	(1.049)	122410	19.0280	19.02
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	90745	19.4165	19.41
56 Tetrachloroethene	164	6.933	6.933	(0.904)	88834	17.7191	17.71



Data File: \\nahstws005\Target\chem\voa6.i\X201016.b\X011605.D
Date : 16-OCT-2020 15:23
Client ID: VLCSW-201016
Sample Info: VLCSW-201016;VLCSW-201016;3;;LCS
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201016.b\X011607.D Page 1
Report Date: 26-Oct-2020 07:42

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201016.b\X011607.D
Lab Smp Id: VBLKW-201016 Client Smp ID: VBLKW-201016
Inj Date : 16-OCT-2020 16:11
Operator : PC Inst ID: voa6.i
Smp Info : VBLKW-201016;VBLKW-201016;3;;BLANK
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201016.b\8260W.m
Meth Date : 26-Oct-2020 07:42 voa6.i Quant Type: ISTD
Cal Date : 24-SEP-2020 14:21 Cal File: X092408.D
Als bottle: 7 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-HOUSTON.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

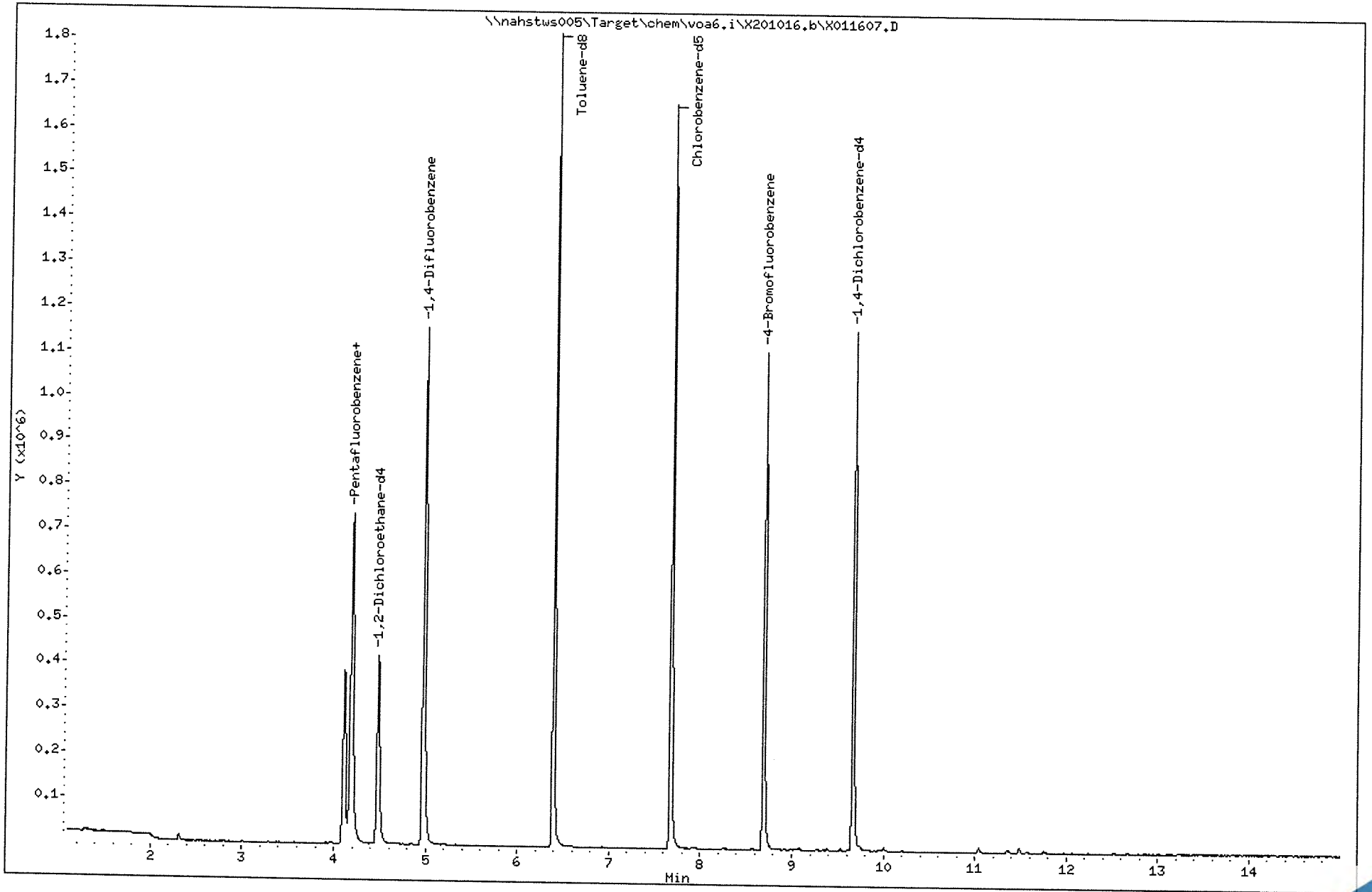
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	621567	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	282743	44.2680	44.26
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	311677	44.6070	44.60
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	942957	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	796980	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	1062505	50.7084	50.70
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	343348	49.4213	49.42
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	296704	50.0000	

Data File: \\nahstws005\Target\chem\voa6.i\X201016.b\X011607.D
Date : 16-OCT-2020 16:11
Client ID: VBLKW-201016
Sample Info: VBLKW-201016;VBLKW-201016;3;;BLANK
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i

Operator: PC
Column diameter: 0.18



Data File: \\nahstws005\Target\chem\voa6.i\X201016.b\X011612.D Page 1
Report Date: 26-Oct-2020 07:38

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201016.b\X011612.D
Lab Smp Id: HS20100455-06 Client Smp ID: HS20100455-06
Inj Date : 16-OCT-2020 18:11
Operator : PC Inst ID: voa6.i
Smp Info : HS20100455-06;HS20100455-06;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201016.b\8260W.m
Meth Date : 26-Oct-2020 07:34 dev.giga Quant Type: ISTD
Cal Date : 24-SEP-2020 14:21 Cal File: X092408.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-HOUSTON.sub
Target Version: 4.14
Processing Host: NAHSTW7056

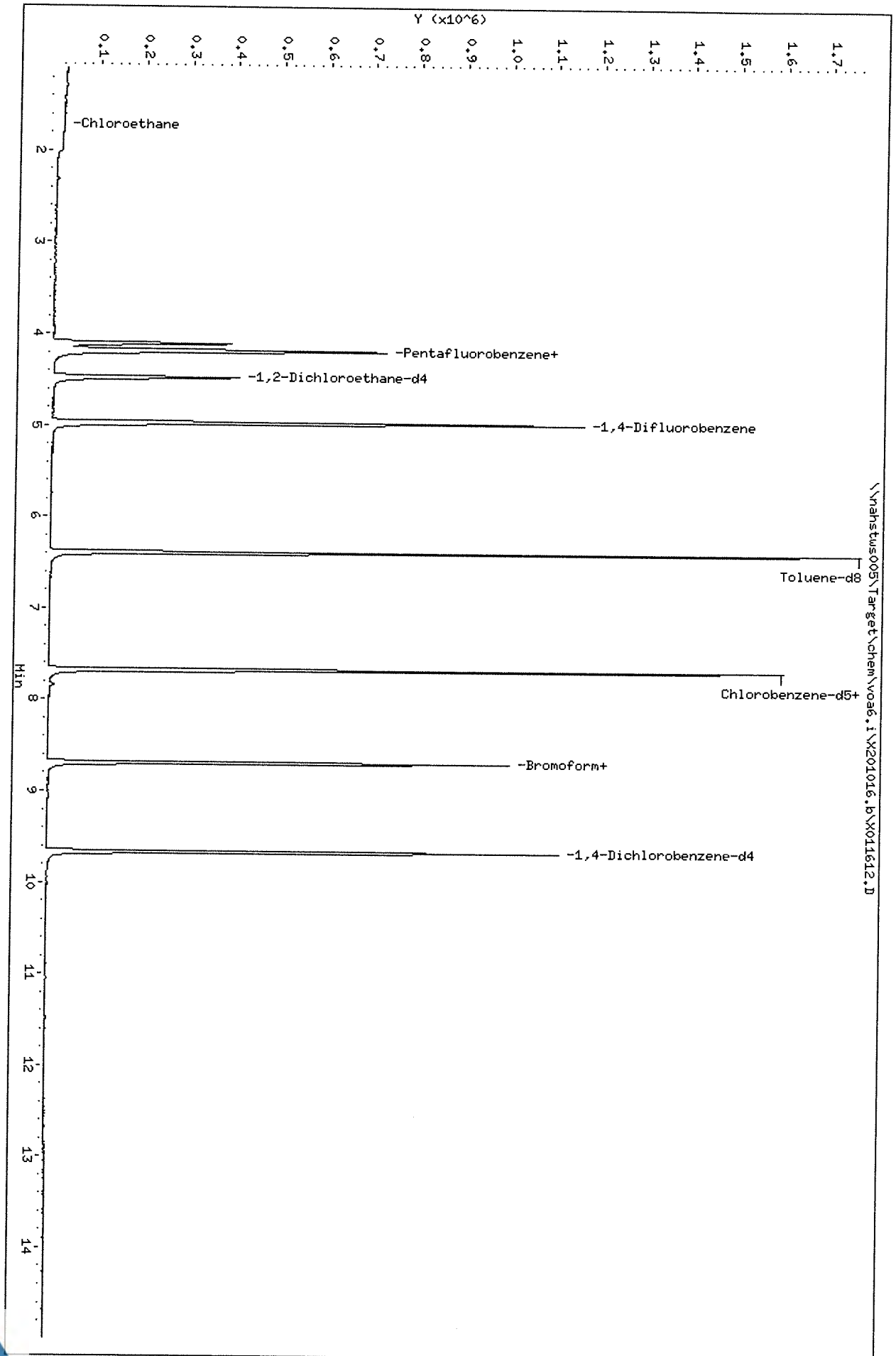
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	614056	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	279212	44.2499	44.24
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	299879	43.4435	43.44
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	936752	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	786126	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	1062342	51.4007	51.40
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	322662	47.0459	47.04
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	289268	50.0000	

Data File: \\nahstws005\Target\chem\voa6.i\X201016.b\X011612.D
Date : 16-OCT-2020 18:11
Client ID: HS20100455-06
Sample Info: HS20100455-06;HS20100455-06;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



Data File: \\nahstws005\Target\chem\voa6.i\X201016.b\X011613.D Page 1
Report Date: 26-Oct-2020 07:38

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201016.b\X011613.D
Lab Smp Id: HS20100455-02 Client Smp ID: HS20100455-02
Inj Date : 16-OCT-2020 18:35
Operator : PC Inst ID: voa6.i
Smp Info : HS20100455-02;HS20100455-02;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201016.b\8260W.m
Meth Date : 26-Oct-2020 07:34 dev.giga Quant Type: ISTD
Cal Date : 24-SEP-2020 14:21 Cal File: X092408.D
Als bottle: 13
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-HOUSTON.sub
Target Version: 4.14
Processing Host: NAHSTW7056

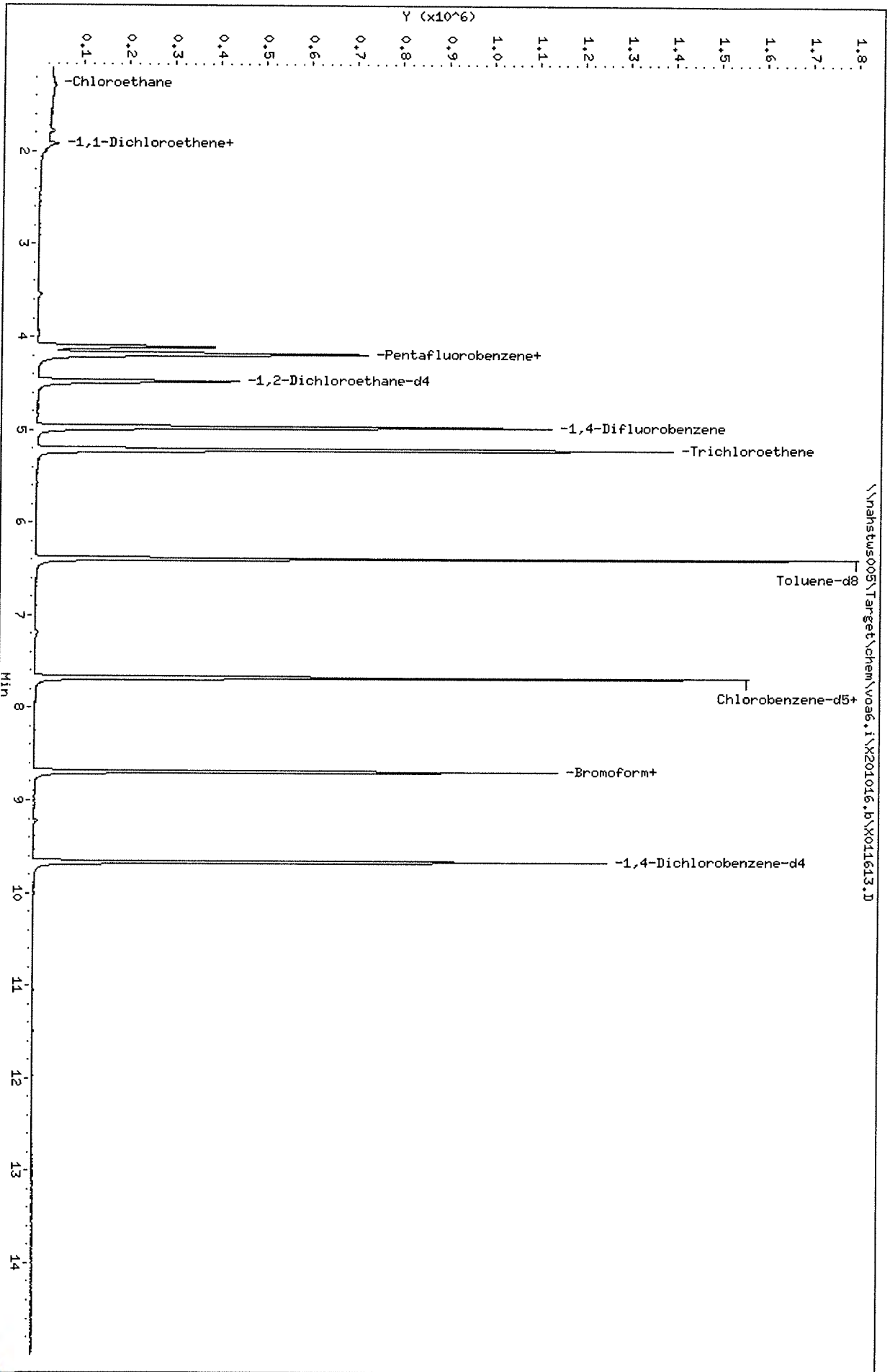
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	616673	50.0000	
$ 30 Dibromofluoromethane	113	4.110	4.103	(0.981)	284359	44.8744	44.87
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	318737	45.9795	45.97
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	925765	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	758485	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	1064059	53.3599	53.35
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	352256	53.3414	53.34
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	312721	50.0000	
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	6951	1.25365	1.25(a)
38 Trichloroethene	130	5.214	5.214	(1.049)	475538	71.8156	71.81

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).



Data File: \\nahstws005\Target\chem\voa6.i\X201016.b\X011613.D
Date : 16-OCT-2020 18:35
Client ID: HS20100455-02
Sample Info: HS20100455-02;HS20100455-02;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201016.b\X011613.D

Date : 16-OCT-2020 18:35

Client ID: HS20100455-02

Instrument: voa6.i

Sample Info: HS20100455-02;HS20100455-02;;;

Purge Volume: 5.0

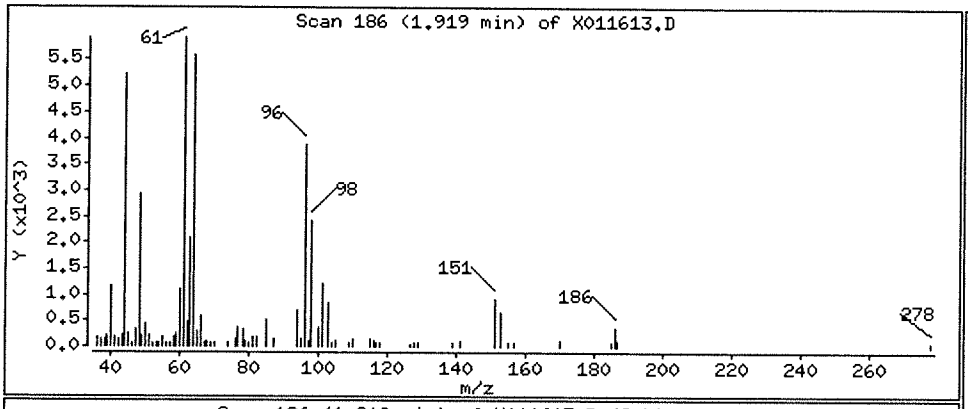
Operator: PC

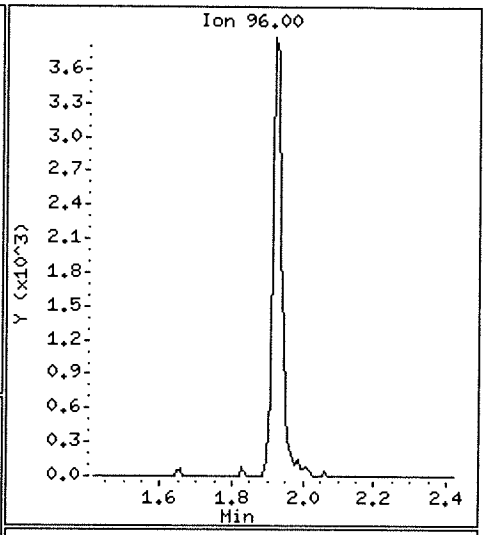
Column phase: DB624

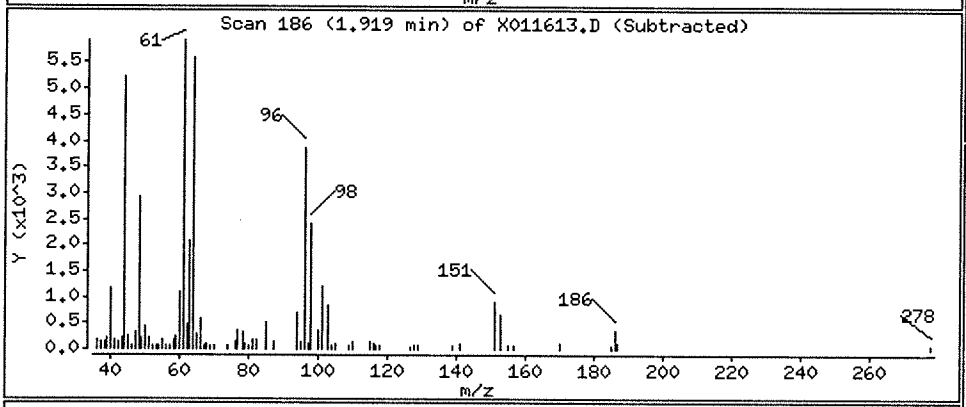
Column diameter: 0.18

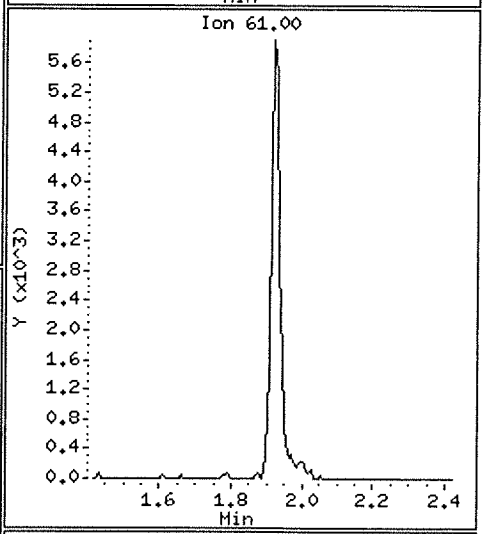
11 1,1-Dichloroethene

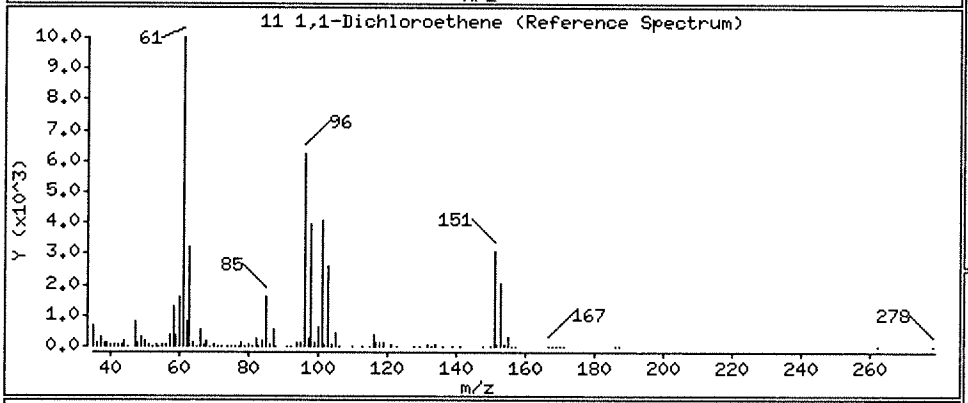
Concentration: 1.25 ug/l

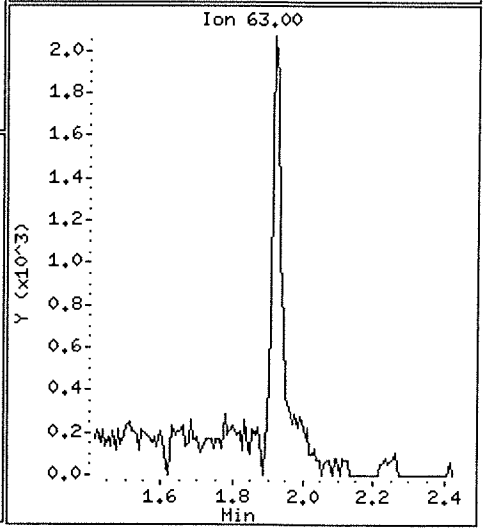


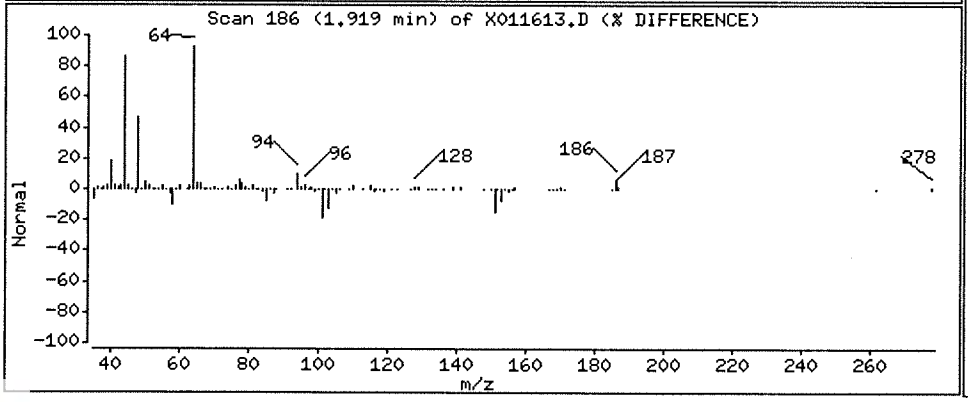












Data File: \\nahstws005\Target\chem\voa6.i\X201016.b\X011613.D

Date : 16-OCT-2020 18:35

Client ID: HS20100455-02

Instrument: voa6.i

Sample Info: HS20100455-02;HS20100455-02;;;

Purge Volume: 5.0

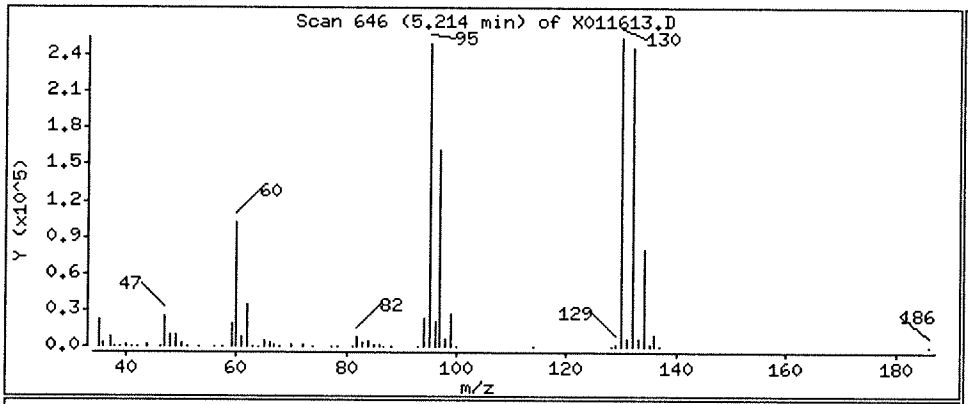
Operator: PC

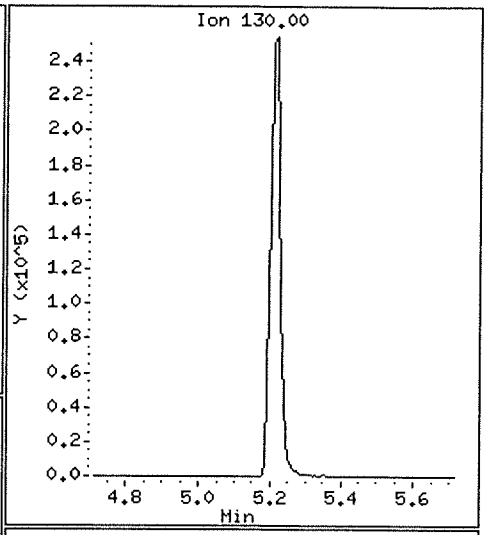
Column phase: DB624

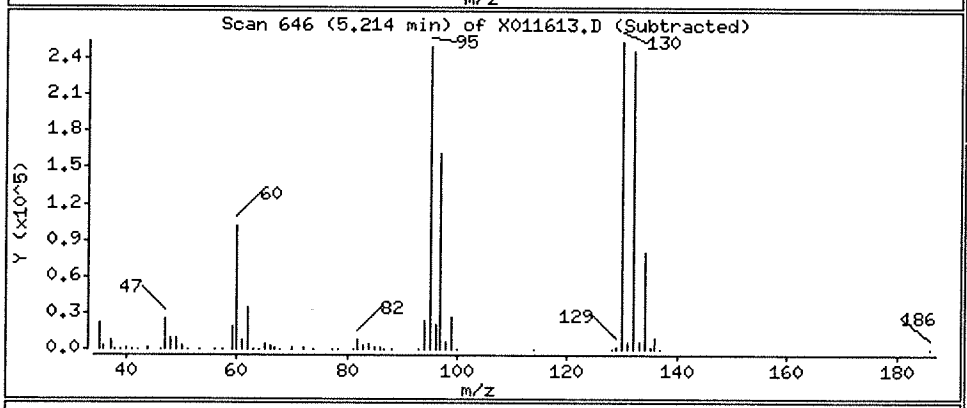
Column diameter: 0.18

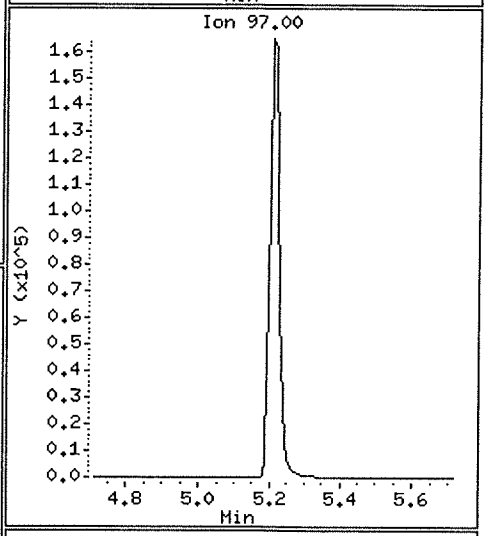
38 Trichloroethene

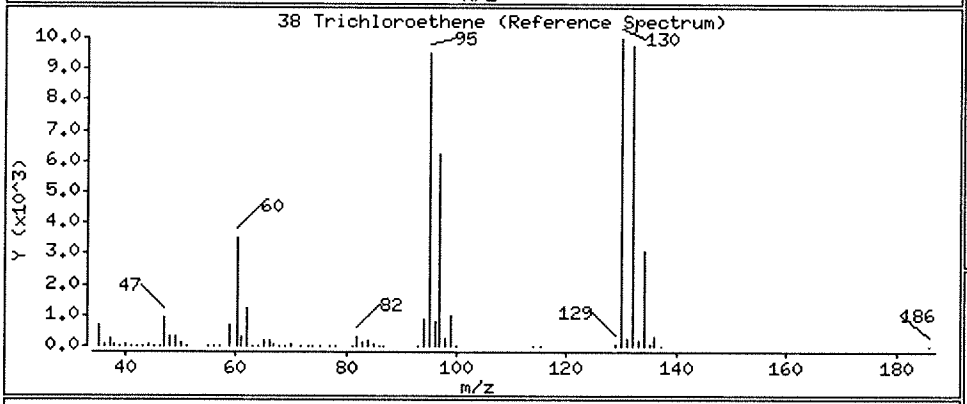
Concentration: 71.81 ug/l

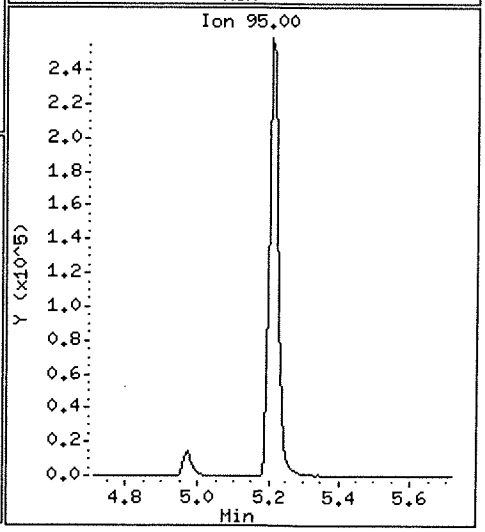


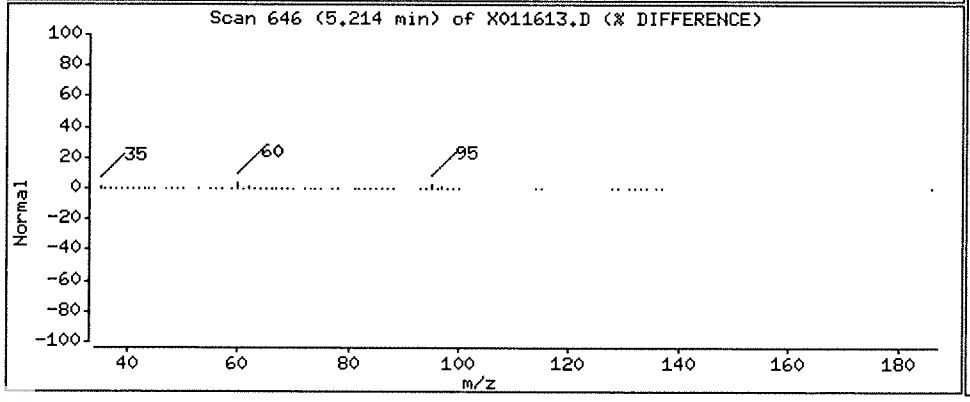












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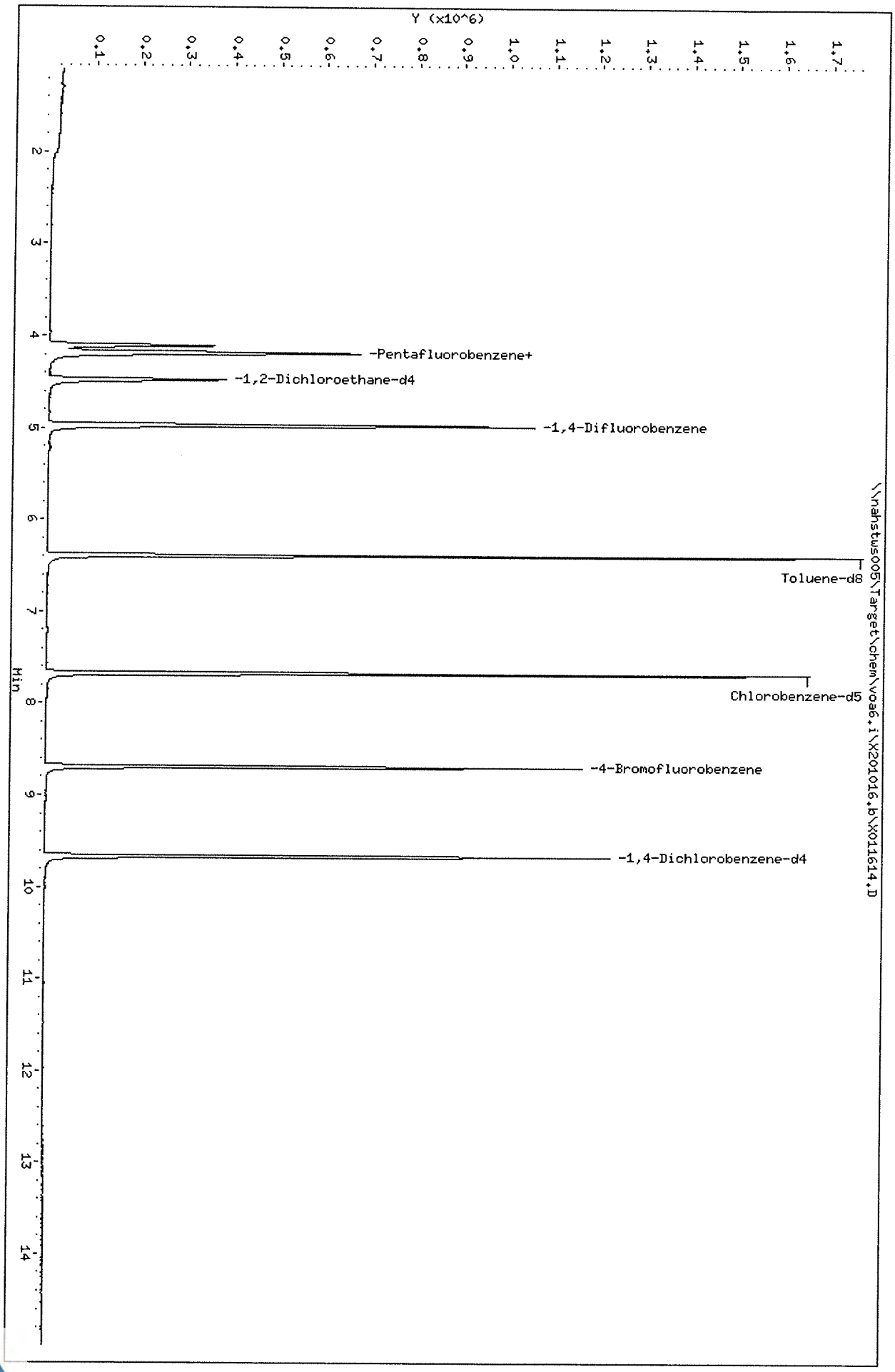
Data file : \\nahstws005\Target\chem\voa6.i\X201016.b\X011614.D
Lab Smp Id: HS20100455-03 Client Smp ID: HS20100455-03
Inj Date : 16-OCT-2020 18:59
Operator : PC Inst ID: voa6.i
Smp Info : HS20100455-03;HS20100455-03;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201016.b\8260W.m
Meth Date : 26-Oct-2020 07:34 dev.giga Quant Type: ISTD
Cal Date : 24-SEP-2020 14:21 Cal File: X092408.D
Als bottle: 14
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-HOUSTON.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	578507	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	261546	43.9973	43.99
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	278040	42.7548	42.75
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	876853	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	800261	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	1035765	49.2296	49.22
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	355490	50.9850	50.98
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	316505	50.0000	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Date : 16-OCT-2020 18:59
Client ID: HS20100455-03
Sample Info: HS20100455-03;HS20100455-03;;;
Purge Volume: 5.0
Column phase: DB624
Instrument: voa6.i
Operator: PC
Column diameter: 0.18
Y (x10^6)
Min
-Pentafluorobenzene+
-1,2-Dichloroethane-d4
-1,4-Difluorobenzene
Toluene-d8
Chlorobenzene-d5
-4-Bromofluorobenzene
-1,4-Dichlorobenzene-d4
\\nahstus005\Target\chem\voa6.i\X201016.b\X011614.D

Data File: \\nahstws005\Target\chem\voa6.i\X201016.b\X011615.D Page 1
Report Date: 26-Oct-2020 07:38

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201016.b\X011615.D
Lab Smp Id: HS20100455-04 Client Smp ID: HS20100455-04
Inj Date : 16-OCT-2020 19:23
Operator : PC Inst ID: voa6.i
Smp Info : HS20100455-04;HS20100455-04;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201016.b\8260W.m
Meth Date : 26-Oct-2020 07:34 dev.giga Quant Type: ISTD
Cal Date : 24-SEP-2020 14:21 Cal File: X092408.D
Als bottle: 15
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-HOUSTON.sub
Target Version: 4.14
Processing Host: NAHSTW7056

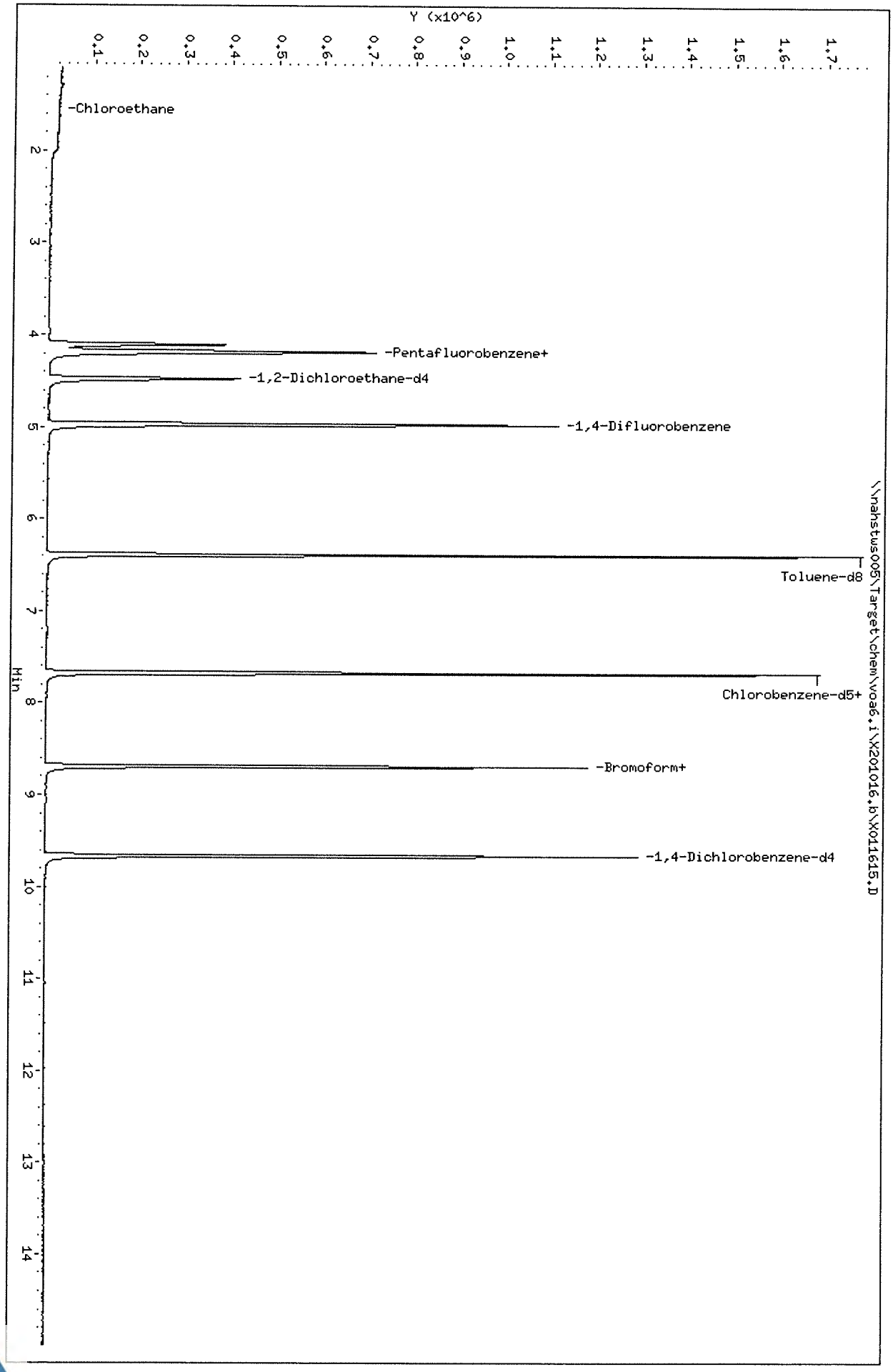
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	610460	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	283682	45.2232	45.22
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	305673	44.5437	44.54
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	925183	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	816922	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	1054053	49.0770	49.07
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	363013	51.0024	51.00
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	332602	50.0000	

Data File: \\nahstus005\Target\chem\voa6.i\X201016.b\X011615.D
Date : 16-OCT-2020 19:23
Client ID: HS201000455-04
Sample Info: HS201000455-04;HS201000455-04;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



Data File: \\nahstws005\Target\chem\voa6.i\X201016.b\X011616.D Page 1
Report Date: 26-Oct-2020 07:38

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201016.b\X011616.D
Lab Smp Id: HS20100455-01 Client Smp ID: HS20100455-01
Inj Date : 16-OCT-2020 19:47
Operator : PC Inst ID: voa6.i
Smp Info : HS20100455-01;HS20100455-01;;;
Misc Info : HS18090001;WATER;0;5;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201016.b\8260W.m
Meth Date : 26-Oct-2020 07:34 dev.giga Quant Type: ISTD
Cal Date : 24-SEP-2020 14:21 Cal File: X092408.D
Als bottle: 16
Dil Factor: 5.00000
Integrator: HP RTE Compound Sublist: CBI-HOUSTON.sub
Target Version: 4.14
Processing Host: NAHSTW7056

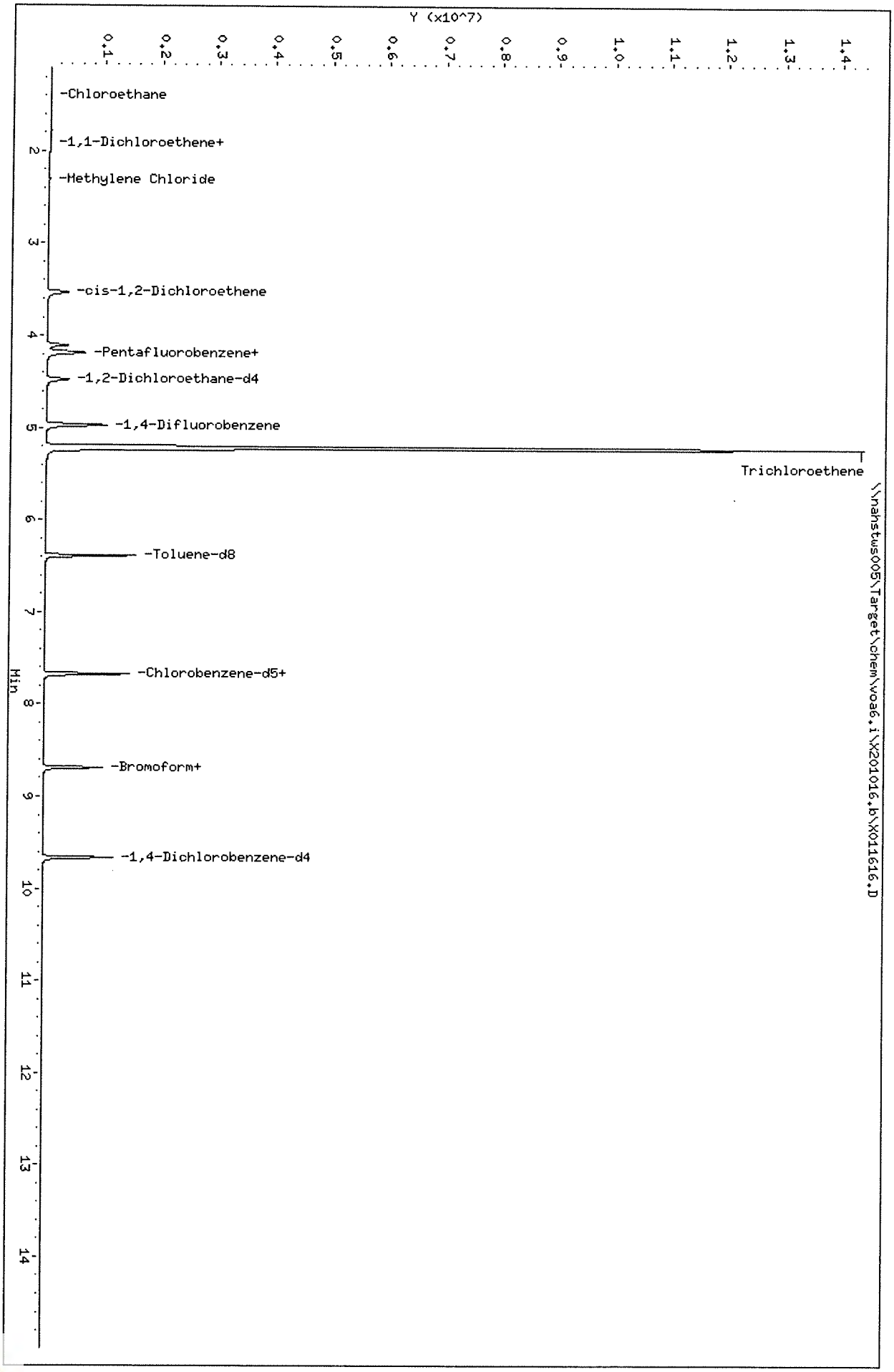
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	5.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	580572	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	261861	43.8936	43.89
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	279759	42.8661	42.86
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	887633	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	714825	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	943021	50.1786	50.17
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	316955	50.8899	50.88
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	300878	50.0000	
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	3428	0.65670	3.28(a)
17 Methylene Chloride	84	2.313	2.313	(0.552)	11524	1.13172	5.65(a)
27 cis-1,2-Dichloroethene	96	3.537	3.530	(0.844)	200622	28.2060	141.03
38 Trichloroethene	130	5.214	5.214	(1.049)	4882519	769.033	3845.16(A)

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount exceeded maximum amount.



Data File: \\nahstws005\Target\chem\voa6.i\X201016.b\X011616.D
Date : 16-OCT-2020 19:47
Client ID: HS20100455-01
Sample Info: HS20100455-01;HS20100455-01;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201016.b\X011616.D

Date : 16-OCT-2020 19:47

Client ID: HS20100455-01

Instrument: voa6.i

Sample Info: HS20100455-01;HS20100455-01;;;

Purge Volume: 5.0

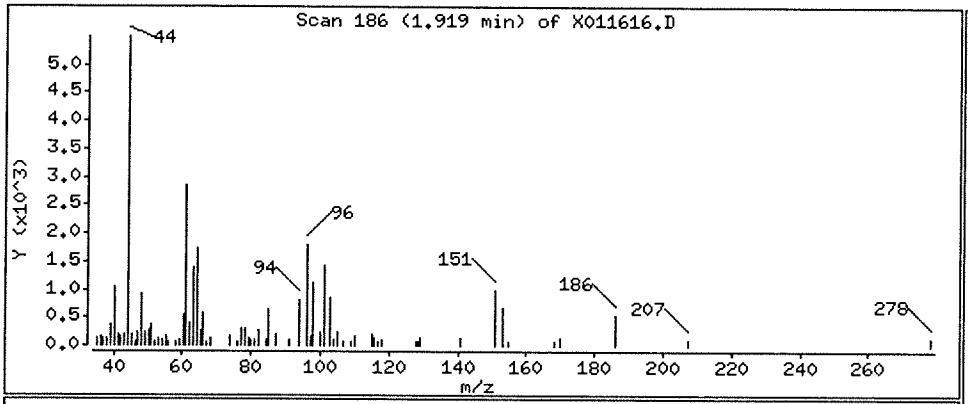
Operator: PC

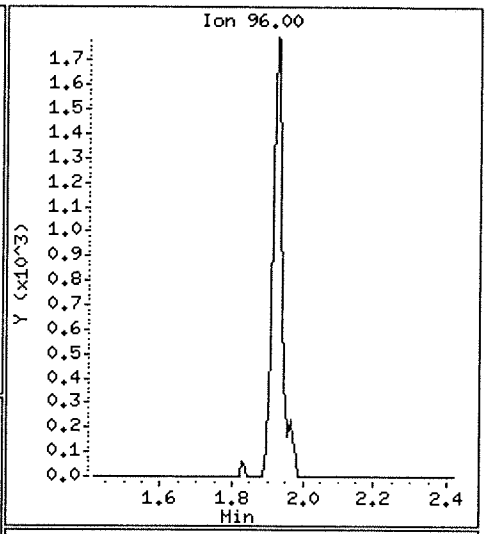
Column phase: DB624

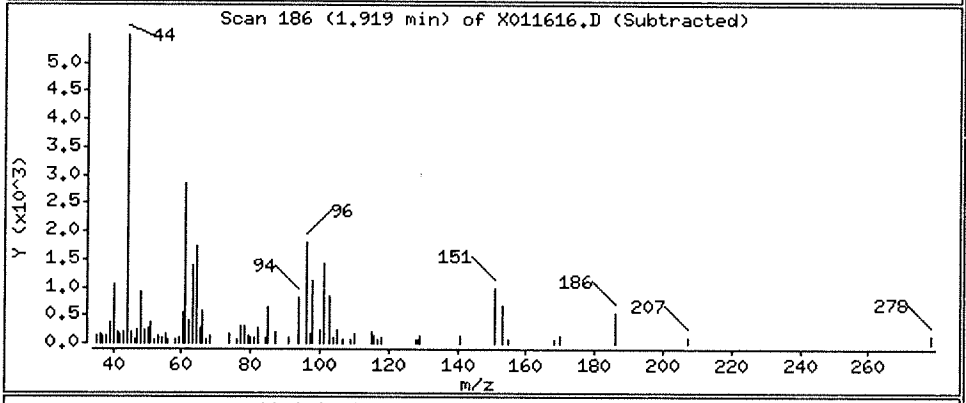
Column diameter: 0.18

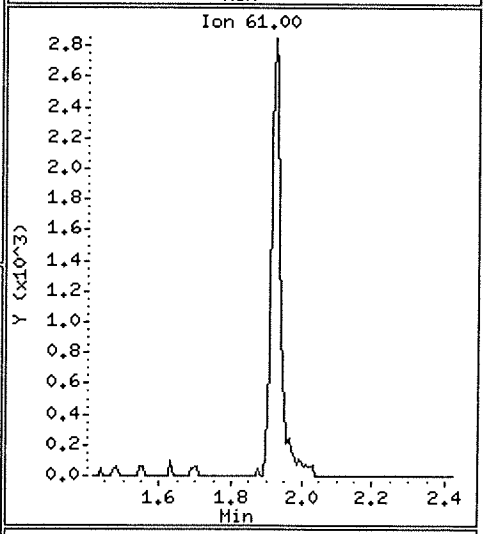
11 1,1-Dichloroethene

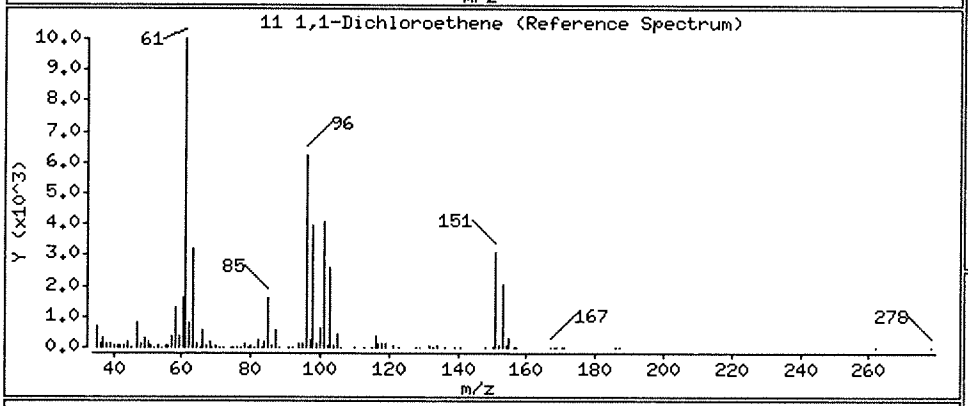
Concentration: 3.28 ug/l

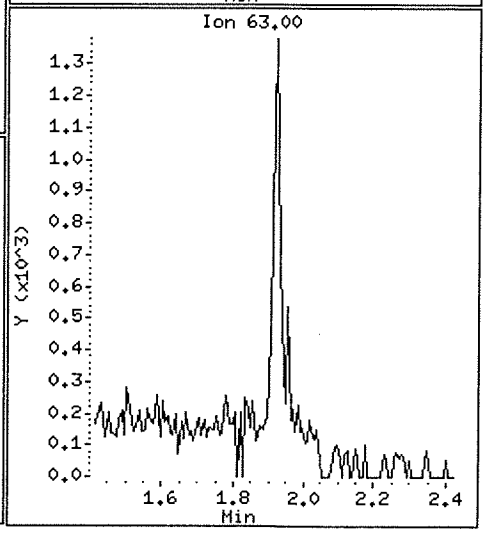


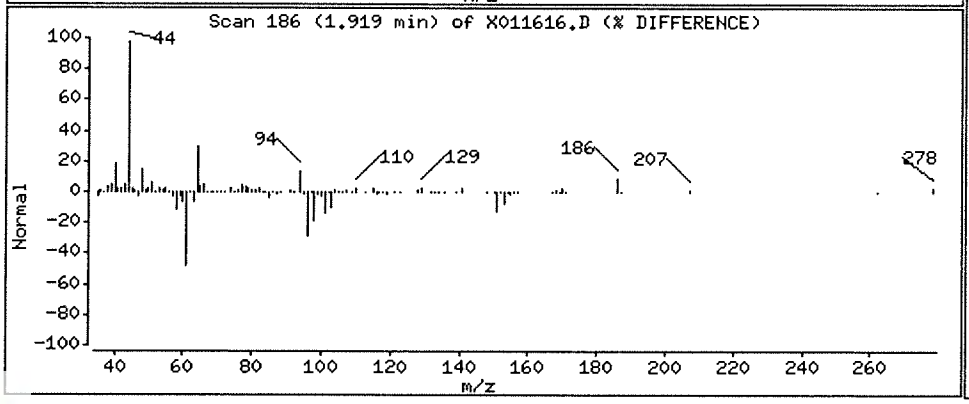












Data File: \\nahstws005\Target\chem\voa6.i\X201016.b\X011616.D

Date : 16-OCT-2020 19:47

Client ID: HS20100455-01

Instrument: voa6.i

Sample Info: HS20100455-01;HS20100455-01;;;

Purge Volume: 5.0

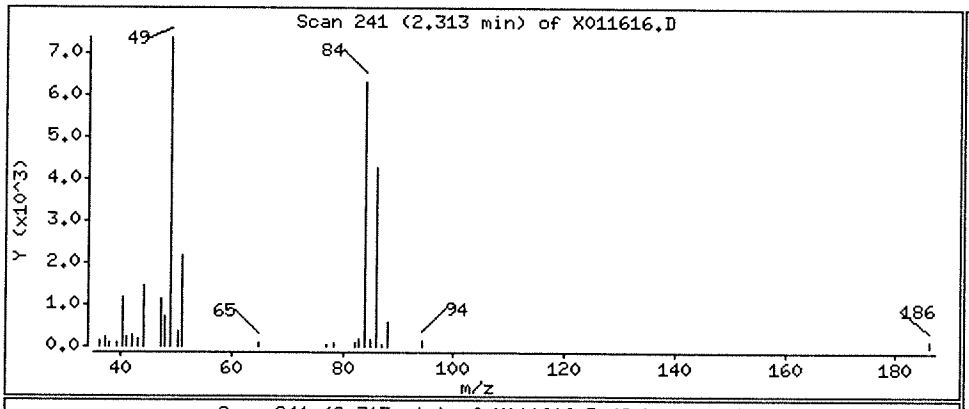
Operator: PC

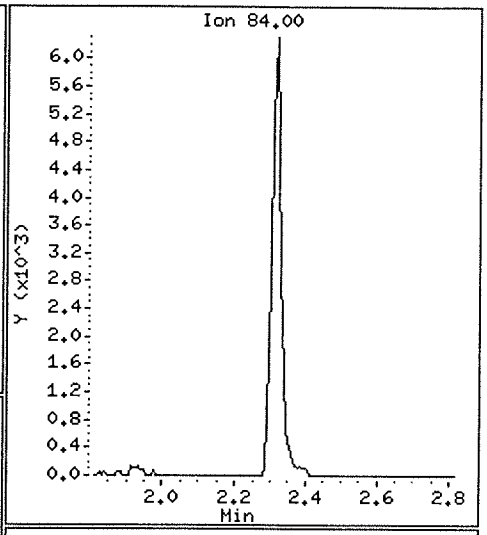
Column phase: DB624

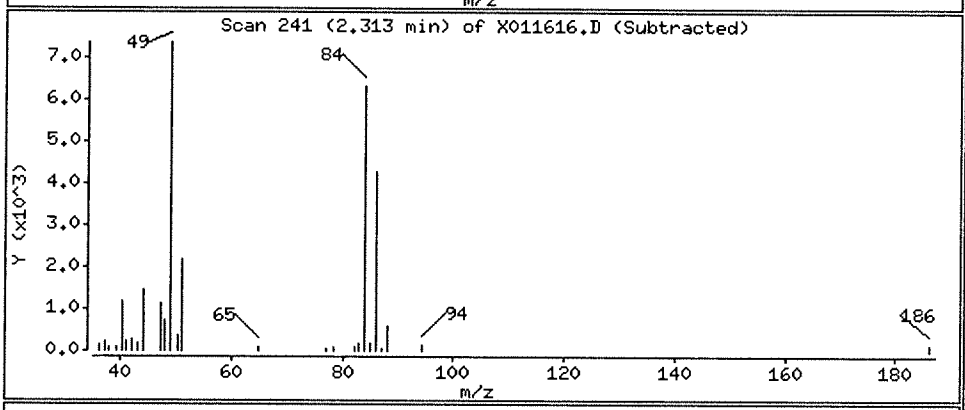
Column diameter: 0.18

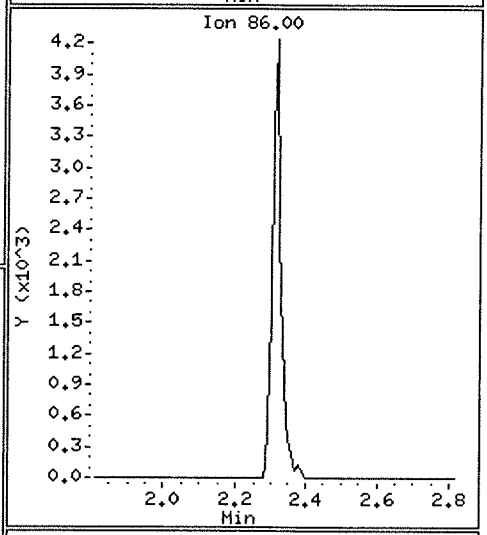
17 Methylene Chloride

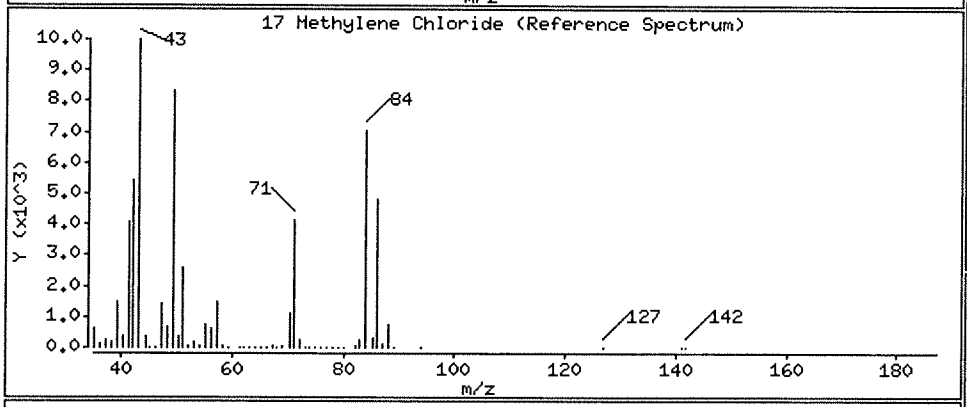
Concentration: 5.65 ug/l

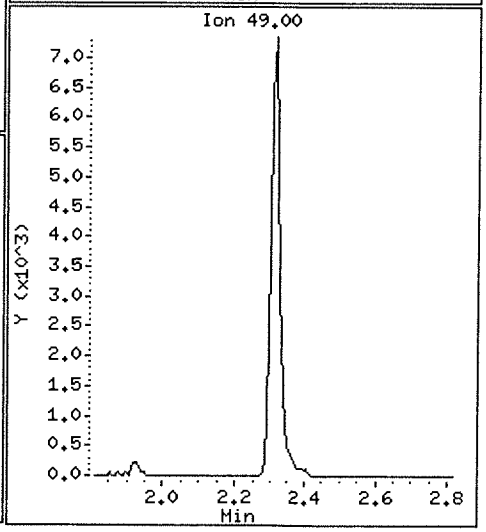


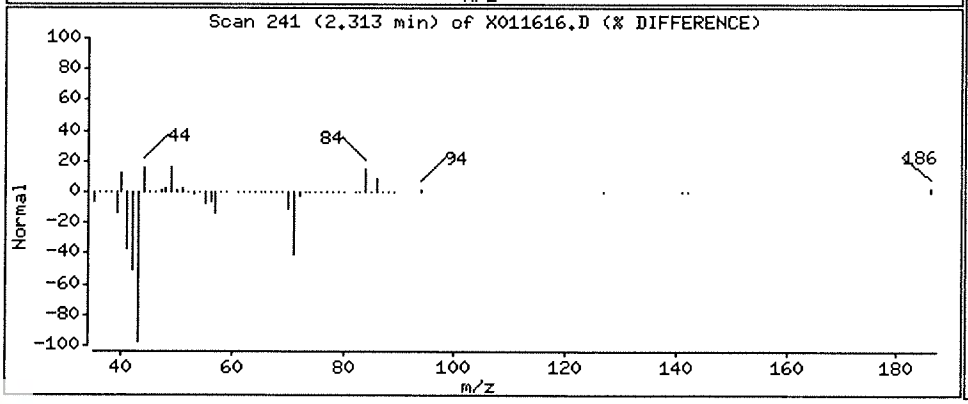












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Date : 16-OCT-2020 19:47

Client ID: HS20100455-01

Instrument: voa6.i

Sample Info: HS20100455-01;HS20100455-01;;;

Purge Volume: 5.0

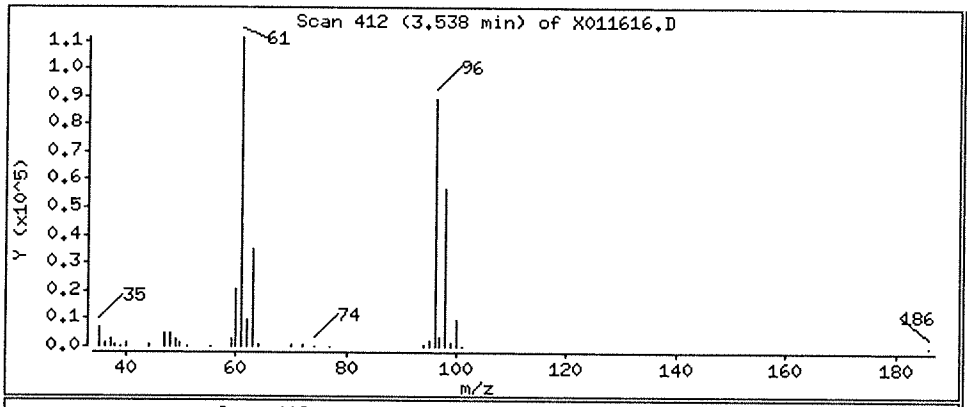
Operator: PC

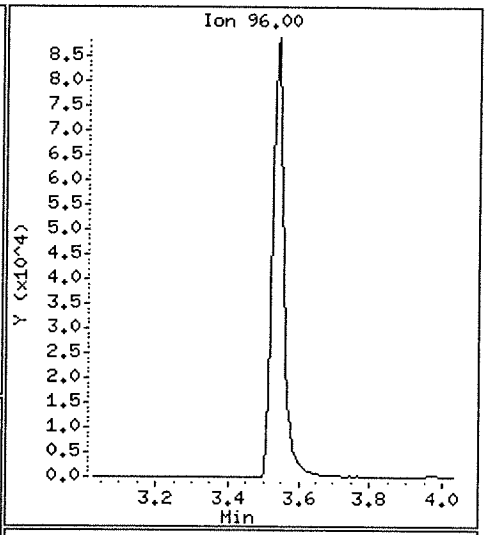
Column phase: DB624

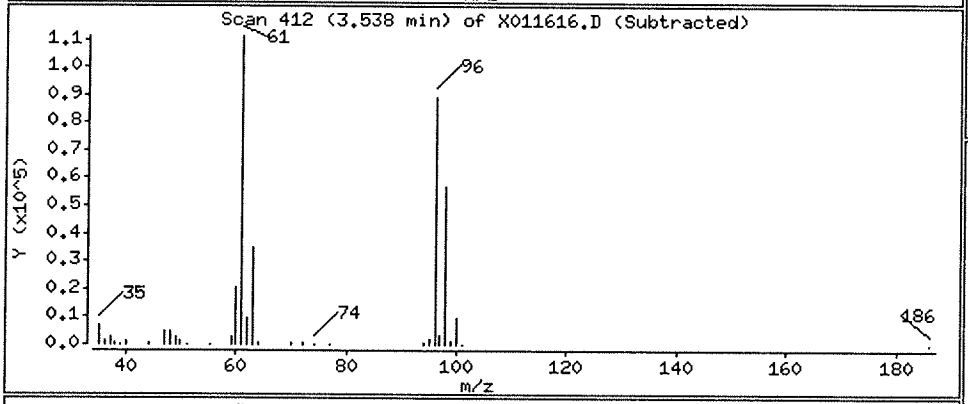
Column diameter: 0.18

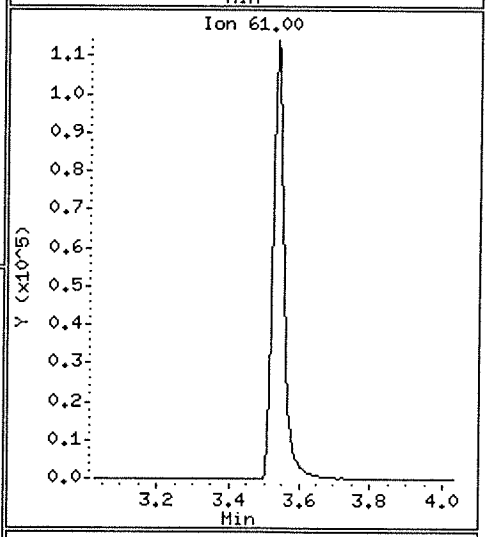
27 cis-1,2-Dichloroethene

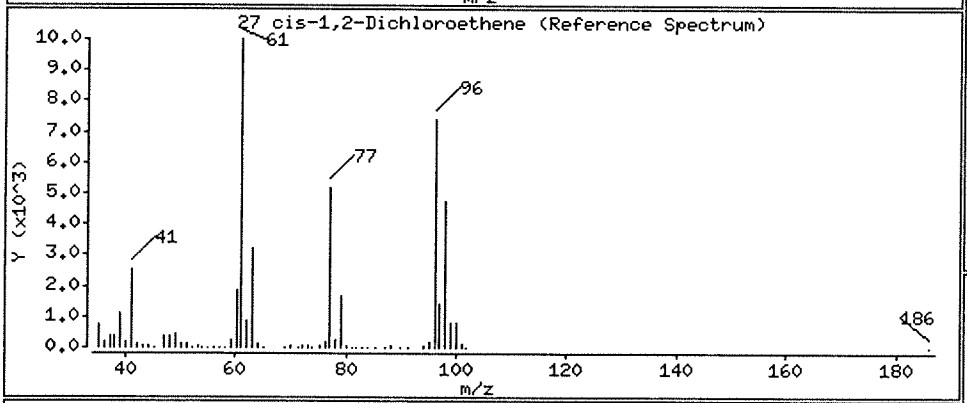
Concentration: 141.03 ug/l

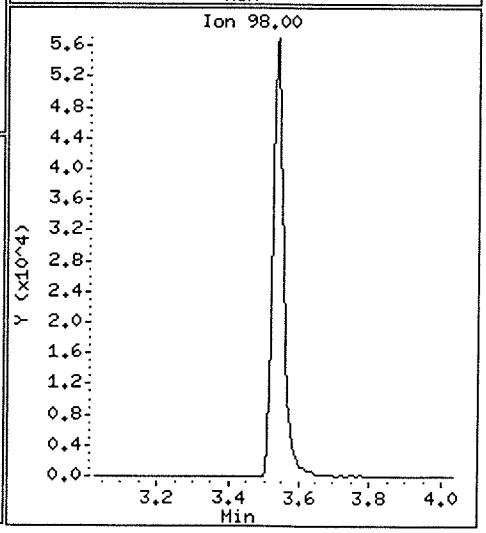


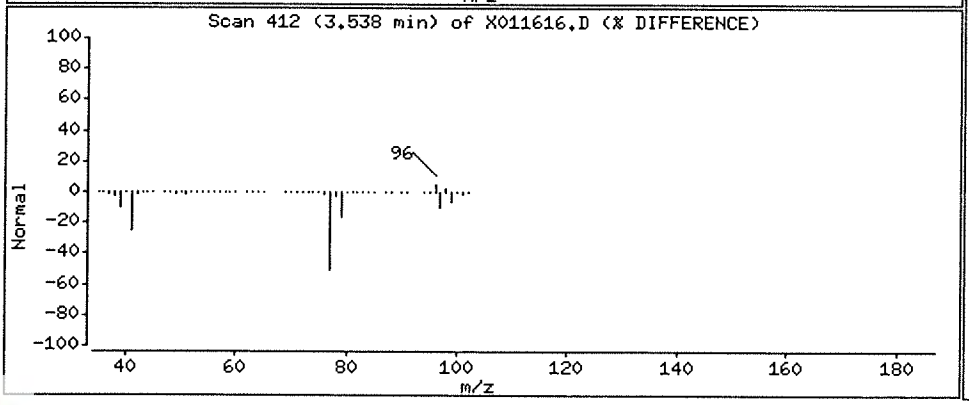












Data File: \\nahstws005\Target\chem\voa6.i\X201016.b\X011616.D

Date : 16-OCT-2020 19:47

Client ID: HS20100455-01

Instrument: voa6.i

Sample Info: HS20100455-01;HS20100455-01;;;

Purge Volume: 5.0

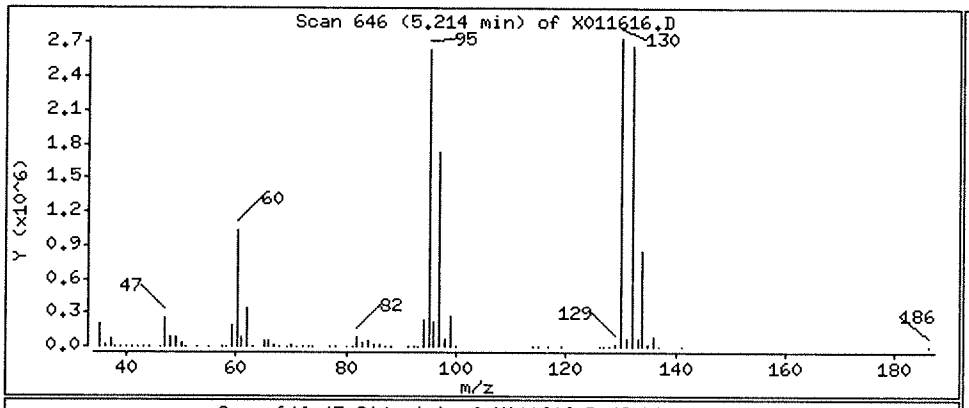
Operator: PC

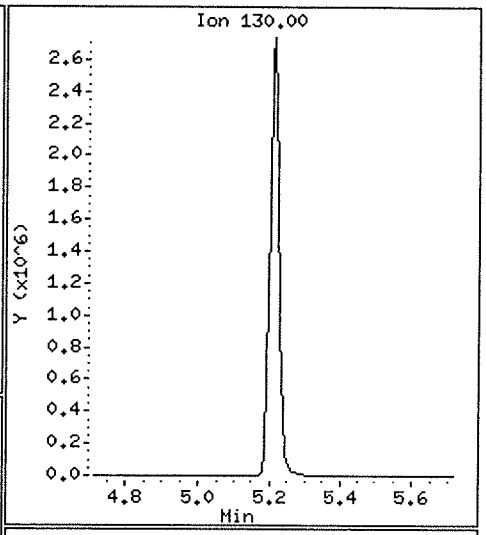
Column phase: DB624

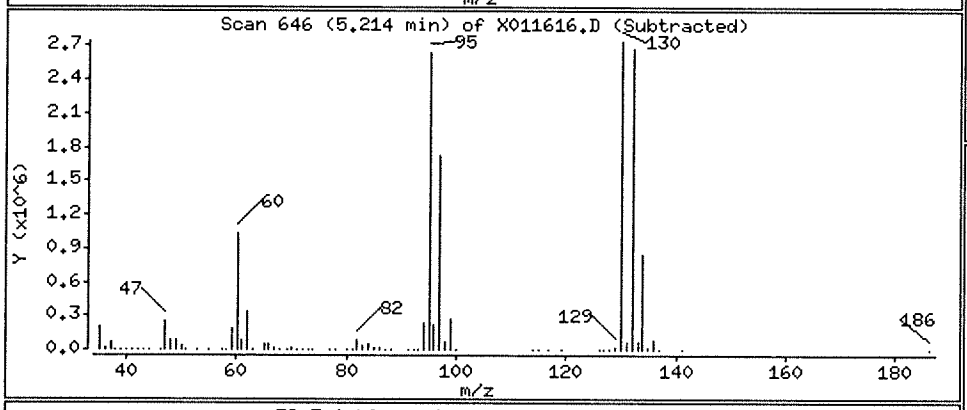
Column diameter: 0.18

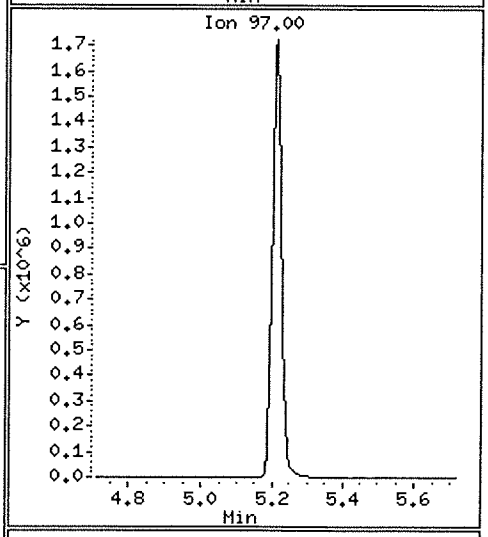
38 Trichloroethene

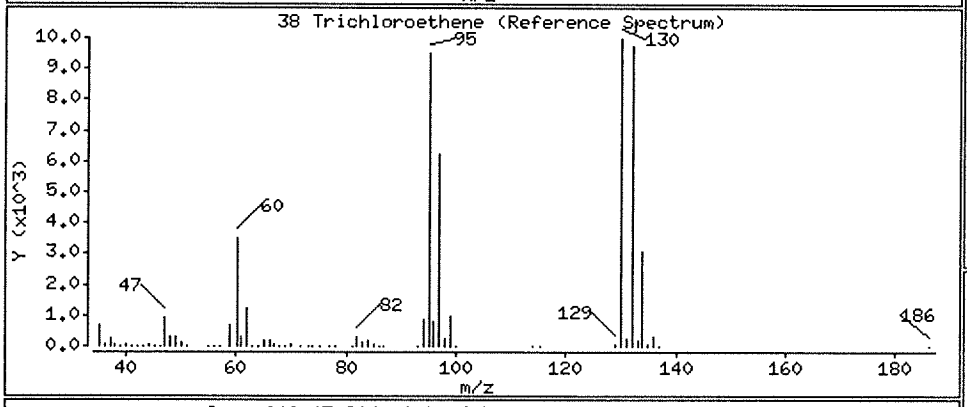
Concentration: 3845.16 ug/l

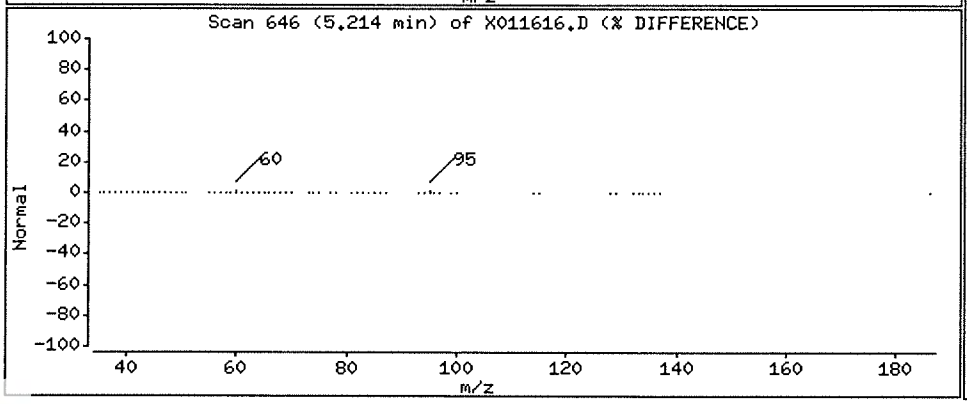


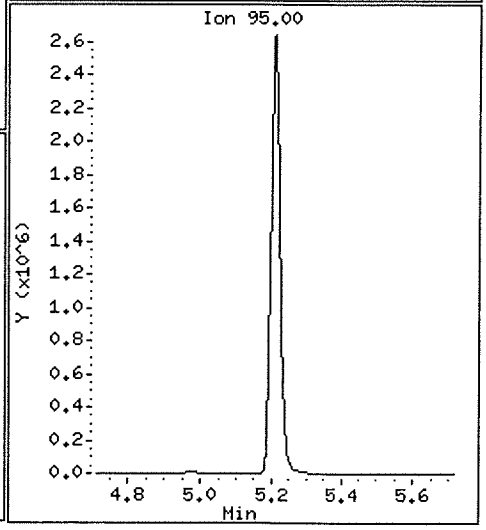












Data File: \\nahstws005\Target\chem\voa6.i\X201016.b\X011617.D Page 1
Report Date: 26-Oct-2020 07:38

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201016.b\X011617.D
Lab Smp Id: HS20100455-05 Client Smp ID: HS20100455-05
Inj Date : 16-OCT-2020 20:11
Operator : PC Inst ID: voa6.i
Smp Info : HS20100455-05;HS20100455-05;;;
Misc Info : HS18090001;WATER;0;25;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201016.b\8260W.m
Meth Date : 26-Oct-2020 07:34 dev.giga Quant Type: ISTD
Cal Date : 24-SEP-2020 14:21 Cal File: X092408.D
Als bottle: 17
Dil Factor: 25.00000
Integrator: HP RTE Compound Sublist: CBI-HOUSTON.sub
Target Version: 4.14
Processing Host: NAHSTW7056

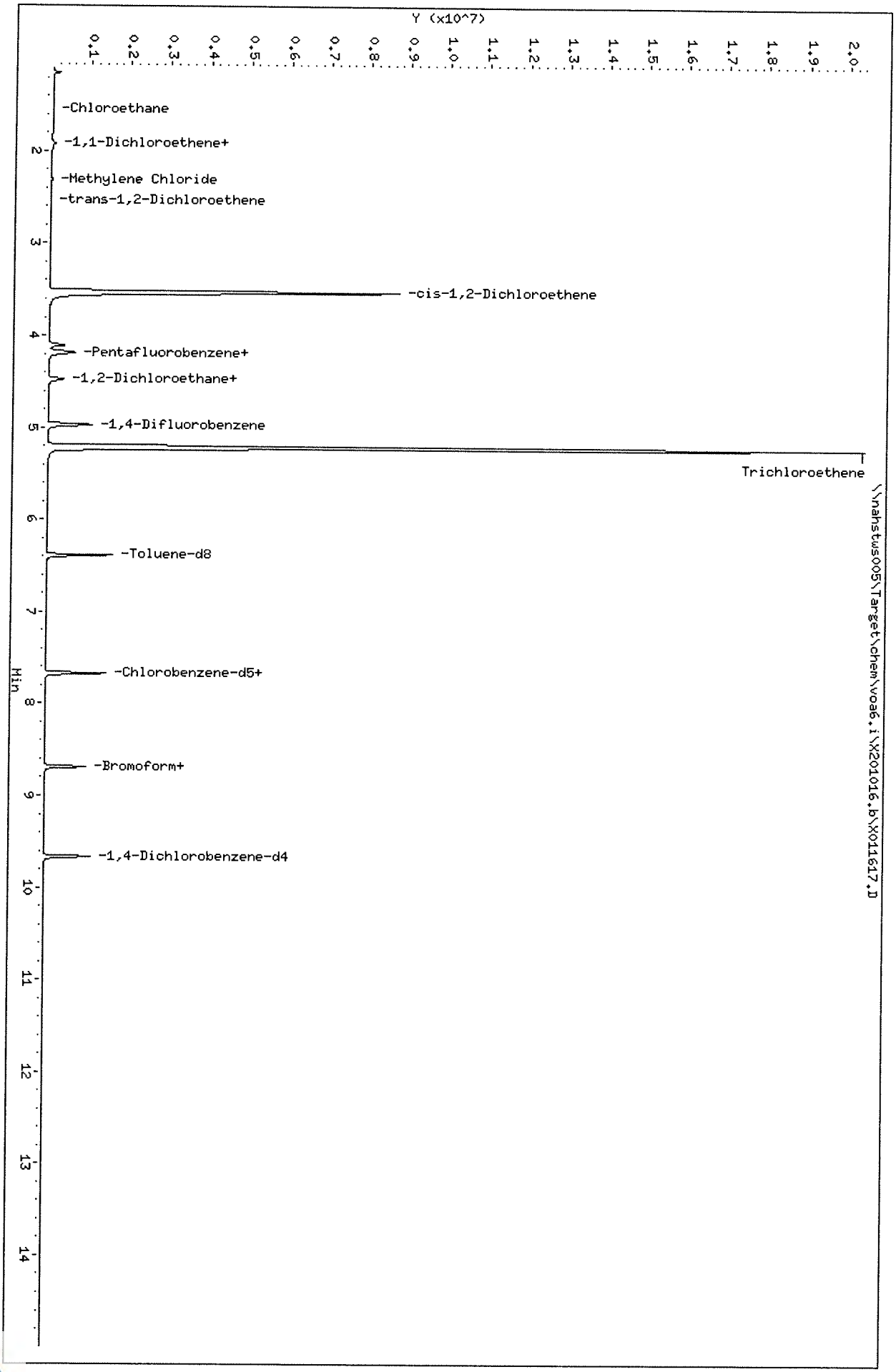
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	25.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	569225	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	264795	45.2702	45.27
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	281232	43.9508	43.95
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	899339	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	737437	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	959497	49.4897	49.48
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	326928	50.8815	50.88
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	301040	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.273)	137138	18.6509	466.27
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	11995	2.34368	58.59(a)
17 Methylene Chloride	84	2.313	2.313	(0.552)	15087	1.74840	43.70(a)
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	4377782	627.754	15693.85(A)
33 1,2-Dichloroethane	62	4.569	4.562	(0.919)	10344	1.33398	33.34(a)
38 Trichloroethene	130	5.214	5.214	(1.049)	6775034	1053.23	26330.71(A)

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount exceeded maximum amount.



Data File: \\nahstws005\Target\chem\voa6.i\X201016.b\X011617.D
Date : 16-OCT-2020 20:11
Client ID: HS20100455-05
Sample Info: HS20100455-05;HS20100455-05;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201016.b\X011617.D

Date : 16-OCT-2020 20:11

Client ID: HS20100455-05

Instrument: voa6.i

Sample Info: HS20100455-05;HS20100455-05;;;

Purge Volume: 5.0

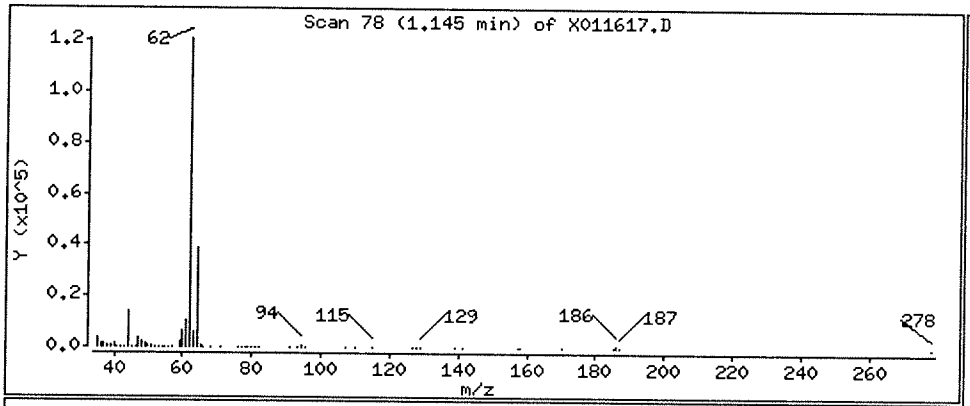
Operator: PC

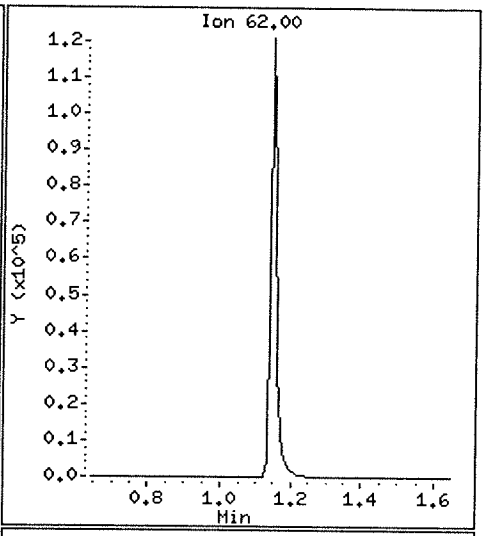
Column phase: DB624

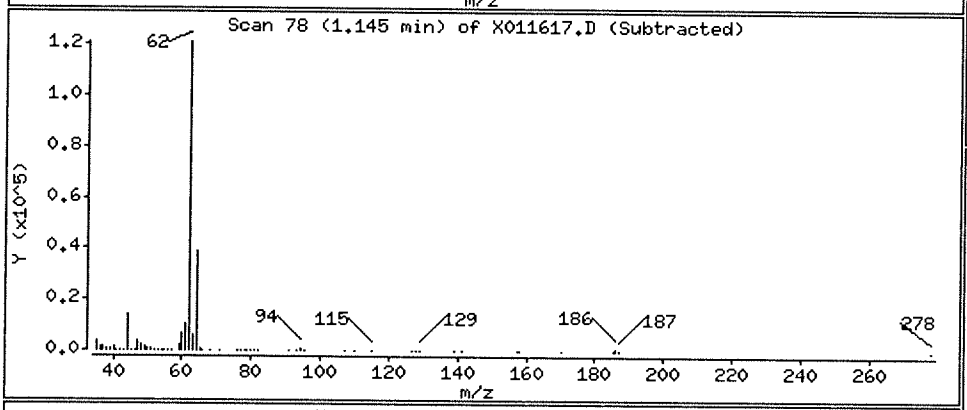
Column diameter: 0.18

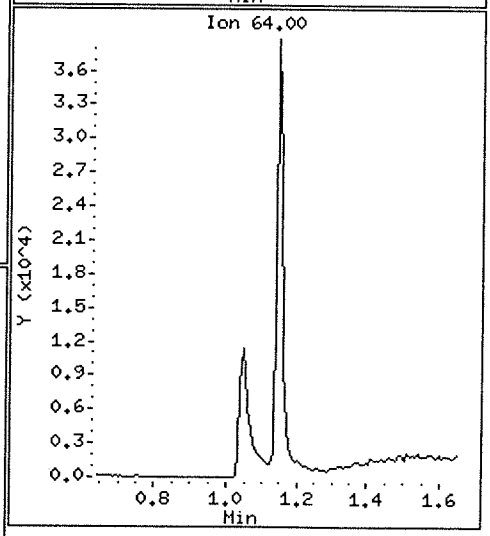
5 Vinyl Chloride

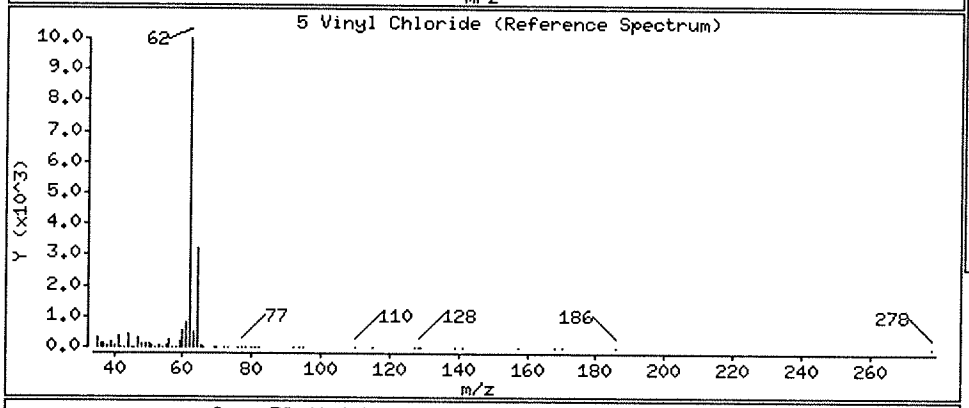
Concentration: 466.27 ug/l

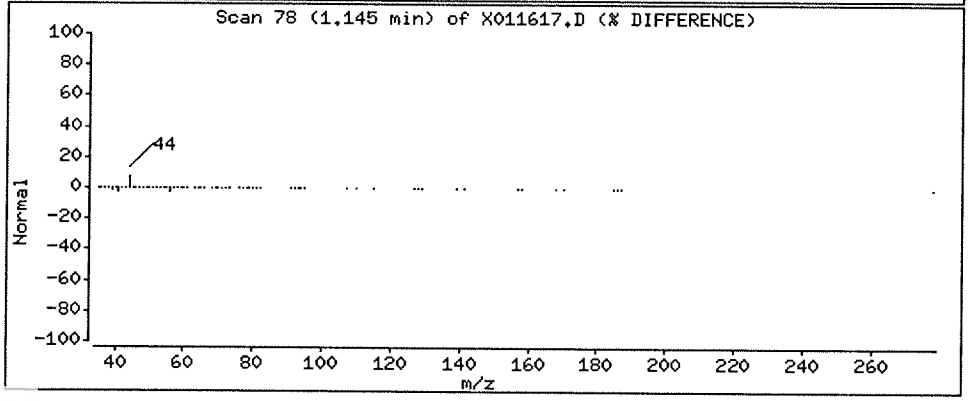












Data File: \\nahstws005\Target\chem\voa6.i\X201016.b\X011617.D

Date : 16-OCT-2020 20:11

Client ID: HS20100455-05

Instrument: voa6.i

Sample Info: HS20100455-05;HS20100455-05;;;

Purge Volume: 5.0

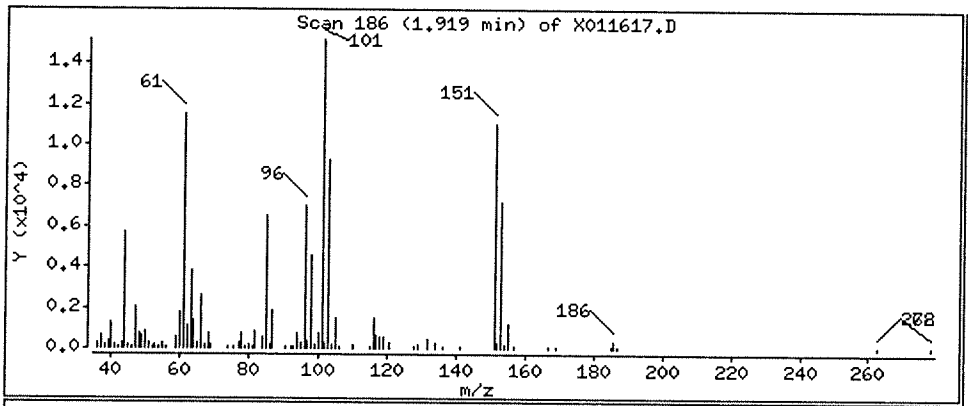
Operator: PC

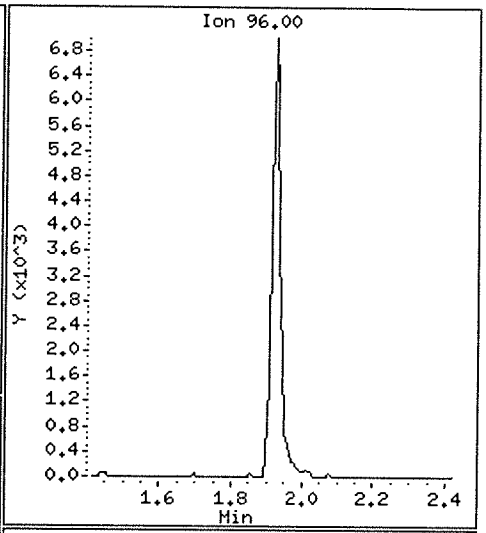
Column phase: DB624

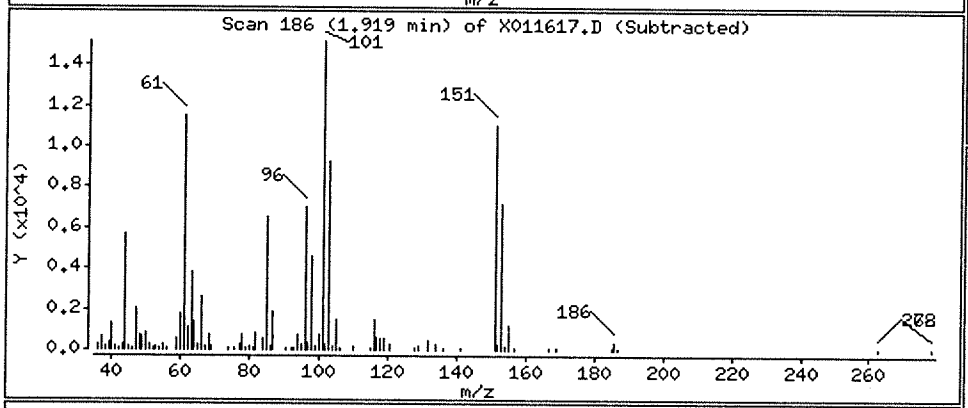
Column diameter: 0.18

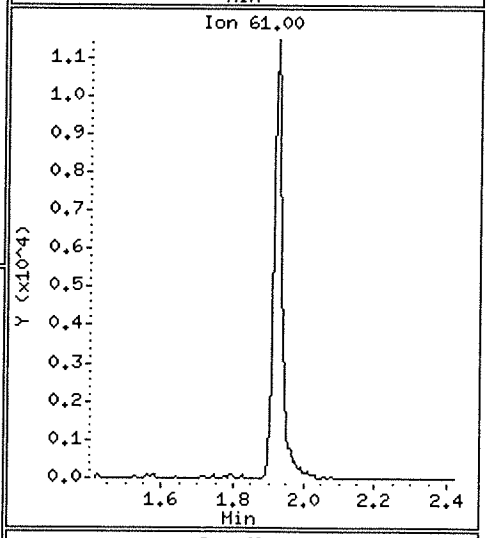
11 1,1-Dichloroethene

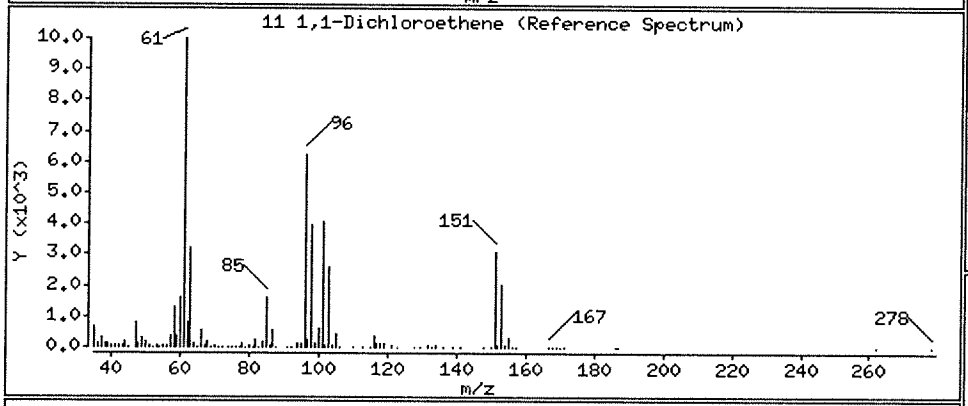
Concentration: 58.59 ug/l

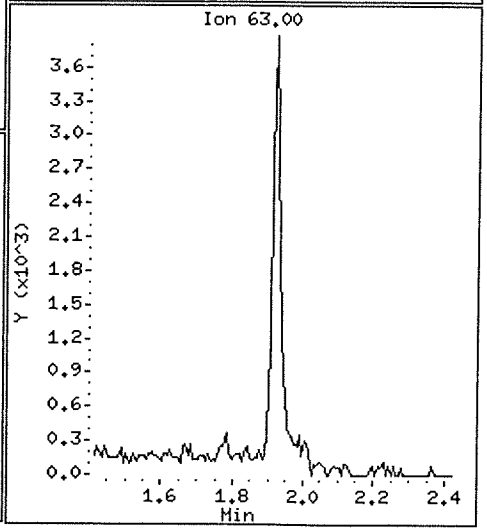


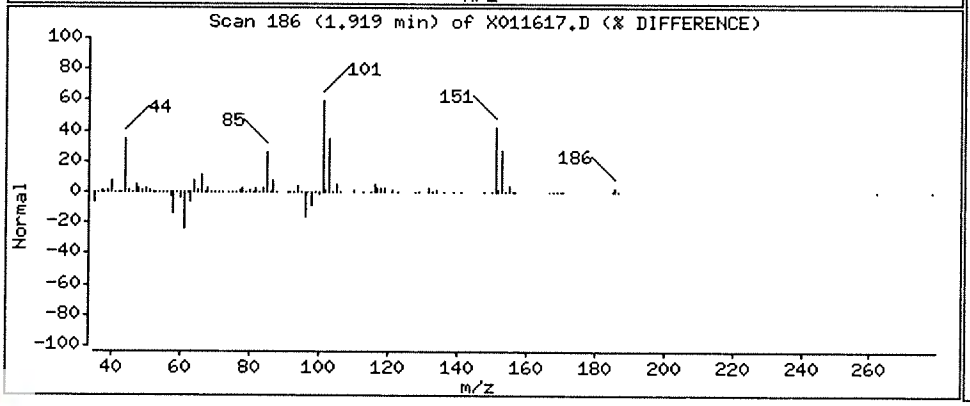












Data File: \\nahstws005\Target\chem\voa6.i\X201016.b\X011617.D

Date : 16-OCT-2020 20:11

Client ID: HS20100455-05

Instrument: voa6.i

Sample Info: HS20100455-05;HS20100455-05;;;

Purge Volume: 5.0

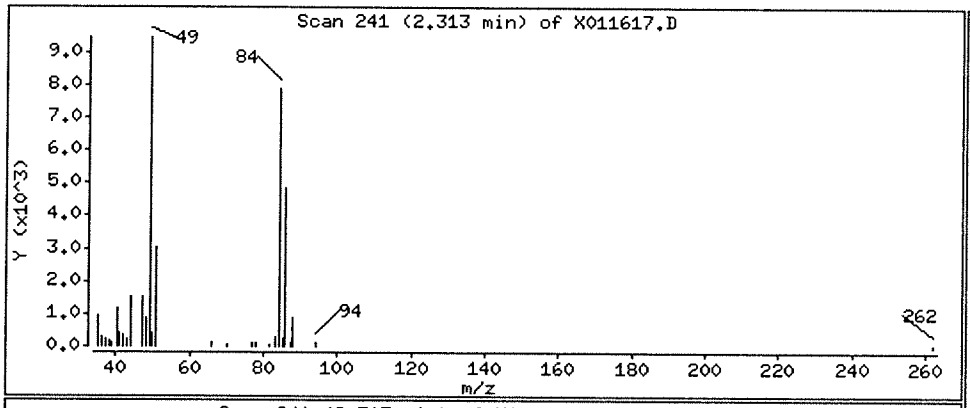
Operator: PC

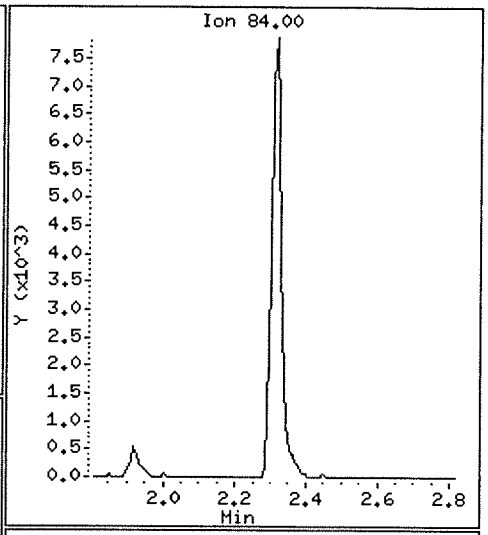
Column phase: DB624

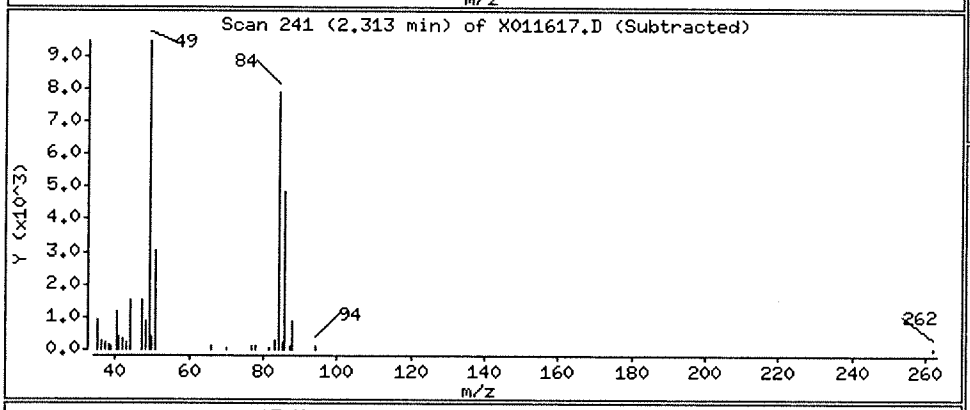
Column diameter: 0.18

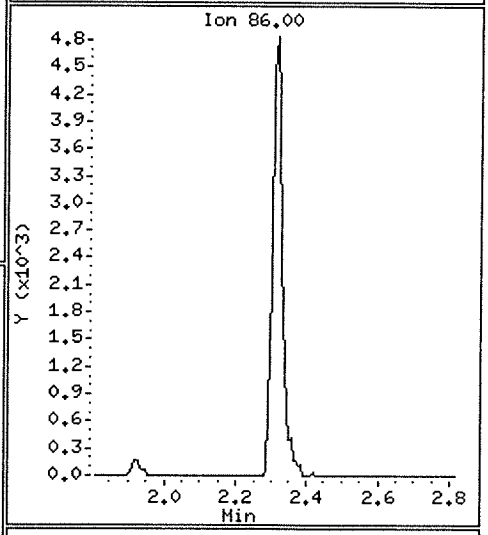
17 Methylene Chloride

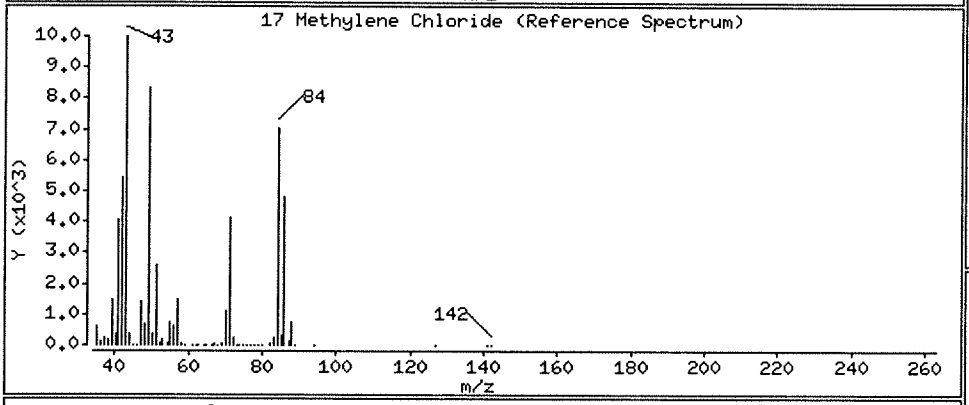
Concentration: 43.70 ug/l

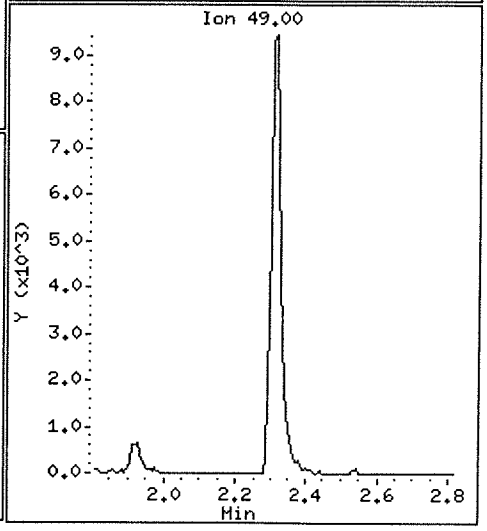


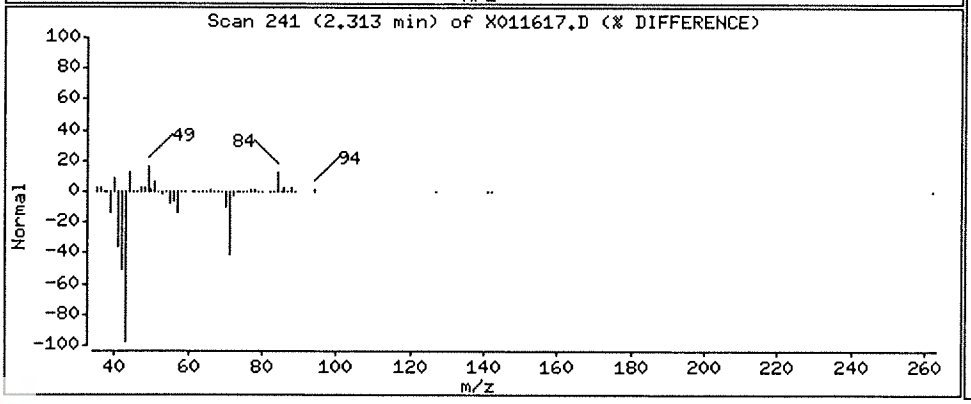












Data File: \\nahstws005\Target\chem\voa6.i\X201016.b\X011617.D

Date : 16-OCT-2020 20:11

Client ID: HS20100455-05

Instrument: voa6.i

Sample Info: HS20100455-05;HS20100455-05;;;

Purge Volume: 5.0

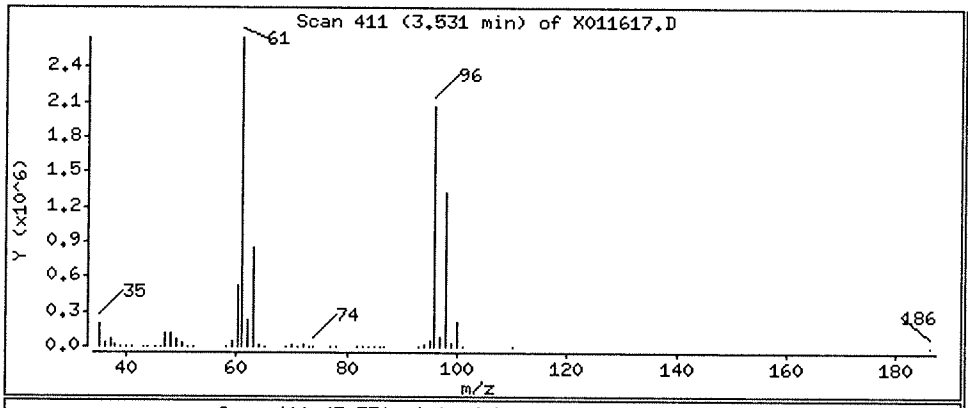
Operator: PC

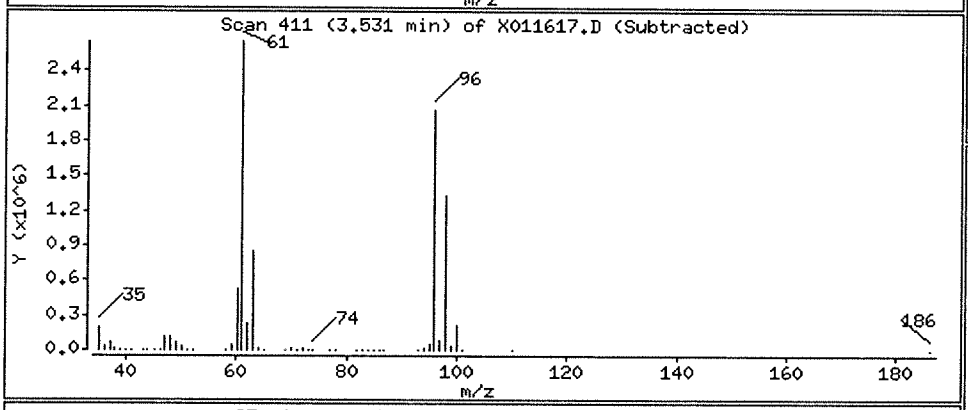
Column phase: DB624

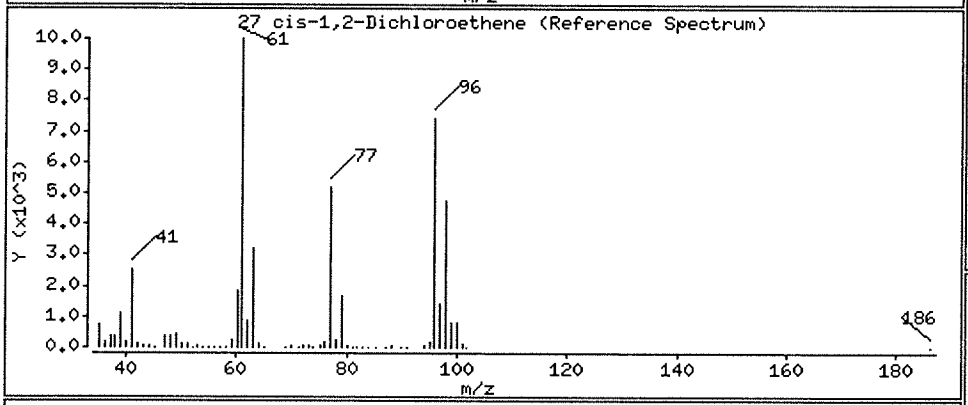
Column diameter: 0.18

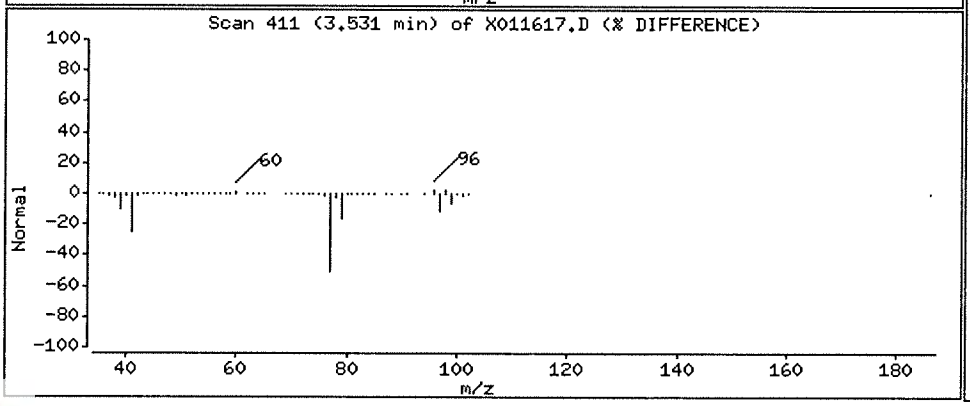
27 cis-1,2-Dichloroethene

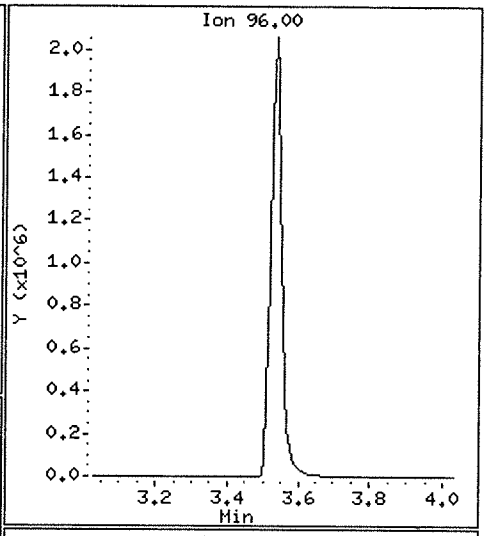
Concentration: 15693.85 ug/l

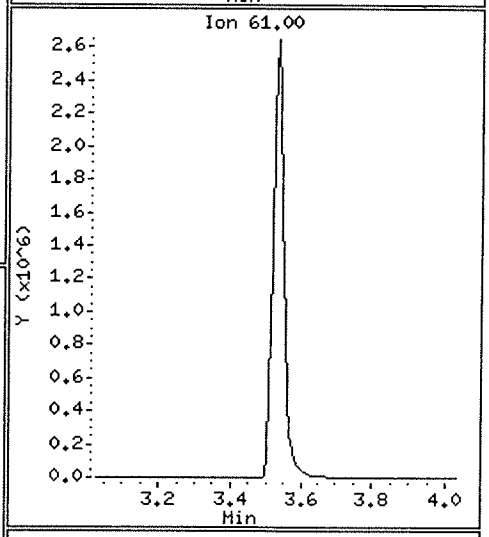


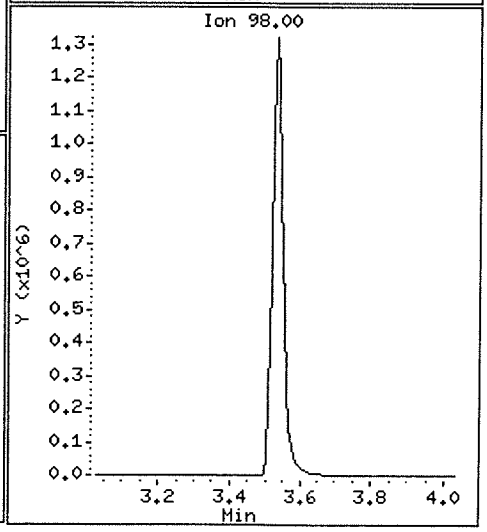












Data File: \\nahstws005\Target\chem\voa6.i\X201016.b\X011617.D

Date : 16-OCT-2020 20:11

Client ID: HS20100455-05

Instrument: voa6.i

Sample Info: HS20100455-05;HS20100455-05;;;

Purge Volume: 5.0

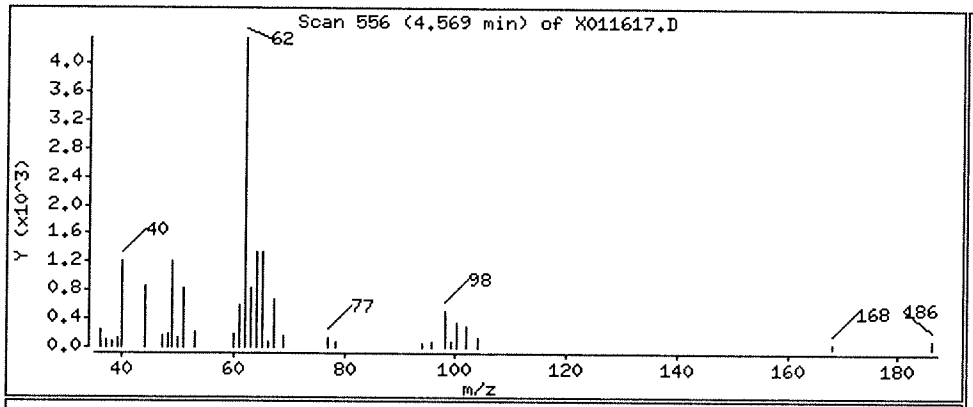
Operator: PC

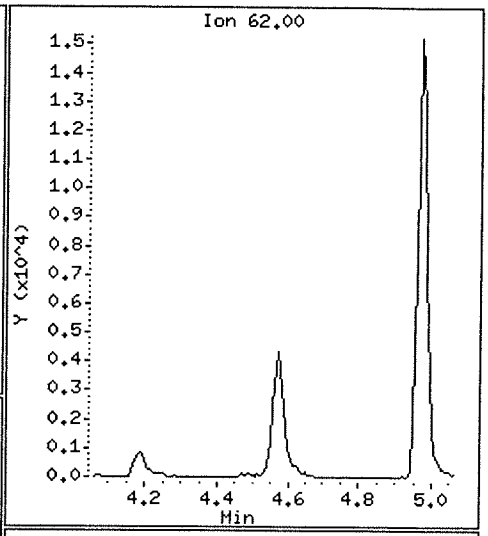
Column phase: DB624

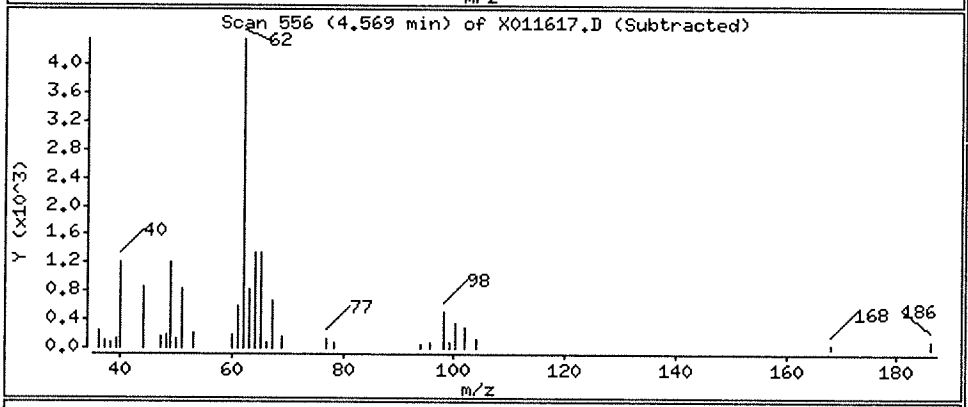
Column diameter: 0.18

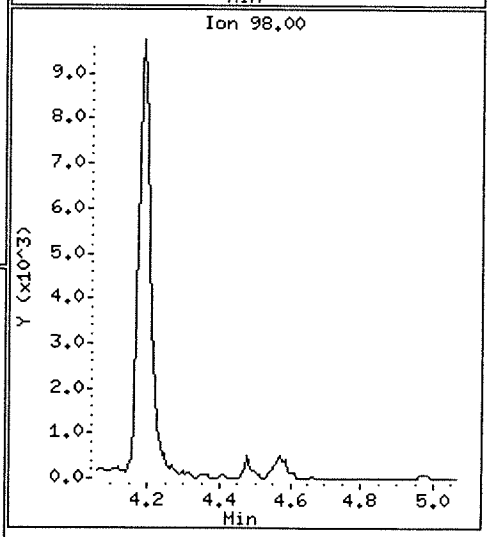
33 1,2-Dichloroethane

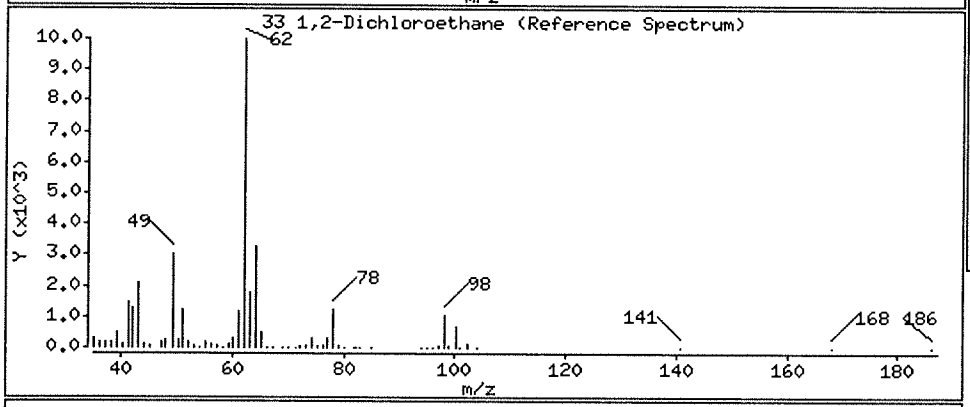
Concentration: 33.34 ug/l

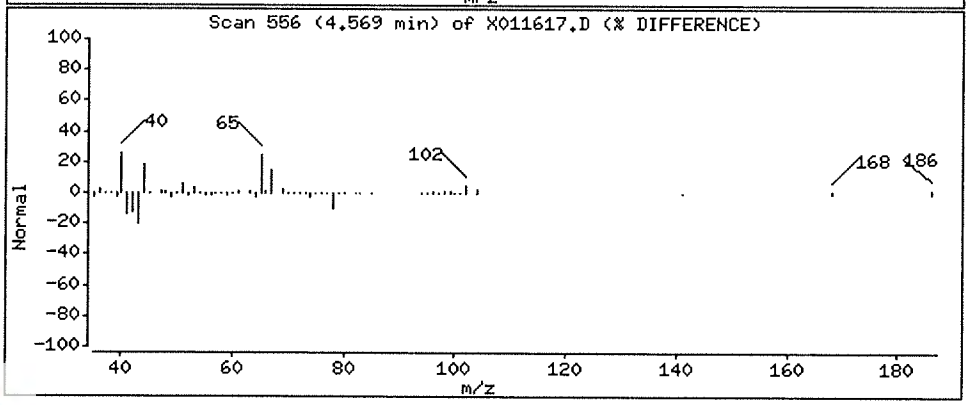












Data File: \\nahstws005\Target\chem\voa6.i\X201016.b\X011617.D

Date : 16-OCT-2020 20:11

Client ID: HS20100455-05

Instrument: voa6.i

Sample Info: HS20100455-05;HS20100455-05;;;

Purge Volume: 5.0

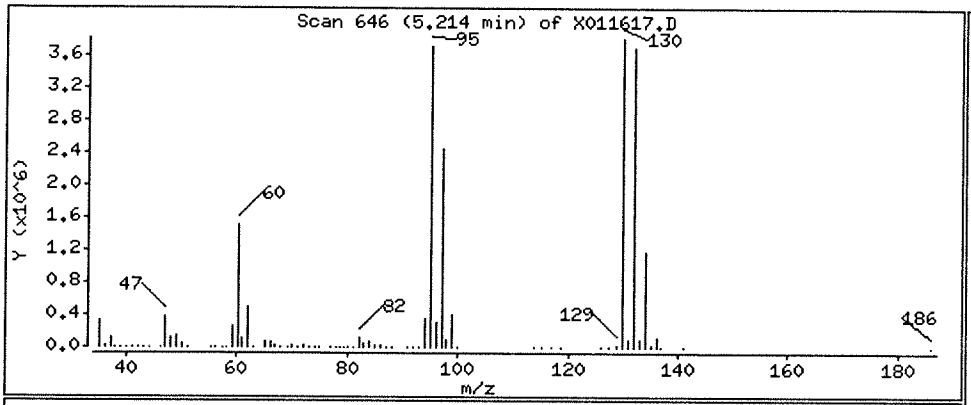
Operator: PC

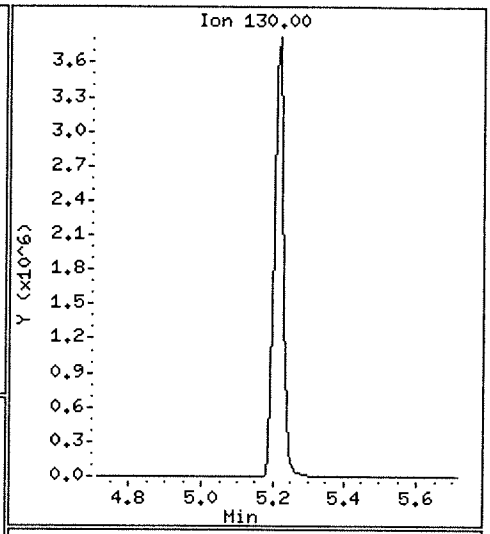
Column phase: DB624

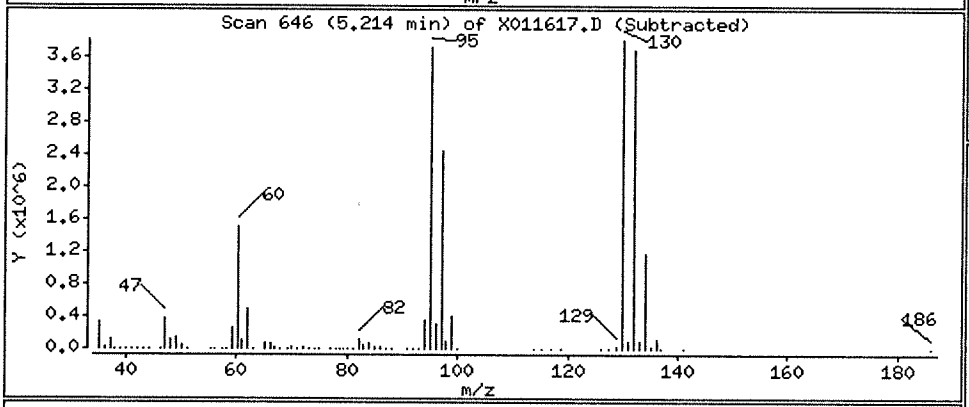
Column diameter: 0.18

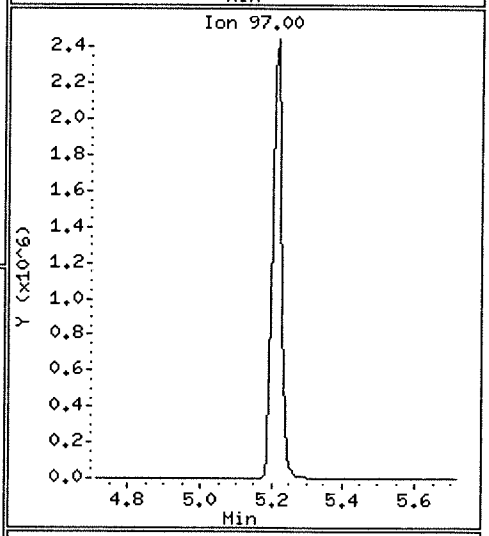
38 Trichloroethene

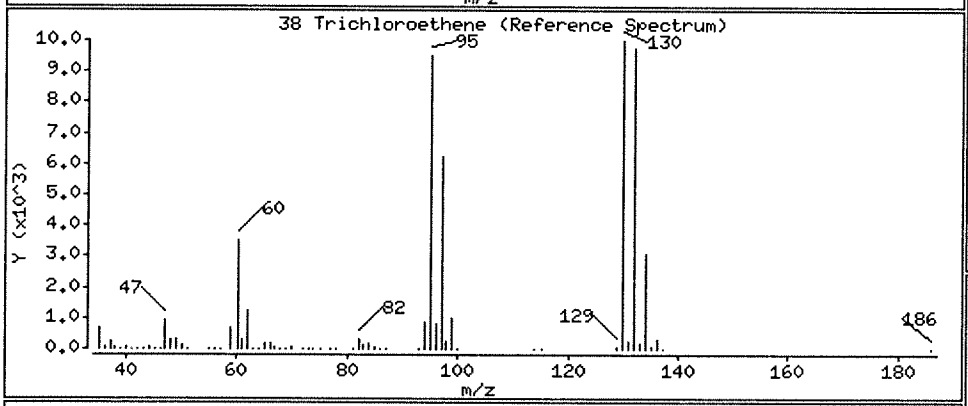
Concentration: 26330.71 ug/l

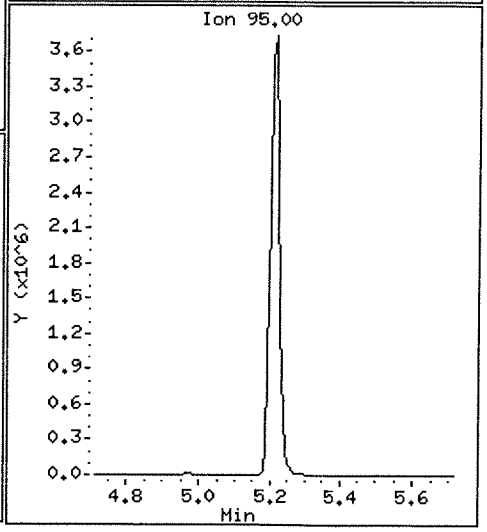


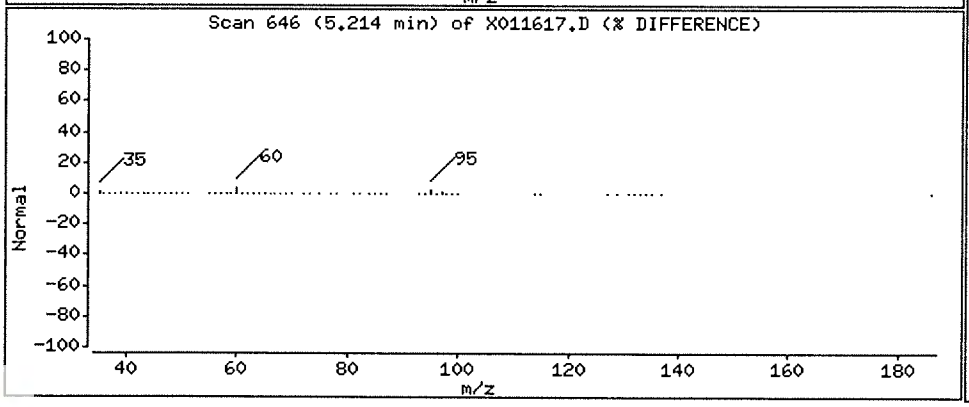












Data File: \\nahstws005\Target\chem\voa6.i\X201016.b\X011618.D Page 1
Report Date: 26-Oct-2020 07:42

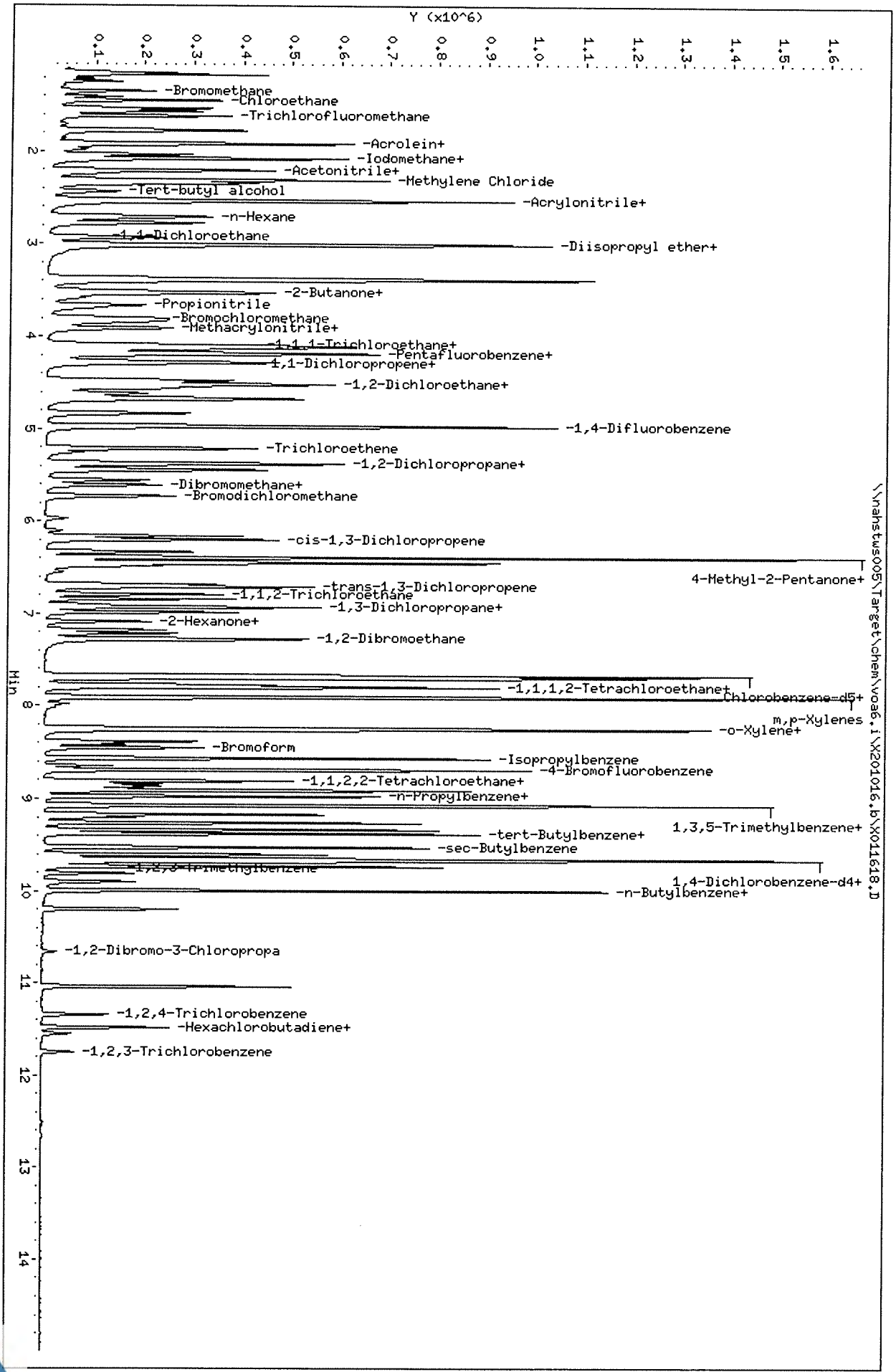
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201016.b\X011618.D
Lab Smp Id: HS20100455-03MS Client Smp ID: HS20100455-03MS
Inj Date : 16-OCT-2020 20:35
Operator : PC Inst ID: voa6.i
Smp Info : HS20100455-03MS;HS20100455-03MS;3;;MS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201016.b\8260W.m
Meth Date : 26-Oct-2020 07:42 voa6.i Quant Type: ISTD
Cal Date : 24-SEP-2020 14:21 Cal File: X092408.D
Als bottle: 18 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-HOUSTON.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	557204	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	262674	45.8764	45.87
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	275020	43.9073	43.90
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	845107	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	680537	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	966945	54.0439	54.04
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	304562	51.3716	51.37
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	279653	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.273)	156674	21.7675	21.76
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	114036	22.7620	22.76
17 Methylene Chloride	84	2.313	2.313	(0.552)	139141	22.4315	22.43
27 cis-1,2-Dichloroethene	96	3.537	3.530	(0.844)	151936	22.2570	22.25
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	153499	21.0658	21.06
38 Trichloroethene	130	5.214	5.214	(1.049)	145355	24.0466	24.04
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	91814	22.9076	22.90
56 Tetrachloroethene	164	6.933	6.933	(0.904)	106759	24.8307	24.83



Data File: \\nahstws005\Target\chem\voa6.i\X201016.b\X011618.D
Date : 16-OCT-2020 20:35
Client ID: HS20100455-03MS
Sample Info: HS20100455-03MS;HS20100455-03MS;3;;HS
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201016.b\X011619.D Page 1
Report Date: 26-Oct-2020 07:42

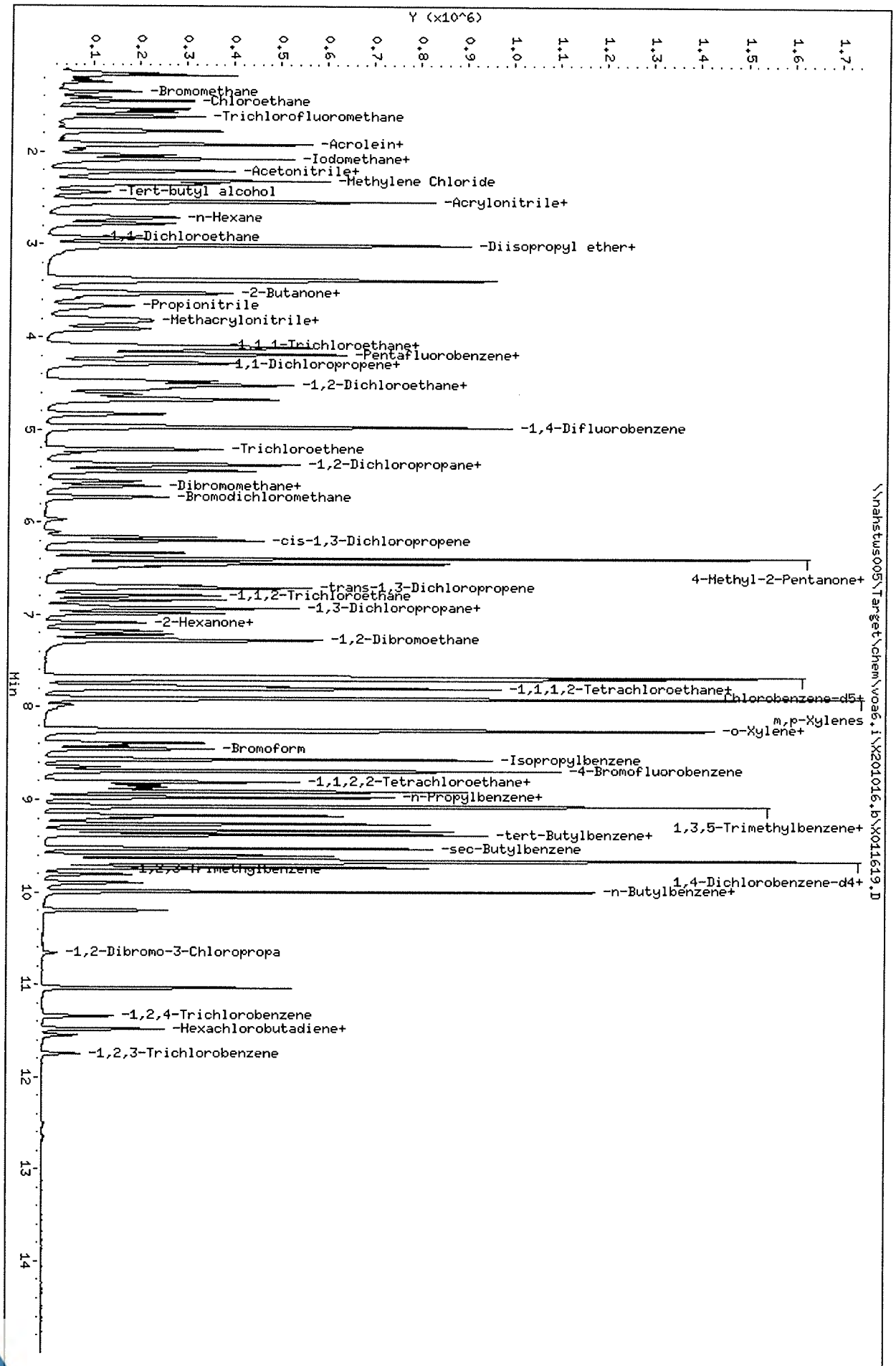
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201016.b\X011619.D
Lab Smp Id: HS20100455-03MSD Client Smp ID: HS20100455-03MSD
Inj Date : 16-OCT-2020 20:59
Operator : PC Inst ID: voa6.i
Smp Info : HS20100455-03MSD;HS20100455-03MSD;3;;MSD
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201016.b\8260W.m
Meth Date : 26-Oct-2020 07:42 voa6.i Quant Type: ISTD
Cal Date : 24-SEP-2020 14:21 Cal File: X092408.D
Als bottle: 18 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-HOUSTON.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	534448	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	241220	43.9232	43.92
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	256549	42.7023	42.70
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	811903	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	759534	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	948247	47.4866	47.48
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	331937	50.1463	50.14
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	299689	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.273)	142631	20.6601	20.66
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	103631	21.5659	21.56
17 Methylene Chloride	84	2.313	2.313	(0.552)	124119	20.8122	20.81
27 cis-1,2-Dichloroethene	96	3.537	3.530	(0.844)	131461	20.0776	20.07
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	140140	20.0190	20.01
38 Trichloroethene	130	5.214	5.214	(1.049)	128366	22.1045	22.10
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	90109	20.1439	20.14
56 Tetrachloroethene	164	6.933	6.933	(0.904)	103524	21.5740	21.57



Data File: \\nahstws005\Target\chem\voa6.i\X201016.b\X011619.D
Date : 16-OCT-2020 20:59
Client ID: HS20100455-03MSD
Sample Info: HS20100455-03MSD;HS20100455-03MSD;3;;HSD
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201016.b\X011620.D Page 1
Report Date: 26-Oct-2020 07:38

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201016.b\X011620.D
Lab Smp Id: HS20100455-01 Client Smp ID: HS20100455-01
Inj Date : 16-OCT-2020 21:23
Operator : PC Inst ID: voa6.i
Smp Info : HS20100455-01;HS20100455-01;;;
Misc Info : HS18090001;WATER;0;50;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201016.b\8260W.m
Meth Date : 26-Oct-2020 07:34 dev.giga Quant Type: ISTD
Cal Date : 24-SEP-2020 14:21 Cal File: X092408.D
Als bottle: 19
Dil Factor: 50.00000
Integrator: HP RTE Compound Sublist: CBI-HOUSTON.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	50.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

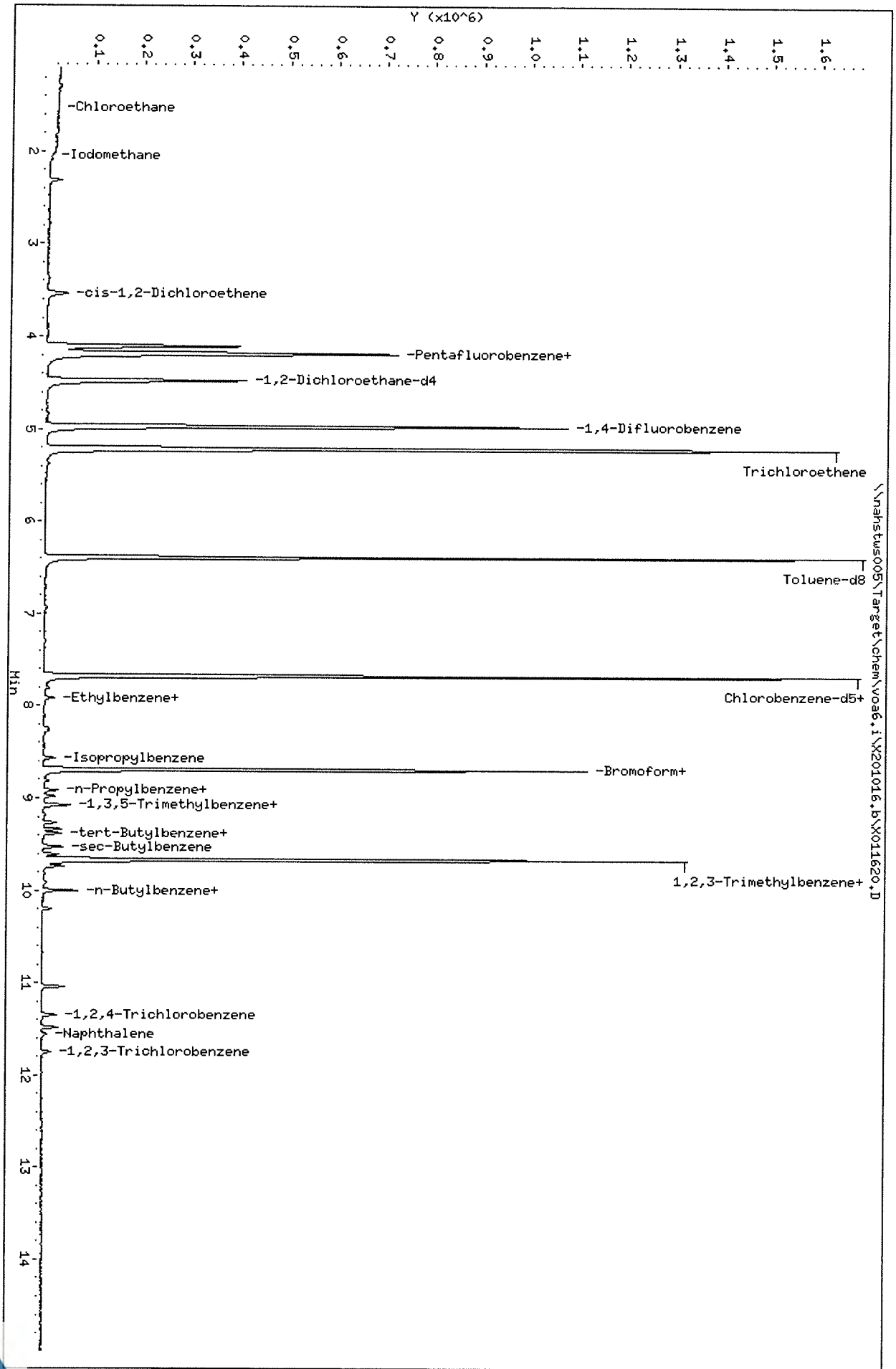
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	611945	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	285324	45.3745	45.37
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	299922	43.5996	43.59
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	892333	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	806124	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	1007397	47.5330	47.53
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	352015	50.1054	50.10
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	320118	50.0000	
27 cis-1,2-Dichloroethene	96	3.538	3.530	(0.844)	22729	3.03171	151.58(a)
38 Trichloroethene	130	5.214	5.214	(1.049)	563113	88.2273	4411.36

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: \\nahstws005\Target\chem\voa6.i\X201016.b\X011620.D
Date : 16-OCT-2020 21:23
Client ID: HS20100455-01
Sample Info: HS20100455-01;HS20100455-01;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



Data File: \\nahstws005\Target\chem\voa6.i\X201016.b\X011620.D

Date : 16-OCT-2020 21:23

Client ID: HS20100455-01

Instrument: voa6.i

Sample Info: HS20100455-01;HS20100455-01;;;

Purge Volume: 5.0

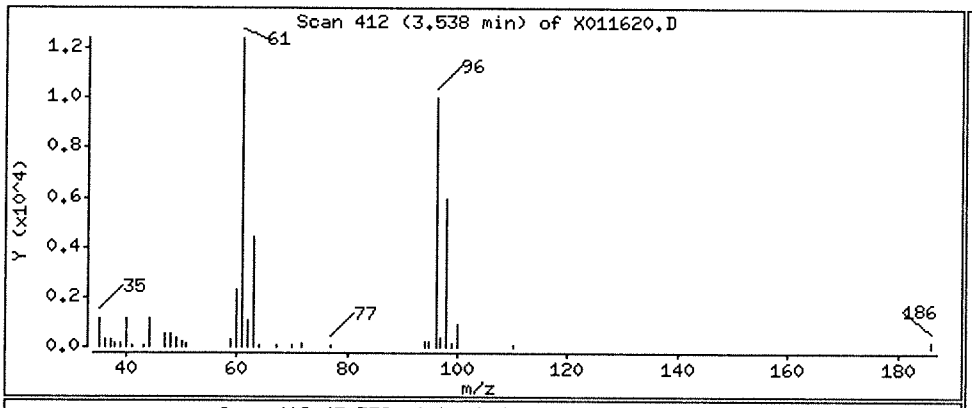
Operator: PC

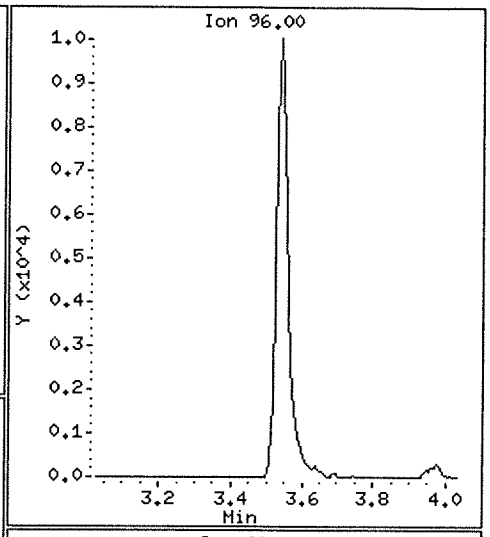
Column phase: DB624

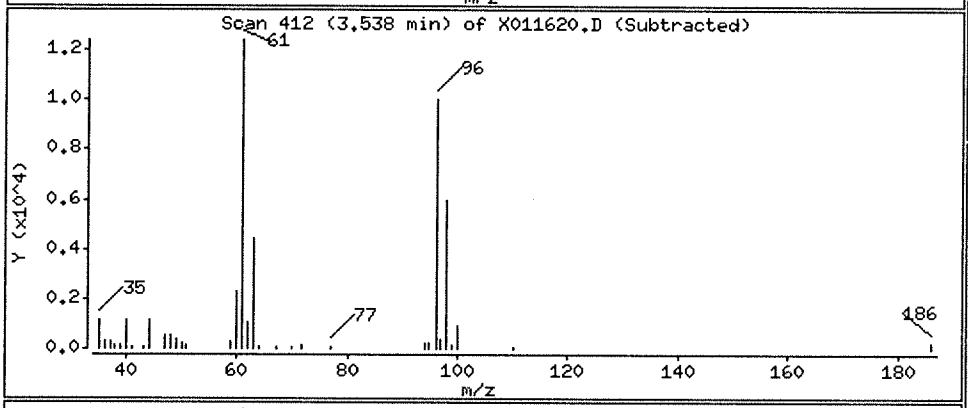
Column diameter: 0.18

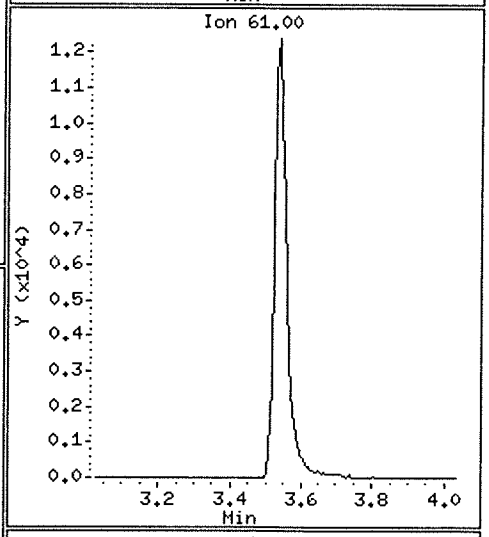
27 cis-1,2-Dichloroethene

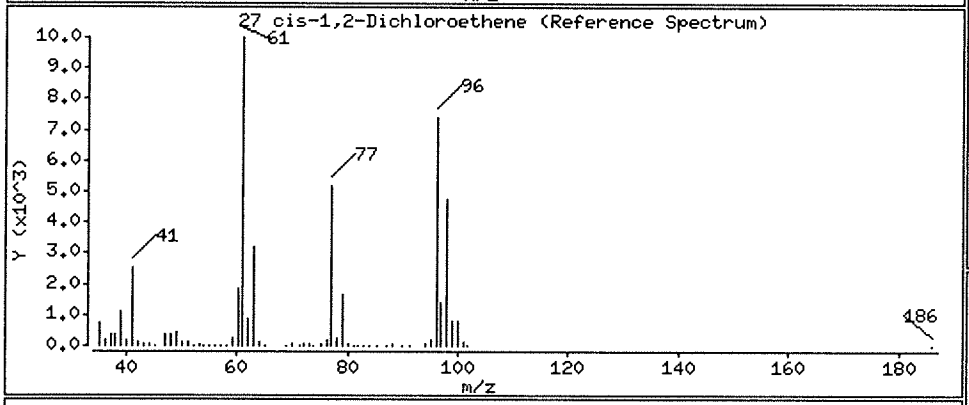
Concentration: 151.58 ug/l

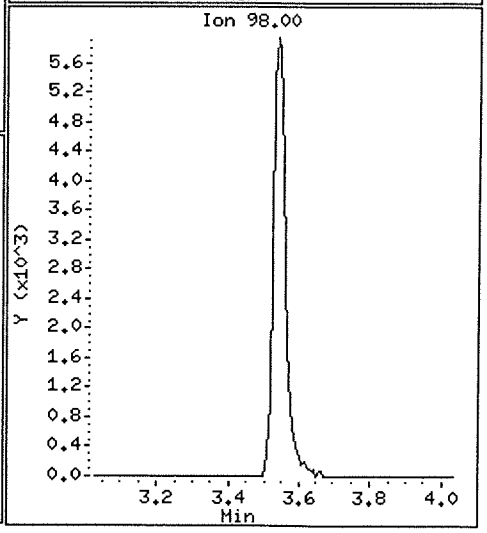


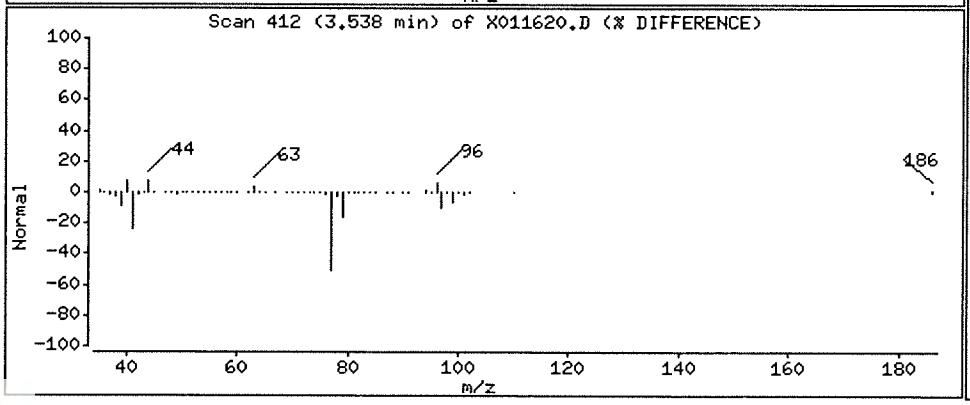












Data File: \\nahstws005\Target\chem\voa6.i\X201016.b\X011620.D

Date : 16-OCT-2020 21:23

Client ID: HS20100455-01

Instrument: voa6.i

Sample Info: HS20100455-01;HS20100455-01;;;

Purge Volume: 5.0

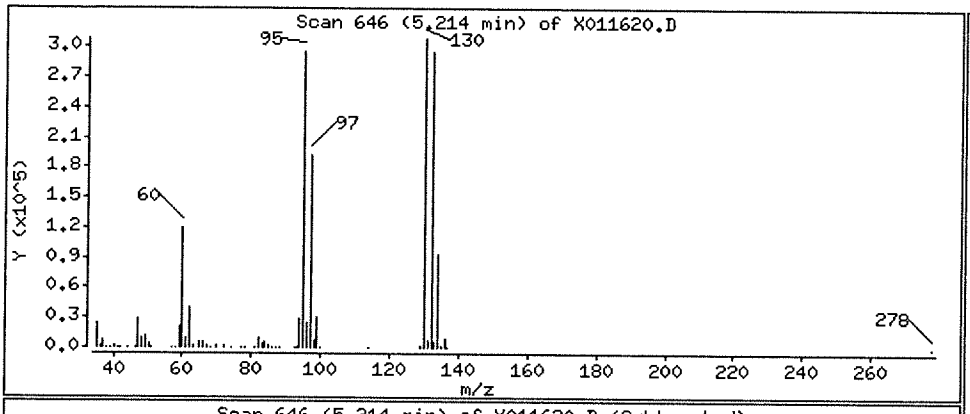
Operator: PC

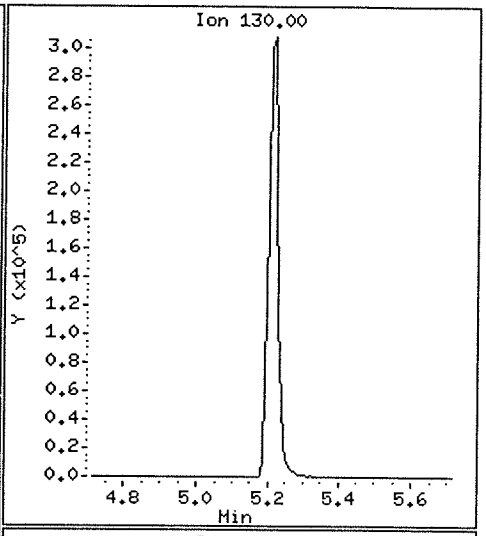
Column phase: DB624

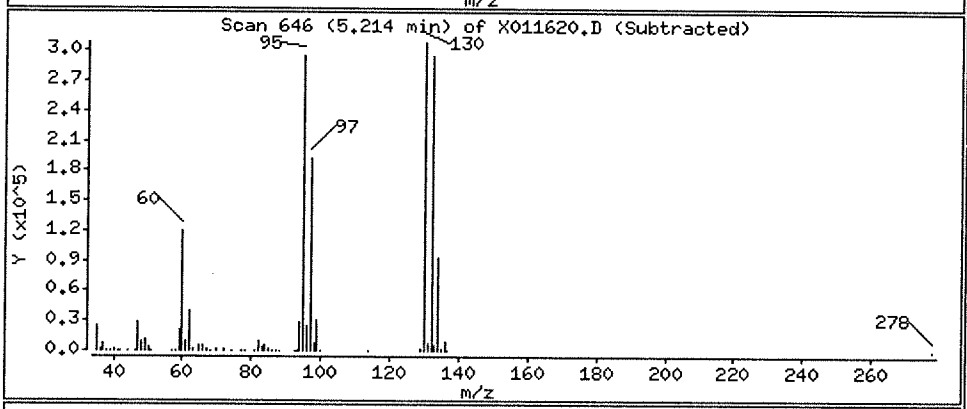
Column diameter: 0.18

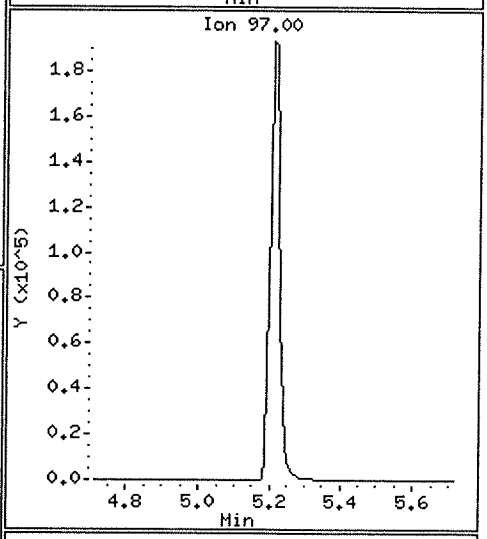
38 Trichloroethene

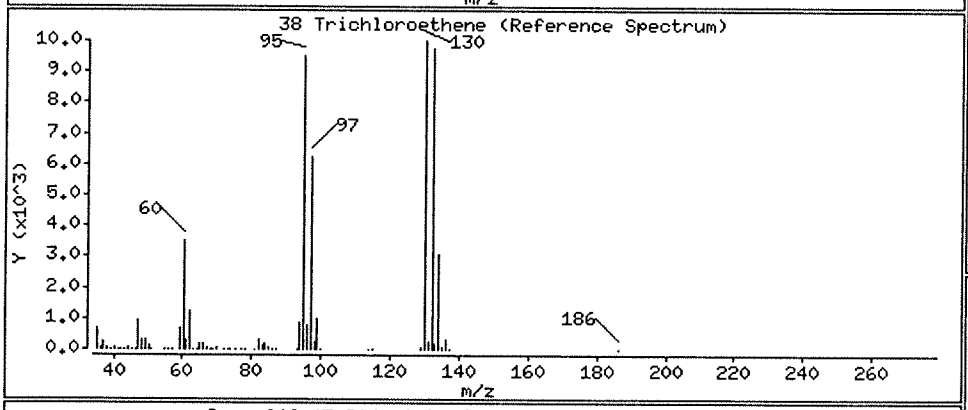
Concentration: 4411.36 ug/l

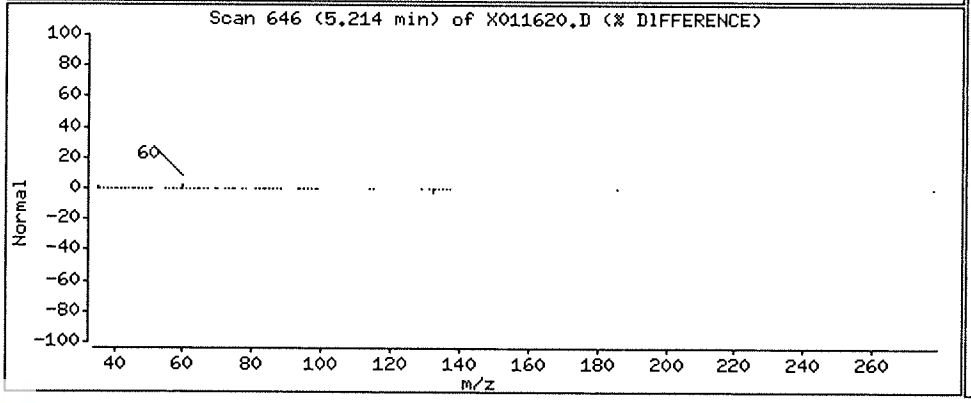


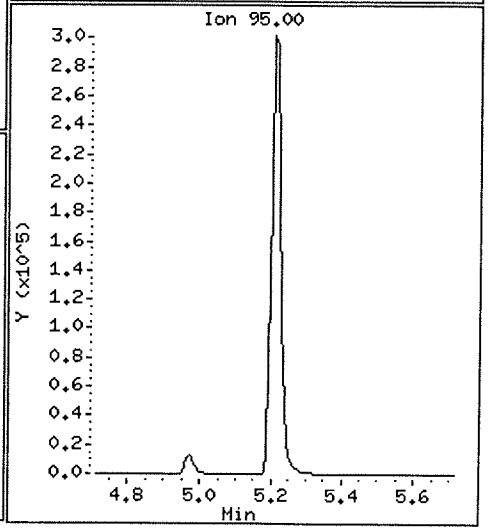












Data File: \\nahstws005\Target\chem\voa6.i\X201016.b\X011621.D Page 1
Report Date: 26-Oct-2020 07:38

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201016.b\X011621.D
Lab Smp Id: HS20100455-05 Client Smp ID: HS20100455-05
Inj Date : 16-OCT-2020 21:48
Operator : PC Inst ID: voa6.i
Smp Info : HS20100455-05;HS20100455-05;;;
Misc Info : HS18090001;WATER;0;500;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201016.b\8260W.m
Meth Date : 26-Oct-2020 07:34 dev.giga Quant Type: ISTD
Cal Date : 24-SEP-2020 14:21 Cal File: X092408.D
Als bottle: 20
Dil Factor: 500.00000
Integrator: HP RTE Compound Sublist: CBI-HOUSTON.sub
Target Version: 4.14
Processing Host: NAHSTW7056

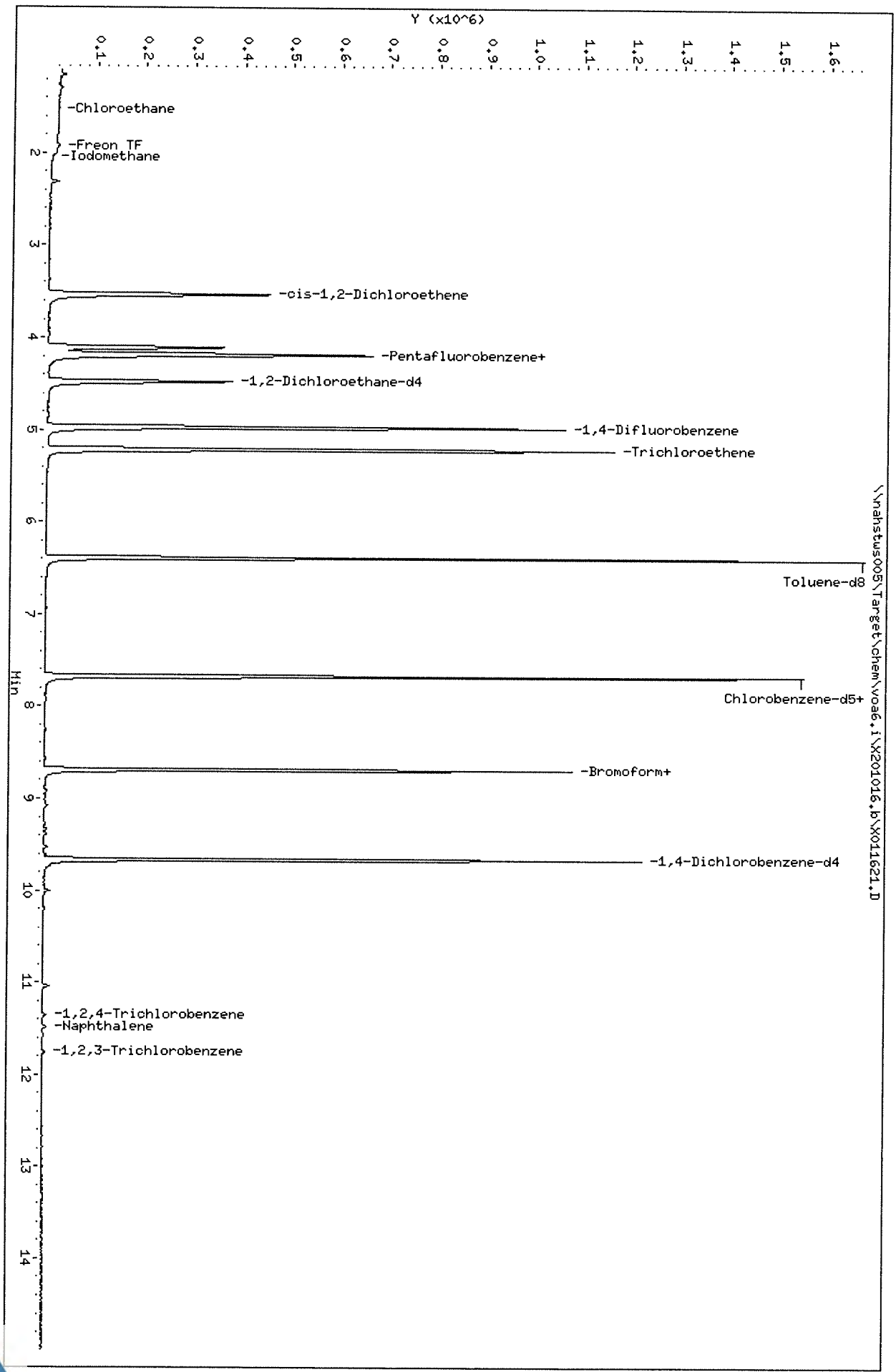
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	500.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	578223	50.0000	
$	30 Dibromofluoromethane	113	4.103	4.103	(0.979)	261747	44.0527	44.05
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	276769	42.5803	42.58
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	879066	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.670	(1.000)	752169	50.0000	
$	48 Toluene-d8	98	6.388	6.388	(0.833)	994715	50.3014	50.30
$	69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	333866	50.9446	50.94
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	307808	50.0000	
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	7978	1.06813	534.06(a)
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	241540	34.0968	17048.38
	38 Trichloroethene	130	5.214	5.214	(1.049)	397172	63.1672	31583.60

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).



Data File: \\nahstws005\Target\chem\voa6.i\X201016.b\X011621.D
Date : 16-OCT-2020 21:48
Client ID: HS20100455-05
Sample Info: HS20100455-05;HS20100455-05;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201016.b\X011621.D

Date : 16-OCT-2020 21:48

Client ID: HS20100455-05

Instrument: voa6.i

Sample Info: HS20100455-05;HS20100455-05;;;

Purge Volume: 5.0

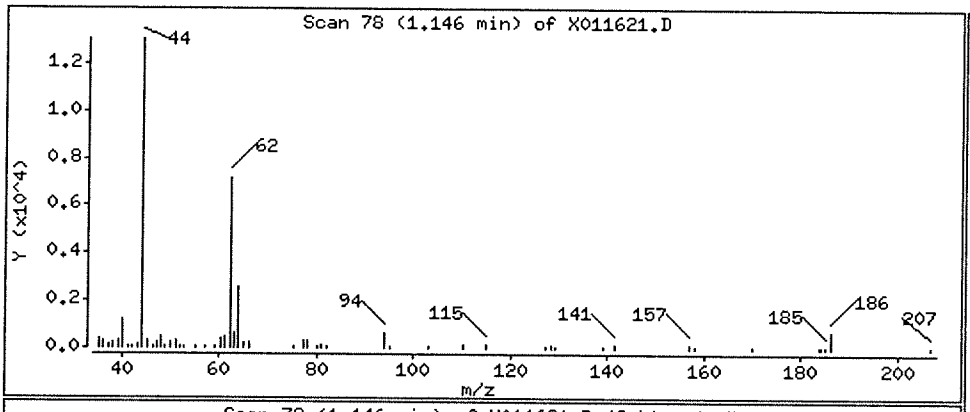
Operator: PC

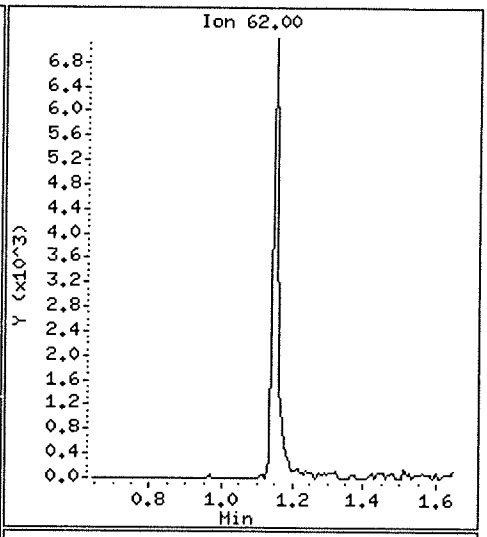
Column phase: DB624

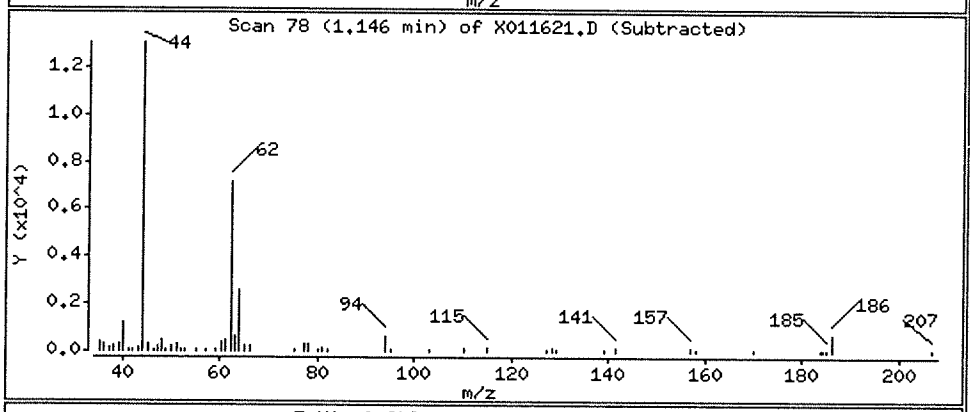
Column diameter: 0.18

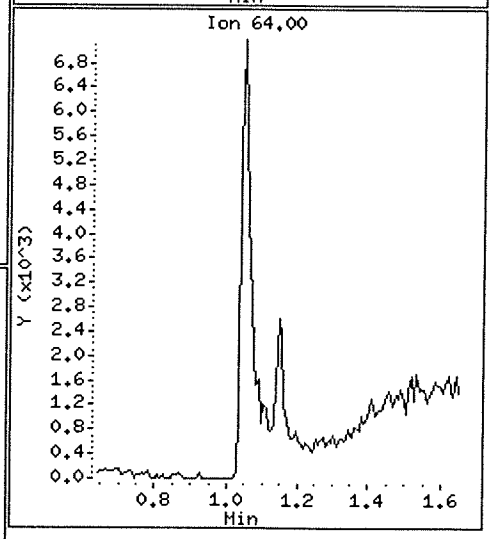
5 Vinyl Chloride

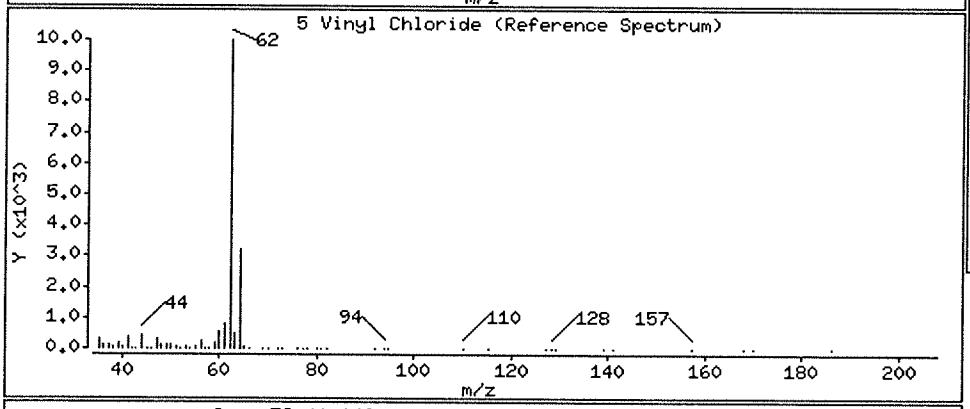
Concentration: 534.06 ug/l

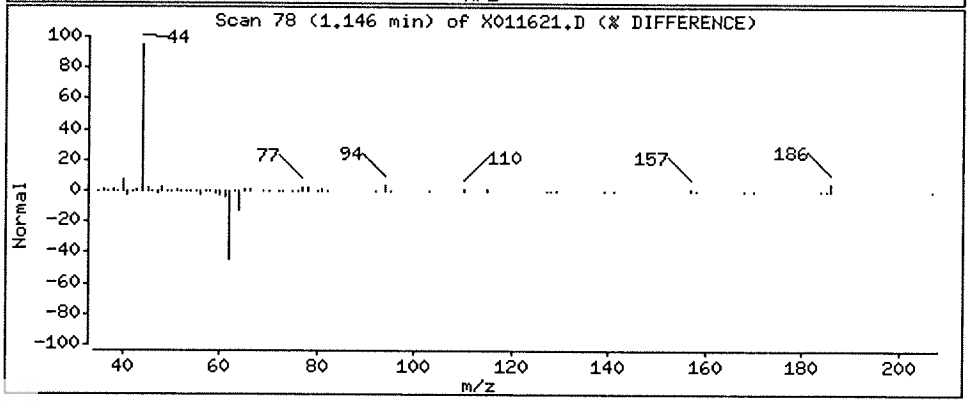












Data File: \\nahstws005\Target\chem\voa6.i\X201016.b\X011621.D

Date : 16-OCT-2020 21:48

Client ID: HS20100455-05

Instrument: voa6.i

Sample Info: HS20100455-05;HS20100455-05;;;

Purge Volume: 5.0

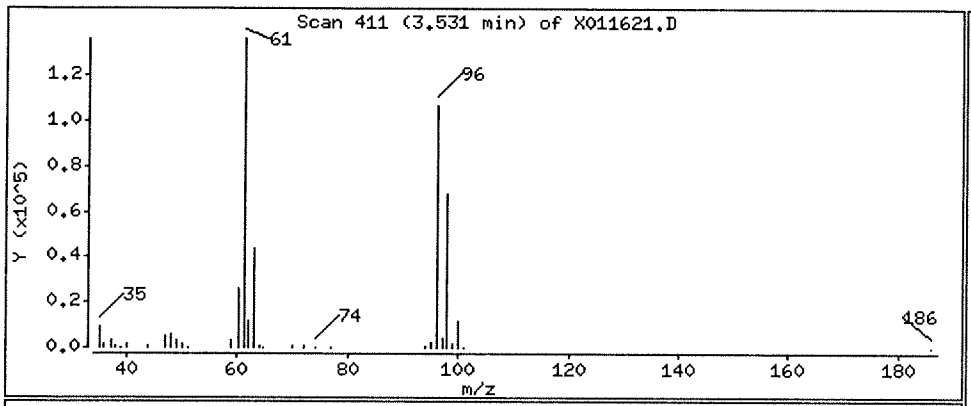
Operator: PC

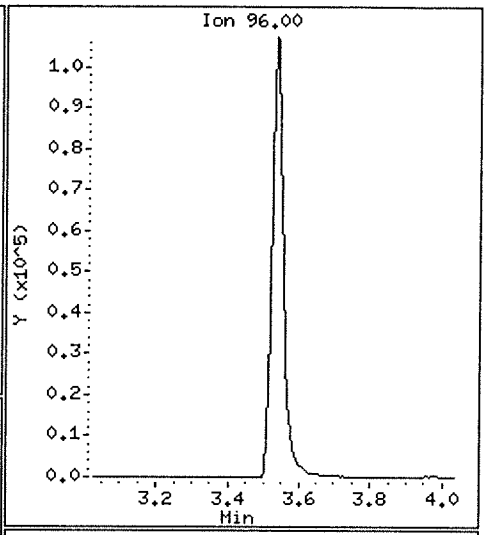
Column phase: DB624

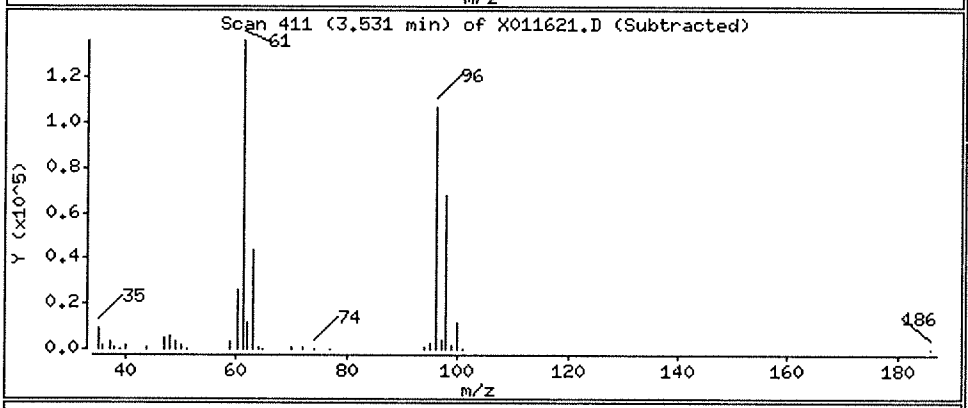
Column diameter: 0.18

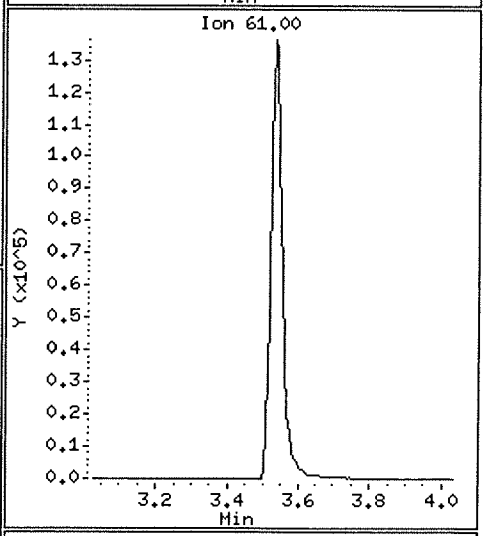
27 cis-1,2-Dichloroethene

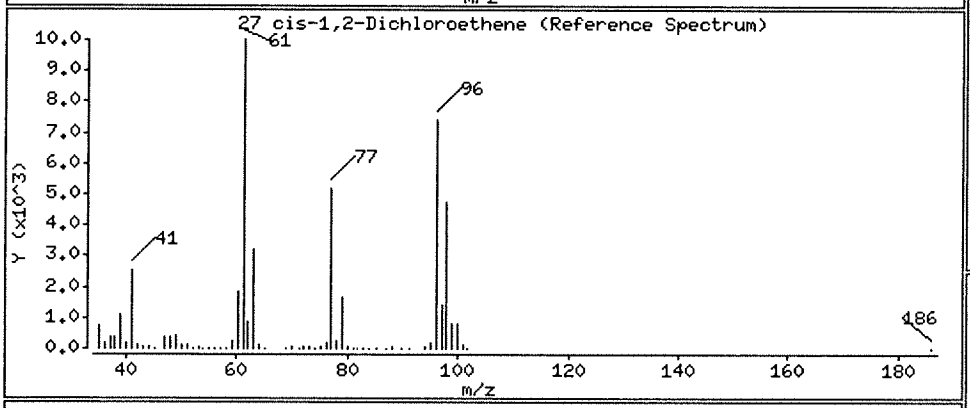
Concentration: 17048.38 ug/l

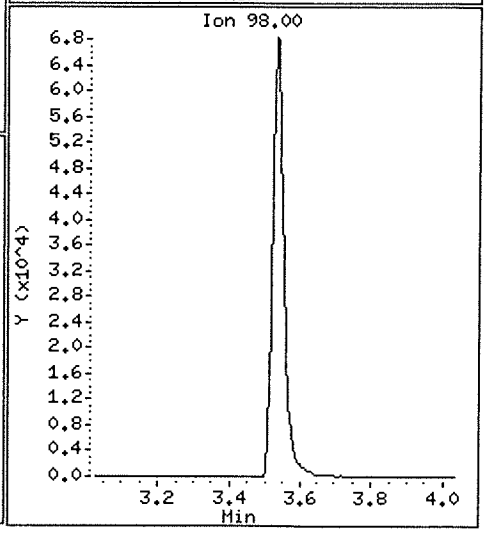


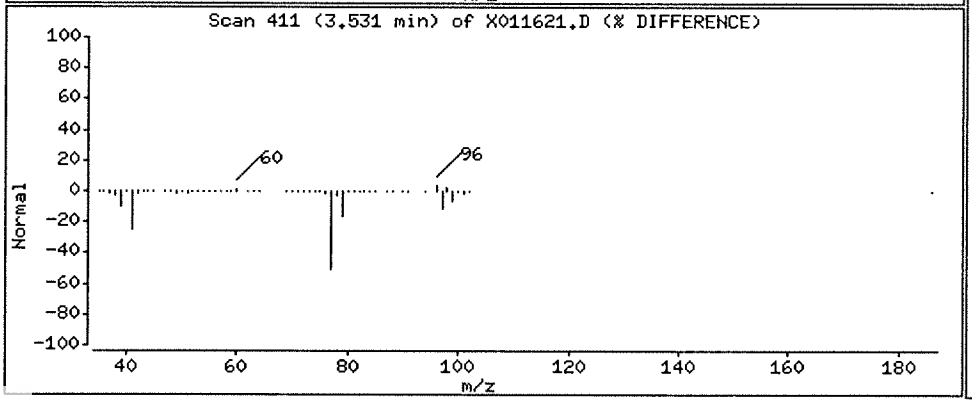












Data File: \\nahstws005\Target\chem\voa6.i\X201016.b\X011621.D

Date : 16-OCT-2020 21:48

Client ID: HS20100455-05

Instrument: voa6.i

Sample Info: HS20100455-05;HS20100455-05;;;

Purge Volume: 5.0

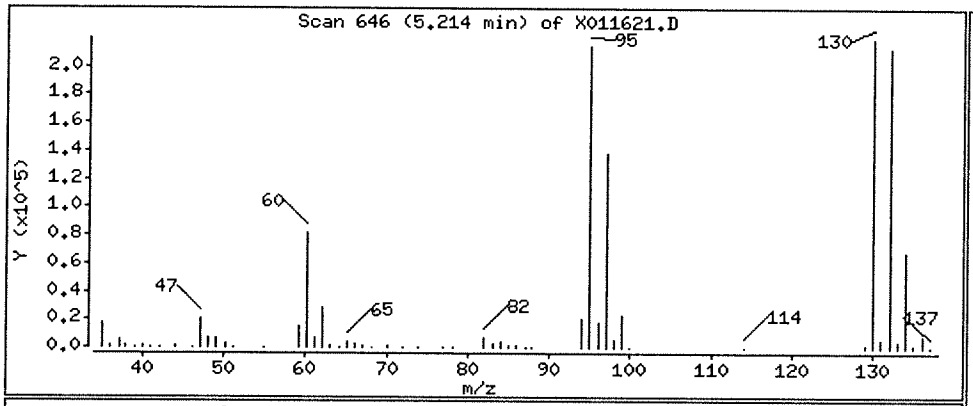
Operator: PC

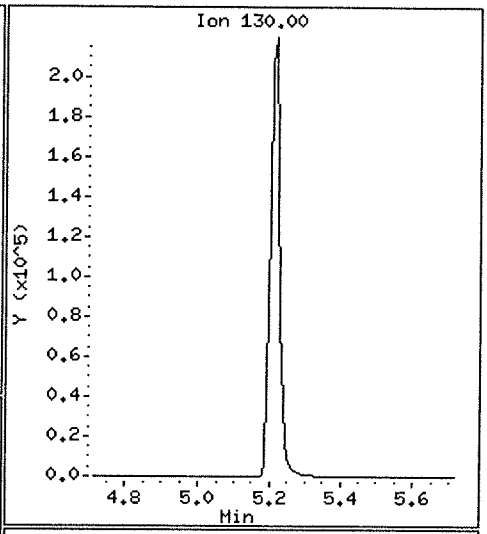
Column phase: DB624

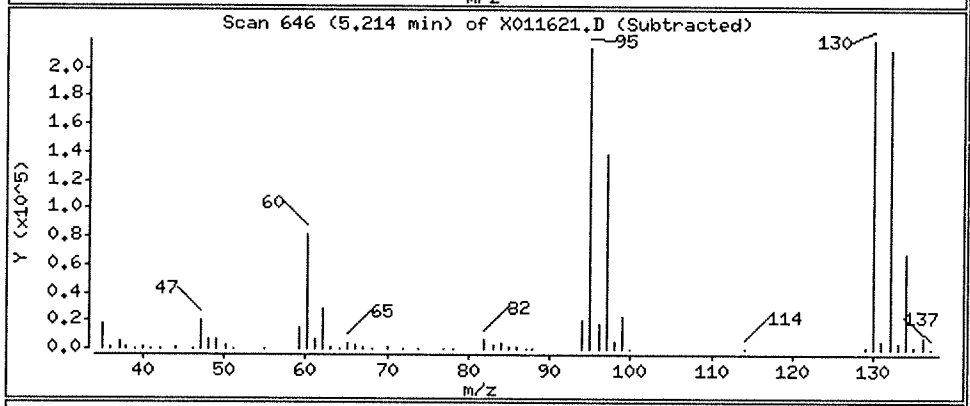
Column diameter: 0.18

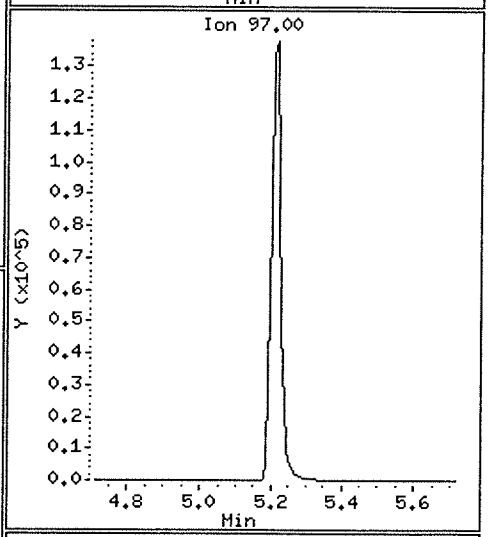
38 Trichloroethene

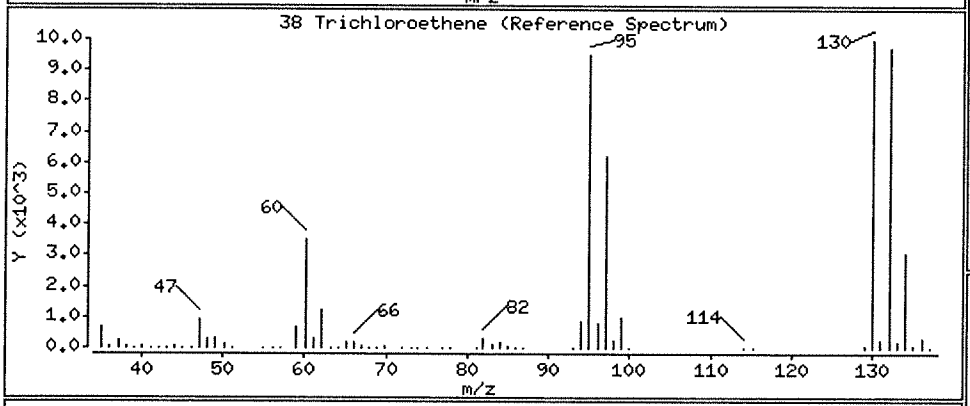
Concentration: 31583.60 ug/l

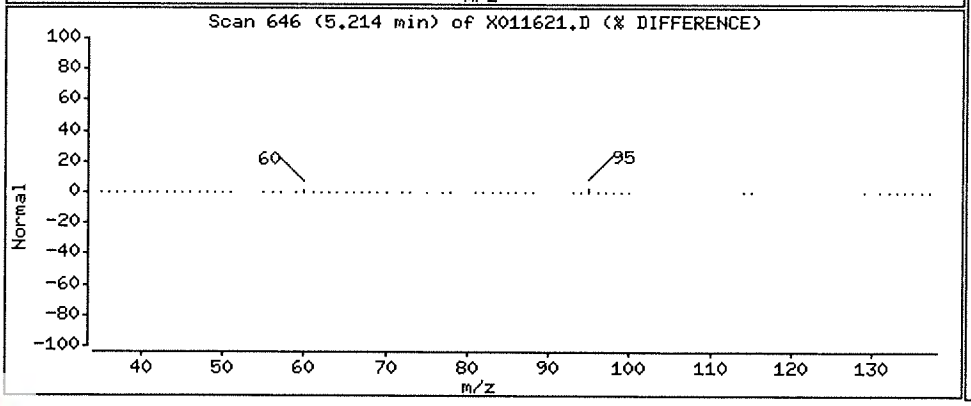


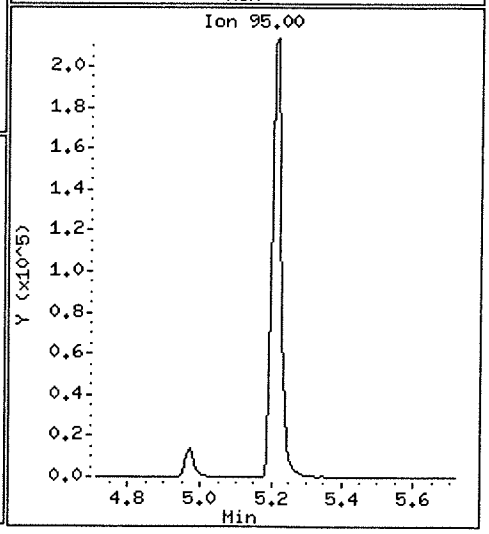












Data File: \\nahstws005\Target\chem\voa6.i\X201016.b\X011622.D Page 1
Report Date: 26-Oct-2020 07:42

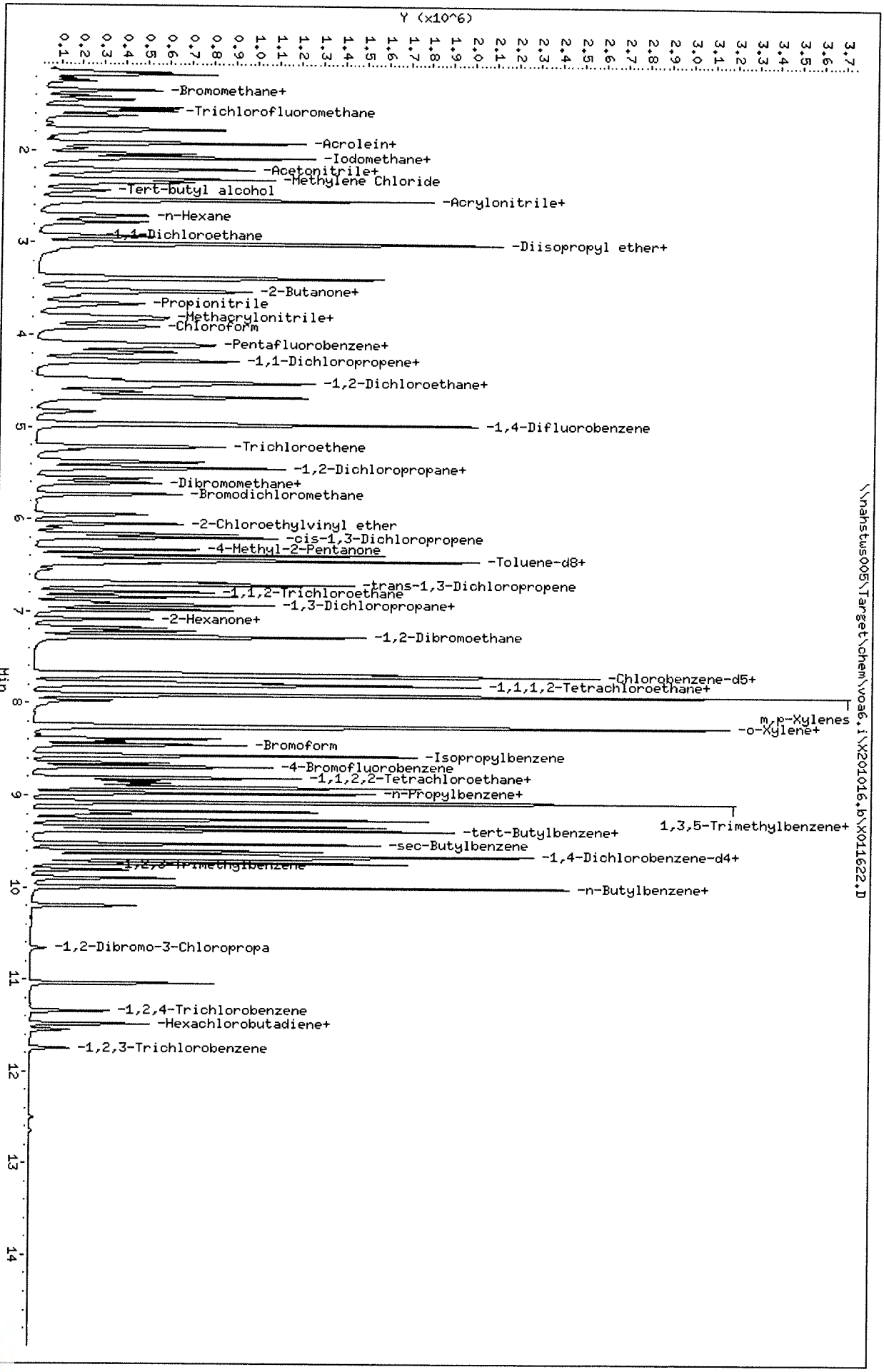
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201016.b\X011622.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 16-OCT-2020 22:12
Operator : PC Inst ID: voa6.i
Smp Info : CCV-END;CCV-END;2;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201016.b\8260W.m
Meth Date : 26-Oct-2020 07:42 voa6.i Quant Type: ISTD
Cal Date : 24-SEP-2020 14:21 Cal File: X092408.D
Als bottle: 21 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CBI-HOUSTON.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	522581	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	248589	50.0000	46.29
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	272720	50.0000	46.42
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	835376	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	756516	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	918204	50.0000	46.16
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	327041	50.0000	49.59
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	313766	50.0000	
5 Vinyl Chloride	62	1.145	1.145	(0.273)	381463	50.0000	56.50
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	255854	50.0000	54.45
17 Methylene Chloride	84	2.313	2.313	(0.552)	329962	50.0000	57.80
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	329918	50.0000	51.53
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	356223	50.0000	49.45
38 Trichloroethene	130	5.214	5.214	(1.049)	298841	50.0000	50.01
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	213833	50.0000	47.99
56 Tetrachloroethene	164	6.933	6.933	(0.904)	214680	50.0000	44.91



Data File: \\nahstws005\Target\chem\voa6.i\X201016.b\X011622.D
Date : 16-OCT-2020 22:12
Client ID: CCV-END
Sample Info: CCV-END;CCV-END;2;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

HS20100455 RSK175 Raw Data

ALS WO# HS20100455

FID04 -Logbook

Batch: 26730 **Analyst:** Nosa Izekor

Date: 01-24-2017 **Reviewer:**

Method: RSK 175 ICAL **Laboratory:** Houston

Comments: Target Sequence 170124

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	ICAL1	CALIB_1	01-24-2017 09:06 am	1.00	0.00 mL	0.00 mL	001.D	Liquid	Y	NA
2	ICAL2	CALIB_2	01-24-2017 09:30 am	1.00	0.00 mL	0.00 mL	002.D	Liquid	Y	NA
3	ICAL3	CALIB_3	01-24-2017 09:59 am	1.00	0.00 mL	0.00 mL	003.D	Liquid	Y	NA
4	ICAL4	CALIB_4	01-24-2017 10:15 am	1.00	0.00 mL	0.00 mL	004.D	Liquid	Y	NA
5	ICAL5	CALIB_5	01-24-2017 10:39 am	1.00	0.00 mL	0.00 mL	005.D	Liquid	Y	NA
6	ICAL6	CALIB_6	01-24-2017 10:57 am	1.00	0.00 mL	0.00 mL	006.D	Liquid	Y	NA
7	ICAL7	CALIB_7	01-24-2017 11:13 am	1.00	0.00 mL	0.00 mL	007.D	Liquid	Y	NA
8	ICV	METHSPIKI	01-24-2017 12:05 pm	1.00	0.00 mL	0.00 mL	008.D	Liquid	Y	NA
9	LCS-170124	LCS	01-24-2017 12:24 pm	1.00	0.00 mL	0.00 mL	009.D	Liquid	Y	NA
10	LCSD-170124	LCSD	01-24-2017 12:40 pm	1.00	0.00 mL	0.00 mL	010.D	Liquid	Y	NA
11	MBLK-170124	MBLK	01-24-2017 12:57 pm	1.00	0.00 mL	0.00 mL	011.D	Liquid	Y	NA
12	HS17010778-01	SAMP	01-24-2017 01:14 pm	1.00	0.00 mL	0.00 mL	012.D	Liquid	Y	NA
13	HS17010779-01	SAMP	01-24-2017 01:31 pm	1.00	0.00 mL	0.00 mL	013.D	Liquid	Y	NA
14	HS17010779-01DUP	SAMP	01-24-2017 01:47 pm	1.00	0.00 mL	0.00 mL	014.D	Liquid	Y	NA
15	CCV	CCV	01-24-2017 02:01 pm	1.00	0.00 mL	0.00 mL	015.D	Liquid	Y	NA

Chemical	Value
ICAL STD ID	30010700217
ICV STD ID	30010700610

FORM 3
WATER GASES METHOD SPIKE RECOVERY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100455

Matrix Spike - ENG SC Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
Ethene	16.800	19.106	114	75-125
Methane	9.647	9.591	99	75-125
Ethane	18.043	20.117	111	75-125
Propane	26.463	27.184	103	75-125
N-Butane	34.955	36.314	104	75-125

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

COMMENTS: _____

_____

FORM III GASES

FORM 6
GASES INITIAL CALIBRATION DATA

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100455

Instrument ID: FID-4 Calibration Date(s): 01/24/17 01/24/17

Column: RTX-PLOT ID: 0.53 (mm) Calibration Time(s): 0906 1113

LAB FILE ID: RF10: 001 RF25: 002 RF50: 003
RF100: 004 RF250: 005 RF500: 006

COMPOUND	RF10	RF25	RF50	RF100	RF250	RF500
Ethene	590.504	567.359	564.985	527.151	665.282	428.186
Methane	968.912	978.238	1019.699	880.798	960.713	935.006
Ethane	641.274	670.177	658.908	624.082	808.513	821.648
Propane	500	1279	2602	4785	18436	38286
N-Butane	474	1032	2082	3780	18270	42405

FORM VI GASES

FORM 6
GASES INITIAL CALIBRATION DATA

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2010045

Instrument ID: FID-4 Calibration Date(s): 01/24/17 01/24/17

Column: RTX-PLOT ID: 0.53 (mm) Calibration Time(s): 0906 1113

RF1000: 007

COMPOUND	RF1000	CURVE	COEFFICENTS A0	A1	A2	%RSD OR R^2	MA
Ethene	756.854	AVRG		585.760435		17.722	
Methane	1081.580	AVRG		974.992337		6.498	
Ethane	811.824	AVRG		719.489678		12.458	
Propane	96632	2ORDR	0.97326263	1.526e-003	-4.56e-009	0.9990955	0
N-Butane	114164	2ORDR	2.40105031	1.857e-003	-5.73e-009	0.9980163	0

FORM VI GASES

FORM 3
WATER GASES METHOD SPIKE RECOVERY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20091333

Matrix Spike - ENG SC Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
Ethene	16.800	19.106	114	75-125
Methane	9.647	9.591	99	75-125
Ethane	18.043	20.117	111	75-125
Propane	26.463	27.184	103	75-125
N-Butane	34.955	36.314	104	75-125

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

COMMENTS: _____

_____

FORM III GASES

FORM 6
GASES INITIAL CALIBRATION DATA

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20091333

Instrument ID: FID-4 Calibration Date(s): 01/24/17 01/24/17

Column: RTX-PLOT ID: 0.53 (mm) Calibration Time(s): 0906 1113

LAB FILE ID: RF10: 001 RF25: 002 RF50: 003
RF100: 004 RF250: 005 RF500: 006

COMPOUND	RF10	RF25	RF50	RF100	RF250	RF500
Ethene	590.504	567.359	564.985	527.151	665.282	428.186
Methane	968.912	978.238	1019.699	880.798	960.713	935.006
Ethane	641.274	670.177	658.908	624.082	808.513	821.648
Propane	500	1279	2602	4785	18436	38286
N-Butane	474	1032	2082	3780	18270	42405

FORM VI GASES

FORM 6
GASES INITIAL CALIBRATION DATA

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2009133

Instrument ID: FID-4 Calibration Date(s): 01/24/17 01/24/17

Column: RTX-PLOT ID: 0.53 (mm) Calibration Time(s): 0906 1113

RF1000: 007

COMPOUND	RF1000	CURVE	COEFFICENTS A0	A1	A2	%RSD OR R^2	MA
Ethene	756.854	AVRG		585.760435		17.722	
Methane	1081.580	AVRG		974.992337		6.498	
Ethane	811.824	AVRG		719.489678		12.458	
Propane	96632	2ORDR	0.97326263	1.526e-003	-4.56e-009	0.9990955	0
N-Butane	114164	2ORDR	2.40105031	1.857e-003	-5.73e-009	0.9980163	0

FORM VI GASES

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\001.D
Lab Smp Id: ICAL1 Client Smp ID: ICAL1
Inj Date : 24-JAN-2017 09:06
Operator : JA Inst ID: FID-4.i
Smp Info : ICAL1;ICAL1;;;
Misc Info :
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 09:06 Cal File: 001.D
Als bottle: 1 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	1.043	1.030	0.013	374	0.38600	0.383(a)
2 Ethene	1.553	1.556	-0.003	361	0.67400	0.615(a)
3 Ethane	1.716	1.723	-0.007	435	0.72200	0.590(a)
4 Propane	4.073	4.113	-0.040	500	1.05900	1.743
5 N-Butane	7.640	7.690	-0.050	438	1.39800	3.271

QC Flag Legend

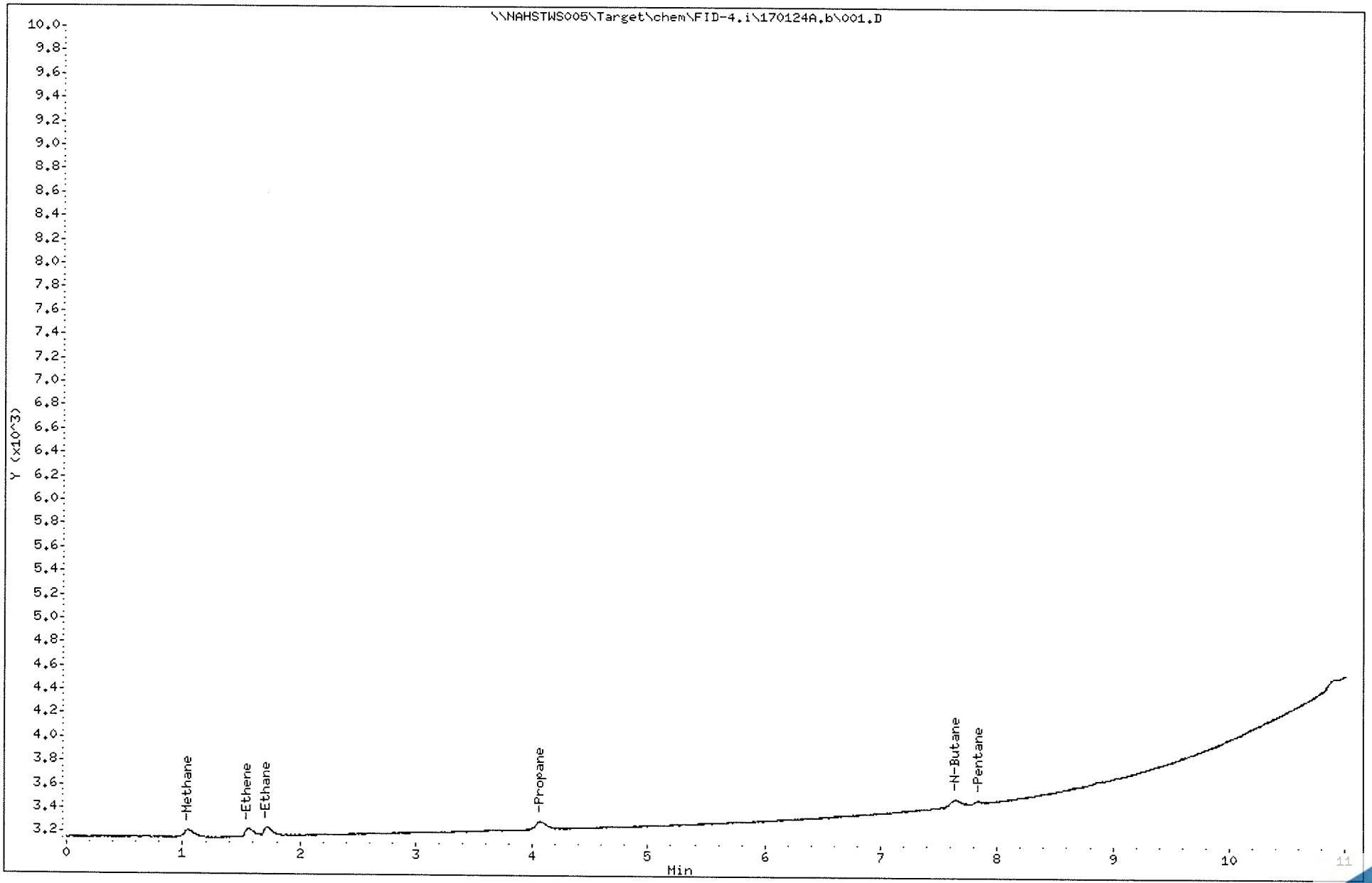
a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\001.D
Date : 24-JAN-2017 09:06
Client ID: ICAL1
Sample Info: ICAL1;ICAL1;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: JA
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\002.D
Lab Smp Id: ICAL2 Client Smp ID: ICAL2
Inj Date : 24-JAN-2017 09:30
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL2;ICAL2;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 09:59 Cal File: 003.D
Als bottle: 2 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

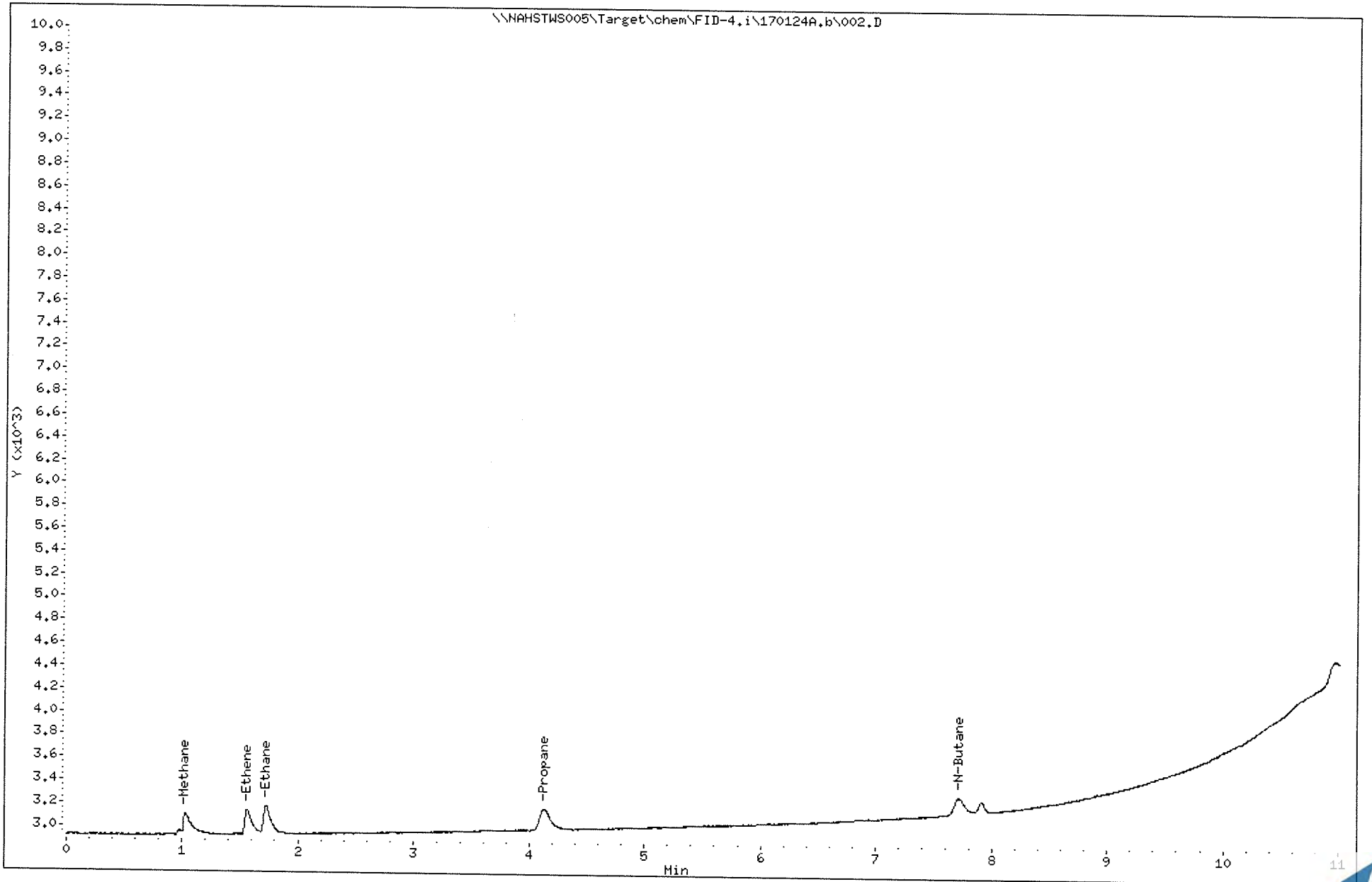
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	1.023	1.030	-0.007	944	0.96500	0.968
2 Ethene	1.560	1.556	0.004	956	1.68500	1.630
3 Ethane	1.723	1.723	0.000	1209	1.80400	1.641
4 Propane	4.123	4.113	0.010	1279	2.64600	2.927
5 N-Butane	7.716	7.690	0.026	936	3.49600	4.180

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\002.D
Date : 24-JAN-2017 09:30
Client ID: ICAL2
Sample Info: ICAL2;ICAL2;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\003.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\003.D
Lab Smp Id: ICAL3 Client Smp ID: ICAL3
Inj Date : 24-JAN-2017 09:59
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL3;ICAL3;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 11:13 Cal File: 007.D
Als bottle: 3 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

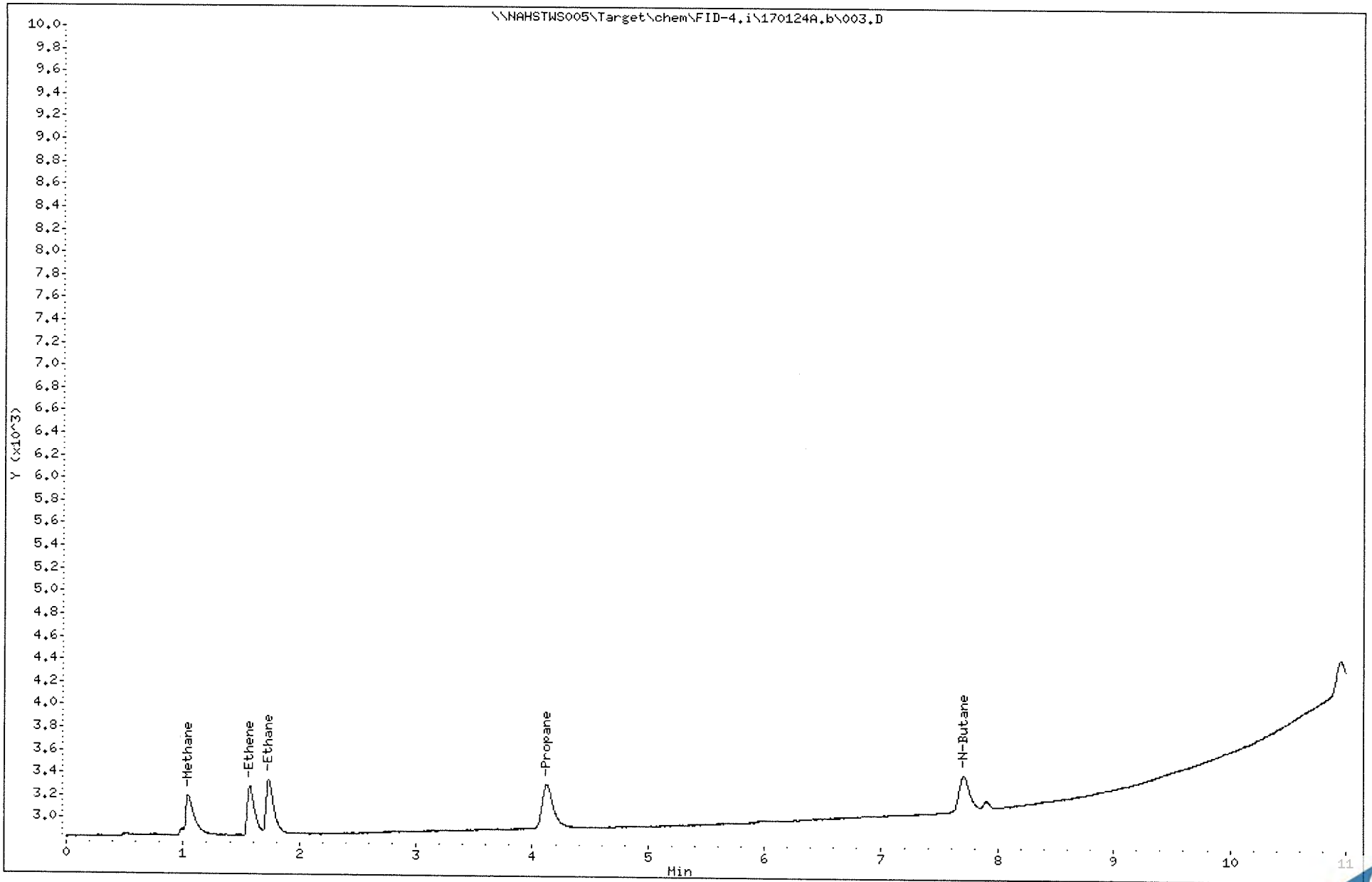
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	1.043	1.030	0.013	1967	1.92900	2.018
2 Ethene	1.570	1.556	0.014	1904	3.37000	3.247
3 Ethane	1.736	1.723	0.013	2378	3.60900	3.229
4 Propane	4.123	4.113	0.010	2602	5.29300	4.926
5 N-Butane	7.703	7.690	0.013	2034	6.99100	6.176

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\003.D
Date : 24-JAN-2017 09:59
Client ID: ICAL3
Sample Info: ICAL3;ICAL3;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\004.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\004.D
Lab Smp Id: ICAL4 Client Smp ID: ICAL4
Inj Date : 24-JAN-2017 10:15
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL4;ICAL4;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 09:30 Cal File: 002.D
Als bottle: 4 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	1.033	1.030	0.003	3399	3.85900	3.488
2 Ethene	1.563	1.556	0.007	3478	6.74000	5.932
3 Ethane	1.726	1.723	0.003	4310	7.21700	5.853
4 Propane	4.120	4.113	0.007	4785	10.5850	8.190
5 N-Butane	7.703	7.690	0.013	3864	13.9820	9.473(M)

QC Flag Legend

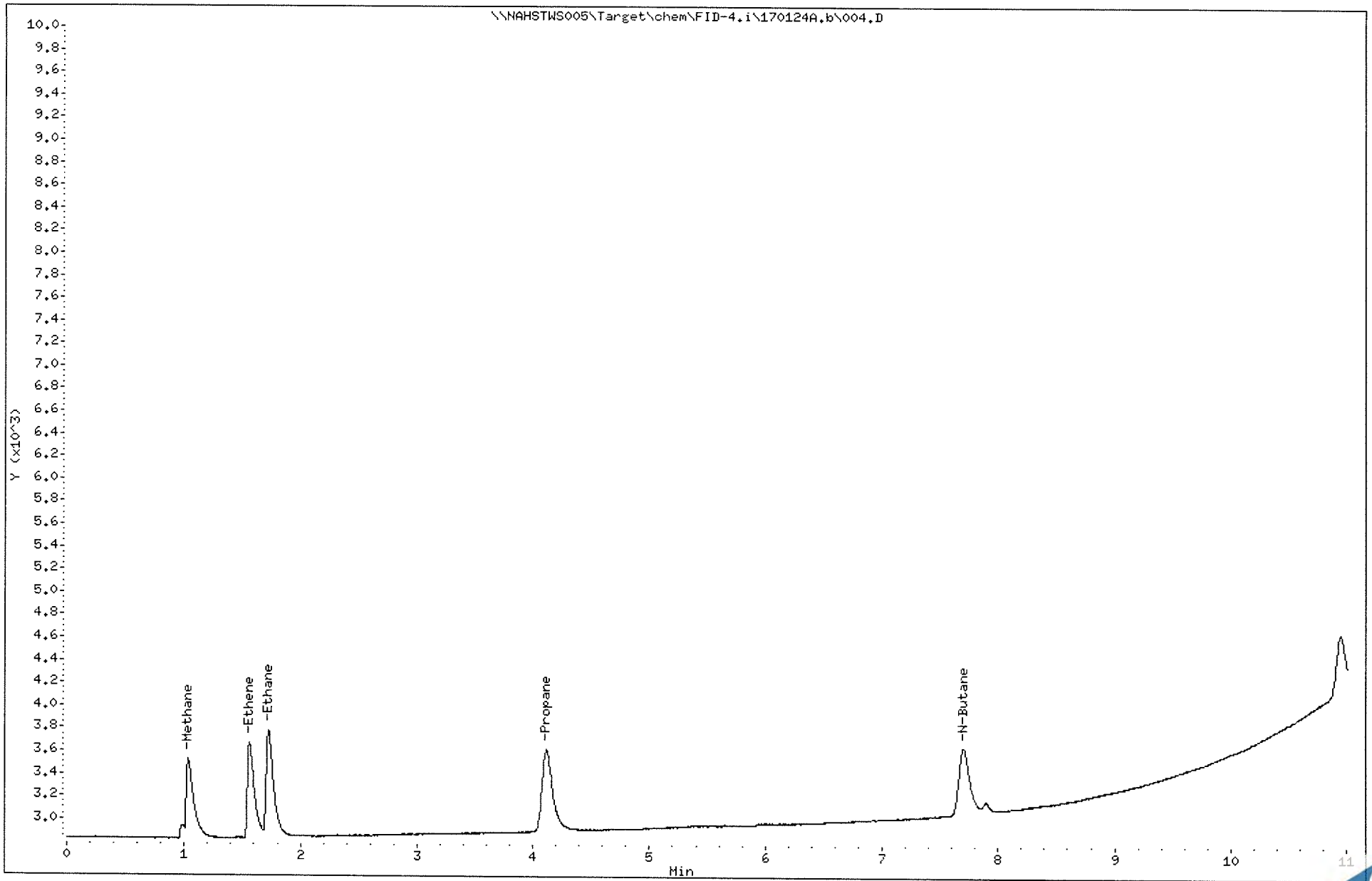
M - Compound response manually integrated.

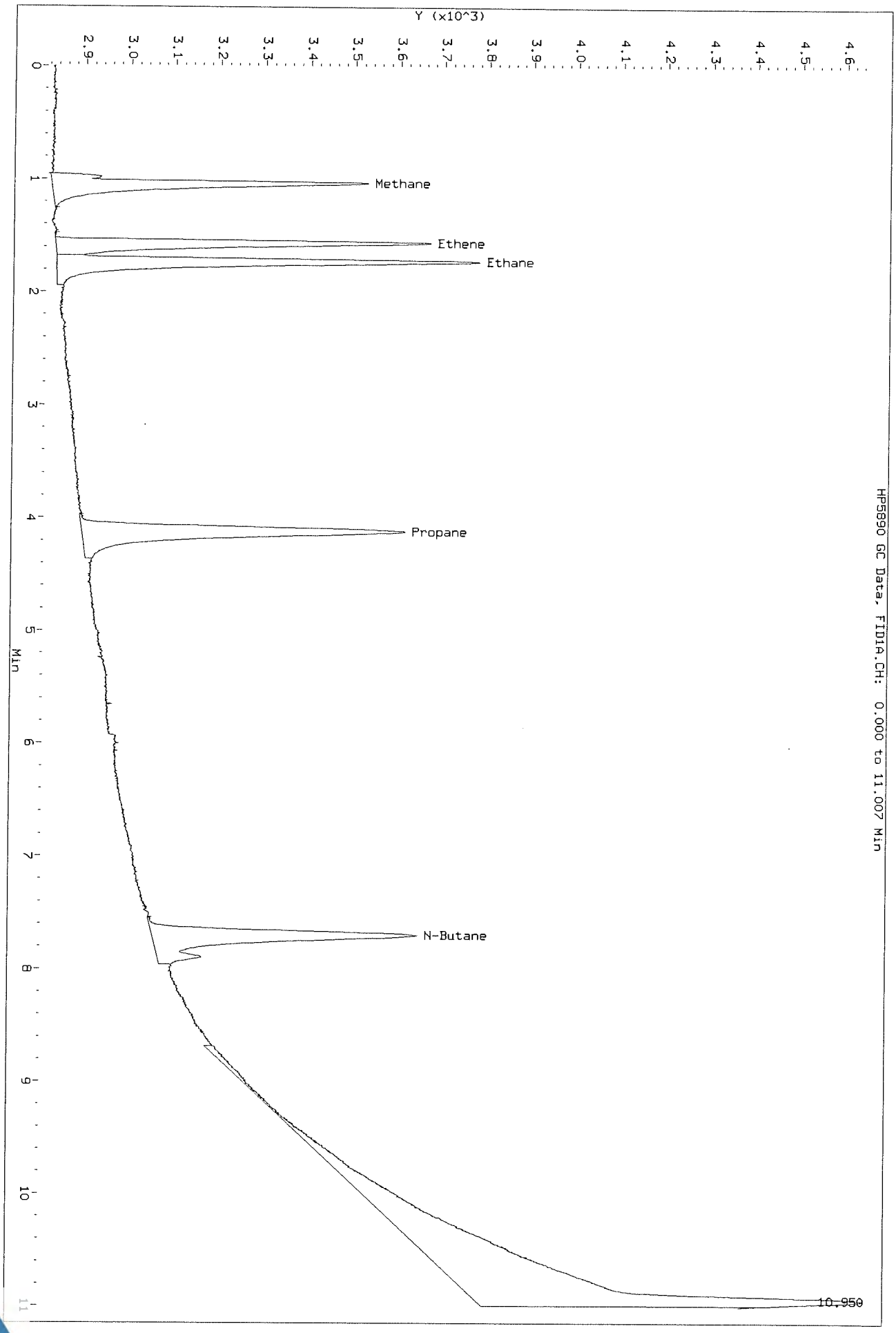
Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\004.D
Date : 24-JAN-2017 10:15
Client ID: ICAL4
Sample Info: ICAL4;ICAL4;;;

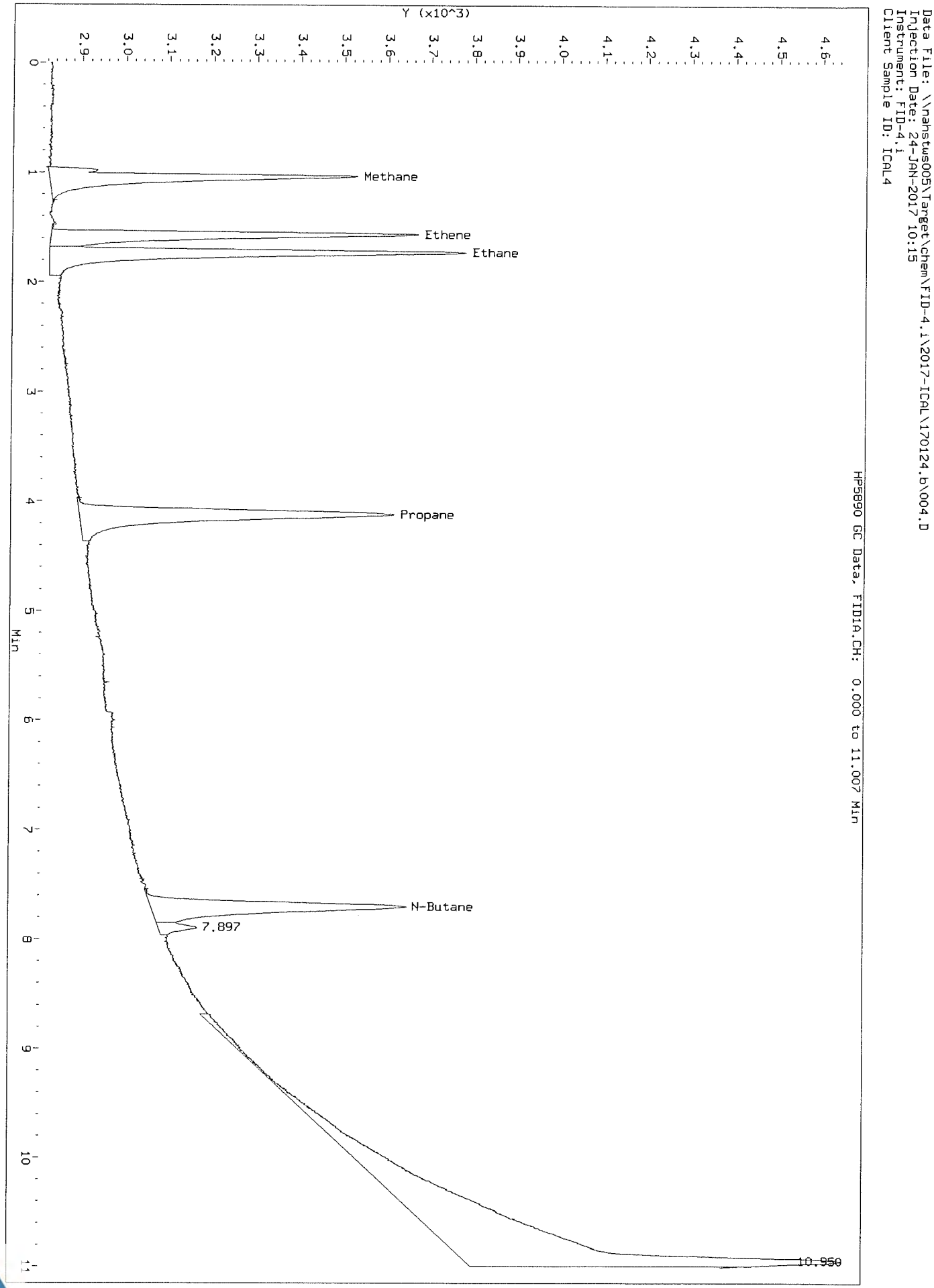
Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53




Data File: \\nahstws005\Target\chem\FID-4.i\2017-ICAL\170124.b\BEFORE\004.D
Injection Date: 24-JAN-2017 10:15
Instrument: FID-4.i
Client Sample ID: ICAL4
HP5890 GC Data. FID1A.CH: 0.000 to 11.007 Min
Y (x10^3)
Min
Methane
Ethene
Ethane
Propane
N-Butane
10.950


Data File: \\nahstws005\Target\chem\FID-4.i\2017-ICAL\170124.b\004.D
Injection Date: 24-JAN-2017 10:15
Instrument: FID-4.i
Client Sample ID: ICAL4
HP5890 GC Data, FID1A.CH: 0.000 to 11.007 Min
Y (x10^3)
Min
Methane
Ethene
Ethane
Propane
N-Butane
7.897
10.950

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\005.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\005.D
Lab Smp Id: ICAL5 Client Smp ID: ICAL5
Inj Date : 24-JAN-2017 10:39
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL5;ICAL5;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 10:39 Cal File: 005.D
Als bottle: 5 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	1.043	1.030	0.013	9268	9.64700	9.511
2 Ethene	1.570	1.556	0.014	11210	16.8500	19.121
3 Ethane	1.733	1.723	0.010	14588	18.0430	19.811
4 Propane	4.120	4.113	0.007	18294	26.4630	27.415
5 N-Butane	7.700	7.690	0.010	18446	34.9550	34.419(M)

QC Flag Legend

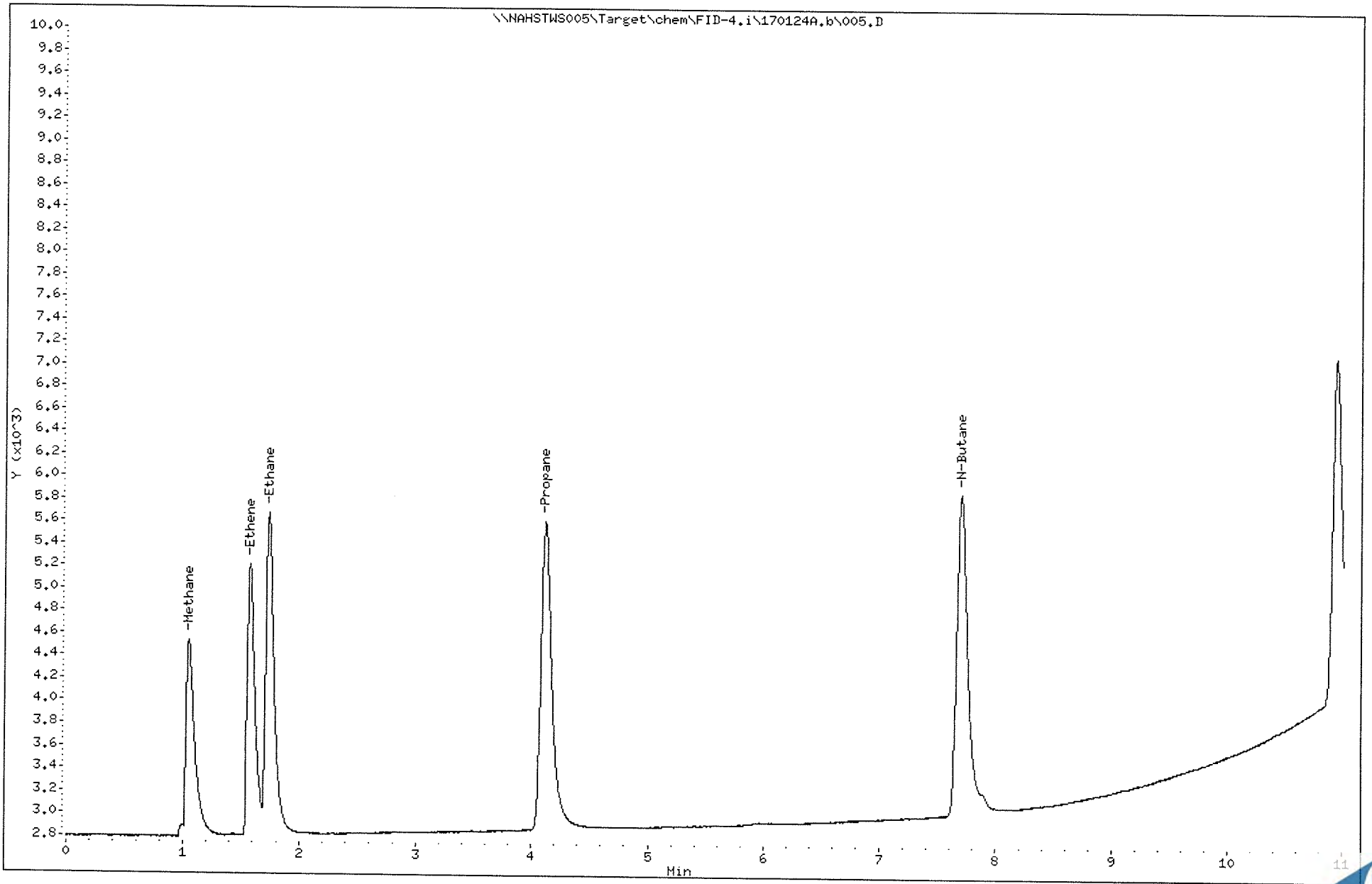
M - Compound response manually integrated.

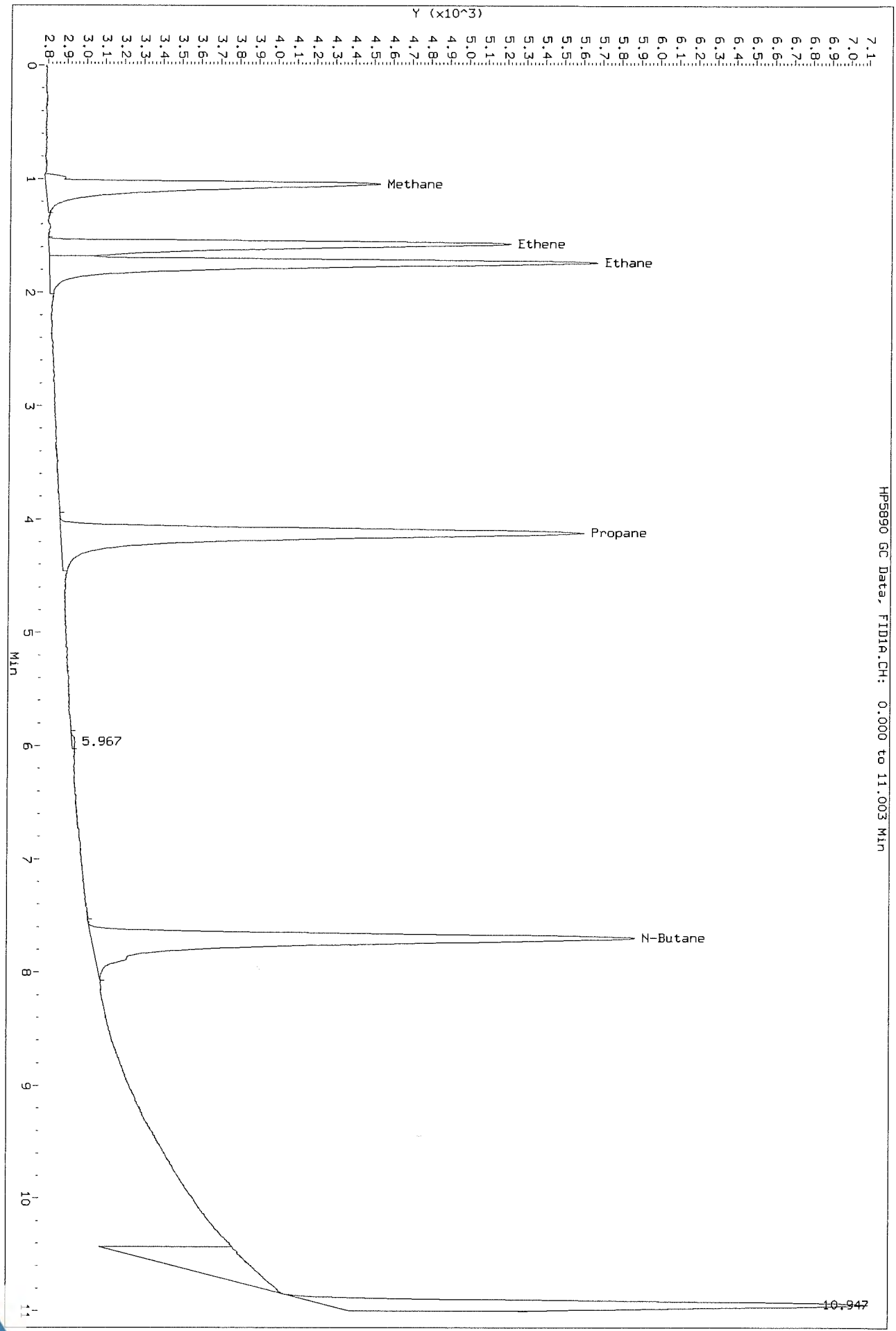
Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\005.D
Date : 24-JAN-2017 10:39
Client ID: ICAL5
Sample Info: ICAL5;ICAL5;;;

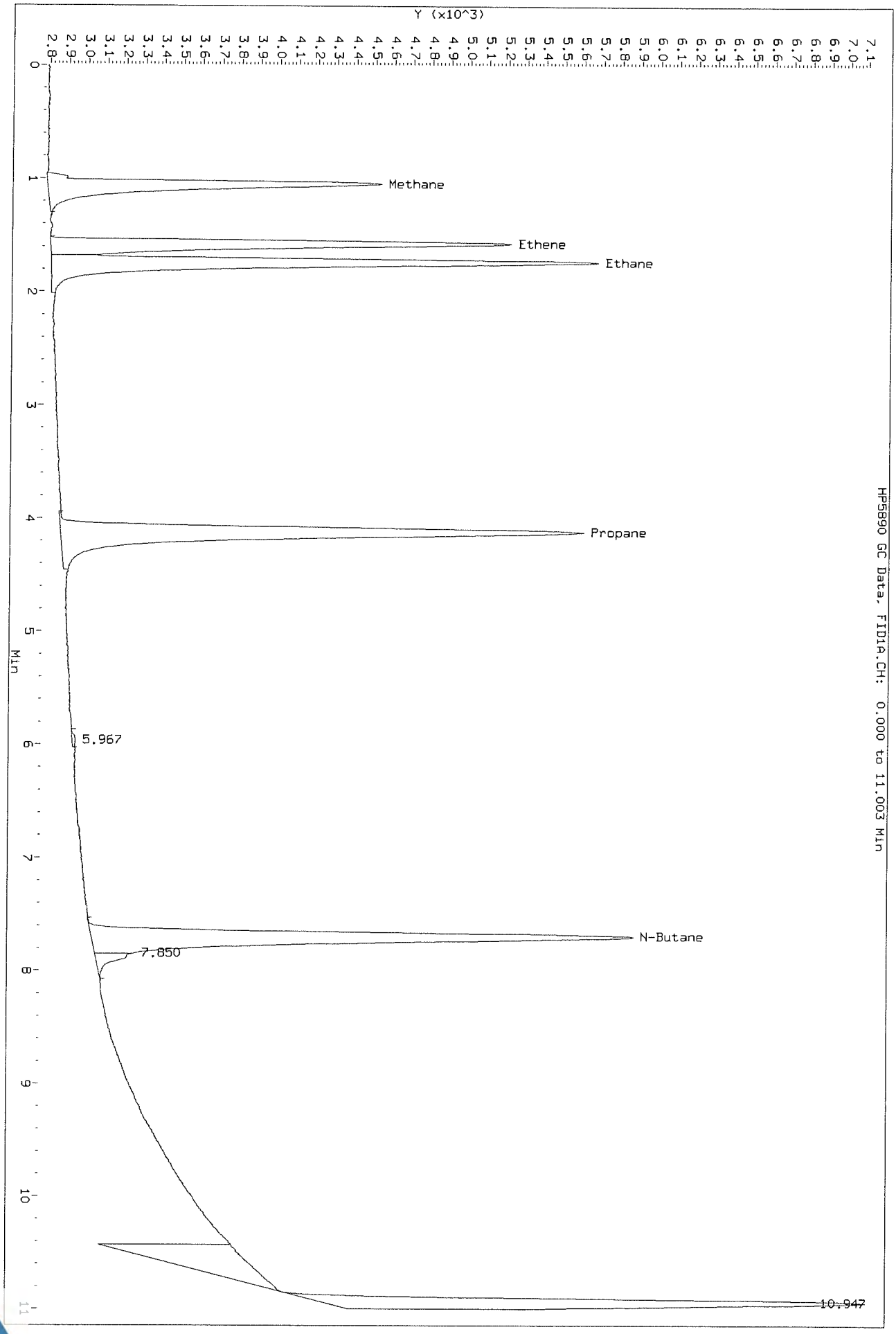
Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53




Data File: \\nahstws005\Target\chem\FID-4.i\2017-ICAL\170124.b\BEFORE\005.D
Injection Date: 24-JAN-2017 10:39
Instrument: FID-4.i
Client Sample ID: ICAL5
HP5890 GC Data, FIDiA.CH: 0.000 to 11.003 Min
Y (x10^3)
Min
Methane
Ethene
Ethane
Propane
5.967
N-Butane
10.947


Data File: \\nahstws005\Target\chem\FID-4.i\2017-ICAL\170124.b\005.D
Injection Date: 24-JAN-2017 10:39
Instrument: FID-4.i
Client Sample ID: ICAL5
HP5890 GC Data, FID1A.CH: 0.000 to 11.003 Min
Y (x10^3)
Min
Methane
Ethene
Ethane
Propane
5.967
N-Butane
7.850
10.947

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\006.D
Lab Smp Id: ICAL6 Client Smp ID: ICAL6
Inj Date : 24-JAN-2017 10:57
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL6;ICAL6;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 10:39 Cal File: 005.D
Als bottle: 6 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

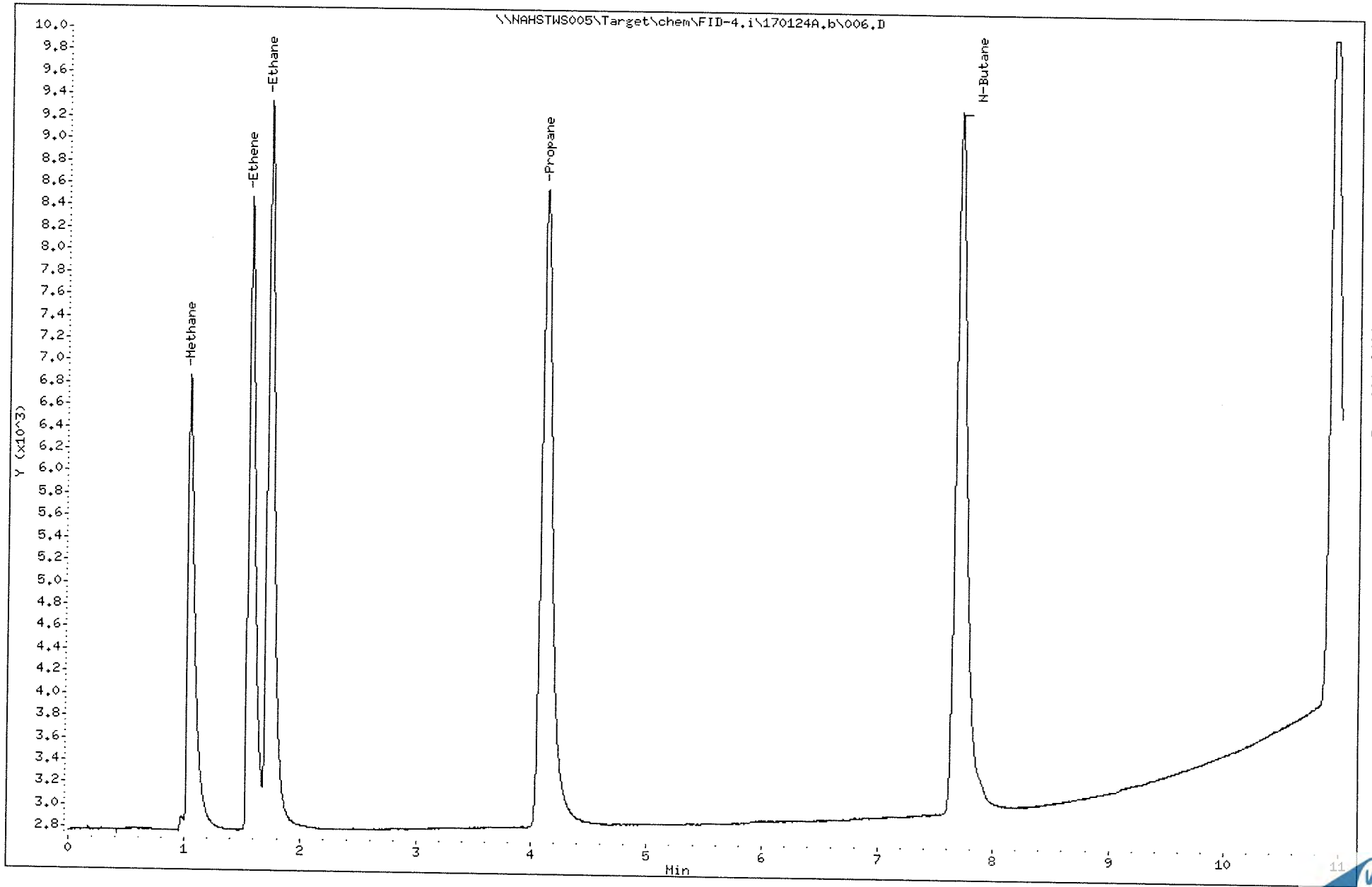
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
1 Methane	1.023	1.030	-0.007	17957	19.2940	18.429
2 Ethene	1.550	1.556	-0.006	22910	53.8200	39.078
3 Ethane	1.716	1.723	-0.007	29505	36.0860	40.070
4 Propane	4.110	4.113	-0.003	38286	52.9260	52.796
5 N-Butane	7.696	7.690	0.006	42817	69.9110	70.855

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\006.D
Date : 24-JAN-2017 10:57
Client ID: ICAL6
Sample Info: ICAL6;ICAL6;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\007.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\007.D
Lab Smp Id: ICAL7 Client Smp ID: ICAL7
Inj Date : 24-JAN-2017 11:13
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL7;ICAL7;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 10:57 Cal File: 006.D
Als bottle: 7 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
1 Methane	1.030	1.030	0.000	41736	38.5880	42.833(A)
2 Ethene	1.556	1.556	0.000	55865	67.4000	95.291(A)
3 Ethane	1.723	1.723	0.000	72124	72.1720	97.951(A)
4 Propane	4.113	4.113	0.000	96509	105.852	105.844
5 N-Butane	7.690	7.690	0.000	114164	139.821	139.707

QC Flag Legend

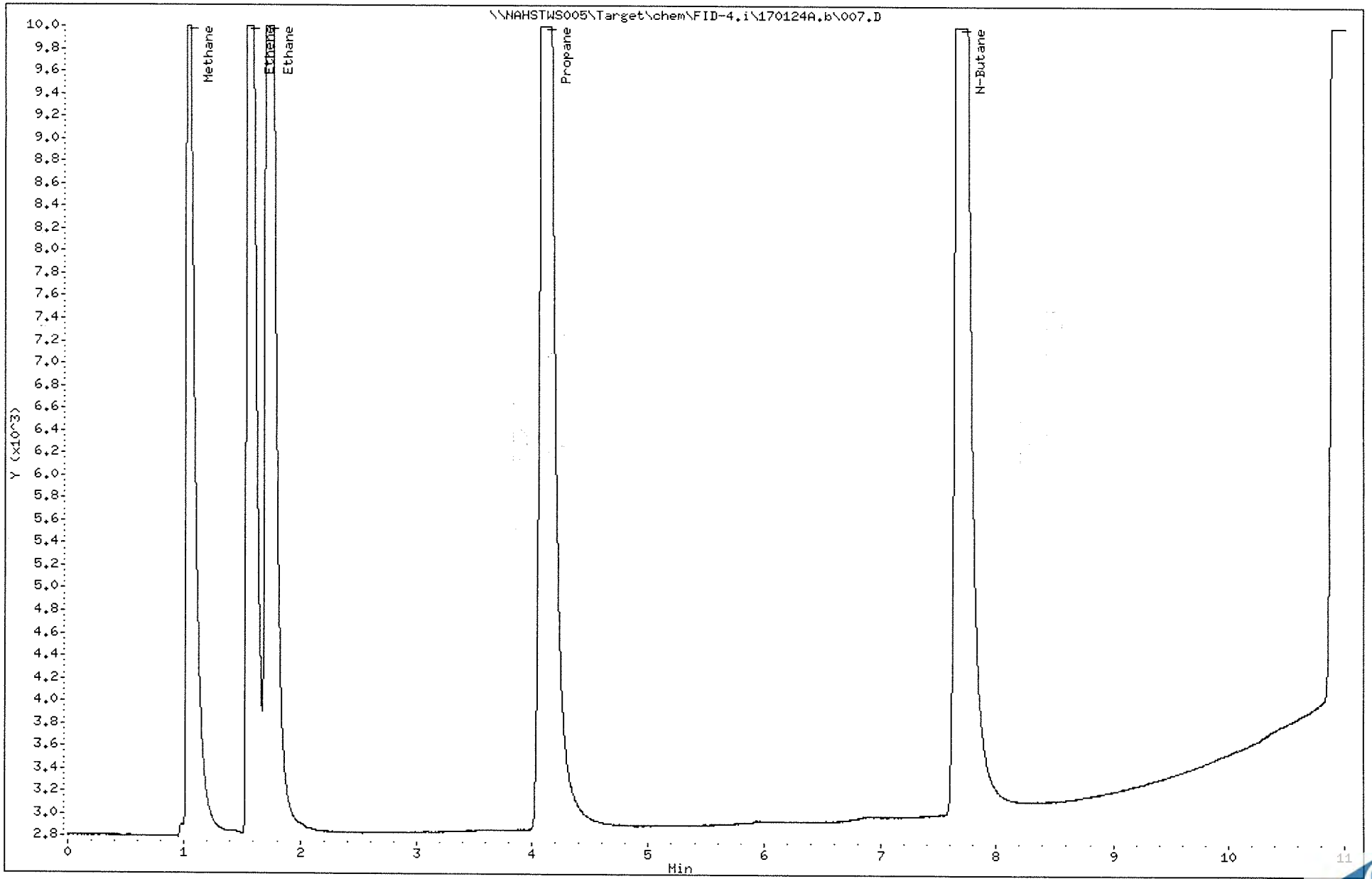
A - Target compound detected but, quantitated amount exceeded maximum amount.

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\007.D
Date : 24-JAN-2017 11:13
Client ID: ICAL7
Sample Info: ICAL7;ICAL7;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\008.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\008.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 24-JAN-2017 12:05
Operator : MA Inst ID: FID-4.i
Smp Info : ICV;ICV;;;
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 11:13 Cal File: 007.D
Als bottle: 8 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

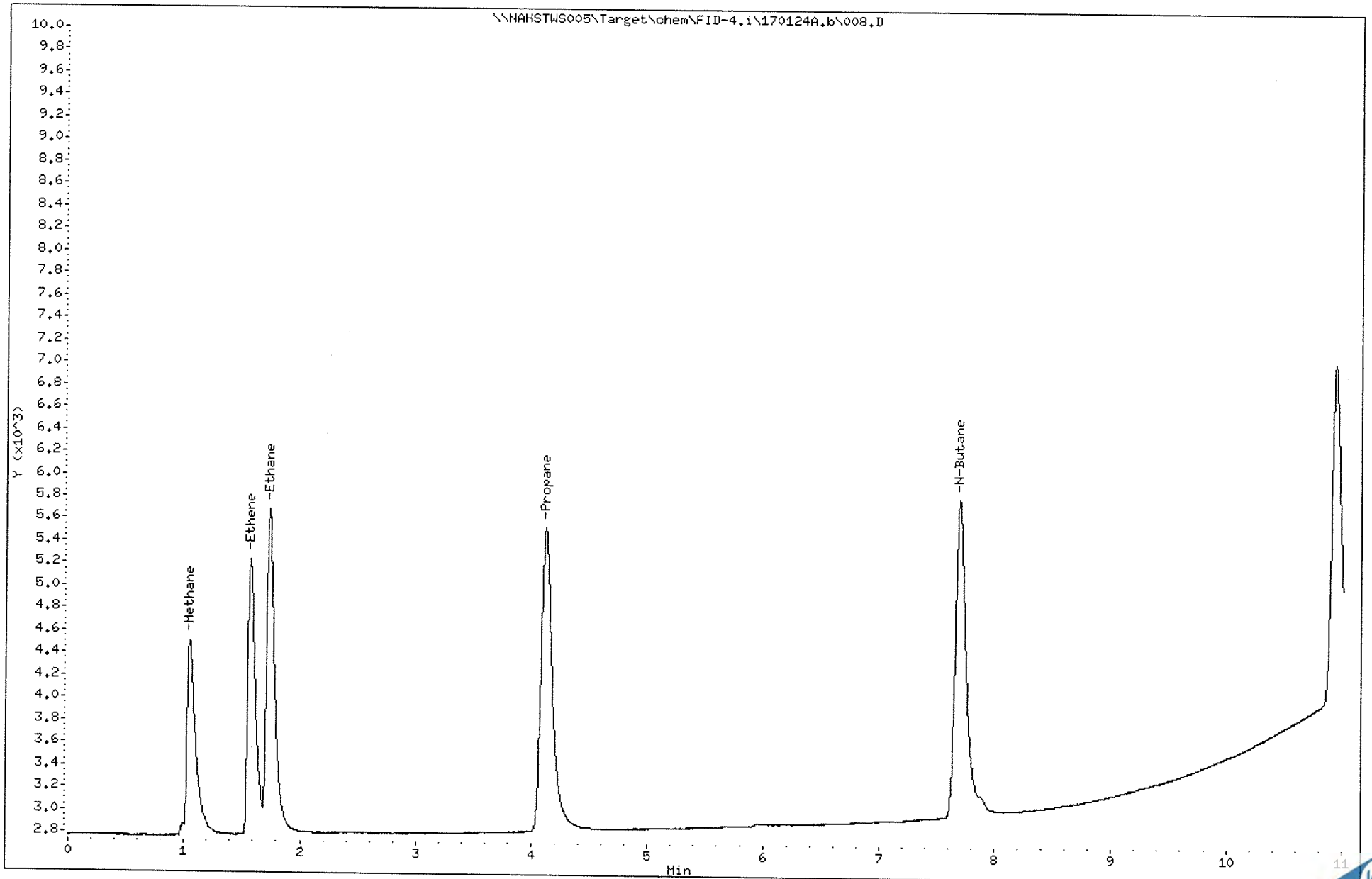
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 Methane	1.046	1.030	0.016	9352	9.59792	9.597
2 Ethene	1.573	1.556	0.017	11192	19.0906	19.090
3 Ethane	1.736	1.723	0.013	14474	19.6571	19.657
4 Propane	4.116	4.113	0.003	18164	27.2381	27.238
5 N-Butane	7.696	7.690	0.006	19425	36.0103	36.010

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\008.D
Date : 24-JAN-2017 12:05
Client ID: ICV
Sample Info: ICV;ICV;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



FID04 -Logbook

Batch: 42308 **Analyst:** Devak Giga

Date: 10-15-2020 **Reviewer:**

Method: RSK **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	RSK-CCV	CCV	10-15-2020 09:14 am	1.00	0.00 mL	0.00 mL	001.D	Liquid	Y	NA
2	MBLK-201015	MBLK	10-15-2020 09:35 am	1.00	0.00 mL	0.00 mL	002.D	Liquid	Y	NA
3	LCS-201015	LCS	10-15-2020 09:43 am	1.00	0.00 mL	0.00 mL	003.D	Liquid	Y	NA
4	LCSD-201015	LCSD	10-15-2020 09:51 am	1.00	0.00 mL	0.00 mL	004.D	Liquid	Y	NA
5	HS20100455-01	SAMP	10-15-2020 10:01 am	1.00	0.00 mL	0.00 mL	005.D	Liquid	Y	NA
6	HS20100455-02	SAMP	10-15-2020 10:14 am	1.00	0.00 mL	0.00 mL	006.D	Liquid	Y	NA
7	HS20100455-05	SAMP	10-15-2020 10:25 am	1.00	0.00 mL	0.00 mL	007.D	Liquid	Y	NA
8	HS20100696-02	SAMP	10-15-2020 10:33 am	1.00	0.00 mL	0.00 mL	008.D	Liquid	Y	NA
9	HS20100696-03	SAMP	10-15-2020 10:41 am	1.00	0.00 mL	0.00 mL	009.D	Liquid	Y	NA
10	HS20100696-04	SAMP	10-15-2020 10:53 am	1.00	0.00 mL	0.00 mL	010.D	Liquid	Y	NA
11	RSK-CCV	CCV	10-15-2020 11:05 am	1.00	0.00 mL	0.00 mL	011.D	Liquid	Y	NA
12	HS20100696-05	SAMP	10-15-2020 11:25 am	1.00	0.00 mL	0.00 mL	012.D	Liquid	Y	NA
13	HS20100459-01	SAMP	10-15-2020 11:34 am	1.00	0.00 mL	0.00 mL	013.D	Liquid	Y	NA
14	HS20100459-02	SAMP	10-15-2020 11:42 am	1.00	0.00 mL	0.00 mL	014.D	Liquid	Y	NA
15	HS20100459-03	SAMP	10-15-2020 11:52 am	1.00	0.00 mL	0.00 mL	015.D	Liquid	Y	NA
16	HS20100583-01	SAMP	10-15-2020 12:03 pm	1.00	0.00 mL	0.00 mL	016.D	Liquid	Y	NA
17	HS20100583-06	SAMP	10-15-2020 12:19 pm	1.00	0.00 mL	0.00 mL	017.D	Liquid	Y	NA
18	HS20100583-08	SAMP	10-15-2020 12:31 pm	1.00	0.00 mL	0.00 mL	018.D	Liquid	Y	NA
19	HS20100583-09	SAMP	10-15-2020 12:53 pm	1.00	0.00 mL	0.00 mL	019.D	Liquid	Y	NA
20	HS20100583-10	SAMP	10-15-2020 01:01 pm	1.00	0.00 mL	0.00 mL	020.D	Liquid	Y	NA
21	HS20100583-17	SAMP	10-15-2020 01:12 pm	1.00	0.00 mL	0.00 mL	021.D	Liquid	Y	NA
22	RSK-CCV	CCV	10-15-2020 01:21 pm	1.00	0.00 mL	0.00 mL	022.D	Liquid	Y	NA
23	HS20100583-19	SAMP	10-15-2020 01:32 pm	1.00	0.00 mL	0.00 mL	023.D	Liquid	Y	NA
24	HS20100583-24	SAMP	10-15-2020 01:40 pm	1.00	0.00 mL	0.00 mL	024.D	Liquid	Y	NA
25	HS20100443-01	SAMP	10-15-2020 01:48 pm	1.00	0.00 mL	0.00 mL	025.D	Liquid	Y	NA
26	HS20100443-02	SAMP	10-15-2020 01:56 pm	1.00	0.00 mL	0.00 mL	026.D	Liquid	Y	NA
27	HS20100455-01DUP	SAMP	10-15-2020 02:06 pm	1.00	0.00 mL	0.00 mL	027.D	Liquid	Y	NA
28	HS20100455-05	SAMP	10-15-2020 02:28 pm	100.0(	0.00 mL	0.00 mL	028.D	Liquid	Y	NA
29	HS20100696-02	SAMP	10-15-2020 02:36 pm	100.0(	0.00 mL	0.00 mL	029.D	Liquid	Y	NA
30	HS20100696-03	SAMP	10-15-2020 02:44 pm	50.00	0.00 mL	0.00 mL	030.D	Liquid	Y	NA
31	HS20100696-04	SAMP	10-15-2020 02:52 pm	50.00	0.00 mL	0.00 mL	031.D	Liquid	Y	NA
32	HS20100696-05	SAMP	10-15-2020 03:02 pm	50.00	0.00 mL	0.00 mL	032.D	Liquid	Y	NA
33	RSK-CCV	CCV	10-15-2020 03:10 pm	1.00	0.00 mL	0.00 mL	033.D	Liquid	Y	NA
34	HS20100459-01	SAMP	10-15-2020 03:21 pm	400.0(	0.00 mL	0.00 mL	034.D	Liquid	Y	NA
35	HS20100459-02	SAMP	10-15-2020 03:30 pm	500.0(	0.00 mL	0.00 mL	035.D	Liquid	Y	NA
36	HS20100459-03	SAMP	10-15-2020 03:38 pm	500.0(	0.00 mL	0.00 mL	036.D	Liquid	Y	NA
37	HS20100583-01	SAMP	10-15-2020 03:58 pm	400.0(	0.00 mL	0.00 mL	037.D	Liquid	Y	NA
38	HS20100583-06	SAMP	10-15-2020 04:15 pm	400.0(	0.00 mL	0.00 mL	038.D	Liquid	Y	NA
39	HS20100583-08	SAMP	10-15-2020 04:32 pm	25.00	0.00 mL	0.00 mL	039.D	Liquid	Y	NA
40	HS20100583-09	SAMP	10-15-2020 04:47 pm	100.0(	0.00 mL	0.00 mL	040.D	Liquid	Y	NA
41	HS20100583-10	SAMP	10-15-2020 04:57 pm	50.00	0.00 mL	0.00 mL	041.D	Liquid	Y	NA

FID04 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
42	HS20100583-17	SAMP	10-15-2020 05:05 pm	200.0(	0.00 mL	0.00 mL	042.D	Liquid	Y	NA
43	HS20100583-19	SAMP	10-15-2020 05:13 pm	100.0(	0.00 mL	0.00 mL	043.D	Liquid	Y	NA
44	RSK-CCV	CCV	10-15-2020 05:21 pm	1.00	0.00 mL	0.00 mL	044.D	Liquid	Y	NA
45	HS20100583-24	SAMP	10-15-2020 05:30 pm	500.0(	0.00 mL	0.00 mL	045.D	Liquid	Y	NA
46	RSK-CCV	CCV	10-15-2020 05:39 pm	1.00	0.00 mL	0.00 mL	046.D	Liquid	Y	NA

FORM 7B
GASES CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100455

Instrument ID: FID-4 Calibration Date: 10/15/20 Time: 0914

Lab File ID: 001 Init. Calib. Date(s): 01/24/17 01/24/17

Init. Calib. Times: 0906 1113

GC Column: RTX-PLOT ID: 0.53 (mm)

COMPOUND	RRF OR AMOUNT	RRF250.00 OR AMOUNT	MIN RRF	%D OR %DRIFT	MAX %D OR %DRIFT	CURV TYPE
Ethane	719.48900	661.25367	0.01	8.09	20.00	AVRG
Methane	974.99200	929.61542	0.01	4.65	20.00	AVRG
Ethene	585.76000	548.48665	0.01	6.36	20.00	AVRG

FORM VII GASES

FORM 7B
GASES CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100455

Instrument ID: FID-4 Calibration Date: 10/15/20 Time: 1105

Lab File ID: 011 Init. Calib. Date(s): 01/24/17 01/24/17

Init. Calib. Times: 0906 1113

GC Column: RTX-PLOT ID: 0.53 (mm)

COMPOUND	RRF OR AMOUNT	RRF250.00 OR AMOUNT	MIN RRF	%D OR %DRIFT	MAX %D OR %DRIFT	CURV TYPE
Ethane	719.48900	698.94142	0.01	2.86	20.00	AVRG
Methane	974.99200	966.20711	0.01	0.90	20.00	AVRG
Ethene	585.76000	625.93472	0.01	-6.86	20.00	AVRG

FORM VII GASES

FORM 7B
GASES CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100455

Instrument ID: FID-4 Calibration Date: 10/15/20 Time: 1321

Lab File ID: 022 Init. Calib. Date(s): 01/24/17 01/24/17

Init. Calib. Times: 0906 1113

GC Column: RTX-PLOT ID: 0.53 (mm)

COMPOUND	RRF OR AMOUNT	RRF250.00 OR AMOUNT	MIN RRF	%D OR %DRIFT	MAX %D OR %DRIFT	CURV TYPE
Ethane	719.48900	701.26919	0.01	2.53	20.00	AVRG
Methane	974.99200	891.15787	0.01	8.60	20.00	AVRG
Ethene	585.76000	599.05045	0.01	-2.27	20.00	AVRG

FORM VII GASES

FORM 7B
GASES CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100455

Instrument ID: FID-4 Calibration Date: 10/15/20 Time: 1510

Lab File ID: 033 Init. Calib. Date(s): 01/24/17 01/24/17

Init. Calib. Times: 0906 1113

GC Column: RTX-PLOT ID: 0.53 (mm)

COMPOUND	RRF OR AMOUNT	RRF250.00 OR AMOUNT	MIN RRF	%D OR %DRIFT	MAX %D OR %DRIFT	CURV TYPE
Ethane	719.48900	707.53201	0.01	1.66	20.00	AVRG
Methane	974.99200	918.21292	0.01	5.82	20.00	AVRG
Ethene	585.76000	592.87834	0.01	-1.22	20.00	AVRG

FORM VII GASES

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201015.b\001.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 15-OCT-2020 09:14
Operator : PL Inst ID: FID-4.i
Smp Info : RSK-CCV;RSK-CCV;2;4
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201015.b\RSKNI3.m
Meth Date : 10-Nov-2020 09:08 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

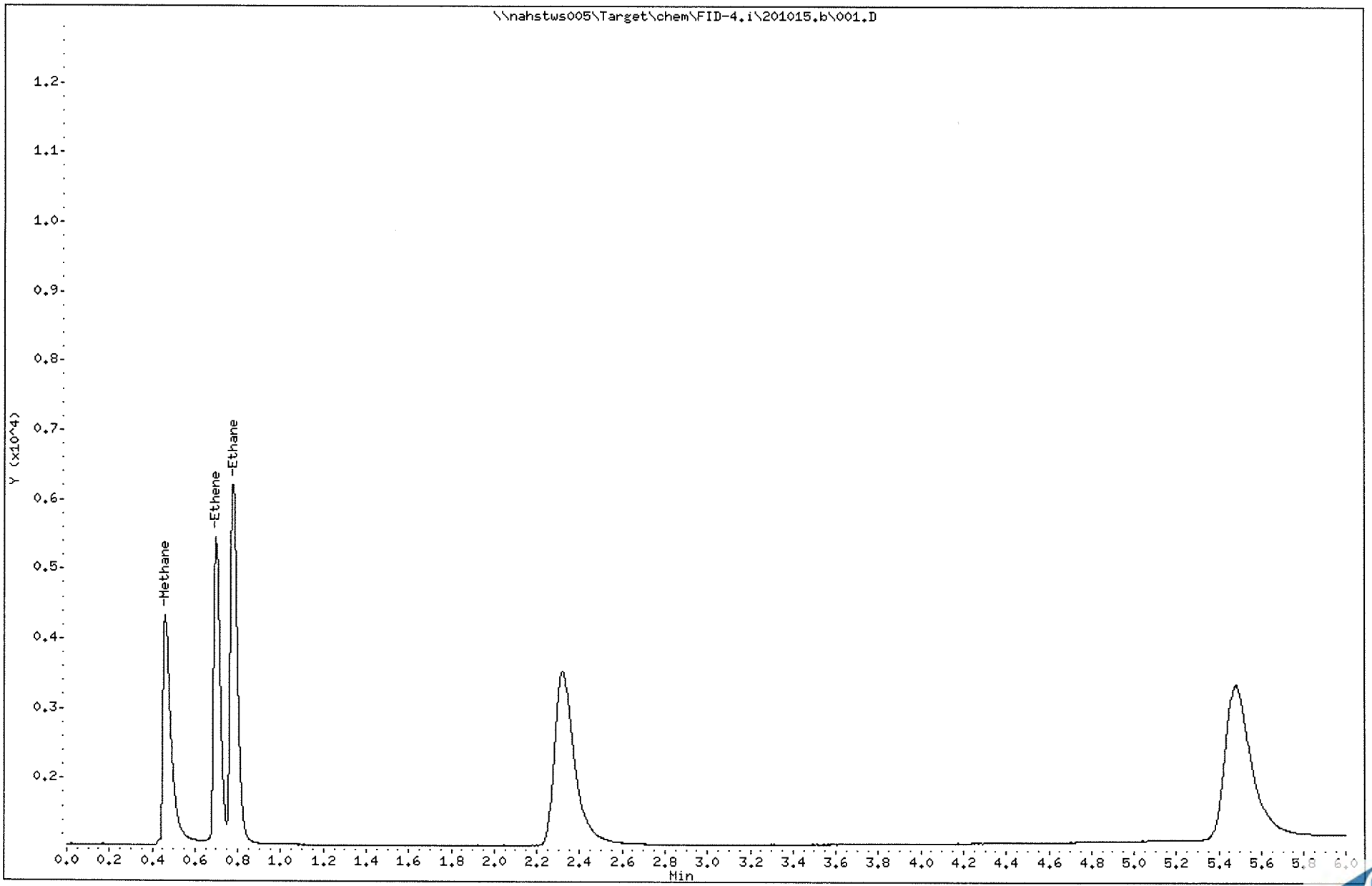
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
1 Methane	0.460	0.460	0.000	8968	9.64700	9.198
2 Ethene	0.700	0.700	0.000	9242	16.8500	15.777
3 Ethane	0.780	0.780	0.000	11931	18.0430	16.582

Data File: \\nahstws005\Target\chem\FID-4.i\201015.b\001.D
Date : 15-OCT-2020 09:14
Client ID: RSK-CCV
Sample Info: RSK-CCV;RSK-CCV;2;4

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\201015.b\002.D Page 1
Report Date: 10-Nov-2020 09:08

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201015.b\002.D
Lab Smp Id: MBLK-201015 Client Smp ID: MBLK-201015
Inj Date : 15-OCT-2020 09:35
Operator : PL Inst ID: FID-4.i
Smp Info : MBLK-201015;MBLK-201015;3;;BLANK
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201015.b\RSKNI3.m
Meth Date : 10-Nov-2020 09:08 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 2 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

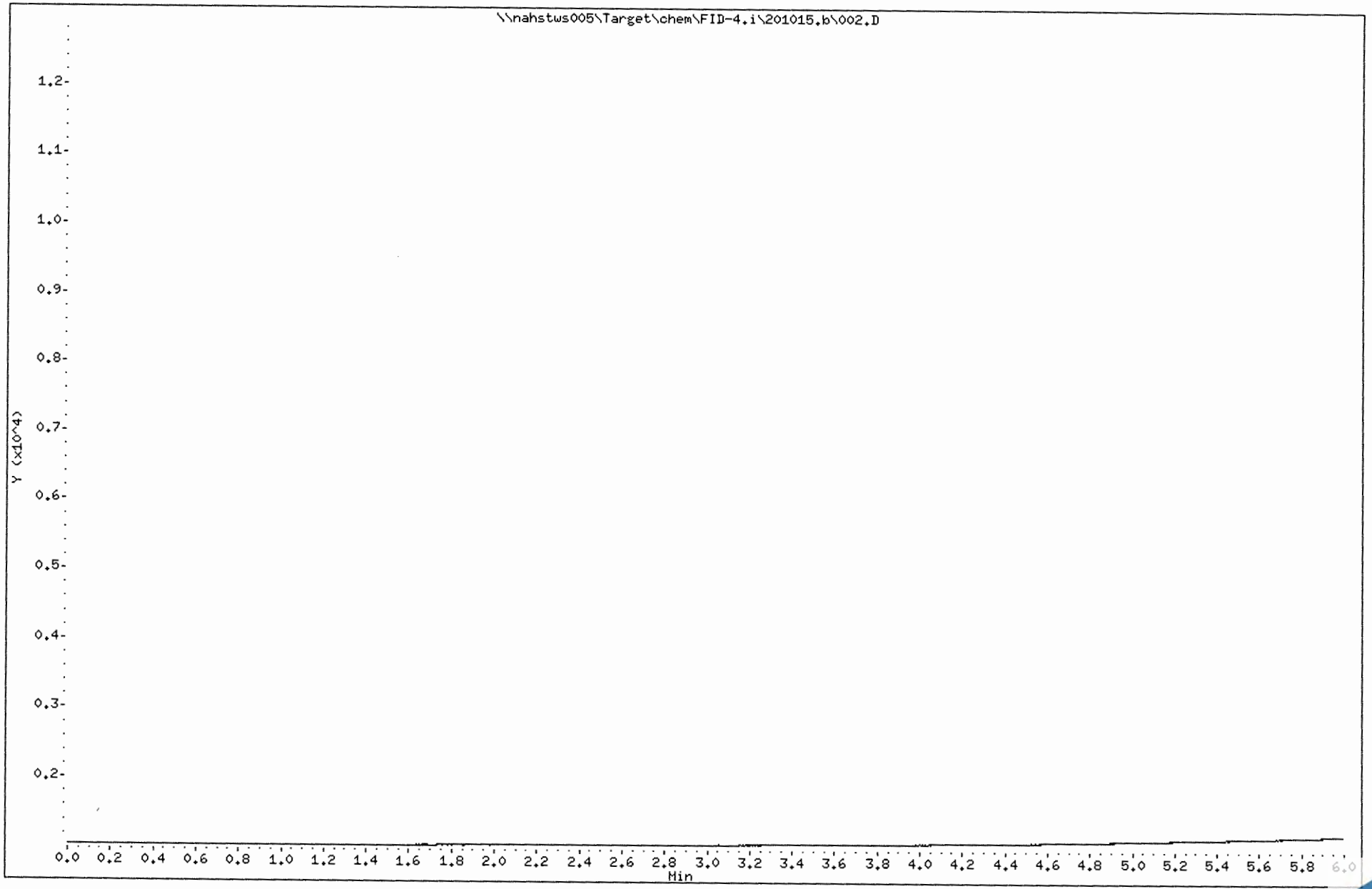
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)

Data File: \\nahstws005\Target\chem\FID-4.i\201015.b\002.D
Date : 15-OCT-2020 09:35
Client ID: MBLK-201015
Sample Info: MBLK-201015;MBLK-201015;3;;BLANK

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\201015.b\003.D Page 1
Report Date: 10-Nov-2020 09:08

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201015.b\003.D
Lab Smp Id: LCS-201015 Client Smp ID: LCS-201015
Inj Date : 15-OCT-2020 09:43
Operator : PL Inst ID: FID-4.i
Smp Info : LCS-201015;LCS-201015;3;;LCS
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201015.b\RSKNI3.m
Meth Date : 10-Nov-2020 09:08 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 3 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

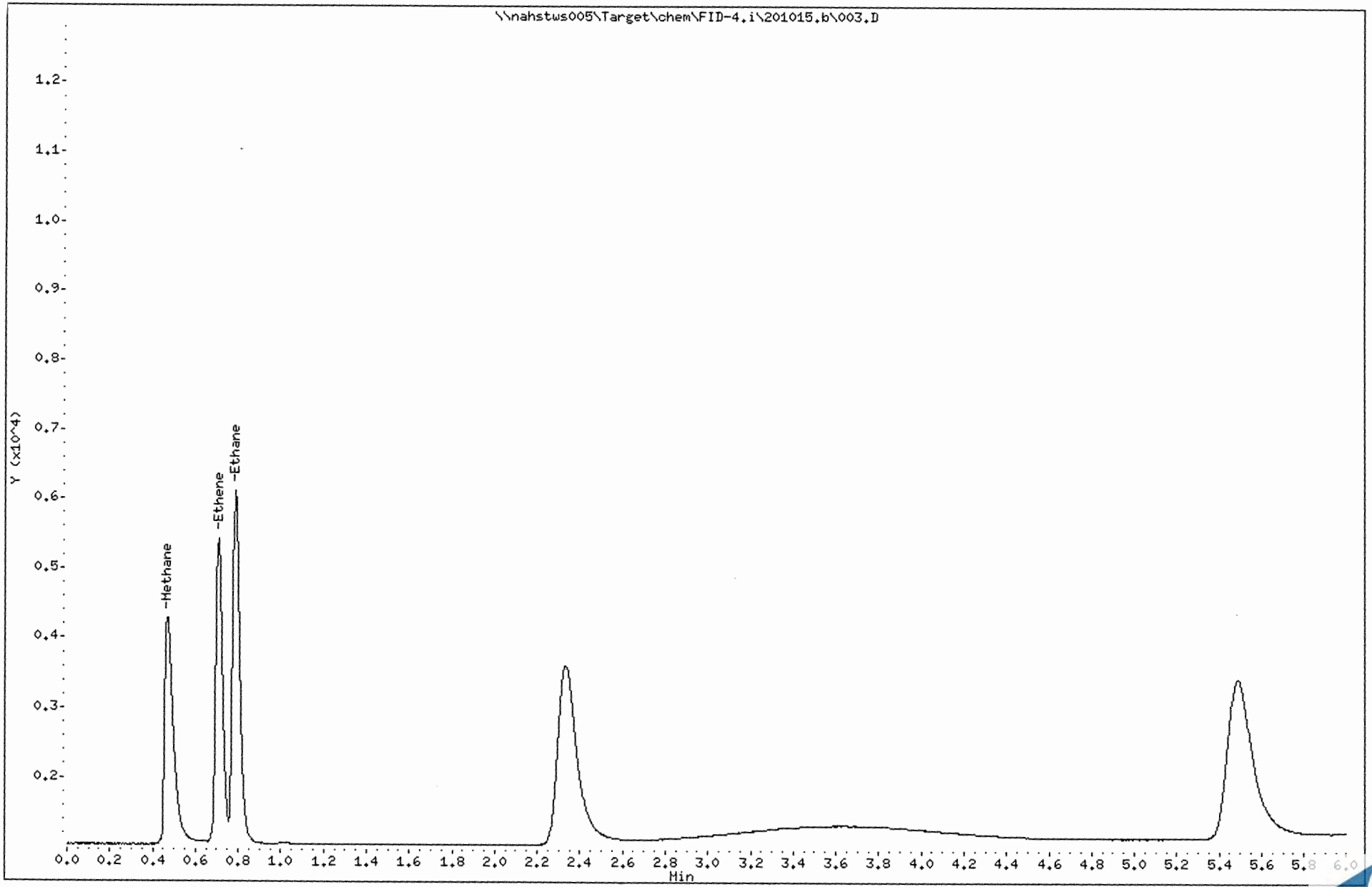
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.466	0.460	0.006	9533	9.77751	9.777
2 Ethene	0.706	0.700	0.006	9684	16.5324	16.532
3 Ethane	0.786	0.780	0.006	12144	16.8786	16.878

Data File: \\nahstws005\Target\chem\FID-4.i\201015.b\003.D
Date : 15-OCT-2020 09:43
Client ID: LCS-201015
Sample Info: LCS-201015;LCS-201015;3;;LCS

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\201015.b\004.D Page 1
Report Date: 10-Nov-2020 09:08

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201015.b\004.D
Lab Smp Id: LCSD-201015 Client Smp ID: LCSD-201015
Inj Date : 15-OCT-2020 09:51
Operator : PL Inst ID: FID-4.i
Smp Info : LCSD-201015;LCSD-201015;3;;LCSD
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201015.b\RSKNI3.m
Meth Date : 10-Nov-2020 09:08 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 4 QC Sample: LCSD
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 Methane	0.466	0.460	0.006	7590	7.78468	7.784
2 Ethene	0.710	0.700	0.010	8383	14.3113	14.311(M)
3 Ethane	0.790	0.780	0.010	10885	15.1288	15.128

QC Flag Legend

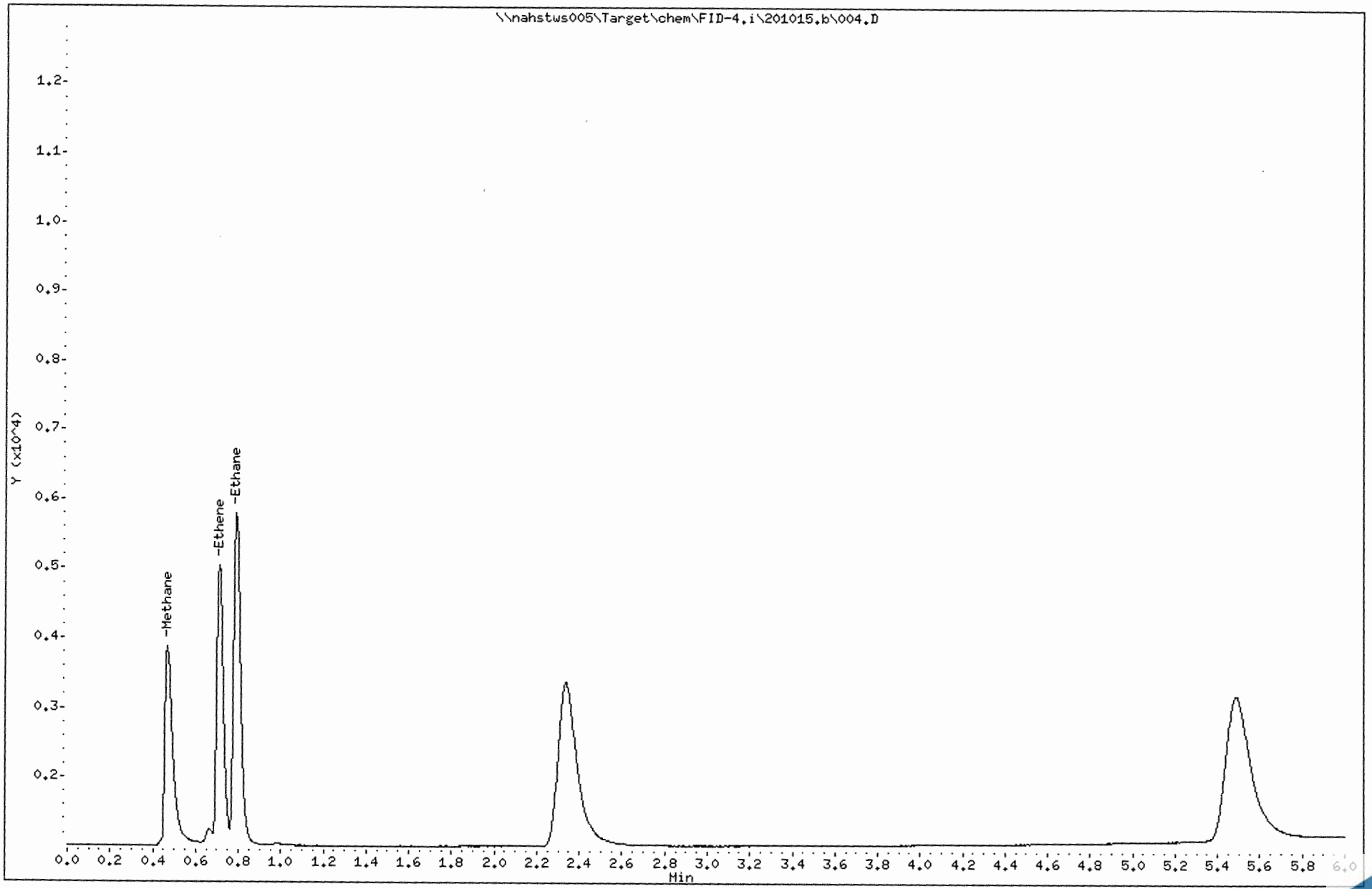
M - Compound response manually integrated.

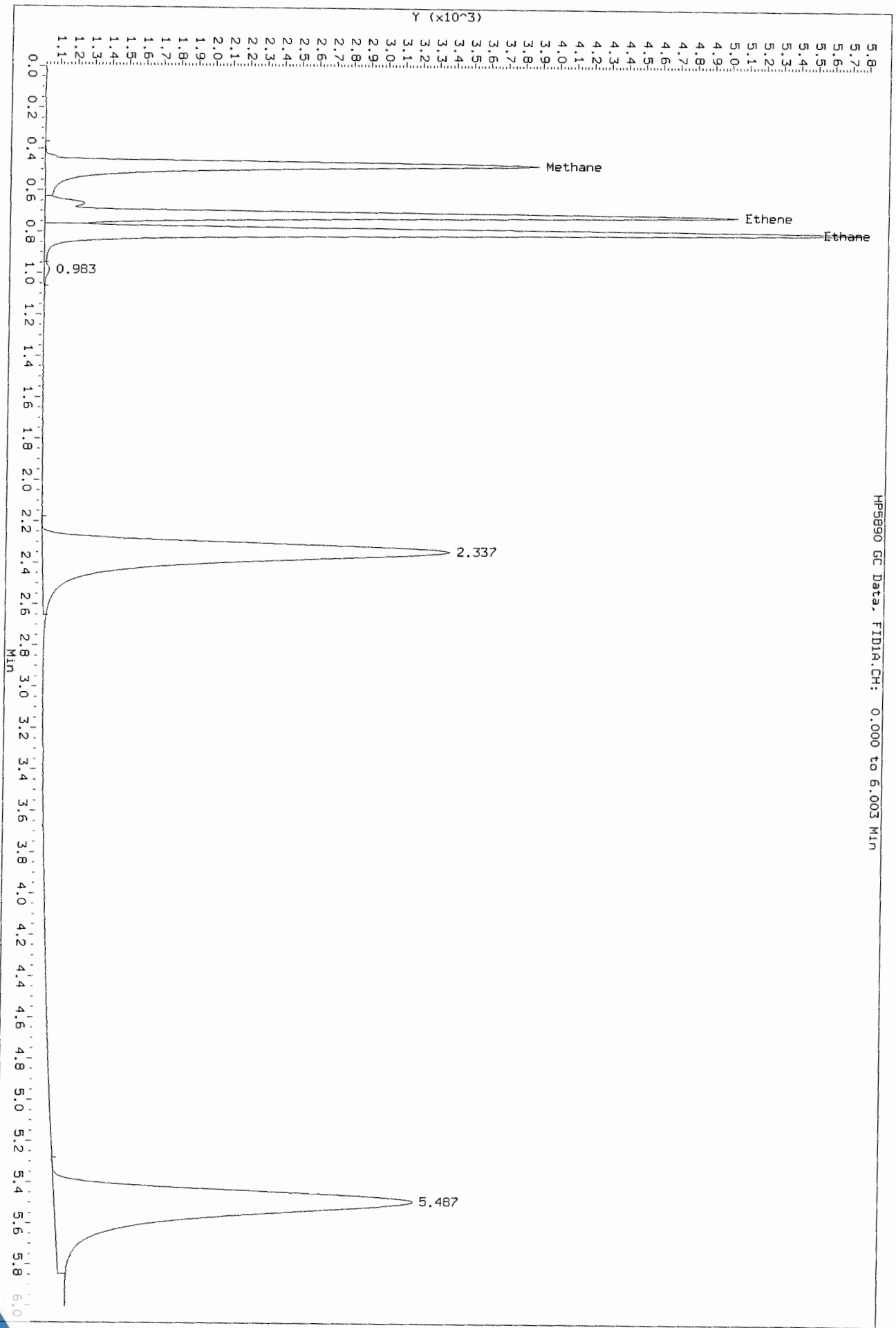
Data File: \\nahstws005\Target\chem\FID-4.i\201015.b\004.D
Date : 15-OCT-2020 09:51
Client ID: LCSD-201015
Sample Info: LCSD-201015;LCSD-201015;3;;LCSD

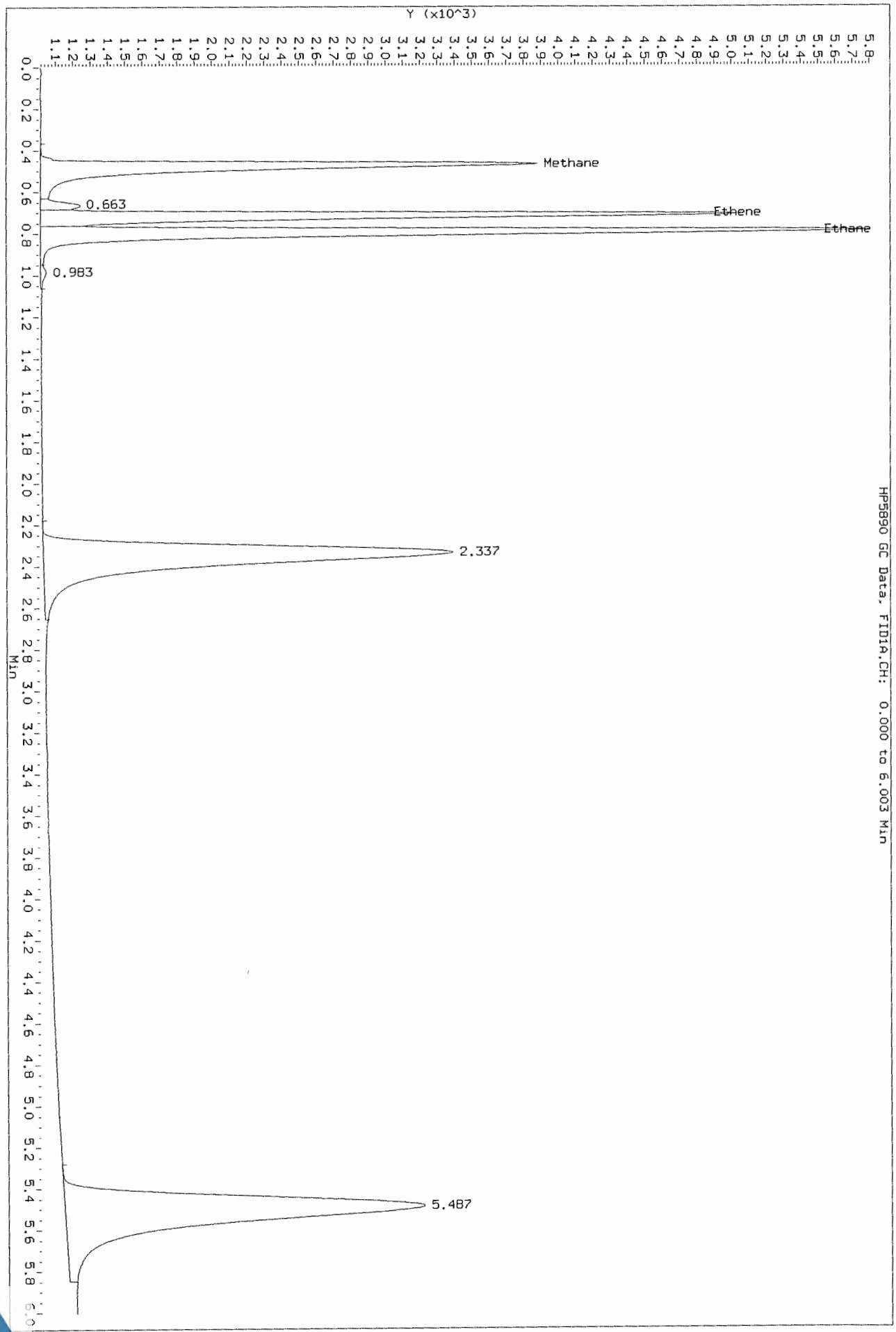
Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53




Data File: \\nahstws005\Target\chem\FID-4.i\201015.b\BEFORE\004.D
Injection Date: 15-OCT-2020 09:51
Instrument: FID-4.i
Client Sample ID: LCSD-201015
HP5890 GC Data, FID1A.CH: 0.000 to 6.003 Min
Y (x10^3)
Min
Methane
Ethene
Ethane
0.983
2.337
5.487


Data File: \\nahstws005\Target\chem\FID-4.i\201015.b\004.D
Injection Date: 15-OCT-2020 09:51
Instrument: FID-4.i
Client Sample ID: LCSD-201015
HP5890 GC Data, FID1A.CH: 0.000 to 6.003 Min
Y (x10^3)
Min
Methane
0.663
Ethene
Ethane
0.983
2.337
5.487

Data File: \\nahstws005\Target\chem\FID-4.i\201015.b\005.D Page 1
Report Date: 10-Nov-2020 09:08

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201015.b\005.D
Lab Smp Id: HS20100455-01 Client Smp ID: HS20100455-01
Inj Date : 15-OCT-2020 10:01
Operator : PL Inst ID: FID-4.i
Smp Info : HS20100455-01;HS20100455-01
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201015.b\RSKNI3.m
Meth Date : 10-Nov-2020 09:08 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 5
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 Methane	0.470	0.460	0.010	6429	6.59390	6.593
2 Ethene	0.700	0.700	0.000	378	0.64532	0.645(M)

QC Flag Legend

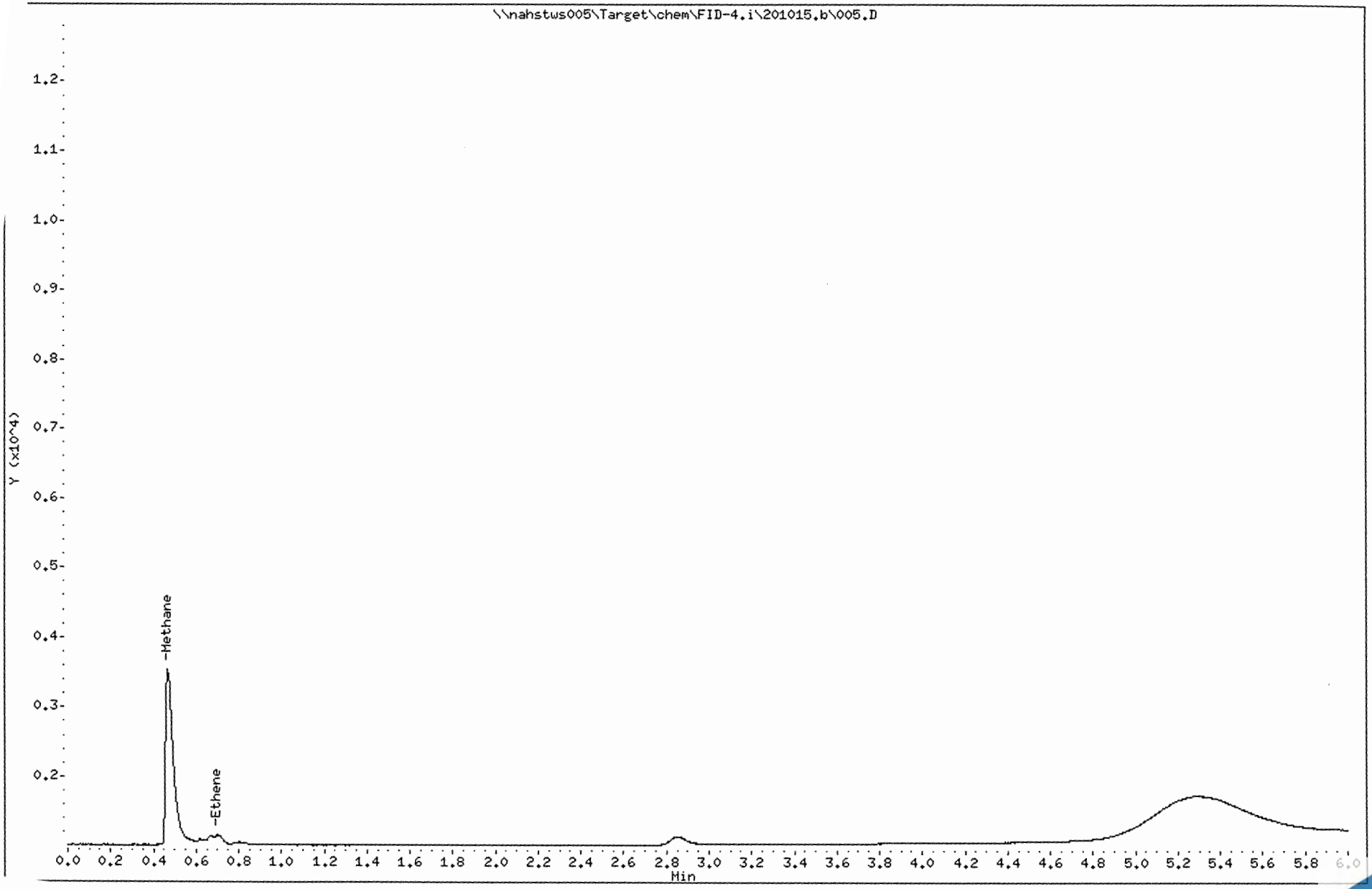
M - Compound response manually integrated.

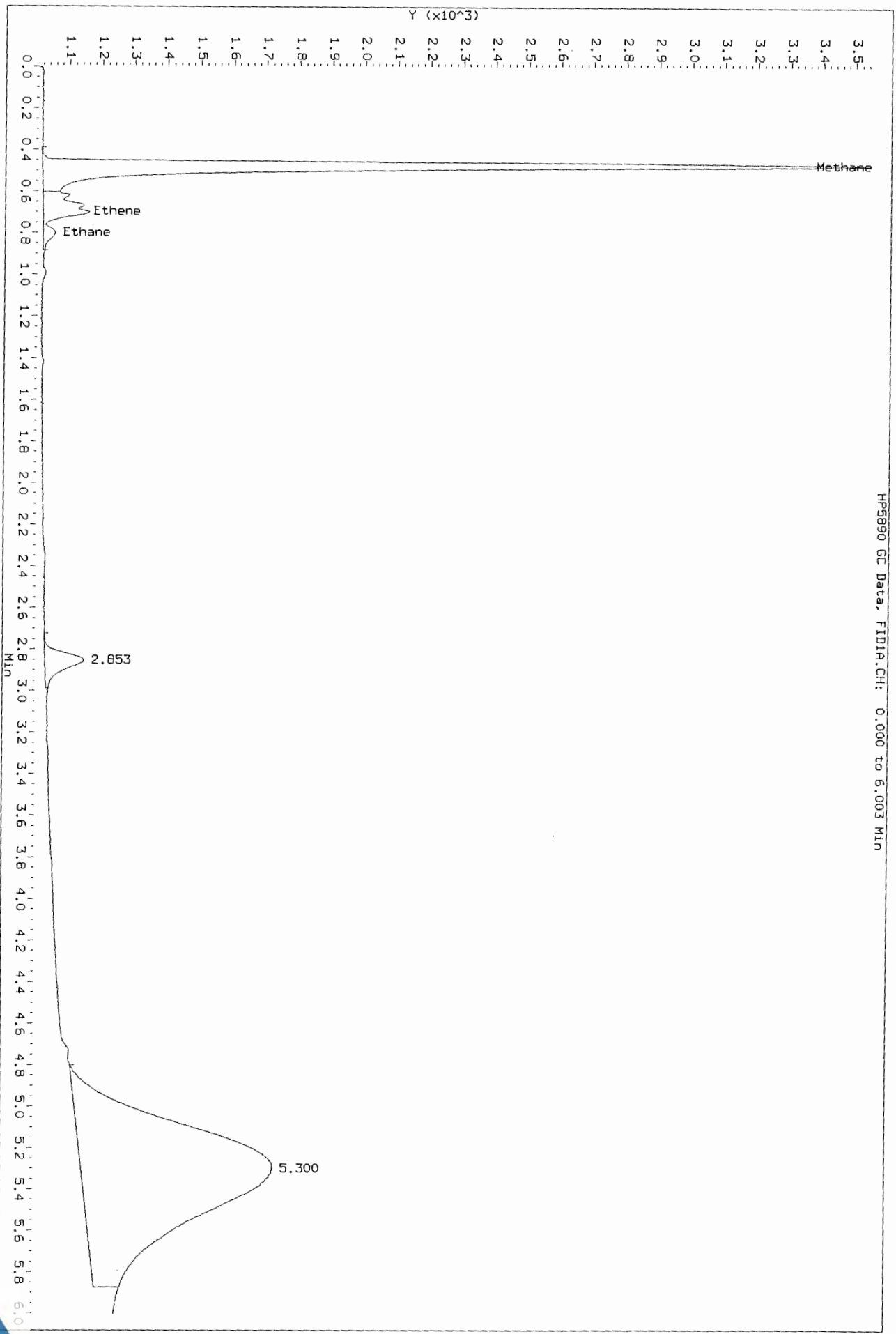
Data File: \\nahstws005\Target\chem\FID-4.i\201015.b\005.D
Date : 15-OCT-2020 10:01
Client ID: HS20100455-01
Sample Info: HS20100455-01;HS20100455-01

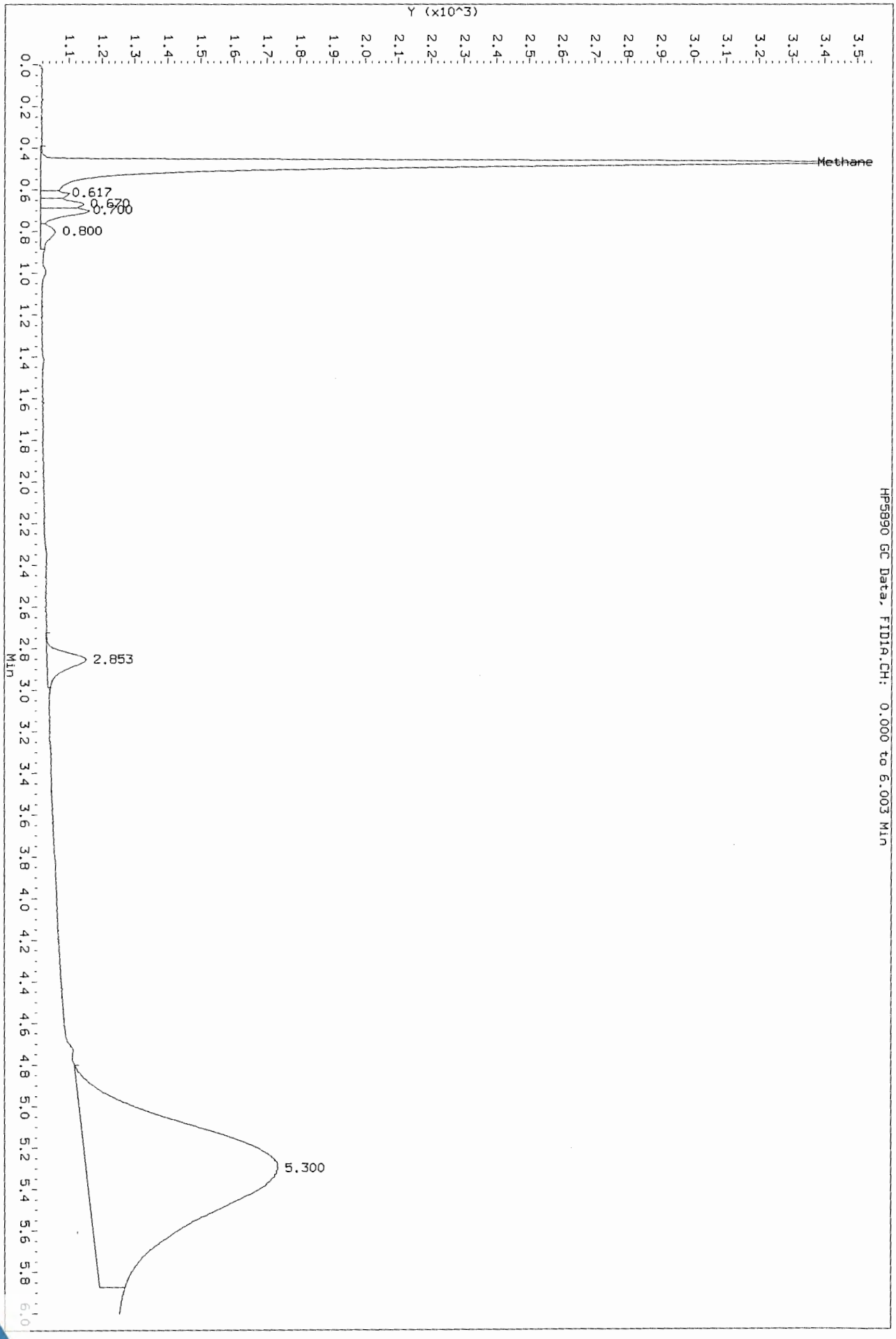
Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53




Data File: \\nahstws005\Target\chem\FID-4.i\201015.b\BEFORE\005.D
Injection Date: 15-OCT-2020 10:01
Instrument: FID-4.i
Client Sample ID: HS20100455-01
HP5890 GC Data, FIDiA.CH: 0.000 to 6.003 Min
Y (x10^3)
Min
Methane
Ethene
Ethane
2.853
5.300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Injection Date: 15-OCT-2020 10:01
Instrument: FID-4.i
Client Sample ID: HS20100455-01
HP5890 GC Data, FID1A.CH: 0.000 to 6.003 Min
Y (x10^3)
Min
Methane
0.617
0.670
0.700
0.800
2.853
5.300

Data File: \\nahstws005\Target\chem\FID-4.i\201015.b\006.D Page 1
Report Date: 10-Nov-2020 09:08

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201015.b\006.D
Lab Smp Id: HS20100455-02 Client Smp ID: HS20100455-02
Inj Date : 15-OCT-2020 10:14
Operator : PL Inst ID: FID-4.i
Smp Info : HS20100455-02;HS20100455-02
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201015.b\RSKNI3.m
Meth Date : 10-Nov-2020 09:08 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 6
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	0.486	0.460	0.026	2911	2.98566	2.985
2 Ethene	0.686	0.700	-0.014	730	1.24624	1.246(M)

QC Flag Legend

M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\201015.b\006.D

Date : 15-OCT-2020 10:14

Client ID: HS20100455-02

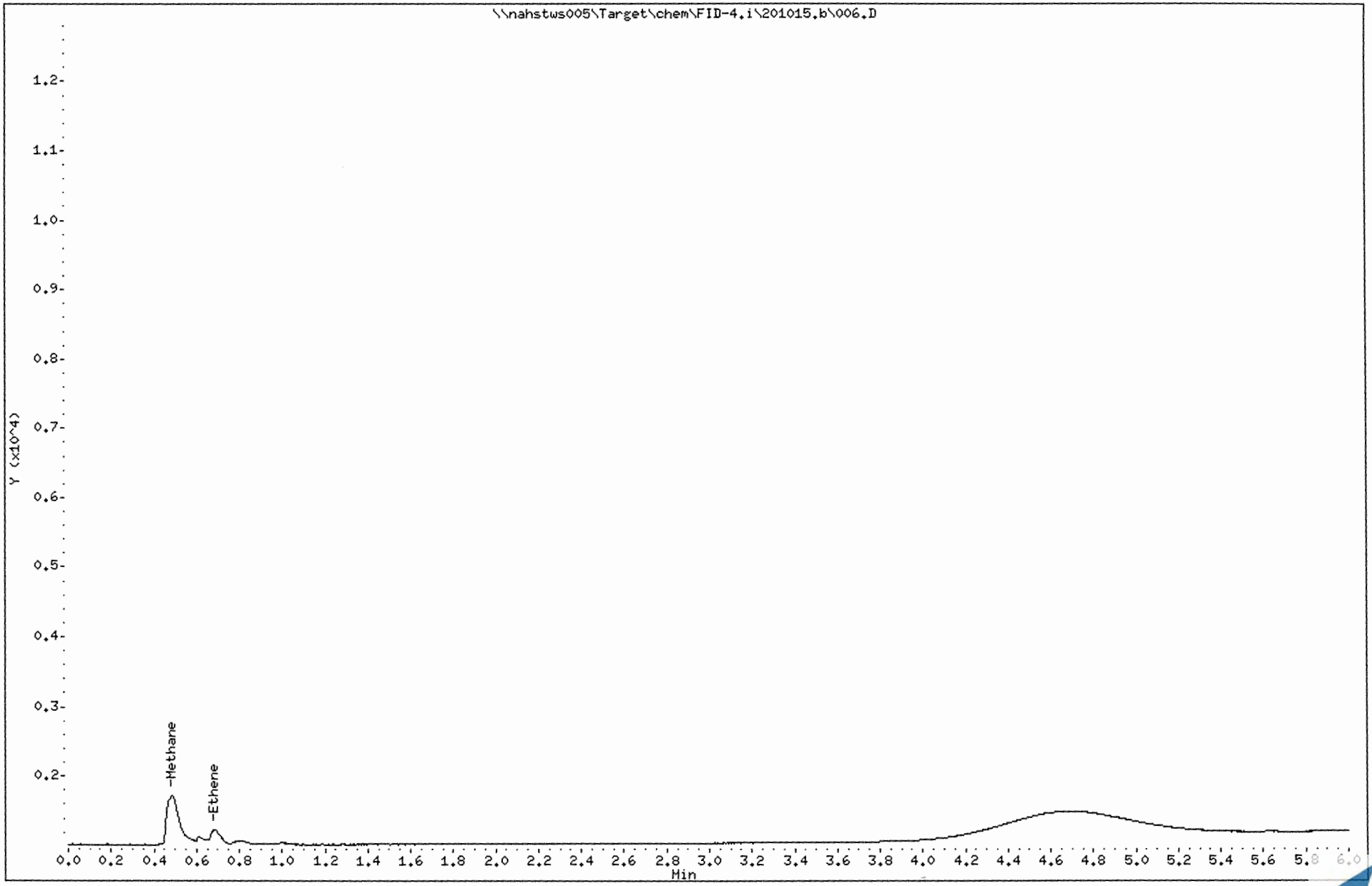
Instrument: FID-4.i

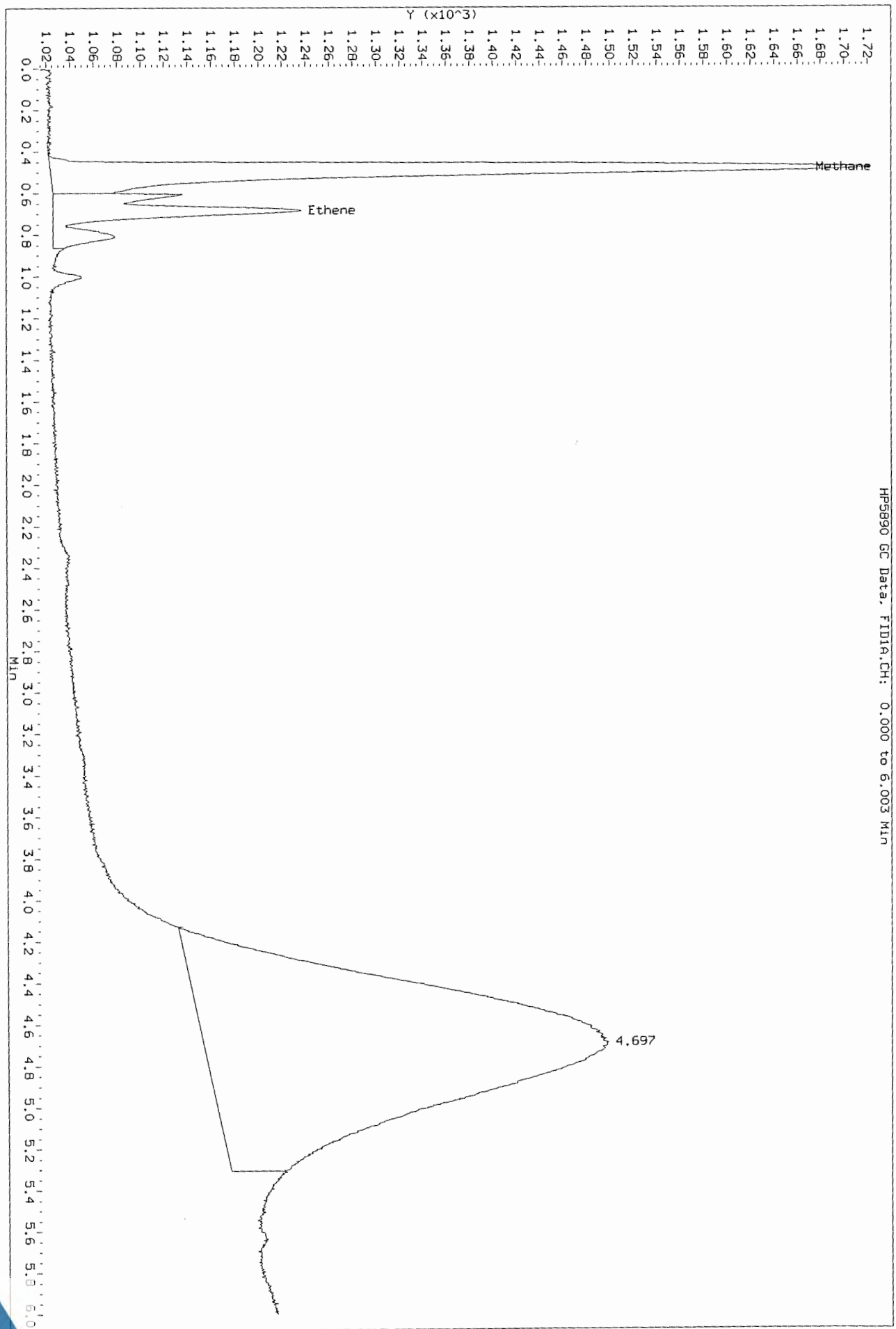
Sample Info: HS20100455-02;HS20100455-02

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53

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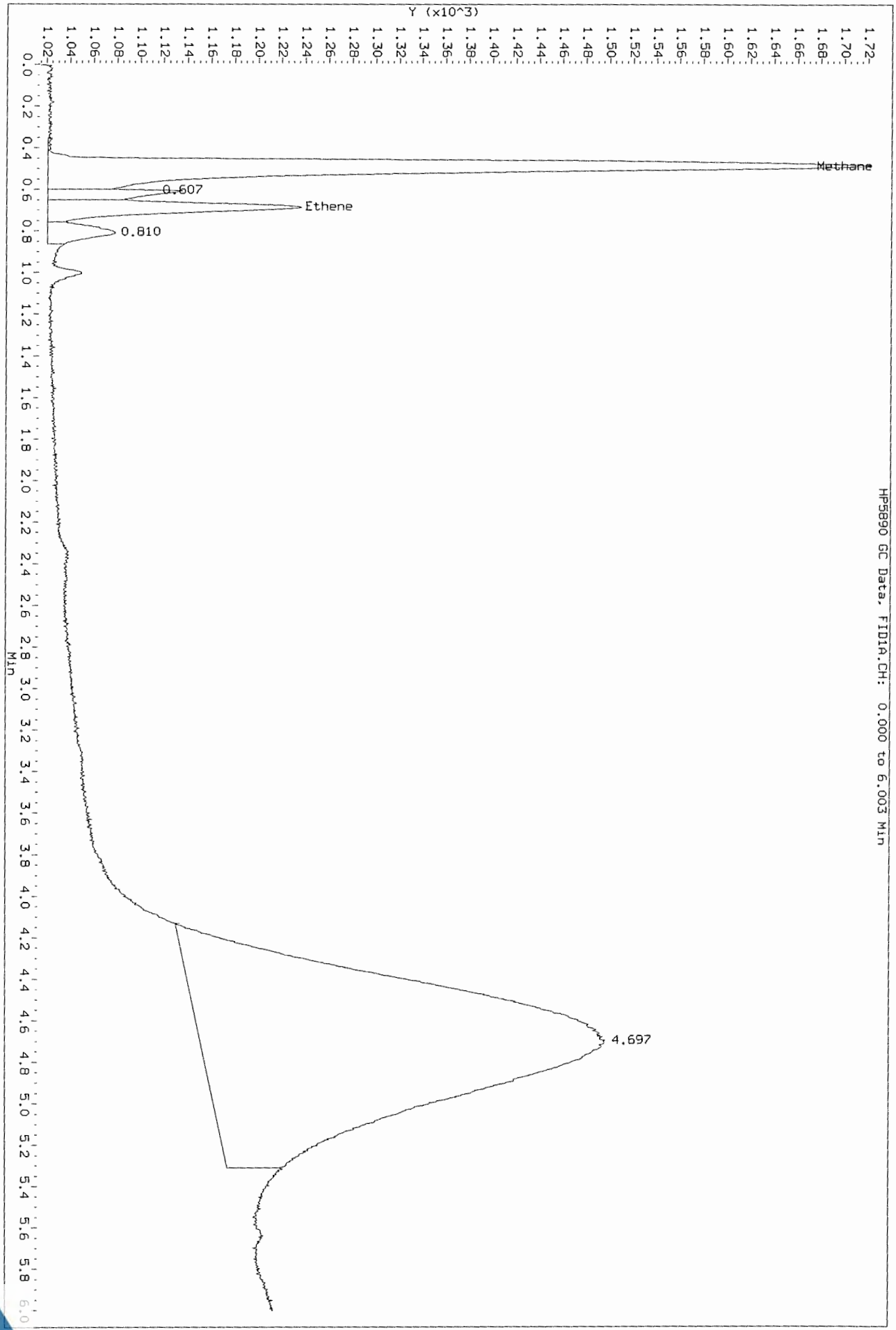
Injection Date: 15-OCT-2020 10:14
Instrument: FID-4.i
Client Sample ID: HS20100455-02
HP5890 GC Data, FID1A.CH: 0.000 to 6.003 Min
Y (x10^3)
Methane
Ethene
4.697
Min


Data File: \\nahstws005\Target\chem\FID-4.i\201015.b\006.D
Injection Date: 15-OCT-2020 10:14
Instrument: FID-4.i
Client Sample ID: HS20100455-02
HP5890 GC Data, FID1A.CH: 0.000 to 6.003 Min
Y (x10^3)
Min
Methane
0.607
Ethene
0.810
4.697

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201015.b\007.D
Lab Smp Id: HS20100455-05 Client Smp ID: HS20100455-05
Inj Date : 15-OCT-2020 10:25
Operator : PL Inst ID: FID-4.i
Smp Info : HS20100455-05;HS20100455-05
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201015.b\RSKNI3.m
Meth Date : 10-Nov-2020 09:08 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 7
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.463	0.460	0.003	1145629	1175.01	1175.013(A)
2 Ethene	0.696	0.700	-0.004	6823	11.6481	11.648(M)
3 Ethane	0.780	0.780	0.000	4058	5.64011	5.640(M)

QC Flag Legend

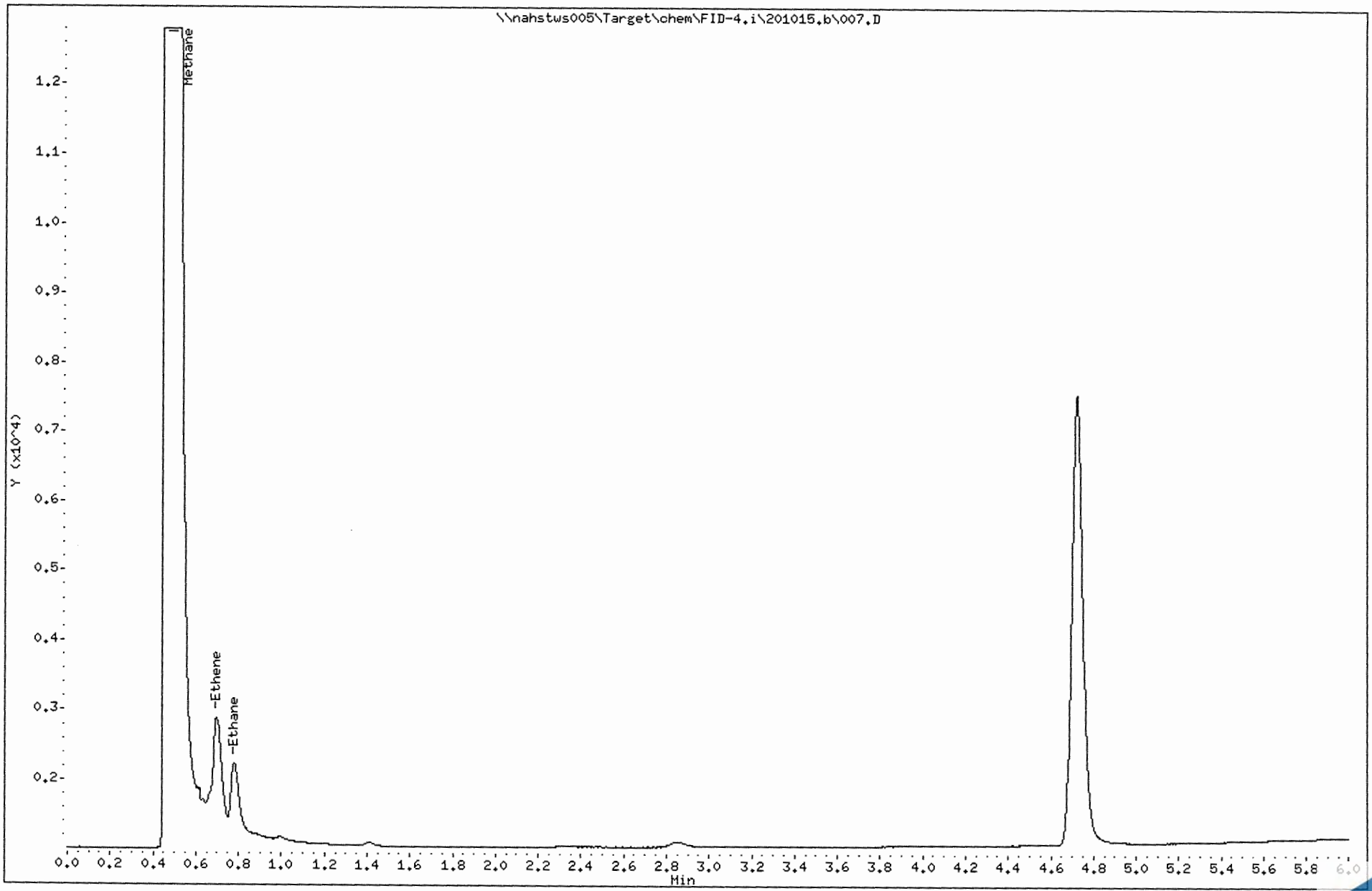
A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.

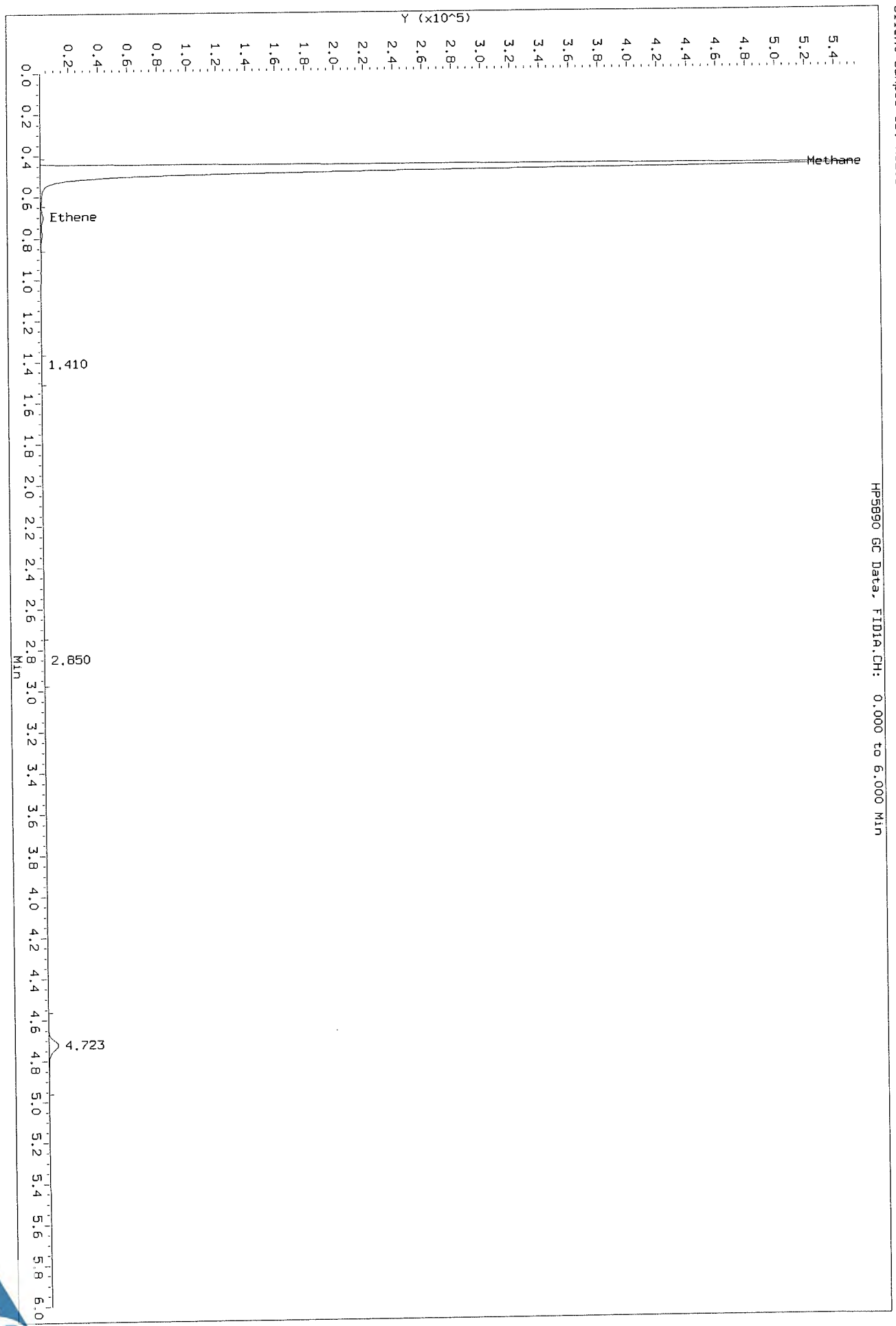
Data File: \\nahstws005\Target\chem\FID-4.i\201015.b\007.D
Date : 15-OCT-2020 10:25
Client ID: HS20100455-05
Sample Info: HS20100455-05;HS20100455-05

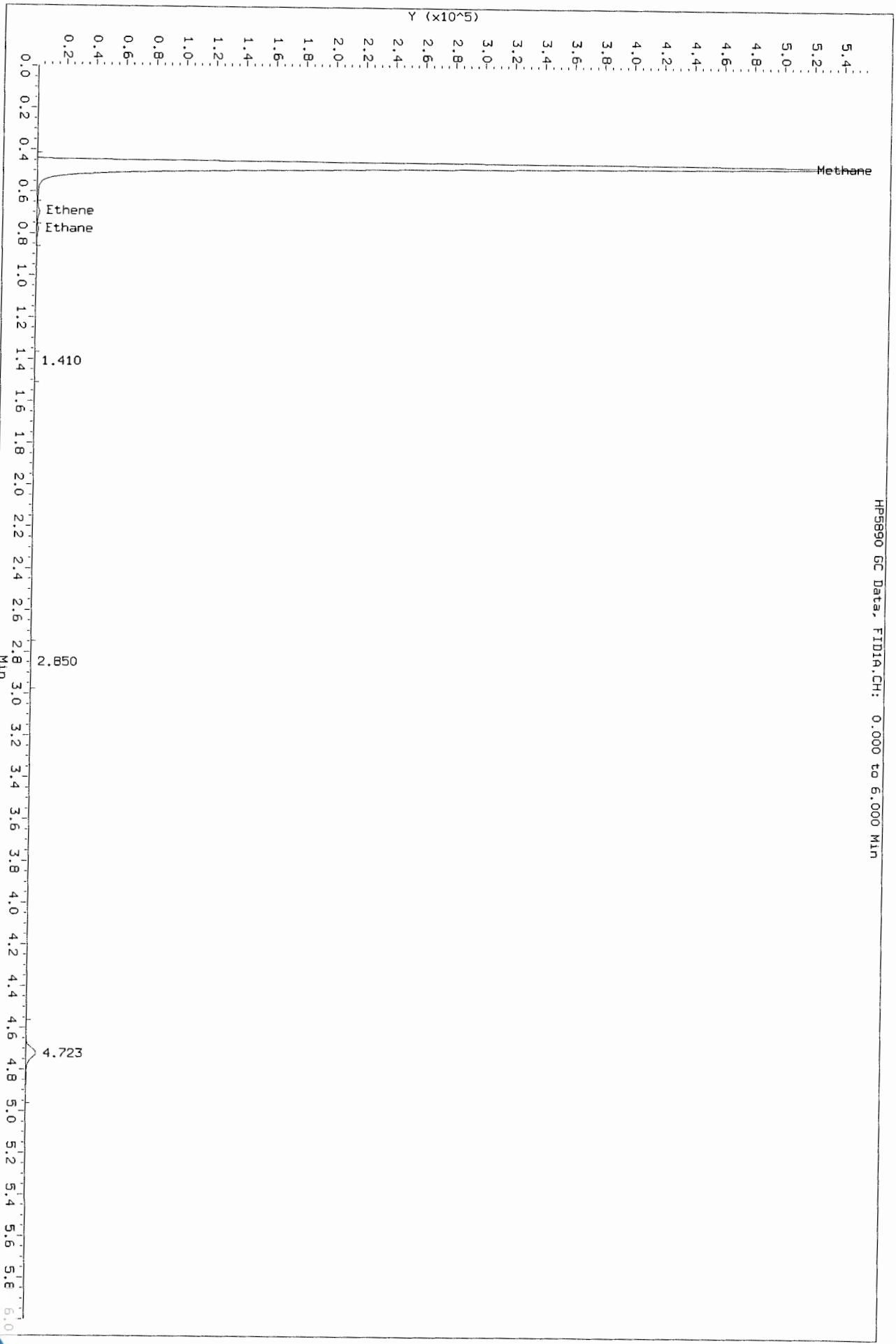
Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53




Data File: \\nahstws005\Target\chem\FID-4.i\201015.b\BEFORE\007.D
Injection Date: 15-OCT-2020 10:25
Instrument: FID-4.i
Client Sample ID: HS20100455-05
HP5890 GC Data, FID1A.CH: 0.000 to 6.000 Min
Y (x10^5)
Methane
Ethene
1.410
2.850
4.723
Min


Data File: \\nahstws005\Target\chem\FID-4.i\201015.b\007.D
Injection Date: 15-OCT-2020 10:25
Instrument: FID-4.i
Client Sample ID: HS20100455-05
HP5890 GC Data, FID1A,CH: 0.000 to 6.000 Min
Y (x10^5)
Methane
Ethene
Ethane
1.410
2.850
4.723
Min

Data File: \\nahstws005\Target\chem\FID-4.i\201015.b\011.D
Report Date: 10-Nov-2020 09:08

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201015.b\011.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 15-OCT-2020 11:05
Operator : PL Inst ID: FID-4.i
Smp Info : RSK-CCV;RSK-CCV;2;4
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201015.b\RSKNI3.m
Meth Date : 10-Nov-2020 09:08 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 11 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

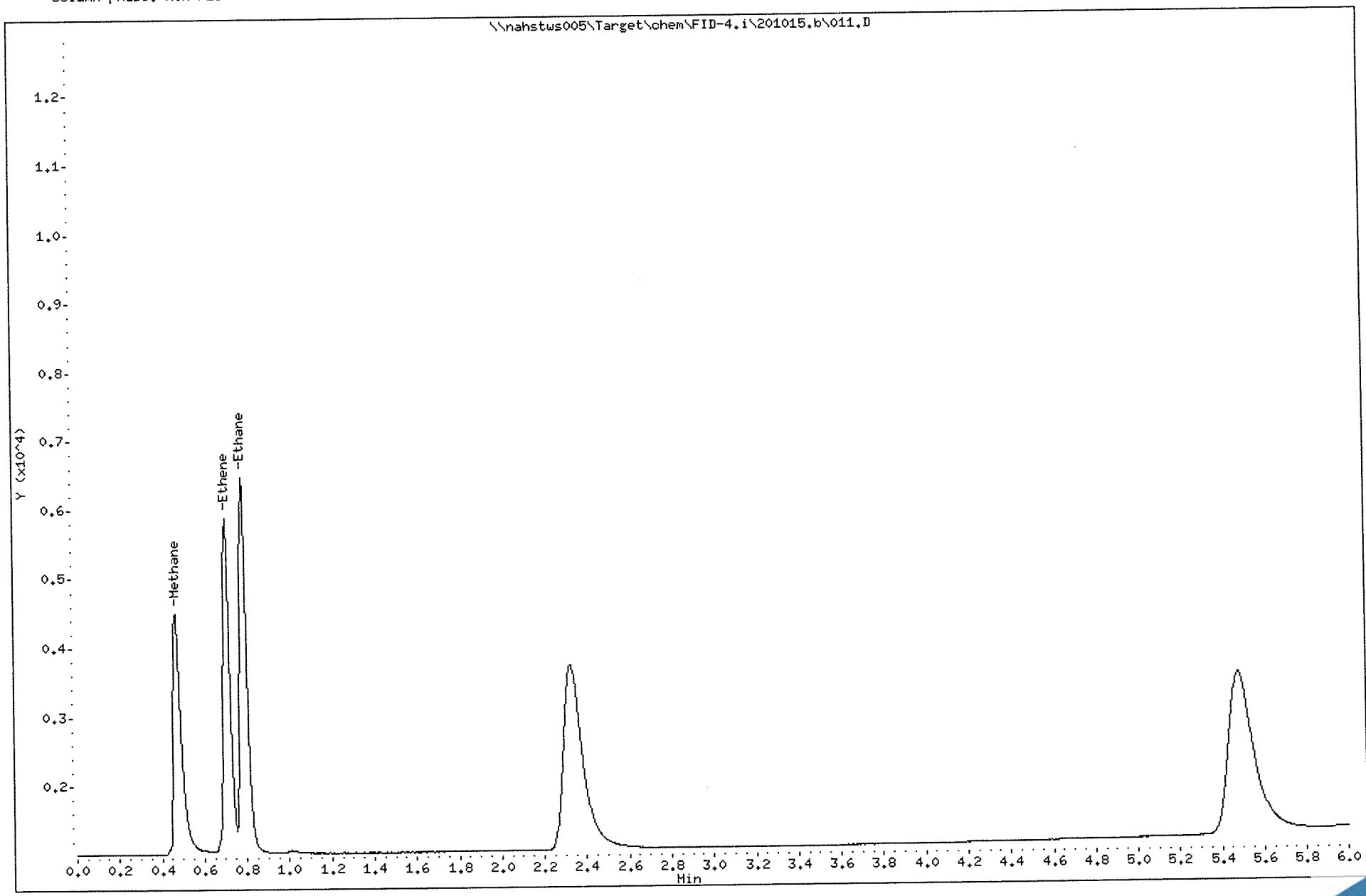
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	0.470	0.470	0.000	9321	9.64700	9.560
2 Ethene	0.706	0.706	0.000	10547	16.8500	18.005
3 Ethane	0.786	0.786	0.000	12611	18.0430	17.527

Data File: \\nahstws005\Target\chem\FID-4.i\201015.b\011.D
Date : 15-OCT-2020 11:05
Client ID: RSK-CCV
Sample Info: RSK-CCV;RSK-CCV;2;4

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53

Column phase: Rtx-PLOT



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201015.b\022.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 15-OCT-2020 13:21
Operator : PL Inst ID: FID-4.i
Smp Info : RSK-CCV;RSK-CCV;2;4
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201015.b\RSKNI3.m
Meth Date : 10-Nov-2020 09:08 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 22 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	0.463	0.463	0.000	8597	9.64700	8.817
2 Ethene	0.700	0.700	0.000	10094	16.8500	17.232
3 Ethane	0.780	0.780	0.000	12653	18.0430	17.586

Data File: \\nahstws005\Target\chem\FID-4.i\201015.b\022.D

Date : 15-OCT-2020 13:21

Client ID: RSK-CCV

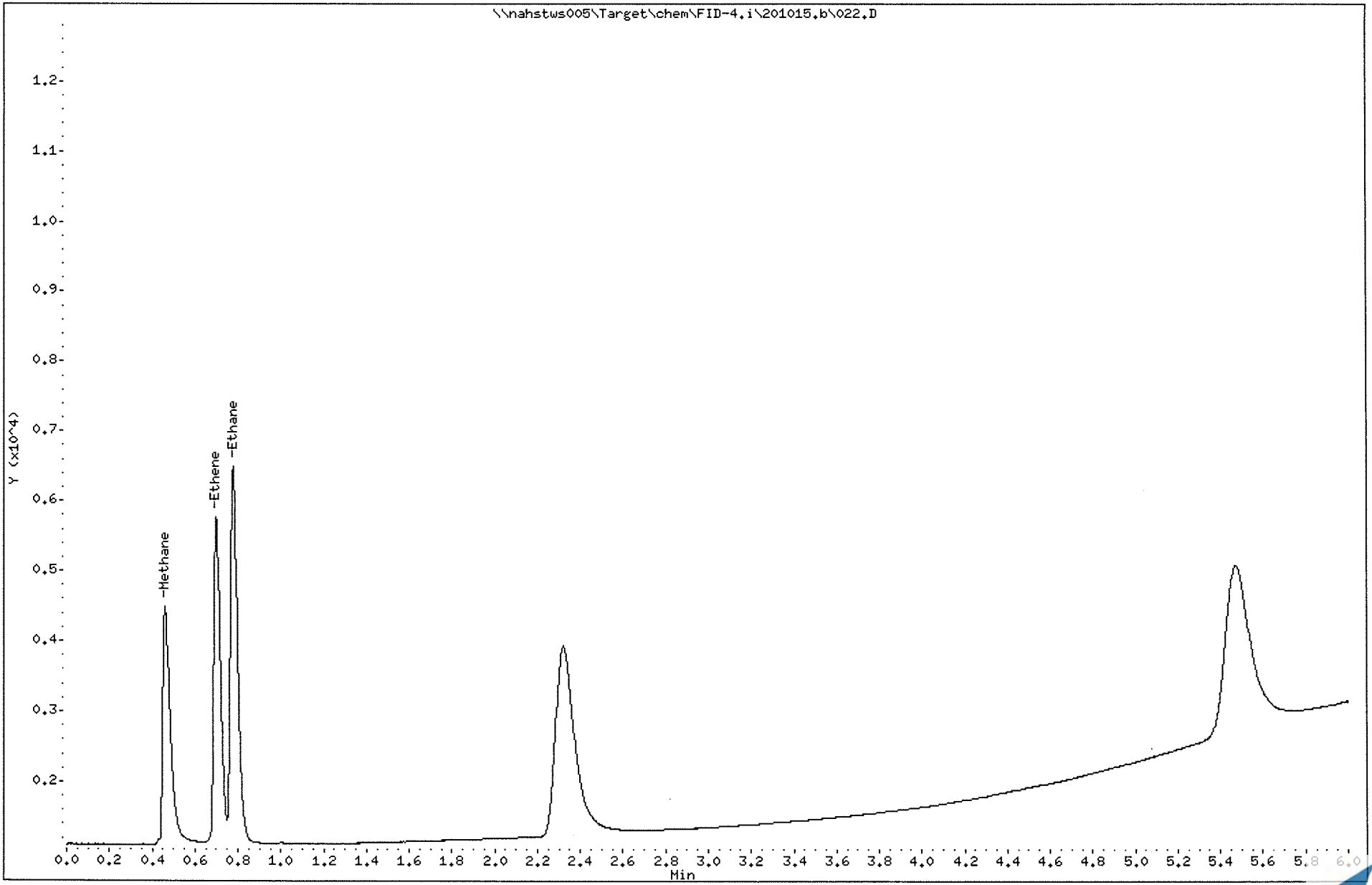
Instrument: FID-4.i

Sample Info: RSK-CCV;RSK-CCV;2;4

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\201015.b\027.D
Report Date: 10-Nov-2020 09:08

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201015.b\027.D
Lab Smp Id: HS20100455-01DUP Client Smp ID: HS20100455-01DUP
Inj Date : 15-OCT-2020 14:06
Operator : PL Inst ID: FID-4.i
Smp Info : HS20100455-01DUP;HS20100455-01DUP
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201015.b\RSKNI3.m
Meth Date : 10-Nov-2020 09:08 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 27
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.470	0.463	0.007	7429	7.61955	7.619 (M)
2 Ethene	0.700	0.700	0.000	834	1.42379	1.423 (M)

QC Flag Legend

M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\201015.b\027.D

Date : 15-OCT-2020 14:06

Client ID: HS20100455-01DUP

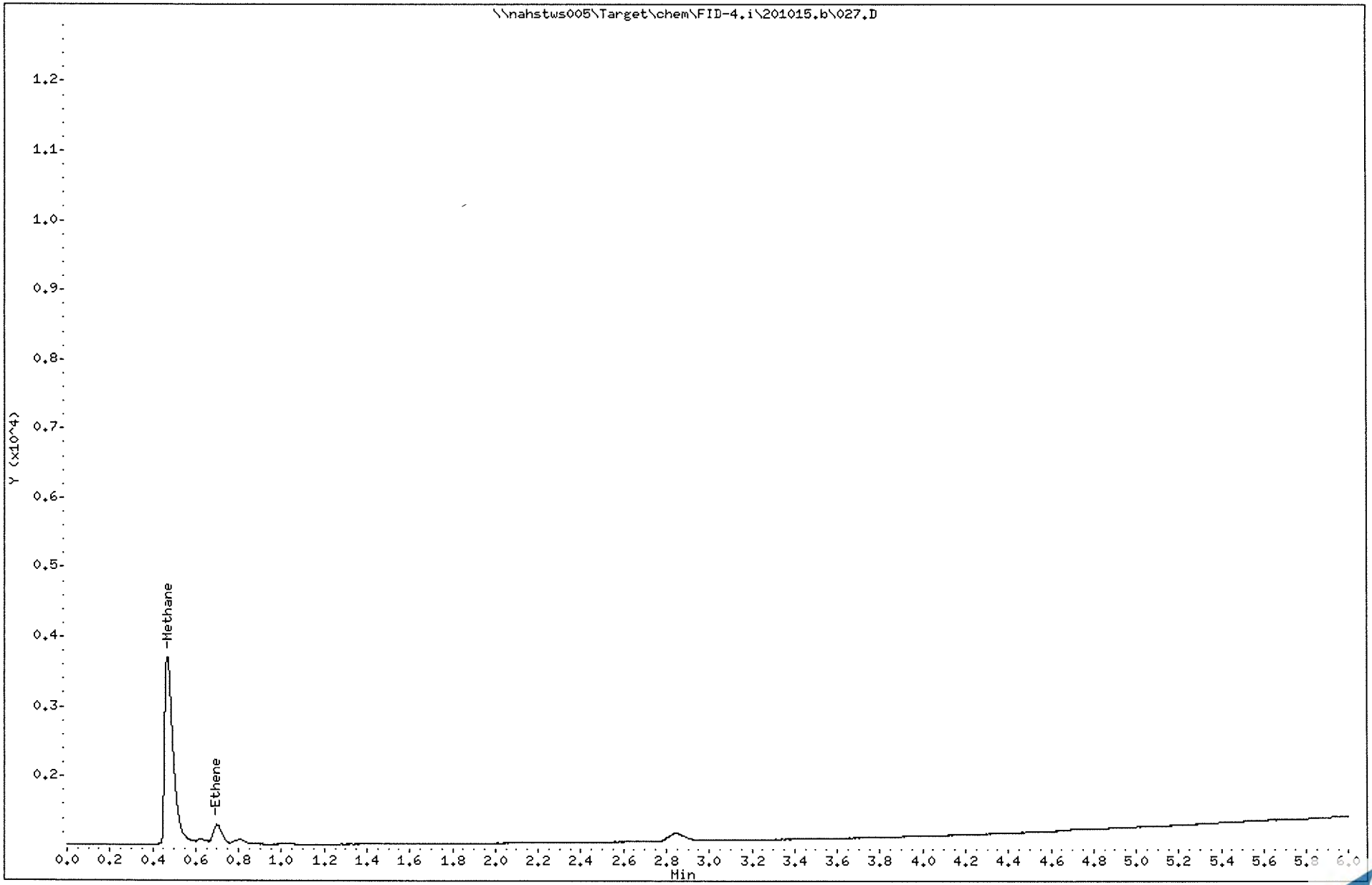
Instrument: FID-4.i

Sample Info: HS20100455-01DUP;HS20100455-01DUP

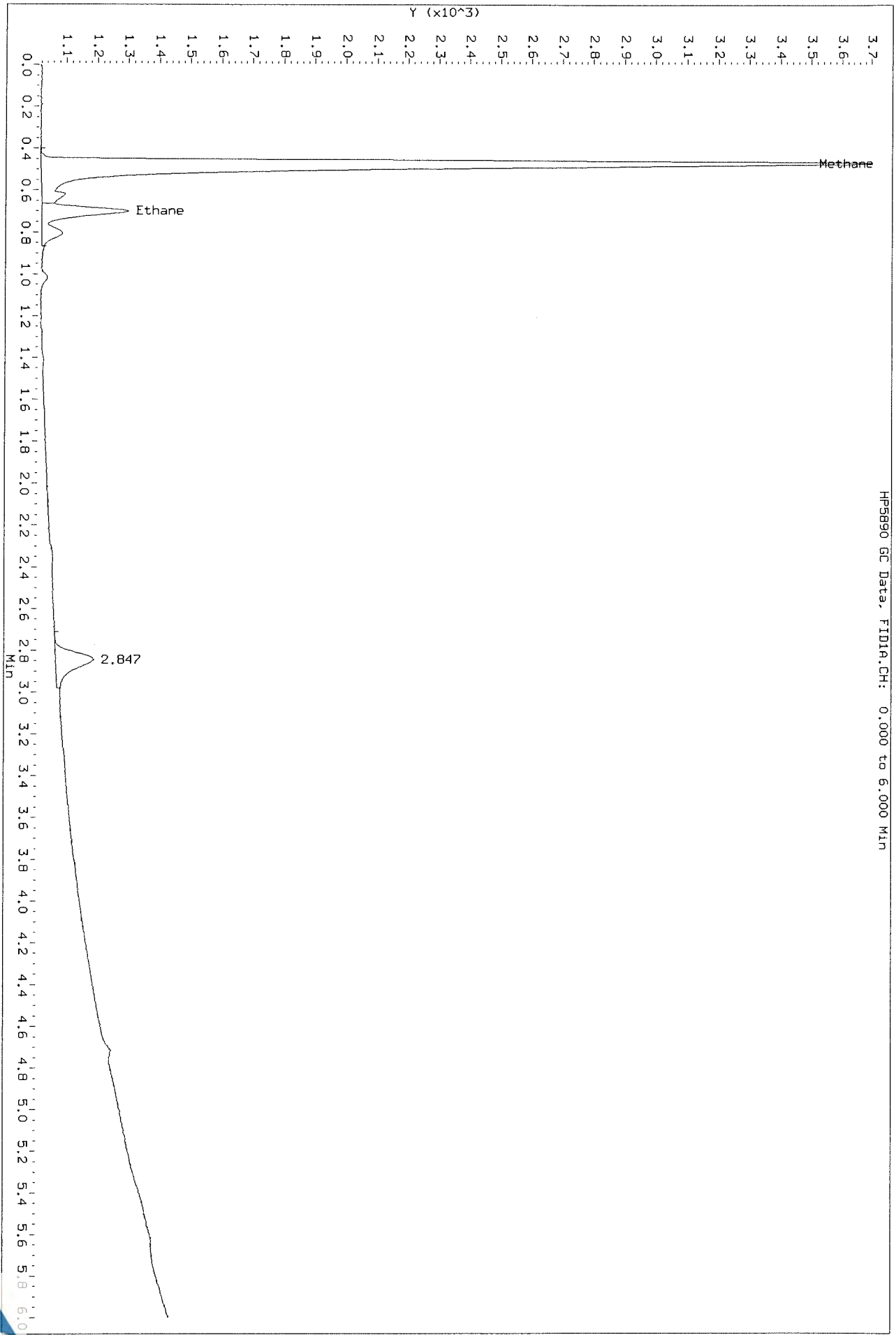
Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\201015.b\BEFORE\027.D
Injection Date: 15-OCT-2020 14:06
Instrument: FID-4.i
Client Sample ID: HS20100455-01DUP



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Injection Date: 15-OCT-2020 14:06
Instrument: FID-4.i
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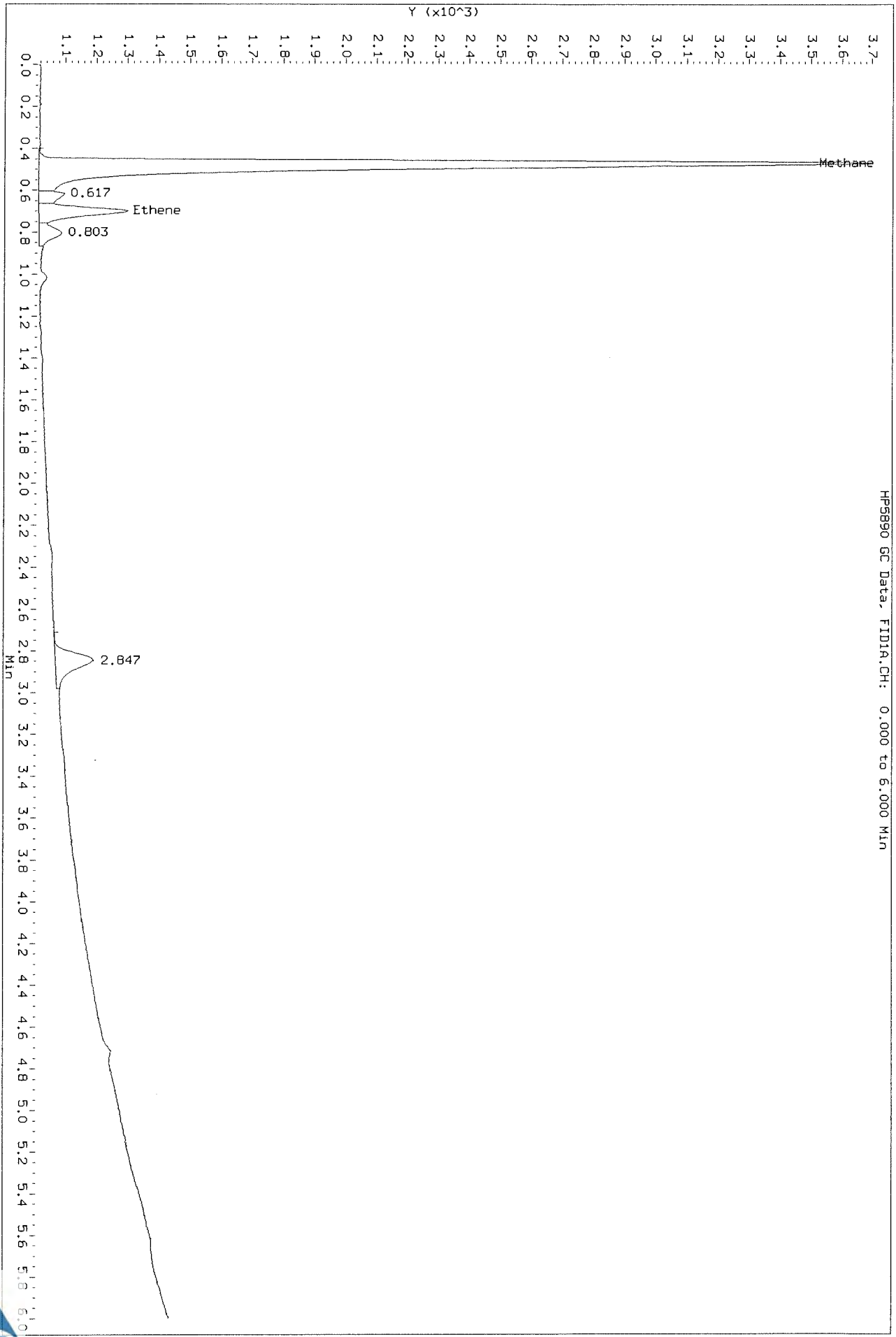


ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201015.b\028.D
Lab Smp Id: HS20100455-05 Client Smp ID: HS20100455-05
Inj Date : 15-OCT-2020 14:28
Operator : PL Inst ID: FID-4.i
Smp Info : HS20100455-05;HS20100455-05
Misc Info : ;1;0;100
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201015.b\RSKNI3.m
Meth Date : 10-Nov-2020 09:08 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 28
Dil Factor: 100.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.473	0.463	0.010	8840	9.06674	906.673 (M)

QC Flag Legend

M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\201015.b\028.D

Date : 15-OCT-2020 14:28

Client ID: HS20100455-05

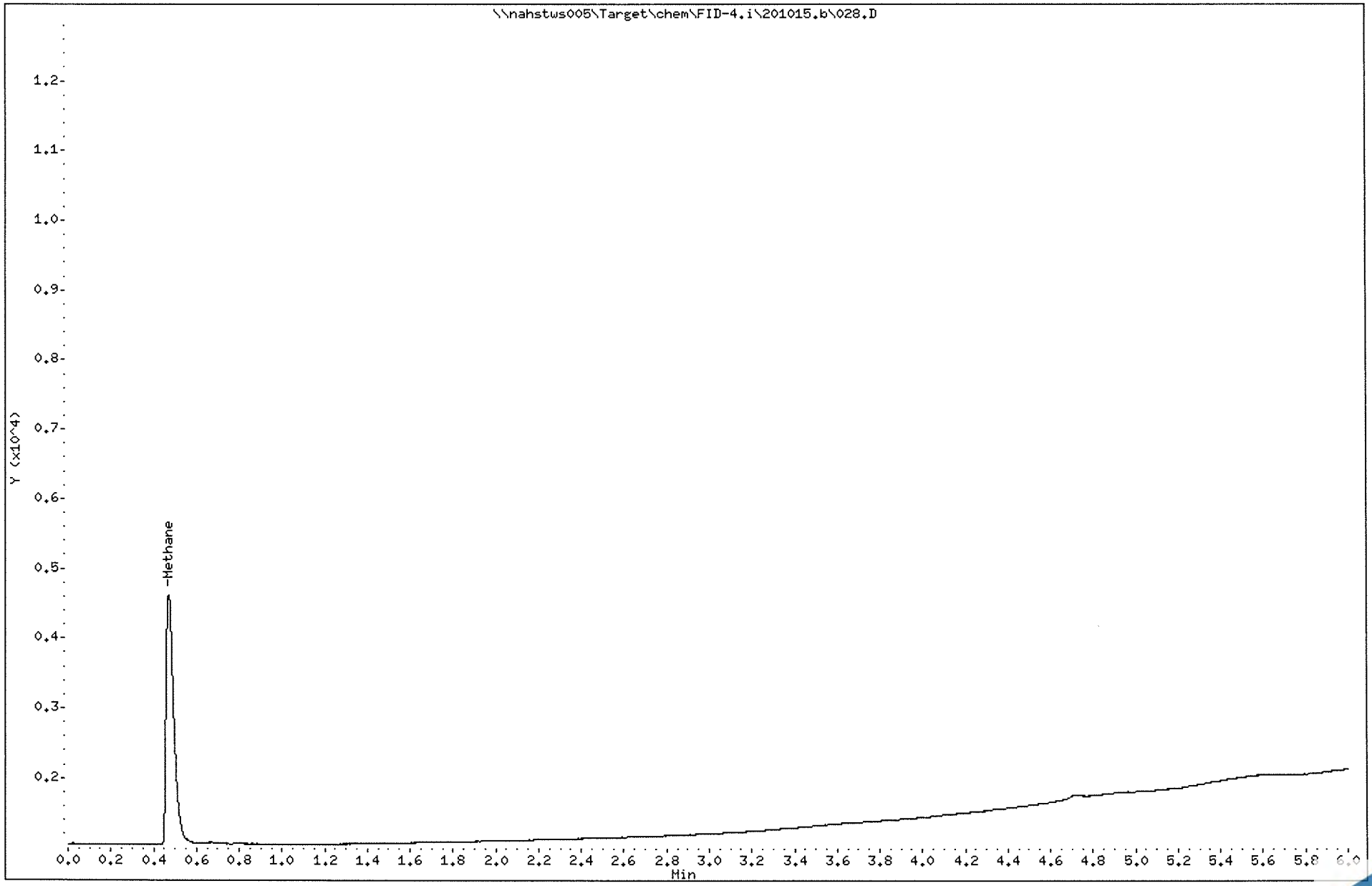
Instrument: FID-4.i

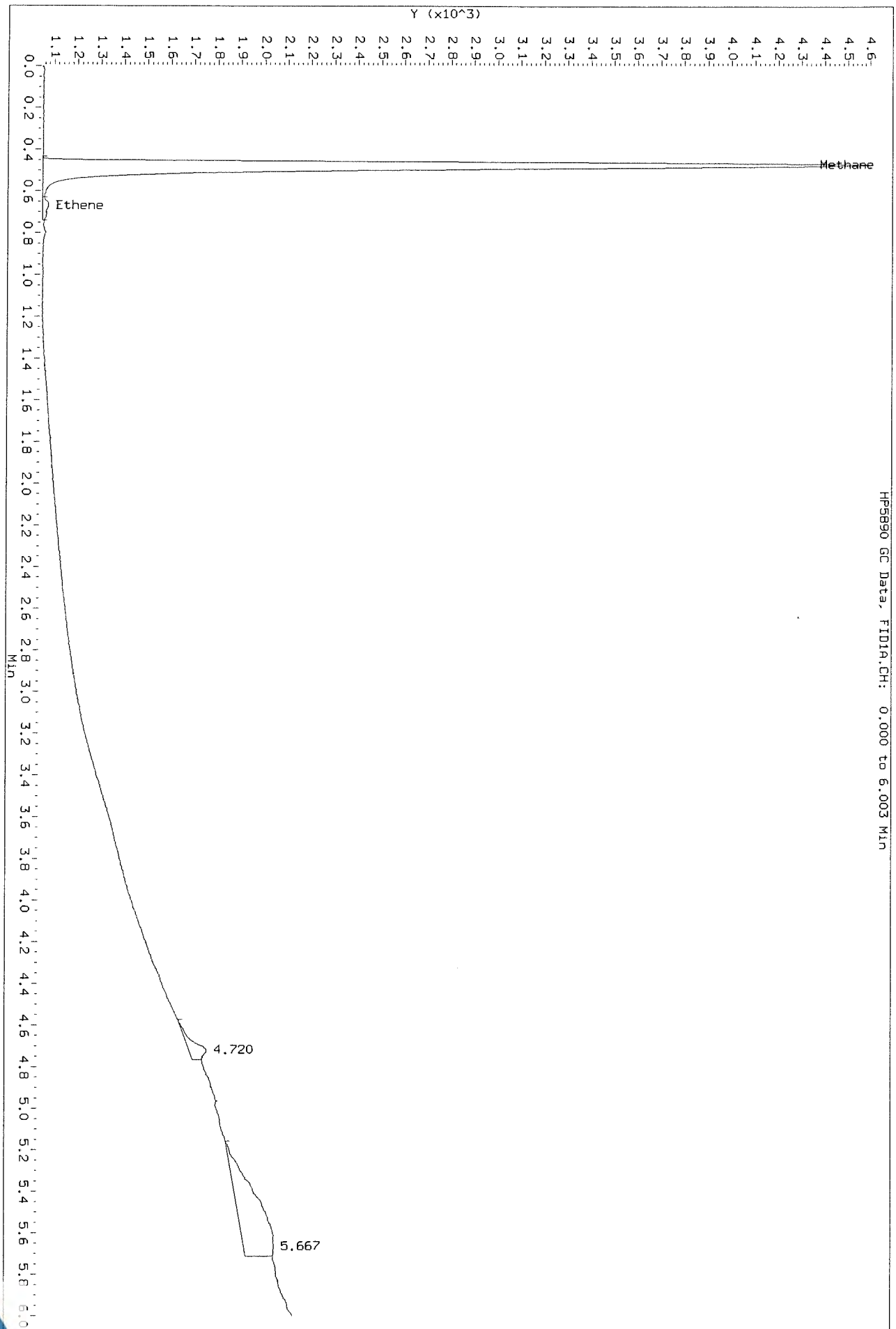
Sample Info: HS20100455-05;HS20100455-05

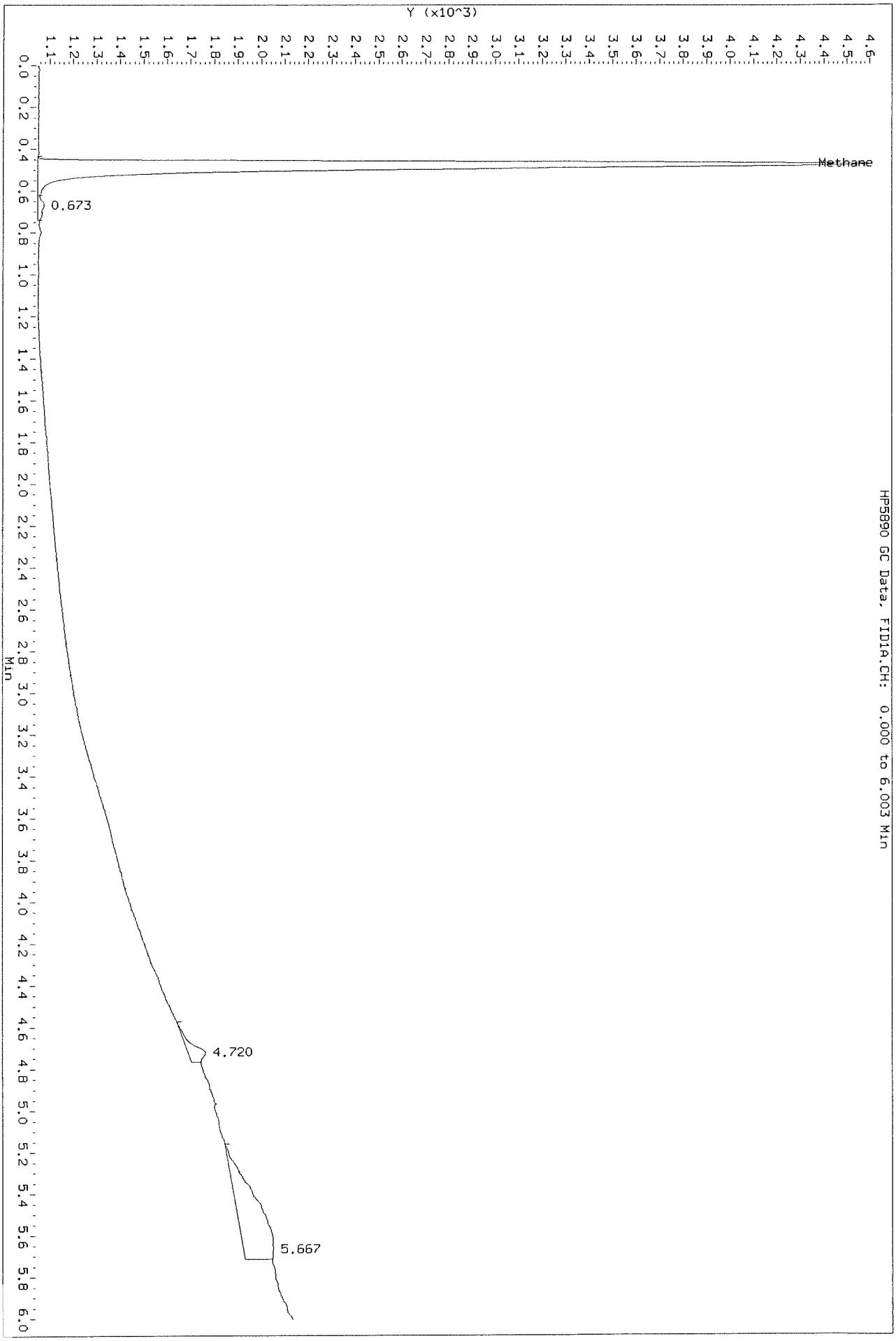
Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53




Data File: \\nahstws005\Target\chem\FID-4.i\201015.b\BEFORE\028.D
Injection Date: 15-OCT-2020 14:28
Instrument: FID-4.i
Client Sample ID: HS20100455-05
HP5890 GC Data, FID1A.CH: 0.000 to 6.003 Min
Y (x10^3)
Methane
Ethene
4.720
5.667
Min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Injection Date: 15-OCT-2020 14:28
Instrument: FID-4.i
Client Sample ID: HS20100455-05
HP5890 GC Data, FID1A.CH: 0.000 to 6.003 Min
Y (x10^3)
Min
Methane
0.673
4.720
5.667

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201015.b\033.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 15-OCT-2020 15:10
Operator : PL Inst ID: FID-4.i
Smp Info : RSK-CCV;RSK-CCV;2;4
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201015.b\RSKNI3.m
Meth Date : 10-Nov-2020 09:08 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 33 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	0.466	0.466	0.000	8858	9.64700	9.085
2 Ethene	0.706	0.706	0.000	9990	16.8500	17.054
3 Ethane	0.783	0.783	0.000	12766	18.0430	17.743

Data File: \\nahstws005\Target\chem\FID-4.i\201015.b\033.D

Date : 15-OCT-2020 15:10

Client ID: RSK-CCV

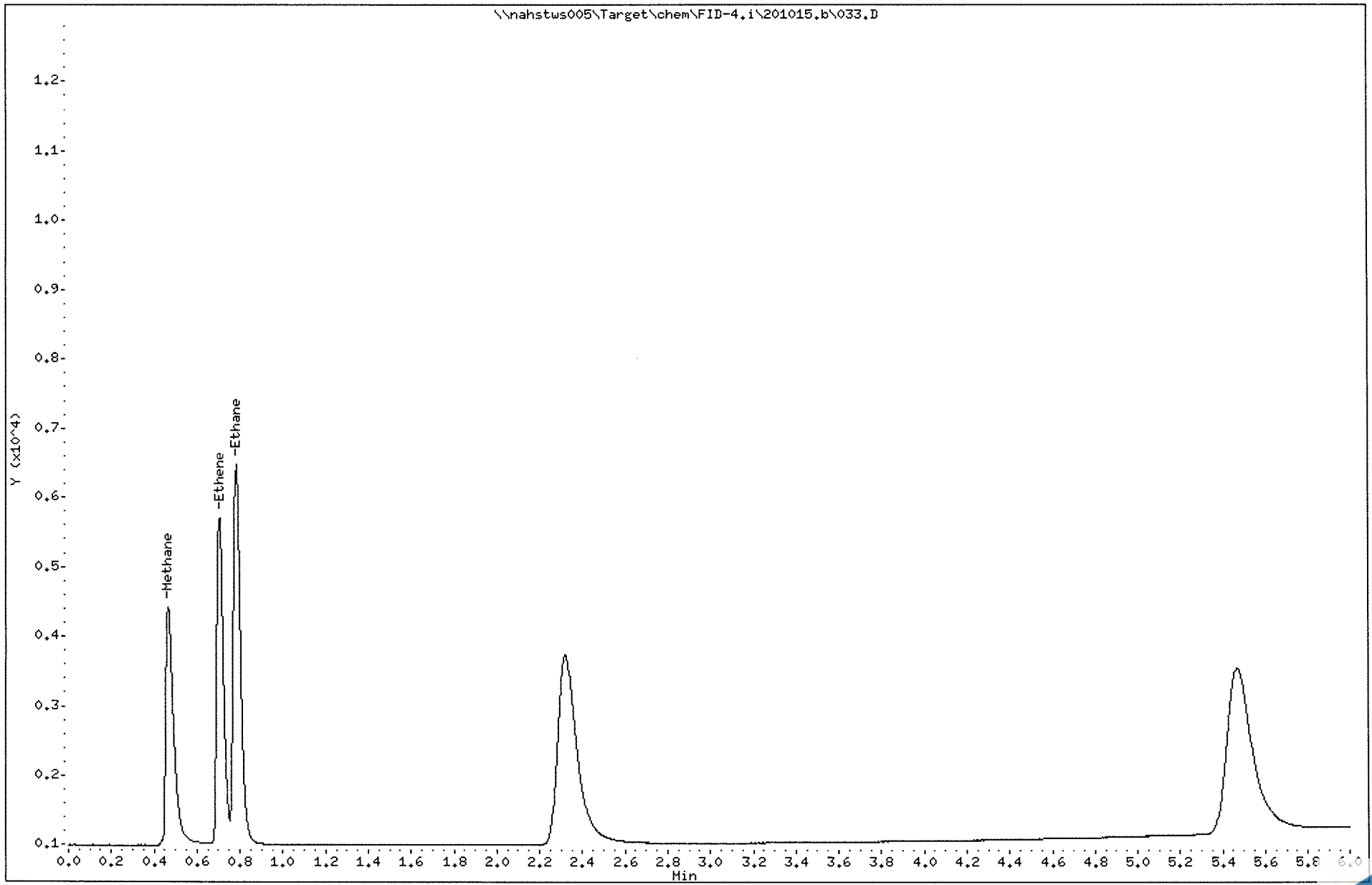
Instrument: FID-4.i

Sample Info: RSK-CCV;RSK-CCV;2;4

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



HS20100455 Wet Chem Raw Data (9056_anions_W)

ALS WO# HS20100455

Sequence: 100720
Last Update Operator: alshs.nouser

CD	Name	Comment	Type	Position	Dilution	Level	Instrument Method	Processing Method	me	Status
	STD1		Calibration	BD1	1.00	1	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD2		Calibration	BD2	1.00	2	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD3		Calibration	BD3	1.00	3	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD4		Calibration	BD4	1.00	4	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD5		Calibration	BD5	1.00	5	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD6		Calibration	BD6	1.00	6	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	ICV		Unknown	BD7	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	ICB		Unknown	BD8	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV1		Unknown	BA4	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA5	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	MBLK-10.08.20		Unknown	BA6	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	LCS		Unknown	BA7	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV		Unknown	BA2	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV		Unknown	BA2	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100362-01MS	300w/	Unknown	BB2	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100362-01MSD		Unknown	BB3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV1		Unknown	BA4	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA5	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV		Unknown	BA2	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100455-02DF10		Unknown	RC1	10.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100455-01DF5		Unknown	RC2	5.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV1		Unknown	BA4	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA5	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100455-05DF5		Unknown	RE1	5.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV		Unknown	BA2	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	LCSD		Unknown	RA8	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	LOQ		Unknown	RB1	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV1		Unknown	BA4	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA5	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished

Sequence: 100720
Last Update Operator: alshs.nouser

Inject Time
8/11/2020 10:46:45 AM -05:00
8/11/2020 11:04:45 AM -05:00
8/11/2020 11:22:45 AM -05:00
8/11/2020 11:40:48 AM -05:00
8/11/2020 11:58:48 AM -05:00
8/11/2020 12:16:48 PM -05:00
8/11/2020 12:34:48 PM -05:00
8/11/2020 12:52:50 PM -05:00
10/8/2020 6:43:06 PM -05:00
10/8/2020 7:01:08 PM -05:00
10/8/2020 7:37:19 PM -05:00
10/8/2020 7:55:20 PM -05:00
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10/8/2020 10:55:30 PM -05:00
10/9/2020 5:49:48 AM -05:00
10/9/2020 6:07:50 AM -05:00
10/9/2020 9:26:04 AM -05:00
10/9/2020 9:44:11 AM -05:00
10/9/2020 10:02:12 AM -05:00
10/9/2020 10:20:14 AM -05:00
10/9/2020 7:03:42 PM -05:00
10/9/2020 7:21:50 PM -05:00
10/9/2020 7:39:57 PM -05:00
10/9/2020 7:57:58 PM -05:00
10/9/2020 10:40:14 PM -05:00
10/9/2020 10:58:17 PM -05:00
10/10/2020 1:04:23 AM -05:00
10/10/2020 2:16:28 AM -05:00
10/10/2020 2:34:31 AM -05:00
10/10/2020 4:22:43 AM -05:00
10/10/2020 4:40:44 AM -05:00
10/10/2020 5:52:49 AM -05:00
10/10/2020 6:10:52 AM -05:00

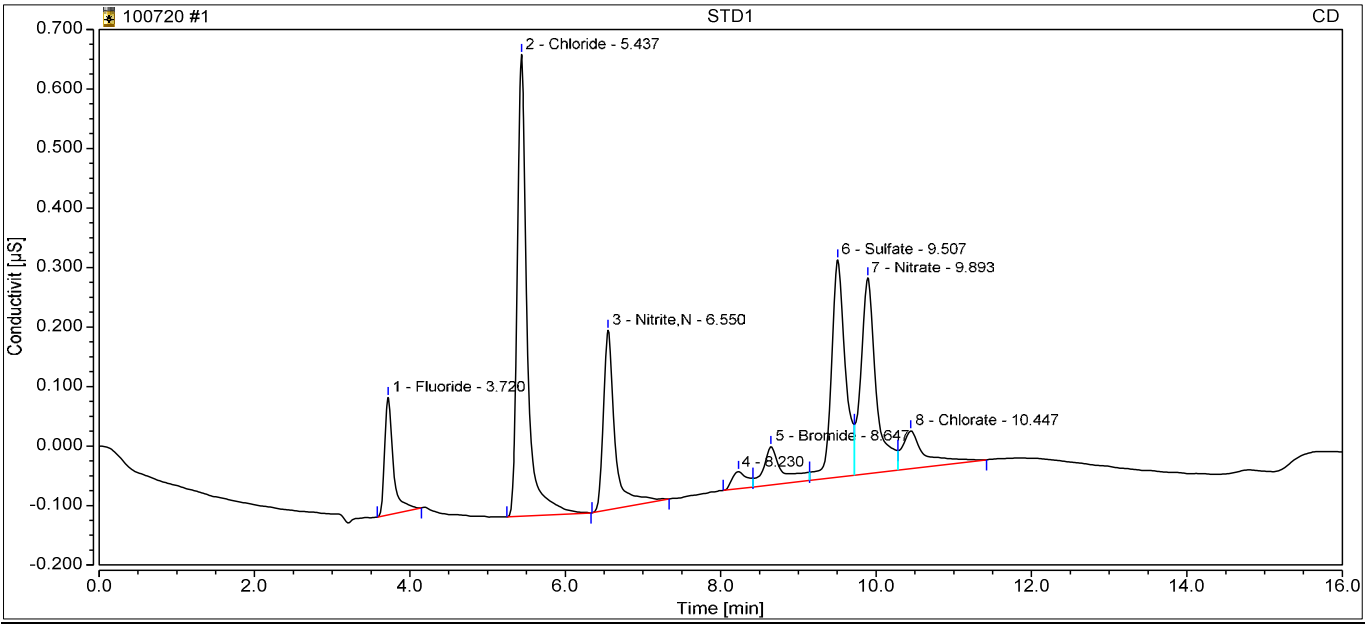
Sequence: 100720
Injection #6: STD6

Calibration

Peak No.	Peak Name	Cal.Type	Eval.Type	Number of Points	Rel.Std.Dev. %	Coeff.of Determination	C0 (Offset)	C1 (Slope)	C2 (Curve)
1	*Fluoride*	*Lin, WithOffset, 1/*	*Area*	*6*	*17.3553*	*0.99849*	*-0.0040*	*0.3537*	*0.0000*
2	Chloride	Lin, WithOffset, 1/	Area	6	5.4804	0.99983	0.0129	0.2289	0.0000
3	Nitrite,N	Lin, WithOffset, 1/	Area	6	26.1376	0.99573	0.0186	0.4711	0.0000
5	Bromide	Lin, WithOffset, 1/	Area	6	0.9346	0.99999	0.0083	0.1008	0.0000
6	Sulfate	Lin, WithOffset, 1/	Area	6	5.2843	0.99985	-0.0019	0.1602	0.0000
7	Nitrate	Lin, WithOffset, 1/	Area	6	4.5248	0.99988	0.0144	0.6154	0.0000
8	Chlorate	Lin, WithOffset, 1/	Area	6	13.4374	0.99837	0.0139	0.1019	0.0000
10	Phosphate	Lin, WithOffset, 1/	Area	5	18.5357	0.99714	-0.0737	0.1942	0.0000
Maximum					**26.1376**	0.99999			
Minimum					0.9346	**0.99573**			

1 STD1			
Sample Name:	**STD1**	*Injection Volume:*	**5.00**
Vial Number:	**BD1**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 10:46**	*Sample Weight:*	**1.0000**

Run Time:

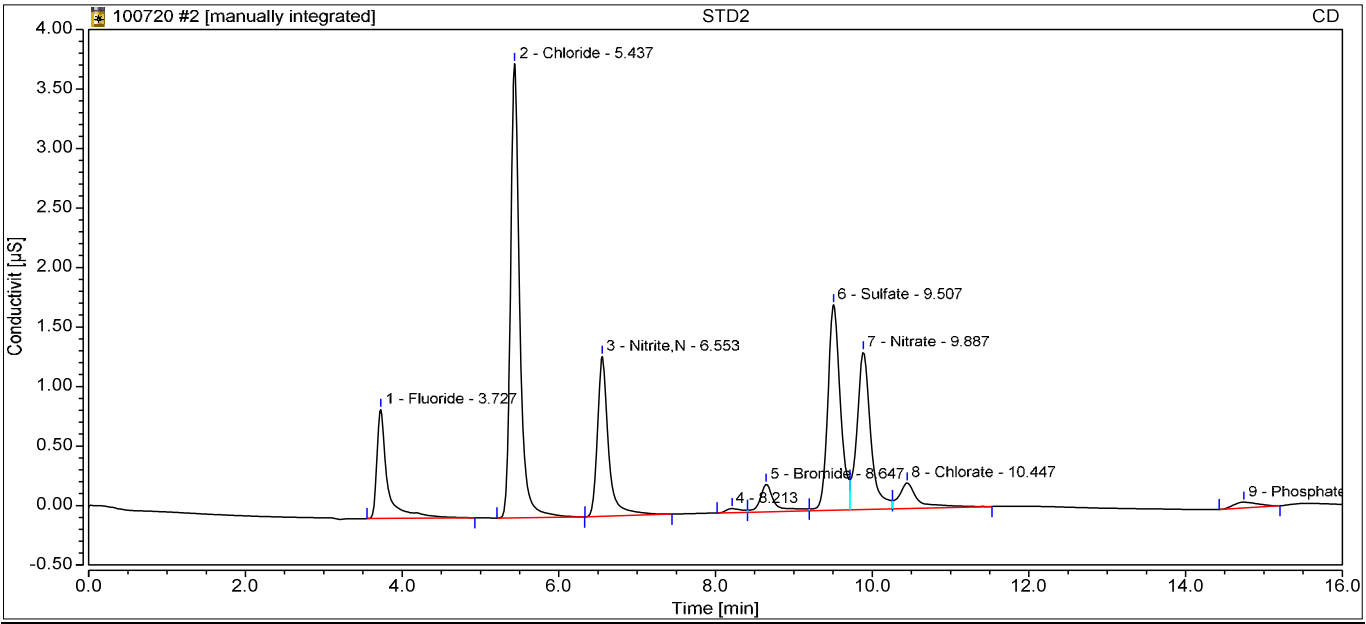


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.025	0.0833	0.0833	1.0000
2	5.44	Chloride	BMB	0.116	0.4487	0.4487	1.0000
3	6.55	Nitrite,N	BMB	0.052	0.0715	0.0715	1.0000
5	8.65	Bromide	M	0.018	0.0997	0.0997	1.0000
6	9.51	Sulfate	M	0.076	0.4861	0.4861	1.0000
7	9.89	Nitrate	M	0.075	0.0985	0.0985	1.0000
8	10.45	Chlorate	MB	0.021	0.0734	0.0734	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.384**		**1.36**	

2 STD2			
Sample Name:	**STD2**	*Injection Volume:*	**5.00**
Vial Number:	**BD2**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 11:04**	*Sample Weight:*	**1.0000**

Run Time:

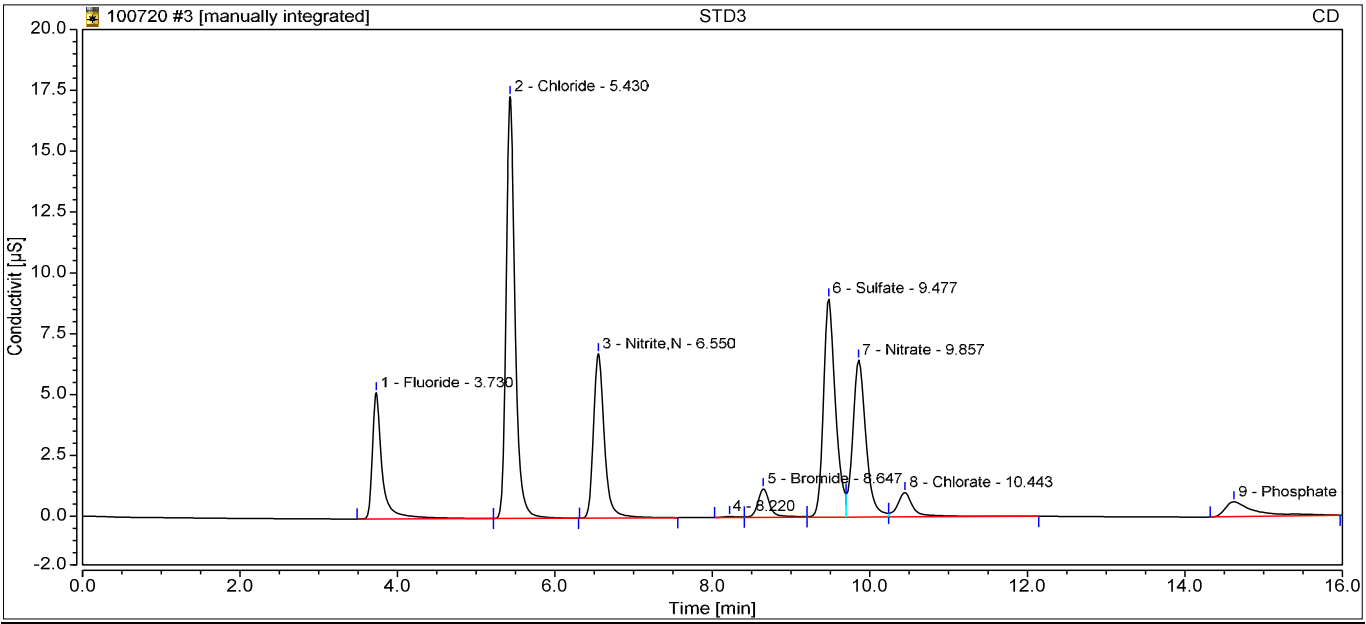


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.145	0.4204	0.4204	1.0000
2	5.44	Chloride	BMB	0.518	2.2084	2.2084	1.0000
3	6.55	Nitrite,N	BMB	0.221	0.4294	0.4294	1.0000
5	8.65	Bromide	M	0.049	0.4041	0.4041	1.0000
6	9.51	Sulfate	M	0.321	2.0151	2.0151	1.0000
7	9.89	Nitrate	M	0.270	0.4147	0.4147	1.0000
8	10.45	Chlorate	MB	0.060	0.4536	0.4536	1.0000
9	14.74	Phosphate	BMB	0.018	0.4703	0.4703	1.0000
Total:			**0.000**	**1.601**		**6.82**	

3 STD3			
Sample Name:	**STD3**	*Injection Volume:*	**5.00**
Vial Number:	**BD3**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 11:22**	*Sample Weight:*	**1.0000**

Run Time:



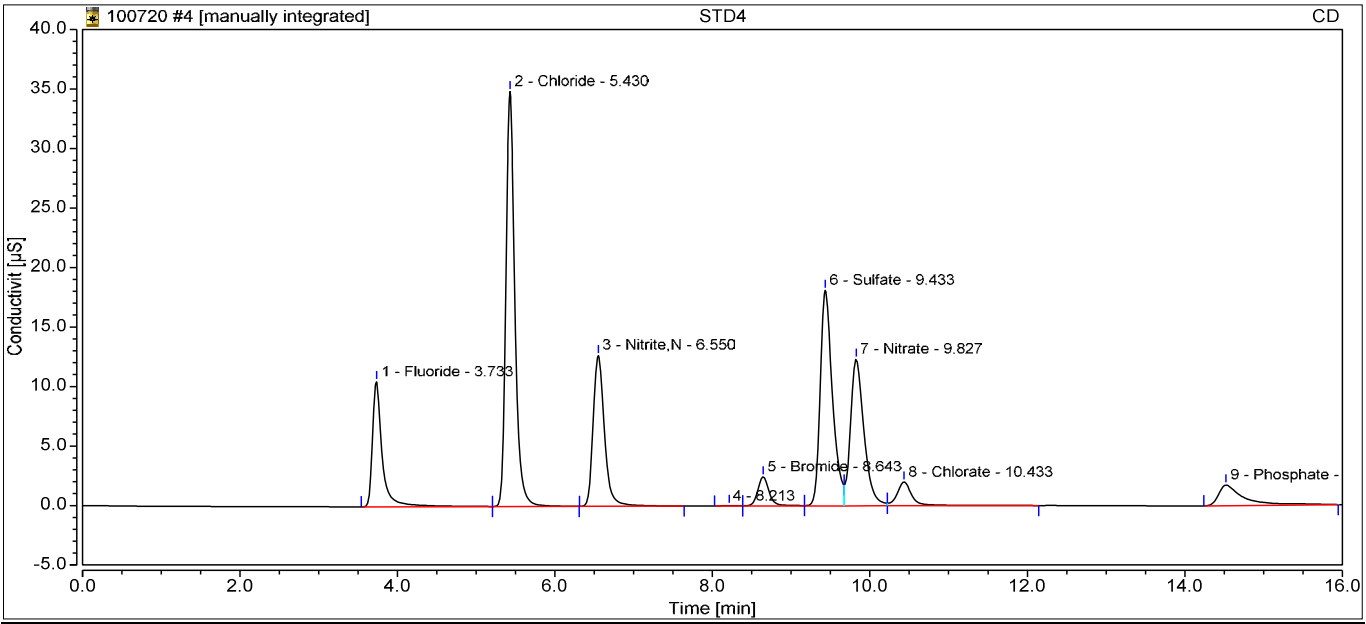
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.745	2.1166	2.1166	1.0000
2	5.43	Chloride	BMB	2.291	9.9533	9.9533	1.0000
3	6.55	Nitrite,N	BMB	1.077	2.2460	2.2460	1.0000
5	8.65	Bromide	M	0.209	1.9882	1.9882	1.0000
6	9.48	Sulfate	M	1.595	9.9688	9.9688	1.0000
7	9.86	Nitrate	M	1.238	1.9883	1.9883	1.0000
8	10.44	Chlorate	MB	0.239	2.2038	2.2038	1.0000
9	14.62	Phosphate	BM *	0.269	1.7634	1.7634	1.0000
Total:			**0.000**	**7.661**		**32.23**	

4 STD4

Sample Name:	**STD4**	*Injection Volume:*	**5.00**
Vial Number:	**BD4**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 11:40**	*Sample Weight:*	**1.0000**

Run Time:

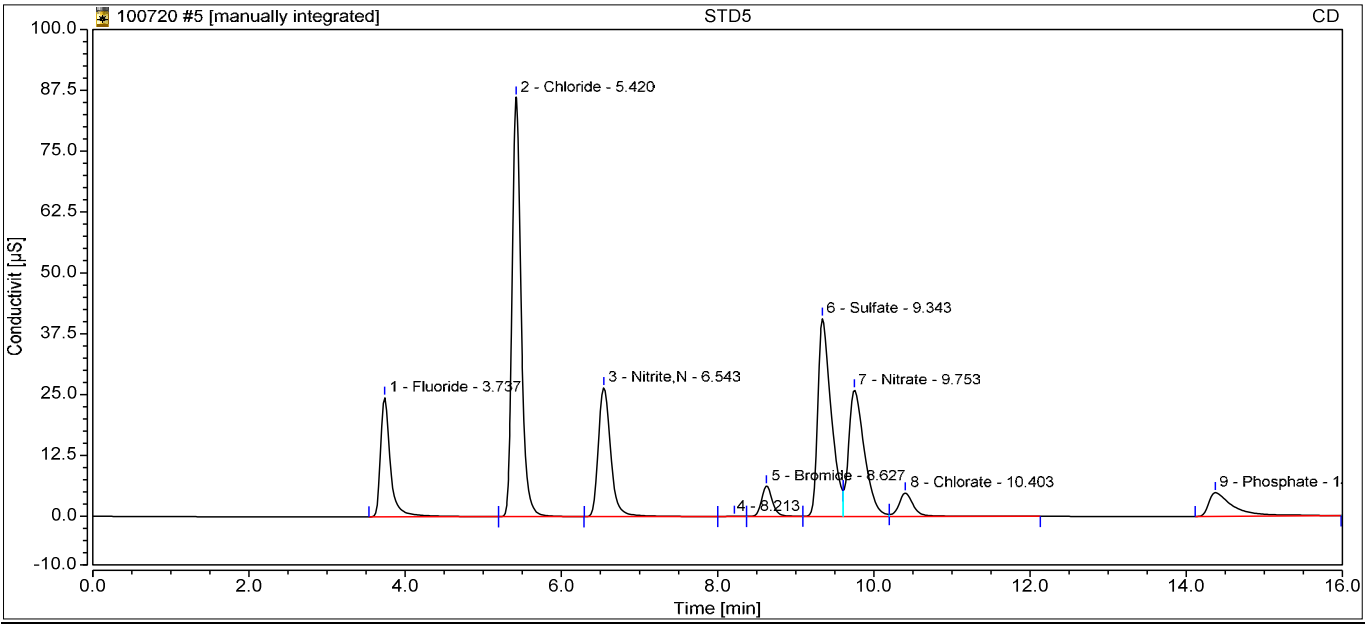


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	1.504	4.2630	4.2630	1.0000
2	5.43	Chloride	BMB	4.613	20.0986	20.0986	1.0000
3	6.55	Nitrite,N	BMB*	2.104	4.4276	4.4276	1.0000
5	8.64	Bromide	M	0.411	3.9946	3.9946	1.0000
6	9.43	Sulfate	M	3.273	20.4465	20.4465	1.0000
7	9.83	Nitrate	M	2.444	3.9482	3.9482	1.0000
8	10.43	Chlorate	MB	0.443	4.2079	4.2079	1.0000
9	14.52	Phosphate	BM *	0.648	3.7157	3.7157	1.0000
Total:			**0.000**	**15.439**		**65.10**	

5 STD5			
Sample Name:	**STD5**	*Injection Volume:*	**5.00**
Vial Number:	**BD5**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 11:58**	*Sample Weight:*	**1.0000**

Run Time:

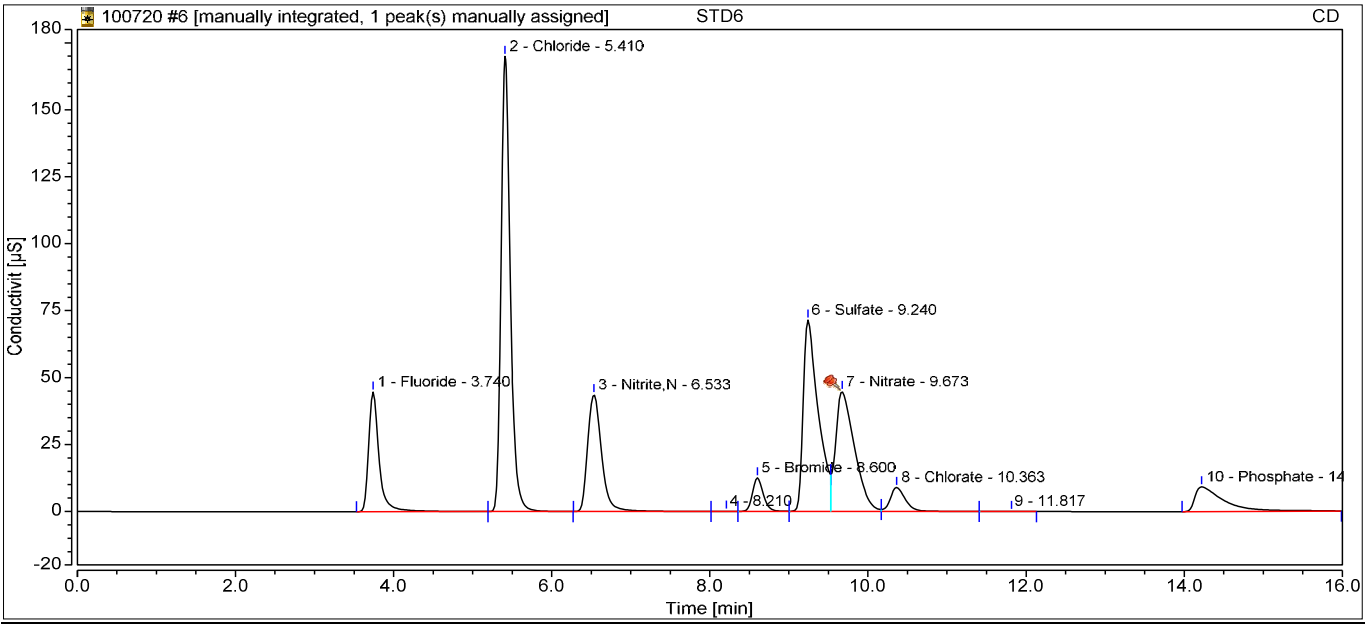


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.611	10.2228	10.2228	1.0000
2	5.42	Chloride	BMB	11.462	50.0272	50.0272	1.0000
3	6.54	Nitrite,N	BMB	4.877	10.3135	10.3135	1.0000
5	8.63	Bromide	M	1.014	9.9796	9.9796	1.0000
6	9.34	Sulfate	M	8.089	50.5200	50.5200	1.0000
7	9.75	Nitrate	M	6.097	9.8832	9.8832	1.0000
8	10.40	Chlorate	MB	1.032	9.9918	9.9918	1.0000
9	14.37	Phosphate	BM *	1.834	9.8223	9.8223	1.0000
Total:			**0.000**	**38.017**		**160.76**	

6 STD6			
Sample Name:	**STD6**	*Injection Volume:*	**5.00**
Vial Number:	**BD6**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 12:16**	*Sample Weight:*	**1.0000**

Run Time:



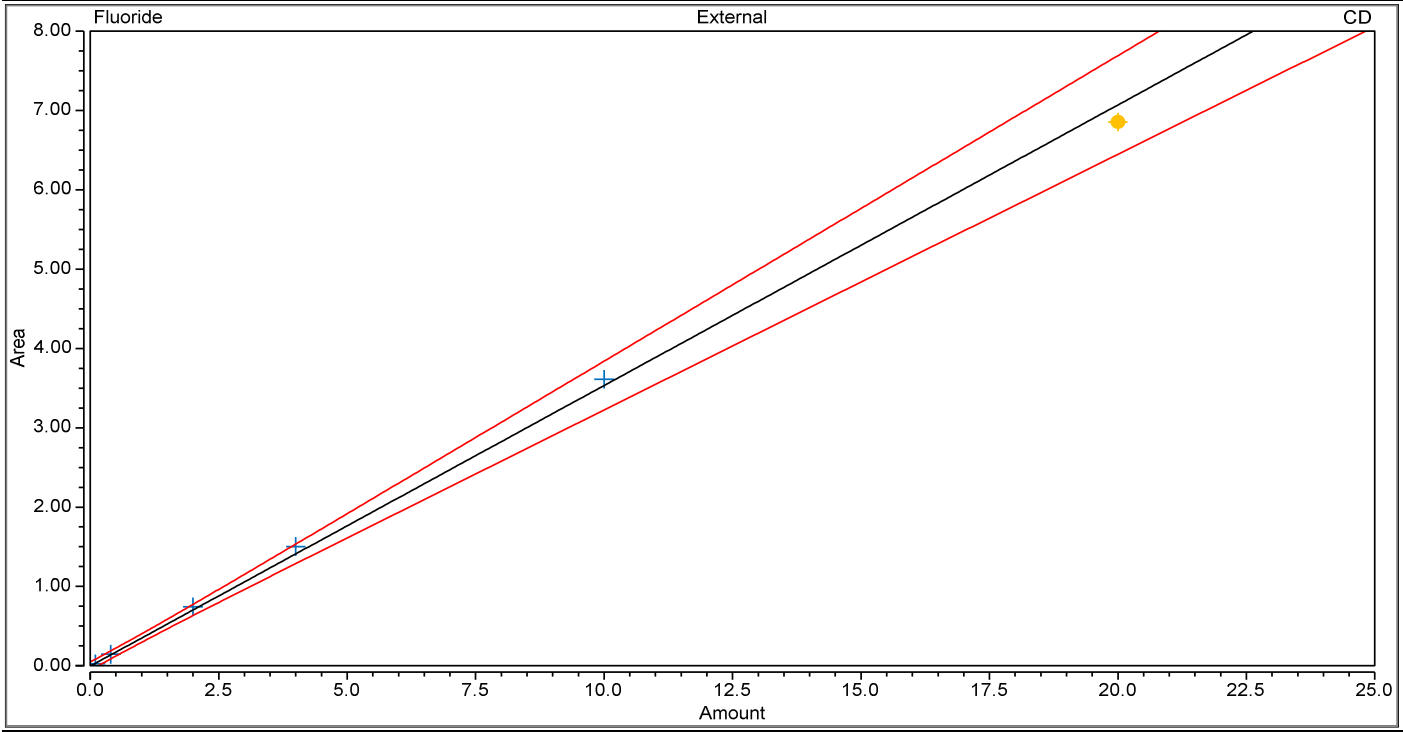
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	6.855	19.3940	19.3940	1.0000
2	5.41	Chloride	BMB	22.844	99.7639	99.7639	1.0000
3	6.53	Nitrite,N	BMB	8.975	19.0121	19.0121	1.0000
5	8.60	Bromide	M	2.028	20.0338	20.0338	1.0000
6	9.24	Sulfate	M	15.864	99.0635	99.0635	1.0000
7	9.67	Nitrate	M ^	12.426	20.1671	20.1671	1.0000
8	10.36	Chlorate	M	2.009	19.5694	19.5694	1.0000
10	14.22	Phosphate	BM *	3.933	20.6283	20.6283	1.0000
Total:			**0.000**	**74.933**		**317.63**	

Calibration

Calibration Details	Fluoride		
Calibration Type	Lin, WithOffset, 1/A	*Offset (C0)*	-0.0040
Evaluation Type	Area	*Slope (C1)*	0.3537
Number of Calibration Points	6	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.9985

Calibration Plot **Fluoride**



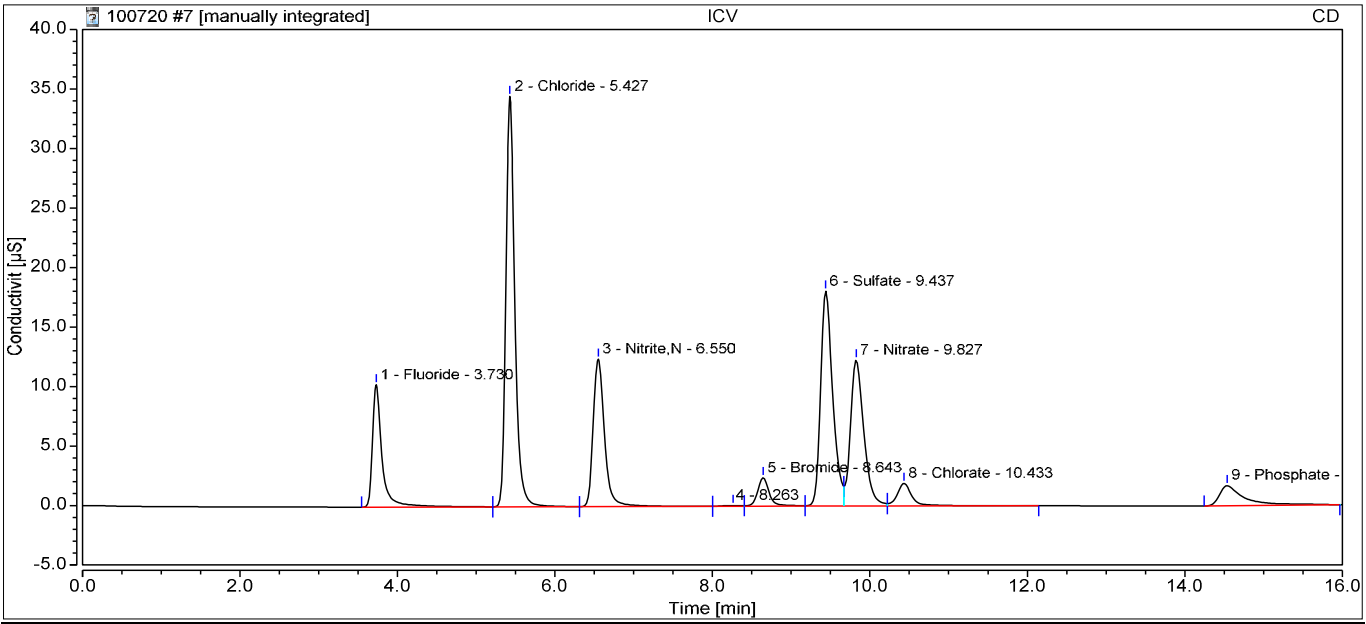
Calibration Results **Fluoride**

No.	Injection Name	Calibration Level	X Value CD Fluoride	Y Value CD Fluoride	Y Value CD Fluoride	Area µS*min CD Fluoride	Height µS CD Fluoride
1	STD1	1	0.1000	0.0254	0.0254	0.025	0.197
2	STD2	2	0.4000	0.1446	0.1446	0.145	0.916
3	STD3	3	2.0000	0.7445	0.7445	0.745	5.182
4	STD4	4	4.0000	1.5036	1.5036	1.504	10.507
5	STD5	5	10.0000	3.6113	3.6113	3.611	24.538
6	STD6	6	20.0000	6.8547	6.8547	6.855	44.677

7 ICV

Sample Name:	**ICV**	*Injection Volume:*	**5.00**
Vial Number:	**BD7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 12:34**	*Sample Weight:*	**1.0000**

Run Time:



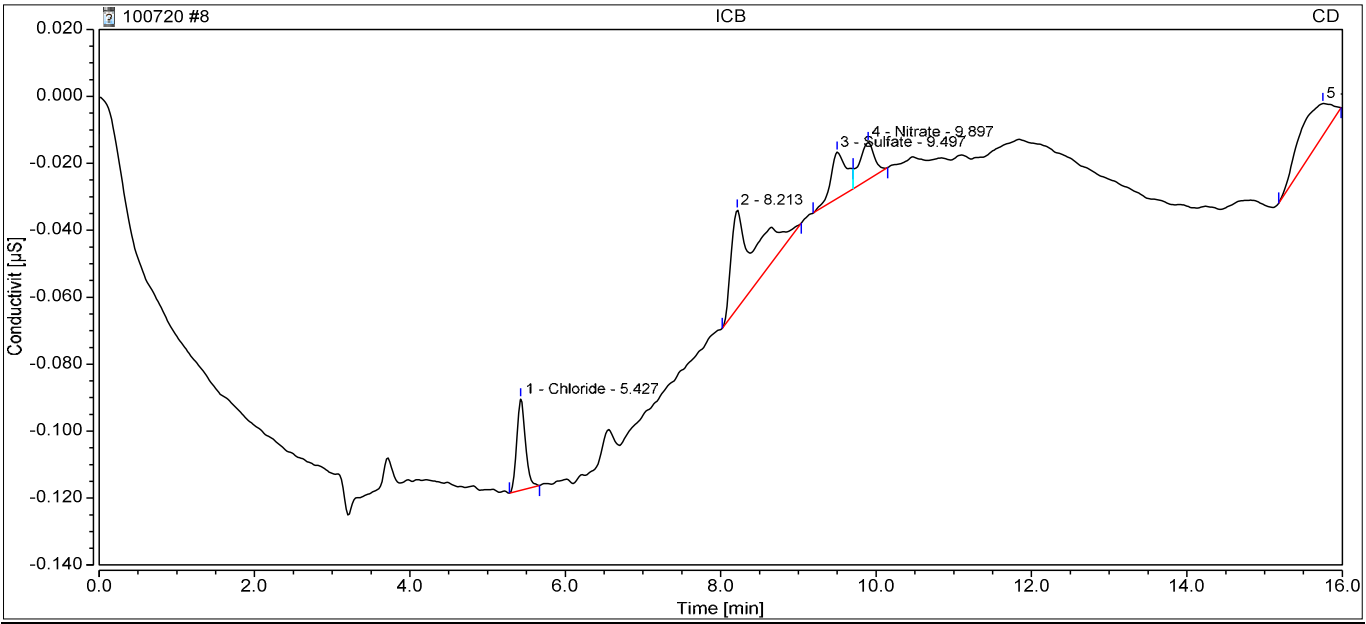
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	1.447	4.1020	4.1020	1.0000
2	5.43	Chloride	BMB	4.553	19.8399	19.8399	1.0000
3	6.55	Nitrite,N	BMB	2.061	4.3359	4.3359	1.0000
5	8.64	Bromide	M	0.413	4.0106	4.0106	1.0000
6	9.44	Sulfate	M	3.227	20.1622	20.1622	1.0000
7	9.83	Nitrate	M	2.405	3.8850	3.8850	1.0000
8	10.43	Chlorate	MB	0.422	4.0019	4.0019	1.0000
9	14.54	Phosphate	BM *	0.631	3.6292	3.6292	1.0000
Total:			**0.000**	**15.159**		**63.97**	

8 ICB

Sample Name:	**ICB**	*Injection Volume:*	**5.00**
Vial Number:	**BD8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 12:52**	*Sample Weight:*	**1.0000**

Run Time:



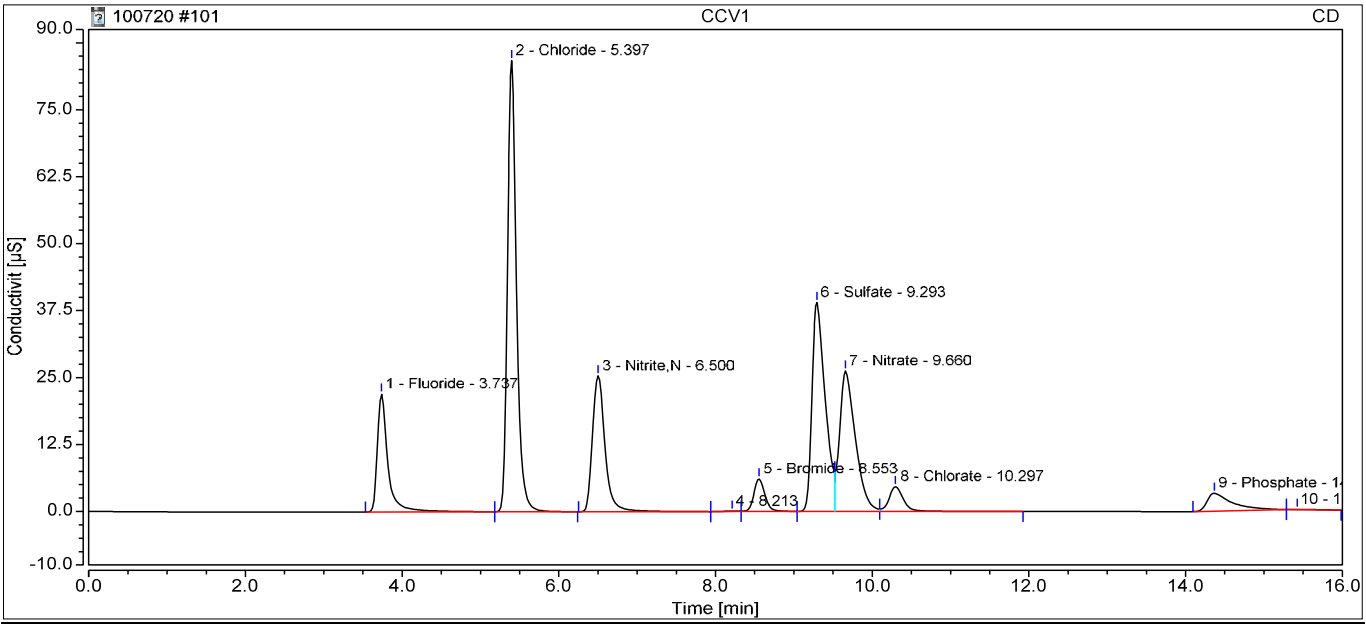
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.43	Chloride	BMB	0.004	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
3	9.50	Sulfate	BM	0.003	0.0318	0.0318	1.0000
4	9.90	Nitrate	MB	0.003	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.009**		**0.03**	

101 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**BA4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/08/2020 18:43**	*Sample Weight:*	**1.0000**

Run Time:



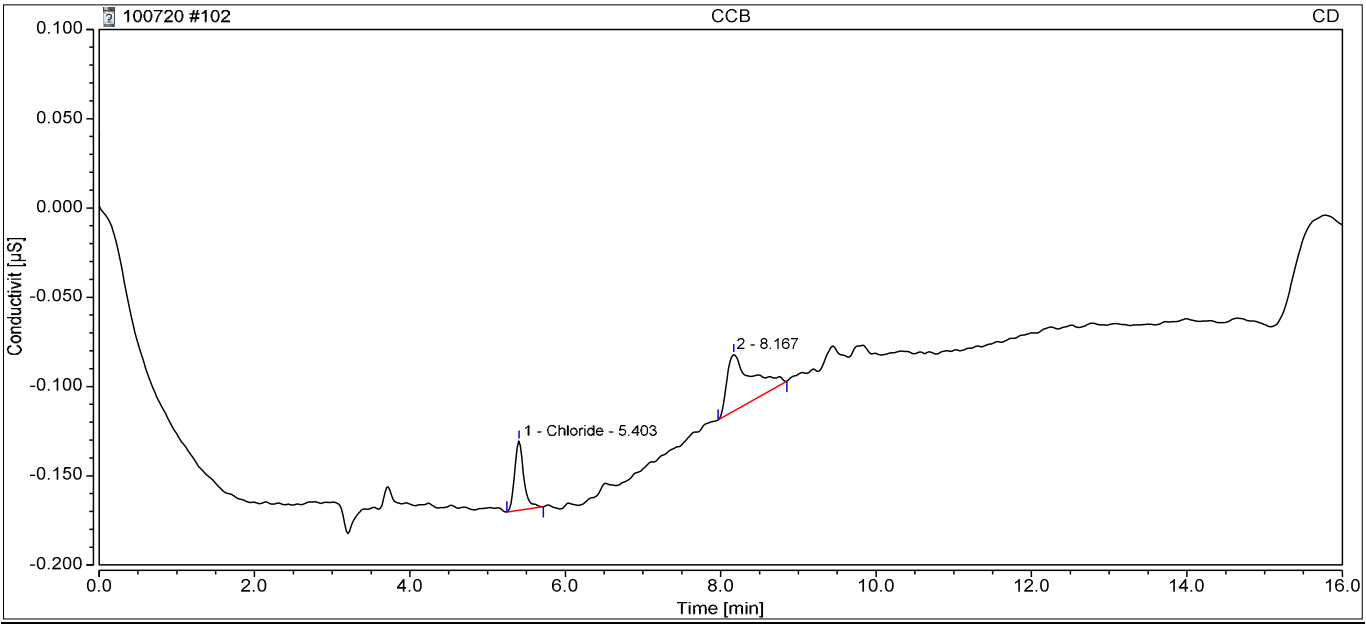
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.433	9.7201	9.7201	1.0000
2	5.40	Chloride	BMB	11.198	48.8735	48.8735	1.0000
3	6.50	Nitrite,N	BMB	4.719	9.9782	9.9782	1.0000
5	8.55	Bromide	M	0.999	9.8308	9.8308	1.0000
6	9.29	Sulfate	M	7.640	47.7170	47.7170	1.0000
7	9.66	Nitrate	M	6.147	9.9647	9.9647	1.0000
8	10.30	Chlorate	MB	1.001	9.6820	9.6820	1.0000
9	14.37	Phosphate	BMB	1.230	6.7122	6.7122	1.0000
Total:			**0.000**	**36.368**		**152.48**	

102 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/08/2020 19:01**	*Sample Weight:*	**1.0000**

Run Time:



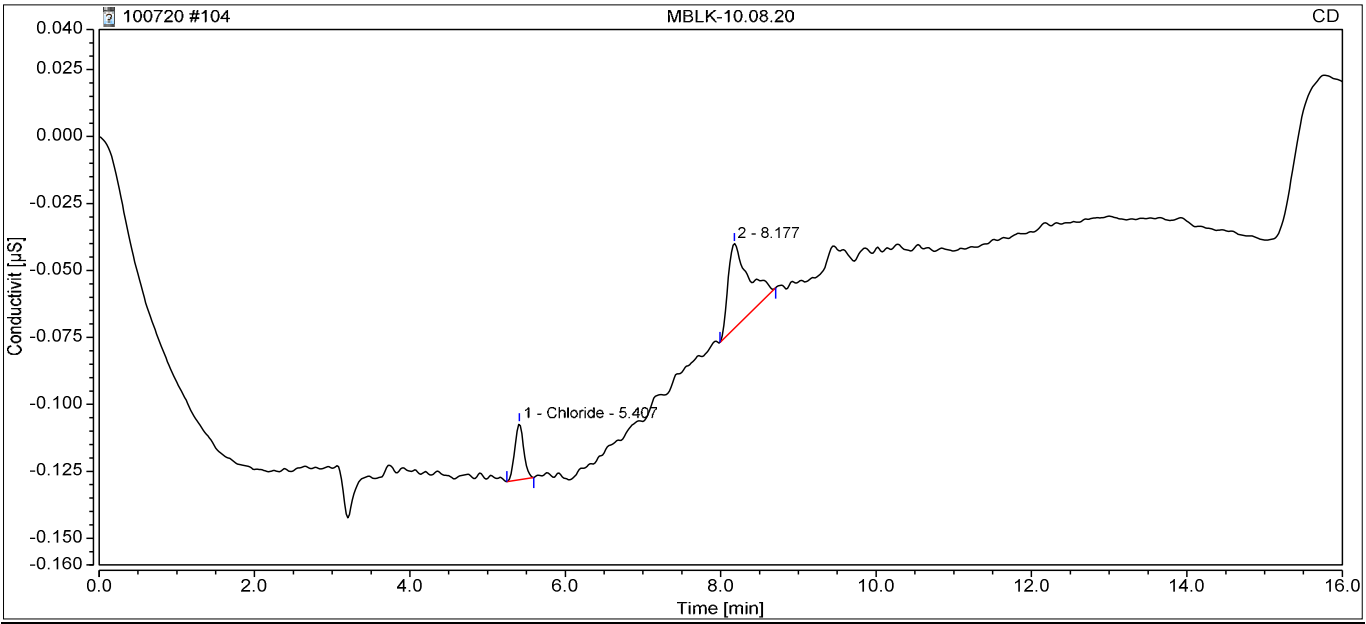
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.40	Chloride	BMB	0.005	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.005**		**0.00**	

104 MBLK-10.08.20

Sample Name:	**MBLK-10.08.20**	*Injection Volume:*	**5.00**
Vial Number:	**BA6**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/08/2020 19:37**	*Sample Weight:*	**1.0000**

Run Time:



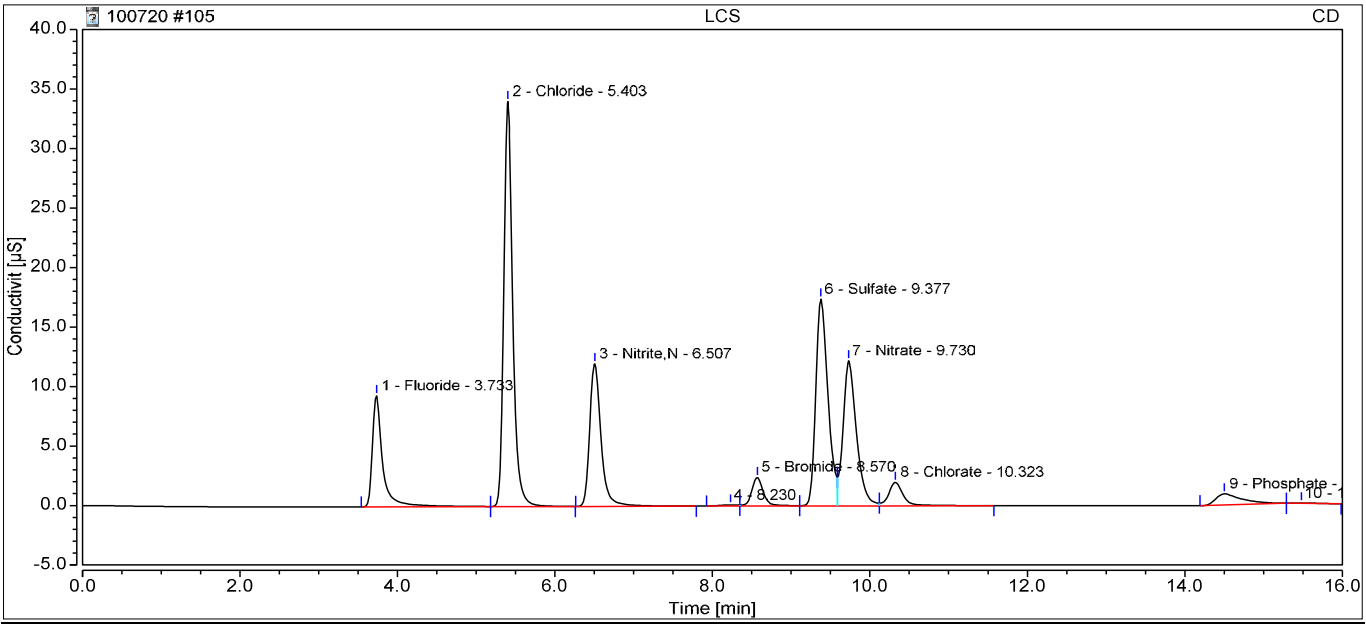
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.41	Chloride	BMB	0.003	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.003**		**0.00**	

105 LCS

Sample Name:	**LCS**	*Injection Volume:*	**5.00**
Vial Number:	**BA7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/08/2020 19:55**	*Sample Weight:*	**1.0000**

Run Time:



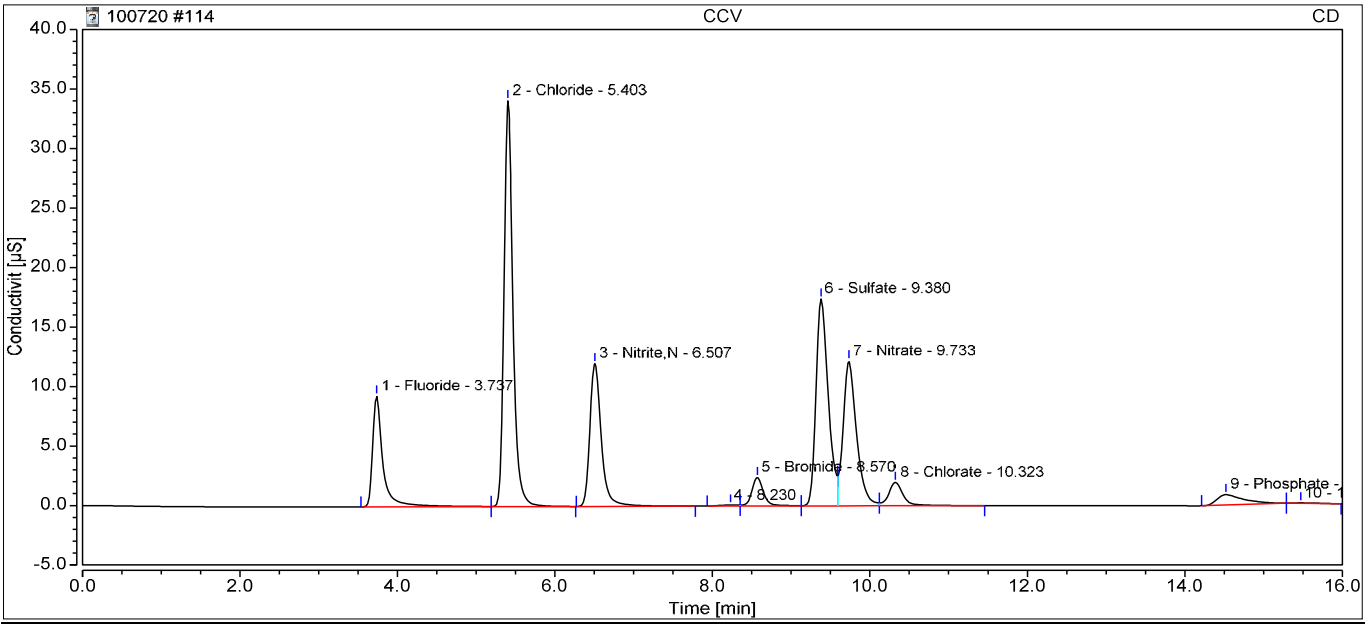
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	1.408	3.9939	3.9939	1.0000
2	5.40	Chloride	BMB	4.497	19.5938	19.5938	1.0000
3	6.51	Nitrite,N	BMB	2.018	4.2445	4.2445	1.0000
5	8.57	Bromide	M	0.411	3.9894	3.9894	1.0000
6	9.38	Sulfate	M	3.101	19.3767	19.3767	1.0000
7	9.73	Nitrate	M	2.418	3.9058	3.9058	1.0000
8	10.32	Chlorate	MB	0.425	4.0321	4.0321	1.0000
9	14.50	Phosphate	BMB	0.366	2.2639	2.2639	1.0000
Total:			**0.000**	**14.645**		**61.40**	

114 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**BA2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/08/2020 22:37**	*Sample Weight:*	**1.0000**

Run Time:



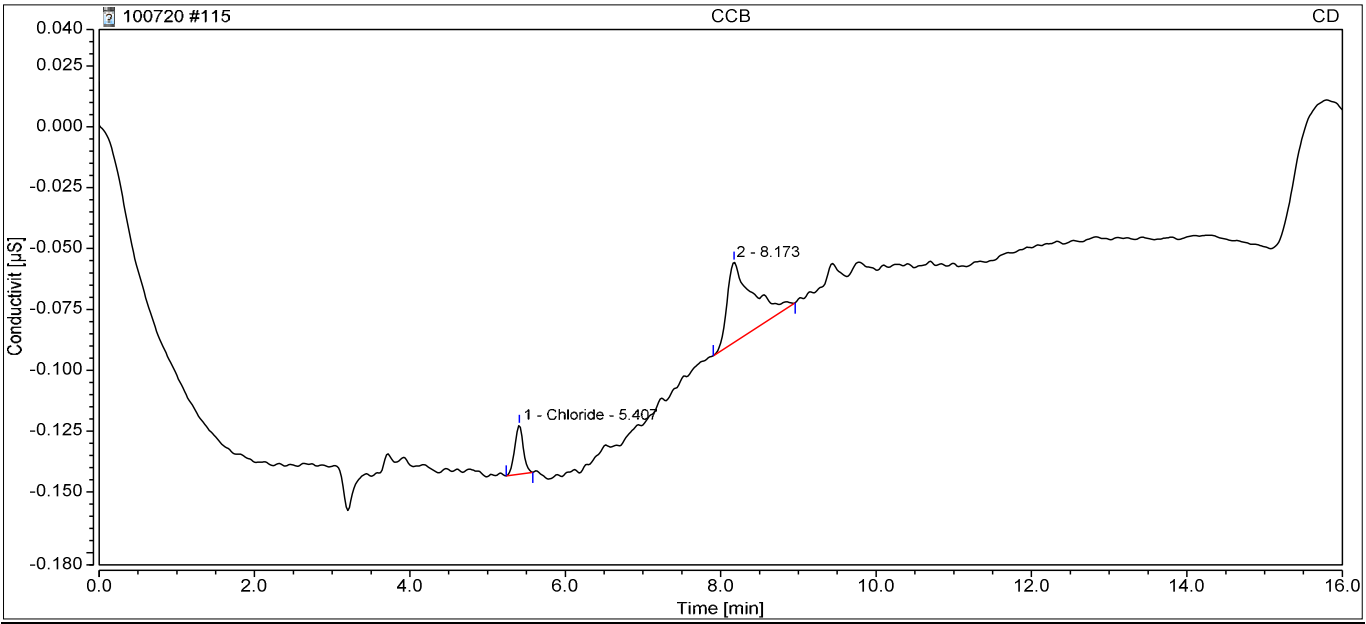
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.410	3.9974	3.9974	1.0000
2	5.40	Chloride	BMB	4.494	19.5813	19.5813	1.0000
3	6.51	Nitrite,N	BMB	2.029	4.2684	4.2684	1.0000
5	8.57	Bromide	M	0.410	3.9874	3.9874	1.0000
6	9.38	Sulfate	M	3.108	19.4183	19.4183	1.0000
7	9.73	Nitrate	M	2.417	3.9045	3.9045	1.0000
8	10.32	Chlorate	MB	0.425	4.0288	4.0288	1.0000
9	14.52	Phosphate	BMB	0.347	2.1667	2.1667	1.0000
Total:			**0.000**	**14.641**		**61.35**	

115 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/08/2020 22:55**	*Sample Weight:*	**1.0000**

Run Time:



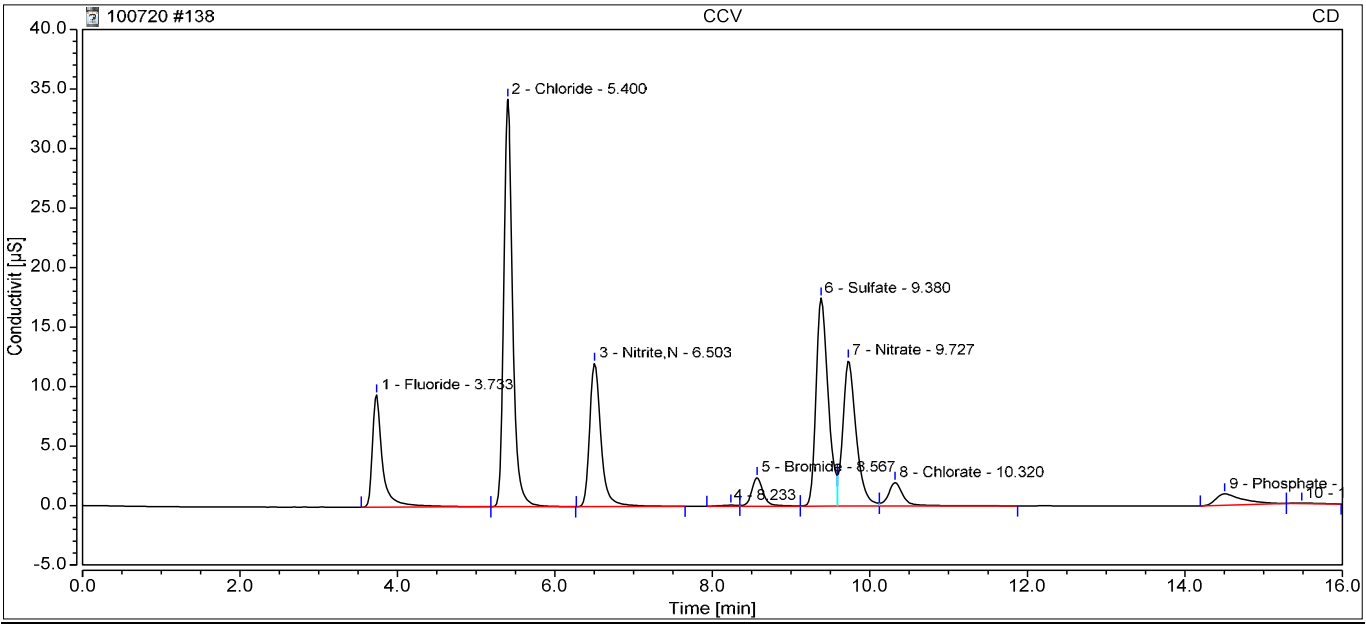
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.41	Chloride	BMB	0.003	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.003**		**0.00**	

138 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**BA2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/09/2020 05:49**	*Sample Weight:*	**1.0000**

Run Time:



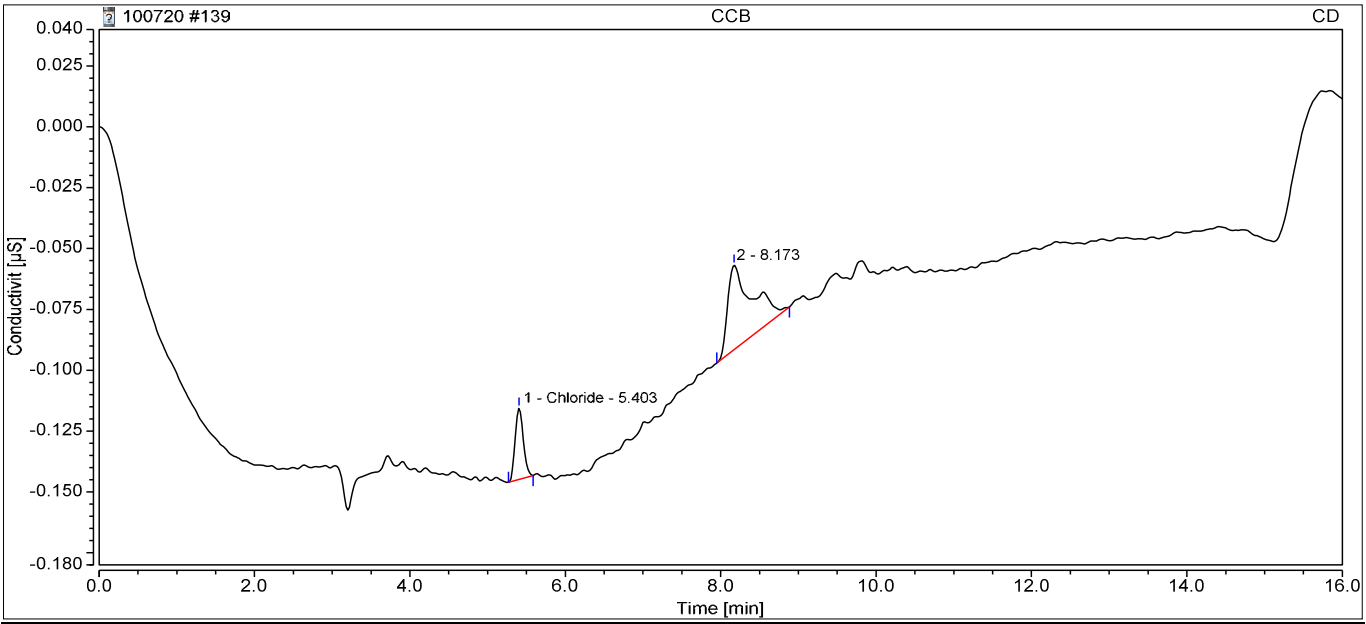
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	1.411	4.0019	4.0019	1.0000
2	5.40	Chloride	BMB	4.506	19.6342	19.6342	1.0000
3	6.50	Nitrite,N	BMB	2.028	4.2649	4.2649	1.0000
5	8.57	Bromide	M	0.411	3.9898	3.9898	1.0000
6	9.38	Sulfate	M	3.101	19.3721	19.3721	1.0000
7	9.73	Nitrate	M	2.429	3.9235	3.9235	1.0000
8	10.32	Chlorate	MB	0.436	4.1436	4.1436	1.0000
9	14.51	Phosphate	BMB	0.373	2.3013	2.3013	1.0000
Total:			**0.000**	**14.695**		**61.63**	

139 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/09/2020 06:07**	*Sample Weight:*	**1.0000**

Run Time:

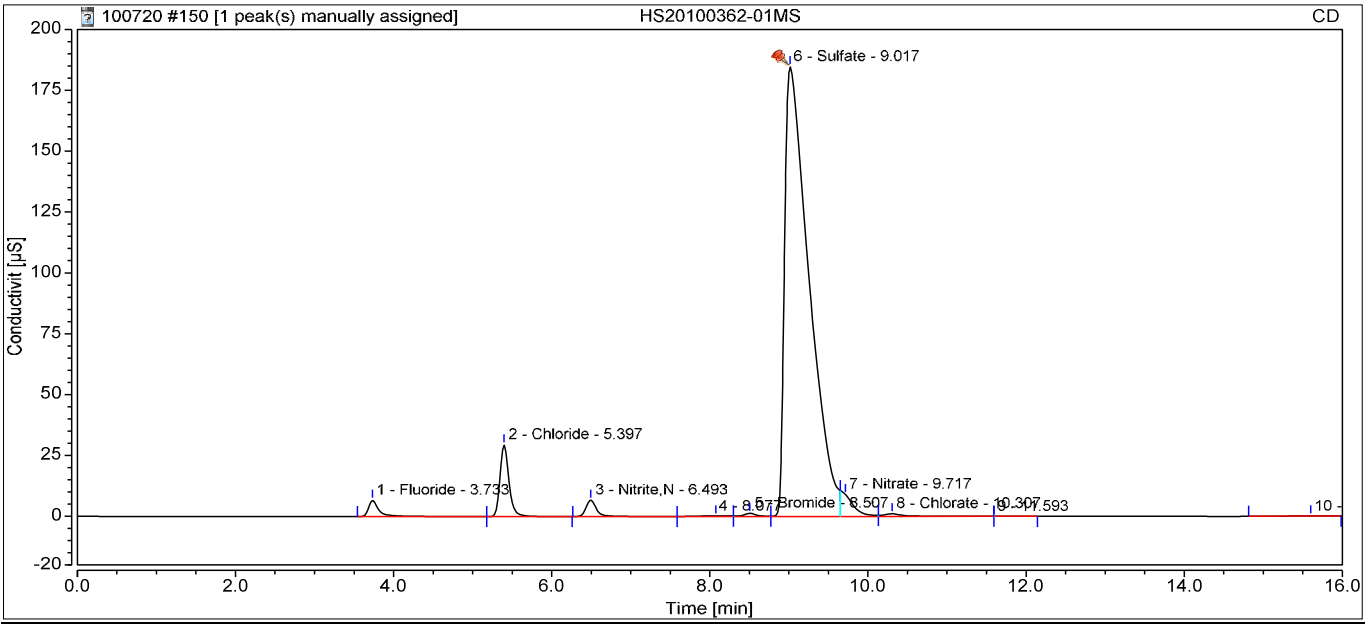


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.40	Chloride	BMB	0.004	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.004**		**0.00**	

150 HS20100362-01MS			
Sample Name:	**HS20100362-01MS**	*Injection Volume:*	**5.00**
Vial Number:	**BB2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/09/2020 09:26**	*Sample Weight:*	**1.0000**

Run Time:

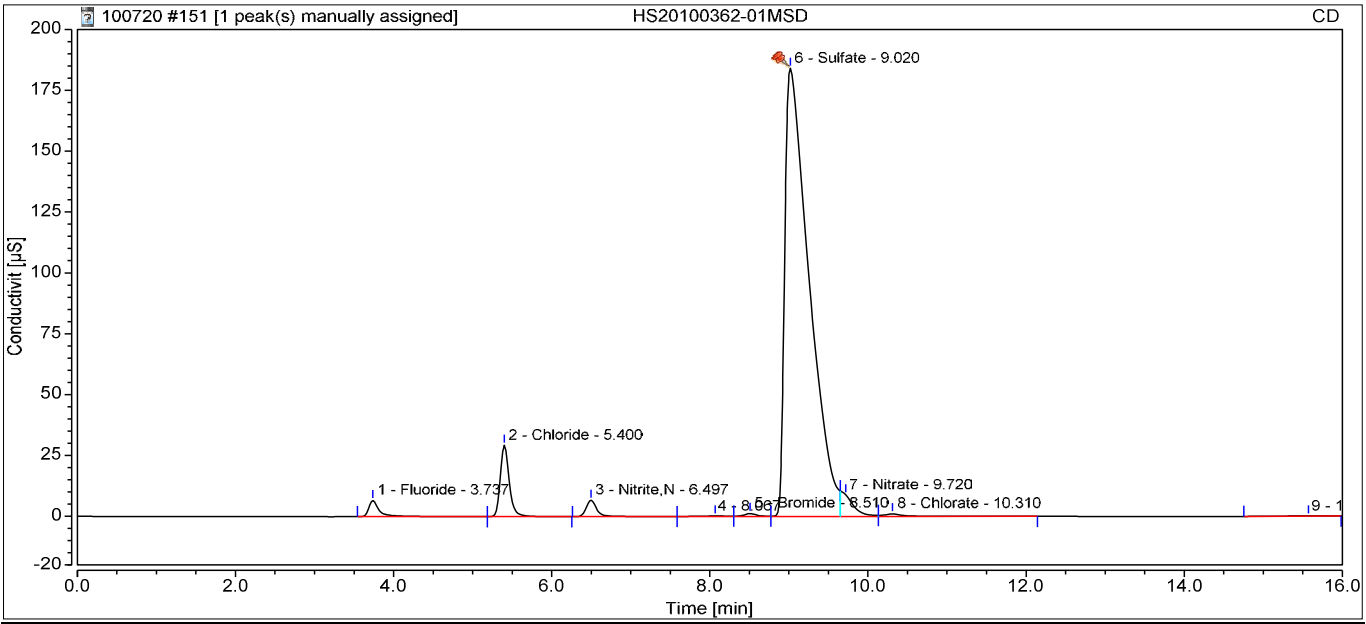


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	1.058	3.0041	3.0041	1.0000
2	5.40	Chloride	BMB	3.847	16.7529	16.7529	1.0000
3	6.49	Nitrite,N	BMB	1.050	2.1888	2.1888	1.0000
5	8.51	Bromide	M	0.237	2.2639	2.2639	1.0000
6	9.02	Sulfate	M ^	65.877	411.3356	411.3356	1.0000
7	9.72	Nitrate	M	1.782	2.8727	2.8727	1.0000
8	10.31	Chlorate	M	0.334	3.1365	3.1365	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**74.184**		**441.55**	

151 HS20100362-01MSD			
Sample Name:	**HS20100362-01MSD**	*Injection Volume:*	**5.00**
Vial Number:	**BB3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/09/2020 09:44**	*Sample Weight:*	**1.0000**

Run Time:



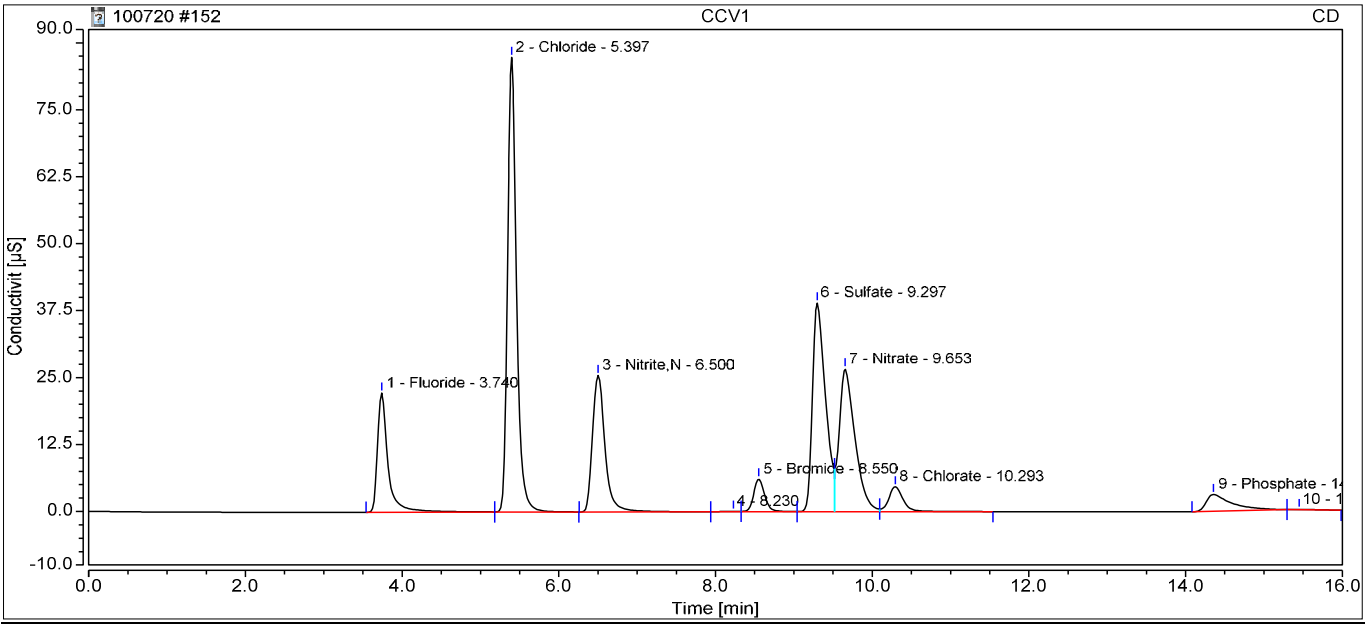
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.054	2.9928	2.9928	1.0000
2	5.40	Chloride	BMB	3.831	16.6848	16.6848	1.0000
3	6.50	Nitrite,N	BMB	1.052	2.1947	2.1947	1.0000
5	8.51	Bromide	M	0.237	2.2641	2.2641	1.0000
6	9.02	Sulfate	M ^	65.456	408.7072	408.7072	1.0000
7	9.72	Nitrate	M	1.781	2.8707	2.8707	1.0000
8	10.31	Chlorate	MB	0.340	3.1967	3.1967	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**73.751**		**438.91**	

152 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**BA4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/09/2020 10:02**	*Sample Weight:*	**1.0000**

Run Time:



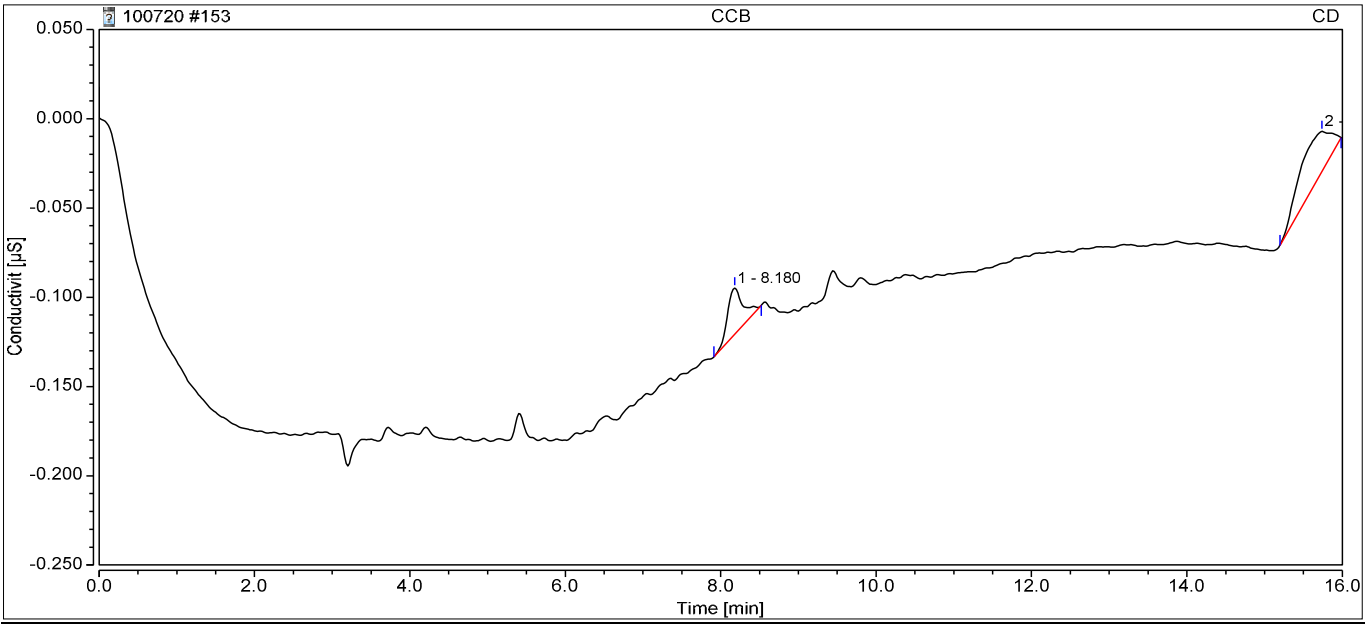
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.445	9.7533	9.7533	1.0000
2	5.40	Chloride	BMB	11.246	49.0842	49.0842	1.0000
3	6.50	Nitrite,N	BMB	4.726	9.9932	9.9932	1.0000
5	8.55	Bromide	M	0.999	9.8229	9.8229	1.0000
6	9.30	Sulfate	M	7.591	47.4101	47.4101	1.0000
7	9.65	Nitrate	M	6.251	10.1343	10.1343	1.0000
8	10.29	Chlorate	MB	0.998	9.6560	9.6560	1.0000
9	14.36	Phosphate	BMB	1.188	6.4974	6.4974	1.0000
Total:			**0.000**	**36.445**		**152.35**	

153 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/09/2020 10:20**	*Sample Weight:*	**1.0000**

Run Time:



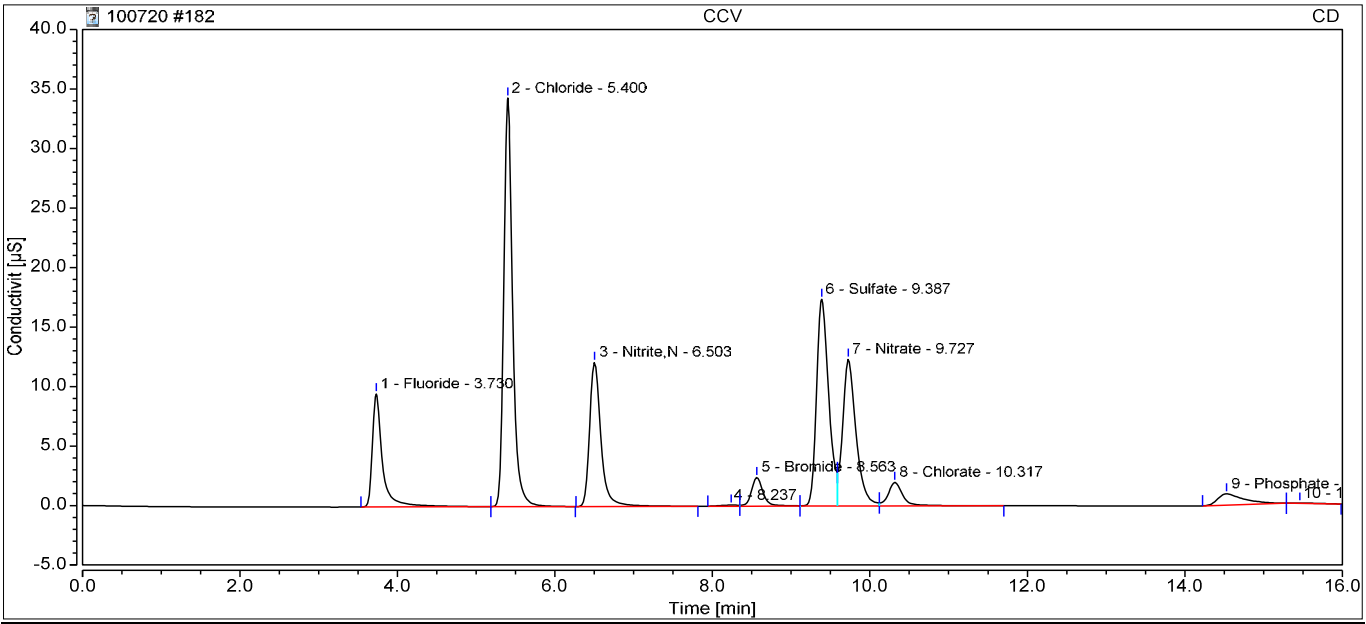
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.000**		**0.00**	

182 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**BA2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/09/2020 19:03**	*Sample Weight:*	**1.0000**

Run Time:



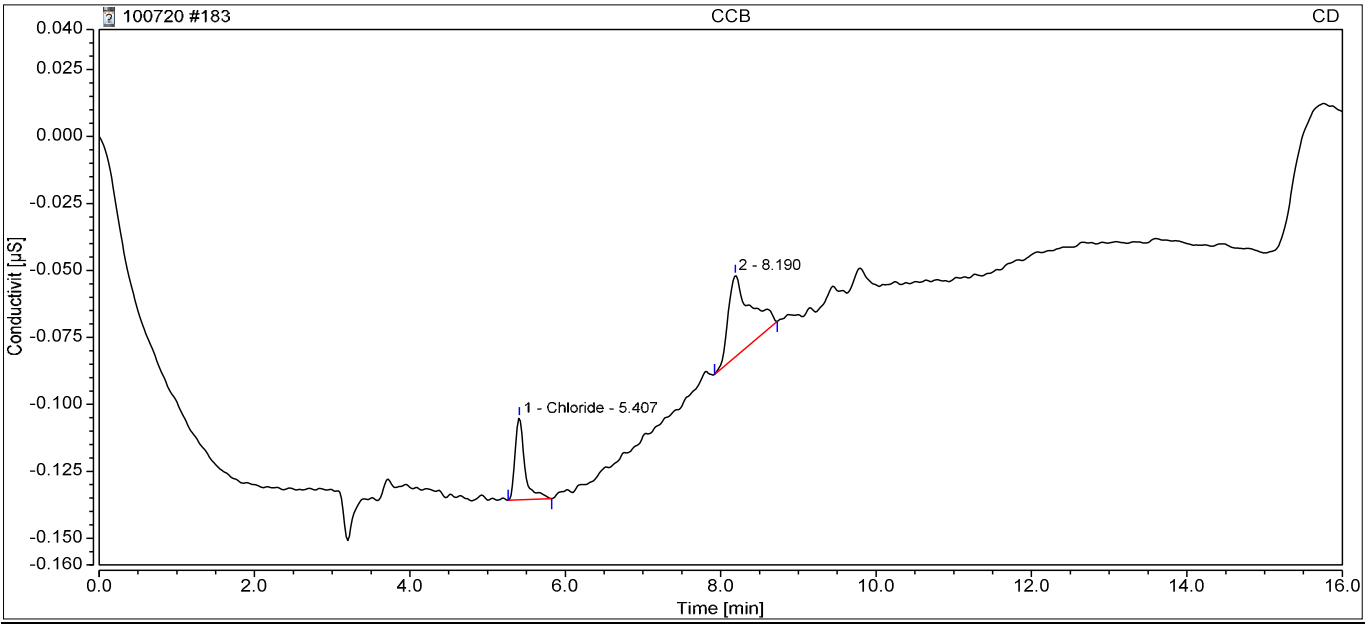
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	1.418	4.0216	4.0216	1.0000
2	5.40	Chloride	BMB	4.508	19.6419	19.6419	1.0000
3	6.50	Nitrite,N	BMB	2.035	4.2816	4.2816	1.0000
5	8.56	Bromide	M	0.411	3.9961	3.9961	1.0000
6	9.39	Sulfate	M	3.087	19.2890	19.2890	1.0000
7	9.73	Nitrate	M	2.449	3.9552	3.9552	1.0000
8	10.32	Chlorate	MB	0.429	4.0688	4.0688	1.0000
9	14.53	Phosphate	BMB	0.366	2.2621	2.2621	1.0000
Total:			**0.000**	**14.703**		**61.52**	

183 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/09/2020 19:21**	*Sample Weight:*	**1.0000**

Run Time:



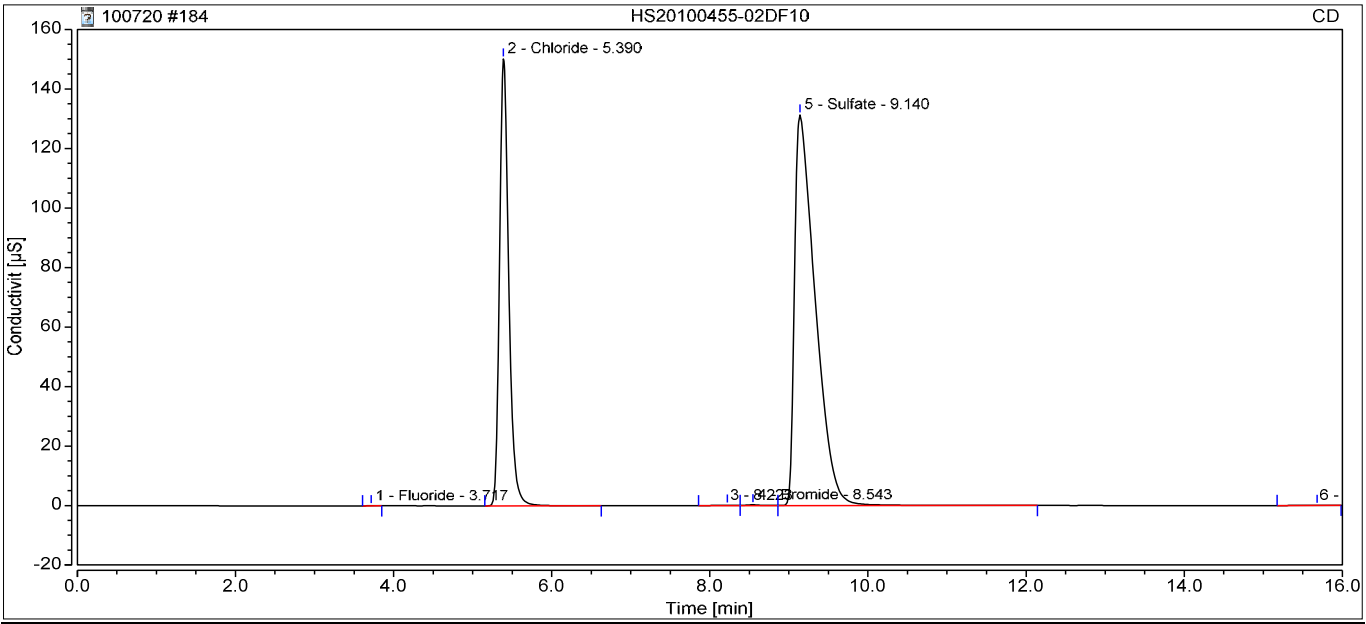
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.41	Chloride	BMB	0.004	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.004**		**0.00**	

184 HS20100455-02DF10

Sample Name:	**HS20100455-02DF10**	*Injection Volume:*	**5.00**
Vial Number:	**RC1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**10.0000**
Recording Time:	**10/09/2020 19:39**	*Sample Weight:*	**1.0000**

Run Time:



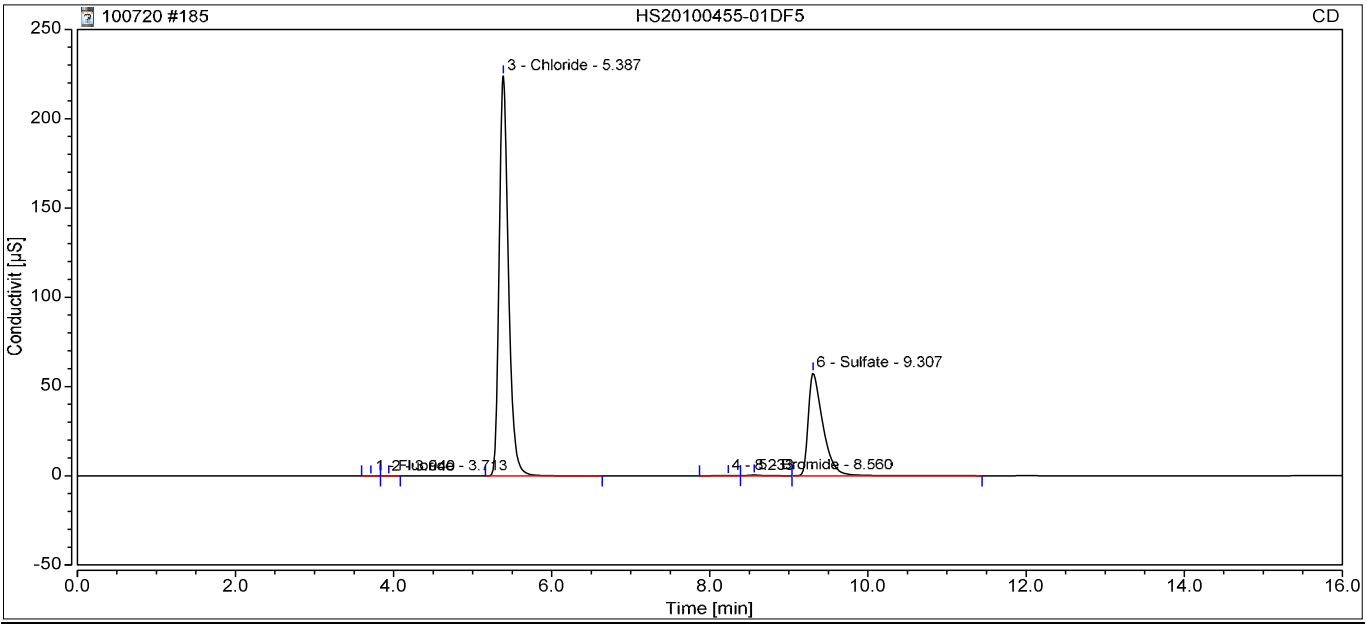
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.002	0.0172	0.1720	10.0000
2	5.39	Chloride	BMB	20.122	87.8686	878.6860	10.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	10.0000
4	8.54	Bromide	M	0.066	0.5689	5.6887	10.0000
5	9.14	Sulfate	MB	39.669	247.6986	2476.9862	10.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	10.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	10.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	10.0000
Total:			**0.000**	**59.859**		**3361.53**	

185 HS20100455-01DF5

Sample Name:	**HS20100455-01DF5**	*Injection Volume:*	**5.00**
Vial Number:	**RC2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**5.0000**
Recording Time:	**10/09/2020 19:57**	*Sample Weight:*	**1.0000**

Run Time:



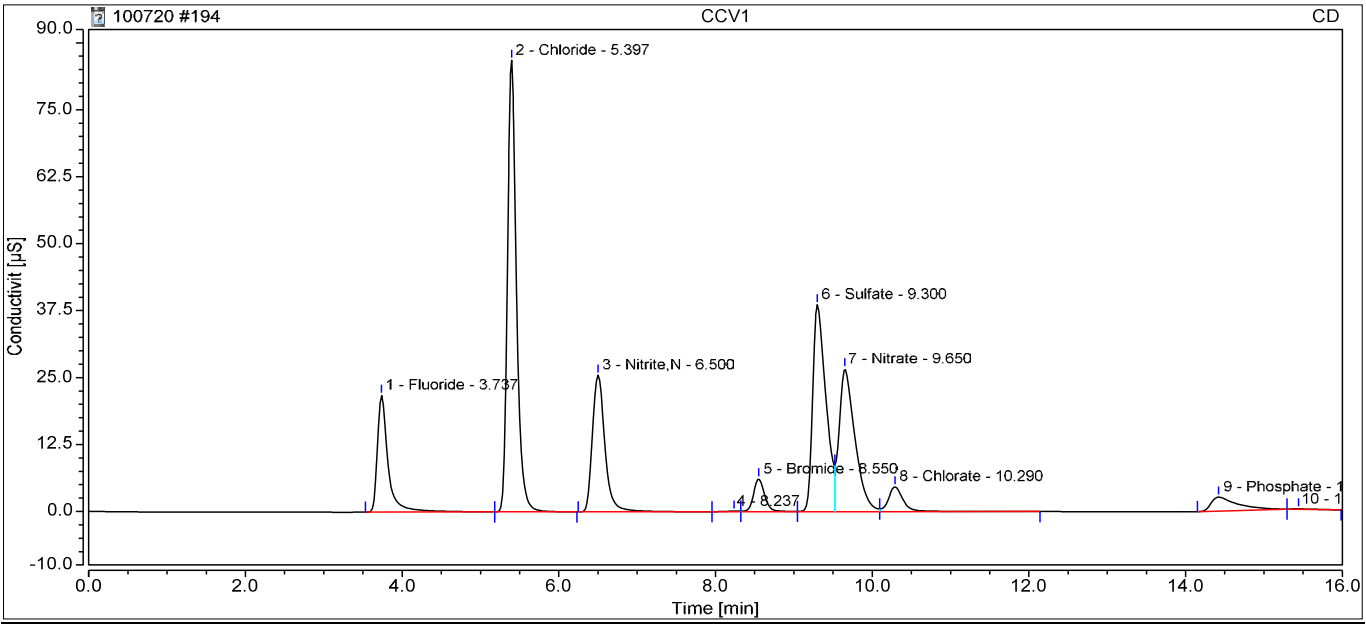
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.71	Fluoride	BMB	0.003	0.0188	0.0939	5.0000
3	5.39	Chloride	BMB	30.302	132.3479	661.7395	5.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	5.0000
5	8.56	Bromide	M	0.096	0.8661	4.3304	5.0000
6	9.31	Sulfate	MB	12.481	77.9415	389.7074	5.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	5.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	5.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	5.0000
Total:			**0.000**	**42.881**		**1055.87**	

194 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**BA4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/09/2020 22:40**	*Sample Weight:*	**1.0000**

Run Time:



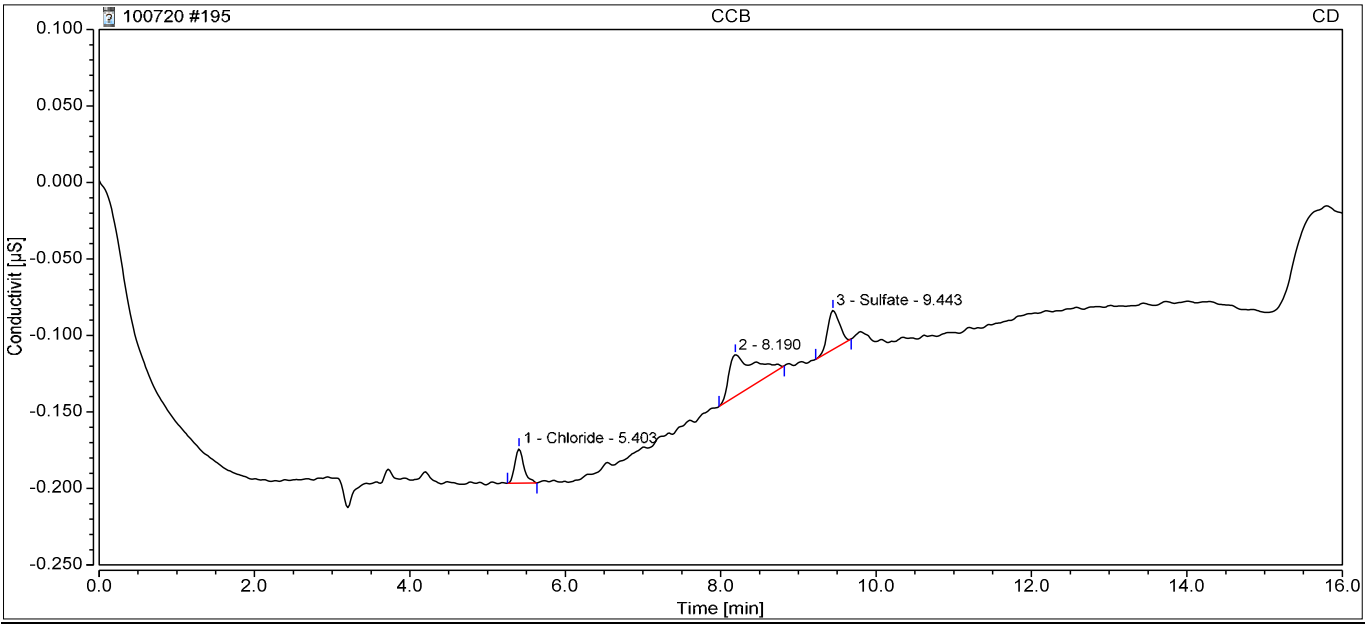
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.452	9.7713	9.7713	1.0000
2	5.40	Chloride	BMB	11.231	49.0189	49.0189	1.0000
3	6.50	Nitrite,N	BMB	4.740	10.0227	10.0227	1.0000
5	8.55	Bromide	M	1.007	9.9063	9.9063	1.0000
6	9.30	Sulfate	M	7.606	47.5042	47.5042	1.0000
7	9.65	Nitrate	M	6.269	10.1624	10.1624	1.0000
8	10.29	Chlorate	MB	1.021	9.8821	9.8821	1.0000
9	14.42	Phosphate	BMB	1.010	5.5799	5.5799	1.0000
Total:			**0.000**	**36.336**		**151.85**	

195 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/09/2020 22:58**	*Sample Weight:*	**1.0000**

Run Time:



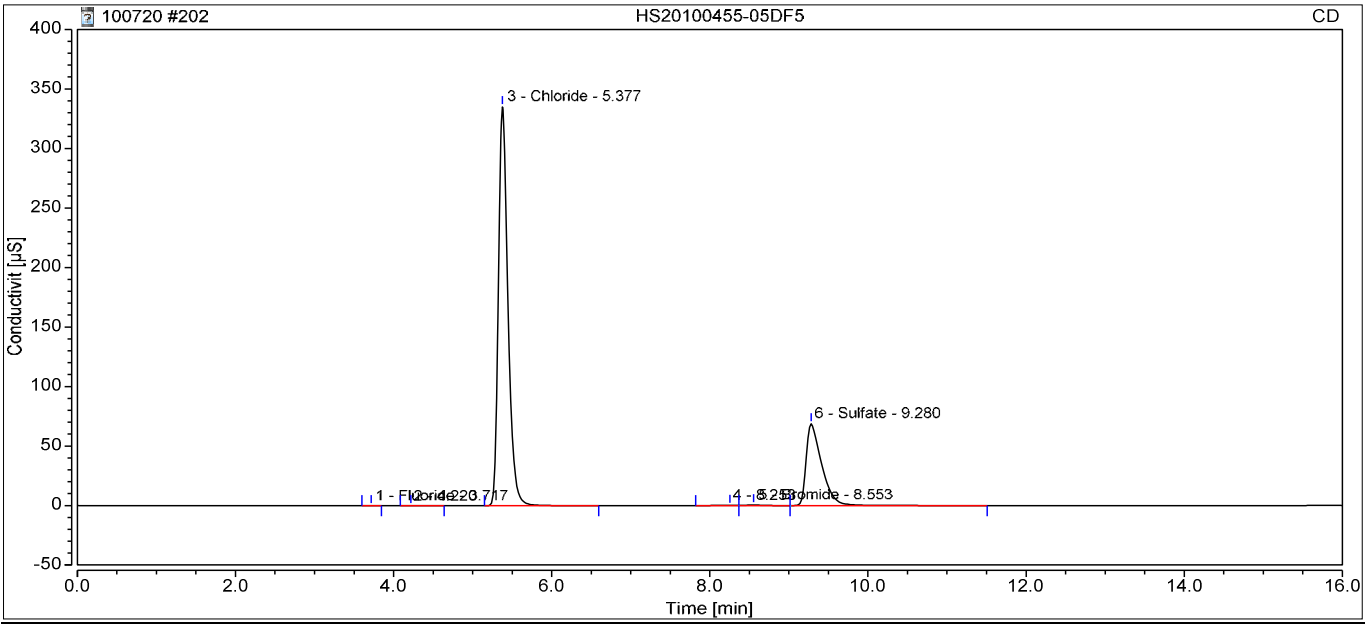
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.40	Chloride	BMB	0.003	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
3	9.44	Sulfate	BMB	0.005	0.0403	0.0403	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.008**		**0.04**	

202 HS20100455-05DF5

Sample Name:	**HS20100455-05DF5**	*Injection Volume:*	**5.00**
Vial Number:	**RE1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**5.0000**
Recording Time:	**10/10/2020 01:04**	*Sample Weight:*	**1.0000**

Run Time:



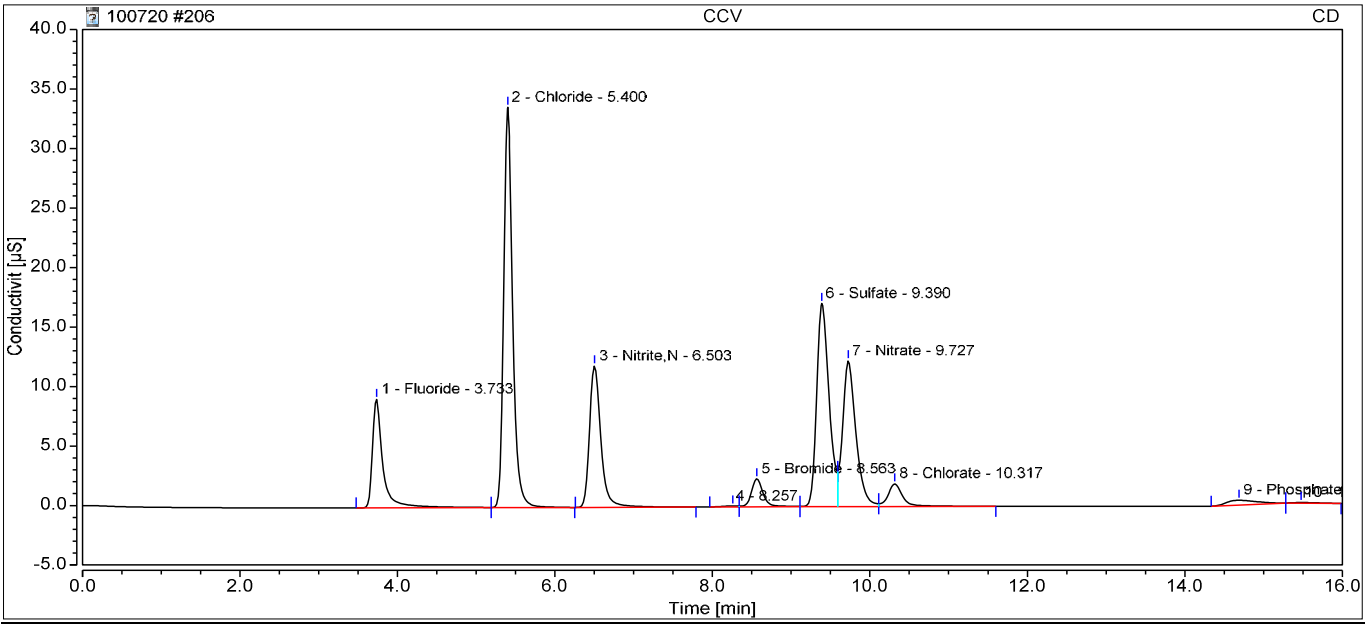
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.005	0.0251	0.1254	5.0000
3	5.38	Chloride	BMB	46.281	202.1706	1010.8531	5.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	5.0000
5	8.55	Bromide	M	0.144	1.3491	6.7456	5.0000
6	9.28	Sulfate	MB	15.773	98.4952	492.4761	5.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	5.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	5.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	5.0000
Total:			**0.000**	**62.203**		**1510.20**	

206 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**BA2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/10/2020 02:16**	*Sample Weight:*	**1.0000**

Run Time:



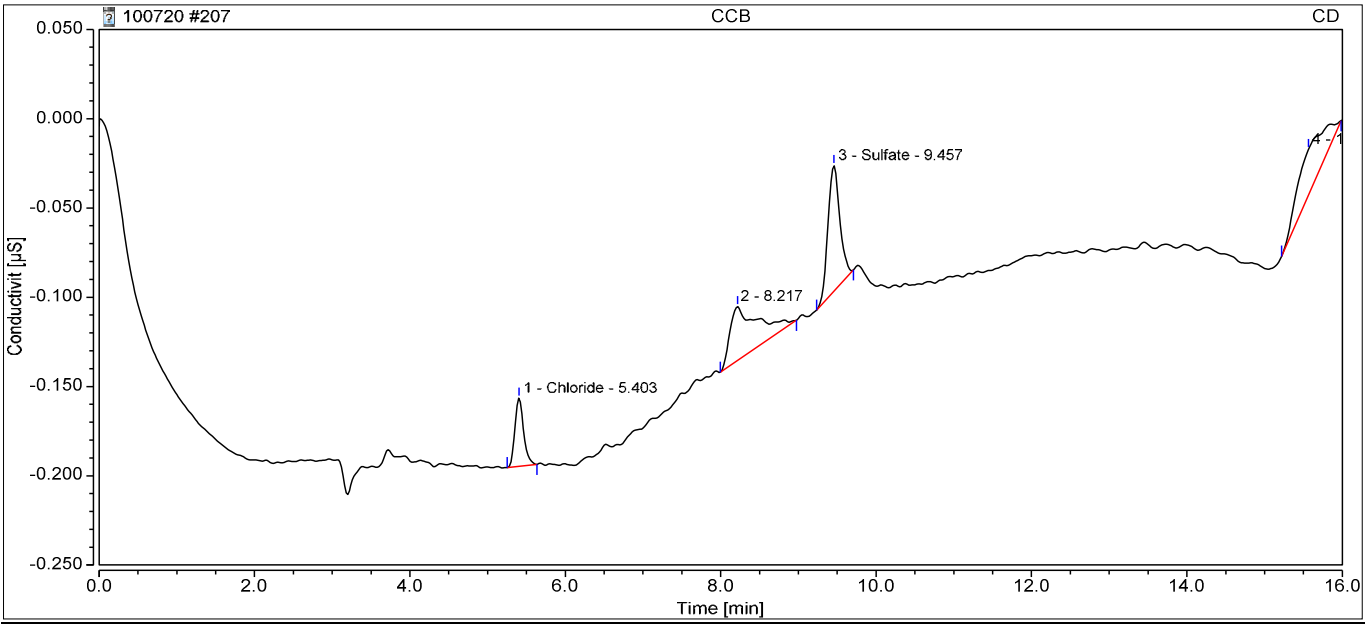
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	1.392	3.9468	3.9468	1.0000
2	5.40	Chloride	BMB	4.445	19.3679	19.3679	1.0000
3	6.50	Nitrite,N	BMB	1.998	4.2028	4.2028	1.0000
5	8.56	Bromide	M	0.405	3.9333	3.9333	1.0000
6	9.39	Sulfate	M	3.094	19.3281	19.3281	1.0000
7	9.73	Nitrate	M	2.419	3.9069	3.9069	1.0000
8	10.32	Chlorate	MB	0.416	3.9419	3.9419	1.0000
9	14.69	Phosphate	BMB	0.179	1.3024	1.3024	1.0000
Total:			**0.000**	**14.348**		**59.93**	

207 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/10/2020 02:34**	*Sample Weight:*	**1.0000**

Run Time:



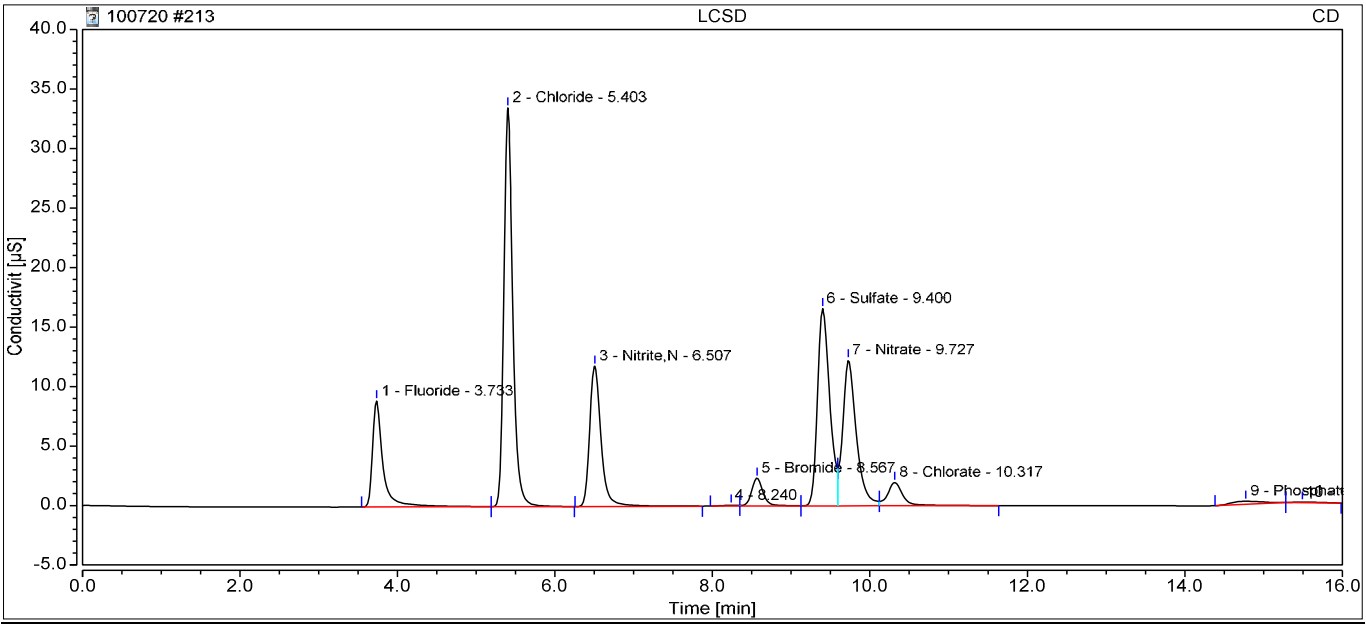
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.40	Chloride	BMB	0.005	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
3	9.46	Sulfate	BMB	0.013	0.0902	0.0902	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.018**		**0.09**	

213 LCSD

Sample Name:	**LCSD**	*Injection Volume:*	**5.00**
Vial Number:	**RA8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/10/2020 04:22**	*Sample Weight:*	**1.0000**

Run Time:



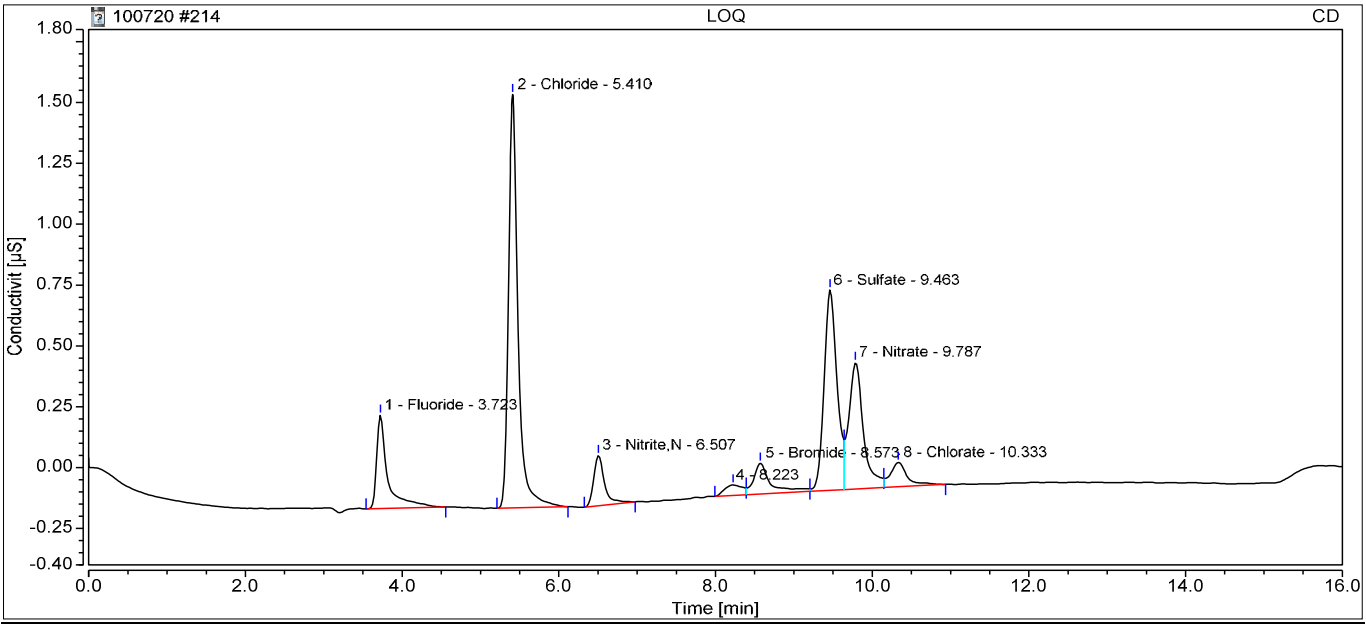
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	1.372	3.8898	3.8898	1.0000
2	5.40	Chloride	BMB	4.429	19.2949	19.2949	1.0000
3	6.51	Nitrite,N	BMB	1.991	4.1871	4.1871	1.0000
5	8.57	Bromide	M	0.398	3.8607	3.8607	1.0000
6	9.40	Sulfate	M	2.985	18.6525	18.6525	1.0000
7	9.73	Nitrate	M	2.466	3.9832	3.9832	1.0000
8	10.32	Chlorate	MB	0.447	4.2480	4.2480	1.0000
9	14.77	Phosphate	BMB	0.117	0.9827	0.9827	1.0000
Total:			**0.000**	**14.204**		**59.10**	

214 LOQ

Sample Name:	**LOQ**	*Injection Volume:*	**5.00**
Vial Number:	**RB1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/10/2020 04:40**	*Sample Weight:*	**1.0000**

Run Time:



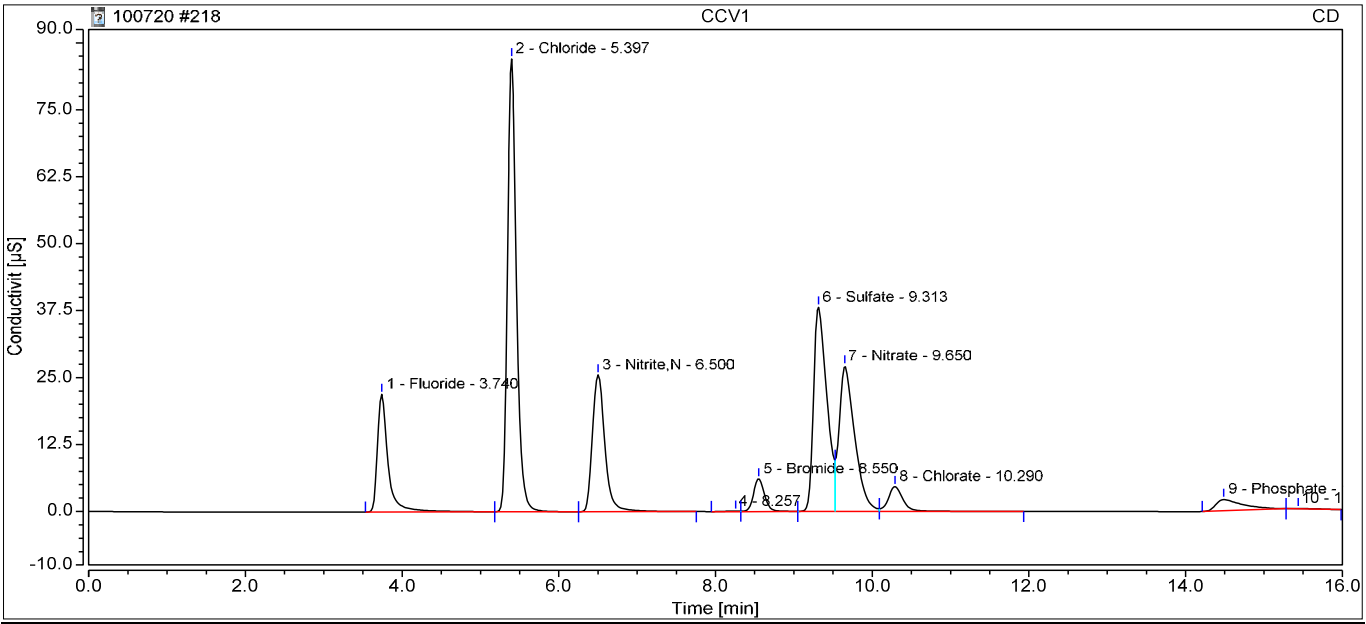
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.063	0.1887	0.1887	1.0000
2	5.41	Chloride	BMB	0.240	0.9926	0.9926	1.0000
3	6.51	Nitrite,N	BMB	0.033	0.0308	0.0308	1.0000
5	8.57	Bromide	M	0.032	0.2352	0.2352	1.0000
6	9.46	Sulfate	M	0.158	0.9991	0.9991	1.0000
7	9.79	Nitrate	M	0.112	0.1587	0.1587	1.0000
8	10.33	Chlorate	MB	0.025	0.1117	0.1117	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.663**		**2.72**	

218 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**BA4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/10/2020 05:52**	*Sample Weight:*	**1.0000**

Run Time:



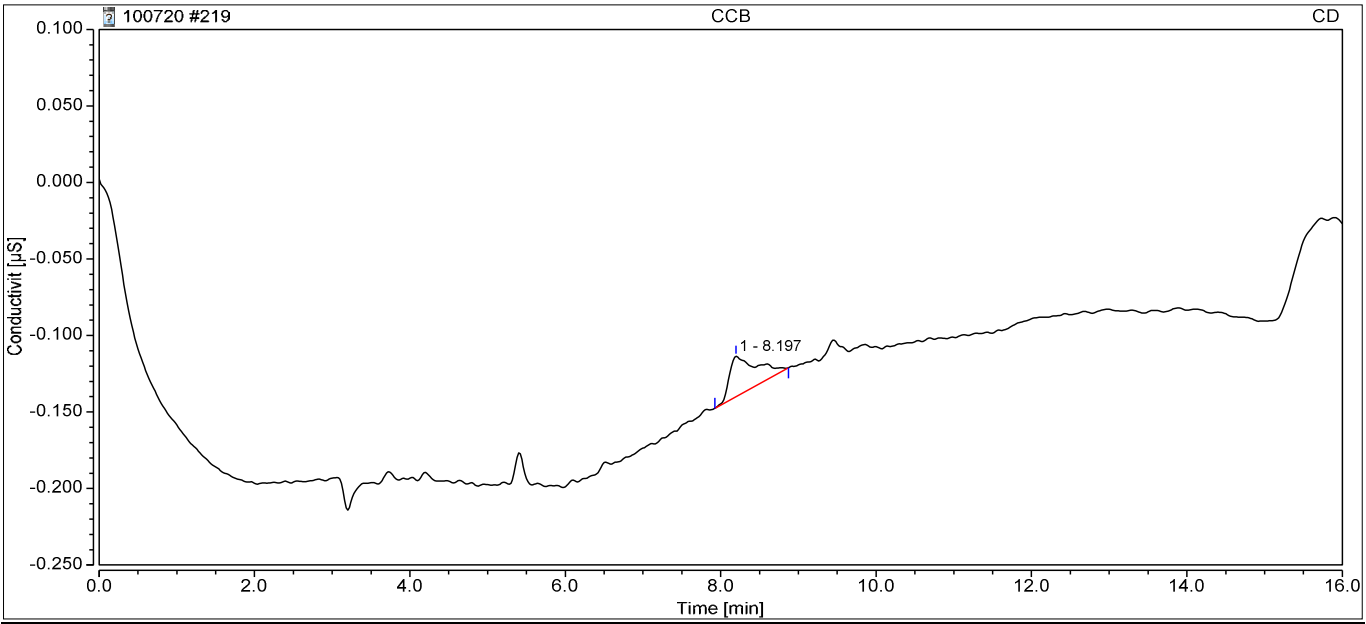
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.461	9.7990	9.7990	1.0000
2	5.40	Chloride	BMB	11.243	49.0726	49.0726	1.0000
3	6.50	Nitrite,N	BMB	4.726	9.9925	9.9925	1.0000
5	8.55	Bromide	M	1.008	9.9127	9.9127	1.0000
6	9.31	Sulfate	M	7.568	47.2678	47.2678	1.0000
7	9.65	Nitrate	M	6.302	10.2170	10.2170	1.0000
8	10.29	Chlorate	MB	1.028	9.9519	9.9519	1.0000
9	14.49	Phosphate	BMB	0.843	4.7218	4.7218	1.0000
Total:			**0.000**	**36.181**		**150.94**	

219 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/10/2020 06:10**	*Sample Weight:*	**1.0000**

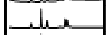
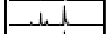
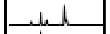
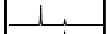
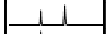
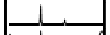
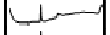
Run Time:



Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.000**		**0.00**	

Sequence: 102220
Last Update Operator: alshs.nouser

CD	Name	Comment	Type	Position	Dilution	Level	Instrument Method	Processing Method	Volume	Status
	STD1		Calibration	BD1	1.00	1	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD2		Calibration	BD2	1.00	2	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD3		Calibration	BD3	1.00	3	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD4		Calibration	BD4	1.00	4	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD5		Calibration	BD5	1.00	5	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD6		Calibration	BD6	1.00	6	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	ICV		Unknown	BD7	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	ICB		Unknown	BD8	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV	10/23/20	Unknown	BA2	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100361-02DF100		Unknown	RD6	100.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100361-02MSDF100		Unknown	RD7	100.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100361-02MSDDF100		Unknown	RD8	100.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV1		Unknown	BA4	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA5	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100455-01DF20		Unknown	RE3	20.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100455-02DF100		Unknown	RE4	100.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100455-05DF20		Unknown	RE5	20.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	MBLK-102320		Unknown	BA7	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	LCS-102320		Unknown	BA8	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV		Unknown	BA2	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished

Sequence: 102220
Last Update Operator: alshs.nouser

Inject Time
8/11/2020 10:46:45 AM -05:00
8/11/2020 11:04:45 AM -05:00
8/11/2020 11:22:45 AM -05:00
8/11/2020 11:40:48 AM -05:00
8/11/2020 11:58:48 AM -05:00
8/11/2020 12:16:48 PM -05:00
8/11/2020 12:34:48 PM -05:00
8/11/2020 12:52:50 PM -05:00
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10/23/2020 1:34:51 PM -05:00
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10/23/2020 2:28:59 PM -05:00
10/23/2020 2:46:58 PM -05:00
10/23/2020 4:53:19 PM -05:00
10/23/2020 5:11:20 PM -05:00
10/23/2020 5:47:24 PM -05:00
10/23/2020 6:23:34 PM -05:00
10/23/2020 6:41:36 PM -05:00
10/23/2020 7:53:56 PM -05:00
10/23/2020 8:11:57 PM -05:00
10/23/2020 8:29:58 PM -05:00
10/23/2020 8:47:58 PM -05:00

Sequence: 102220
Injection #6: STD6

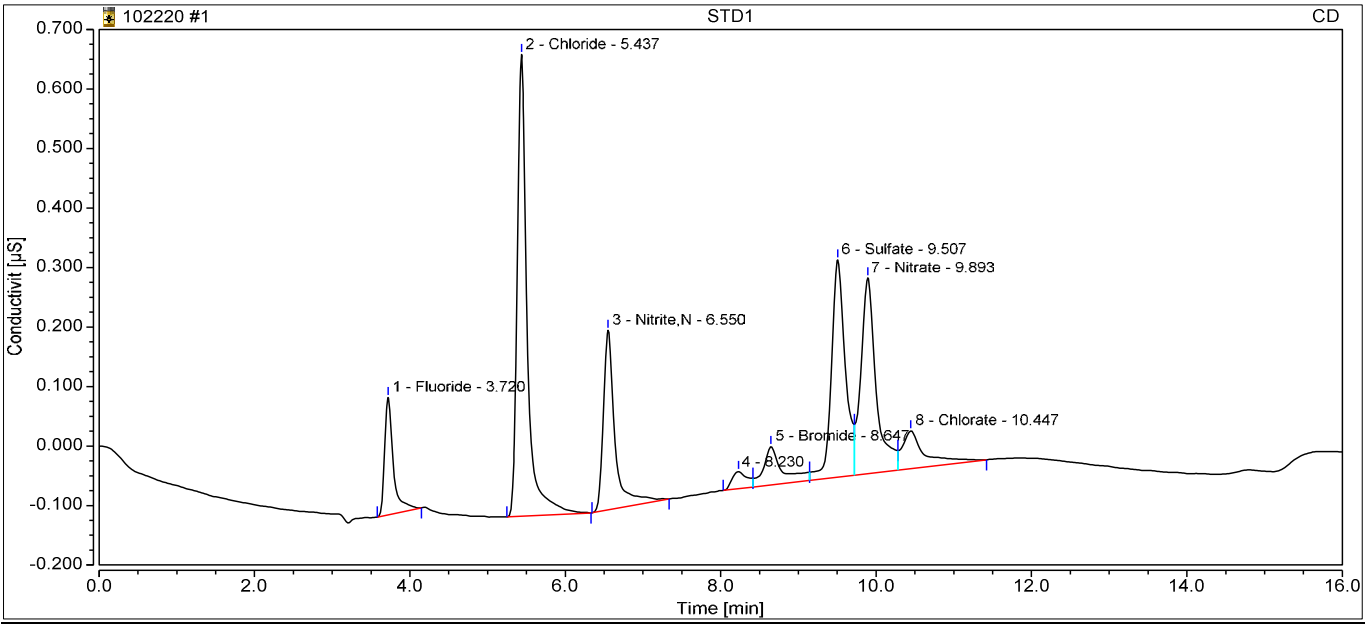
Calibration

Peak No.	Peak Name	Cal.Type	Eval.Type	Number of Points	Rel.Std.Dev. %	Coeff.of Determination	C0 (Offset)	C1 (Slope)	C2 (Curve)
1	*Fluoride*	*Lin, WithOffset, 1/*	*Area*	*6*	*17.3553*	*0.99849*	*-0.0040*	*0.3537*	*0.0000*
2	Chloride	Lin, WithOffset, 1/	Area	6	5.4804	0.99983	0.0129	0.2289	0.0000
3	Nitrite,N	Lin, WithOffset, 1/	Area	6	26.1376	0.99573	0.0186	0.4711	0.0000
5	Bromide	Lin, WithOffset, 1/	Area	6	0.9346	0.99999	0.0083	0.1008	0.0000
6	Sulfate	Lin, WithOffset, 1/	Area	6	5.2843	0.99985	-0.0019	0.1602	0.0000
7	Nitrate	Lin, WithOffset, 1/	Area	6	4.5248	0.99988	0.0144	0.6154	0.0000
8	Chlorate	Lin, WithOffset, 1/	Area	6	13.4374	0.99837	0.0139	0.1019	0.0000
10	Phosphate	Lin, WithOffset, 1/	Area	5	18.5357	0.99714	-0.0737	0.1942	0.0000
Maximum					**26.1376**	0.99999			
Minimum					0.9346	**0.99573**			

1 STD1

Sample Name:	**STD1**	*Injection Volume:*	**5.00**
Vial Number:	**BD1**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 10:46**	*Sample Weight:*	**1.0000**

Run Time:

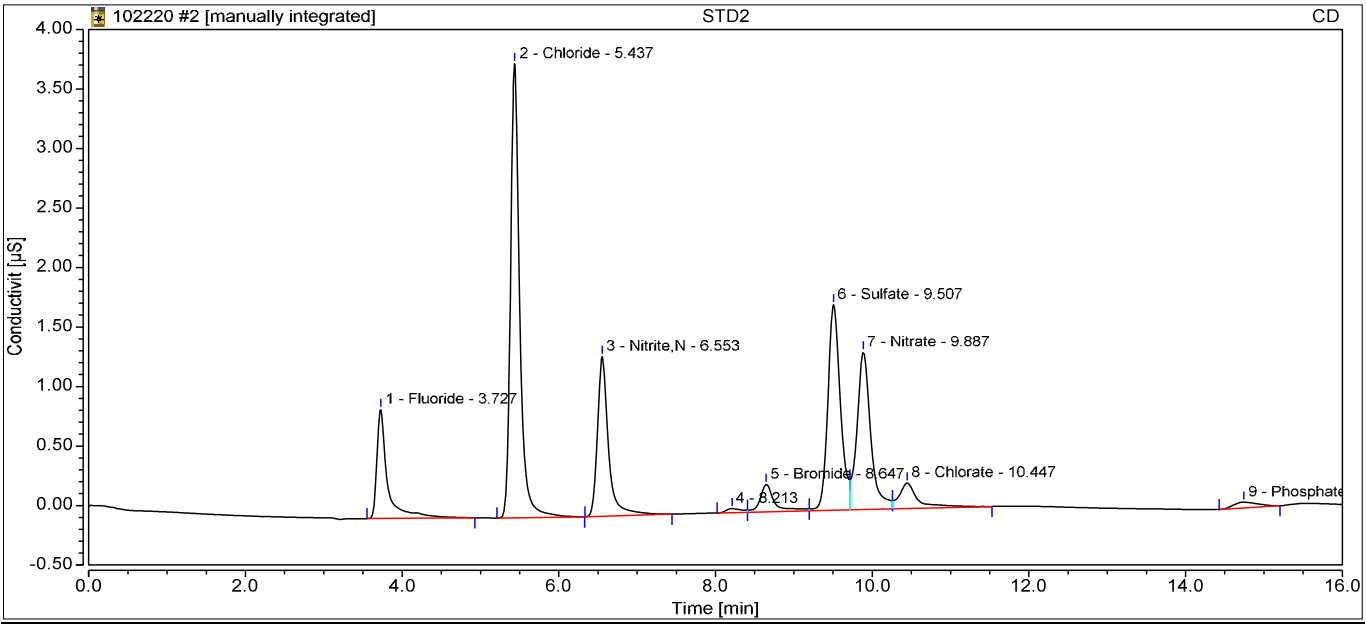


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.025	0.0833	0.0833	1.0000
2	5.44	Chloride	BMB	0.116	0.4487	0.4487	1.0000
3	6.55	Nitrite,N	BMB	0.052	0.0715	0.0715	1.0000
5	8.65	Bromide	M	0.018	0.0997	0.0997	1.0000
6	9.51	Sulfate	M	0.076	0.4861	0.4861	1.0000
7	9.89	Nitrate	M	0.075	0.0985	0.0985	1.0000
8	10.45	Chlorate	MB	0.021	0.0734	0.0734	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.384**		**1.36**	

2 STD2			
Sample Name:	**STD2**	*Injection Volume:*	**5.00**
Vial Number:	**BD2**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 11:04**	*Sample Weight:*	**1.0000**

Run Time:

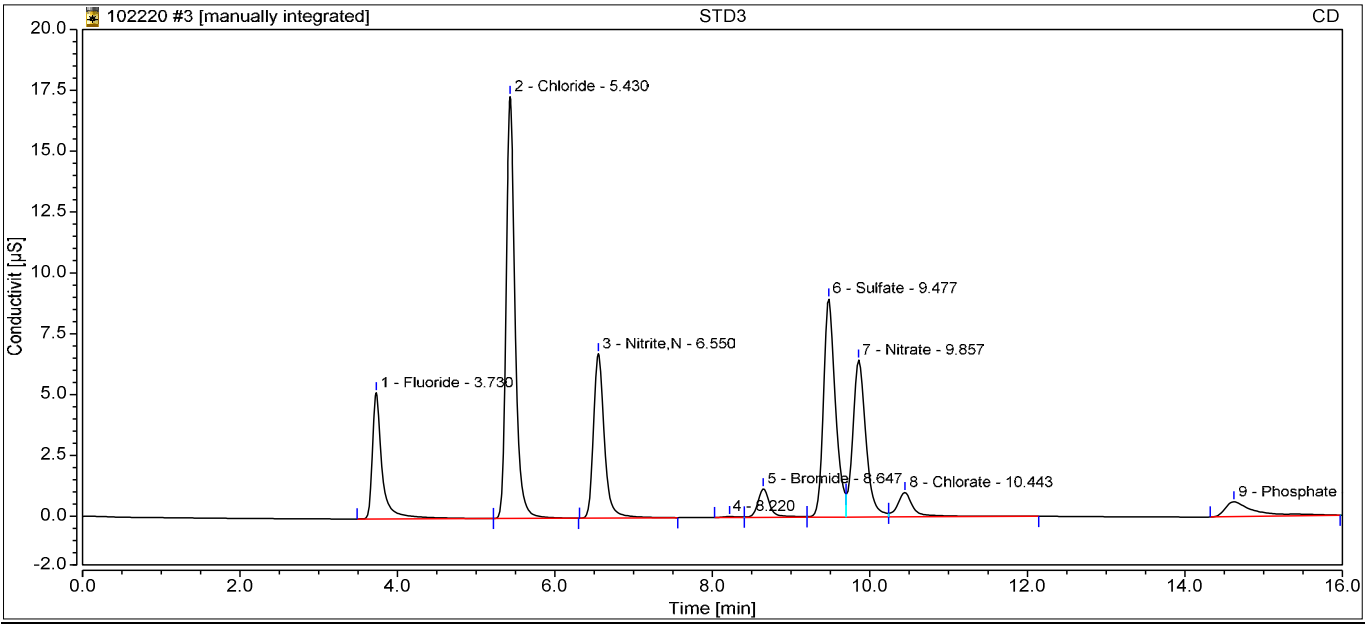


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.145	0.4204	0.4204	1.0000
2	5.44	Chloride	BMB	0.518	2.2084	2.2084	1.0000
3	6.55	Nitrite,N	BMB	0.221	0.4294	0.4294	1.0000
5	8.65	Bromide	M	0.049	0.4041	0.4041	1.0000
6	9.51	Sulfate	M	0.321	2.0151	2.0151	1.0000
7	9.89	Nitrate	M	0.270	0.4147	0.4147	1.0000
8	10.45	Chlorate	MB	0.060	0.4536	0.4536	1.0000
9	14.74	Phosphate	BMB	0.018	0.4703	0.4703	1.0000
Total:			**0.000**	**1.601**		**6.82**	

3 STD3			
Sample Name:	**STD3**	*Injection Volume:*	**5.00**
Vial Number:	**BD3**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 11:22**	*Sample Weight:*	**1.0000**

Run Time:



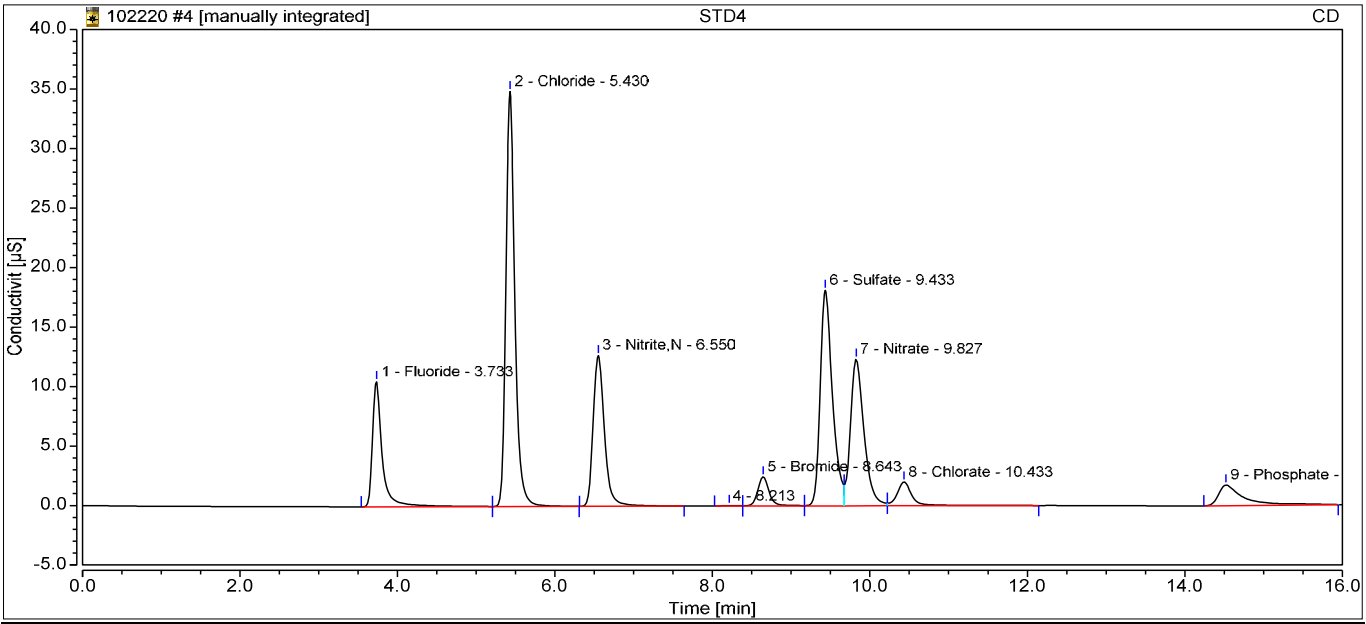
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.745	2.1166	2.1166	1.0000
2	5.43	Chloride	BMB	2.291	9.9533	9.9533	1.0000
3	6.55	Nitrite,N	BMB	1.077	2.2460	2.2460	1.0000
5	8.65	Bromide	M	0.209	1.9882	1.9882	1.0000
6	9.48	Sulfate	M	1.595	9.9688	9.9688	1.0000
7	9.86	Nitrate	M	1.238	1.9883	1.9883	1.0000
8	10.44	Chlorate	MB	0.239	2.2038	2.2038	1.0000
9	14.62	Phosphate	BM *	0.269	1.7634	1.7634	1.0000
Total:			**0.000**	**7.661**		**32.23**	

4 STD4

Sample Name:	**STD4**	*Injection Volume:*	**5.00**
Vial Number:	**BD4**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 11:40**	*Sample Weight:*	**1.0000**

Run Time:

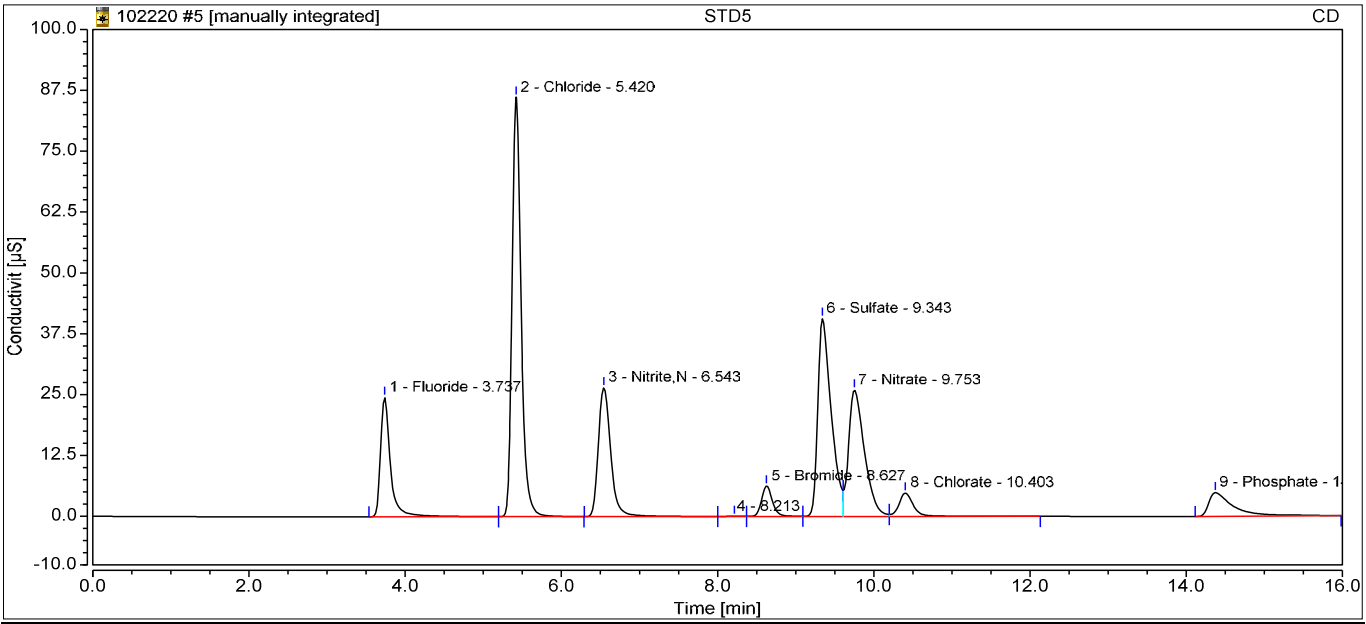


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	1.504	4.2630	4.2630	1.0000
2	5.43	Chloride	BMB	4.613	20.0986	20.0986	1.0000
3	6.55	Nitrite,N	BMB*	2.104	4.4276	4.4276	1.0000
5	8.64	Bromide	M	0.411	3.9946	3.9946	1.0000
6	9.43	Sulfate	M	3.273	20.4465	20.4465	1.0000
7	9.83	Nitrate	M	2.444	3.9482	3.9482	1.0000
8	10.43	Chlorate	MB	0.443	4.2079	4.2079	1.0000
9	14.52	Phosphate	BM *	0.648	3.7157	3.7157	1.0000
Total:			**0.000**	**15.439**		**65.10**	

5 STD5			
Sample Name:	**STD5**	*Injection Volume:*	**5.00**
Vial Number:	**BD5**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 11:58**	*Sample Weight:*	**1.0000**

Run Time:



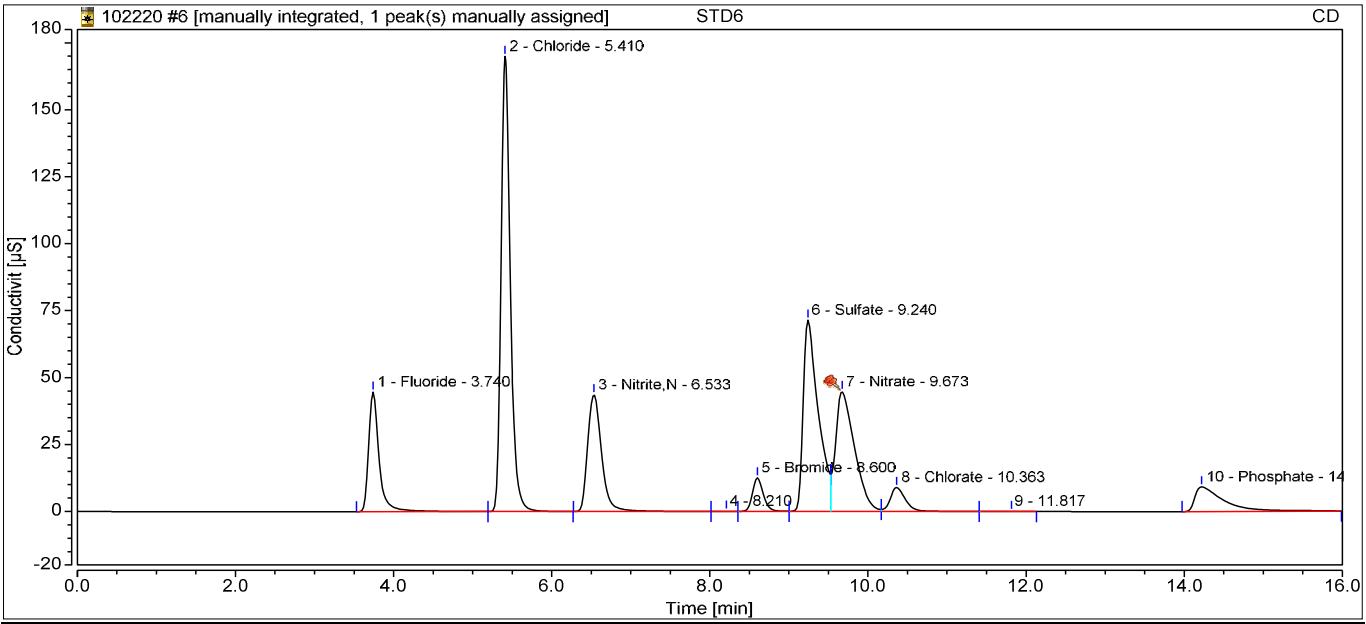
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.611	10.2228	10.2228	1.0000
2	5.42	Chloride	BMB	11.462	50.0272	50.0272	1.0000
3	6.54	Nitrite,N	BMB	4.877	10.3135	10.3135	1.0000
5	8.63	Bromide	M	1.014	9.9796	9.9796	1.0000
6	9.34	Sulfate	M	8.089	50.5200	50.5200	1.0000
7	9.75	Nitrate	M	6.097	9.8832	9.8832	1.0000
8	10.40	Chlorate	MB	1.032	9.9918	9.9918	1.0000
9	14.37	Phosphate	BM *	1.834	9.8223	9.8223	1.0000
Total:			**0.000**	**38.017**		**160.76**	

6 STD6

Sample Name:	**STD6**	*Injection Volume:*	**5.00**
Vial Number:	**BD6**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 12:16**	*Sample Weight:*	**1.0000**

Run Time:



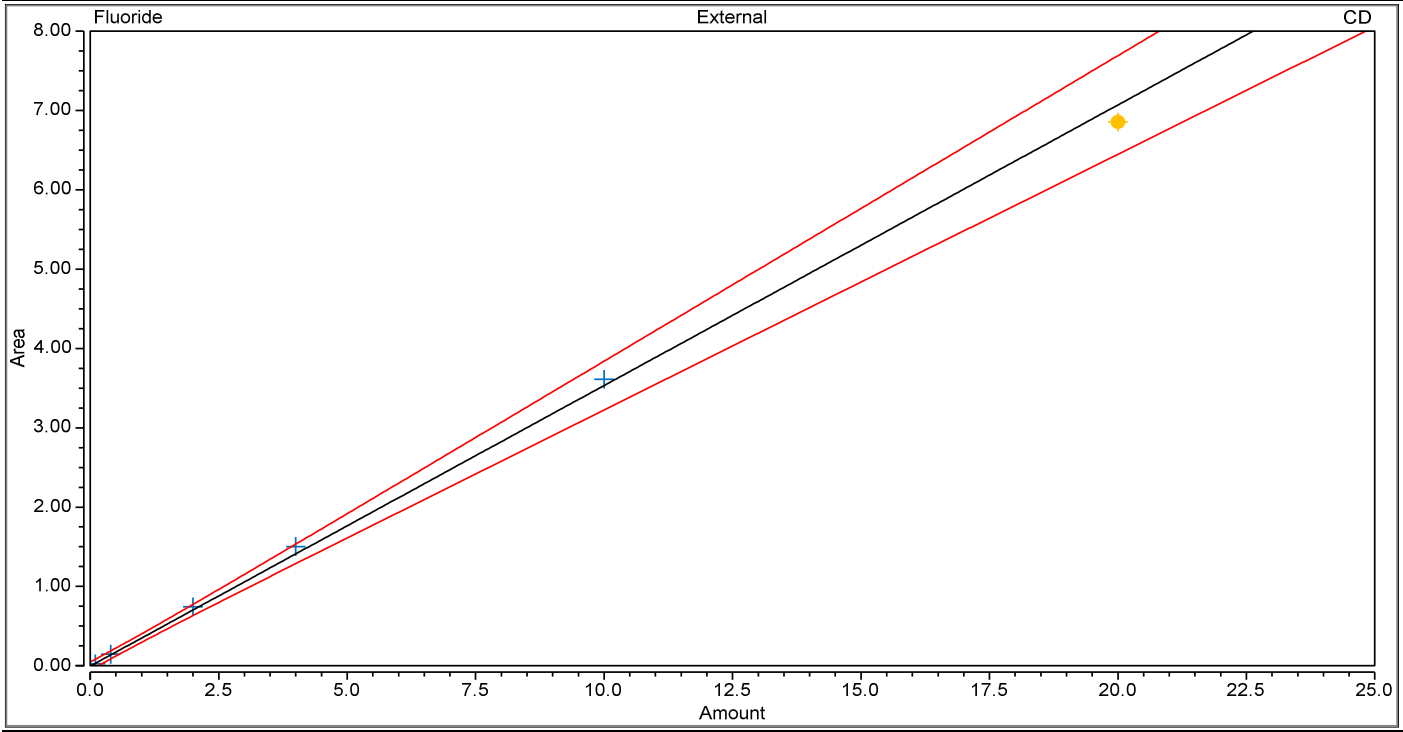
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	6.855	19.3940	19.3940	1.0000
2	5.41	Chloride	BMB	22.844	99.7639	99.7639	1.0000
3	6.53	Nitrite,N	BMB	8.975	19.0121	19.0121	1.0000
5	8.60	Bromide	M	2.028	20.0338	20.0338	1.0000
6	9.24	Sulfate	M	15.864	99.0635	99.0635	1.0000
7	9.67	Nitrate	M ^	12.426	20.1671	20.1671	1.0000
8	10.36	Chlorate	M	2.009	19.5694	19.5694	1.0000
10	14.22	Phosphate	BM *	3.933	20.6283	20.6283	1.0000
Total:			**0.000**	**74.933**		**317.63**	

Calibration

Calibration Details	Fluoride		
Calibration Type	Lin, WithOffset, 1/A	*Offset (C0)*	-0.0040
Evaluation Type	Area	*Slope (C1)*	0.3537
Number of Calibration Points	6	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.9985

Calibration Plot **Fluoride**

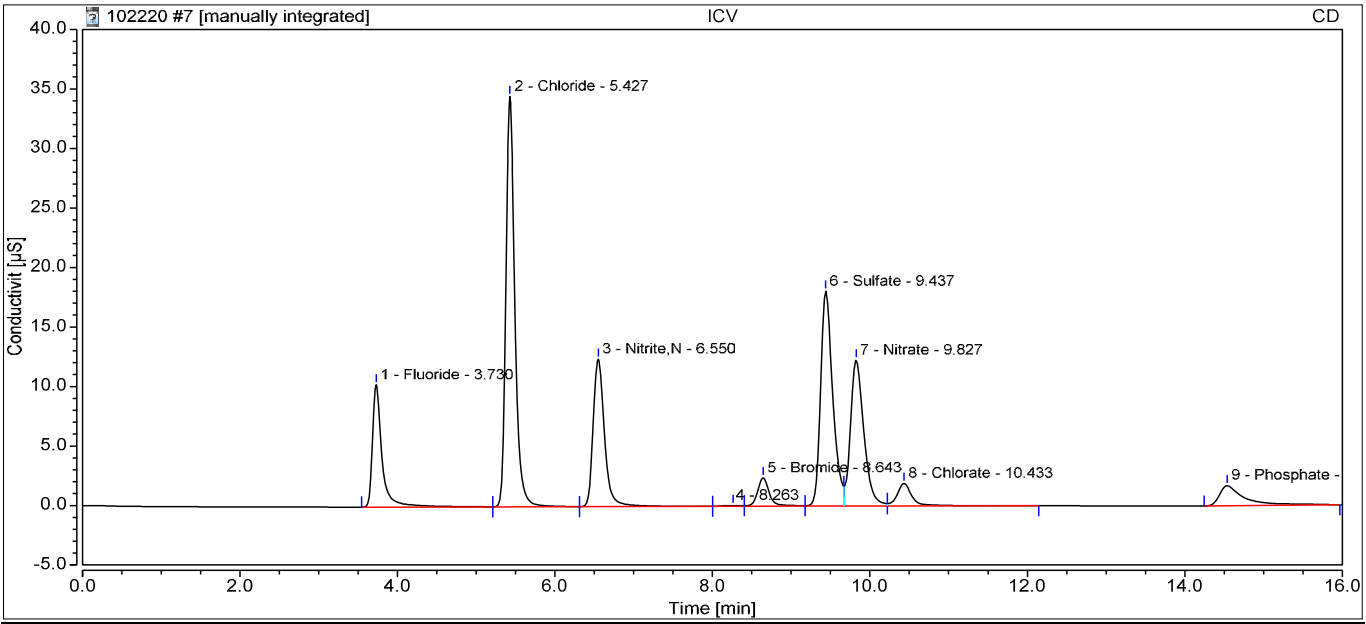


Calibration Results **Fluoride**

No.	Injection Name	Calibration Level	X Value CD Fluoride	Y Value CD Fluoride	Y Value CD Fluoride	Area µS*min CD Fluoride	Height µS CD Fluoride
1	STD1	1	0.1000	0.0254	0.0254	0.025	0.197
2	STD2	2	0.4000	0.1446	0.1446	0.145	0.916
3	STD3	3	2.0000	0.7445	0.7445	0.745	5.182
4	STD4	4	4.0000	1.5036	1.5036	1.504	10.507
5	STD5	5	10.0000	3.6113	3.6113	3.611	24.538
6	STD6	6	20.0000	6.8547	6.8547	6.855	44.677

7 ICV			
Sample Name:	**ICV**	*Injection Volume:*	**5.00**
Vial Number:	**BD7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 12:34**	*Sample Weight:*	**1.0000**

Run Time:



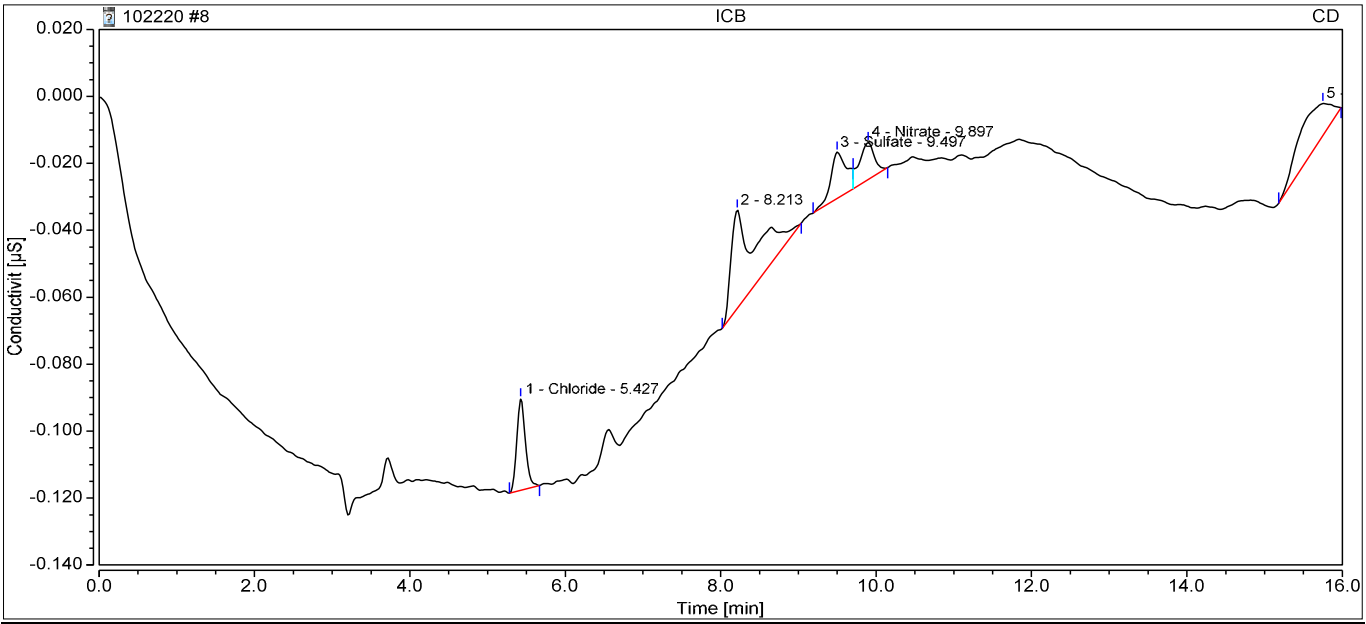
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	1.447	4.1020	4.1020	1.0000
2	5.43	Chloride	BMB	4.553	19.8399	19.8399	1.0000
3	6.55	Nitrite,N	BMB	2.061	4.3359	4.3359	1.0000
5	8.64	Bromide	M	0.413	4.0106	4.0106	1.0000
6	9.44	Sulfate	M	3.227	20.1622	20.1622	1.0000
7	9.83	Nitrate	M	2.405	3.8850	3.8850	1.0000
8	10.43	Chlorate	MB	0.422	4.0019	4.0019	1.0000
9	14.54	Phosphate	BM *	0.631	3.6292	3.6292	1.0000
Total:			**0.000**	**15.159**		**63.97**	

8 ICB

Sample Name:	**ICB**	*Injection Volume:*	**5.00**
Vial Number:	**BD8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 12:52**	*Sample Weight:*	**1.0000**

Run Time:



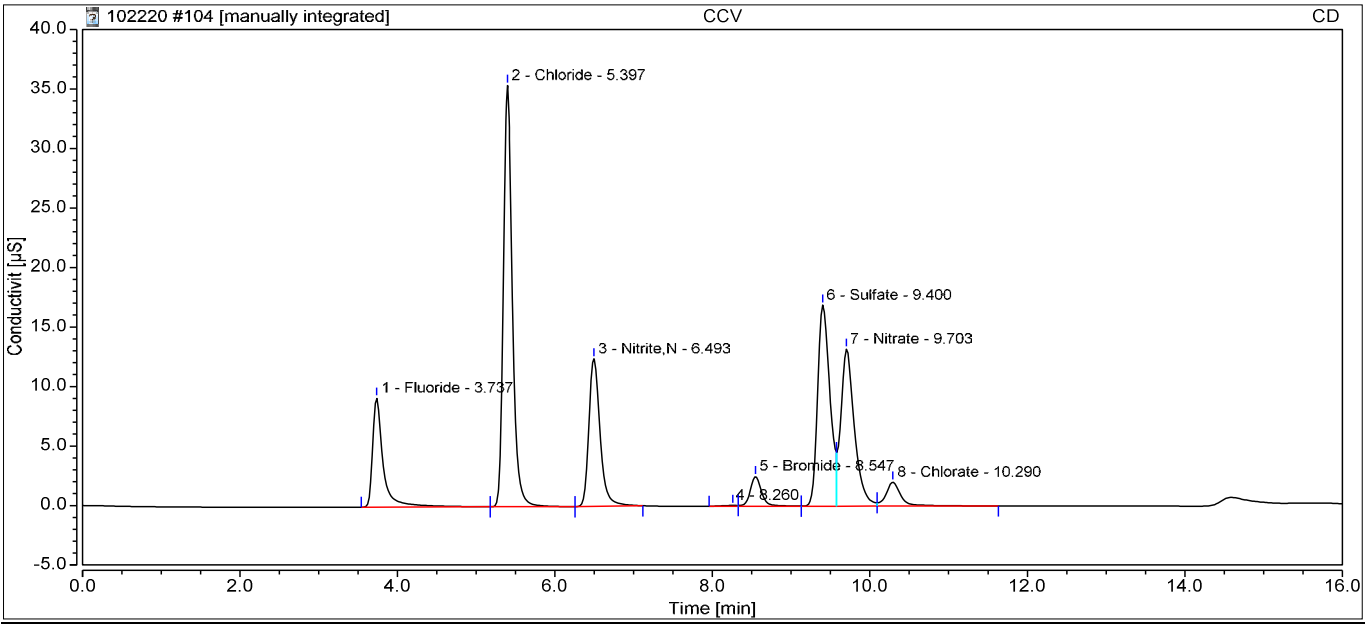
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.43	Chloride	BMB	0.004	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
3	9.50	Sulfate	BM	0.003	0.0318	0.0318	1.0000
4	9.90	Nitrate	MB	0.003	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.009**		**0.03**	

104 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**BA2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/23/2020 13:16**	*Sample Weight:*	**1.0000**

Run Time:



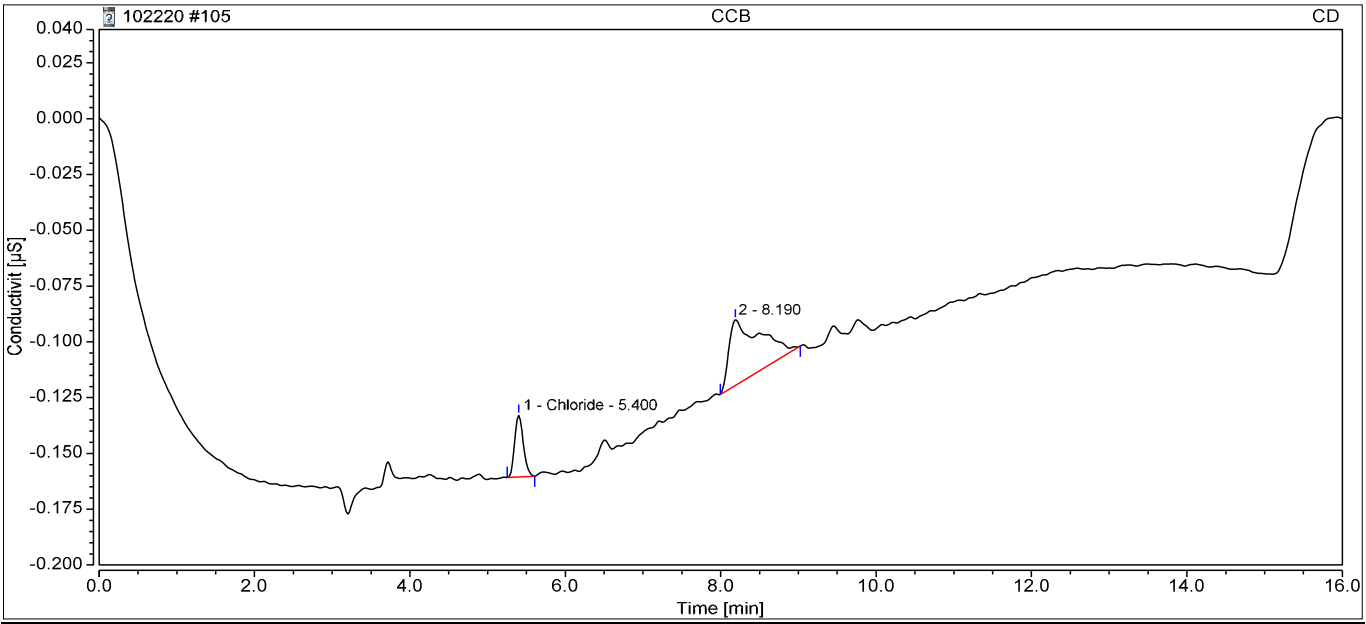
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.432	4.0612	4.0612	1.0000
2	5.40	Chloride	BMB	4.689	20.4326	20.4326	1.0000
3	6.49	Nitrite,N	BMB*	2.060	4.3330	4.3330	1.0000
5	8.55	Bromide	M	0.419	4.0751	4.0751	1.0000
6	9.40	Sulfate	M	3.059	19.1118	19.1118	1.0000
7	9.70	Nitrate	M	2.665	4.3068	4.3068	1.0000
8	10.29	Chlorate	MB	0.444	4.2217	4.2217	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**14.768**		**60.54**	

105 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/23/2020 13:34**	*Sample Weight:*	**1.0000**

Run Time:



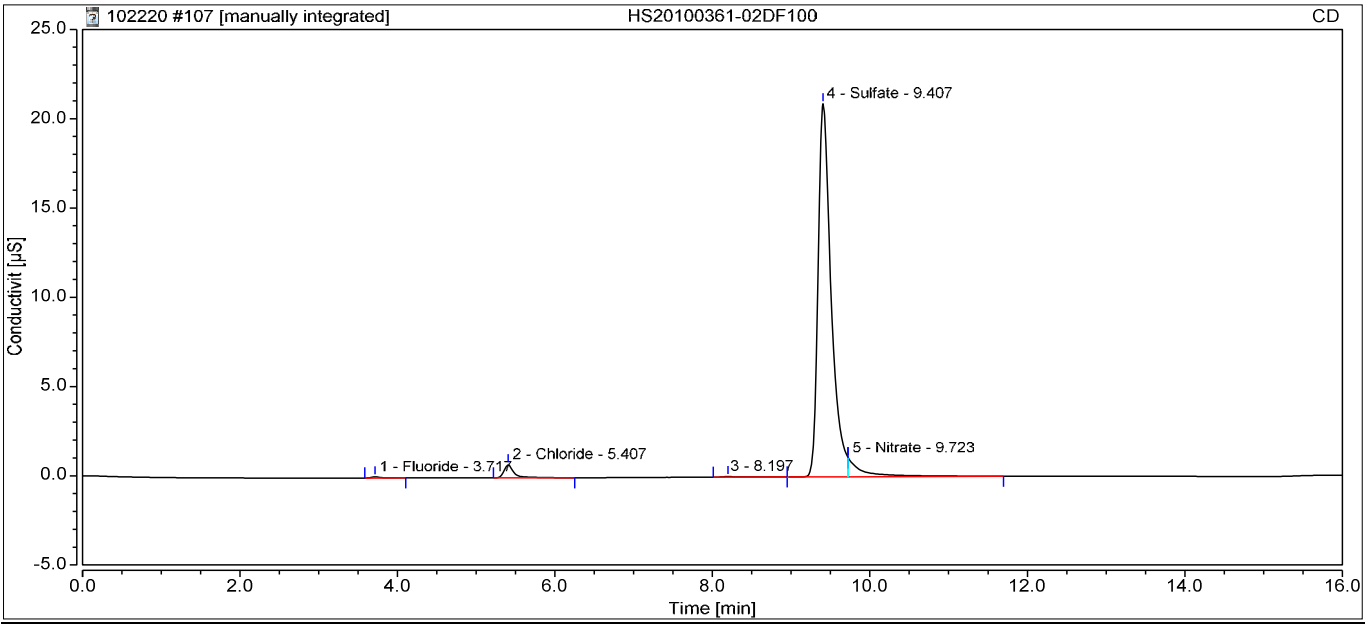
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.40	Chloride	BMB	0.004	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.004**		**0.00**	

107 HS20100361-02DF100

Sample Name:	**HS20100361-02DF100**	*Injection Volume:*	**5.00**
Vial Number:	**RD6**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**100.0000**
Recording Time:	**10/23/2020 14:10**	*Sample Weight:*	**1.0000**

Run Time:



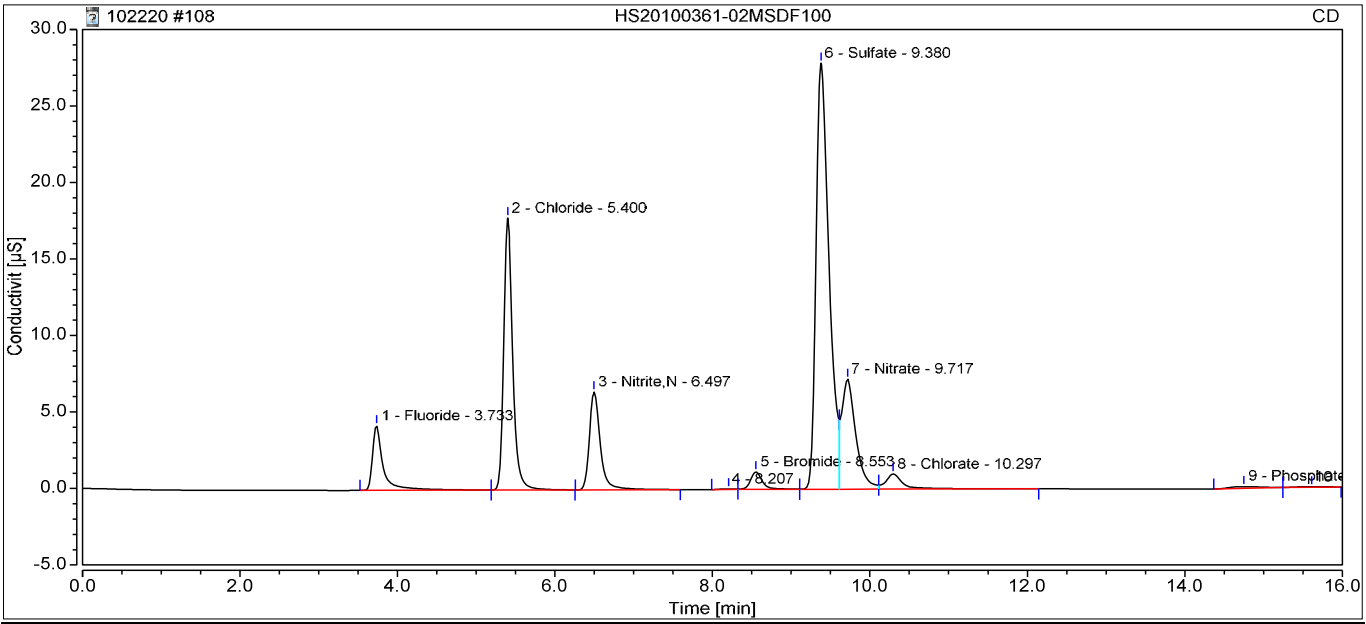
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.008	0.0349	3.4896	100.0000
2	5.41	Chloride	BMB	0.113	0.4358	43.5840	100.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	100.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	100.0000
4	9.41	Sulfate	M *	3.980	24.8654	2486.5444	100.0000
5	9.72	Nitrate	MB*	0.215	0.3254	32.5364	100.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	100.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	100.0000
Total:			**0.000**	**4.316**		**2566.15**	

108 HS20100361-02MSDF100

Sample Name:	**HS20100361-02MSDF100**	*Injection Volume:*	**5.00**
Vial Number:	**RD7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**100.0000**
Recording Time:	**10/23/2020 14:28**	*Sample Weight:*	**1.0000**

Run Time:



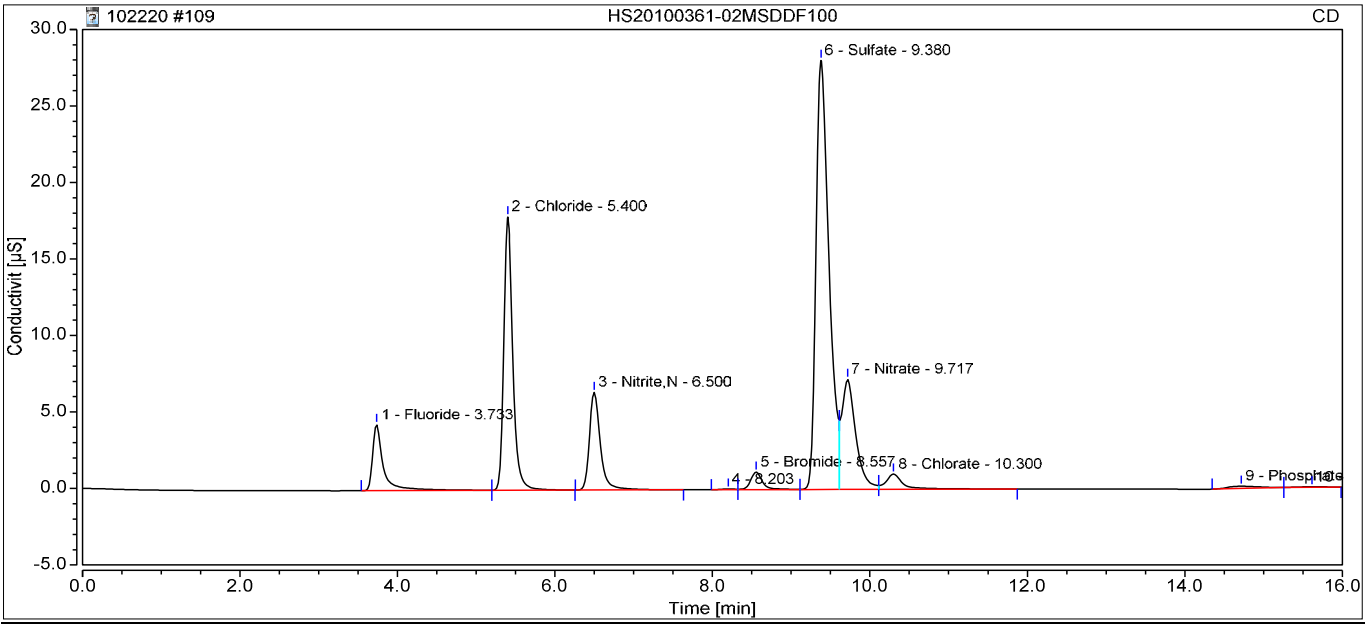
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.671	1.9090	190.9006	100.0000
2	5.40	Chloride	BMB	2.361	10.2610	1026.1011	100.0000
3	6.50	Nitrite,N	BMB	1.038	2.1638	216.3847	100.0000
5	8.55	Bromide	M	0.202	1.9246	192.4588	100.0000
6	9.38	Sulfate	M	5.297	33.0861	3308.6100	100.0000
7	9.72	Nitrate	M	1.505	2.4224	242.2377	100.0000
8	10.30	Chlorate	MB	0.266	2.4688	246.8805	100.0000
9	14.75	Phosphate	BMB	0.049	0.6293	62.9326	100.0000
Total:			**0.000**	**11.389**		**5486.51**	

109 HS20100361-02MSDDF100

Sample Name:	**HS20100361-02MSDDF100**	*Injection Volume:*	**5.00**
Vial Number:	**RD8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**100.0000**
Recording Time:	**10/23/2020 14:46**	*Sample Weight:*	**1.0000**

Run Time:



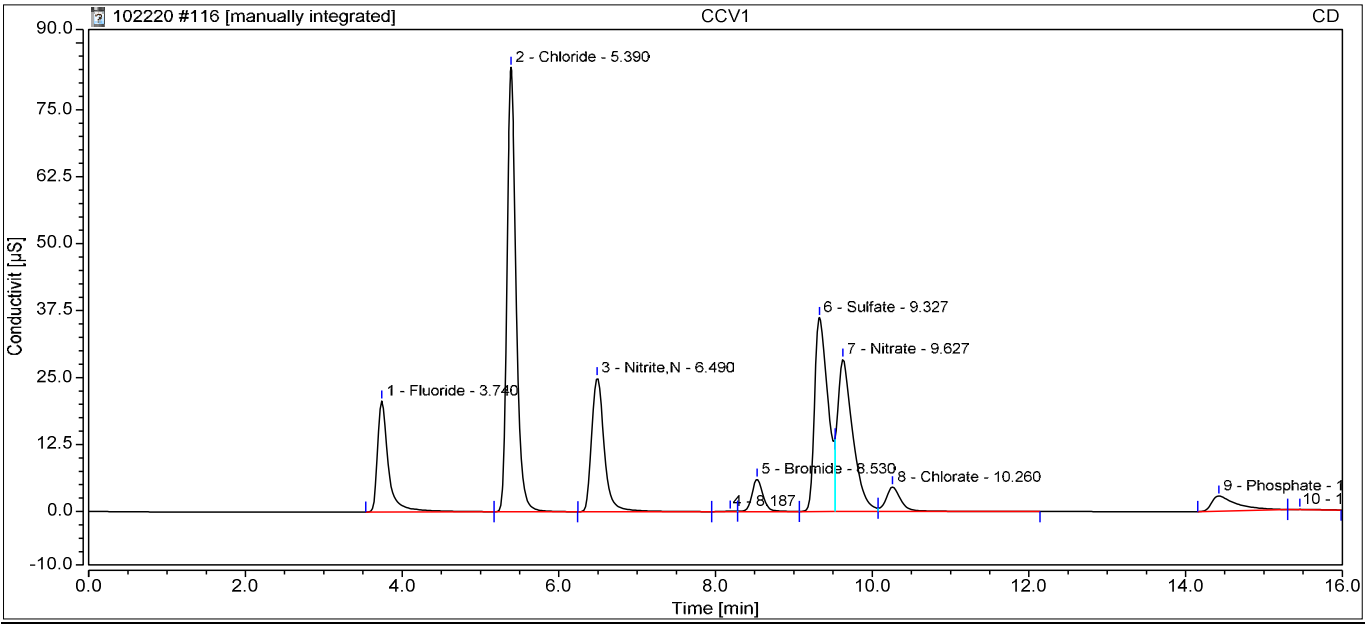
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.684	1.9442	194.4193	100.0000
2	5.40	Chloride	BMB	2.373	10.3125	1031.2456	100.0000
3	6.50	Nitrite,N	BMB	1.040	2.1683	216.8338	100.0000
5	8.56	Bromide	M	0.203	1.9358	193.5799	100.0000
6	9.38	Sulfate	M	5.348	33.4026	3340.2644	100.0000
7	9.72	Nitrate	M	1.501	2.4148	241.4848	100.0000
8	10.30	Chlorate	MB	0.260	2.4152	241.5154	100.0000
9	14.72	Phosphate	BMB	0.065	0.7147	71.4746	100.0000
Total:			**0.000**	**11.474**		**5530.82**	

116 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**BA4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/23/2020 16:53**	*Sample Weight:*	**1.0000**

Run Time:



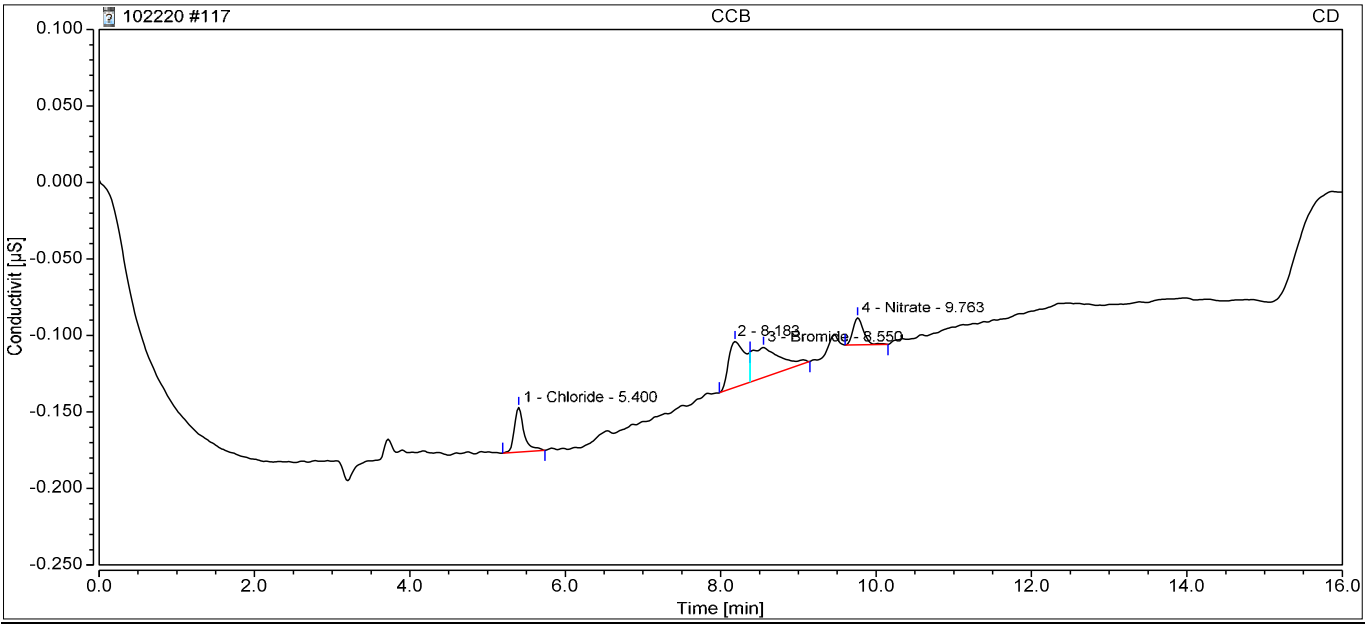
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.365	9.5269	9.5269	1.0000
2	5.39	Chloride	BMB	11.114	48.5056	48.5056	1.0000
3	6.49	Nitrite,N	BMB	4.672	9.8782	9.8782	1.0000
5	8.53	Bromide	M	0.999	9.8281	9.8281	1.0000
6	9.33	Sulfate	M *	7.238	45.2058	45.2058	1.0000
7	9.63	Nitrate	M *	6.404	10.3820	10.3820	1.0000
8	10.26	Chlorate	MB	1.031	9.9771	9.9771	1.0000
9	14.42	Phosphate	BMB	1.034	5.7017	5.7017	1.0000
Total:			**0.000**	**35.857**		**149.01**	

117 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/23/2020 17:11**	*Sample Weight:*	**1.0000**

Run Time:



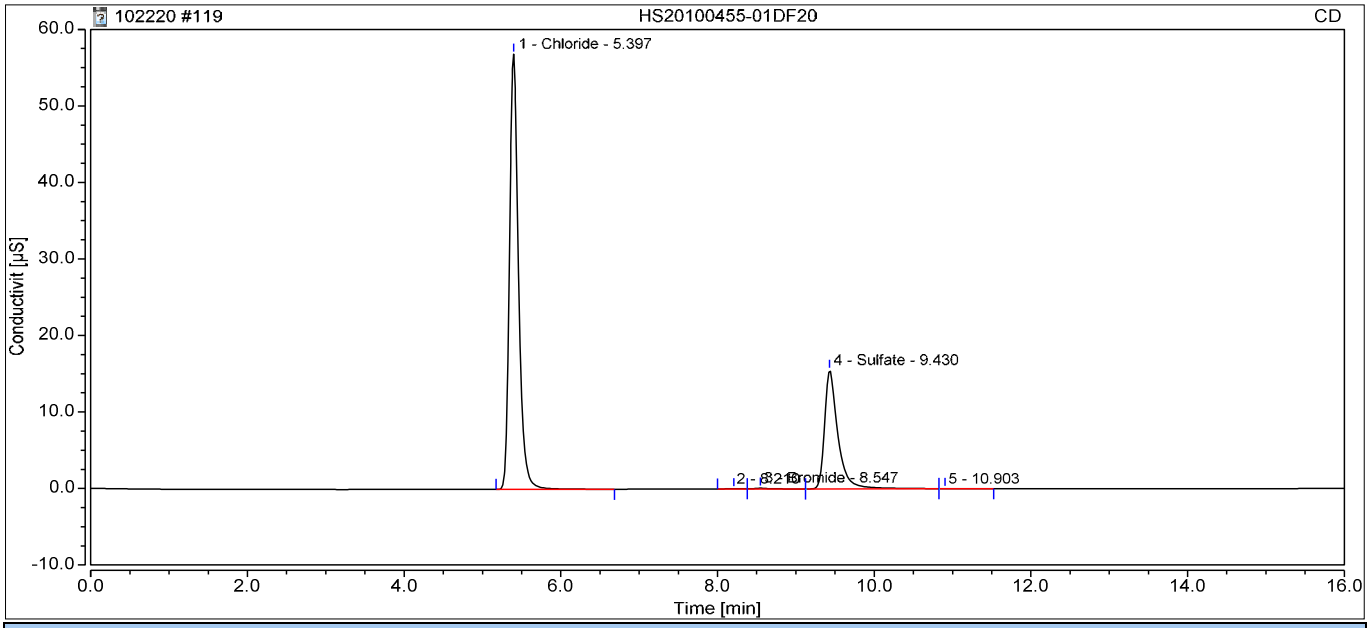
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.40	Chloride	BMB	0.004	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
3	8.55	Bromide	MB	0.008	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
4	9.76	Nitrate	BMB	0.003	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.015**		**0.00**	

119 HS20100455-01DF20

Sample Name:	**HS20100455-01DF20**	*Injection Volume:*	**5.00**
Vial Number:	**RE3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**20.0000**
Recording Time:	**10/23/2020 17:47**	*Sample Weight:*	**1.0000**

Run Time:



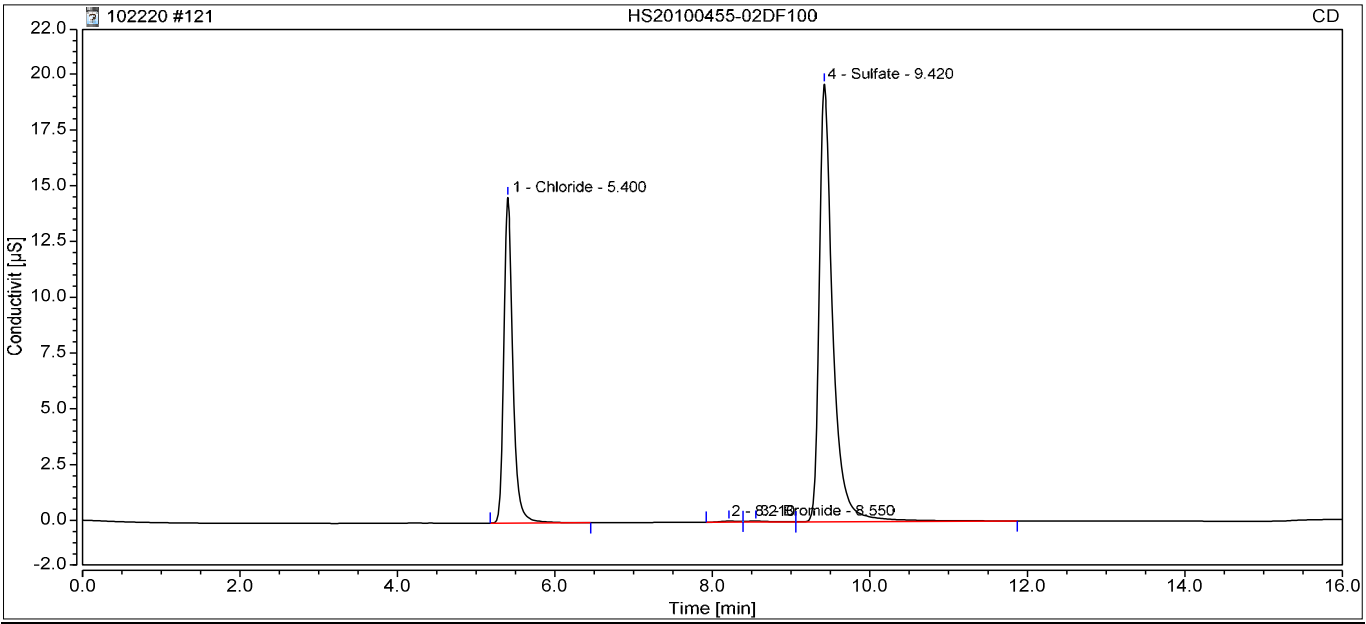
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	20.0000
1	5.40	Chloride	BMB	7.619	33.2337	664.6746	20.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	20.0000
3	8.55	Bromide	M	0.027	0.1875	3.7497	20.0000
4	9.43	Sulfate	M	3.066	19.1585	383.1699	20.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	20.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	20.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	20.0000
Total:			**0.000**	**10.712**		**1051.59**	

121 HS20100455-02DF100

Sample Name:	**HS20100455-02DF100**	*Injection Volume:*	**5.00**
Vial Number:	**RE4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**100.0000**
Recording Time:	**10/23/2020 18:23**	*Sample Weight:*	**1.0000**

Run Time:



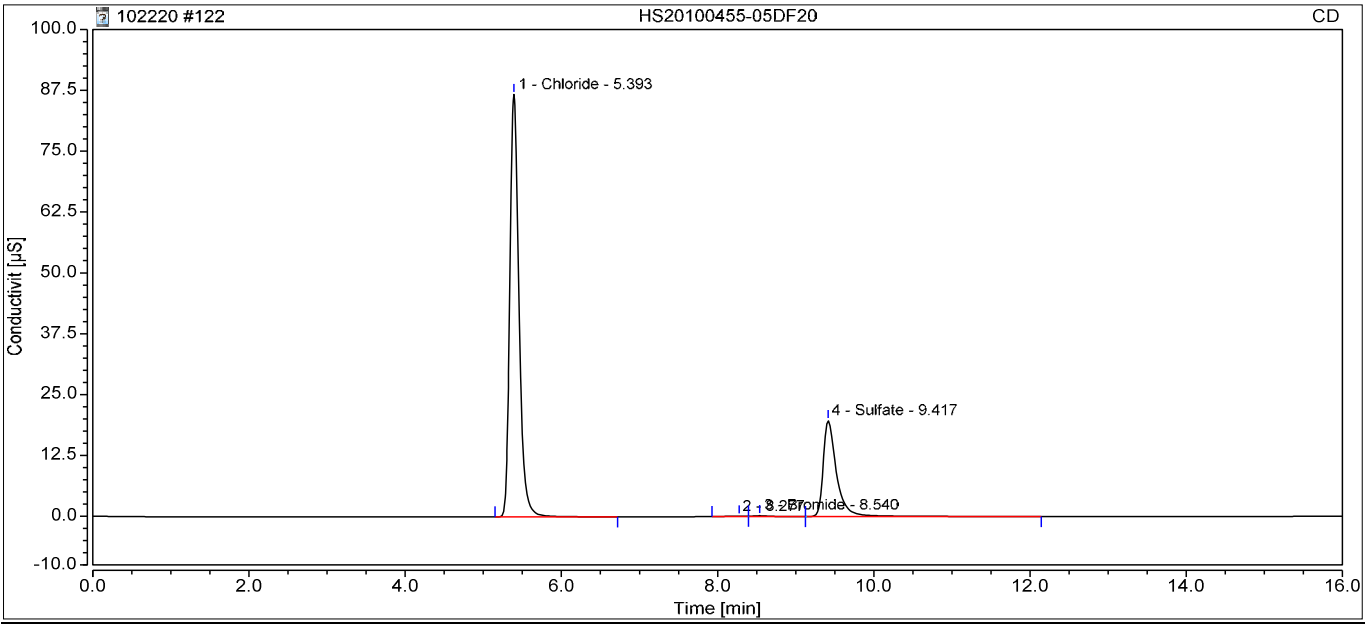
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	100.0000
1	5.40	Chloride	BMB	1.961	8.5119	851.1899	100.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	100.0000
3	8.55	Bromide	M	0.016	0.0723	7.2305	100.0000
4	9.42	Sulfate	MB	3.913	24.4466	2444.6594	100.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	100.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	100.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	100.0000
Total:			**0.000**	**5.890**		**3303.08**	

122 HS20100455-05DF20

Sample Name:	**HS20100455-05DF20**	*Injection Volume:*	**5.00**
Vial Number:	**RE5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**20.0000**
Recording Time:	**10/23/2020 18:41**	*Sample Weight:*	**1.0000**

Run Time:



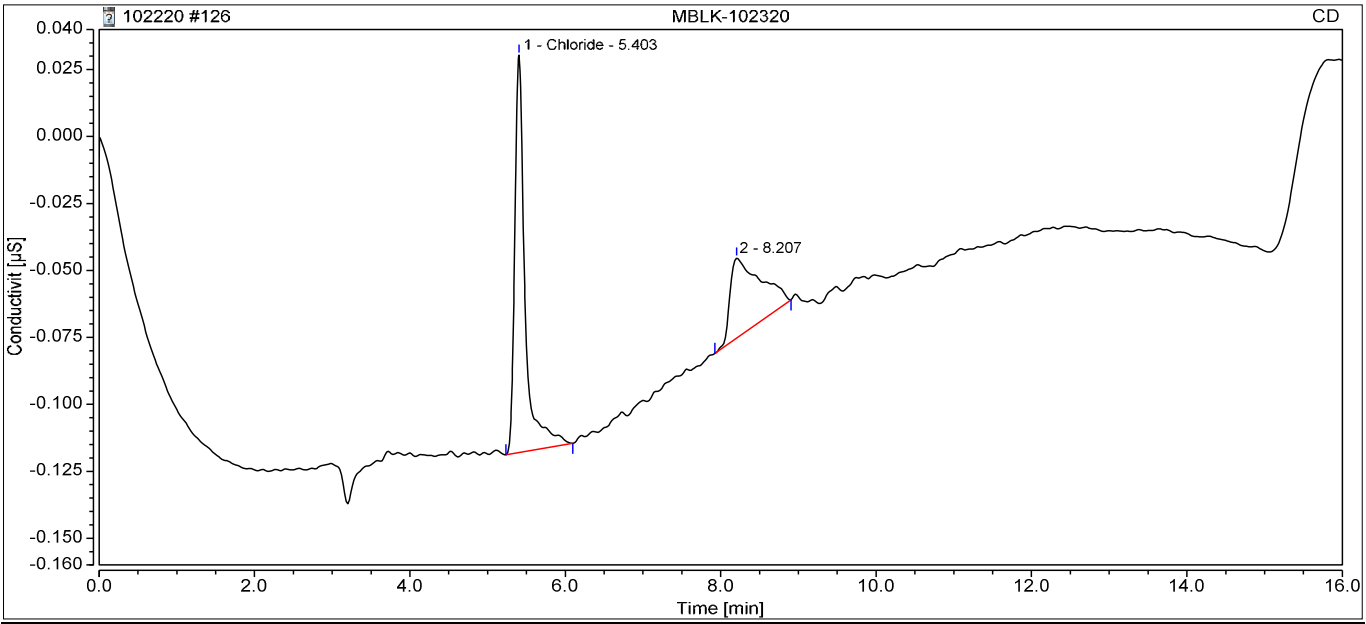
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	20.0000
1	5.39	Chloride	BMB	11.685	51.0029	1020.0578	20.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	20.0000
3	8.54	Bromide	M	0.057	0.4798	9.5955	20.0000
4	9.42	Sulfate	MB	3.928	24.5402	490.8031	20.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	20.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	20.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	20.0000
Total:			**0.000**	**15.670**		**1520.46**	

126 MBLK-102320

Sample Name:	**MBLK-102320**	*Injection Volume:*	**5.00**
Vial Number:	**BA7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/23/2020 19:53**	*Sample Weight:*	**1.0000**

Run Time:



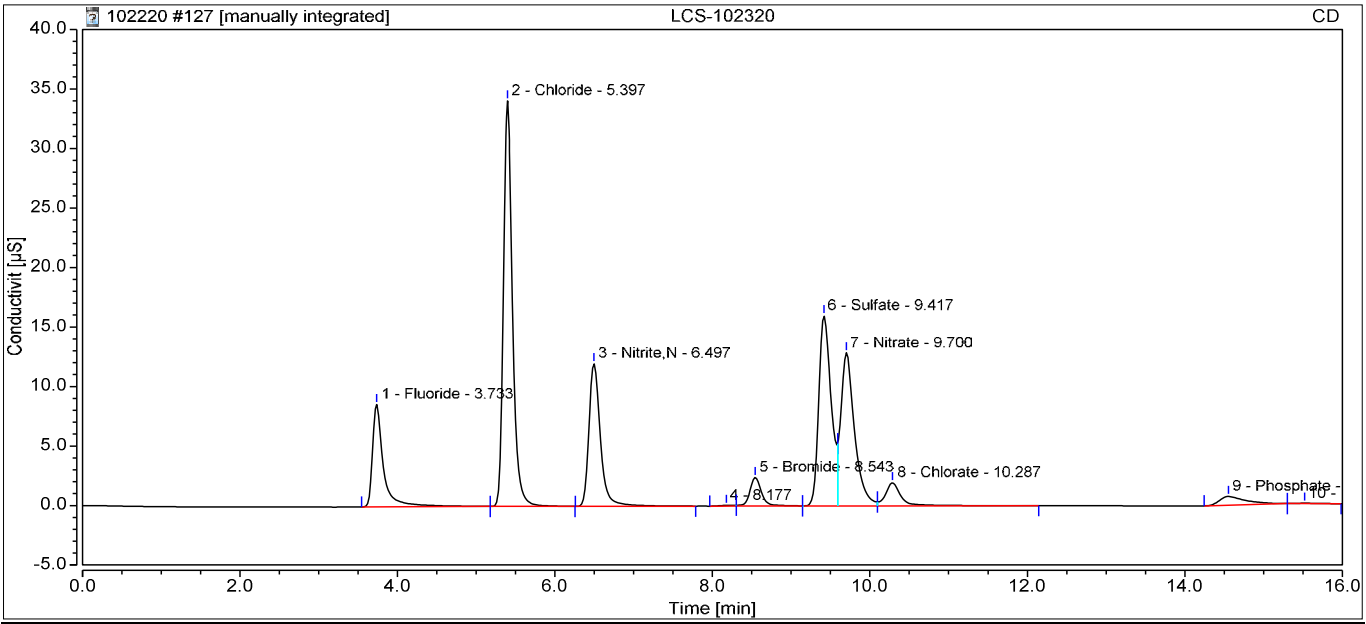
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.40	Chloride	BMB	0.023	0.0431	0.0431	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.023**		**0.04**	

127 LCS-102320

Sample Name:	**LCS-102320**	*Injection Volume:*	**5.00**
Vial Number:	**BA8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/23/2020 20:11**	*Sample Weight:*	**1.0000**

Run Time:



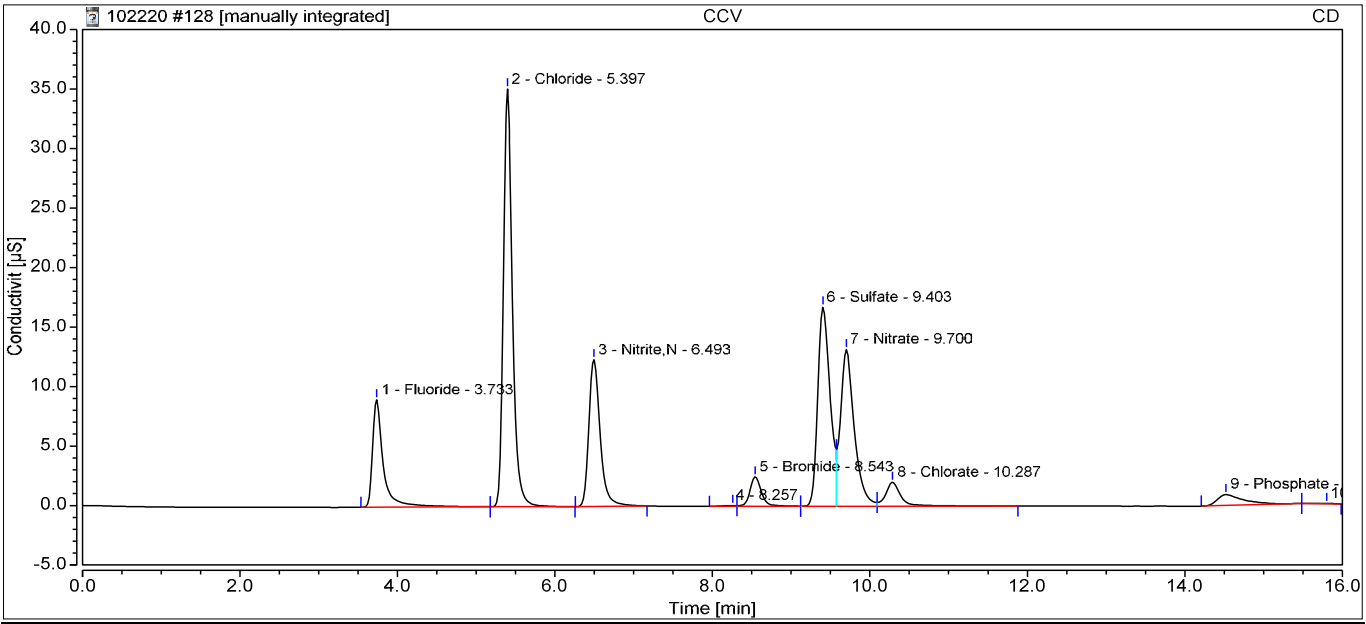
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	1.387	3.9343	3.9343	1.0000
2	5.40	Chloride	BMB	4.554	19.8412	19.8412	1.0000
3	6.50	Nitrite,N	BMB	2.045	4.3021	4.3021	1.0000
5	8.54	Bromide	M	0.414	4.0285	4.0285	1.0000
6	9.42	Sulfate	M *	2.920	18.2450	18.2450	1.0000
7	9.70	Nitrate	M *	2.609	4.2157	4.2157	1.0000
8	10.29	Chlorate	MB	0.455	4.3285	4.3285	1.0000
9	14.55	Phosphate	BMB	0.283	1.8378	1.8378	1.0000
Total:			**0.000**	**14.668**		**60.73**	

128 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**BA2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/23/2020 20:29**	*Sample Weight:*	**1.0000**

Run Time:



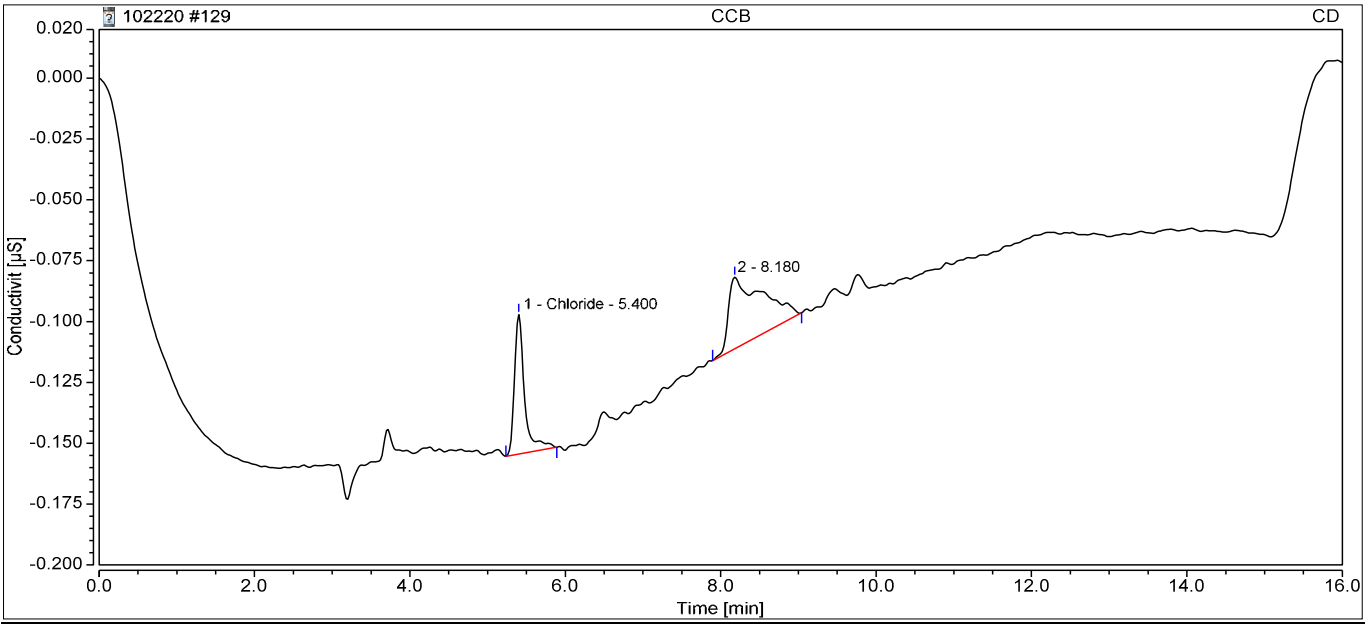
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	1.433	4.0626	4.0626	1.0000
2	5.40	Chloride	BMB	4.690	20.4360	20.4360	1.0000
3	6.49	Nitrite,N	BMB*	2.070	4.3556	4.3556	1.0000
5	8.54	Bromide	M	0.421	4.0946	4.0946	1.0000
6	9.40	Sulfate	M	3.030	18.9295	18.9295	1.0000
7	9.70	Nitrate	M	2.682	4.3349	4.3349	1.0000
8	10.29	Chlorate	MB	0.453	4.3038	4.3038	1.0000
9	14.52	Phosphate	BMB	0.355	2.2090	2.2090	1.0000
Total:			**0.000**	**15.134**		**62.73**	

129 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/23/2020 20:47**	*Sample Weight:*	**1.0000**

Run Time:



Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.40	Chloride	BMB	0.009	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.009**		**0.00**	

HS20100455 Wet Chem Raw Data (ALK_W 2320B)

ALS WO# HS20100455

Report Date: 10/13/2020 : 2:21

PC-TitratION PLUS
Calibration Report

Calibration Record # 2290

Calibration Settings

Calibration ID	PH CAL 4-7-10	Date	10/13/2020
Channel	1	Time	2:21 PM
Probe Type	pH	Temperature	295.47 K 22.32 C
Probe ID	PH ELECTRODE	Analysis Type	Single Line Fit

Calibration Results

Slope	-58.348	CorrCoeff	0.9999
Intercept	4.353	Equation:	Y = (-58.348) X + (4.353)

Calibration Validity True Operator

	Result	Minimum	Maximum
Slope	-58.348	-65.00	-53.00
Intercept	4.353	-100.00	100.00
Correlation Coefficient	0.9999	0.99	1.00

Note: "True" means the calibration was within the specified ranges
"False" means the calibration was NOT within the specified ranges

Calibration Data	Standard	Reading
	4.00	180.66
	7.00	1.83
	10.00	-169.43

#370434 (A)

#370437 (B)

VALIDATED AC 10/14/20

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Report Date: 10/13/2020 : 11:03 PM

PC-TitratION PLUS
Water Analysis Report

Run Number 3931 **Order Number** 20201013-2

SampleID	RunDate	RunTime	Temp	cond (uS)	pH	palk-ppm	talk-ppm	bcarb-ppm	carb-ppm	hydr-ppm	mLs @ 8.3	mLs @ 4.5	mLs @ 4.2
ICV-PH	10/13/2020	2:45 PM	22.19	-1.00	6.03	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
TAP WATER	10/13/2020	2:52 PM	22.19	-1.00	7.84	.00	367.32	367.32	.00	.00	.00	3.50	3.50
WBLKW1-201013	10/13/2020	2:57 PM	22.17	-1.00	5.83	.00	.62	.62	.00	.00	.00	.02	.02
LCS1-201013	10/13/2020	3:06 PM	22.26	-1.00	10.94	536.67	1,028.66	.00	983.98	44.68	5.11	9.80	9.80
LCSD1-201013	10/13/2020	3:14 PM	22.26	-1.00	10.94	537.48	1,030.49	.00	986.01	44.48	5.12	9.81	9.81
HS20100431-01	10/13/2020	3:23 PM	22.17	-1.00	8.79	41.25	689.77	607.27	82.50	.00	.39	6.57	6.57
HS20100431-01DUP	10/13/2020	3:31 PM	22.16	-1.00	8.74	36.73	684.63	611.17	73.46	.00	.35	6.52	6.52
HS20100577-01	10/13/2020	3:38 PM	22.14	-1.00	8.05	.00	595.43	595.43	.00	.00	.00	5.67	5.67
HS20100578-01	10/13/2020	3:45 PM	22.22	-1.00	8.58	20.41	474.33	433.52	40.81	.00	.19	4.52	4.52
HS20100578-02	10/13/2020	3:51 PM	22.17	-1.00	7.20	.00	123.98	123.98	.00	.00	.00	1.18	1.18
HS20100520-01	10/13/2020	3:58 PM	22.22	-1.00	8.15	.00	85.32	85.32	.00	.00	.00	.81	.81
CCV-PH	10/13/2020	4:01 PM	22.25	-1.00	7.05	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
CCV-ALK	10/13/2020	4:09 PM	22.14	-1.00	10.93	527.47	1,027.06	.00	999.17	27.89	5.02	9.78	9.78
DI RINSE	10/13/2020	4:14 PM	22.22	-1.00	6.09	.00	.52	.52	.00	.00	.00	.02	.02
HS20100520-02DF2	10/13/2020	4:22 PM	22.22	-1.00	10.08	243.94	718.12	230.25	487.88	.00	2.32	6.84	6.84
HS20100520-03DF10	10/13/2020	4:32 PM	22.20	-1.00	10.64	705.87	1,462.59	50.85	1,411.74	.00	6.72	13.93	13.93
HS20100520-04DF2	10/13/2020	4:42 PM	22.26	-1.00	8.51	37.23	1,309.35	1,234.89	74.47	.00	.35	12.47	12.47
HS20100520-05	10/13/2020	4:49 PM	22.16	-1.00	8.42	9.29	371.50	352.92	18.58	.00	.09	3.54	3.54
HS20100520-06DF2	10/13/2020	4:58 PM	22.11	-1.00	10.22	249.96	628.91	128.99	499.92	.00	2.38	5.99	5.99
HS20100520-07DF20	10/13/2020	5:07 PM	22.19	-1.00	11.07	571.88	1,102.14	.00	1,060.52	41.62	5.45	10.50	10.50
HS20100520-08DF20	10/13/2020	5:18 PM	22.22	-1.00	11.67	871.60	1,280.15	.00	817.10	463.05	8.30	12.19	12.19
HS20100520-09DF20	10/13/2020	5:28 PM	22.16	-1.00	11.61	844.25	1,305.40	.00	922.31	383.09	8.04	12.43	12.43
HS20100431-02	10/13/2020	5:38 PM	22.14	-1.00	8.76	77.91	1,300.74	1,144.92	155.82	.00	.74	12.39	12.39
CCV-PH	10/13/2020	5:41 PM	22.05	-1.00	7.04	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
CCV-ALK	10/13/2020	5:49 PM	22.02	-1.00	10.88	519.96	1,024.43	.00	1,008.93	15.50	4.95	9.76	9.76
DI RINSE	10/13/2020	5:54 PM	22.08	-1.00	6.09	.00	.87	.87	.00	.00	.00	.03	.03
HS20100431-03	10/13/2020	6:05 PM	22.10	-1.00	8.59	54.18	1,320.68	1,212.33	108.35	.00	.52	12.58	12.58

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Run Number 3931 **Order Number** 20201013-2

SampleID	RunDate	RunTime	Temp	cond (uS)	pH	palk-ppm	talk-ppm	bcarb-ppm	carb-ppm	hydr-ppm	mLs @ 8.3	mLs @ 4.5	mLs @ 4.2
HS20100431-04	10/13/2020	6:16 PM	22.08	-1.00	8.67	90.68	1,600.47	1,419.11	181.37	.00	.86	15.24	15.24
HS20100431-05	10/13/2020	6:27 PM	22.16	-1.00	8.64	84.07	1,592.66	1,424.53	168.13	.00	.80	15.17	15.17
HS20100431-06	10/13/2020	6:36 PM	22.05	-1.00	8.45	26.65	990.63	937.32	53.31	.00	.25	9.43	9.43
HS20100585-01DF200	10/13/2020	6:48 PM	22.08	-1.00	11.55	621.29	1,807.17	564.59	1,242.58	.00	5.92	17.21	17.21
NR HS20100585-01DF500	10/13/2020	6:56 PM	22.08	-1.00	11.31	245.80	708.82	217.22	491.61	.00	2.34	6.75	6.75
HS20100587-01DF200	10/13/2020	7:05 PM	22.16	-1.00	10.68	158.27	425.18	108.65	316.53	.00	1.51	4.05	4.05
NR HS20100585-01DF500	10/13/2020	7:13 PM	22.19	-1.00	10.52	60.75	170.94	49.43	121.51	.00	.58	1.63	1.63
CCV-PH	10/13/2020	7:15 PM	22.14	-1.00	7.04	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
CCV-ALK	10/13/2020	7:24 PM	22.07	-1.00	10.85	519.26	1,032.19	.00	1,025.85	6.34	4.95	9.83	9.83
DI RINSE	10/13/2020	7:29 PM	22.23	-1.00	6.06	.00	.64	.64	.00	.00	.00	.02	.02
WBLKW2-201013	10/13/2020	7:34 PM	22.31	-1.00	5.69	.00	.29	.29	.00	.00	.00	.02	.02
LCS2-201013	10/13/2020	7:43 PM	22.23	-1.00	10.84	518.77	1,027.80	.00	1,018.08	9.73	4.94	9.79	9.79
LCSD2-201013	10/13/2020	7:52 PM	22.25	-1.00	10.83	515.19	1,025.06	.00	1,019.76	5.31	4.91	9.76	9.76
HS20100284-07	10/13/2020	7:59 PM	22.26	-1.00	7.75	.00	248.54	248.54	.00	.00	.00	2.37	2.37
HS20100284-07DUP	10/13/2020	8:06 PM	22.25	-1.00	7.75	.00	249.16	249.16	.00	.00	.00	2.37	2.37
HS20100465-01	10/13/2020	8:12 PM	22.35	-1.00	8.01	.00	345.92	345.92	.00	.00	.00	3.29	3.29
HS20100465-02	10/13/2020	8:20 PM	22.26	-1.00	8.23	.00	439.01	439.01	.00	.00	.00	4.18	4.18
HS20100465-03	10/13/2020	8:26 PM	22.28	-1.00	8.01	.00	328.94	328.94	.00	.00	.00	3.13	3.13
HS20100465-04	10/13/2020	8:34 PM	22.37	-1.00	8.30	2.64	557.46	552.18	5.28	.00	.03	5.31	5.31
CCV-PH	10/13/2020	8:36 PM	22.31	-1.00	7.04	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
CCV-ALK	10/13/2020	8:45 PM	22.16	-1.00	10.82	519.38	1,035.23	.00	1,031.70	3.53	4.95	9.86	9.86
DI RINSE	10/13/2020	8:50 PM	22.20	-1.00	6.00	.00	.40	.40	.00	.00	.00	.02	.02
HS20100465-05	10/13/2020	8:57 PM	22.16	-1.00	8.42	12.27	519.65	495.11	24.54	.00	.12	4.95	4.95
HS20100465-06	10/13/2020	9:05 PM	22.16	-1.00	8.26	.00	540.68	540.68	.00	.00	.00	5.15	5.15
HS20100465-07	10/13/2020	9:12 PM	22.19	-1.00	8.30	2.21	524.91	520.50	4.41	.00	.02	5.00	5.00
HS20100471-01	10/13/2020	9:19 PM	22.17	-1.00	8.15	.00	204.44	204.44	.00	.00	.00	1.95	1.95
HS20100471-03	10/13/2020	9:27 PM	22.20	-1.00	8.22	.00	314.59	314.59	.00	.00	.00	3.00	3.00
HS20100471-04	10/13/2020	9:34 PM	22.22	-1.00	7.96	.00	327.13	327.13	.00	.00	.00	3.12	3.12
HS20100455-01	10/13/2020	9:40 PM	22.14	-1.00	6.66	.00	41.90	41.90	.00	.00	.00	.40	.40
HS20100455-02	10/13/2020	9:45 PM	22.10	-1.00	6.36	.00	77.65	77.65	.00	.00	.00	.74	.74

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Run Number 3931 **Order Number** 20201013-2

SampleID	RunDate	RunTime	Temp	cond (uS)	pH	palk-ppm	talk-ppm	bcarb-ppm	carb-ppm	hydr-ppm	mLs @ 8.3	mLs @ 4.5	mLs @ 4.2
HS20100455-05	10/13/2020	9:52 PM	22.07	-1.00	7.67	.00	390.98	390.98	.00	.00	.00	3.72	3.72
CCV-PH	10/13/2020	9:54 PM	22.07	-1.00	7.04	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
CCV-ALK	10/13/2020	10:02 PM	21.99	-1.00	10.80	510.73	1,029.68	8.22	1,021.46	.00	4.86	9.81	9.81
DI RINSE	10/13/2020	10:07 PM	22.11	-1.00	6.00	.00	.50	.50	.00	.00	.00	.02	.02
HS20100651-01	10/13/2020	10:14 PM	22.13	-1.00	7.70	.00	268.06	268.06	.00	.00	.00	2.55	2.55
HS20100651-02	10/13/2020	10:21 PM	22.23	-1.00	7.87	.00	195.41	195.41	.00	.00	.00	1.86	1.86
HS20100651-03	10/13/2020	10:28 PM	22.17	-1.00	7.74	.00	278.14	278.14	.00	.00	.00	2.65	2.65
HS20100651-04	10/13/2020	10:34 PM	22.11	-1.00	7.70	.00	270.21	270.21	.00	.00	.00	2.57	2.57
HS20100651-05	10/13/2020	10:41 PM	22.03	-1.00	7.74	.00	271.57	271.57	.00	.00	.00	2.59	2.59
HS20100651-06	10/13/2020	10:45 PM	21.96	-1.00	5.88	.00	.48	.48	.00	.00	.00	.02	.02
CCV-PH	10/13/2020	10:47 PM	21.92	-1.00	7.04	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
CCV-ALK	10/13/2020	10:55 PM	21.85	-1.00	10.78	513.36	1,032.92	6.20	1,026.72	.00	4.89	9.84	9.84
DI RINSE	10/13/2020	11:01 PM	21.90	-1.00	5.99	.00	.58	.58	.00	.00	.00	.02	.02

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Batch ID Exception Report

Batch ID: R370434
QC Group: 0

Sample ID	Seq No	Sample Type	Test Code	Analyzed Date	Dilution Factor
	Analyte Type	Analyte		Qualifier	
SAMP	0	SAMP		14 Oct 2020 8:17 AM	1

X No exceptions found

Batch ID Exception Report

Batch ID: R370437
QC Group: 0

Sample ID	Seq No	Sample Type	Test Code	Analyzed Date	Dilution Factor
	Analyte Type	Analyte		Qualifier	
SAMP	0	SAMP		14 Oct 2020 8:27 AM	1

X No exceptions found

HS20100455 - Sub Perch Report Level IV (E2000971)

ALS WO# HS20100455

October 22, 2020 Service Request No:E2000971

RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Suite 210
Houston, TX 77099-4338

Laboratory Results for: HS20100455

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory October 09, 2020
For your reference, these analyses have been assigned our service request number **E2000971.**

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

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Corey Grandits
Project Manager

ADDRESS 10450 Stancliff Rd., Suite 210, Houston, TX 77099
PHONE +1 281 530 5656 | FAX +1 281 530 5887
ALS Group USA, Corp.
dba ALS Environmental

Certificate of Analysis

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

ALS Environmental

Client:	ALS Houston	**Service Request No.:**	E2000971
Project:	HS20100455	**Date Received:**	10/09/20
Sample Matrix:	W		

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Five samples were received for analysis at ALS Environmental in Houston on 10/09/20.

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

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2000512: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of a MS/MSD for this extraction batch. The LCS and DLCS recoveries are within QC limits.

DoD Certification is held for the method/matrix/analytes provided in this report.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

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

Client: ALS Environmental - US **Service Request:**E2000971
Project: HS20100455

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2000971-001	16WW58-201008	10/8/2020	0750
E2000971-002	16WW57-201008	10/8/2020	0750
E2000971-003	16WW23-201008	10/8/2020	0945
E2000971-004	50WW24-201008	10/8/2020	1030
E2000971-005	16WW16-201008	10/8/2020	1115

Service Request Summary

Folder #: **E2000971**
Client Name: ALS Environmental - US
Project Name: HS20100455
Project Number:

Report To: RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 10/09/20
Internal Due Date: 10/23/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20100455
EDD: No EDD Specified

5 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 7E
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2000971-001	16WW58-201008	Ground Water	10/08/20 0750	**IV**
E2000971-002	16WW57-201008	Ground Water	10/08/20 0750	**IV**
E2000971-003	16WW23-201008	Ground Water	10/08/20 0945	**IV**
E2000971-004	50WW24-201008	Ground Water	10/08/20 1030	**IV**
E2000971-005	16WW16-201008	Ground Water	10/08/20 1115	**IV**

Service Request Summary

Folder #: **E2000971**
Client Name: ALS Environmental - US
Project Name: HS20100455
Project Number:

Report To: RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 10/09/20
Internal Due Date: 10/23/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20100455
EDD: No EDD Specified

5 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 7E
Pressure Gas:

Test Comments:

Group	Test/Method	Samples	Comments
Semivoa GCMS	ClO4 DOD/6850	5	Level II due 10/23,level IV 10/30

Data Qualifiers

Lab Standard

+	Possible Tedlar bag artifact.
A	TIC is a suspected aldol-condensation product
B	Analyte found in the associated method blank as well as in the sample.
BC	Reported results are not blank corrected.
BH	The back section of the tube yielded higher results than the front.
BT	Results indicated possible breakthrough; back section >=10% front section.
C	Result identification confirmed.
D	Compound identified in an analysis at a secondary dilution factor
D	Spike was diluted out
DE	Reported results are corrected for desorption efficiency.
E	Estimated value. Concentration above calibration range
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
H1	Sample analysis performed past holding time. See case narrative.
H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
H3	Sample was received and analyzed past holding time.
H4	Sample was extracted past required extraction holding time, but analyzed within analysis holding time. See case narrative.
I	Internal standard not within the specified limits. See case narrative.
J	Estimated Value. Concentration found below MRL.
K	A deflection in the QC ion may indicate interference with the quantitation of this ion. The concentration of this analyte should be considered as an estimate.
K	Analyte was detected above the method reporting limit prior to normalization.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
L1	Laboratory control sample recovery outside the specified limits; results may be biased high.
L2	Laboratory control sample recovery outside the specified limits; results may be biased low.
L3	Laboratory control sample recovery outside the specified limits.
M	Matrix interference; results may be biased high.
M	The duplicate injection precision not met.
M1	Matrix interference due to coelution with a non-target compound; results may be biased high.
N	Presumptive evidence of a compound for TICs that have been identified based on a mass spectral library search.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.

Data Qualifiers

Lab Standard

P	Indicates chlorodiphenyl ether interference present at the retention time of the target compound.
P	Pesticide/Aroclor target analyte > 40% difference for detected concentrations between GC columns
Q	Indicates as estimated value because the P and P + 2 theoretical abundance ratio does not meet method criteria.
R	Duplicate Precision not met.
R1	Duplicate precision not within the specified limits; however, the results are below the MRL and considered estimated.
S	Surrogate recovery not within specified limits.
S	The reported value was determined by the Method of Standard Additions (MSA).
T	Analyte is a tentatively identified compound, result is estimated.
U	Compound was analyzed for, but was not detected (ND).
V1	The continuing calibration verification standard was outside (biased high) the specified limits for this compound.
V2	The continuing calibration verification standard was outside (biased low) the specified limits for this compound.
W	Result quantified, but the corresponding peak was detected outside the generated retention time window.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
X	See case narrative.
Y	Recovery outside limits
Y	The chromatogram resembles a petroleum product but does not match the calibration standard.
Z	The chromatogram does not resemble a petroleum product.
i	The MRL/MDL has been elevated due to a matrix interference.

ALS Laboratory Group

Acronyms

Cal	Calibration
Conc	CONCentration
Dioxin(s)	Polychlorinated dibenzo-p-dioxin(s)
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
Flags	Data qualifiers
Furan(s)	Polychlorinated dibenzofuran(s)
g	Grams
ICAL	Initial CALibration
ID	IDentifier
Ions	Masses monitored for the analyte during data acquisition
L	Liter (s)
LCS	Laboratory Control Sample
DLCS	Duplicate Laboratory Control Sample
MB	Method Blank
MCL	Method Calibration Limit
MDL	Method Detection Limit
mL	Milliliters
MS	Matrix Spiked sample
DMS	Duplicate Matrix Spiked sample
NO	Number of peaks meeting all identification criteria
PCDD(s)	Polychlorinated dibenzo-p-dioxin(s)
PCDF(s)	Polychlorinated dibenzofuran(s)
ppb	Parts per billion
ppm	Parts per million
ppq	Parts per quadrillion
ppt	Parts per trillion
QA	Quality Assurance
QC	Quality Control
Ratio	Ratio of areas from monitored ions for an analyte
% Rec.	Percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
SDG	Sample Delivery Group
S/N	Signal-to-noise ratio
TEF	Toxicity Equivalence Factor
TEQ	Toxicity Equivalence Quotient

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ALS Environmental

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
American Association for Laboratory Accreditation	2897.01 2020	11/30/2021
Arizona Department of Health Services	AZ0793-2020	5/27/2021
Arkansas Department of Environmental Quality	20-030-0	3/26/2021
California Department of Health Services	2919-2020	4/30/2021
Department of Defense	A2LA 2897.01	11/30/2021
Florida Department of Health	E87611-2020	6/30/2021
Hawaii Department of Health	2020	4/30/2021
Illinois Environmental Protection Agency	2000322020-4	5/9/2021
Kansas Department of Health and Environment	E-10352-2020	7/31/2021
Louisiana Department of Environmental Quality	03087-2020	6/30/2021
Louisiana Department of Health and Hospitals	LA028-2020	12/31/2020
Maine Department of Health and Human Services	2020016	6/5/2022
Maryland Department of the Environment	343-2020	6/30/2021
Michigan Depratment of Environmental Quality	9971-2020	4/30/2021
Minnesota Department of Health	1785988	12/31/2020
Nebraska Department of Health and Human Services	NE-OS-25-13 (2020)	4/30/2021
Nevada Department of Concervation and Natural Resources	TX026932021-1	7/31/2021
New Hampshire Environmental Laboratory Accreditation Program	209420	4/24/2021
New Jersey Department of Environmental Protection	TX008	6/30/2021
New York Department of Health	11707	3/31/2021
Oklahoma Department of Environmental Quality	2020-123	8/31/2021
Pennsylvania Department of Environmental Protection	014	6/30/2021
Tennessee Department of Environment and Concervation	04016-2020	4/30/2021
Texas Commision on Environmental Quality	T104704231-20-26	4/30/2021
United States Department of Agriculture	P330-19-00299	10/10/2022
Washington Department of Health	C819	11/14/2020

ALS

Chain of Custody

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F: +1 281 530 5887
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Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14895**

SUBCONTRACT TO:

ALS Environmental
10450 Stancliff RoadSuite 210
Houston, TX 77084

Phone: +1 281 530 5656

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	RJ Modashia
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	RJ.Modashia@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS20100455
TSR:	Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20100455-01**	**16WW58-201008**	**Groundwater**	**08 Oct 2020 07:50**
	SUB_Perch-6850			19 Oct 2020
2.	**HS20100455-02**	**16WW57-201008**	**Groundwater**	**08 Oct 2020 07:50**
	SUB_Perch-6850			19 Oct 2020
3.	**HS20100455-03**	**16WW23-201008**	**Groundwater**	**08 Oct 2020 09:45**
	SUB_Perch-6850			19 Oct 2020
4.	**HS20100455-04**	**16WW24-201008**	**Groundwater**	**08 Oct 2020 10:30**
	SUB_Perch-6850			19 Oct 2020
5.	**HS20100455-05**	**16WW16-201008**	**Groundwater**	**08 Oct 2020 11:15**
	SUB_Perch-6850			19 Oct 2020

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: DOD IV (DoD Data Package)

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14895**

Relinquished By: J. Morgan Date/Time:

Received By: COURIER 6 Date/Time: 10/9/26 1206

Cooler ID(s): Temperature(s):

ALS Environmental

Cooler Receipt Form

Project Chemist CG

Client/Project ALS-H

Thermometer ID IR21

Date/Time Received: 10/9/20 Initials: CG Date/Time Logged in: 10/9/20 Initials CG

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ✓ Courier (ALS) ○ Client

2. Samples received in: ✓ Cooler ○ Box ○ Envelope ○ Other

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

4. Packing Material: ○ Inserts ✓ Baggies ○ Bubble Wrap ○ Gel Packs ✓ Wet Ice ○ Sleeves ○ Other

5. Foreign or Regulated Soil? ○ Yes ○ No Location of Sampling:

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
—		10/9/20	1200	DG	2.8	☒
						☐
						☐
						☐

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

Notes, Discrepancies, & Resolutions:

Service request Label:

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SAMPLE ACCEPTANCE POLICY

This policy outlines the criteria samples must meet to be accepted by ALS Environmental – Houston HRMS.

Cooler Custody Seals (desirable, mandatory if specified in SAP):

- ✓ Intact on outside of cooler, signed and dated

Chain-of-Custody (COC) documentation (mandatory):

The following is required on each COC:

- ✓ Sample ID, the location, date and time of collection, collector's name, preservation type, sample type, and any other special remarks concerning the sampleThe COC must be completed in ink.
- ✓ Signature and date of relinquishing party.

In the absence of a COC at sample receipt, the COC will be requested from the client.

Sample Integrity (mandatory):

Samples are inspected upon arrival to ensure that sample integrity was not compromised during transfer to the laboratory.

- ✓ Sample containers must arrive in good condition (not broken or leaking).
- ✓ Samples must be labeled appropriately, including Sample IDs, and requested test using durable labels and indelible ink.
- ✓ The correct type of sample bottle must be used for the method requested.
- ✓ An appropriate sample volume, or weight, must be received.
- ✓ Sample IDs and number of containers must reconcile with the COC.
- ✓ Samples must be received within the method defined holding time.

Temperature Requirement (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6ºC.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10ºC.
- ✓ Air samples are shipped and stored cold, at 0 to 6ºC
- ✓ The sample temperature must be recorded on the COC

All cooler inspections are documented on the Cooler Receipt Form (CRF). A separate CRF is completed for each service request. Any samples not meeting the above criteria are noted on the CRF and the Project Manager notified. The Project Manager must resolve any sample integrity issues with the client prior to proceeding with the analysis. Such resolutions are documented in writing and filed with the project folder. Data associated with samples received outside of this acceptance policy will be qualified on the case narrative of the final report

Preparation Information Benchsheets

ALS Environmental - Houston HRMS
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Preparation Information Benchsheet

Prep Run#: 368004 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 10/19/20 09:25

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2000965-001	CDG-15-10062020	.01	6850/ClO4 DOD			Ground Water	10mL	
2	E2000965-002	HEDG-FB-10062020	.01	6850/ClO4 DOD			Ground Water	10mL	
3	E2000965-003	CDG-12-10062020	.01	6850/ClO4 DOD			Ground Water	10mL	
4	E2000965-004	CDG-1-10062020	.01	6850/ClO4 DOD			Ground Water	10mL	
5	E2000965-005	CDG-17-10062020	.01	6850/ClO4 DOD			Ground Water	10mL	
6	E2000966-001	HEDG IDW-052020	.01	6850/ClO4 DOD			Ground Water	10mL	
7	E2000966-002	Test Area IDW-012020	.01	6850/ClO4 DOD			Ground Water	10mL	
8	E2000968-001	CDG-13-10072020	.01	6850/ClO4 DOD			Ground Water	10mL	
9	E2000968-002	CDG-11-10072020	.01	6850/ClO4 DOD			Ground Water	10mL	
10	E2000968-003	HEDG-FD-10072020	.01	6850/ClO4 DOD			Ground Water	10mL	
11	E2000968-004	CDG-2-10072020	.01	6850/ClO4 DOD			Ground Water	10mL	
12	E2000968-005	CDG-10-10072020	.01	6850/ClO4 DOD			Ground Water	10mL	
13	E2000968-006	CDG-14-10072020	.01	6850/ClO4 DOD			Ground Water	10mL	
14	E2000968-007	CDG-16-10072020	.01	6850/ClO4 DOD			Ground Water	10mL	
15	E2000971-001	16WW58-201008	.01	6850/ClO4 DOD			Ground Water	10mL	
16	E2000971-002	16WW57-201008	.01	6850/ClO4 DOD			Ground Water	10mL	
17	E2000971-003	16WW23-201008	.01	6850/ClO4 DOD			Ground Water	10mL	
18	E2000971-004	50WW24-201008	.01	6850/ClO4 DOD			Ground Water	10mL	
19	E2000971-005	16WW16-201008	.01	6850/ClO4 DOD			Ground Water	10mL	
20	EQ2000512-01	MB		6850/ClO4 DOD			Liquid	10mL	
21	EQ2000512-02	LCS		6850/ClO4 DOD			Liquid	10mL	
22	EQ2000512-03	DLCS		6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 209764 Logbook Ref: Perchlorate Int. Stock1 51820 Expires On: 11/18/2020

EQ2000512-02 1.00µL EQ2000512-03 1.00µL

Name: Sodium Perchlorate 1 ug/mL (IS) (18-O) as CLO4 Inventory ID 212340 Logbook Ref: Sodium Perchlorate Expires On: 07/13/2022

E2000965-001	100.00µL	E2000965-002	100.00µL	E2000965-003	100.00µL	E2000965-004	100.00µL	E2000965-005	100.00µL	E2000966-001	100.00µL
E2000966-002	100.00µL	E2000968-001	100.00µL	E2000968-002	100.00µL	E2000968-003	100.00µL	E2000968-004	100.00µL	E2000968-005	100.00µL
E2000968-006	100.00µL	E2000968-007	100.00µL	E2000971-001	100.00µL	E2000971-002	100.00µL	E2000971-003	100.00µL	E2000971-004	100.00µL
E2000971-005	100.00µL	EQ2000512-01	100.00µL	EQ2000512-02	100.00µL	EQ2000512-03	100.00µL				

Preparation Information Benchsheet

Prep Run#: 368004
Team: Semivoa GCMS/GRIVERA
Prep WorkFlow: GenExt28Day
Prep Method: Method
Status: Prepped
Prep Date/Time: 10/19/20 09:25

Preparation Steps

Step: Preparation
Started: 10/19/20 09:25
Finished: 10/19/20 14:58
By: GRIVERA
Comments

Comments: _____

Reviewed By: GR Date: 10/19/2020

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Analytical Results

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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000971
Project:	HS20100455	**Date Collected:**	10/ 8/20 0750
Sample Matrix:	Ground Water	**Date Received:**	10/ 9/20
Sample Name:	16WW58-201008	**Units:**	µg/L
Lab Code:	E2000971-001	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	10/19/20	10/21/20 10:47	368004	700177	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000971
Project:	HS20100455	**Date Collected:**	10/ 8/20 0750
Sample Matrix:	Ground Water	**Date Received:**	10/ 9/20
Sample Name:	16WW57-201008	**Units:**	µg/L
Lab Code:	E2000971-002	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	10/19/20	10/19/20 19:36	368004	700168	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000971
Project:	HS20100455	**Date Collected:**	10/ 8/20 0945
Sample Matrix:	Ground Water	**Date Received:**	10/ 9/20
Sample Name:	16WW23-201008	**Units:**	µg/L
Lab Code:	E2000971-003	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	10/19/20	10/21/20 10:55	368004	700177	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000971
Project:	HS20100455	**Date Collected:**	10/ 8/20 1030
Sample Matrix:	Ground Water	**Date Received:**	10/ 9/20
Sample Name:	50WW24-201008	**Units:**	µg/L
Lab Code:	E2000971-004	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	10/19/20	10/21/20 11:03	368004	700177	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000971
Project:	HS20100455	**Date Collected:**	10/ 8/20 1115
Sample Matrix:	Ground Water	**Date Received:**	10/ 9/20
Sample Name:	16WW16-201008	**Units:**	µg/L
Lab Code:	E2000971-005	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**480**		1.00	0.500	0.250	10	10/19/20	10/20/20 19:48	368004	700170	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000971
Project:	HS20100455	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000512-01	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	10/19/20	10/19/20 17:05	368004	700168	

Accuracy & Precision

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ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000971
Project:	HS20100455	**Date Analyzed:**	10/19/20 - 10/20/20
Sample Matrix:	Ground Water		

Lab Control Sample Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Units:**	µg/L
Prep Method:	Method	**Basis:**	NA
		Extraction Lot:	368004

	Lab Control Sample EQ2000512-02			Duplicate Lab Control Sample EQ2000512-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.106	0.100	106	0.104	0.100	104	84 - 119	2	15

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

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

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000971
Project:	HS20100455	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000512-02	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.106**		0.100	0.0500	0.0250	1	10/19/20	10/19/20 17:13	368004	700168	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000971
Project:	HS20100455	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000512-03	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.104**		0.100	0.0500	0.0250	1	10/19/20	10/20/20 19:01	368004	700170	

Initial Calibration

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20200915

ALS Environmental

ICAL Date: 9/15/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000032**

1st Review: Grivera
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	PERCHLORATE1		20200915_044	Perchlorate6850b.lcm	1x	☒	3100806-05	9/15/2020 17:55
2	PERCHLORATE2		20200915_024	Perchlorate6850b.lcm	1x	☒	3100806-06	9/15/2020 15:10
3	PERCHLORATE3		20200915_046	Perchlorate6850b.lcm	1x	☒	3100806-07	9/15/2020 18:13
4	PERCHLORATE4		20200915_047	Perchlorate6850b.lcm	1x	☒	3100807-01	9/15/2020 18:21
5	PERCHLORATE5		20200915_048	Perchlorate6850b.lcm	1x	☒	3100807-02	9/15/2020 18:29
6	PERCHLORATE6		20200915_049	Perchlorate6850b.lcm	1x	☒	3100807-03	9/15/2020 18:37
7	PERCHLORATE7		20200915_029	Perchlorate6850b.lcm	1x	☒	3100807-04	9/15/2020 15:49
8	PERCHLORATE8		20200915_051	Perchlorate6850b.lcm	1x	☒	3100807-05	9/15/2020 18:52
9	PERCHLORATE9		20200915_052	Perchlorate6850b.lcm	1x	☒	3100807-06	9/15/2020 19:00
10	PERCHLORATE10		20200915_053	Perchlorate6850b.lcm	1x	☒	3100807-07	9/15/2020 19:08
11	PERCHLORATE ICV		20200915_054	Perchlorate6850b.lcm	1x	☒	3100807-08	9/15/2020 19:16
12	LODV		20200915_055	Perchlorate6850b.lcm	1x	☒		9/15/2020 19:24
13	E2000817-001		20200915_056	Perchlorate6850b.lcm	1x	☒		9/15/2020 19:40
14	E2000817-001x10		20200915_057	Perchlorate6850b.lcm	1x	☒		9/15/2020 19:48
15	PERCHLORATE7		20200915_058	Perchlorate6850b.lcm	1x	☒	3100807-04	9/15/2020 19:56
16								
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Initial Calibration - Detailed Report

Calibration ID: EC2000032 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2000032-01	PERCHLORATE2	20200915_024	09/15/2020 15:10
02	EC2000032-02	PERCHLORATE7	20200915_029	09/15/2020 15:49
03	EC2000032-03	PERCHLORATE1	20200915_044	09/15/2020 17:55
04	EC2000032-04	PERCHLORATE3	20200915_046	09/15/2020 18:13
05	EC2000032-05	PERCHLORATE4	20200915_047	09/15/2020 18:21
06	EC2000032-06	PERCHLORATE5	20200915_048	09/15/2020 18:29
07	EC2000032-07	PERCHLORATE6	20200915_049	09/15/2020 18:37
08	EC2000032-08	PERCHLORATE8	20200915_051	09/15/2020 18:52
09	EC2000032-09	PERCHLORATE9	20200915_052	09/15/2020 19:00
10	EC2000032-10	PERCHLORATE10	20200915_053	09/15/2020 19:08

Analyte **Curve Fit** **Weighting**

Perchlorate **Quadratic** **Equal** **COD = 0.9998** **Y= -9.474E-05 X² + 0.1066 X + 0.00148**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5000	0.1319	02	10.0000	0.1001	03	0.1000	0.1399	04	0.7000	0.1079
05	1.0000	0.1089	06	2.0000	0.1096	07	5.0000	0.1086	08	20.0000	0.1062
09	30.0000	0.104	10	50.0000	0.1018						

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.5000	0.605	21.0	02	10.0000	9.45	-5.5	03	0.1000	0.117	17.3
04	0.7000	0.695	-0.8	05	1.0000	1.01	0.8	06	2.0000	2.05	2.3
07	5.0000	5.10	2.0	08	20.0000	20.3	1.3	09	30.0000	30.1	0.2
10	50.0000	50.0	-0.1								

Initial Calibration Verification Summary Report

Calibration ID:	EC2000032	**Instrument ID:**	E-LCMS-01
Datafile ID:	20200915_054	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2000032-11	T	Quadratic	10	9.462	ng/mL	-5.4	<= 15

ALS Group Houston

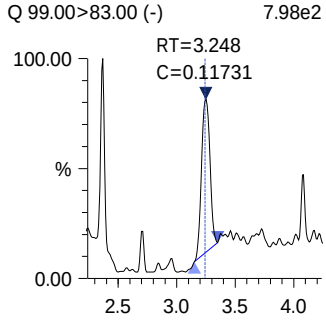
PERCHLORATE1

Date acquired: 9/15/2020 5:55:29 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200915\20200915_044.lcd
Vial: 5 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE1	9/15/2020 5:55:29 PM	2833	0.11731	20200915_044	3.248	25.0000	1.0000	5
Sodium Perchlorate-18O4_IS	PERCHLORATE1	9/15/2020 5:55:29 PM	202512	1.00000	20200915_044	3.237	25.0000	1.0000	5

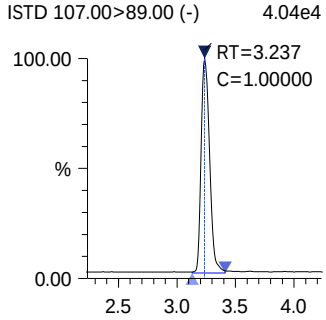
Perchlorate

Conc 0.11731
Area 2833



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 202512



ALS Group Houston

PERCHLORATE2

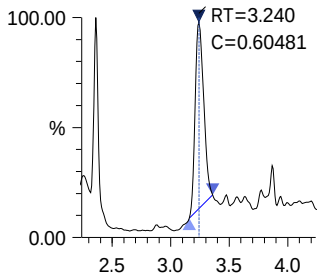
Date acquired: 9/15/2020 3:10:04 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200915\20200915_024.lcd
Vial: 6 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE2	9/15/2020 3:10:04 PM	11634	0.60481	20200915_024	3.240	25.0000	1.0000	6
Sodium Perchlorate-18O4_IS	PERCHLORATE2	9/15/2020 3:10:04 PM	176422	1.00000	20200915_024	3.240	25.0000	1.0000	6

Perchlorate

Conc 0.60481
Area 11634

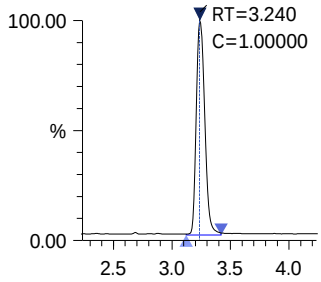
Q 99.00>83.00 (-) 2.66e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 176422

ISTD 107.00>89.00 (-) 3.50e4



ALS Group Houston

PERCHLORATE3

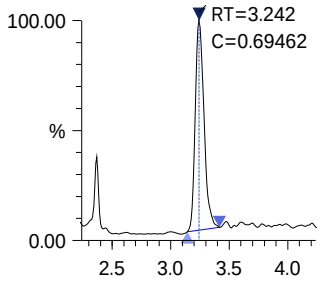
Date acquired: 9/15/2020 6:13:20 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200915\20200915_046.lcd
Vial: 7 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE3	9/15/2020 6:13:20 PM	14722	0.69462	20200915_046	3.242	25.0000	1.0000	7
Sodium Perchlorate-18O4_IS	PERCHLORATE3	9/15/2020 6:13:20 PM	194971	1.00000	20200915_046	3.239	25.0000	1.0000	7

Perchlorate

Conc 0.69462
Area 14722

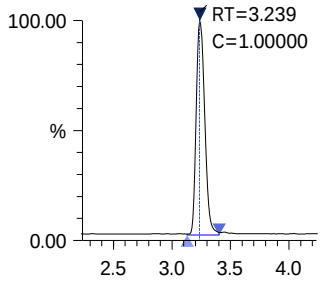
Q 99.00>83.00 (-) 2.91e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 194971

ISTD 107.00>89.00 (-) 3.85e4



ALS Group Houston

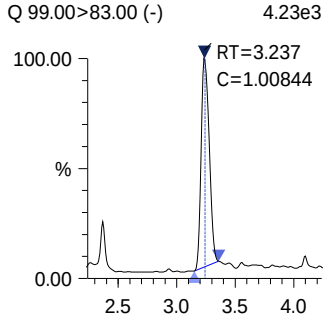
PERCHLORATE4

Date acquired: 9/15/2020 6:21:15 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200915\20200915_047.lcd
Vial: 8 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE4	9/15/2020 6:21:15 PM	19524	1.00844	20200915_047	3.237	25.0000	1.0000	8
Sodium Perchlorate-18O4_IS	PERCHLORATE4	9/15/2020 6:21:15 PM	179246	1.00000	20200915_047	3.240	25.0000	1.0000	8

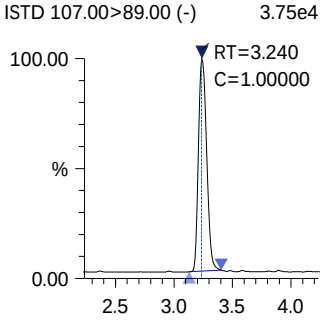
Perchlorate

Conc 1.00844
Area 19524



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 179246



ALS Group Houston

PERCHLORATE5

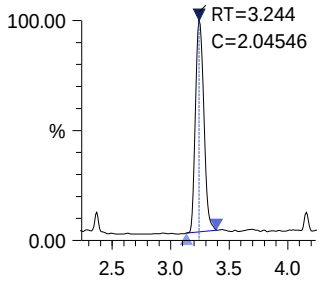
Date acquired: 9/15/2020 6:29:08 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200915\20200915_048.lcd
Vial: 9 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE5	9/15/2020 6:29:08 PM	38522	2.04546	20200915_048	3.244	25.0000	1.0000	9
Sodium Perchlorate-18O4_IS	PERCHLORATE5	9/15/2020 6:29:08 PM	175734	1.00000	20200915_048	3.240	25.0000	1.0000	9

Perchlorate

Conc 2.04546
Area 38522

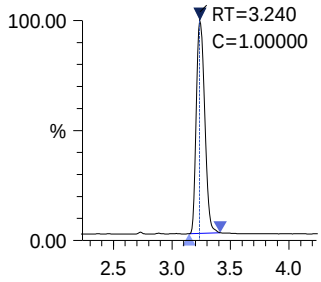
Q 99.00>83.00 (-) 7.92e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 175734

ISTD 107.00>89.00 (-) 3.56e4



ALS Group Houston

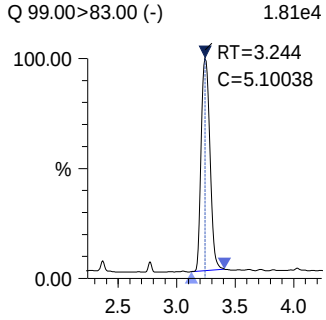
PERCHLORATE6

Date acquired: 9/15/2020 6:37:05 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200915\20200915_049.lcd
Vial: 10 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE6	9/15/2020 6:37:05 PM	92162	5.10038	20200915_049	3.244	25.0000	1.0000	10
Sodium Perchlorate-18O4_IS	PERCHLORATE6	9/15/2020 6:37:05 PM	169754	1.00000	20200915_049	3.239	25.0000	1.0000	10

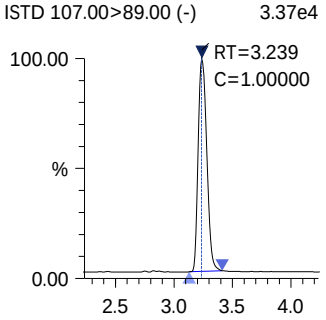
Perchlorate

Conc 5.10038
Area 92162



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 169754



ALS Group Houston

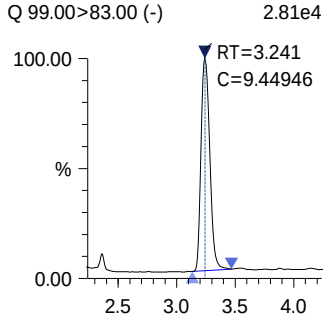
PERCHLORATE7

Date acquired: 9/15/2020 3:49:35 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200915\20200915_029.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	9/15/2020 3:49:35 PM	144012	9.44946	20200915_029	3.241	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	9/15/2020 3:49:35 PM	143911	1.00000	20200915_029	3.238	25.0000	1.0000	4

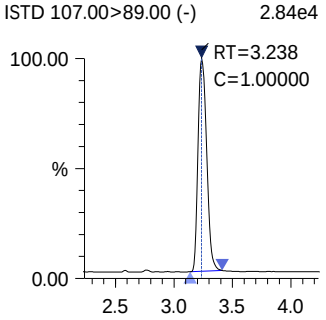
Perchlorate

Conc 9.44946
Area 144012



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 143911



ALS Group Houston

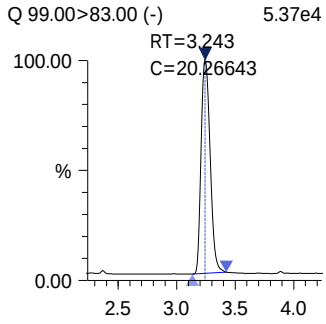
PERCHLORATE8

Date acquired: 9/15/2020 6:52:54 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200915\20200915_051.lcd
Vial: 11 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE8	9/15/2020 6:52:54 PM	284308	20.26643	20200915_051	3.243	25.0000	1.0000	11
Sodium Perchlorate-18O4_IS	PERCHLORATE8	9/15/2020 6:52:54 PM	133870	1.00000	20200915_051	3.240	25.0000	1.0000	11

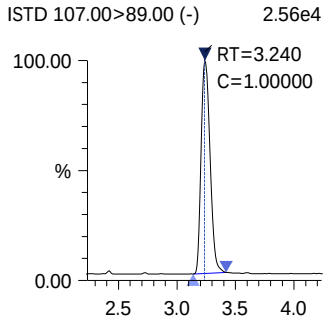
Perchlorate

Conc 20.26643
Area 284308



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 133870



ALS Group Houston

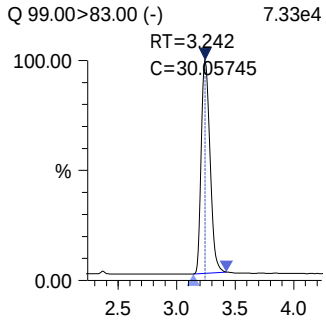
PERCHLORATE9

Date acquired: 9/15/2020 7:00:50 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200915\20200915_052.lcd
Vial: 12 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE9	9/15/2020 7:00:50 PM	377183	30.05745	20200915_052	3.242	25.0000	1.0000	12
Sodium Perchlorate-18O4_IS	PERCHLORATE9	9/15/2020 7:00:50 PM	120846	1.00000	20200915_052	3.240	25.0000	1.0000	12

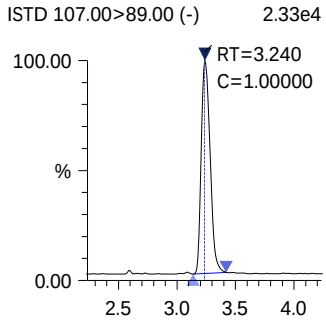
Perchlorate

Conc 30.05745
Area 377183



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 120846



ALS Group Houston

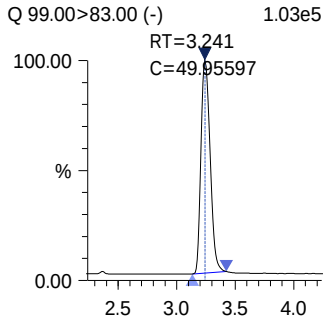
PERCHLORATE10

Date acquired: 9/15/2020 7:08:43 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200915\20200915_053.lcd
Vial: 13 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE10	9/15/2020 7:08:43 PM	553330	49.95597	20200915_053	3.241	25.0000	1.0000	13
Sodium Perchlorate-18O4_IS	PERCHLORATE10	9/15/2020 7:08:43 PM	108660	1.00000	20200915_053	3.240	25.0000	1.0000	13

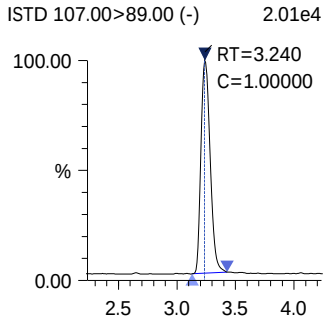
Perchlorate

Conc 49.95597
Area 553330



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 108660



ALS Group Houston

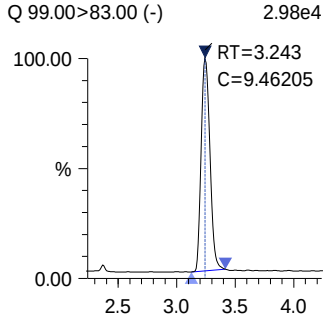
PERCHLORATEICV

Date acquired: 9/15/2020 7:16:39 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200915\20200915_054.lcd
Vial: 14 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATEICV	9/15/2020 7:16:39 PM	152650	9.46205	20200915_054	3.243	25.0000	1.0000	14
Sodium Perchlorate-18O4_IS	PERCHLORATEICV	9/15/2020 7:16:39 PM	152342	1.00000	20200915_054	3.241	25.0000	1.0000	14

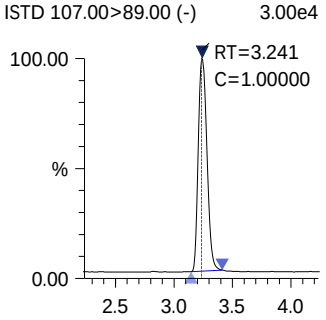
Perchlorate

Conc 9.46205
Area 152650



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 152342



20201020

ALS Environmental

ICAL Date: 9/20/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000045**

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	PERCHLORATE1		20201020_009	Perchlorate6850b.lcm	1x	☒	3100806-05	10/20/2020 17:02
2	PERCHLORATE2		20201020_011	Perchlorate6850b.lcm	1x	☒	3100806-07	10/20/2020 17:18
3	PERCHLORATE3		20201020_012	Perchlorate6850b.lcm	1x	☒	3100807-01	10/20/2020 17:26
4	PERCHLORATE4		20201020_013	Perchlorate6850b.lcm	1x	☒	3100807-02	10/20/2020 17:34
5	PERCHLORATE5		20201020_014	Perchlorate6850b.lcm	1x	☒	3100807-03	10/20/2020 17:42
6	PERCHLORATE6		20201020_015	Perchlorate6850b.lcm	1x	☒	3100807-04	10/20/2020 17:50
7	PERCHLORATE7		20201020_016	Perchlorate6850b.lcm	1x	☒	3100807-05	10/20/2020 17:58
8	PERCHLORATE8		20201020_017	Perchlorate6850b.lcm	1x	☒	3100807-06	10/20/2020 18:06
9	PERCHLORATE9		20201020_018	Perchlorate6850b.lcm	1x	☒	3100807-07	10/20/2020 18:14
10	PERCHLORATEICV		20201020_019	Perchlorate6850b.lcm	1x	☒	3100807-08	10/20/2020 18:21
11	IB		20201020_020	Perchlorate6850b.lcm	1x	☒		10/20/2020 18:29
12	LODV		20201020_021	Perchlorate6850b.lcm	1x	☒		10/20/2020 18:37
13	ICS		20201020_022	Perchlorate6850b.lcm	1x	☒		10/20/2020 18:45
14	PERCHLORATE7		20201020_023	Perchlorate6850b.lcm	1x	☒	3100807-05	10/20/2020 18:53
15	EQ2000512-03RR		20201020_024	Perchlorate6850b.lcm	1x	☒		10/20/2020 19:01
16	E2000965-005X2		20201020_025	Perchlorate6850b.lcm	2x	☒		10/20/2020 19:09
17	E2000966-002X2		20201020_026	Perchlorate6850b.lcm	2x	☒		10/20/2020 19:17
18	E2000971-001X2		20201020_027	Perchlorate6850b.lcm	2x	☒		10/20/2020 19:25
19	E2000971-003X2		20201020_028	Perchlorate6850b.lcm	2x	☒		10/20/2020 19:33
20	E2000971-004X2		20201020_029	Perchlorate6850b.lcm	2x	☒		10/20/2020 19:40
21	E2000971-005X10		20201020_030	Perchlorate6850b.lcm	10x	☒		10/20/2020 19:48
22	PERCHLORATE7		20201020_031	Perchlorate6850b.lcm	1x	☒	3100807-05	10/20/2020 19:56
23	EQ2000513-02RR		20201020_032	Perchlorate6850b.lcm	1x	☒		10/20/2020 20:04
24	EQ2000513-03RR		20201020_033	Perchlorate6850b.lcm	1x	☒		10/20/2020 20:12
25	EQ2000513-04RR		20201020_034	Perchlorate6850b.lcm	1x	☒		10/20/2020 20:20
26	EQ2000513-05RR		20201020_035	Perchlorate6850b.lcm	1x	☒		10/20/2020 20:28
27	E2000981-001X2		20201020_036	Perchlorate6850b.lcm	2x	☒		10/20/2020 20:36
28	E2000982-001X200		20201020_037	Perchlorate6850b.lcm	200x	☒		10/20/2020 20:44
29	E2000984-001X2		20201020_038	Perchlorate6850b.lcm	2x	☒		10/20/2020 20:51
30	E2000985-002X20		20201020_039	Perchlorate6850b.lcm	20x	☒		10/20/2020 20:59
31	E2000985-003X2		20201020_040	Perchlorate6850b.lcm	2x	☒		10/20/2020 21:07
32	E2000985-004X10		20201020_041	Perchlorate6850b.lcm	10x	☒		10/20/2020 21:15
33	PERCHLORATE7		20201020_042	Perchlorate6850b.lcm	1x	☒	3100807-05	10/20/2020 21:23
34	E2000985-006X10		20201020_043	Perchlorate6850b.lcm	10x	☒		10/20/2020 21:31
35	E2000996-003X2		20201020_044	Perchlorate6850b.lcm	2x	☒		10/20/2020 21:39
36	E2000996-005X2		20201020_045	Perchlorate6850b.lcm	2x	☒		10/20/2020 21:47
37	E2000996-006X5		20201020_046	Perchlorate6850b.lcm	5x	☒		10/20/2020 21:55
38	E2000996-009X5		20201020_047	Perchlorate6850b.lcm	5x	☒		10/20/2020 22:02
39	PERCHLORATE7		20201020_048	Perchlorate6850b.lcm	1x	☒	3100807-05	10/20/2020 22:10
40	null		20201020_049	Perchlorate6850b.lcm	1x	☒		10/20/2020 22:15
41	null		20201020_050	Perchlorate6850b.lcm	1x	☒		10/20/2020 22:20
42								
43								

Initial Calibration - Detailed Report

Calibration ID: EC2000045 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2000045-01	PERCHLORATE1	20201020_009	10/20/2020 17:02
02	EC2000045-02	PERCHLORATE2	20201020_011	10/20/2020 17:18
03	EC2000045-03	PERCHLORATE3	20201020_012	10/20/2020 17:26
04	EC2000045-04	PERCHLORATE4	20201020_013	10/20/2020 17:34
05	EC2000045-05	PERCHLORATE5	20201020_014	10/20/2020 17:42
06	EC2000045-06	PERCHLORATE6	20201020_015	10/20/2020 17:50
07	EC2000045-07	PERCHLORATE7	20201020_016	10/20/2020 17:58
08	EC2000045-08	PERCHLORATE8	20201020_017	10/20/2020 18:06
09	EC2000045-09	PERCHLORATE9	20201020_018	10/20/2020 18:14

Analyte | **Curve Fit** | **Weighting**

Perchlorate | **Linear** | **Equal** | **R2 = 0.9997655579102110** | **Y=0.09298 X+0.005025**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1448	02	0.7000	0.09763	03	1.0000	0.1037	04	2.0000	0.09831
05	5.0000	0.0959	06	10.0000	0.08798	07	20.0000	0.09511	08	30.0000	0.09343
09	50.0000	0.09287									

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.102	1.6	02	0.7000	0.681	-2.7	03	1.0000	1.06	6.1
04	2.0000	2.06	3.0	05	5.0000	5.10	2.1	06	10.0000	9.41	-5.9
07	20.0000	20.4	2.0	08	30.0000	30.1	0.3	09	50.0000	49.9	-0.2

Initial Calibration Verification Summary Report

Calibration ID:	EC2000045	**Instrument ID:**	E-LCMS-01
Datafile ID:	20201020_019	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2000045-10	T	Linear	10	10.013	ng/mL	0.1	<= 15

ALS Group Houston

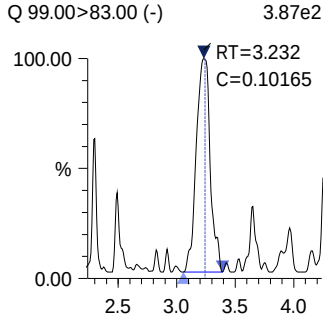
PERCHLORATE1

Date acquired: 10/20/2020 5:02:55 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201020\20201020_009.lcd
Vial: 5 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE1	10/20/2020 5:02:55 PM	3205	0.10165	20201020_009	3.232	25.0000	1.0000	5
Sodium Perchlorate-18O4_IS	PERCHLORATE1	10/20/2020 5:02:55 PM	221415	1.00000	20201020_009	3.222	25.0000	1.0000	5

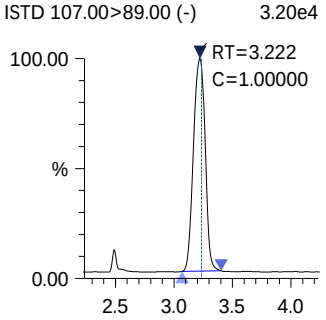
Perchlorate

Conc 0.10165
Area 3205



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 221415



ALS Group Houston

PERCHLORATE2

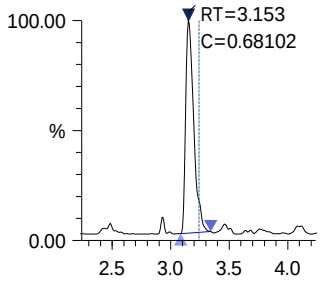
Date acquired: 10/20/2020 5:18:44 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201020\20201020_011.lcd
Vial: 7 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE2	10/20/2020 5:18:44 PM	12196	0.68102	20201020_011	3.153	25.0000	1.0000	7
Sodium Perchlorate-18O4_IS	PERCHLORATE2	10/20/2020 5:18:44 PM	178459	1.00000	20201020_011	3.151	25.0000	1.0000	7

Perchlorate

Conc 0.68102
Area 12196

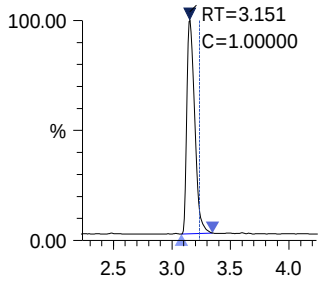
Q 99.00>83.00 (-) 2.52e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 178459

ISTD 107.00>89.00 (-) 3.74e4



ALS Group Houston

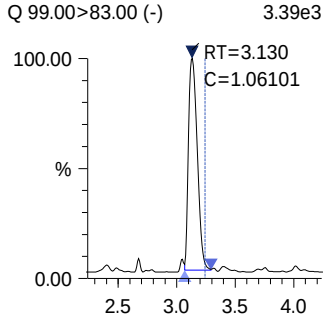
PERCHLORATE3

Date acquired: 10/20/2020 5:26:37 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201020\20201020_012.lcd
Vial: 8 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE3	10/20/2020 5:26:37 PM	17953	1.06101	20201020_012	3.130	25.0000	1.0000	8
Sodium Perchlorate-18O4_IS	PERCHLORATE3	10/20/2020 5:26:37 PM	173169	1.00000	20201020_012	3.123	25.0000	1.0000	8

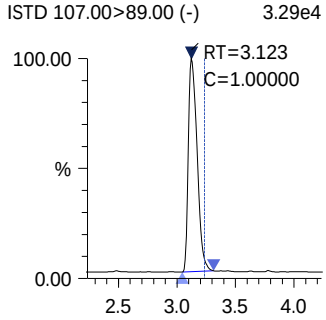
Perchlorate

Conc 1.06101
Area 17953



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 173169



ALS Group Houston

PERCHLORATE4

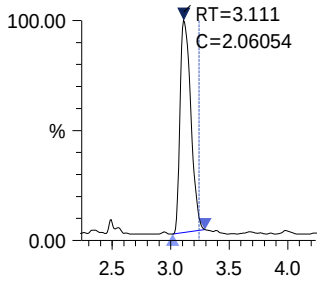
Date acquired: 10/20/2020 5:34:30 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201020\20201020_013.lcd
Vial: 9 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE4	10/20/2020 5:34:30 PM	36954	2.06054	20201020_013	3.111	25.0000	1.0000	9
Sodium Perchlorate-18O4_IS	PERCHLORATE4	10/20/2020 5:34:30 PM	187954	1.00000	20201020_013	3.113	25.0000	1.0000	9

Perchlorate

Conc 2.06054
Area 36954

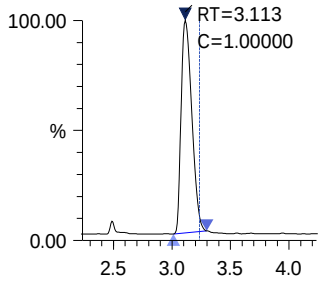
Q 99.00>83.00 (-) 5.74e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 187954

ISTD 107.00>89.00 (-) 2.97e4



ALS Group Houston

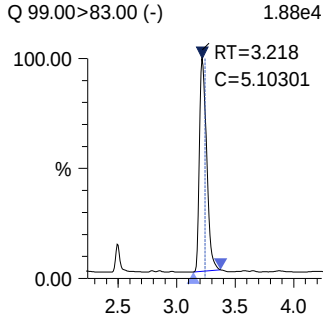
PERCHLORATE5

Date acquired: 10/20/2020 5:42:26 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201020\20201020_014.lcd
Vial: 10 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE5	10/20/2020 5:42:26 PM	79828	5.10301	20201020_014	3.218	25.0000	1.0000	10
Sodium Perchlorate-18O4_IS	PERCHLORATE5	10/20/2020 5:42:26 PM	166486	1.00000	20201020_014	3.217	25.0000	1.0000	10

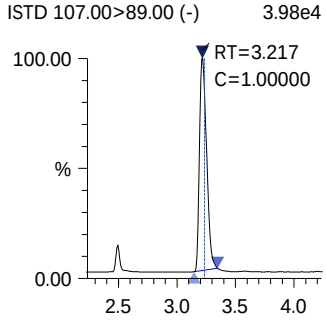
Perchlorate

Conc 5.10301
Area 79828



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 166486



ALS Group Houston

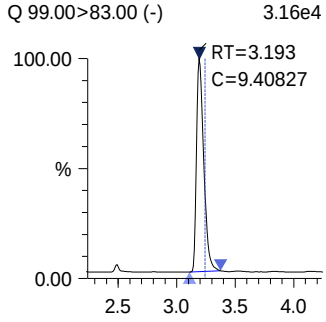
PERCHLORATE6

Date acquired: 10/20/2020 5:50:19 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201020\20201020_015.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE6	10/20/2020 5:50:19 PM	136097	9.40827	20201020_015	3.193	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE6	10/20/2020 5:50:19 PM	154693	1.00000	20201020_015	3.190	25.0000	1.0000	4

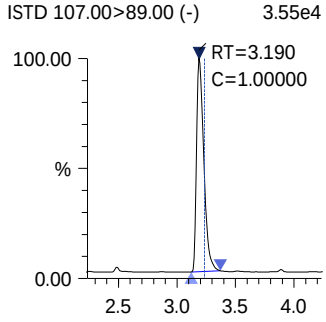
Perchlorate

Conc 9.40827
Area 136097



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 154693



ALS Group Houston

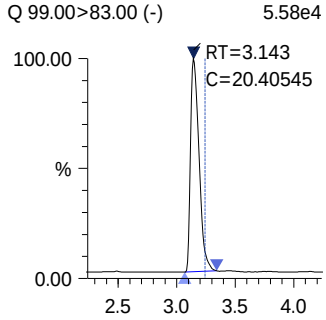
PERCHLORATE7

Date acquired: 10/20/2020 5:58:14 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201020\20201020_016.lcd
Vial: 11 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	10/20/2020 5:58:14 PM	286302	20.40545	20201020_016	3.143	25.0000	1.0000	11
Sodium Perchlorate-18O4_IS	PERCHLORATE7	10/20/2020 5:58:14 PM	150504	1.00000	20201020_016	3.142	25.0000	1.0000	11

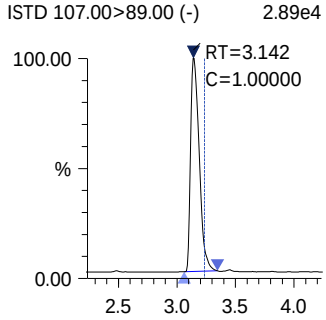
Perchlorate

Conc 20.40545
Area 286302



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 150504



ALS Group Houston

PERCHLORATE8

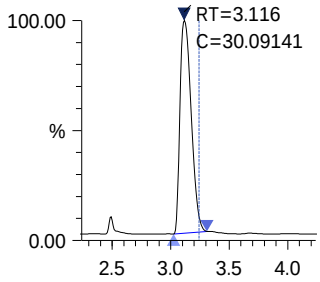
Date acquired: 10/20/2020 6:06:08 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201020\20201020_017.lcd
Vial: 12 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE8	10/20/2020 6:06:08 PM	429904	30.09141	20201020_017	3.116	25.0000	1.0000	12
Sodium Perchlorate-18O4_IS	PERCHLORATE8	10/20/2020 6:06:08 PM	153380	1.00000	20201020_017	3.115	25.0000	1.0000	12

Perchlorate

Conc 30.09141
Area 429904

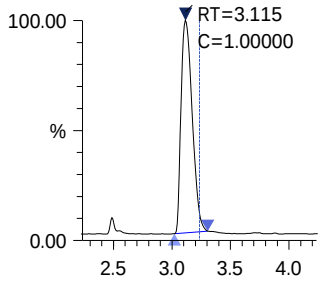
Q 99.00>83.00 (-) 6.42e4



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 153380

ISTD 107.00>89.00 (-) 2.32e4



ALS Group Houston

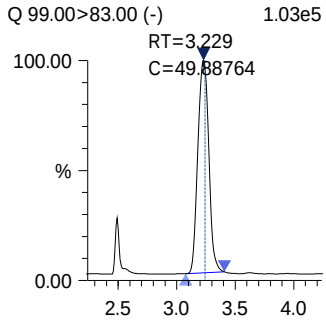
PERCHLORATE9

Date acquired: 10/20/2020 6:14:02 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201020\20201020_018.lcd
Vial: 13 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE9	10/20/2020 6:14:02 PM	663959	49.88764	20201020_018	3.229	25.0000	1.0000	13
Sodium Perchlorate-18O4_IS	PERCHLORATE9	10/20/2020 6:14:02 PM	142988	1.00000	20201020_018	3.226	25.0000	1.0000	13

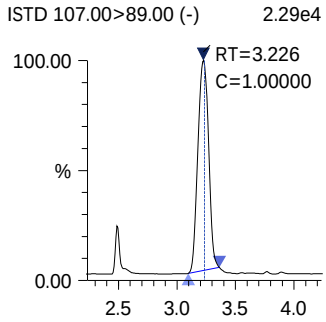
Perchlorate

Conc 49.88764
Area 663959



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 142988



ALS Group Houston

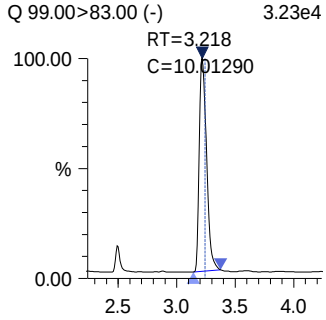
PERCHLORATEICV

Date acquired: 10/20/2020 6:21:55 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201020\20201020_019.lcd
Vial: 14 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATEICV	10/20/2020 6:21:55 PM	138426	10.01290	20201020_019	3.218	25.0000	1.0000	14
Sodium Perchlorate-18O4_IS	PERCHLORATEICV	10/20/2020 6:21:55 PM	147890	1.00000	20201020_019	3.215	25.0000	1.0000	14

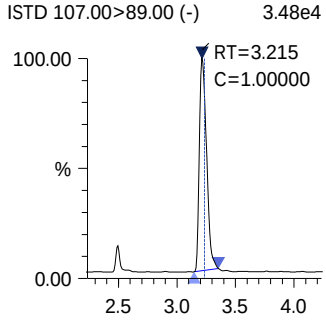
Perchlorate

Conc 10.01290
Area 138426



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 147890



Chromatograms and Selected Ion Monitoring

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 320, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

20201019

ALS Environmental

ICAL Date: 9/15/2020
Cal. Std. xp: 11/18/2020
ICAL ID: EC2000032

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	null		20201019_001	Perchlorate6850b.lcm	1x	☒		10/19/2020 14:37
2	null		20201019_002	Perchlorate6850b.lcm	1x	☒		10/19/2020 14:41
3	IB		20201019_003	Perchlorate6850b.lcm	1x	☒		10/19/2020 14:47
4	LODV		20201019_004	Perchlorate6850b.lcm	1x	☒		10/19/2020 14:55
5	ICS		20201019_006	Perchlorate6850b.lcm	1x	☒		10/19/2020 15:10
6	PERCHLORATE7		20201019_007	Perchlorate6850b.lcm	1x	☒	3100807-04	10/19/2020 15:18
7	E2000964-001X10		20201019_008	Perchlorate6850b.lcm	10x	☒		10/19/2020 15:26
8	E2000964-002X10		20201019_009	Perchlorate6850b.lcm	10x	☒		10/19/2020 15:34
9	E2000964-003X10		20201019_010	Perchlorate6850b.lcm	10x	☒		10/19/2020 15:42
10	E2000964-004X10		20201019_011	Perchlorate6850b.lcm	10x	☒		10/19/2020 15:50
11	E2000964-005X10		20201019_012	Perchlorate6850b.lcm	10x	☒		10/19/2020 15:58
12	E2000964-006		20201019_013	Perchlorate6850b.lcm	1x	☒		10/19/2020 16:06
13	E2000964-007X10		20201019_014	Perchlorate6850b.lcm	10x	☒		10/19/2020 16:42
14	E2000964-008X10		20201019_015	Perchlorate6850b.lcm	10x	☒		10/19/2020 16:50
15	PERCHLORATE7		20201019_016	Perchlorate6850b.lcm	1x	☒	3100807-04	10/19/2020 16:58
16	EQ2000512-01		20201019_017	Perchlorate6850b.lcm	1x	☒		10/19/2020 17:05
17	EQ2000512-02		20201019_018	Perchlorate6850b.lcm	1x	☒		10/19/2020 17:13
18	EQ2000512-03		20201019_019	Perchlorate6850b.lcm	1x	☒		10/19/2020 17:21
19	E2000965-001		20201019_020	Perchlorate6850b.lcm	1x	☒		10/19/2020 17:29
20	E2000965-002		20201019_021	Perchlorate6850b.lcm	1x	☒		10/19/2020 17:37
21	E2000965-003		20201019_022	Perchlorate6850b.lcm	1x	☒		10/19/2020 17:45
22	E2000965-004		20201019_023	Perchlorate6850b.lcm	1x	☒		10/19/2020 17:53
23	E2000965-005		20201019_024	Perchlorate6850b.lcm	1x	☒		10/19/2020 18:01
24	E2000966-001		20201019_025	Perchlorate6850b.lcm	1x	☒		10/19/2020 18:09
25	E2000966-002		20201019_026	Perchlorate6850b.lcm	1x	☒		10/19/2020 18:17
26	PERCHLORATE7		20201019_027	Perchlorate6850b.lcm	1x	☒	3100807-04	10/19/2020 18:25
27	E2000968-001		20201019_028	Perchlorate6850b.lcm	1x	☒		10/19/2020 18:33
28	E2000968-002		20201019_029	Perchlorate6850b.lcm	1x	☒		10/19/2020 18:40
29	E2000968-003		20201019_030	Perchlorate6850b.lcm	1x	☒		10/19/2020 18:48
30	E2000968-004		20201019_031	Perchlorate6850b.lcm	1x	☒		10/19/2020 18:56
31	E2000968-005		20201019_032	Perchlorate6850b.lcm	1x	☒		10/19/2020 19:04
32	E2000968-006		20201019_033	Perchlorate6850b.lcm	1x	☒		10/19/2020 19:12
33	E2000968-007		20201019_034	Perchlorate6850b.lcm	1x	☒		10/19/2020 19:20
34	E2000971-001		20201019_035	Perchlorate6850b.lcm	1x	☒		10/19/2020 19:28
35	E2000971-002		20201019_036	Perchlorate6850b.lcm	1x	☒		10/19/2020 19:36
36	E2000971-003		20201019_037	Perchlorate6850b.lcm	1x	☒		10/19/2020 19:44
37	PERCHLORATE7		20201019_038	Perchlorate6850b.lcm	1x	☒	3100807-04	10/19/2020 19:51
38	E2000971-004		20201019_039	Perchlorate6850b.lcm	1x	☒		10/19/2020 19:59
39	E2000971-005		20201019_040	Perchlorate6850b.lcm	1x	☒		10/19/2020 20:07
40	EQ2000513-01		20201019_041	Perchlorate6850b.lcm	1x	☒		10/19/2020 20:15
41	EQ2000513-02		20201019_042	Perchlorate6850b.lcm	1x	☒		10/19/2020 20:23
42	EQ2000513-03		20201019_043	Perchlorate6850b.lcm	1x	☒		10/19/2020 20:31
43	EQ2000513-04		20201019_044	Perchlorate6850b.lcm	1x	☒		10/19/2020 20:39
44	EQ2000513-05		20201019_045	Perchlorate6850b.lcm	1x	☒		10/19/2020 20:47
45	E2000981-001		20201019_046	Perchlorate6850b.lcm	1x	☒		10/19/2020 20:55
46	E2000982-001		20201019_047	Perchlorate6850b.lcm	1x	☒		10/19/2020 21:02
47	E2000984-001		20201019_048	Perchlorate6850b.lcm	1x	☒		10/19/2020 21:10
48	PERCHLORATE7		20201019_049	Perchlorate6850b.lcm	1x	☒	3100807-04	10/19/2020 21:18
49	E2000985-001		20201019_050	Perchlorate6850b.lcm	1x	☒		10/19/2020 21:26
50	E2000985-002		20201019_051	Perchlorate6850b.lcm	1x	☒		10/19/2020 21:34
51	E2000985-003		20201019_052	Perchlorate6850b.lcm	1x	☒		10/19/2020 21:42
52	E2000985-004		20201019_053	Perchlorate6850b.lcm	1x	☒		10/19/2020 21:50
53	E2000985-005		20201019_054	Perchlorate6850b.lcm	1x	☒		10/19/2020 21:58
54	E2000985-006		20201019_055	Perchlorate6850b.lcm	1x	☒		10/19/2020 22:05
55	E2000996-001		20201019_056	Perchlorate6850b.lcm	1x	☒		10/19/2020 22:13
56	E2000996-002		20201019_057	Perchlorate6850b.lcm	1x	☒		10/19/2020 22:21
57	E2000996-003		20201019_058	Perchlorate6850b.lcm	1x	☒		10/19/2020 22:29
58	E2000996-004		20201019_059	Perchlorate6850b.lcm	1x	☒		10/19/2020 22:37
59	PERCHLORATE7		20201019_060	Perchlorate6850b.lcm	1x	☒	3100807-04	10/19/2020 22:45
60	E2000996-005		20201019_061	Perchlorate6850b.lcm	1x	☒		10/19/2020 22:53
61	E2000996-006		20201019_062	Perchlorate6850b.lcm	1x	☒		10/19/2020 23:01

20201019

ALS Environmental

ICAL Date: 9/15/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000032**

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
62	E2000996-007		20201019_063	Perchlorate6850b.lcm	1x	☒		10/19/2020 23:09
63	E2000996-008		20201019_064	Perchlorate6850b.lcm	1x	☒		10/19/2020 23:16
64	E2000996-009		20201019_065	Perchlorate6850b.lcm	1x	☒		10/19/2020 23:24
65	PERCHLORATE7		20201019_066	Perchlorate6850b.lcm	1x	☒	3100807-04	10/19/2020 23:32
66	null		20201019_067	Perchlorate6850b.lcm	1x	☒		10/19/2020 23:37
67	null		20201019_068	Perchlorate6850b.lcm	1x	☒		10/19/2020 23:42
68								
69								

20201020

ALS Environmental

ICAL Date: 9/20/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000045**

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	PERCHLORATE1		20201020_009	Perchlorate6850b.lcm	1x	☒	3100806-05	10/20/2020 17:02
2	PERCHLORATE2		20201020_011	Perchlorate6850b.lcm	1x	☒	3100806-07	10/20/2020 17:18
3	PERCHLORATE3		20201020_012	Perchlorate6850b.lcm	1x	☒	3100807-01	10/20/2020 17:26
4	PERCHLORATE4		20201020_013	Perchlorate6850b.lcm	1x	☒	3100807-02	10/20/2020 17:34
5	PERCHLORATE5		20201020_014	Perchlorate6850b.lcm	1x	☒	3100807-03	10/20/2020 17:42
6	PERCHLORATE6		20201020_015	Perchlorate6850b.lcm	1x	☒	3100807-04	10/20/2020 17:50
7	PERCHLORATE7		20201020_016	Perchlorate6850b.lcm	1x	☒	3100807-05	10/20/2020 17:58
8	PERCHLORATE8		20201020_017	Perchlorate6850b.lcm	1x	☒	3100807-06	10/20/2020 18:06
9	PERCHLORATE9		20201020_018	Perchlorate6850b.lcm	1x	☒	3100807-07	10/20/2020 18:14
10	PERCHLORATEICV		20201020_019	Perchlorate6850b.lcm	1x	☒	3100807-08	10/20/2020 18:21
11	IB		20201020_020	Perchlorate6850b.lcm	1x	☒		10/20/2020 18:29
12	LODV		20201020_021	Perchlorate6850b.lcm	1x	☒		10/20/2020 18:37
13	ICS		20201020_022	Perchlorate6850b.lcm	1x	☒		10/20/2020 18:45
14	PERCHLORATE7		20201020_023	Perchlorate6850b.lcm	1x	☒	3100807-05	10/20/2020 18:53
15	EQ2000512-03RR		20201020_024	Perchlorate6850b.lcm	1x	☒		10/20/2020 19:01
16	E2000965-005X2		20201020_025	Perchlorate6850b.lcm	2x	☒		10/20/2020 19:09
17	E2000966-002X2		20201020_026	Perchlorate6850b.lcm	2x	☒		10/20/2020 19:17
18	E2000971-001X2		20201020_027	Perchlorate6850b.lcm	2x	☒		10/20/2020 19:25
19	E2000971-003X2		20201020_028	Perchlorate6850b.lcm	2x	☒		10/20/2020 19:33
20	E2000971-004X2		20201020_029	Perchlorate6850b.lcm	2x	☒		10/20/2020 19:40
21	E2000971-005X10		20201020_030	Perchlorate6850b.lcm	10x	☒		10/20/2020 19:48
22	PERCHLORATE7		20201020_031	Perchlorate6850b.lcm	1x	☒	3100807-05	10/20/2020 19:56
23	EQ2000513-02RR		20201020_032	Perchlorate6850b.lcm	1x	☒		10/20/2020 20:04
24	EQ2000513-03RR		20201020_033	Perchlorate6850b.lcm	1x	☒		10/20/2020 20:12
25	EQ2000513-04RR		20201020_034	Perchlorate6850b.lcm	1x	☒		10/20/2020 20:20
26	EQ2000513-05RR		20201020_035	Perchlorate6850b.lcm	1x	☒		10/20/2020 20:28
27	E2000981-001X2		20201020_036	Perchlorate6850b.lcm	2x	☒		10/20/2020 20:36
28	E2000982-001X200		20201020_037	Perchlorate6850b.lcm	200x	☒		10/20/2020 20:44
29	E2000984-001X2		20201020_038	Perchlorate6850b.lcm	2x	☒		10/20/2020 20:51
30	E2000985-002X20		20201020_039	Perchlorate6850b.lcm	20x	☒		10/20/2020 20:59
31	E2000985-003X2		20201020_040	Perchlorate6850b.lcm	2x	☒		10/20/2020 21:07
32	E2000985-004X10		20201020_041	Perchlorate6850b.lcm	10x	☒		10/20/2020 21:15
33	PERCHLORATE7		20201020_042	Perchlorate6850b.lcm	1x	☒	3100807-05	10/20/2020 21:23
34	E2000985-006X10		20201020_043	Perchlorate6850b.lcm	10x	☒		10/20/2020 21:31
35	E2000996-003X2		20201020_044	Perchlorate6850b.lcm	2x	☒		10/20/2020 21:39
36	E2000996-005X2		20201020_045	Perchlorate6850b.lcm	2x	☒		10/20/2020 21:47
37	E2000996-006X5		20201020_046	Perchlorate6850b.lcm	5x	☒		10/20/2020 21:55
38	E2000996-009X5		20201020_047	Perchlorate6850b.lcm	5x	☒		10/20/2020 22:02
39	PERCHLORATE7		20201020_048	Perchlorate6850b.lcm	1x	☒	3100807-05	10/20/2020 22:10
40	null		20201020_049	Perchlorate6850b.lcm	1x	☒		10/20/2020 22:15
41	null		20201020_050	Perchlorate6850b.lcm	1x	☒		10/20/2020 22:20
42								
43								

20201021

ALS Environmental

ICAL Date: 9/20/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000045**

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	null		20201021_001	Perchlorate6850b.lcm	1x	☒		10/21/2020 9:41
2	null		20201021_002	Perchlorate6850b.lcm	1x	☒		10/21/2020 9:46
3	IB		20201021_003	Perchlorate6850b.lcm	1x	☒		10/21/2020 9:52
4	IB		20201021_004	Perchlorate6850b.lcm	1x	☒		10/21/2020 10:00
5	LODV		20201021_005	Perchlorate6850b.lcm	1x	☒		10/21/2020 10:07
6	ICS		20201021_006	Perchlorate6850b.lcm	1x	☒		10/21/2020 10:15
7	PERCHLORATE7		20201021_007	Perchlorate6850b.lcm	1x	☒	3100807-05	10/21/2020 10:23
8	E2000965-005RR		20201021_008	Perchlorate6850b.lcm	1x	☒		10/21/2020 10:31
9	E2000966-002RR		20201021_009	Perchlorate6850b.lcm	1x	☒		10/21/2020 10:39
10	E2000971-001RR		20201021_010	Perchlorate6850b.lcm	1x	☒		10/21/2020 10:47
11	E2000971-003RR		20201021_011	Perchlorate6850b.lcm	1x	☒		10/21/2020 10:55
12	E2000971-004RR		20201021_012	Perchlorate6850b.lcm	1x	☒		10/21/2020 11:03
13	E2000981-001RR		20201021_013	Perchlorate6850b.lcm	1x	☒		10/21/2020 11:11
14	E2000984-001RR		20201021_014	Perchlorate6850b.lcm	1x	☒		10/21/2020 11:19
15	E2000985-003RR		20201021_015	Perchlorate6850b.lcm	1x	☒		10/21/2020 11:26
16	E2000985-005RR		20201021_016	Perchlorate6850b.lcm	1x	☒		10/21/2020 11:34
17	E2000985-006RR		20201021_017	Perchlorate6850b.lcm	1x	☒		10/21/2020 11:42
18	PERCHLORATE7		20201021_018	Perchlorate6850b.lcm	1x	☒	3100807-05	10/21/2020 11:50
19	E2000996-003RR		20201021_019	Perchlorate6850b.lcm	1x	☒		10/21/2020 11:58
20	E2000996-005RR		20201021_020	Perchlorate6850b.lcm	1x	☒		10/21/2020 12:06
21	E2000996-009RR		20201021_021	Perchlorate6850b.lcm	1x	☒		10/21/2020 12:14
22	E2000985-006X2		20201021_022	Perchlorate6850b.lcm	2x	☒		10/21/2020 12:40
23	E2000996-009X2		20201021_023	Perchlorate6850b.lcm	2x	☒		10/21/2020 12:48
24	PERCHLORATE7		20201021_024	Perchlorate6850b.lcm	1x	☒	3100807-05	10/21/2020 12:56
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ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20100455

Service Request: E2000971
Date Analyzed: 10/19/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201019\20201019_016

Calibration Date: 9/15/20
Calibration ID: EC2000032
Analysis Lot: 700168
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.4	NA	NA	NA	4.1	± 15 %	Quadratic

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20100455

Service Request: E2000971
Date Analyzed: 10/19/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201019\20201019_027

Calibration Date: 9/15/20
Calibration ID: EC2000032
Analysis Lot: 700168
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.6	NA	NA	NA	5.7	± 15 %	Quadratic

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20100455

Service Request: E2000971
Date Analyzed: 10/19/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201019\20201019_038

Calibration Date: 9/15/20
Calibration ID: EC2000032
Analysis Lot: 700168
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.5	NA	NA	NA	4.8	± 15 %	Quadratic

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20100455

Service Request: E2000971
Date Analyzed: 10/19/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201019\20201019_049

Calibration Date: 9/15/20
Calibration ID: EC2000032
Analysis Lot: 700168
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.7	NA	NA	NA	6.8	± 15 %	Quadratic

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20100455

Service Request: E2000971
Date Analyzed: 10/19/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201019\20201019_060

Calibration Date: 9/15/20
Calibration ID: EC2000032
Analysis Lot: 700168
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.7	NA	NA	NA	6.8	± 15 %	Quadratic

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20100455

Service Request: E2000971
Date Analyzed: 10/19/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201019\20201019_066

Calibration Date: 9/15/20
Calibration ID: EC2000032
Analysis Lot: 700168
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.8	NA	NA	NA	7.8	± 15 %	Quadratic

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20100455

Service Request: E2000971
Date Analyzed: 10/20/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201020\20201020_023

Calibration Date: 10/20/20
Calibration ID: EC2000045
Analysis Lot: 700170
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.12	NA	NA	NA	-8.8	± 15 %	Linear

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20100455

Service Request: E2000971
Date Analyzed: 10/20/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201020\20201020_031

Calibration Date: 10/20/20
Calibration ID: EC2000045
Analysis Lot: 700170
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.22	NA	NA	NA	-7.8	± 15 %	Linear

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20100455

Service Request: E2000971
Date Analyzed: 10/20/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201020\20201020_042

Calibration Date: 10/20/20
Calibration ID: EC2000045
Analysis Lot: 700170
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.16	NA	NA	NA	-8.4	± 15 %	Linear

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20100455

Service Request: E2000971
Date Analyzed: 10/20/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201020\20201020_048

Calibration Date: 10/20/20
Calibration ID: EC2000045
Analysis Lot: 700170
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.05	NA	NA	NA	-9.5	± 15 %	Linear

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20100455

Service Request: E2000971
Date Analyzed: 10/21/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201021\20201021_007

Calibration Date: 10/20/20
Calibration ID: EC2000045
Analysis Lot: 700177
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.69	NA	NA	NA	-3.1	± 15 %	Linear

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20100455

Service Request: E2000971
Date Analyzed: 10/21/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201021\20201021_018

Calibration Date: 10/20/20
Calibration ID: EC2000045
Analysis Lot: 700177
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.93	NA	NA	NA	-0.7	± 15 %	Linear

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20100455

Service Request: E2000971
Date Analyzed: 10/21/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201021\20201021_024

Calibration Date: 10/20/20
Calibration ID: EC2000045
Analysis Lot: 700177
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.86	NA	NA	NA	-1.4	± 15 %	Linear

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000971
Project:	HS20100455	**Date Analyzed:**	10/19/20 16:58

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20201019\20201019_016	**Lab Code:**	EQ2000518-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	700168
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	160,593	3.24
	Upper Limit ==>	240,890	5.24
	Lower Limit ==>	80,297	1.24
Associated Analyses			
Continuing Calibration Verification	EQ2000518-01	94,962	3.08
Method Blank	EQ2000512-01	102,890	3.08
Lab Control Sample	EQ2000512-02	108,918	3.08

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000971
Project:	HS20100455	**Date Analyzed:**	10/19/20 18:25

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20201019\20201019_027	**Lab Code:**	EQ2000518-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	700168
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	160,593	3.24
	Upper Limit ==>	240,890	5.24
	Lower Limit ==>	80,297	1.24
Associated Analyses			
Continuing Calibration Verification	EQ2000518-02	93,770	3.07
16WW57-201008	E2000971-002	86,574	3.03

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000971
Project:	HS20100455	**Date Analyzed:**	10/19/20 19:51

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20201019\20201019_038	**Lab Code:**	EQ2000518-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	700168
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	160,593	3.24
	Upper Limit ==>	240,890	5.24
	Lower Limit ==>	80,297	1.24
Associated Analyses			
Continuing Calibration Verification	EQ2000518-03	104,278	3.07

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000971
Project:	HS20100455	**Date Analyzed:**	10/19/20 21:18

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20201019\20201019_049	**Lab Code:**	EQ2000518-04
Instrument ID:	E-LCMS-01	**Analysis Lot:**	700168
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	160,593	3.24
	Upper Limit ==>	240,890	5.24
	Lower Limit ==>	80,297	1.24
Associated Analyses			
Continuing Calibration Verification	EQ2000518-04	106,768	3.07

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000971
Project:	HS20100455	**Date Analyzed:**	10/19/20 22:45

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20201019\20201019_060	**Lab Code:**	EQ2000518-05
Instrument ID:	E-LCMS-01	**Analysis Lot:**	700168
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	160,593	3.24
	Upper Limit ==>	240,890	5.24
	Lower Limit ==>	80,297	1.24
Associated Analyses			
Continuing Calibration Verification	EQ2000518-05	112,348	3.07

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000971
Project:	HS20100455	**Date Analyzed:**	10/19/20 23:32

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20201019\20201019_066	**Lab Code:**	EQ2000518-06
Instrument ID:	E-LCMS-01	**Analysis Lot:**	700168
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	160,593	3.24
	Upper Limit ==>	240,890	5.24
	Lower Limit ==>	80,297	1.24
Associated Analyses			
Continuing Calibration Verification	EQ2000518-06	109,491	3.07

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000971
Project:	HS20100455	**Date Analyzed:**	10/20/20 18:53

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20201020\20201020_023	**Lab Code:**	EQ2000519-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	700170
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	169,894	3.17
	Upper Limit ==>	254,841	5.17
	Lower Limit ==>	84,947	1.17
Associated Analyses			
Continuing Calibration Verification	EQ2000519-01	192,599	3.23
Duplicate Lab Control Sample	EQ2000512-03	191,648	3.20
16WW16-201008	E2000971-005	128,080	3.11

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000971
Project:	HS20100455	**Date Analyzed:**	10/20/20 19:56

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20201020\20201020_031	**Lab Code:**	EQ2000519-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	700170
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	169,894	3.17
	Upper Limit ==>	254,841	5.17
	Lower Limit ==>	84,947	1.17
Associated Analyses			
Continuing Calibration Verification	EQ2000519-02	208,788	3.11

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000971
Project:	HS20100455	**Date Analyzed:**	10/20/20 21:23

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20201020\20201020_042	**Lab Code:**	EQ2000519-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	700170
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	169,894	3.17
	Upper Limit ==>	254,841	5.17
	Lower Limit ==>	84,947	1.17
Associated Analyses			
Continuing Calibration Verification	EQ2000519-03	244,880	3.11

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000971
Project:	HS20100455	**Date Analyzed:**	10/20/20 22:10

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20201020\20201020_048	**Lab Code:**	EQ2000519-04
Instrument ID:	E-LCMS-01	**Analysis Lot:**	700170
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	169,894	3.17
	Upper Limit ==>	254,841	5.17
	Lower Limit ==>	84,947	1.17
Associated Analyses			
Continuing Calibration Verification	EQ2000519-04	243,797	3.11

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20100455

Service Request: E2000971
Date Analyzed: 10/21/20 10:23

Internal Standard Area and RT Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID: I:\LCMS01\DATA\20201021\20201021_007
Instrument ID: E-LCMS-01
Analytical Method: 6850

Lab Code: EQ2000520-01
Analysis Lot: 700177
Signal ID: 1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	169,894	3.17
	Upper Limit ==>	254,841	5.17
	Lower Limit ==>	84,947	1.17
Associated Analyses			
Continuing Calibration Verification	EQ2000520-01	232,030	3.25
16WW58-201008	E2000971-001	115,174	3.17
16WW23-201008	E2000971-003	111,510	3.14
50WW24-201008	E2000971-004	144,138	3.12

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000971
Project:	HS20100455	**Date Analyzed:**	10/21/20 11:50

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20201021\20201021_018	**Lab Code:**	EQ2000520-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	700177
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	169,894	3.17
	Upper Limit ==>	254,841	5.17
	Lower Limit ==>	84,947	1.17
Associated Analyses			
Continuing Calibration Verification	EQ2000520-02	184,365	3.23

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000971
Project:	HS20100455	**Date Analyzed:**	10/21/20 12:56

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20201021\20201021_024	**Lab Code:**	EQ2000520-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	700177
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	169,894	3.17
	Upper Limit ==>	254,841	5.17
	Lower Limit ==>	84,947	1.17
Associated Analyses			
Continuing Calibration Verification	EQ2000520-03	190,977	3.19

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

ALS Group Houston

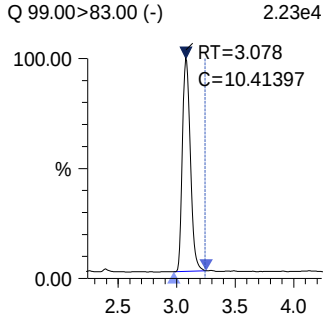
PERCHLORATE7

Date acquired: 10/19/2020 4:58:07 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201019\20201019_016.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	10/19/2020 4:58:07 PM	104620	10.41397	20201019_016	3.078	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	10/19/2020 4:58:07 PM	94962	1.00000	20201019_016	3.076	25.0000	1.0000	4

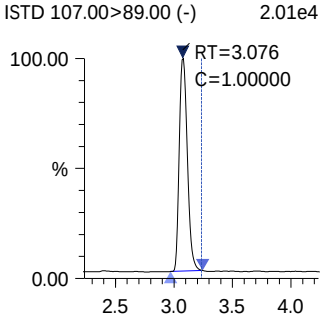
Perchlorate

Conc 10.41397
Area 104620



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 94962



ALS Group Houston

EQ2000512-01

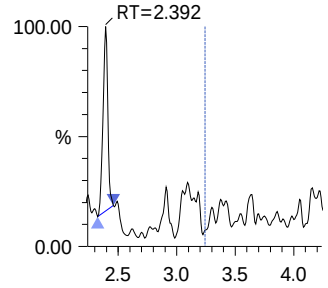
Date acquired: 10/19/2020 5:05:59 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201019\20201019_017.lcd
Vial: 1 | Inj. Volume: 25.0000uL | Tray: 3

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000512-01	10/19/2020 5:05:59 PM	----	----	20201019_017	----	25.0000	1.0000	1
Sodium Perchlorate-18O4_IS	EQ2000512-01	10/19/2020 5:05:59 PM	102890	1.00000	20201019_017	3.076	25.0000	1.0000	1

Perchlorate

Conc ----
Area ----

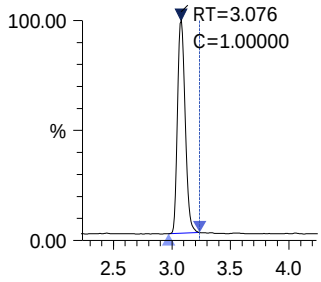
Q 99.00>83.00 (-) 4.37e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 102890

ISTD 107.00>89.00 (-) 2.30e4



ALS Group Houston

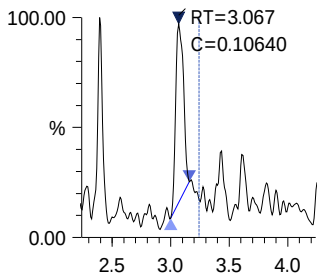
EQ2000512-02

Date acquired: 10/19/2020 5:13:54 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201019\20201019_018.lcd
Vial: 2 | Inj. Volume: 25.0000uL | Tray: 3

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000512-02	10/19/2020 5:13:54 PM	1386	0.10640	20201019_018	3.067	25.0000	1.0000	2
Sodium Perchlorate-18O4_IS	EQ2000512-02	10/19/2020 5:13:54 PM	108918	1.00000	20201019_018	3.075	25.0000	1.0000	2

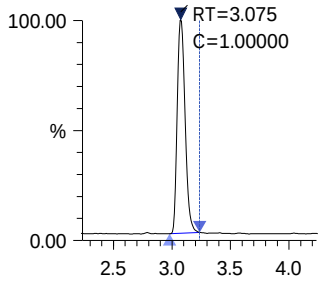
Perchlorate

Conc 0.10640
Area 1386
Q 99.00>83.00 (-) 3.68e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 108918
ISTD 107.00>89.00 (-) 2.37e4



ALS Group Houston

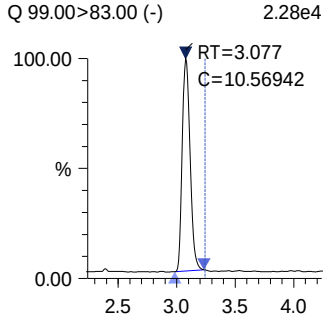
PERCHLORATE7

Date acquired: 10/19/2020 6:25:10 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201019\20201019_027.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	10/19/2020 6:25:10 PM	104832	10.56942	20201019_027	3.077	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	10/19/2020 6:25:10 PM	93770	1.00000	20201019_027	3.074	25.0000	1.0000	4

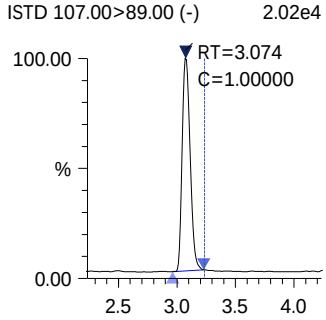
Perchlorate

Conc 10.56942
Area 104832



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 93770



ALS Group Houston

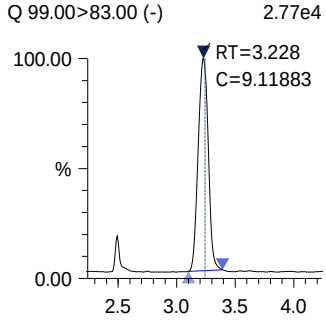
PERCHLORATE7

Date acquired: 10/20/2020 6:53:31 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201020\20201020_023.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	10/20/2020 6:53:31 PM	164263	9.11883	20201020_023	3.228	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	10/20/2020 6:53:31 PM	192599	1.00000	20201020_023	3.227	25.0000	1.0000	4

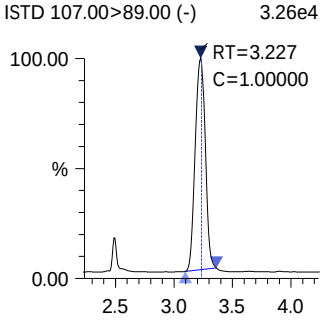
Perchlorate

Conc 9.11883
Area 164263



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 192599



ALS Group Houston

EQ2000512-03

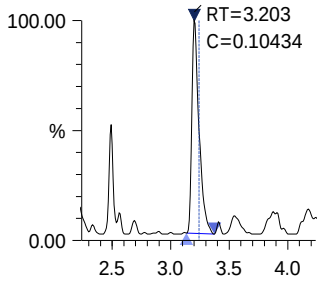
Date acquired: 10/20/2020 7:01:25 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201020\20201020_024.lcd
Vial: 3 | Inj. Volume: 25.0000uL | Tray: 3

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000512-03RR	10/20/2020 7:01:25 PM	2822	0.10434	20201020_024	3.203	25.0000	1.0000	3
Sodium Perchlorate-18O4_IS	EQ2000512-03RR	10/20/2020 7:01:25 PM	191648	1.00000	20201020_024	3.203	25.0000	1.0000	3

Perchlorate

Conc 0.10434
Area 2822

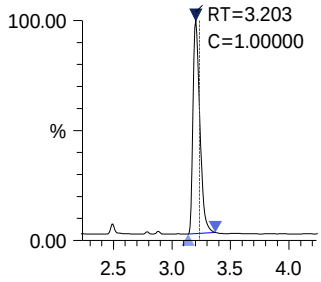
Q 99.00>83.00 (-) 6.61e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 191648

ISTD 107.00>89.00 (-) 4.68e4



ALS Group Houston

PERCHLORATE7

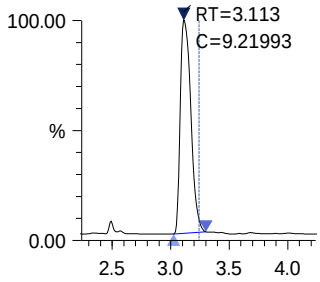
Date acquired: 10/20/2020 7:56:44 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201020\20201020_031.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	10/20/2020 7:56:44 PM	180033	9.21993	20201020_031	3.113	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	10/20/2020 7:56:44 PM	208788	1.00000	20201020_031	3.114	25.0000	1.0000	4

Perchlorate

Conc 9.21993
Area 180033

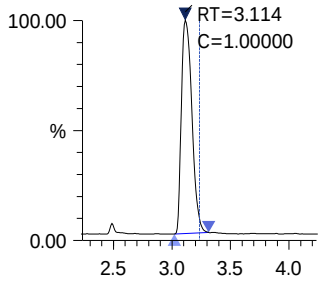
Q 99.00>83.00 (-) 2.84e4



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 208788

ISTD 107.00>89.00 (-) 3.33e4



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October 31, 2020

Susan Huang
Aptim Environmental & Infrastucture, Inc.
2500 City West Blvd., Suite 1700
Houston, TX 77042

Work Order: **HS20100719**

Laboratory Results for: **LHAAP 16 October 2020**

Dear Susan Huang,

ALS Environmental received 7 sample(s) on Oct 14, 2020 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL
RJ Modashia
Project Manager

ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
Work Order: HS20100719

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20100719-01	16WW36-201013	Groundwater		13-Oct-2020 07:35	14-Oct-2020 09:15	☐
HS20100719-02	16WW35-201013	Groundwater		13-Oct-2020 08:20	14-Oct-2020 09:15	☐
HS20100719-03	16IW09-201013	Groundwater		13-Oct-2020 09:10	14-Oct-2020 09:15	☐
HS20100719-04	16WW55-201013	Groundwater		13-Oct-2020 10:00	14-Oct-2020 09:15	☐
HS20100719-05	16IW03-201013	Groundwater		13-Oct-2020 10:50	14-Oct-2020 09:15	☐
HS20100719-06	16IW10-201013	Groundwater		13-Oct-2020 11:50	14-Oct-2020 09:15	☐
HS20100719-07	Trip blank-201008	Water	CG 092320 -87	13-Oct-2020 07:35	14-Oct-2020 09:15	☐

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc. **CASE NARRATIVE**
Project: LHAAP 16 October 2020
Work Order: HS20100719

Work Order Comments

- The analysis for Perchlorate was subcontracted our ALS Houston TX, High Resolution Lab. Final report attached. The analysis for TOC was subcontracted to ALS Kelso, WA. Final report attached.

GC Semivolatiles by Method RSK-175

Batch ID: R371090

Sample ID: 16IW03-201013 (HS20100719-05MS)

- The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits. However, the LCS was within control limits. The recovery of the MS may be due to sample matrix interference.

Sample ID: 16IW03-201013 (HS20100719-05MSD)

- The recovery of the Matrix Spike Duplicate (MSD) associated to this analyte was outside of the established control limits. However, the LCS was within control limits. The failed recovery of the MSD may be due to sample matrix interference.

GCMS Volatiles by Method SW8260

Batch ID: R371372

Sample ID: 16WW35-201013 (HS20100719-02)

- Surrogate failure (4-Bromofluorobenzene) confirmed by re-analysis @ higher dilution.

Batch ID: R371450

Sample ID: HS20100780-04MS

- MS and MSD are for an unrelated sample

Wet Chemistry by Method SW9056

Batch ID: R371460

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SW9056

Batch ID: R370990

Sample ID: 16IW03-201013 (HS20100719-05MS)

- The recovery of the Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) associated with this analyte was outside of the established control limits. However, the LCS was within control limits. The recovery of the MS/MSD may be due to sample matrix interference. (Nitrogen, Nitrate (As N))

Sample ID: 16IW03-201013 (HS20100719-05MSD)

- The recovery of the Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) associated with this analyte was outside of the established control limits. However, the LCS was within control limits. The recovery of the MS/MSD may be due to sample matrix interference. (Sulfate)

Sample ID: 16WW35-201013 (HS20100719-02)

- Sample ran at 5X due to high concentration of Sulfate

Sample ID: 16WW36-201013 (HS20100719-01)

- Sample ran at 5X due to high concentration of Sulfate

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ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
Work Order: HS20100719

CASE NARRATIVE

WetChemistry by Method SW9056

Batch ID: R370990

Sample ID: HS20100651-02MS

• MS and MSD are for an unrelated sample (Nitrogen, Nitrate (As N),Sulfate)

WetChemistry by Method SM2320B

Batch ID: R370623

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
Sample ID: 16WW36-201013
Collection Date: 13-Oct-2020 07:35

ANALYTICAL REPORT
WorkOrder:HS20100719
Lab ID:HS20100719-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	50	U	15	50	50	UG/L	50	27-Oct-2020 14:36
1,1-Dichloroethene	**170**		**10**	**25**	**50**	**UG/L**	50	27-Oct-2020 14:36
1,2-Dichloroethane	25	U	10	25	50	UG/L	50	27-Oct-2020 14:36
cis-1,2-Dichloroethene	**26,000**		**100**	**250**	**500**	**UG/L**	500	27-Oct-2020 15:39
Methylene chloride	50	U	20	50	100	UG/L	50	27-Oct-2020 14:36
Trichloroethene	**22,000**		**100**	**250**	**500**	**UG/L**	500	27-Oct-2020 15:39
Vinyl chloride	**180**		**10**	**25**	**50**	**UG/L**	50	27-Oct-2020 14:36
Surr: 1,2-Dichloroethane-d4	*85.7*			**0**	*81-118*	*%REC*	*50*	*27-Oct-2020 14:36*
Surr: 1,2-Dichloroethane-d4	*86.5*			**0**	*81-118*	*%REC*	*500*	*27-Oct-2020 15:39*
Surr: 4-Bromofluorobenzene	*85.4*			**0**	*85-114*	*%REC*	*50*	*27-Oct-2020 14:36*
Surr: 4-Bromofluorobenzene	*90.0*			**0**	*85-114*	*%REC*	*500*	*27-Oct-2020 15:39*
Surr: Dibromofluoromethane	*85.8*			**0**	*80-119*	*%REC*	*500*	*27-Oct-2020 15:39*
Surr: Dibromofluoromethane	*84.6*			**0**	*80-119*	*%REC*	*50*	*27-Oct-2020 14:36*
Surr: Toluene-d8	*98.8*			**0**	*89-112*	*%REC*	*50*	*27-Oct-2020 14:36*
Surr: Toluene-d8	*98.2*			**0**	*89-112*	*%REC*	*500*	*27-Oct-2020 15:39*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PVL
Ethane	**0.00109**		**0.000144**	**0.000250**	**0.00100**	**mg/L**	1	21-Oct-2020 14:23
Ethene	**0.0101**		**0.000234**	**0.000500**	**0.00100**	**mg/L**	1	21-Oct-2020 14:23
Methane	**0.273**		**0.00214**	**0.00500**	**0.0100**	**mg/L**	20	21-Oct-2020 16:08
ALKALINITY BY SM2320B		**Method:SM2320B**						Analyst: TH
Alkalinity, Total (As CaCO3)	**563**	a	**5.00**	**5.00**	**5.00**	**mg/L**	1	15-Oct-2020 23:06
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**2.41**		**0.150**	**0.500**	**0.500**	**mg/L**	5	14-Oct-2020 23:38
Nitrogen, Nitrate (As N)	0.500	U	0.150	0.500	0.500	mg/L	5	14-Oct-2020 23:38
Sulfate	**2,840**		**10.0**	**25.0**	**25.0**	**mg/L**	50	15-Oct-2020 08:57
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	22-Oct-2020 13:19
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	31-Oct-2020 13:27

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
Sample ID: 16WW35-201013
Collection Date: 13-Oct-2020 08:20

ANALYTICAL REPORT
WorkOrder:HS20100719
Lab ID:HS20100719-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	2.5	U	1.5	2.5	5.0	UG/L	5	26-Oct-2020 14:16
1,1-Dichloroethene	**93**		**1.0**	**2.5**	**5.0**	**UG/L**	5	26-Oct-2020 14:16
1,2-Dichloroethane	2.5	U	1.0	2.5	5.0	UG/L	5	26-Oct-2020 14:16
cis-1,2-Dichloroethene	**1,600**		**50**	**120**	**250**	**UG/L**	250	26-Oct-2020 17:26
Methylene chloride	5.0	U	2.0	5.0	10	UG/L	5	26-Oct-2020 14:16
Trichloroethene	**11,000**		**50**	**120**	**250**	**UG/L**	250	26-Oct-2020 17:26
Vinyl chloride	**97**		**1.0**	**2.5**	**5.0**	**UG/L**	5	26-Oct-2020 14:16
Surr: 1,2-Dichloroethane-d4	*85.1*			**0**	*81-118*	*%REC*	*5*	*26-Oct-2020 14:16*
Surr: 1,2-Dichloroethane-d4	*86.3*			**0**	*81-118*	*%REC*	*250*	*26-Oct-2020 17:26*
Surr: 4-Bromofluorobenzene	*84.8*	*S*		**0**	*85-114*	*%REC*	*5*	*26-Oct-2020 14:16*
Surr: 4-Bromofluorobenzene	*85.5*			**0**	*85-114*	*%REC*	*250*	*26-Oct-2020 17:26*
Surr: Dibromofluoromethane	*88.2*			**0**	*80-119*	*%REC*	*250*	*26-Oct-2020 17:26*
Surr: Dibromofluoromethane	*88.7*			**0**	*80-119*	*%REC*	*5*	*26-Oct-2020 14:16*
Surr: Toluene-d8	*96.9*			**0**	*89-112*	*%REC*	*5*	*26-Oct-2020 14:16*
Surr: Toluene-d8	*95.4*			**0**	*89-112*	*%REC*	*250*	*26-Oct-2020 17:26*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PVL
Ethane	**0.00101**		**0.000144**	**0.000250**	**0.00100**	**mg/L**	1	21-Oct-2020 14:41
Ethene	**0.00934**		**0.000234**	**0.000500**	**0.00100**	**mg/L**	1	21-Oct-2020 14:41
Methane	**0.0969**		**0.00107**	**0.00250**	**0.00500**	**mg/L**	10	21-Oct-2020 16:17
ALKALINITY BY SM2320B		**Method:SM2320B**						Analyst: TH
Alkalinity, Total (As CaCO3)	**1,140**	a	**5.00**	**5.00**	**5.00**	**mg/L**	1	15-Oct-2020 23:16
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	0.500	U	0.150	0.500	0.500	mg/L	5	14-Oct-2020 23:56
Nitrogen, Nitrate (As N)	0.500	U	0.150	0.500	0.500	mg/L	5	14-Oct-2020 23:56
Sulfate	**9,510**		**40.0**	**100**	**100**	**mg/L**	200	28-Oct-2020 05:33
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	22-Oct-2020 13:19
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	31-Oct-2020 13:27

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
Sample ID: 16IW09-201013
Collection Date: 13-Oct-2020 09:10

ANALYTICAL REPORT
WorkOrder:HS20100719
Lab ID:HS20100719-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	26-Oct-2020 13:13
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 13:13
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 13:13
cis-1,2-Dichloroethene	**4.1**		**0.20**	**0.50**	**1.0**	**UG/L**	1	26-Oct-2020 13:13
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	26-Oct-2020 13:13
Trichloroethene	**5.8**		**0.20**	**0.50**	**1.0**	**UG/L**	1	26-Oct-2020 13:13
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 13:13
Surr: 1,2-Dichloroethane-d4	*83.2*			**0**	*81-118*	*%REC*	*1*	*26-Oct-2020 13:13*
Surr: 4-Bromofluorobenzene	*87.8*			**0**	*85-114*	*%REC*	*1*	*26-Oct-2020 13:13*
Surr: Dibromofluoromethane	*86.7*			**0**	*80-119*	*%REC*	*1*	*26-Oct-2020 13:13*
Surr: Toluene-d8	*97.0*			**0**	*89-112*	*%REC*	*1*	*26-Oct-2020 13:13*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PVL
Ethane	0.000250	U	0.000144	0.000250	0.00100	mg/L	1	21-Oct-2020 14:57
Ethene	**0.00125**		**0.000234**	**0.000500**	**0.00100**	**mg/L**	1	21-Oct-2020 14:57
Methane	0.000250	U	0.000107	0.000250	0.000500	mg/L	1	21-Oct-2020 14:57
ALKALINITY BY SM2320B		**Method:SM2320B**						Analyst: TH
Alkalinity, Total (As CaCO3)	**698**	a	**5.00**	**5.00**	**5.00**	**mg/L**	1	15-Oct-2020 23:24
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**7.76**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	15-Oct-2020 00:14
Nitrogen, Nitrate (As N)	**0.499**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	15-Oct-2020 00:14
Sulfate	**11.2**		**0.200**	**0.500**	**0.500**	**mg/L**	1	15-Oct-2020 00:14
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	22-Oct-2020 13:19
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	31-Oct-2020 13:27

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
Sample ID: 16WW55-201013
Collection Date: 13-Oct-2020 10:00

ANALYTICAL REPORT
WorkOrder:HS20100719
Lab ID:HS20100719-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	5.0	U	3.0	5.0	10	UG/L	10	26-Oct-2020 16:44
1,1-Dichloroethene	5.0	U	2.0	5.0	10	UG/L	10	26-Oct-2020 16:44
1,2-Dichloroethane	**12**		**2.0**	**5.0**	**10**	**UG/L**	10	26-Oct-2020 16:44
cis-1,2-Dichloroethene	**450**		**2.0**	**5.0**	**10**	**UG/L**	10	26-Oct-2020 16:44
Methylene chloride	10	U	4.0	10	20	UG/L	10	26-Oct-2020 16:44
Trichloroethene	**4,400**		**20**	**50**	**100**	**UG/L**	100	26-Oct-2020 17:05
Vinyl chloride	**26**		**2.0**	**5.0**	**10**	**UG/L**	10	26-Oct-2020 16:44
Surr: 1,2-Dichloroethane-d4	*87.0*			**0**	*81-118*	*%REC*	*100*	*26-Oct-2020 17:05*
Surr: 1,2-Dichloroethane-d4	*87.1*			**0**	*81-118*	*%REC*	*10*	*26-Oct-2020 16:44*
Surr: 4-Bromofluorobenzene	*88.8*			**0**	*85-114*	*%REC*	*10*	*26-Oct-2020 16:44*
Surr: 4-Bromofluorobenzene	*85.7*			**0**	*85-114*	*%REC*	*100*	*26-Oct-2020 17:05*
Surr: Dibromofluoromethane	*87.8*			**0**	*80-119*	*%REC*	*100*	*26-Oct-2020 17:05*
Surr: Dibromofluoromethane	*88.0*			**0**	*80-119*	*%REC*	*10*	*26-Oct-2020 16:44*
Surr: Toluene-d8	*97.1*			**0**	*89-112*	*%REC*	*10*	*26-Oct-2020 16:44*
Surr: Toluene-d8	*98.4*			**0**	*89-112*	*%REC*	*100*	*26-Oct-2020 17:05*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PVL
Ethane	0.000250	U	0.000144	0.000250	0.00100	mg/L	1	21-Oct-2020 15:14
Ethene	**0.00107**		**0.000234**	**0.000500**	**0.00100**	**mg/L**	1	21-Oct-2020 15:14
Methane	**0.0301**		**0.000107**	**0.000250**	**0.000500**	**mg/L**	1	21-Oct-2020 15:14
ALKALINITY BY SM2320B		**Method:SM2320B**						Analyst: TH
Alkalinity, Total (As CaCO3)	**355**	a	**5.00**	**5.00**	**5.00**	**mg/L**	1	15-Oct-2020 23:30
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**4.75**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	15-Oct-2020 00:32
Nitrogen, Nitrate (As N)	0.100	U	0.0300	0.100	0.100	mg/L	1	15-Oct-2020 00:32
Sulfate	**745**		**2.00**	**5.00**	**5.00**	**mg/L**	10	15-Oct-2020 10:27
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	22-Oct-2020 13:19
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	31-Oct-2020 13:27

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
Sample ID: 16IW03-201013
Collection Date: 13-Oct-2020 10:50

ANALYTICAL REPORT
WorkOrder:HS20100719
Lab ID:HS20100719-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	**4.1**	J	**1.5**	**5.0**	**5.0**	**UG/L**	5	26-Oct-2020 14:59
1,1-Dichloroethene	**38**		**1.0**	**2.5**	**5.0**	**UG/L**	5	26-Oct-2020 14:59
1,2-Dichloroethane	**5.4**		**1.0**	**2.5**	**5.0**	**UG/L**	5	26-Oct-2020 14:59
cis-1,2-Dichloroethene	**11,000**		**40**	**100**	**200**	**UG/L**	200	26-Oct-2020 15:41
Methylene chloride	5.0	U	2.0	5.0	10	UG/L	5	26-Oct-2020 14:59
Trichloroethene	**10,000**		**40**	**100**	**200**	**UG/L**	200	26-Oct-2020 15:41
Vinyl chloride	**530**		**1.0**	**2.5**	**5.0**	**UG/L**	5	26-Oct-2020 14:59
Surr: 1,2-Dichloroethane-d4	*87.4*			**0**	*81-118*	*%REC*	*5*	*26-Oct-2020 14:59*
Surr: 1,2-Dichloroethane-d4	*83.8*			**0**	*81-118*	*%REC*	*200*	*26-Oct-2020 15:41*
Surr: 4-Bromofluorobenzene	*85.9*			**0**	*85-114*	*%REC*	*5*	*26-Oct-2020 14:59*
Surr: 4-Bromofluorobenzene	*87.2*			**0**	*85-114*	*%REC*	*200*	*26-Oct-2020 15:41*
Surr: Dibromofluoromethane	*89.8*			**0**	*80-119*	*%REC*	*5*	*26-Oct-2020 14:59*
Surr: Dibromofluoromethane	*85.2*			**0**	*80-119*	*%REC*	*200*	*26-Oct-2020 15:41*
Surr: Toluene-d8	*96.3*			**0**	*89-112*	*%REC*	*5*	*26-Oct-2020 14:59*
Surr: Toluene-d8	*98.8*			**0**	*89-112*	*%REC*	*200*	*26-Oct-2020 15:41*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PVL
Ethane	**0.00498**		**0.000144**	**0.000250**	**0.00100**	**mg/L**	1	21-Oct-2020 17:13
Ethene	**0.0577**		**0.000234**	**0.000500**	**0.00100**	**mg/L**	1	21-Oct-2020 17:13
Methane	**0.685**		**0.00535**	**0.0125**	**0.0250**	**mg/L**	50	21-Oct-2020 17:27
ALKALINITY BY SM2320B		**Method:SM2320B**						Analyst: TH
Alkalinity, Total (As CaCO3)	**771**	a	**5.00**	**5.00**	**5.00**	**mg/L**	1	15-Oct-2020 22:51
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**1.27**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	15-Oct-2020 00:50
Nitrogen, Nitrate (As N)	**0.665**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	15-Oct-2020 00:50
Sulfate	**10.9**		**0.200**	**0.500**	**0.500**	**mg/L**	1	15-Oct-2020 00:50
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	22-Oct-2020 13:19
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	31-Oct-2020 13:27

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
Sample ID: 16IW10-201013
Collection Date: 13-Oct-2020 11:50

ANALYTICAL REPORT
WorkOrder:HS20100719
Lab ID:HS20100719-06
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	26-Oct-2020 13:34
1,1-Dichloroethene	**0.67**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	26-Oct-2020 13:34
1,2-Dichloroethane	**0.98**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	26-Oct-2020 13:34
cis-1,2-Dichloroethene	**220**		**1.0**	**2.5**	**5.0**	**UG/L**	5	26-Oct-2020 17:47
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	26-Oct-2020 13:34
Trichloroethene	**46**		**0.20**	**0.50**	**1.0**	**UG/L**	1	26-Oct-2020 13:34
Vinyl chloride	**53**		**0.20**	**0.50**	**1.0**	**UG/L**	1	26-Oct-2020 13:34
Surr: 1,2-Dichloroethane-d4	*85.5*			**0**	*81-118*	*%REC*	*5*	*26-Oct-2020 17:47*
Surr: 1,2-Dichloroethane-d4	*83.9*			**0**	*81-118*	*%REC*	*1*	*26-Oct-2020 13:34*
Surr: 4-Bromofluorobenzene	*88.2*			**0**	*85-114*	*%REC*	*1*	*26-Oct-2020 13:34*
Surr: 4-Bromofluorobenzene	*88.9*			**0**	*85-114*	*%REC*	*5*	*26-Oct-2020 17:47*
Surr: Dibromofluoromethane	*88.3*			**0**	*80-119*	*%REC*	*1*	*26-Oct-2020 13:34*
Surr: Dibromofluoromethane	*85.1*			**0**	*80-119*	*%REC*	*5*	*26-Oct-2020 17:47*
Surr: Toluene-d8	*95.1*			**0**	*89-112*	*%REC*	*1*	*26-Oct-2020 13:34*
Surr: Toluene-d8	*99.5*			**0**	*89-112*	*%REC*	*5*	*26-Oct-2020 17:47*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PVL
Ethane	0.000250	U	0.000144	0.000250	0.00100	mg/L	1	21-Oct-2020 15:52
Ethene	**0.0191**		**0.000234**	**0.000500**	**0.00100**	**mg/L**	1	21-Oct-2020 15:52
Methane	**1.47**		**0.00535**	**0.0125**	**0.0250**	**mg/L**	50	21-Oct-2020 16:52
ALKALINITY BY SM2320B		**Method:SM2320B**						Analyst: TH
Alkalinity, Total (As CaCO3)	**1,680**	a	**5.00**	**5.00**	**5.00**	**mg/L**	1	15-Oct-2020 23:42
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**94.8**		**0.150**	**0.500**	**0.500**	**mg/L**	5	15-Oct-2020 01:08
Nitrogen, Nitrate (As N)	0.500	U	0.150	0.500	0.500	mg/L	5	15-Oct-2020 01:08
Sulfate	**5.73**		**1.00**	**2.50**	**2.50**	**mg/L**	5	15-Oct-2020 01:08
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	22-Oct-2020 13:19
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	31-Oct-2020 13:27

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
Sample ID: Trip blank-201008
Collection Date: 13-Oct-2020 07:35

ANALYTICAL REPORT
WorkOrder:HS20100719
Lab ID:HS20100719-07
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	26-Oct-2020 12:52
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 12:52
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 12:52
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 12:52
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	26-Oct-2020 12:52
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 12:52
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 12:52
Surr: 1,2-Dichloroethane-d4	*84.8*			**0**	*81-118*	*%REC*	*1*	*26-Oct-2020 12:52*
Surr: 4-Bromofluorobenzene	*86.3*			**0**	*85-114*	*%REC*	*1*	*26-Oct-2020 12:52*
Surr: Dibromofluoromethane	*91.2*			**0**	*80-119*	*%REC*	*1*	*26-Oct-2020 12:52*
Surr: Toluene-d8	*100*			**0**	*89-112*	*%REC*	*1*	*26-Oct-2020 12:52*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020 **DATES REPORT**
WorkOrder: HS20100719

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R370623 (0)	**Test Name :** ALKALINITY BY SM2320B				**Matrix:** Groundwater	
HS20100719-01	16WW36-201013	13 Oct 2020 07:35			15 Oct 2020 23:06	1
HS20100719-02	16WW35-201013	13 Oct 2020 08:20			15 Oct 2020 23:16	1
HS20100719-03	16IW09-201013	13 Oct 2020 09:10			15 Oct 2020 23:24	1
HS20100719-04	16WW55-201013	13 Oct 2020 10:00			15 Oct 2020 23:30	1
HS20100719-05	16IW03-201013	13 Oct 2020 10:50			15 Oct 2020 22:51	1
HS20100719-06	16IW10-201013	13 Oct 2020 11:50			15 Oct 2020 23:42	1
Batch ID: R370990 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS20100719-01	16WW36-201013	13 Oct 2020 07:35			15 Oct 2020 08:57	50
HS20100719-01	16WW36-201013	13 Oct 2020 07:35			14 Oct 2020 23:38	5
HS20100719-02	16WW35-201013	13 Oct 2020 08:20			14 Oct 2020 23:56	5
HS20100719-03	16IW09-201013	13 Oct 2020 09:10			15 Oct 2020 00:14	1
HS20100719-04	16WW55-201013	13 Oct 2020 10:00			15 Oct 2020 10:27	10
HS20100719-04	16WW55-201013	13 Oct 2020 10:00			15 Oct 2020 00:32	1
HS20100719-05	16IW03-201013	13 Oct 2020 10:50			15 Oct 2020 00:50	1
HS20100719-06	16IW10-201013	13 Oct 2020 11:50			15 Oct 2020 01:08	5
Batch ID: R371062 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Groundwater	
HS20100719-01	16WW36-201013	13 Oct 2020 07:35			22 Oct 2020 13:19	1
HS20100719-02	16WW35-201013	13 Oct 2020 08:20			22 Oct 2020 13:19	1
HS20100719-03	16IW09-201013	13 Oct 2020 09:10			22 Oct 2020 13:19	1
HS20100719-04	16WW55-201013	13 Oct 2020 10:00			22 Oct 2020 13:19	1
HS20100719-05	16IW03-201013	13 Oct 2020 10:50			22 Oct 2020 13:19	1
HS20100719-06	16IW10-201013	13 Oct 2020 11:50			22 Oct 2020 13:19	1
Batch ID: R371090 (0)	**Test Name :** DISSOLVED GASES BY RSK-175				**Matrix:** Groundwater	
HS20100719-01	16WW36-201013	13 Oct 2020 07:35			21 Oct 2020 16:08	20
HS20100719-01	16WW36-201013	13 Oct 2020 07:35			21 Oct 2020 14:23	1
HS20100719-02	16WW35-201013	13 Oct 2020 08:20			21 Oct 2020 16:17	10
HS20100719-02	16WW35-201013	13 Oct 2020 08:20			21 Oct 2020 14:41	1
HS20100719-03	16IW09-201013	13 Oct 2020 09:10			21 Oct 2020 14:57	1
HS20100719-04	16WW55-201013	13 Oct 2020 10:00			21 Oct 2020 15:14	1
HS20100719-05	16IW03-201013	13 Oct 2020 10:50			21 Oct 2020 17:27	50
HS20100719-05	16IW03-201013	13 Oct 2020 10:50			21 Oct 2020 17:13	1
HS20100719-06	16IW10-201013	13 Oct 2020 11:50			21 Oct 2020 16:52	50
HS20100719-06	16IW10-201013	13 Oct 2020 11:50			21 Oct 2020 15:52	1
Batch ID: R371372 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS20100719-07	Trip blank-201008	13 Oct 2020 07:35			26 Oct 2020 12:52	1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: HS20100719

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R371372 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS20100719-02	16WW35-201013	13 Oct 2020 08:20			26 Oct 2020 17:26	250
HS20100719-02	16WW35-201013	13 Oct 2020 08:20			26 Oct 2020 14:16	5
HS20100719-03	16IW09-201013	13 Oct 2020 09:10			26 Oct 2020 13:13	1
HS20100719-04	16WW55-201013	13 Oct 2020 10:00			26 Oct 2020 17:05	100
HS20100719-04	16WW55-201013	13 Oct 2020 10:00			26 Oct 2020 16:44	10
HS20100719-05	16IW03-201013	13 Oct 2020 10:50			26 Oct 2020 15:41	200
HS20100719-05	16IW03-201013	13 Oct 2020 10:50			26 Oct 2020 14:59	5
HS20100719-06	16IW10-201013	13 Oct 2020 11:50			26 Oct 2020 17:47	5
HS20100719-06	16IW10-201013	13 Oct 2020 11:50			26 Oct 2020 13:34	1
Batch ID: R371450 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS20100719-01	16WW36-201013	13 Oct 2020 07:35			27 Oct 2020 15:39	500
HS20100719-01	16WW36-201013	13 Oct 2020 07:35			27 Oct 2020 14:36	50
Batch ID: R371460 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS20100719-02	16WW35-201013	13 Oct 2020 08:20			28 Oct 2020 05:33	200
Batch ID: R371717 (0)	**Test Name :** SUBCONTRACT ANALYSIS - TOC ANALYSIS				**Matrix:** Groundwater	
HS20100719-01	16WW36-201013	13 Oct 2020 07:35			31 Oct 2020 13:27	1
HS20100719-02	16WW35-201013	13 Oct 2020 08:20			31 Oct 2020 13:27	1
HS20100719-03	16IW09-201013	13 Oct 2020 09:10			31 Oct 2020 13:27	1
HS20100719-04	16WW55-201013	13 Oct 2020 10:00			31 Oct 2020 13:27	1
HS20100719-05	16IW03-201013	13 Oct 2020 10:50			31 Oct 2020 13:27	1
HS20100719-06	16IW10-201013	13 Oct 2020 11:50			31 Oct 2020 13:27	1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: HS20100719

QC BATCH REPORT

Batch ID: R371090 (0) **Instrument: FID-4** **Method: DISSOLVED GASES BY RSK-175**

MBLK Sample ID: **MBLK-201021** Units: **mg/L** Analysis Date: **21-Oct-2020 10:07**
Client ID: Run ID: **FID-4_371090** SeqNo: **5795268** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.000250	0.00100								U
Ethene	0.000500	0.00100								U
Methane	0.000250	0.000500								U

LCS Sample ID: **LCS-201021** Units: **mg/L** Analysis Date: **21-Oct-2020 10:14**
Client ID: Run ID: **FID-4_371090** SeqNo: **5795269** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0191	0.00100	0.01804	0	106	75 - 125				
Ethene	0.0193	0.00100	0.0168	0	115	75 - 125				
Methane	0.00952	0.000500	0.009647	0	98.7	75 - 125				

LCSD Sample ID: **LCSD-201021** Units: **mg/L** Analysis Date: **21-Oct-2020 10:25**
Client ID: Run ID: **FID-4_371090** SeqNo: **5795270** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0188	0.00100	0.01804	0	104	75 - 125	0.01912	1.54	30	
Ethene	0.0189	0.00100	0.0168	0	112	75 - 125	0.01928	2.21	30	
Methane	0.00950	0.000500	0.009647	0	98.5	75 - 125	0.009521	0.194	30	

MS Sample ID: **HS20100719-05MS** Units: **mg/L** Analysis Date: **21-Oct-2020 15:33**
Client ID: **16IW03-201013** Run ID: **FID-4_371090** SeqNo: **5795290** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0282	0.00100	0.01804	0.004980	129	75 - 125				S
Ethene	0.101	0.00100	0.0168	0.05770	260	75 - 125				SE
Methane	0.791	0.000500	0.009647	0.7829	84.8	75 - 125				EO

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: HS20100719

QC BATCH REPORT

Batch ID: R371090 (0) **Instrument:** FID-4 **Method:** DISSOLVED GASES BY RSK-175

MSD Sample ID: **HS20100719-05MSD** Units: **mg/L** Analysis Date: **21-Oct-2020 15:44**
Client ID: **16IW03-201013** Run ID: **FID-4_371090** SeqNo: **5795291** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0268	0.00100	0.01804	0.004980	121	75 - 125	0.02820	4.92	30	
Ethene	0.101	0.00100	0.0168	0.05770	259	75 - 125	0.1014	0.15	30	SE
Methane	0.789	0.000500	0.009647	0.7829	64.7	75 - 125	0.7911	0.245	30	SEO

DUP Sample ID: **HS20100779-01DUP** Units: **mg/L** Analysis Date: **21-Oct-2020 11:26**
Client ID: Run ID: **FID-4_371090** SeqNo: **5795276** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.000250	0.00100					0	0	30	U
Ethene	0.000500	0.00100					0	0	30	U
Methane	0.0154	0.000500					0.01529	0.595	30	

The following samples were analyzed in this batch: HS20100719-01 HS20100719-02 HS20100719-03 HS20100719-04 HS20100719-05 HS20100719-06

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: HS20100719

QC BATCH REPORT

Batch ID: R371372 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-201026** Units: **UG/L** Analysis Date: **26-Oct-2020 12:31**
Client ID: Run ID: **VOA6_371372** SeqNo: **5801594** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	0.50	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,2-Dichloroethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
Methylene chloride	1.0	2.0								U
Trichloroethene	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*42.52*	*1.0*	*50*	*0*	*85.0*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*43.05*	*1.0*	*50*	*0*	*86.1*	*85 - 114*				
Surr: Dibromofluoromethane	*43.8*	*1.0*	*50*	*0*	*87.6*	*80 - 119*				
Surr: Toluene-d8	*48.64*	*1.0*	*50*	*0*	*97.3*	*89 - 112*				

LCS Sample ID: **VLCSW-201026** Units: **UG/L** Analysis Date: **26-Oct-2020 11:49**
Client ID: Run ID: **VOA6_371372** SeqNo: **5801593** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	18.09	1.0	20	0	90.4	80 - 119				
1,1-Dichloroethene	19.45	1.0	20	0	97.3	71 - 131				
1,2-Dichloroethane	20.07	1.0	20	0	100	73 - 128				
cis-1,2-Dichloroethene	19.4	1.0	20	0	97.0	78 - 123				
Methylene chloride	17.36	2.0	20	0	86.8	74 - 124				
Trichloroethene	20.44	1.0	20	0	102	79 - 123				
Vinyl chloride	19.78	1.0	20	0	98.9	58 - 137				
Surr: 1,2-Dichloroethane-d4	*51.34*	*1.0*	*50*	*0*	*103*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*46.54*	*1.0*	*50*	*0*	*93.1*	*85 - 114*				
Surr: Dibromofluoromethane	*51.39*	*1.0*	*50*	*0*	*103*	*80 - 119*				
Surr: Toluene-d8	*48.55*	*1.0*	*50*	*0*	*97.1*	*89 - 112*				

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: HS20100719

QC BATCH REPORT

Batch ID: R371372 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20100719-05MS** Units: **UG/L** Analysis Date: **26-Oct-2020 16:02**
Client ID: **16IW03-201013** Run ID: **VOA6_371372** SeqNo: **5801601** PrepDate: DF: **200**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	4135	200	4000	0	103	80 - 119				
1,1-Dichloroethene	4884	200	4000	0	122	71 - 131				
1,2-Dichloroethane	4672	200	4000	0	117	73 - 128				
cis-1,2-Dichloroethene	15300	200	4000	10560	118	78 - 123				
Methylene chloride	3910	400	4000	0	97.7	74 - 124				
Trichloroethene	15370	200	4000	10480	122	79 - 123				
Vinyl chloride	5705	200	4000	771.5	123	58 - 137				
Surr: 1,2-Dichloroethane-d4	*8472*	*200*	*10000*	*0*	*84.7*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*8745*	*200*	*10000*	*0*	*87.5*	*85 - 114*				
Surr: Dibromofluoromethane	*8756*	*200*	*10000*	*0*	*87.6*	*80 - 119*				
Surr: Toluene-d8	*9275*	*200*	*10000*	*0*	*92.7*	*89 - 112*				

MSD Sample ID: **HS20100719-05MSD** Units: **UG/L** Analysis Date: **26-Oct-2020 16:23**
Client ID: **16IW03-201013** Run ID: **VOA6_371372** SeqNo: **5801602** PrepDate: DF: **200**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	4326	200	4000	0	108	80 - 119	4135	4.52	20	
1,1-Dichloroethene	4560	200	4000	0	114	71 - 131	4884	6.86	20	
1,2-Dichloroethane	4427	200	4000	0	111	73 - 128	4672	5.38	20	
cis-1,2-Dichloroethene	14990	200	4000	10560	111	78 - 123	15300	2	20	
Methylene chloride	3564	400	4000	0	89.1	74 - 124	3910	9.24	20	
Trichloroethene	15010	200	4000	10480	113	79 - 123	15370	2.37	20	
Vinyl chloride	5302	200	4000	771.5	113	58 - 137	5705	7.32	20	
Surr: 1,2-Dichloroethane-d4	*8511*	*200*	*10000*	*0*	*85.1*	*81 - 118*	*8472*	*0.464*	*20*	
Surr: 4-Bromofluorobenzene	*8769*	*200*	*10000*	*0*	*87.7*	*85 - 114*	*8745*	*0.276*	*20*	
Surr: Dibromofluoromethane	*8777*	*200*	*10000*	*0*	*87.8*	*80 - 119*	*8756*	*0.235*	*20*	
Surr: Toluene-d8	*9391*	*200*	*10000*	*0*	*93.9*	*89 - 112*	*9275*	*1.24*	*20*	

The following samples were analyzed in this batch: HS20100719-02 HS20100719-03 HS20100719-04 HS20100719-05 HS20100719-06 HS20100719-07

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: HS20100719

QC BATCH REPORT

Batch ID: R371450 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-201027** Units: **UG/L** Analysis Date: **27-Oct-2020 13:54**
Client ID: Run ID: **VOA6_371450** SeqNo: **5804006** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	1.0	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,2-Dichloroethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
Methylene chloride	1.0	2.0								U
Trichloroethene	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*41.37*	*1.0*	*50*	*0*	*82.7*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*44.77*	*1.0*	*50*	*0*	*89.5*	*85 - 114*				
Surr: Dibromofluoromethane	*43.39*	*1.0*	*50*	*0*	*86.8*	*80 - 119*				
Surr: Toluene-d8	*48*	*1.0*	*50*	*0*	*96.0*	*89 - 112*				

LCS Sample ID: **VLCSW-201027** Units: **UG/L** Analysis Date: **27-Oct-2020 12:50**
Client ID: Run ID: **VOA6_371450** SeqNo: **5804005** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	20.26	1.0	20	0	101	80 - 119				
1,1-Dichloroethene	15.83	1.0	20	0	79.2	71 - 131				
1,2-Dichloroethane	21.88	1.0	20	0	109	73 - 128				
cis-1,2-Dichloroethene	19.66	1.0	20	0	98.3	78 - 123				
Methylene chloride	18.17	2.0	20	0	90.8	74 - 124				
Trichloroethene	21.03	1.0	20	0	105	79 - 123				
Vinyl chloride	15.8	1.0	20	0	79.0	58 - 137				
Surr: 1,2-Dichloroethane-d4	*52.31*	*1.0*	*50*	*0*	*105*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*51.74*	*1.0*	*50*	*0*	*103*	*85 - 114*				
Surr: Dibromofluoromethane	*51.25*	*1.0*	*50*	*0*	*102*	*80 - 119*				
Surr: Toluene-d8	*51.26*	*1.0*	*50*	*0*	*103*	*89 - 112*				

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: HS20100719

QC BATCH REPORT

Batch ID: R371450 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MS Sample ID: **HS20100780-04MS** Units: **UG/L** Analysis Date: **27-Oct-2020 14:57**
Client ID: Run ID: **VOA6_371450** SeqNo: **5804009** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	31.02	1.0	20	0	155	80 - 119				S
1,1-Dichloroethene	19.28	1.0	20	0	96.4	71 - 131				
1,2-Dichloroethane	27	1.0	20	0	135	73 - 128				S
cis-1,2-Dichloroethene	21.01	1.0	20	0	105	78 - 123				
Methylene chloride	19.11	2.0	20	0	95.6	74 - 124				
Trichloroethene	26.4	1.0	20	0	132	79 - 123				S
Vinyl chloride	18.04	1.0	20	0	90.2	58 - 137				
Surr: 1,2-Dichloroethane-d4	*42.53*	*1.0*	*50*	*0*	*85.1*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.85*	*1.0*	*50*	*0*	*99.7*	*85 - 114*				
Surr: Dibromofluoromethane	*42.31*	*1.0*	*50*	*0*	*84.6*	*80 - 119*				
Surr: Toluene-d8	*47.64*	*1.0*	*50*	*0*	*95.3*	*89 - 112*				

MSD Sample ID: **HS20100780-04MSD** Units: **UG/L** Analysis Date: **27-Oct-2020 15:18**
Client ID: Run ID: **VOA6_371450** SeqNo: **5804010** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	31.46	1.0	20	0	157	80 - 119	31.02	1.41	20	S
1,1-Dichloroethene	17.88	1.0	20	0	89.4	71 - 131	19.28	7.55	20	
1,2-Dichloroethane	26.06	1.0	20	0	130	73 - 128	27	3.52	20	S
cis-1,2-Dichloroethene	19.83	1.0	20	0	99.2	78 - 123	21.01	5.76	20	
Methylene chloride	19.56	2.0	20	0	97.8	74 - 124	19.11	2.31	20	
Trichloroethene	25.32	1.0	20	0	127	79 - 123	26.4	4.19	20	S
Vinyl chloride	17.35	1.0	20	0	86.8	58 - 137	18.04	3.87	20	
Surr: 1,2-Dichloroethane-d4	*41.99*	*1.0*	*50*	*0*	*84.0*	*81 - 118*	*42.53*	*1.28*	*20*	
Surr: 4-Bromofluorobenzene	*47.88*	*1.0*	*50*	*0*	*95.8*	*85 - 114*	*49.85*	*4.04*	*20*	
Surr: Dibromofluoromethane	*42.97*	*1.0*	*50*	*0*	*85.9*	*80 - 119*	*42.31*	*1.54*	*20*	
Surr: Toluene-d8	*47.1*	*1.0*	*50*	*0*	*94.2*	*89 - 112*	*47.64*	*1.14*	*20*	

The following samples were analyzed in this batch: HS20100719-01

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: HS20100719

QC BATCH REPORT

Batch ID: R370623 (0) **Instrument: ManTech01** **Method: ALKALINITY BY SM2320B**

MBLK Sample ID: **WBLKW2-201015** Units: **mg/L** Analysis Date: **15-Oct-2020 22:10**
Client ID: Run ID: **ManTech01_370623** SeqNo: **5784628** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	5.00	5.00								U

LCS Sample ID: **LCS2-201015** Units: **mg/L** Analysis Date: **15-Oct-2020 22:18**
Client ID: Run ID: **ManTech01_370623** SeqNo: **5784629** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	1029	5.00	1000	0	103	85 - 115				

LCSD Sample ID: **LCSD2-201015** Units: **mg/L** Analysis Date: **15-Oct-2020 22:43**
Client ID: Run ID: **ManTech01_370623** SeqNo: **5784632** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	1027	5.00	1000	0	103	85 - 115	1029	0.207	20	

DUP Sample ID: **HS20100719-05DUP** Units: **mg/L** Analysis Date: **15-Oct-2020 23:00**
Client ID: **16IW03-201013** Run ID: **ManTech01_370623** SeqNo: **5784634** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	778.2	5.00					770.8	0.953	20	

The following samples were analyzed in this batch: HS20100719-01 HS20100719-02 HS20100719-03 HS20100719-04 HS20100719-05 HS20100719-06

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: HS20100719

QC BATCH REPORT

Batch ID: R370990 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK-101320** Units: **mg/L** Analysis Date: **15-Oct-2020 03:50**
Client ID: Run ID: **ICS-Integrion_370990** SeqNo: **5792903** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	0.100	0.100								U
Nitrogen, Nitrate (As N)	0.100	0.100								U
Sulfate	0.500	0.500								U

LCS Sample ID: **LCS-101320** Units: **mg/L** Analysis Date: **15-Oct-2020 04:09**
Client ID: Run ID: **ICS-Integrion_370990** SeqNo: **5792904** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	4.096	0.100	4	0	102	80 - 120				
Nitrogen, Nitrate (As N)	4.014	0.100	4	0	100	80 - 120				
Sulfate	18.94	0.500	20	0	94.7	80 - 120				

LCSD Sample ID: **LCSD-101320** Units: **mg/L** Analysis Date: **13-Oct-2020 22:42**
Client ID: Run ID: **ICS-Integrion_370990** SeqNo: **5792881** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	3.973	0.100	4	0	99.3	80 - 120	4.096	3.06	20	
Nitrogen, Nitrate (As N)	4.009	0.100	4	0	100	80 - 120	4.014	0.13	20	
Sulfate	19.27	0.500	20	0	96.4	80 - 120	18.94	1.75	20	

MS Sample ID: **HS20100719-05MS** Units: **mg/L** Analysis Date: **15-Oct-2020 05:21**
Client ID: **16IW03-201013** Run ID: **ICS-Integrion_370990** SeqNo: **5792906** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	3.055	0.100	2	1.274	89.1	80 - 120				
Nitrogen, Nitrate (As N)	3.142	0.100	2	0.6648	124	80 - 120				S
Sulfate	19.35	0.500	10	10.95	84.0	80 - 120				

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: HS20100719

QC BATCH REPORT

Batch ID: R370990 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MS Sample ID: **HS20100651-02MS** Units: **mg/L** Analysis Date: **13-Oct-2020 20:54**
Client ID: Run ID: **ICS-Integrion_370990** SeqNo: **5792877** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	2.263	0.100	2	0.3639	95.0	80 - 120				
Nitrogen, Nitrate (As N)	2.796	0.100	2	0	140	80 - 120				S
Sulfate	200	0.500	10	198.5	15.8	80 - 120				SEO

MSD Sample ID: **HS20100719-05MSD** Units: **mg/L** Analysis Date: **15-Oct-2020 05:39**
Client ID: **16IW03-201013** Run ID: **ICS-Integrion_370990** SeqNo: **5792907** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	3.256	0.100	2	1.274	99.1	80 - 120	3.055	6.36	20	
Nitrogen, Nitrate (As N)	3.031	0.100	2	0.6648	118	80 - 120	3.142	3.57	20	
Sulfate	16.87	0.500	10	10.95	59.2	80 - 120	19.35	13.7	20	S

MSD Sample ID: **HS20100651-02MSD** Units: **mg/L** Analysis Date: **13-Oct-2020 21:12**
Client ID: Run ID: **ICS-Integrion_370990** SeqNo: **5792878** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	2.277	0.100	2	0.3639	95.7	80 - 120	2.263	0.599	20	
Nitrogen, Nitrate (As N)	2.769	0.100	2	0	138	80 - 120	2.796	0.974	20	S
Sulfate	198.8	0.500	10	198.5	3.71	80 - 120	200	0.604	20	SEO

The following samples were analyzed in this batch: HS20100719-01 HS20100719-02 HS20100719-03 HS20100719-04 HS20100719-05 HS20100719-06

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: HS20100719

QC BATCH REPORT

Batch ID: R371460 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK-102720** Units: **mg/L** Analysis Date: **28-Oct-2020 08:33**
Client ID: Run ID: **ICS-Integrion_371460** SeqNo: **5804154** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	0.500	0.500								U

LCS Sample ID: **LCS-102720** Units: **mg/L** Analysis Date: **28-Oct-2020 08:51**
Client ID: Run ID: **ICS-Integrion_371460** SeqNo: **5804155** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	18.05	0.500	20	0	90.2	80 - 120				

MS Sample ID: **HS20100779-02MS** Units: **mg/L** Analysis Date: **28-Oct-2020 07:03**
Client ID: Run ID: **ICS-Integrion_371460** SeqNo: **5804149** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	447.3	5.00	100	374.5	72.8	80 - 120				S

MSD Sample ID: **HS20100779-02MSD** Units: **mg/L** Analysis Date: **28-Oct-2020 07:21**
Client ID: Run ID: **ICS-Integrion_371460** SeqNo: **5804150** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	447.8	5.00	100	374.5	73.3	80 - 120	447.3	0.12	20	S

The following samples were analyzed in this batch: HS20100719-02

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: **HS20100719**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

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CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	20-030-0	26-Mar-2021
California	2919, 2020-2021	30-Apr-2021
Dept of Defense	PJLA L20-507	22-Dec-2021
Florida	E87611-30-07/01/2020	30-Jun-2021
Illinois	2000322020-4	09-May-2021
Kansas	E-10352 2020-2021	31-Jul-2021
Kentucky	123043, 2020-2021	30-Apr-2021
Louisiana	03087, 2020-2021	30-Jun-2021
North Carolina	624-2020	31-Dec-2020
North Dakota	R-193 2020-2021	30-Apr-2021
Texas	T104704231-20-26	30-Apr-2021

ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
Work Order: HS20100719

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20100719-01	16WW36-201013	Login	10/14/2020 3:09:10 PM	JRM	Sub
HS20100719-01	16WW36-201013	Login	10/14/2020 3:09:10 PM	JRM	WET083
HS20100719-01	16WW36-201013	Login	10/14/2020 3:09:10 PM	JRM	VOA155
HS20100719-01	16WW36-201013	Login	10/14/2020 3:09:10 PM	JRM	RSK001
HS20100719-01	16WW36-201013	Login	10/14/2020 3:09:10 PM	JRM	Sub
HS20100719-07	Trip blank-201008	Login	10/14/2020 3:09:10 PM	JRM	VOA155

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 31-Oct-20

Sample Receipt Checklist

Work Order ID: HS20100719 **Date/Time Received:** **14-Oct-2020 09:15**

Client Name: CBI-Houston **Received by:** **Jared R. Makan**

Completed By:	/S/ Jared R. Makan	14-Oct-2020 15:15	**Reviewed by:**	/S/ RJ Modashia	14-Oct-2020 16:47
	eSignature	Date/Time		eSignature	Date/Time

Matrices: **Water** Carrier name: **FedEx Priority Overnight**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	1.7°C/1.7°C UC/C	IR31
Cooler(s)/Kit(s):	44997	
Date/Time sample(s) sent to storage:	10/14/2020 15:14	

Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

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CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd. Suite 210 Houston, TX. 77099 (281) 530-5656 ATTN: R.J Modashia

Project: APTIM
LONGHORN ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No. 501032

Job: **LHAAP 16 October 2020**

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D. / Time	Sample Matrix	Date /	MS / MSD	No. OF CONTAINERS	VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (bromide, sulfate, nitrate) by SW9056 and Alkalinity by SM2320	Bromide by SW9056	Perchlorate by SW6850	Metals (arsenic, chromium, manganese, nickel, thallium) by SW6020				Remarks (Preservatives, etc.)	Lab I.D.#
16WW36-201013	WG	10/13/20/0735		10	X	X	X	X	X	X						
16WW35-201013	WG	10/13/20/0820		10	X	X	X	X	X	X						
16IW09-201013	WG	10/13/20/0910		10	X	X	X	X	X	X						
16WW55-201013	WG	10/13/20/1000		10	X	X	X	X	X	X						
16IW03-201013	WG	10/13/20/1050		10	X	X	X	X	X	X						
16IW03-201013-MS	WG	10/13/20/1050		10	X	X	X	X	X	X						
16IW03-201013-MSD	WG	10/13/20/1050		10	X	X	X	X	X	X						
16IW10-201013	WG	10/13/20/1150		10	X	X	X	X	X	X						

Additional Remarks: Standard TAT on all parameters. Please email results to Susan.Huang@aptim.com and invoices to fedinvoices@aptim.com

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	10/13/20	1430									

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
J. Mercer	10/14/20	09:15							

Remarks: Cooler 44997 IR31
Temp 1.7°C CF0

HS20100719

Aptim Environmental & Infrastucture, Inc.
LHAAP 16

(Word) S:\I-ecs\Forms\Chain of Custody - BiWeekly

RIGHT SOLUTIONS | RIGHT PARTNER

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd. Suite 210 Houston, TX. 77099 (281)530-5656 ATTN: R.J Modashia

Project: APTIM LONGHORN ARMY AMMN. PLANT (LHAAP) GROUNDWATER TREATMENT PLANT (GWTP) KARNACK, TEXAS	Project No. 501032
Job: **LHAAP 16 October 2020**	
Prepared By: Scott Beesinger	P.O. Number

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (bromide, sulfate, nitrate) by SW9056 and Alkalinity by SM2320	Bromide by SW9056	Perchlorate by SW6850	Metals (arsenic, chromium, manganese, nickel, thallium) by SW6020				Remarks (Preservatives, etc.)	Lab I.D.#
TRIP BLANK-201013	W	10/13/20		2	X											

Additional Remarks: Standard TAT on all parameters. Please email results to Susan.Huang@aptim.com and invoices to fedinvoices@aptim.com

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	10/13/20	1430									

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
J. Wasson	10/14/20	09:15							

Remarks: Cooler 44997 IR31
Temp 1.7°C CFO

HS20100719

Aptim Environmental & Infrastucture, Inc.
LHAAP 16

(Word) S:\I-ces\Forms\Chain of Custody - BiWeekly

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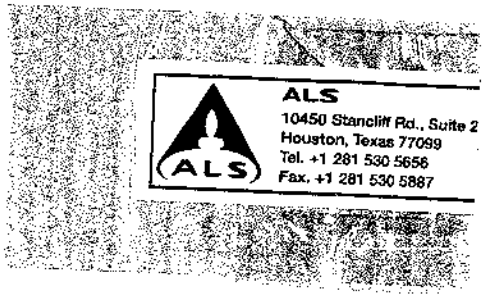

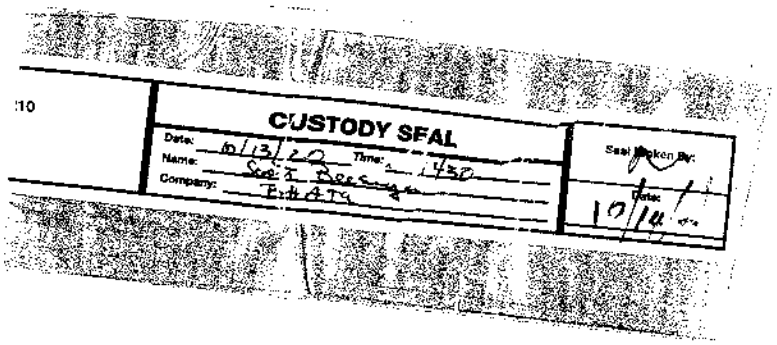

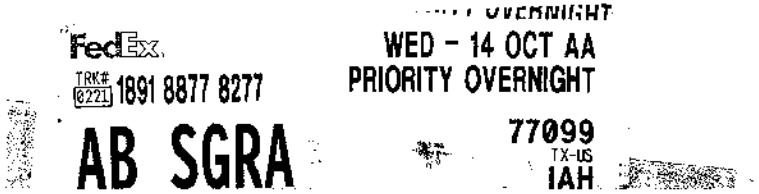

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October 22, 2020 Service Request No:E2000985

RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Suite 210
Houston, TX 77099-4338

Laboratory Results for: HS20100719

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory October 14, 2020
For your reference, these analyses have been assigned our service request number **E2000985.**

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

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Corey Grandits
Project Manager

ADDRESS 10450 Stancliff Rd., Suite 210, Houston, TX 77099
PHONE +1 281 530 5656 | FAX +1 281 530 5887
ALS Group USA, Corp.
dba ALS Environmental

Certificate of Analysis

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

ALS Environmental

Client:	ALS Houston	**Service Request No.:**	E2000985
Project:	HS20100719	**Date Received:**	10/14/20
Sample Matrix:	W		

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Six samples were received for analysis at ALS Environmental in Houston on 10/14/20.

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

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2000513: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in addition to a MS/MSD for this extraction batch. The LCS, DLCS, MS, & MSD recoveries are within QC limits.

DoD Certification is held for the method/matrix/analytes provided in this report.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

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

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Client: ALS Environmental - US **Service Request:**E2000985
Project: HS20100719

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2000985-001	16WW36-201013	10/13/2020	0735
E2000985-002	16WW35-201013	10/13/2020	0820
E2000985-003	16IW09-201013	10/13/2020	0910
E2000985-004	16WW55-201013	10/13/2020	1000
E2000985-005	16IW03-201013	10/13/2020	1050
E2000985-006	16IW10-201013	10/13/2020	1150

Service Request Summary

Folder #: **E2000985**
Client Name: ALS Environmental - US
Project Name: HS20100719
Project Number:

Report To: RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 10/14/20
Internal Due Date: 10/28/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: N
Report to MDL?: Y
P.O. Number: HS20100719
EDD: No EDD Specified

8 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 10E
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2000985-001	16WW36-201013	Water	10/13/20 0735	**IV**
E2000985-002	16WW35-201013	Water	10/13/20 0820	**IV**
E2000985-003	16IW09-201013	Water	10/13/20 0910	**IV**
E2000985-004	16WW55-201013	Water	10/13/20 1000	**IV**
E2000985-005	16IW03-201013	Water	10/13/20 1050	**IV**
E2000985-006	16IW10-201013	Water	10/13/20 1150	**IV**

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Service Request Summary

Folder #: **E2000985**
Client Name: ALS Environmental - US
Project Name: HS20100719
Project Number:

Report To: RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 10/14/20
Internal Due Date: 10/28/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: N
Report to MDL?: Y
P.O. Number: HS20100719
EDD: No EDD Specified

8 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 10E
Pressure Gas:

Test Comments:

Group	Test/Method	Samples	Comments
Semivoa GCMS	ClO4 DOD/6850	1	MS/MSD
Semivoa GCMS	ClO4 DOD/6850	5	Level II due 10/28,level IV 11/4

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Data Qualifiers

Lab Standard

+	Possible Tedlar bag artifact.
A	TIC is a suspected aldol-condensation product
B	Analyte found in the associated method blank as well as in the sample.
BC	Reported results are not blank corrected.
BH	The back section of the tube yielded higher results than the front.
BT	Results indicated possible breakthrough; back section >=10% front section.
C	Result identification confirmed.
D	Compound identified in an analysis at a secondary dilution factor
D	Spike was diluted out
DE	Reported results are corrected for desorption efficiency.
E	Estimated value. Concentration above calibration range
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
H1	Sample analysis performed past holding time. See case narrative.
H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
H3	Sample was received and analyzed past holding time.
H4	Sample was extracted past required extraction holding time, but analyzed within analysis holding time. See case narrative.
I	Internal standard not within the specified limits. See case narrative.
J	Estimated Value. Concentration found below MRL.
K	A deflection in the QC ion may indicate interference with the quantitation of this ion. The concentration of this analyte should be considered as an estimate.
K	Analyte was detected above the method reporting limit prior to normalization.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
L1	Laboratory control sample recovery outside the specified limits; results may be biased high.
L2	Laboratory control sample recovery outside the specified limits; results may be biased low.
L3	Laboratory control sample recovery outside the specified limits.
M	Matrix interference; results may be biased high.
M	The duplicate injection precision not met.
M1	Matrix interference due to coelution with a non-target compound; results may be biased high.
N	Presumptive evidence of a compound for TICs that have been identified based on a mass spectral library search.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.

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Data Qualifiers

Lab Standard

P	Indicates chlorodiphenyl ether interference present at the retention time of the target compound.
P	Pesticide/Aroclor target analyte > 40% difference for detected concentrations between GC columns
Q	Indicates as estimated value because the P and P + 2 theoretical abundance ratio does not meet method criteria.
R	Duplicate Precision not met.
R1	Duplicate precision not within the specified limits; however, the results are below the MRL and considered estimated.
S	Surrogate recovery not within specified limits.
S	The reported value was determined by the Method of Standard Additions (MSA).
T	Analyte is a tentatively identified compound, result is estimated.
U	Compound was analyzed for, but was not detected (ND).
V1	The continuing calibration verification standard was outside (biased high) the specified limits for this compound.
V2	The continuing calibration verification standard was outside (biased low) the specified limits for this compound.
W	Result quantified, but the corresponding peak was detected outside the generated retention time window.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
X	See case narrative.
Y	Recovery outside limits
Y	The chromatogram resembles a petroleum product but does not match the calibration standard.
Z	The chromatogram does not resemble a petroleum product.
i	The MRL/MDL has been elevated due to a matrix interference.

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Acronyms

Cal	Calibration
Conc	CONCentration
Dioxin(s)	Polychlorinated dibenzo-p-dioxin(s)
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
Flags	Data qualifiers
Furan(s)	Polychlorinated dibenzofuran(s)
g	Grams
ICAL	Initial CALibration
ID	IDentifier
Ions	Masses monitored for the analyte during data acquisition
L	Liter (s)
LCS	Laboratory Control Sample
DLCS	Duplicate Laboratory Control Sample
MB	Method Blank
MCL	Method Calibration Limit
MDL	Method Detection Limit
mL	Milliliters
MS	Matrix Spiked sample
DMS	Duplicate Matrix Spiked sample
NO	Number of peaks meeting all identification criteria
PCDD(s)	Polychlorinated dibenzo-p-dioxin(s)
PCDF(s)	Polychlorinated dibenzofuran(s)
ppb	Parts per billion
ppm	Parts per million
ppq	Parts per quadrillion
ppt	Parts per trillion
QA	Quality Assurance
QC	Quality Control
Ratio	Ratio of areas from monitored ions for an analyte
% Rec.	Percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
SDG	Sample Delivery Group
S/N	Signal-to-noise ratio
TEF	Toxicity Equivalence Factor
TEQ	Toxicity Equivalence Quotient

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ALS Environmental

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
American Association for Laboratory Accreditation	2897.01 2020	11/30/2021
Arizona Department of Health Services	AZ0793-2020	5/27/2021
Arkansas Department of Environmental Quality	20-030-0	3/26/2021
California Department of Health Services	2919-2020	4/30/2021
Department of Defense	A2LA 2897.01	11/30/2021
Florida Department of Health	E87611-2020	6/30/2021
Hawaii Department of Health	2020	4/30/2021
Illinois Environmental Protection Agency	2000322020-4	5/9/2021
Kansas Department of Health and Environment	E-10352-2020	7/31/2021
Louisiana Department of Environmental Quality	03087-2020	6/30/2021
Louisiana Department of Health and Hospitals	LA028-2020	12/31/2020
Maine Department of Health and Human Services	2020016	6/5/2022
Maryland Department of the Environment	343-2020	6/30/2021
Michigan Depratment of Environmental Quality	9971-2020	4/30/2021
Minnesota Department of Health	1785988	12/31/2020
Nebraska Department of Health and Human Services	NE-OS-25-13 (2020)	4/30/2021
Nevada Department of Concervation and Natural Resources	TX026932021-1	7/31/2021
New Hampshire Environmental Laboratory Accreditation Program	209420	4/24/2021
New Jersey Department of Environmental Protection	TX008	6/30/2021
New York Department of Health	11707	3/31/2021
Oklahoma Department of Environmental Quality	2020-123	8/31/2021
Pennsylvania Department of Environmental Protection	014	6/30/2021
Tennessee Department of Environment and Concervation	04016-2020	4/30/2021
Texas Commision on Environmental Quality	T104704231-20-26	4/30/2021
United States Department of Agriculture	P330-19-00299	10/10/2022
Washington Department of Health	C819	11/14/2020

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Chain of Custody

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14937**

SUBCONTRACT TO:

ALS Environmental
10450 Stancliff RoadSuite 210
Houston, TX 77084

Phone: +1 281 530 5656

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	RJ Modashia
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	RJ.Modashia@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS20100719
TSR:	Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20100719-01**	**16WW36-201013**	**Groundwater**	**13 Oct 2020 07:35**
	SUB_Perch-6850			28 Oct 2020
2.	**HS20100719-02**	**16WW35-201013**	**Groundwater**	**13 Oct 2020 08:20**
	SUB_Perch-6850			28 Oct 2020
3.	**HS20100719-03**	**16IW09-201013**	**Groundwater**	**13 Oct 2020 09:10**
	SUB_Perch-6850			28 Oct 2020
4.	**HS20100719-04**	**16WW55-201013**	**Groundwater**	**13 Oct 2020 10:00**
	SUB_Perch-6850			28 Oct 2020
5.	**HS20100719-05**	**16IW03-201013**	**Groundwater**	**13 Oct 2020 10:50**
	SUB_Perch-6850			28 Oct 2020
6.	**HS20100719-06**	**16IW10-201013**	**Groundwater**	**13 Oct 2020 11:50**
	SUB_Perch-6850			28 Oct 2020

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

HS20100719-05 MS/MSD

QC Level: DOD IV (DoD Data Package)

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Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense**

COC ID: **14937**

Relinquished By: J. Hansen

Date/Time:

Received By: CH

Date/Time: 10/14/20 1500

Cooler ID(s):

Temperature(s):

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ALS Environmental

Cooler Receipt Form

Project Chemist CL

Client/Project ALS-H

Thermometer ID IR3

Date/Time Received: 10/14/20 Initials: ____

Date/Time Logged in: 10/14/20 Initials CL

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ✓ ALS Courier ○ Client

2. Samples received in: ✓ Cooler ○ Box ○ Envelope ○ Other ____

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

4. Packing Material: ○ Inserts ✓ Baggies ○ Bubble Wrap ○ Gel Packs ✓ Wet Ice ○ Sleeves ○ Other ____

5. Foreign or Regulated Soil? ○ Yes ○ No Location of Sampling: ____

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
-		10/14/20	1400	CL	3.3	X
						☐
						☐
						☐

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

Notes, Discrepancies, & Resolutions:

Service request Label:

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10450 Stancliff Rd., Suite 210
Houston, TX 77099
T: +1 713 266 1599
F: +1 713 266 1599
www.alsglobal.com

SAMPLE ACCEPTANCE POLICY

This policy outlines the criteria samples must meet to be accepted by ALS Environmental – Houston HRMS.

Cooler Custody Seals (desirable, mandatory if specified in SAP):

- ✓ Intact on outside of cooler, signed and dated

Chain-of-Custody (COC) documentation (mandatory):

The following is required on each COC:

- ✓ Sample ID, the location, date and time of collection, collector's name, preservation type, sample type, and any other special remarks concerning the sampleThe COC must be completed in ink.
- ✓ Signature and date of relinquishing party.

In the absence of a COC at sample receipt, the COC will be requested from the client.

Sample Integrity (mandatory):

Samples are inspected upon arrival to ensure that sample integrity was not compromised during transfer to the laboratory.

- ✓ Sample containers must arrive in good condition (not broken or leaking).
- ✓ Samples must be labeled appropriately, including Sample IDs, and requested test using durable labels and indelible ink.
- ✓ The correct type of sample bottle must be used for the method requested.
- ✓ An appropriate sample volume, or weight, must be received.
- ✓ Sample IDs and number of containers must reconcile with the COC.
- ✓ Samples must be received within the method defined holding time.

Temperature Requirement (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6ºC.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10ºC.
- ✓ Air samples are shipped and stored cold, at 0 to 6ºC
- ✓ The sample temperature must be recorded on the COC

All cooler inspections are documented on the Cooler Receipt Form (CRF). A separate CRF is completed for each service request. Any samples not meeting the above criteria are noted on the CRF and the Project Manager notified. The Project Manager must resolve any sample integrity issues with the client prior to proceeding with the analysis. Such resolutions are documented in writing and filed with the project folder. Data associated with samples received outside of this acceptance policy will be qualified on the case narrative of the final report

Preparation Information Benchsheets

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

Preparation Information Benchsheet

Prep Run#: 368005 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 10/19/20 09:34

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2000981-001	LH18/24-SP650_101320-AIX	.01	6850/ClO4 DOD			Water	10mL	
2	E2000982-001	LH18/24-SP140_101320	.01	6850/ClO4 DOD			Water	10mL	
3	E2000984-001	LH18/24-SP650_101320-AIX	.01	6850/ClO4 DOD			Water	10mL	
4	E2000985-001	16WW36-201013	.01	6850/ClO4 DOD			Water	10mL	
5	E2000985-002	16WW35-201013	.01	6850/ClO4 DOD			Water	10mL	
6	E2000985-003	16IW09-201013	.01	6850/ClO4 DOD			Water	10mL	
7	E2000985-004	16WW55-201013	.01	6850/ClO4 DOD			Water	10mL	
8	E2000985-005	16IW03-201013	.01	6850/ClO4 DOD			Water	10mL	
9	E2000985-006	16IW10-201013	.01	6850/ClO4 DOD			Water	10mL	
10	E2000996-001	16WW25-201014	.01	6850/ClO4 DOD			Water	10mL	
11	E2000996-002	16WW26-201014	.01	6850/ClO4 DOD			Water	10mL	
12	E2000996-003	16WW30-201014	.01	6850/ClO4 DOD			Water	10mL	
13	E2000996-004	16WW29-201014	.01	6850/ClO4 DOD			Water	10mL	
14	E2000996-005	16WW22-201014	.01	6850/ClO4 DOD			Water	10mL	
15	E2000996-006	16WW41-201014	.01	6850/ClO4 DOD			Water	10mL	
16	E2000996-007	16WW21-201014	.01	6850/ClO4 DOD			Water	10mL	
17	E2000996-008	16WW21-201014-FD	.01	6850/ClO4 DOD			Water	10mL	
18	E2000996-009	16WW39-201014	.01	6850/ClO4 DOD			Water	10mL	
19	EQ2000513-01	MB		6850/ClO4 DOD			Liquid	10mL	
20	EQ2000513-02	LCS		6850/ClO4 DOD			Liquid	10mL	
21	EQ2000513-03	DLCS		6850/ClO4 DOD			Liquid	10mL	
22	EQ2000513-04	16IW03-201013 MS	.01	6850/ClO4 DOD			Liquid	10mL	
23	EQ2000513-05	16IW03-201013 DMS	.01	6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 209764 Logbook Ref: Perchlorate Int. Stock1 51820 Expires On: 11/18/2020

EQ2000513-02	1.00µL	EQ2000513-03	1.00µL	EQ2000513-04	1.00µL	EQ2000513-05	1.00µL

Name: Sodium Perchlorate 1 ug/mL (IS) (18-O) as CLO4 Inventory ID 212340 Logbook Ref: Sodium Perchlorate Expires On: 07/13/2022

E2000981-001	100.00µL	E2000982-001	100.00µL	E2000984-001	100.00µL	E2000985-001	100.00µL	E2000985-002	100.00µL	E2000985-003	100.00µL
E2000985-004	100.00µL	E2000985-005	100.00µL	E2000985-006	100.00µL	E2000996-001	100.00µL	E2000996-002	100.00µL	E2000996-003	100.00µL
E2000996-004	100.00µL	E2000996-005	100.00µL	E2000996-006	100.00µL	E2000996-007	100.00µL	E2000996-008	100.00µL	E2000996-009	100.00µL
EQ2000513-01	100.00µL	EQ2000513-02	100.00µL	EQ2000513-03	100.00µL	EQ2000513-04	100.00µL	EQ2000513-05	100.00µL		

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Preparation Information Benchsheet

Prep Run#: 368005 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 10/19/20 09:34

Preparation Steps

Step: Preparation
Started: 10/19/20 09:34
Finished: 10/19/20 14:58
By: GRIVERA
Comments

Comments: _____

Reviewed By: GR Date: 10/19/2020

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

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Analytical Results

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Collected:**	10/13/20 0735
Sample Matrix:	Water	**Date Received:**	10/14/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/19/20 21:26
Sample Name:	16WW36-201013	**Units:**	µg/L
Lab Code:	E2000985-001	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700168
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201019\20201019_050	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**0.167**		0.100	0.0500	0.0250	

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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Collected:**	10/13/20 0820
Sample Matrix:	Water	**Date Received:**	10/14/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/20/20 20:59
Sample Name:	16WW35-201013	**Units:**	µg/L
Lab Code:	E2000985-002	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700170
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201020\20201020_039	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	20

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**565**		2.00	1.00	0.500	

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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Collected:**	10/13/20 0910
Sample Matrix:	Water	**Date Received:**	10/14/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/21/20 11:26
Sample Name:	16IW09-201013	**Units:**	µg/L
Lab Code:	E2000985-003	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700177
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201021\20201021_015	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**0.0381**	J	0.100	0.0500	0.0250	

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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Collected:**	10/13/20 1000
Sample Matrix:	Water	**Date Received:**	10/14/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/20/20 21:15
Sample Name:	16WW55-201013	**Units:**	µg/L
Lab Code:	E2000985-004	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700170
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201020\20201020_041	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	10

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**287**		1.00	0.500	0.250	

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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Collected:**	10/13/20 1050
Sample Matrix:	Water	**Date Received:**	10/14/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/21/20 11:34
Sample Name:	16IW03-201013	**Units:**	µg/L
Lab Code:	E2000985-005	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700177
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201021\20201021_016	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**0.0876**	J	0.100	0.0500	0.0250	

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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Collected:**	10/13/20 1150
Sample Matrix:	Water	**Date Received:**	10/14/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/21/20 12:40
Sample Name:	16IW10-201013	**Units:**	µg/L
Lab Code:	E2000985-006	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700177
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201021\20201021_022	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	2

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	ND	U	0.200	0.100	0.0500	

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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	10/19/20
		Date Analyzed:	10/19/20 20:15
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000513-01	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700168
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201019\20201019_041	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	ND	U	0.100	0.0500	0.0250	

Accuracy & Precision

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ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Analyzed:**	10/20/20
Sample Matrix:	Water		

Lab Control Sample Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Units:**	µg/L
Prep Method:	Method	**Basis:**	NA
		Extraction Lot:	368005

	Lab Control Sample EQ2000513-02			Duplicate Lab Control Sample EQ2000513-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.105	0.100	105	0.108	0.100	108	84 - 119	3	15

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

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

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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	10/19/20
		Date Analyzed:	10/20/20 20:04
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000513-02	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700170
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201020\20201020_032	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**0.105**		0.100	0.0500	0.0250	

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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	10/19/20
		Date Analyzed:	10/20/20 20:12
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000513-03	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700170
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201020\20201020_033	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**0.108**		0.100	0.0500	0.0250	

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ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Collected:**	10/13/20
Sample Matrix:	Water	**Date Received:**	10/14/20
		Date Analyzed:	10/20/20

Matrix Spike Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Sample Name:	16IW03-201013	**Units:**	µg/L
Lab Code:	E2000985-005	**Basis:**	NA

Analytical Method: 6850
Prep Method: Method

		16IW03-201013MS				16IW03-201013DMS					
		Matrix Spike				**Duplicate Matrix Spike**					
		EQ2000513-04				EQ2000513-05					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.0876	0.194	0.100	106	0.193	0.100	105	84 - 119	<1	15

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

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

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

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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Collected:**	10/13/20 1050
Sample Matrix:	Water	**Date Received:**	10/14/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/20/20 20:20
Sample Name:	16IW03-201013	**Units:**	µg/L
Lab Code:	EQ2000513-04	**Basis:**	NA
Run Type:	Matrix Spike		

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700170
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201020\20201020_034	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**0.194**		0.100	0.0500	0.0250	

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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Collected:**	10/13/20 1050
Sample Matrix:	Water	**Date Received:**	10/14/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/20/20 20:28
Sample Name:	16IW03-201013	**Units:**	µg/L
Lab Code:	EQ2000513-05	**Basis:**	NA
Run Type:	Duplicate Matrix Spike		

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700170
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201020\20201020_035	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**0.193**		0.100	0.0500	0.0250	

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Kelso, WA 98626
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October 30, 2020

Analytical Report for Service Request No: K2009347

RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Suite 210
Houston, TX 77099-4338

RE: ALS Houston DOD TOC / HS20100719

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory October 15, 2020
For your reference, these analyses have been assigned our service request number **K2009347.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3350. You may also contact me via email at Kelley.Lovejoy@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Kelley Lovejoy

Kelley Lovejoy
Project Manager

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Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

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Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

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ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjlabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water-	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

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Case Narrative

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1317 South 13th Ave, Kelso, WA 98626 | 1-360-577-7222 | www.alsglobal.com

Client: ALS Environmental - US
Project: ALS Houston DOD TOC
Sample Matrix: Ground Water

Service Request: K2009347
Date Received: 10/15/2020

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier level II requested by the client.

Sample Receipt:

Six ground water samples were received for analysis at ALS Environmental on 10/15/2020. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

General Chemistry:

No significant anomalies were noted with this analysis.

Approved by Kelley Lovejoy Date 10/30/2020

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Chain of Custody

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K2009847

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Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14936**

SUBCONTRACT TO:

ALS Environmental Kelso
1317 S. 13th Avenue
Kelso, WA 98626

Phone: +1 360 501 3312

CUSTOMER INFORMATION:

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Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	RJ.Modashia@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS20100719
TSR:	Sonia West

	LAB SAMPLE ID / ANALYSIS REQUESTED	CLIENT SAMPLE ID	MATRIX	COLLECT DATE / DUE DATE
1.	**HS20100719-01**	**16WW36-201013**	**Groundwater**	**13 Oct 2020 07:35**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			28 Oct 2020
2.	**HS20100719-02**	**16WW35-201013**	**Groundwater**	**13 Oct 2020 08:20**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			28 Oct 2020
3.	**HS20100719-03**	**16IW09-201013**	**Groundwater**	**13 Oct 2020 09:10**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			28 Oct 2020
4.	**HS20100719-04**	**16WW55-201013**	**Groundwater**	**13 Oct 2020 10:00**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			28 Oct 2020
5.	**HS20100719-05**	**16IW03-201013**	**Groundwater**	**13 Oct 2020 10:50**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			28 Oct 2020
6.	**HS20100719-06**	**16IW10-201013**	**Groundwater**	**13 Oct 2020 11:50**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			28 Oct 2020

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

HS20100719-05 MS/MSD

QC Level: DOD IV (DoD Data Package)

RIGHT SOLUTIONS | RIGHT PARTNER

K2009347

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14936**

Relinquished By: _____ Date/Time: 10/14/20 18:00

Received By: _____ Date/Time: 10/15/20 1000

Cooler ID(s): _____ Temperature(s): _____

RIGHT SOLUTIONS | RIGHT PARTNER

PM KL

Cooler Receipt and Preservation Form

Client ALS-Houston Service Request K20 09347

Received: 10/15/20 Opened: 10/15/20 By: BR Unloaded: 10/15/20 By: BR

1. Samples were received via? *USPS* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? 2 front
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N
4. Was a Temperature Blank present in cooler? NA Y N If yes, notate the temperature in the appropriate column below:
   If no, take the temperature of a representative sample bottle contained within the cooler; notate in the column "Sample Temp":
5. Were samples received within the method specified temperature ranges? NA Y N
   If no, were they received on ice and same day as collected? If not, notate the cooler # below and notify the PM. NA Y N

If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*

Temp Blank	Sample Temp	IR Gun	Cooler #/COC ID / NA	Out of temp indicate with "X"	PM Notified if out of temp	Tracking Number NA	Filed
1.4	—	10.01	14936	—	—	189188815529	

6. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* _____
7. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
8. Were samples received in good condition (unbroken) NA Y N
9. Were all sample labels complete (ie, analysis, preservation, etc.)? NA Y N
10. Did all sample labels and tags agree with custody papers? NA Y N
11. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
12. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
13. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
14. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, Resolutions: RUSH

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General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

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ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	K2009347
Project:	ALS Houston DOD TOC/HS20100719	**Date Collected:**	10/13/20
Sample Matrix:	Ground Water	**Date Received:**	10/15/20
Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Carbon, Total Organic

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
16WW36-201013	K2009347-001	**18.3**	0.50	0.20	0.07	1	10/23/20 18:00	
16WW35-201013	K2009347-002	**65.5**	2.5	1.0	0.4	5	10/23/20 18:00	
16IW09-201013	K2009347-003	**1250**	50	20	7	100	10/26/20 10:05	
16WW55-201013	K2009347-004	**4.98**	0.50	0.20	0.07	1	10/23/20 18:00	
16IW03-201013	K2009347-005	**1190**	13	5	2	25	10/16/20 08:40	
16IW10-201013	K2009347-006	**1220**	13	5	2	25	10/16/20 08:40	
Method Blank	K2009347-MB1	ND U	0.50	0.20	0.07	1	10/16/20 08:40	
Method Blank	K2009347-MB2	ND U	0.50	0.20	0.07	1	10/23/20 18:00	
Method Blank	K2009347-MB3	ND U	0.50	0.20	0.07	1	10/26/20 10:05	

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ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2009347
Project:	ALS Houston DOD TOC/HS20100719	**Date Collected:**	10/13/20
Sample Matrix:	Ground Water	**Date Received:**	10/15/20
		Date Analyzed:	10/23/20
		Date Extracted:	NA

Matrix Spike Summary
Carbon, Total Organic

Sample Name:	16WW55-201013	**Units:**	mg/L
Lab Code:	K2009347-004	**Basis:**	NA
Analysis Method:	SM 5310 C		
Prep Method:	None		

Matrix Spike
K2009347-004MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	4.98	27.6	25.0	91	83-117

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

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

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

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

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ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2009347
Project:	ALS Houston DOD TOC/HS20100719	**Date Collected:**	10/13/20
Sample Matrix:	Ground Water	**Date Received:**	10/15/20
		Date Analyzed:	10/16/20
		Date Extracted:	NA

Matrix Spike Summary
Carbon, Total Organic

Sample Name:	16IW03-201013	**Units:**	mg/L
Lab Code:	K2009347-005	**Basis:**	NA
Analysis Method:	SM 5310 C		
Prep Method:	None		

Matrix Spike
K2009347-005MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	1190	3710	2500	101	83-117

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

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

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

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

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ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2009347
Project:	ALS Houston DOD TOC/HS20100719	**Date Analyzed:**	10/23/20
Sample Matrix:	Ground Water	**Date Extracted:**	NA

Duplicate Lab Control Sample Summary
General Chemistry Parameters

Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	700289

	Lab Control Sample K2009347-LCS1			Duplicate Lab Control Sample K2009347-DLCS1					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Carbon, Total Organic	24.5	25.0	98	24.2	25.0	97	83-117	1	10

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ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2009347
Project:	ALS Houston DOD TOC/HS20100719	**Date Analyzed:**	10/26/20
Sample Matrix:	Ground Water	**Date Extracted:**	NA

Duplicate Lab Control Sample Summary
General Chemistry Parameters

Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	701294

	Lab Control Sample K2009347-LCS2			Duplicate Lab Control Sample K2009347-DLCS2					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Carbon, Total Organic	23.9	25.0	96	23.8	25.0	95	83-117	<1	10

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ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2009347
Project:	ALS Houston DOD TOC/HS20100719	**Date Analyzed:**	10/16/20
Sample Matrix:	Ground Water	**Date Extracted:**	NA

Lab Control Sample Summary
General Chemistry Parameters

Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	699680

Lab Control Sample
K2009347-LCS3

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	24.5	25.0	98	83-117

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WorkOrder: HS20100719

LHAAP 16 October 2020

Aptim Environmental & Infrastucture, Inc.

Susan Huang
2500 City West Blvd., Suite 1700
Houston TX 77042

01-Dec-2020

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HS20100719 LHAAP 16 October 2020 Final

ALS WO# HS20100719

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October 31, 2020

Susan Huang
Aptim Environmental & Infrastucture, Inc.
2500 City West Blvd., Suite 1700
Houston, TX 77042

Work Order: **HS20100719**

Laboratory Results for: **LHAAP 16 October 2020**

Dear Susan Huang,

ALS Environmental received 7 sample(s) on Oct 14, 2020 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL
RJ Modashia
Project Manager

ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
Work Order: HS20100719

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20100719-01	16WW36-201013	Groundwater		13-Oct-2020 07:35	14-Oct-2020 09:15	☐
HS20100719-02	16WW35-201013	Groundwater		13-Oct-2020 08:20	14-Oct-2020 09:15	☐
HS20100719-03	16IW09-201013	Groundwater		13-Oct-2020 09:10	14-Oct-2020 09:15	☐
HS20100719-04	16WW55-201013	Groundwater		13-Oct-2020 10:00	14-Oct-2020 09:15	☐
HS20100719-05	16IW03-201013	Groundwater		13-Oct-2020 10:50	14-Oct-2020 09:15	☐
HS20100719-06	16IW10-201013	Groundwater		13-Oct-2020 11:50	14-Oct-2020 09:15	☐
HS20100719-07	Trip blank-201008	Water	CG 092320 -87	13-Oct-2020 07:35	14-Oct-2020 09:15	☐

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc. **CASE NARRATIVE**
Project: LHAAP 16 October 2020
Work Order: HS20100719

Work Order Comments

- The analysis for Perchlorate was subcontracted our ALS Houston TX, High Resolution Lab. Final report attached. The analysis for TOC was subcontracted to ALS Kelso, WA. Final report attached.

GC Semivolatiles by Method RSK-175

Batch ID: R371090

Sample ID: 16IW03-201013 (HS20100719-05MS)

- The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits. However, the LCS was within control limits. The recovery of the MS may be due to sample matrix interference.

Sample ID: 16IW03-201013 (HS20100719-05MSD)

- The recovery of the Matrix Spike Duplicate (MSD) associated to this analyte was outside of the established control limits. However, the LCS was within control limits. The failed recovery of the MSD may be due to sample matrix interference.

GCMS Volatiles by Method SW8260

Batch ID: R371372

Sample ID: 16WW35-201013 (HS20100719-02)

- Surrogate failure (4-Bromofluorobenzene) confirmed by re-analysis @ higher dilution.

Batch ID: R371450

Sample ID: HS20100780-04MS

- MS and MSD are for an unrelated sample

Wet Chemistry by Method SW9056

Batch ID: R371460

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SW9056

Batch ID: R370990

Sample ID: 16IW03-201013 (HS20100719-05MS)

- The recovery of the Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) associated with this analyte was outside of the established control limits. However, the LCS was within control limits. The recovery of the MS/MSD may be due to sample matrix interference. (Nitrogen, Nitrate (As N))

Sample ID: 16IW03-201013 (HS20100719-05MSD)

- The recovery of the Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) associated with this analyte was outside of the established control limits. However, the LCS was within control limits. The recovery of the MS/MSD may be due to sample matrix interference. (Sulfate)

Sample ID: 16WW35-201013 (HS20100719-02)

- Sample ran at 5X due to high concentration of Sulfate

Sample ID: 16WW36-201013 (HS20100719-01)

- Sample ran at 5X due to high concentration of Sulfate

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc. **CASE NARRATIVE**
Project: LHAAP 16 October 2020
Work Order: HS20100719

WetChemistry by Method SW9056

Batch ID: R370990

Sample ID: HS20100651-02MS

- MS and MSD are for an unrelated sample (Nitrogen, Nitrate (As N),Sulfate)

WetChemistry by Method SM2320B

Batch ID: R370623

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 16 October 2020 WorkOrder:HS20100719
Sample ID: 16WW36-201013 Lab ID:HS20100719-01
Collection Date: 13-Oct-2020 07:35 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	50	U	15	50	50	UG/L	50	27-Oct-2020 14:36
1,1-Dichloroethene	**170**		**10**	**25**	**50**	**UG/L**	50	27-Oct-2020 14:36
1,2-Dichloroethane	25	U	10	25	50	UG/L	50	27-Oct-2020 14:36
cis-1,2-Dichloroethene	**26,000**		**100**	**250**	**500**	**UG/L**	500	27-Oct-2020 15:39
Methylene chloride	50	U	20	50	100	UG/L	50	27-Oct-2020 14:36
Trichloroethene	**22,000**		**100**	**250**	**500**	**UG/L**	500	27-Oct-2020 15:39
Vinyl chloride	**180**		**10**	**25**	**50**	**UG/L**	50	27-Oct-2020 14:36
Surr: 1,2-Dichloroethane-d4	*85.7*			**0**	*81-118*	*%REC*	*50*	*27-Oct-2020 14:36*
Surr: 1,2-Dichloroethane-d4	*86.5*			**0**	*81-118*	*%REC*	*500*	*27-Oct-2020 15:39*
Surr: 4-Bromofluorobenzene	*85.4*			**0**	*85-114*	*%REC*	*50*	*27-Oct-2020 14:36*
Surr: 4-Bromofluorobenzene	*90.0*			**0**	*85-114*	*%REC*	*500*	*27-Oct-2020 15:39*
Surr: Dibromofluoromethane	*85.8*			**0**	*80-119*	*%REC*	*500*	*27-Oct-2020 15:39*
Surr: Dibromofluoromethane	*84.6*			**0**	*80-119*	*%REC*	*50*	*27-Oct-2020 14:36*
Surr: Toluene-d8	*98.8*			**0**	*89-112*	*%REC*	*50*	*27-Oct-2020 14:36*
Surr: Toluene-d8	*98.2*			**0**	*89-112*	*%REC*	*500*	*27-Oct-2020 15:39*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PVL
Ethane	**0.00109**		**0.000144**	**0.000250**	**0.00100**	**mg/L**	1	21-Oct-2020 14:23
Ethene	**0.0101**		**0.000234**	**0.000500**	**0.00100**	**mg/L**	1	21-Oct-2020 14:23
Methane	**0.273**		**0.00214**	**0.00500**	**0.0100**	**mg/L**	20	21-Oct-2020 16:08
ALKALINITY BY SM2320B		**Method:SM2320B**						Analyst: TH
Alkalinity, Total (As CaCO3)	**563**	a	**5.00**	**5.00**	**5.00**	**mg/L**	1	15-Oct-2020 23:06
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**2.41**		**0.150**	**0.500**	**0.500**	**mg/L**	5	14-Oct-2020 23:38
Nitrogen, Nitrate (As N)	0.500	U	0.150	0.500	0.500	mg/L	5	14-Oct-2020 23:38
Sulfate	**2,840**		**10.0**	**25.0**	**25.0**	**mg/L**	50	15-Oct-2020 08:57
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	22-Oct-2020 13:19
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	31-Oct-2020 13:27

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 16 October 2020 WorkOrder:HS20100719
Sample ID: 16WW35-201013 Lab ID:HS20100719-02
Collection Date: 13-Oct-2020 08:20 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	2.5	U	1.5	2.5	5.0	UG/L	5	26-Oct-2020 14:16
1,1-Dichloroethene	**93**		**1.0**	**2.5**	**5.0**	**UG/L**	5	26-Oct-2020 14:16
1,2-Dichloroethane	2.5	U	1.0	2.5	5.0	UG/L	5	26-Oct-2020 14:16
cis-1,2-Dichloroethene	**1,600**		**50**	**120**	**250**	**UG/L**	250	26-Oct-2020 17:26
Methylene chloride	5.0	U	2.0	5.0	10	UG/L	5	26-Oct-2020 14:16
Trichloroethene	**11,000**		**50**	**120**	**250**	**UG/L**	250	26-Oct-2020 17:26
Vinyl chloride	**97**		**1.0**	**2.5**	**5.0**	**UG/L**	5	26-Oct-2020 14:16
Surr: 1,2-Dichloroethane-d4	*85.1*			**0**	*81-118*	*%REC*	*5*	*26-Oct-2020 14:16*
Surr: 1,2-Dichloroethane-d4	*86.3*			**0**	*81-118*	*%REC*	*250*	*26-Oct-2020 17:26*
Surr: 4-Bromofluorobenzene	*84.8*	*S*		**0**	*85-114*	*%REC*	*5*	*26-Oct-2020 14:16*
Surr: 4-Bromofluorobenzene	*85.5*			**0**	*85-114*	*%REC*	*250*	*26-Oct-2020 17:26*
Surr: Dibromofluoromethane	*88.2*			**0**	*80-119*	*%REC*	*250*	*26-Oct-2020 17:26*
Surr: Dibromofluoromethane	*88.7*			**0**	*80-119*	*%REC*	*5*	*26-Oct-2020 14:16*
Surr: Toluene-d8	*96.9*			**0**	*89-112*	*%REC*	*5*	*26-Oct-2020 14:16*
Surr: Toluene-d8	*95.4*			**0**	*89-112*	*%REC*	*250*	*26-Oct-2020 17:26*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PVL
Ethane	**0.00101**		**0.000144**	**0.000250**	**0.00100**	**mg/L**	1	21-Oct-2020 14:41
Ethene	**0.00934**		**0.000234**	**0.000500**	**0.00100**	**mg/L**	1	21-Oct-2020 14:41
Methane	**0.0969**		**0.00107**	**0.00250**	**0.00500**	**mg/L**	10	21-Oct-2020 16:17
ALKALINITY BY SM2320B		**Method:SM2320B**						Analyst: TH
Alkalinity, Total (As CaCO3)	**1,140**	a	**5.00**	**5.00**	**5.00**	**mg/L**	1	15-Oct-2020 23:16
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	0.500	U	0.150	0.500	0.500	mg/L	5	14-Oct-2020 23:56
Nitrogen, Nitrate (As N)	0.500	U	0.150	0.500	0.500	mg/L	5	14-Oct-2020 23:56
Sulfate	**9,510**		**40.0**	**100**	**100**	**mg/L**	200	28-Oct-2020 05:33
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	22-Oct-2020 13:19
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	31-Oct-2020 13:27

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 16 October 2020 WorkOrder:HS20100719
Sample ID: 16IW09-201013 Lab ID:HS20100719-03
Collection Date: 13-Oct-2020 09:10 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	26-Oct-2020 13:13
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 13:13
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 13:13
cis-1,2-Dichloroethene	**4.1**		**0.20**	**0.50**	**1.0**	**UG/L**	1	26-Oct-2020 13:13
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	26-Oct-2020 13:13
Trichloroethene	**5.8**		**0.20**	**0.50**	**1.0**	**UG/L**	1	26-Oct-2020 13:13
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 13:13
Surr: 1,2-Dichloroethane-d4	*83.2*			**0**	*81-118*	*%REC*	*1*	*26-Oct-2020 13:13*
Surr: 4-Bromofluorobenzene	*87.8*			**0**	*85-114*	*%REC*	*1*	*26-Oct-2020 13:13*
Surr: Dibromofluoromethane	*86.7*			**0**	*80-119*	*%REC*	*1*	*26-Oct-2020 13:13*
Surr: Toluene-d8	*97.0*			**0**	*89-112*	*%REC*	*1*	*26-Oct-2020 13:13*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PVL
Ethane	0.000250	U	0.000144	0.000250	0.00100	mg/L	1	21-Oct-2020 14:57
Ethene	**0.00125**		**0.000234**	**0.000500**	**0.00100**	**mg/L**	1	21-Oct-2020 14:57
Methane	0.000250	U	0.000107	0.000250	0.000500	mg/L	1	21-Oct-2020 14:57
ALKALINITY BY SM2320B		**Method:SM2320B**						Analyst: TH
Alkalinity, Total (As CaCO3)	**698**	a	**5.00**	**5.00**	**5.00**	**mg/L**	1	15-Oct-2020 23:24
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**7.76**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	15-Oct-2020 00:14
Nitrogen, Nitrate (As N)	**0.499**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	15-Oct-2020 00:14
Sulfate	**11.2**		**0.200**	**0.500**	**0.500**	**mg/L**	1	15-Oct-2020 00:14
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	22-Oct-2020 13:19
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	31-Oct-2020 13:27

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 16 October 2020 WorkOrder:HS20100719
Sample ID: 16WW55-201013 Lab ID:HS20100719-04
Collection Date: 13-Oct-2020 10:00 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	5.0	U	3.0	5.0	10	UG/L	10	26-Oct-2020 16:44
1,1-Dichloroethene	5.0	U	2.0	5.0	10	UG/L	10	26-Oct-2020 16:44
1,2-Dichloroethane	**12**		**2.0**	**5.0**	**10**	**UG/L**	10	26-Oct-2020 16:44
cis-1,2-Dichloroethene	**450**		**2.0**	**5.0**	**10**	**UG/L**	10	26-Oct-2020 16:44
Methylene chloride	10	U	4.0	10	20	UG/L	10	26-Oct-2020 16:44
Trichloroethene	**4,400**		**20**	**50**	**100**	**UG/L**	100	26-Oct-2020 17:05
Vinyl chloride	**26**		**2.0**	**5.0**	**10**	**UG/L**	10	26-Oct-2020 16:44
Surr: 1,2-Dichloroethane-d4	*87.0*			**0**	*81-118*	*%REC*	*100*	*26-Oct-2020 17:05*
Surr: 1,2-Dichloroethane-d4	*87.1*			**0**	*81-118*	*%REC*	*10*	*26-Oct-2020 16:44*
Surr: 4-Bromofluorobenzene	*88.8*			**0**	*85-114*	*%REC*	*10*	*26-Oct-2020 16:44*
Surr: 4-Bromofluorobenzene	*85.7*			**0**	*85-114*	*%REC*	*100*	*26-Oct-2020 17:05*
Surr: Dibromofluoromethane	*87.8*			**0**	*80-119*	*%REC*	*100*	*26-Oct-2020 17:05*
Surr: Dibromofluoromethane	*88.0*			**0**	*80-119*	*%REC*	*10*	*26-Oct-2020 16:44*
Surr: Toluene-d8	*97.1*			**0**	*89-112*	*%REC*	*10*	*26-Oct-2020 16:44*
Surr: Toluene-d8	*98.4*			**0**	*89-112*	*%REC*	*100*	*26-Oct-2020 17:05*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PVL
Ethane	0.000250	U	0.000144	0.000250	0.00100	mg/L	1	21-Oct-2020 15:14
Ethene	**0.00107**		**0.000234**	**0.000500**	**0.00100**	**mg/L**	1	21-Oct-2020 15:14
Methane	**0.0301**		**0.000107**	**0.000250**	**0.000500**	**mg/L**	1	21-Oct-2020 15:14
ALKALINITY BY SM2320B		**Method:SM2320B**						Analyst: TH
Alkalinity, Total (As CaCO3)	**355**	a	**5.00**	**5.00**	**5.00**	**mg/L**	1	15-Oct-2020 23:30
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**4.75**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	15-Oct-2020 00:32
Nitrogen, Nitrate (As N)	0.100	U	0.0300	0.100	0.100	mg/L	1	15-Oct-2020 00:32
Sulfate	**745**		**2.00**	**5.00**	**5.00**	**mg/L**	10	15-Oct-2020 10:27
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	22-Oct-2020 13:19
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	31-Oct-2020 13:27

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 16 October 2020 WorkOrder:HS20100719
Sample ID: 16IW03-201013 Lab ID:HS20100719-05
Collection Date: 13-Oct-2020 10:50 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	**4.1**	J	**1.5**	**5.0**	**5.0**	**UG/L**	5	26-Oct-2020 14:59
1,1-Dichloroethene	**38**		**1.0**	**2.5**	**5.0**	**UG/L**	5	26-Oct-2020 14:59
1,2-Dichloroethane	**5.4**		**1.0**	**2.5**	**5.0**	**UG/L**	5	26-Oct-2020 14:59
cis-1,2-Dichloroethene	**11,000**		**40**	**100**	**200**	**UG/L**	200	26-Oct-2020 15:41
Methylene chloride	5.0	U	2.0	5.0	10	UG/L	5	26-Oct-2020 14:59
Trichloroethene	**10,000**		**40**	**100**	**200**	**UG/L**	200	26-Oct-2020 15:41
Vinyl chloride	**530**		**1.0**	**2.5**	**5.0**	**UG/L**	5	26-Oct-2020 14:59
Surr: 1,2-Dichloroethane-d4	*87.4*			**0**	*81-118*	*%REC*	*5*	*26-Oct-2020 14:59*
Surr: 1,2-Dichloroethane-d4	*83.8*			**0**	*81-118*	*%REC*	*200*	*26-Oct-2020 15:41*
Surr: 4-Bromofluorobenzene	*85.9*			**0**	*85-114*	*%REC*	*5*	*26-Oct-2020 14:59*
Surr: 4-Bromofluorobenzene	*87.2*			**0**	*85-114*	*%REC*	*200*	*26-Oct-2020 15:41*
Surr: Dibromofluoromethane	*89.8*			**0**	*80-119*	*%REC*	*5*	*26-Oct-2020 14:59*
Surr: Dibromofluoromethane	*85.2*			**0**	*80-119*	*%REC*	*200*	*26-Oct-2020 15:41*
Surr: Toluene-d8	*96.3*			**0**	*89-112*	*%REC*	*5*	*26-Oct-2020 14:59*
Surr: Toluene-d8	*98.8*			**0**	*89-112*	*%REC*	*200*	*26-Oct-2020 15:41*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PVL
Ethane	**0.00498**		**0.000144**	**0.000250**	**0.00100**	**mg/L**	1	21-Oct-2020 17:13
Ethene	**0.0577**		**0.000234**	**0.000500**	**0.00100**	**mg/L**	1	21-Oct-2020 17:13
Methane	**0.685**		**0.00535**	**0.0125**	**0.0250**	**mg/L**	50	21-Oct-2020 17:27
ALKALINITY BY SM2320B		**Method:SM2320B**						Analyst: TH
Alkalinity, Total (As CaCO3)	**771**	a	**5.00**	**5.00**	**5.00**	**mg/L**	1	15-Oct-2020 22:51
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**1.27**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	15-Oct-2020 00:50
Nitrogen, Nitrate (As N)	**0.665**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	15-Oct-2020 00:50
Sulfate	**10.9**		**0.200**	**0.500**	**0.500**	**mg/L**	1	15-Oct-2020 00:50
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	22-Oct-2020 13:19
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	31-Oct-2020 13:27

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 16 October 2020 WorkOrder:HS20100719
Sample ID: 16IW10-201013 Lab ID:HS20100719-06
Collection Date: 13-Oct-2020 11:50 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	26-Oct-2020 13:34
1,1-Dichloroethene	**0.67**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	26-Oct-2020 13:34
1,2-Dichloroethane	**0.98**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	26-Oct-2020 13:34
cis-1,2-Dichloroethene	**220**		**1.0**	**2.5**	**5.0**	**UG/L**	5	26-Oct-2020 17:47
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	26-Oct-2020 13:34
Trichloroethene	**46**		**0.20**	**0.50**	**1.0**	**UG/L**	1	26-Oct-2020 13:34
Vinyl chloride	**53**		**0.20**	**0.50**	**1.0**	**UG/L**	1	26-Oct-2020 13:34
Surr: 1,2-Dichloroethane-d4	*85.5*			**0**	*81-118*	*%REC*	*5*	*26-Oct-2020 17:47*
Surr: 1,2-Dichloroethane-d4	*83.9*			**0**	*81-118*	*%REC*	*1*	*26-Oct-2020 13:34*
Surr: 4-Bromofluorobenzene	*88.2*			**0**	*85-114*	*%REC*	*1*	*26-Oct-2020 13:34*
Surr: 4-Bromofluorobenzene	*88.9*			**0**	*85-114*	*%REC*	*5*	*26-Oct-2020 17:47*
Surr: Dibromofluoromethane	*88.3*			**0**	*80-119*	*%REC*	*1*	*26-Oct-2020 13:34*
Surr: Dibromofluoromethane	*85.1*			**0**	*80-119*	*%REC*	*5*	*26-Oct-2020 17:47*
Surr: Toluene-d8	*95.1*			**0**	*89-112*	*%REC*	*1*	*26-Oct-2020 13:34*
Surr: Toluene-d8	*99.5*			**0**	*89-112*	*%REC*	*5*	*26-Oct-2020 17:47*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PVL
Ethane	0.000250	U	0.000144	0.000250	0.00100	mg/L	1	21-Oct-2020 15:52
Ethene	**0.0191**		**0.000234**	**0.000500**	**0.00100**	**mg/L**	1	21-Oct-2020 15:52
Methane	**1.47**		**0.00535**	**0.0125**	**0.0250**	**mg/L**	50	21-Oct-2020 16:52
ALKALINITY BY SM2320B		**Method:SM2320B**						Analyst: TH
Alkalinity, Total (As CaCO3)	**1,680**	a	**5.00**	**5.00**	**5.00**	**mg/L**	1	15-Oct-2020 23:42
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**94.8**		**0.150**	**0.500**	**0.500**	**mg/L**	5	15-Oct-2020 01:08
Nitrogen, Nitrate (As N)	0.500	U	0.150	0.500	0.500	mg/L	5	15-Oct-2020 01:08
Sulfate	**5.73**		**1.00**	**2.50**	**2.50**	**mg/L**	5	15-Oct-2020 01:08
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	22-Oct-2020 13:19
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	31-Oct-2020 13:27

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
Sample ID: Trip blank-201008
Collection Date: 13-Oct-2020 07:35

ANALYTICAL REPORT
WorkOrder:HS20100719
Lab ID:HS20100719-07
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	26-Oct-2020 12:52
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 12:52
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 12:52
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 12:52
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	26-Oct-2020 12:52
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 12:52
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 12:52
Surr: 1,2-Dichloroethane-d4	*84.8*			**0**	*81-118*	*%REC*	*1*	*26-Oct-2020 12:52*
Surr: 4-Bromofluorobenzene	*86.3*			**0**	*85-114*	*%REC*	*1*	*26-Oct-2020 12:52*
Surr: Dibromofluoromethane	*91.2*			**0**	*80-119*	*%REC*	*1*	*26-Oct-2020 12:52*
Surr: Toluene-d8	*100*			**0**	*89-112*	*%REC*	*1*	*26-Oct-2020 12:52*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020 **DATES REPORT**
WorkOrder: HS20100719

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R370623 (0)	**Test Name :** ALKALINITY BY SM2320B				**Matrix:** Groundwater	
HS20100719-01	16WW36-201013	13 Oct 2020 07:35			15 Oct 2020 23:06	1
HS20100719-02	16WW35-201013	13 Oct 2020 08:20			15 Oct 2020 23:16	1
HS20100719-03	16IW09-201013	13 Oct 2020 09:10			15 Oct 2020 23:24	1
HS20100719-04	16WW55-201013	13 Oct 2020 10:00			15 Oct 2020 23:30	1
HS20100719-05	16IW03-201013	13 Oct 2020 10:50			15 Oct 2020 22:51	1
HS20100719-06	16IW10-201013	13 Oct 2020 11:50			15 Oct 2020 23:42	1
Batch ID: R370990 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS20100719-01	16WW36-201013	13 Oct 2020 07:35			15 Oct 2020 08:57	50
HS20100719-01	16WW36-201013	13 Oct 2020 07:35			14 Oct 2020 23:38	5
HS20100719-02	16WW35-201013	13 Oct 2020 08:20			14 Oct 2020 23:56	5
HS20100719-03	16IW09-201013	13 Oct 2020 09:10			15 Oct 2020 00:14	1
HS20100719-04	16WW55-201013	13 Oct 2020 10:00			15 Oct 2020 10:27	10
HS20100719-04	16WW55-201013	13 Oct 2020 10:00			15 Oct 2020 00:32	1
HS20100719-05	16IW03-201013	13 Oct 2020 10:50			15 Oct 2020 00:50	1
HS20100719-06	16IW10-201013	13 Oct 2020 11:50			15 Oct 2020 01:08	5
Batch ID: R371062 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Groundwater	
HS20100719-01	16WW36-201013	13 Oct 2020 07:35			22 Oct 2020 13:19	1
HS20100719-02	16WW35-201013	13 Oct 2020 08:20			22 Oct 2020 13:19	1
HS20100719-03	16IW09-201013	13 Oct 2020 09:10			22 Oct 2020 13:19	1
HS20100719-04	16WW55-201013	13 Oct 2020 10:00			22 Oct 2020 13:19	1
HS20100719-05	16IW03-201013	13 Oct 2020 10:50			22 Oct 2020 13:19	1
HS20100719-06	16IW10-201013	13 Oct 2020 11:50			22 Oct 2020 13:19	1
Batch ID: R371090 (0)	**Test Name :** DISSOLVED GASES BY RSK-175				**Matrix:** Groundwater	
HS20100719-01	16WW36-201013	13 Oct 2020 07:35			21 Oct 2020 16:08	20
HS20100719-01	16WW36-201013	13 Oct 2020 07:35			21 Oct 2020 14:23	1
HS20100719-02	16WW35-201013	13 Oct 2020 08:20			21 Oct 2020 16:17	10
HS20100719-02	16WW35-201013	13 Oct 2020 08:20			21 Oct 2020 14:41	1
HS20100719-03	16IW09-201013	13 Oct 2020 09:10			21 Oct 2020 14:57	1
HS20100719-04	16WW55-201013	13 Oct 2020 10:00			21 Oct 2020 15:14	1
HS20100719-05	16IW03-201013	13 Oct 2020 10:50			21 Oct 2020 17:27	50
HS20100719-05	16IW03-201013	13 Oct 2020 10:50			21 Oct 2020 17:13	1
HS20100719-06	16IW10-201013	13 Oct 2020 11:50			21 Oct 2020 16:52	50
HS20100719-06	16IW10-201013	13 Oct 2020 11:50			21 Oct 2020 15:52	1
Batch ID: R371372 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS20100719-07	Trip blank-201008	13 Oct 2020 07:35			26 Oct 2020 12:52	1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: HS20100719

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R371372 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS20100719-02	16WW35-201013	13 Oct 2020 08:20			26 Oct 2020 17:26	250
HS20100719-02	16WW35-201013	13 Oct 2020 08:20			26 Oct 2020 14:16	5
HS20100719-03	16IW09-201013	13 Oct 2020 09:10			26 Oct 2020 13:13	1
HS20100719-04	16WW55-201013	13 Oct 2020 10:00			26 Oct 2020 17:05	100
HS20100719-04	16WW55-201013	13 Oct 2020 10:00			26 Oct 2020 16:44	10
HS20100719-05	16IW03-201013	13 Oct 2020 10:50			26 Oct 2020 15:41	200
HS20100719-05	16IW03-201013	13 Oct 2020 10:50			26 Oct 2020 14:59	5
HS20100719-06	16IW10-201013	13 Oct 2020 11:50			26 Oct 2020 17:47	5
HS20100719-06	16IW10-201013	13 Oct 2020 11:50			26 Oct 2020 13:34	1
Batch ID: R371450 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS20100719-01	16WW36-201013	13 Oct 2020 07:35			27 Oct 2020 15:39	500
HS20100719-01	16WW36-201013	13 Oct 2020 07:35			27 Oct 2020 14:36	50
Batch ID: R371460 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS20100719-02	16WW35-201013	13 Oct 2020 08:20			28 Oct 2020 05:33	200
Batch ID: R371717 (0)	**Test Name :** SUBCONTRACT ANALYSIS - TOC ANALYSIS				**Matrix:** Groundwater	
HS20100719-01	16WW36-201013	13 Oct 2020 07:35			31 Oct 2020 13:27	1
HS20100719-02	16WW35-201013	13 Oct 2020 08:20			31 Oct 2020 13:27	1
HS20100719-03	16IW09-201013	13 Oct 2020 09:10			31 Oct 2020 13:27	1
HS20100719-04	16WW55-201013	13 Oct 2020 10:00			31 Oct 2020 13:27	1
HS20100719-05	16IW03-201013	13 Oct 2020 10:50			31 Oct 2020 13:27	1
HS20100719-06	16IW10-201013	13 Oct 2020 11:50			31 Oct 2020 13:27	1

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: HS20100719

QC BATCH REPORT

Batch ID: R371090 (0) **Instrument:** FID-4 **Method:** DISSOLVED GASES BY RSK-175

MBLK Sample ID: **MBLK-201021** Units: **mg/L** Analysis Date: **21-Oct-2020 10:07**
Client ID: Run ID: **FID-4_371090** SeqNo: **5795268** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.000250	0.00100								U
Ethene	0.000500	0.00100								U
Methane	0.000250	0.000500								U

LCS Sample ID: **LCS-201021** Units: **mg/L** Analysis Date: **21-Oct-2020 10:14**
Client ID: Run ID: **FID-4_371090** SeqNo: **5795269** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0191	0.00100	0.01804	0	106	75 - 125				
Ethene	0.0193	0.00100	0.0168	0	115	75 - 125				
Methane	0.00952	0.000500	0.009647	0	98.7	75 - 125				

LCSD Sample ID: **LCSD-201021** Units: **mg/L** Analysis Date: **21-Oct-2020 10:25**
Client ID: Run ID: **FID-4_371090** SeqNo: **5795270** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0188	0.00100	0.01804	0	104	75 - 125	0.01912	1.54	30	
Ethene	0.0189	0.00100	0.0168	0	112	75 - 125	0.01928	2.21	30	
Methane	0.00950	0.000500	0.009647	0	98.5	75 - 125	0.009521	0.194	30	

MS Sample ID: **HS20100719-05MS** Units: **mg/L** Analysis Date: **21-Oct-2020 15:33**
Client ID: **16IW03-201013** Run ID: **FID-4_371090** SeqNo: **5795290** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0282	0.00100	0.01804	0.004980	129	75 - 125				S
Ethene	0.101	0.00100	0.0168	0.05770	260	75 - 125				SE
Methane	0.791	0.000500	0.009647	0.7829	84.8	75 - 125				EO

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ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: HS20100719

QC BATCH REPORT

Batch ID: R371090 (0) **Instrument:** FID-4 **Method:** DISSOLVED GASES BY RSK-175

MSD Sample ID: **HS20100719-05MSD** Units: **mg/L** Analysis Date: **21-Oct-2020 15:44**
Client ID: **16IW03-201013** Run ID: **FID-4_371090** SeqNo: **5795291** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0268	0.00100	0.01804	0.004980	121	75 - 125	0.02820	4.92	30	
Ethene	0.101	0.00100	0.0168	0.05770	259	75 - 125	0.1014	0.15	30	SE
Methane	0.789	0.000500	0.009647	0.7829	64.7	75 - 125	0.7911	0.245	30	SEO

DUP Sample ID: **HS20100779-01DUP** Units: **mg/L** Analysis Date: **21-Oct-2020 11:26**
Client ID: Run ID: **FID-4_371090** SeqNo: **5795276** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.000250	0.00100					0	0	30	U
Ethene	0.000500	0.00100					0	0	30	U
Methane	0.0154	0.000500					0.01529	0.595	30	

The following samples were analyzed in this batch: HS20100719-01 HS20100719-02 HS20100719-03 HS20100719-04 HS20100719-05 HS20100719-06

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ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: HS20100719

QC BATCH REPORT

Batch ID: R371372 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-201026** Units: **UG/L** Analysis Date: **26-Oct-2020 12:31**
Client ID: Run ID: **VOA6_371372** SeqNo: **5801594** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	0.50	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,2-Dichloroethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
Methylene chloride	1.0	2.0								U
Trichloroethene	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*42.52*	*1.0*	*50*	*0*	*85.0*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*43.05*	*1.0*	*50*	*0*	*86.1*	*85 - 114*				
Surr: Dibromofluoromethane	*43.8*	*1.0*	*50*	*0*	*87.6*	*80 - 119*				
Surr: Toluene-d8	*48.64*	*1.0*	*50*	*0*	*97.3*	*89 - 112*				

LCS Sample ID: **VLCSW-201026** Units: **UG/L** Analysis Date: **26-Oct-2020 11:49**
Client ID: Run ID: **VOA6_371372** SeqNo: **5801593** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	18.09	1.0	20	0	90.4	80 - 119				
1,1-Dichloroethene	19.45	1.0	20	0	97.3	71 - 131				
1,2-Dichloroethane	20.07	1.0	20	0	100	73 - 128				
cis-1,2-Dichloroethene	19.4	1.0	20	0	97.0	78 - 123				
Methylene chloride	17.36	2.0	20	0	86.8	74 - 124				
Trichloroethene	20.44	1.0	20	0	102	79 - 123				
Vinyl chloride	19.78	1.0	20	0	98.9	58 - 137				
Surr: 1,2-Dichloroethane-d4	*51.34*	*1.0*	*50*	*0*	*103*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*46.54*	*1.0*	*50*	*0*	*93.1*	*85 - 114*				
Surr: Dibromofluoromethane	*51.39*	*1.0*	*50*	*0*	*103*	*80 - 119*				
Surr: Toluene-d8	*48.55*	*1.0*	*50*	*0*	*97.1*	*89 - 112*				

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: HS20100719

QC BATCH REPORT

Batch ID: R371372 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20100719-05MS** Units: **UG/L** Analysis Date: **26-Oct-2020 16:02**
Client ID: **16IW03-201013** Run ID: **VOA6_371372** SeqNo: **5801601** PrepDate: DF: **200**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	4135	200	4000	0	103	80 - 119				
1,1-Dichloroethene	4884	200	4000	0	122	71 - 131				
1,2-Dichloroethane	4672	200	4000	0	117	73 - 128				
cis-1,2-Dichloroethene	15300	200	4000	10560	118	78 - 123				
Methylene chloride	3910	400	4000	0	97.7	74 - 124				
Trichloroethene	15370	200	4000	10480	122	79 - 123				
Vinyl chloride	5705	200	4000	771.5	123	58 - 137				
Surr: 1,2-Dichloroethane-d4	*8472*	*200*	*10000*	*0*	*84.7*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*8745*	*200*	*10000*	*0*	*87.5*	*85 - 114*				
Surr: Dibromofluoromethane	*8756*	*200*	*10000*	*0*	*87.6*	*80 - 119*				
Surr: Toluene-d8	*9275*	*200*	*10000*	*0*	*92.7*	*89 - 112*				

MSD Sample ID: **HS20100719-05MSD** Units: **UG/L** Analysis Date: **26-Oct-2020 16:23**
Client ID: **16IW03-201013** Run ID: **VOA6_371372** SeqNo: **5801602** PrepDate: DF: **200**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	4326	200	4000	0	108	80 - 119	4135	4.52	20	
1,1-Dichloroethene	4560	200	4000	0	114	71 - 131	4884	6.86	20	
1,2-Dichloroethane	4427	200	4000	0	111	73 - 128	4672	5.38	20	
cis-1,2-Dichloroethene	14990	200	4000	10560	111	78 - 123	15300	2	20	
Methylene chloride	3564	400	4000	0	89.1	74 - 124	3910	9.24	20	
Trichloroethene	15010	200	4000	10480	113	79 - 123	15370	2.37	20	
Vinyl chloride	5302	200	4000	771.5	113	58 - 137	5705	7.32	20	
Surr: 1,2-Dichloroethane-d4	*8511*	*200*	*10000*	*0*	*85.1*	*81 - 118*	*8472*	*0.464*	*20*	
Surr: 4-Bromofluorobenzene	*8769*	*200*	*10000*	*0*	*87.7*	*85 - 114*	*8745*	*0.276*	*20*	
Surr: Dibromofluoromethane	*8777*	*200*	*10000*	*0*	*87.8*	*80 - 119*	*8756*	*0.235*	*20*	
Surr: Toluene-d8	*9391*	*200*	*10000*	*0*	*93.9*	*89 - 112*	*9275*	*1.24*	*20*	

The following samples were analyzed in this batch: HS20100719-02 HS20100719-03 HS20100719-04 HS20100719-05 HS20100719-06 HS20100719-07

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ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: HS20100719

QC BATCH REPORT

Batch ID: R371450 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-201027** Units: **UG/L** Analysis Date: **27-Oct-2020 13:54**
Client ID: Run ID: **VOA6_371450** SeqNo: **5804006** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	1.0	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,2-Dichloroethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
Methylene chloride	1.0	2.0								U
Trichloroethene	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*41.37*	*1.0*	*50*	*0*	*82.7*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*44.77*	*1.0*	*50*	*0*	*89.5*	*85 - 114*				
Surr: Dibromofluoromethane	*43.39*	*1.0*	*50*	*0*	*86.8*	*80 - 119*				
Surr: Toluene-d8	*48*	*1.0*	*50*	*0*	*96.0*	*89 - 112*				

LCS Sample ID: **VLCSW-201027** Units: **UG/L** Analysis Date: **27-Oct-2020 12:50**
Client ID: Run ID: **VOA6_371450** SeqNo: **5804005** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	20.26	1.0	20	0	101	80 - 119				
1,1-Dichloroethene	15.83	1.0	20	0	79.2	71 - 131				
1,2-Dichloroethane	21.88	1.0	20	0	109	73 - 128				
cis-1,2-Dichloroethene	19.66	1.0	20	0	98.3	78 - 123				
Methylene chloride	18.17	2.0	20	0	90.8	74 - 124				
Trichloroethene	21.03	1.0	20	0	105	79 - 123				
Vinyl chloride	15.8	1.0	20	0	79.0	58 - 137				
Surr: 1,2-Dichloroethane-d4	*52.31*	*1.0*	*50*	*0*	*105*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*51.74*	*1.0*	*50*	*0*	*103*	*85 - 114*				
Surr: Dibromofluoromethane	*51.25*	*1.0*	*50*	*0*	*102*	*80 - 119*				
Surr: Toluene-d8	*51.26*	*1.0*	*50*	*0*	*103*	*89 - 112*				

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ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: HS20100719

QC BATCH REPORT

Batch ID: R371450 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20100780-04MS** Units: **UG/L** Analysis Date: **27-Oct-2020 14:57**
Client ID: Run ID: **VOA6_371450** SeqNo: **5804009** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	31.02	1.0	20	0	155	80 - 119				S
1,1-Dichloroethene	19.28	1.0	20	0	96.4	71 - 131				
1,2-Dichloroethane	27	1.0	20	0	135	73 - 128				S
cis-1,2-Dichloroethene	21.01	1.0	20	0	105	78 - 123				
Methylene chloride	19.11	2.0	20	0	95.6	74 - 124				
Trichloroethene	26.4	1.0	20	0	132	79 - 123				S
Vinyl chloride	18.04	1.0	20	0	90.2	58 - 137				
Surr: 1,2-Dichloroethane-d4	*42.53*	*1.0*	*50*	*0*	*85.1*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.85*	*1.0*	*50*	*0*	*99.7*	*85 - 114*				
Surr: Dibromofluoromethane	*42.31*	*1.0*	*50*	*0*	*84.6*	*80 - 119*				
Surr: Toluene-d8	*47.64*	*1.0*	*50*	*0*	*95.3*	*89 - 112*				

MSD Sample ID: **HS20100780-04MSD** Units: **UG/L** Analysis Date: **27-Oct-2020 15:18**
Client ID: Run ID: **VOA6_371450** SeqNo: **5804010** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	31.46	1.0	20	0	157	80 - 119	31.02	1.41	20	S
1,1-Dichloroethene	17.88	1.0	20	0	89.4	71 - 131	19.28	7.55	20	
1,2-Dichloroethane	26.06	1.0	20	0	130	73 - 128	27	3.52	20	S
cis-1,2-Dichloroethene	19.83	1.0	20	0	99.2	78 - 123	21.01	5.76	20	
Methylene chloride	19.56	2.0	20	0	97.8	74 - 124	19.11	2.31	20	
Trichloroethene	25.32	1.0	20	0	127	79 - 123	26.4	4.19	20	S
Vinyl chloride	17.35	1.0	20	0	86.8	58 - 137	18.04	3.87	20	
Surr: 1,2-Dichloroethane-d4	*41.99*	*1.0*	*50*	*0*	*84.0*	*81 - 118*	*42.53*	*1.28*	*20*	
Surr: 4-Bromofluorobenzene	*47.88*	*1.0*	*50*	*0*	*95.8*	*85 - 114*	*49.85*	*4.04*	*20*	
Surr: Dibromofluoromethane	*42.97*	*1.0*	*50*	*0*	*85.9*	*80 - 119*	*42.31*	*1.54*	*20*	
Surr: Toluene-d8	*47.1*	*1.0*	*50*	*0*	*94.2*	*89 - 112*	*47.64*	*1.14*	*20*	

The following samples were analyzed in this batch: HS20100719-01

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ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: HS20100719

QC BATCH REPORT

Batch ID: R370623 (0) **Instrument: ManTech01** **Method: ALKALINITY BY SM2320B**

MBLK Sample ID: **WBLKW2-201015** Units: **mg/L** Analysis Date: **15-Oct-2020 22:10**
Client ID: Run ID: **ManTech01_370623** SeqNo: **5784628** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	5.00	5.00								U

LCS Sample ID: **LCS2-201015** Units: **mg/L** Analysis Date: **15-Oct-2020 22:18**
Client ID: Run ID: **ManTech01_370623** SeqNo: **5784629** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	1029	5.00	1000	0	103	85 - 115				

LCSD Sample ID: **LCSD2-201015** Units: **mg/L** Analysis Date: **15-Oct-2020 22:43**
Client ID: Run ID: **ManTech01_370623** SeqNo: **5784632** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	1027	5.00	1000	0	103	85 - 115	1029	0.207	20	

DUP Sample ID: **HS20100719-05DUP** Units: **mg/L** Analysis Date: **15-Oct-2020 23:00**
Client ID: **16IW03-201013** Run ID: **ManTech01_370623** SeqNo: **5784634** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	778.2	5.00					770.8	0.953	20	

The following samples were analyzed in this batch: HS20100719-01 HS20100719-02 HS20100719-03 HS20100719-04 HS20100719-05 HS20100719-06

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ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: HS20100719

QC BATCH REPORT

Batch ID: R370990 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK-101320** Units: **mg/L** Analysis Date: **15-Oct-2020 03:50**
Client ID: Run ID: **ICS-Integrion_370990** SeqNo: **5792903** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	0.100	0.100								U
Nitrogen, Nitrate (As N)	0.100	0.100								U
Sulfate	0.500	0.500								U

LCS Sample ID: **LCS-101320** Units: **mg/L** Analysis Date: **15-Oct-2020 04:09**
Client ID: Run ID: **ICS-Integrion_370990** SeqNo: **5792904** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	4.096	0.100	4	0	102	80 - 120				
Nitrogen, Nitrate (As N)	4.014	0.100	4	0	100	80 - 120				
Sulfate	18.94	0.500	20	0	94.7	80 - 120				

LCSD Sample ID: **LCSD-101320** Units: **mg/L** Analysis Date: **13-Oct-2020 22:42**
Client ID: Run ID: **ICS-Integrion_370990** SeqNo: **5792881** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	3.973	0.100	4	0	99.3	80 - 120	4.096	3.06	20	
Nitrogen, Nitrate (As N)	4.009	0.100	4	0	100	80 - 120	4.014	0.13	20	
Sulfate	19.27	0.500	20	0	96.4	80 - 120	18.94	1.75	20	

MS Sample ID: **HS20100719-05MS** Units: **mg/L** Analysis Date: **15-Oct-2020 05:21**
Client ID: **16IW03-201013** Run ID: **ICS-Integrion_370990** SeqNo: **5792906** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	3.055	0.100	2	1.274	89.1	80 - 120				
Nitrogen, Nitrate (As N)	3.142	0.100	2	0.6648	124	80 - 120				S
Sulfate	19.35	0.500	10	10.95	84.0	80 - 120				

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ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: HS20100719

QC BATCH REPORT

Batch ID: R370990 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MS Sample ID: **HS20100651-02MS** Units: **mg/L** Analysis Date: **13-Oct-2020 20:54**
Client ID: Run ID: **ICS-Integrion_370990** SeqNo: **5792877** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	2.263	0.100	2	0.3639	95.0	80 - 120				
Nitrogen, Nitrate (As N)	2.796	0.100	2	0	140	80 - 120				S
Sulfate	200	0.500	10	198.5	15.8	80 - 120				SEO

MSD Sample ID: **HS20100719-05MSD** Units: **mg/L** Analysis Date: **15-Oct-2020 05:39**
Client ID: **16IW03-201013** Run ID: **ICS-Integrion_370990** SeqNo: **5792907** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	3.256	0.100	2	1.274	99.1	80 - 120	3.055	6.36	20	
Nitrogen, Nitrate (As N)	3.031	0.100	2	0.6648	118	80 - 120	3.142	3.57	20	
Sulfate	16.87	0.500	10	10.95	59.2	80 - 120	19.35	13.7	20	S

MSD Sample ID: **HS20100651-02MSD** Units: **mg/L** Analysis Date: **13-Oct-2020 21:12**
Client ID: Run ID: **ICS-Integrion_370990** SeqNo: **5792878** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	2.277	0.100	2	0.3639	95.7	80 - 120	2.263	0.599	20	
Nitrogen, Nitrate (As N)	2.769	0.100	2	0	138	80 - 120	2.796	0.974	20	S
Sulfate	198.8	0.500	10	198.5	3.71	80 - 120	200	0.604	20	SEO

The following samples were analyzed in this batch: HS20100719-01 HS20100719-02 HS20100719-03 HS20100719-04 HS20100719-05 HS20100719-06

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ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: HS20100719

QC BATCH REPORT

Batch ID: R371460 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK-102720** Units: **mg/L** Analysis Date: **28-Oct-2020 08:33**
Client ID: Run ID: **ICS-Integrion_371460** SeqNo: **5804154** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	0.500	0.500								U

LCS Sample ID: **LCS-102720** Units: **mg/L** Analysis Date: **28-Oct-2020 08:51**
Client ID: Run ID: **ICS-Integrion_371460** SeqNo: **5804155** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	18.05	0.500	20	0	90.2	80 - 120				

MS Sample ID: **HS20100779-02MS** Units: **mg/L** Analysis Date: **28-Oct-2020 07:03**
Client ID: Run ID: **ICS-Integrion_371460** SeqNo: **5804149** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	447.3	5.00	100	374.5	72.8	80 - 120				S

MSD Sample ID: **HS20100779-02MSD** Units: **mg/L** Analysis Date: **28-Oct-2020 07:21**
Client ID: Run ID: **ICS-Integrion_371460** SeqNo: **5804150** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	447.8	5.00	100	374.5	73.3	80 - 120	447.3	0.12	20	S

The following samples were analyzed in this batch: HS20100719-02

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Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: **HS20100719**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

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CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	20-030-0	26-Mar-2021
California	2919, 2020-2021	30-Apr-2021
Dept of Defense	PJLA L20-507	22-Dec-2021
Florida	E87611-30-07/01/2020	30-Jun-2021
Illinois	2000322020-4	09-May-2021
Kansas	E-10352 2020-2021	31-Jul-2021
Kentucky	123043, 2020-2021	30-Apr-2021
Louisiana	03087, 2020-2021	30-Jun-2021
North Carolina	624-2020	31-Dec-2020
North Dakota	R-193 2020-2021	30-Apr-2021
Texas	T104704231-20-26	30-Apr-2021

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ALS Houston, US Date: 31-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
Work Order: HS20100719

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20100719-01	16WW36-201013	Login	10/14/2020 3:09:10 PM	JRM	Sub
HS20100719-01	16WW36-201013	Login	10/14/2020 3:09:10 PM	JRM	WET083
HS20100719-01	16WW36-201013	Login	10/14/2020 3:09:10 PM	JRM	VOA155
HS20100719-01	16WW36-201013	Login	10/14/2020 3:09:10 PM	JRM	RSK001
HS20100719-01	16WW36-201013	Login	10/14/2020 3:09:10 PM	JRM	Sub
HS20100719-07	Trip blank-201008	Login	10/14/2020 3:09:10 PM	JRM	VOA155

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ALS Houston, US Date: 31-Oct-20

Sample Receipt Checklist

Work Order ID: HS20100719 **Date/Time Received:** **14-Oct-2020 09:15**

Client Name: CBI-Houston **Received by:** **Jared R. Makan**

Completed By:	/S/ Jared R. Makan	14-Oct-2020 15:15	**Reviewed by:**	/S/ RJ Modashia	14-Oct-2020 16:47
	eSignature	Date/Time		eSignature	Date/Time

Matrices: **Water** Carrier name: **FedEx Priority Overnight**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	1.7°C/1.7°C UC/C	IR31
Cooler(s)/Kit(s):	44997	
Date/Time sample(s) sent to storage:	10/14/2020 15:14	

Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

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CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd. Suite 210 Houston, TX. 77099 (281) 530-5656 ATTN: R.J Modashia

Page 1 of 1

Project: APTIM
LONGHORN ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No. 501032

Job: LHAAP 16 October 2020

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D. / Time	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (bromide, sulfate, nitrate) by SW9056 and Alkalinity by SM2320	Bromide by SW9056	Perchlorate by SW6850	Metals (arsenic, chromium, manganese, nickel, thallium) by SW6020				Remarks (Preservatives, etc.)	Lab I.D.#
16WW36-201013	WG	10/13/20/0735		10	X	X	X	X	X	X						
16WW35-201013	WG	10/13/20/0820		10	X	X	X	X	X	X						
~~Hotsite~~ 16IW09-201013	WG	10/13/20/0910		10	X	X	X	X	X	X						
16WW55-201013	WG	10/13/20/1000		10	X	X	X	X	X	X						
16IW03-201013	WG	10/13/20/1050		10	X	X	X	X	X	X						
16IW03-201013-MS	WG	10/13/20/1050		10	X	X	X	X	X	X						
16IW03-201013-MSD	WG	10/13/20/1050		10	X	X	X	X	X	X						
16IW10-201013	WG	10/13/20/1150		10	X	X	X	X	X	X						

Additional Remarks: Standard TAT on all parameters. Please email results to Susan.Huang@aptim.com and invoices to fedinvoices@aptim.com

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	10/13/20	1430									

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
J. Jimenez	10/14/20	09:15							

Remarks: Cooler 44997 IR31
Temp 1.7°C CF0

HS20100719

Aptim Environmental & Infrastucture, Inc.
LHAAP 16

(Word) S:\I-ccs\Forms\Chain of Custody - BiWeekly

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CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd. Suite 210 Houston, TX. 77099 (281)530-5656 ATTN: R.J Modashia

Page 1 of 1

Project: APTIM LONGHORN ARMY AMMN. PLANT (LHAAP) GROUNDWATER TREATMENT PLANT (GWTP) KARNACK, TEXAS	Project No. 501032
Job: **LHAAP 16 October 2020**	
Prepared By: Scott Beesinger	P.O. Number

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (bromide, sulfate, nitrate) by SW9056 and Alkalinity by SM2320	Bromide by SW9056	Perchlorate by SW6850	Metals (arsenic, chromium, manganese, nickel, thallium) by SW6020				Remarks (Preservatives, etc.)	Lab I.D.#
TRIP BLANK-201013	W	10/13/20		2	X											

Additional Remarks: Standard TAT on all parameters. Please email results to Susan.Huang@aptim.com and invoices to fedinvoices@aptim.com

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	10/13/20	1430									

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
J. Wasson	10/14/20	09:15							

Remarks: Cooler 44997 IR31
Temp 1.7°C CFO

HS20100719

Aptim Environmental & Infrastucture, Inc.

LHAAP 16

(Word) S:\I-ces\Forms\Chain of Custody - BiWeekly

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ALS
10450 Stancliff Rd., Suite 2
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

CUSTODY SEAL
Date: 10/13/20 Time: 1430
Name: Scott Breslin
Company: ALS
Seal Broken By:
Date: 10/14

FedEx
TRK# 6221 1891 8877 8277
AB SGRA
WED - 14 OCT AA
PRIORITY OVERNIGHT
77099
TX-US
IAH

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October 22, 2020 Service Request No:E2000985

RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Suite 210
Houston, TX 77099-4338

Laboratory Results for: HS20100719

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory October 14, 2020
For your reference, these analyses have been assigned our service request number **E2000985.**

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

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Corey Grandits
Project Manager

Certificate of Analysis

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

ALS Environmental

Client:	ALS Houston	**Service Request No.:**	E2000985
Project:	HS20100719	**Date Received:**	10/14/20
Sample Matrix:	W		

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Six samples were received for analysis at ALS Environmental in Houston on 10/14/20.

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

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2000513: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in addition to a MS/MSD for this extraction batch. The LCS, DLCS, MS, & MSD recoveries are within QC limits.

DoD Certification is held for the method/matrix/analytes provided in this report.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

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

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Client: ALS Environmental - US **Service Request:**E2000985
Project: HS20100719

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2000985-001	16WW36-201013	10/13/2020	0735
E2000985-002	16WW35-201013	10/13/2020	0820
E2000985-003	16IW09-201013	10/13/2020	0910
E2000985-004	16WW55-201013	10/13/2020	1000
E2000985-005	16IW03-201013	10/13/2020	1050
E2000985-006	16IW10-201013	10/13/2020	1150

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Service Request Summary

Folder #: **E2000985**
Client Name: ALS Environmental - US
Project Name: HS20100719
Project Number:

Report To: RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 10/14/20
Internal Due Date: 10/28/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: N
Report to MDL?: Y
P.O. Number: HS20100719
EDD: No EDD Specified

8 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 10E
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2000985-001	16WW36-201013	Water	10/13/20 0735	**IV**
E2000985-002	16WW35-201013	Water	10/13/20 0820	**IV**
E2000985-003	16IW09-201013	Water	10/13/20 0910	**IV**
E2000985-004	16WW55-201013	Water	10/13/20 1000	**IV**
E2000985-005	16IW03-201013	Water	10/13/20 1050	**IV**
E2000985-006	16IW10-201013	Water	10/13/20 1150	**IV**

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Service Request Summary

Folder #: **E2000985**
Client Name: ALS Environmental - US
Project Name: HS20100719
Project Number:

Report To: RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 10/14/20
Internal Due Date: 10/28/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: N
Report to MDL?: Y
P.O. Number: HS20100719
EDD: No EDD Specified

8 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 10E
Pressure Gas:

Test Comments:

Group	Test/Method	Samples	Comments
Semivoa GCMS	ClO4 DOD/6850	1	MS/MSD
Semivoa GCMS	ClO4 DOD/6850	5	Level II due 10/28,level IV 11/4

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Data Qualifiers

Lab Standard

+	Possible Tedlar bag artifact.
A	TIC is a suspected aldol-condensation product
B	Analyte found in the associated method blank as well as in the sample.
BC	Reported results are not blank corrected.
BH	The back section of the tube yielded higher results than the front.
BT	Results indicated possible breakthrough; back section >=10% front section.
C	Result identification confirmed.
D	Compound identified in an analysis at a secondary dilution factor
D	Spike was diluted out
DE	Reported results are corrected for desorption efficiency.
E	Estimated value. Concentration above calibration range
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
H1	Sample analysis performed past holding time. See case narrative.
H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
H3	Sample was received and analyzed past holding time.
H4	Sample was extracted past required extraction holding time, but analyzed within analysis holding time. See case narrative.
I	Internal standard not within the specified limits. See case narrative.
J	Estimated Value. Concentration found below MRL.
K	A deflection in the QC ion may indicate interference with the quantitation of this ion. The concentration of this analyte should be considered as an estimate.
K	Analyte was detected above the method reporting limit prior to normalization.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
L1	Laboratory control sample recovery outside the specified limits; results may be biased high.
L2	Laboratory control sample recovery outside the specified limits; results may be biased low.
L3	Laboratory control sample recovery outside the specified limits.
M	Matrix interference; results may be biased high.
M	The duplicate injection precision not met.
M1	Matrix interference due to coelution with a non-target compound; results may be biased high.
N	Presumptive evidence of a compound for TICs that have been identified based on a mass spectral library search.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.

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Data Qualifiers

Lab Standard

P	Indicates chlorodiphenyl ether interference present at the retention time of the target compound.
P	Pesticide/Aroclor target analyte > 40% difference for detected concentrations between GC columns
Q	Indicates as estimated value because the P and P + 2 theoretical abundance ratio does not meet method criteria.
R	Duplicate Precision not met.
R1	Duplicate precision not within the specified limits; however, the results are below the MRL and considered estimated.
S	Surrogate recovery not within specified limits.
S	The reported value was determined by the Method of Standard Additions (MSA).
T	Analyte is a tentatively identified compound, result is estimated.
U	Compound was analyzed for, but was not detected (ND).
V1	The continuing calibration verification standard was outside (biased high) the specified limits for this compound.
V2	The continuing calibration verification standard was outside (biased low) the specified limits for this compound.
W	Result quantified, but the corresponding peak was detected outside the generated retention time window.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
X	See case narrative.
Y	Recovery outside limits
Y	The chromatogram resembles a petroleum product but does not match the calibration standard.
Z	The chromatogram does not resemble a petroleum product.
i	The MRL/MDL has been elevated due to a matrix interference.

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Acronyms

Cal	Calibration
Conc	CONCentration
Dioxin(s)	Polychlorinated dibenzo-p-dioxin(s)
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
Flags	Data qualifiers
Furan(s)	Polychlorinated dibenzofuran(s)
g	Grams
ICAL	Initial CALibration
ID	IDentifier
Ions	Masses monitored for the analyte during data acquisition
L	Liter (s)
LCS	Laboratory Control Sample
DLCS	Duplicate Laboratory Control Sample
MB	Method Blank
MCL	Method Calibration Limit
MDL	Method Detection Limit
mL	Milliliters
MS	Matrix Spiked sample
DMS	Duplicate Matrix Spiked sample
NO	Number of peaks meeting all identification criteria
PCDD(s)	Polychlorinated dibenzo-p-dioxin(s)
PCDF(s)	Polychlorinated dibenzofuran(s)
ppb	Parts per billion
ppm	Parts per million
ppq	Parts per quadrillion
ppt	Parts per trillion
QA	Quality Assurance
QC	Quality Control
Ratio	Ratio of areas from monitored ions for an analyte
% Rec.	Percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
SDG	Sample Delivery Group
S/N	Signal-to-noise ratio
TEF	Toxicity Equivalence Factor
TEQ	Toxicity Equivalence Quotient

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10450 Stancliff Rd, Houston, TX 77099 | 281-530-5656 | www.alsglobal.com

ALS Environmental

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
American Association for Laboratory Accreditation	2897.01 2020	11/30/2021
Arizona Department of Health Services	AZ0793-2020	5/27/2021
Arkansas Department of Environmental Quality	20-030-0	3/26/2021
California Department of Health Services	2919-2020	4/30/2021
Department of Defense	A2LA 2897.01	11/30/2021
Florida Department of Health	E87611-2020	6/30/2021
Hawaii Department of Health	2020	4/30/2021
Illinois Environmental Protection Agency	2000322020-4	5/9/2021
Kansas Department of Health and Environment	E-10352-2020	7/31/2021
Louisiana Department of Environmental Quality	03087-2020	6/30/2021
Louisiana Department of Health and Hospitals	LA028-2020	12/31/2020
Maine Department of Health and Human Services	2020016	6/5/2022
Maryland Department of the Environment	343-2020	6/30/2021
Michigan Depratment of Environmental Quality	9971-2020	4/30/2021
Minnesota Department of Health	1785988	12/31/2020
Nebraska Department of Health and Human Services	NE-OS-25-13 (2020)	4/30/2021
Nevada Department of Concervation and Natural Resources	TX026932021-1	7/31/2021
New Hampshire Environmental Laboratory Accreditation Program	209420	4/24/2021
New Jersey Department of Environmental Protection	TX008	6/30/2021
New York Department of Health	11707	3/31/2021
Oklahoma Department of Environmental Quality	2020-123	8/31/2021
Pennsylvania Department of Environmental Protection	014	6/30/2021
Tennessee Department of Environment and Concervation	04016-2020	4/30/2021
Texas Commision on Environmental Quality	T104704231-20-26	4/30/2021
United States Department of Agriculture	P330-19-00299	10/10/2022
Washington Department of Health	C819	11/14/2020

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Chain of Custody

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
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10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14937**

SUBCONTRACT TO:

ALS Environmental
10450 Stancliff RoadSuite 210
Houston, TX 77084

Phone: +1 281 530 5656

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	RJ Modashia
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	RJ.Modashia@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS20100719
TSR:	Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20100719-01**	**16WW36-201013**	**Groundwater**	**13 Oct 2020 07:35**
	SUB_Perch-6850			28 Oct 2020
2.	**HS20100719-02**	**16WW35-201013**	**Groundwater**	**13 Oct 2020 08:20**
	SUB_Perch-6850			28 Oct 2020
3.	**HS20100719-03**	**16IW09-201013**	**Groundwater**	**13 Oct 2020 09:10**
	SUB_Perch-6850			28 Oct 2020
4.	**HS20100719-04**	**16WW55-201013**	**Groundwater**	**13 Oct 2020 10:00**
	SUB_Perch-6850			28 Oct 2020
5.	**HS20100719-05**	**16IW03-201013**	**Groundwater**	**13 Oct 2020 10:50**
	SUB_Perch-6850			28 Oct 2020
6.	**HS20100719-06**	**16IW10-201013**	**Groundwater**	**13 Oct 2020 11:50**
	SUB_Perch-6850			28 Oct 2020

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

HS20100719-05 MS/MSD

QC Level: DOD IV (DoD Data Package)

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense**

COC ID: **14937**

Relinquished By: J. Hanson

Date/Time:

Received By: CH

Date/Time: 10/14/20 1500

Cooler ID(s):

Temperature(s):

ALS Environmental

Cooler Receipt Form

Project Chemist CA

Client/Project ALS-H

Thermometer ID IR31

Date/Time Received: 10/14/20 Initials: ____ Date/Time Logged in: 10/14/20 Initials CA

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ✓ ALS Courier ○ Client

2. Samples received in: ✓ Cooler ○ Box ○ Envelope ○ Other ____

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

4. Packing Material: ○ Inserts ✓ Baggies ○ Bubble Wrap ○ Gel Packs ✓ Wet Ice ○ Sleeves ○ Other ____

5. Foreign or Regulated Soil? ○ Yes ○ No Location of Sampling: ____

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
-		10/14/20	1500	CA	3.3	X
						☐
						☐
						☐

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

Notes, Discrepancies, & Resolutions:

Service request Label:

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SAMPLE ACCEPTANCE POLICY

This policy outlines the criteria samples must meet to be accepted by ALS Environmental – Houston HRMS.

Cooler Custody Seals (desirable, mandatory if specified in SAP):

- ✓ Intact on outside of cooler, signed and dated

Chain-of-Custody (COC) documentation (mandatory):

The following is required on each COC:

- ✓ Sample ID, the location, date and time of collection, collector's name, preservation type, sample type, and any other special remarks concerning the sampleThe COC must be completed in ink.
- ✓ Signature and date of relinquishing party.

In the absence of a COC at sample receipt, the COC will be requested from the client.

Sample Integrity (mandatory):

Samples are inspected upon arrival to ensure that sample integrity was not compromised during transfer to the laboratory.

- ✓ Sample containers must arrive in good condition (not broken or leaking).
- ✓ Samples must be labeled appropriately, including Sample IDs, and requested test using durable labels and indelible ink.
- ✓ The correct type of sample bottle must be used for the method requested.
- ✓ An appropriate sample volume, or weight, must be received.
- ✓ Sample IDs and number of containers must reconcile with the COC.
- ✓ Samples must be received within the method defined holding time.

Temperature Requirement (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6ºC.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10ºC.
- ✓ Air samples are shipped and stored cold, at 0 to 6ºC
- ✓ The sample temperature must be recorded on the COC

All cooler inspections are documented on the Cooler Receipt Form (CRF). A separate CRF is completed for each service request. Any samples not meeting the above criteria are noted on the CRF and the Project Manager notified. The Project Manager must resolve any sample integrity issues with the client prior to proceeding with the analysis. Such resolutions are documented in writing and filed with the project folder. Data associated with samples received outside of this acceptance policy will be qualified on the case narrative of the final report

Preparation Information Benchsheets

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

Preparation Information Benchsheet

Prep Run#: 368005 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 10/19/20 09:34

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2000981-001	LH18/24-SP650_101320-AIX	.01	6850/ClO4 DOD			Water	10mL	
2	E2000982-001	LH18/24-SP140_101320	.01	6850/ClO4 DOD			Water	10mL	
3	E2000984-001	LH18/24-SP650_101320-AIX	.01	6850/ClO4 DOD			Water	10mL	
4	E2000985-001	16WW36-201013	.01	6850/ClO4 DOD			Water	10mL	
5	E2000985-002	16WW35-201013	.01	6850/ClO4 DOD			Water	10mL	
6	E2000985-003	16IW09-201013	.01	6850/ClO4 DOD			Water	10mL	
7	E2000985-004	16WW55-201013	.01	6850/ClO4 DOD			Water	10mL	
8	E2000985-005	16IW03-201013	.01	6850/ClO4 DOD			Water	10mL	
9	E2000985-006	16IW10-201013	.01	6850/ClO4 DOD			Water	10mL	
10	E2000996-001	16WW25-201014	.01	6850/ClO4 DOD			Water	10mL	
11	E2000996-002	16WW26-201014	.01	6850/ClO4 DOD			Water	10mL	
12	E2000996-003	16WW30-201014	.01	6850/ClO4 DOD			Water	10mL	
13	E2000996-004	16WW29-201014	.01	6850/ClO4 DOD			Water	10mL	
14	E2000996-005	16WW22-201014	.01	6850/ClO4 DOD			Water	10mL	
15	E2000996-006	16WW41-201014	.01	6850/ClO4 DOD			Water	10mL	
16	E2000996-007	16WW21-201014	.01	6850/ClO4 DOD			Water	10mL	
17	E2000996-008	16WW21-201014-FD	.01	6850/ClO4 DOD			Water	10mL	
18	E2000996-009	16WW39-201014	.01	6850/ClO4 DOD			Water	10mL	
19	EQ2000513-01	MB		6850/ClO4 DOD			Liquid	10mL	
20	EQ2000513-02	LCS		6850/ClO4 DOD			Liquid	10mL	
21	EQ2000513-03	DLCS		6850/ClO4 DOD			Liquid	10mL	
22	EQ2000513-04	16IW03-201013 MS	.01	6850/ClO4 DOD			Liquid	10mL	
23	EQ2000513-05	16IW03-201013 DMS	.01	6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 209764 Logbook Ref: Perchlorate Int. Stock1 51820 Expires On: 11/18/2020

EQ2000513-02	1.00µL	EQ2000513-03	1.00µL	EQ2000513-04	1.00µL	EQ2000513-05	1.00µL

Name: Sodium Perchlorate 1 ug/mL (IS) (18-O) as CLO4 Inventory ID 212340 Logbook Ref: Sodium Perchlorate Expires On: 07/13/2022

E2000981-001	100.00µL	E2000982-001	100.00µL	E2000984-001	100.00µL	E2000985-001	100.00µL	E2000985-002	100.00µL	E2000985-003	100.00µL
E2000985-004	100.00µL	E2000985-005	100.00µL	E2000985-006	100.00µL	E2000996-001	100.00µL	E2000996-002	100.00µL	E2000996-003	100.00µL
E2000996-004	100.00µL	E2000996-005	100.00µL	E2000996-006	100.00µL	E2000996-007	100.00µL	E2000996-008	100.00µL	E2000996-009	100.00µL
EQ2000513-01	100.00µL	EQ2000513-02	100.00µL	EQ2000513-03	100.00µL	EQ2000513-04	100.00µL	EQ2000513-05	100.00µL		

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Preparation Information Benchsheet

Prep Run#: 368005 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 10/19/20 09:34

Preparation Steps

Step: Preparation
Started: 10/19/20 09:34
Finished: 10/19/20 14:58
By: GRIVERA
Comments

Comments: _____

Reviewed By: GR Date: 10/19/2020

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Analytical Results

ALS Environmental - Houston HRMS
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www.alsglobal.com

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Collected:**	10/13/20 0735
Sample Matrix:	Water	**Date Received:**	10/14/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/19/20 21:26
Sample Name:	16WW36-201013	**Units:**	µg/L
Lab Code:	E2000985-001	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700168
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201019\20201019_050	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**0.167**		0.100	0.0500	0.0250	

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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Collected:**	10/13/20 0820
Sample Matrix:	Water	**Date Received:**	10/14/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/20/20 20:59
Sample Name:	16WW35-201013	**Units:**	µg/L
Lab Code:	E2000985-002	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700170
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201020\20201020_039	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	20

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**565**		2.00	1.00	0.500	

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Collected:**	10/13/20 0910
Sample Matrix:	Water	**Date Received:**	10/14/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/21/20 11:26
Sample Name:	16IW09-201013	**Units:**	µg/L
Lab Code:	E2000985-003	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700177
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201021\20201021_015	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**0.0381**	J	0.100	0.0500	0.0250	

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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Collected:**	10/13/20 1000
Sample Matrix:	Water	**Date Received:**	10/14/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/20/20 21:15
Sample Name:	16WW55-201013	**Units:**	µg/L
Lab Code:	E2000985-004	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700170
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201020\20201020_041	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	10

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**287**		1.00	0.500	0.250	

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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Collected:**	10/13/20 1050
Sample Matrix:	Water	**Date Received:**	10/14/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/21/20 11:34
Sample Name:	16IW03-201013	**Units:**	µg/L
Lab Code:	E2000985-005	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700177
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201021\20201021_016	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**0.0876**	J	0.100	0.0500	0.0250	

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Collected:**	10/13/20 1150
Sample Matrix:	Water	**Date Received:**	10/14/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/21/20 12:40
Sample Name:	16IW10-201013	**Units:**	µg/L
Lab Code:	E2000985-006	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700177
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201021\20201021_022	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	2

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	ND	U	0.200	0.100	0.0500	

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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	10/19/20
		Date Analyzed:	10/19/20 20:15
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000513-01	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700168
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201019\20201019_041	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	ND	U	0.100	0.0500	0.0250	

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Accuracy & Precision

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ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Analyzed:**	10/20/20
Sample Matrix:	Water		

Lab Control Sample Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Units:**	µg/L
Prep Method:	Method	**Basis:**	NA
		Extraction Lot:	368005

	Lab Control Sample EQ2000513-02			Duplicate Lab Control Sample EQ2000513-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.105	0.100	105	0.108	0.100	108	84 - 119	3	15

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

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

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	10/19/20
		Date Analyzed:	10/20/20 20:04
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000513-02	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700170
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201020\20201020_032	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**0.105**		0.100	0.0500	0.0250	

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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	10/19/20
		Date Analyzed:	10/20/20 20:12
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000513-03	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700170
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201020\20201020_033	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**0.108**		0.100	0.0500	0.0250	

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ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Collected:**	10/13/20
Sample Matrix:	Water	**Date Received:**	10/14/20
		Date Analyzed:	10/20/20

Matrix Spike Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Sample Name:	16IW03-201013	**Units:**	µg/L
Lab Code:	E2000985-005	**Basis:**	NA

Analytical Method: 6850
Prep Method: Method

		16IW03-201013MS				16IW03-201013DMS					
		Matrix Spike				**Duplicate Matrix Spike**					
		EQ2000513-04				EQ2000513-05					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.0876	0.194	0.100	106	0.193	0.100	105	84 - 119	<1	15

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

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

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

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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Collected:**	10/13/20 1050
Sample Matrix:	Water	**Date Received:**	10/14/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/20/20 20:20
Sample Name:	16IW03-201013	**Units:**	µg/L
Lab Code:	EQ2000513-04	**Basis:**	NA
Run Type:	Matrix Spike		

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700170
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201020\20201020_034	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**0.194**		0.100	0.0500	0.0250	

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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Collected:**	10/13/20 1050
Sample Matrix:	Water	**Date Received:**	10/14/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/20/20 20:28
Sample Name:	16IW03-201013	**Units:**	µg/L
Lab Code:	EQ2000513-05	**Basis:**	NA
Run Type:	Duplicate Matrix Spike		

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700170
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201020\20201020_035	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**0.193**		0.100	0.0500	0.0250	

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ALS Environmental
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October 30, 2020

Analytical Report for Service Request No: K2009347

RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Suite 210
Houston, TX 77099-4338

RE: ALS Houston DOD TOC / HS20100719

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory October 15, 2020
For your reference, these analyses have been assigned our service request number **K2009347.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3350. You may also contact me via email at Kelley.Lovejoy@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Kelley Lovejoy

Kelley Lovejoy
Project Manager

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Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

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Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

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ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjlabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water-	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Case Narrative

ALS Environmental—Kelso Laboratory
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1317 South 13th Ave, Kelso, WA 98626 | 1-360-577-7222 | www.alsglobal.com

Client: ALS Environmental - US
Project: ALS Houston DOD TOC
Sample Matrix: Ground Water

Service Request: K2009347
Date Received: 10/15/2020

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier level II requested by the client.

Sample Receipt:

Six ground water samples were received for analysis at ALS Environmental on 10/15/2020. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

General Chemistry:

No significant anomalies were noted with this analysis.

Approved by Kelley Lovejoy Date 10/30/2020

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Chain of Custody

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Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14936**

SUBCONTRACT TO:

ALS Environmental Kelso
1317 S. 13th Avenue
Kelso, WA 98626

Phone: +1 360 501 3312

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	RJ Modashia
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	RJ.Modashia@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS20100719
TSR:	Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20100719-01**	**16WW36-201013**	**Groundwater**	**13 Oct 2020 07:35**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			28 Oct 2020
2.	**HS20100719-02**	**16WW35-201013**	**Groundwater**	**13 Oct 2020 08:20**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			28 Oct 2020
3.	**HS20100719-03**	**16IW09-201013**	**Groundwater**	**13 Oct 2020 09:10**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			28 Oct 2020
4.	**HS20100719-04**	**16WW55-201013**	**Groundwater**	**13 Oct 2020 10:00**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			28 Oct 2020
5.	**HS20100719-05**	**16IW03-201013**	**Groundwater**	**13 Oct 2020 10:50**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			28 Oct 2020
6.	**HS20100719-06**	**16IW10-201013**	**Groundwater**	**13 Oct 2020 11:50**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			28 Oct 2020

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

HS20100719-05 MS/MSD

QC Level: DOD IV (DoD Data Package)

K2009347

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14936**

Relinquished By: _____ Date/Time: 10/14/20 18:00

Received By: _____ Date/Time: 10/15/20 1000

Cooler ID(s): _____ Temperature(s): _____

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PM KL

Cooler Receipt and Preservation Form

Client AIS-Houston Service Request K20 09347

Received: 10/15/20 Opened: 10/15/20 By: BR Unloaded: 10/15/20 By: BR

1. Samples were received via? *USPS* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? 2 front
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N
4. Was a Temperature Blank present in cooler? NA Y N If yes, notate the temperature in the appropriate column below:
   If no, take the temperature of a representative sample bottle contained within the cooler; notate in the column "Sample Temp":
5. Were samples received within the method specified temperature ranges? NA Y N
   If no, were they received on ice and same day as collected? If not, notate the cooler # below and notify the PM. NA Y N

If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*

Temp Blank	Sample Temp	IR Gun	Cooler #/COC ID / NA	Out of temp indicate with "X"	PM Notified If out of temp	Tracking Number NA	Filed
1.4	—	10.01	19936	—	—	189188815529	

6. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* _____
7. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
8. Were samples received in good condition (unbroken) NA Y N
9. Were all sample labels complete (ie, analysis, preservation, etc.)? NA Y N
10. Did all sample labels and tags agree with custody papers? NA Y N
11. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
12. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
13. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
14. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, Resolutions: RUSH

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General Chemistry

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dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	K2009347
Project:	ALS Houston DOD TOC/HS20100719	**Date Collected:**	10/13/20
Sample Matrix:	Ground Water	**Date Received:**	10/15/20
Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Carbon, Total Organic

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
16WW36-201013	K2009347-001	**18.3**	0.50	0.20	0.07	1	10/23/20 18:00	
16WW35-201013	K2009347-002	**65.5**	2.5	1.0	0.4	5	10/23/20 18:00	
16IW09-201013	K2009347-003	**1250**	50	20	7	100	10/26/20 10:05	
16WW55-201013	K2009347-004	**4.98**	0.50	0.20	0.07	1	10/23/20 18:00	
16IW03-201013	K2009347-005	**1190**	13	5	2	25	10/16/20 08:40	
16IW10-201013	K2009347-006	**1220**	13	5	2	25	10/16/20 08:40	
Method Blank	K2009347-MB1	ND U	0.50	0.20	0.07	1	10/16/20 08:40	
Method Blank	K2009347-MB2	ND U	0.50	0.20	0.07	1	10/23/20 18:00	
Method Blank	K2009347-MB3	ND U	0.50	0.20	0.07	1	10/26/20 10:05	

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ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2009347
Project:	ALS Houston DOD TOC/HS20100719	**Date Collected:**	10/13/20
Sample Matrix:	Ground Water	**Date Received:**	10/15/20
		Date Analyzed:	10/23/20
		Date Extracted:	NA

Matrix Spike Summary
Carbon, Total Organic

Sample Name:	16WW55-201013	**Units:**	mg/L
Lab Code:	K2009347-004	**Basis:**	NA
Analysis Method:	SM 5310 C		
Prep Method:	None		

Matrix Spike
K2009347-004MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	4.98	27.6	25.0	91	83-117

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

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

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

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

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ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2009347
Project:	ALS Houston DOD TOC/HS20100719	**Date Collected:**	10/13/20
Sample Matrix:	Ground Water	**Date Received:**	10/15/20
		Date Analyzed:	10/16/20
		Date Extracted:	NA

Matrix Spike Summary
Carbon, Total Organic

Sample Name:	16IW03-201013	**Units:**	mg/L
Lab Code:	K2009347-005	**Basis:**	NA
Analysis Method:	SM 5310 C		
Prep Method:	None		

Matrix Spike
K2009347-005MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	1190	3710	2500	101	83-117

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

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

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

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

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ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2009347
Project:	ALS Houston DOD TOC/HS20100719	**Date Analyzed:**	10/23/20
Sample Matrix:	Ground Water	**Date Extracted:**	NA

Duplicate Lab Control Sample Summary
General Chemistry Parameters

Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	700289

	Lab Control Sample K2009347-LCS1			Duplicate Lab Control Sample K2009347-DLCS1					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Carbon, Total Organic	24.5	25.0	98	24.2	25.0	97	83-117	1	10

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QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2009347
Project:	ALS Houston DOD TOC/HS20100719	**Date Analyzed:**	10/26/20
Sample Matrix:	Ground Water	**Date Extracted:**	NA

Duplicate Lab Control Sample Summary
General Chemistry Parameters

Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	701294

	Lab Control Sample K2009347-LCS2			Duplicate Lab Control Sample K2009347-DLCS2					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Carbon, Total Organic	23.9	25.0	96	23.8	25.0	95	83-117	<1	10

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ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2009347
Project:	ALS Houston DOD TOC/HS20100719	**Date Analyzed:**	10/16/20
Sample Matrix:	Ground Water	**Date Extracted:**	NA

Lab Control Sample Summary
General Chemistry Parameters

Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	699680

Lab Control Sample
K2009347-LCS3

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	24.5	25.0	98	83-117

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HS20100719 8260_W_DOD Raw Data

ALS WO# HS20100719

MSVOA06 -Logbook

Batch: 42421 **Analyst:** Presenta Cabascango

Date: 10-25-2020 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	10-25-2020 04:21 pm	1.00	50 mL	50 mL	X102501.D	Liquid	Y	NA
	Auto find/ purged									
2	VSTD000.25	ICAL1	10-25-2020 04:42 pm	1.00	50 mL	50 mL	X102502.D	Liquid	Y	NA
	0.10 uL cal std/100 mL DI									
3	VSTD000.5	ICAL2	10-25-2020 05:24 pm	1.00	50 mL	50 mL	X102503.D	Liquid	Y	NA
	0.10 uL cal std/50 mL DI									
4	VSTD001	ICAL3	10-25-2020 05:45 pm	1.00	50 mL	50 mL	X102504.D	Liquid	Y	NA
	0.20 uL cal std/50 mL DI									
5	VSTD002	ICAL4	10-25-2020 06:06 pm	1.00	50 mL	50 mL	X102505.D	Liquid	Y	NA
	0.40 uL cal std/50 mL DI									
6	VSTD005	ICAL5	10-25-2020 06:27 pm	1.00	50 mL	50 mL	X102506.D	Liquid	Y	NA
	1.0 uL cal std/50 mL DI									
7	VSTD020	ICAL6	10-25-2020 06:48 pm	1.00	50 mL	50 mL	X102507.D	Liquid	Y	NA
	4.0 uL cal std/50 mL DI									
8	VSTD050	ICAL7	10-25-2020 07:09 pm	1.00	50 mL	50 mL	X102508.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
9	VSTD100	ICAL8	10-25-2020 07:29 pm	1.00	50 mL	50 mL	X102509.D	Liquid	Y	NA
	20 uL cal std/50 mL DI									
10	VSTD150	ICAL9	10-25-2020 07:50 pm	1.00	50 mL	50 mL	X102510.D	Liquid	Y	NA
	30 uL cal std/50 mL DI									
11	VSTD200	ICAL	10-25-2020 08:11 pm	1.00	50 mL	50 mL	X102511.D	Liquid	Y	NA
	40 uL cal std/50 mL DI									
12	BLANK	SAMP	10-25-2020 08:32 pm	1.00	50 mL	50 mL	X102512.D	Liquid	Y	NA
13	BLANK	SAMP	10-25-2020 08:53 pm	1.00	50 mL	50 mL	X102513.D	Liquid	Y	NA
14	VSTD050	ICV	10-25-2020 09:14 pm	1.00	50 mL	50 mL	X102514.D	Liquid	Y	NA
	10 uL ical std/50 mL DI									
15	BLANK	SAMP	10-25-2020 09:35 pm	1.00	50 mL	50 mL	X102515.D	Liquid	Y	NA
16	VLCSW-201025	LCS	10-25-2020 09:56 pm	1.00	50 mL	50 mL	X102516.D	Liquid	Y	NA
	4.0 uL cal std/50 mL DI									
17	BLK	SAMP	10-25-2020 10:17 pm	1.00	50 mL	50 mL	X102517.D	Liquid	Y	NA
18	VBLKW-201025	MBLK	10-25-2020 10:38 pm	1.00	50 mL	50 mL	X102518.D	Liquid	Y	NA
19	HS20101167-11	SAMP	10-25-2020 10:59 pm	1.00	50 mL	50 mL	X102519.D	Liquid	Y	NA
20	HS20101167-01	SAMP	10-25-2020 11:21 pm	1.00	50 mL	50 mL	X102520.D	Liquid	Y	NA
21	HS20101167-01MS	MS	10-25-2020 11:42 pm	1.00	50 mL	50 mL	X102521.D	Liquid	Y	NA
	3.5 uL cal std/40 mL samp									
22	HS20101167-01MSD	MSD	10-26-2020 12:03 am	1.00	50 mL	50 mL	X102522.D	Liquid	Y	NA
	3.5 uL cal std/40 mL samp									
23	HS20101167-02	SAMP	10-26-2020 12:24 am	1.00	50 mL	50 mL	X102523.D	Liquid	Y	NA
24	HS20101167-03	SAMP	10-26-2020 12:45 am	1.00	50 mL	50 mL	X102524.D	Liquid	Y	NA
25	HS20101167-04	SAMP	10-26-2020 01:06 am	1.00	50 mL	50 mL	X102525.D	Liquid	Y	NA
26	HS20101167-05	SAMP	10-26-2020 01:27 am	1.00	50 mL	50 mL	X102526.D	Liquid	Y	NA
27	HS20101167-06	SAMP	10-26-2020 01:48 am	1.00	50 mL	50 mL	X102527.D	Liquid	Y	NA
28	HS20101167-07	SAMP	10-26-2020 02:09 am	1.00	50 mL	50 mL	X102528.D	Liquid	Y	NA
29	HS20101167-08	SAMP	10-26-2020 02:30 am	1.00	50 mL	50 mL	X102529.D	Liquid	Y	NA
30	HS20101167-09	SAMP	10-26-2020 02:51 am	1.00	50 mL	50 mL	X102530.D	Liquid	Y	NA
31	HS20101167-10	SAMP	10-26-2020 03:12 am	1.00	50 mL	50 mL	X102531.D	Liquid	Y	NA
32	HS20101049-01	SAMP	10-26-2020 03:33 am	1.00	50 mL	50 mL	X102532.D	Liquid	Y	NA
33	HS20101270-01	SAMP	10-26-2020 03:54 am	1.00	50 mL	50 mL	X102533.D	Liquid	Y	NA

Chemical	Value
SURR SPK ID	31106-51-06
IS ID	31106-51-06
LCS/MS ID	
CAL STD ID	31106-52-01-02
BFB ID	31106-51-06
pH Paper	634-64-10

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100719

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
1,2-Dichloroethane	50.00	46.31	93	80-120
Trichloroethene	50.00	47.81	96	80-120
Methylene Chloride	50.00	43.89	88	80-120
cis-1,2-Dichloroethene	50.00	46.68	93	80-120
Vinyl Chloride	50.00	46.16	92	80-120
1,1,2-Trichloroethane	50.00	44.14	88	80-120
1,1-Dichloroethene	50.00	46.19	92	80-120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

_____

FORM III VOA

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100719

Lab File ID: X102501 BFB Injection Date: 10/25/20

Instrument ID: VOA6 BFB Injection Time: 1621

GC Column: DB624 ID: 0.25 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	28.0
75	30.0 - 60.0% of mass 95	58.2
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.4
173	Less than 2.0% of mass 174	0.4 (0.4)1
174	Greater than 50.0% of mass 95	89.4
175	5.0 - 9.0% of mass 174	7.9 (8.9)1
176	95.0 - 101.0% of mass 174	86.9 (97.2)1
177	5.0 - 9.0% of mass 176	4.6 (5.3)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD000.25	VSTD000.25	X102502	10/25/20	1642
02	VSTD000.5	VSTD000.5	X102503	10/25/20	1724
03	VSTD001	VSTD001	X102504	10/25/20	1745
04	VSTD002	VSTD002	X102505	10/25/20	1806
05	VSTD005	VSTD005	X102506	10/25/20	1827
06	VSTD020	VSTD020	X102507	10/25/20	1848
07	VSTD050	VSTD050	X102508	10/25/20	1909
08	VSTD100	VSTD100	X102509	10/25/20	1929
09	VSTD150	VSTD150	X102510	10/25/20	1950
10	VSTD200	VSTD200	X102511	10/25/20	2011
11	ICV	ICV	X102514	10/25/20	2114
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100719

Instrument ID: VOA6 Calibration Date(s): 10/25/20 10/25/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1642 2011

LAB FILE ID: RF0.25: X102502 RF0.5: X102503 RF1: X102504
RF2: X102505 RF5: X102506 RF20: X102507

COMPOUND	RF0.25	RF0.5	RF1	RF2	RF5	RF20
1,2-Dichloroethane		0.637	0.568	0.501	0.543	0.544
Trichloroethene		0.381	0.339	0.298	0.298	0.347
Methylene Chloride		0.998	0.868	0.781	0.768	0.727
cis-1,2-Dichloroethene		0.789	0.854	0.729	0.765	0.758
Vinyl Chloride		1.990	1.608	1.560	1.358	1.533
1,1,2-Trichloroethane		0.371	0.338	0.317	0.355	0.317
1,1-Dichloroethene		1.458	1.408	1.256	1.196	1.172
4-Bromofluorobenzene		1363	2133	4602	10188	42426
Dibromofluoromethane		0.683	0.653	0.617	0.673	0.662
Toluene-d8		4504	5855	11754	31270	131486
1,2-Dichloroethane-d4		1543	2362	4999	11402	46344

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2010071

Instrument ID: VOA6 Calibration Date(s): 10/25/20 10/25/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1642 2011

LAB FILE ID: RF50: X102508 RF100: X102509 RF150: X102510
RF200: X102511

COMPOUND	RF50	RF100	RF150	RF200
1,2-Dichloroethane	0.534	0.542	0.484	0.508
Trichloroethene	0.316	0.342	0.317	0.321
Methylene Chloride	0.670	0.761	0.771	0.767
cis-1,2-Dichloroethene	0.716	0.815	0.786	0.828
Vinyl Chloride	1.312	1.538	1.504	1.429
1,1,2-Trichloroethane	0.299	0.307	0.310	0.312
1,1-Dichloroethene	1.020	1.171	1.144	1.133
4-Bromofluorobenzene	108164	251093	410237	592427
Dibromofluoromethane	0.672	0.756	0.723	0.755
Toluene-d8	324408	742483	1192701	1743873
1,2-Dichloroethane-d4	123233	245566	392180	519723

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2010071

Instrument ID: VOA6 Calibration Date(s): 10/25/20 10/25/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1642 2011

COMPOUND	CURVE	COEFFICENTS A0	COEFFICENTS A1	%RSD OR R^2	MAX %RSD OR R^2
1,2-Dichloroethane	AVRG		0.54001827	8.254	15.000
Trichloroethene	AVRG		0.32886398	8.008	15.000
Methylene Chloride	AVRG		0.79011013	11.841	15.000
cis-1,2-Dichloroethene	AVRG		0.78242092	5.776	15.000
Vinyl Chloride	AVRG		1.53714306	12.735	15.000
1,1,2-Trichloroethane	AVRG		0.32523954	7.480	15.000
1,1-Dichloroethene	AVRG		1.21777783	11.302	15.000
4-Bromofluorobenzene	LINR	3.987e-002	2.00729845	0.9979045	0.9900000
Dibromofluoromethane	AVRG		0.68831108	6.846	15.000
Toluene-d8	LINR	3.444e-002	0.68472816	0.9978314	0.9900000
1,2-Dichloroethane-d4	LINR	6.198e-004	1.14170833	0.9993034	0.9900000

FORM VI VOA

Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102501.D

Date : 25-OCT-2020 16:21

Client ID: BFB

Instrument: voa6.i

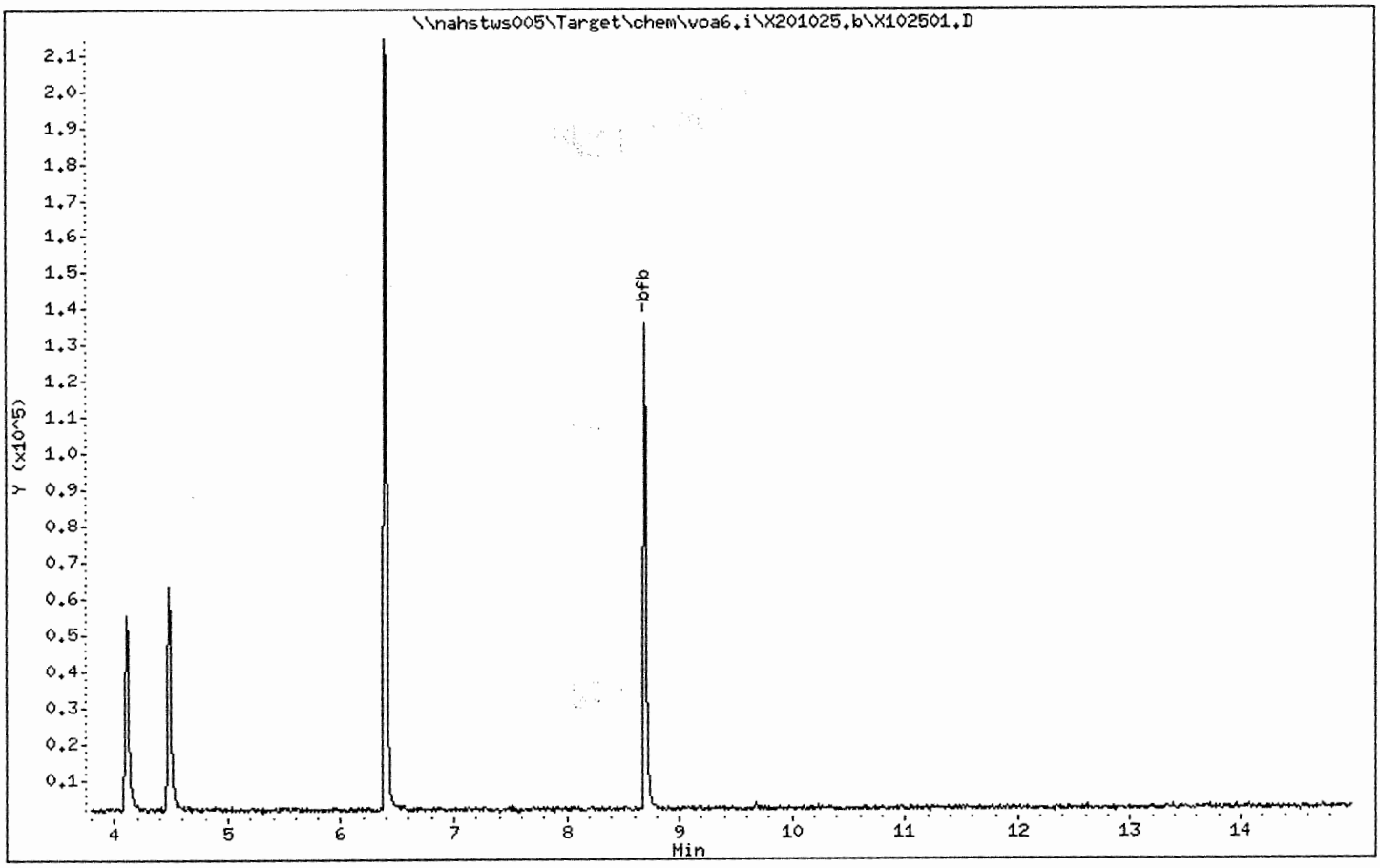
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102501.D

Date : 25-OCT-2020 16:21

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

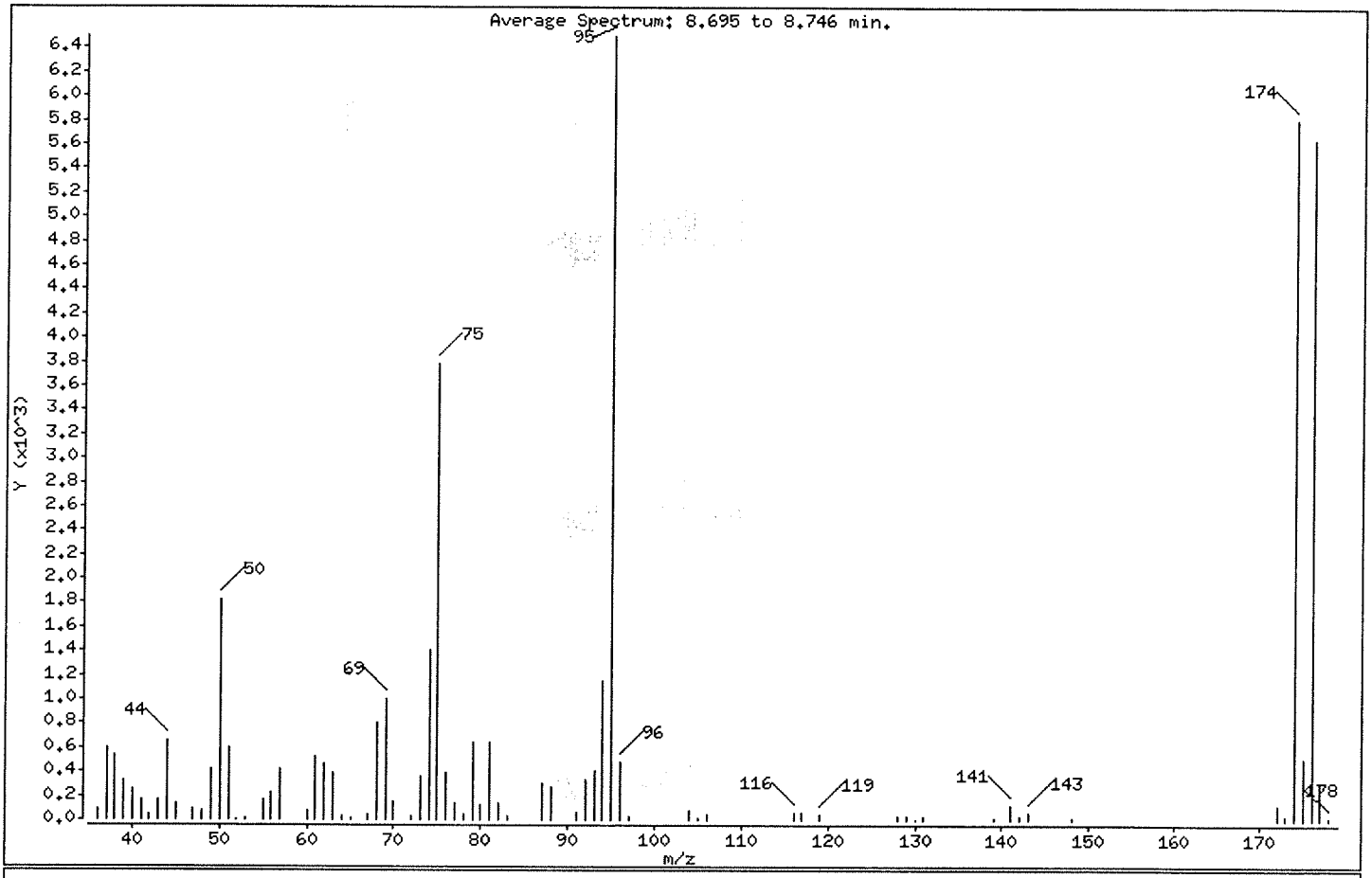
Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	28.00
75	30.00 - 60.00% of mass 95	58.21
96	5.00 - 9.00% of mass 95	7.39
173	Less than 2.00% of mass 174	0.37 (0.41)
174	Greater than 50.00% of mass 95	89.43
175	5.00 - 9.00% of mass 174	7.93 (8.86)
176	95.00 - 101.00% of mass 174	86.92 (97.19)
177	5.00 - 9.00% of mass 176	4.59 (5.28)

Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102501.D

Date : 25-OCT-2020 16:21

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

Data File: X102501.D

Spectrum: Average Spectrum: 8.695 to 8.746 min.

Location of Maximum: 95.00

Number of points: 73

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	85	57.00	418	80.00	125	128.00	32
37.00	598	60.00	77	81.00	647	129.00	25
38.00	531	61.00	530	82.00	136	130.00	7
39.00	331	62.00	462	83.00	25	131.00	23
40.00	251	63.00	389	87.00	304	139.00	11
41.00	162	64.00	32	88.00	276	141.00	125
42.00	45	65.00	13	91.00	58	142.00	27
43.00	158	67.00	40	92.00	323	143.00	62
44.00	662	68.00	802	93.00	396	148.00	14
45.00	129	69.00	1002	94.00	1155	172.00	117
47.00	83	70.00	155	95.00	6497	173.00	24
48.00	71	72.00	34	96.00	480	174.00	5810
49.00	419	73.00	365	97.00	24	175.00	515
50.00	1819	74.00	1406	104.00	74	176.00	5647
51.00	597	75.00	3782	105.00	12	177.00	298
52.00	7	76.00	391	106.00	41	178.00	13
53.00	16	77.00	127	116.00	58		
55.00	158	78.00	44	117.00	53		
56.00	225	79.00	645	119.00	46		

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Data file : \\nahstws005\Target\chem\voa6.i\X201025.b\X102502.D
Lab Smp Id: VSTD000.25 Client Smp ID: VSTD000.25
Inj Date : 25-OCT-2020 16:42
Operator : PC Inst ID: voa6.i
Smp Info : VSTD000.25;VSTD000.25;1;1;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201025.b\8260W.m
Meth Date : 30-Nov-2020 13:13 voa6.i Quant Type: ISTD
Cal Date : 25-OCT-2020 19:09 Cal File: X102508.D
Als bottle: 4 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

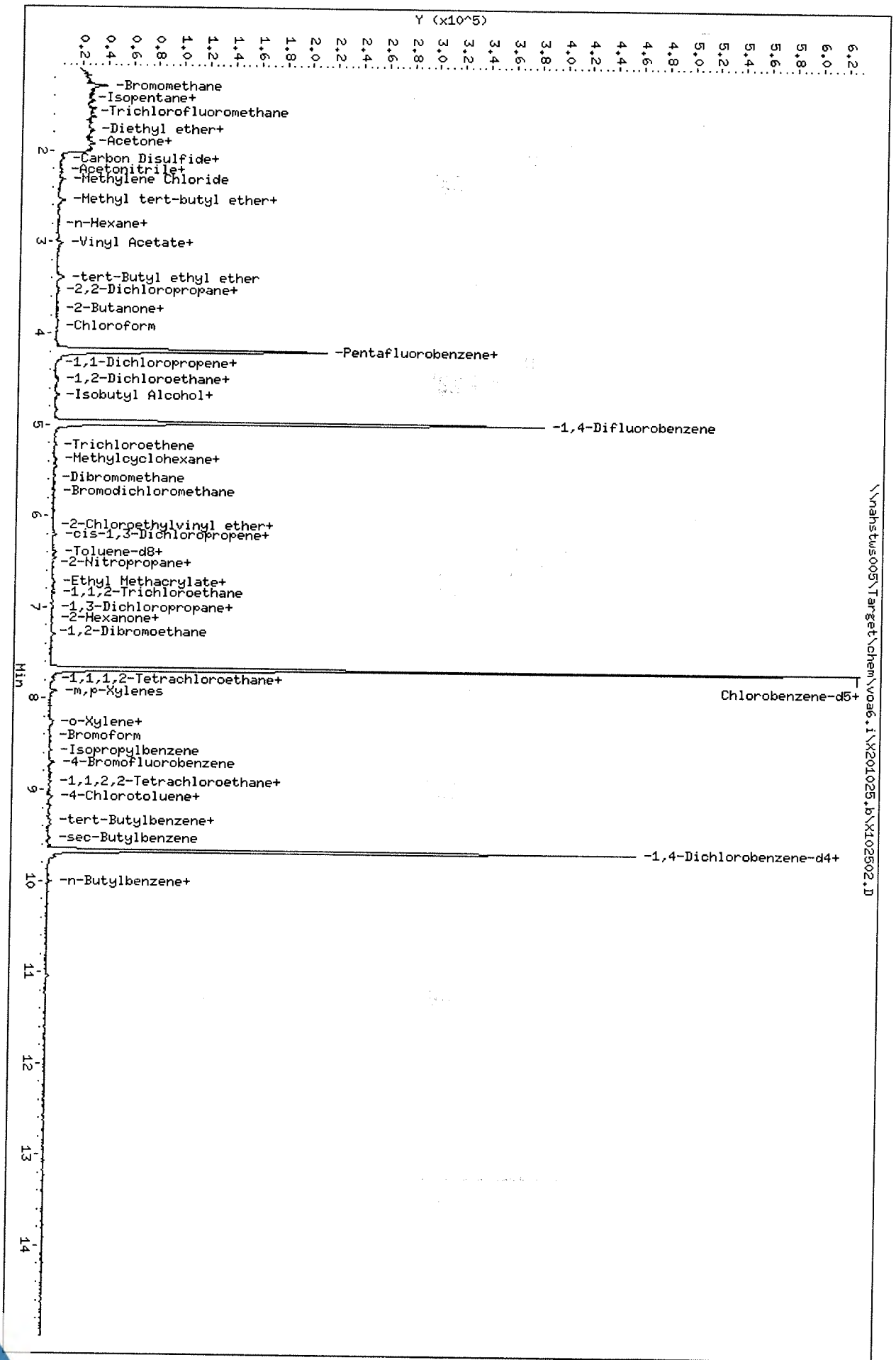
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	150152	50.0000	
* 36 1,4-Difluorobenzene	114	4.977	4.977	(1.000)	287204	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	254000	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	90115	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.070)	930	0.25000	0.38(Ta)
$ 69 4-Bromofluorobenzene	95	8.702	8.702	(1.134)	1264	0.25000	2.49(a)
$ 30 Dibromofluoromethane	113	4.125	4.125	(0.985)	683	0.25000	0.33(aM)
$ 48 Toluene-d8	98	6.396	6.396	(0.834)	2041	0.25000	1.99(Ta)
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	445	0.25000	0.26(aM)
11 1,1-Dichloroethene	96	1.926	1.926	(0.460)	948	0.25000	0.25(aM)
33 1,2-Dichloroethane	62	4.576	4.576	(0.919)	1008	0.25000	0.32(a)
27 cis-1,2-Dichloroethene	96	3.559	3.559	(0.850)	630	0.25000	0.26(aM)
17 Methylene Chloride	84	2.313	2.313	(0.552)	1009	0.25000	0.42(aM)
38 Trichloroethene	130	5.228	5.228	(1.050)	367	0.25000	0.19(aM)
5 Vinyl Chloride	62	1.145	1.145	(0.273)	1201	0.25000	0.26(aM)

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102502.D
Date : 25-OCT-2020 16:42
Client ID: VSTD000.25
Sample Info: VSTD000.25;VSTD000.25;1;1;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102503.D Page 1
Report Date: 30-Nov-2020 13:13

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201025.b\X102503.D
Lab Smp Id: VSTD000.5 Client Smp ID: VSTD000.5
Inj Date : 25-OCT-2020 17:24
Operator : PC Inst ID: voa6.i
Smp Info : VSTD000.5;VSTD000.5;1;2;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201025.b\8260W.m
Meth Date : 30-Nov-2020 13:13 voa6.i Quant Type: ISTD
Cal Date : 25-OCT-2020 16:42 Cal File: X102502.D
Als bottle: 6 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

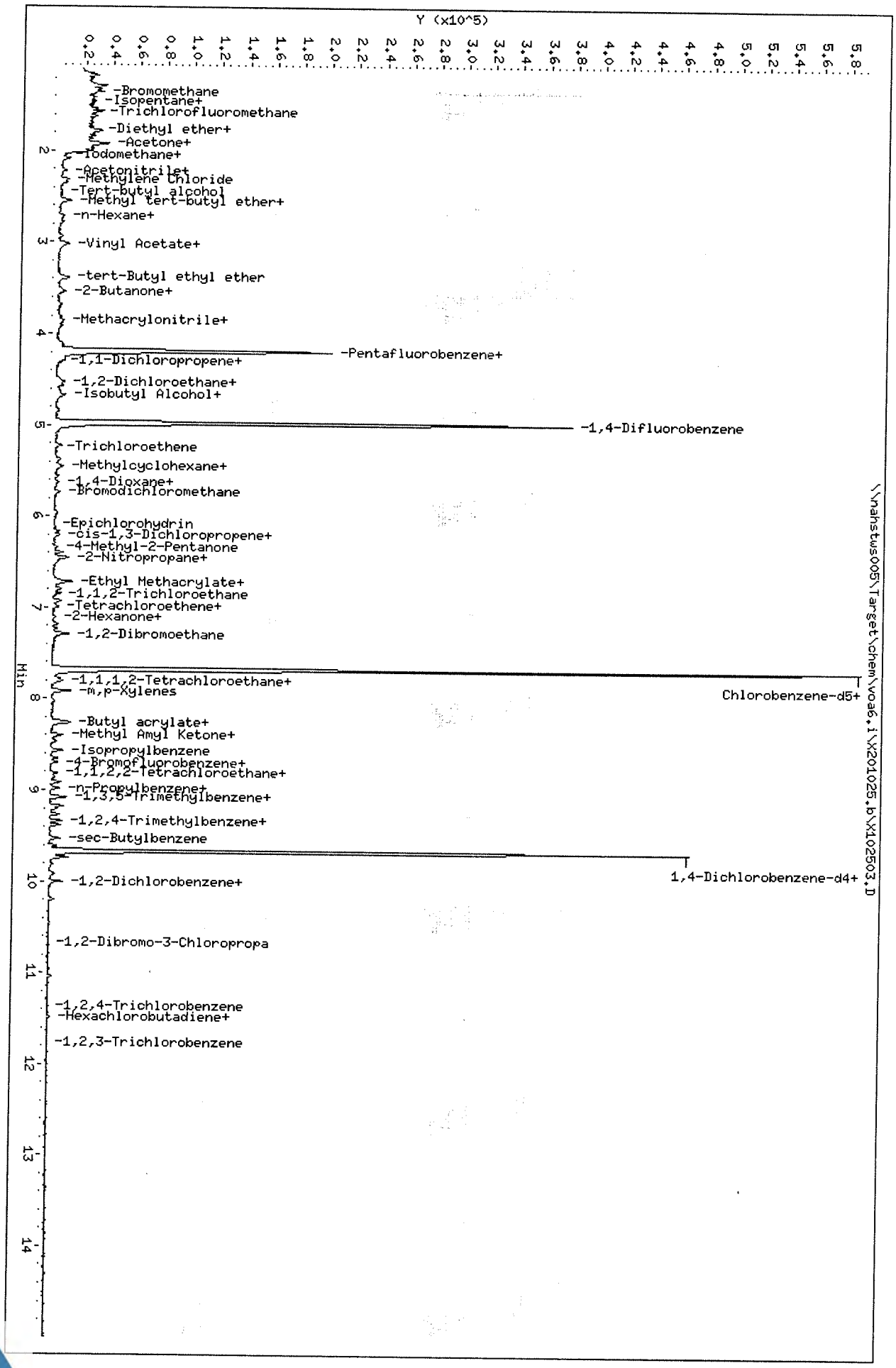
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	137561	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	274062	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	236128	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	90393	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.490	4.490	(1.072)	1543	0.50000	0.67(TaM)
$ 69 4-Bromofluorobenzene	95	8.702	8.702	(1.134)	1363	0.50000	2.57(a)
$ 30 Dibromofluoromethane	113	4.118	4.118	(0.983)	940	0.50000	0.49(a)
$ 48 Toluene-d8	98	6.396	6.396	(0.834)	4504	0.50000	2.37(Ta)
53 1,1,2-Trichloroethane	83	6.854	6.854	(0.894)	877	0.50000	0.57(aM)
11 1,1-Dichloroethene	96	1.926	1.926	(0.460)	2005	0.50000	0.59(aM)
33 1,2-Dichloroethane	62	4.583	4.583	(0.922)	1745	0.50000	0.58(a)
27 cis-1,2-Dichloroethene	96	3.545	3.545	(0.846)	1086	0.50000	0.50(aM)
17 Methylene Chloride	84	2.320	2.320	(0.554)	1373	0.50000	0.63(a)
38 Trichloroethene	130	5.235	5.235	(1.053)	1044	0.50000	0.57(a)
5 Vinyl Chloride	62	1.145	1.145	(0.273)	2738	0.50000	0.64(aM)

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

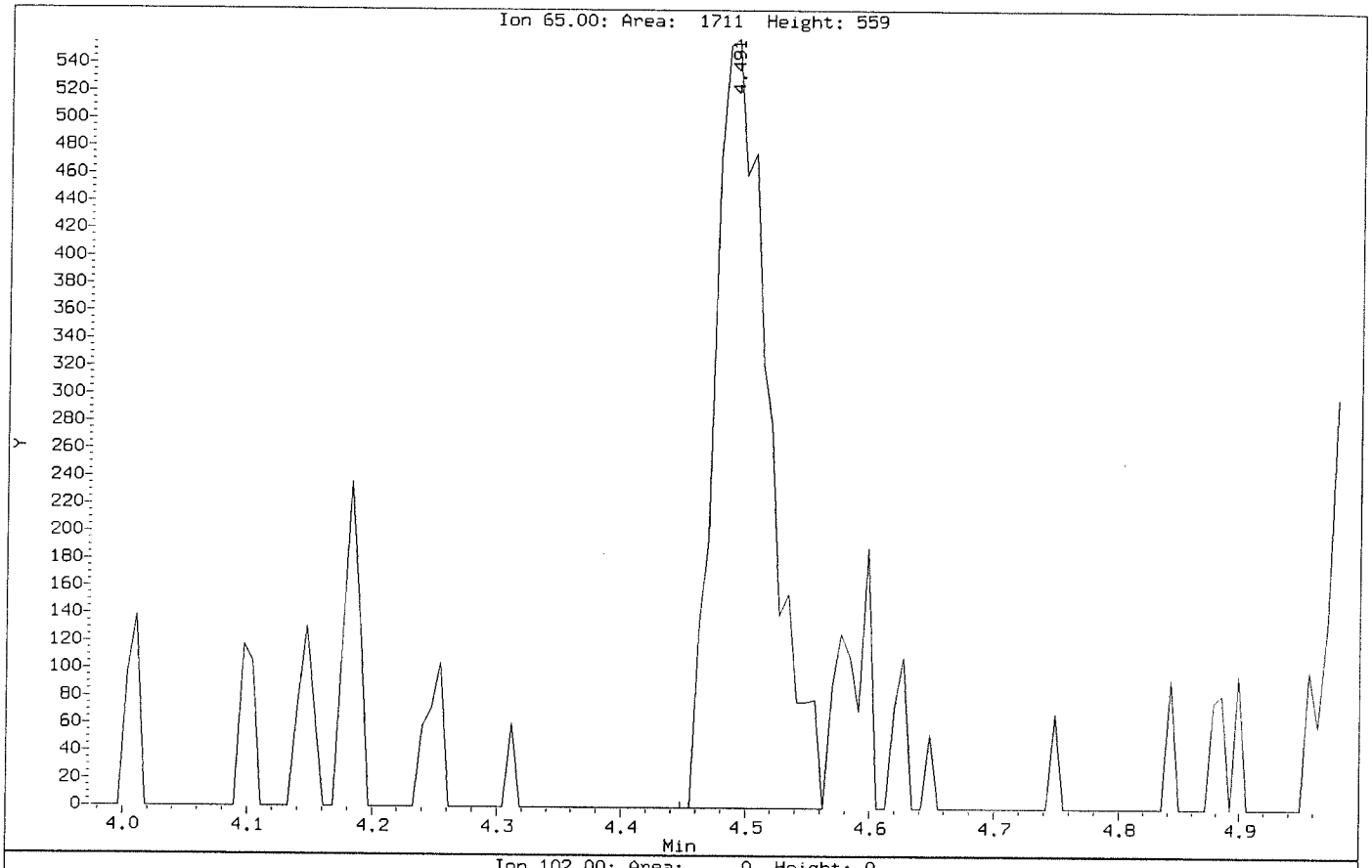


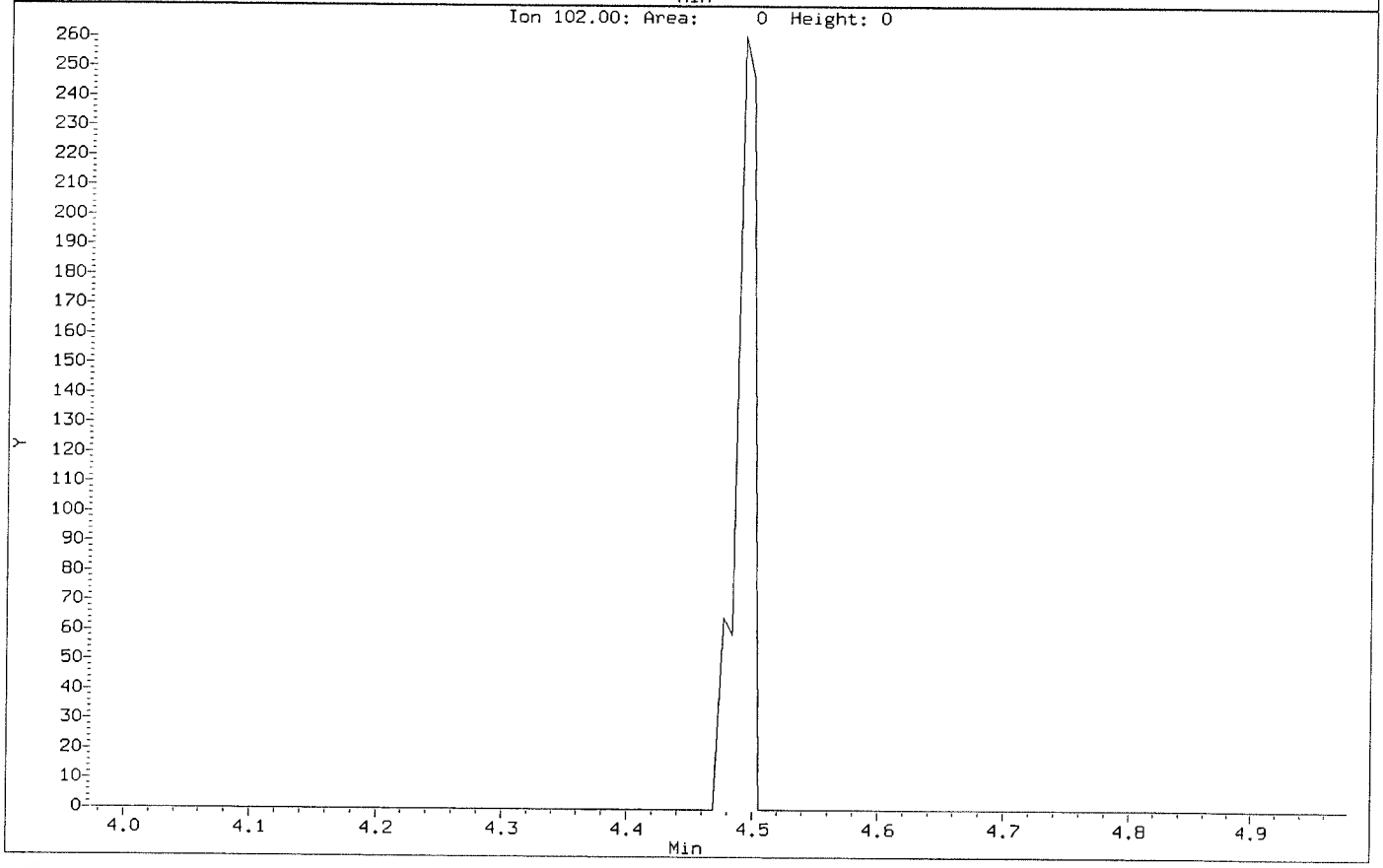
Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102503.D
Date : 25-OCT-2020 17:24
Client ID: VSTD000.5
Sample Info: VSTD000.5;VSTD000.5;1;2;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\Before\X102503.D
Injection Date: 25-OCT-2020 17:24
Instrument: voa6.i
Client Sample ID: VSTD000.5

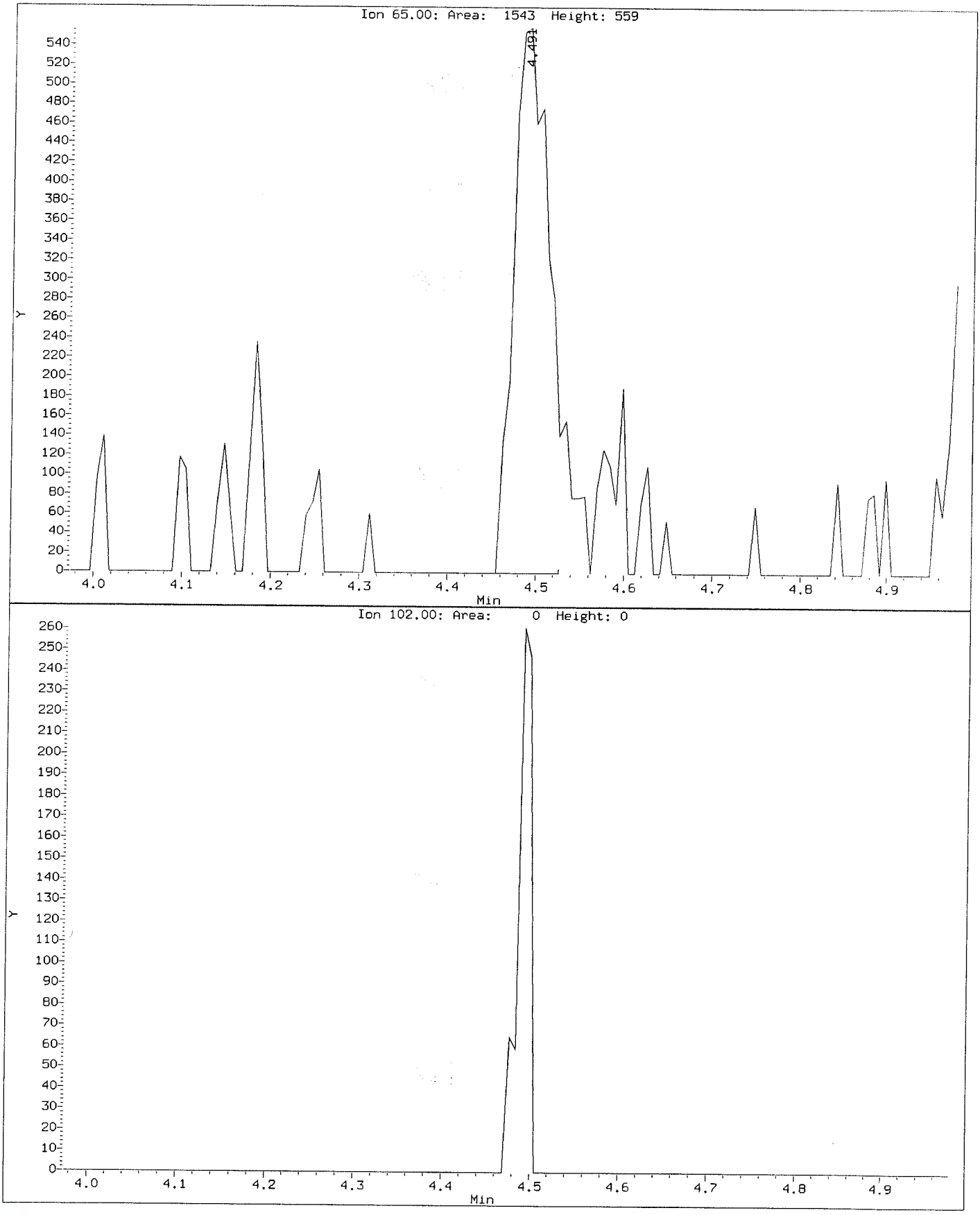
Compound: 1,2-Dichloroethane-d4
CAS Number: 17060-07-0





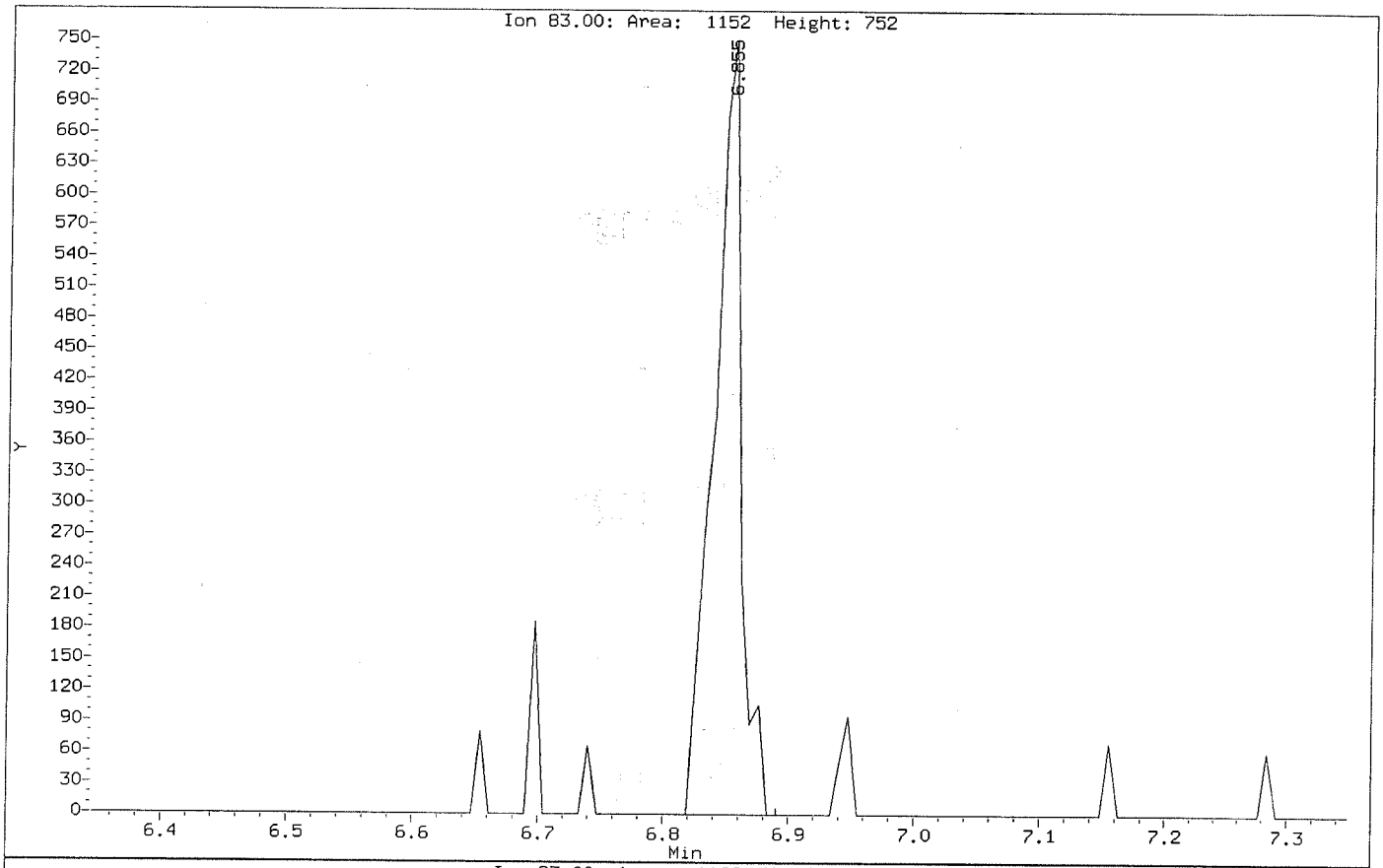
Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102503.D
Injection Date: 25-OCT-2020 17:24
Instrument: voa6.i
Client Sample ID: VSTD000.5

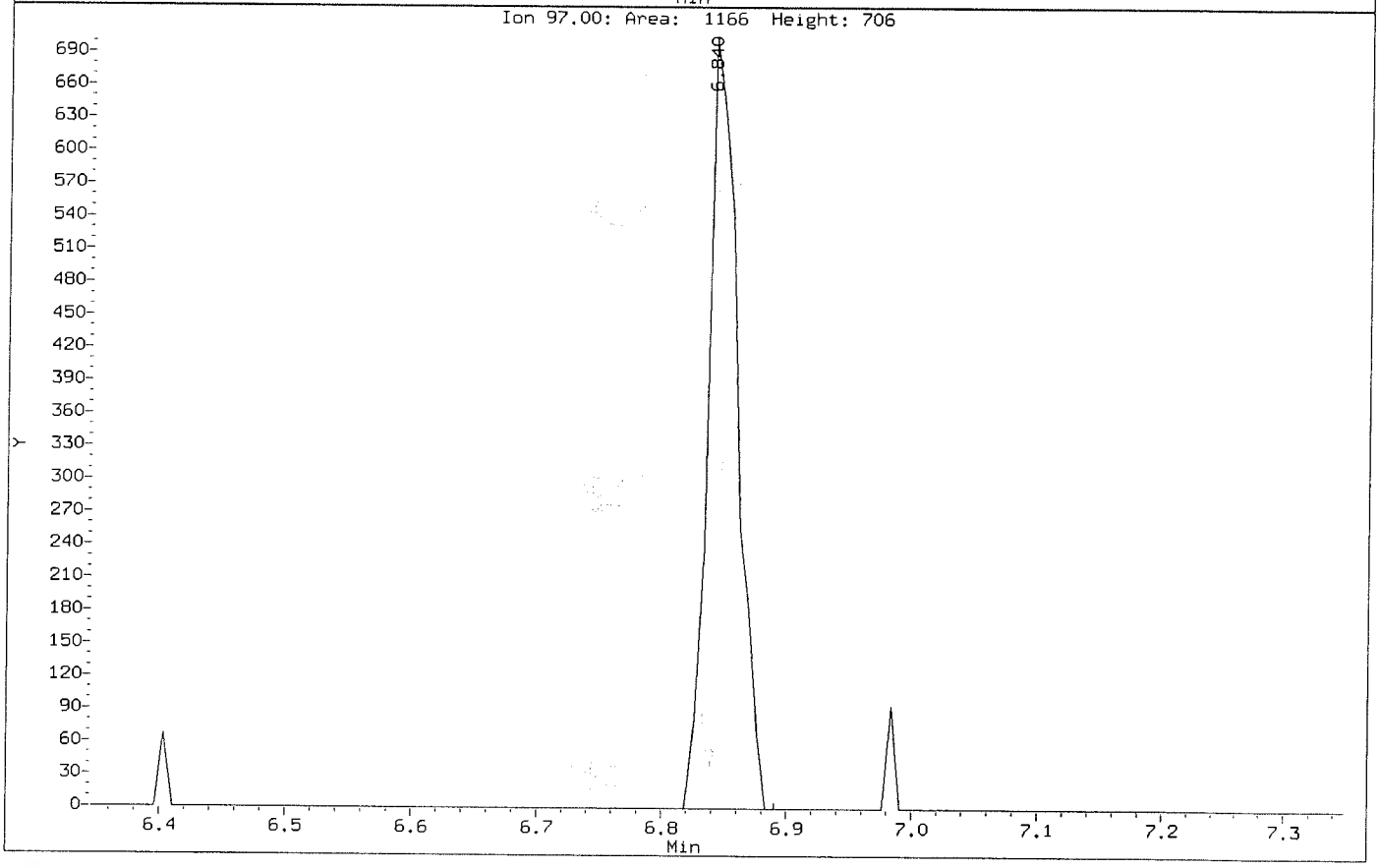
Compound: 1,2-Dichloroethane-d4
CAS Number: 17060-07-0



Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\Before\X102503.D
Injection Date: 25-OCT-2020 17:24
Instrument: voa6.i
Client Sample ID: VSTD000.5

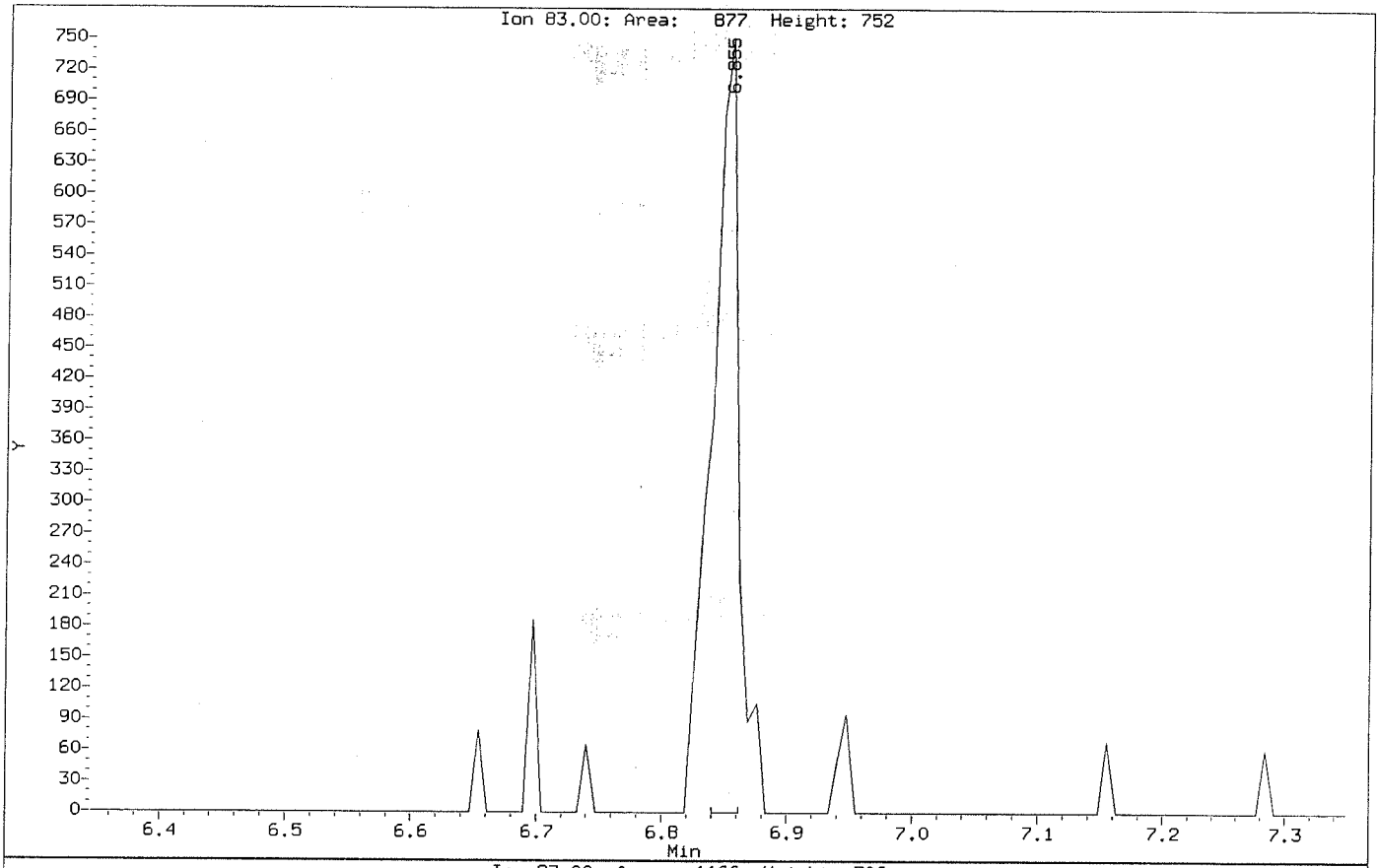
Compound: 1,1,2-Trichloroethane
CAS Number: 79-00-5

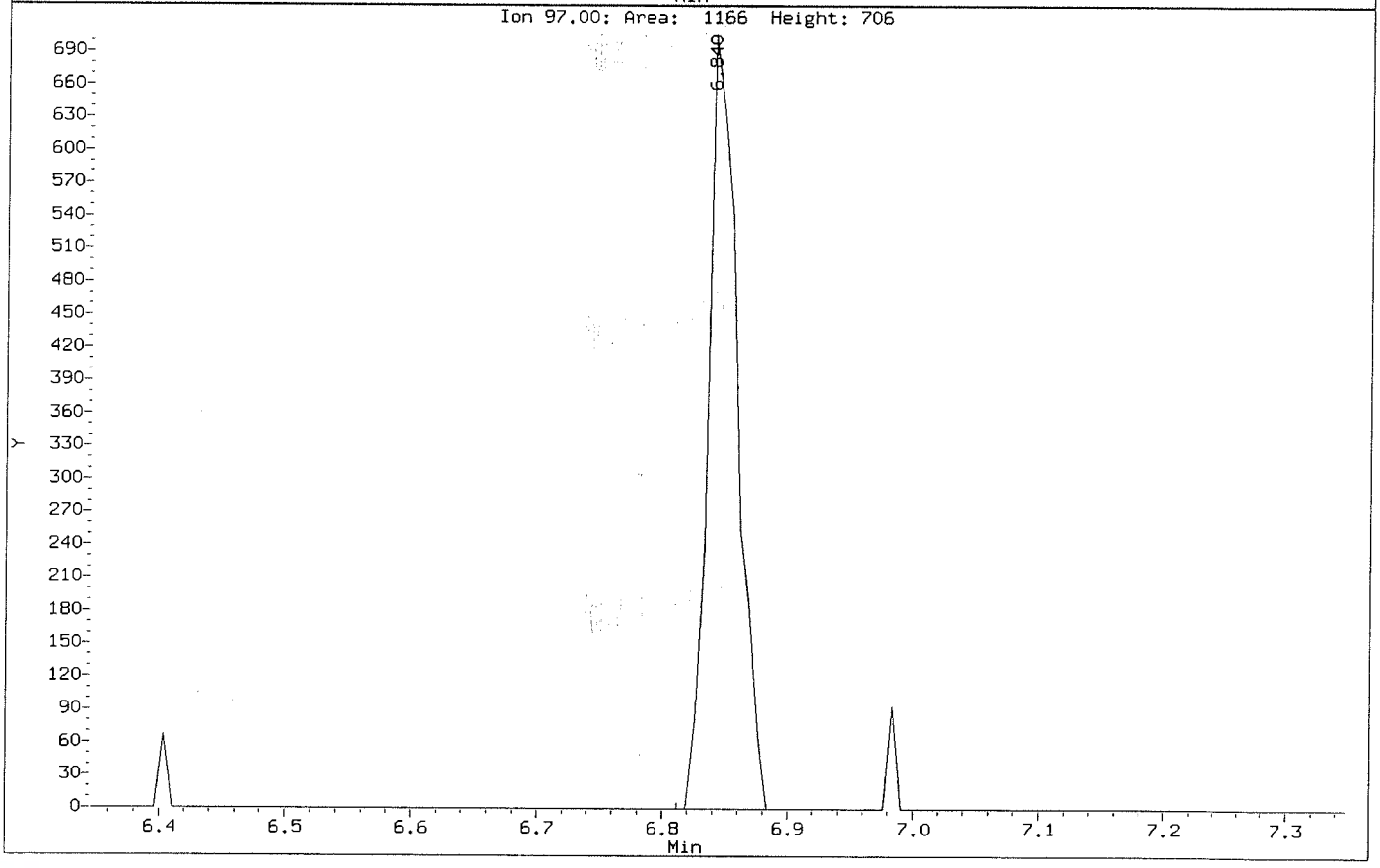




Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102503.D
Injection Date: 25-OCT-2020 17:24
Instrument: voa6.i
Client Sample ID: VSTD000.5

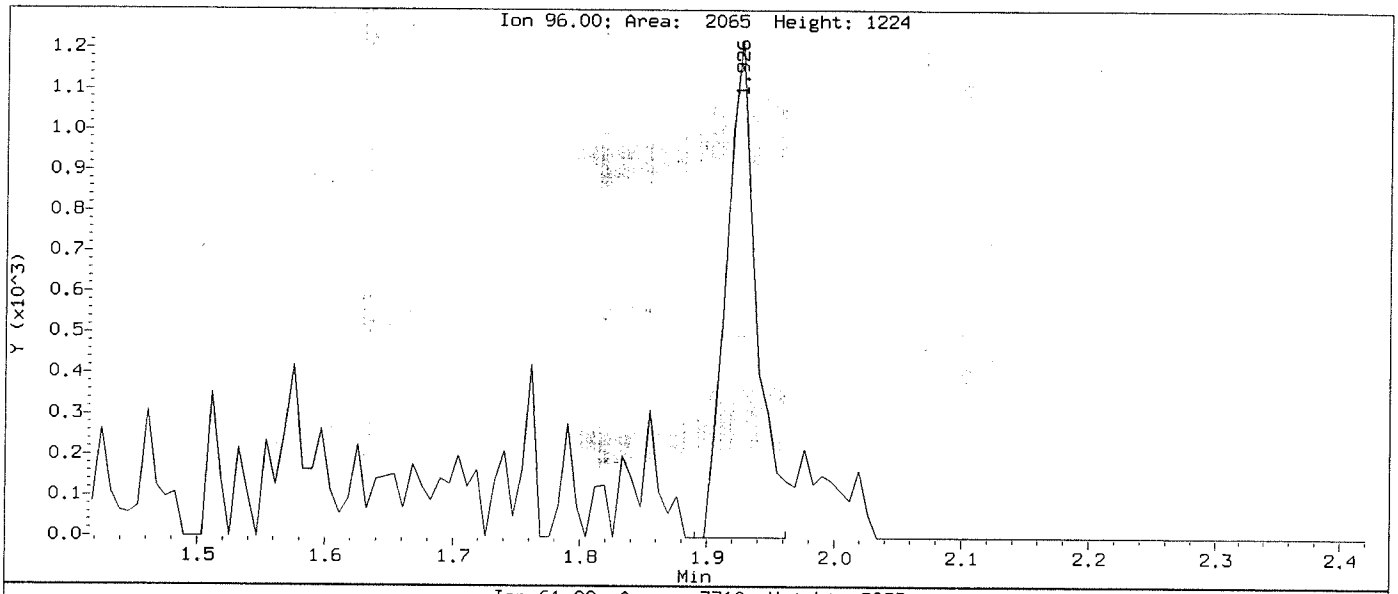
Compound: 1,1,2-Trichloroethane
CAS Number: 79-00-5

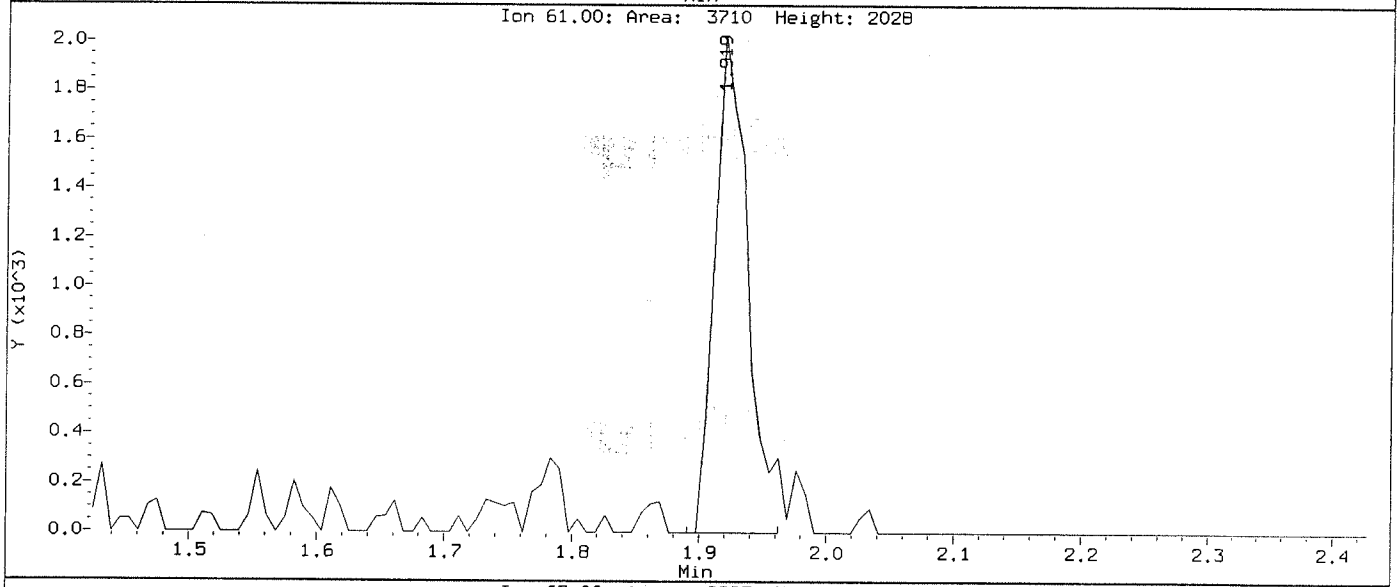


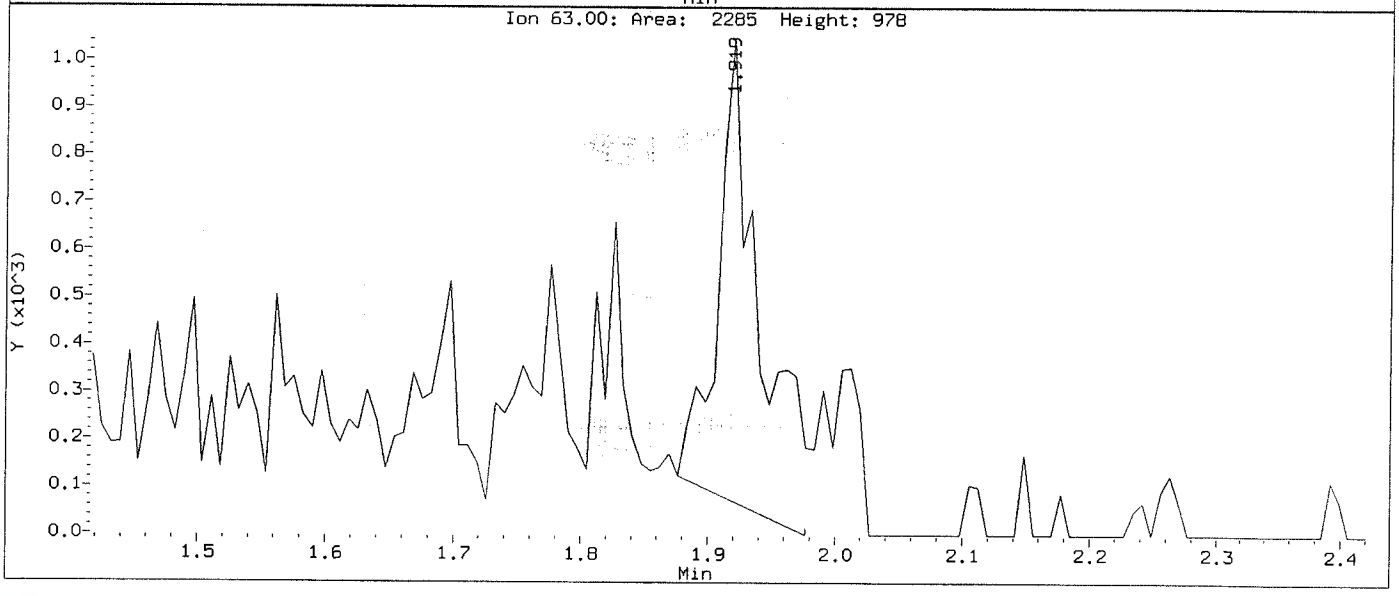


Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\Before\X102503.D
Injection Date: 25-OCT-2020 17:24
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1-Dichloroethene
CAS Number: 75-35-4

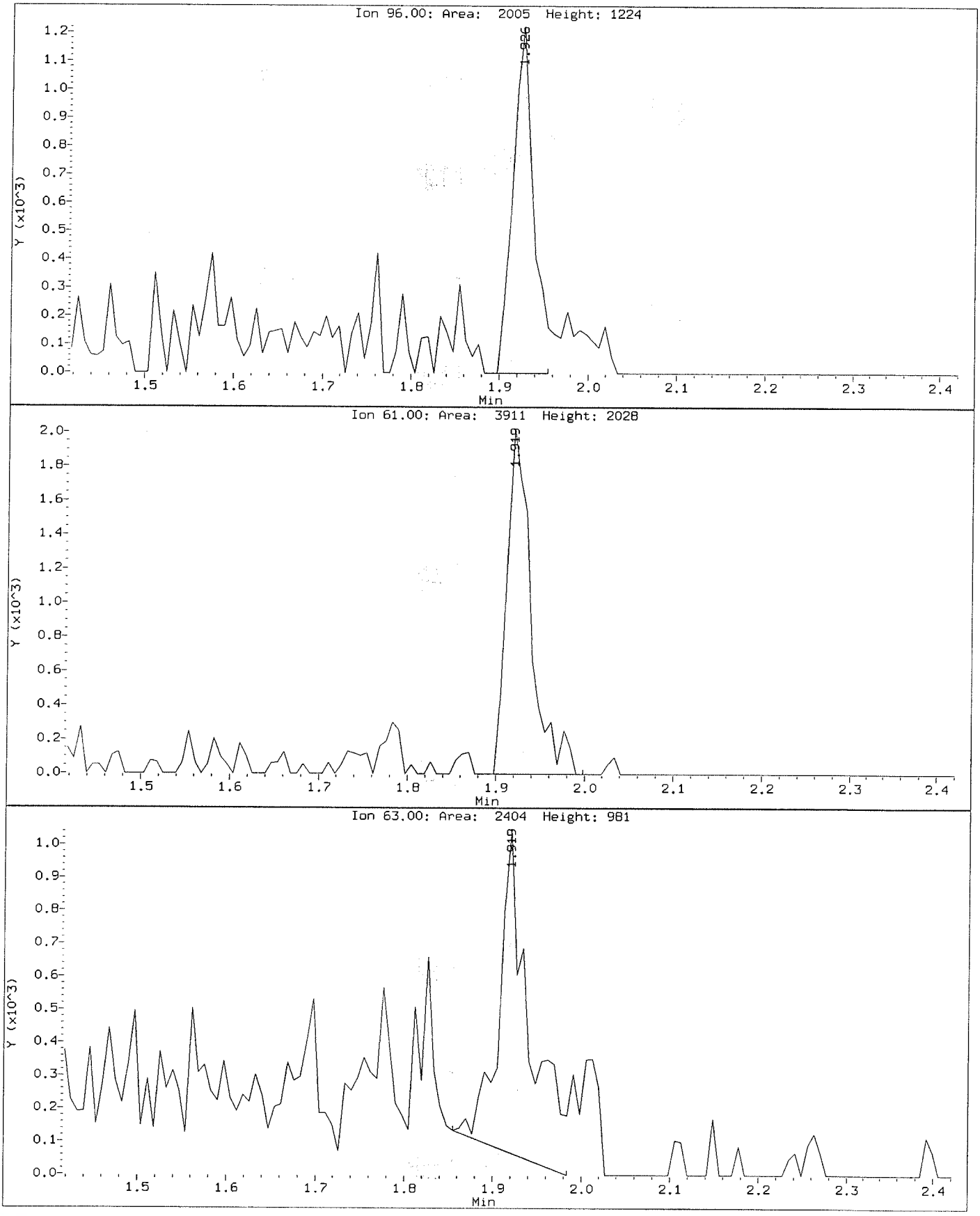






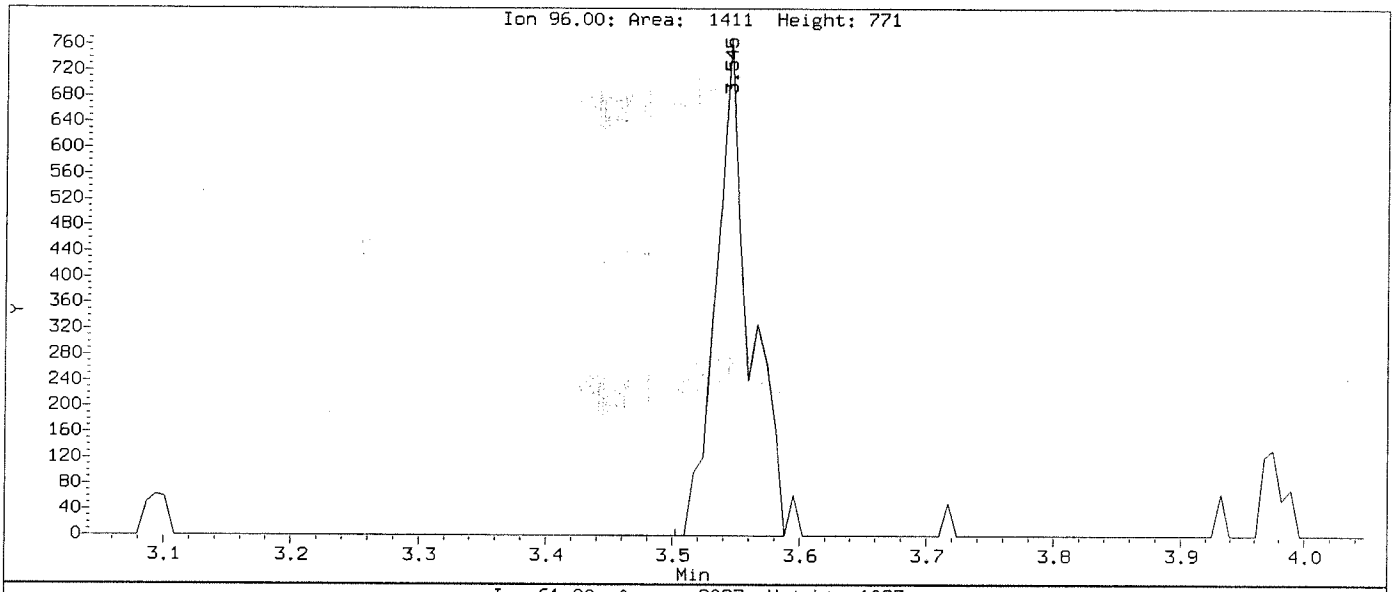
Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102503.D
Injection Date: 25-OCT-2020 17:24
Instrument: voa6.i
Client Sample ID: VSTD000.5

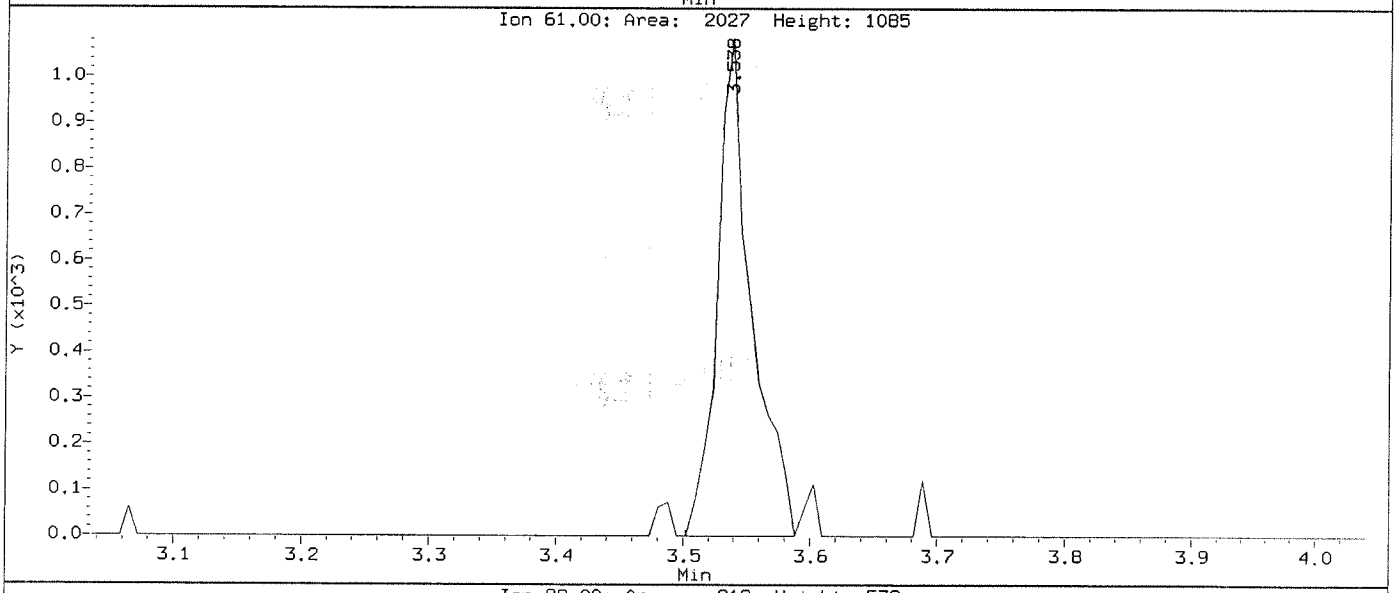
Compound: 1,1-Dichloroethene
CAS Number: 75-35-4

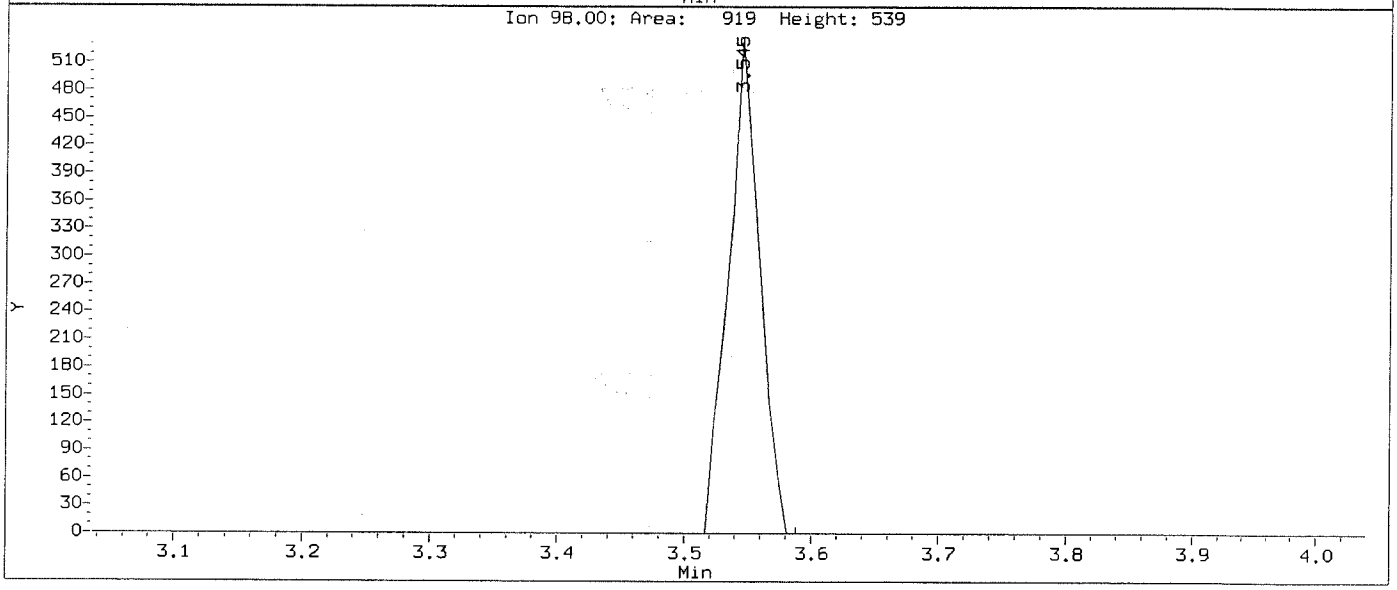


Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\Before\X102503.D
Injection Date: 25-OCT-2020 17:24
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: cis-1,2-Dichloroethene
CAS Number: 156-59-2

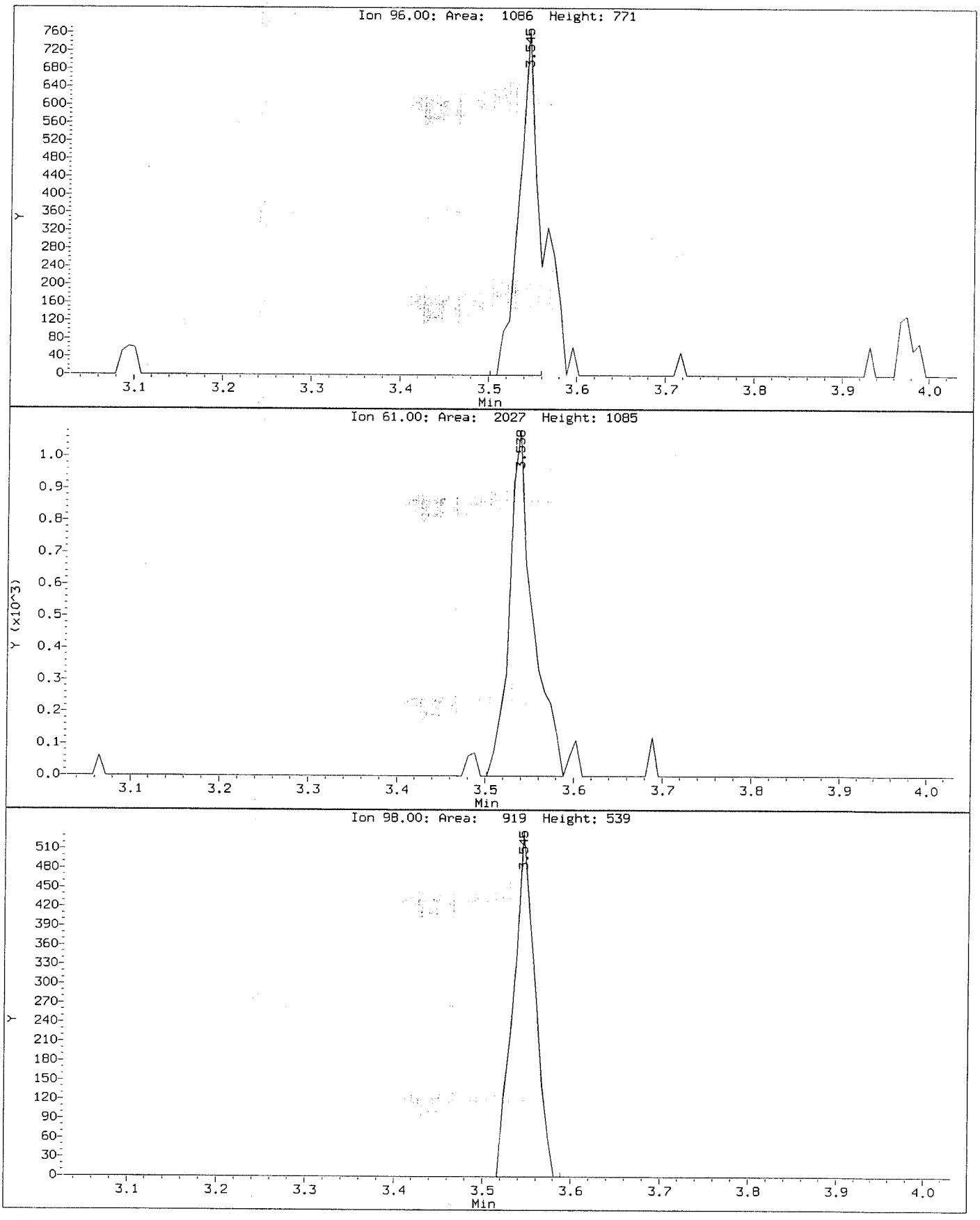






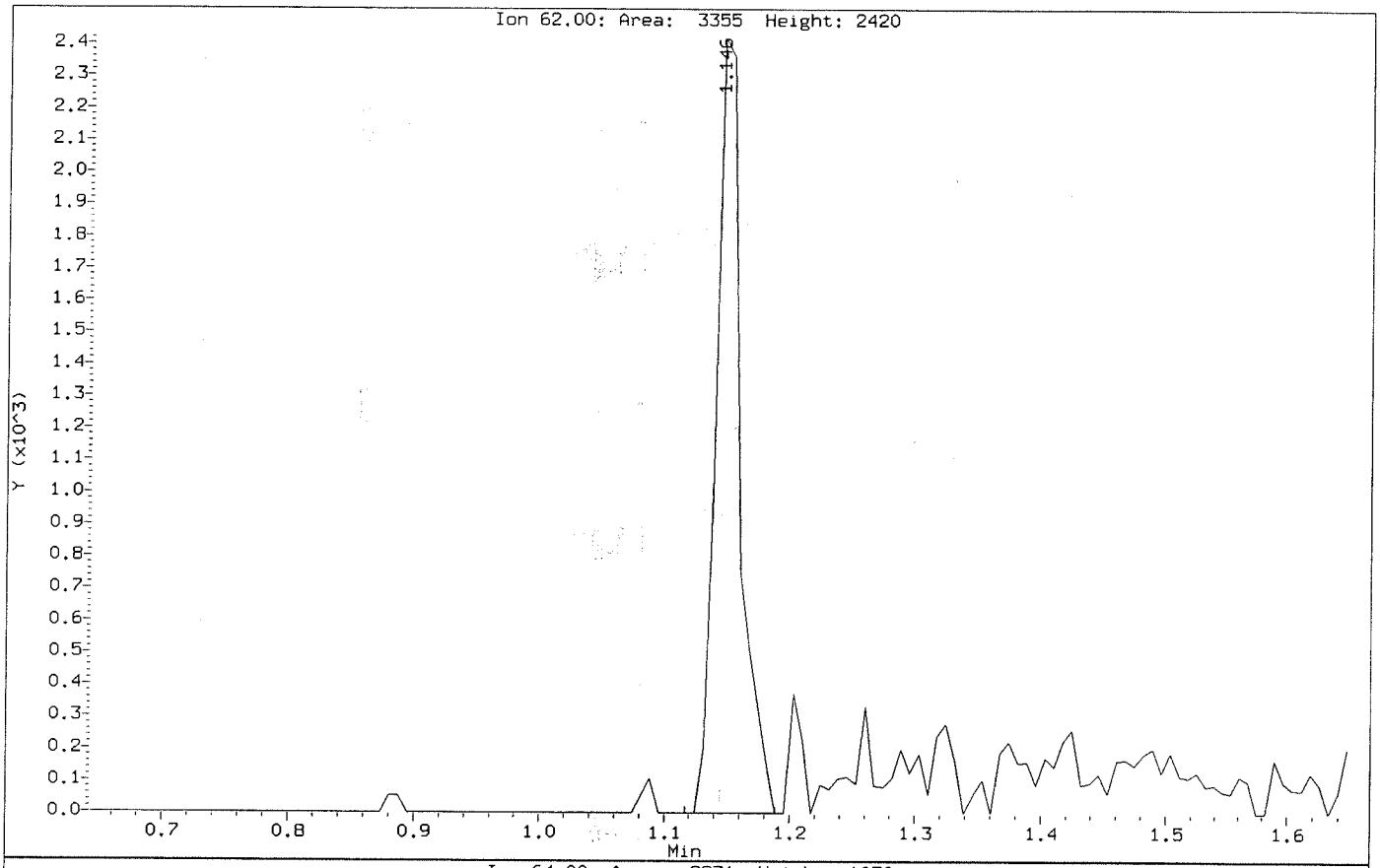
Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102503.D
Injection Date: 25-OCT-2020 17:24
Instrument: voa6.i
Client Sample ID: VSTD000.5

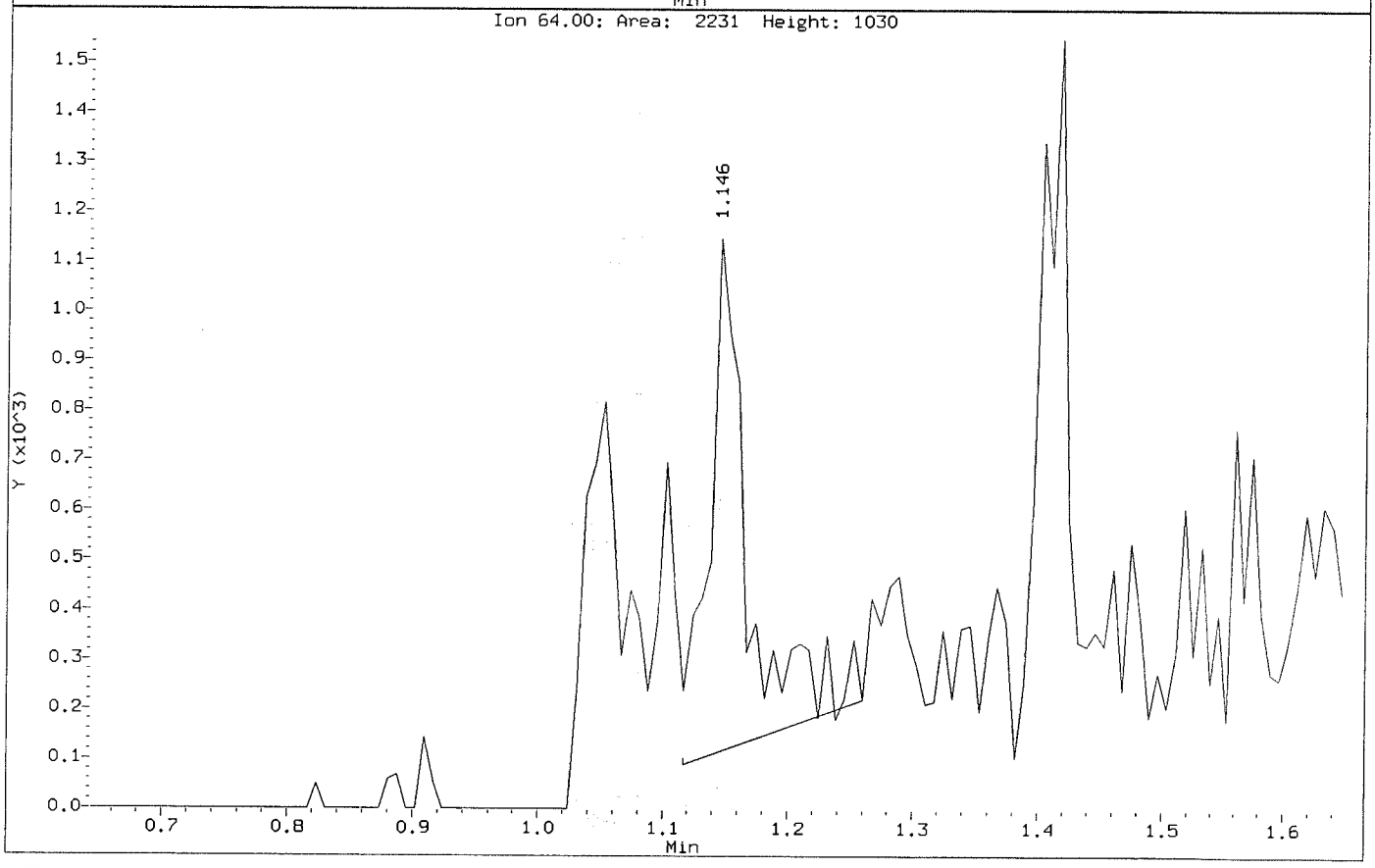
Compound: cis-1,2-Dichloroethene
CAS Number: 156-59-2



Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\Before\X102503.D
Injection Date: 25-OCT-2020 17:24
Instrument: voa6.i
Client Sample ID: VSTD000.5

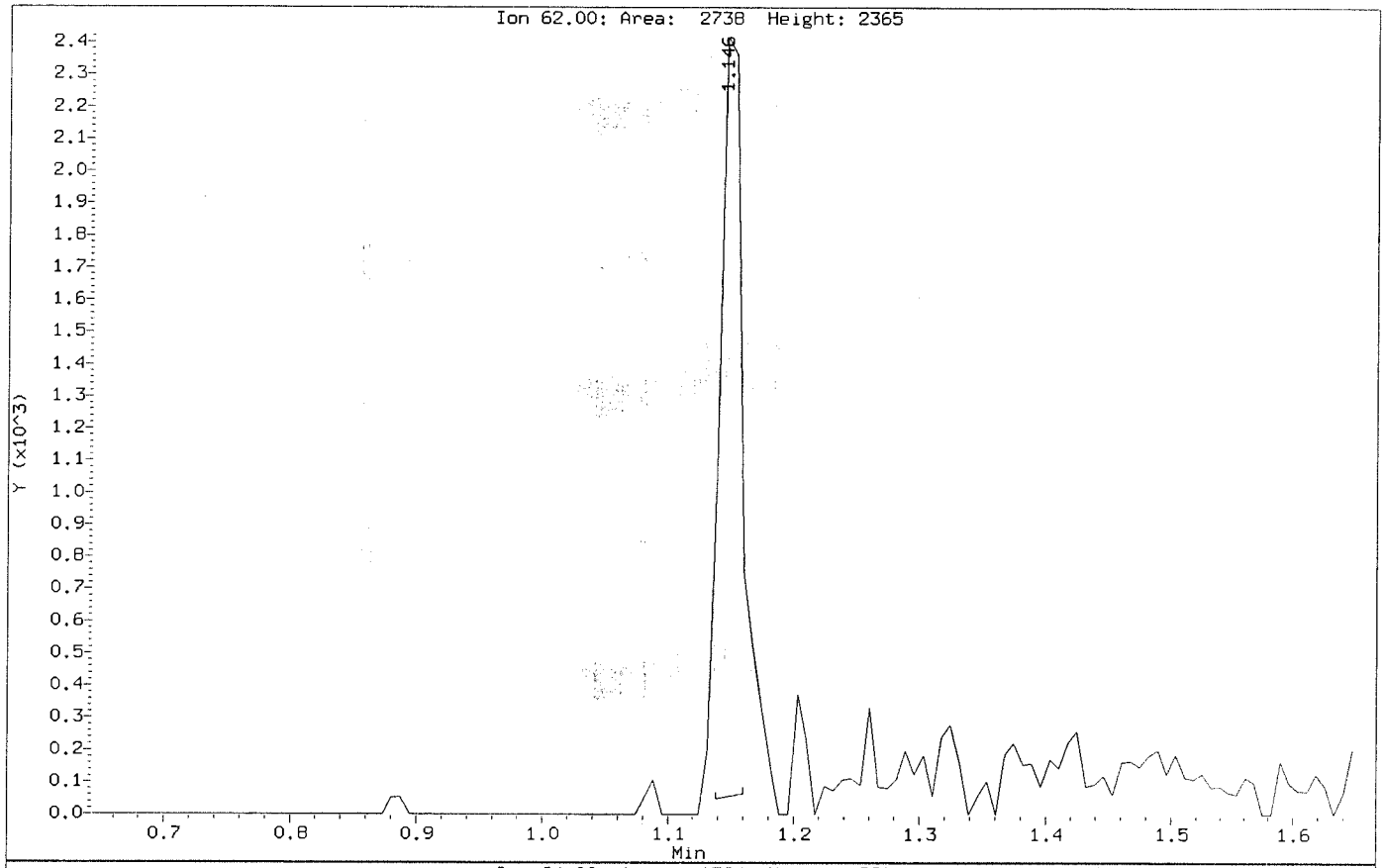
Compound: Vinyl Chloride
CAS Number: 75-01-4

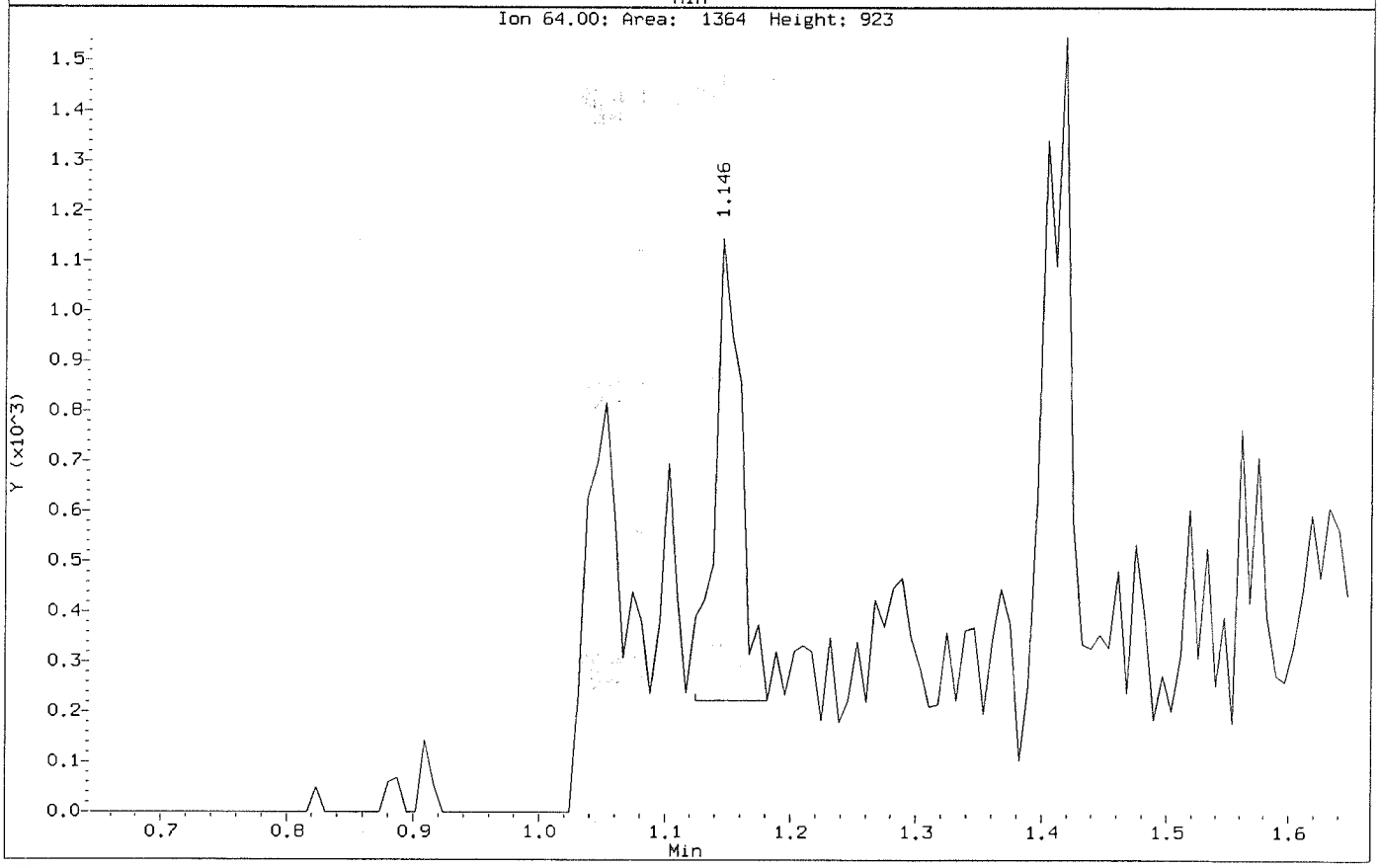




Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102503.D
Injection Date: 25-OCT-2020 17:24
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Vinyl Chloride
CAS Number: 75-01-4





Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102504.D Page 1
Report Date: 30-Nov-2020 13:13

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Data file : \\nahstws005\Target\chem\voa6.i\X201025.b\X102504.D
Lab Smp Id: VSTD001 Client Smp ID: VSTD001
Inj Date : 25-OCT-2020 17:45
Operator : PC Inst ID: voa6.i
Smp Info : VSTD001;VSTD001;1;3;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201025.b\8260W.m
Meth Date : 30-Nov-2020 13:13 voa6.i Quant Type: ISTD
Cal Date : 25-OCT-2020 17:24 Cal File: X102503.D
Als bottle: 7 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

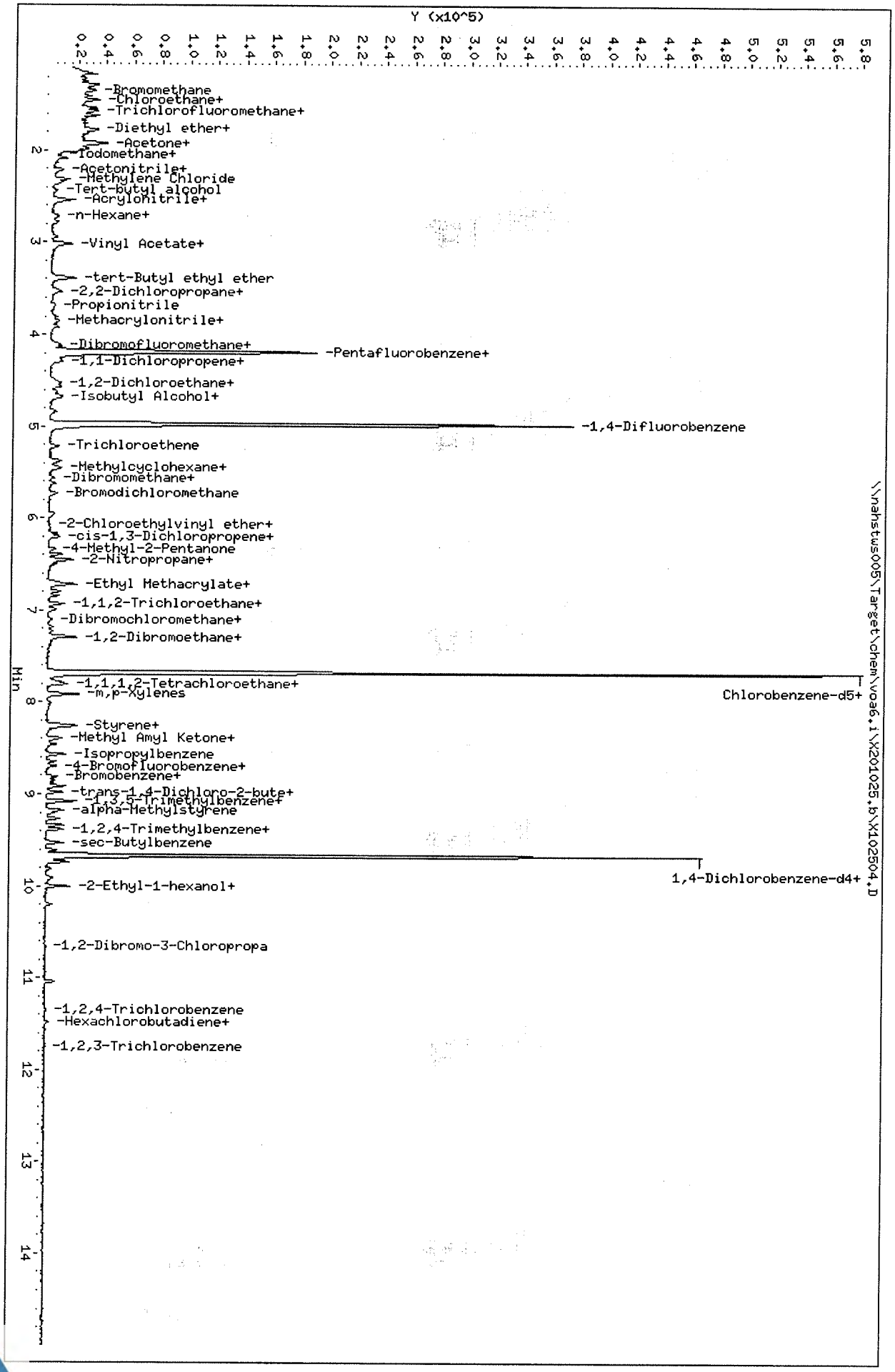
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	133725	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	265523	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	237249	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	89977	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.490	4.490	(1.072)	2362	1.00000	1.03(Ta)
$ 69 4-Bromofluorobenzene	95	8.702	8.702	(1.134)	2133	1.00000	2.89(a)
$ 30 Dibromofluoromethane	113	4.110	4.110	(0.981)	1747	1.00000	0.94(a)
$ 48 Toluene-d8	98	6.395	6.395	(0.834)	5855	1.00000	2.56(Ta)
53 1,1,2-Trichloroethane	83	6.854	6.854	(0.894)	1602	1.00000	1.03(a)
11 1,1-Dichloroethene	96	1.926	1.926	(0.460)	3767	1.00000	1.15(a)
33 1,2-Dichloroethane	62	4.569	4.569	(0.919)	3014	1.00000	1.05(a)
27 cis-1,2-Dichloroethene	96	3.545	3.545	(0.846)	2283	1.00000	1.09(a)
17 Methylene Chloride	84	2.320	2.320	(0.554)	2321	1.00000	1.09(a)
38 Trichloroethene	130	5.214	5.214	(1.049)	1801	1.00000	1.03(a)
5 Vinyl Chloride	62	1.145	1.145	(0.273)	4301	1.00000	1.04(aM)

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.



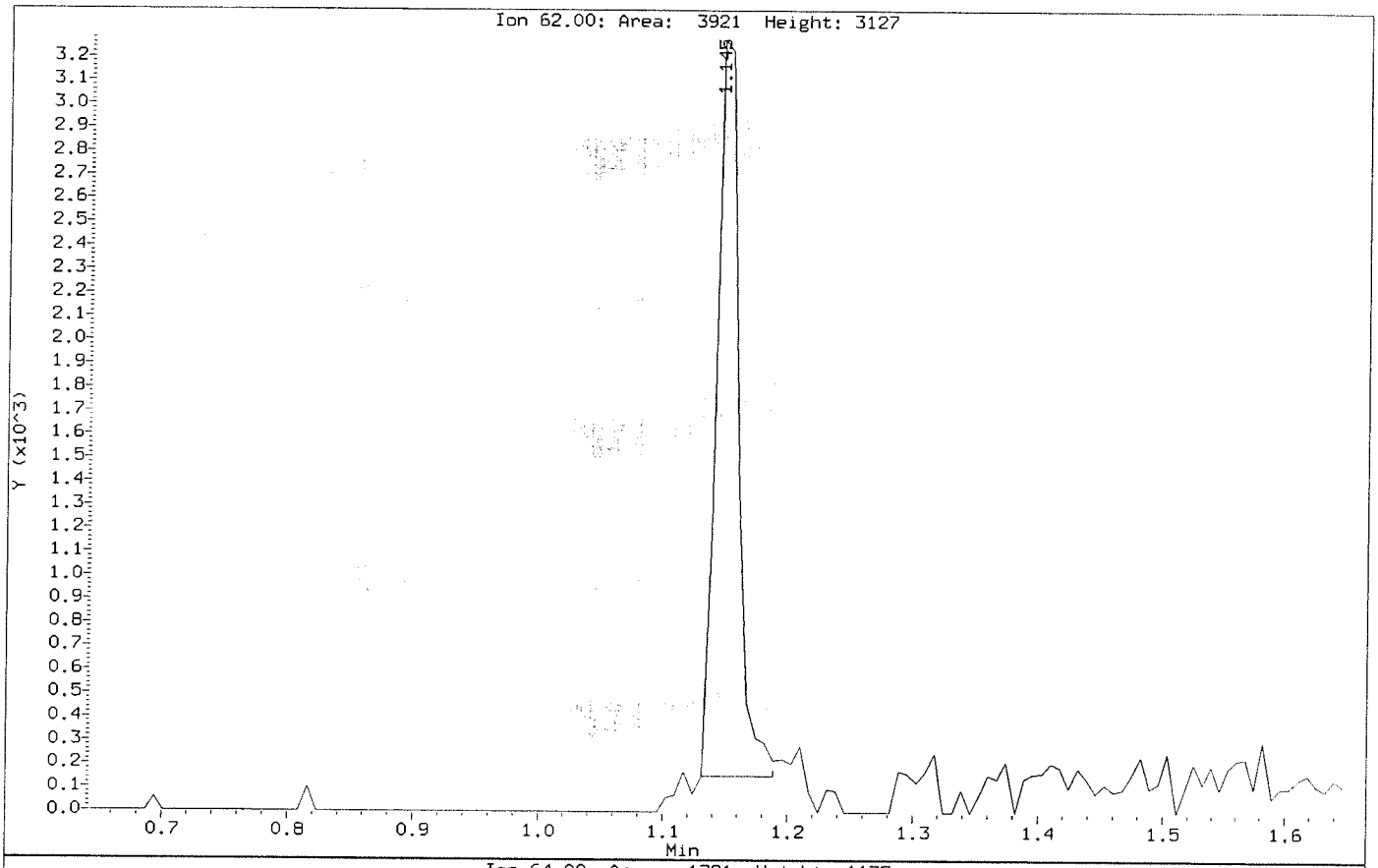
Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102504.D
Date : 25-OCT-2020 17:45
Client ID: VSTD001
Sample Info: VSTD001;VSTD001;1;3;
Purge Volume: 5.0
Column phase: DB624

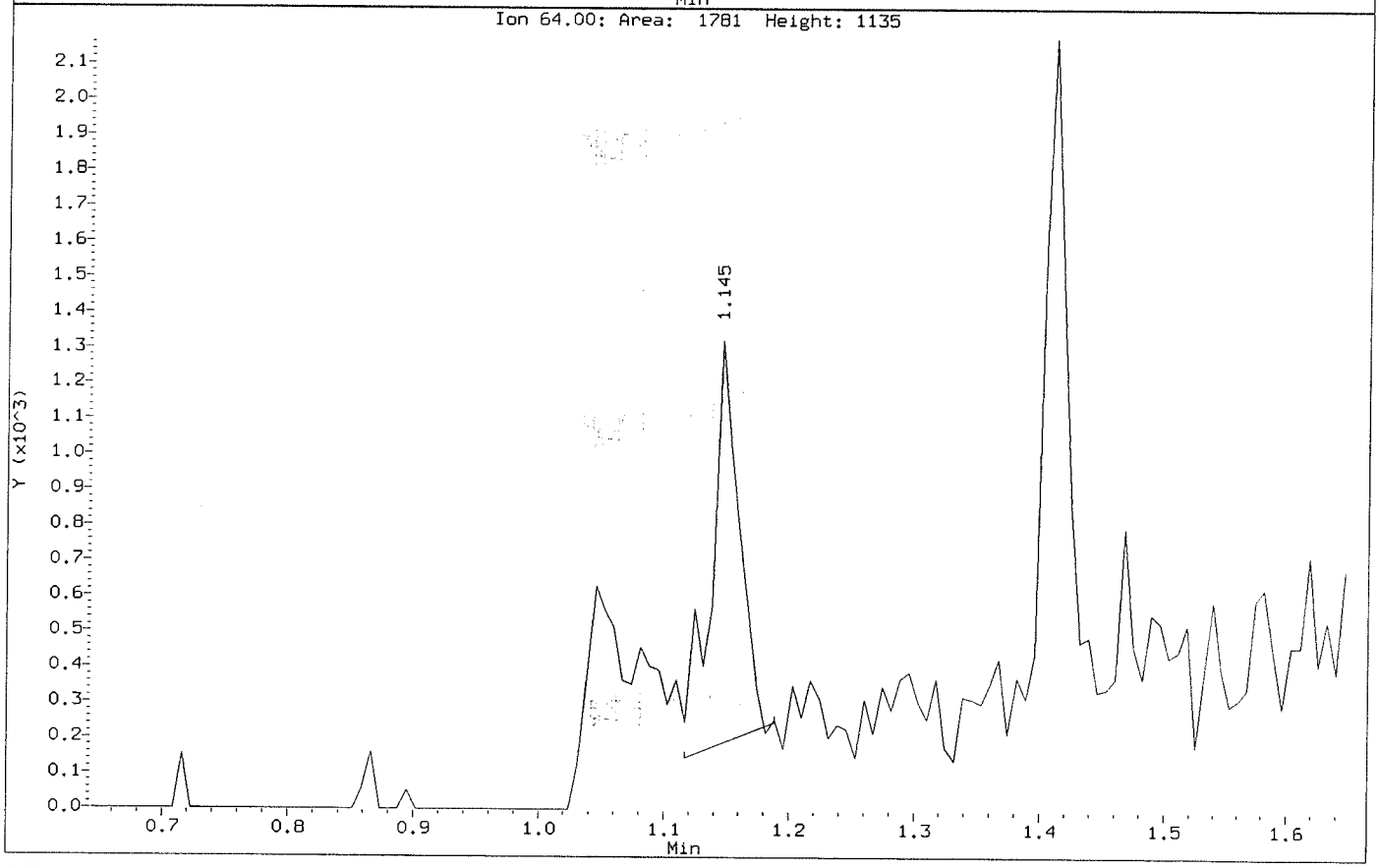
Instrument: voa6.i
Operator: PC
Column diameter: 0.18

\\nahstws005\Target\chem\voa6.i\X201025.b\X102504.D

Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\Before\X102504.D
Injection Date: 25-OCT-2020 17:45
Instrument: voa6.i
Client Sample ID: VSTD001

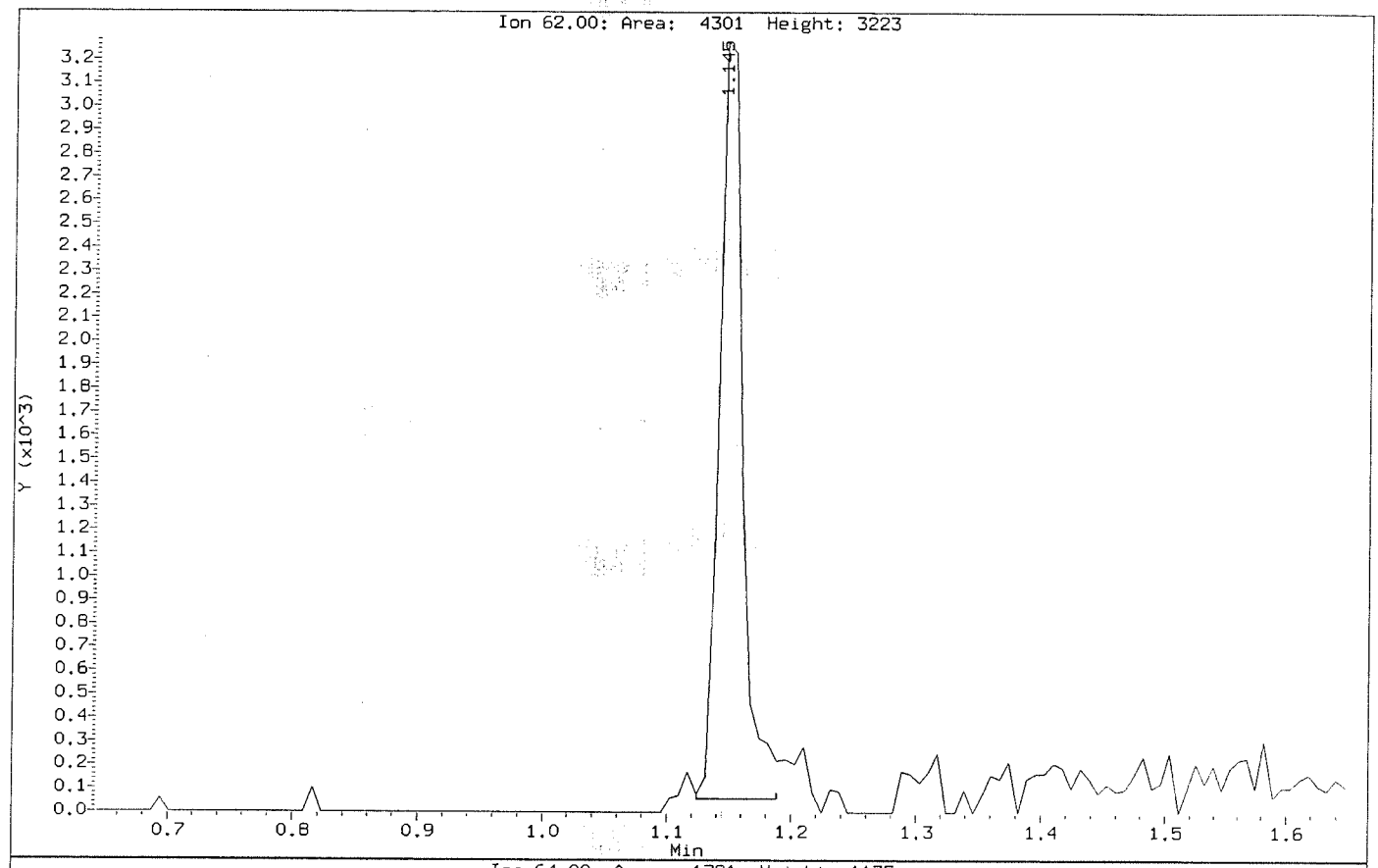
Compound: Vinyl Chloride
CAS Number: 75-01-4

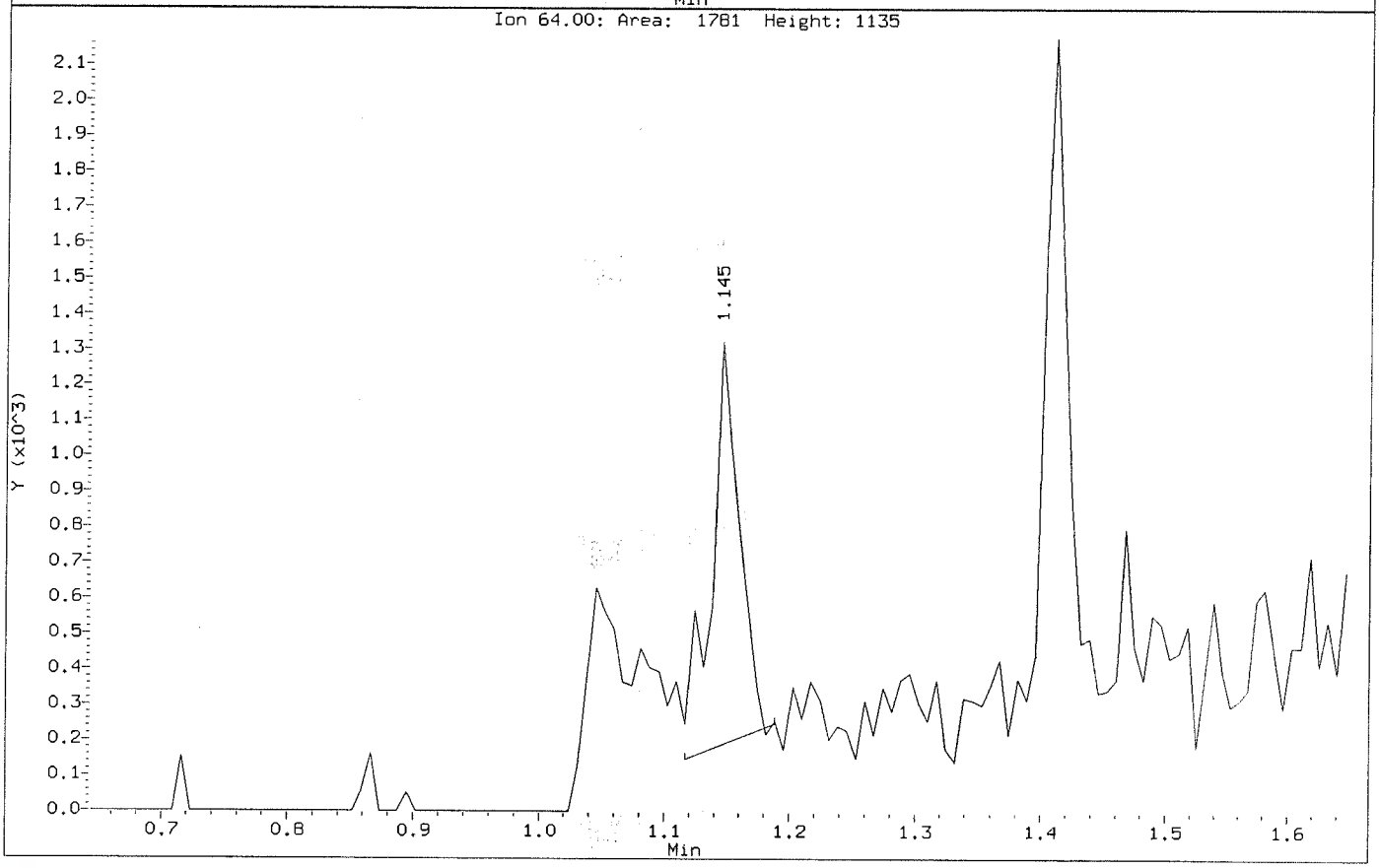




Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102504.D
Injection Date: 25-OCT-2020 17:45
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Vinyl Chloride
CAS Number: 75-01-4





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Data file : \\nahstws005\Target\chem\voa6.i\X201025.b\X102505.D
Lab Smp Id: VSTD002 Client Smp ID: VSTD002
Inj Date : 25-OCT-2020 18:06
Operator : PC Inst ID: voa6.i
Smp Info : VSTD002;VSTD002;1;4;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201025.b\8260W.m
Meth Date : 30-Nov-2020 13:14 voa6.i Quant Type: ISTD
Cal Date : 25-OCT-2020 17:45 Cal File: X102504.D
Als bottle: 8 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

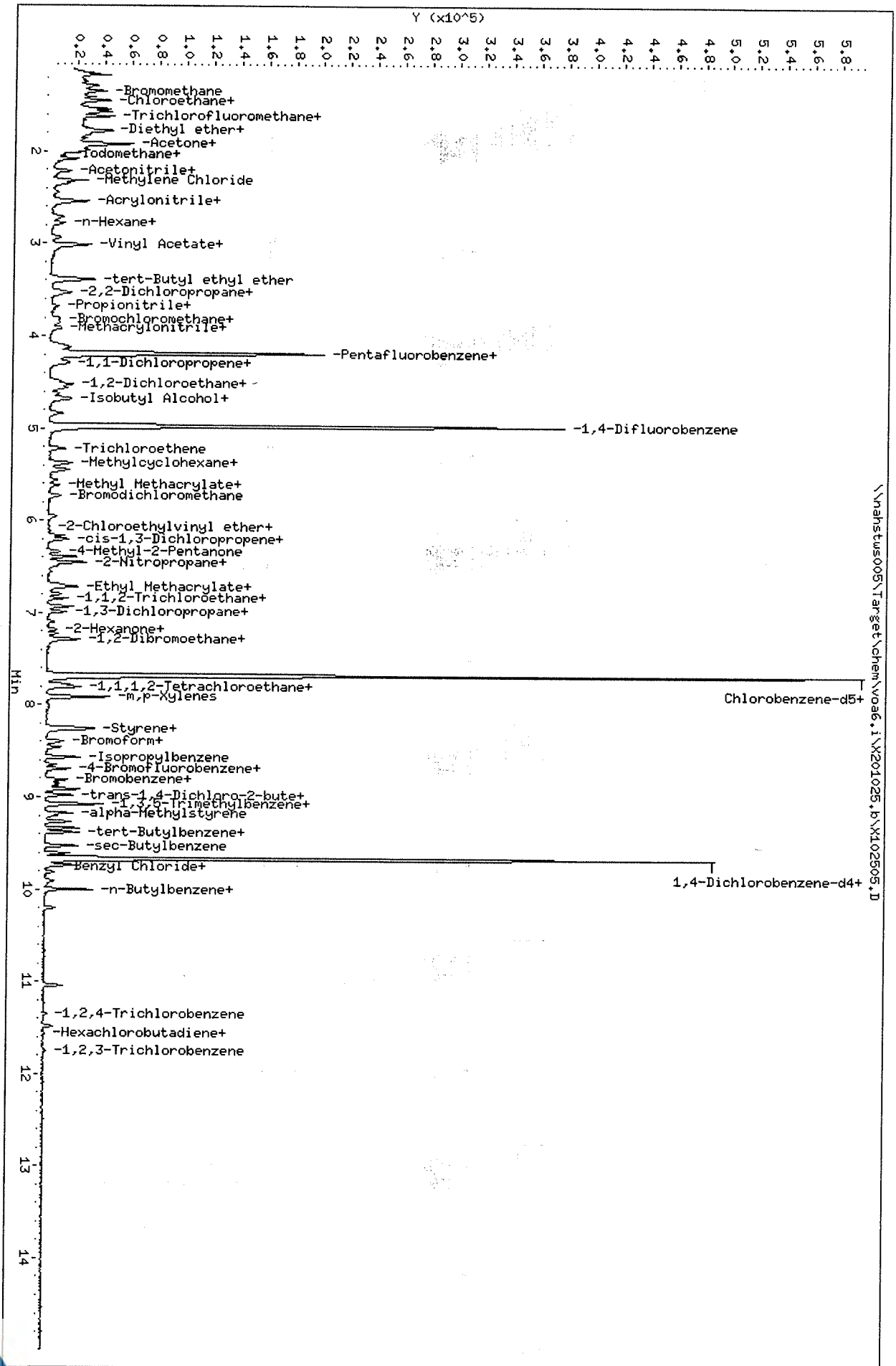
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	138059	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	268911	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	238375	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	92380	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.070)	4999	2.00000	2.09(a)
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	4602	2.00000	3.93(a)
$ 30 Dibromofluoromethane	113	4.110	4.110	(0.981)	3406	2.00000	1.79(a)
$ 48 Toluene-d8	98	6.395	6.395	(0.834)	11754	2.00000	3.40(a)
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	3021	2.00000	1.94(a)
11 1,1-Dichloroethene	96	1.926	1.926	(0.460)	6937	2.00000	2.06(a)
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	5387	2.00000	1.85(a)
27 cis-1,2-Dichloroethene	96	3.537	3.537	(0.844)	4027	2.00000	1.86(a)
17 Methylene Chloride	84	2.313	2.313	(0.552)	4313	2.00000	1.97(a)
38 Trichloroethene	130	5.221	5.221	(1.050)	3205	2.00000	1.81(a)
5 Vinyl Chloride	62	1.145	1.145	(0.273)	8618	2.00000	2.03(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).



Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102505.D
Date : 25-OCT-2020 18:06
Client ID: VSTD002
Sample Info: VSTD002;VSTD002;1;4;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102506.D Page 1
Report Date: 30-Nov-2020 13:14

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Data file : \\nahstws005\Target\chem\voa6.i\X201025.b\X102506.D
Lab Smp Id: VSTD005 Client Smp ID: VSTD005
Inj Date : 25-OCT-2020 18:27
Operator : PC Inst ID: voa6.i
Smp Info : VSTD005;VSTD005;1;5;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201025.b\8260W.m
Meth Date : 30-Nov-2020 13:14 voa6.i Quant Type: ISTD
Cal Date : 25-OCT-2020 18:06 Cal File: X102505.D
Als bottle: 9 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

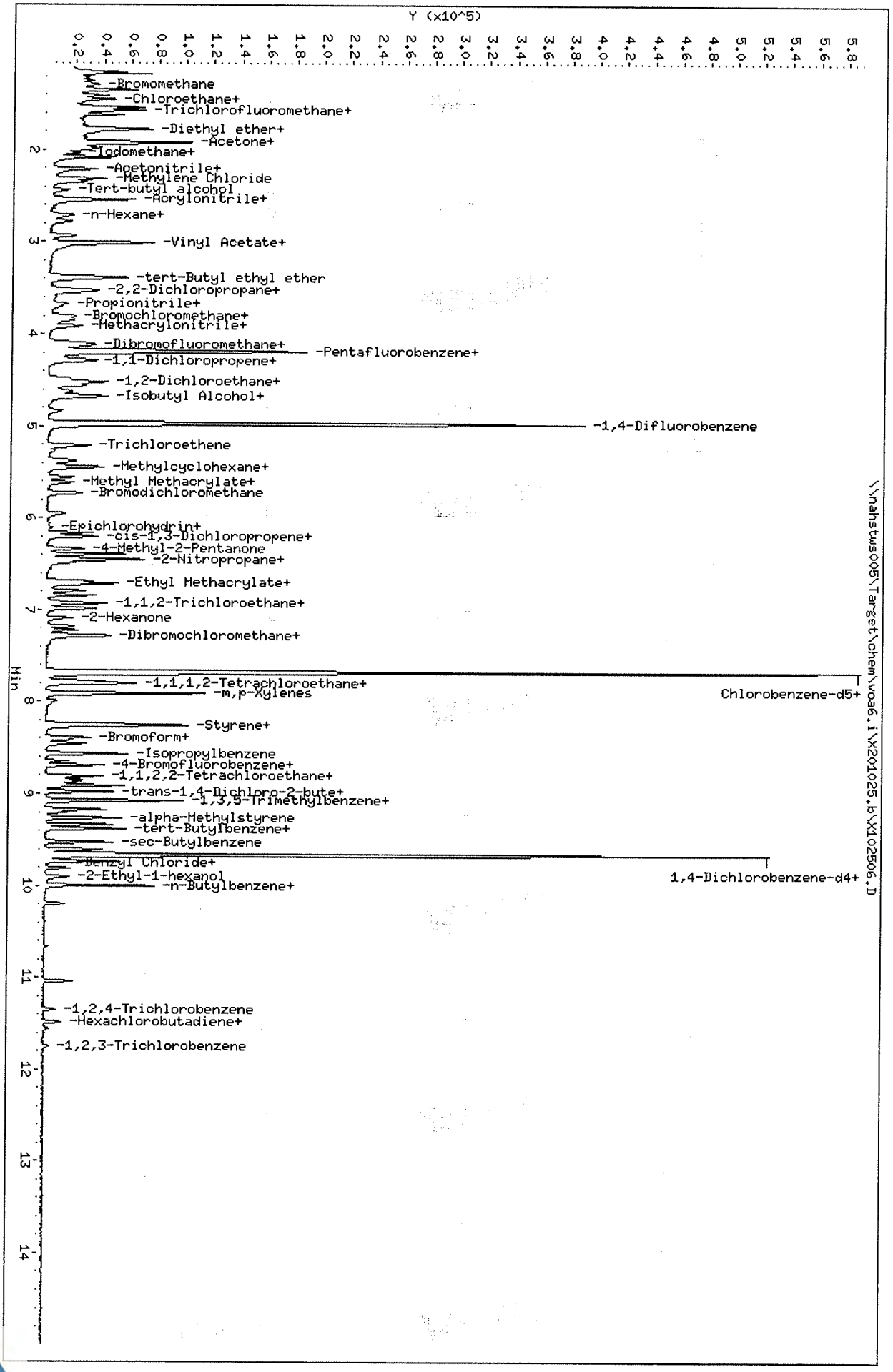
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	132183	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	262424	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	236481	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	93887	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	11402	5.00000	4.95(aM)
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	10188	5.00000	6.31
$ 30 Dibromofluoromethane	113	4.110	4.110	(0.981)	8894	5.00000	4.88(a)
$ 48 Toluene-d8	98	6.396	6.396	(0.834)	31270	5.00000	6.24
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	8403	5.00000	5.46
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	15811	5.00000	4.91(a)
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	14249	5.00000	5.02
27 cis-1,2-Dichloroethene	96	3.545	3.545	(0.846)	10113	5.00000	4.88(a)
17 Methylene Chloride	84	2.313	2.313	(0.552)	10150	5.00000	4.85(a)
38 Trichloroethene	130	5.214	5.214	(1.049)	7833	5.00000	4.53(a)
5 Vinyl Chloride	62	1.145	1.145	(0.273)	17953	5.00000	4.41(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

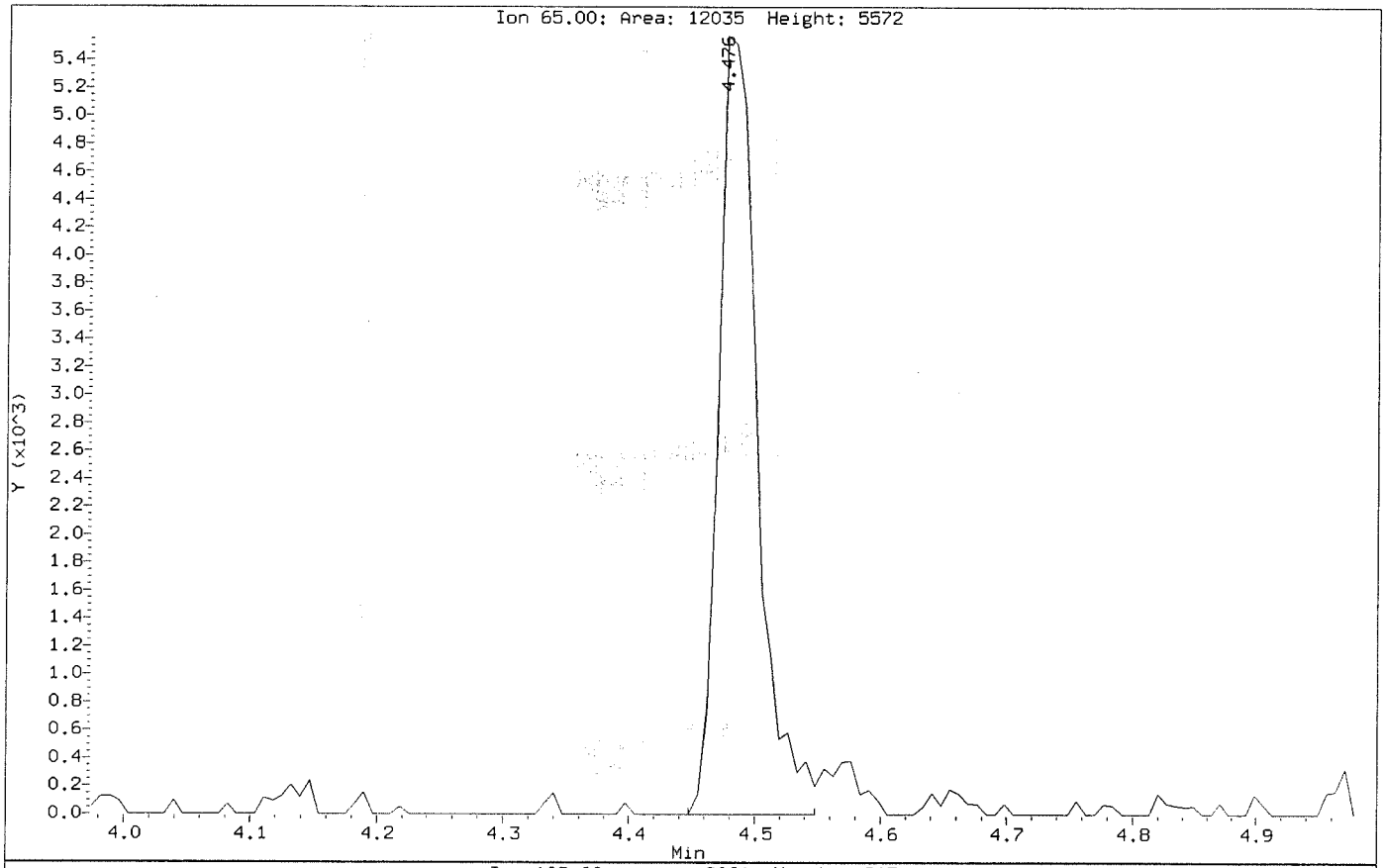


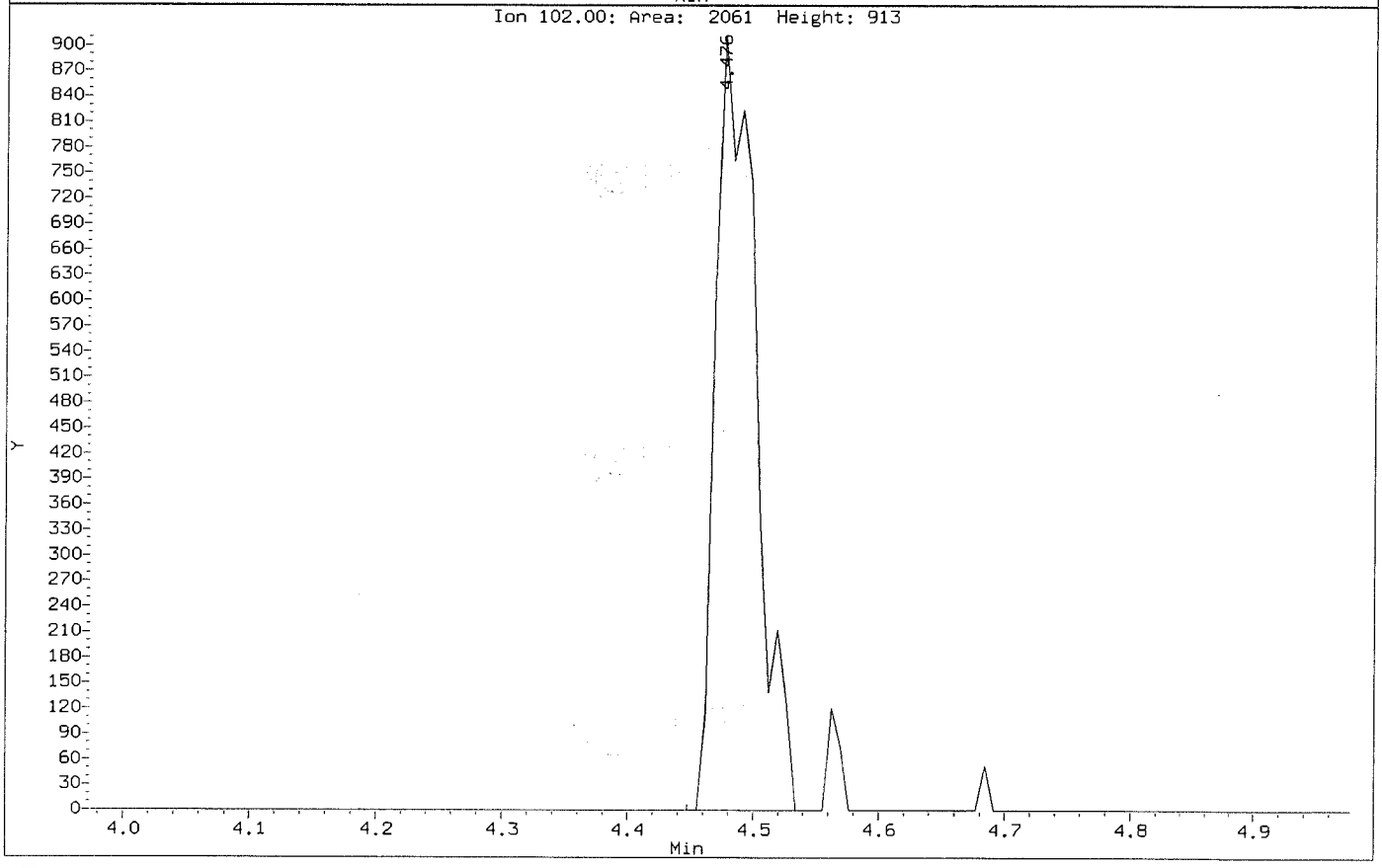
Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102506.D
Date : 25-OCT-2020 18:27
Client ID: VSTD005
Sample Info: VSTD005;VSTD005;1;5;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\Before\X102506.D
Injection Date: 25-OCT-2020 18:27
Instrument: voa6.i
Client Sample ID: VSTD005

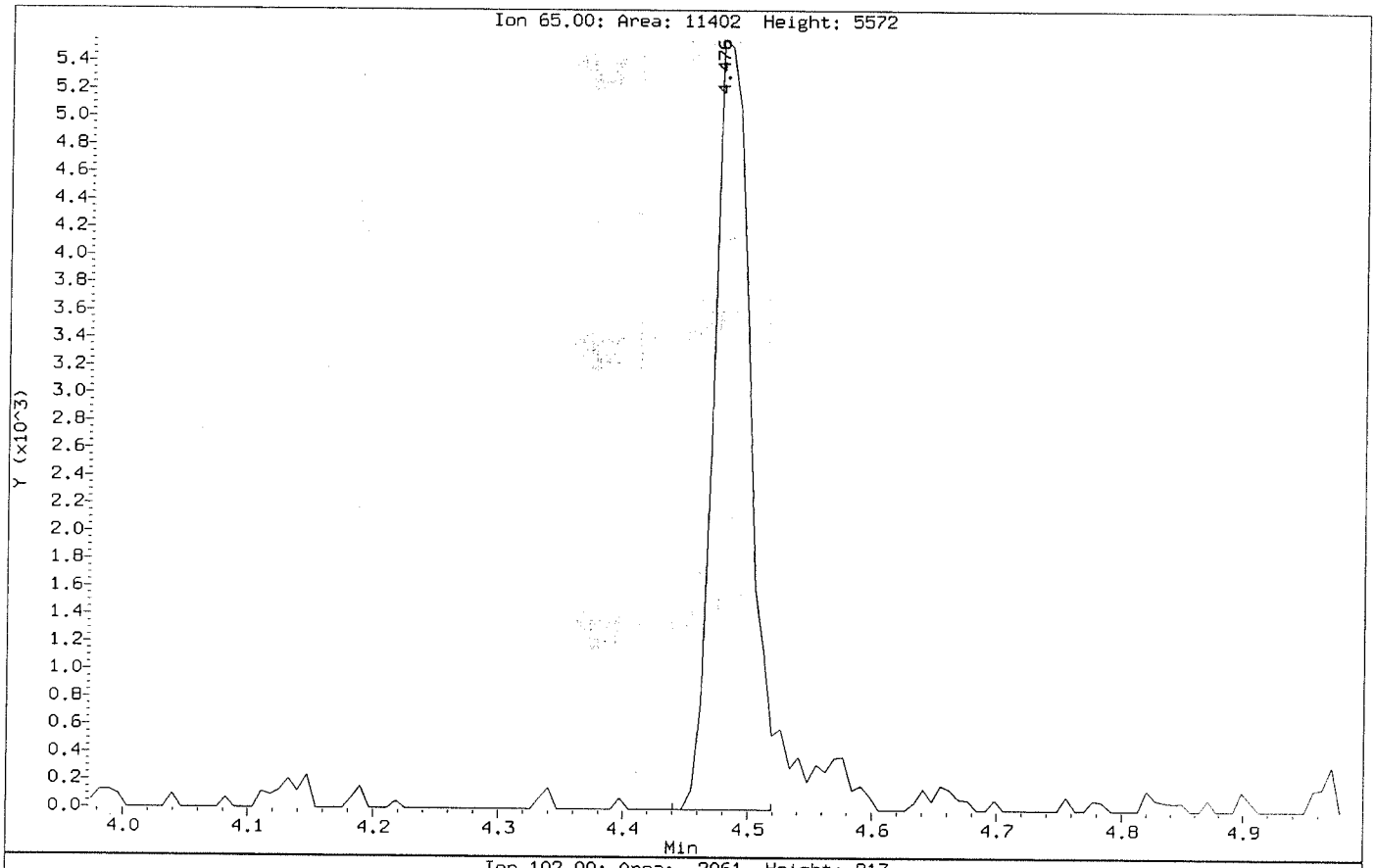
Compound: 1,2-Dichloroethane-d4
CAS Number: 17060-07-0

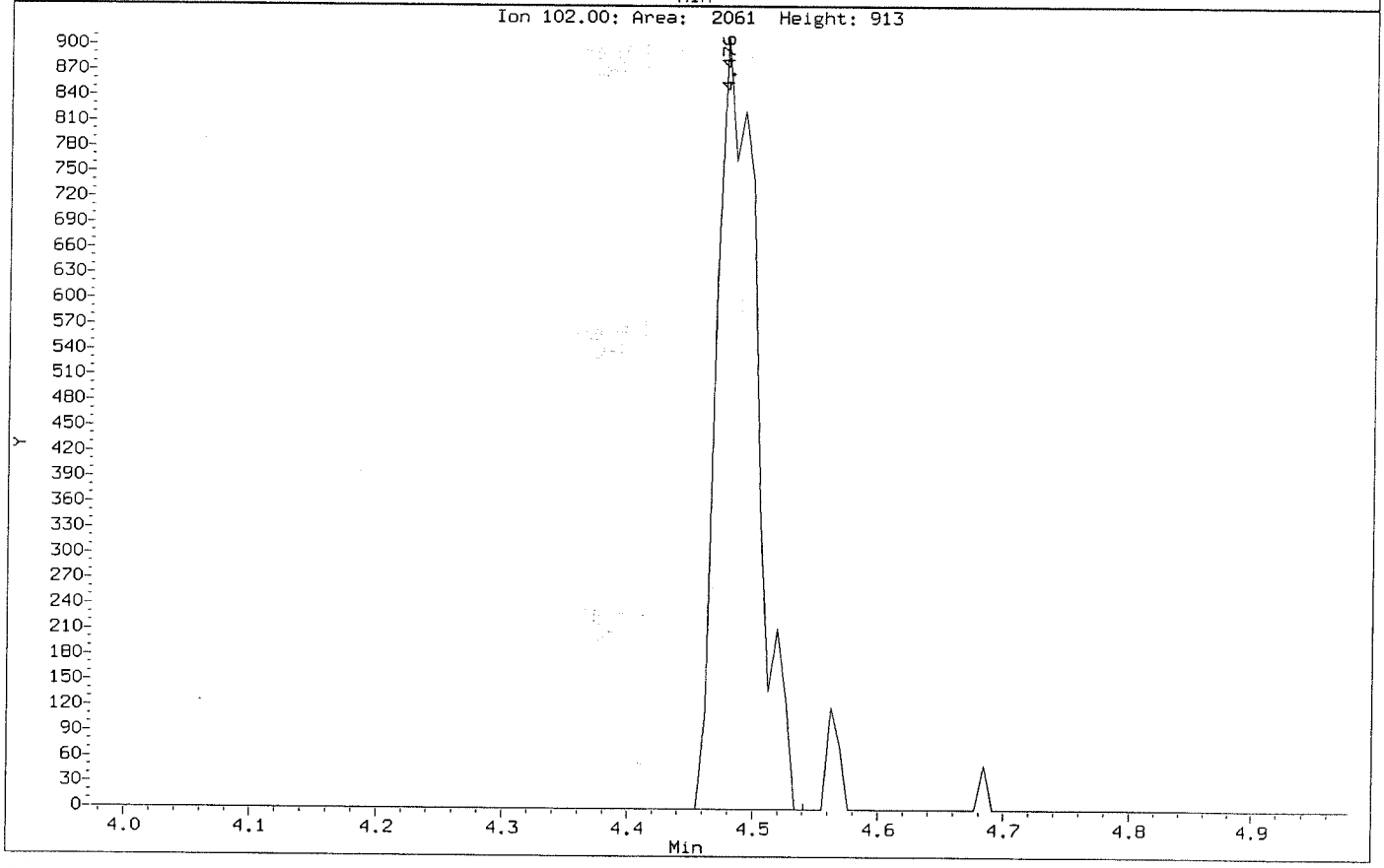




Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102506.D
Injection Date: 25-OCT-2020 18:27
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: 1,2-Dichloroethane-d4
CAS Number: 17060-07-0





Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102507.D Page 1
Report Date: 30-Nov-2020 13:14

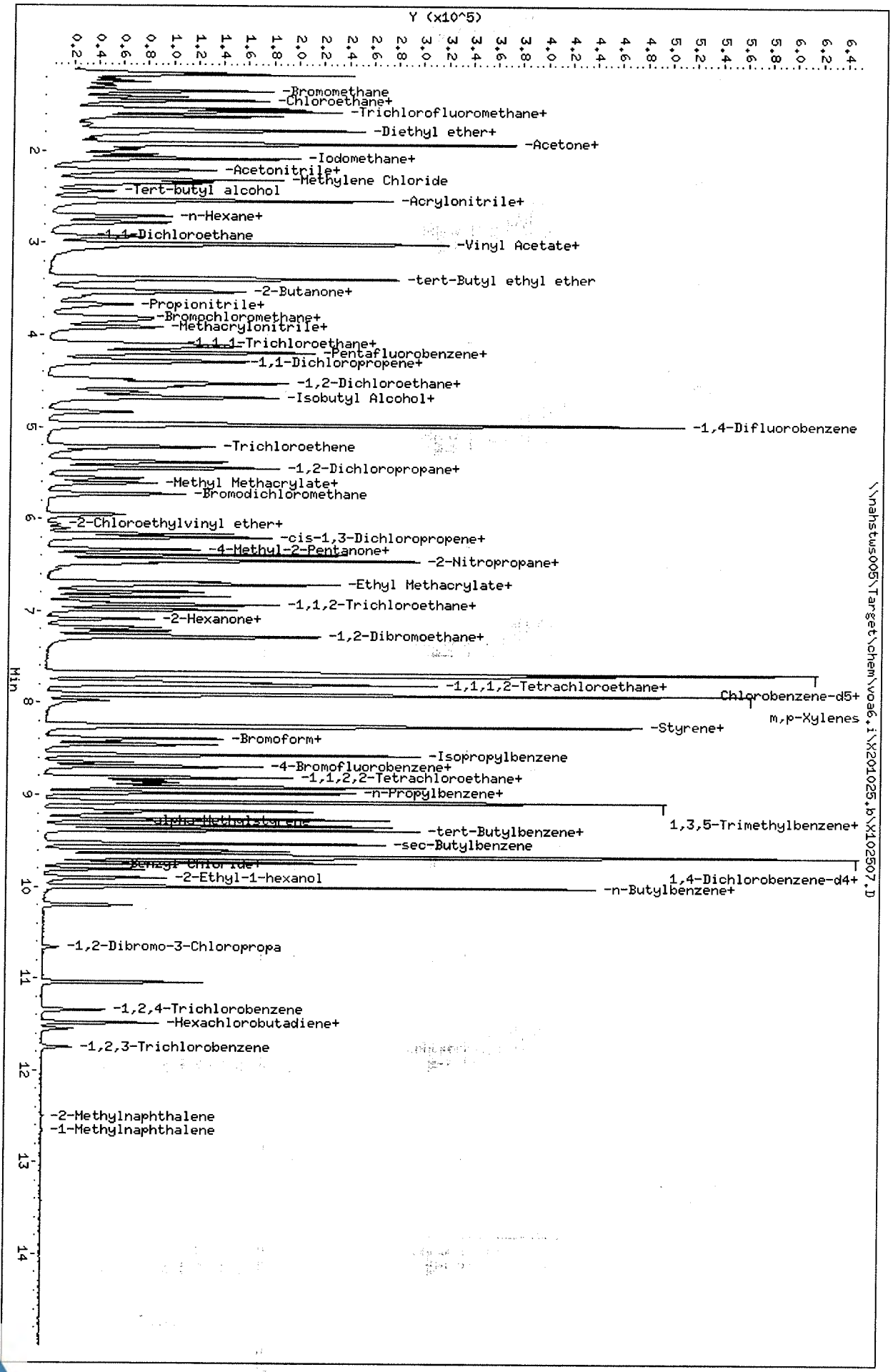
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201025.b\X102507.D
Lab Smp Id: VSTD020 Client Smp ID: VSTD020
Inj Date : 25-OCT-2020 18:48
Operator : PC Inst ID: voa6.i
Smp Info : VSTD020;VSTD020;1;6;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201025.b\8260W.m
Meth Date : 30-Nov-2020 13:14 voa6.i Quant Type: ISTD
Cal Date : 25-OCT-2020 18:27 Cal File: X102506.D
Als bottle: 10 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	136849	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	270104	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	237688	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	95866	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.070)	46344	20.0000	19.36
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	42426	20.0000	19.90
$ 30 Dibromofluoromethane	113	4.110	4.110	(0.981)	36260	20.0000	19.24
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	131486	20.0000	20.66
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	30161	20.0000	19.50
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	64169	20.0000	19.25
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	58734	20.0000	20.13
27 cis-1,2-Dichloroethene	96	3.537	3.537	(0.844)	41515	20.0000	19.38
17 Methylene Chloride	84	2.313	2.313	(0.552)	39812	20.0000	18.41
38 Trichloroethene	130	5.214	5.214	(1.049)	37487	20.0000	21.10
5 Vinyl Chloride	62	1.145	1.145	(0.273)	83926	20.0000	19.94



Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102507.D
Date : 25-OCT-2020 18:48
Client ID: VSTD020
Sample Info: VSTD020;VSTD020;1;6;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

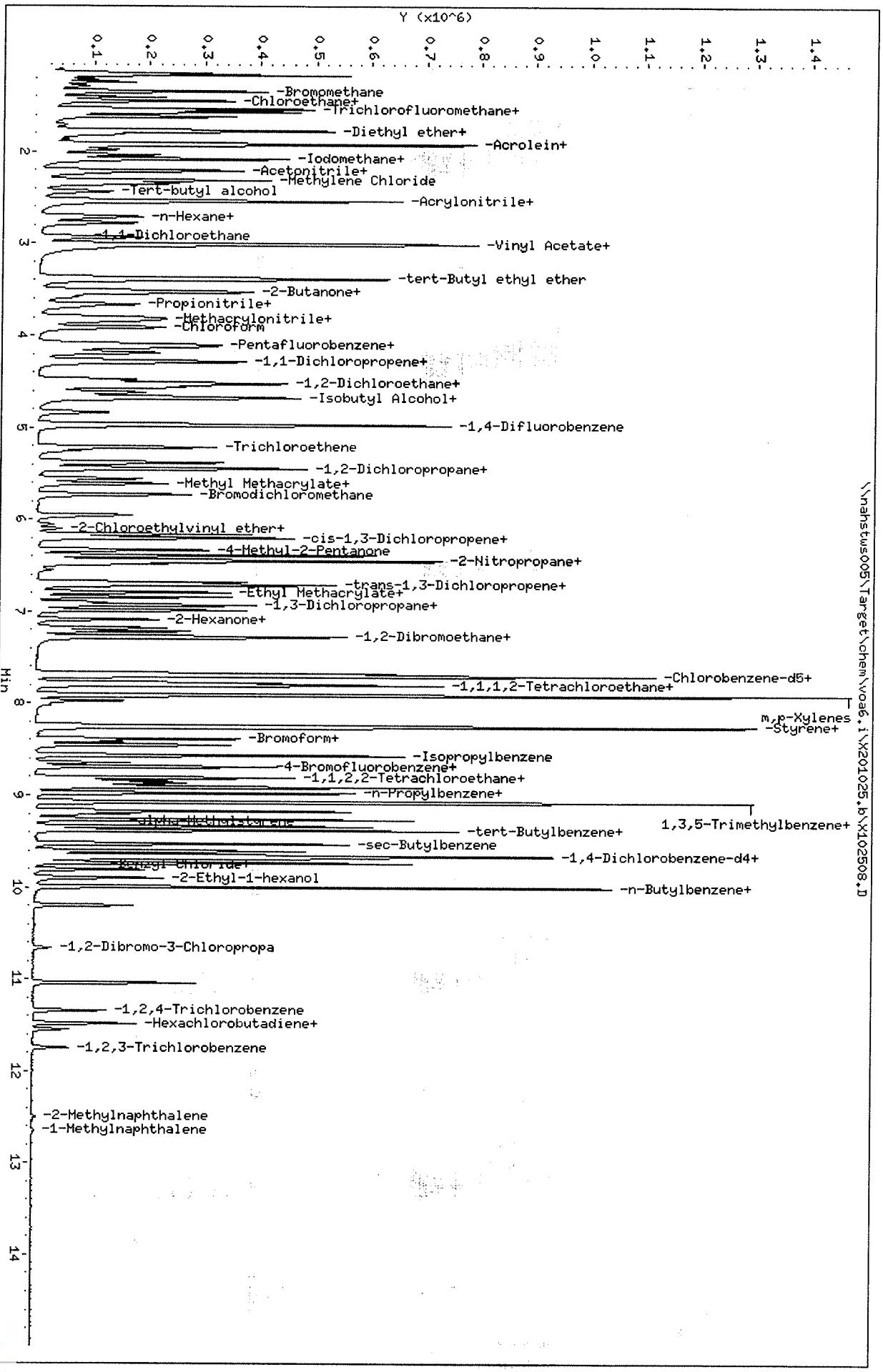
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201025.b\X102508.D
Lab Smp Id: VSTD050 Client Smp ID: VSTD050
Inj Date : 25-OCT-2020 19:09
Operator : PC Inst ID: voa6.i
Smp Info : VSTD050;VSTD050;1;7;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201025.b\8260W.m
Meth Date : 30-Nov-2020 13:14 voa6.i Quant Type: ISTD
Cal Date : 25-OCT-2020 18:48 Cal File: X102507.D
Als bottle: 11 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	144254	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	274905	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	251583	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	110676	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	123233	50.0000	48.79
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	108164	50.0000	45.14
$	30 Dibromofluoromethane	113	4.103	4.103	(0.979)	96973	50.0000	48.83
$	48 Toluene-d8	98	6.388	6.388	(0.833)	324408	50.0000	45.86
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	75198	50.0000	45.95
	11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	147185	50.0000	41.89
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	146952	50.0000	49.49
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	103361	50.0000	45.78
	17 Methylene Chloride	84	2.313	2.313	(0.552)	96633	50.0000	42.39
	38 Trichloroethene	130	5.214	5.214	(1.049)	86967	50.0000	48.09
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	189229	50.0000	42.66



Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102508.D
Date : 25-OCT-2020 19:09
Client ID: VSTD050
Sample Info: VSTD050;VSTD050;1;7;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102509.D Page 1
Report Date: 30-Nov-2020 13:14

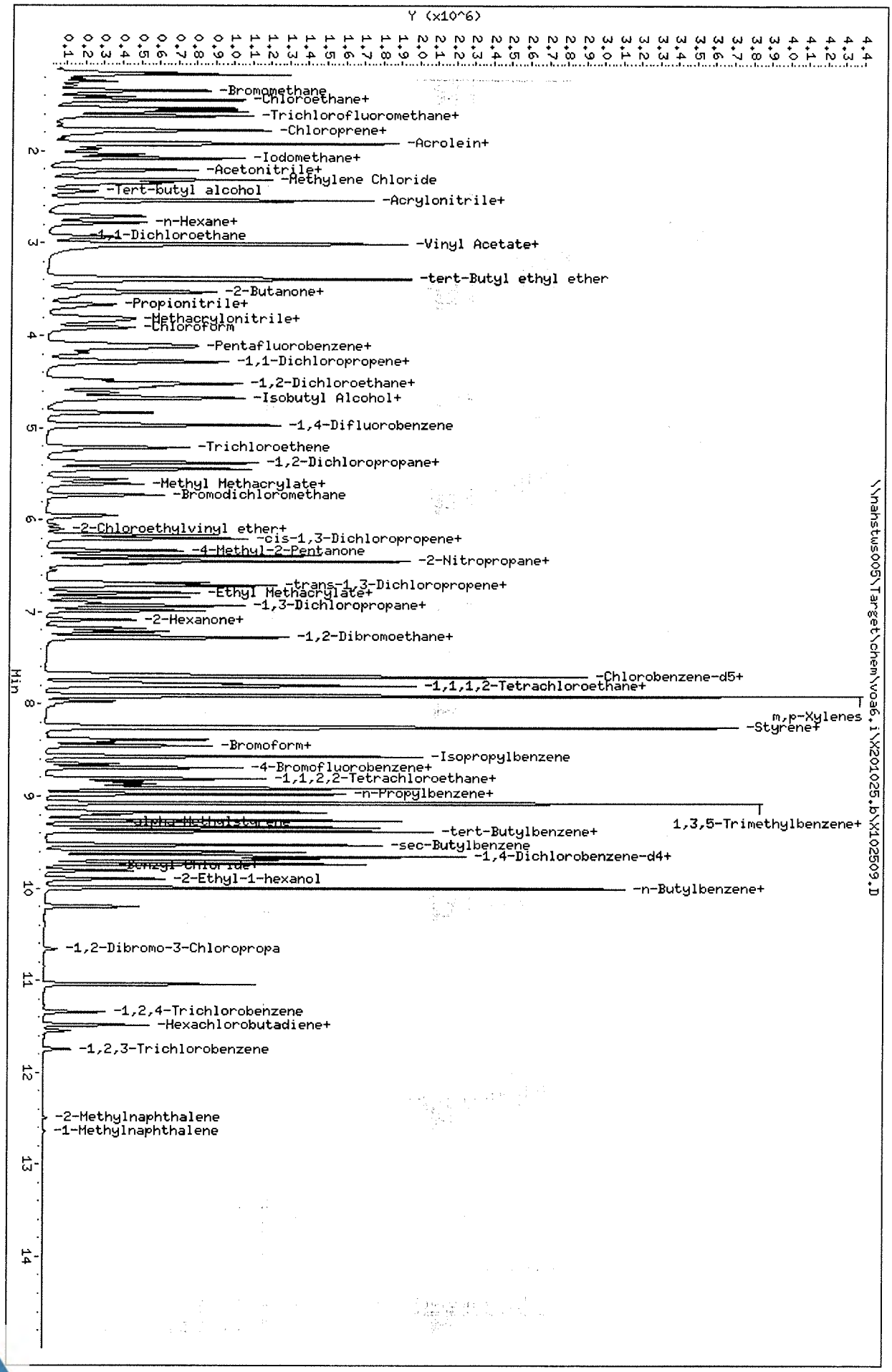
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201025.b\X102509.D
Lab Smp Id: VSTD100 Client Smp ID: VSTD100
Inj Date : 25-OCT-2020 19:29
Operator : PC Inst ID: voa6.i
Smp Info : VSTD100;VSTD100;1;8;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201025.b\8260W.m
Meth Date : 30-Nov-2020 13:14 voa6.i Quant Type: ISTD
Cal Date : 25-OCT-2020 19:09 Cal File: X102508.D
Als bottle: 12 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	139368	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	287668	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	269087	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	124024	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	245566	100.000	100.61
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	251093	100.000	95.64
$ 30 Dibromofluoromethane	113	4.111	4.111	(0.981)	210627	100.000	109.78
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	742483	100.000	96.18
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	165395	100.000	94.49
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	326526	100.000	96.19
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	311960	100.000	100.40
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	227115	100.000	104.13
17 Methylene Chloride	84	2.313	2.313	(0.552)	212196	100.000	96.35
38 Trichloroethene	130	5.214	5.214	(1.049)	196700	100.000	103.96
5 Vinyl Chloride	62	1.145	1.145	(0.273)	428800	100.000	100.08



Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102509.D
Date : 25-OCT-2020 19:29
Client ID: VSTD100
Sample Info: VSTD100;VSTD100;1;8;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102510.D Page 1
Report Date: 30-Nov-2020 13:14

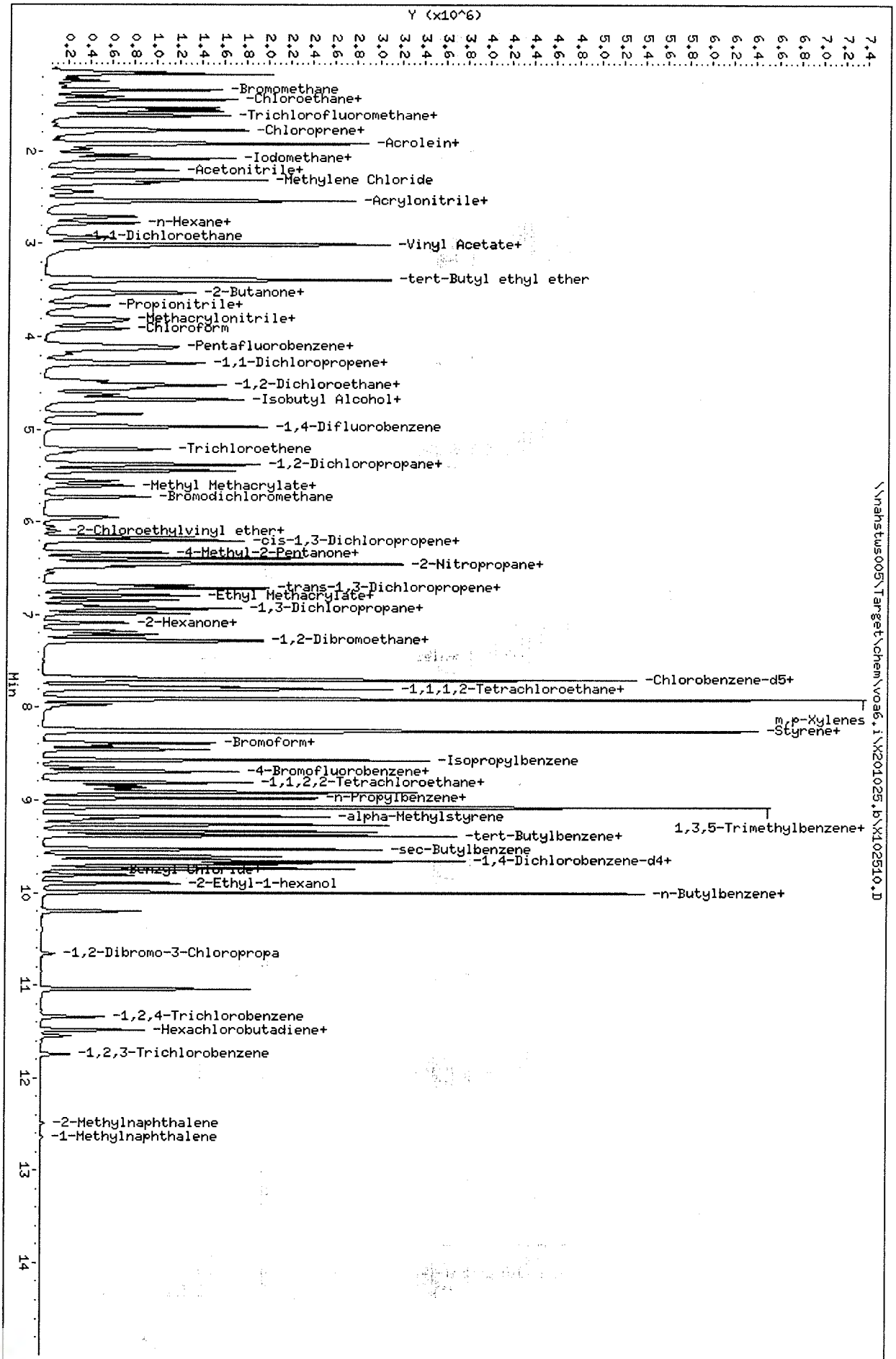
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201025.b\X102510.D
Lab Smp Id: VSTD150 Client Smp ID: VSTD150
Inj Date : 25-OCT-2020 19:50
Operator : PC Inst ID: voa6.i
Smp Info : VSTD150;VSTD150;1;9;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201025.b\8260W.m
Meth Date : 30-Nov-2020 13:14 voa6.i Quant Type: ISTD
Cal Date : 25-OCT-2020 19:29 Cal File: X102509.D
Als bottle: 13 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	145183	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	325175	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	284217	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	137394	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	392180	150.000	154.23
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	410237	150.000	146.85
$ 30 Dibromofluoromethane	113	4.111	4.111	(0.981)	314986	150.000	157.60
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	1192701	150.000	145.39
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	264336	150.000	142.97
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	498515	150.000	140.98
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	472013	150.000	134.39
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	342494	150.000	150.75
17 Methylene Chloride	84	2.313	2.313	(0.552)	335712	150.000	146.33
38 Trichloroethene	130	5.214	5.214	(1.049)	309579	150.000	144.74
5 Vinyl Chloride	62	1.145	1.145	(0.273)	655246	150.000	146.80



Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102510.D
Date : 25-OCT-2020 19:50
Client ID: VSTD150
Sample Info: VSTD150;VSTD150;1;9;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102511.D Page 1
Report Date: 30-Nov-2020 13:14

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201025.b\X102511.D
Lab Smp Id: VSTD200 Client Smp ID: VSTD200
Inj Date : 25-OCT-2020 20:11
Operator : PC Inst ID: voa6.i
Smp Info : VSTD200;VSTD200;1;10;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201025.b\8260W.m
Meth Date : 30-Nov-2020 13:14 voa6.i Quant Type: ISTD
Cal Date : 25-OCT-2020 19:50 Cal File: X102510.D
Als bottle: 14 Calibration Sample, Level: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

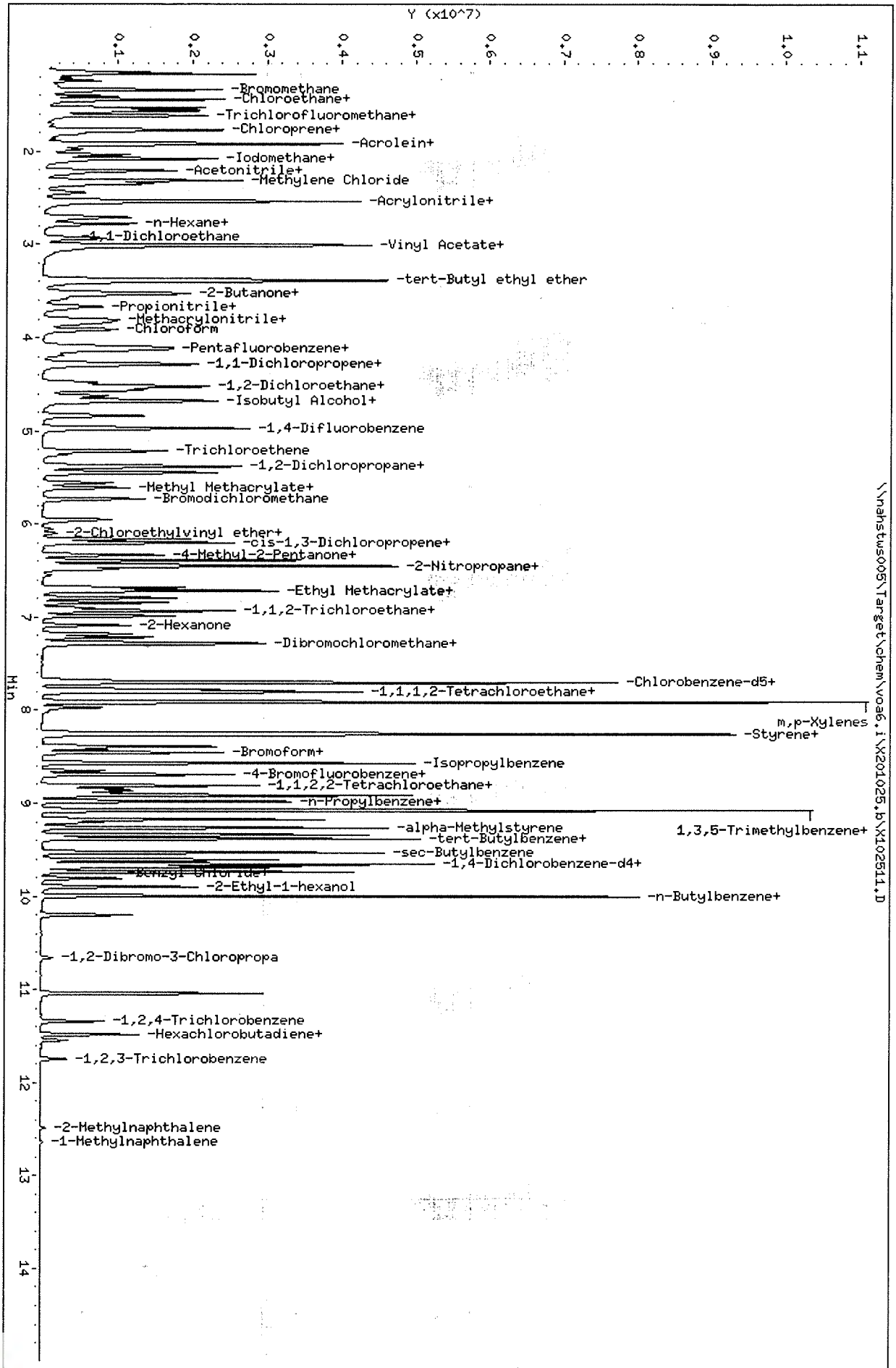
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	150836	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	333359	50.0000	
* 47 Chlorobenzene-d5	117	7.678	7.678	(1.000)	292571	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	146057	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	519723	200.000	196.72
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.132)	592427	200.000	205.22(A)
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	455615	200.000	219.42(A)
$ 48 Toluene-d8	98	6.388	6.388	(0.832)	1743873	200.000	205.78(A)
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.892)	365695	200.000	192.15
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	683631	200.000	186.08
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	677170	200.000	188.08
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	499766	200.000	211.73(A)
17 Methylene Chloride	84	2.313	2.313	(0.552)	462731	200.000	194.13
38 Trichloroethene	130	5.214	5.214	(1.049)	427628	200.000	195.03
5 Vinyl Chloride	62	1.145	1.145	(0.273)	862323	200.000	185.96

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.



Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102511.D
Date : 25-OCT-2020 20:11
Client ID: VSTD200
Sample Info: VSTD200;VSTD200;1;10;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

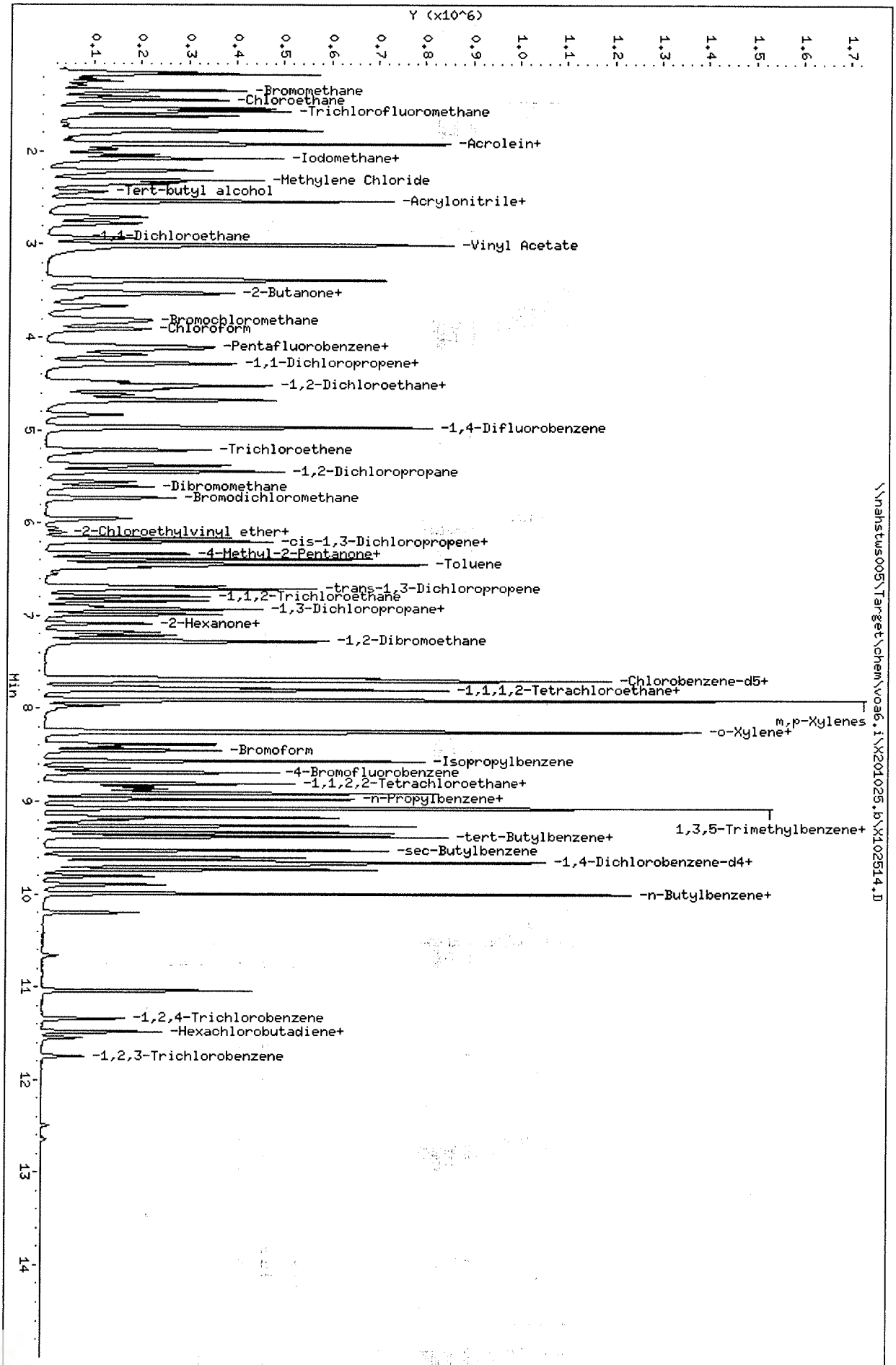
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201025.b\X102514.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 25-OCT-2020 21:14
Operator : PC Inst ID: voa6.i
Smp Info : VSTD050;VSTD050;2;;ICV
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201025.b\8260W.m
Meth Date : 30-Nov-2020 13:14 voa6.i Quant Type: ISTD
Cal Date : 25-OCT-2020 20:11 Cal File: X102511.D
Als bottle: 17 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	140573	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	287781	50.0000	
*	47 Chlorobenzene-d5	117	7.670	7.678	(1.000)	266338	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	112403	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.483	4.476	(1.070)	124058	50.4098	50.40
$	69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	118719	46.7309	46.73
$	30 Dibromofluoromethane	113	4.103	4.103	(0.979)	98567	50.9348	50.93
$	48 Toluene-d8	98	6.388	6.388	(0.833)	349750	46.6804	46.68
	53 1,1,2-Trichloroethane	83	6.840	6.847	(0.892)	76481	44.1456	44.14
	11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	158166	46.1969	46.19
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	143965	46.3187	46.31
	27 cis-1,2-Dichloroethene	96	3.537	3.530	(0.844)	102698	46.6863	46.68
	17 Methylene Chloride	84	2.312	2.313	(0.552)	97503	43.8933	43.89
	38 Trichloroethene	130	5.214	5.214	(1.049)	90499	47.8118	47.81
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	199528	46.1698	46.16



Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102514.D
Date : 25-OCT-2020 21:14
Client ID: ICV
Sample Info: VSTD050;VSTD050;2;;ICV
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

MSVOA06 -Logbook

Batch: 42425 **Analyst:** Presenta Cabascango

Date: 10-26-2020 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	10-26-2020 10:25 am	1.00	50 mL	50 mL	X102601.D	Liquid	Y	NA
	Auto find/ purged									
2	CCV	CCV	10-26-2020 10:46 am	1.00	50 mL	50 mL	X102602a.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
3	CCV	CCV	10-26-2020 11:07 am	1.00	50 mL	50 mL	X102603.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
4	CCB	SAMP	10-26-2020 11:28 am	1.00	50 mL	50 mL	X102604.D	Liquid	Y	NA
5	VLCSW-201026	LCS	10-26-2020 11:49 am	1.00	50 mL	50 mL	X102605.D	Liquid	Y	NA
	4.0 uL cal std/50 mL DI									
6	BLK	SAMP	10-26-2020 12:10 pm	1.00	50 mL	50 mL	X102606.D	Liquid	Y	NA
7	VBLKW-201026	MBLK	10-26-2020 12:31 pm	1.00	50 mL	50 mL	X102607.D	Liquid	Y	NA
8	HS20100719-07	SAMP	10-26-2020 12:52 pm	1.00	50 mL	50 mL	X102608.D	Liquid	Y	<2
9	HS20100719-03	SAMP	10-26-2020 01:13 pm	1.00	50 mL	50 mL	X102609.D	Liquid	Y	<2
10	HS20100719-06	SAMP	10-26-2020 01:34 pm	1.00	50 mL	50 mL	X102610.D	Liquid	Y	<2
11	HS20100719-04n/r	SAMP	10-26-2020 01:55 pm	1.00	50 mL	50 mL	X102611.D	Liquid	Y	<2
12	HS20100719-02	SAMP	10-26-2020 02:16 pm	5.00	10 mL	50 mL	X102612.D	Liquid	Y	<2
13	HS20100719-05n/r	SAMP	10-26-2020 02:38 pm	50.00	1 mL	50 mL	X102613.D	Liquid	Y	<2
14	HS20100719-05	SAMP	10-26-2020 02:59 pm	5.00	10 mL	50 mL	X102614.D	Liquid	Y	<2
15	HS20100924-31	SAMP	10-26-2020 03:20 pm	5.00	10 mL	50 mL	X102615.D	Liquid	Y	<2
16	HS20100719-05	SAMP	10-26-2020 03:41 pm	200.0(	250 µL	50 mL	X102616.D	Liquid	Y	<2
17	HS20100719-05MS	MS	10-26-2020 04:02 pm	200.0(	250 µL	50 mL	X102617.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
18	HS20100719-05MSD	MSD	10-26-2020 04:23 pm	200.0(	250 µL	50 mL	X102618.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
19	HS20100719-04	SAMP	10-26-2020 04:44 pm	10.00	5 mL	50 mL	X102619.D	Liquid	Y	<2
20	HS20100719-04	SAMP	10-26-2020 05:05 pm	100.0(	500 µL	50 mL	X102620.D	Liquid	Y	<2
21	HS20100719-02	SAMP	10-26-2020 05:26 pm	250.0(	200 µL	50 mL	X102621.D	Liquid	Y	<2
22	HS20100719-06	SAMP	10-26-2020 05:47 pm	5.00	10 mL	50 mL	X102622.D	Liquid	Y	<2
23	HS20100924-31	SAMP	10-26-2020 06:08 pm	50.00	1 mL	50 mL	X102623.D	Liquid	Y	<2
24	HS20100779-10	SAMP	10-26-2020 06:29 pm	1.00	50 mL	50 mL	X102624.D	Liquid	Y	<2
25	HS20100779-01	SAMP	10-26-2020 06:50 pm	1.00	50 mL	50 mL	X102625.D	Liquid	Y	<2
26	HS20100779-08	SAMP	10-26-2020 07:11 pm	1.00	50 mL	50 mL	X102626.D	Liquid	Y	<2
27	HS20100779-06	SAMP	10-26-2020 07:32 pm	10.00	5 mL	50 mL	X102627.D	Liquid	Y	<2
28	HS20100779-06	SAMP	10-26-2020 07:53 pm	100.0(	500 µL	50 mL	X102628.D	Liquid	Y	NA
29	CCV-END	CCV	10-26-2020 08:14 pm	1.00	50 mL	50 mL	X102629.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
30	BFB	TUNE	10-26-2020 08:35 pm	1.00	50 mL	50 mL	Y102601.D	Liquid	Y	NA
	Auto find/ purged									
31	CCV	CCV	10-26-2020 08:56 pm	1.00	50 mL	50 mL	Y102602a.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
32	CCV	CCV	10-26-2020 09:17 pm	1.00	50 mL	50 mL	Y102603.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
33	CCB	SAMP	10-26-2020 09:38 pm	1.00	50 mL	50 mL	Y102604.D	Liquid	Y	NA
34	VLCSW-201026	LCS	10-26-2020 09:59 pm	1.00	50 mL	50 mL	Y102605.D	Liquid	Y	NA
	4.0 uL cal std/50 mL DI									
35	VBLKW-201026	MBLK	10-26-2020 10:20 pm	1.00	50 mL	50 mL	Y102606.D	Liquid	Y	NA

MSVOA06 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
36	VBLKW-201026	MBLK	10-26-2020 10:41 pm	1.00	50 mL	50 mL	Y102607.D	Liquid	Y	NA
37	HS20101172-08	SAMP	10-26-2020 11:02 pm	1.00	50 mL	50 mL	Y102608.D	Liquid	Y	NA
38	HS20101172-09	SAMP	10-26-2020 11:23 pm	1.00	50 mL	50 mL	Y102609.D	Liquid	Y	NA
39	HS20101174-06	SAMP	10-26-2020 11:44 pm	1.00	50 mL	50 mL	Y102610.D	Liquid	Y	NA
40	HS20101174-07	SAMP	10-27-2020 12:05 am	1.00	50 mL	50 mL	Y102611.D	Liquid	Y	NA
41	HS20101172-01	SAMP	10-27-2020 12:27 am	1.00	50 mL	50 mL	Y102612.D	Liquid	Y	NA
42	HS20101172-01MS	MS	10-27-2020 12:48 am	1.00	50 mL	50 mL	Y102613.D	Liquid	Y	NA
	3.50 uL cal std/40 mL samp									
43	HS20101172-01MSD	MSD	10-27-2020 01:09 am	1.00	50 mL	50 mL	Y102614.D	Liquid	Y	NA
	3.50 uL cal std/40 mL samp									
44	HS20101260-06	SAMP	10-27-2020 01:30 am	1.00	50 mL	50 mL	Y102615.D	Liquid	Y	NA
45	HS20101172-02	SAMP	10-27-2020 01:51 am	1.00	50 mL	50 mL	Y102616.D	Liquid	Y	NA
46	HS20101172-03	SAMP	10-27-2020 02:12 am	1.00	50 mL	50 mL	Y102617.D	Liquid	Y	NA
47	HS20101172-04	SAMP	10-27-2020 02:33 am	1.00	50 mL	50 mL	Y102618.D	Liquid	Y	NA
48	HS20101172-05	SAMP	10-27-2020 02:54 am	1.00	50 mL	50 mL	Y102619.D	Liquid	Y	NA
49	HS20101172-06	SAMP	10-27-2020 03:15 am	1.00	50 mL	50 mL	Y102620.D	Liquid	Y	NA
50	HS20101172-07	SAMP	10-27-2020 03:36 am	1.00	50 mL	50 mL	Y102621.D	Liquid	Y	NA
51	HS20101174-01	SAMP	10-27-2020 03:57 am	1.00	50 mL	50 mL	Y102622.D	Liquid	Y	NA
52	HS20101174-02	SAMP	10-27-2020 04:18 am	1.00	50 mL	50 mL	Y102623.D	Liquid	Y	NA
53	HS20101174-03	SAMP	10-27-2020 04:39 am	1.00	50 mL	50 mL	Y102624.D	Liquid	Y	NA
54	HS20101174-04	SAMP	10-27-2020 05:00 am	1.00	50 mL	50 mL	Y102625.D	Liquid	Y	NA
55	HS20101174-05	SAMP	10-27-2020 05:21 am	1.00	50 mL	50 mL	Y102626.D	Liquid	Y	NA
56	HS20101239-27	SAMP	10-27-2020 05:43 am	1.00	50 mL	50 mL	Y102627.D	Liquid	Y	NA
57	HS20101239-28	SAMP	10-27-2020 06:04 am	1.00	50 mL	50 mL	Y102628.D	Liquid	Y	NA
58	HS20101239-29	SAMP	10-27-2020 06:25 am	1.00	50 mL	50 mL	Y102629.D	Liquid	Y	NA
59	BLANK	SAMP	10-27-2020 06:46 am	1.00	50 mL	50 mL	Y102630.D	Liquid	Y	NA

Chemical	Value
SURR SPK ID	31106-51-06
IS ID	31106-51-06
CAL STD ID	31106-53-01/02
BFB ID	31106-51-06
pH Paper	634-64-10

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100719

	CLIENT SAMPLE NO.	SMC1 #	SMC2 #	SMC3 (TOL) #	OTHER (DCE) #	TOT OUT
01	VLCSW-201026	93	103	97	103	0
02	VBLKW-201026	86	88	97	85	0
03	HS20100719-07	86	91	100	85	0
04	HS20100719-03	88	87	97	83	0
05	HS20100719-06	88	88	95	84	0
06	HS20100719-02	85	89	97	85	0
07	HS20100719-05	86	90	96	87	0
08	HS20100719-05	87	85	99	84	0
09	HS20100719-05	87	88	93	85	0
10	HS20100719-05	88	88	94	85	0
11	HS20100719-04	89	88	97	87	0
12	HS20100719-04	86	88	98	87	0
13	HS20100719-02	85	88	95	86	0
14	HS20100719-06	89	85	99	85	0
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						

		QC LIMITS
SMC1	= 4-Bromofluorobenzene	(70-130)
SMC2	= Dibromofluoromethane	(70-130)
SMC3 (TOL)	= Toluene-d8	(0-130)
OTHER(DCE)	= 1,2-Dichloroethane-d4	(0-130)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 4
VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

VBLKW-201026

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100719

Lab File ID: X102607 Lab Sample ID: VBLKW-201026

Date Analyzed: 10/26/20 Time Analyzed: 1231

GC Column: DB624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Instrument ID: VOA6

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VLCSW-201026	VLCSW-201026	X102605	1149
02	HS20100719-0	HS20100719-07	X102608	1252
03	HS20100719-0	HS20100719-03	X102609	1313
04	HS20100719-0	HS20100719-06	X102610	1334
05	HS20100719-0	HS20100719-02	X102612	1416
06	HS20100719-0	HS20100719-05	X102614	1459
07	HS20100719-0	HS20100719-05	X102616	1541
08	HS20100719-0	HS20100719-05M	X102617	1602
09	HS20100719-0	HS20100719-05M	X102618	1623
10	HS20100719-0	HS20100719-04	X102619	1644
11	HS20100719-0	HS20100719-04	X102620	1705
12	HS20100719-0	HS20100719-02	X102621	1726
13	HS20100719-0	HS20100719-06	X102622	1747
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100719

Lab File ID: X102601 BFB Injection Date: 10/26/20

Instrument ID: VOA6 BFB Injection Time: 1025

GC Column: DB624 ID: 0.25 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	24.8
75	30.0 - 60.0% of mass 95	58.6
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.9
173	Less than 2.0% of mass 174	1.2 (1.4)1
174	Greater than 50.0% of mass 95	83.0
175	5.0 - 9.0% of mass 174	6.3 (7.6)1
176	95.0 - 101.0% of mass 174	80.7 (97.2)1
177	5.0 - 9.0% of mass 176	5.8 (7.1)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CCV	CCV	X102603	10/26/20	1107
02	VLCSW-201026	VLCSW-201026	X102605	10/26/20	1149
03	VBLKW-201026	VBLKW-201026	X102607	10/26/20	1231
04	HS20100719-0	HS20100719-07	X102608	10/26/20	1252
05	HS20100719-0	HS20100719-03	X102609	10/26/20	1313
06	HS20100719-0	HS20100719-06	X102610	10/26/20	1334
07	HS20100719-0	HS20100719-02	X102612	10/26/20	1416
08	HS20100719-0	HS20100719-05	X102614	10/26/20	1459
09	HS20100719-0	HS20100719-05	X102616	10/26/20	1541
10	HS20100719-0	HS20100719-05M	X102617	10/26/20	1602
11	HS20100719-0	HS20100719-05M	X102618	10/26/20	1623
12	HS20100719-0	HS20100719-04	X102619	10/26/20	1644
13	HS20100719-0	HS20100719-04	X102620	10/26/20	1705
14	HS20100719-0	HS20100719-02	X102621	10/26/20	1726
15	HS20100719-0	HS20100719-06	X102622	10/26/20	1747
16	CCV-END	CCV-END	X102629	10/26/20	2014
17					
18					
19					
20					
21					
22					

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100719

Instrument ID: VOA6 Calibration Date: 10/26/20 Time: 1107

Lab File ID: X102603 Init. Calib. Date(s): 10/25/20 10/25/20

Init. Calib. Times: 1642 2011

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
1,2-Dichloroethane	0.5400000	0.5286637	0.5286637	0.1	2.10	20.00	AVRG
Trichloroethene	0.3290000	0.3122459	0.3122459	0.2	5.09	20.00	AVRG
Methylene Chloride	0.7900000	0.6843770	0.6843770	0.1	13.37	20.00	AVRG
cis-1,2-Dichloroethene	0.7820000	0.7254736	0.7254736	0.1	7.23	20.00	AVRG
Vinyl Chloride	1.5370000	1.3600969	1.3600969	0.1	11.51	20.00	AVRG
1,1,2-Trichloroethane	0.3250000	0.2968675	0.2968675	0.1	8.66	20.00	AVRG
1,1-Dichloroethene	1.2180000	1.0596858	1.0596858	0.1	13.00	20.00	AVRG
4-Bromofluorobenzene	46.902598	50.000000	0.4474559	0.1	6.19	20.00	LINR
Dibromofluoromethane	0.6880000	0.7019917	0.7019917	0.1	-2.03	20.00	AVRG
Toluene-d8	46.100052	50.000000	1.2962311	0.1	7.80	20.00	LINR
1,2-Dichloroethane-d4	49.160843	50.000000	0.8606376	0.1	1.68	20.00	LINR

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100719

Instrument ID: VOA6 Calibration Date: 10/26/20 Time: 2014

Lab File ID: X102629 Init. Calib. Date(s): 10/25/20 10/25/20

Init. Calib. Times: 1642 2011

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
1,2-Dichloroethane	0.5400000	0.4984226	0.4984226	0.1	7.70	50.00	AVRG
Trichloroethene	0.3290000	0.3095995	0.3095995	0.2	5.90	50.00	AVRG
Methylene Chloride	0.7900000	0.6582911	0.6582911	0.1	16.67	50.00	AVRG
cis-1,2-Dichloroethene	0.7820000	0.7131454	0.7131454	0.1	8.80	50.00	AVRG
Vinyl Chloride	1.5370000	1.2766780	1.2766780	0.1	16.94	50.00	AVRG
1,1,2-Trichloroethane	0.3250000	0.2945492	0.2945492	0.1	9.37	50.00	AVRG
1,1-Dichloroethene	1.2180000	1.0029701	1.0029701	0.1	17.65	50.00	AVRG
4-Bromofluorobenzene	46.957202	50.000000	0.4479999	0.1	6.08	50.00	LINR
Dibromofluoromethane	0.6880000	0.6941446	0.6941446	0.1	-0.89	50.00	AVRG
Toluene-d8	45.114201	50.000000	1.2674357	0.1	9.77	50.00	LINR
1,2-Dichloroethane-d4	51.495136	50.000000	0.9015288	0.1	-2.99	50.00	LINR

FORM VII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100719

Lab File ID (Standard): X102603 Date Analyzed: 10/26/20

Instrument ID: VOA6 Time Analyzed: 1107

GC Column: DB624 ID: 0.18 (mm) Heated Purge: (Y/N) N

		IS1(DFB) AREA #	RT #	IS2(CBZ) AREA #	RT #	IS3(DCB) AREA #	RT #
	12 HOUR STD	293682	4.97	274988	7.67	124539	9.66
	UPPER LIMIT	587364	5.47	549976	8.17	249078	10.16
	LOWER LIMIT	146841	4.47	137494	7.17	62270	9.16
	CLIENT SAMPLE NO.						
01	VLCSW-201026	260345	4.97	244745	7.67	103738	9.67
02	VBLKW-201026	235472	4.97	206693	7.67	80104	9.67
03	HS20100719-07	229668	4.97	201243	7.67	76991	9.67
04	HS20100719-03	234752	4.97	211324	7.67	80519	9.67
05	HS20100719-06	235488	4.97	217889	7.67	86687	9.67
06	HS20100719-02	232971	4.97	196268	7.67	70802	9.67
07	HS20100719-05	219794	4.97	195071	7.67	77137	9.67
08	HS20100719-05	231816	4.97	206613	7.67	80037	9.67
09	HS20100719-05	250963	4.97	232511	7.67	93700	9.66
10	HS20100719-05	251796	4.97	227316	7.67	95096	9.66
11	HS20100719-04	233911	4.97	210418	7.67	79046	9.67
12	HS20100719-04	239086	4.97	212565	7.67	77486	9.67
13	HS20100719-02	243767	4.97	213282	7.67	76921	9.67
14	HS20100719-06	239734	4.97	203325	7.67	77161	9.67
15							
16							
17							
18							
19							
20							

IS1 (DFB) = 1,4-Difluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100719

Lab File ID (Standard): X102603 Date Analyzed: 10/26/20

Instrument ID: VOA6 Time Analyzed: 1107

GC Column: DB624 ID: 0.18 (mm) Heated Purge: (Y/N) N

		IS4 AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	149818	4.19				
	UPPER LIMIT	299636	4.69				
	LOWER LIMIT	74909	3.69				
	CLIENT SAMPLE NO.						
01	VLCSW-201026	131163	4.19				
02	VBLKW-201026	132711	4.19				
03	HS20100719-07	129767	4.19				
04	HS20100719-03	133348	4.19				
05	HS20100719-06	133852	4.19				
06	HS20100719-02	128440	4.19				
07	HS20100719-05	123576	4.19				
08	HS20100719-05	133779	4.19				
09	HS20100719-05	136319	4.19				
10	HS20100719-05	135876	4.19				
11	HS20100719-04	131184	4.19				
12	HS20100719-04	134790	4.19				
13	HS20100719-02	134717	4.20				
14	HS20100719-06	137895	4.19				
15							
16							
17							
18							
19							
20							

IS4 = Pentafluorobenzene

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102601.D

Date : 26-OCT-2020 10:25

Client ID: BFB

Instrument: voa6.i

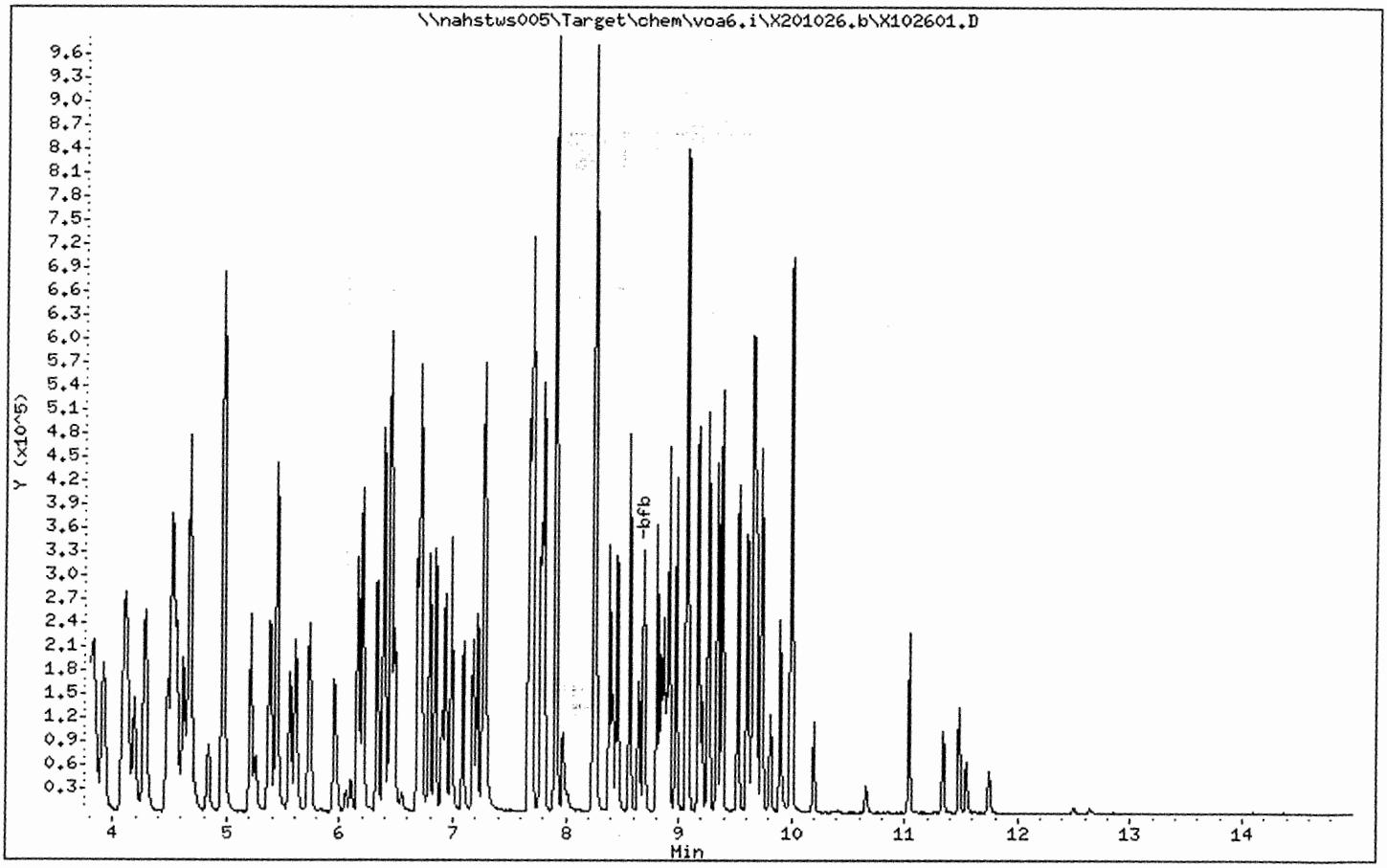
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102601.D

Date : 26-OCT-2020 10:25

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

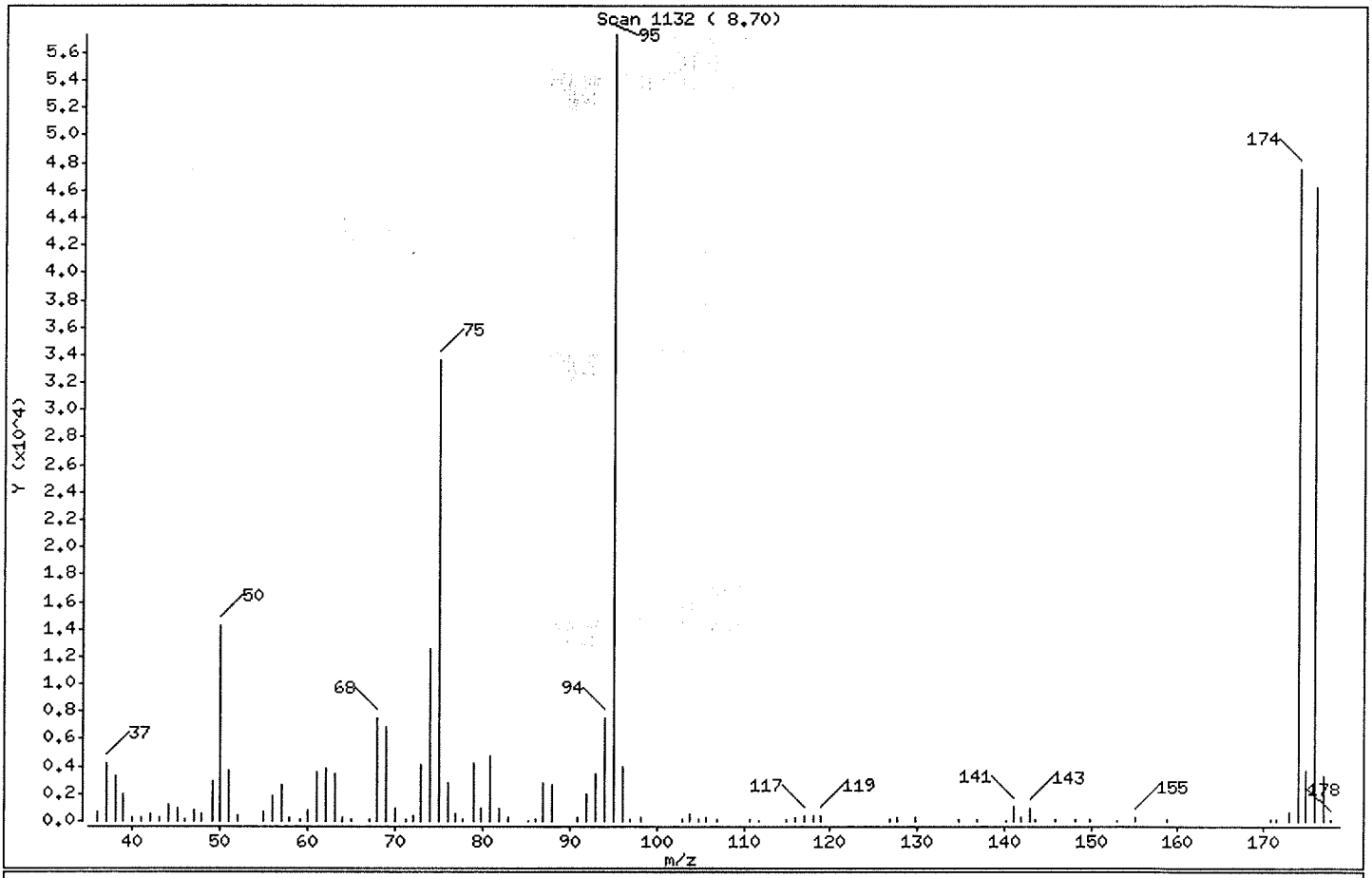
Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	24.83
75	30.00 - 60.00% of mass 95	58.63
96	5.00 - 9.00% of mass 95	6.90
173	Less than 2.00% of mass 174	1.20 (1.45)
174	Greater than 50.00% of mass 95	83.04
175	5.00 - 9.00% of mass 174	6.32 (7.61)
176	95.00 - 101.00% of mass 174	80.75 (97.24)
177	5.00 - 9.00% of mass 176	5.77 (7.15)

Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102601.D

Date : 26-OCT-2020 10:25

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

Data File: X102601.D
Spectrum: Scan 1132 (8.70)
Location of Maximum: 95.00
Number of points: 93

m/z	Y	m/z	Y	m/z	Y	m/z	Y
35.90	655	62.00	3791	88.00	2587	134.70	75
37.00	4272	63.00	3400	90.90	277	136.80	67
38.00	3332	64.00	224	91.90	2000	140.10	64
38.90	1935	65.00	69	92.90	3401	140.90	1008
39.90	321	67.10	183	94.00	7446	141.90	322
41.00	286	68.00	7470	95.00	57304	142.80	969
42.10	490	69.00	6795	96.00	3954	143.60	93
43.00	318	70.00	884	96.90	85	145.90	134
44.10	1148	71.20	136	98.10	292	148.00	197
45.10	885	72.00	342	102.90	124	149.80	107
45.90	188	73.00	4020	103.90	494	152.90	64
47.00	745	74.00	12554	104.90	129	155.00	200
47.80	479	75.00	33600	105.80	310	158.80	78
49.00	2934	76.00	2743	106.90	90	170.90	92
50.00	14228	76.90	473	110.80	94	171.50	124
51.00	3695	77.70	169	111.80	57	172.90	688
52.00	378	78.90	4221	114.90	131	173.90	47584
55.00	676	79.90	957	115.90	225	174.90	3623
56.00	1888	80.90	4804	117.00	446	175.90	46272
57.00	2635	81.90	891	118.00	350	176.90	3307
57.80	214	83.00	299	118.90	451	177.80	124
59.10	136	85.20	51	126.70	75		
60.00	809	86.10	97	127.70	220		
61.00	3511	86.90	2781	129.70	234		

Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102603.D Page 1
Report Date: 30-Nov-2020 13:31

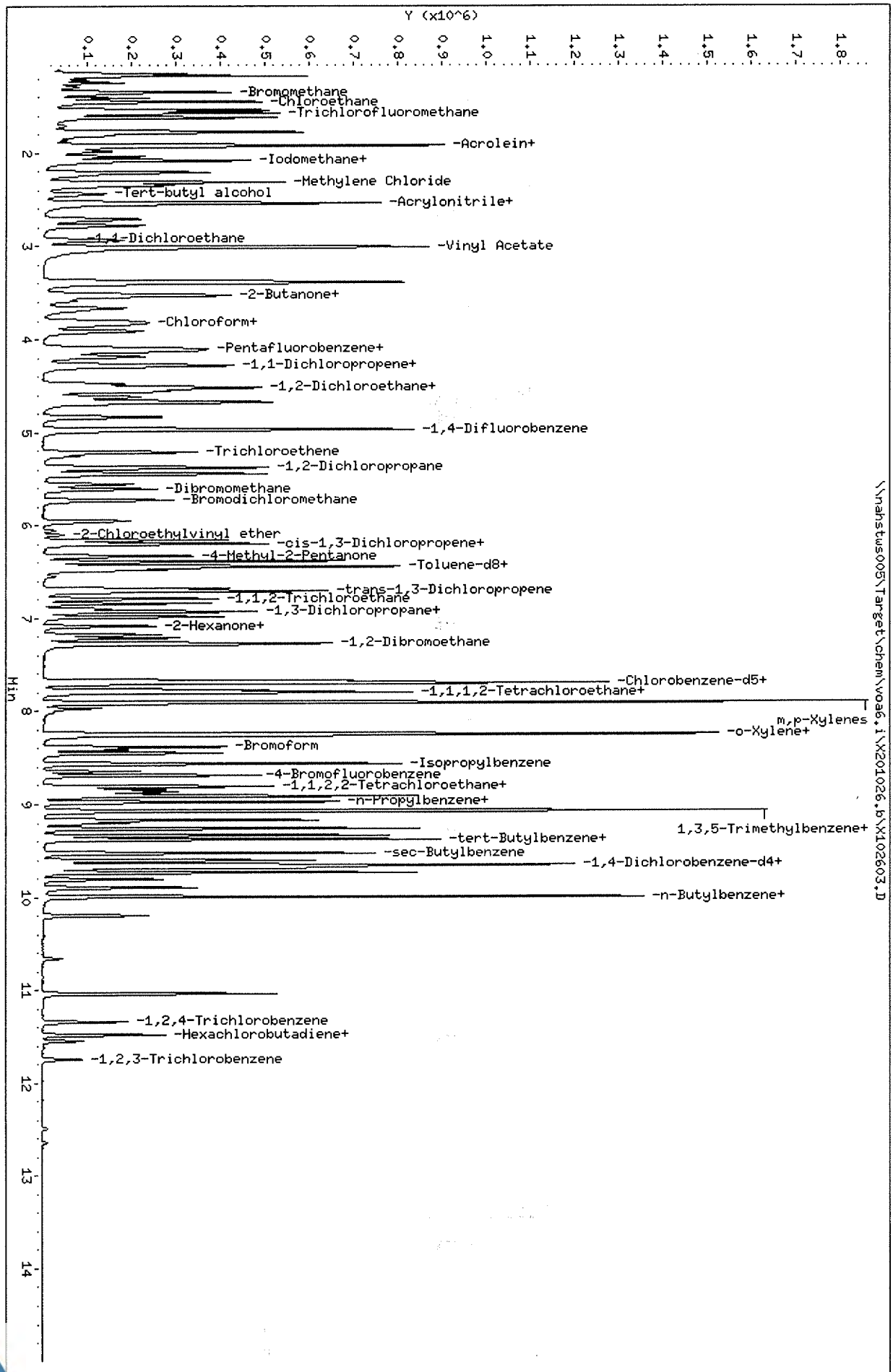
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201026.b\X102603.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 26-OCT-2020 11:07
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201026.b\8260W.m
Meth Date : 30-Nov-2020 13:31 voa6.i Quant Type: ISTD
Cal Date : 25-OCT-2020 19:09 Cal File: X102508.D
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	149818	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	293682	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	274988	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	124539	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.070)	128939	50.0000	49.16
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	123045	50.0000	46.90
$ 30 Dibromofluoromethane	113	4.110	4.110	(0.981)	105171	50.0000	50.99
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	356448	50.0000	46.10
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	81635	50.0000	45.63
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	158760	50.0000	43.50
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	155259	50.0000	48.94
27 cis-1,2-Dichloroethene	96	3.537	3.537	(0.844)	108689	50.0000	46.36
17 Methylene Chloride	84	2.313	2.313	(0.552)	102532	50.0000	43.30
38 Trichloroethene	130	5.214	5.214	(1.049)	91701	50.0000	47.47
5 Vinyl Chloride	62	1.145	1.145	(0.273)	203767	50.0000	44.24



Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102603.D
Date : 26-OCT-2020 11:07
Client ID: CCV
Sample Info: CCV;CCV;2;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

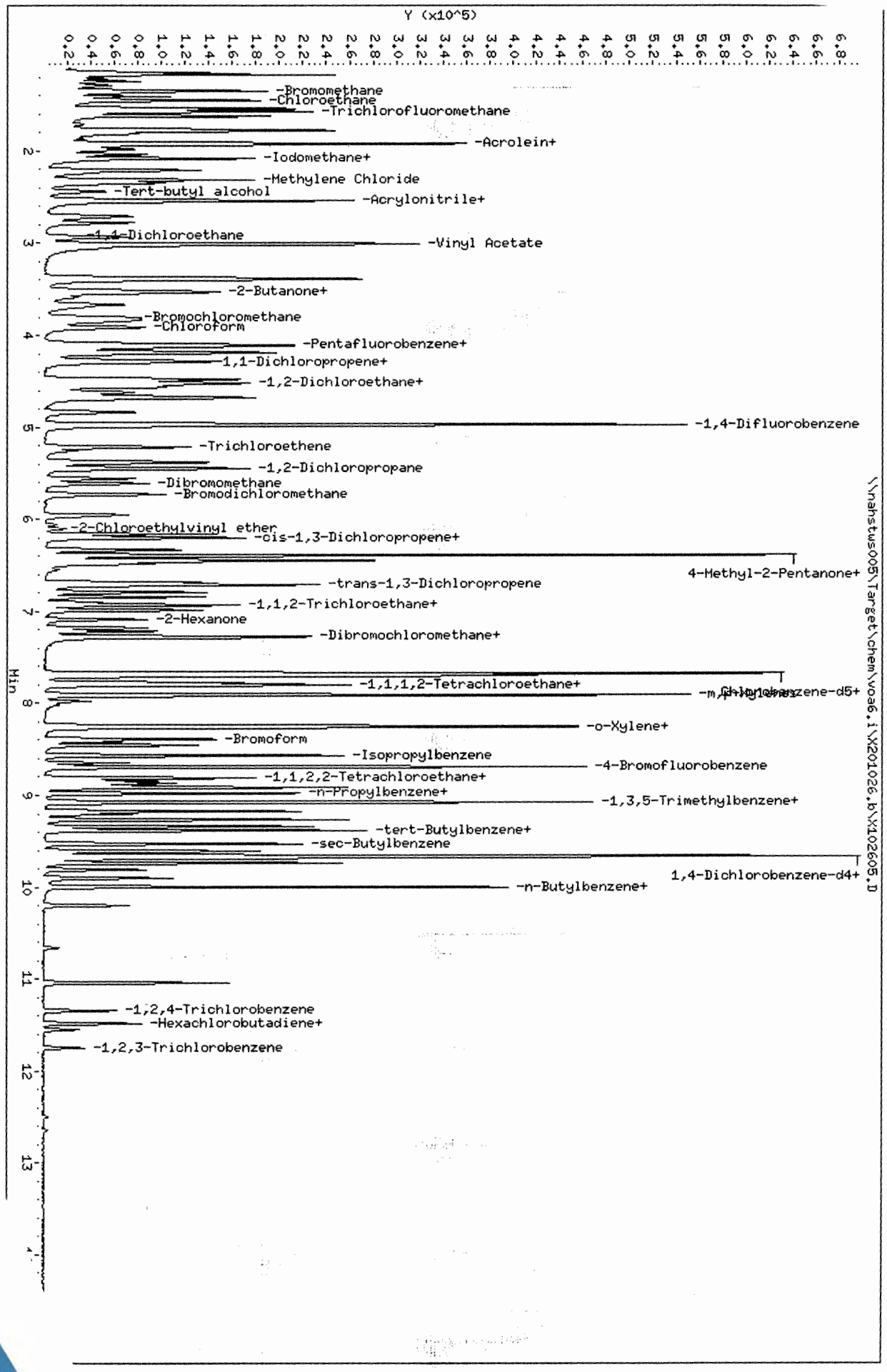
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201026.b\X102605.D
Lab Smp Id: VLCSW-201026 Client Smp ID: VLCSW-201026
Inj Date : 26-OCT-2020 11:49
Operator : PC Inst ID: voa6.i
Smp Info : VLCSW-201026;VLCSW-201026;3;;LCS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201026.b\8260W.m
Meth Date : 30-Nov-2020 13:31 voa6.i Quant Type: ISTD
Cal Date : 25-OCT-2020 19:09 Cal File: X102508.D
Als bottle: 5 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	131163	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	260345	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	244745	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	103738	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.070)	117899	51.3436	51.34
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	108634	46.5423	46.54
$ 30 Dibromofluoromethane	113	4.103	4.110	(0.979)	92788	51.3885	51.38
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	334791	48.5543	48.55
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	28793	18.0859	18.08
11 1,1-Dichloroethene	96	1.926	1.919	(0.460)	62137	19.4510	19.45
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	56436	20.0710	20.07
27 cis-1,2-Dichloroethene	96	3.537	3.537	(0.844)	39823	19.4023	19.40
17 Methylene Chloride	84	2.313	2.313	(0.552)	35975	17.3569	17.35
38 Trichloroethene	130	5.214	5.214	(1.049)	34994	20.4361	20.43
5 Vinyl Chloride	62	1.145	1.145	(0.273)	79745	19.7764	19.77



Data File: \\nahstus005\Target\chem\voa6.i\X201026.b\X102605.D
Date : 26-OCT-2020 11:49
Client ID: WLCSW-201026
Sample Info: WLCSW-201026;WLCSW-201026;3;;LCS
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

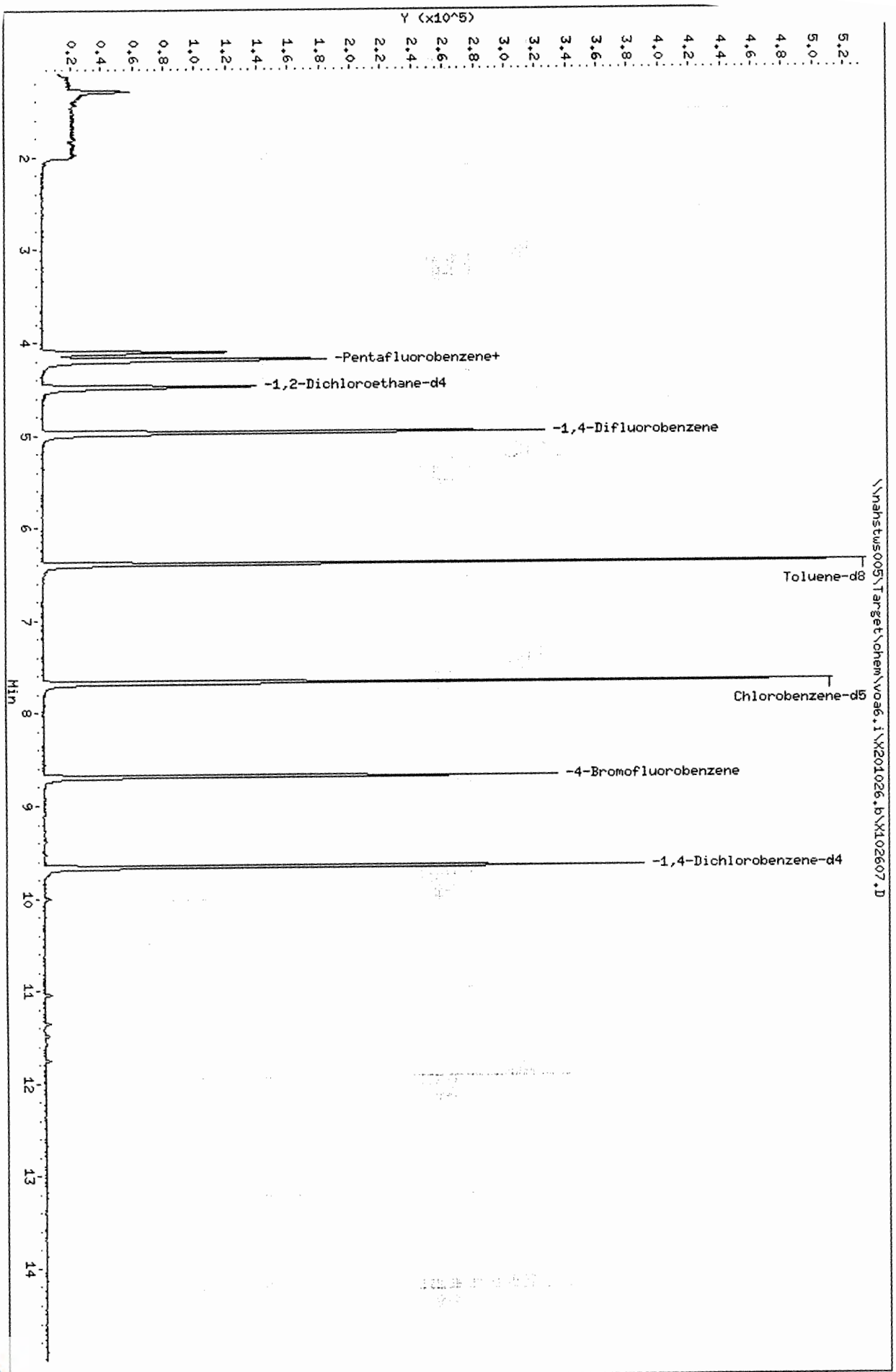
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201026.b\X102607.D
Lab Smp Id: VBLKW-201026 Client Smp ID: VBLKW-201026
Inj Date : 26-OCT-2020 12:31
Operator : PC Inst ID: voa6.i
Smp Info : VBLKW-201026;VBLKW-201026;3;;BLANK
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201026.b\8260W.m
Meth Date : 30-Nov-2020 13:31 voa6.i Quant Type: ISTD
Cal Date : 25-OCT-2020 19:09 Cal File: X102508.D
Als bottle: 7 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	132711	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	235472	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	206693	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	80104	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.483	(1.068)	98785	42.5232	42.52
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	84555	43.0515	43.05
$ 30 Dibromofluoromethane	113	4.111	4.110	(0.981)	80021	43.8008	43.80
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	283255	48.6398	48.63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Date : 26-OCT-2020 12:31
Client ID: VBLKW-201026
Sample Info: VBLKW-201026;VBLKW-201026;3;;BLANK
Purge Volume: 5.0
Column phase: DB624
Instrument: voa6.i
Operator: PC
Column diameter: 0.18
Y (x10^5)
-Pentafluorobenzene+
-1,2-Dichloroethane-d4
-1,4-Difluorobenzene
Toluene-d8
Chlorobenzene-d5
-4-Bromofluorobenzene
-1,4-Dichlorobenzene-d4
\\nahstws005\Target\chem\voa6.i\X201026.b\X102607.D
Min

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201026.b\X102608.D
Lab Smp Id: HS20100719-07 Client Smp ID: HS20100719-07
Inj Date : 26-OCT-2020 12:52
Operator : PC Inst ID: voa6.i
Smp Info : HS20100719-07;HS20100719-07;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201026.b\8260W.m
Meth Date : 30-Nov-2020 13:37 dev.giga Quant Type: ISTD
Cal Date : 25-OCT-2020 19:09 Cal File: X102508.D
Als bottle: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

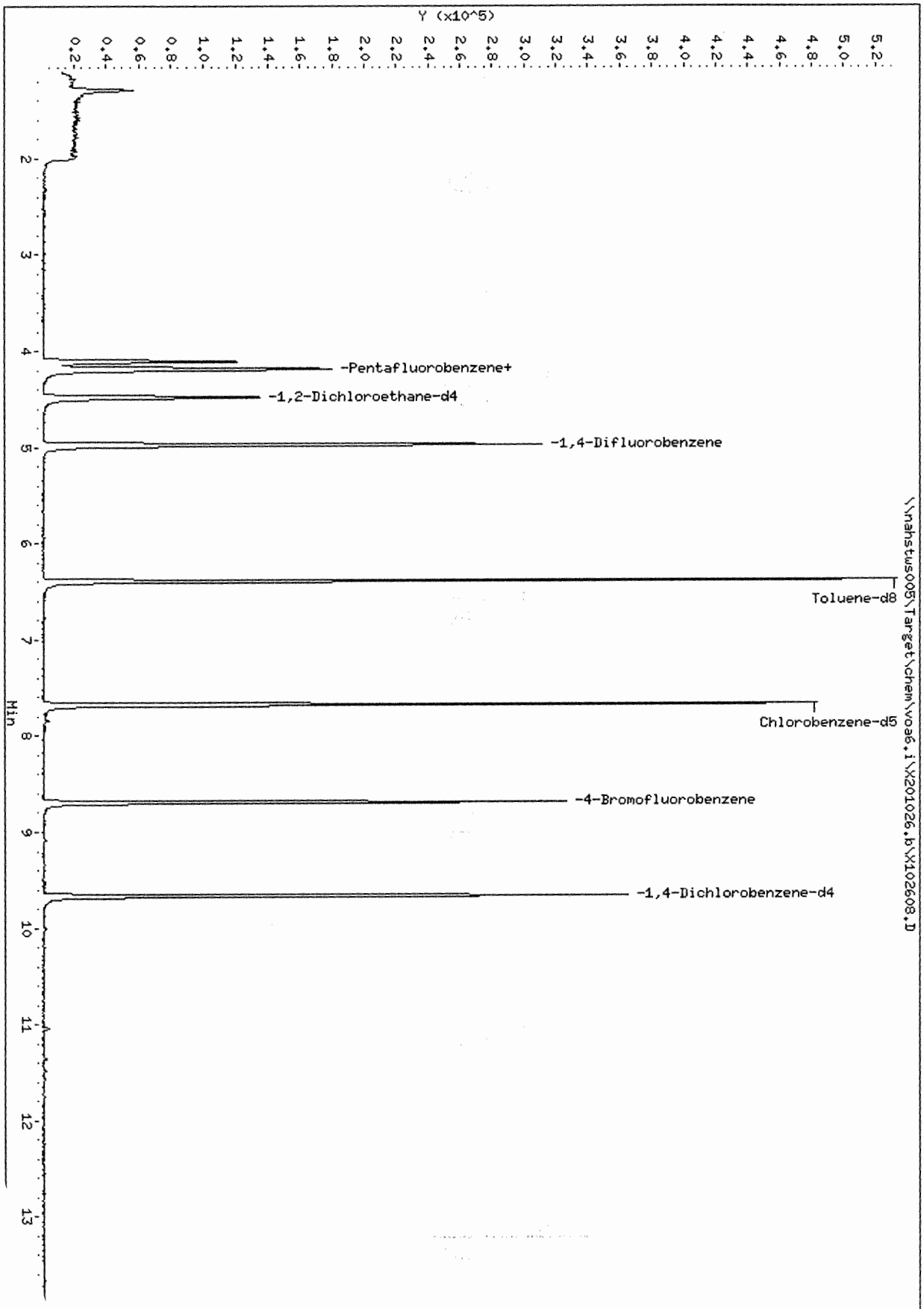
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	129767	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	229668	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	201243	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	76991	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.070)	96368	42.4239	42.42
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	82495	43.1360	43.13
$ 30 Dibromofluoromethane	113	4.110	4.111	(0.981)	81423	45.5793	45.57
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	285239	50.2480	50.24

Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102608.D
Date : 26-OCT-2020 12:52
Client ID: HS20100719-07
Sample Info: HS20100719-07;HS20100719-07;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102609.D Page 1
Report Date: 30-Nov-2020 13:41

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201026.b\X102609.D
Lab Smp Id: HS20100719-03 Client Smp ID: HS20100719-03
Inj Date : 26-OCT-2020 13:13
Operator : PC Inst ID: voa6.i
Smp Info : HS20100719-03;HS20100719-03;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201026.b\8260W.m
Meth Date : 30-Nov-2020 13:37 dev.giga Quant Type: ISTD
Cal Date : 25-OCT-2020 19:09 Cal File: X102508.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

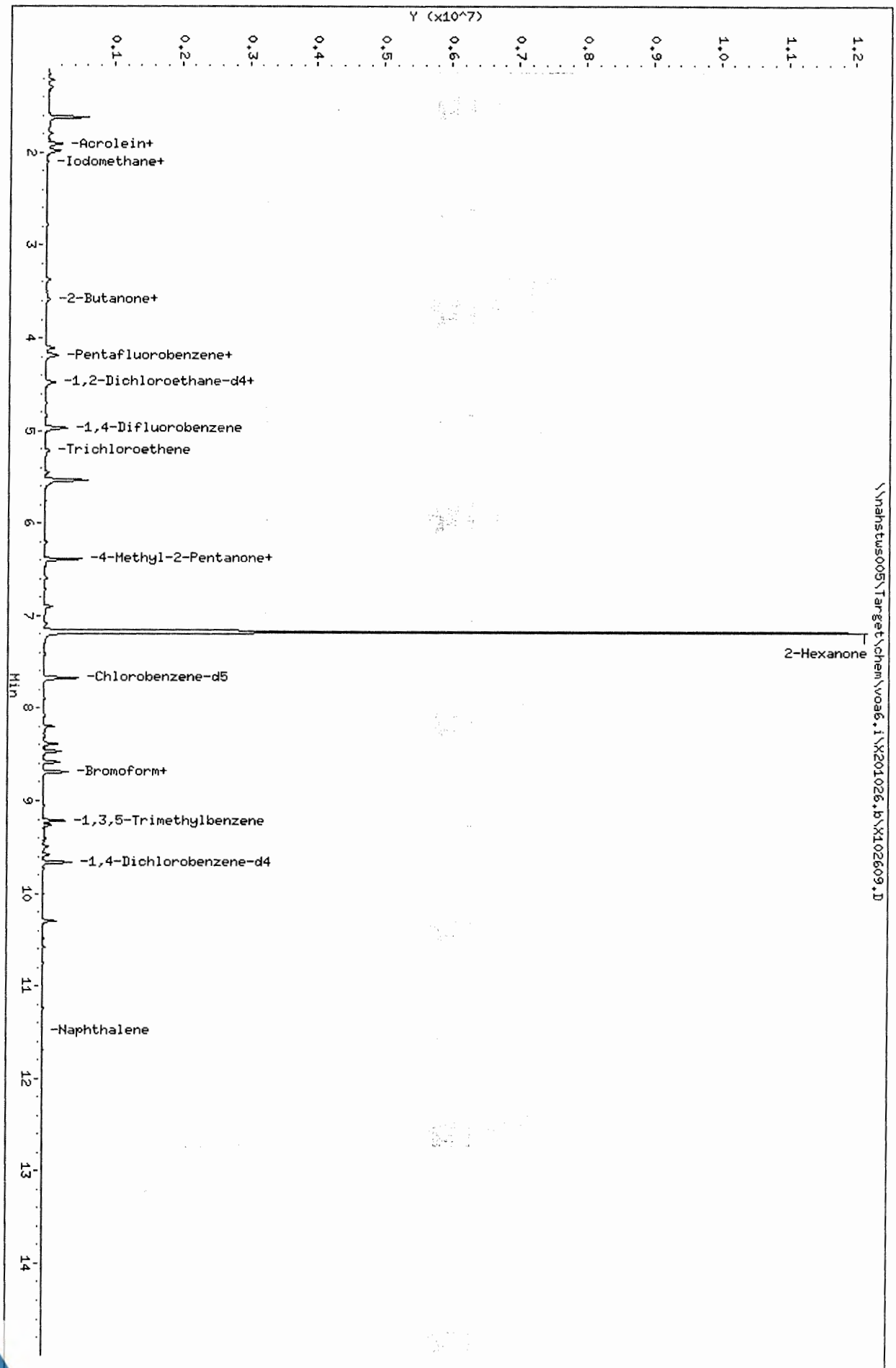
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	133348	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	234752	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	211324	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	80519	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.483	(1.068)	97101	41.5993	41.59
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	88224	43.8943	43.89
$ 30 Dibromofluoromethane	113	4.110	4.111	(0.981)	79614	43.3699	43.36
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	288810	48.5116	48.51
27 cis-1,2-Dichloroethene	96	3.537	3.538	(0.844)	8516	4.08111	4.08(a)
38 Trichloroethene	130	5.214	5.214	(1.049)	9026	5.84574	5.84

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).



Data File: \\nahstws005\Target\chem\voa6,i\X201026,b\X102609,D
Date : 26-OCT-2020 13:13
Client ID: HS20100719-03
Sample Info: HS20100719-03;HS20100719-03;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6,i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102609.D

Date : 26-OCT-2020 13:13

Client ID: HS20100719-03

Instrument: voa6.i

Sample Info: HS20100719-03;HS20100719-03;;;

Purge Volume: 5.0

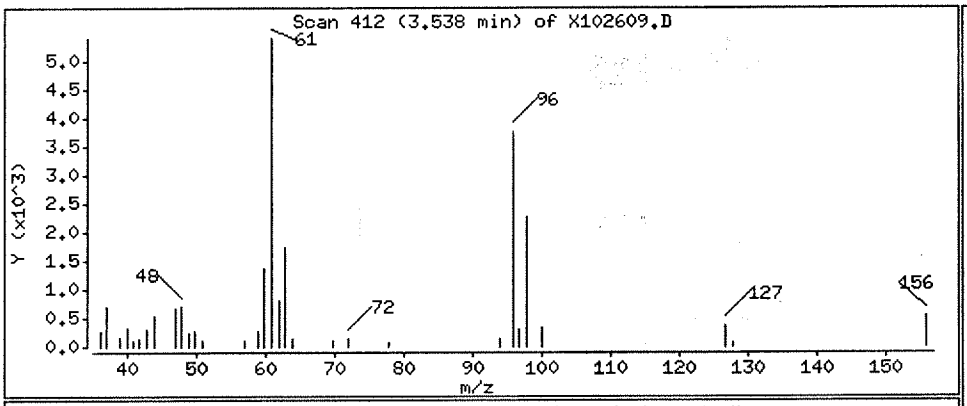
Operator: PC

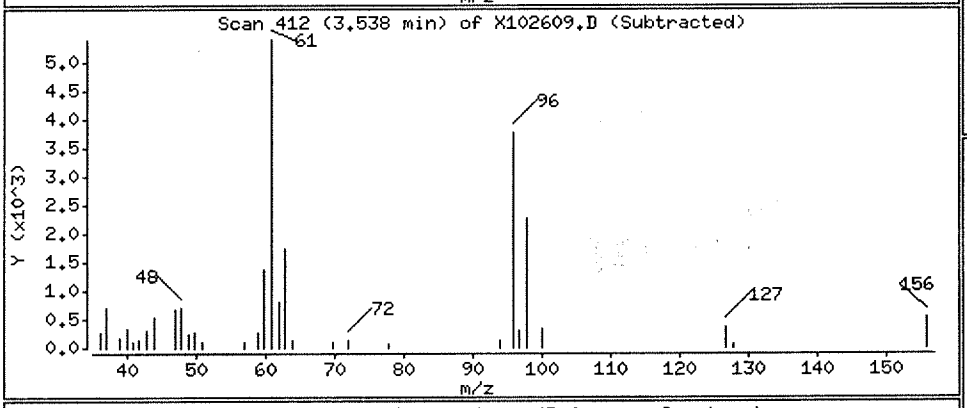
Column phase: DB624

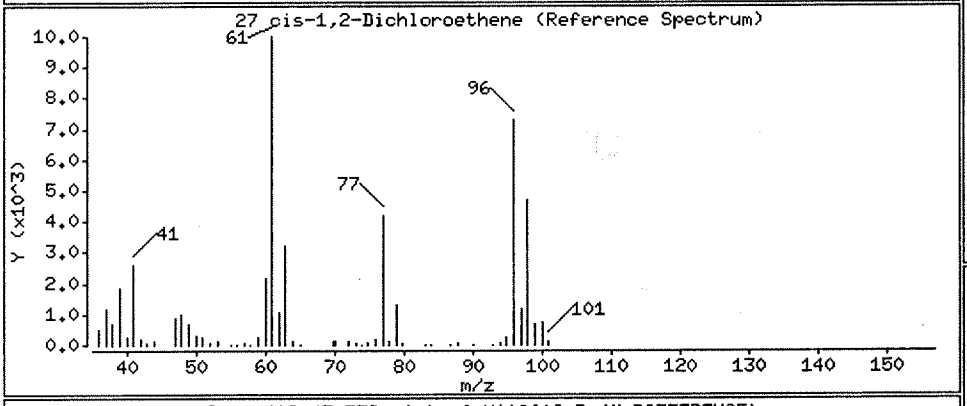
Column diameter: 0.18

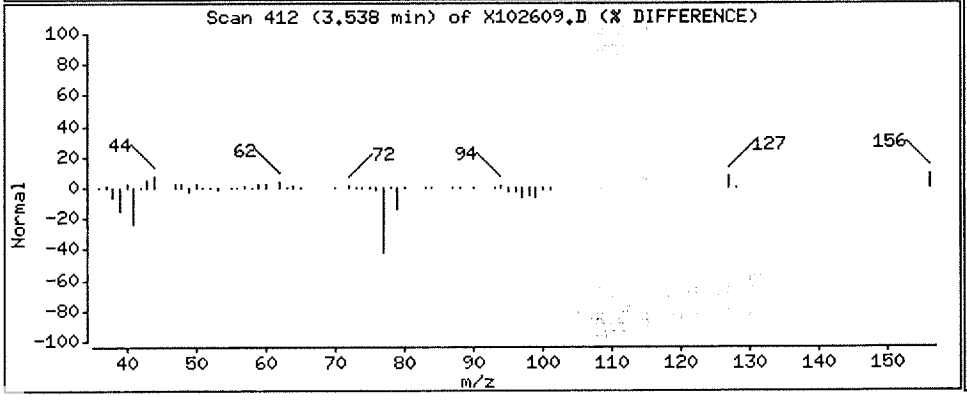
27 cis-1,2-Dichloroethene

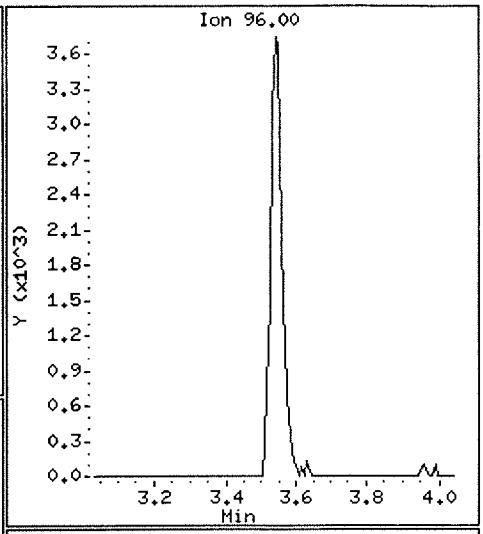
Concentration: 4.08 ug/l

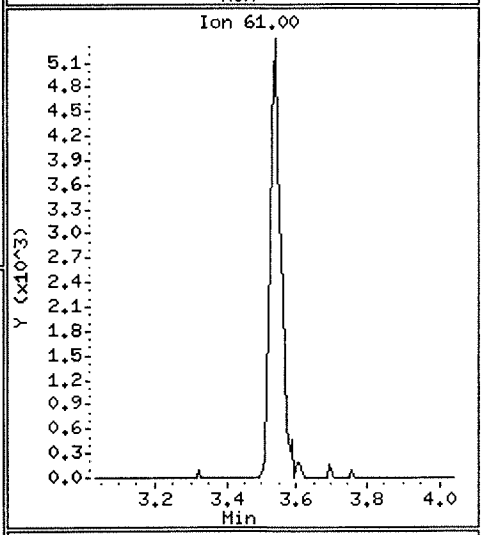


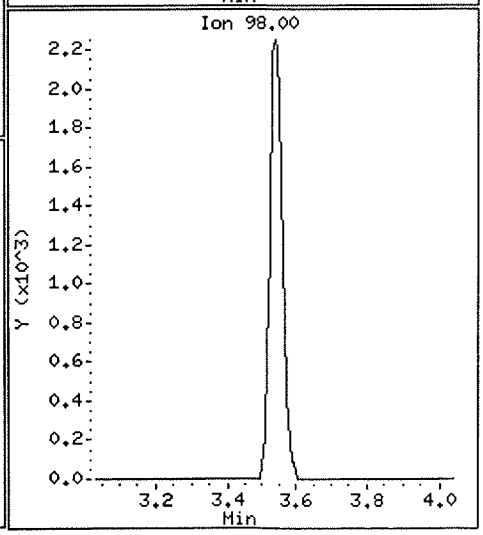












Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102609.D

Date : 26-OCT-2020 13:13

Client ID: HS20100719-03

Instrument: voa6.i

Sample Info: HS20100719-03;HS20100719-03;;;

Purge Volume: 5.0

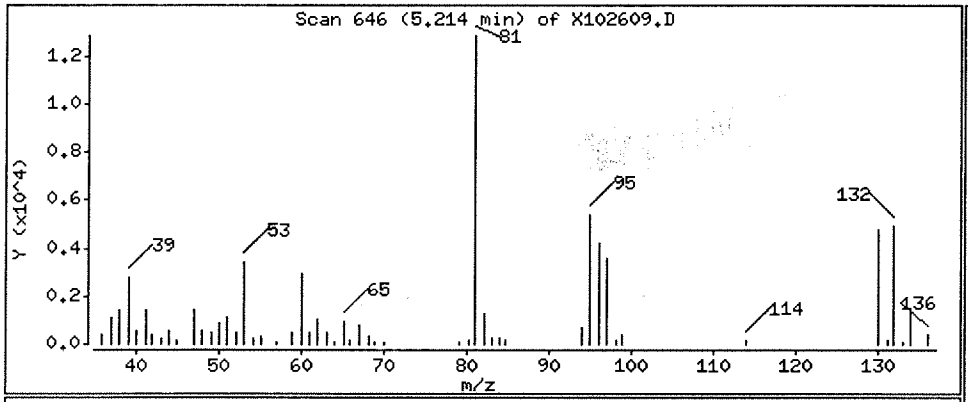
Operator: PC

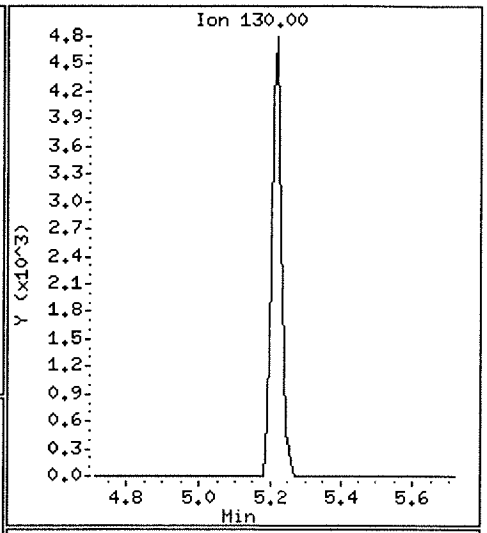
Column phase: DB624

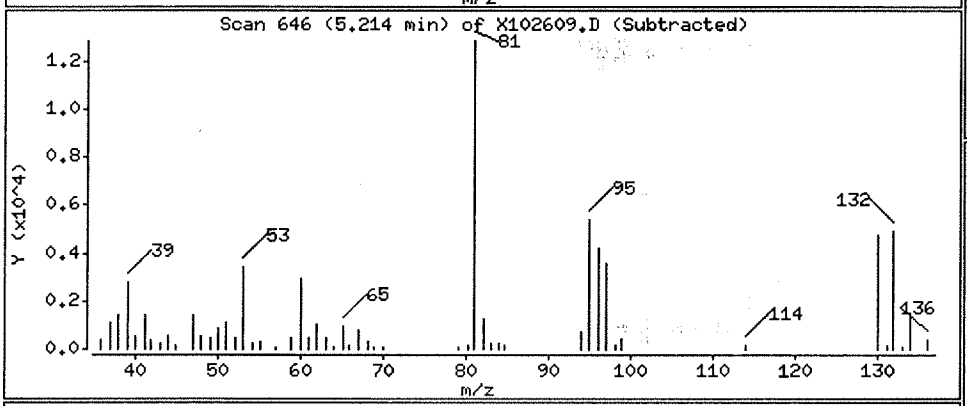
Column diameter: 0.18

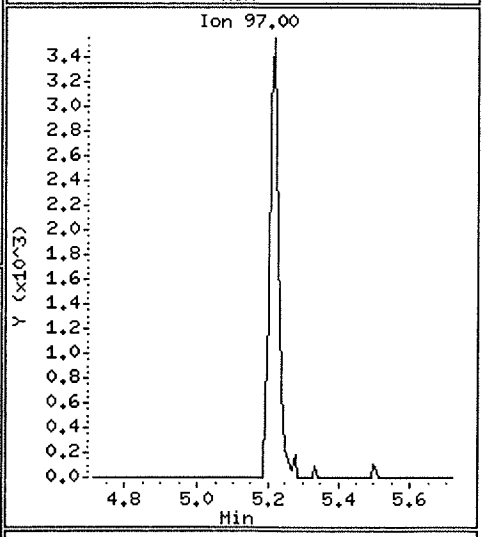
38 Trichloroethene

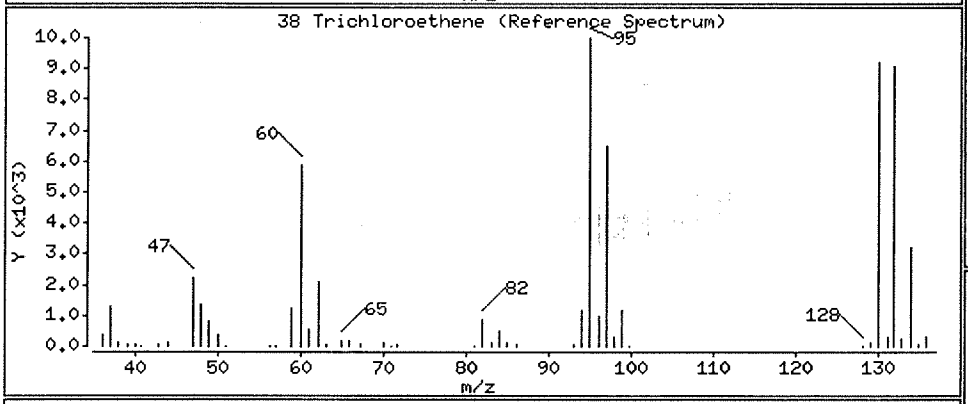
Concentration: 5.84 ug/l

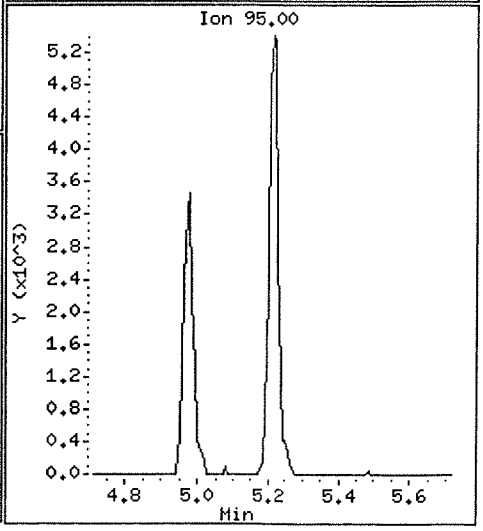


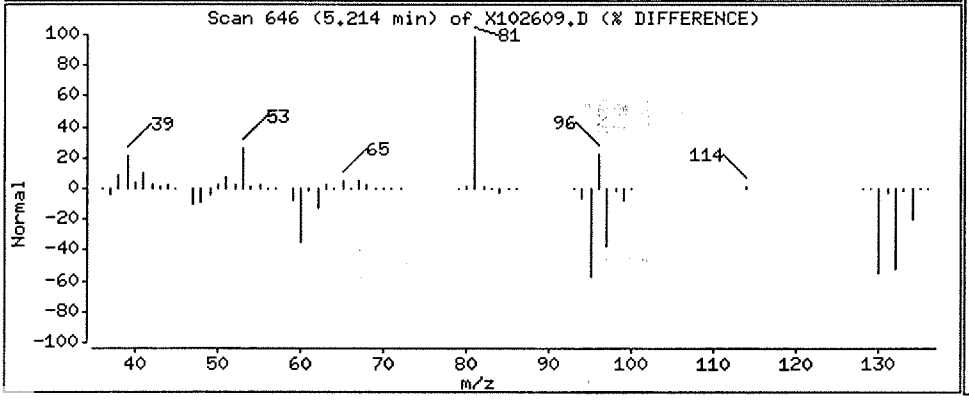












ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201026.b\X102610.D
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Inj Date : 26-OCT-2020 13:34
Operator : PC Inst ID: voa6.i
Smp Info : HS20100719-06;HS20100719-06;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201026.b\8260W.m
Meth Date : 30-Nov-2020 13:37 dev.giga Quant Type: ISTD
Cal Date : 25-OCT-2020 19:09 Cal File: X102508.D
Als bottle: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

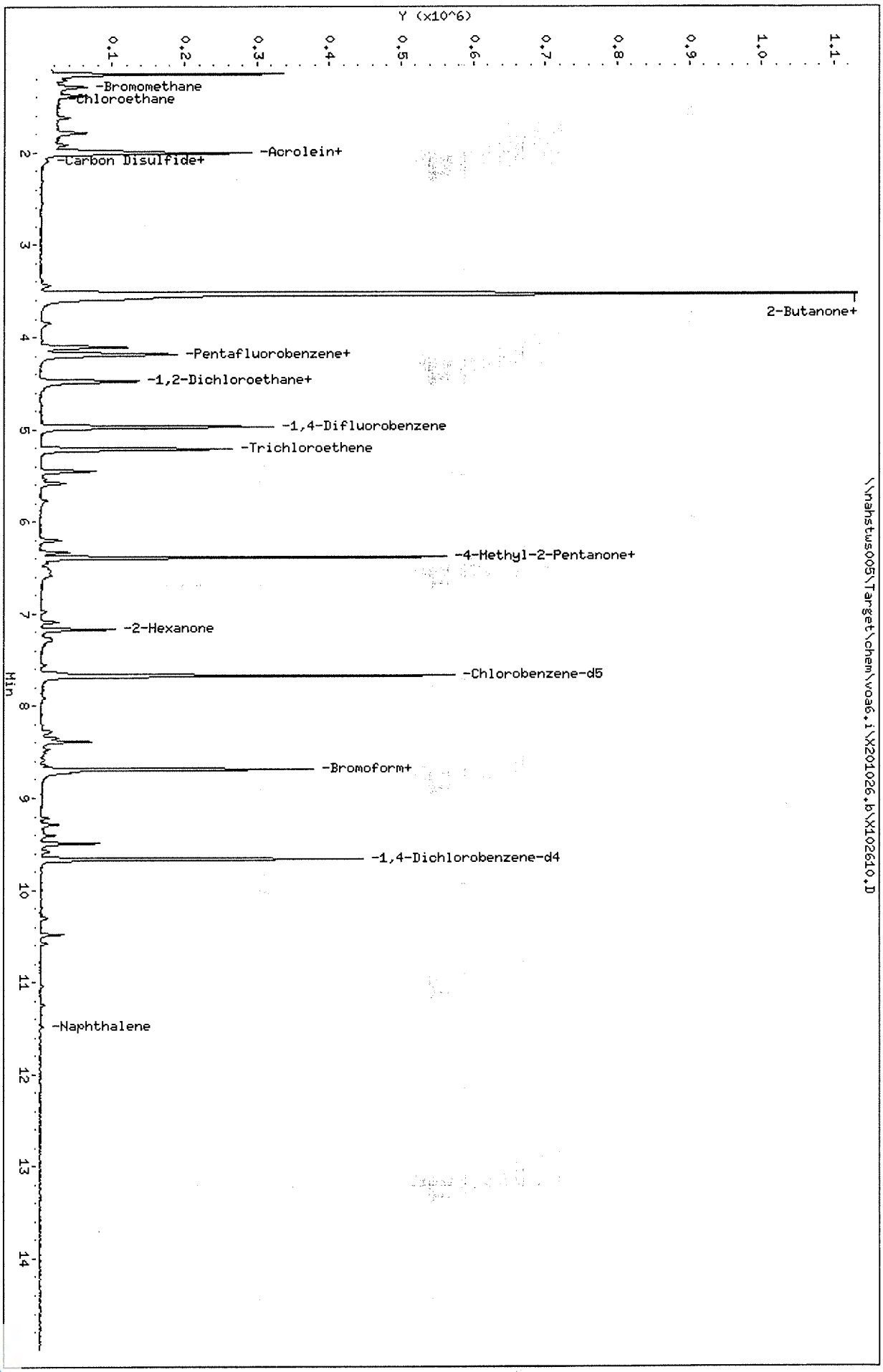
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	133852	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	235488	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	217889	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	86687	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.483	(1.068)	98299	41.9537	41.95
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	91428	44.1077	44.10
$ 30 Dibromofluoromethane	113	4.111	4.111	(0.981)	81345	44.1460	44.14
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	291793	47.5705	47.57
11 1,1-Dichloroethene	96	1.926	1.919	(0.460)	2181	0.66901	0.66(a)
33 1,2-Dichloroethane	62	4.569	4.562	(0.919)	2497	0.98177	0.98(a)
27 cis-1,2-Dichloroethene	96	3.537	3.538	(0.844)	524033	250.186	250.18(A)
38 Trichloroethene	130	5.214	5.214	(1.049)	71344	46.0620	46.06
5 Vinyl Chloride	62	1.145	1.145	(0.273)	216741	52.6710	52.67

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount exceeded maximum amount.



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Date : 26-OCT-2020 13:34
Client ID: HS20100719-06
Sample Info: HS20100719-06;HS20100719-06;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102610.D

Date : 26-OCT-2020 13:34

Client ID: HS20100719-06

Instrument: voa6.i

Sample Info: HS20100719-06;HS20100719-06;;;

Purge Volume: 5.0

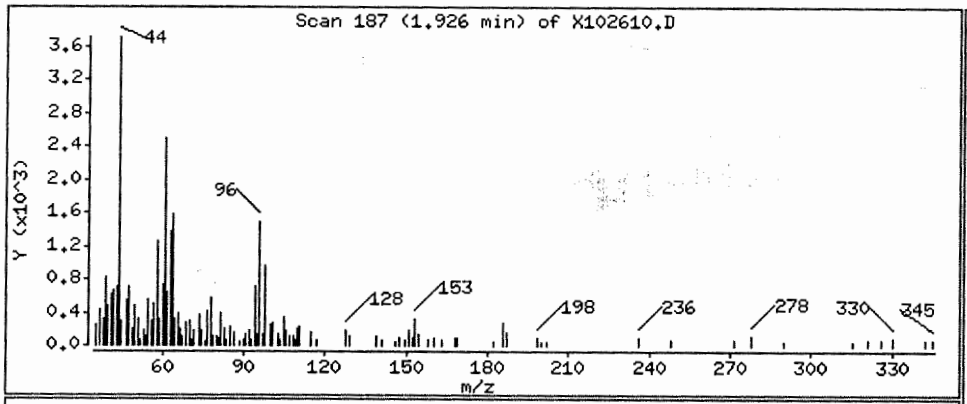
Operator: PC

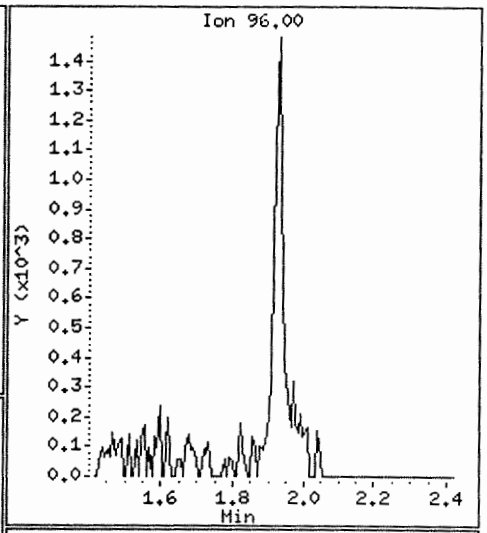
Column phase: DB624

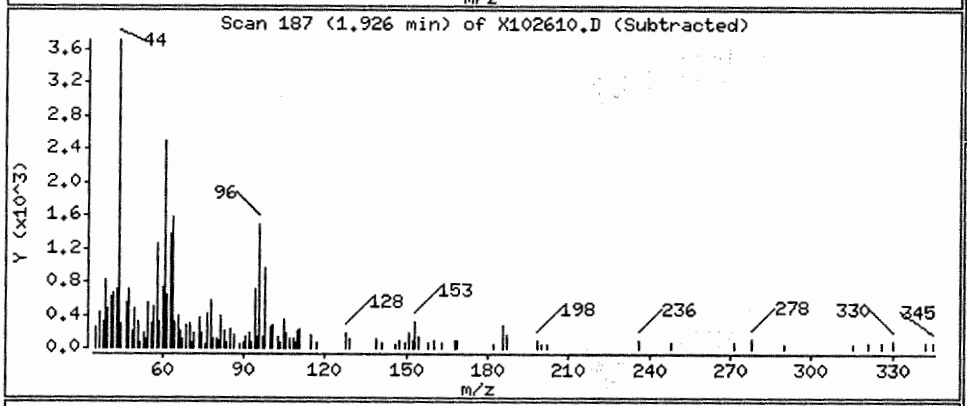
Column diameter: 0.18

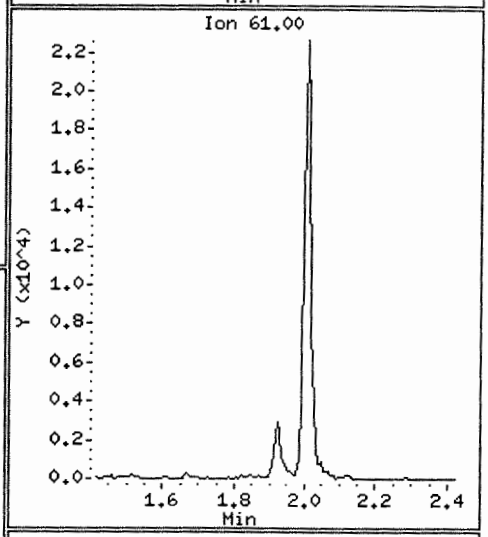
11 1,1-Dichloroethene

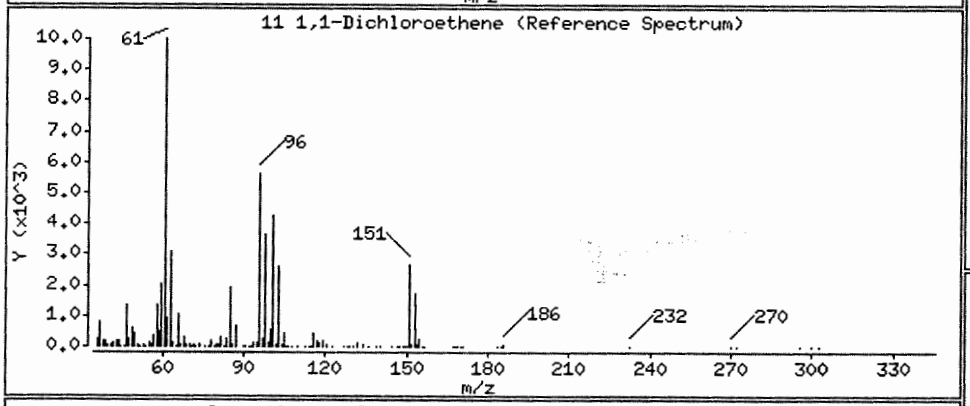
Concentration: 0.66 ug/l

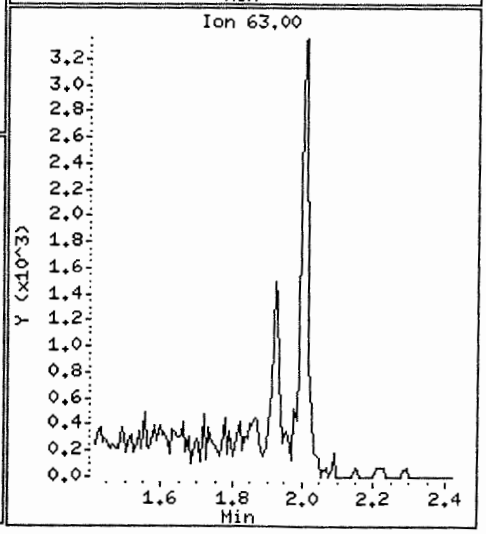


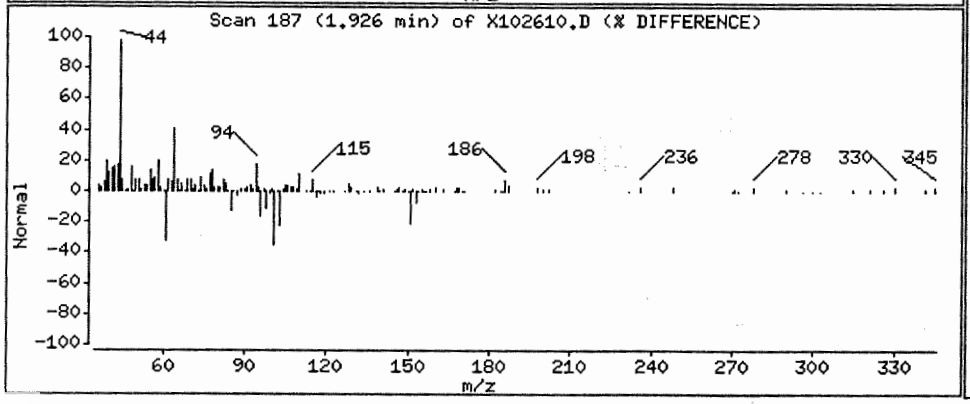












Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102610.D

Date : 26-OCT-2020 13:34

Client ID: HS20100719-06

Instrument: voa6.i

Sample Info: HS20100719-06;HS20100719-06;;;

Purge Volume: 5.0

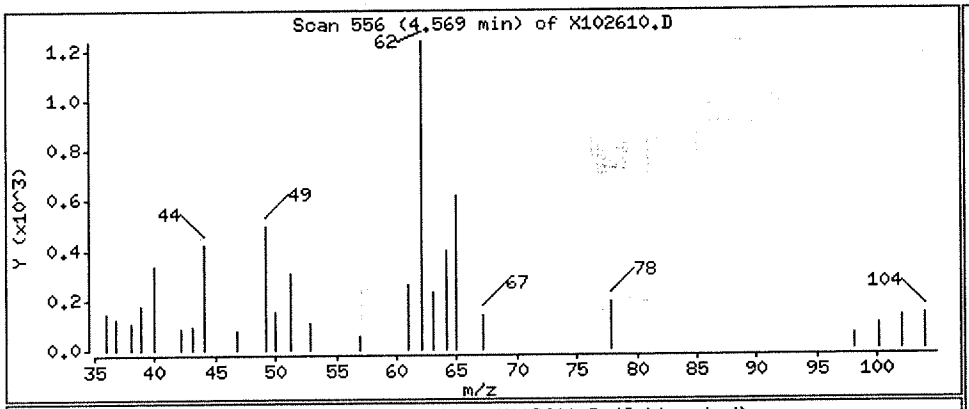
Operator: PC

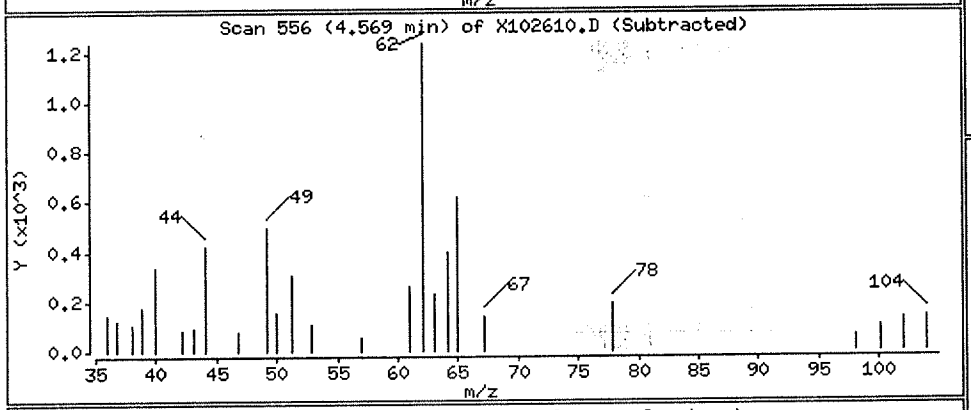
Column phase: DB624

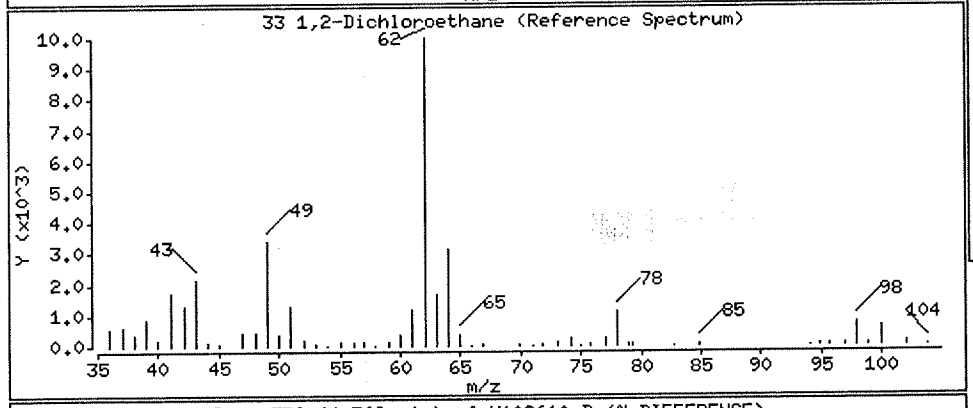
Column diameter: 0.18

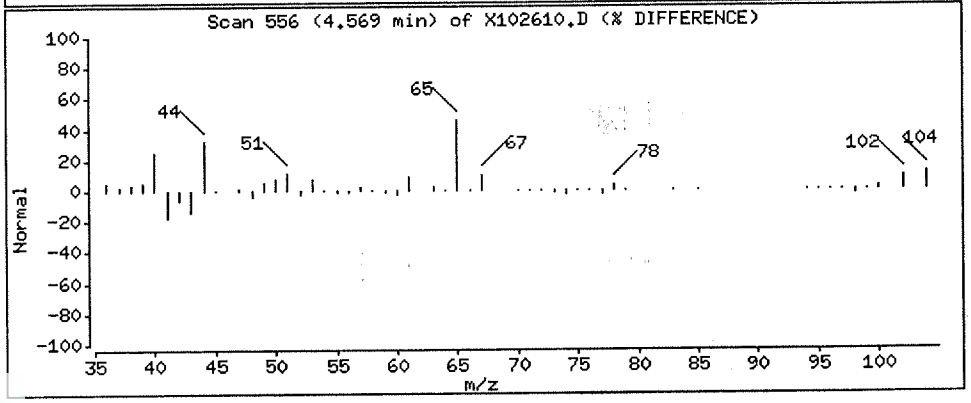
33 1,2-Dichloroethane

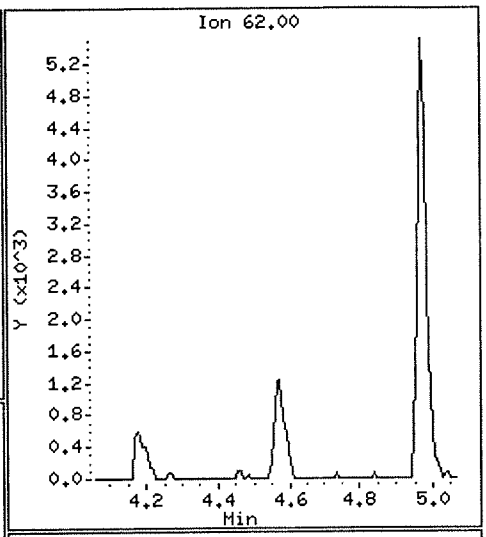
Concentration: 0.98 ug/l

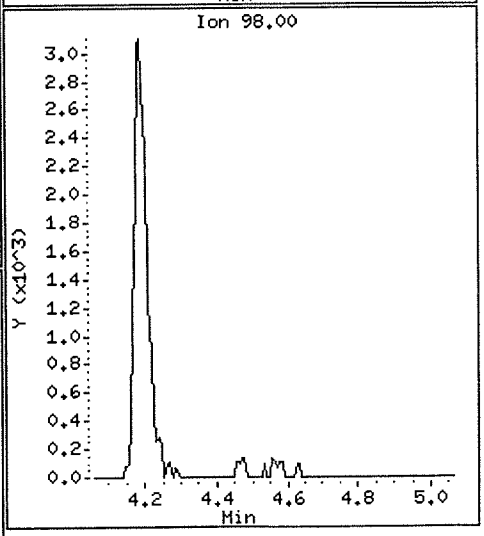












Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102610.D

Date : 26-OCT-2020 13:34

Client ID: HS20100719-06

Instrument: voa6.i

Sample Info: HS20100719-06;HS20100719-06;;;

Purge Volume: 5.0

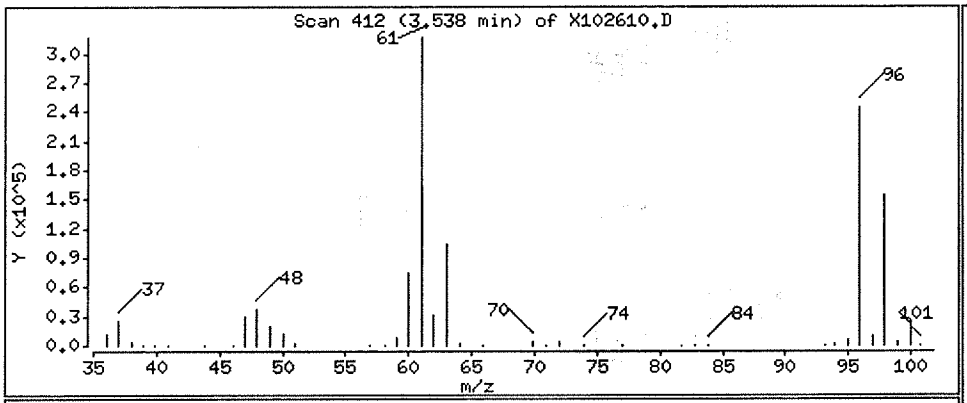
Operator: PC

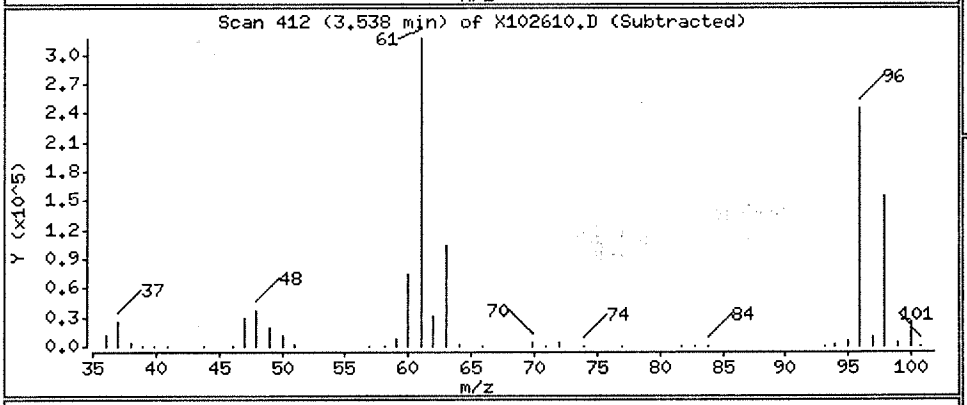
Column phase: DB624

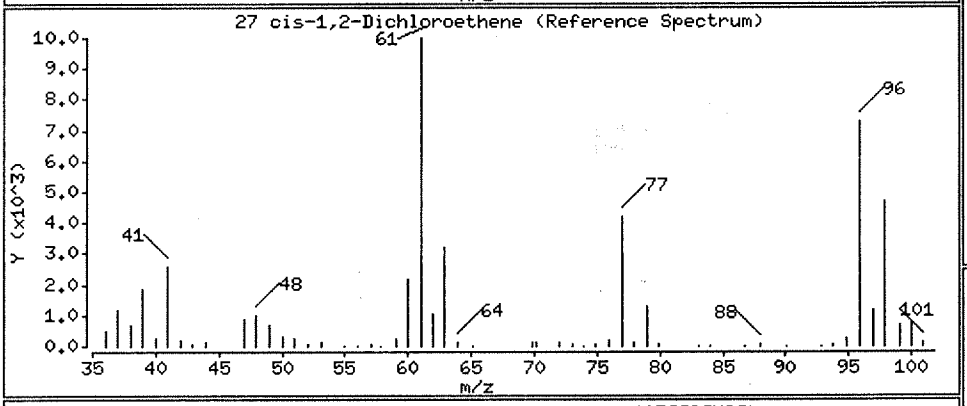
Column diameter: 0.18

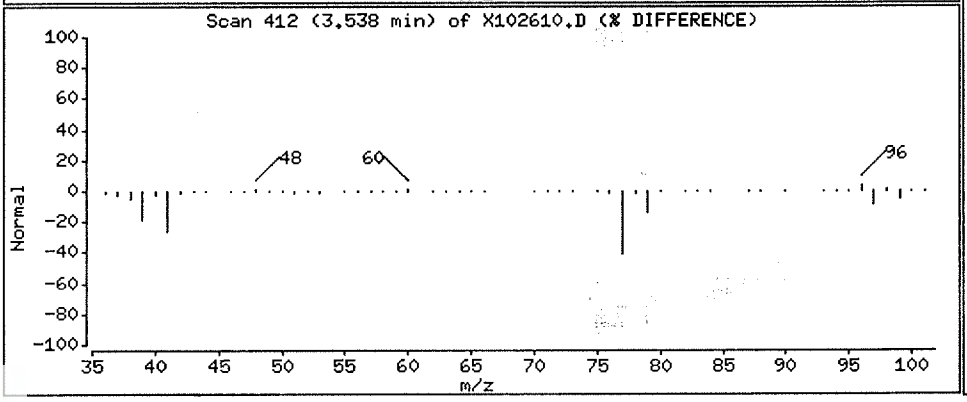
27 cis-1,2-Dichloroethene

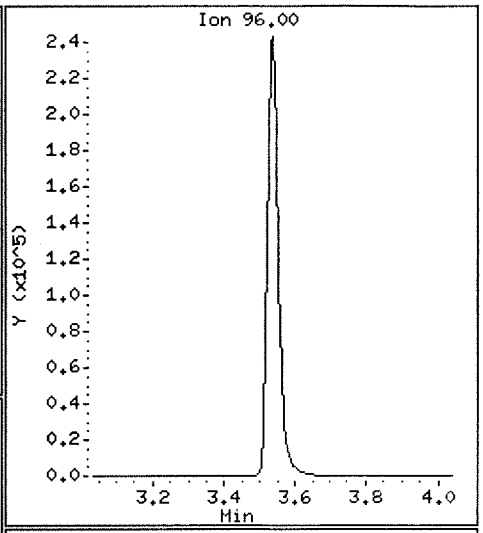
Concentration: 250.18 ug/l

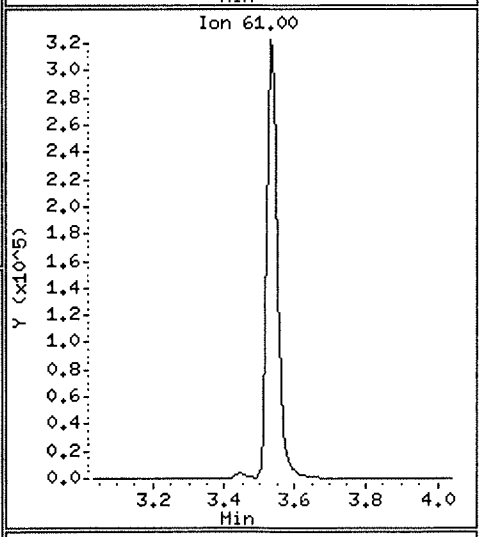


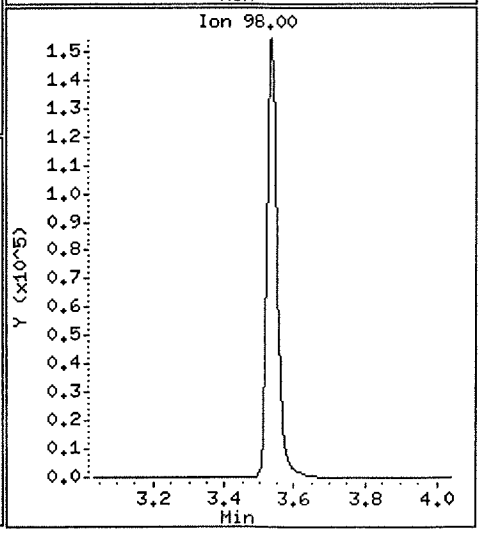












Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102610.D

Date : 26-OCT-2020 13:34

Client ID: HS20100719-06

Instrument: voa6.i

Sample Info: HS20100719-06;HS20100719-06;;;

Purge Volume: 5.0

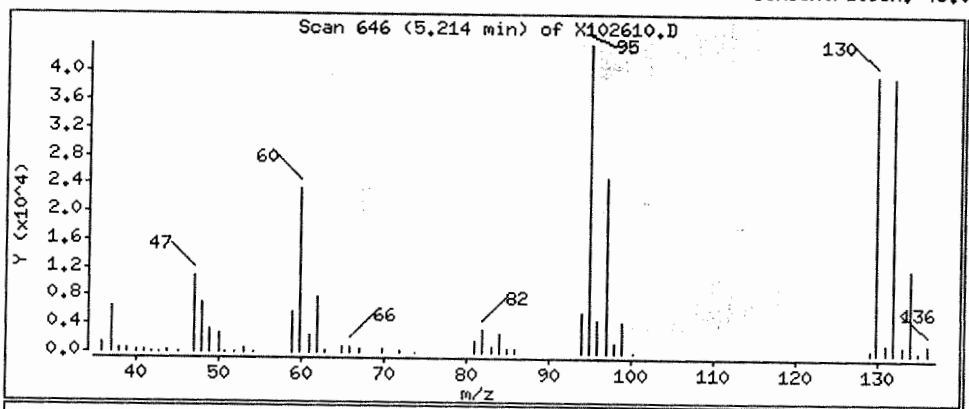
Operator: PC

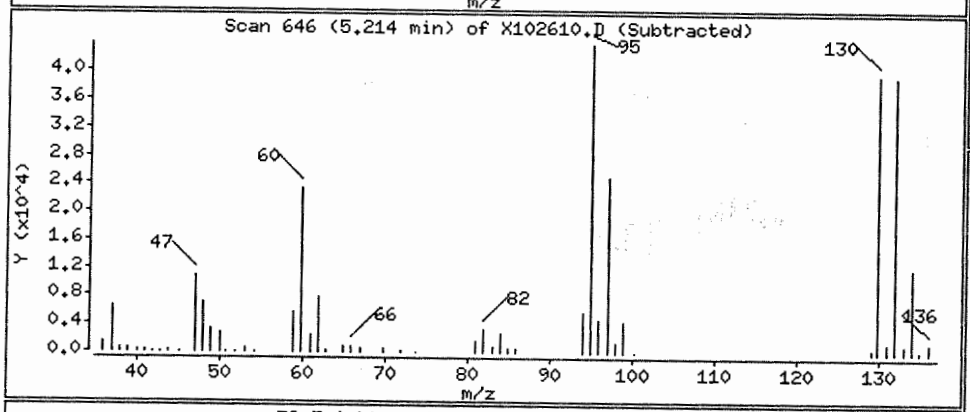
Column phase: DB624

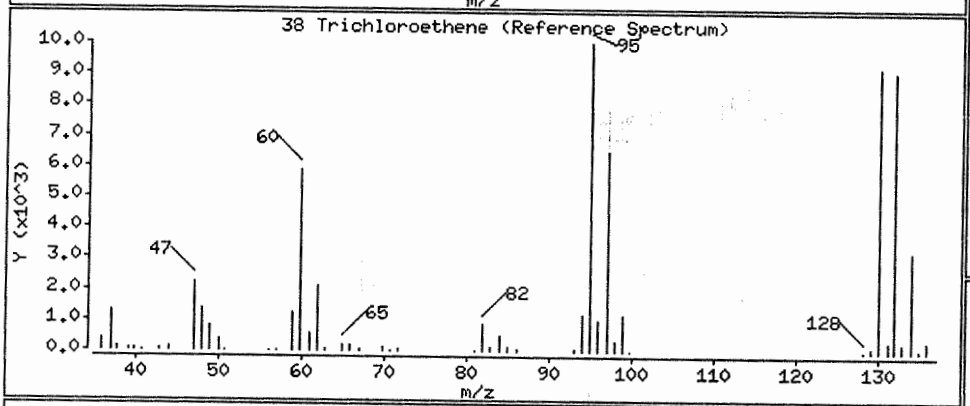
Column diameter: 0.18

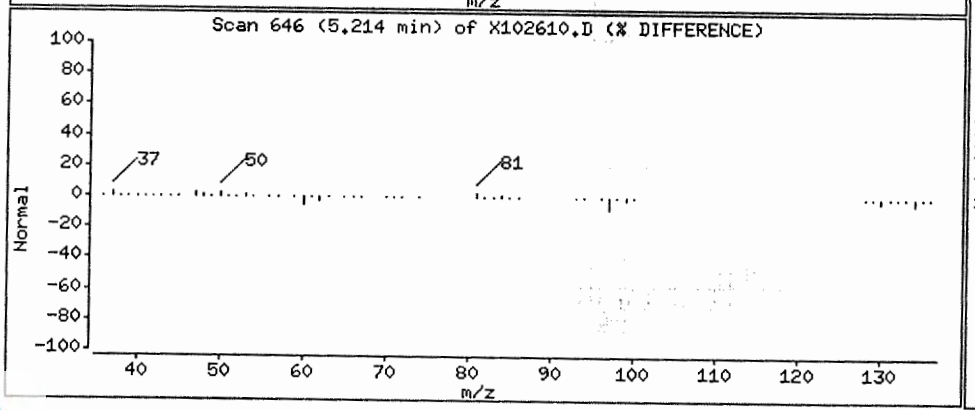
38 Trichloroethene

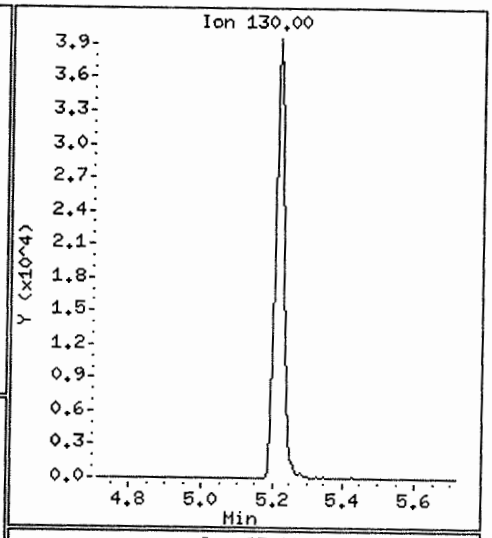
Concentration: 46.06 ug/l

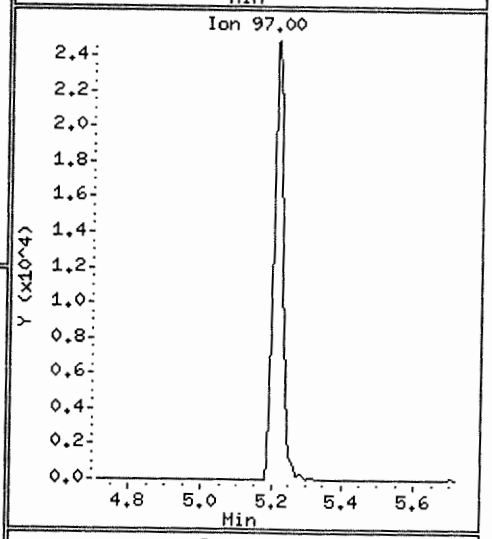


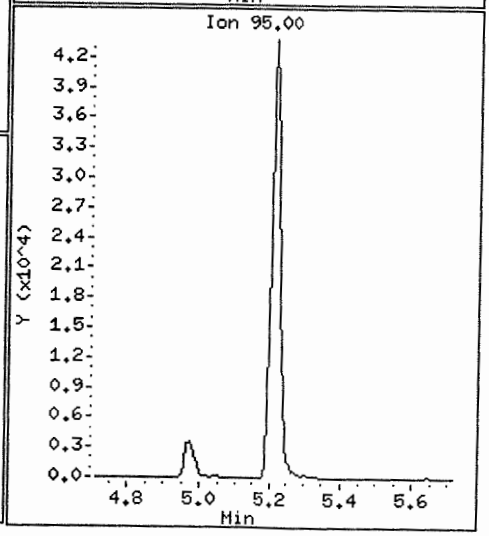












Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102610.D

Date : 26-OCT-2020 13:34

Client ID: HS20100719-06

Instrument: voa6.i

Sample Info: HS20100719-06;HS20100719-06;;;

Purge Volume: 5.0

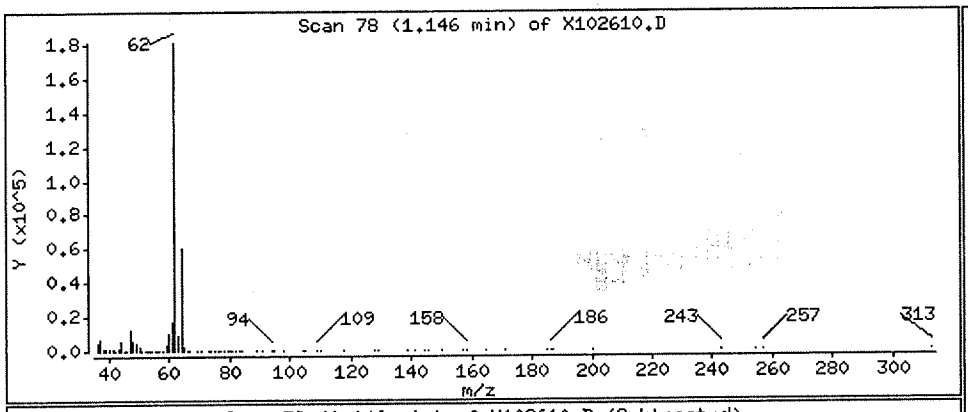
Operator: PC

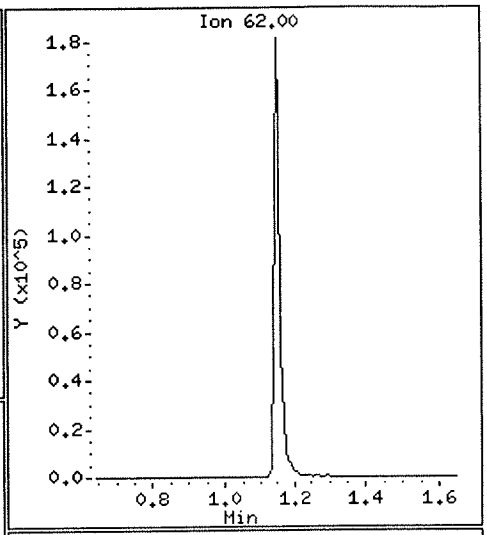
Column phase: DB624

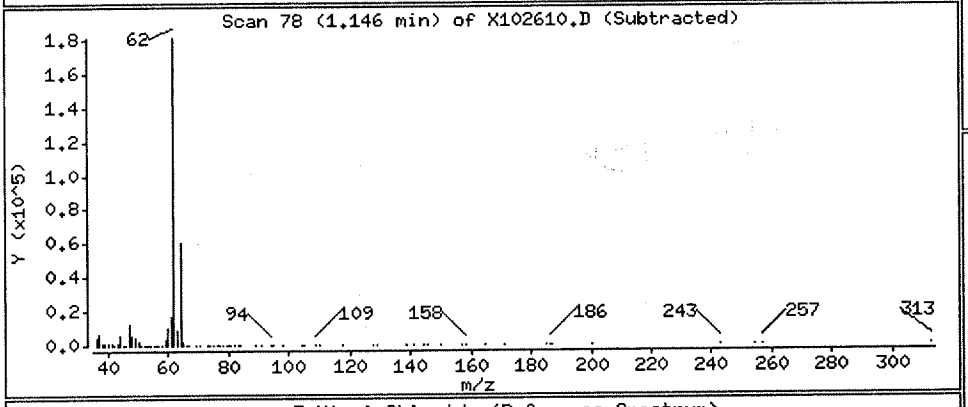
Column diameter: 0.18

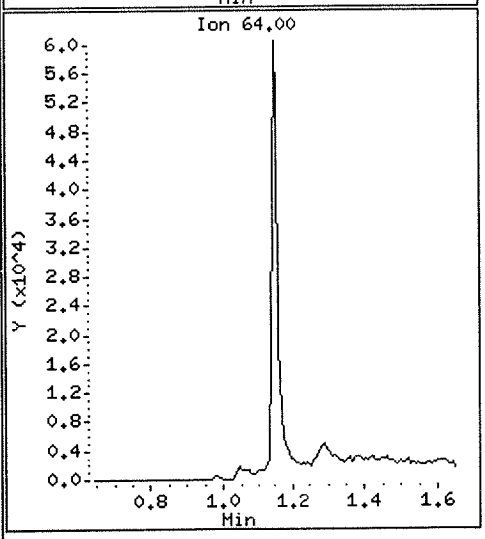
5 Vinyl Chloride

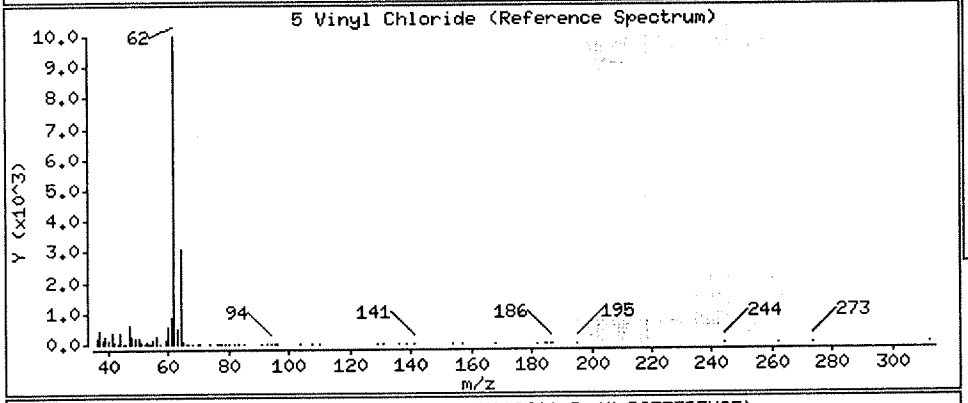
Concentration: 52.67 ug/l

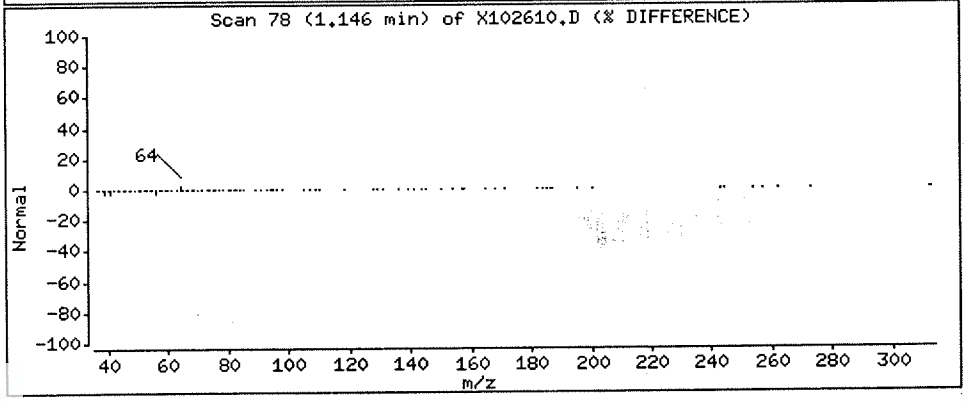












Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102612.D Page 1
Report Date: 30-Nov-2020 13:41

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201026.b\X102612.D
Lab Smp Id: HS20100719-02 Client Smp ID: HS20100719-02
Inj Date : 26-OCT-2020 14:16
Operator : PC Inst ID: voa6.i
Smp Info : HS20100719-02;HS20100719-02;;;
Misc Info : HS18090001;WATER;0;5;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201026.b\8260W.m
Meth Date : 30-Nov-2020 13:37 dev.giga Quant Type: ISTD
Cal Date : 25-OCT-2020 19:09 Cal File: X102508.D
Als bottle: 12
Dil Factor: 5.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

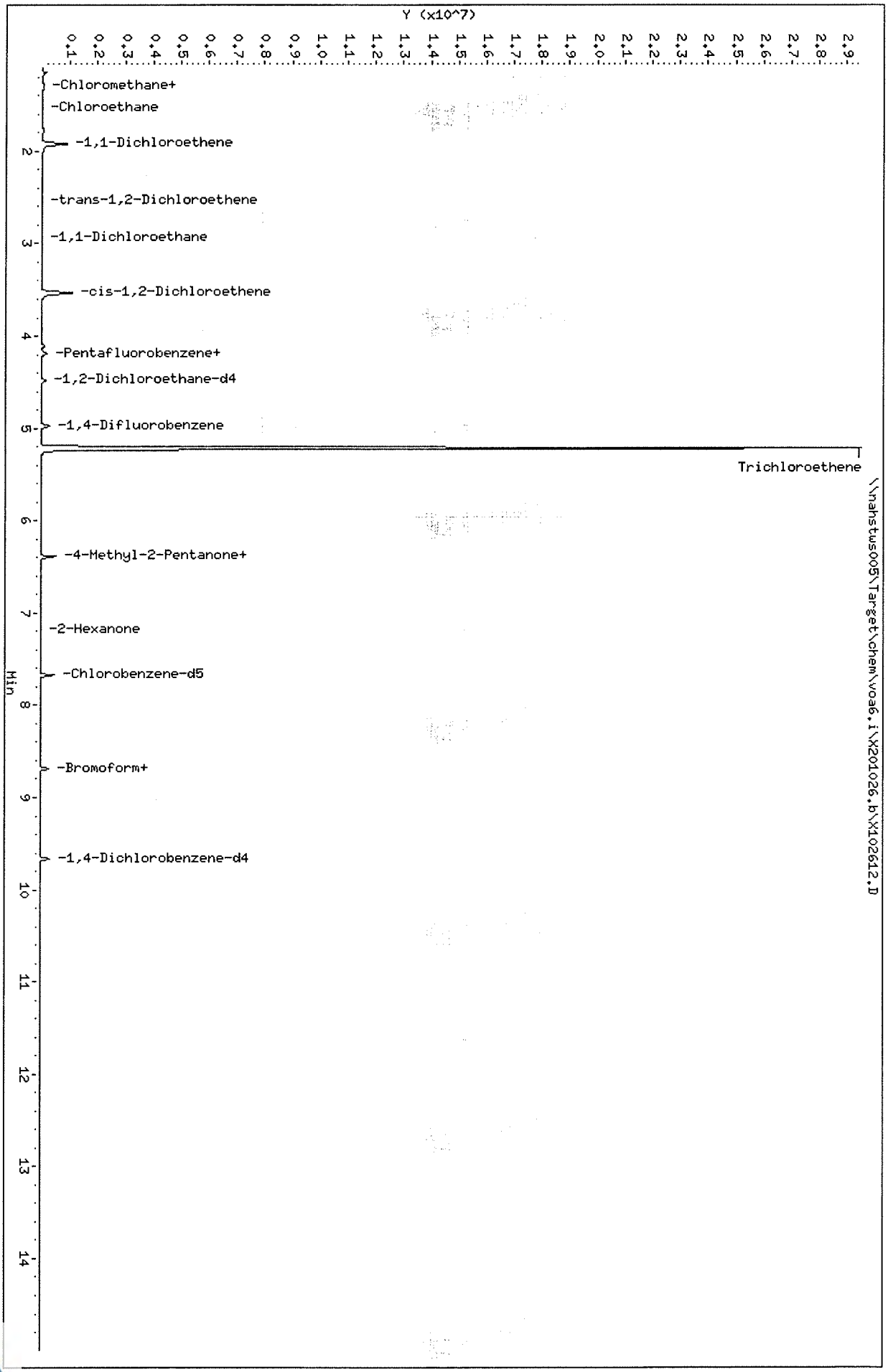
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	5.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	128440	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	232971	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	196268	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	70802	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.483	(1.068)	95642	42.5393	42.53
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	78971	42.3769	42.37
$ 30 Dibromofluoromethane	113	4.111	4.111	(0.981)	78392	44.3360	44.33
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	267994	48.4698	48.46
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	58086	18.5683	92.84
27 cis-1,2-Dichloroethene	96	3.530	3.538	(0.843)	504827	251.172	1255.86(A)
38 Trichloroethene	130	5.214	5.214	(1.049)	6667764	4351.43	21757.15(A)
5 Vinyl Chloride	62	1.145	1.145	(0.273)	76953	19.4886	97.44

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.



Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102612.D
Date : 26-OCT-2020 14:16
Client ID: HS20100719-02
Sample Info: HS20100719-02;HS20100719-02;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102612.D

Date : 26-OCT-2020 14:16

Client ID: HS20100719-02

Instrument: voa6.i

Sample Info: HS20100719-02;HS20100719-02;;;

Purge Volume: 5.0

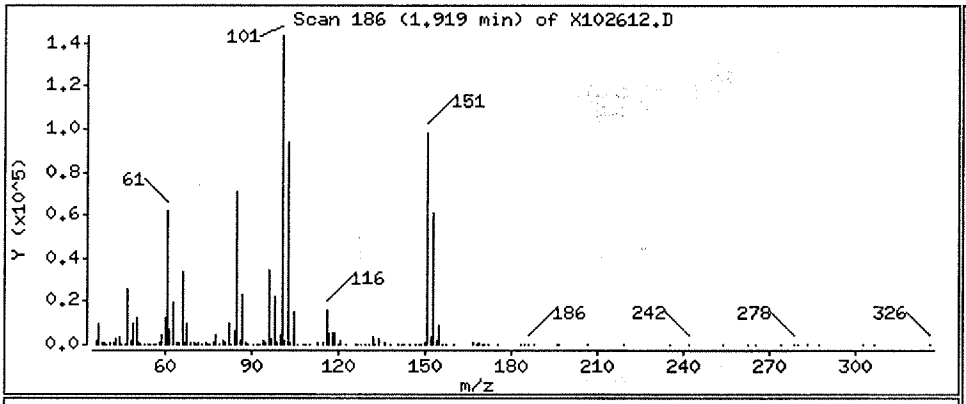
Operator: PC

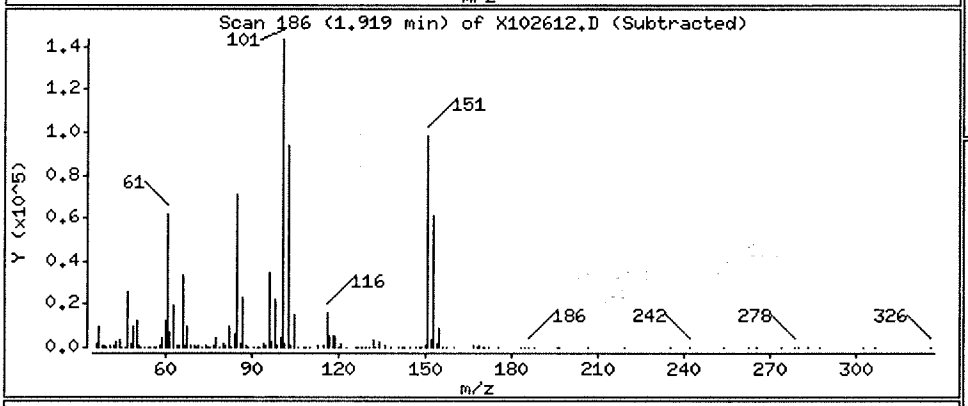
Column phase: DB624

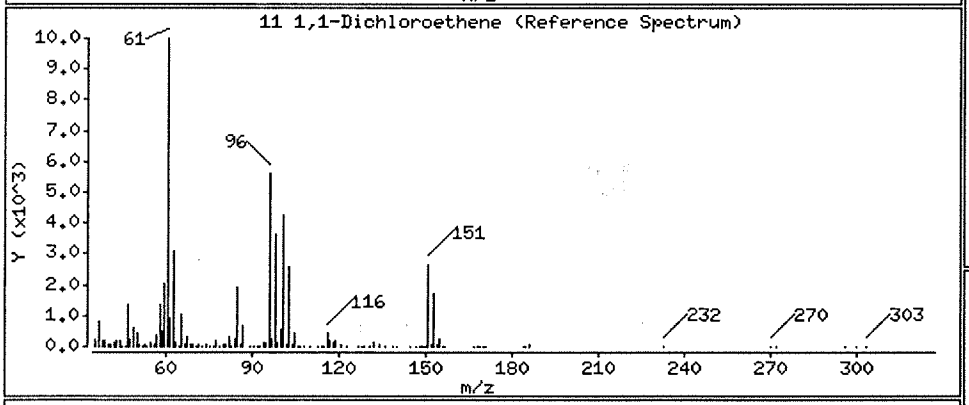
Column diameter: 0.18

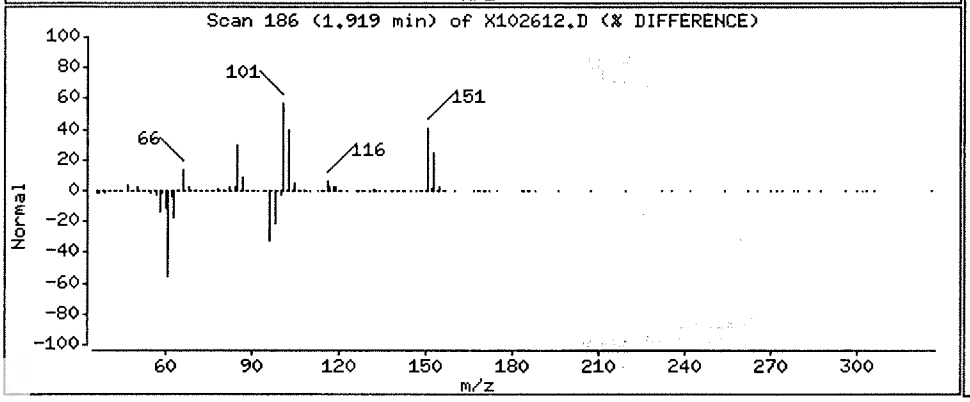
11 1,1-Dichloroethene

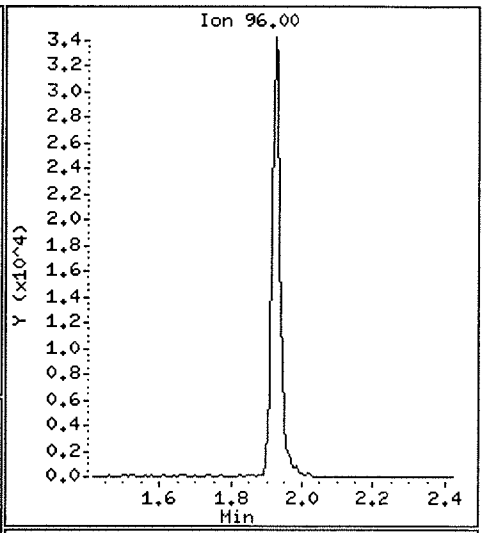
Concentration: 92.84 ug/l

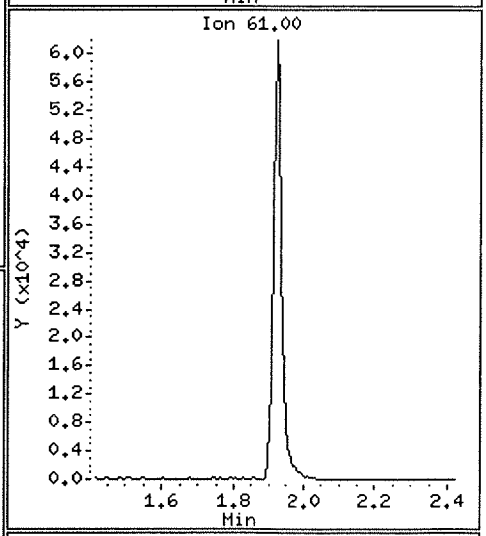


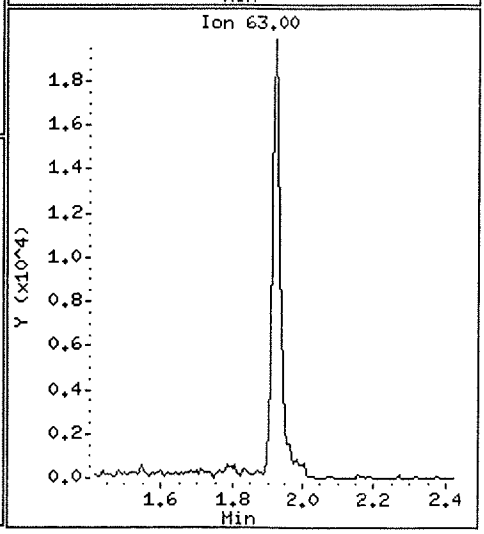












Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102612.D

Date : 26-OCT-2020 14:16

Client ID: HS20100719-02

Instrument: voa6.i

Sample Info: HS20100719-02;HS20100719-02;;;

Purge Volume: 5.0

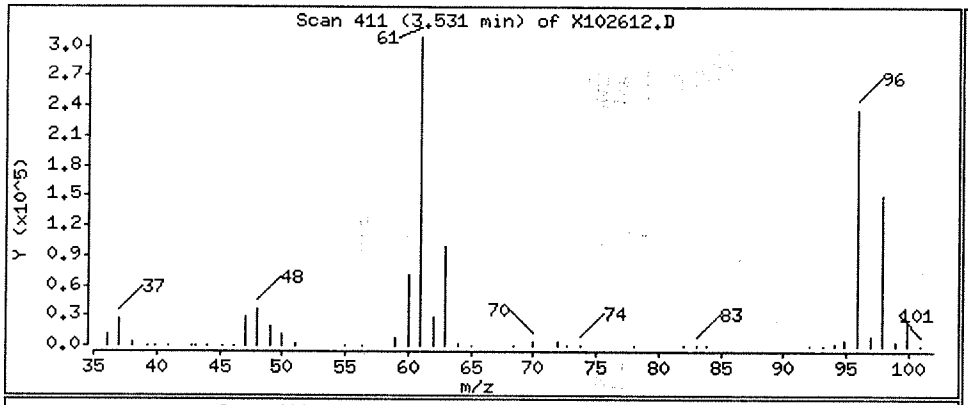
Operator: PC

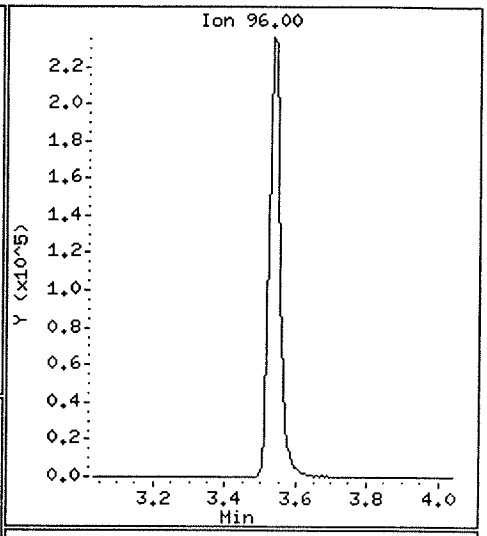
Column phase: DB624

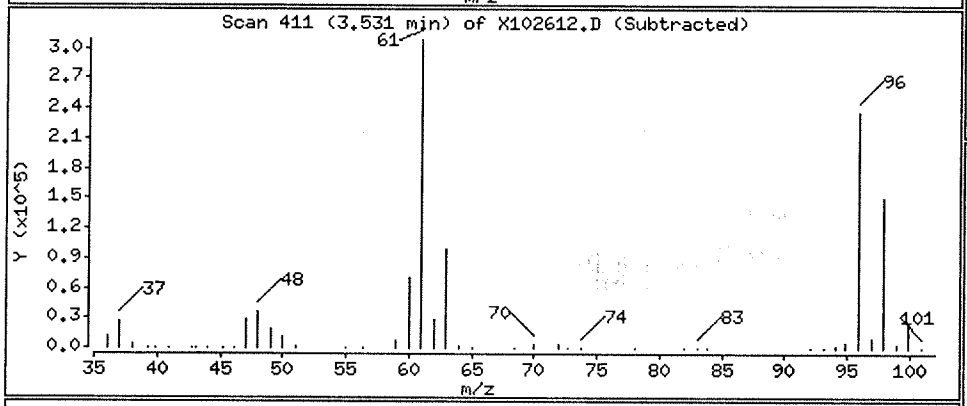
Column diameter: 0.18

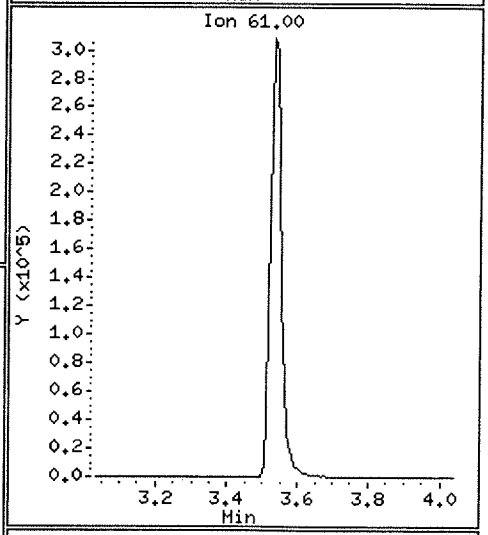
27 cis-1,2-Dichloroethene

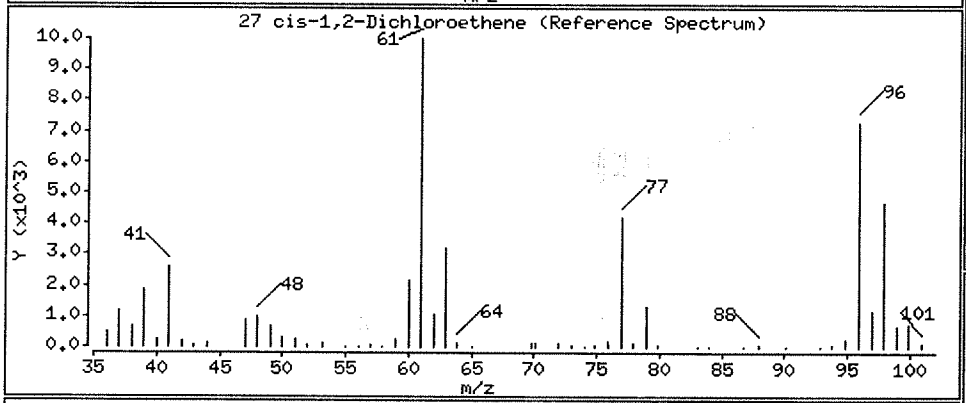
Concentration: 1255.86 ug/l

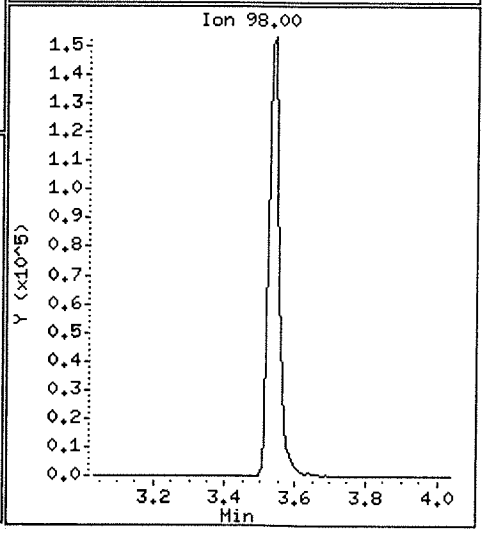


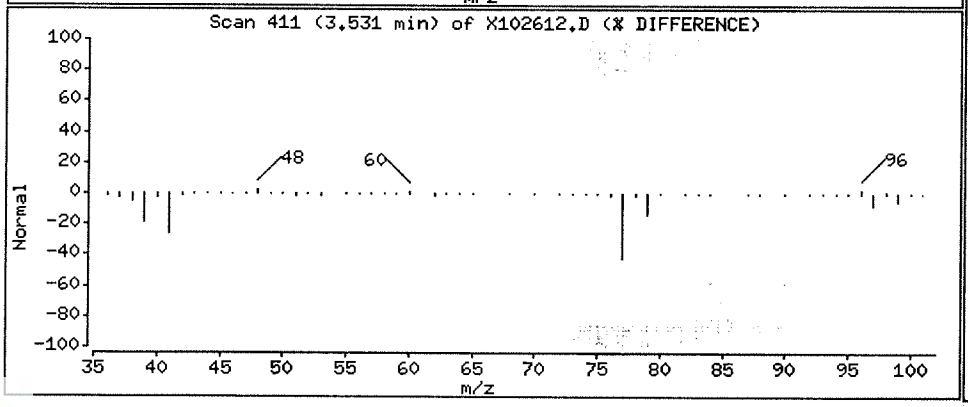












Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102612.D

Date : 26-OCT-2020 14:16

Client ID: HS20100719-02

Instrument: voa6.i

Sample Info: HS20100719-02;HS20100719-02;;;

Purge Volume: 5.0

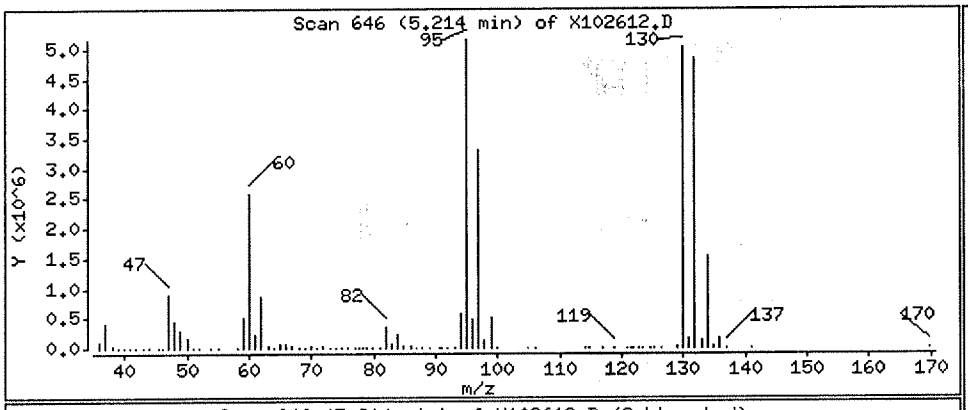
Operator: PC

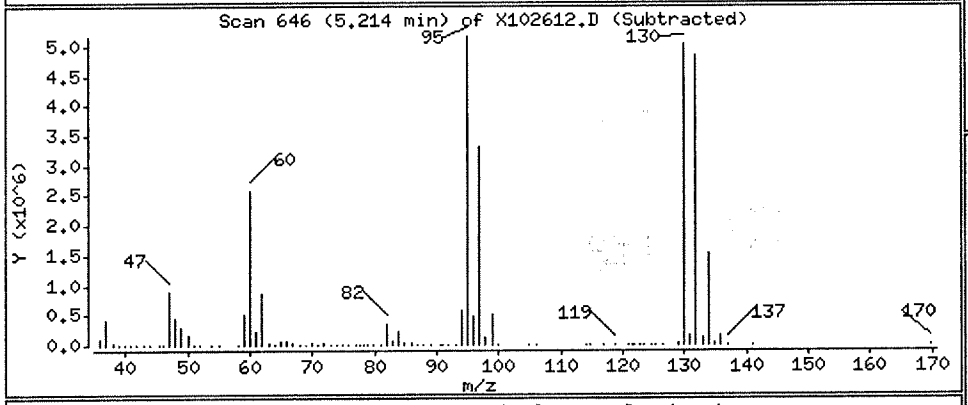
Column phase: DB624

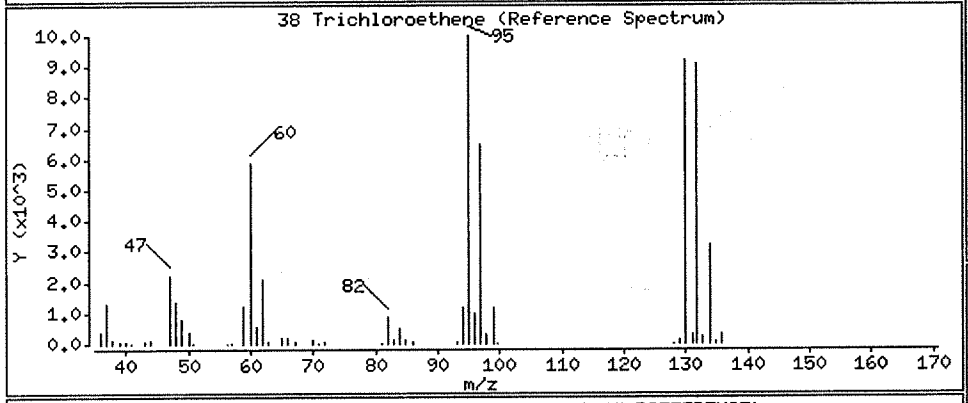
Column diameter: 0.18

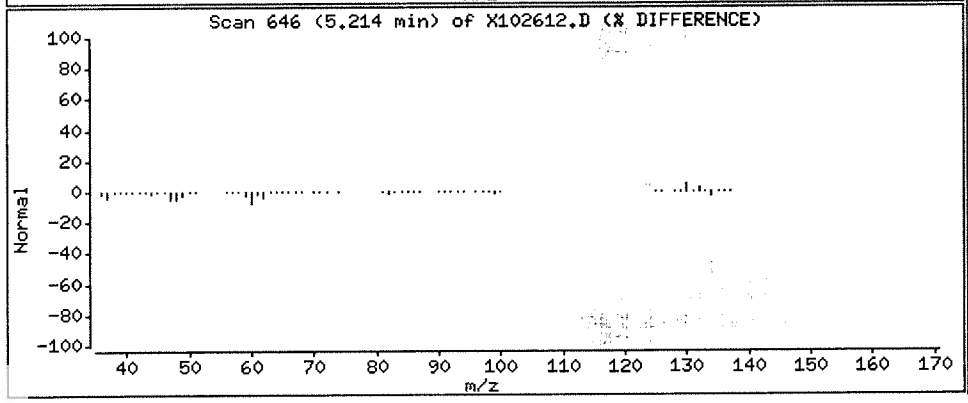
38 Trichloroethene

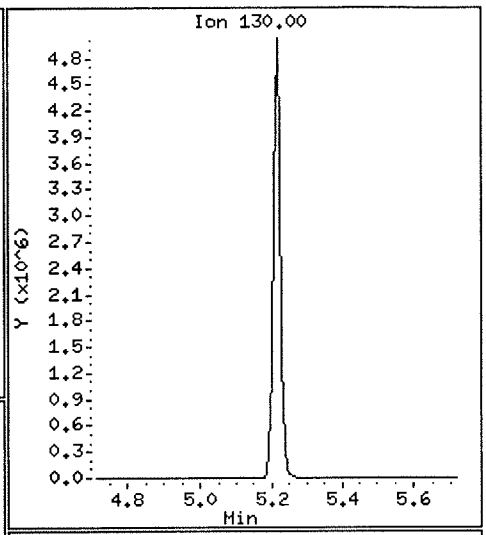
Concentration: 21757.15 ug/l

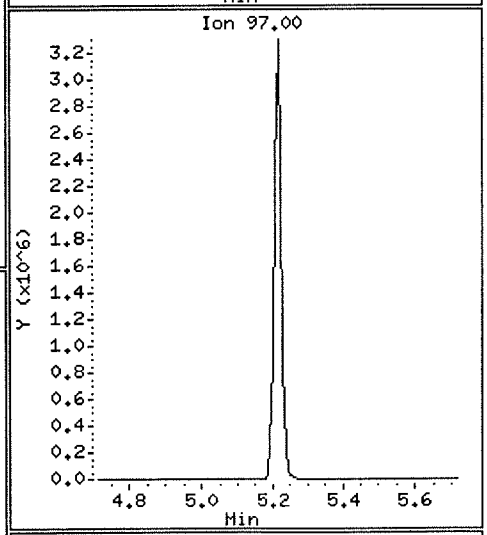


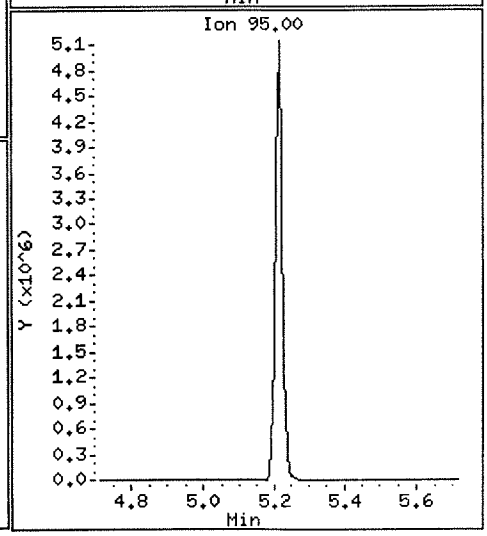












Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102612.D

Date : 26-OCT-2020 14:16

Client ID: HS20100719-02

Instrument: voa6.i

Sample Info: HS20100719-02;HS20100719-02;;;

Purge Volume: 5.0

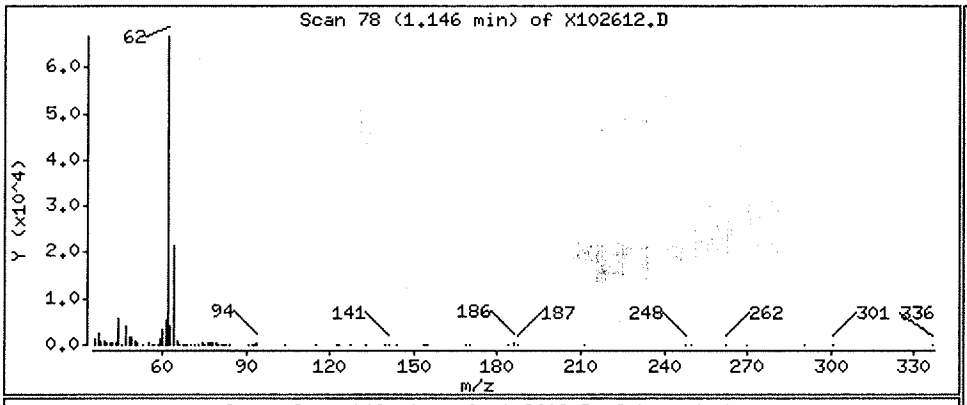
Operator: PC

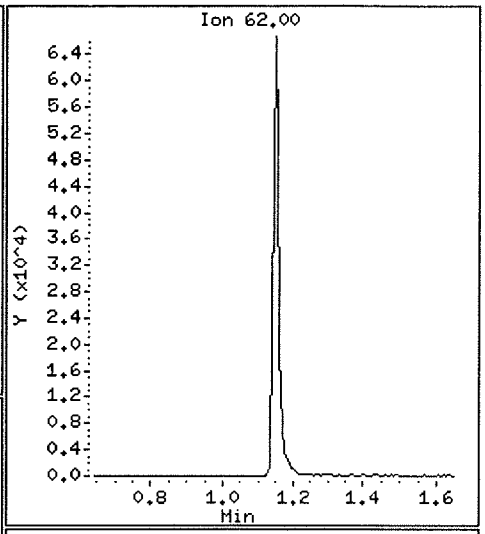
Column phase: DB624

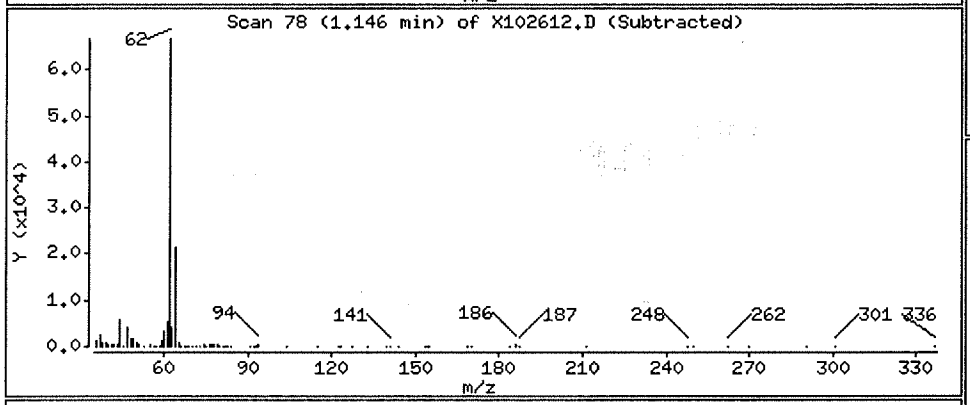
Column diameter: 0.18

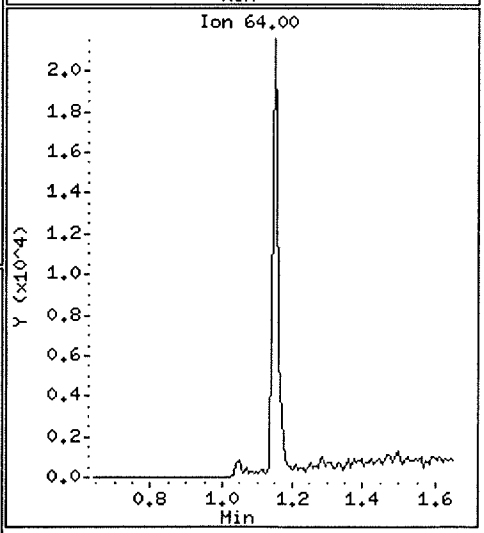
5 Vinyl Chloride

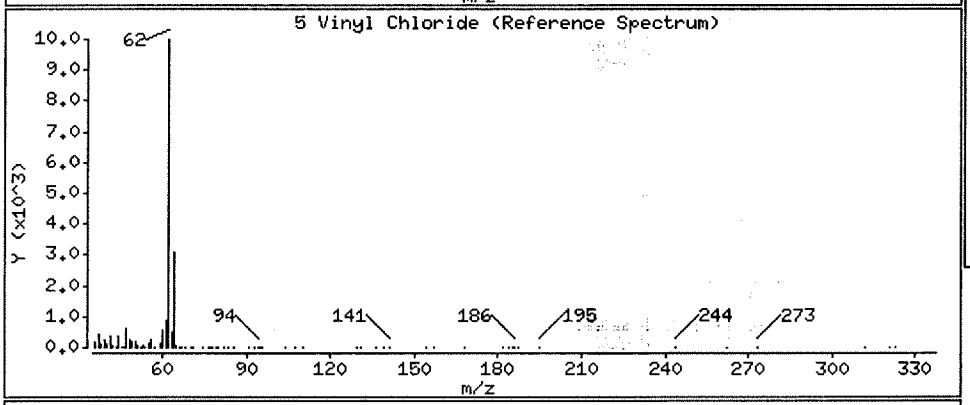
Concentration: 97.44 ug/l

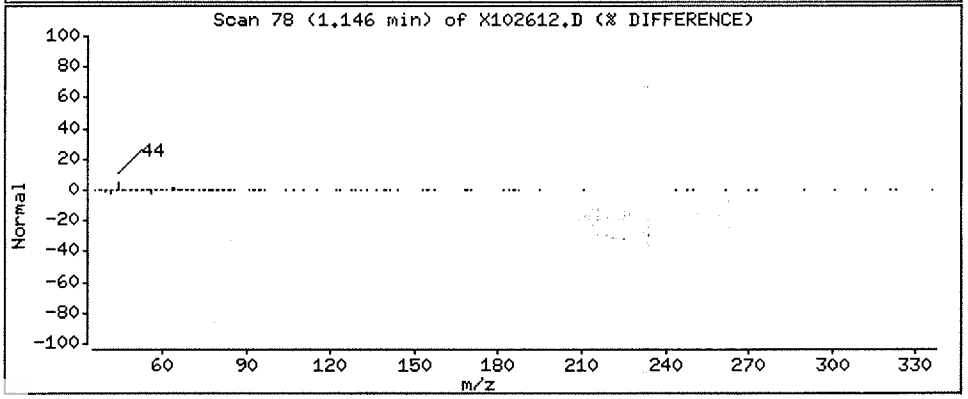












Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102614.D Page 1
Report Date: 30-Nov-2020 13:41

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201026.b\X102614.D
Lab Smp Id: HS20100719-05 Client Smp ID: HS20100719-05
Inj Date : 26-OCT-2020 14:59
Operator : PC Inst ID: voa6.i
Smp Info : HS20100719-05;HS20100719-05;;;
Misc Info : HS18090001;WATER;0;5;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X201026.b\8260W.m
Meth Date : 30-Nov-2020 13:37 dev.giga Quant Type: ISTD
Cal Date : 25-OCT-2020 19:09 Cal File: X102508.D
Als bottle: 14
Dil Factor: 5.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	5.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

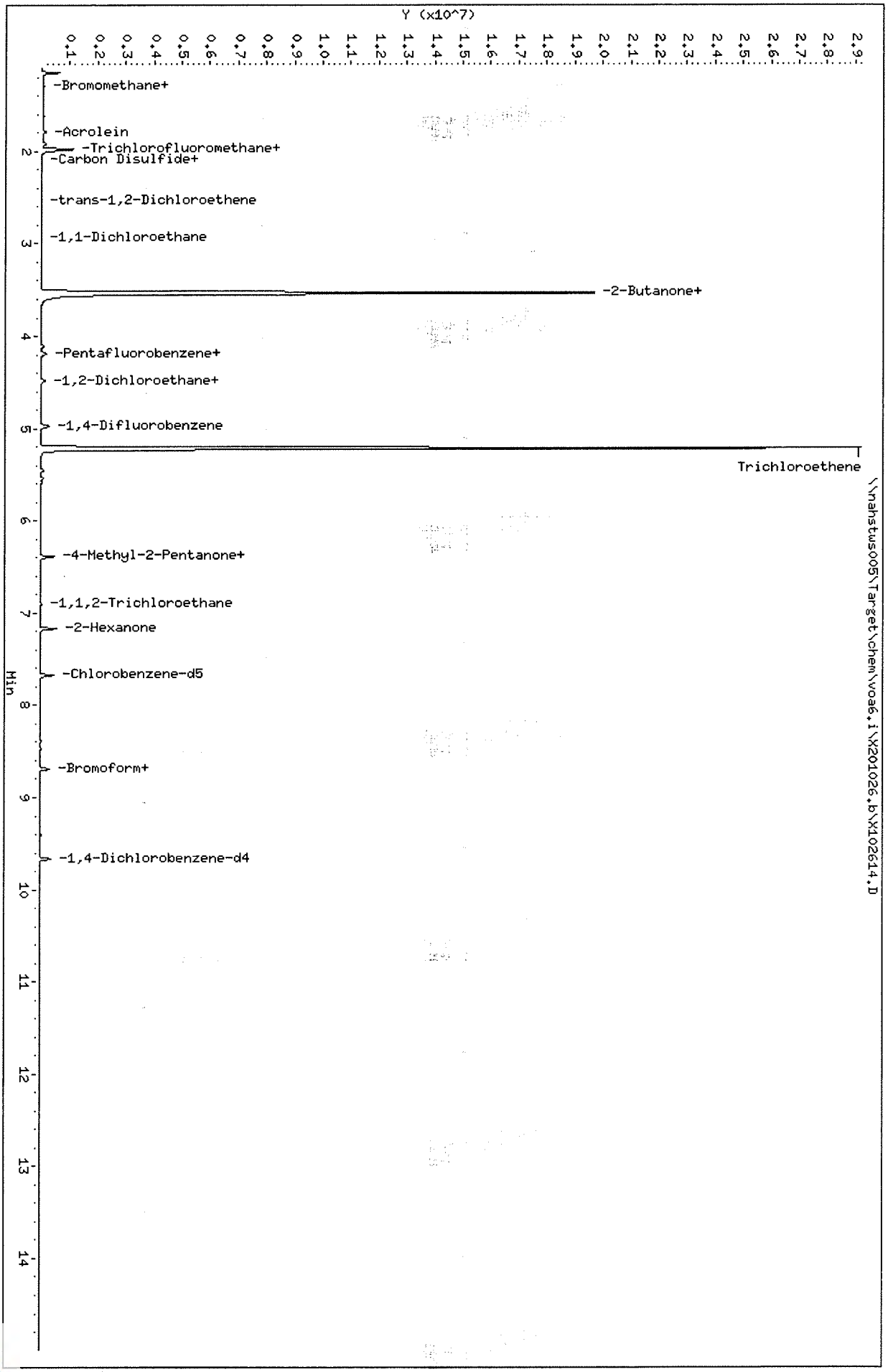
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	123576	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	219794	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	195071	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	77137	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.070)	94568	43.7163	43.71
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	79601	42.9488	42.94
$ 30 Dibromofluoromethane	113	4.110	4.111	(0.981)	76369	44.8919	44.89
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	264464	48.1371	48.13
53 1,1,2-Trichloroethane	83	6.847	6.840	(0.893)	1052	0.82907	4.14(a)
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	23031	7.65210	38.26
33 1,2-Dichloroethane	62	4.576	4.562	(0.921)	2554	1.07589	5.37(a)
27 cis-1,2-Dichloroethene	96	3.537	3.538	(0.844)	7825650	4046.84	20234.19(A)
38 Trichloroethene	130	5.214	5.214	(1.049)	6659496	4606.59	23032.93(A)
5 Vinyl Chloride	62	1.145	1.145	(0.273)	403146	106.117	530.58

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount
    exceeded maximum amount.

Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102614.D
Date : 26-OCT-2020 14:59
Client ID: HS20100719-05
Sample Info: HS20100719-05;HS20100719-05;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102614.D

Date : 26-OCT-2020 14:59

Client ID: HS20100719-05

Instrument: voa6.i

Sample Info: HS20100719-05;HS20100719-05;;;

Purge Volume: 5.0

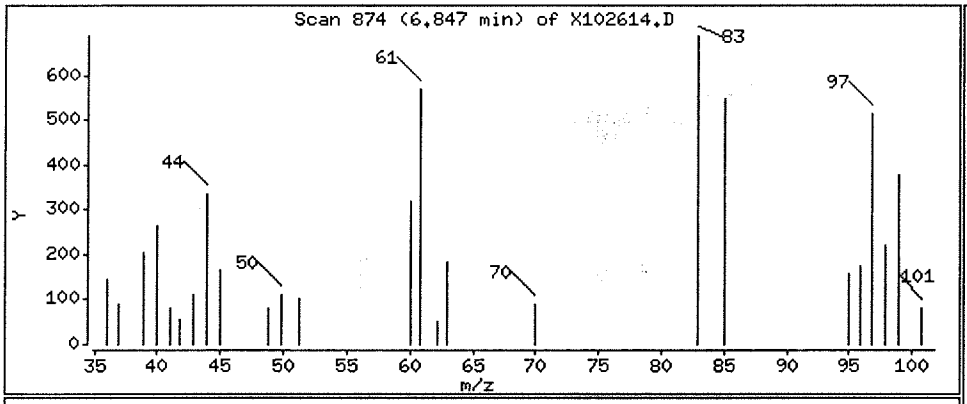
Operator: PC

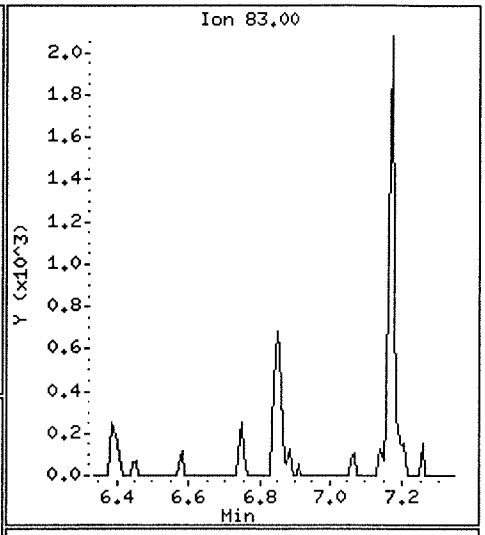
Column phase: DB624

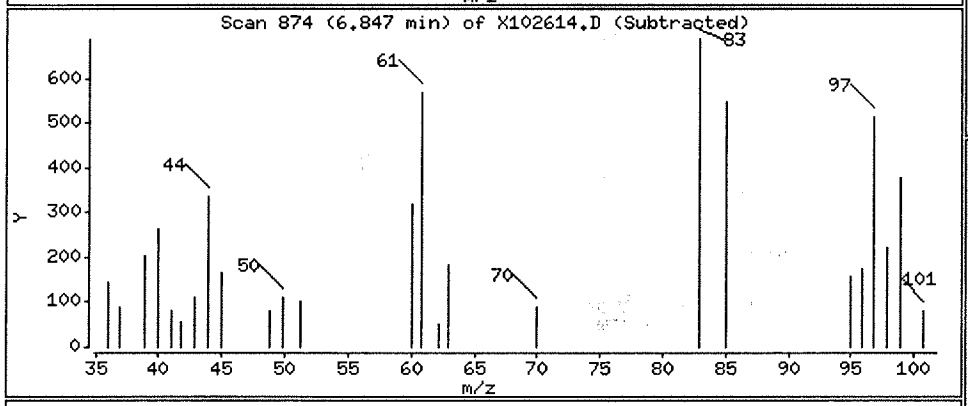
Column diameter: 0.18

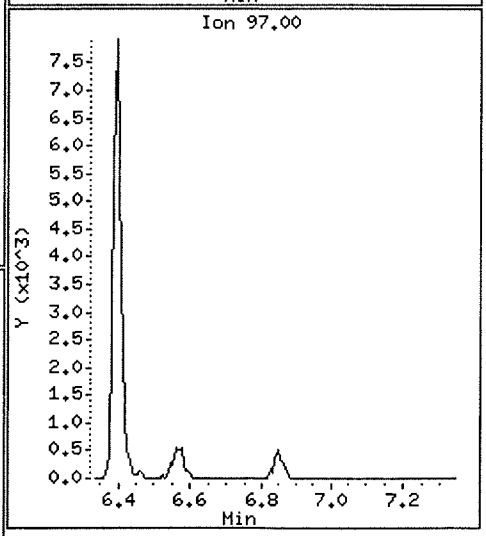
53 1,1,2-Trichloroethane

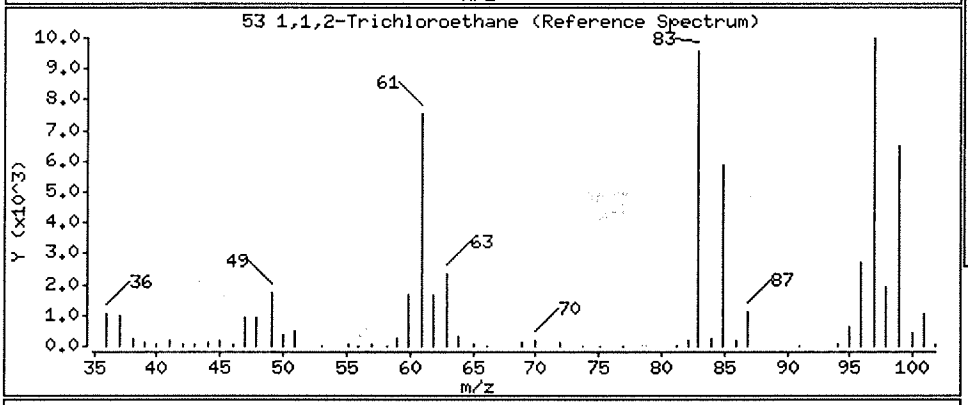
Concentration: 4.14 ug/l

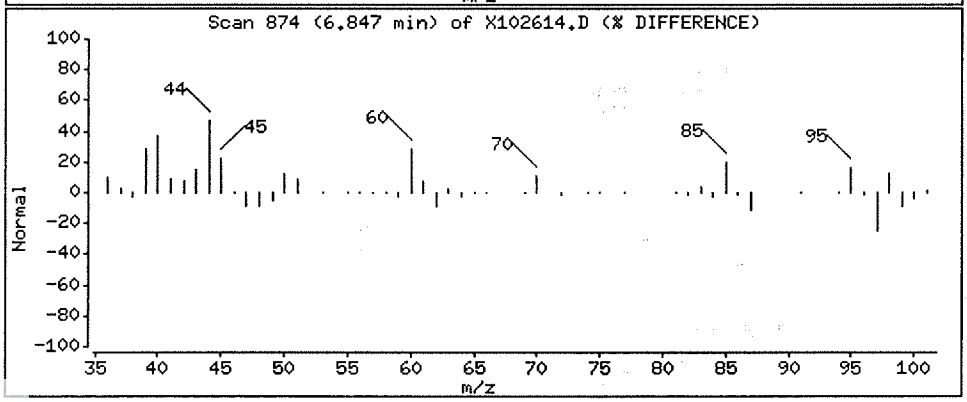












Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102614.D

Date : 26-OCT-2020 14:59

Client ID: HS20100719-05

Instrument: voa6.i

Sample Info: HS20100719-05;HS20100719-05;;;

Purge Volume: 5.0

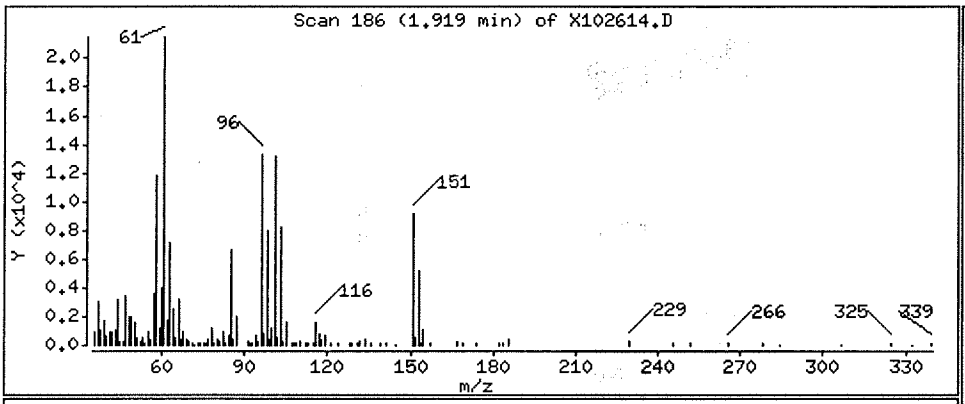
Operator: PC

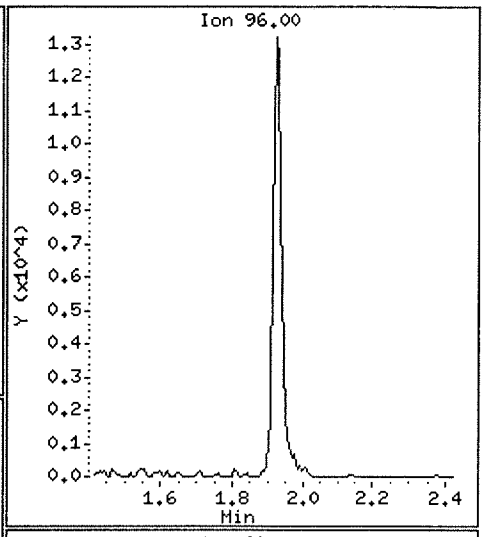
Column phase: DB624

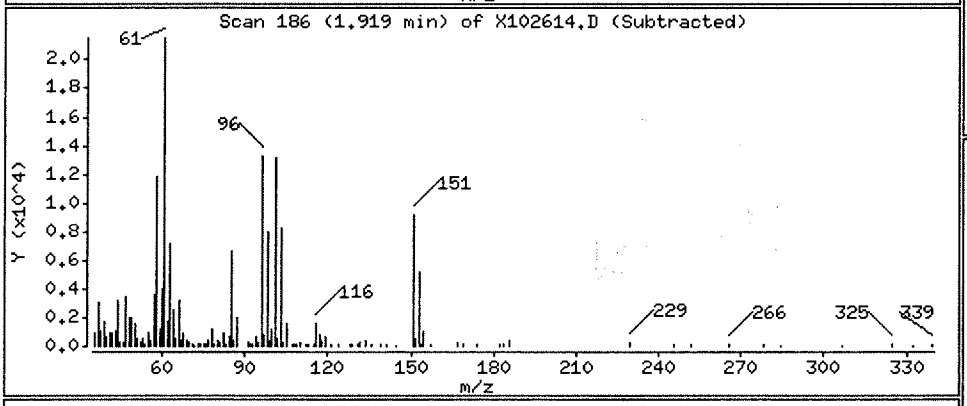
Column diameter: 0.18

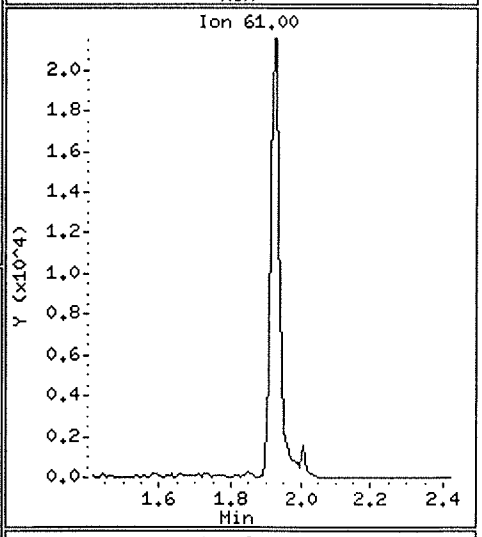
11 1,1-Dichloroethene

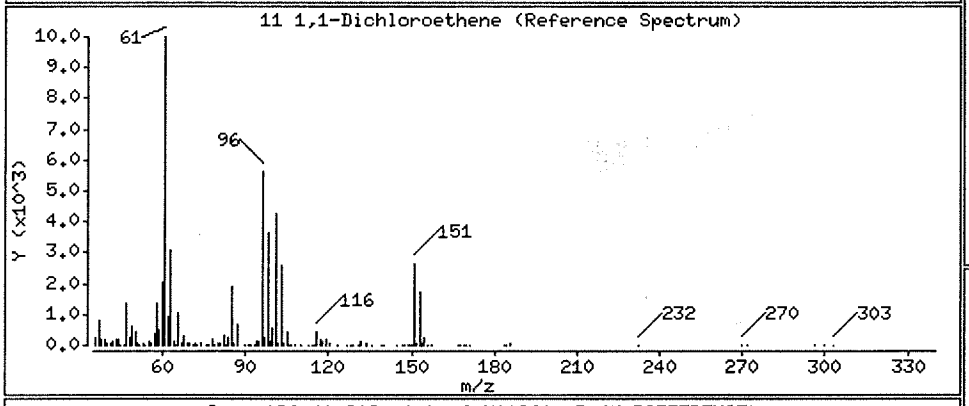
Concentration: 38.26 ug/l

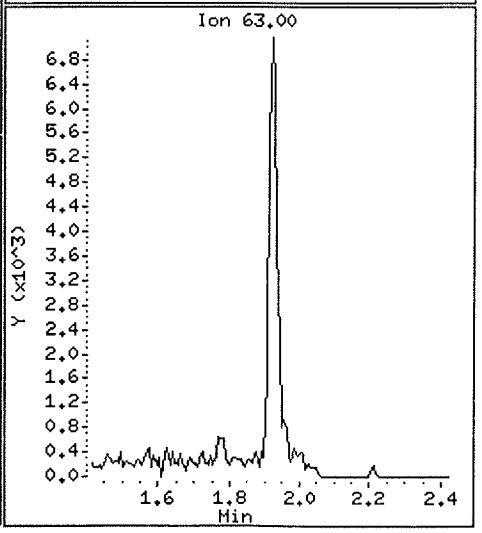


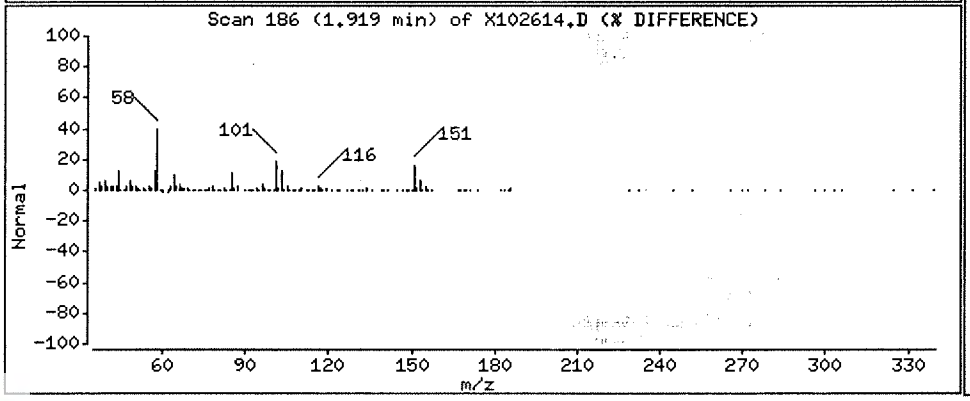












Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102614.D

Date : 26-OCT-2020 14:59

Client ID: HS20100719-05

Instrument: voa6.i

Sample Info: HS20100719-05;HS20100719-05;;;

Purge Volume: 5.0

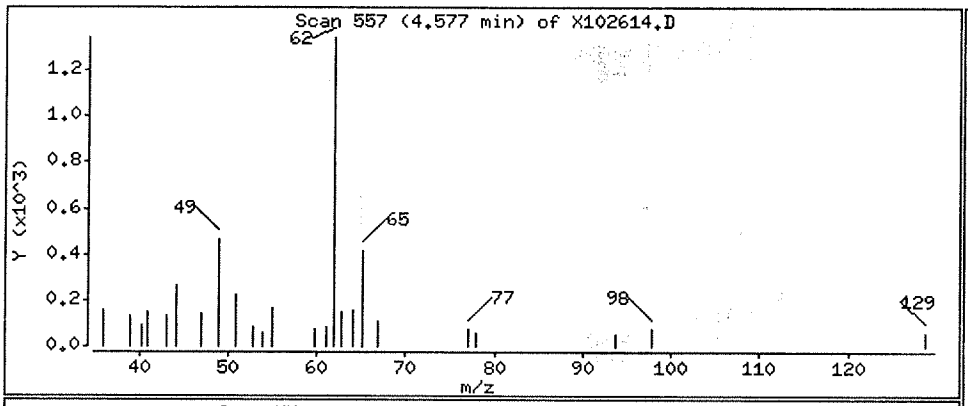
Operator: PC

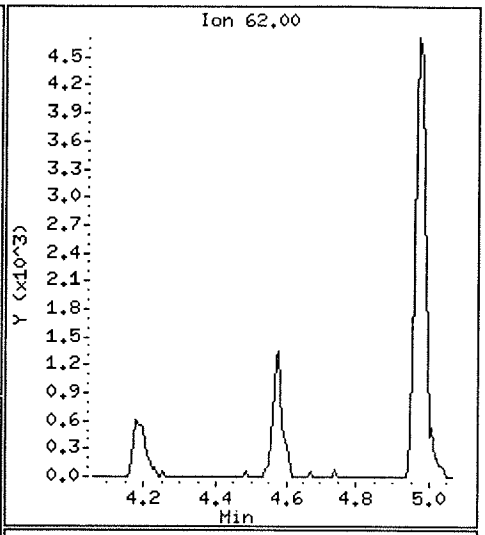
Column phase: DB624

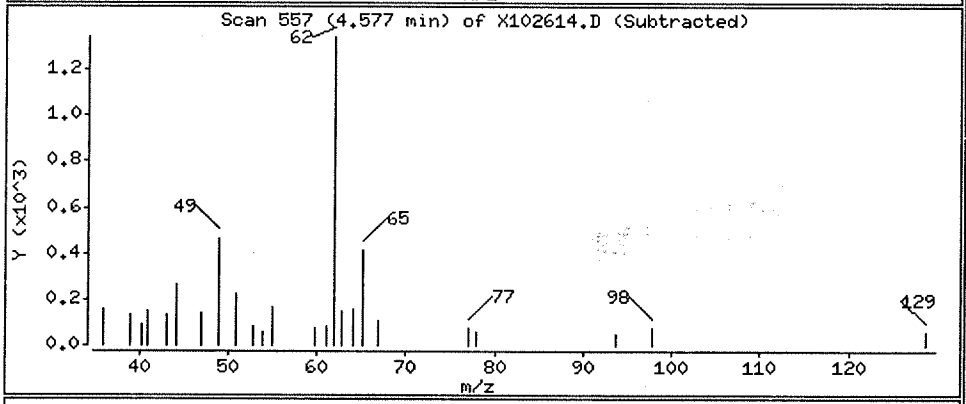
Column diameter: 0.18

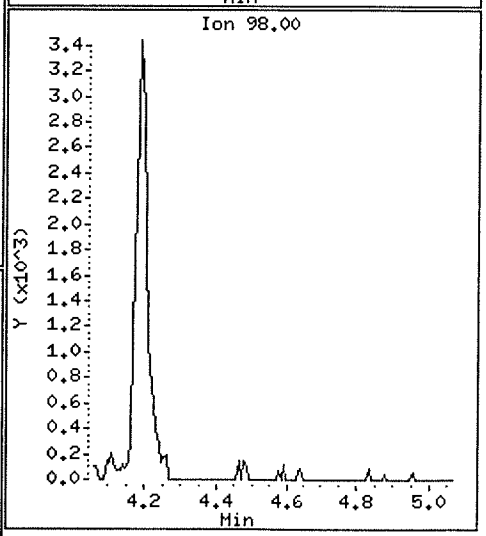
33 1,2-Dichloroethane

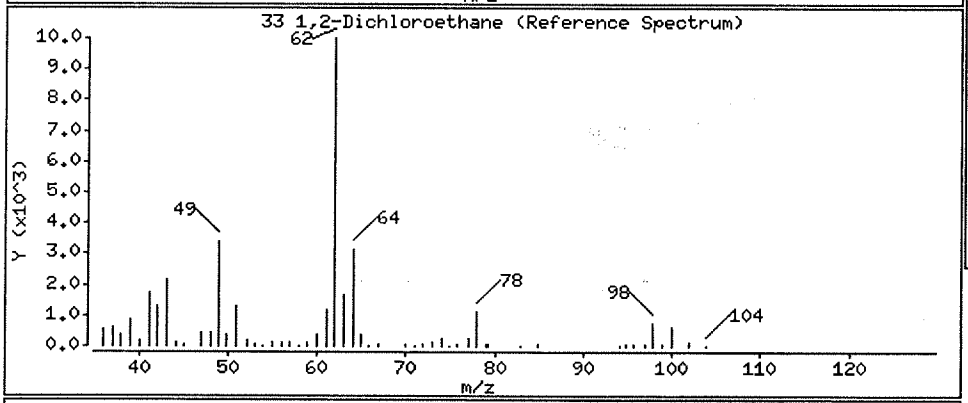
Concentration: 5.37 ug/l

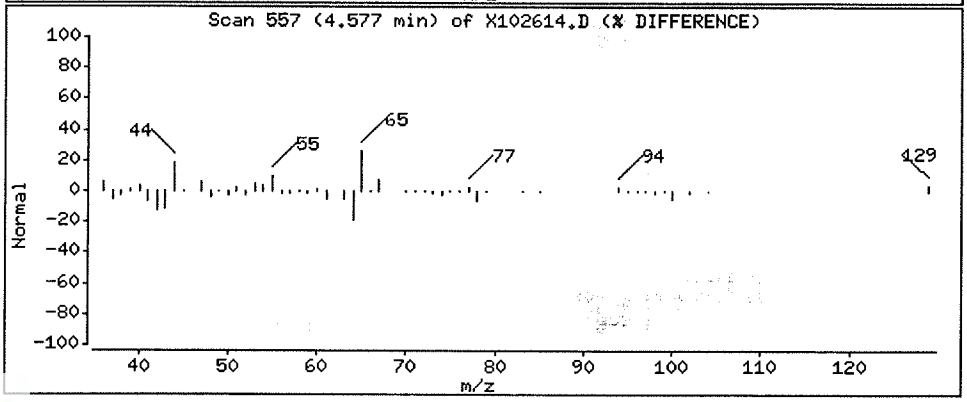












Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102614.D

Date : 26-OCT-2020 14:59

Client ID: HS20100719-05

Instrument: voa6.i

Sample Info: HS20100719-05;HS20100719-05;;;

Purge Volume: 5.0

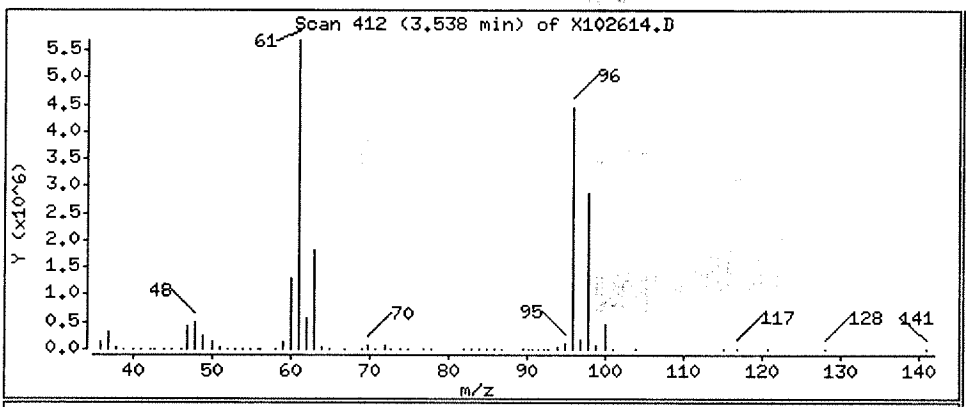
Operator: PC

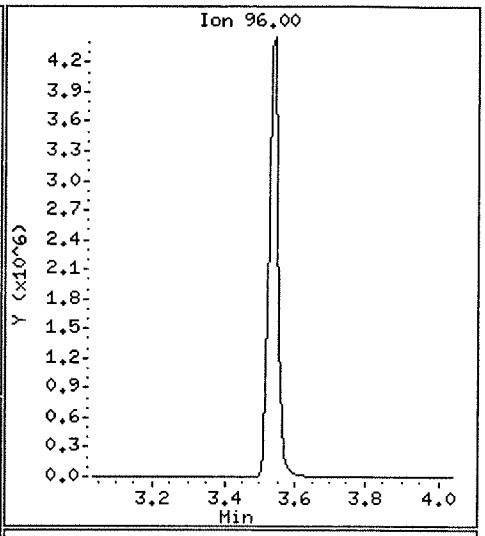
Column phase: DB624

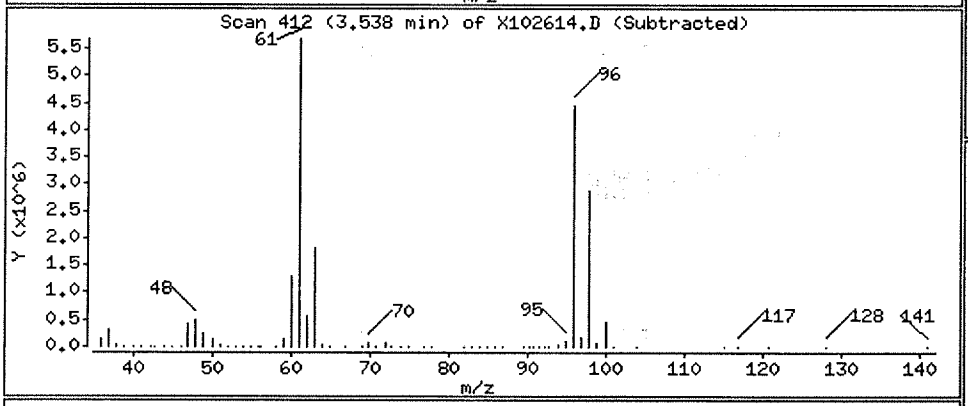
Column diameter: 0.18

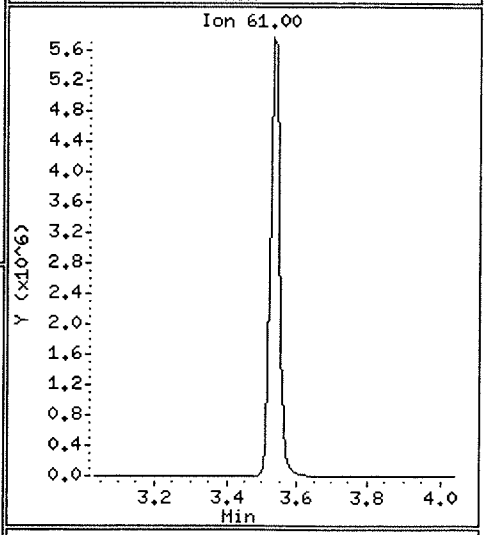
27 cis-1,2-Dichloroethene

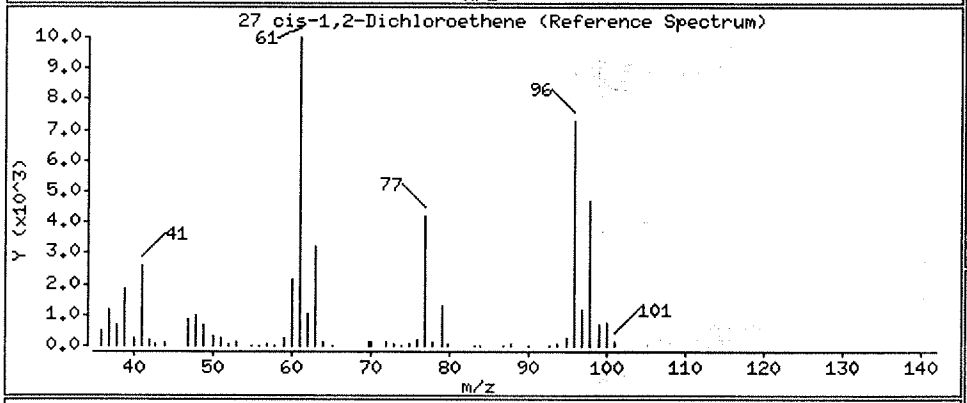
Concentration: 20234.19 ug/l

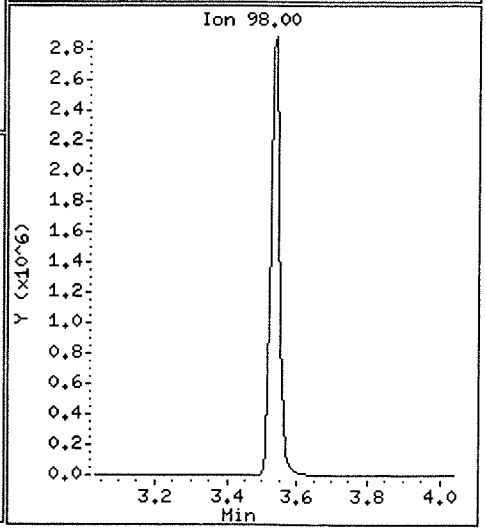


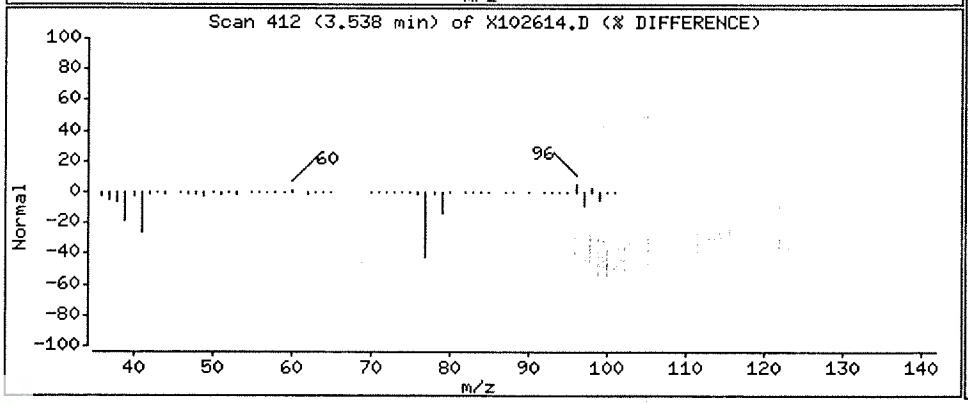












Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102614.D

Date : 26-OCT-2020 14:59

Client ID: HS20100719-05

Instrument: voa6.i

Sample Info: HS20100719-05;HS20100719-05;;;

Purge Volume: 5.0

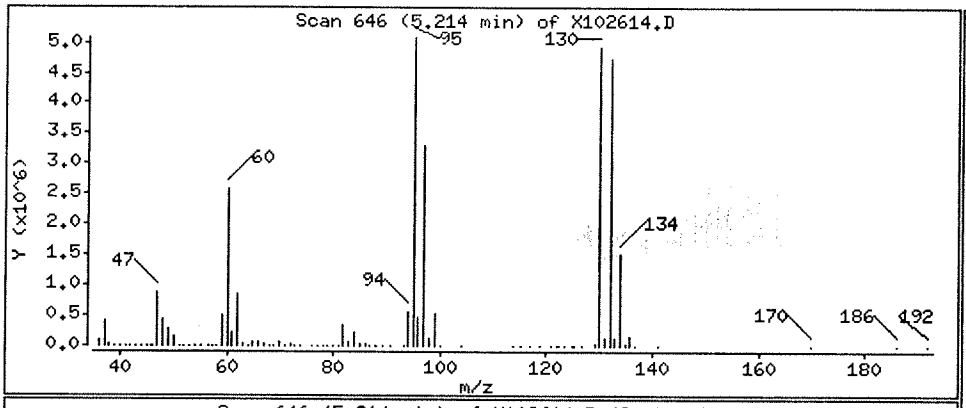
Operator: PC

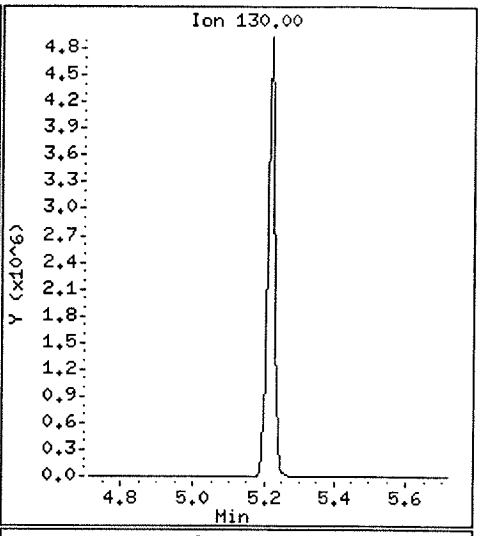
Column phase: DB624

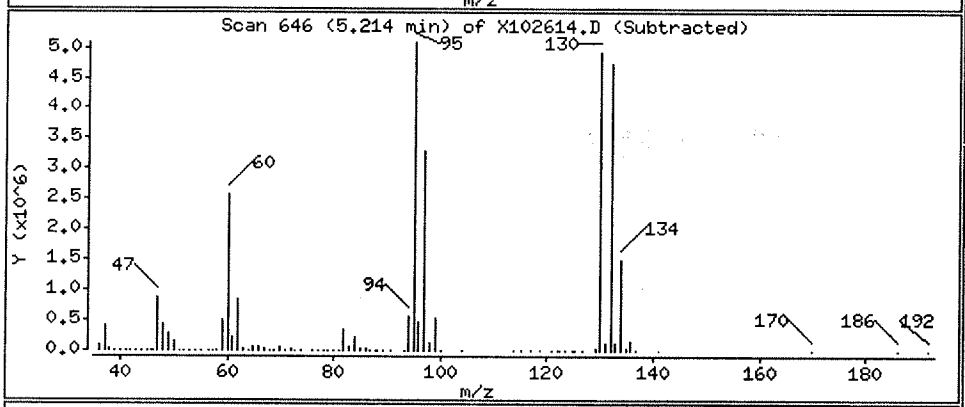
Column diameter: 0.18

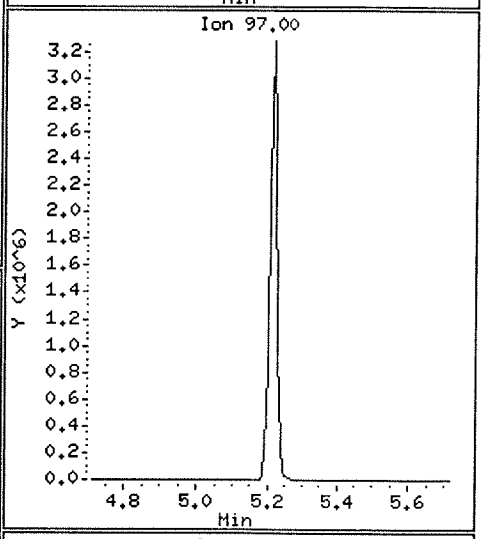
38 Trichloroethene

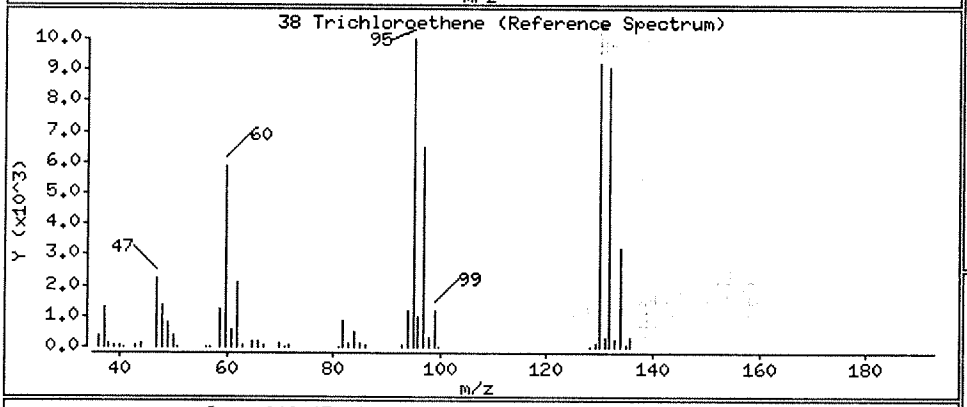
Concentration: 23032.93 ug/l

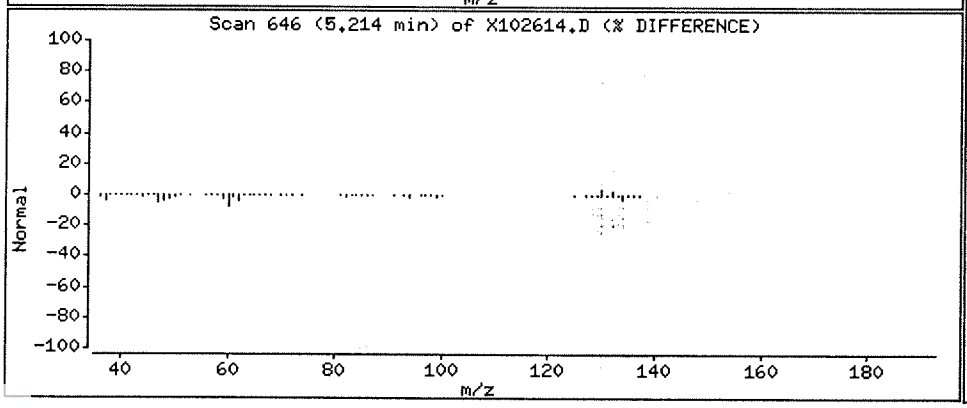


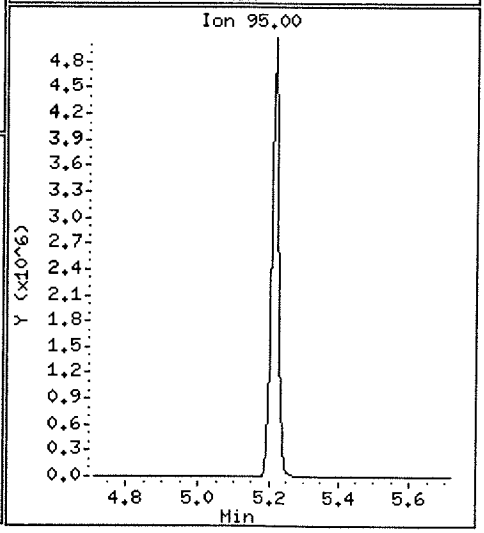












Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102614.D

Date : 26-OCT-2020 14:59

Client ID: HS20100719-05

Instrument: voa6.i

Sample Info: HS20100719-05;HS20100719-05;;;

Purge Volume: 5.0

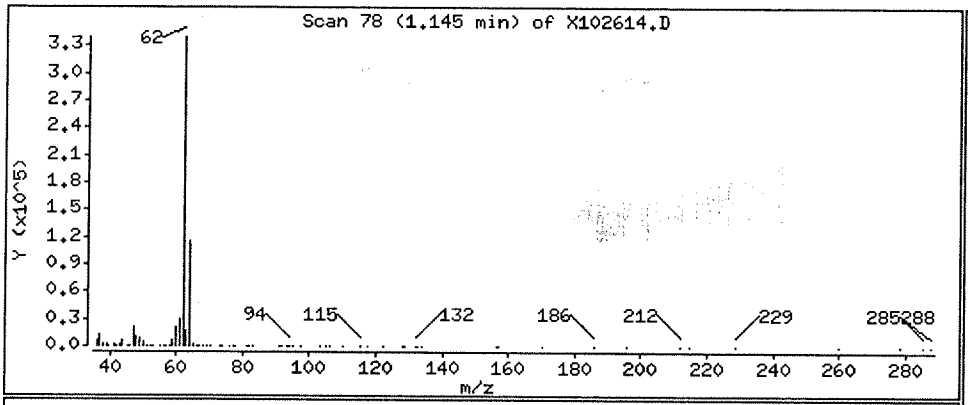
Operator: PC

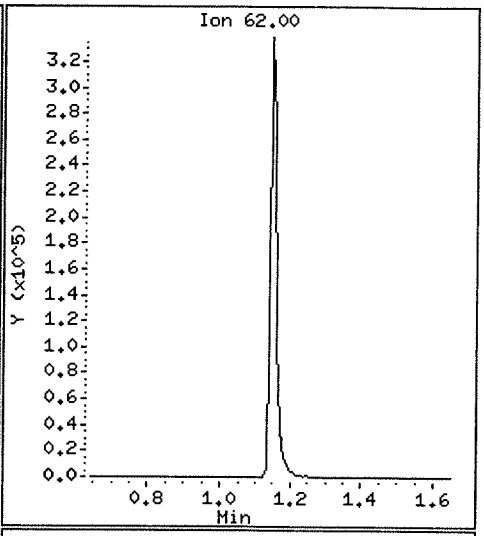
Column phase: DB624

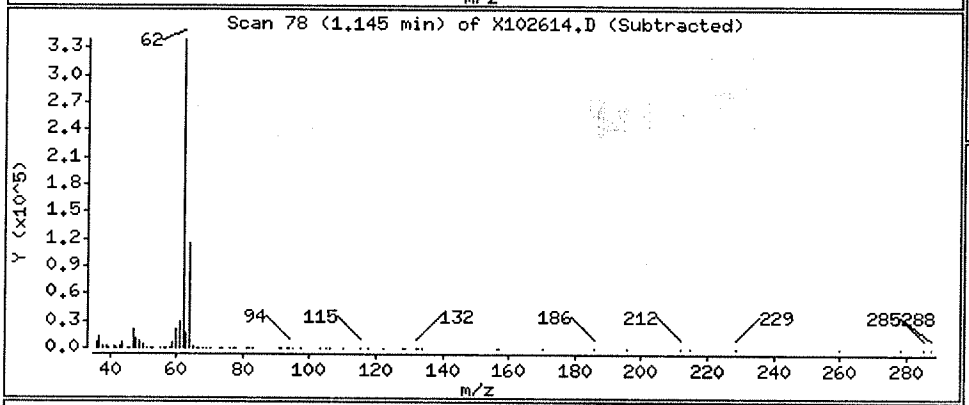
Column diameter: 0.18

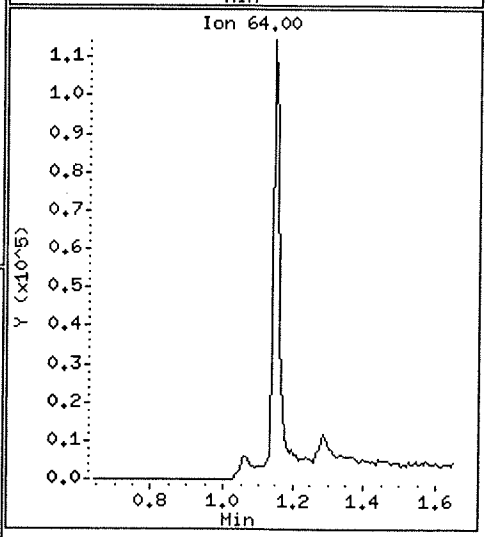
5 Vinyl Chloride

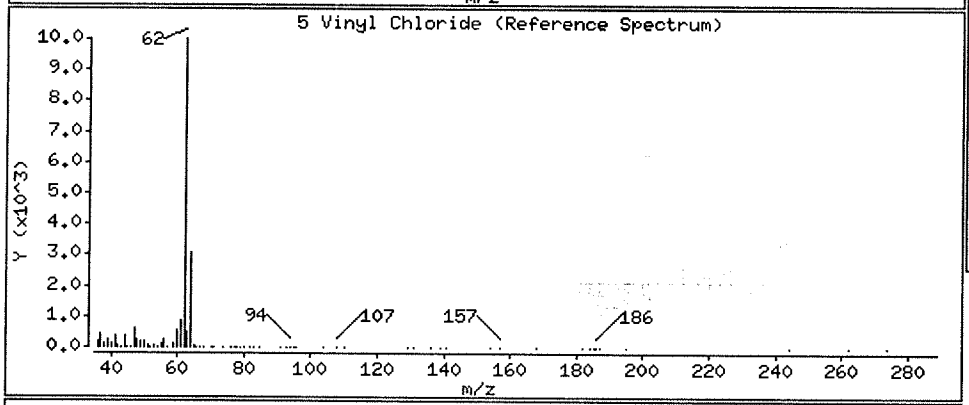
Concentration: 530.58 ug/l

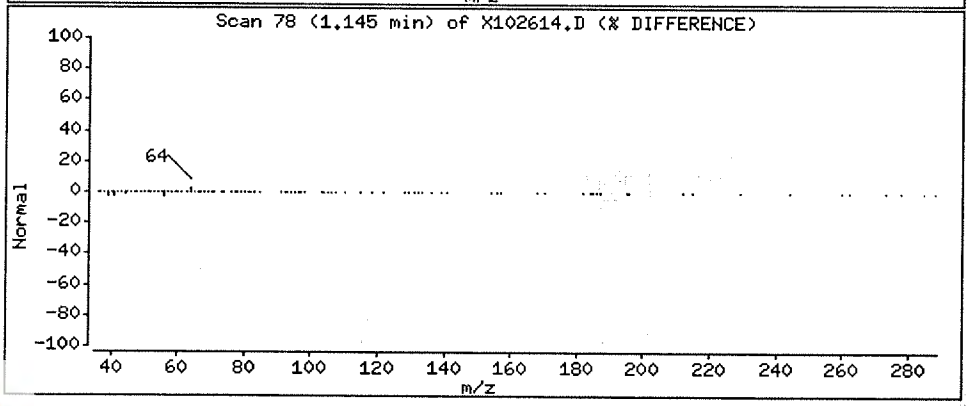












Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102616.D Page 1
Report Date: 30-Nov-2020 13:41

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201026.b\X102616.D
Lab Smp Id: HS20100719-05 Client Smp ID: HS20100719-05
Inj Date : 26-OCT-2020 15:41
Operator : PC Inst ID: voa6.i
Smp Info : HS20100719-05;HS20100719-05;;;
Misc Info : HS18090001;WATER;0;200;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201026.b\8260W.m
Meth Date : 30-Nov-2020 13:37 dev.giga Quant Type: ISTD
Cal Date : 25-OCT-2020 19:09 Cal File: X102508.D
Als bottle: 16
Dil Factor: 200.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

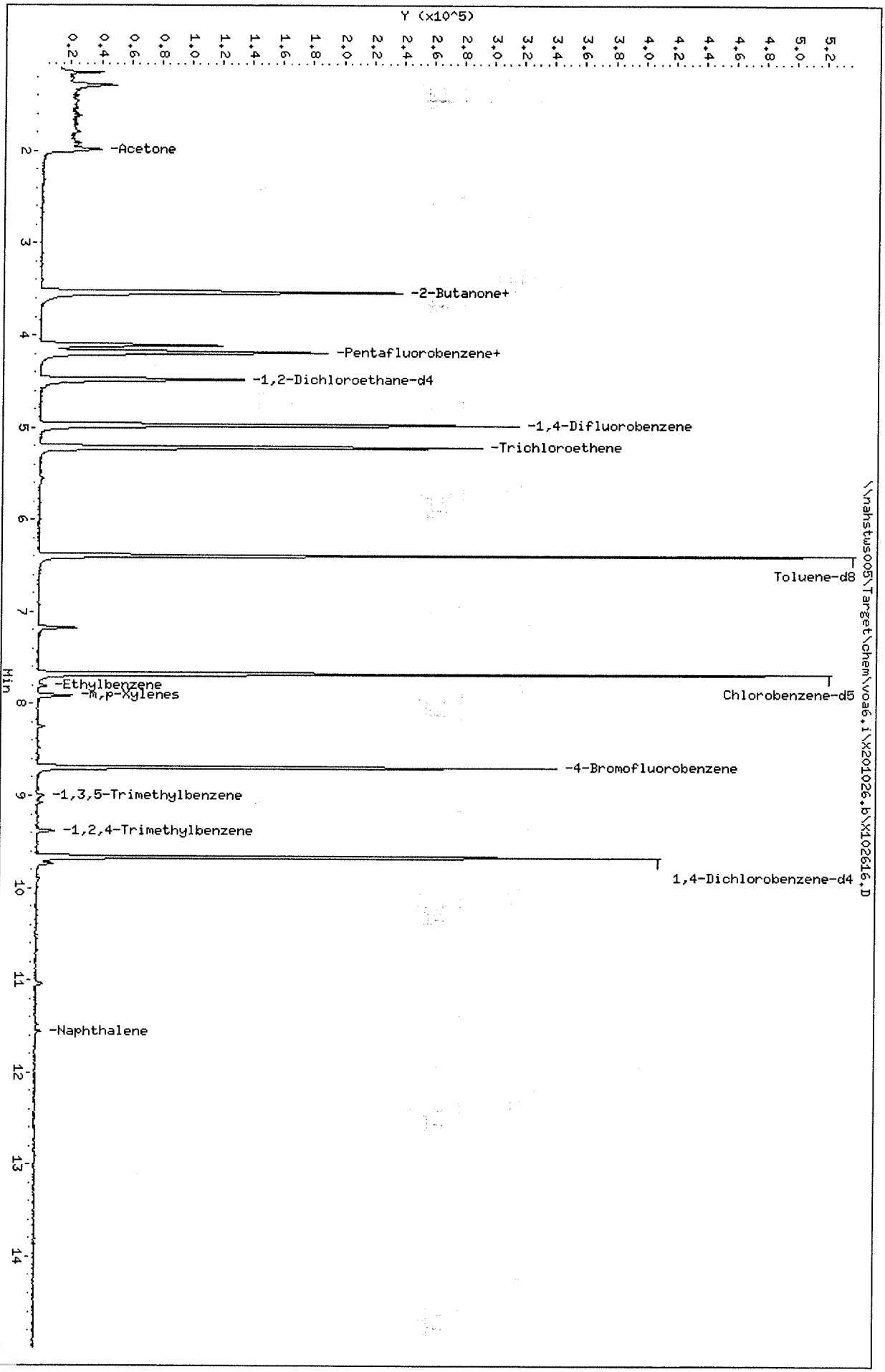
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	200.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	133779	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	231816	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	206613	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	80037	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.070)	98096	41.8900	41.88
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	85678	43.6129	43.61
$ 30 Dibromofluoromethane	113	4.111	4.111	(0.981)	78453	42.5997	42.59
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	287822	49.4147	49.41
27 cis-1,2-Dichloroethene	96	3.538	3.538	(0.844)	110509	52.7885	10557.69
38 Trichloroethene	130	5.214	5.214	(1.049)	79892	52.3979	10479.57
5 Vinyl Chloride	62	1.145	1.145	(0.273)	15864	3.85727	771.45(a)

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).



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Date : 26-OCT-2020 15:41
Client ID: HS20100719-05
Sample Info: HS20100719-05;HS20100719-05;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102616.D

Date : 26-OCT-2020 15:41

Client ID: HS20100719-05

Instrument: voa6.i

Sample Info: HS20100719-05;HS20100719-05;;;

Purge Volume: 5.0

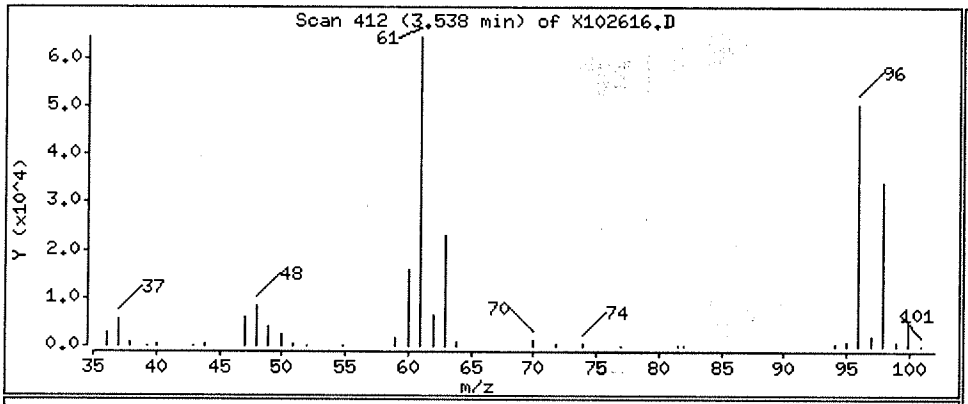
Operator: PC

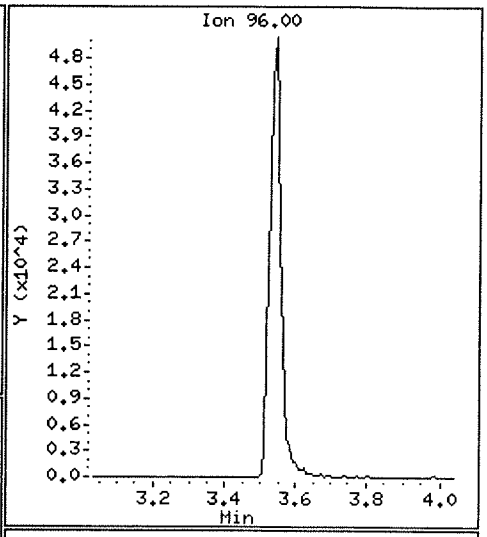
Column phase: DB624

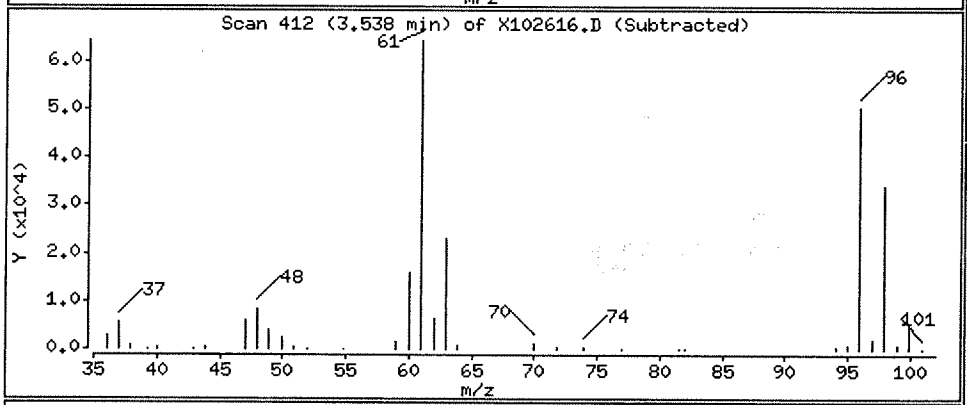
Column diameter: 0.18

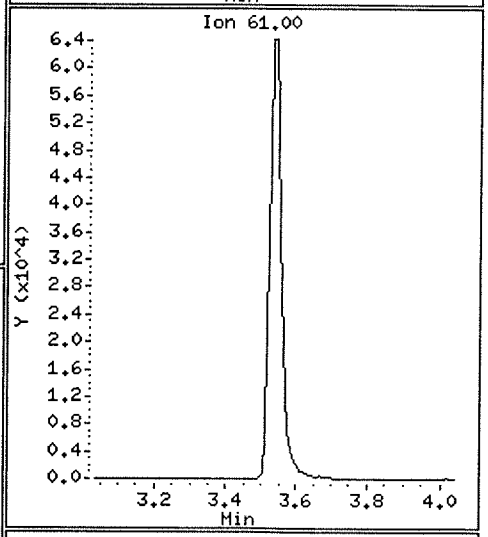
27 cis-1,2-Dichloroethene

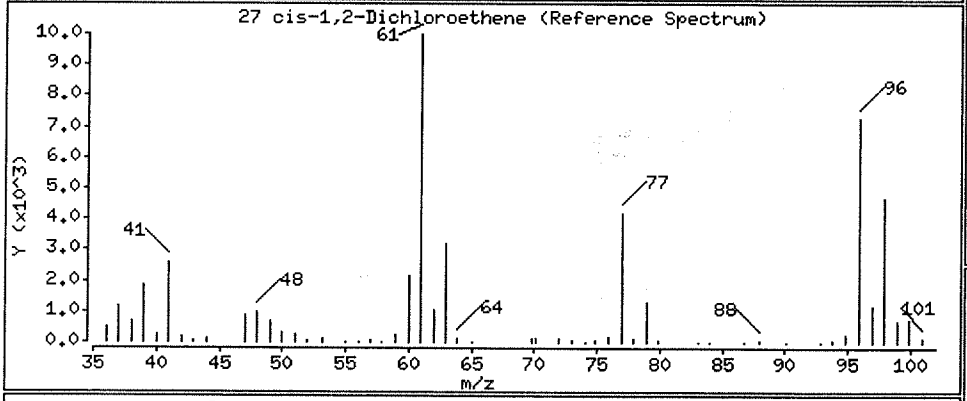
Concentration: 10557.69 ug/l

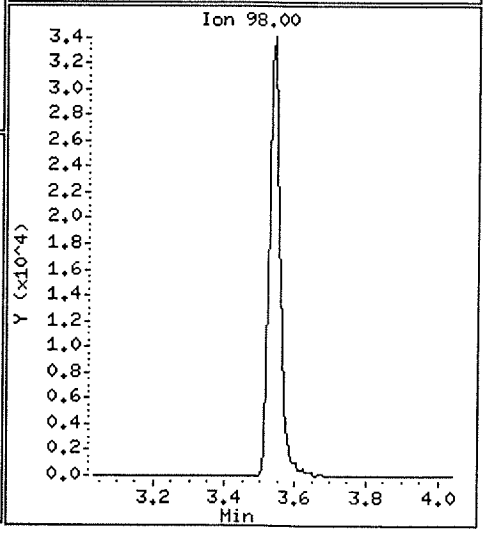


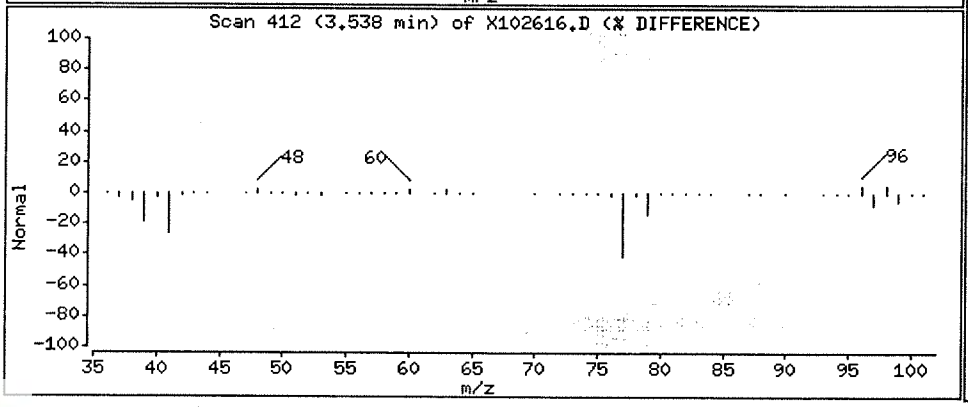












Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102616.D

Date : 26-OCT-2020 15:41

Client ID: HS20100719-05

Instrument: voa6.i

Sample Info: HS20100719-05;HS20100719-05;;;

Purge Volume: 5.0

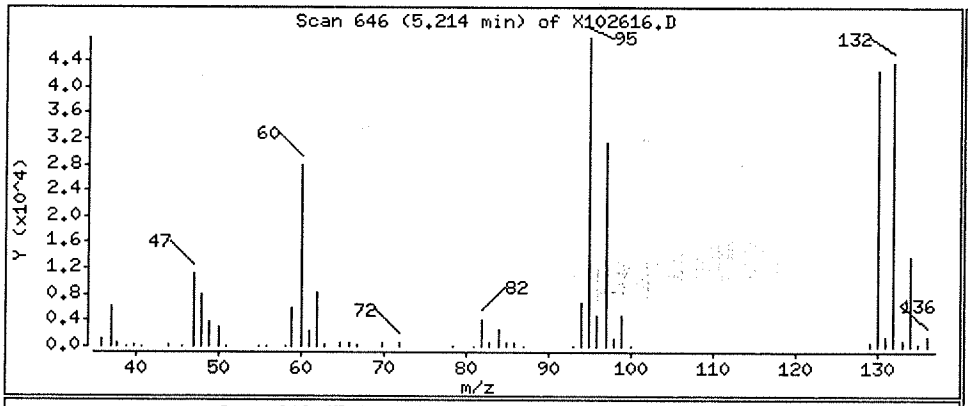
Operator: PC

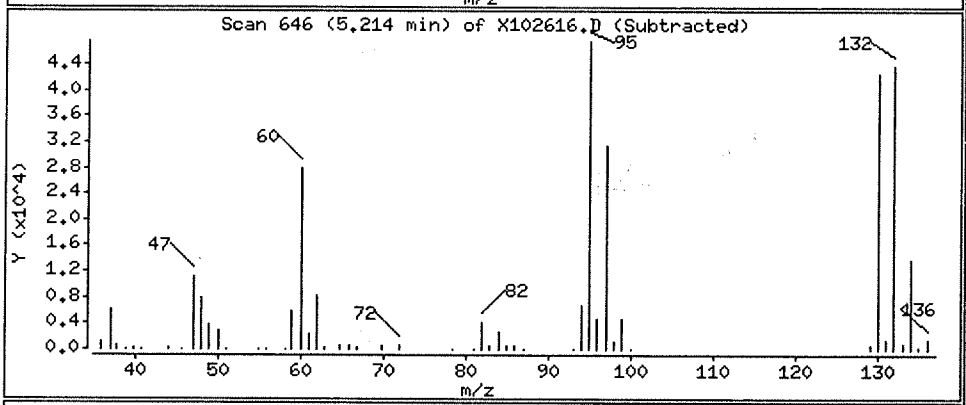
Column phase: DB624

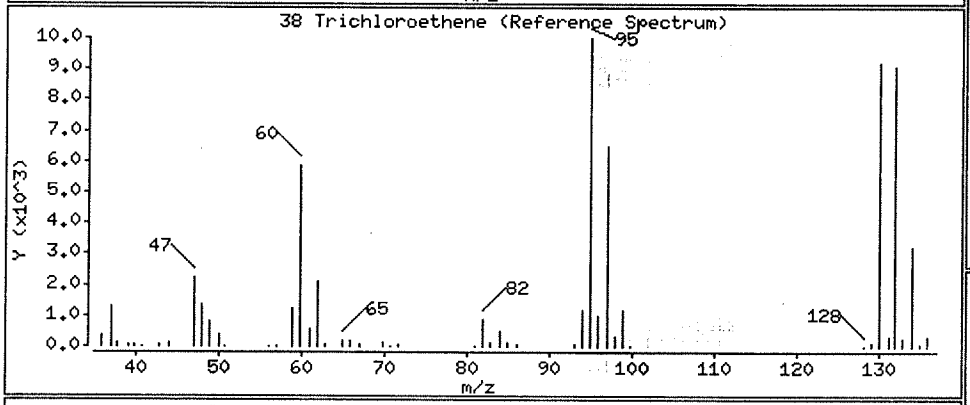
Column diameter: 0.18

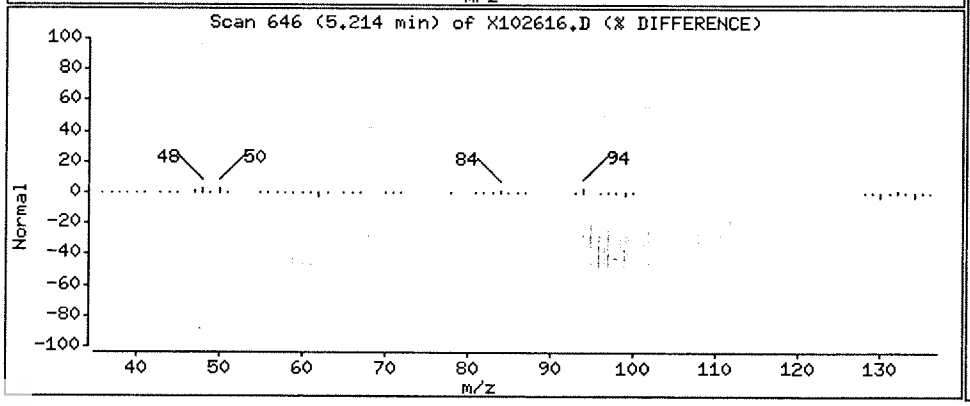
38 Trichloroethene

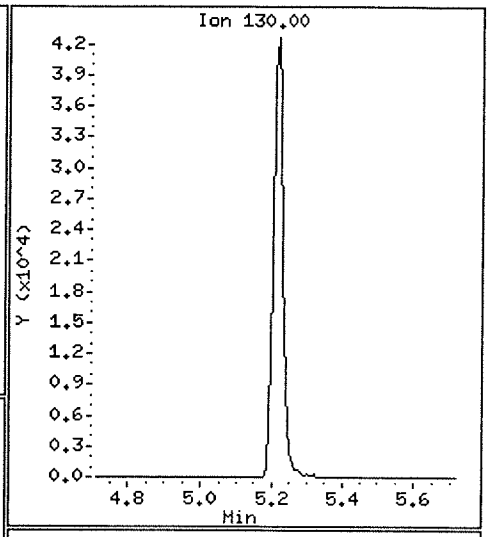
Concentration: 10479.57 ug/l

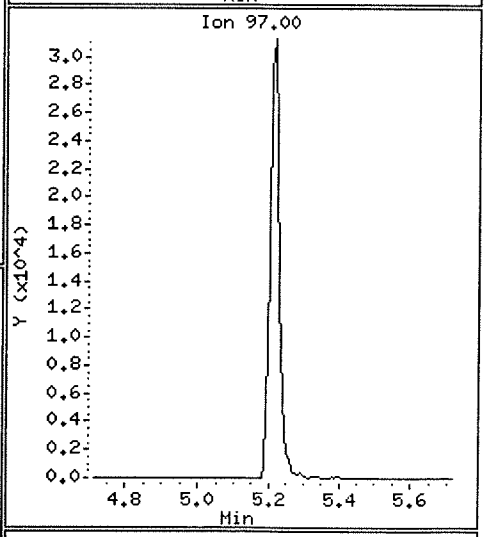


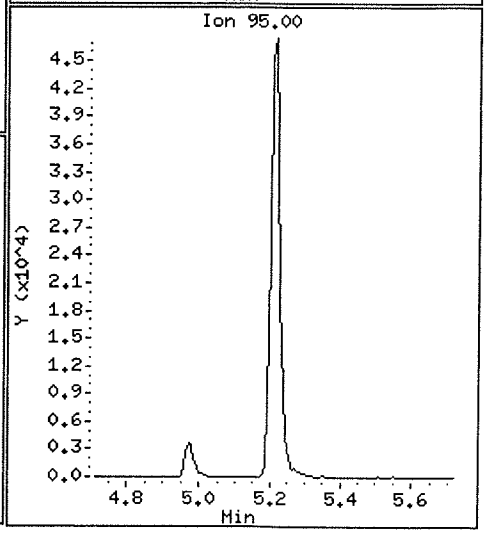












Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102616.D

Date : 26-OCT-2020 15:41

Client ID: HS20100719-05

Instrument: voa6.i

Sample Info: HS20100719-05;HS20100719-05;;;

Purge Volume: 5.0

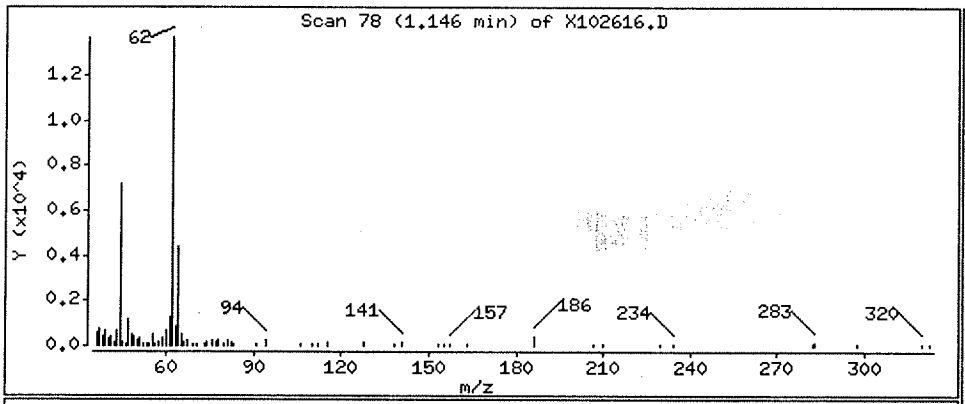
Operator: PC

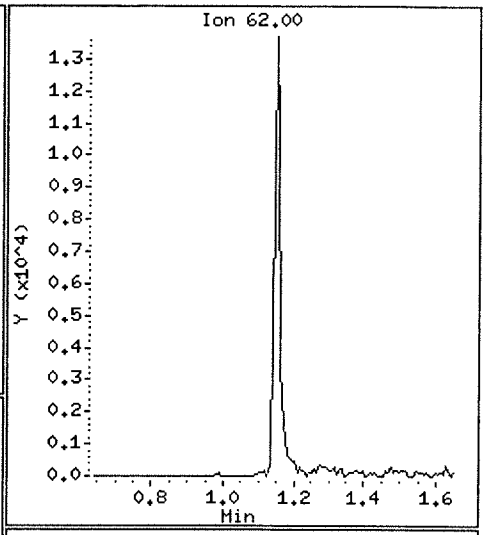
Column phase: DB624

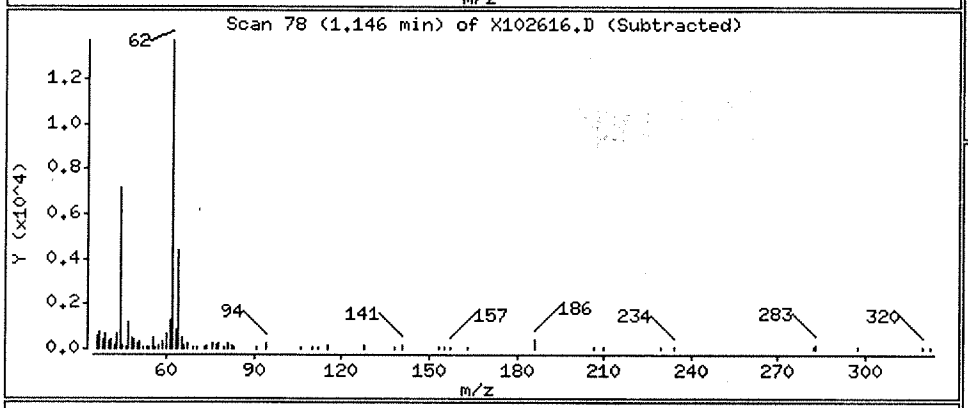
Column diameter: 0.18

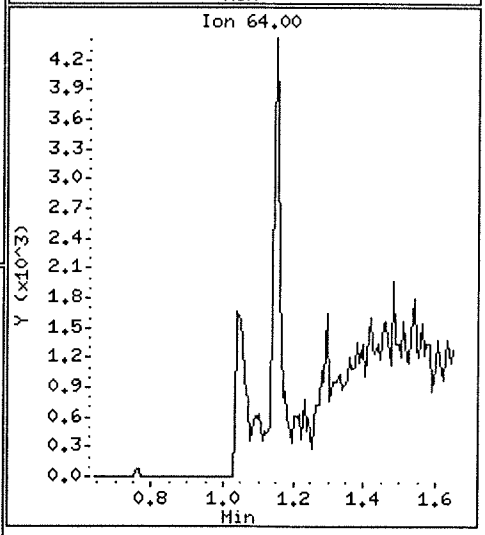
5 Vinyl Chloride

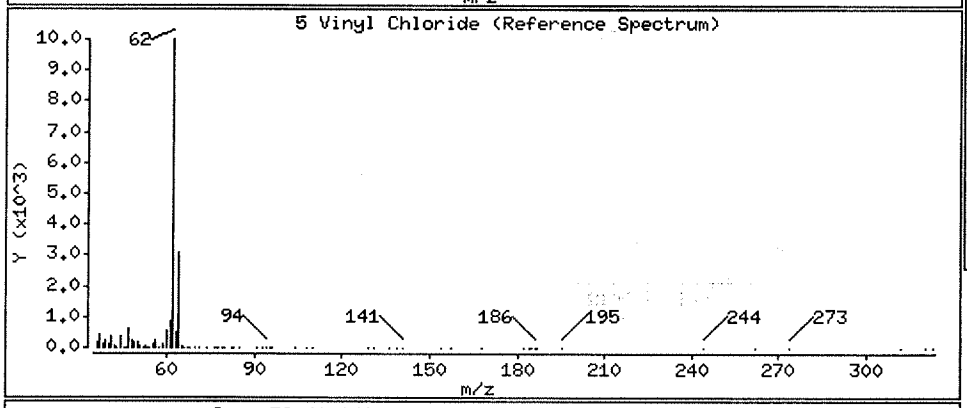
Concentration: 771.45 ug/l

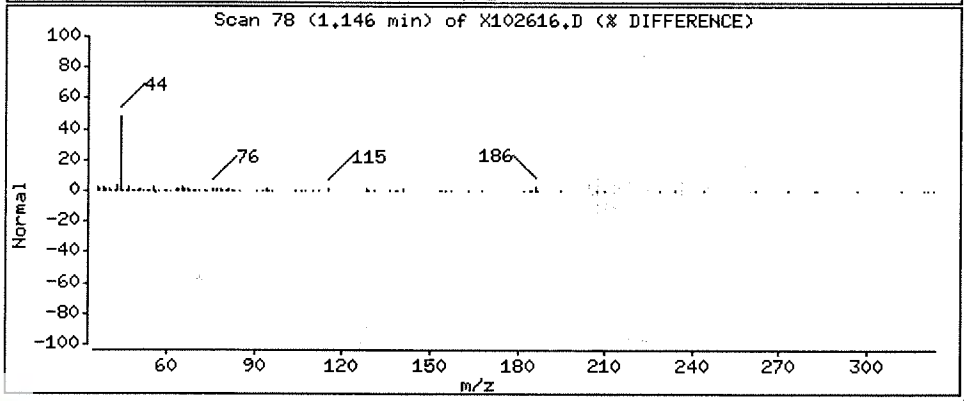












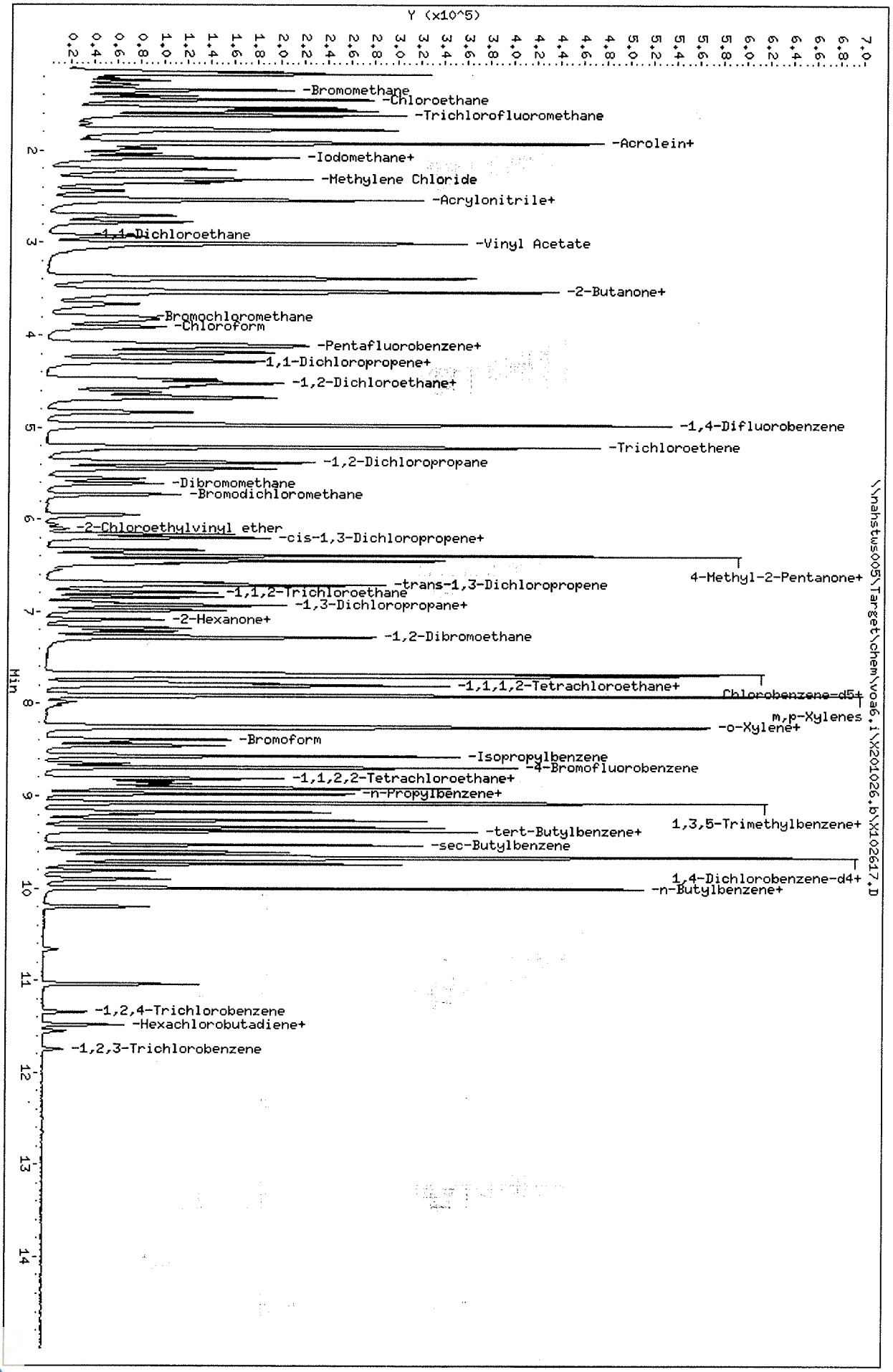
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201026.b\X102617.D
Lab Smp Id: HS20100719-05MS Client Smp ID: HS20100719-05MS
Inj Date : 26-OCT-2020 16:02
Operator : PC Inst ID: voa6.i
Smp Info : HS20100719-05MS;HS20100719-05MS;3;;MS
Misc Info : HS18090001;WATER;0;200;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201026.b\8260W.m
Meth Date : 30-Nov-2020 13:31 voa6.i Quant Type: ISTD
Cal Date : 25-OCT-2020 19:09 Cal File: X102508.D
Als bottle: 17 QC Sample: MS
Dil Factor: 200.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	200.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	136319	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	250963	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	232511	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	93700	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.070)	101081	42.3600	42.36
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	96680	43.7263	43.72
$ 30 Dibromofluoromethane	113	4.111	4.110	(0.981)	82161	43.7819	43.78
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	303244	46.3733	46.37
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	31268	20.6739	4134.78
11 1,1-Dichloroethene	96	1.926	1.919	(0.460)	81077	24.4199	4883.97
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	63315	23.3592	4671.84
27 cis-1,2-Dichloroethene	96	3.538	3.537	(0.844)	163155	76.4845	15296.90
17 Methylene Chloride	84	2.313	2.313	(0.552)	42110	19.5484	3909.68
38 Trichloroethene	130	5.214	5.214	(1.049)	126894	76.8750	15374.99
5 Vinyl Chloride	62	1.145	1.145	(0.273)	119548	28.5261	5705.21



Data File: \\nahstus005\Target\chem\voa6.i\X201026.b\X102617.D
Date : 26-OCT-2020 16:02
Client ID: HS20100719-05HS
Sample Info: HS20100719-05HS;HS20100719-05HS;3;;MS
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102618.D Page 1
Report Date: 30-Nov-2020 13:31

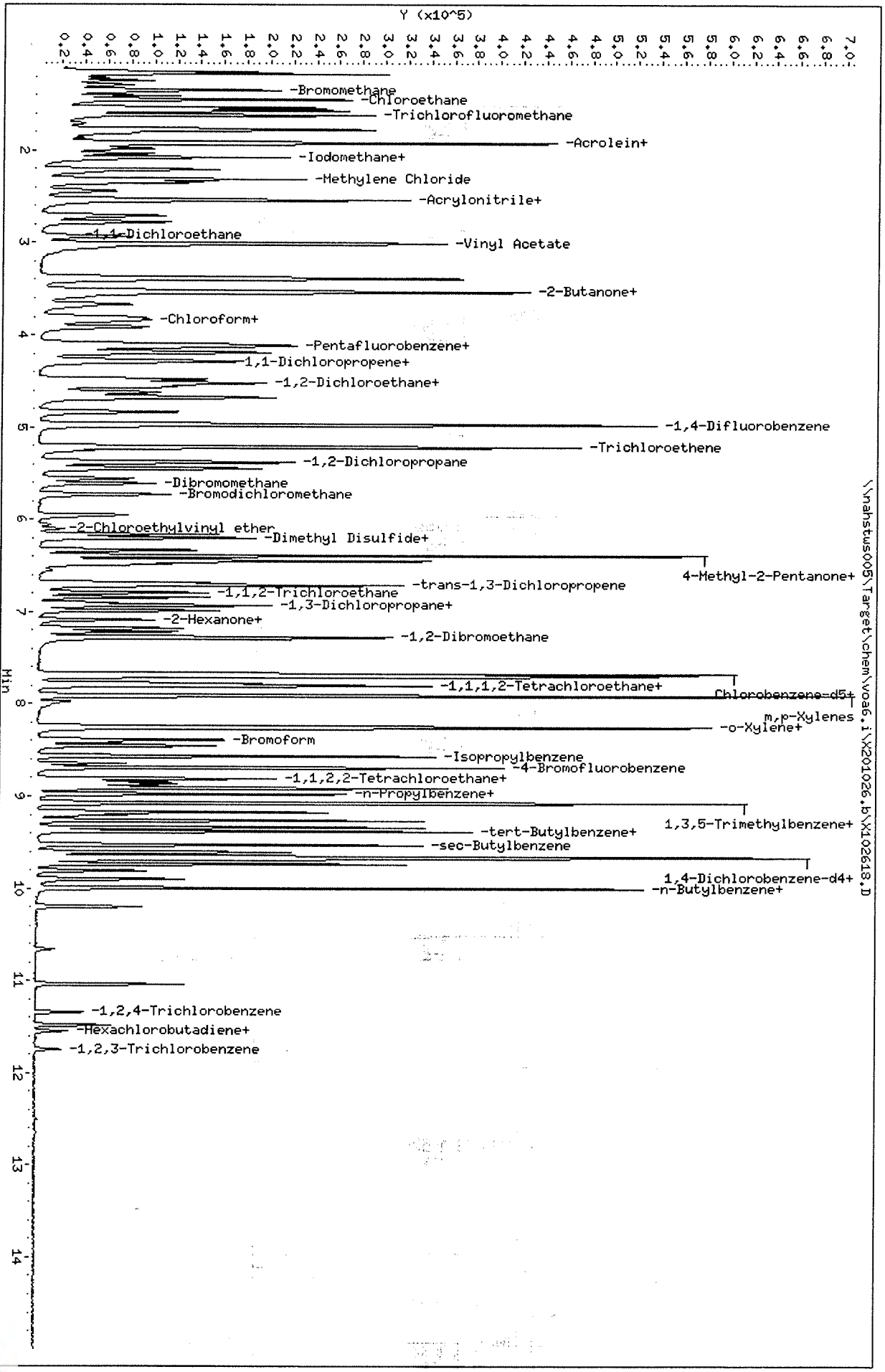
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201026.b\X102618.D
Lab Smp Id: HS20100719-05MSD Client Smp ID: HS20100719-05MSD
Inj Date : 26-OCT-2020 16:23
Operator : PC Inst ID: voa6.i
Smp Info : HS20100719-05MSD;HS20100719-05MSD;3;;MSD
Misc Info : HS18090001;WATER;0;200;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201026.b\8260W.m
Meth Date : 30-Nov-2020 13:31 voa6.i Quant Type: ISTD
Cal Date : 25-OCT-2020 19:09 Cal File: X102508.D
Als bottle: 17 QC Sample: MSD
Dil Factor: 200.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	200.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	135876	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	251796	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	227316	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	95096	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.483	(1.068)	101221	42.5568	42.55
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	94794	43.8473	43.84
$ 30 Dibromofluoromethane	113	4.110	4.110	(0.981)	82087	43.8851	43.88
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	300322	46.9537	46.95
53 1,1,2-Trichloroethane	83	6.840	6.847	(0.892)	31983	21.6300	4325.99
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	75452	22.7997	4559.94
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	60196	22.1350	4427.00
27 cis-1,2-Dichloroethene	96	3.537	3.537	(0.844)	159402	74.9688	14993.76
17 Methylene Chloride	84	2.313	2.313	(0.552)	38267	17.8223	3564.46
38 Trichloroethene	130	5.214	5.214	(1.049)	124329	75.0719	15014.37
5 Vinyl Chloride	62	1.145	1.145	(0.273)	110744	26.5114	5302.28



Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102618.D
Date : 26-OCT-2020 16:23
Client ID: HS20100719-05MSD
Sample Info: HS20100719-05MSD;HS20100719-05MSD;3;MSD
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201026.b\X102619.D
Lab Smp Id: HS20100719-04 Client Smp ID: HS20100719-04
Inj Date : 26-OCT-2020 16:44
Operator : PC Inst ID: voa6.i
Smp Info : HS20100719-04;HS20100719-04;;;
Misc Info : HS18090001;WATER;0;10;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201026.b\8260W.m
Meth Date : 30-Nov-2020 13:37 dev.giga Quant Type: ISTD
Cal Date : 25-OCT-2020 19:09 Cal File: X102508.D
Als bottle: 18
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	10.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

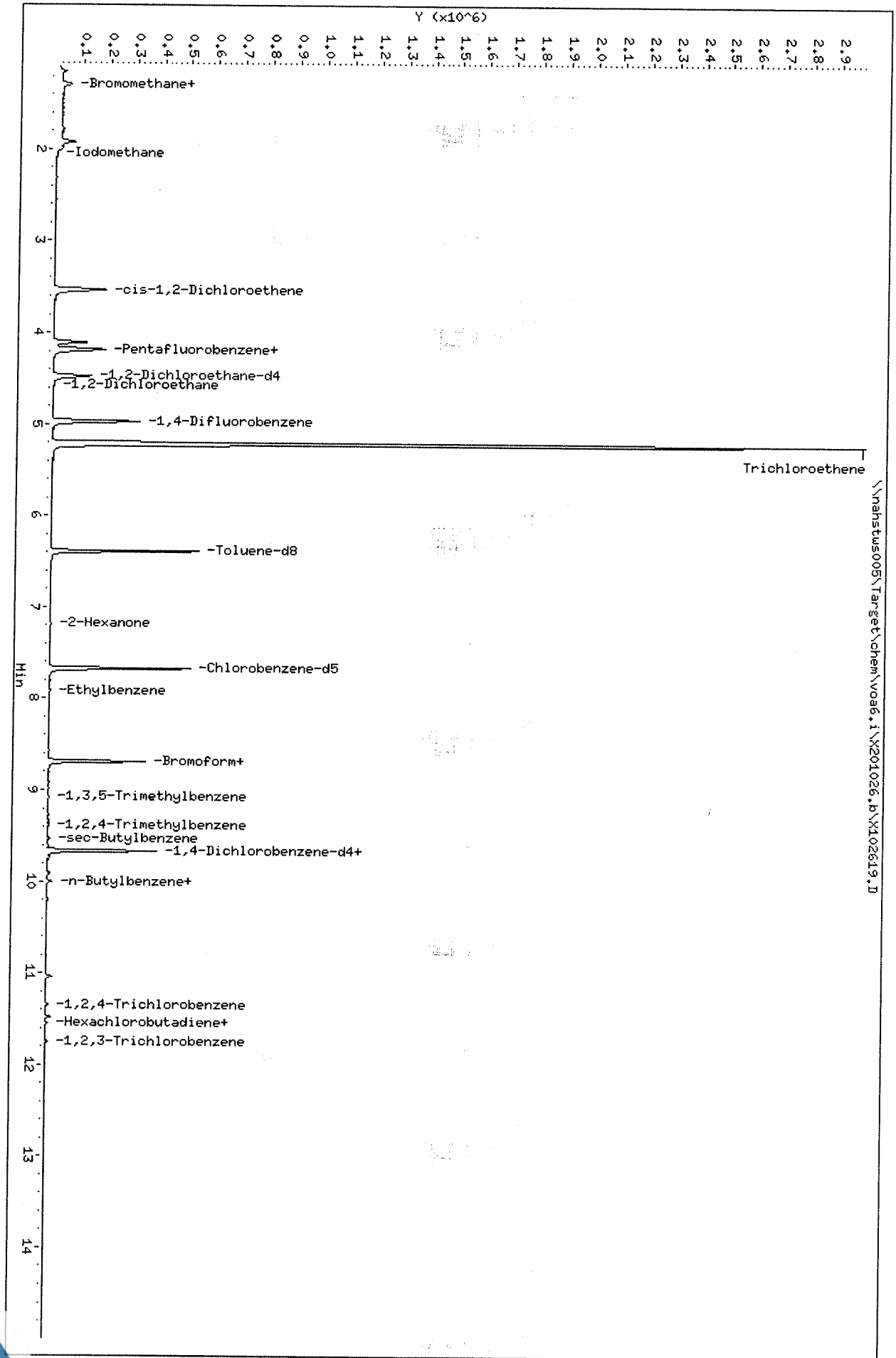
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	131184	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	233911	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	210418	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	79046	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.483	(1.068)	100015	43.5530	43.55
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	88868	44.3819	44.38
$ 30 Dibromofluoromethane	113	4.103	4.111	(0.979)	79435	43.9862	43.98
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	287741	48.5391	48.53
33 1,2-Dichloroethane	62	4.576	4.562	(0.921)	2996	1.18591	11.85(a)
27 cis-1,2-Dichloroethene	96	3.537	3.538	(0.844)	91932	44.7832	447.83
38 Trichloroethene	130	5.214	5.214	(1.049)	782901	508.874	5088.73(A)
5 Vinyl Chloride	62	1.145	1.145	(0.273)	10668	2.64520	26.45(a)

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount exceeded maximum amount.

Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102619.D
Date : 26-OCT-2020 16:44
Client ID: HS201007I9-04
Sample Info: HS201007I9-04;HS201007I9-04;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102619.D

Date : 26-OCT-2020 16:44

Client ID: HS20100719-04

Instrument: voa6.i

Sample Info: HS20100719-04;HS20100719-04;;;

Purge Volume: 5.0

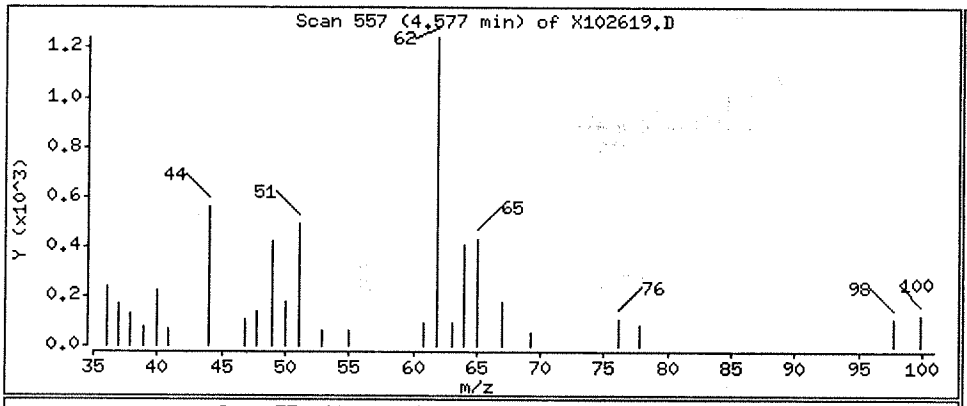
Operator: PC

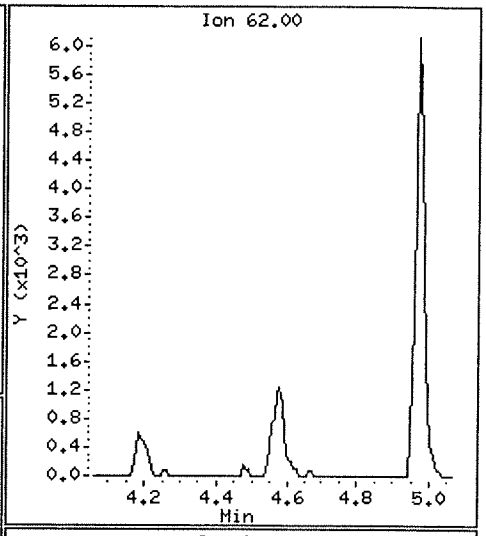
Column phase: DB624

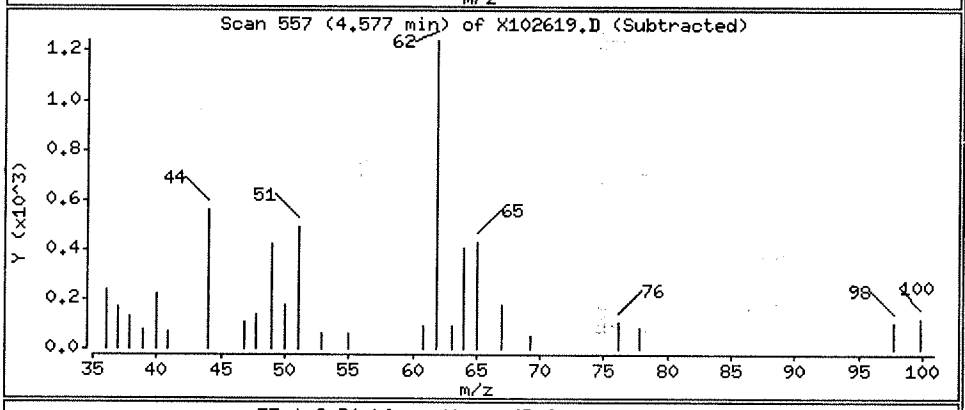
Column diameter: 0.18

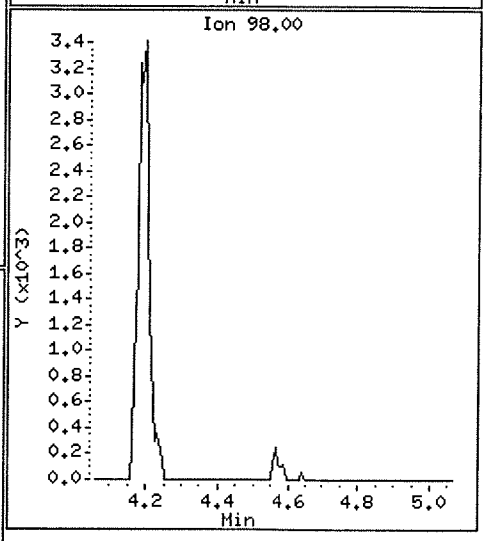
33 1,2-Dichloroethane

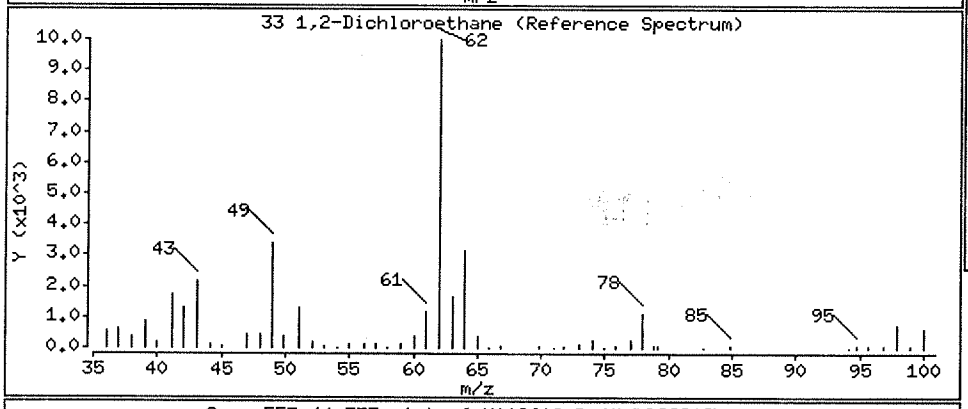
Concentration: 11.85 ug/l

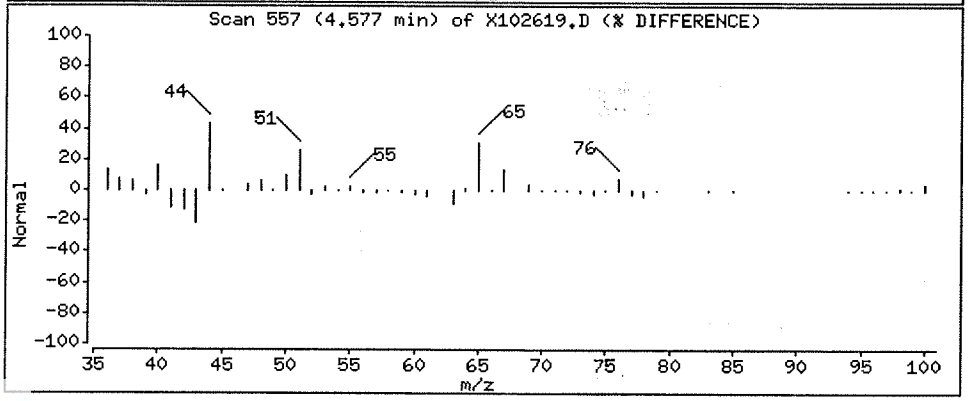












Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102619.D

Date : 26-OCT-2020 16:44

Client ID: HS20100719-04

Instrument: voa6.i

Sample Info: HS20100719-04;HS20100719-04;;;

Purge Volume: 5.0

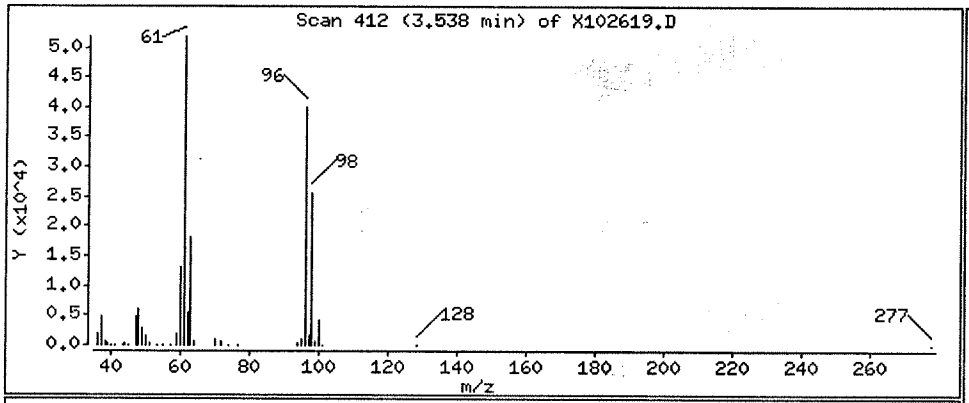
Operator: PC

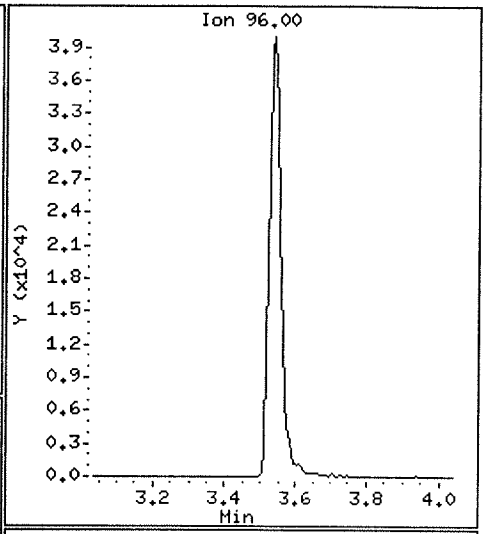
Column phase: DB624

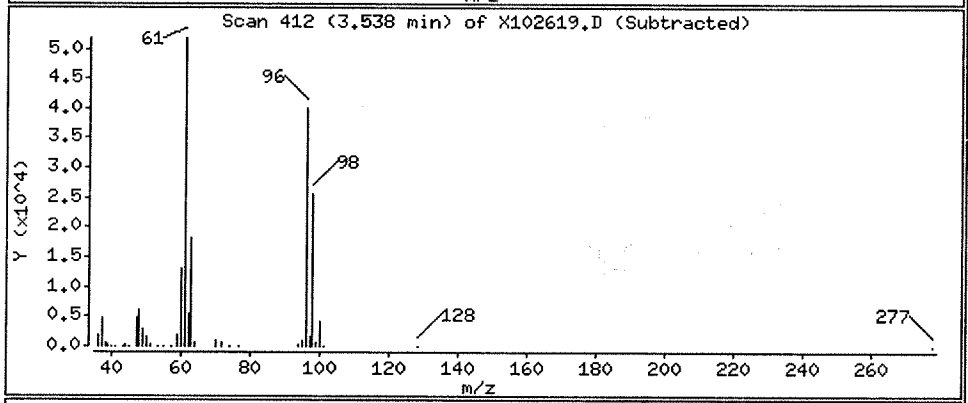
Column diameter: 0.18

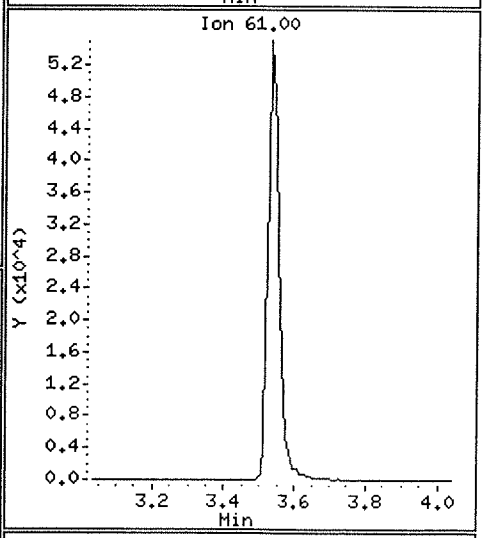
27 cis-1,2-Dichloroethene

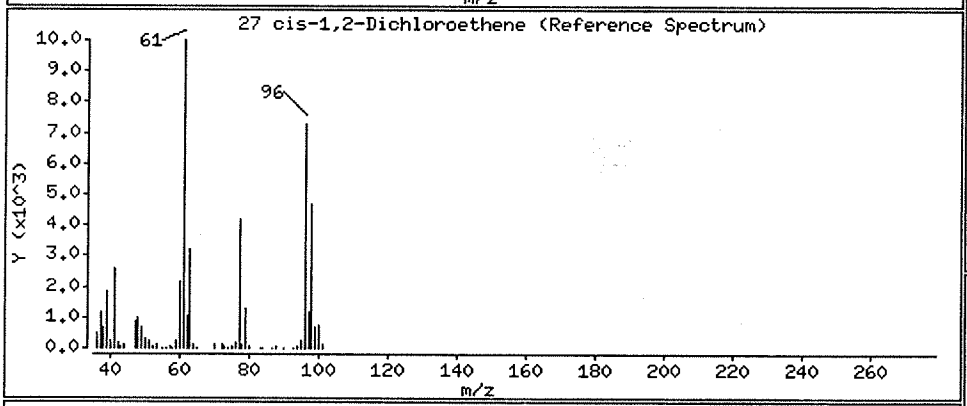
Concentration: 447.83 ug/l

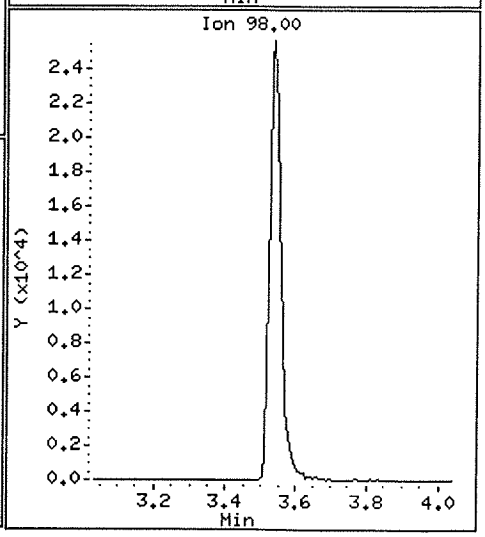


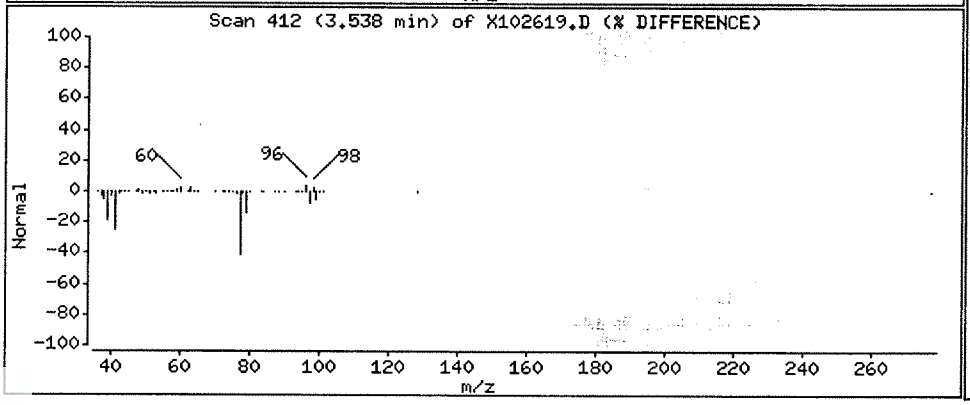












Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102619.D

Date : 26-OCT-2020 16:44

Client ID: HS20100719-04

Instrument: voa6.i

Sample Info: HS20100719-04;HS20100719-04;;;

Purge Volume: 5.0

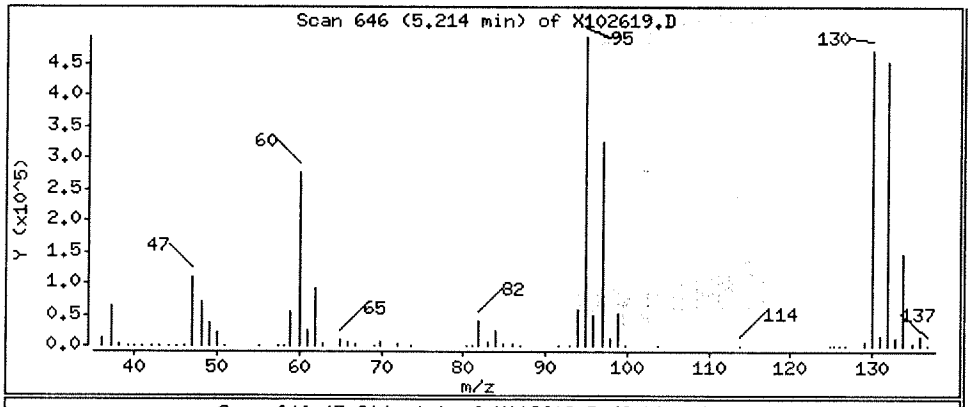
Operator: PC

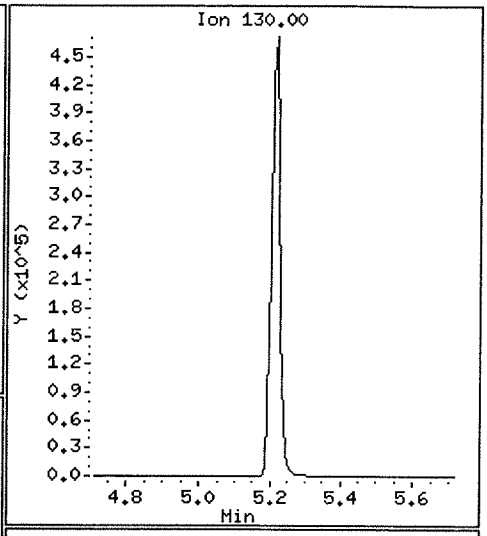
Column phase: DB624

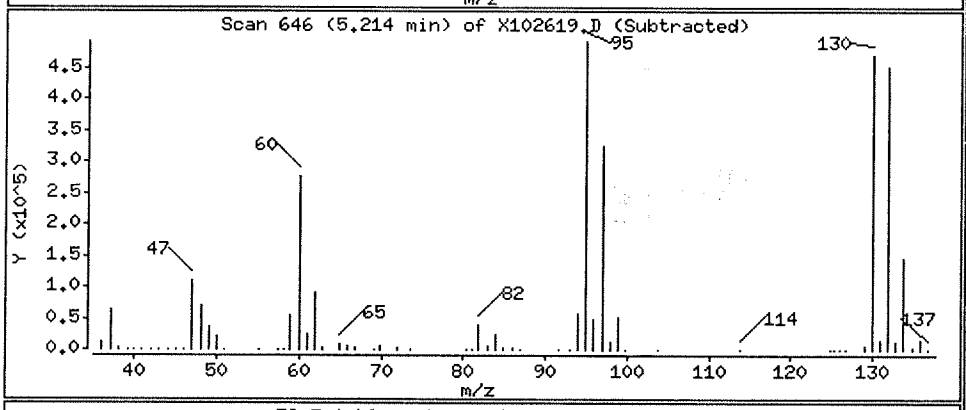
Column diameter: 0.18

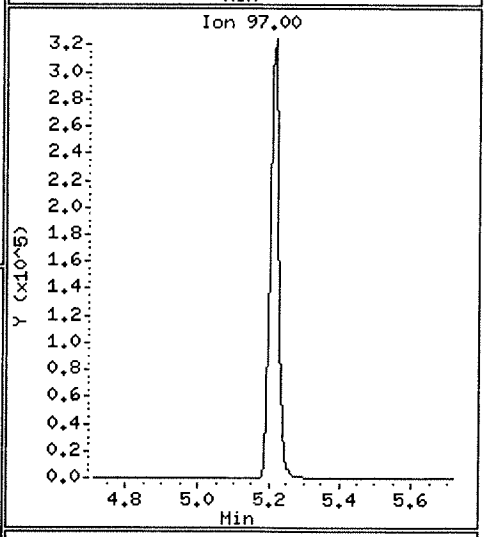
38 Trichloroethene

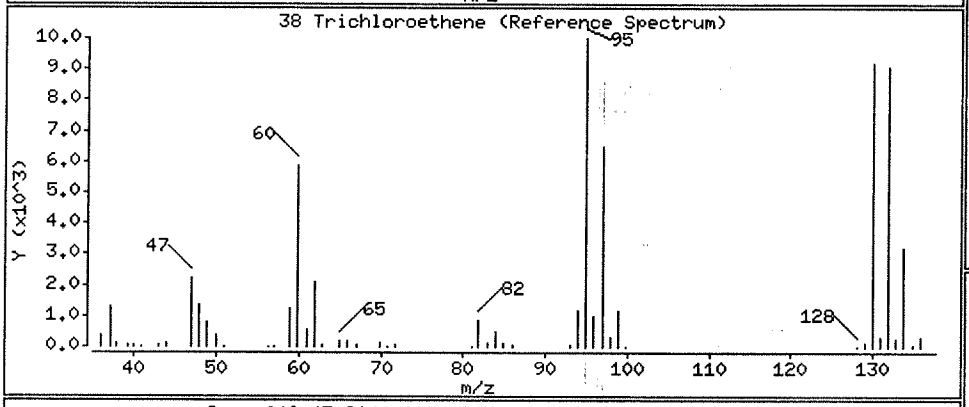
Concentration: 5088.73 ug/l

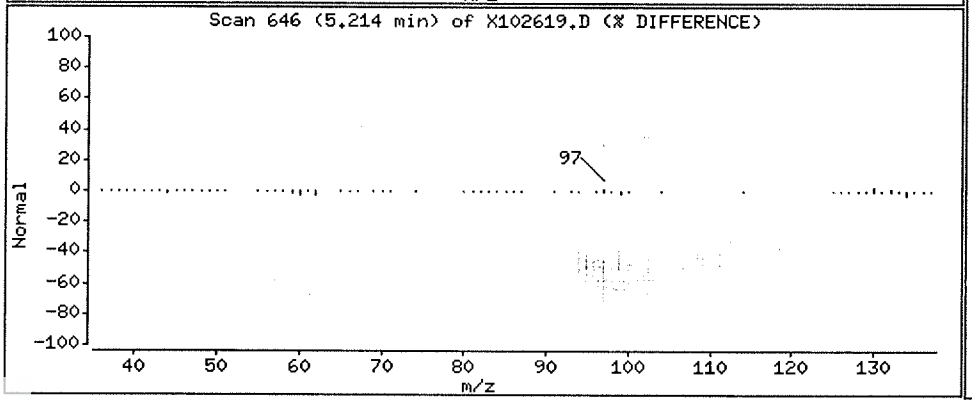


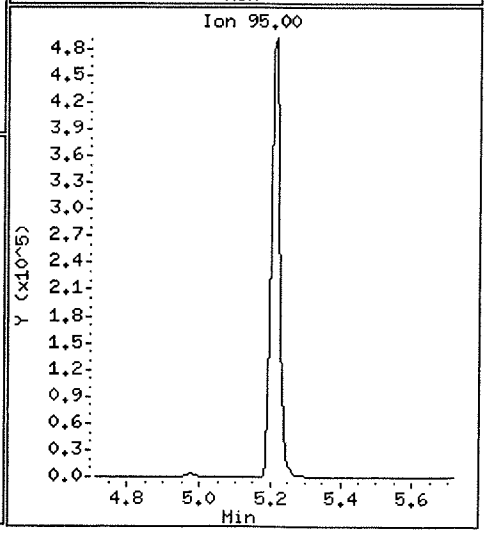












Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102619.D

Date : 26-OCT-2020 16:44

Client ID: HS20100719-04

Instrument: voa6.i

Sample Info: HS20100719-04;HS20100719-04;;;

Purge Volume: 5.0

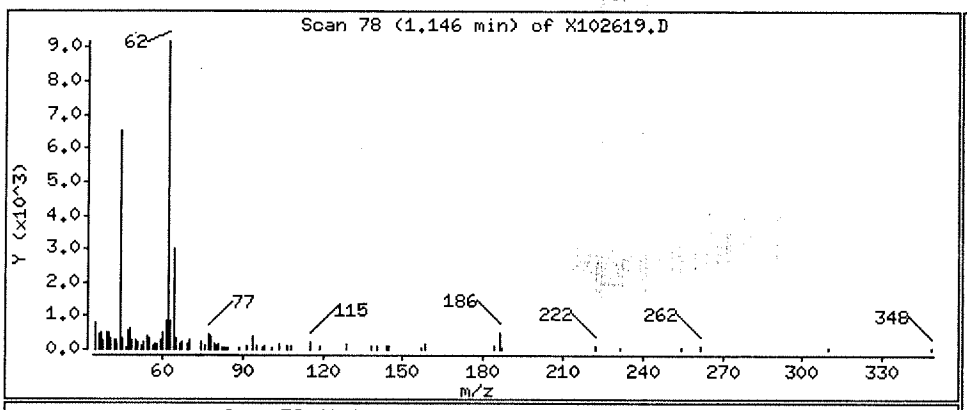
Operator: PC

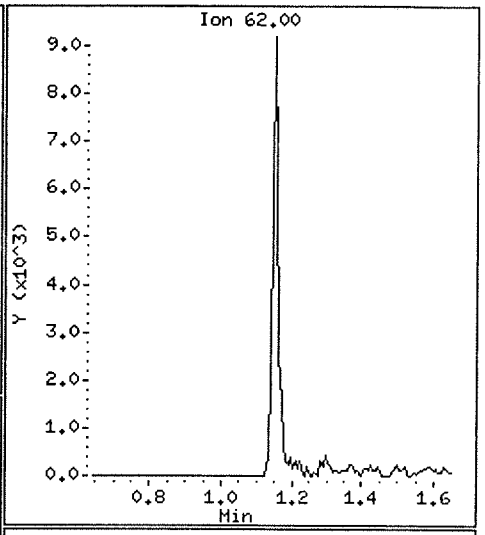
Column phase: DB624

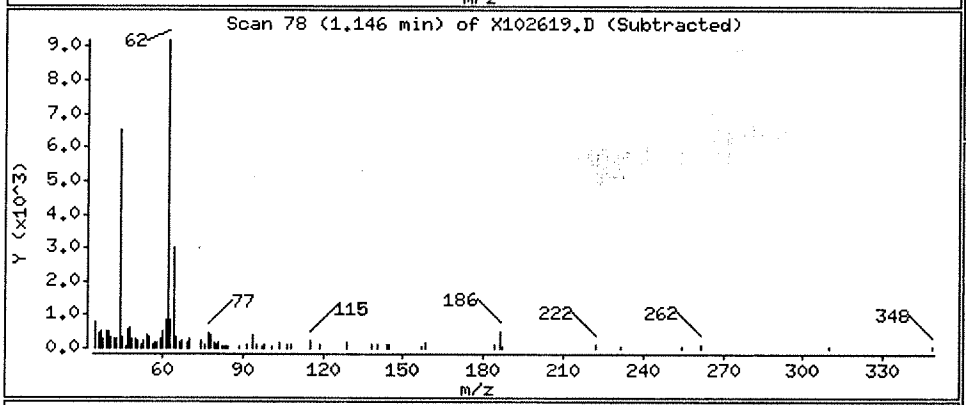
Column diameter: 0.18

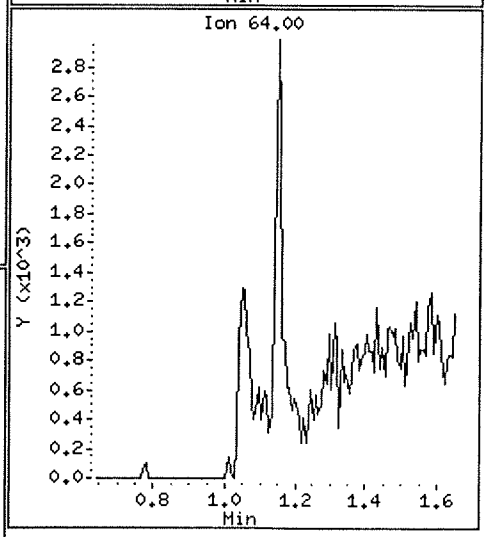
5 Vinyl Chloride

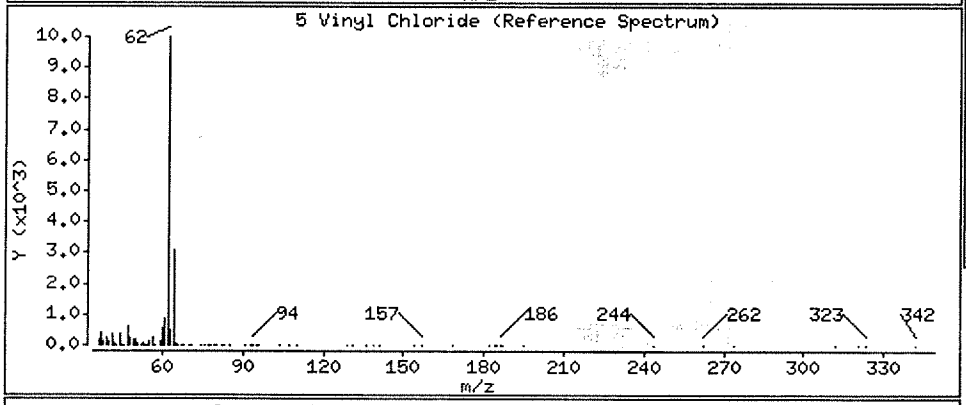
Concentration: 26.45 ug/l

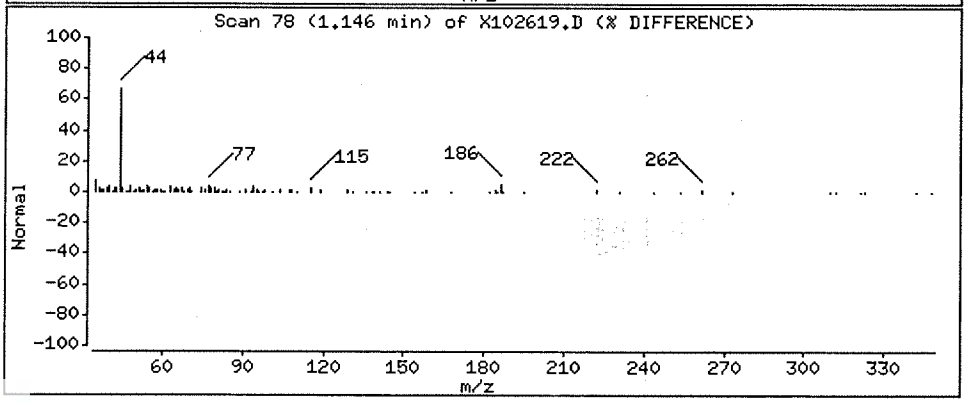












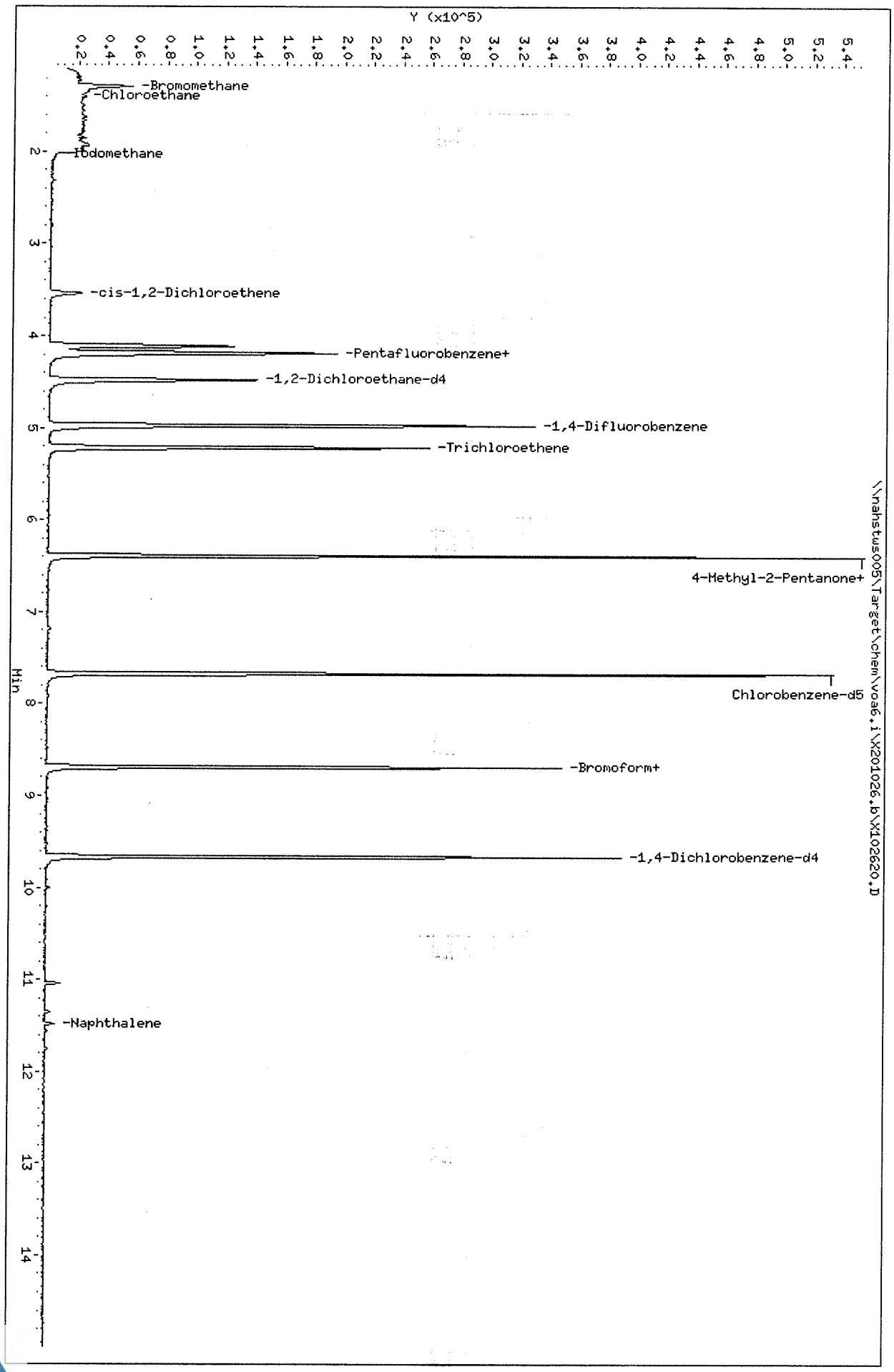
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201026.b\X102620.D
Lab Smp Id: HS20100719-04 Client Smp ID: HS20100719-04
Inj Date : 26-OCT-2020 17:05
Operator : PC Inst ID: voa6.i
Smp Info : HS20100719-04;HS20100719-04;;;
Misc Info : HS18090001;WATER;0;100;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201026.b\8260W.m
Meth Date : 30-Nov-2020 13:37 dev.giga Quant Type: ISTD
Cal Date : 25-OCT-2020 19:09 Cal File: X102508.D
Als bottle: 19
Dil Factor: 100.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	100.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	134790	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	239086	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	212565	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	77486	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.070)	102591	43.4797	43.47
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	86505	42.8380	42.83
$ 30 Dibromofluoromethane	113	4.111	4.111	(0.981)	81428	43.8835	43.88
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	294811	49.2050	49.20
27 cis-1,2-Dichloroethene	96	3.530	3.538	(0.843)	10600	5.02548	502.54
38 Trichloroethene	130	5.214	5.214	(1.049)	69832	44.4073	4440.72



Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102620.D
Date : 26-OCT-2020 17:05
Client ID: HS20100719-04
Sample Info: HS20100719-04;HS20100719-04;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102620.D

Date : 26-OCT-2020 17:05

Client ID: HS20100719-04

Instrument: voa6.i

Sample Info: HS20100719-04;HS20100719-04;;;

Purge Volume: 5.0

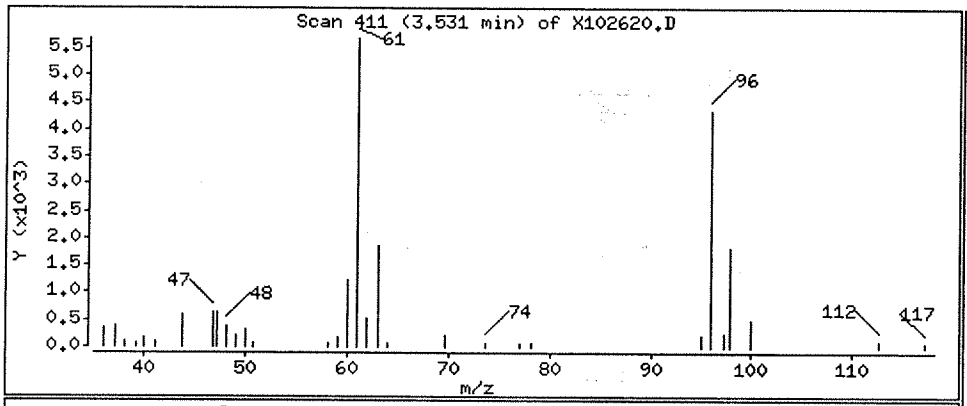
Operator: PC

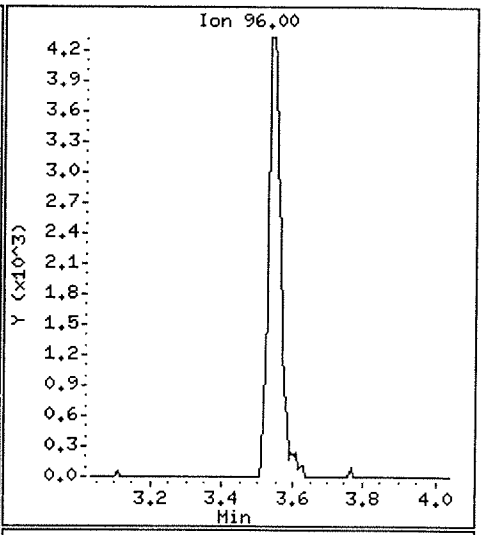
Column phase: DB624

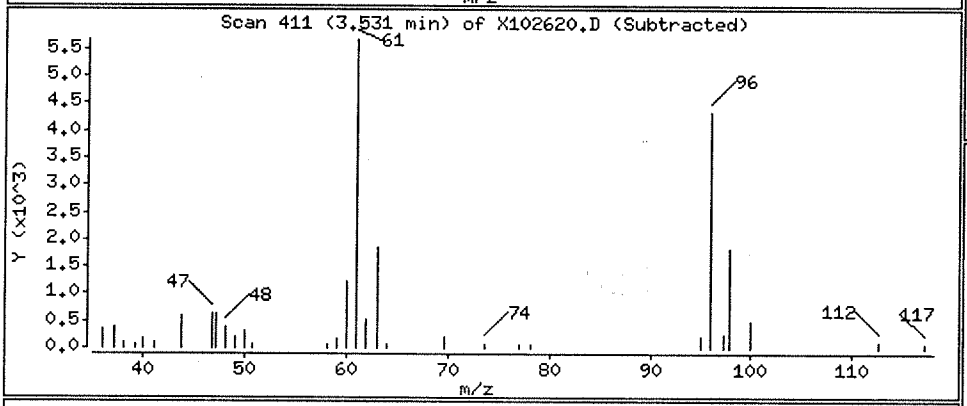
Column diameter: 0.18

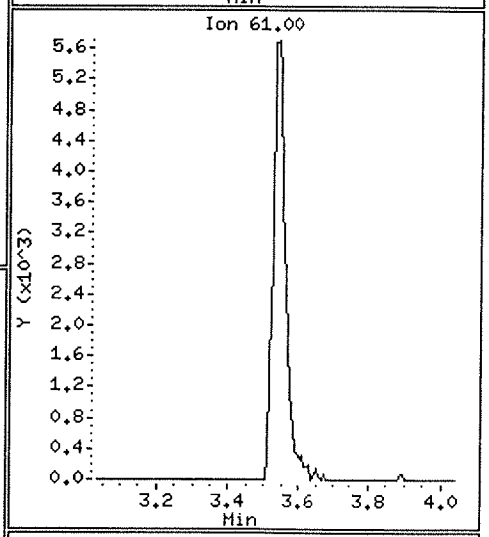
27 cis-1,2-Dichloroethene

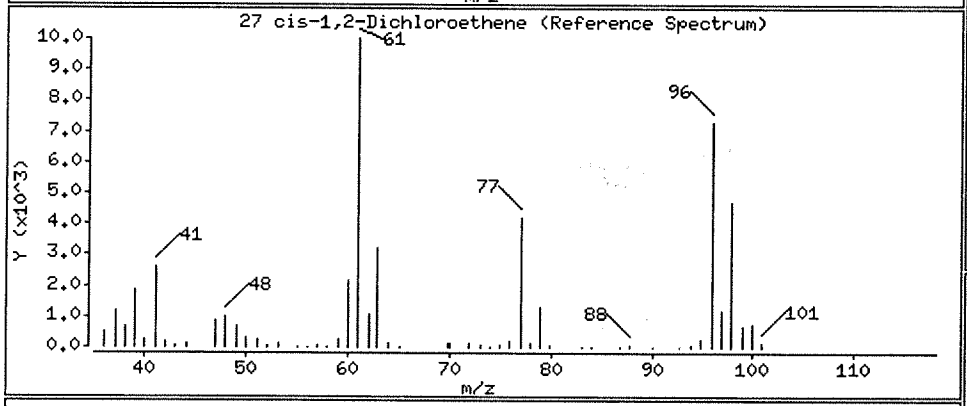
Concentration: 502.54 ug/l

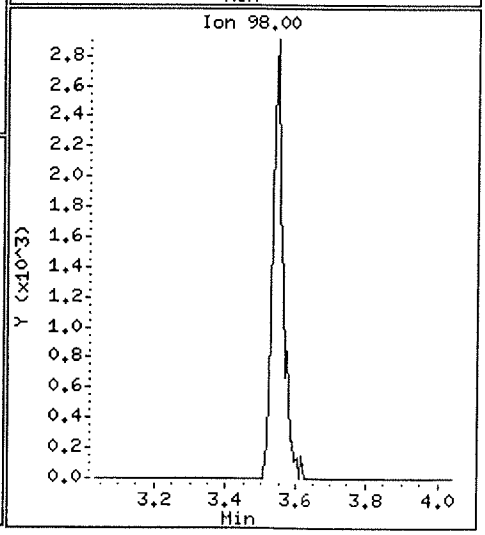


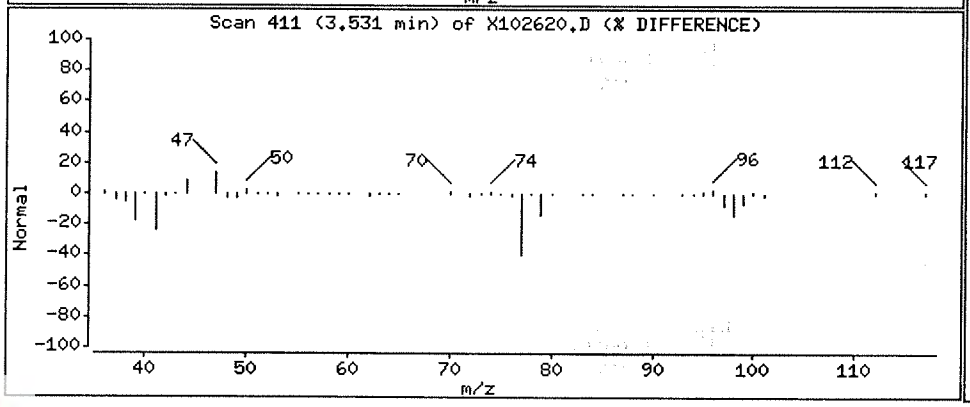












Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102620.D

Date : 26-OCT-2020 17:05

Client ID: HS20100719-04

Instrument: voa6.i

Sample Info: HS20100719-04;HS20100719-04;;;

Purge Volume: 5.0

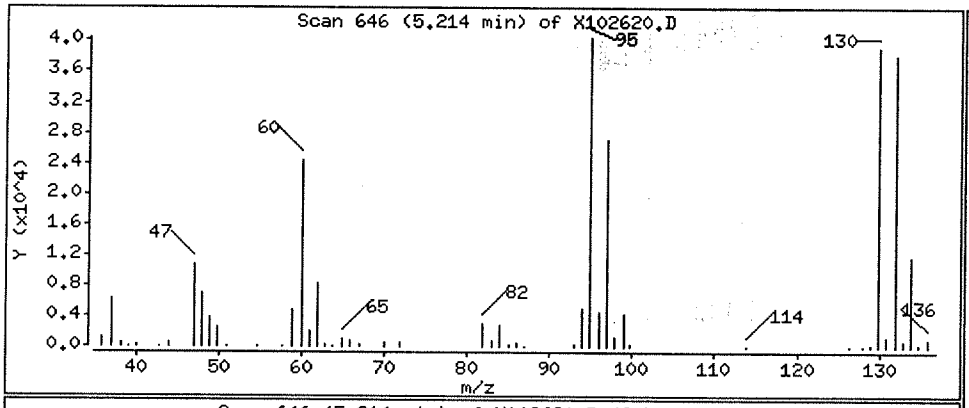
Operator: PC

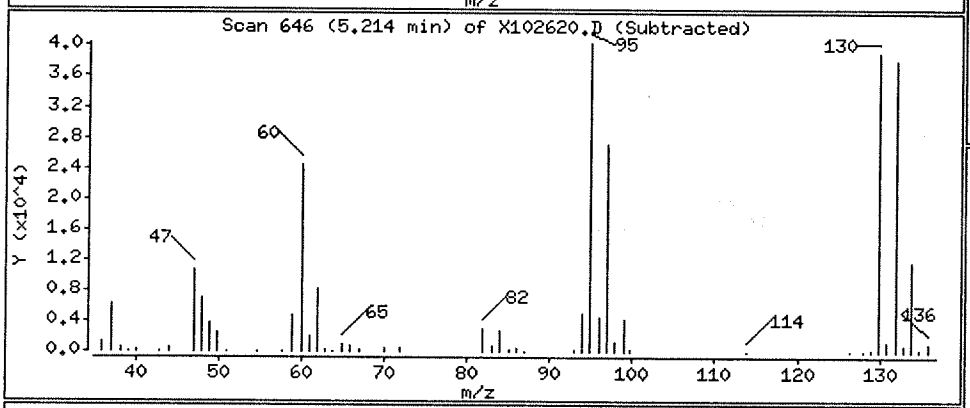
Column phase: DB624

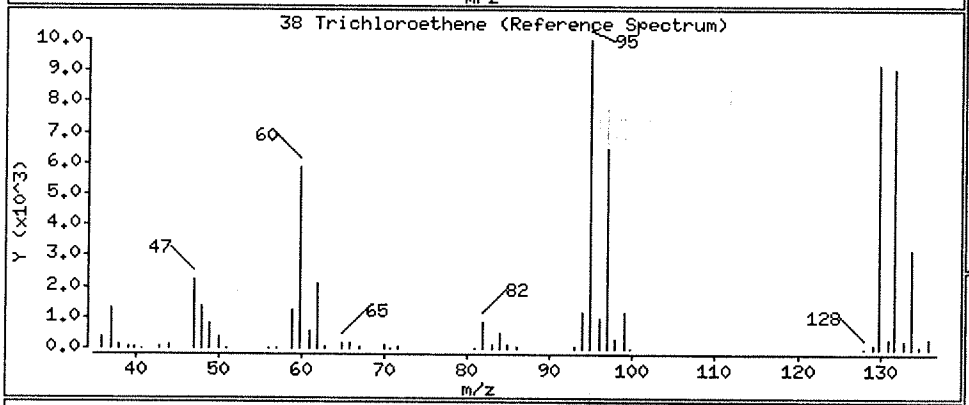
Column diameter: 0.18

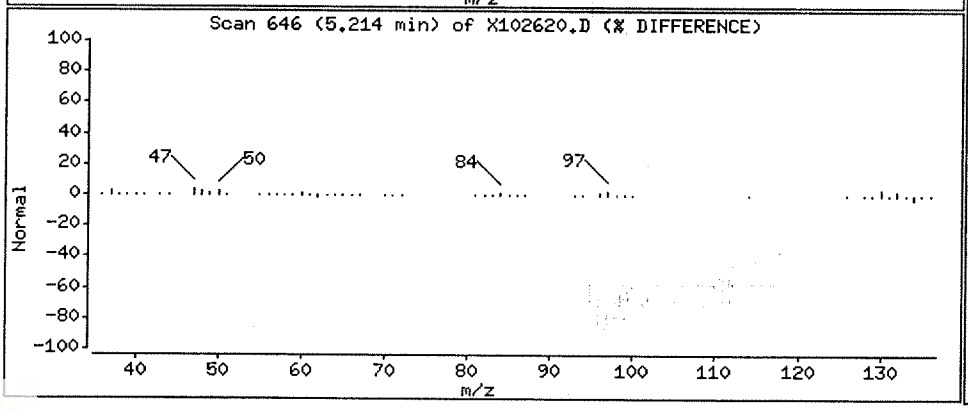
38 Trichloroethene

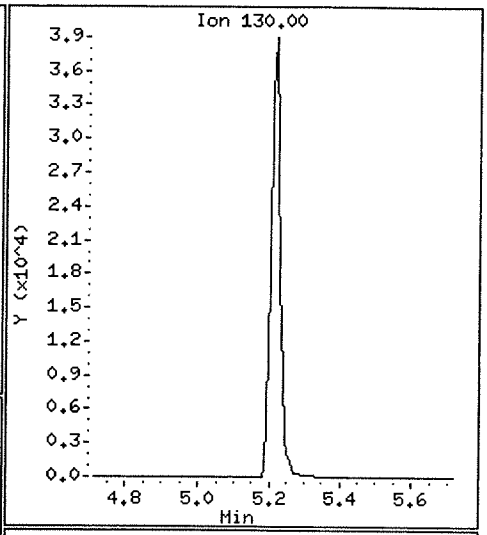
Concentration: 4440.72 ug/l

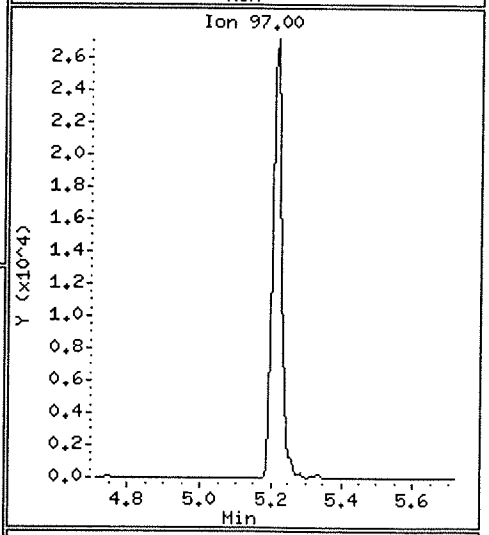


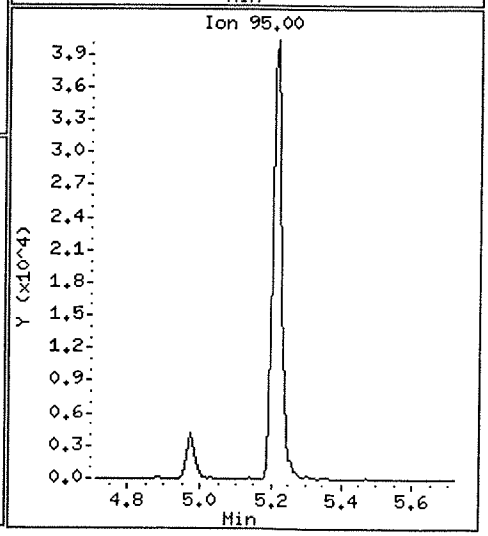












ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201026.b\X102621.D
Lab Smp Id: HS20100719-02 Client Smp ID: HS20100719-02
Inj Date : 26-OCT-2020 17:26
Operator : PC Inst ID: voa6.i
Smp Info : HS20100719-02;HS20100719-02;;;
Misc Info : HS18090001;WATER;0;250;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201026.b\8260W.m
Meth Date : 30-Nov-2020 13:37 dev.giga Quant Type: ISTD
Cal Date : 25-OCT-2020 19:09 Cal File: X102508.D
Als bottle: 20
Dil Factor: 250.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	250.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

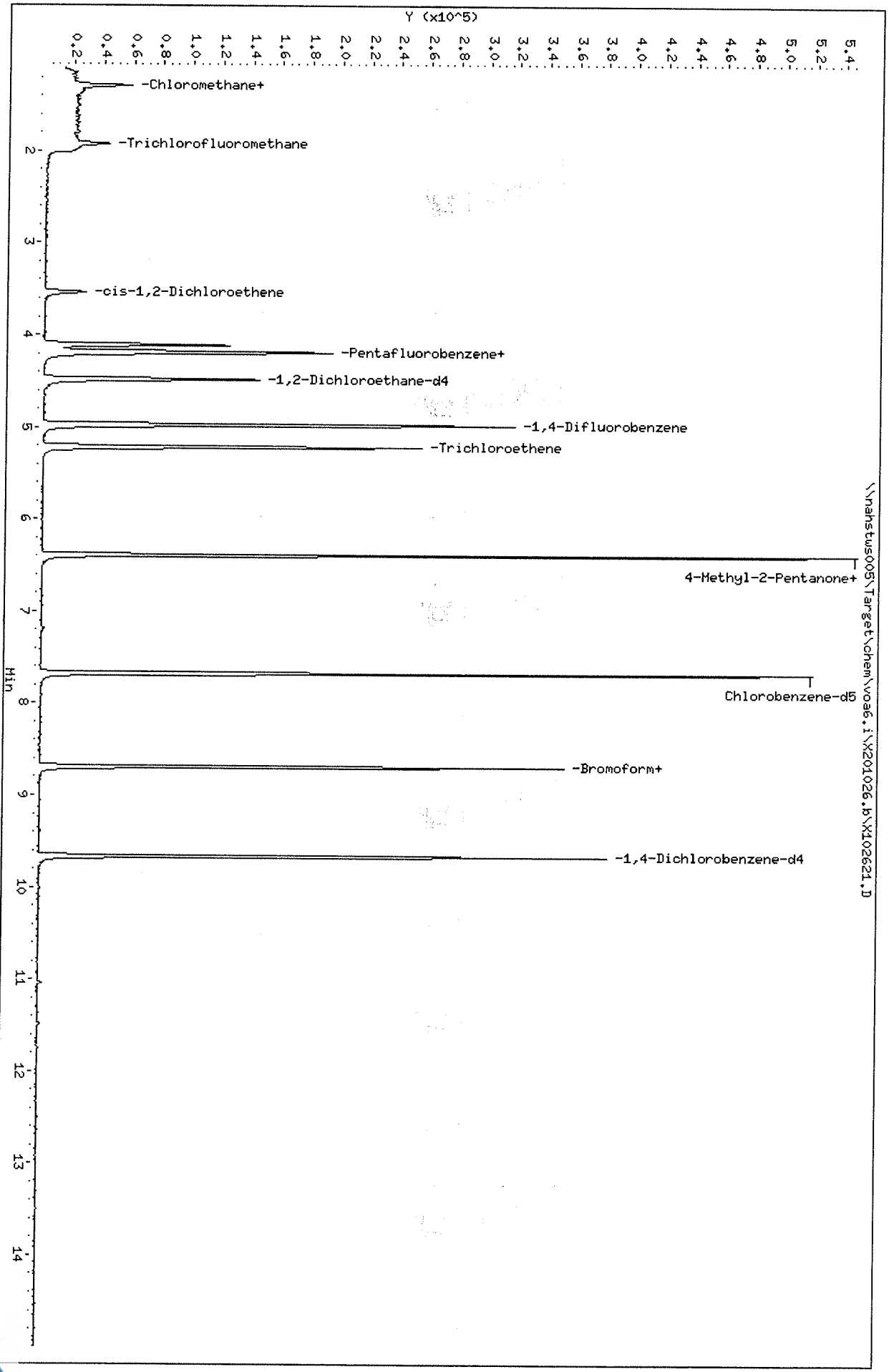
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.196	4.189	(1.000)	134717	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	243767	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	213282	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	76921	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.068)	101743	43.1439	43.14
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	86607	42.7487	42.74
$ 30 Dibromofluoromethane	113	4.110	4.111	(0.980)	81821	44.1192	44.11
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	286475	47.7072	47.70
27 cis-1,2-Dichloroethene	96	3.537	3.538	(0.843)	13087	6.20794	1551.98
38 Trichloroethene	130	5.214	5.214	(1.049)	67970	42.3932	10598.29
5 Vinyl Chloride	62	1.145	1.145	(0.273)	2388	0.57659	144.14(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102621.D
Date : 26-OCT-2020 17:26
Client ID: HS20100719-02
Sample Info: HS20100719-02;HS20100719-02;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102621.D

Date : 26-OCT-2020 17:26

Client ID: HS20100719-02

Instrument: voa6.i

Sample Info: HS20100719-02;HS20100719-02;;;

Purge Volume: 5.0

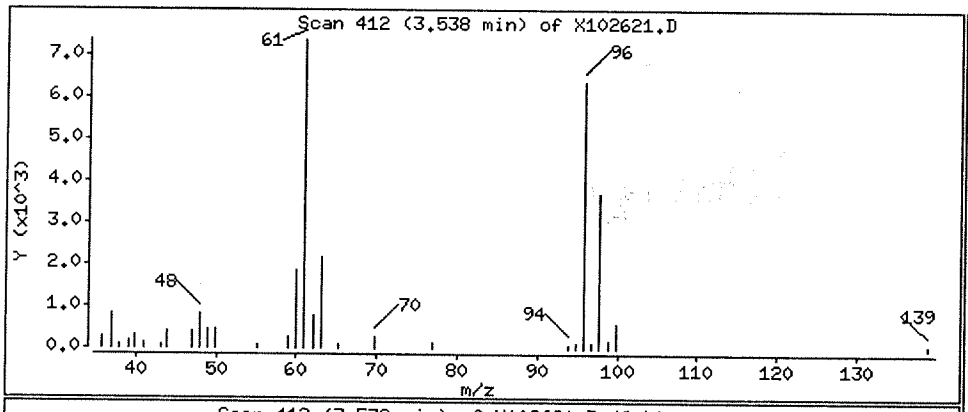
Operator: PC

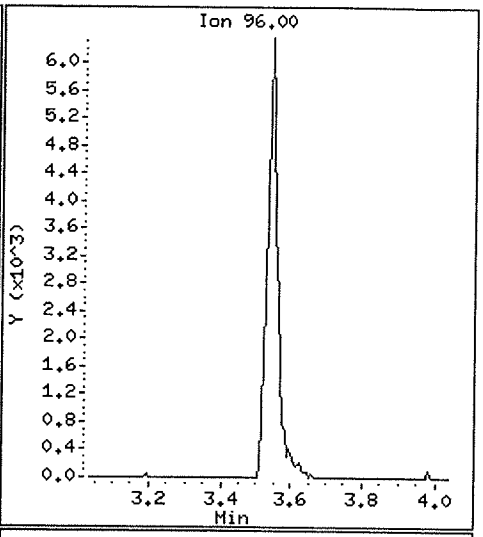
Column phase: DB624

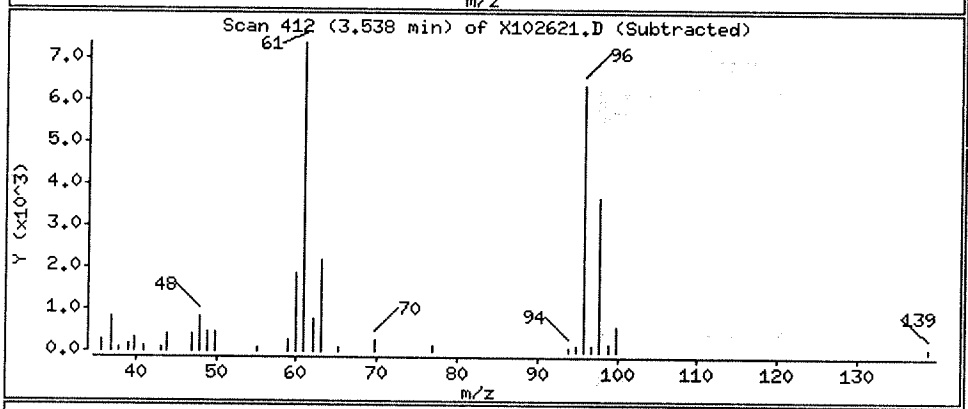
Column diameter: 0.18

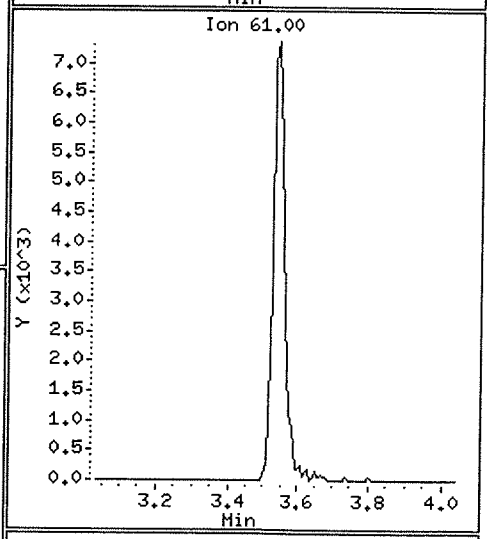
27 cis-1,2-Dichloroethene

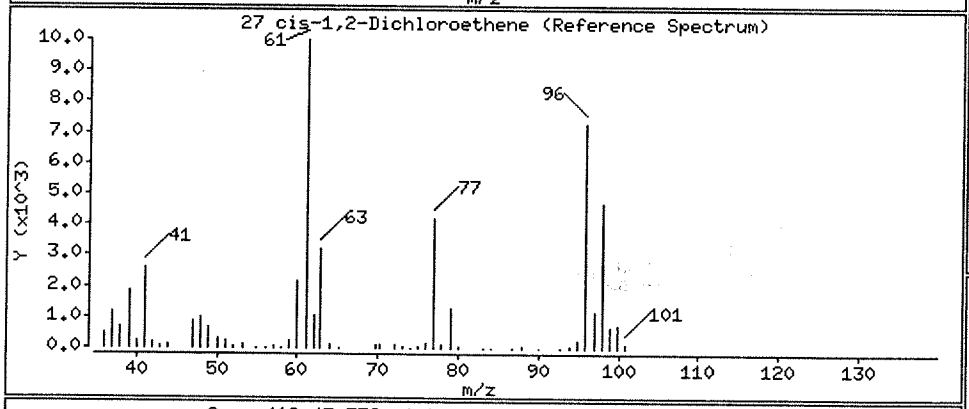
Concentration: 1551.98 ug/l

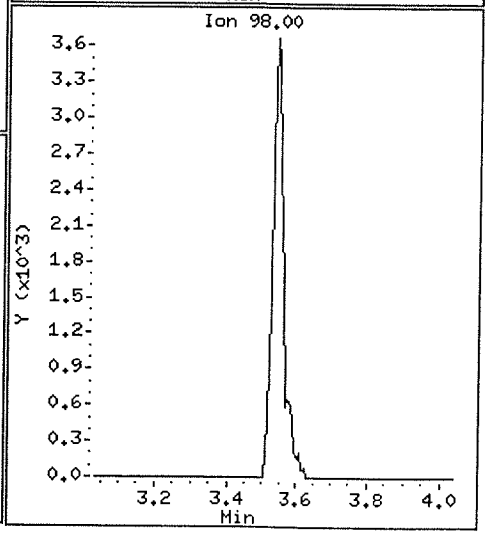


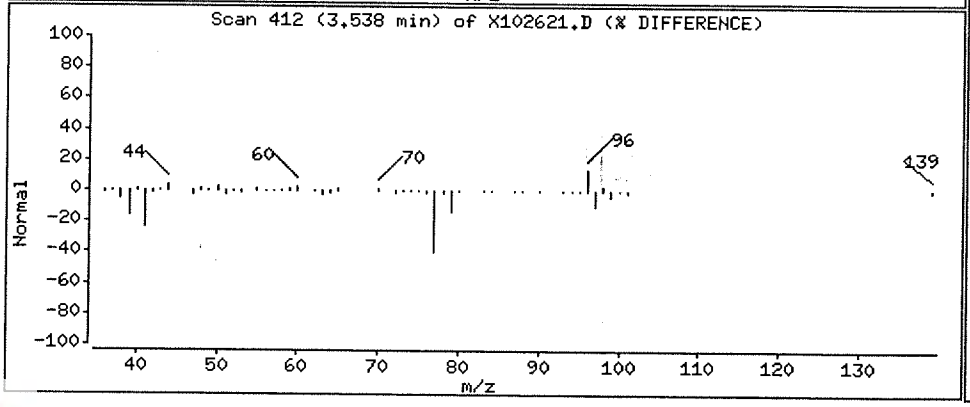












Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102621.D

Date : 26-OCT-2020 17:26

Client ID: HS20100719-02

Instrument: voa6.i

Sample Info: HS20100719-02;HS20100719-02;;;

Purge Volume: 5.0

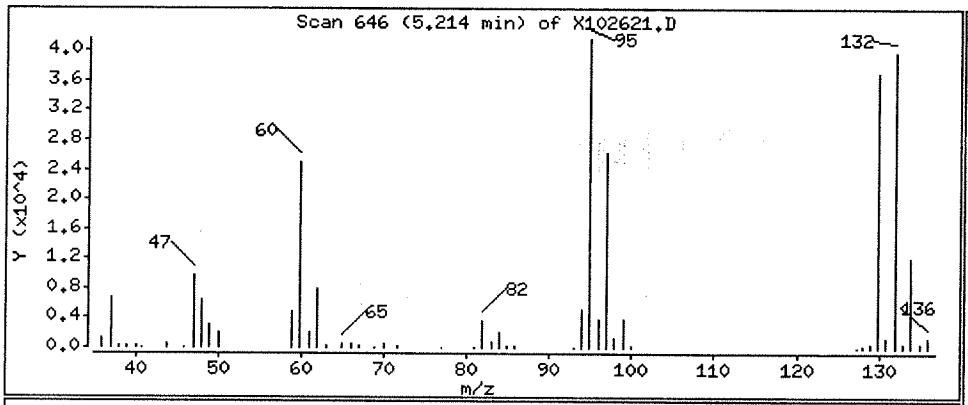
Operator: PC

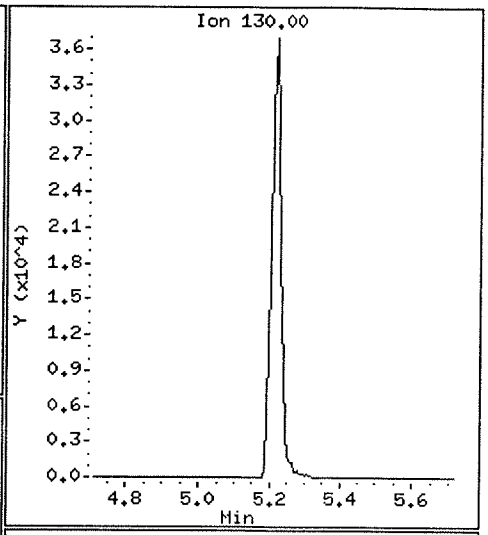
Column phase: DB624

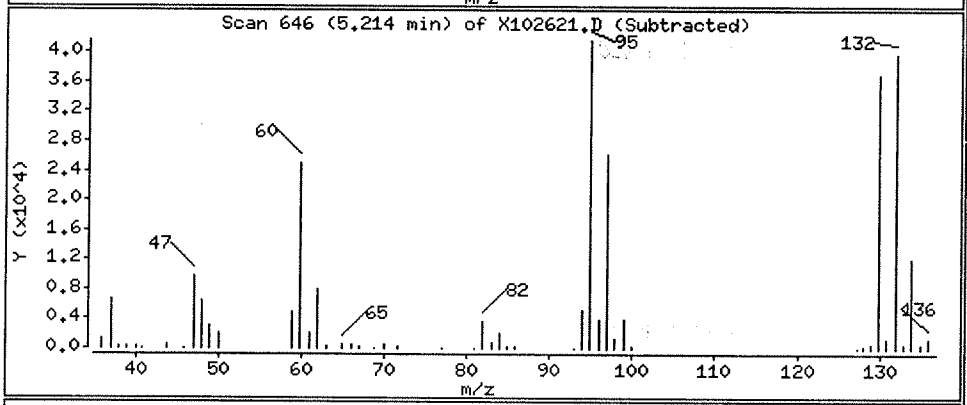
Column diameter: 0.18

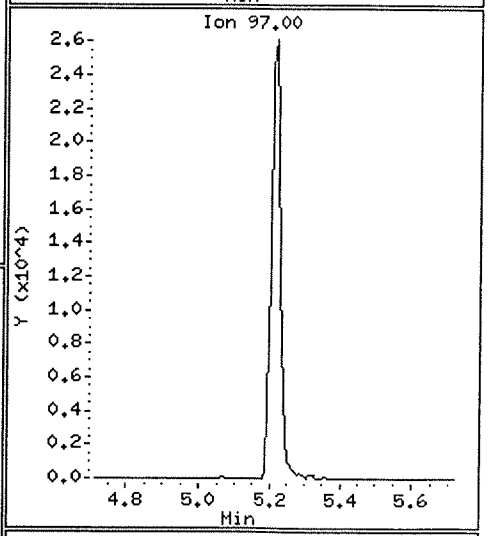
38 Trichloroethene

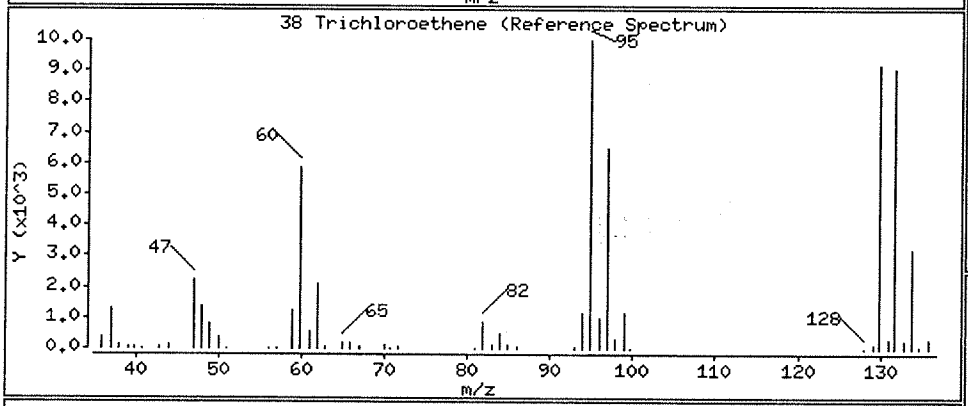
Concentration: 10598.29 ug/l

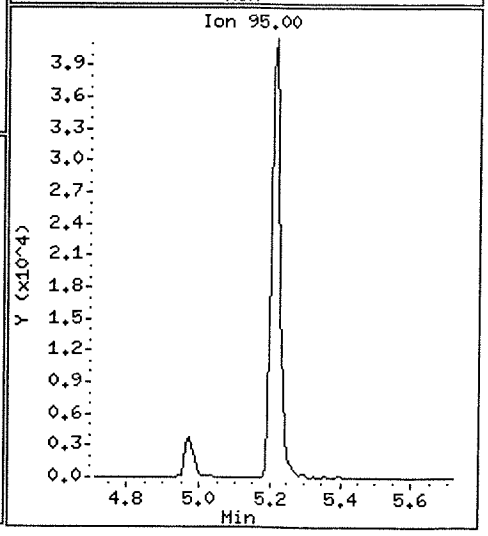


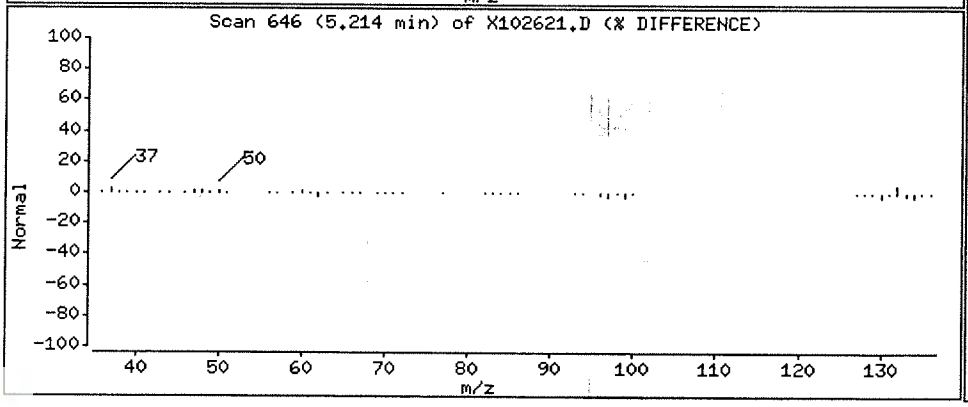












Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102621.D

Date : 26-OCT-2020 17:26

Client ID: HS20100719-02

Instrument: voa6.i

Sample Info: HS20100719-02;HS20100719-02;;;

Purge Volume: 5.0

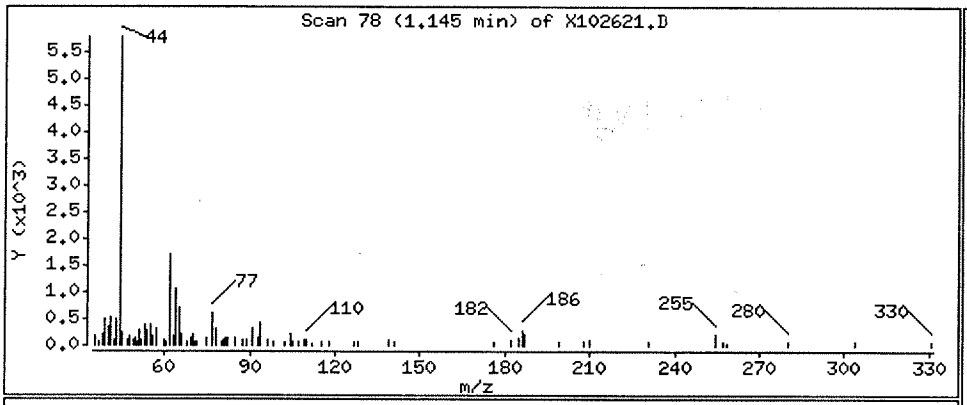
Operator: PC

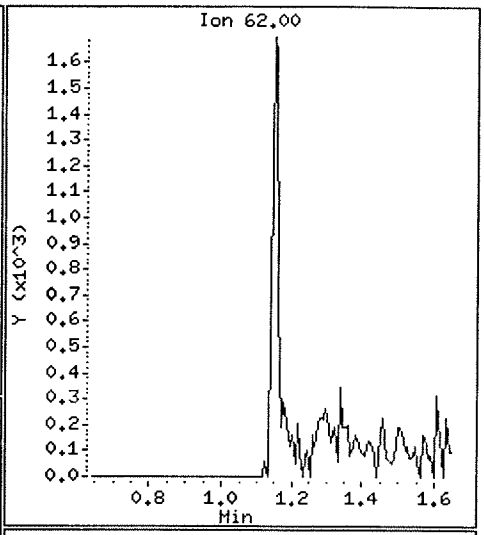
Column phase: DB624

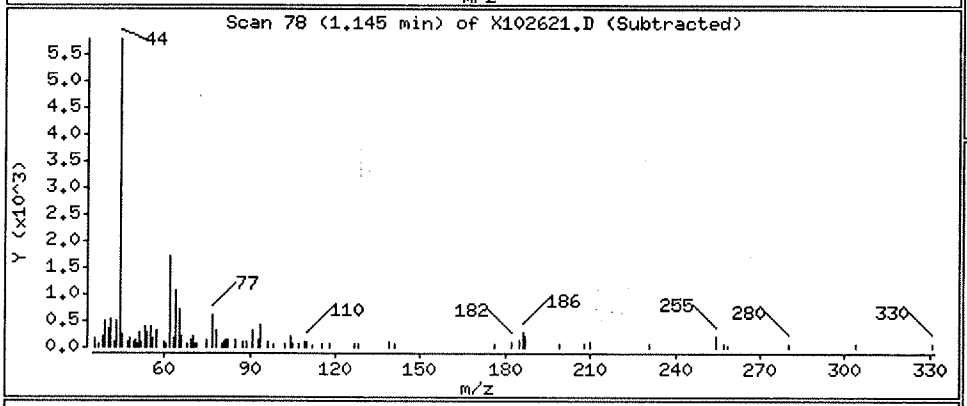
Column diameter: 0.18

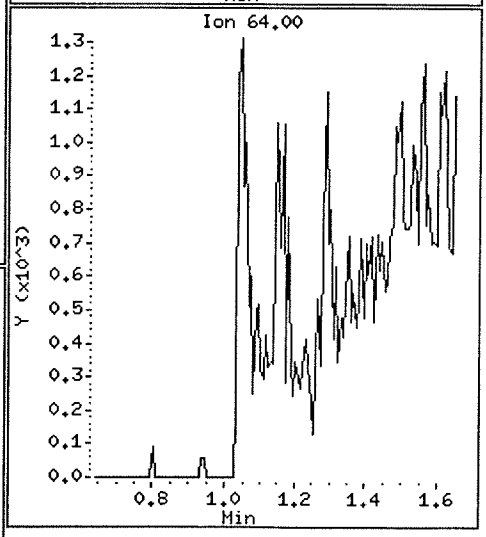
5 Vinyl Chloride

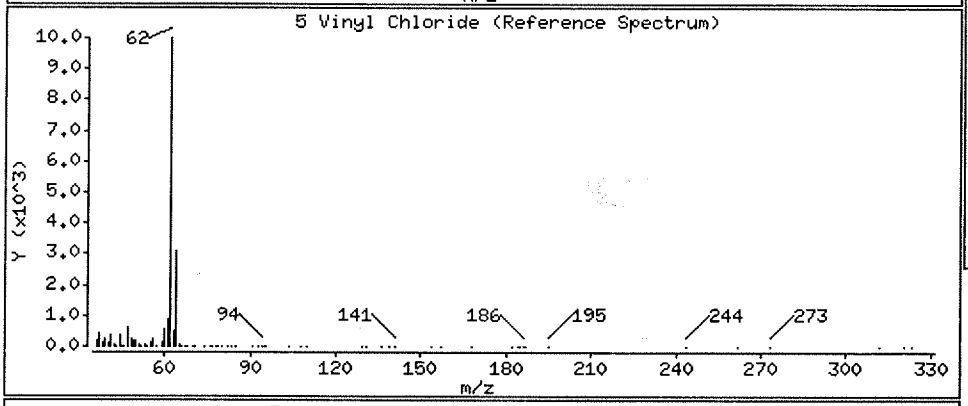
Concentration: 144.14 ug/l

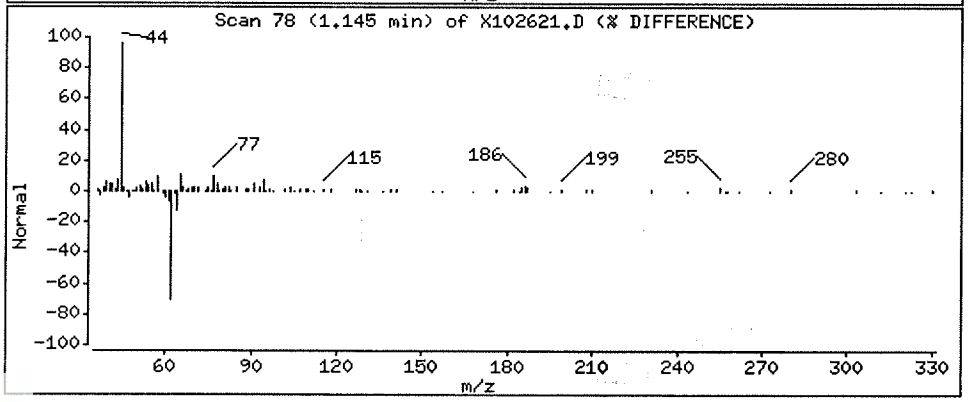












Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102629.D Page 1
Report Date: 30-Nov-2020 13:31

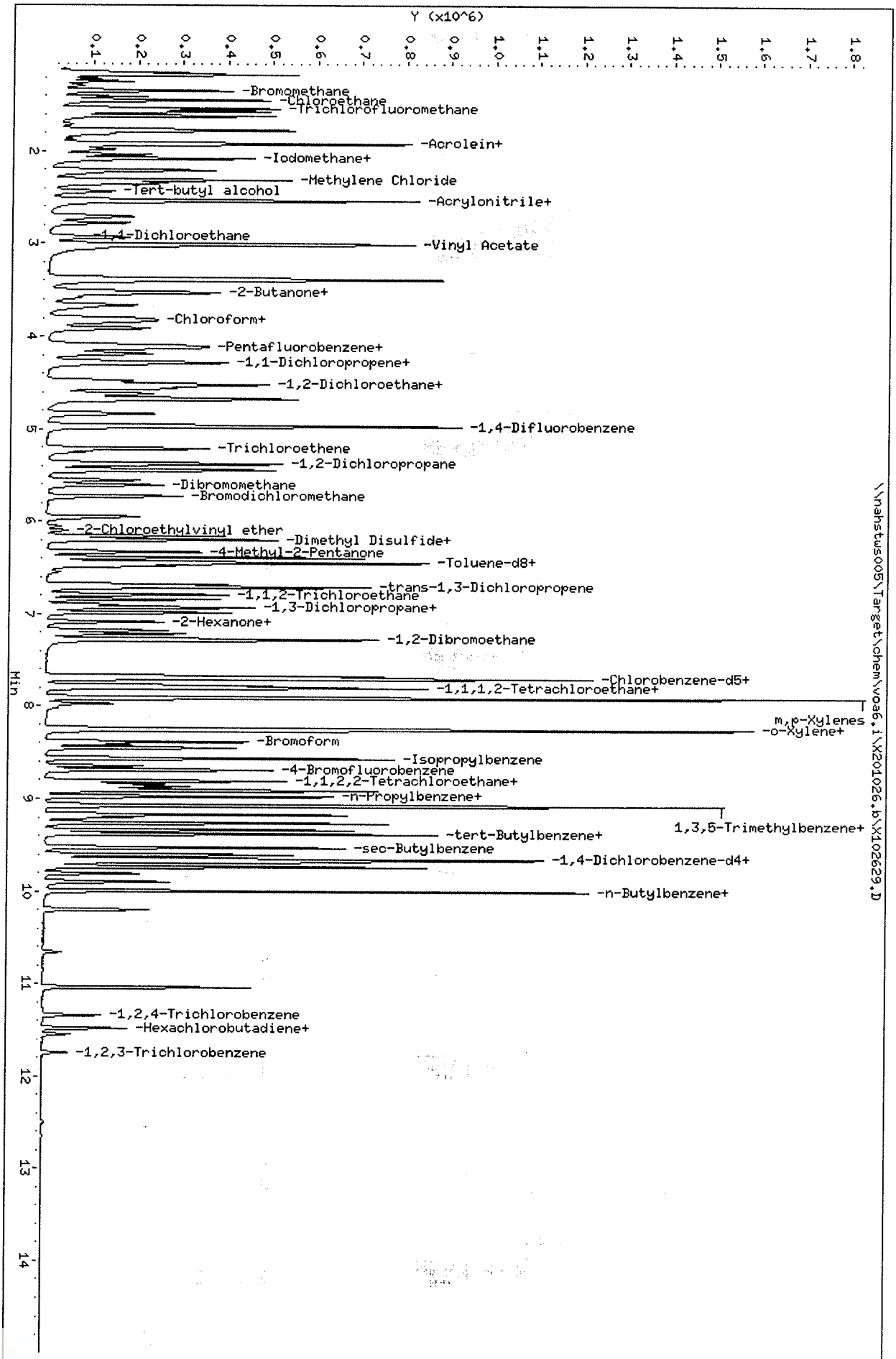
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201026.b\X102629.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 26-OCT-2020 20:14
Operator : PC Inst ID: voa6.i
Smp Info : CCV-END;CCV-END;2;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201026.b\8260W.m
Meth Date : 30-Nov-2020 13:31 voa6.i Quant Type: ISTD
Cal Date : 25-OCT-2020 19:09 Cal File: X102508.D
Als bottle: 28 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	150836	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	319193	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	291442	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	131559	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.070)	135983	50.0000	51.49
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	130566	50.0000	46.95
$ 30 Dibromofluoromethane	113	4.111	4.111	(0.981)	104702	50.0000	50.42
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	369384	50.0000	45.11
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	85844	50.0000	45.28
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	151284	50.0000	41.18
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	159093	50.0000	46.14
27 cis-1,2-Dichloroethene	96	3.538	3.538	(0.844)	107568	50.0000	45.57
17 Methylene Chloride	84	2.313	2.313	(0.552)	99294	50.0000	41.65
38 Trichloroethene	130	5.214	5.214	(1.049)	98822	50.0000	47.07
5 Vinyl Chloride	62	1.145	1.145	(0.273)	192569	50.0000	41.52



Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102629.D
Date : 26-OCT-2020 20:14
Client ID: CCV-END
Sample Info: CCV-END;CCV-END;2;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

MSVOA06 -Logbook

Batch: 42426 **Analyst:** Presenta Cabascango

Date: 10-27-2020 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	10-27-2020 11:27 am	1.00	50 mL	50 mL	X102701a.D	Liquid	Y	<2
	Auto find /purged									
2	BFB	TUNE	10-27-2020 11:47 am	1.00	50 mL	50 mL	X102702.D	Liquid	Y	<2
	Auto find/ purged									
3	CCV	CCV	10-27-2020 12:08 pm	1.00	50 mL	50 mL	X102703.D	Liquid	Y	<2
	10 uL cal std/50 mL DI									
4	CCB	SAMP	10-27-2020 12:29 pm	1.00	50 mL	50 mL	X102704.D	Liquid	Y	<2
5	VLCSW-201027	LCS	10-27-2020 12:50 pm	1.00	50 mL	50 mL	X102705.D	Liquid	Y	<2
	4.0 uL cal std/50 mL DI									
6	BLK	SAMP	10-27-2020 01:11 pm	1.00	50 mL	50 mL	X102706.D	Liquid	Y	<2
7	VBLK	SAMP	10-27-2020 01:32 pm	1.00	50 mL	50 mL	X102707.D	Liquid	Y	<2
8	VBLKW-201027	MBLK	10-27-2020 01:54 pm	1.00	50 mL	50 mL	X102708.D	Liquid	Y	<2
9	HS20100780-04	SAMP	10-27-2020 02:15 pm	1.00	50 mL	50 mL	X102709.D	Liquid	Y	<2
10	HS20100719-01	SAMP	10-27-2020 02:36 pm	50.00	1 mL	50 mL	X102710.D	Liquid	Y	<2
11	HS20100780-04MS	MS	10-27-2020 02:57 pm	1.00	50 mL	50 mL	X102711.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
12	HS20100780-04MSD	MSD	10-27-2020 03:18 pm	1.00	50 mL	50 mL	X102712.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
13	HS20100719-01	SAMP	10-27-2020 03:39 pm	500.0(	100 µL	50 mL	X102713.D	Liquid	Y	<2
14	BLK	SAMP	10-27-2020 04:00 pm	1.00	50 mL	50 mL	X102714.D	Liquid	Y	<2
15	HS20100780-05	SAMP	10-27-2020 04:21 pm	1.00	50 mL	50 mL	X102715.D	Liquid	Y	<2
16	HS20100872-03	SAMP	10-27-2020 04:42 pm	1.00	50 mL	50 mL	X102716.D	Liquid	Y	<2
17	HS20100780-03	SAMP	10-27-2020 05:03 pm	5.00	10 mL	50 mL	X102717.D	Liquid	Y	<2
18	HS20100780-03	SAMP	10-27-2020 05:24 pm	50.00	1 mL	50 mL	X102718.D	Liquid	Y	<2
19	HS20100872-02	SAMP	10-27-2020 05:45 pm	5.00	10 mL	50 mL	X102719.D	Liquid	Y	<2
20	HS20100872-02	SAMP	10-27-2020 06:06 pm	50.00	1 mL	50 mL	X102720.D	Liquid	Y	<2
21	HS20100780-01	SAMP	10-27-2020 06:27 pm	10.00	5 mL	50 mL	X102721.D	Liquid	Y	<2
22	HS20100780-01	SAMP	10-27-2020 06:48 pm	100.0(	500 µL	50 mL	X102722.D	Liquid	Y	<2
23	HS20100780-02	SAMP	10-27-2020 07:09 pm	10.00	5 mL	50 mL	X102723.D	Liquid	Y	<2
24	HS20100780-02	SAMP	10-27-2020 07:30 pm	100.0(	500 µL	50 mL	X102724.D	Liquid	Y	<2
25	HS20100872-01	SAMP	10-27-2020 07:51 pm	10.00	5 mL	50 mL	X102725.D	Liquid	Y	<2
26	HS20100872-01	SAMP	10-27-2020 08:12 pm	100.0(	500 µL	50 mL	X102726.D	Liquid	Y	<2
27	CCV-END	CCV	10-27-2020 08:33 pm	1.00	50 mL	50 mL	X102727.D	Liquid	Y	<2
	10 uL cal std/50 mL DI									
28	HS20100854-01	SAMP	10-27-2020 08:54 pm	1.00	50 mL	50 mL	X102728.D	Liquid	Y	<2
29	HS20100883-01	SAMP	10-27-2020 09:15 pm	1.00	50 mL	50 mL	X102729.D	Liquid	Y	<2
30	HS20101296-04	SAMP	10-27-2020 09:37 pm	1.00	50 mL	50 mL	X102730.D	Liquid	Y	<2
31	HS20101296-03	SAMP	10-27-2020 09:58 pm	1.00	50 mL	50 mL	X102731.D	Liquid	Y	<2
32	HS20101263-09	SAMP	10-27-2020 10:19 pm	1.00	50 mL	50 mL	X102732.D	Liquid	Y	<2
33	BFB	TUNE	10-27-2020 10:40 pm	1.00	50 mL	50 mL	Y102701.D	Liquid	Y	<2
	Auto find/ purged									
34	CCV	CCV	10-27-2020 11:01 pm	1.00	50 mL	50 mL	Y102702a.D	Liquid	Y	<2
	10 uL cal std/50 mL DI									
35	CCV	CCV	10-27-2020 11:21 pm	1.00	50 mL	50 mL	Y102703.D	Liquid	Y	<2
	10 uL cal std/50 mL DI									
36	CCB	SAMP	10-27-2020 11:43 pm	1.00	50 mL	50 mL	Y102704.D	Liquid	Y	<2

MSVOA06 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
37	VLCSW-201027	LCS	10-28-2020 12:04 am	1.00	50 mL	50 mL	Y102705.D	Liquid	Y	<2
	4.0 uL cal std/50 mL DI									
38	BLK	SAMP	10-28-2020 12:25 am	1.00	50 mL	50 mL	Y102706.D	Liquid	Y	<2
39	VBLKW-201027	MBLK	10-28-2020 12:46 am	1.00	50 mL	50 mL	Y102707.D	Liquid	Y	<2
40	HS20100920-04	SAMP	10-28-2020 01:07 am	1.00	50 mL	50 mL	Y102708.D	Liquid	Y	<2
41	HS20101242-01	SAMP	10-28-2020 01:28 am	1.00	50 mL	50 mL	Y102709.D	Liquid	Y	<2
42	HS20101242-04	SAMP	10-28-2020 01:49 am	1.00	50 mL	50 mL	Y102710.D	Liquid	Y	<2
43	HS20101242-06	SAMP	10-28-2020 02:10 am	1.00	50 mL	50 mL	Y102711.D	Liquid	Y	<2
44	HS20101242-02	SAMP	10-28-2020 02:31 am	1.00	50 mL	50 mL	Y102712.D	Liquid	Y	<2
45	HS20100920-03	SAMP	10-28-2020 02:52 am	1.00	50 mL	50 mL	Y102713.D	Liquid	Y	<2
46	HS20101242-02MS	MS	10-28-2020 03:13 am	1.00	50 mL	50 mL	Y102714.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
47	HS20101242-02MSD	MSD	10-28-2020 03:34 am	1.00	50 mL	50 mL	Y102715.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
48	HS20101260-04	SAMP	10-28-2020 03:55 am	1.00	50 mL	50 mL	Y102716.D	Liquid	Y	<2
49	HS20101242-03	SAMP	10-28-2020 04:16 am	1.00	50 mL	50 mL	Y102717.D	Liquid	Y	<2
50	HS20101242-05	SAMP	10-28-2020 04:37 am	1.00	50 mL	50 mL	Y102718.D	Liquid	Y	<2
51	HS20101242-07	SAMP	10-28-2020 04:58 am	1.00	50 mL	50 mL	Y102719.D	Liquid	Y	<2
52	HS20101242-08	SAMP	10-28-2020 05:20 am	1.00	50 mL	50 mL	Y102720.D	Liquid	Y	<2
53	HS20101242-09	SAMP	10-28-2020 05:41 am	1.00	50 mL	50 mL	Y102721.D	Liquid	Y	<2
54	HS20101296-01	SAMP	10-28-2020 06:02 am	1.00	50 mL	50 mL	Y102722.D	Liquid	Y	<2
55	HS20101296-02	SAMP	10-28-2020 06:23 am	1.00	50 mL	50 mL	Y102723.D	Liquid	Y	<2
56	HS20101255-05	SAMP	10-28-2020 06:44 am	1.00	50 mL	50 mL	Y102724.D	Liquid	Y	<2
57	HS20100920-01	SAMP	10-28-2020 07:05 am	20.00	2.5 mL	50 mL	Y102725.D	Liquid	Y	<2
58	HS20100920-01	SAMP	10-28-2020 07:26 am	250.0(	200 µL	50 mL	Y102726.D	Liquid	Y	<2
59	HS20100920-02	SAMP	10-28-2020 07:47 am	50.00	1 mL	50 mL	Y102727.D	Liquid	Y	<2
60	HS20100920-02	SAMP	10-28-2020 08:08 am	500.0(	100 µL	50 mL	Y102728.D	Liquid	Y	<2
61	HS20101263-06	SAMP	10-28-2020 08:29 am	1.00	50 mL	50 mL	Y102729.D	Liquid	Y	<2
62	BLANK	SAMP	10-28-2020 08:50 am	1.00	50 mL	50 mL	Y102730.D	Liquid	Y	<2

Chemical	Value
SURR SPK ID	31106-51-06
IS ID	31106-51-06
ICV STD ID	
CAL STD ID	31106-53-01/02
BFB ID	31106-51-06
pH Paper	634-64-10

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100719

	CLIENT SAMPLE NO.	SMC1 #	SMC2 #	SMC3 (TOL) #	OTHER (DCE) #	TOT OUT
01	VLCSW-201027	103	102	102	105	0
02	VBLKW-201027	90	87	96	83	0
03	HS20100719-01	85	85	99	86	0
04	HS20100780-04	100	85	95	85	0
05	HS20100780-04	96	86	94	84	0
06	HS20100719-01	90	86	98	86	0
07						
08						
09						
10						
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		QC LIMITS
SMC1	= 4-Bromofluorobenzene	(70-130)
SMC2	= Dibromofluoromethane	(70-130)
SMC3 (TOL)	= Toluene-d8	(0-130)
OTHER(DCE)	= 1,2-Dichloroethane-d4	(0-130)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 4
VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

VBLKW-201027

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100719

Lab File ID: X102708 Lab Sample ID: VBLKW-201027

Date Analyzed: 10/27/20 Time Analyzed: 1354

GC Column: DB624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Instrument ID: VOA6

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VLCSW-201027	VLCSW-201027	X102705	1250
02	HS20100719-0	HS20100719-01	X102710	1436
03	HS20100780-0	HS20100780-04M	X102711	1457
04	HS20100780-0	HS20100780-04M	X102712	1518
05	HS20100719-0	HS20100719-01	X102713	1539
06				
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30				

COMMENTS:

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100719

Lab File ID: X102702 BFB Injection Date: 10/27/20

Instrument ID: VOA6 BFB Injection Time: 1147

GC Column: DB624 ID: 0.25 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	25.6
75	30.0 - 60.0% of mass 95	58.3
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	0.8 (1.2)1
174	Greater than 50.0% of mass 95	66.6
175	5.0 - 9.0% of mass 174	5.2 (7.8)1
176	95.0 - 101.0% of mass 174	66.7 (100.1)1
177	5.0 - 9.0% of mass 176	4.1 (6.1)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CCV	CCV	X102703	10/27/20	1208
02	VLCSW-201027	VLCSW-201027	X102705	10/27/20	1250
03	VBLKW-201027	VBLKW-201027	X102708	10/27/20	1354
04	HS20100719-0	HS20100719-01	X102710	10/27/20	1436
05	HS20100780-0	HS20100780-04M	X102711	10/27/20	1457
06	HS20100780-0	HS20100780-04M	X102712	10/27/20	1518
07	HS20100719-0	HS20100719-01	X102713	10/27/20	1539
08	CCV-END	CCV-END	X102727	10/27/20	2033
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100719

Instrument ID: VOA6 Calibration Date: 10/27/20 Time: 1208

Lab File ID: X102703 Init. Calib. Date(s): 10/25/20 10/25/20

Init. Calib. Times: 1642 2011

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
1,2-Dichloroethane	0.5400000	0.5686809	0.5686809	0.1	-5.31	20.00	AVRG
Trichloroethene	0.3290000	0.3493395	0.3493395	0.2	-6.18	20.00	AVRG
Methylene Chloride	0.7900000	0.7366786	0.7366786	0.1	6.75	20.00	AVRG
cis-1,2-Dichloroethene	0.7820000	0.8054194	0.8054194	0.1	-2.99	20.00	AVRG
Vinyl Chloride	1.5370000	1.2934581	1.2934581	0.1	15.84	20.00	AVRG
1,1,2-Trichloroethane	0.3250000	0.3022414	0.3022414	0.1	7.00	20.00	AVRG
1,1-Dichloroethene	1.2180000	1.0403726	1.0403726	0.1	14.58	20.00	AVRG
4-Bromofluorobenzene	50.493680	50.000000	0.4832361	0.1	-0.99	20.00	LINR
Dibromofluoromethane	0.6880000	0.7499539	0.7499539	0.1	-9.00	20.00	AVRG
Toluene-d8	48.926631	50.000000	1.3787917	0.1	2.15	20.00	LINR
1,2-Dichloroethane-d4	53.095209	50.000000	0.9295583	0.1	-6.19	20.00	LINR

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100719

Instrument ID: VOA6 Calibration Date: 10/27/20 Time: 2033

Lab File ID: X102727 Init. Calib. Date(s): 10/25/20 10/25/20

Init. Calib. Times: 1642 2011

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
1,2-Dichloroethane	0.5400000	0.5713172	0.5713172	0.1	-5.80	50.00	AVRG
Trichloroethene	0.3290000	0.3583073	0.3583073	0.2	-8.91	50.00	AVRG
Methylene Chloride	0.7900000	0.6651361	0.6651361	0.1	15.80	50.00	AVRG
cis-1,2-Dichloroethene	0.7820000	0.7612439	0.7612439	0.1	2.65	50.00	AVRG
Vinyl Chloride	1.5370000	1.0947736	1.0947736	0.1	28.77	50.00	AVRG
1,1,2-Trichloroethane	0.3250000	0.2915660	0.2915660	0.1	10.29	50.00	AVRG
1,1-Dichloroethene	1.2180000	0.8664541	0.8664541	0.1	28.86	50.00	AVRG
4-Bromofluorobenzene	49.243790	50.000000	0.4707827	0.1	1.51	50.00	LINR
Dibromofluoromethane	0.6880000	0.6968563	0.6968563	0.1	-1.29	50.00	AVRG
Toluene-d8	48.199707	50.000000	1.3575592	0.1	3.60	50.00	LINR
1,2-Dichloroethane-d4	51.037568	50.000000	0.8935133	0.1	-2.08	50.00	LINR

FORM VII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100719

Lab File ID (Standard): X102703 Date Analyzed: 10/27/20

Instrument ID: VOA6 Time Analyzed: 1208

GC Column: DB624 ID: 0.18 (mm) Heated Purge: (Y/N) N

		IS1(DFB) AREA #	RT #	IS2(CBZ) AREA #	RT #	IS3(DCB) AREA #	RT #
	12 HOUR STD	331497	4.97	313114	7.67	132363	9.66
	UPPER LIMIT	662994	5.47	626228	8.17	264726	10.16
	LOWER LIMIT	165749	4.47	156557	7.17	66182	9.16
	CLIENT SAMPLE NO.						
01	VLCSW-201027	297906	4.97	271645	7.67	114908	9.67
02	VBLKW-201027	280971	4.97	245788	7.67	93761	9.66
03	HS20100719-01	278866	4.97	242953	7.67	89242	9.67
04	HS20100780-04	293074	4.97	273153	7.67	113067	9.67
05	HS20100780-04	295596	4.97	268766	7.67	111568	9.67
06	HS20100719-01	286576	4.97	250341	7.67	92409	9.67
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS1 (DFB) = 1,4-Difluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100719

Lab File ID (Standard): X102703 Date Analyzed: 10/27/20

Instrument ID: VOA6 Time Analyzed: 1208

GC Column: DB624 ID: 0.18 (mm) Heated Purge: (Y/N) N

		IS4 AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	162858	4.19				
	UPPER LIMIT	325716	4.69				
	LOWER LIMIT	81429	3.69				
	CLIENT SAMPLE NO.						
01	VLCSW-201027	159620	4.19				
02	VBLKW-201027	157473	4.19				
03	HS20100719-01	158023	4.19				
04	HS20100780-04	168957	4.19				
05	HS20100780-04	168967	4.19				
06	HS20100719-01	165267	4.19				
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS4 = Pentafluorobenzene

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

FORM VIII VOA

Data File: \\nahstws005\Target\chem\voa6.i\X201027.b\X102702.D

Date : 27-OCT-2020 11:47

Client ID: BFB

Instrument: voa6.i

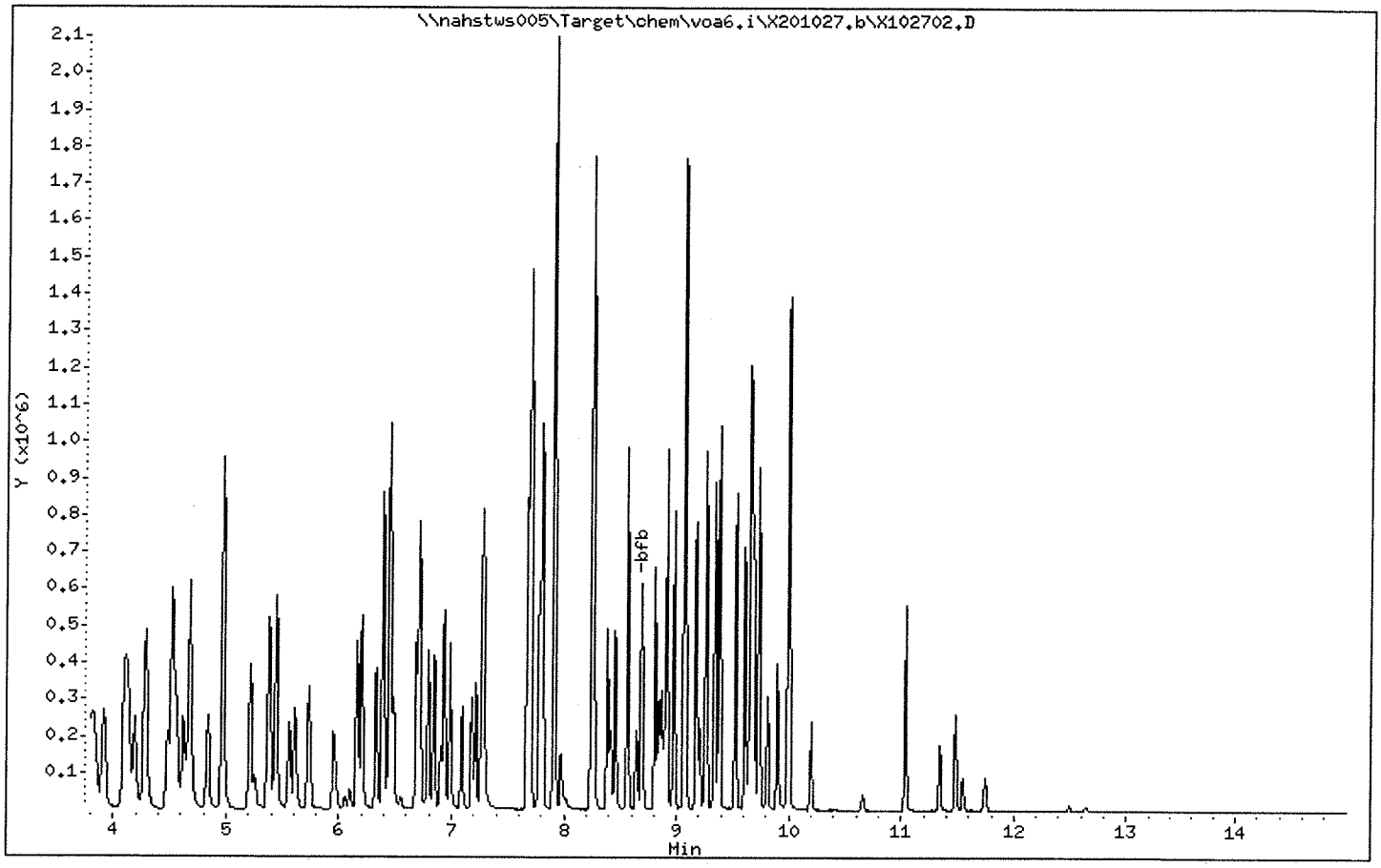
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\nahstws005\Target\chem\voa6.i\X201027.b\X102702.D

Date : 27-OCT-2020 11:47

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

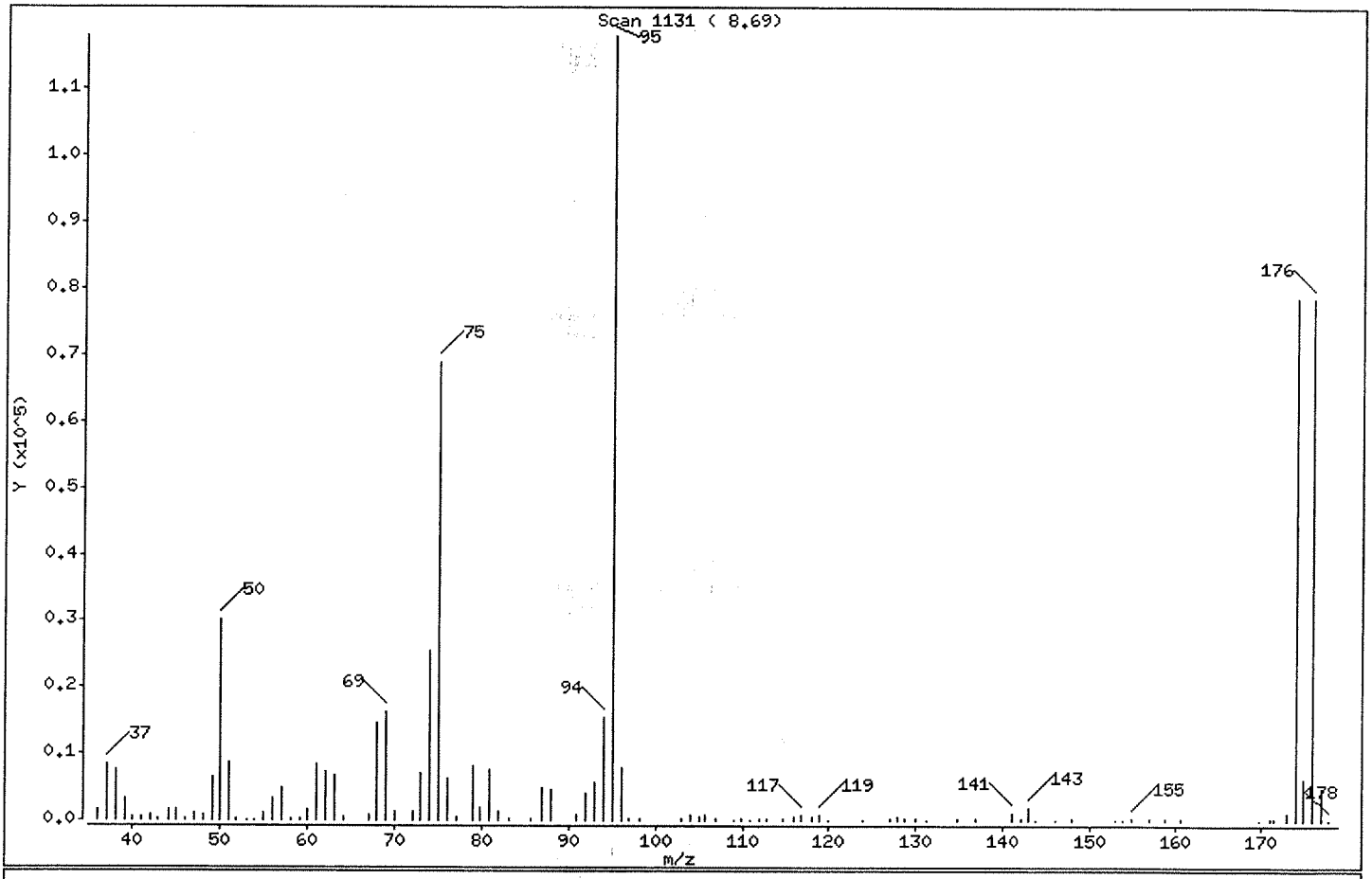
Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	25.56
75	30.00 - 60.00% of mass 95	58.33
96	5.00 - 9.00% of mass 95	6.71
173	Less than 2.00% of mass 174	0.82 (1.23)
174	Greater than 50.00% of mass 95	66.63
175	5.00 - 9.00% of mass 174	5.21 (7.82)
176	95.00 - 101.00% of mass 174	66.70 (100.11)
177	5.00 - 9.00% of mass 176	4.10 (6.14)

Data File: \\nahstws005\Target\chem\voa6.i\X201027.b\X102702.D

Date : 27-OCT-2020 11:47

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

Data File: X102702.D
Spectrum: Scan 1131 (8.69)
Location of Maximum: 95.00
Number of points: 100

m/z	Y	m/z	Y	m/z	Y	m/z	Y
35.90	1623	62.00	7415	96.00	7911	136.80	358
37.00	8363	63.00	6664	97.00	351	140.90	1193
38.00	7606	64.10	549	98.10	338	142.00	222
39.00	3314	67.00	743	103.00	189	142.90	1928
40.00	422	68.00	14580	104.00	836	143.80	78
40.90	524	69.00	16169	105.00	493	146.00	88
42.00	761	70.00	1436	105.80	879	147.90	234
42.90	373	72.00	1297	106.90	218	152.90	88
44.00	1729	72.90	6928	109.00	128	153.80	61
45.00	1585	74.00	25472	109.80	150	154.80	384
46.00	136	75.00	68808	111.00	109	156.80	263
47.00	1016	76.00	6120	112.00	325	158.80	204
48.00	747	77.00	510	112.90	147	160.70	160
49.00	6440	78.90	8170	114.70	290	169.80	88
50.00	30152	79.90	1992	115.90	544	171.00	261
51.00	8670	80.90	7665	116.80	919	171.40	194
51.90	395	81.80	1418	118.00	549	172.90	970
53.00	102	83.10	170	118.90	792	173.90	78600
53.90	110	85.70	142	119.80	94	174.90	6148
55.00	958	87.00	4960	123.80	63	175.90	78688
56.00	3330	87.90	4661	126.90	254	176.90	4832
57.00	5013	90.80	866	127.90	516	177.80	116
58.10	304	92.00	4153	128.70	196		
59.10	312	93.00	5648	129.90	309		
60.00	1622	94.00	15363	131.10	81		
61.00	8345	95.00	117968	134.80	303		

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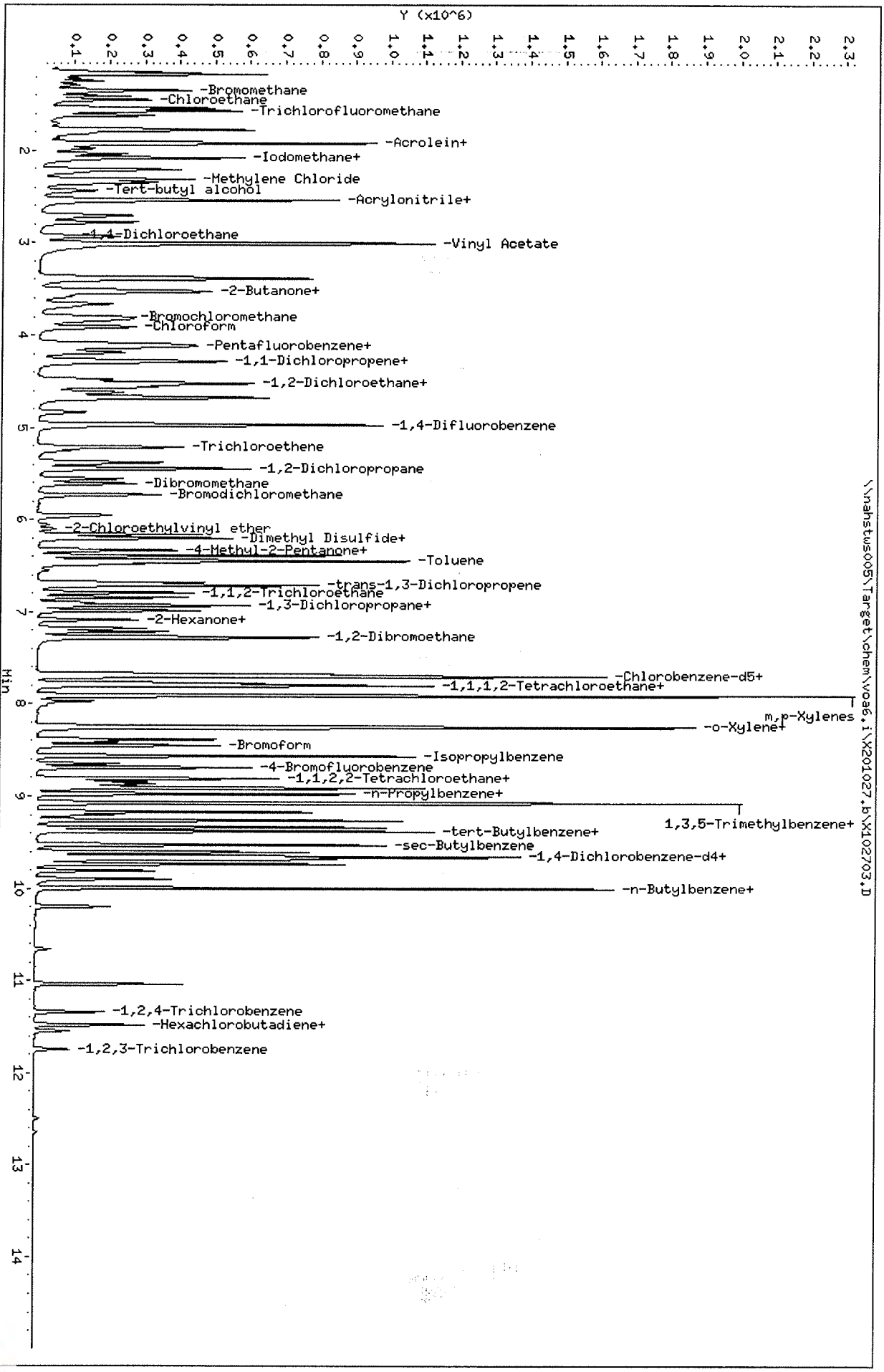
Data file : \\nahstws005\Target\chem\voa6.i\X201027.b\X102703.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 27-OCT-2020 12:08
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201027.b\8260W.m
Meth Date : 30-Nov-2020 13:59 voa6.i Quant Type: ISTD
Cal Date : 25-OCT-2020 20:11 Cal File: X102511.D
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	162858	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	331497	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	313114	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	132363	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	151386	50.0000	53.09
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	151308	50.0000	50.49
$ 30 Dibromofluoromethane	113	4.111	4.111	(0.981)	122136	50.0000	54.47
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	431719	50.0000	48.92
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	94636	50.0000	46.46
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	169433	50.0000	42.71
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	188516	50.0000	52.65
27 cis-1,2-Dichloroethene	96	3.538	3.538	(0.844)	131169	50.0000	51.46
17 Methylene Chloride	84	2.313	2.313	(0.552)	119974	50.0000	46.61
38 Trichloroethene	130	5.214	5.214	(1.049)	115805	50.0000	53.11
5 Vinyl Chloride	62	1.145	1.145	(0.273)	210650	50.0000	42.07



Data File: \\nahstws005\Target\chem\voa6,i\X201027,b\X102703.D
Date : 27-OCT-2020 12:08
Client ID: CCV
Sample Info: CCV;CCV;2;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6,i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201027.b\X102705.D Page 1
Report Date: 30-Nov-2020 13:59

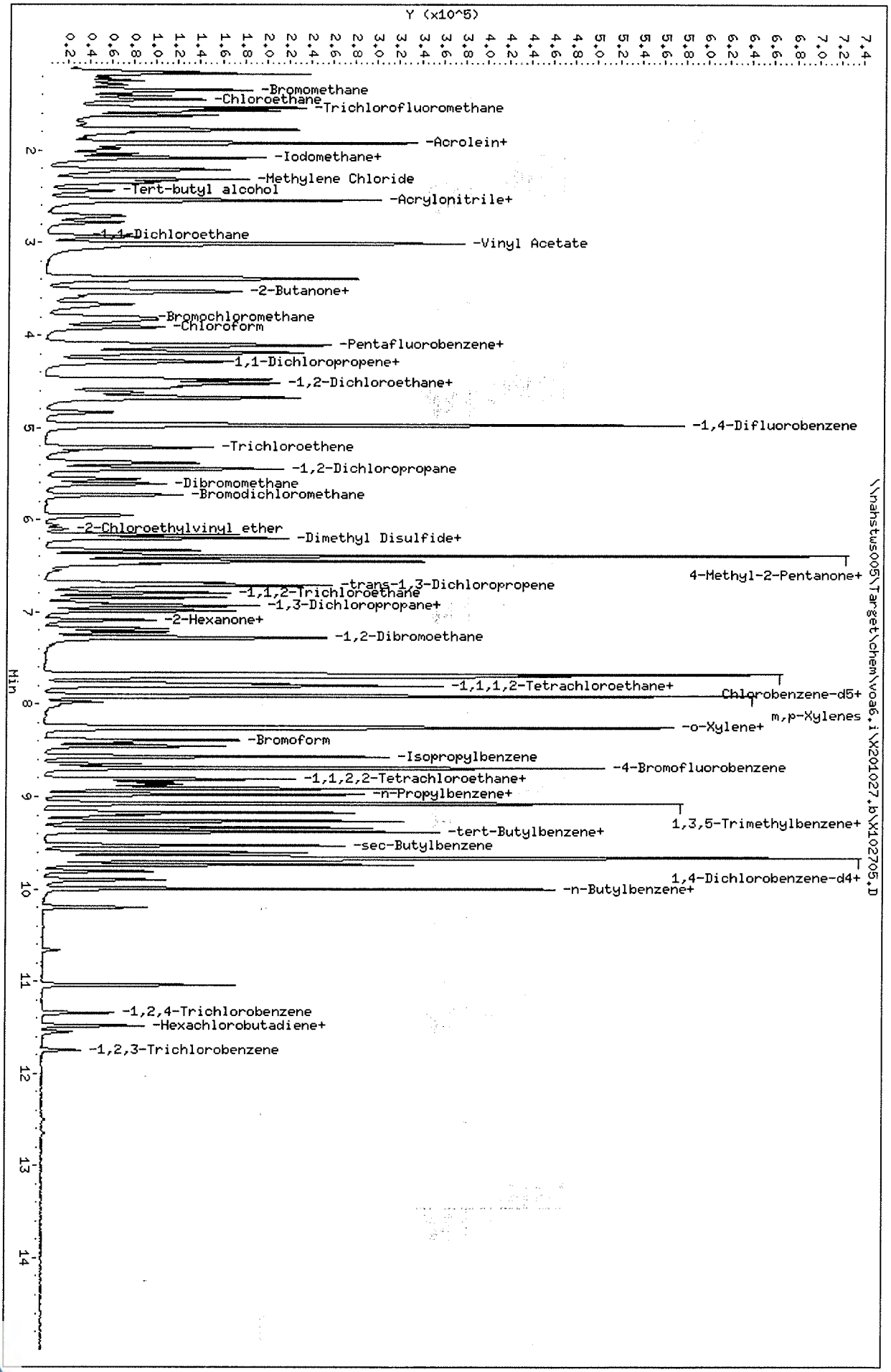
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201027.b\X102705.D
Lab Smp Id: VLCSW-201027 Client Smp ID: VLCSW-201027
Inj Date : 27-OCT-2020 12:50
Operator : PC Inst ID: voa6.i
Smp Info : VLCSW-201027;VLCSW-201027;3;;LCS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201027.b\8260W.m
Meth Date : 30-Nov-2020 13:59 voa6.i Quant Type: ISTD
Cal Date : 25-OCT-2020 20:11 Cal File: X102511.D
Als bottle: 5 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	159620	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	297906	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	271645	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	114908	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	146180	52.3098	52.30
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	134630	51.7356	51.73
$ 30 Dibromofluoromethane	113	4.111	4.111	(0.981)	112606	51.2459	51.24
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	393053	51.2597	51.25
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	35805	20.2632	20.26
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	61558	15.8343	15.83
33 1,2-Dichloroethane	62	4.569	4.562	(0.919)	70399	21.8801	21.88
27 cis-1,2-Dichloroethene	96	3.538	3.538	(0.844)	49109	19.6609	19.66
17 Methylene Chloride	84	2.313	2.313	(0.552)	45820	18.1656	18.16
38 Trichloroethene	130	5.214	5.214	(1.049)	41207	21.0303	21.03
5 Vinyl Chloride	62	1.145	1.145	(0.273)	77529	15.7991	15.79



Data File: \\nahstws005\Target\chem\voa6,i\X201027,b\X102705,D
Date : 27-OCT-2020 12:50
Client ID: VLCSW-201027
Sample Info: VLCSW-201027;VLCSW-201027;3;;LCS
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6,i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201027.b\X102708.D Page 1
Report Date: 30-Nov-2020 13:59

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Data file : \\nahstws005\Target\chem\voa6.i\X201027.b\X102708.D
Lab Smp Id: VBLKW-201027 Client Smp ID: VBLKW-201027
Inj Date : 27-OCT-2020 13:54
Operator : PC Inst ID: voa6.i
Smp Info : VBLKW-201027;VBLKW-201027;3;;BLANK
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201027.b\8260W.m
Meth Date : 30-Nov-2020 13:59 voa6.i Quant Type: ISTD
Cal Date : 25-OCT-2020 20:11 Cal File: X102511.D
Als bottle: 8 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

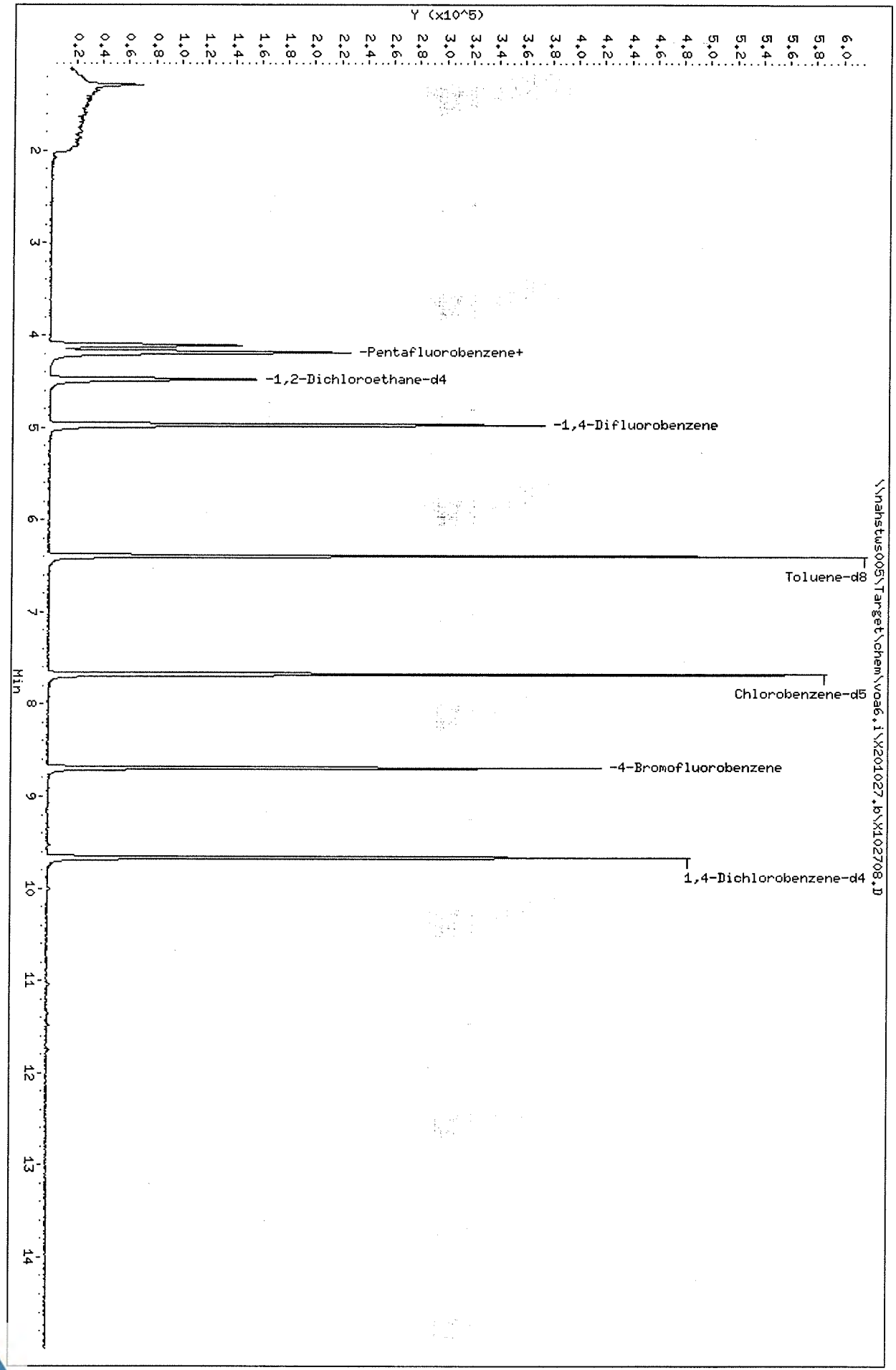
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	157473	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	280971	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	245788	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	93761	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	114044	41.3730	41.37
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	104765	44.7734	44.77
$ 30 Dibromofluoromethane	113	4.111	4.111	(0.981)	94067	43.3927	43.39
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	332253	48.0021	48.00

Data File: \\nahstws005\Target\chem\voa6.i\X201027.b\X102708.D
Date : 27-OCT-2020 13:54
Client ID: VBLKW-201027
Sample Info: VBLKW-201027;VBLKW-201027;3;;BLANK
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



Data File: \\nahstws005\Target\chem\voa6.i\X201027.b\X102710.D Page 1
Report Date: 30-Nov-2020 14:03

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201027.b\X102710.D
Lab Smp Id: HS20100719-01 Client Smp ID: HS20100719-01
Inj Date : 27-OCT-2020 14:36
Operator : PC Inst ID: voa6.i
Smp Info : HS20100719-01;HS20100719-01;;;
Misc Info : HS18090001;WATER;0;50;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201027.b\8260W.m
Meth Date : 30-Nov-2020 14:02 dev.giga Quant Type: ISTD
Cal Date : 25-OCT-2020 20:11 Cal File: X102511.D
Als bottle: 10
Dil Factor: 50.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	50.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

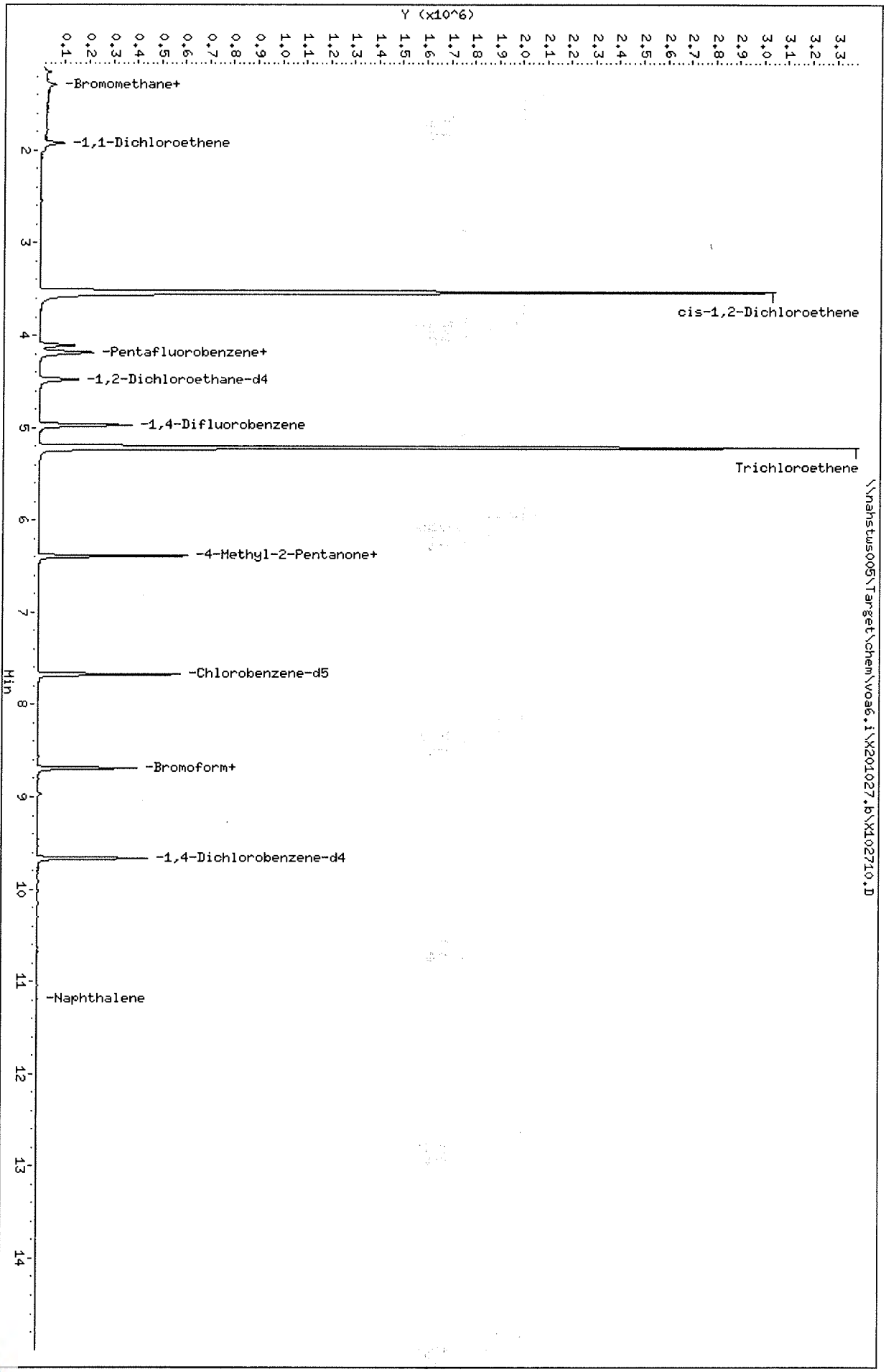
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	158023	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	278866	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	242953	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	89242	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	118547	42.8558	42.85
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	98505	42.6866	42.68
$ 30 Dibromofluoromethane	113	4.111	4.110	(0.981)	92024	42.3025	42.30
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	338363	49.4031	49.40
11 1,1-Dichloroethene	96	1.926	1.926	(0.460)	12850	3.33876	166.93(a)
27 cis-1,2-Dichloroethene	96	3.537	3.537	(0.844)	1353659	547.417	27370.86(A)
38 Trichloroethene	130	5.214	5.214	(1.049)	871649	475.226	23761.27(A)
5 Vinyl Chloride	62	1.145	1.145	(0.273)	17954	3.69570	184.78(a)

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount exceeded maximum amount.

Data File: \\nahstws005\Target\chem\voa6.i\X201027.b\X102710.D
Date : 27-OCT-2020 14:36
Client ID: HS20100719-01
Sample Info: HS20100719-01;HS20100719-01;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



Data File: \\nahstws005\Target\chem\voa6.i\X201027.b\X102710.D

Date : 27-OCT-2020 14:36

Client ID: HS20100719-01

Instrument: voa6.i

Sample Info: HS20100719-01;HS20100719-01;;;

Purge Volume: 5.0

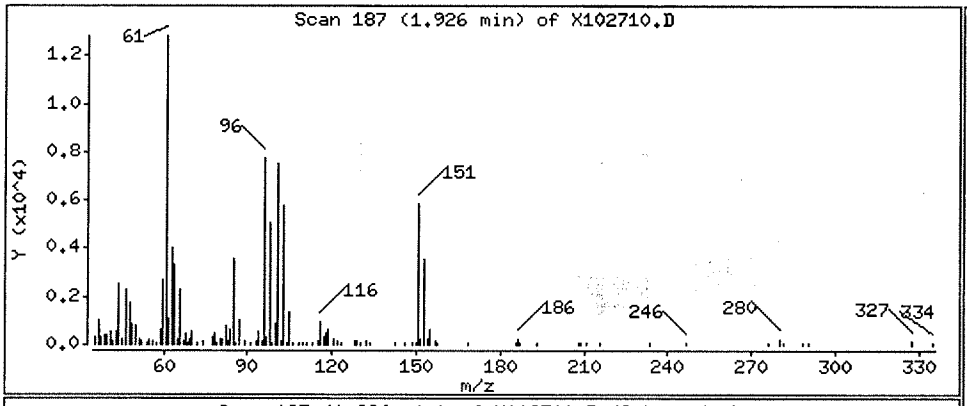
Operator: PC

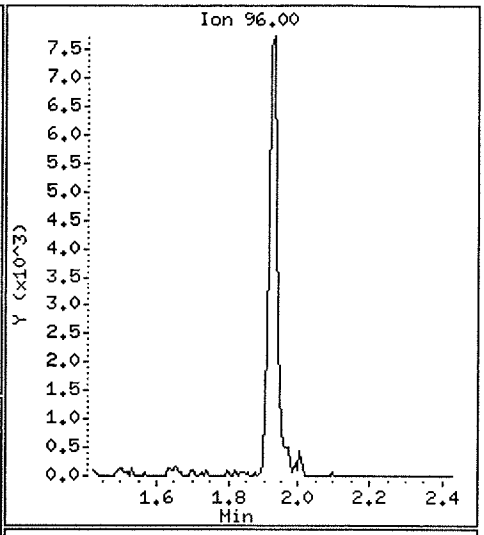
Column phase: DB624

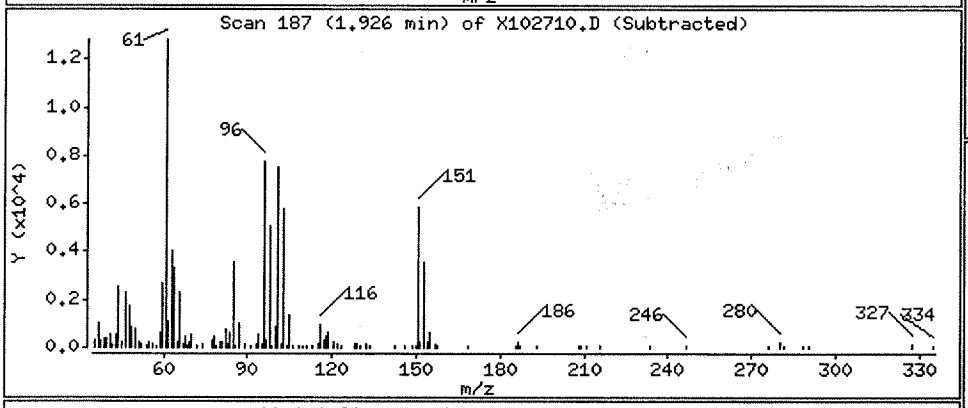
Column diameter: 0.18

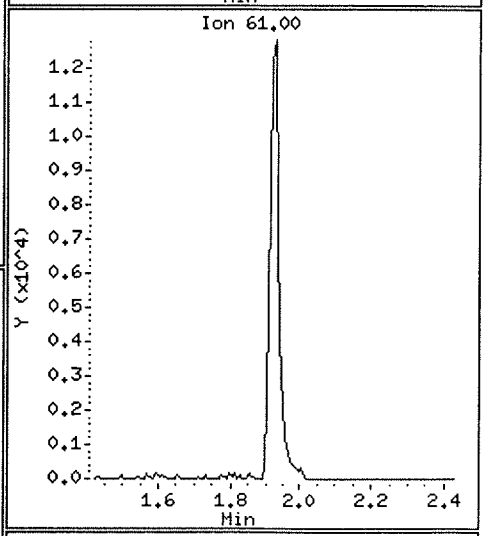
11 1,1-Dichloroethene

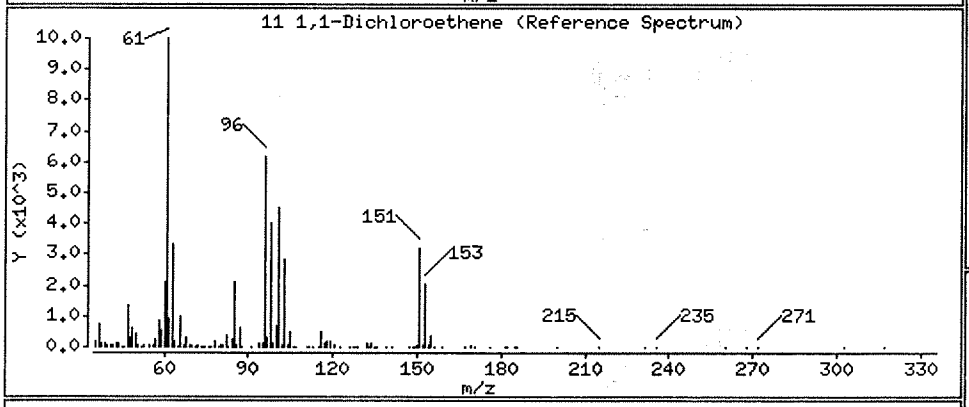
Concentration: 166.93 ug/l

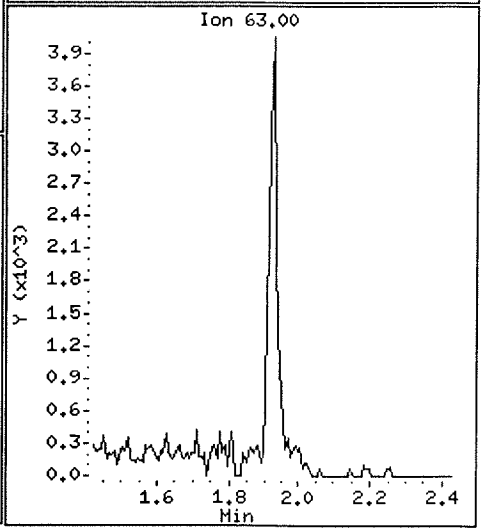


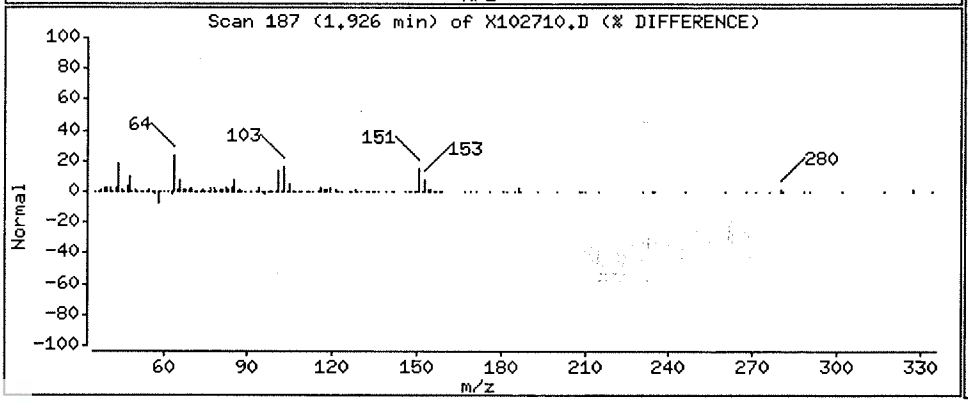












Data File: \\nahstws005\Target\chem\voa6.i\X201027.b\X102710.D

Date : 27-OCT-2020 14:36

Client ID: HS20100719-01

Instrument: voa6.i

Sample Info: HS20100719-01;HS20100719-01;;;

Purge Volume: 5.0

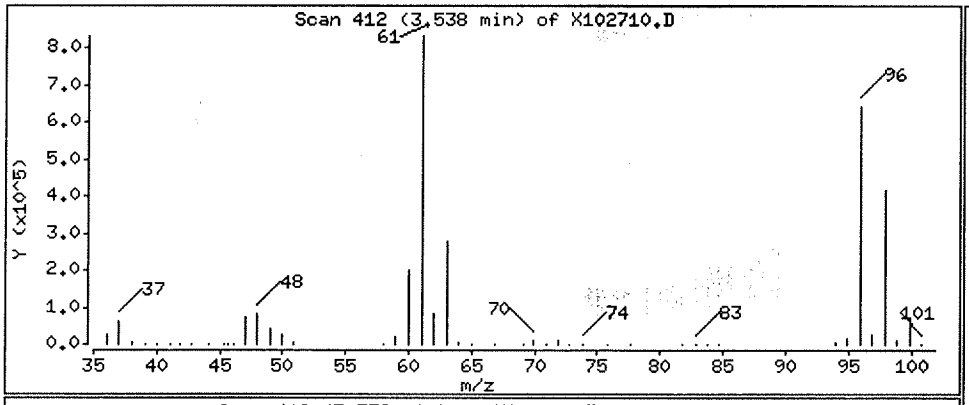
Operator: PC

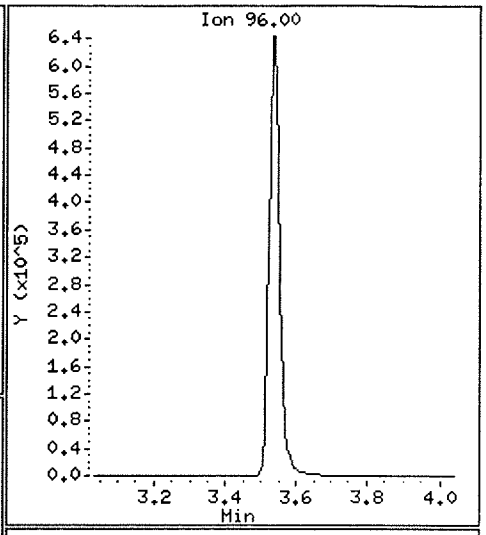
Column phase: DB624

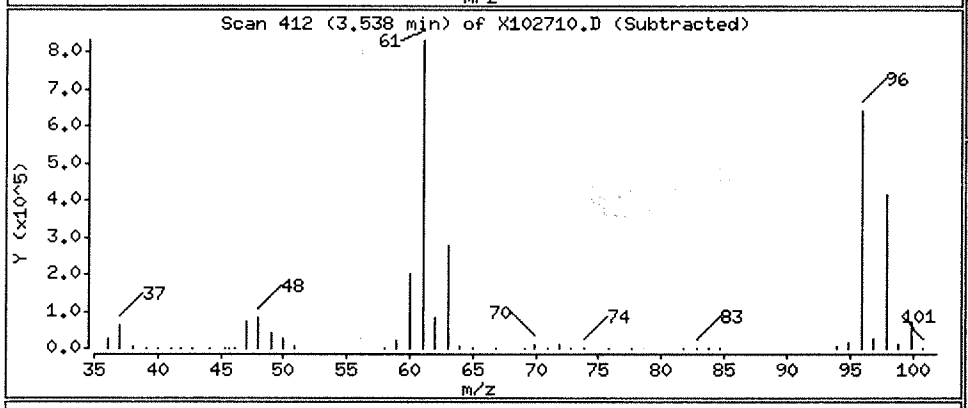
Column diameter: 0.18

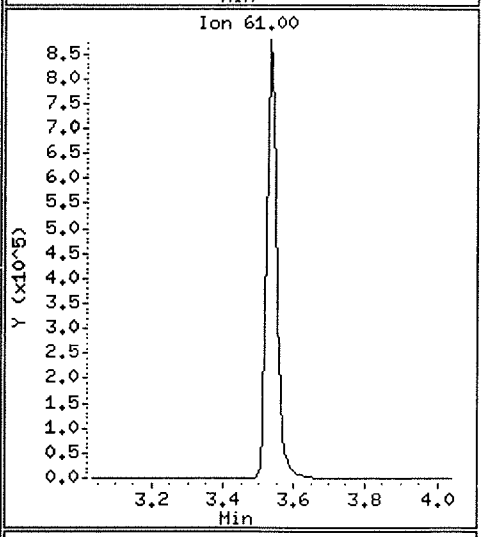
27 cis-1,2-Dichloroethene

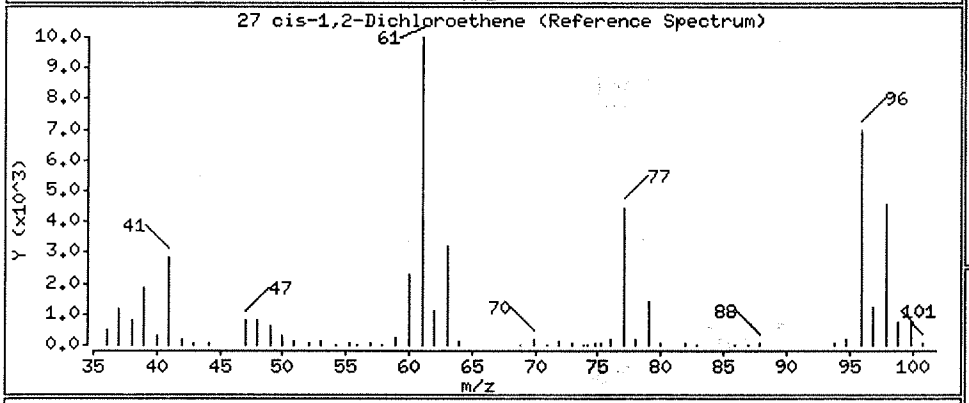
Concentration: 27370.86 ug/l

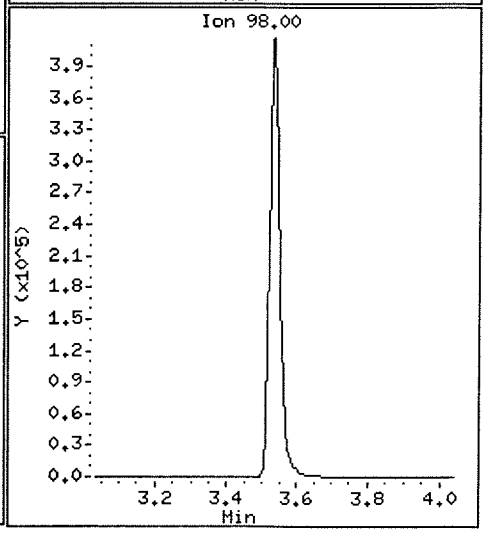


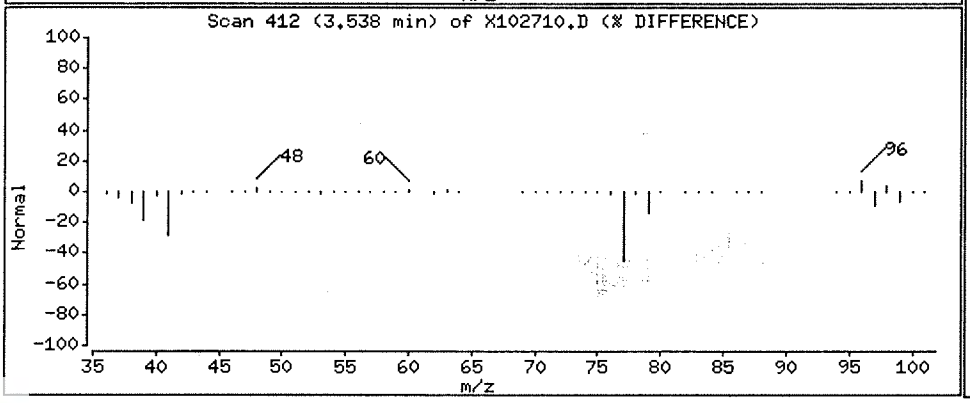












Data File: \\nahstws005\Target\chem\voa6.i\X201027.b\X102710.D

Date : 27-OCT-2020 14:36

Client ID: HS20100719-01

Instrument: voa6.i

Sample Info: HS20100719-01;HS20100719-01;;;

Purge Volume: 5.0

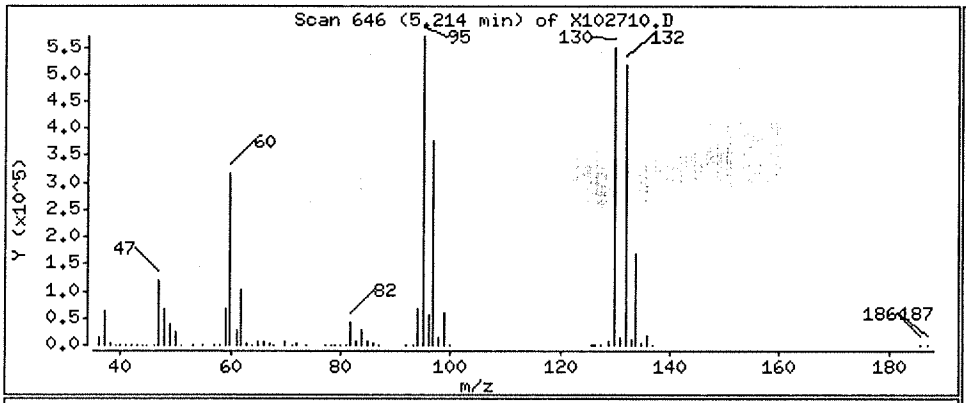
Operator: PC

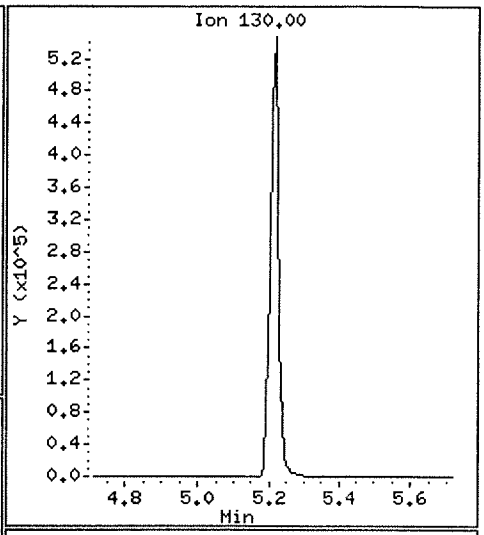
Column phase: DB624

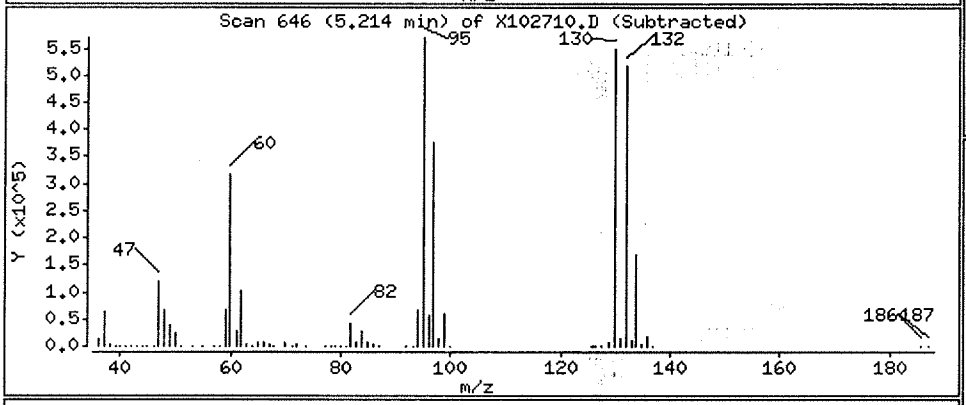
Column diameter: 0.18

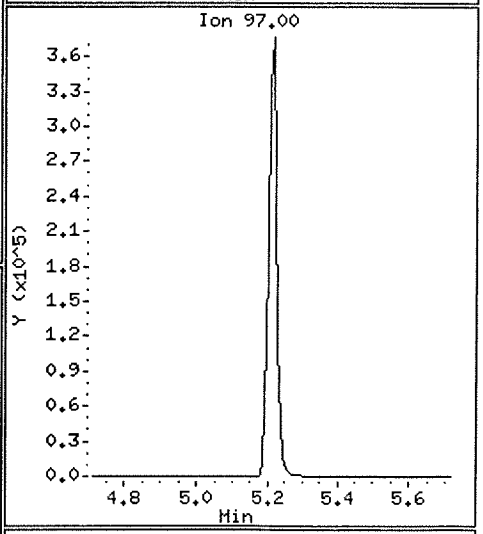
38 Trichloroethene

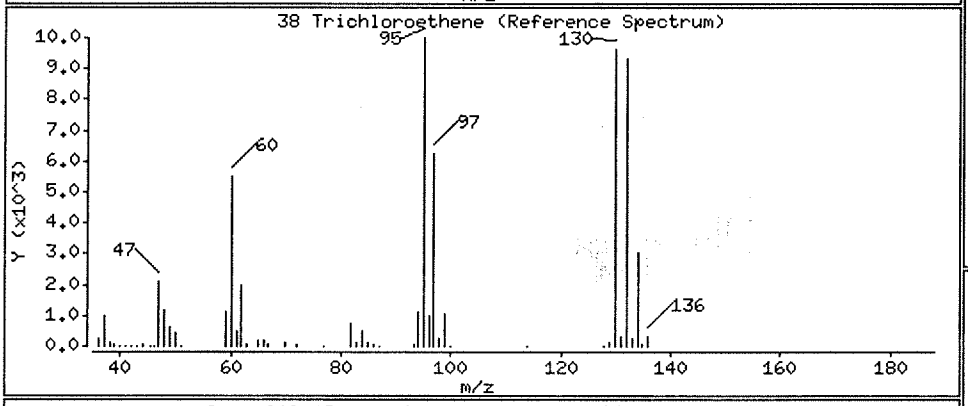
Concentration: 23761.27 ug/l

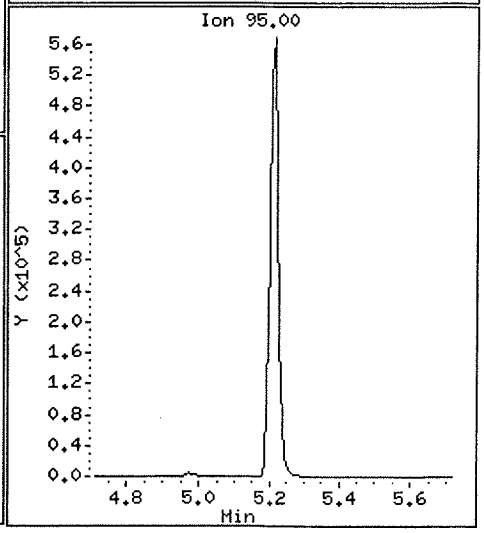


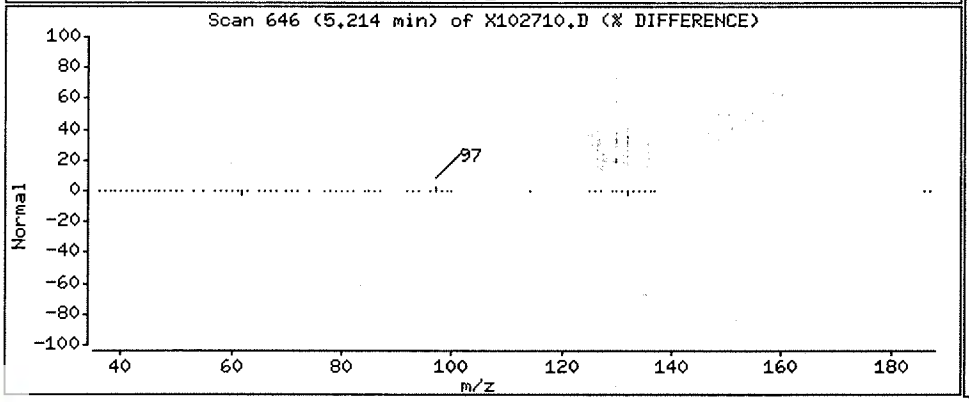












Data File: \\nahstws005\Target\chem\voa6.i\X201027.b\X102710.D

Date : 27-OCT-2020 14:36

Client ID: HS20100719-01

Instrument: voa6.i

Sample Info: HS20100719-01;HS20100719-01;;;

Purge Volume: 5.0

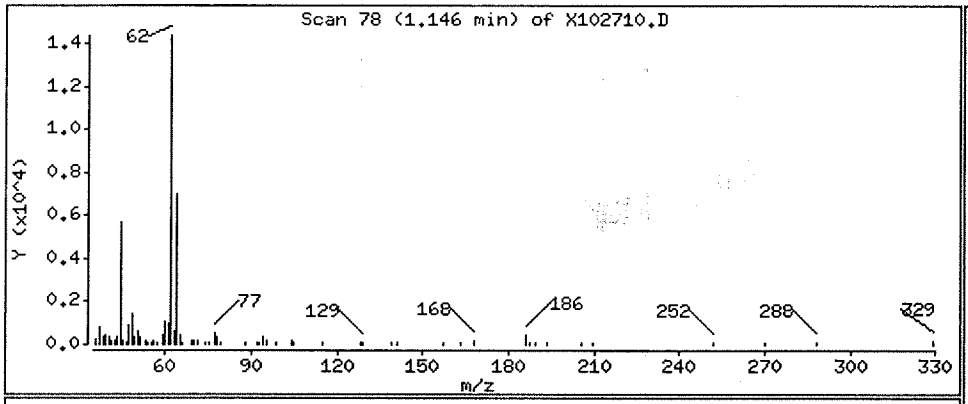
Operator: PC

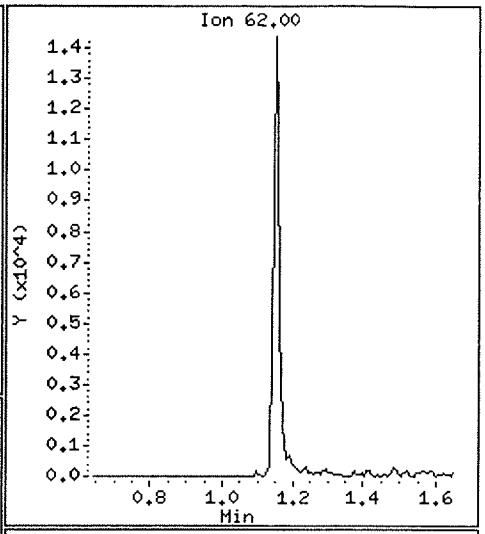
Column phase: DB624

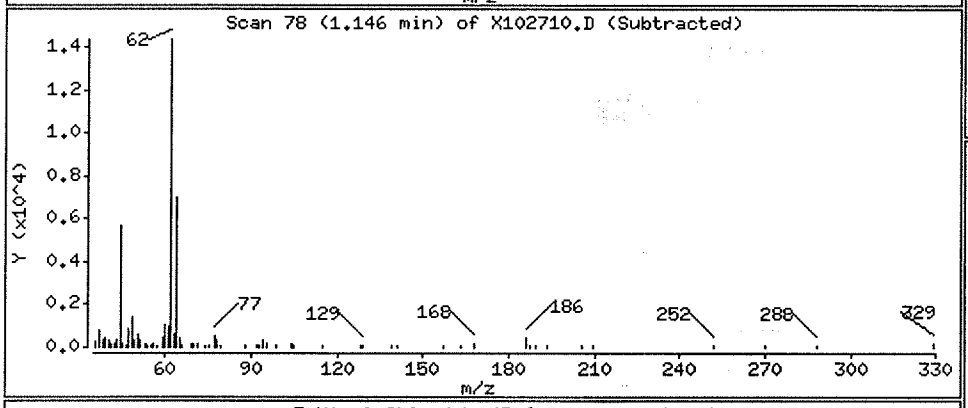
Column diameter: 0.18

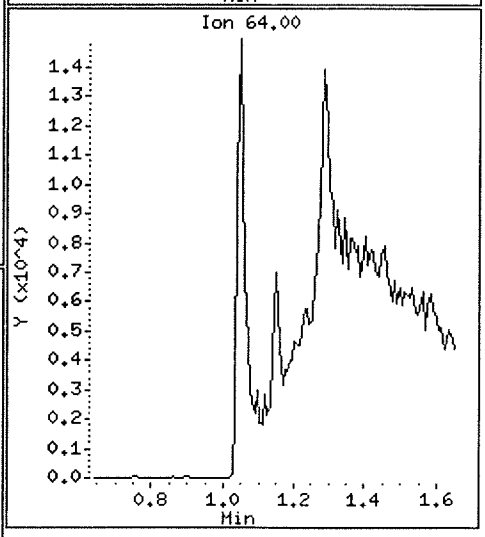
5 Vinyl Chloride

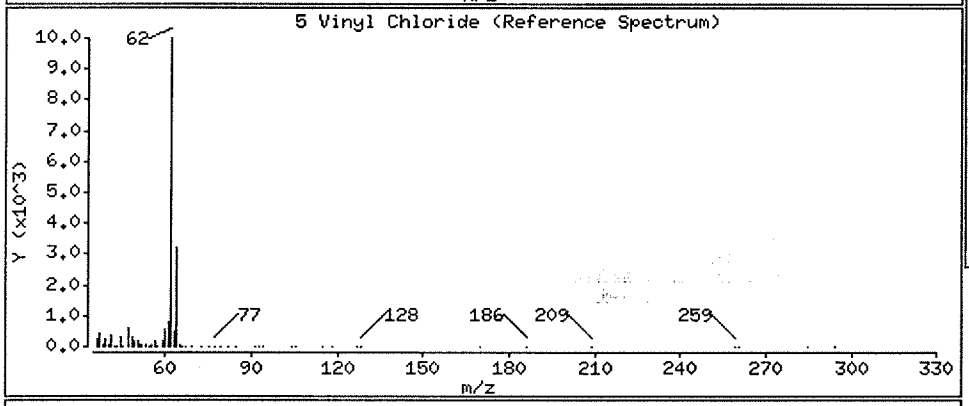
Concentration: 184.78 ug/l

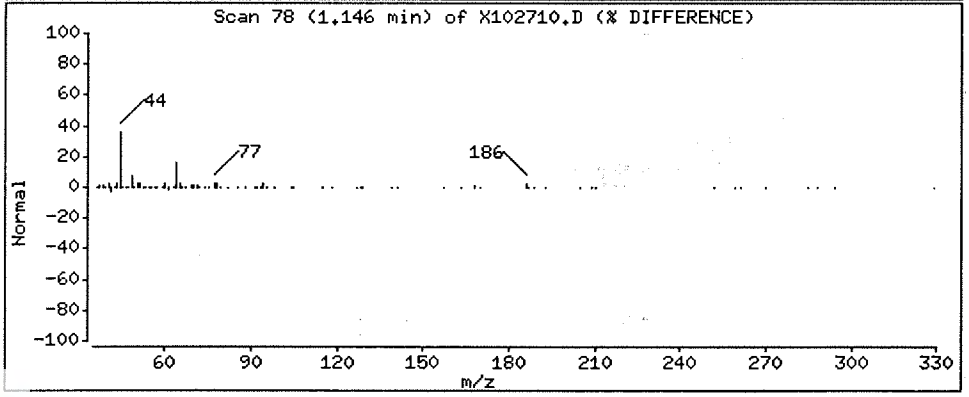












Data File: \\nahstws005\Target\chem\voa6.i\X201027.b\X102711.D Page 1
Report Date: 30-Nov-2020 13:59

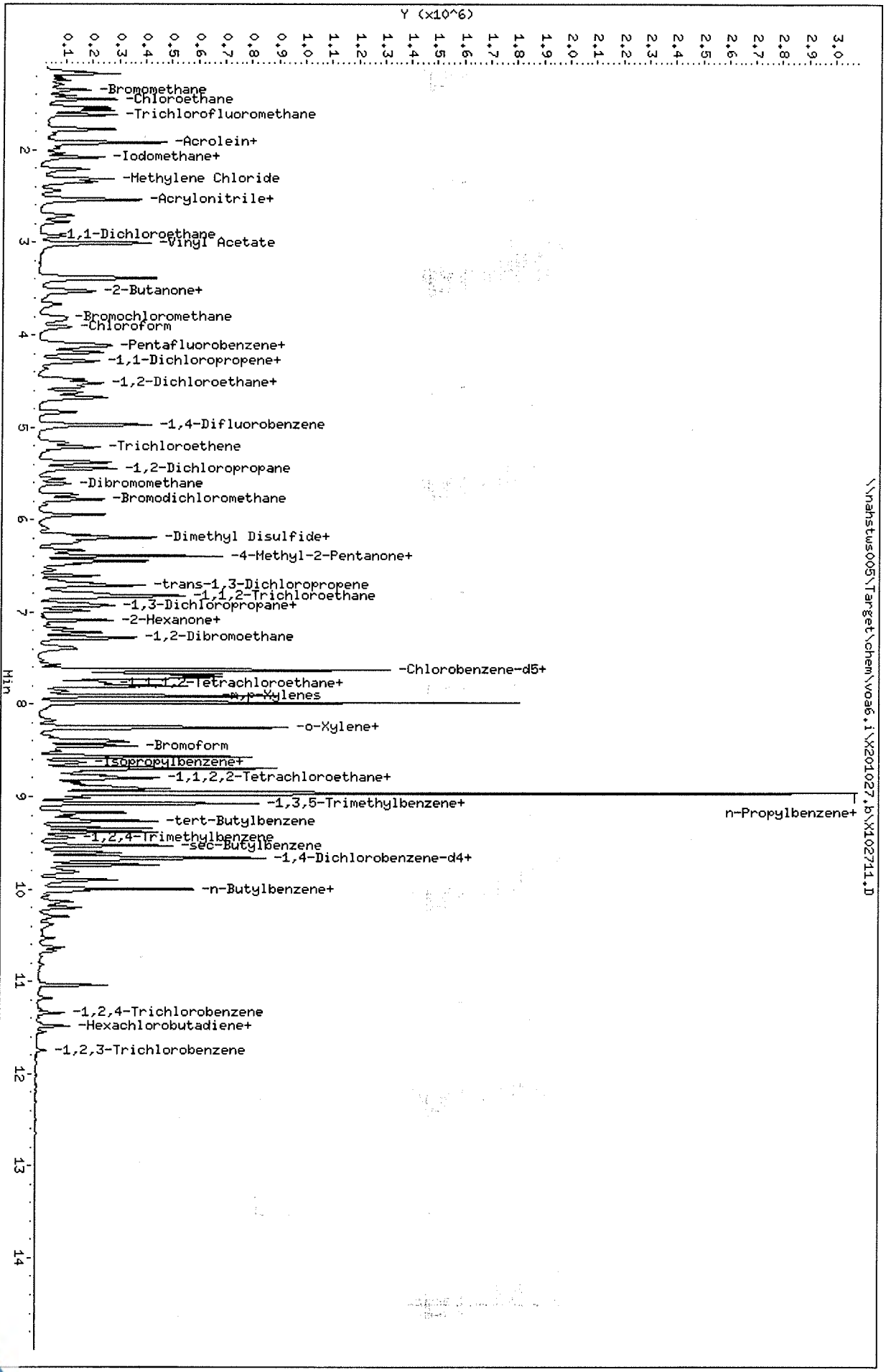
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201027.b\X102711.D
Lab Smp Id: HS20100780-04MS Client Smp ID: HS20100780-04MS
Inj Date : 27-OCT-2020 14:57
Operator : PC Inst ID: voa6.i
Smp Info : HS20100780-04MS;HS20100780-04MS;3;;MS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201027.b\8260W.m
Meth Date : 30-Nov-2020 13:59 voa6.i Quant Type: ISTD
Cal Date : 25-OCT-2020 20:11 Cal File: X102511.D
Als bottle: 11 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	168957	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	293074	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	273153	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	113067	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	125793	42.5326	42.53
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	130254	49.8531	49.85
$ 30 Dibromofluoromethane	113	4.111	4.111	(0.981)	98414	42.3122	42.31
$ 48 Toluene-d8	98	6.389	6.388	(0.833)	366378	47.6428	47.64
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	55112	31.0175	31.01
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	79356	19.2844	19.28
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	85450	26.9958	26.99
27 cis-1,2-Dichloroethene	96	3.538	3.538	(0.844)	55552	21.0113	21.01
17 Methylene Chloride	84	2.313	2.313	(0.552)	51027	19.1120	19.11
38 Trichloroethene	130	5.214	5.214	(1.049)	50894	26.4024	26.40
5 Vinyl Chloride	62	1.145	1.145	(0.273)	93683	18.0360	18.03



Data File: \\nahstws005\Target\chem\voa6.i\X201027.b\X102711.D
Date : 27-OCT-2020 14:57
Client ID: HS20100780-04HS
Sample Info: HS20100780-04MS;HS20100780-04MS;3;;MS
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

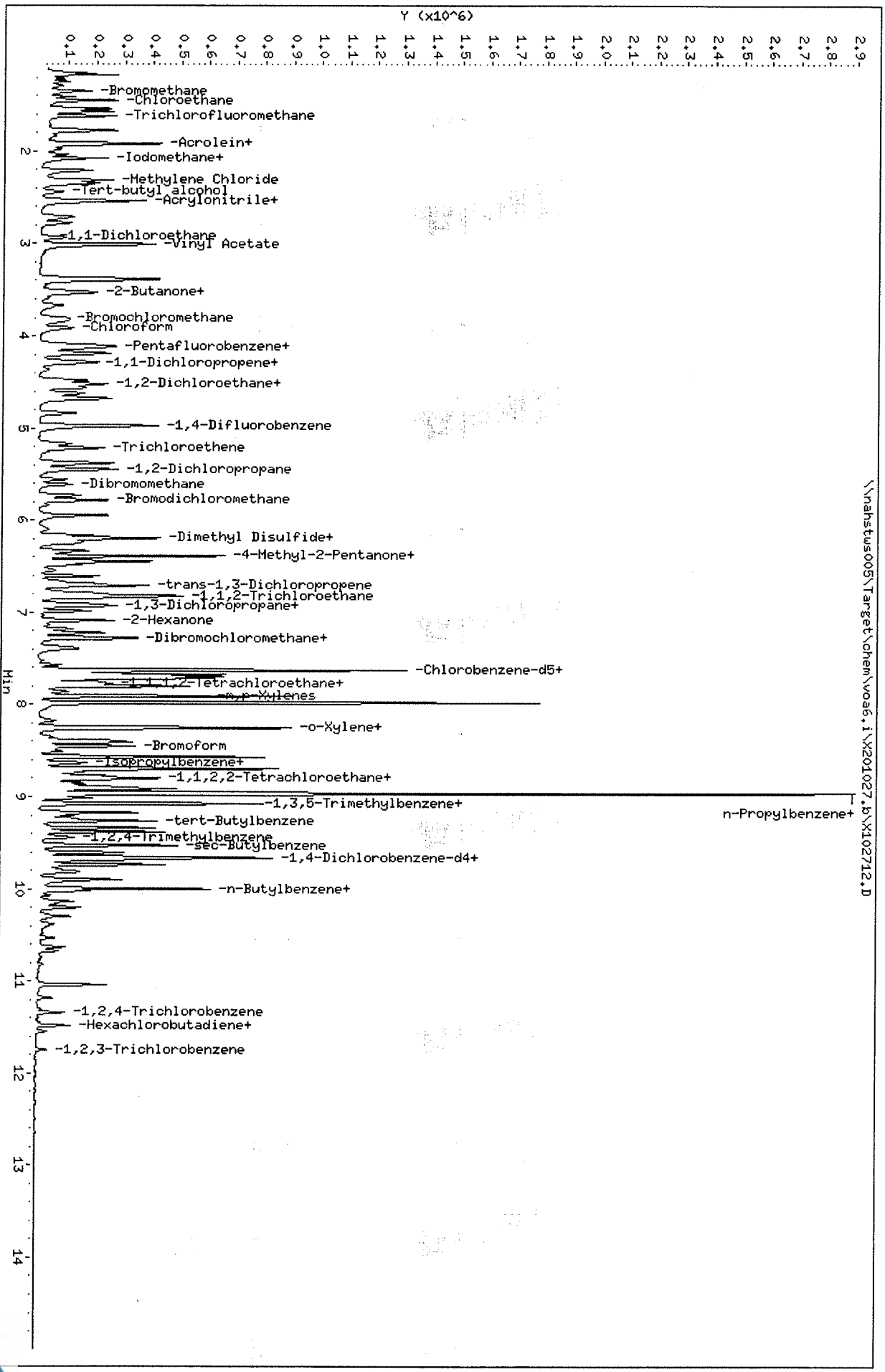
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201027.b\X102712.D
Lab Smp Id: HS20100780-04MSD Client Smp ID: HS20100780-04MSD
Inj Date : 27-OCT-2020 15:18
Operator : PC Inst ID: voa6.i
Smp Info : HS20100780-04MSD;HS20100780-04MSD;3;;MSD
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201027.b\8260W.m
Meth Date : 30-Nov-2020 13:59 voa6.i Quant Type: ISTD
Cal Date : 25-OCT-2020 20:11 Cal File: X102511.D
Als bottle: 11 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	168967	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	295596	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	268766	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	111568	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.483	4.476	(1.070)	124194	41.9899	41.98
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	122879	47.8803	47.88
$ 30 Dibromofluoromethane	113	4.110	4.111	(0.981)	99947	42.9688	42.96
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	356252	47.1025	47.10
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	54997	31.4580	31.45
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	73590	17.8821	17.88
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	83203	26.0617	26.06
27 cis-1,2-Dichloroethene	96	3.537	3.538	(0.844)	52444	19.8346	19.83
17 Methylene Chloride	84	2.313	2.313	(0.552)	52224	19.5592	19.55
38 Trichloroethene	130	5.214	5.214	(1.049)	49227	25.3197	25.31
5 Vinyl Chloride	62	1.145	1.145	(0.273)	90136	17.3521	17.35



Data File: \\nahstws005\Target\chem\voa6.i\X201027.b\X102712.D
Date : 27-OCT-2020 15:18
Client ID: HS20100780-04HSD
Sample Info: HS20100780-04HSD;HS20100780-04HSD;3;;HSD
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201027.b\X102713.D Page 1
Report Date: 30-Nov-2020 14:03

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201027.b\X102713.D
Lab Smp Id: HS20100719-01 Client Smp ID: HS20100719-01
Inj Date : 27-OCT-2020 15:39
Operator : PC Inst ID: voa6.i
Smp Info : HS20100719-01;HS20100719-01;;;
Misc Info : HS18090001;WATER;0;500;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201027.b\8260W.m
Meth Date : 30-Nov-2020 14:02 dev.giga Quant Type: ISTD
Cal Date : 25-OCT-2020 20:11 Cal File: X102511.D
Als bottle: 12
Dil Factor: 500.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

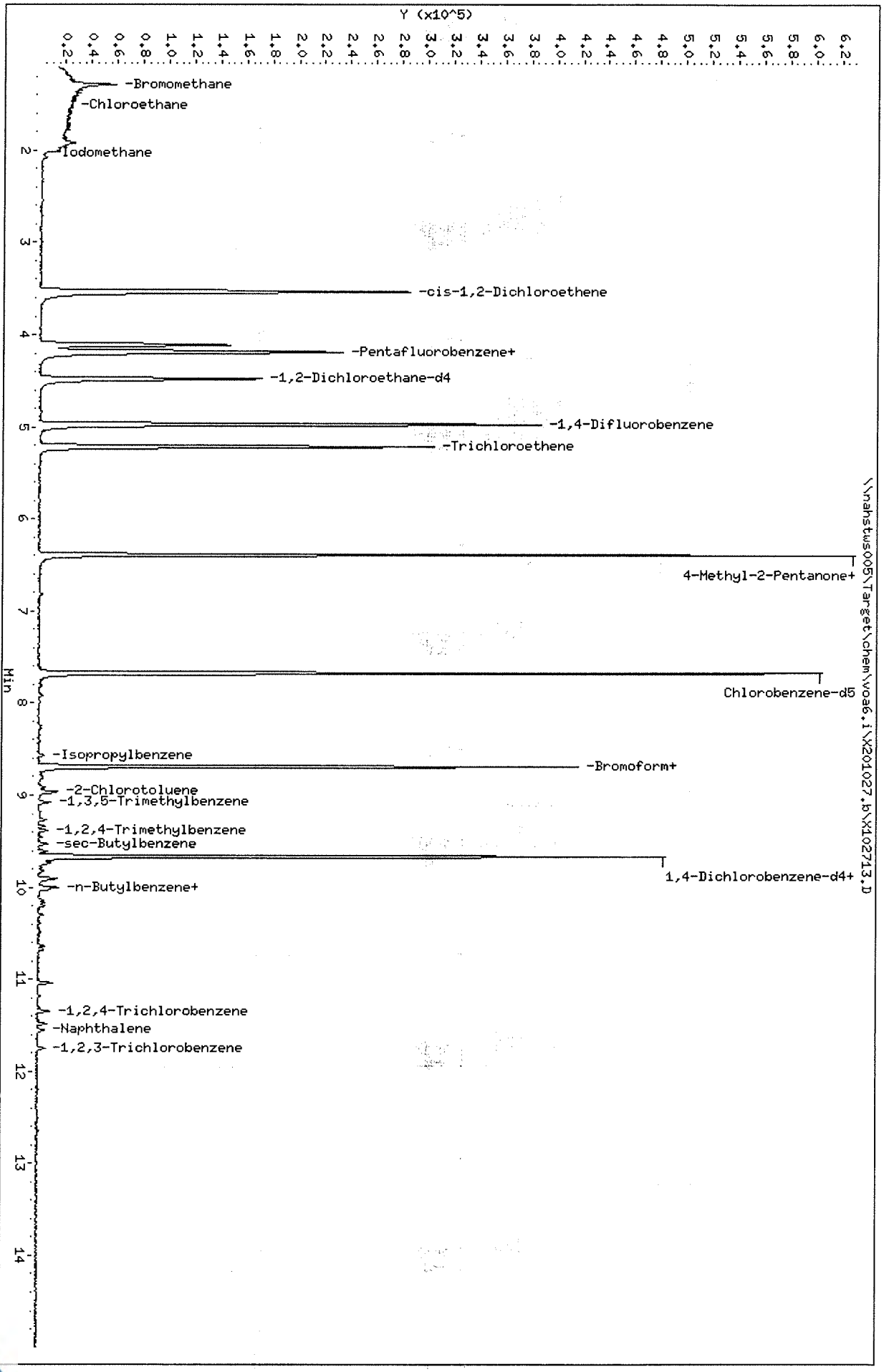
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	500.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	165267	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	286576	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	250341	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	92409	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	125186	43.2719	43.27
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	107232	44.9844	44.98
$ 30 Dibromofluoromethane	113	4.111	4.110	(0.981)	97624	42.9097	42.90
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	346467	49.1043	49.10
27 cis-1,2-Dichloroethene	96	3.538	3.537	(0.844)	136608	52.8226	26411.28
38 Trichloroethene	130	5.214	5.214	(1.049)	83097	44.0859	22042.92
5 Vinyl Chloride	62	1.152	1.145	(0.275)	2396	0.47158	235.79(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).



Data File: \\nahstws005\Target\chem\voa6.i\X201027.b\X102713.D
Date : 27-OCT-2020 15:39
Client ID: HS20100719-01
Sample Info: HS20100719-01;HS20100719-01;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201027.b\X102713.D

Date : 27-OCT-2020 15:39

Client ID: HS20100719-01

Instrument: voa6.i

Sample Info: HS20100719-01;HS20100719-01;;;

Purge Volume: 5.0

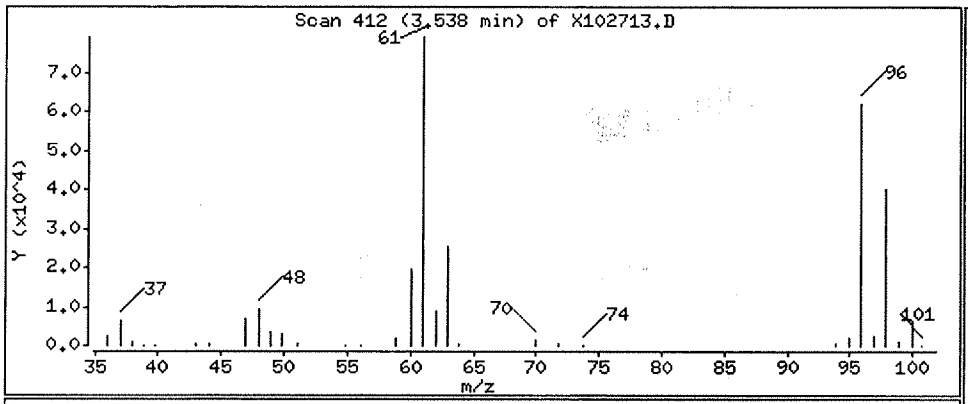
Operator: PC

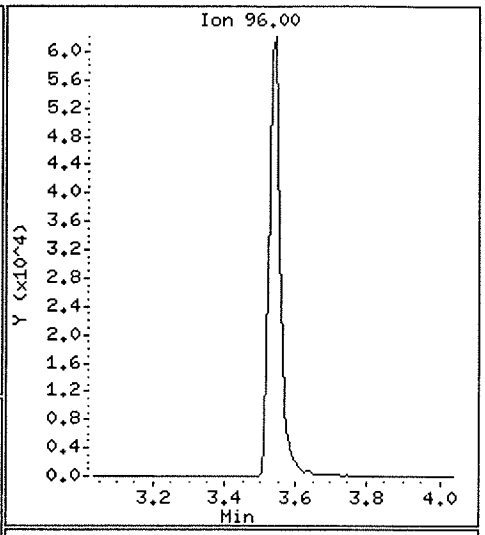
Column phase: DB624

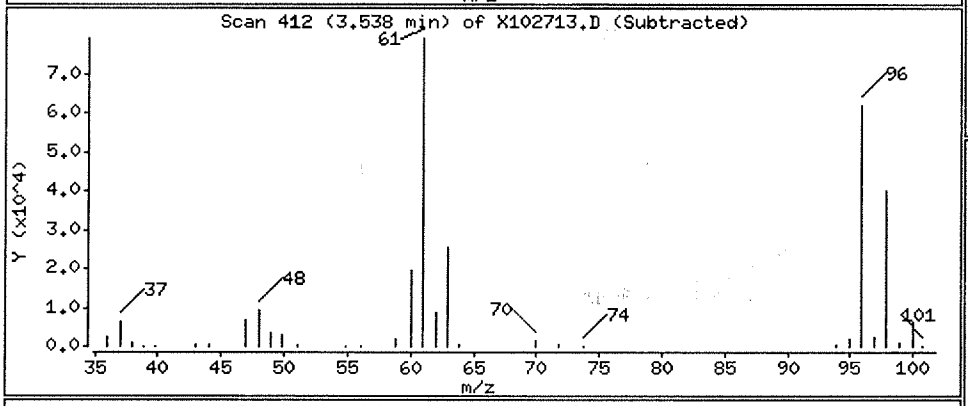
Column diameter: 0.18

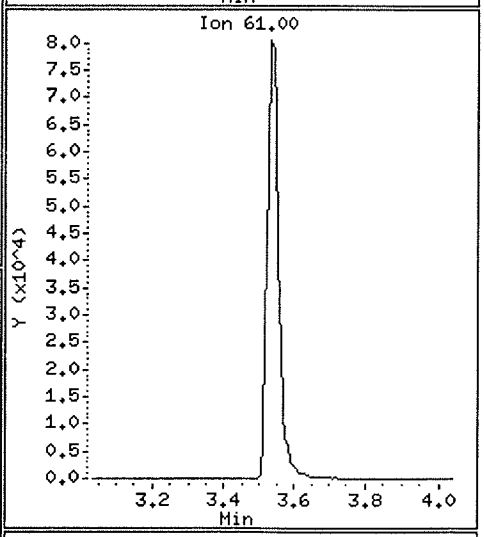
27 cis-1,2-Dichloroethene

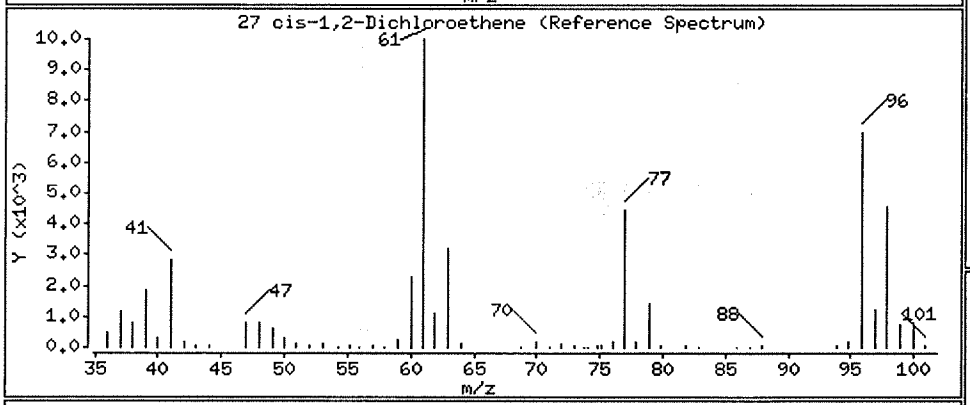
Concentration: 26411.28 ug/l

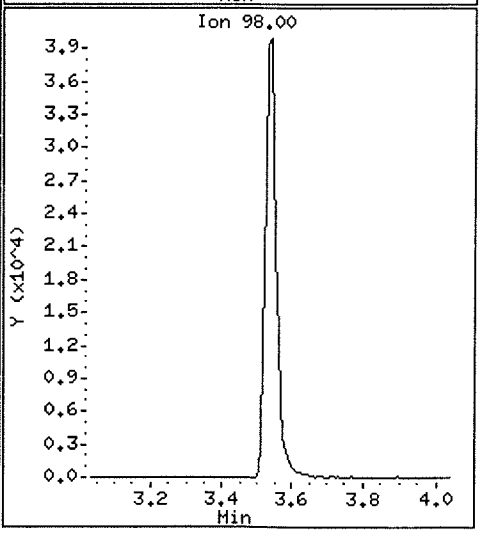


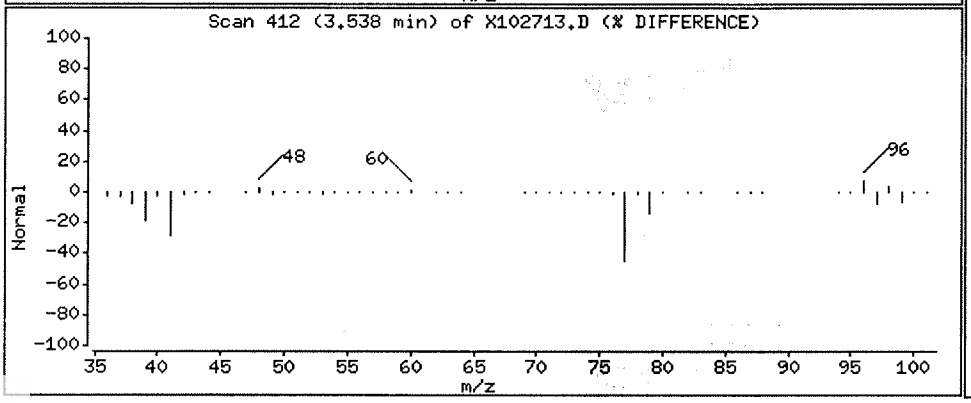












Data File: \\nahstws005\Target\chem\voa6.i\X201027.b\X102713.D

Date : 27-OCT-2020 15:39

Client ID: HS20100719-01

Instrument: voa6.i

Sample Info: HS20100719-01;HS20100719-01;;;

Purge Volume: 5.0

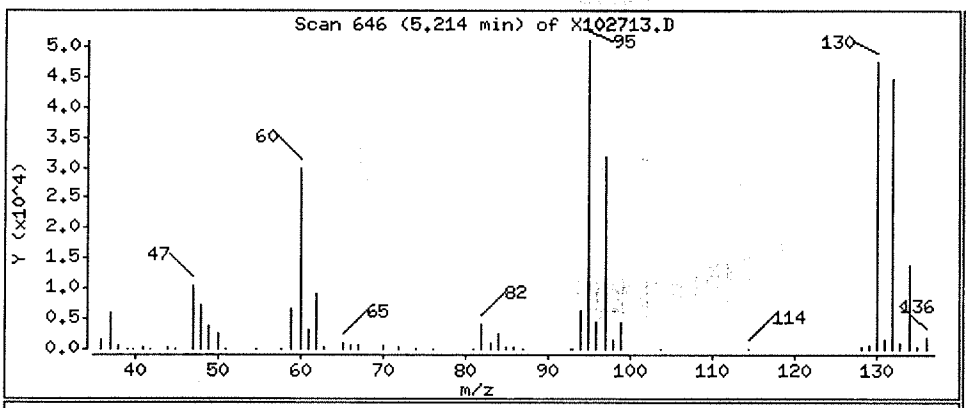
Operator: PC

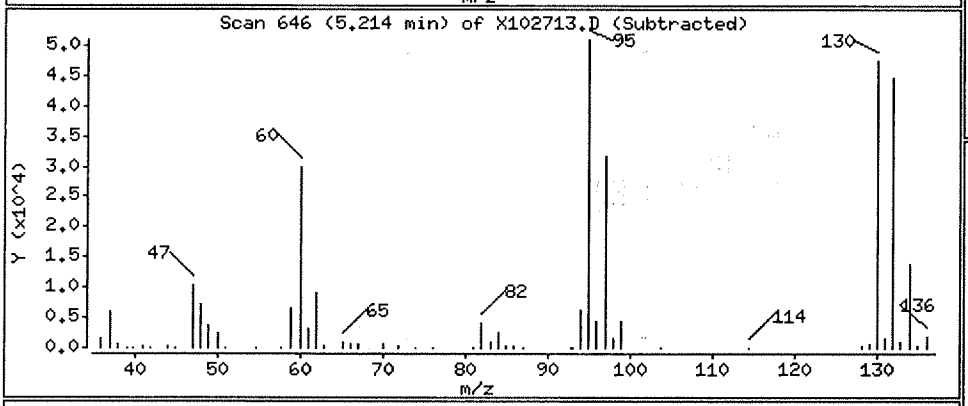
Column phase: DB624

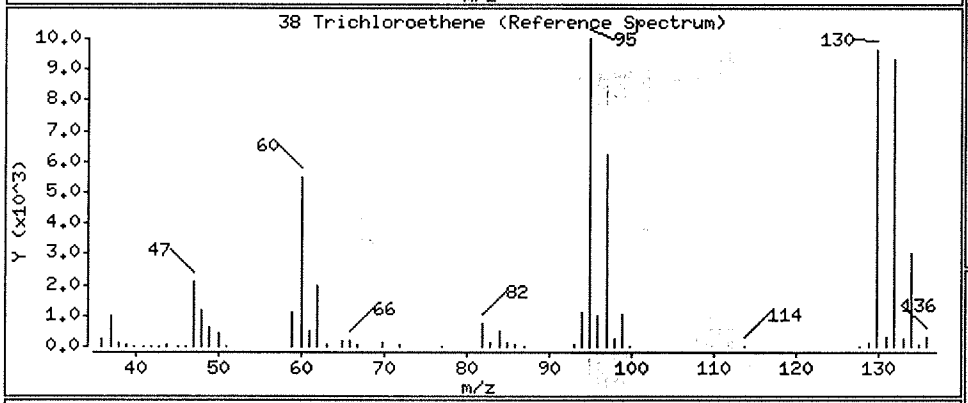
Column diameter: 0.18

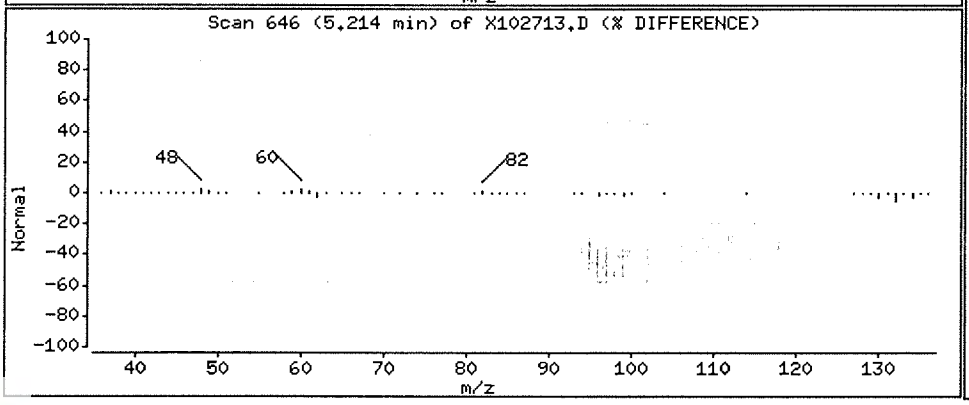
38 Trichloroethene

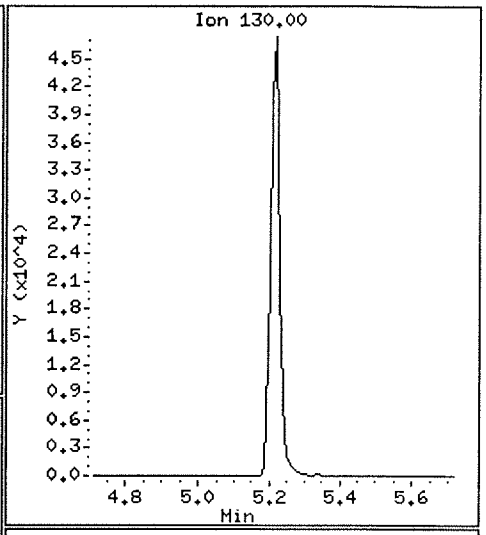
Concentration: 22042.92 ug/l

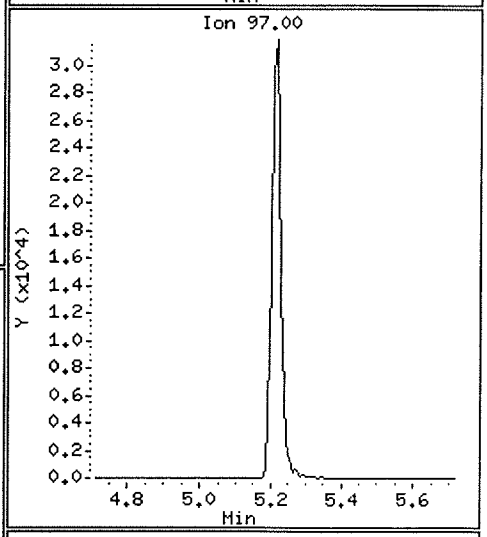


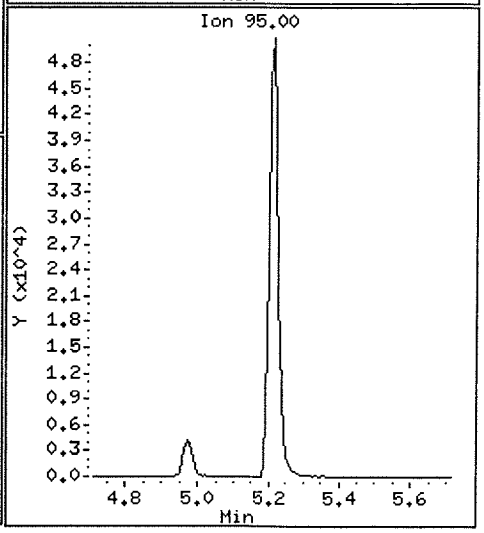












Data File: \\nahstws005\Target\chem\voa6.i\X201027.b\X102713.D

Date : 27-OCT-2020 15:39

Client ID: HS20100719-01

Instrument: voa6.i

Sample Info: HS20100719-01;HS20100719-01;;;

Purge Volume: 5.0

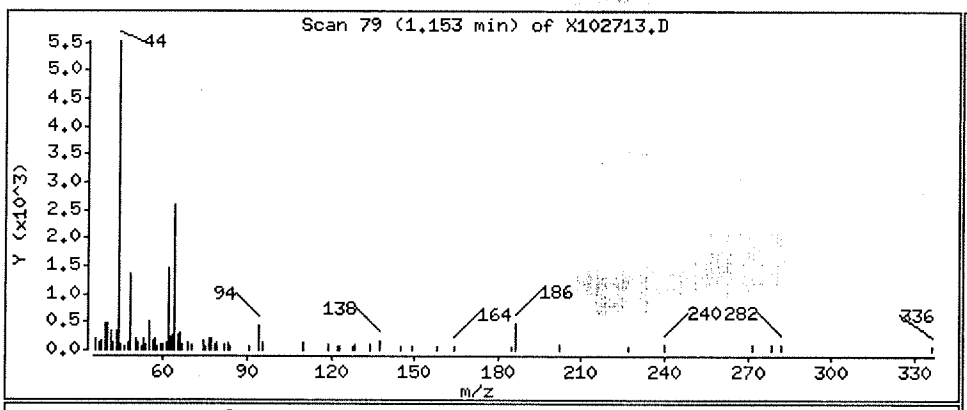
Operator: PC

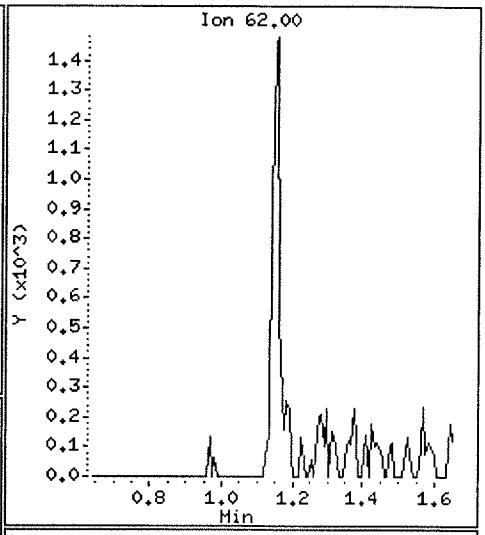
Column phase: DB624

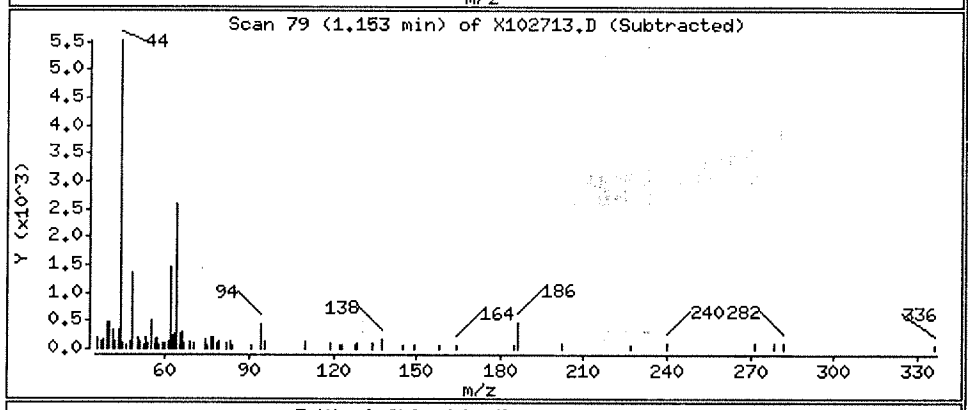
Column diameter: 0.18

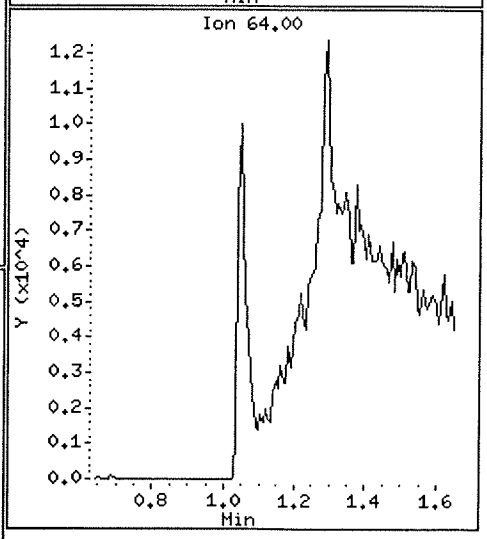
5 Vinyl Chloride

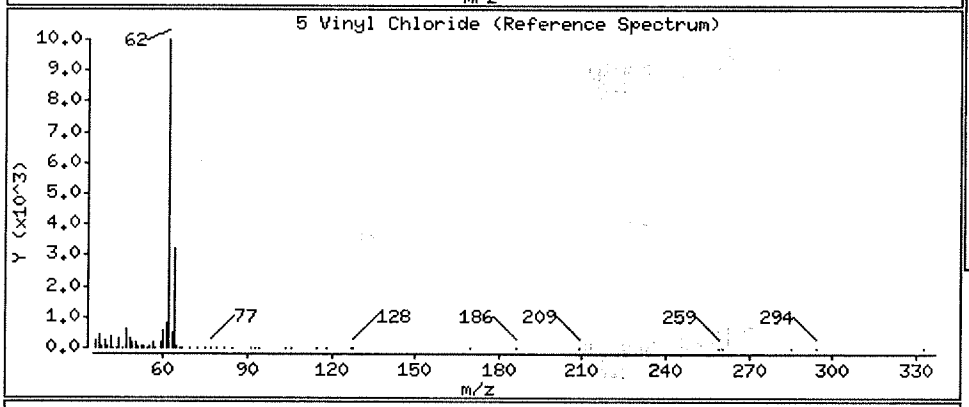
Concentration: 235.79 ug/l

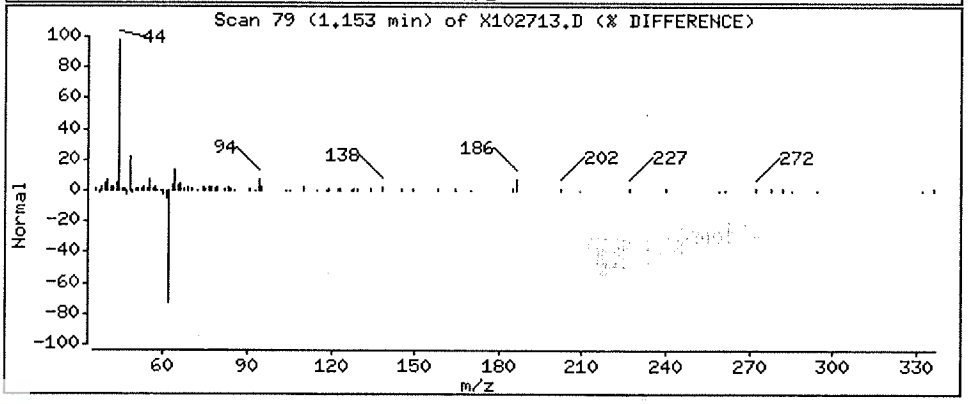












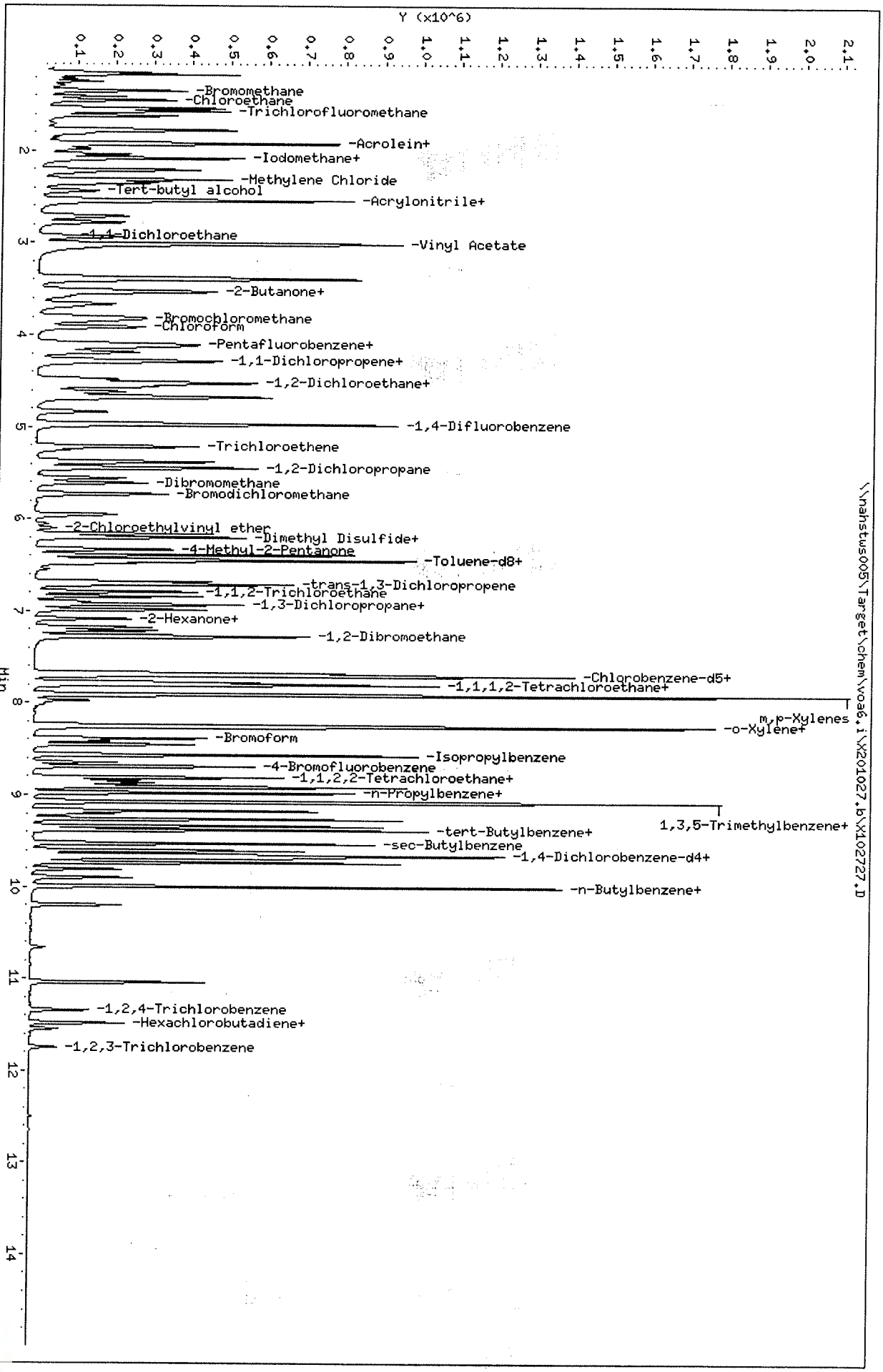
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201027.b\X102727.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 27-OCT-2020 20:33
Operator : PC Inst ID: voa6.i
Smp Info : CCV-END;CCV-END;2;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201027.b\8260W.m
Meth Date : 30-Nov-2020 13:59 voa6.i Quant Type: ISTD
Cal Date : 25-OCT-2020 20:11 Cal File: X102511.D
Als bottle: 26 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	173139	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	333454	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	314608	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	136645	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	154702	50.0000	51.03
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	148112	50.0000	49.24
$ 30 Dibromofluoromethane	113	4.110	4.110	(0.981)	120653	50.0000	50.62
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	427099	50.0000	48.19
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	91729	50.0000	44.82
11 1,1-Dichloroethene	96	1.926	1.926	(0.460)	150017	50.0000	35.57
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	190508	50.0000	52.89
27 cis-1,2-Dichloroethene	96	3.537	3.537	(0.844)	131801	50.0000	48.64
17 Methylene Chloride	84	2.313	2.313	(0.552)	115161	50.0000	42.09
38 Trichloroethene	130	5.214	5.214	(1.049)	119479	50.0000	54.47
5 Vinyl Chloride	62	1.145	1.145	(0.273)	189548	50.0000	35.61



Data File: \\nahstws005\Target\chem\voa6.i\X201027.b\X102727.D
Date : 27-OCT-2020 20:33
Client ID: CCV-END
Sample Info: CCV-END;CCV-END;2;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

HS20100719 RSK175 Raw Data

ALS WO# HS20100719

FID04 -Logbook

Batch: 26730 **Analyst:** Nosa Izekor

Date: 01-24-2017 **Reviewer:**

Method: RSK 175 ICAL **Laboratory:** Houston

Comments: Target Sequence 170124

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	ICAL1	CALIB_1	01-24-2017 09:06 am	1.00	0.00 mL	0.00 mL	001.D	Liquid	Y	NA
2	ICAL2	CALIB_2	01-24-2017 09:30 am	1.00	0.00 mL	0.00 mL	002.D	Liquid	Y	NA
3	ICAL3	CALIB_3	01-24-2017 09:59 am	1.00	0.00 mL	0.00 mL	003.D	Liquid	Y	NA
4	ICAL4	CALIB_4	01-24-2017 10:15 am	1.00	0.00 mL	0.00 mL	004.D	Liquid	Y	NA
5	ICAL5	CALIB_5	01-24-2017 10:39 am	1.00	0.00 mL	0.00 mL	005.D	Liquid	Y	NA
6	ICAL6	CALIB_6	01-24-2017 10:57 am	1.00	0.00 mL	0.00 mL	006.D	Liquid	Y	NA
7	ICAL7	CALIB_7	01-24-2017 11:13 am	1.00	0.00 mL	0.00 mL	007.D	Liquid	Y	NA
8	ICV	METHSPIKI	01-24-2017 12:05 pm	1.00	0.00 mL	0.00 mL	008.D	Liquid	Y	NA
9	LCS-170124	LCS	01-24-2017 12:24 pm	1.00	0.00 mL	0.00 mL	009.D	Liquid	Y	NA
10	LCSD-170124	LCSD	01-24-2017 12:40 pm	1.00	0.00 mL	0.00 mL	010.D	Liquid	Y	NA
11	MBLK-170124	MBLK	01-24-2017 12:57 pm	1.00	0.00 mL	0.00 mL	011.D	Liquid	Y	NA
12	HS17010778-01	SAMP	01-24-2017 01:14 pm	1.00	0.00 mL	0.00 mL	012.D	Liquid	Y	NA
13	HS17010779-01	SAMP	01-24-2017 01:31 pm	1.00	0.00 mL	0.00 mL	013.D	Liquid	Y	NA
14	HS17010779-01DUP	SAMP	01-24-2017 01:47 pm	1.00	0.00 mL	0.00 mL	014.D	Liquid	Y	NA
15	CCV	CCV	01-24-2017 02:01 pm	1.00	0.00 mL	0.00 mL	015.D	Liquid	Y	NA

Chemical	Value
ICAL STD ID	30010700217
ICV STD ID	30010700610

FORM 3
WATER GASES METHOD SPIKE RECOVERY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100719

Matrix Spike - ENG SC Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
Ethene	16.800	19.090	114	75-125
Methane	9.647	9.597	99	75-125
Ethane	18.043	19.657	109	75-125
Propane	26.463	27.238	103	75-125
N-Butane	34.955	36.010	103	75-125

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

COMMENTS: _____

_____

FORM III GASES

FORM 6
GASES INITIAL CALIBRATION DATA

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100719

Instrument ID: FID-4 Calibration Date(s): 01/24/17 01/24/17

Column: RTX-PLOT ID: 0.53 (mm) Calibration Time(s): 0906 1113

LAB FILE ID: RF10: 001 RF25: 002 RF50: 003
RF100: 004 RF250: 005 RF500: 006

COMPOUND	RF10	RF25	RF50	RF100	RF250	RF500
Ethene	535.608	567.359	564.985	516.024	665.282	425.678
Methane	968.912	978.238	1019.699	880.798	960.713	930.704
Ethane	602.493	670.177	658.908	597.201	808.513	817.630
Propane	500	1279	2602	4785	18294	38286
N-Butane	438	936	2034	3864	18446	42817

FORM VI GASES

FORM 6
GASES INITIAL CALIBRATION DATA

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2010071

Instrument ID: FID-4 Calibration Date(s): 01/24/17 01/24/17

Column: RTX-PLOT ID: 0.53 (mm) Calibration Time(s): 0906 1113

RF1000: 007

COMPOUND	RF1000	CURVE	COEFFICENTS A0	A1	A2	%RSD OR R^2	MA
Ethene	828.858	AVRG		586.256273		21.932	
Methane	1081.580	AVRG		974.377787		6.550	
Ethane	999.335	AVRG		736.322546		19.885	
Propane	96509	2ORDR	0.97987006	1.529e-003	-4.58e-009	0.9991365	0
N-Butane	114164	2ORDR	2.46870151	1.834e-003	-5.54e-009	0.9980766	0

FORM VI GASES

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\001.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\001.D
Lab Smp Id: ICAL1 Client Smp ID: ICAL1
Inj Date : 24-JAN-2017 09:06
Operator : JA Inst ID: FID-4.i
Smp Info : ICAL1;ICAL1;;;
Misc Info :
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 09:06 Cal File: 001.D
Als bottle: 1 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	1.043	1.030	0.013	374	0.38600	0.383(a)
2 Ethene	1.553	1.556	-0.003	361	0.67400	0.615(a)
3 Ethane	1.716	1.723	-0.007	435	0.72200	0.590(a)
4 Propane	4.073	4.113	-0.040	500	1.05900	1.743
5 N-Butane	7.640	7.690	-0.050	438	1.39800	3.271

QC Flag Legend

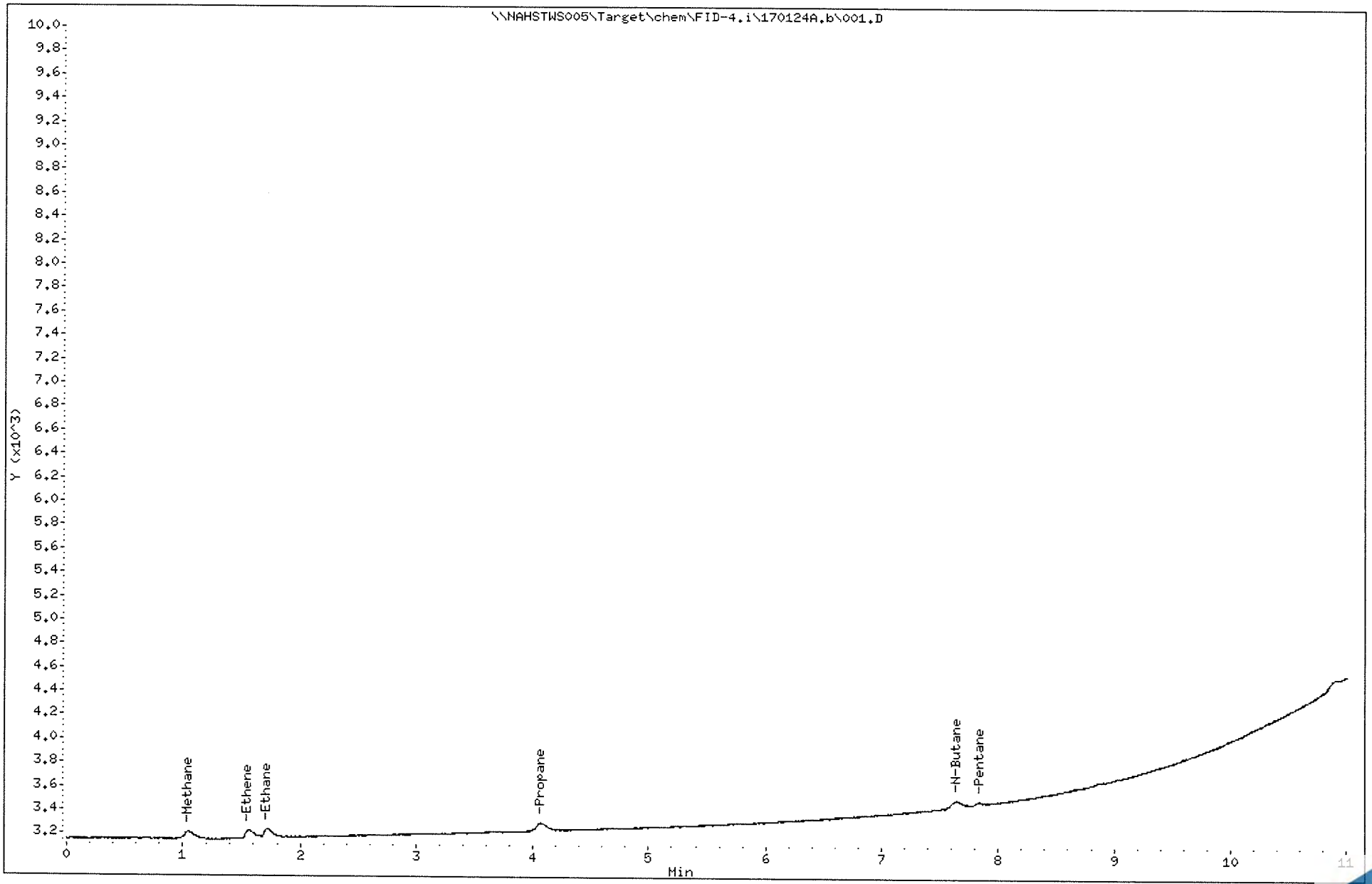
a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\001.D
Date : 24-JAN-2017 09:06
Client ID: ICAL1
Sample Info: ICAL1;ICAL1;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: JA
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\002.D
Lab Smp Id: ICAL2 Client Smp ID: ICAL2
Inj Date : 24-JAN-2017 09:30
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL2;ICAL2;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 09:59 Cal File: 003.D
Als bottle: 2 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

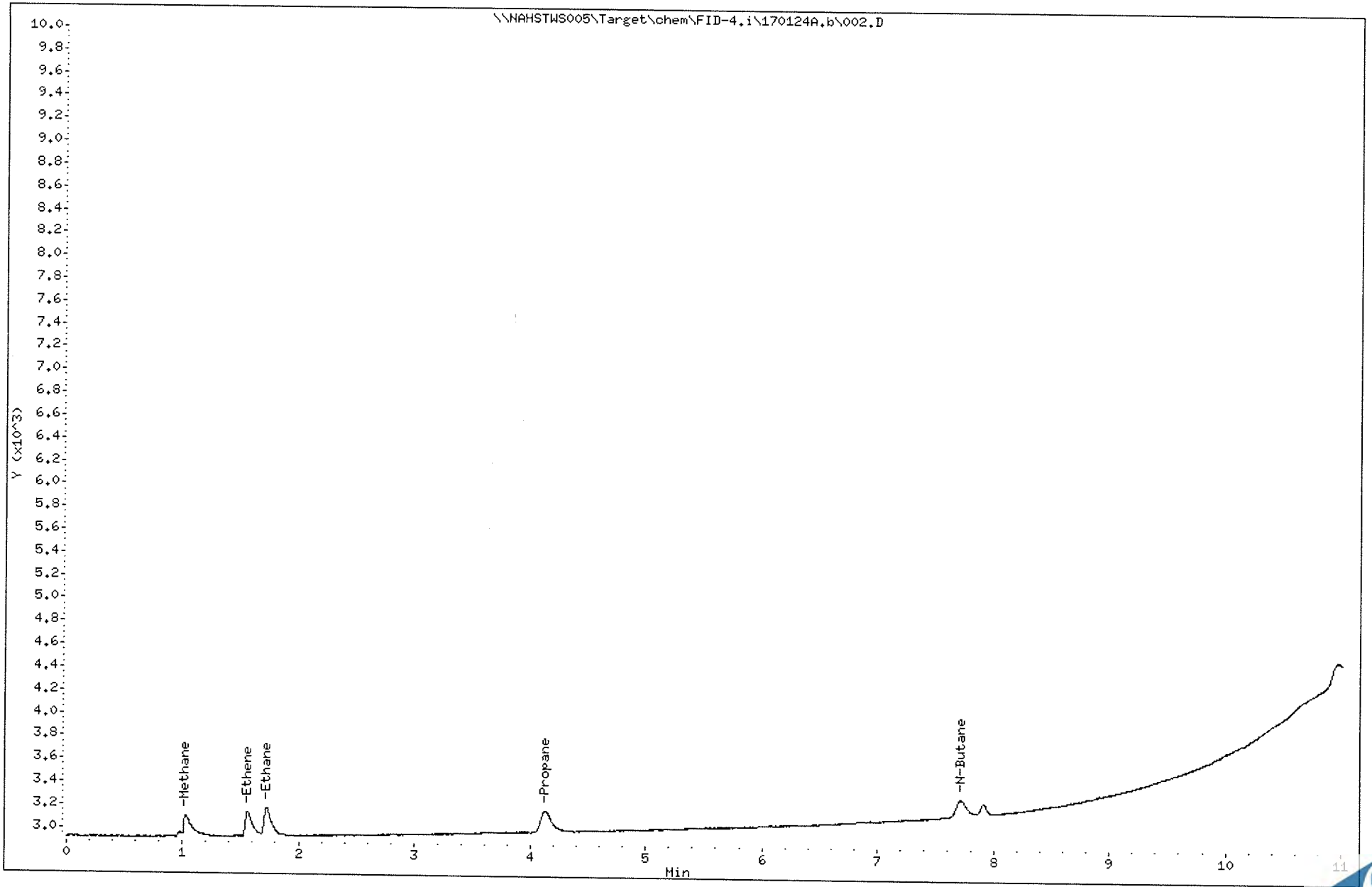
					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	1.023	1.030	-0.007	944	0.96500	0.968
2 Ethene	1.560	1.556	0.004	956	1.68500	1.630
3 Ethane	1.723	1.723	0.000	1209	1.80400	1.641
4 Propane	4.123	4.113	0.010	1279	2.64600	2.927
5 N-Butane	7.716	7.690	0.026	936	3.49600	4.180

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\002.D
Date : 24-JAN-2017 09:30
Client ID: ICAL2
Sample Info: ICAL2;ICAL2;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\003.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\003.D
Lab Smp Id: ICAL3 Client Smp ID: ICAL3
Inj Date : 24-JAN-2017 09:59
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL3;ICAL3;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 11:13 Cal File: 007.D
Als bottle: 3 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

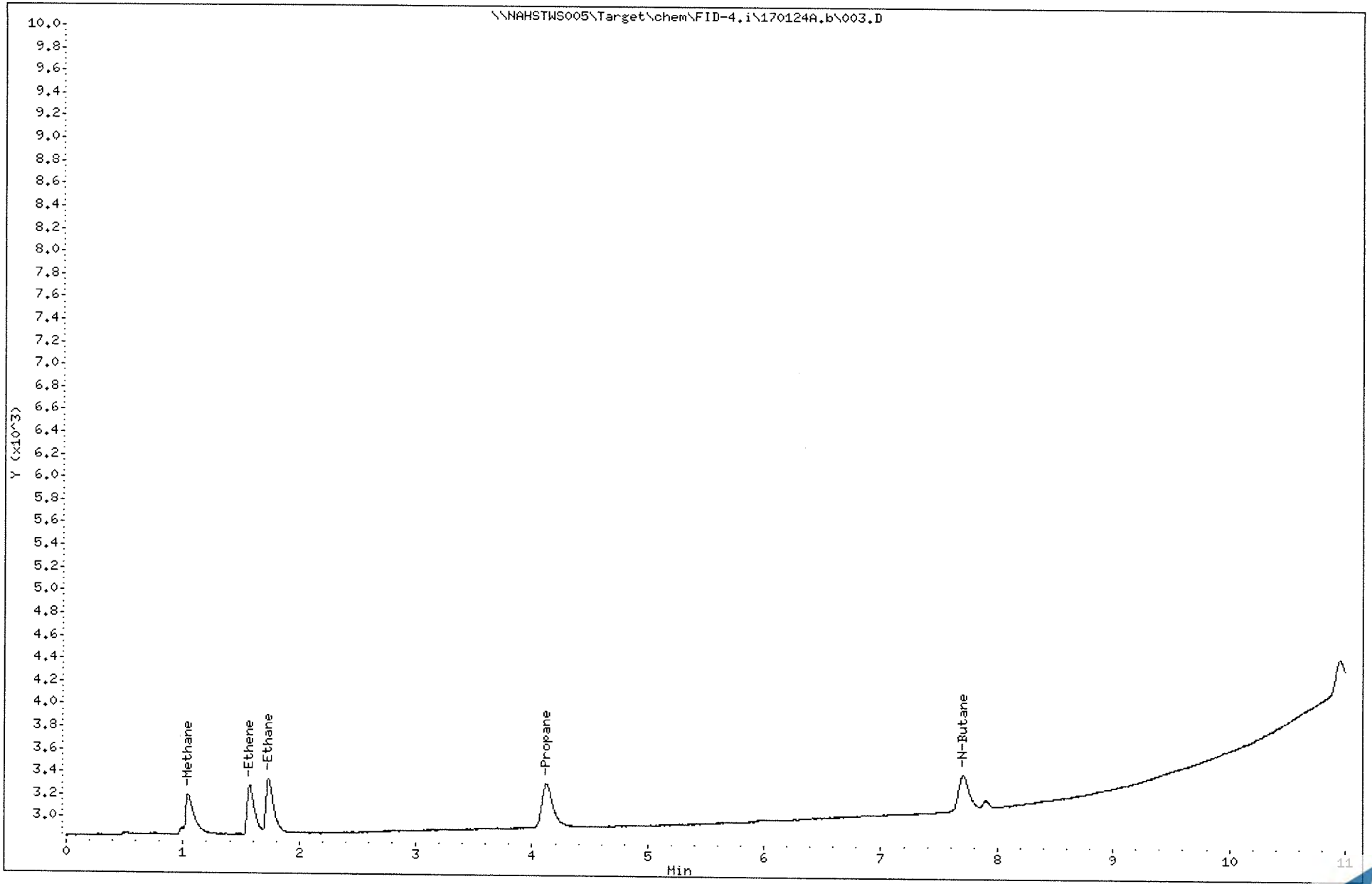
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	1.043	1.030	0.013	1967	1.92900	2.018
2 Ethene	1.570	1.556	0.014	1904	3.37000	3.247
3 Ethane	1.736	1.723	0.013	2378	3.60900	3.229
4 Propane	4.123	4.113	0.010	2602	5.29300	4.926
5 N-Butane	7.703	7.690	0.013	2034	6.99100	6.176

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\003.D
Date : 24-JAN-2017 09:59
Client ID: ICAL3
Sample Info: ICAL3;ICAL3;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\004.D
Lab Smp Id: ICAL4 Client Smp ID: ICAL4
Inj Date : 24-JAN-2017 10:15
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL4;ICAL4;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 09:30 Cal File: 002.D
Als bottle: 4 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	1.033	1.030	0.003	3399	3.85900	3.488
2 Ethene	1.563	1.556	0.007	3478	6.74000	5.932
3 Ethane	1.726	1.723	0.003	4310	7.21700	5.853
4 Propane	4.120	4.113	0.007	4785	10.5850	8.190
5 N-Butane	7.703	7.690	0.013	3864	13.9820	9.473(M)

QC Flag Legend

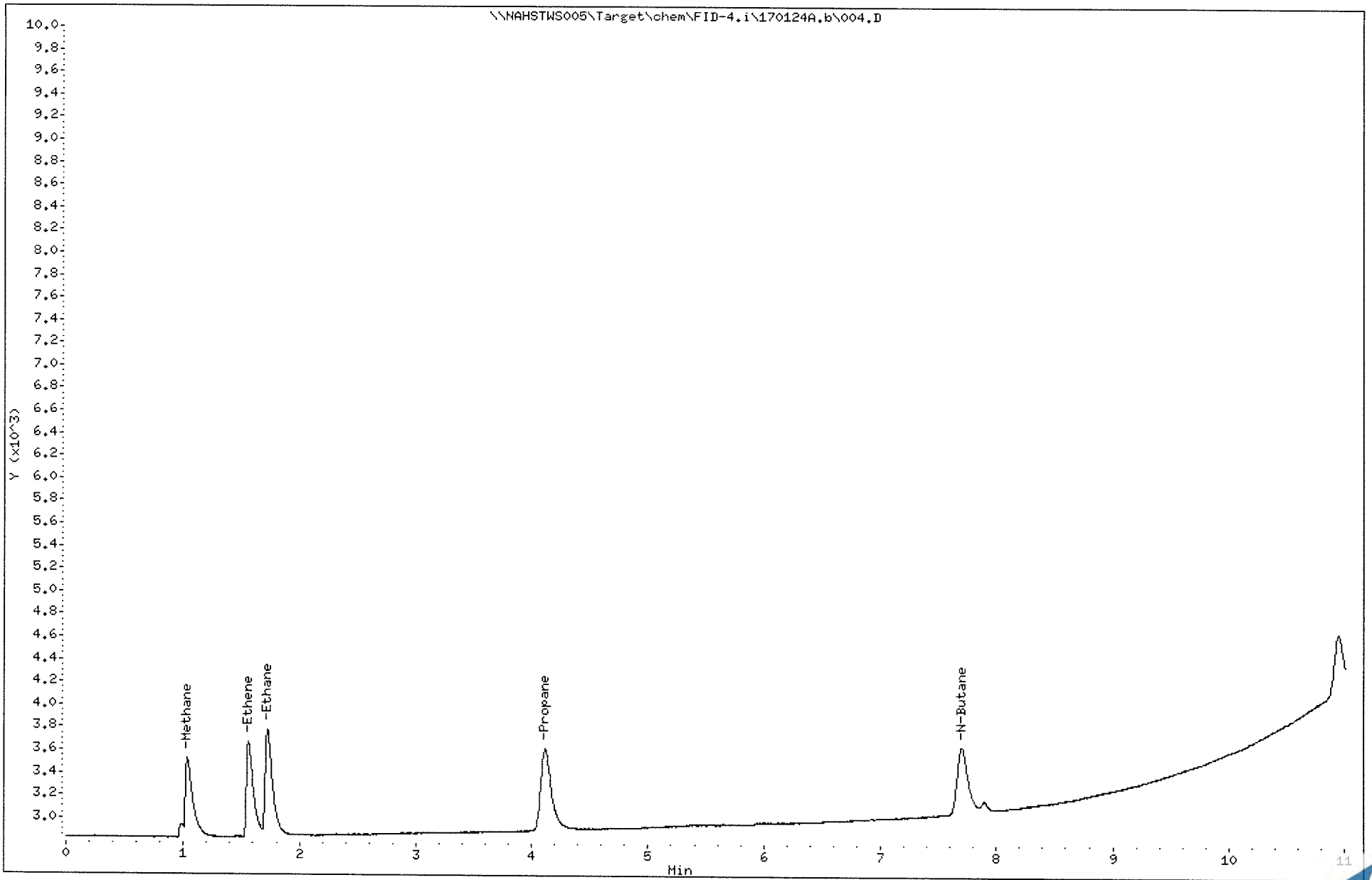
M - Compound response manually integrated.

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\004.D
Date : 24-JAN-2017 10:15
Client ID: ICAL4
Sample Info: ICAL4;ICAL4;;;

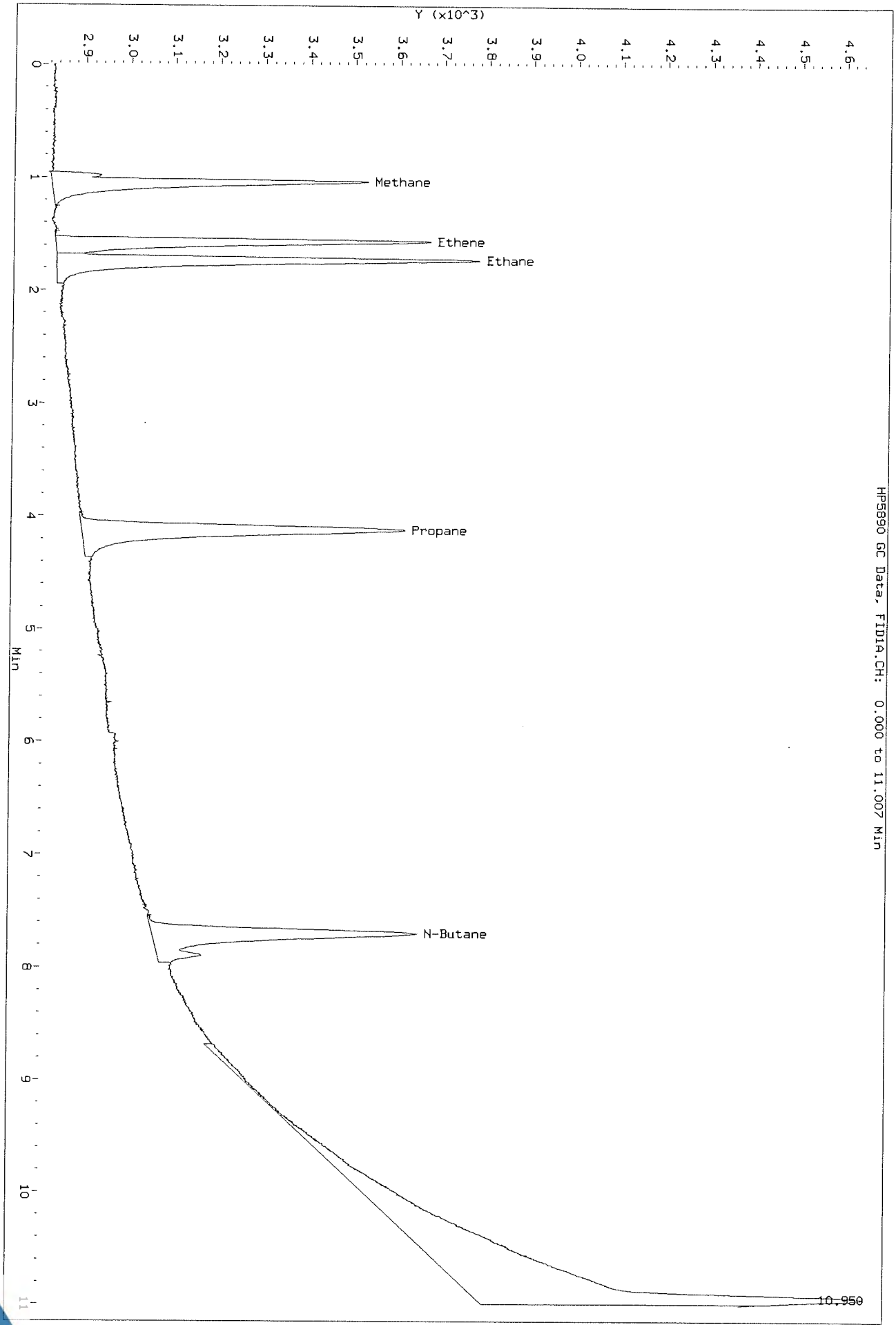
Column phase: Rtx-PLOT

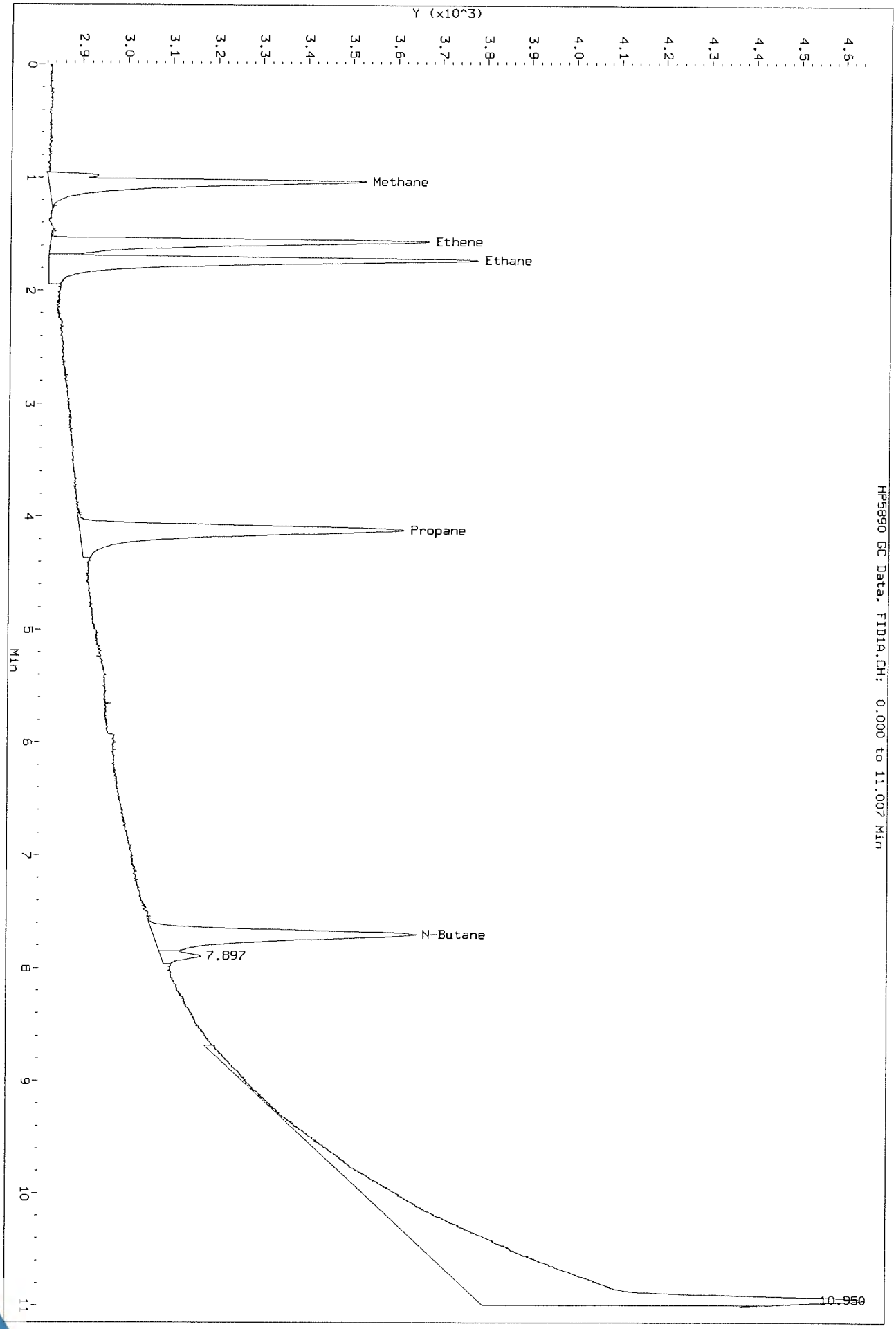
Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\2017-ICAL\170124.b\BEFORE\004.D
Injection Date: 24-JAN-2017 10:15
Instrument: FID-4.i
Client Sample ID: ICAL4




Data File: \\nahstws005\Target\chem\FID-4.i\2017-ICAL\170124.b\004.D
Injection Date: 24-JAN-2017 10:15
Instrument: FID-4.i
Client Sample ID: ICAL4
HP5890 GC Data, FID1A.CH: 0.000 to 11.007 Min
Y (x10^3)
Min
Methane
Ethene
Ethane
Propane
N-Butane
7.897
10.950

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\005.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\005.D
Lab Smp Id: ICAL5 Client Smp ID: ICAL5
Inj Date : 24-JAN-2017 10:39
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL5;ICAL5;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 10:39 Cal File: 005.D
Als bottle: 5 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	1.043	1.030	0.013	9268	9.64700	9.511
2 Ethene	1.570	1.556	0.014	11210	16.8500	19.121
3 Ethane	1.733	1.723	0.010	14588	18.0430	19.811
4 Propane	4.120	4.113	0.007	18294	26.4630	27.415
5 N-Butane	7.700	7.690	0.010	18446	34.9550	34.419(M)

QC Flag Legend

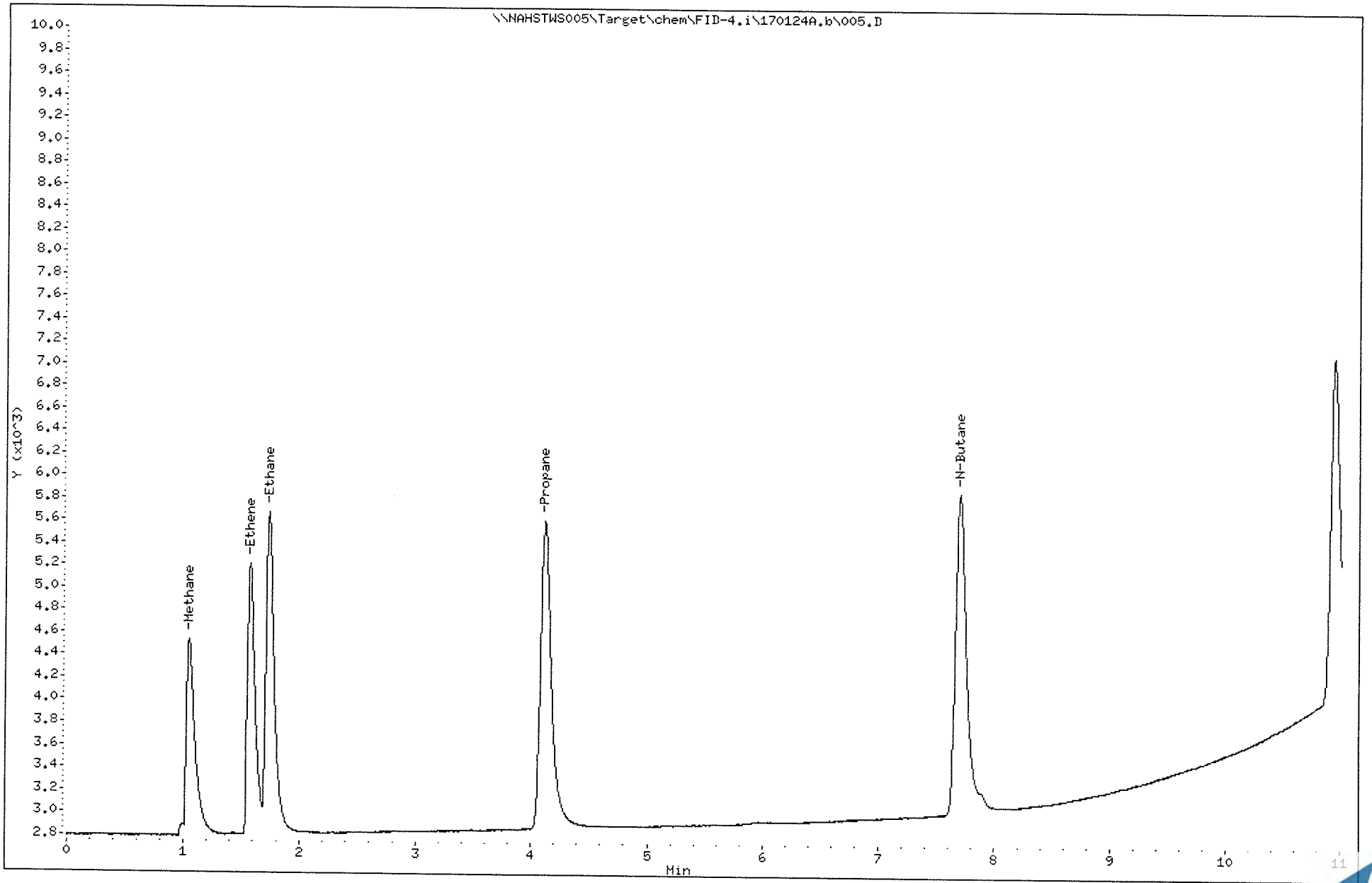
M - Compound response manually integrated.

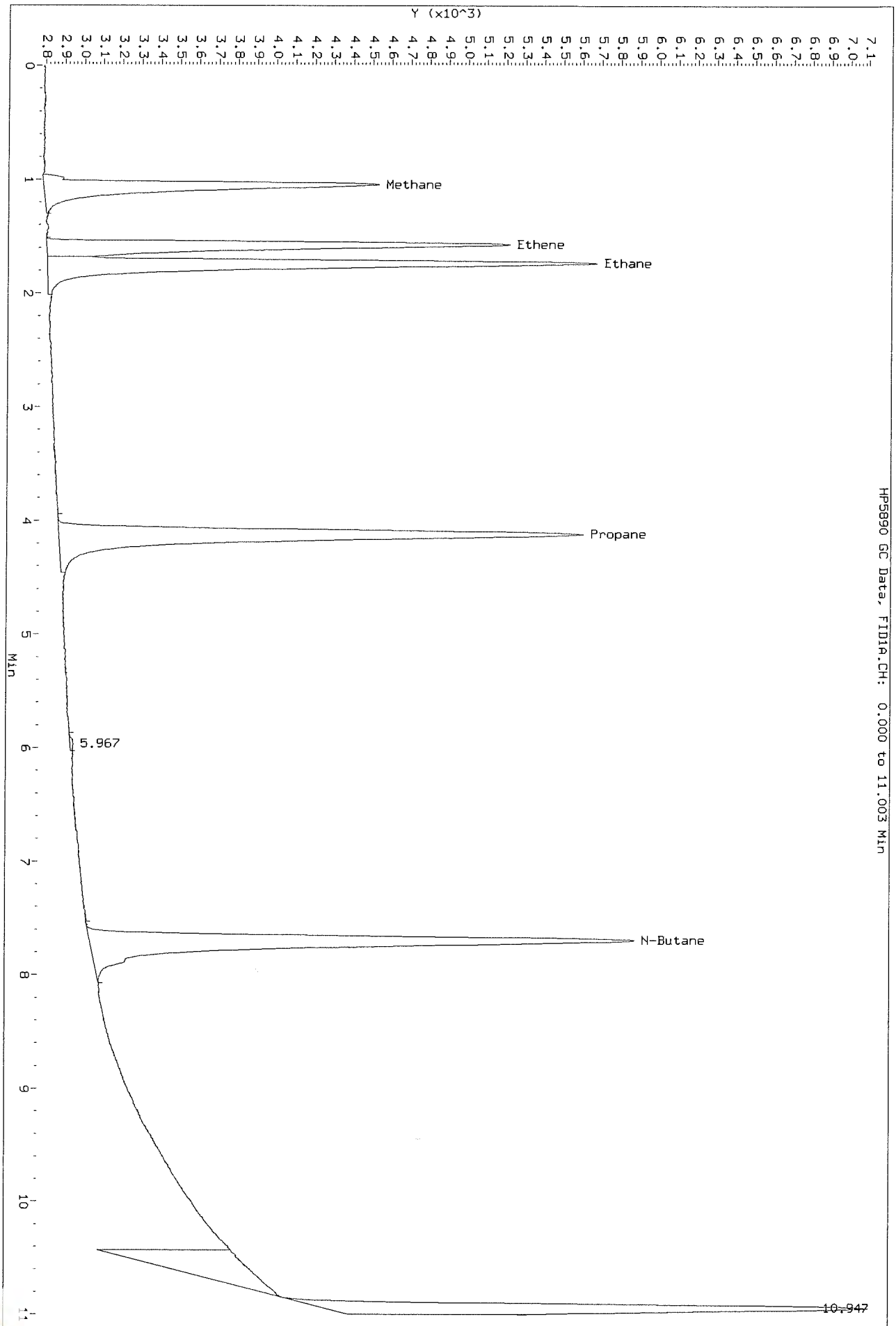
Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\005.D
Date : 24-JAN-2017 10:39
Client ID: ICAL5
Sample Info: ICAL5;ICAL5;;;

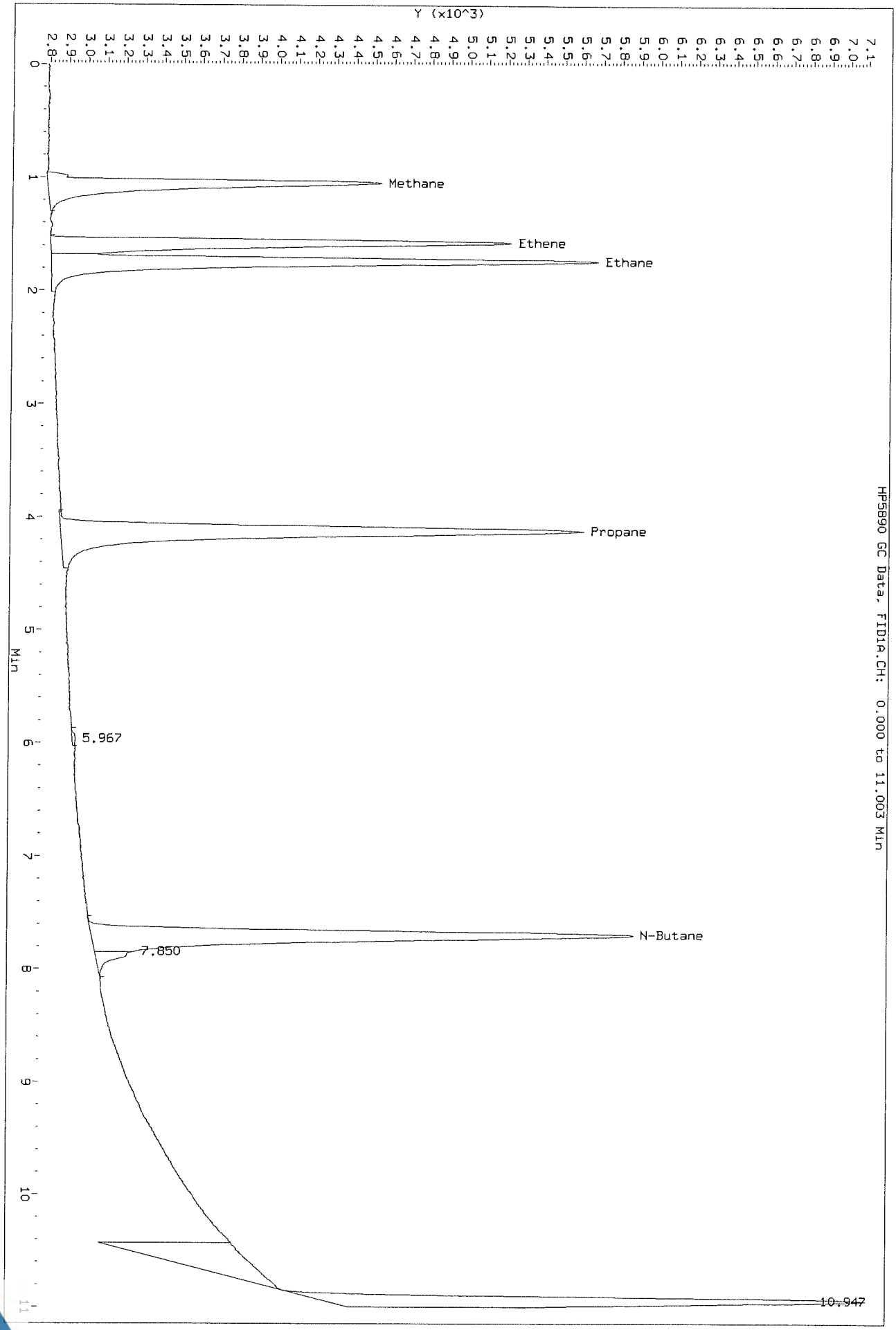
Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53




Data File: \\nahstws005\Target\chem\FID-4.i\2017-ICAL\170124.b\BEFORE\005.D
Injection Date: 24-JAN-2017 10:39
Instrument: FID-4.i
Client Sample ID: ICAL5
HP5890 GC Data, FIDiA.CH: 0.000 to 11.003 Min
Y (x10^3)
Min
Methane
Ethene
Ethane
Propane
5.967
N-Butane
10.947


Data File: \\nahstws005\Target\chem\FID-4.i\2017-ICAL\170124.b\005.D
Injection Date: 24-JAN-2017 10:39
Instrument: FID-4.i
Client Sample ID: ICAL5
HP5890 GC Data, FID1A.CH: 0.000 to 11.003 Min
Y (x10^3)
Min
Methane
Ethene
Ethane
Propane
5.967
N-Butane
7.850
10.947

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\006.D
Lab Smp Id: ICAL6 Client Smp ID: ICAL6
Inj Date : 24-JAN-2017 10:57
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL6;ICAL6;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 10:39 Cal File: 005.D
Als bottle: 6 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

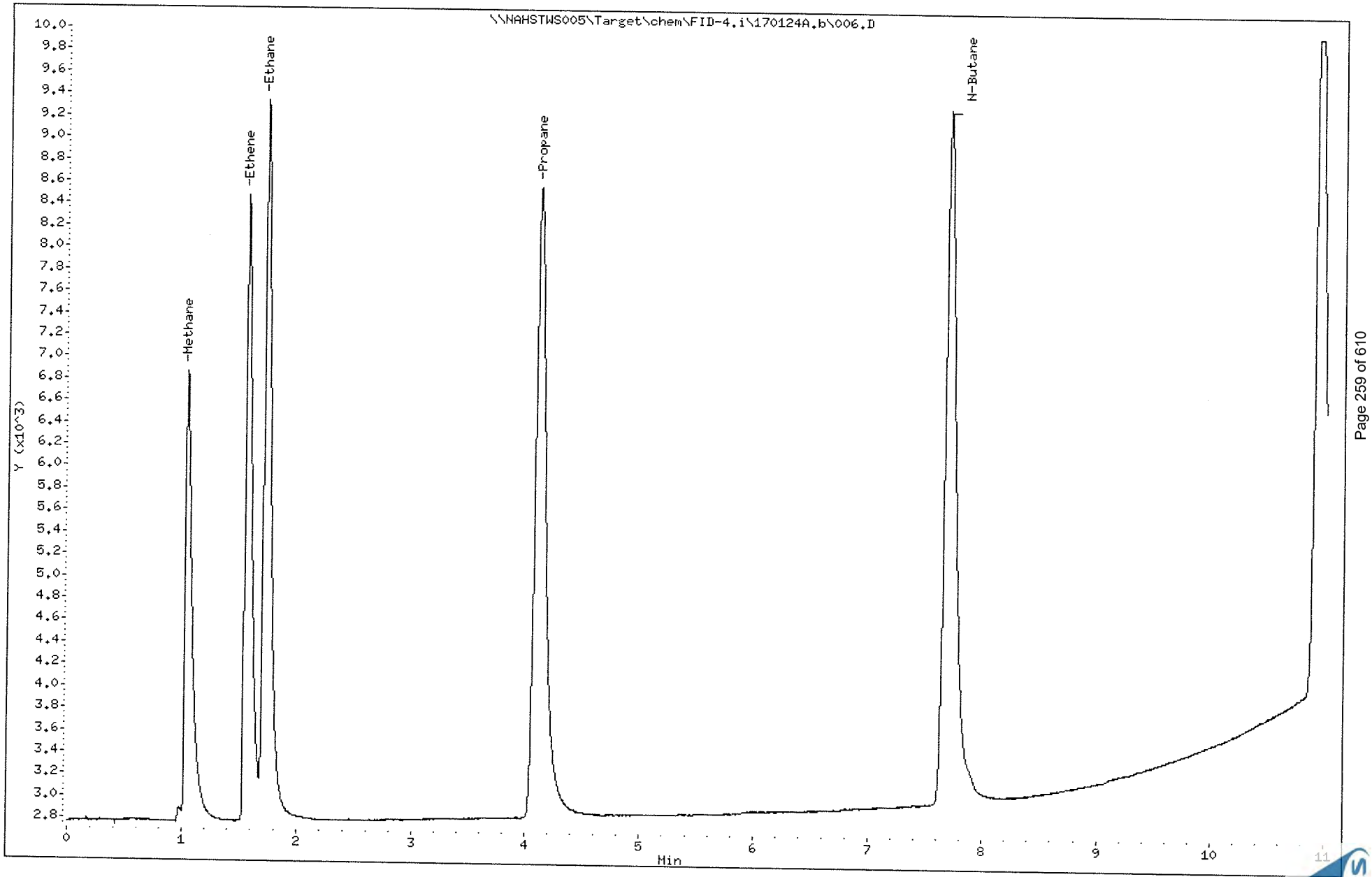
					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	1.023	1.030	-0.007	17957	19.2940	18.429
2 Ethene	1.550	1.556	-0.006	22910	53.8200	39.078
3 Ethane	1.716	1.723	-0.007	29505	36.0860	40.070
4 Propane	4.110	4.113	-0.003	38286	52.9260	52.796
5 N-Butane	7.696	7.690	0.006	42817	69.9110	70.855

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\006.D
Date : 24-JAN-2017 10:57
Client ID: ICAL6
Sample Info: ICAL6;ICAL6;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\007.D
Lab Smp Id: ICAL7 Client Smp ID: ICAL7
Inj Date : 24-JAN-2017 11:13
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL7;ICAL7;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 10:57 Cal File: 006.D
Als bottle: 7 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	1.030	1.030	0.000	41736	38.5880	42.833(A)
2 Ethene	1.556	1.556	0.000	55865	67.4000	95.291(A)
3 Ethane	1.723	1.723	0.000	72124	72.1720	97.951(A)
4 Propane	4.113	4.113	0.000	96509	105.852	105.844
5 N-Butane	7.690	7.690	0.000	114164	139.821	139.707

QC Flag Legend

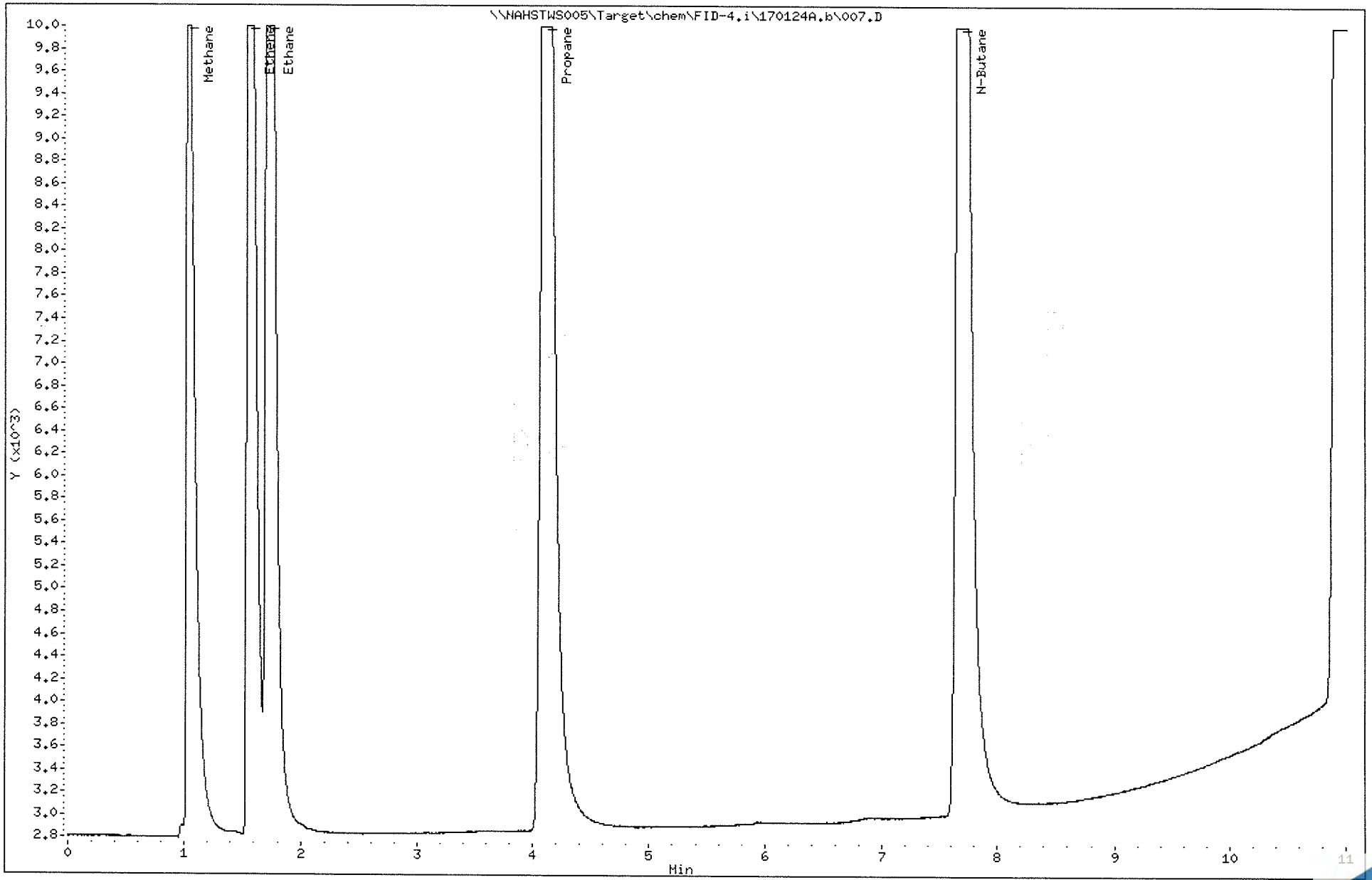
A - Target compound detected but, quantitated amount exceeded maximum amount.

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\007.D
Date : 24-JAN-2017 11:13
Client ID: ICAL7
Sample Info: ICAL7;ICAL7;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\008.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\008.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 24-JAN-2017 12:05
Operator : MA Inst ID: FID-4.i
Smp Info : ICV;ICV;;;
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 11:13 Cal File: 007.D
Als bottle: 8 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

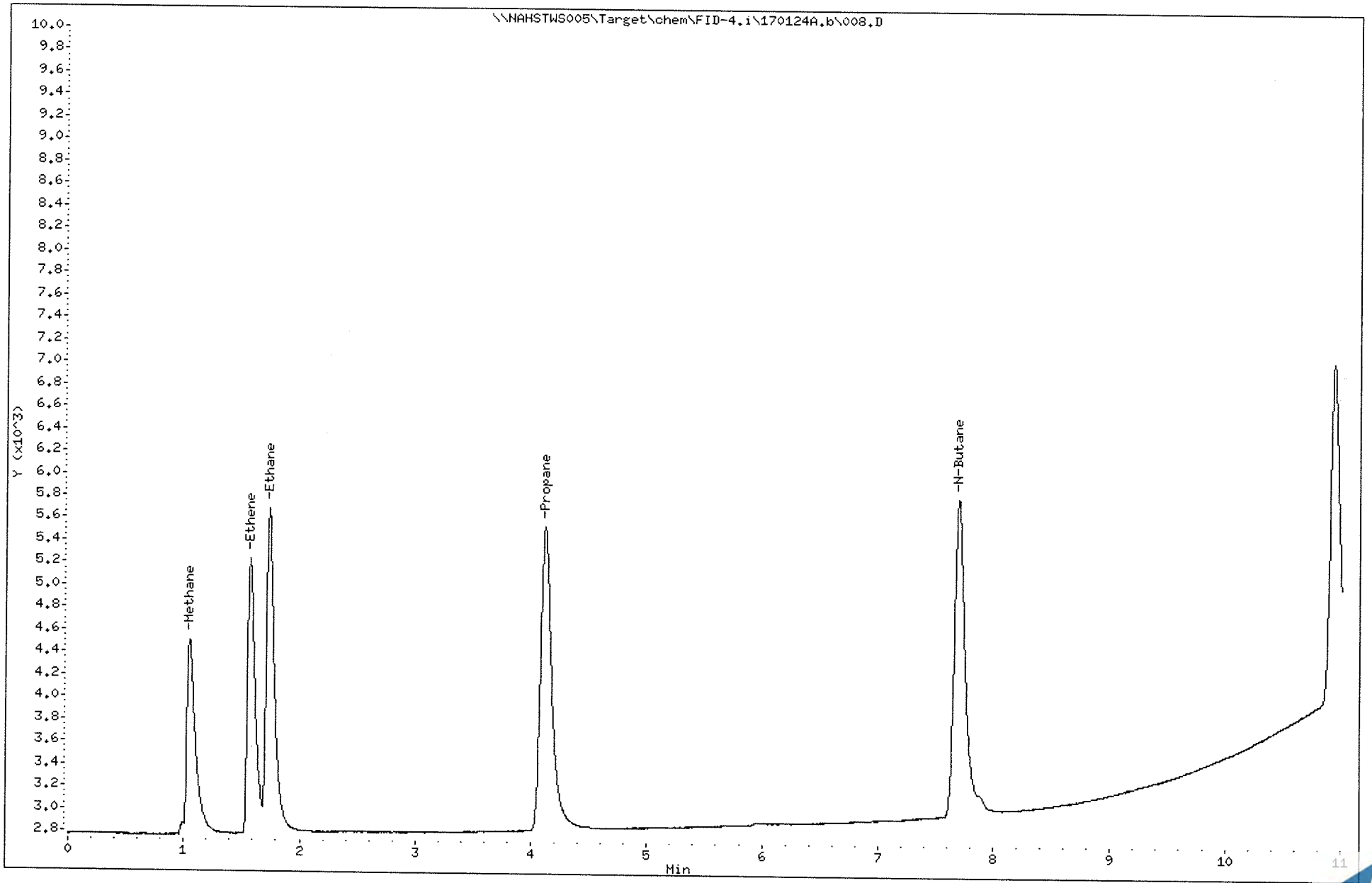
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	1.046	1.030	0.016	9352	9.59792	9.597
2 Ethene	1.573	1.556	0.017	11192	19.0906	19.090
3 Ethane	1.736	1.723	0.013	14474	19.6571	19.657
4 Propane	4.116	4.113	0.003	18164	27.2381	27.238
5 N-Butane	7.696	7.690	0.006	19425	36.0103	36.010

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\008.D
Date : 24-JAN-2017 12:05
Client ID: ICV
Sample Info: ICV;ICV;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



FID04 -Logbook

Batch: 42549 **Analyst:** Devak Giga

Date: 10-21-2020 **Reviewer:**

Method: RSK **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	RSK-CCV	CCV	10-21-2020 09:52 am	1.00	0.00 mL	0.00 mL	001.D	Liquid	Y	NA
2	MBLK-201021	MBLK	10-21-2020 10:07 am	1.00	0.00 mL	0.00 mL	002.D	Liquid	Y	NA
3	LCS-201021	LCS	10-21-2020 10:14 am	1.00	0.00 mL	0.00 mL	003.D	Liquid	Y	NA
4	LCSD-201021	LCSD	10-21-2020 10:25 am	1.00	0.00 mL	0.00 mL	004.D	Liquid	Y	NA
5	HS20100755-02	SAMP	10-21-2020 10:37 am	1.00	0.00 mL	0.00 mL	005.D	Liquid	Y	NA
6	HS20100755-04	SAMP	10-21-2020 10:45 am	1.00	0.00 mL	0.00 mL	006.D	Liquid	Y	NA
7	HS20100755-05	SAMP	10-21-2020 10:54 am	1.00	0.00 mL	0.00 mL	007.D	Liquid	Y	NA
8	HS20100755-06	SAMP	10-21-2020 11:02 am	1.00	0.00 mL	0.00 mL	008.D	Liquid	Y	NA
9	HS20100779-01	SAMP	10-21-2020 11:10 am	1.00	0.00 mL	0.00 mL	009.D	Liquid	Y	NA
10	HS20100779-01DUP	SAMP	10-21-2020 11:26 am	1.00	0.00 mL	0.00 mL	010.D	Liquid	Y	NA
11	RSK-CCV	CCV	10-21-2020 11:38 am	1.00	0.00 mL	0.00 mL	011.D	Liquid	Y	NA
12	HS20100779-02	SAMP	10-21-2020 11:51 am	1.00	0.00 mL	0.00 mL	012.D	Liquid	Y	NA
13	HS20100779-04	SAMP	10-21-2020 12:11 pm	1.00	0.00 mL	0.00 mL	013.D	Liquid	Y	NA
14	HS20100779-05	SAMP	10-21-2020 12:19 pm	1.00	0.00 mL	0.00 mL	014.D	Liquid	Y	NA
15	HS20100779-06	SAMP	10-21-2020 12:27 pm	1.00	0.00 mL	0.00 mL	015.D	Liquid	Y	NA
16	HS20100755-04	SAMP	10-21-2020 12:49 pm	50.00	0.00 mL	0.00 mL	016.D	Liquid	Y	NA
17	HS20100755-05	SAMP	10-21-2020 01:13 pm	50.00	0.00 mL	0.00 mL	017.D	Liquid	Y	NA
18	HS20100755-06	SAMP	10-21-2020 01:23 pm	20.00	0.00 mL	0.00 mL	018.D	Liquid	Y	NA
19	HS20100719-01	SAMP	10-21-2020 02:23 pm	1.00	0.00 mL	0.00 mL	019.D	Liquid	Y	NA
20	HS20100719-02	SAMP	10-21-2020 02:41 pm	1.00	0.00 mL	0.00 mL	020.D	Liquid	Y	NA
21	HS20100719-03	SAMP	10-21-2020 02:57 pm	1.00	0.00 mL	0.00 mL	021.D	Liquid	Y	NA
22	RSK-CCV	CCV	10-21-2020 03:05 pm	1.00	0.00 mL	0.00 mL	022.D	Liquid	Y	NA
23	HS20100719-04	SAMP	10-21-2020 03:14 pm	1.00	0.00 mL	0.00 mL	023.D	Liquid	Y	NA
24	HS20100719-05	SAMP	10-21-2020 03:25 pm	1.00	0.00 mL	0.00 mL	024.D	Liquid	Y	NA
25	HS20100719-05MS	MS	10-21-2020 03:33 pm	1.00	0.00 mL	0.00 mL	025.D	Liquid	Y	NA
26	HS20100719-05MSD	MSD	10-21-2020 03:44 pm	1.00	0.00 mL	0.00 mL	026.D	Liquid	Y	NA
27	HS20100719-06	SAMP	10-21-2020 03:52 pm	1.00	0.00 mL	0.00 mL	027.D	Liquid	Y	NA
28	HS20100916-02	SAMP	10-21-2020 04:00 pm	1.00	0.00 mL	0.00 mL	028.D	Liquid	Y	NA
29	HS20100719-01	SAMP	10-21-2020 04:08 pm	20.00	0.00 mL	0.00 mL	029.D	Liquid	Y	NA
30	HS20100719-02	SAMP	10-21-2020 04:17 pm	10.00	0.00 mL	0.00 mL	030.D	Liquid	Y	NA
31	HS20100719-05	SAMP	10-21-2020 04:42 pm	1.00	0.00 mL	0.00 mL	031.D	Liquid	Y	NA
32	HS20100719-06	SAMP	10-21-2020 04:52 pm	50.00	0.00 mL	0.00 mL	032.D	Liquid	Y	NA
33	RSK-CCV	CCV	10-21-2020 05:03 pm	1.00	0.00 mL	0.00 mL	033.D	Liquid	Y	NA
34	HS20100719-05	SAMP	10-21-2020 05:13 pm	1.00	0.00 mL	0.00 mL	034.D	Liquid	Y	NA
35	HS20100719-05	SAMP	10-21-2020 05:27 pm	50.00	0.00 mL	0.00 mL	035.D	Liquid	Y	NA
36	HS20100916-02	SAMP	10-21-2020 05:35 pm	100.0(	0.00 mL	0.00 mL	036.D	Liquid	Y	NA
37	RSK-CCV	CCV	10-21-2020 05:48 pm	1.00	0.00 mL	0.00 mL	037.D	Liquid	Y	NA

FORM 7B
GASES CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100719

Instrument ID: FID-4 Calibration Date: 10/21/20 Time: 0952

Lab File ID: 001 Init. Calib. Date(s): 01/24/17 01/24/17

Init. Calib. Times: 0906 1113

GC Column: RTX-PLOT ID: 0.53 (mm)

COMPOUND	RRF OR AMOUNT	RRF250.00 OR AMOUNT	MIN RRF	%D OR %DRIFT	MAX %D OR %DRIFT	CURV TYPE
Ethane	719.48900	751.75969	0.01	-4.48	20.00	AVRG
Methane	974.99200	903.18234	0.01	7.36	20.00	AVRG
Ethene	585.76000	652.64095	0.01	-11.42	20.00	AVRG

FORM VII GASES

FORM 7B
GASES CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100719

Instrument ID: FID-4 Calibration Date: 10/21/20 Time: 1138

Lab File ID: 011 Init. Calib. Date(s): 01/24/17 01/24/17

Init. Calib. Times: 0906 1113

GC Column: RTX-PLOT ID: 0.53 (mm)

COMPOUND	RRF OR AMOUNT	RRF250.00 OR AMOUNT	MIN RRF	%D OR %DRIFT	MAX %D OR %DRIFT	CURV TYPE
Ethane	719.48900	779.80380	0.01	-8.38	20.00	AVRG
Methane	974.99200	955.01192	0.01	2.05	20.00	AVRG
Ethene	585.76000	667.06231	0.01	-13.88	20.00	AVRG

FORM VII GASES

FORM 7B
GASES CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100719

Instrument ID: FID-4 Calibration Date: 10/21/20 Time: 1505

Lab File ID: 022 Init. Calib. Date(s): 01/24/17 01/24/17

Init. Calib. Times: 0906 1113

GC Column: RTX-PLOT ID: 0.53 (mm)

COMPOUND	RRF OR AMOUNT	RRF250.00 OR AMOUNT	MIN RRF	%D OR %DRIFT	MAX %D OR %DRIFT	CURV TYPE
Ethane	719.48900	752.25849	0.01	-4.55	20.00	AVRG
Methane	974.99200	853.11496	0.01	12.50	20.00	AVRG
Ethene	585.76000	656.26113	0.01	-12.04	20.00	AVRG

FORM VII GASES

FORM 7B
GASES CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100719

Instrument ID: FID-4 Calibration Date: 10/21/20 Time: 1703

Lab File ID: 033 Init. Calib. Date(s): 01/24/17 01/24/17

Init. Calib. Times: 0906 1113

GC Column: RTX-PLOT ID: 0.53 (mm)

COMPOUND	RRF OR AMOUNT	RRF250.00 OR AMOUNT	MIN RRF	%D OR %DRIFT	MAX %D OR %DRIFT	CURV TYPE
Ethane	719.48900	734.63393	0.01	-2.10	20.00	AVRG
Methane	974.99200	932.20690	0.01	4.39	20.00	AVRG
Ethene	585.76000	649.08012	0.01	-10.81	20.00	AVRG

FORM VII GASES

FORM 7B
GASES CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100719

Instrument ID: FID-4 Calibration Date: 10/21/20 Time: 1748

Lab File ID: 037 Init. Calib. Date(s): 01/24/17 01/24/17

Init. Calib. Times: 0906 1113

GC Column: RTX-PLOT ID: 0.53 (mm)

COMPOUND	RRF OR AMOUNT	RRF250.00 OR AMOUNT	MIN RRF	%D OR %DRIFT	MAX %D OR %DRIFT	CURV TYPE
Ethane	719.48900	731.47481	0.01	-1.66	20.00	AVRG
Methane	974.99200	983.41453	0.01	-0.86	20.00	AVRG
Ethene	585.76000	621.00890	0.01	-6.02	20.00	AVRG

FORM VII GASES

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201021.b\001.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 21-OCT-2020 09:52
Operator : PL Inst ID: FID-4.i
Smp Info : RSK-CCV;RSK-CCV;2;4
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201021.b\RSKNI3.m
Meth Date : 01-Dec-2020 12:04 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

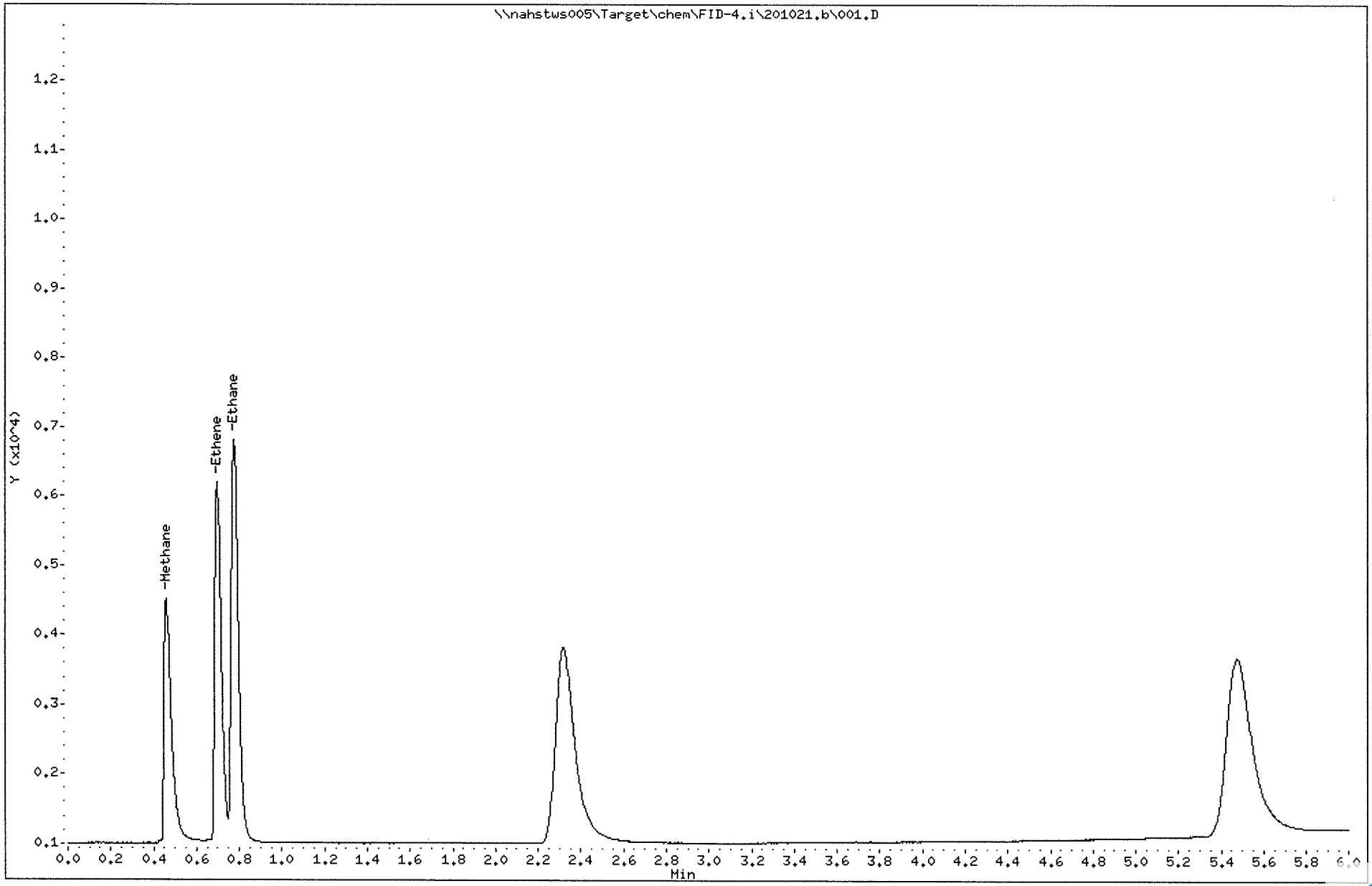
					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	0.460	0.460	0.000	8713	9.64700	8.936
2 Ethene	0.696	0.696	0.000	10997	16.8500	18.773
3 Ethane	0.776	0.776	0.000	13564	18.0430	18.852

Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\001.D
Date : 21-OCT-2020 09:52
Client ID: RSK-CCV
Sample Info: RSK-CCV;RSK-CCV;2;4

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201021.b\002.D
Lab Smp Id: MBLK-201021 Client Smp ID: MBLK-201021
Inj Date : 21-OCT-2020 10:07
Operator : PL Inst ID: FID-4.i
Smp Info : MBLK-201021;MBLK-201021;3;;BLANK
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201021.b\RSKNI3.m
Meth Date : 01-Dec-2020 12:04 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 2 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)

Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\002.D

Date : 21-OCT-2020 10:07

Client ID: MBLK-201021

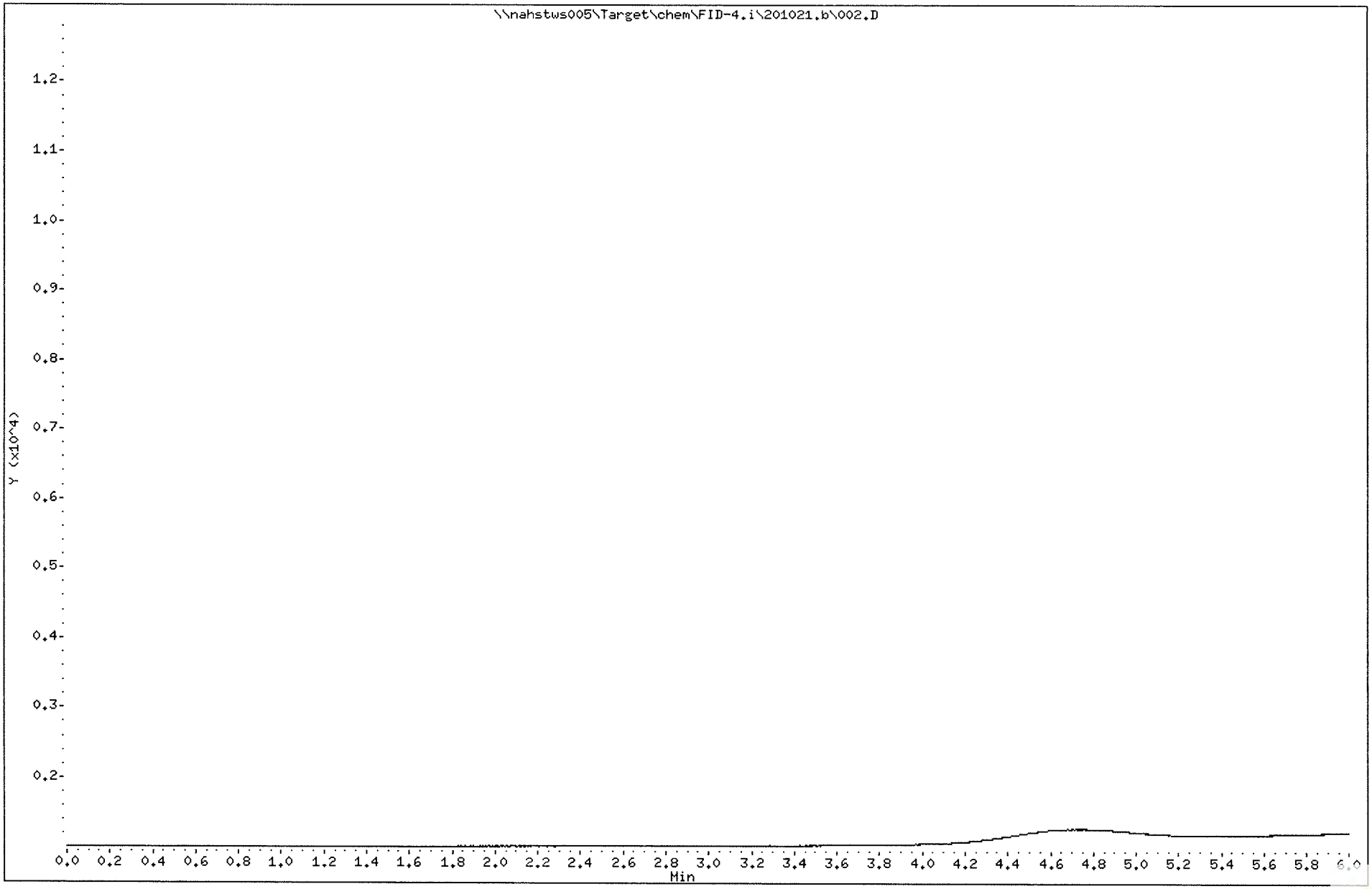
Instrument: FID-4.i

Sample Info: MBLK-201021;MBLK-201021;3;;BLANK

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\003.D Page 1
Report Date: 01-Dec-2020 12:04

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201021.b\003.D
Lab Smp Id: LCS-201021 Client Smp ID: LCS-201021
Inj Date : 21-OCT-2020 10:14
Operator : PL Inst ID: FID-4.i
Smp Info : LCS-201021;LCS-201021;3;;LCS
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201021.b\RSKNI3.m
Meth Date : 01-Dec-2020 12:04 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 3 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.463	0.460	0.003	9283	9.52110	9.521
2 Ethene	0.706	0.696	0.010	11295	19.2826	19.282(M)
3 Ethane	0.786	0.776	0.010	13757	19.1205	19.120(M)

QC Flag Legend

M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\003.D

Date : 21-OCT-2020 10:14

Client ID: LCS-201021

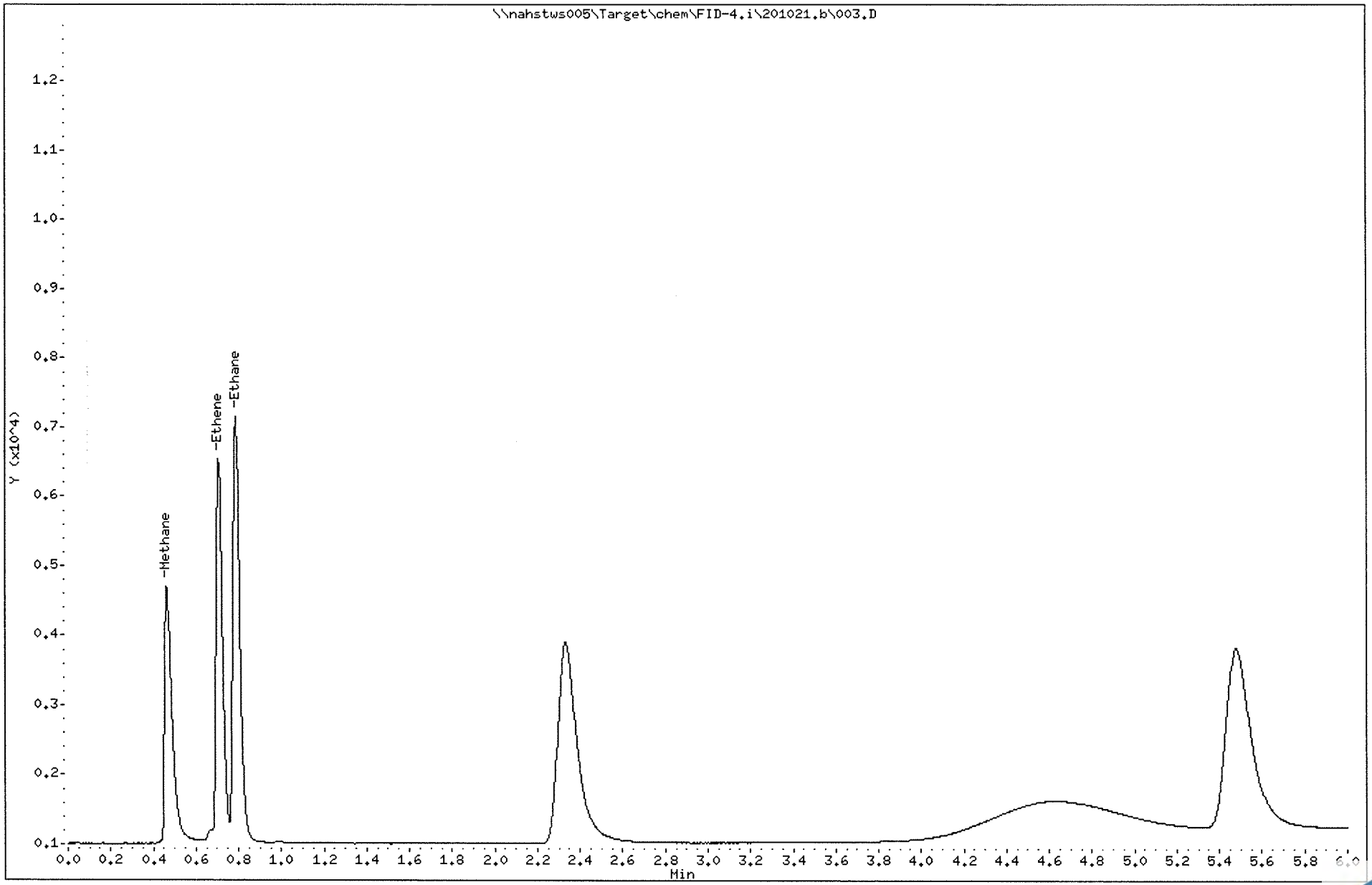
Instrument: FID-4.i

Sample Info: LCS-201021;LCS-201021;3;;LCS

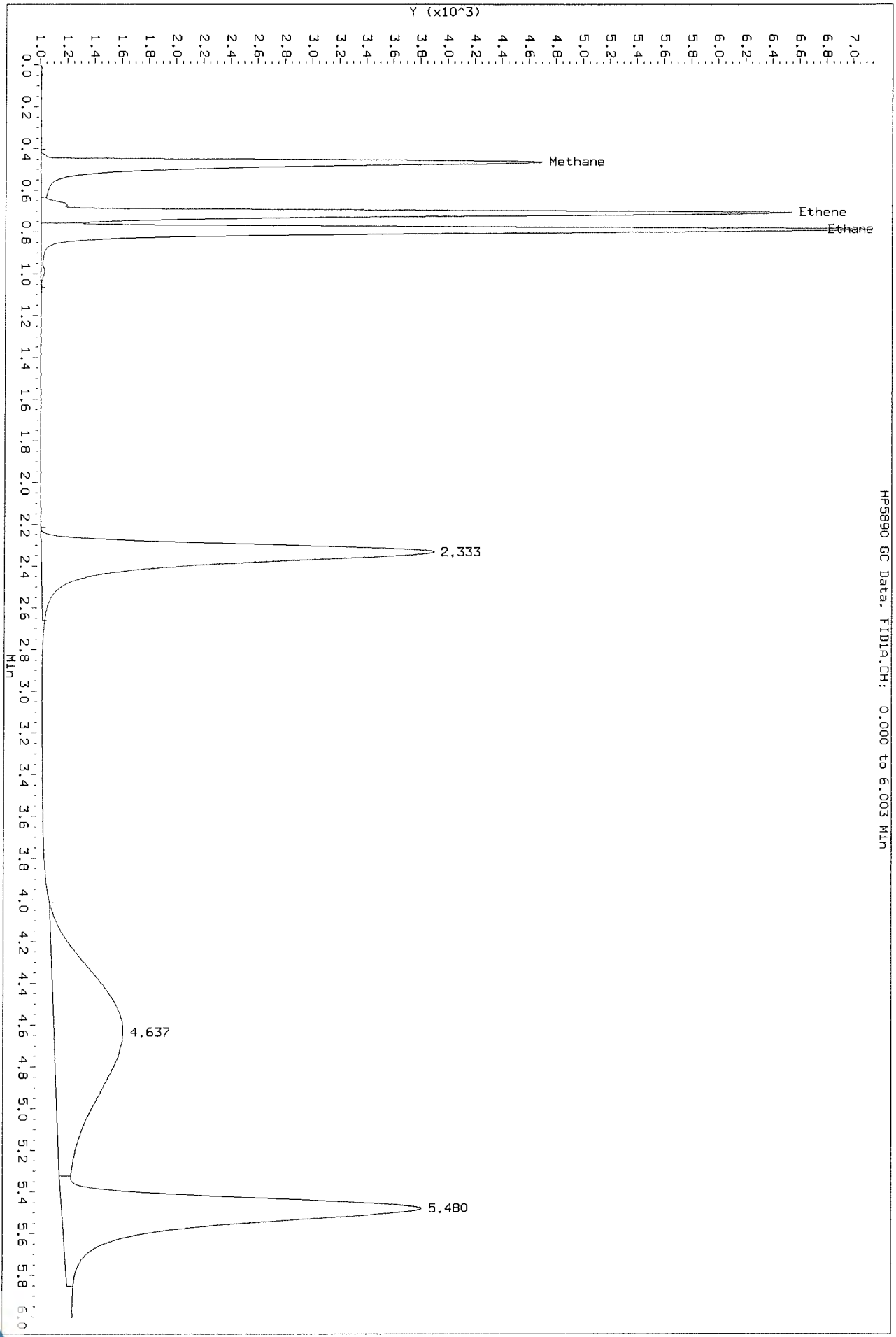
Operator: PL

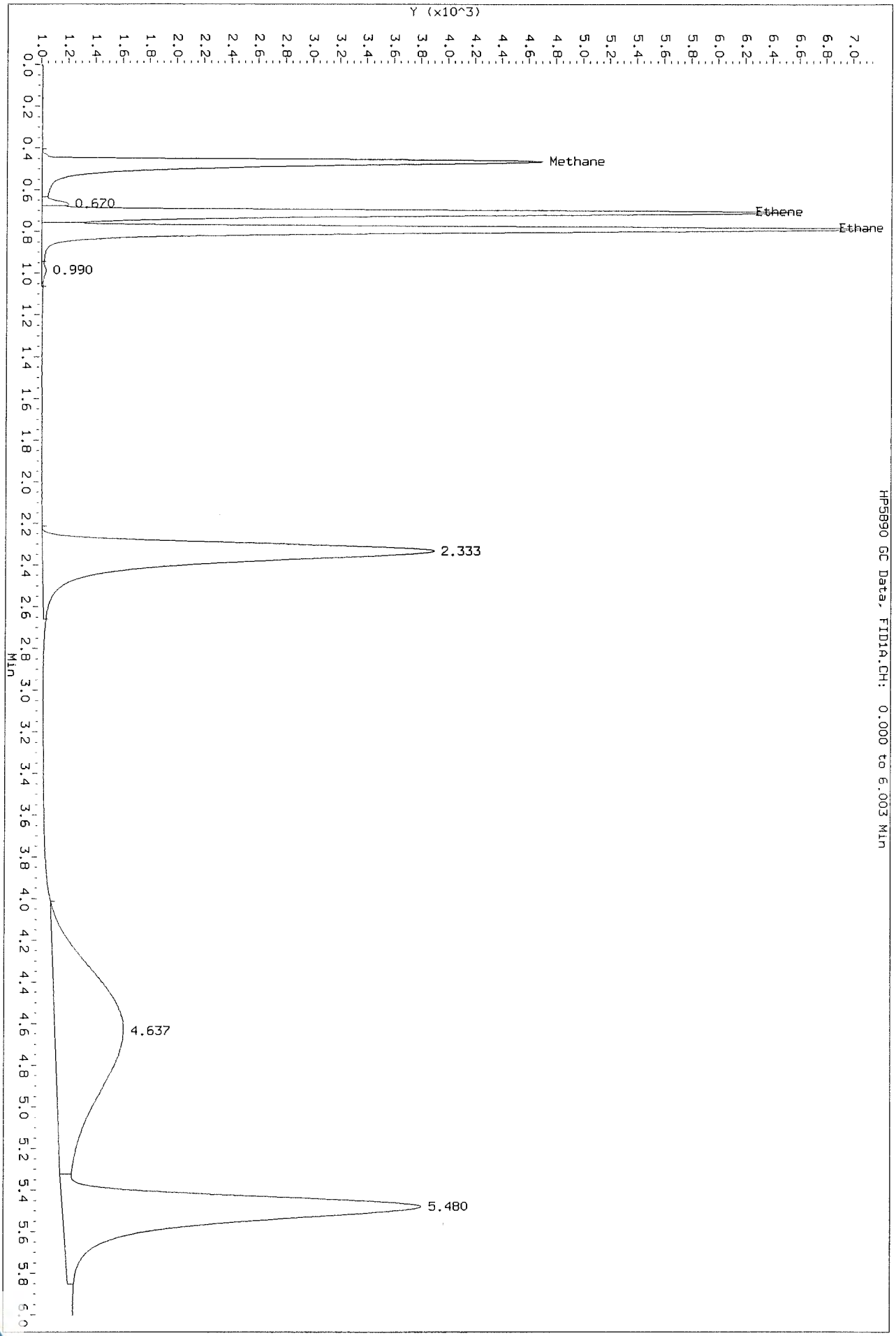
Column phase: Rtx-PLOT

Column diameter: 0.53



Data File: \\mahstws005\Target\chem\FID-4.i\201021.b\before\003.D
Injection Date: 21-OCT-2020 10:14
Instrument: FID-4.i
Client Sample ID: LCS-201021




Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\003.D
Injection Date: 21-OCT-2020 10:14
Instrument: FID-4.i
Client Sample ID: LCS-201021
HP5890 GC Data, FID1A.CH: 0.000 to 6.003 Min
Y (x10^3)
Min
Methane
0.670
Ethene
Ethane
0.990
2.333
4.637
5.480

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201021.b\004.D
Lab Smp Id: LCSD-201021 Client Smp ID: LCSD-201021
Inj Date : 21-OCT-2020 10:25
Operator : PL Inst ID: FID-4.i
Smp Info : LCSD-201021;LCSD-201021;3;;LCSD
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201021.b\RSKNI3.m
Meth Date : 01-Dec-2020 12:04 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 4 QC Sample: LCSD
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	0.460	0.460	0.000	9265	9.50264	9.502
2 Ethene	0.700	0.696	0.004	11048	18.8610	18.860(M)
3 Ethane	0.780	0.776	0.004	13547	18.8286	18.828(M)

QC Flag Legend

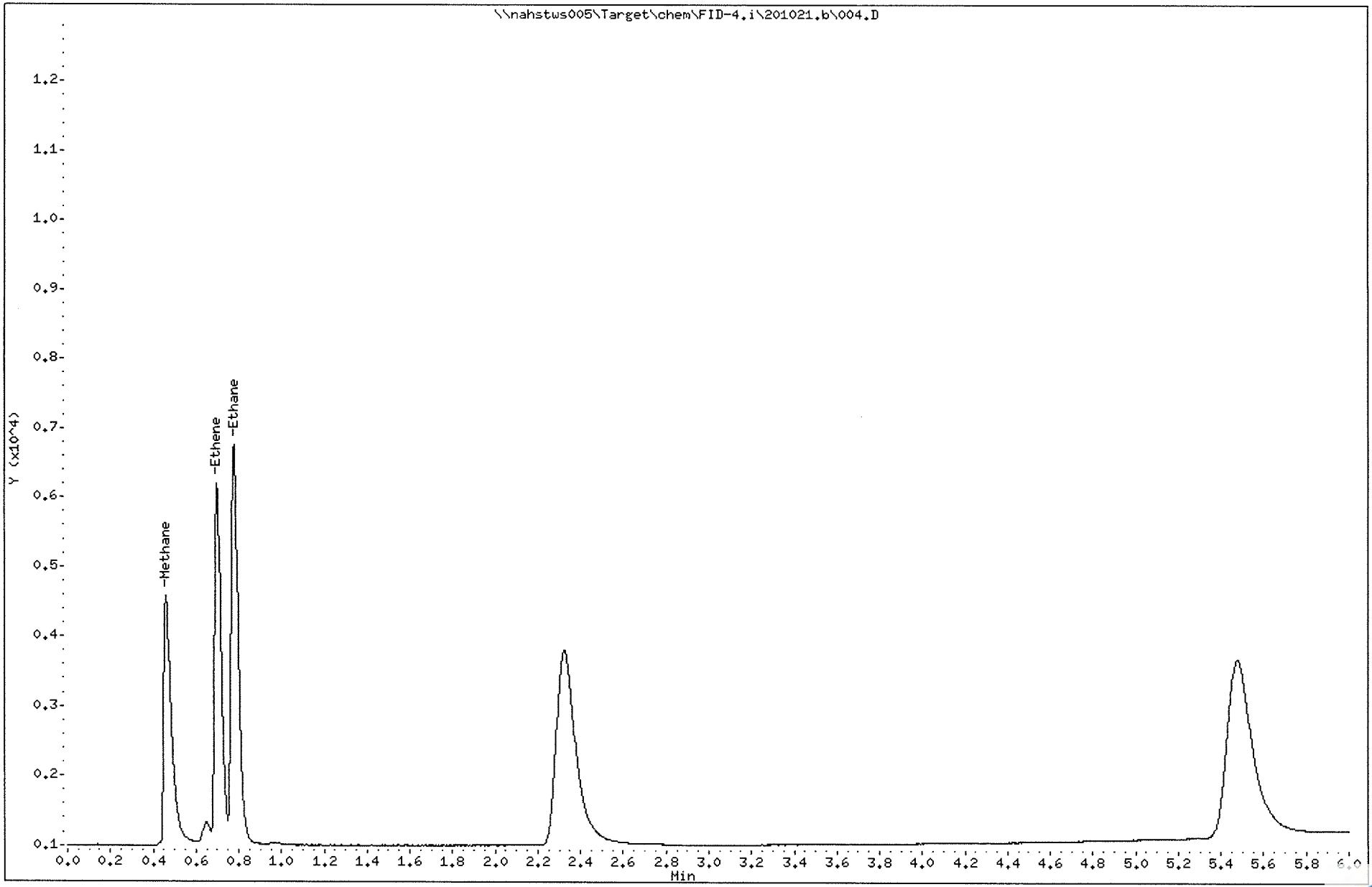
M - Compound response manually integrated.

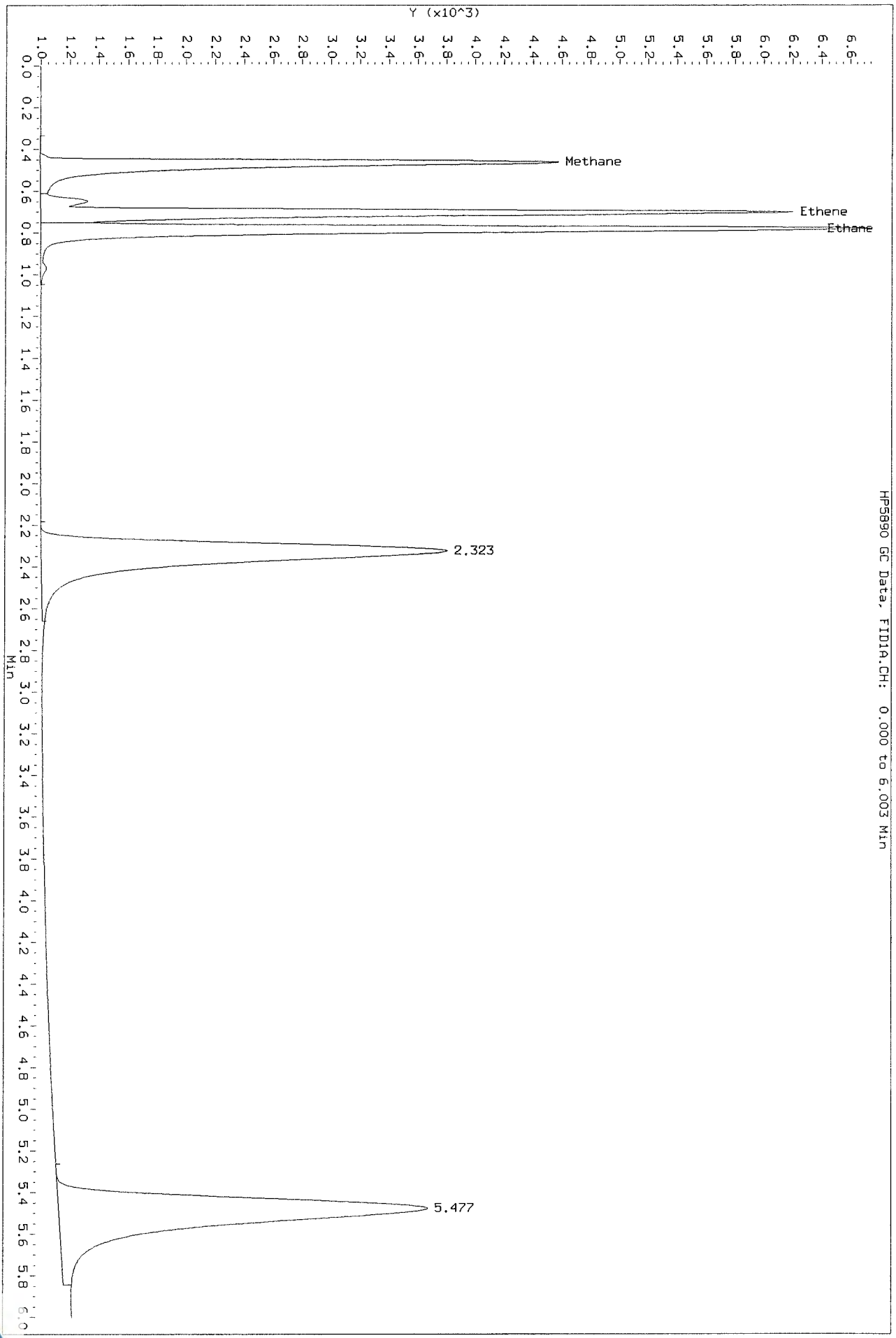
Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\004.D
Date : 21-OCT-2020 10:25
Client ID: LCSD-201021
Sample Info: LCSD-201021;LCSD-201021;3;;LCSD

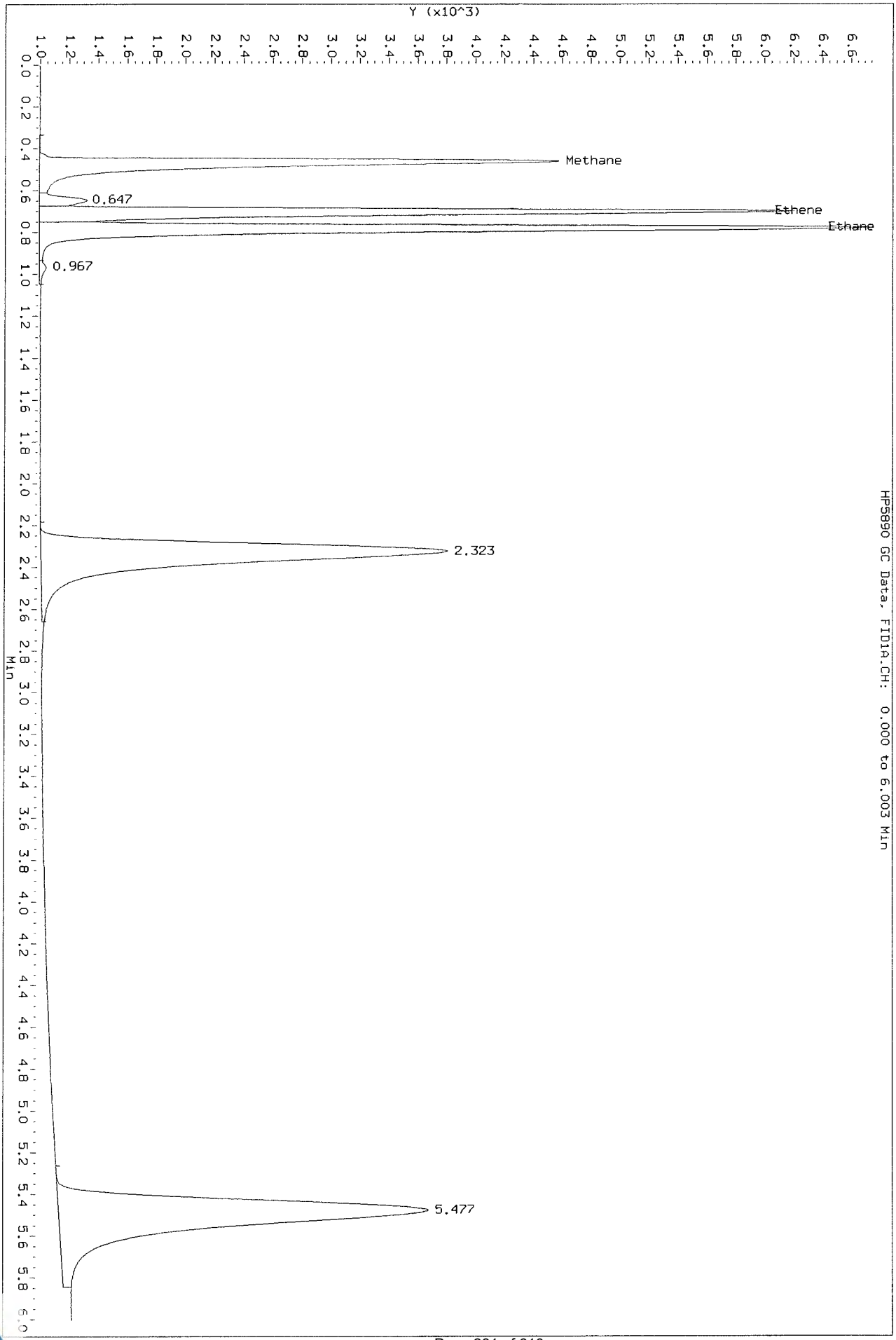
Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53




Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\before\004.D
Injection Date: 21-OCT-2020 10:25
Instrument: FID-4.i
Client Sample ID: LCSD-201021
HP5890 GC Data, FID1A.CH: 0.000 to 6.003 Min
Y (x10^3)
Min
Methane
Ethene
Ethane
2.323
5.477


Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\004.D
Injection Date: 21-OCT-2020 10:25
Instrument: FID-4.i
Client Sample ID: LCSD-201021
HP5890 GC Data, FID1A.CH: 0.000 to 6.003 Min
Y (x10^3)
Min
Methane
0.647
Ethene
Ethane
0.967
2.323
5.477

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201021.b\011.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 21-OCT-2020 11:38
Operator : PL Inst ID: FID-4.i
Smp Info : RSK-CCV;RSK-CCV;2;4
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201021.b\RSKNI3.m
Meth Date : 01-Dec-2020 12:04 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 11 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	0.466	0.466	0.000	9213	9.64700	9.449
2 Ethene	0.706	0.706	0.000	11240	16.8500	19.188
3 Ethane	0.783	0.783	0.000	14070	18.0430	19.555

Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\011.D

Date : 21-OCT-2020 11:38

Client ID: RSK-CCV

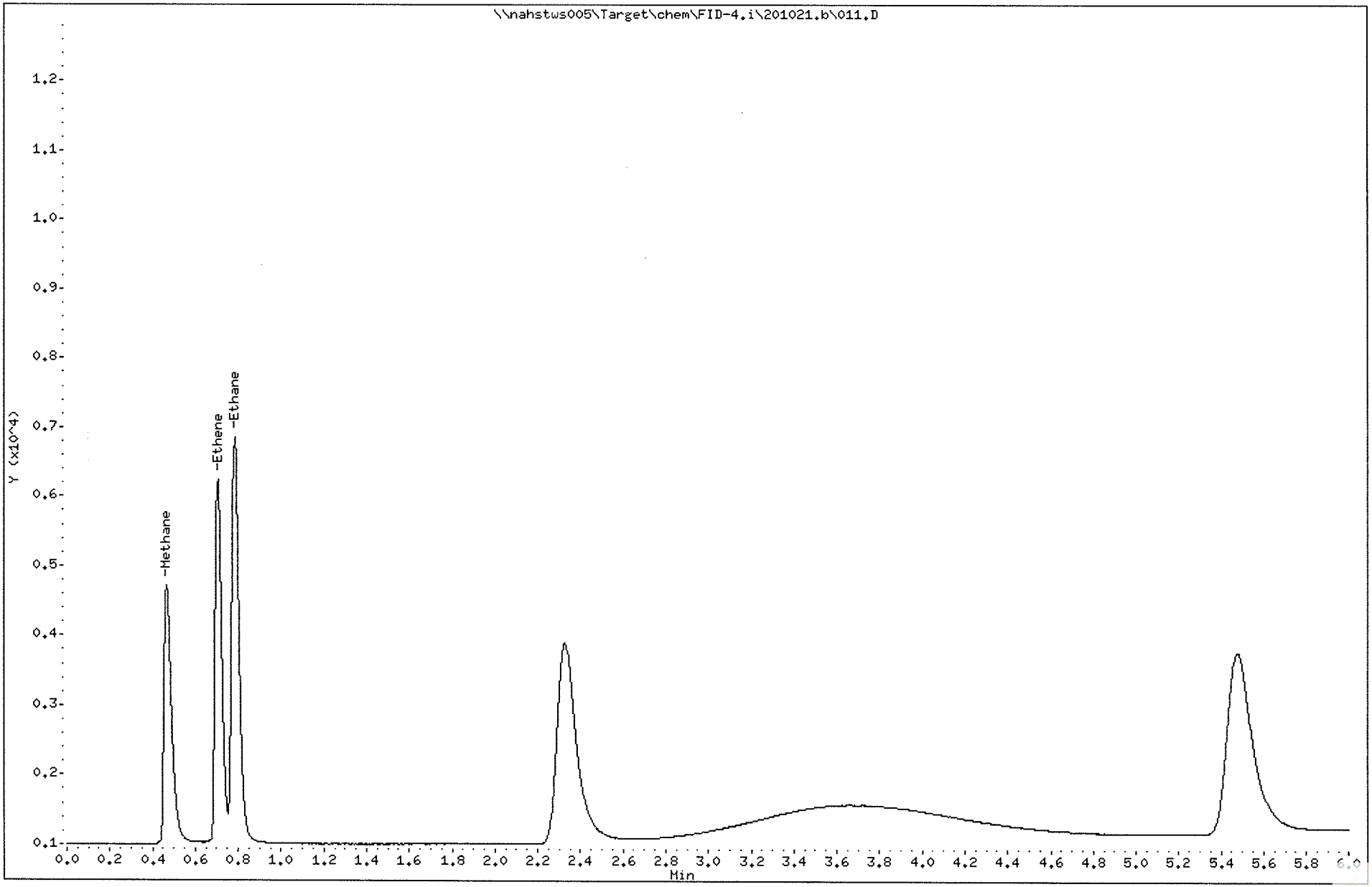
Instrument: FID-4.i

Sample Info: RSK-CCV;RSK-CCV;2;4

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\019.D Page 1
Report Date: 01-Dec-2020 12:04

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201021.b\019.D
Lab Smp Id: HS20100719-01 Client Smp ID: HS20100719-01
Inj Date : 21-OCT-2020 14:23
Operator : PL Inst ID: FID-4.i
Smp Info : HS20100719-01;HS20100719-01
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201021.b\RSKNI3.m
Meth Date : 01-Dec-2020 12:04 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 19
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 Methane	0.463	0.466	-0.003	289612	297.040	297.040(AM)
2 Ethene	0.696	0.706	-0.010	5921	10.1082	10.108(M)
3 Ethane	0.776	0.783	-0.007	787	1.09383	1.093(M)

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\019.D

Date : 21-OCT-2020 14:23

Client ID: HS20100719-01

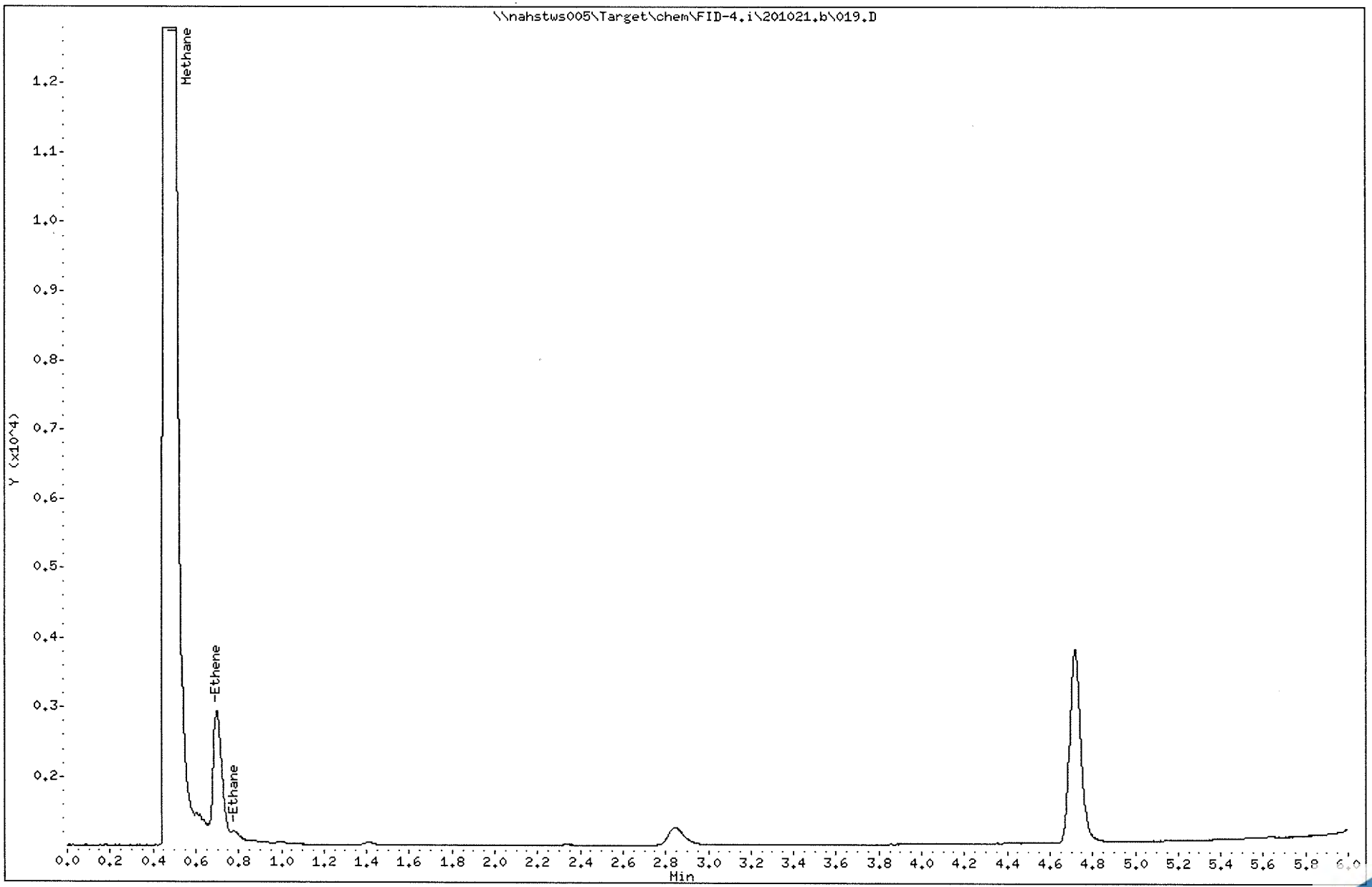
Instrument: FID-4.i

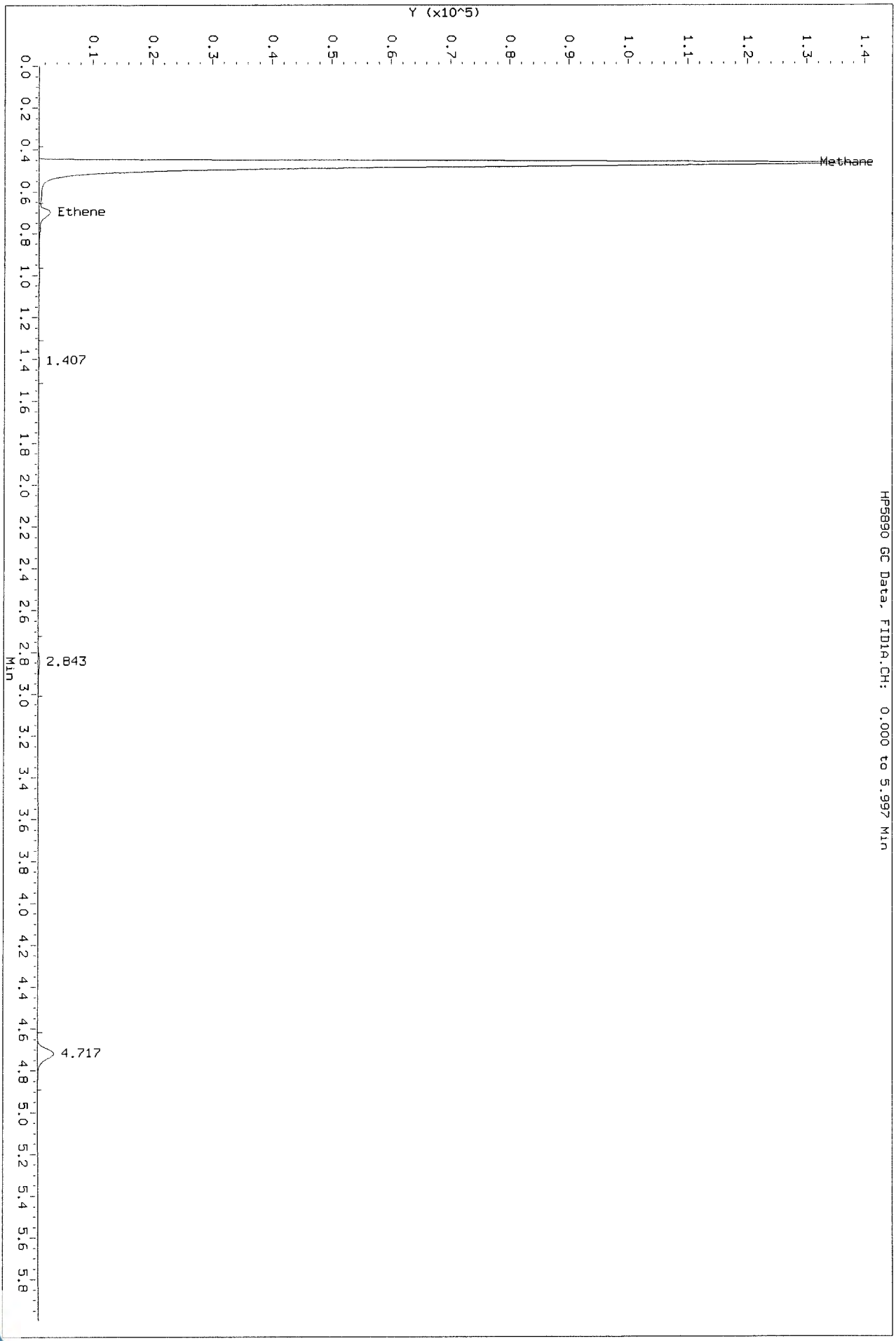
Sample Info: HS20100719-01;HS20100719-01

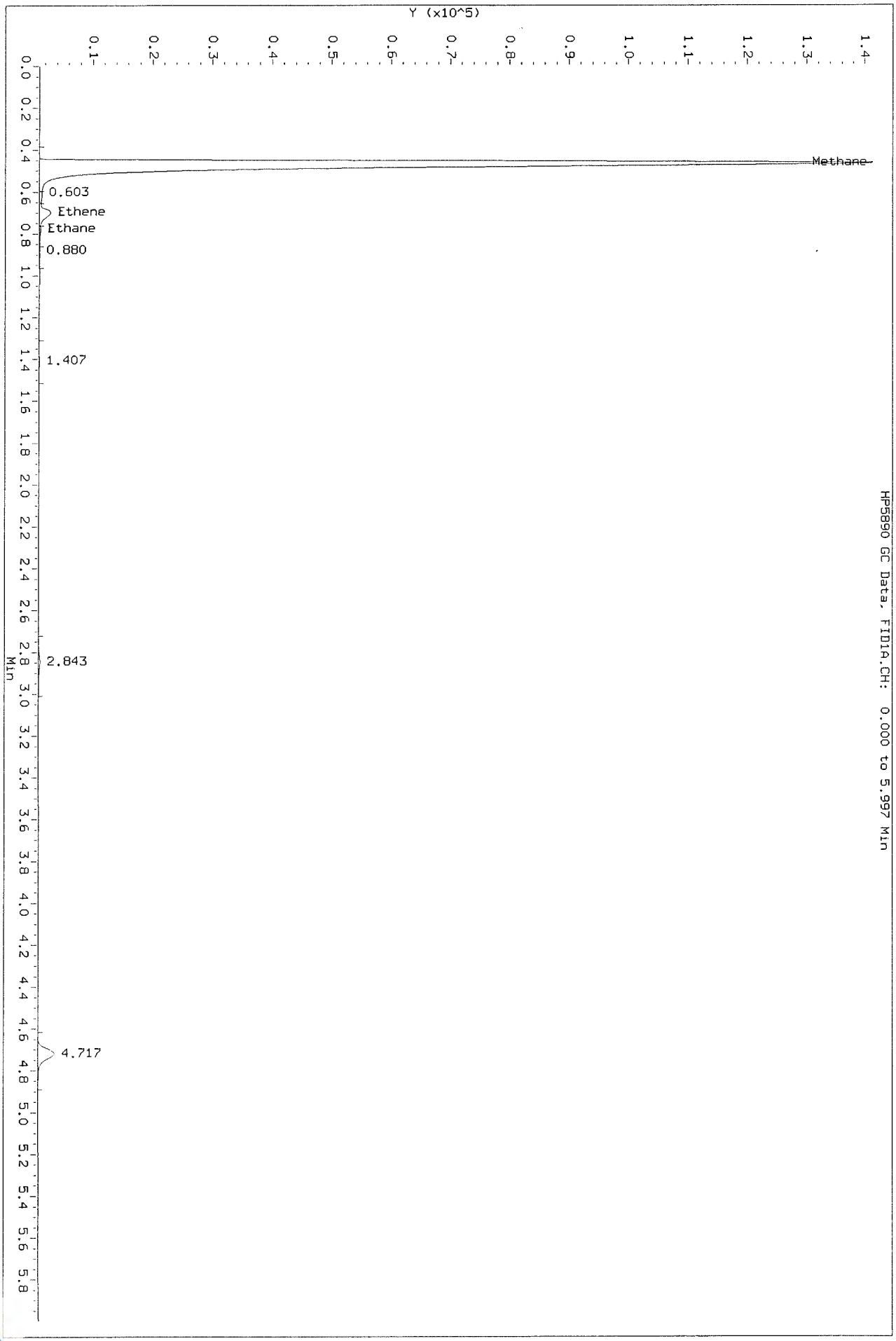
Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53




Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\before\019.D
Injection Date: 21-OCT-2020 14:23
Instrument: FID-4.i
Client Sample ID: HS20100719-01
HP5890 GC Data, FID1A.CH: 0.000 to 5.997 Min
Y (x10^5)
Methane
Ethene
1.407
2.843
4.717
Min


Data File: \\nahstws005\Target\Chem\FID-4.i\201021.b\019.D
Injection Date: 21-OCT-2020 14:23
Instrument: FID-4.i
Client Sample ID: HS20100719-01
HP5890 GC Data, FID1A.CH: 0.000 to 5.997 Min
Y (x10^5)
Min
Methane
0.603
Ethene
Ethane
0.880
1.407
2.843
4.717

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201021.b\020.D
Lab Smp Id: HS20100719-02 Client Smp ID: HS20100719-02
Inj Date : 21-OCT-2020 14:41
Operator : PL Inst ID: FID-4.i
Smp Info : HS20100719-02;HS20100719-02
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201021.b\RSKNI3.m
Meth Date : 01-Dec-2020 12:04 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 20
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.463	0.466	-0.003	97255	99.7495	99.749(AM)
2 Ethene	0.696	0.706	-0.010	5472	9.34170	9.341(M)
3 Ethane	0.756	0.783	-0.027	727	1.01044	1.010(M)

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\020.D

Date : 21-OCT-2020 14:41

Client ID: HS20100719-02

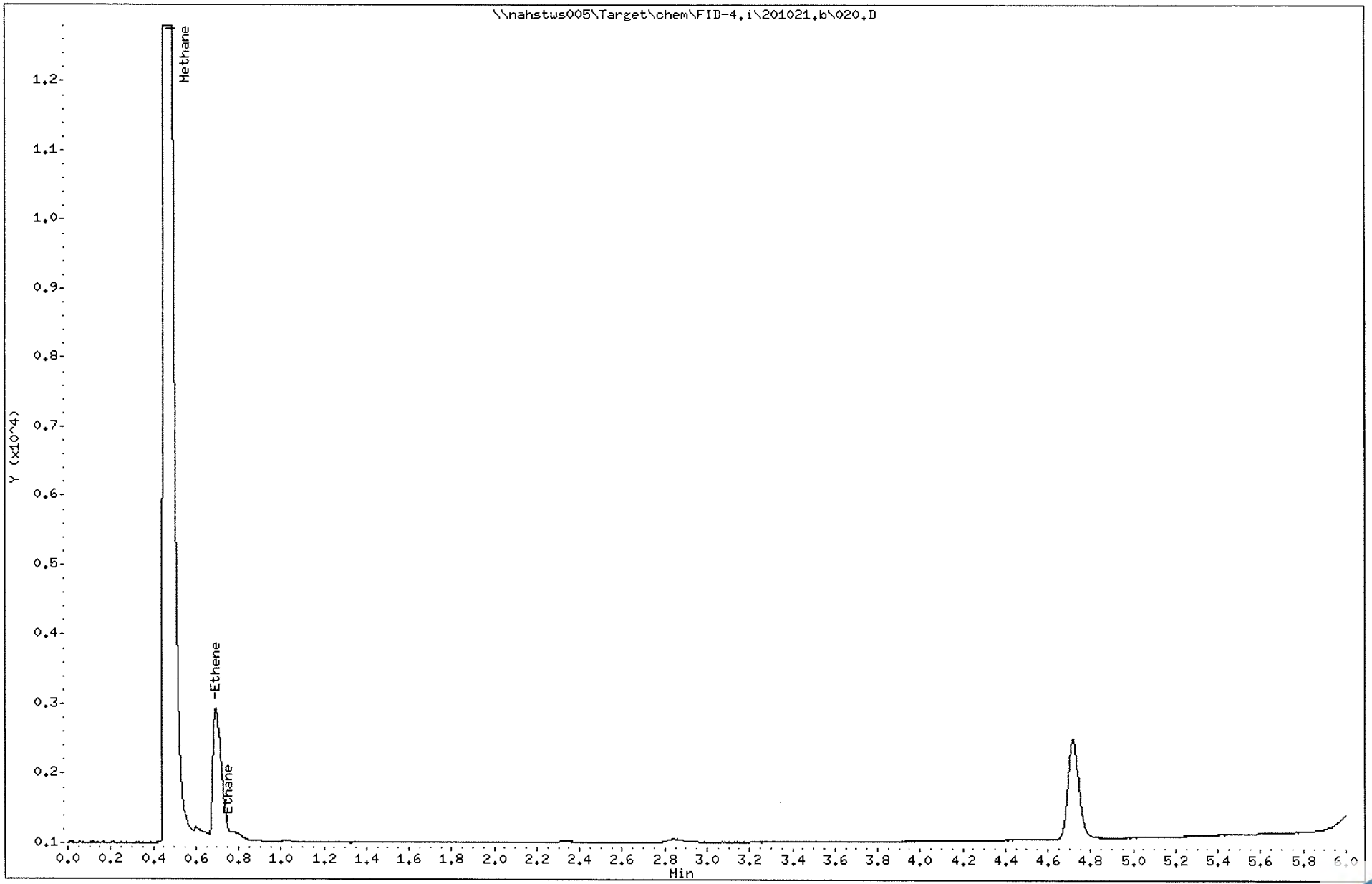
Instrument: FID-4.i

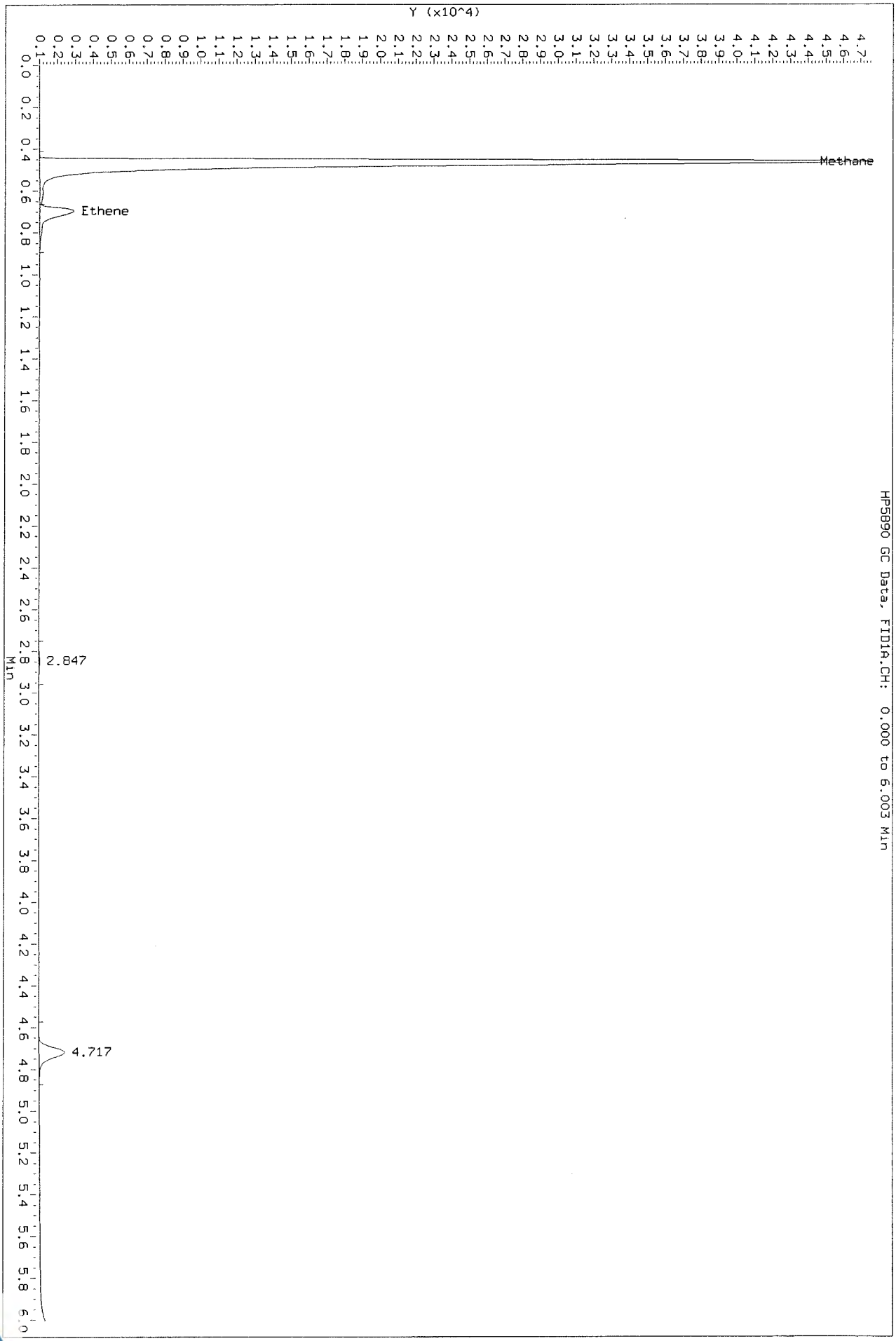
Sample Info: HS20100719-02;HS20100719-02

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53

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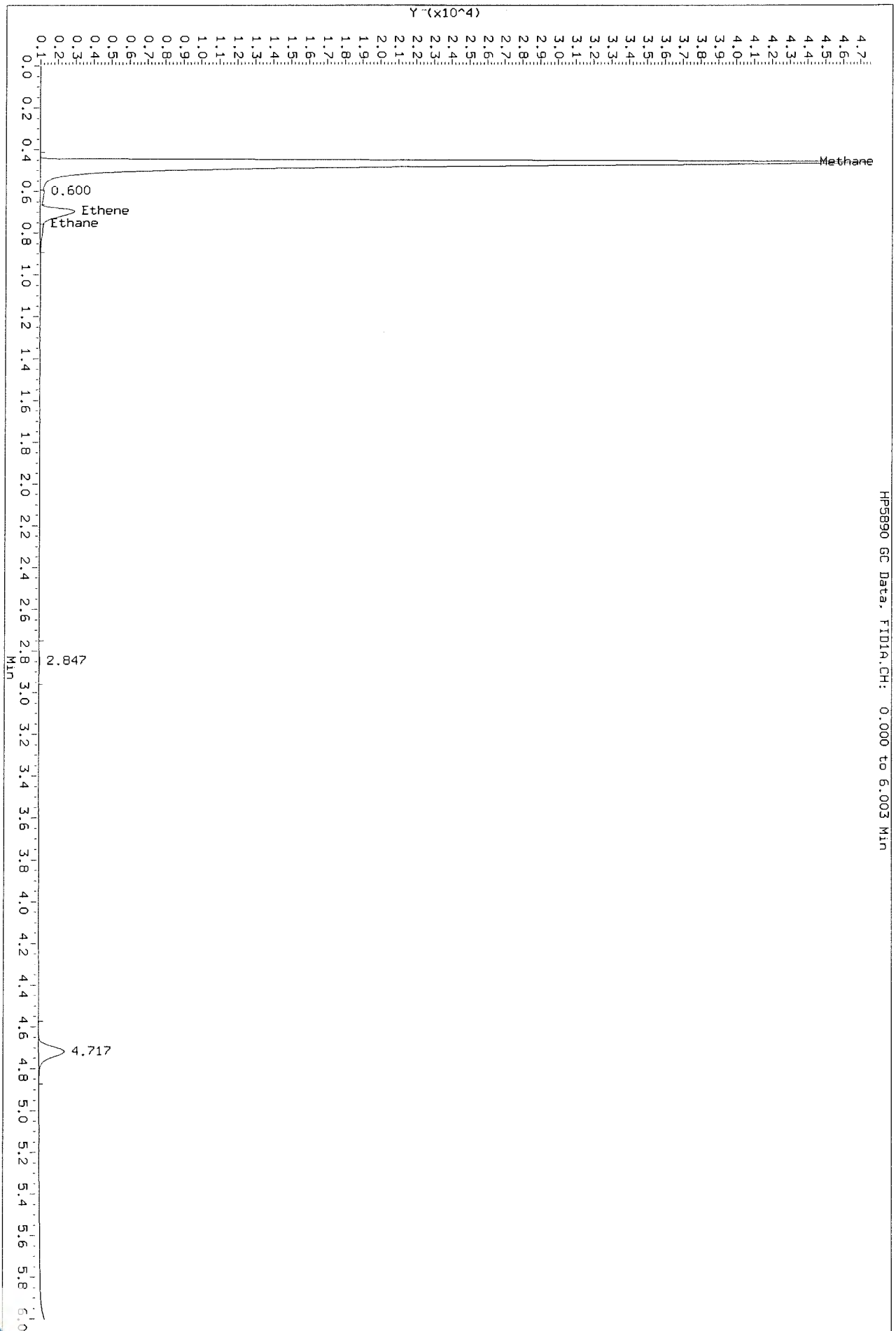
Injection Date: 21-OCT-2020 14:41
Instrument: FID-4.i
Client Sample ID: HS20100719-02
HP5890 GC Data, FID1A.CH: 0.000 to 6.003 Min
Y (x10^4)
Methane
Ethene
2.847
4.717
Min


Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\020.D
Injection Date: 21-OCT-2020 14:41
Instrument: FID-4.i
Client Sample ID: HS20100719-02
HP5890 GC Data, FID1A.CH: 0.000 to 6.003 Min
Y (x10^4)
Min
Methane
0.600
Ethene
Ethane
2.847
4.717

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201021.b\021.D
Lab Smp Id: HS20100719-03 Client Smp ID: HS20100719-03
Inj Date : 21-OCT-2020 14:57
Operator : PL Inst ID: FID-4.i
Smp Info : HS20100719-03;HS20100719-03
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201021.b\RSKNI3.m
Meth Date : 01-Dec-2020 12:04 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 21
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
2 Ethene	0.673	0.706	-0.033	731	1.24795	1.247(M)

QC Flag Legend

M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\021.D

Date : 21-OCT-2020 14:57

Client ID: HS20100719-03

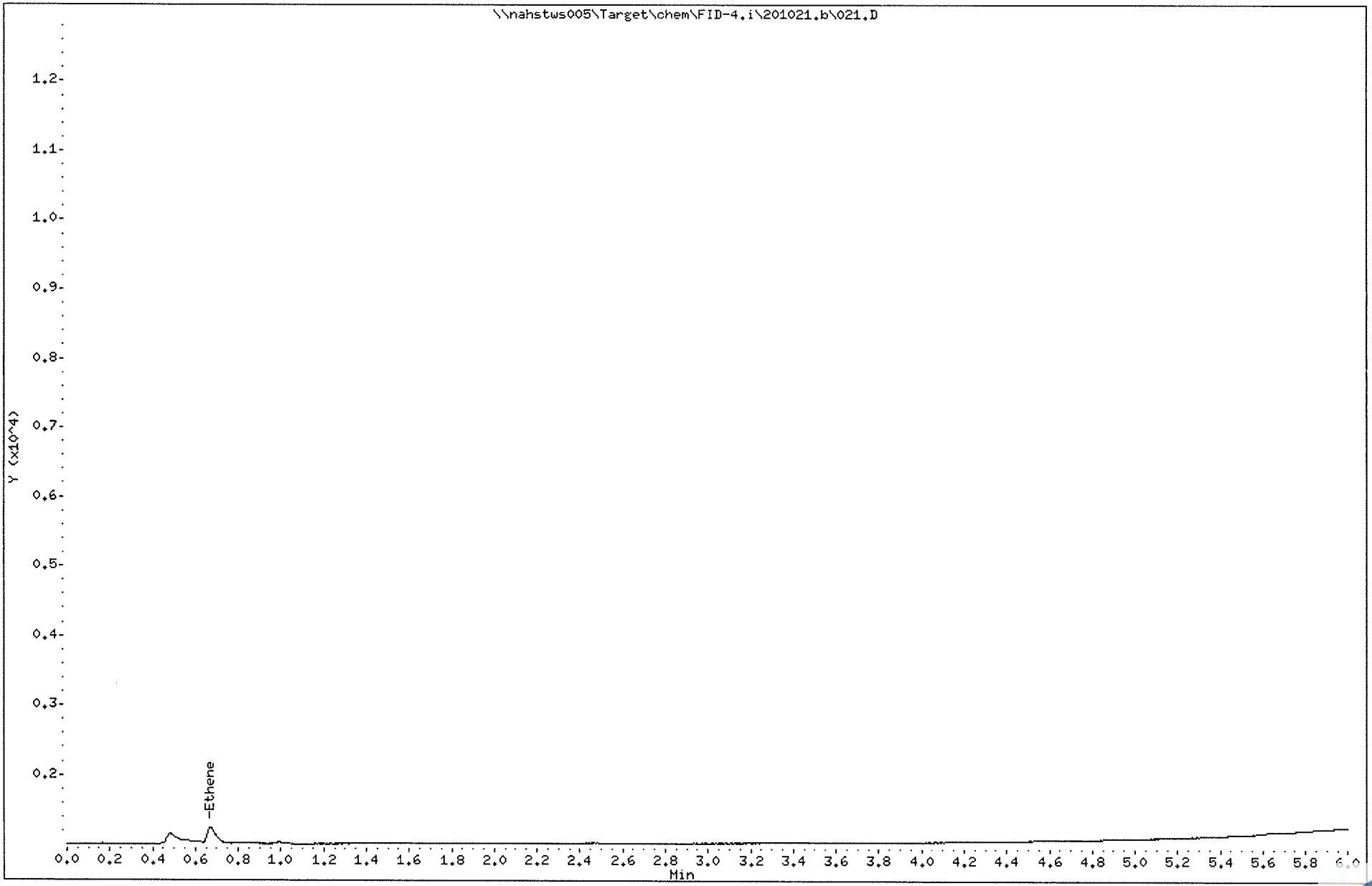
Instrument: FID-4.i

Sample Info: HS20100719-03;HS20100719-03

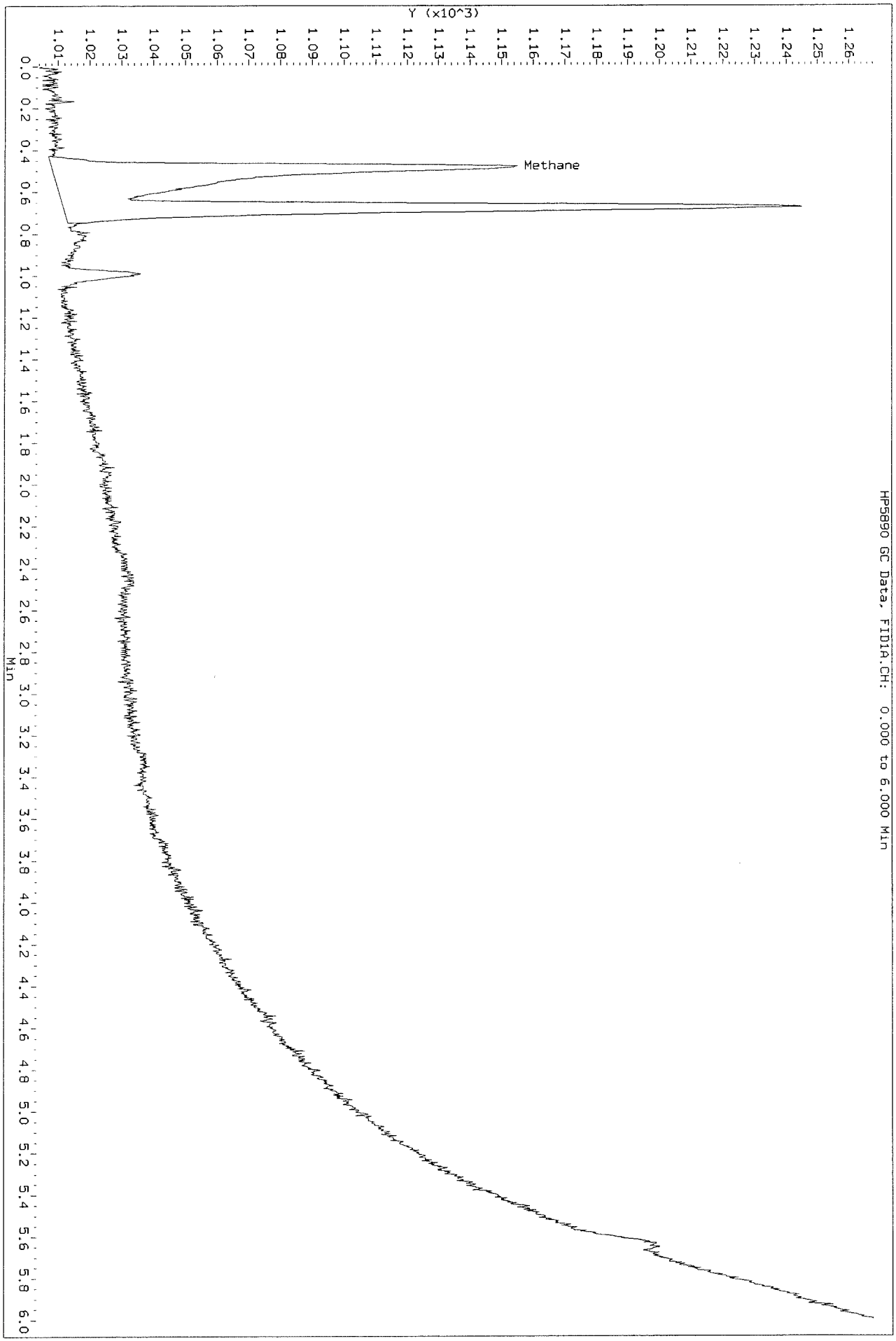
Operator: PL

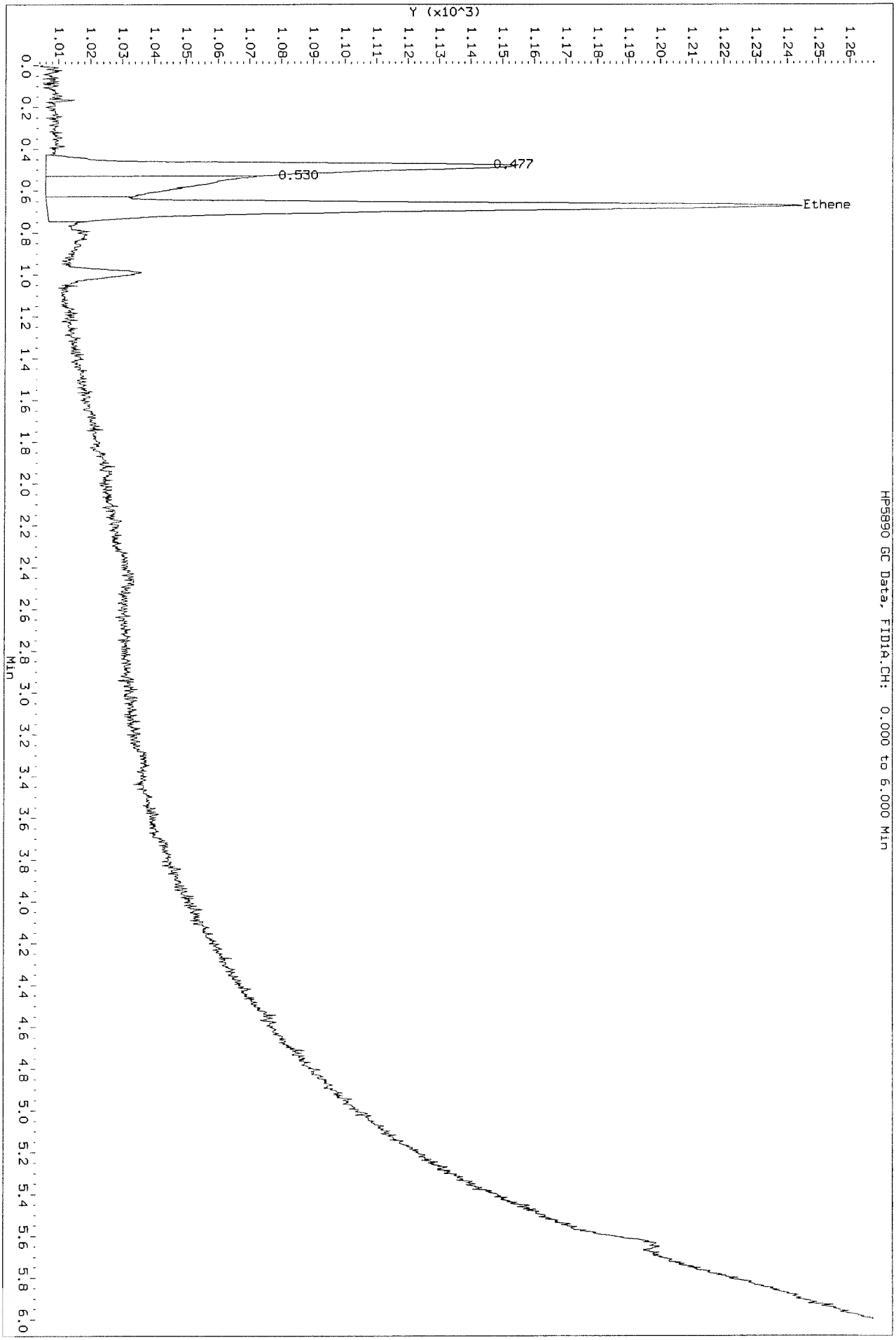
Column phase: Rtx-PLOT

Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\before\021.D
Injection Date: 21-OCT-2020 14:57
Instrument: FID-4.i
Client Sample ID: HS20100719-03




Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\021.D
Injection Date: 21-OCT-2020 14:57
Instrument: FID-4.i
Client Sample ID: HS20100719-03
HP5890 GC Data, FID1A.CH: 0.000 to 6.000 Min
Y (x10^3)
Min
0.477
0.530
Ethene

Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\022.D Page 1
Report Date: 01-Dec-2020 12:04

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201021.b\022.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 21-OCT-2020 15:05
Operator : PL Inst ID: FID-4.i
Smp Info : RSK-CCV;RSK-CCV;2;4
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201021.b\RSKNI3.m
Meth Date : 01-Dec-2020 12:04 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 22 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	0.466	0.466	0.000	8230	9.64700	8.441
2 Ethene	0.706	0.706	0.000	11058	16.8500	18.878(M)
3 Ethane	0.783	0.783	0.000	13573	18.0430	18.864(M)

QC Flag Legend

M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\022.D

Date : 21-OCT-2020 15:05

Client ID: RSK-CCV

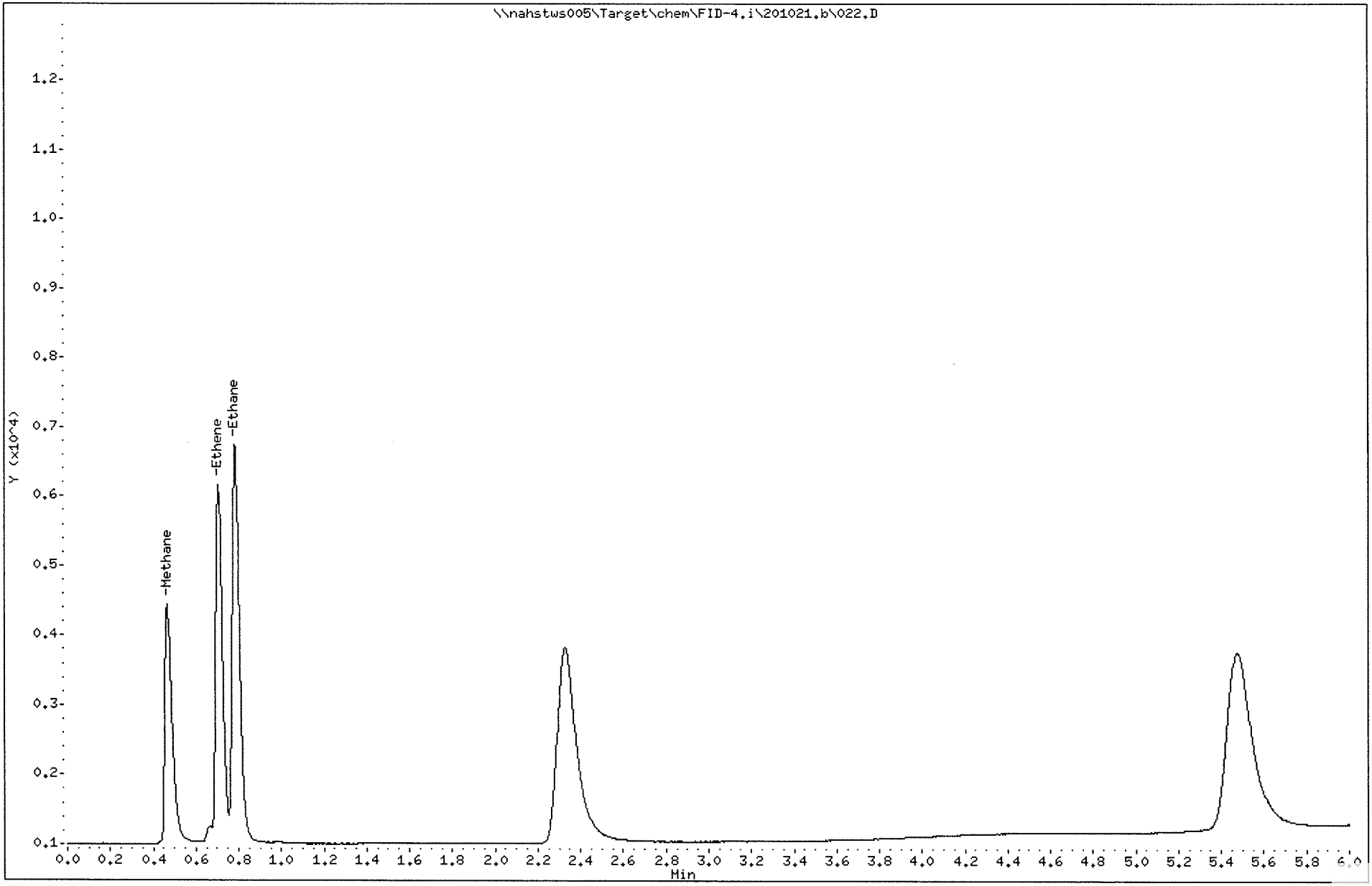
Instrument: FID-4.i

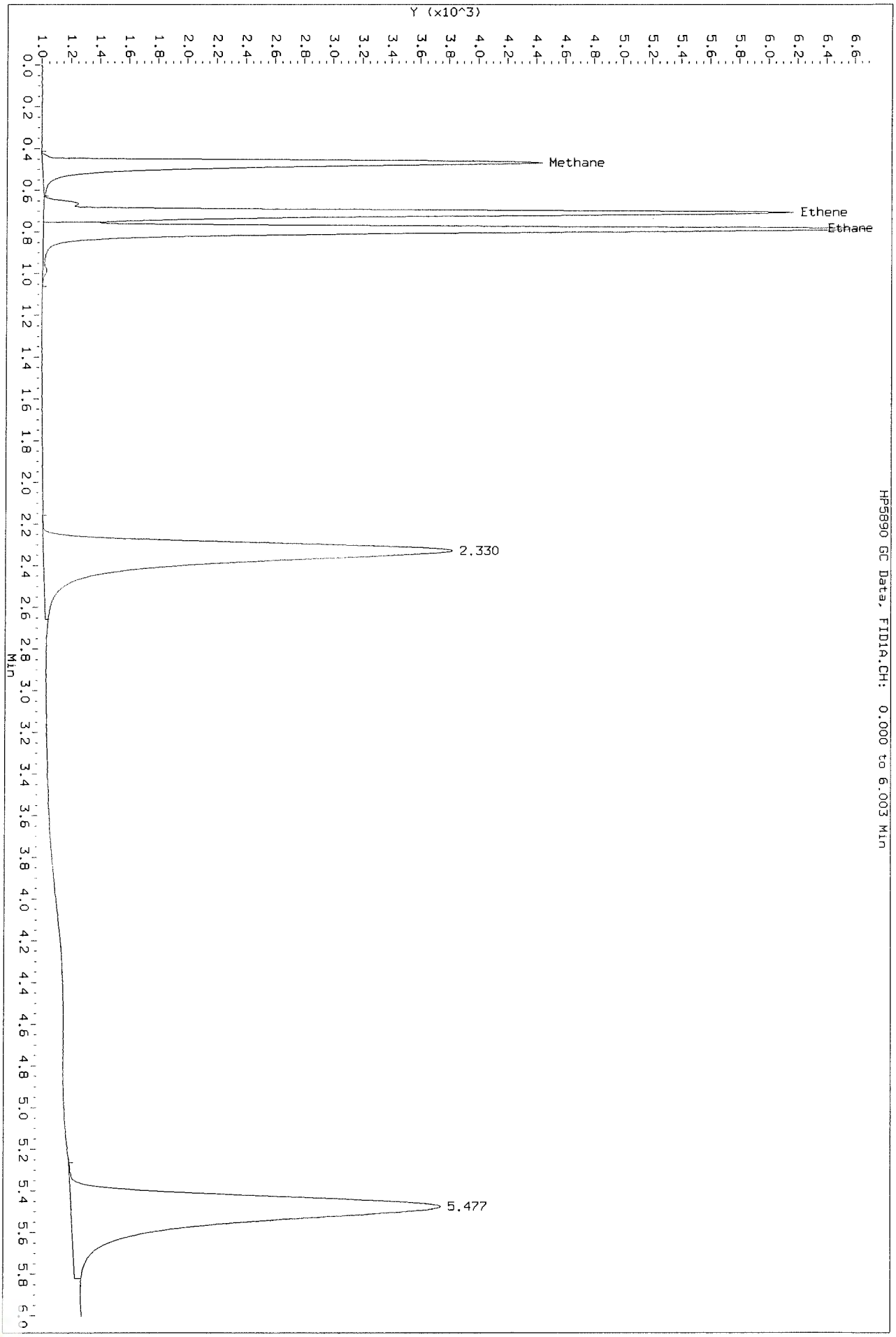
Sample Info: RSK-CCV;RSK-CCV;2;4

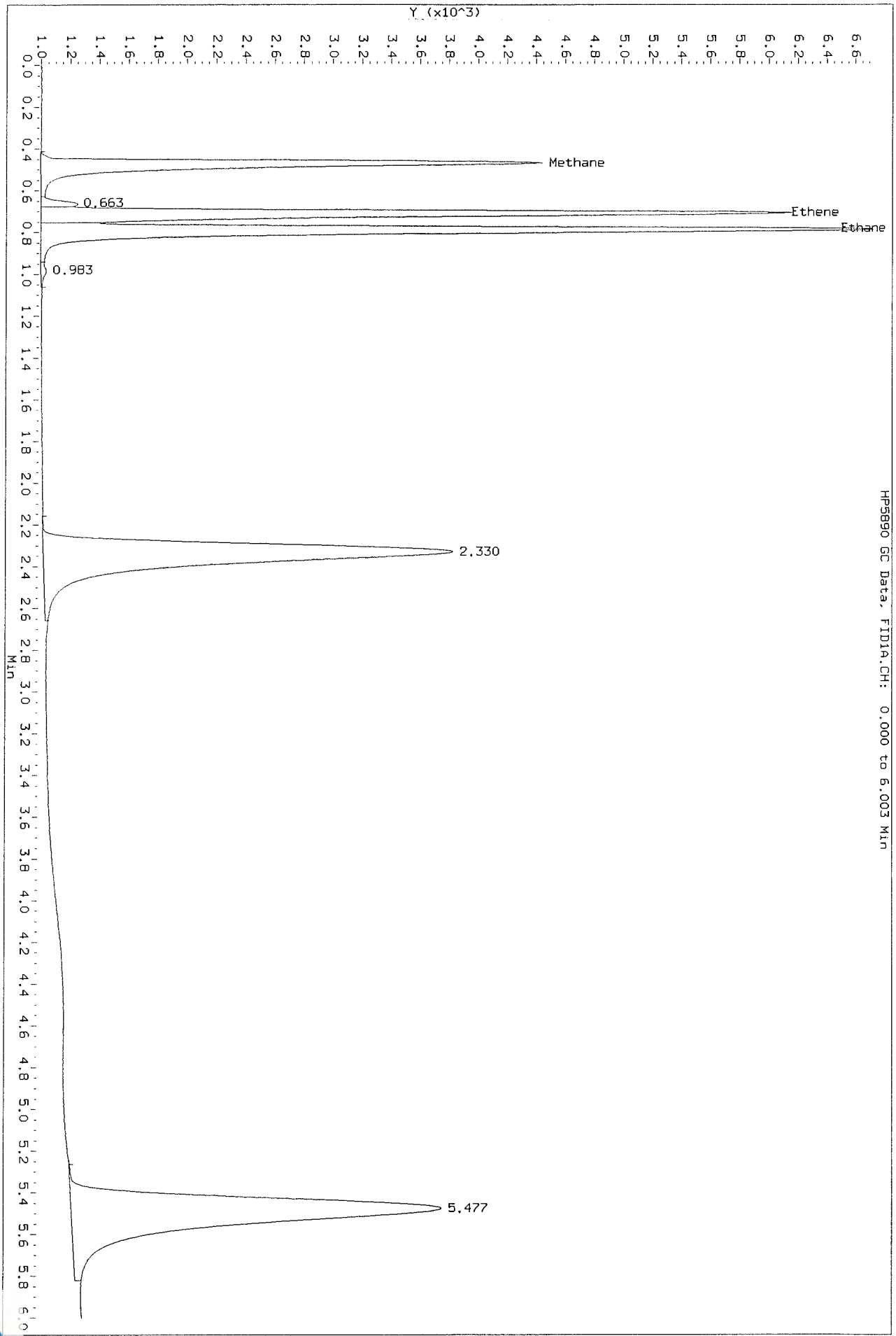
Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53




Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\before\022.D
Injection Date: 21-OCT-2020 15:05
Instrument: FID-4.i
Client Sample ID: RSK-CCV
Y (x10^3)
Methane
Ethene
Ethane
2.330
5.477
Min
HP5890 GC Data, FID1A.CH: 0.000 to 6.003 Min


Y (x10^3)
Methane
0.663
Ethene
Ethane
0.983
2.330
5.477
Min
HP5890 GC Data, FID1A.CH: 0.000 to 6.003 Min
Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\022.D
Injection Date: 21-OCT-2020 15:05
Instrument: FID-4.i
Client Sample ID: RSK-CCV

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201021.b\023.D
Lab Smp Id: HS20100719-04 Client Smp ID: HS20100719-04
Inj Date : 21-OCT-2020 15:14
Operator : PL Inst ID: FID-4.i
Smp Info : HS20100719-04;HS20100719-04
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201021.b\RSKNI3.m
Meth Date : 01-Dec-2020 12:04 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 23
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 Methane	0.463	0.466	-0.003	29320	30.0720	30.072
2 Ethene	0.700	0.706	-0.006	626	1.06870	1.068(M)

QC Flag Legend

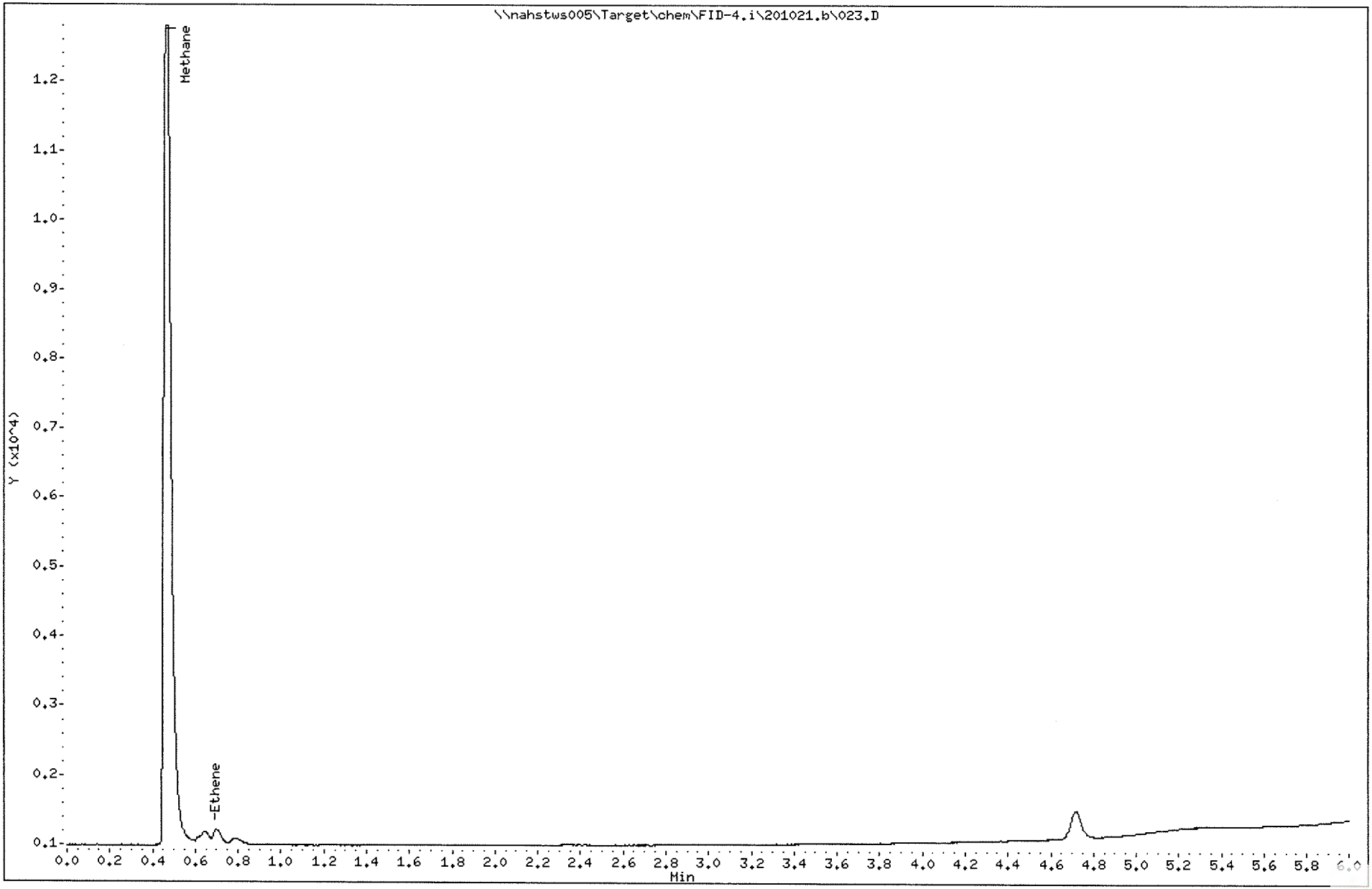
M - Compound response manually integrated.

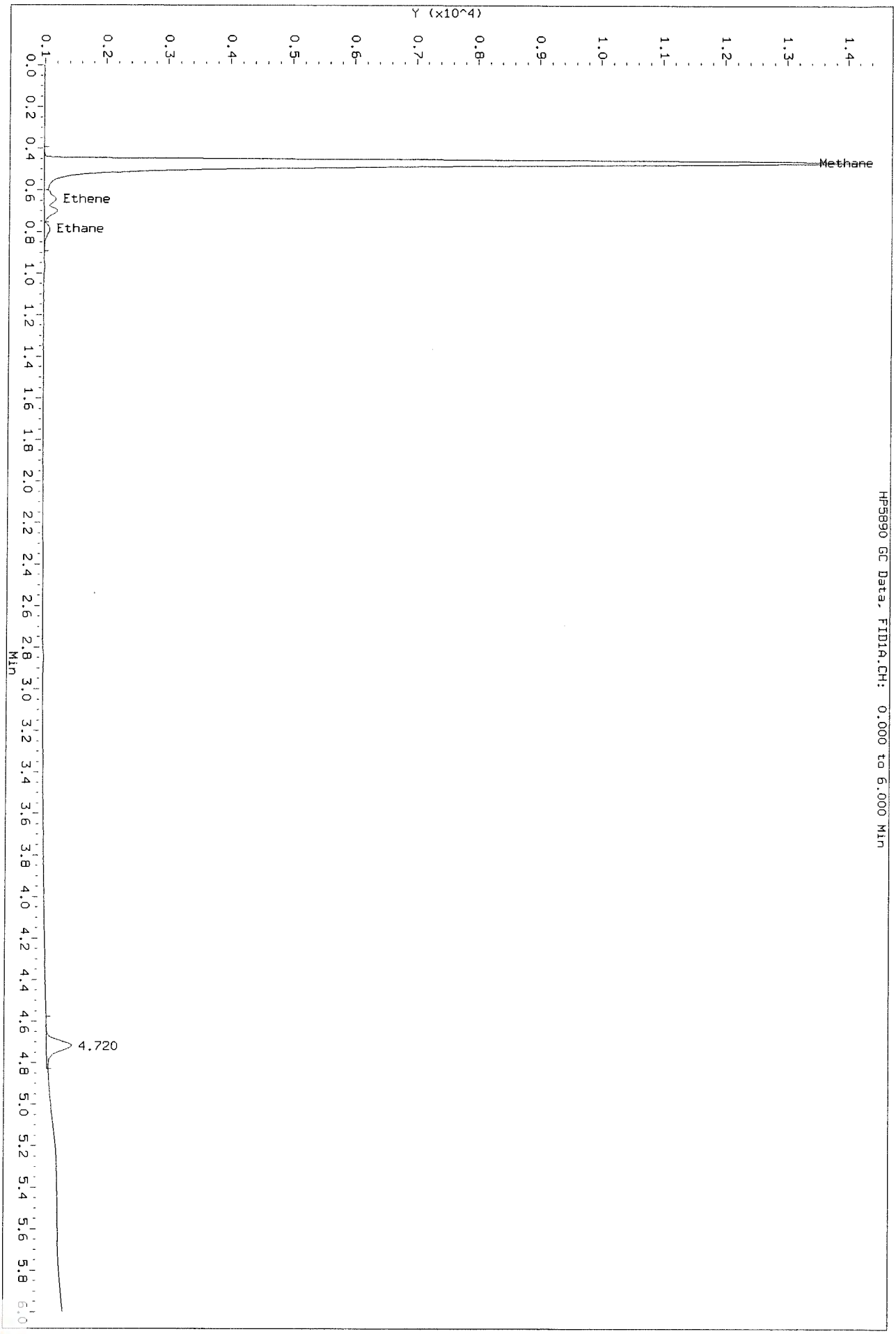
Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\023.D
Date : 21-OCT-2020 15:14
Client ID: HS20100719-04
Sample Info: HS20100719-04;HS20100719-04

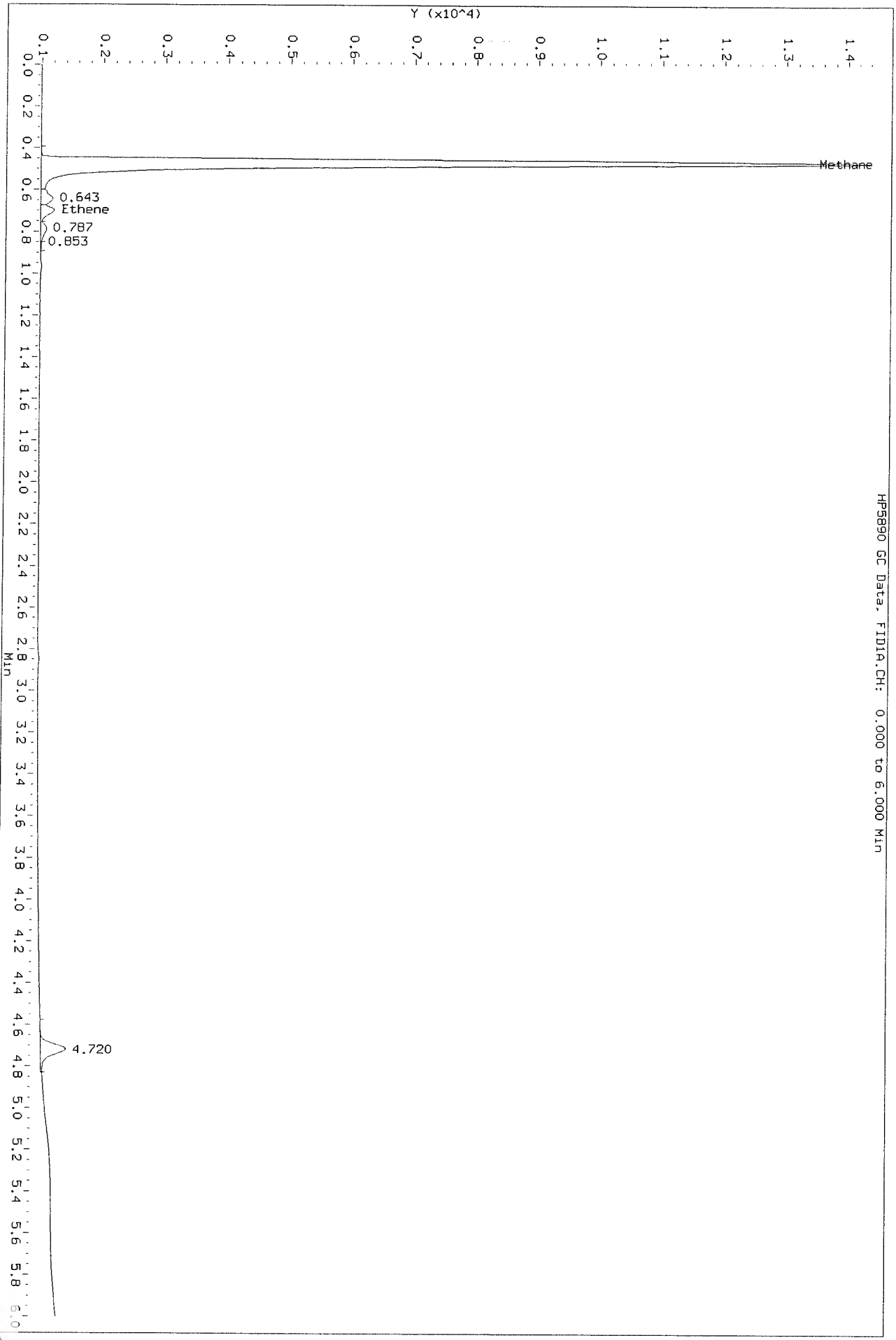
Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53




Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\before\023.D
Injection Date: 21-OCT-2020 15:14
Instrument: FID-4.i
Client Sample ID: HS20100719-04
HP5890 GC Data, FID1A.CH: 0.000 to 6.000 Min
Y (x10^4)
Min
Methane
Ethene
Ethane
4.720


Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\023.D
Injection Date: 21-OCT-2020 15:14
Instrument: FID-4.i
Client Sample ID: HS20100719-04
HP5890 GC Data. FIDiA.CH: 0.000 to 6.000 Min
Y (x10^4)
Min
Methane
0.643
Ethene
0.787
0.853
4.720

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201021.b\025.D
Lab Smp Id: HS20100719-05MS Client Smp ID: HS20100719-05MS
Inj Date : 21-OCT-2020 15:33
Operator : PL Inst ID: FID-4.i
Smp Info : HS20100719-05MS;HS20100719-05MS
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201021.b\RSKNI3.m
Meth Date : 01-Dec-2020 12:04 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 25 QC Sample: MS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 Methane	0.466	0.466	0.000	771343	791.127	791.127(AR)
2 Ethene	0.706	0.706	0.000	59398	101.403	101.403(AR)
3 Ethane	0.783	0.783	0.000	20291	28.2019	28.201(R)

QC Flag Legend

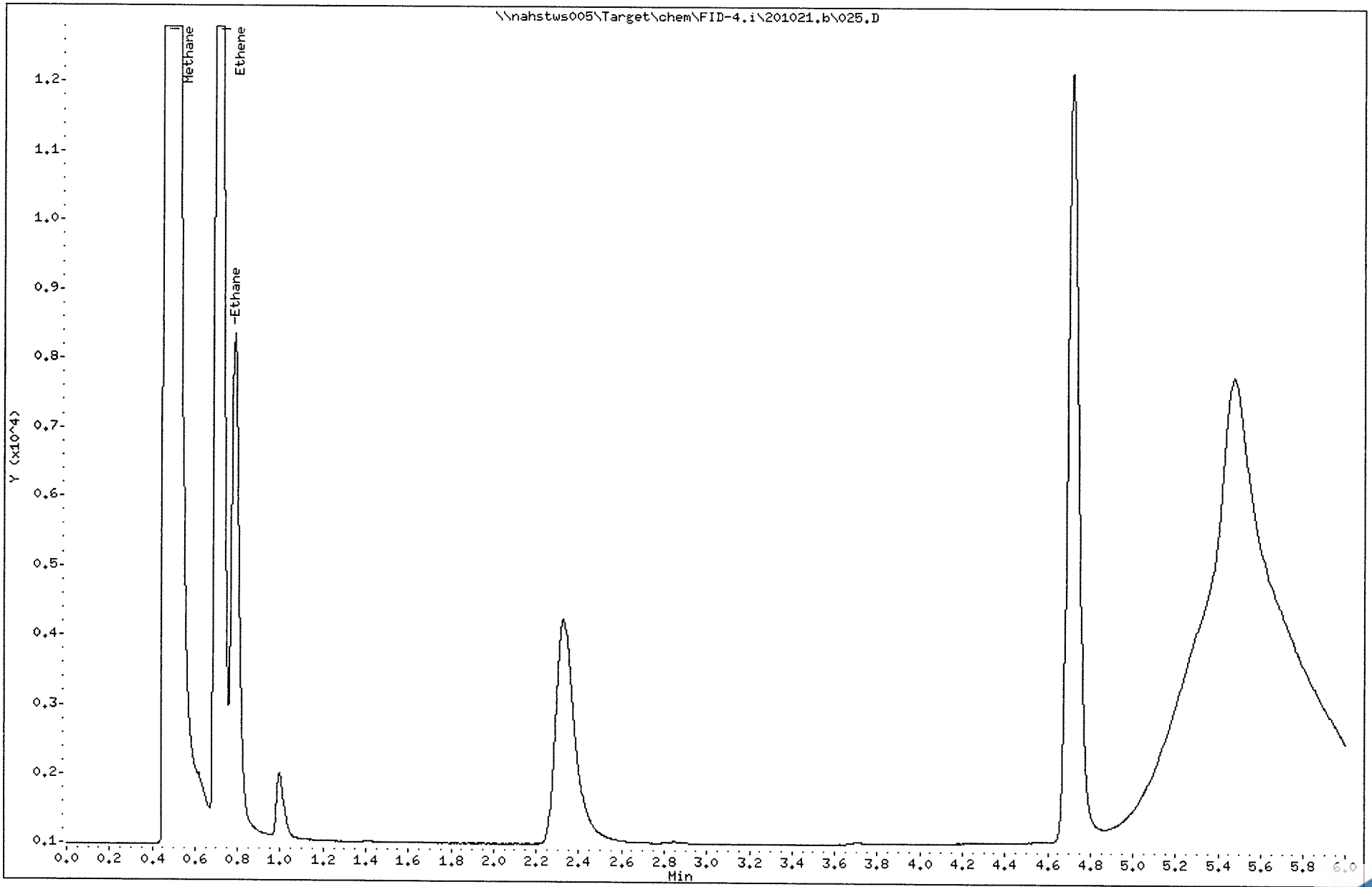
A - Target compound detected but, quantitated amount exceeded maximum amount.
R - Spike/Surrogate failed recovery limits.

Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\025.D
Date : 21-OCT-2020 15:33
Client ID: HS20100719-05MS
Sample Info: HS20100719-05MS;HS20100719-05MS

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201021.b\026.D
Lab Smp Id: HS20100719-05MSD Client Smp ID: HS20100719-05MSD
Inj Date : 21-OCT-2020 15:44
Operator : PL Inst ID: FID-4.i
Smp Info : HS20100719-05MSD;HS20100719-05MSD
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201021.b\RSKNI3.m
Meth Date : 01-Dec-2020 12:04 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 26 QC Sample: MSD
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 Methane	0.463	0.466	-0.003	769454	789.190	789.189(AR)
2 Ethene	0.703	0.706	-0.003	59309	101.251	101.251(ARM)
3 Ethane	0.780	0.783	-0.003	19317	26.8482	26.848(RM)

QC Flag Legend

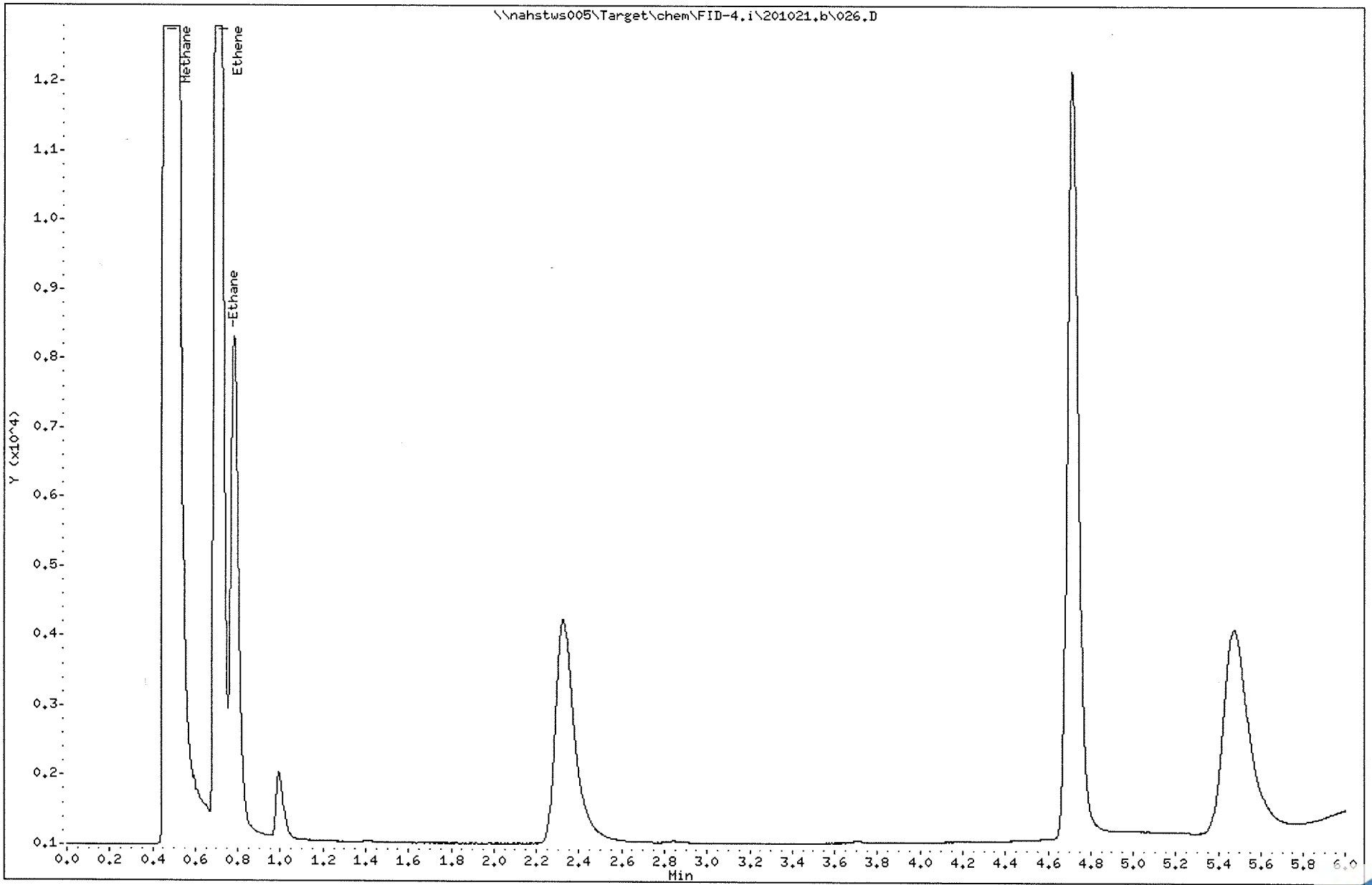
A - Target compound detected but, quantitated amount exceeded maximum amount.
R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

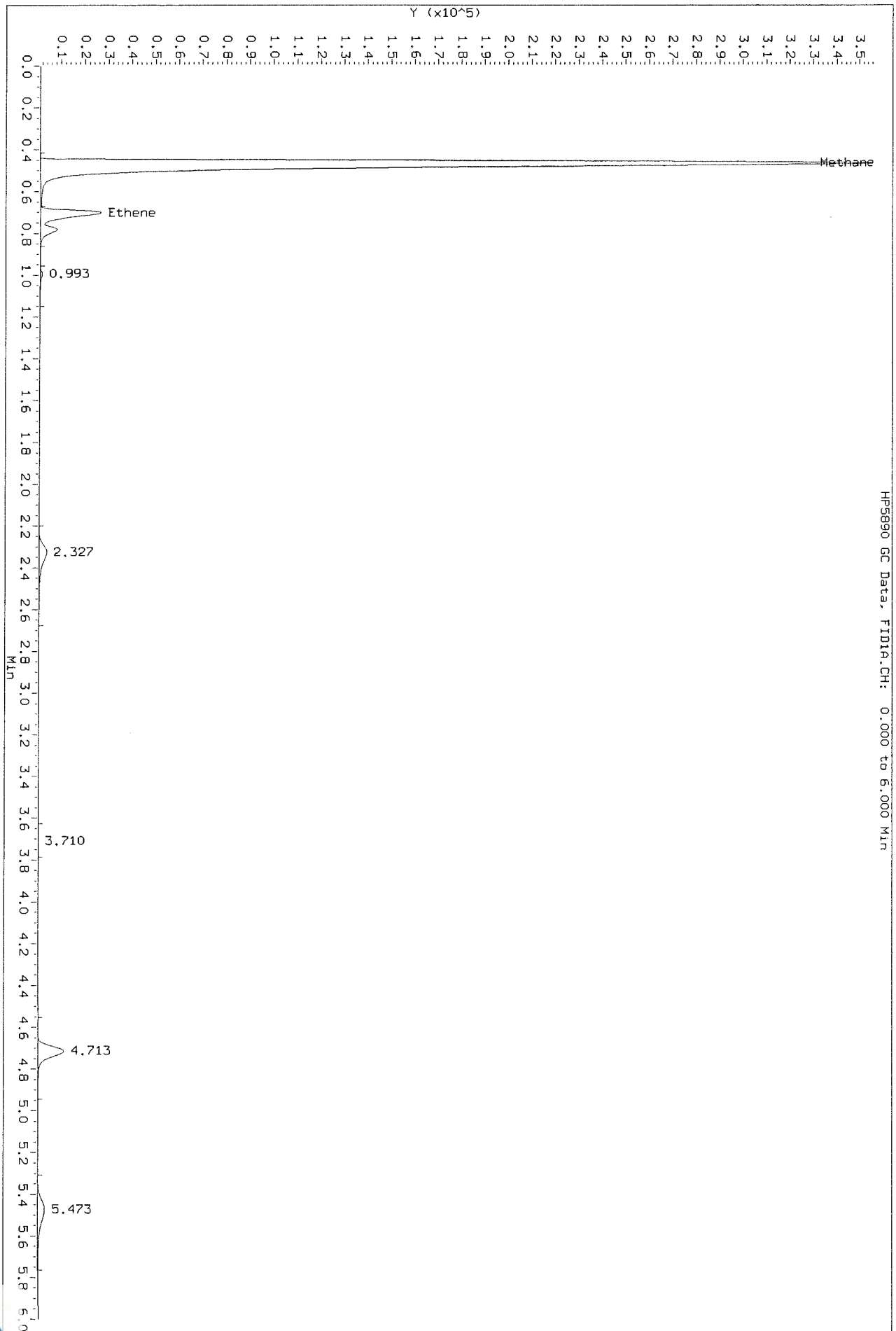
Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\026.D
Date : 21-OCT-2020 15:44
Client ID: HS20100719-05MSD
Sample Info: HS20100719-05MSD;HS20100719-05MSD

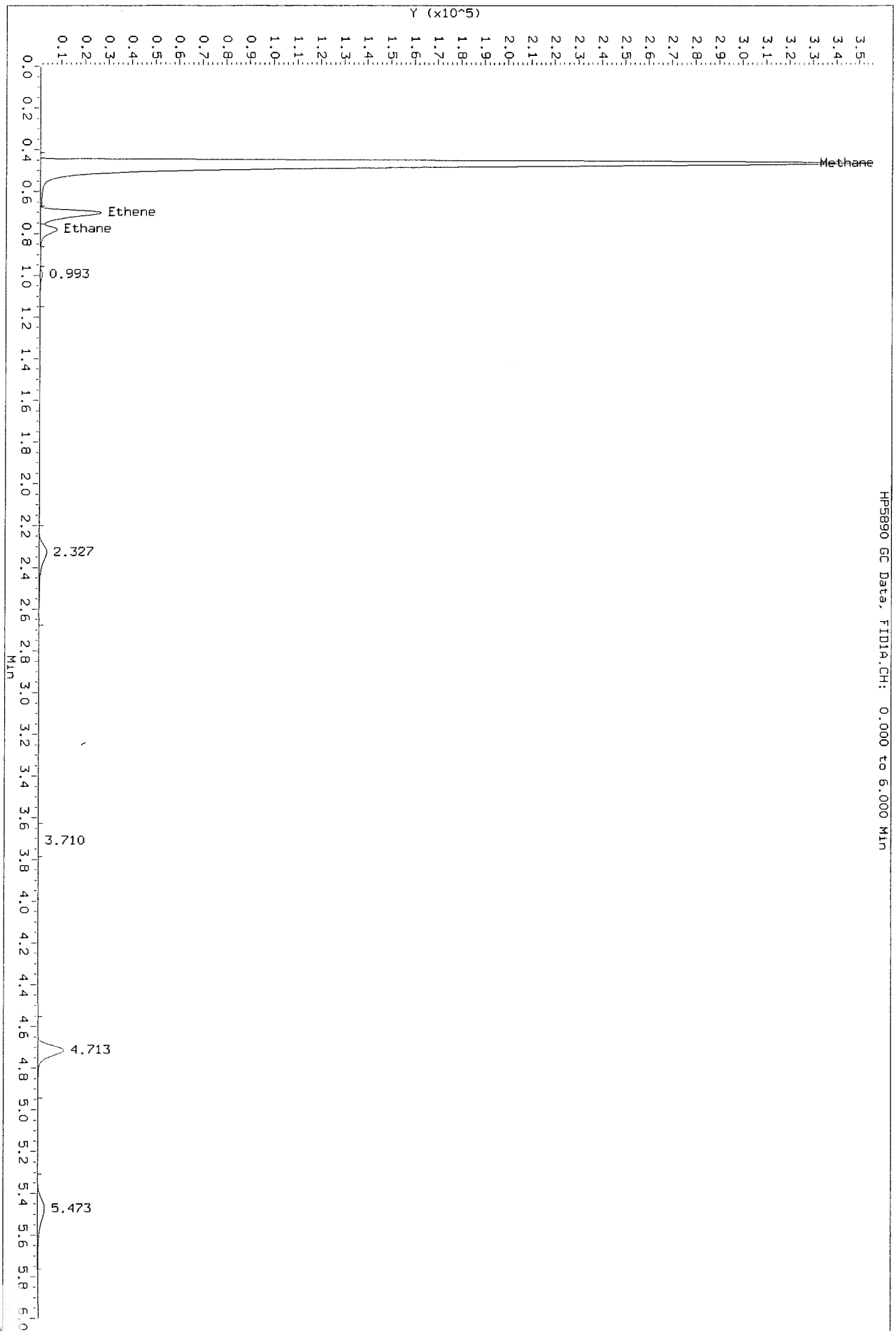
Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53




Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\before\026.D
Injection Date: 21-OCT-2020 15:44
Instrument: FID-4.i
Client Sample ID: HS20100719-05MSD
HP5890 GC Data, FID1A.CH: 0.000 to 6.000 Min
Y (x10^5)
Min
Methane
Ethene
0.993
2.327
3.710
4.713
5.473


Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\026.D
Injection Date: 21-OCT-2020 15:44
Instrument: FID-4.i
Client Sample ID: HS20100719-05MSD
HP5890 GC Data, FID1A.CH: 0.000 to 6.000 Min
Y (x10^5)
Min
Methane
Ethene
Ethane
0.993
2.327
3.710
4.713
5.473

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201021.b\027.D
Lab Smp Id: HS20100719-06 Client Smp ID: HS20100719-06
Inj Date : 21-OCT-2020 15:52
Operator : PL Inst ID: FID-4.i
Smp Info : HS20100719-06;HS20100719-06
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201021.b\RSKNI3.m
Meth Date : 01-Dec-2020 12:04 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 27
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	0.460	0.466	-0.006	1331438	1365.59	1365.588(A)
2 Ethene	0.693	0.706	-0.013	11203	19.1256	19.125(M)

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\027.D

Date : 21-OCT-2020 15:52

Client ID: HS20100719-06

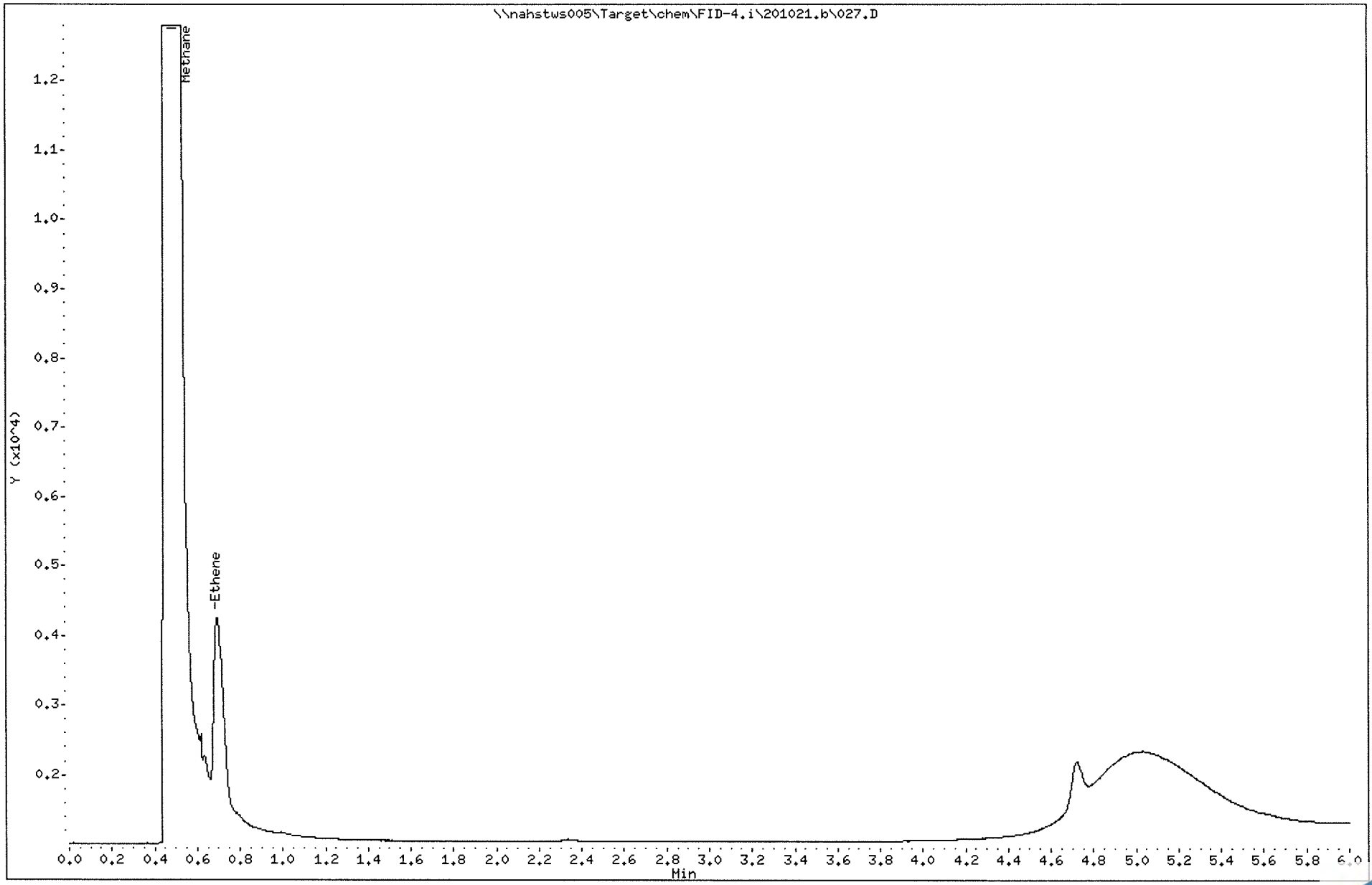
Instrument: FID-4.i

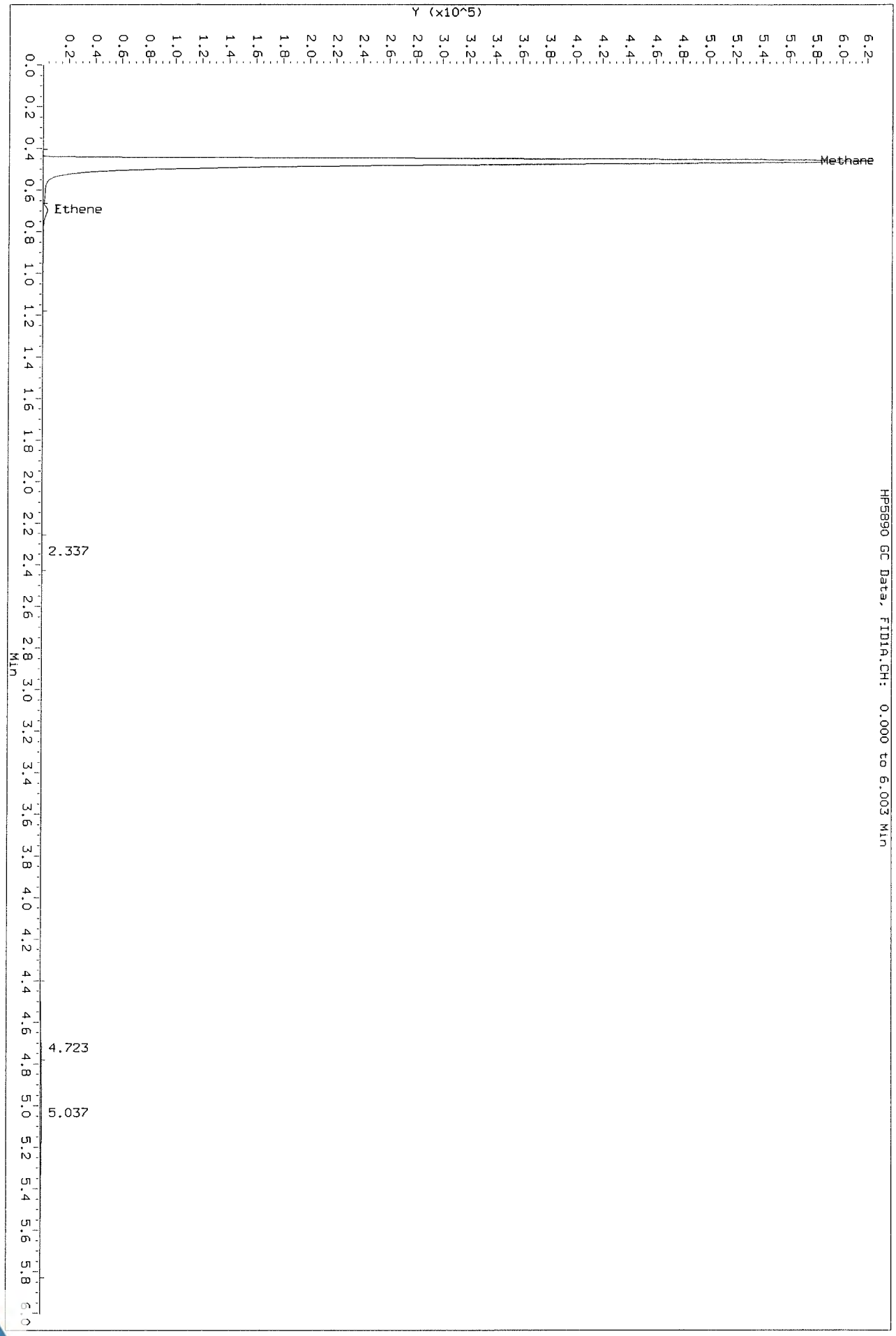
Sample Info: HS20100719-06;HS20100719-06

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53

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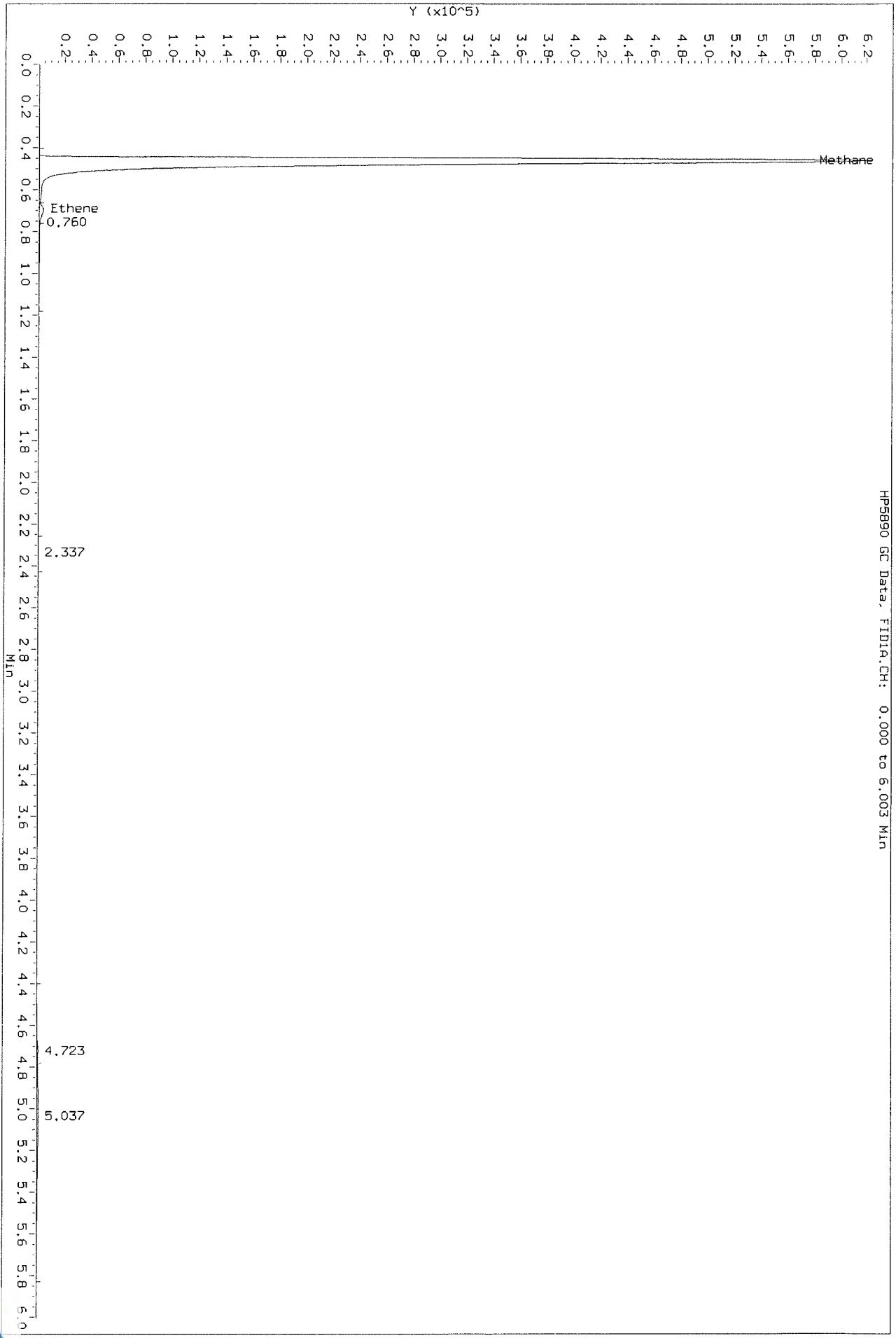
Injection Date: 21-OCT-2020 15:52
Instrument: FID-4.i
Client Sample ID: HS20100719-06
HP5890 GC Data, FID1A.CH: 0.000 to 6.003 Min
Y (x10^5)
Methane
Ethene
2.337
4.723
5.037
Min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Injection Date: 21-OCT-2020 15:52
Instrument: FID-4.i
Client Sample ID: HS20100719-06
HP5890 GC Data, FID1A.CH: 0.000 to 6.003 Min
Y (x10^5)
Min
Methane
Ethene
0.760
2.337
4.723
5.037

Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\029.D Page 1
Report Date: 01-Dec-2020 12:04

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201021.b\029.D
Lab Smp Id: HS20100719-01 Client Smp ID: HS20100719-01
Inj Date : 21-OCT-2020 16:08
Operator : PL Inst ID: FID-4.i
Smp Info : HS20100719-01;HS20100719-01
Misc Info : ;1;0;20
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201021.b\RSKNI3.m
Meth Date : 01-Dec-2020 12:04 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 29
Dil Factor: 20.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.470	0.466	0.004	13333	13.6750	273.499(M)

QC Flag Legend

M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\029.D

Date : 21-OCT-2020 16:08

Client ID: HS20100719-01

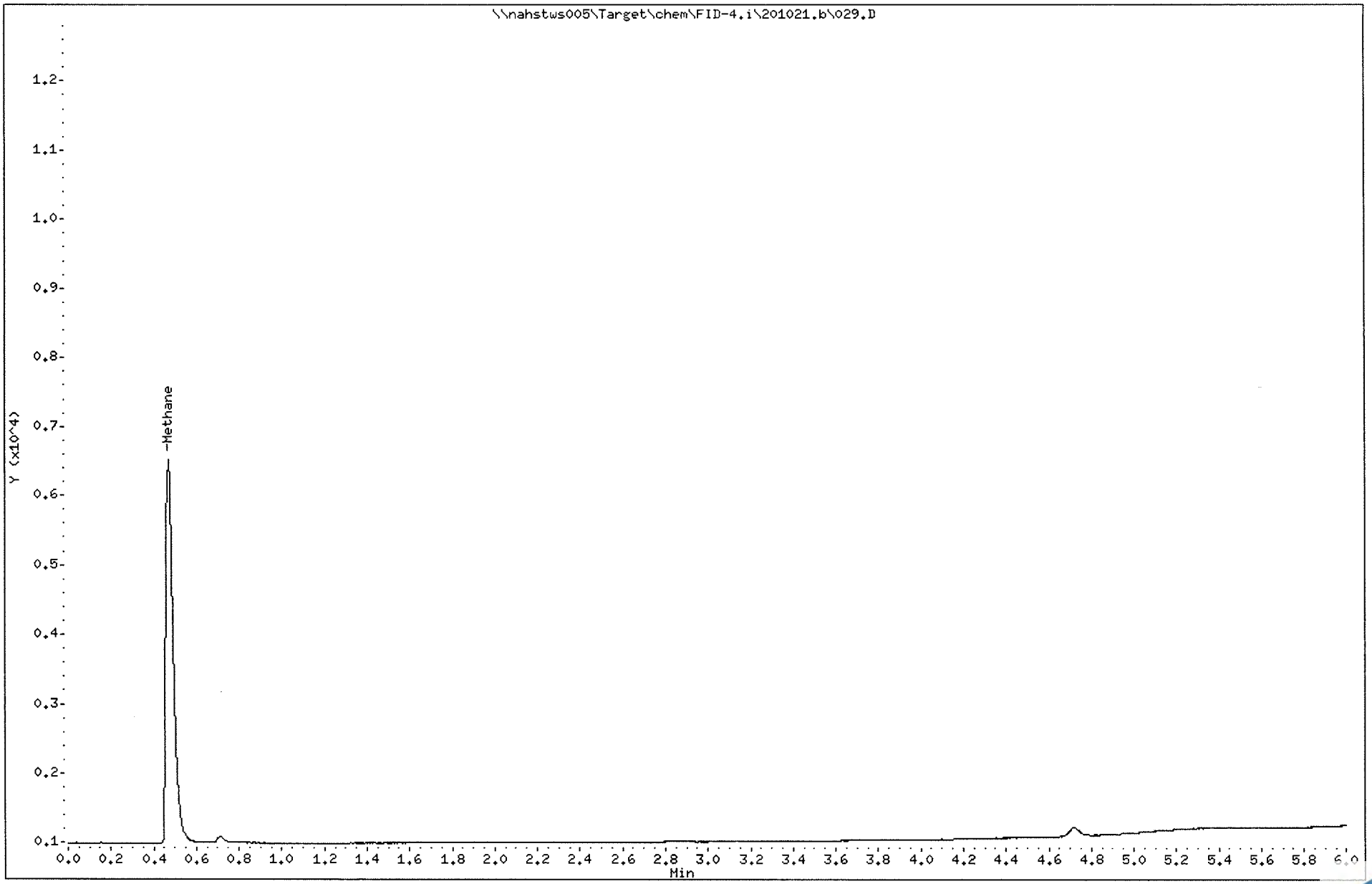
Instrument: FID-4.i

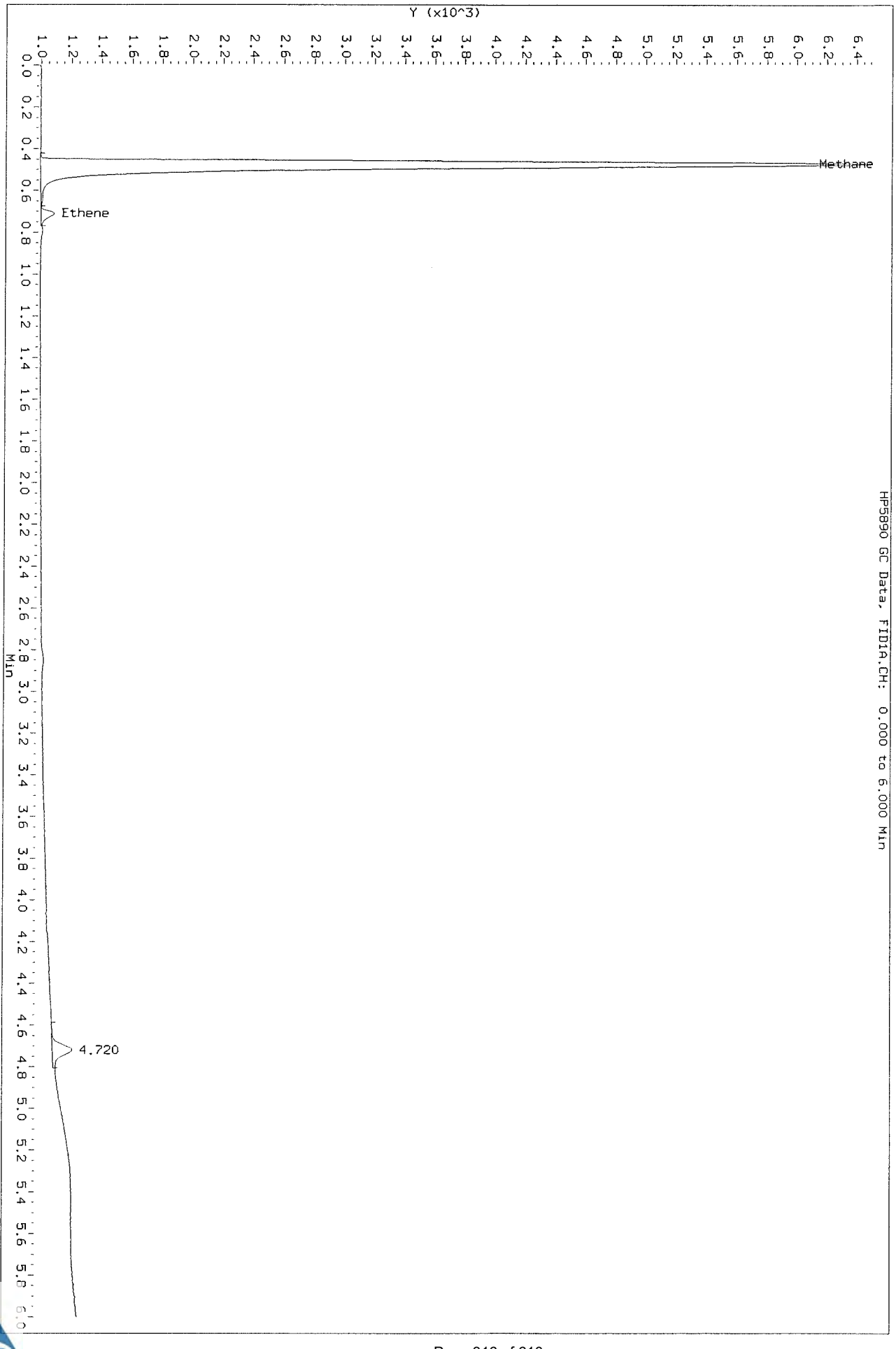
Sample Info: HS20100719-01;HS20100719-01

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53

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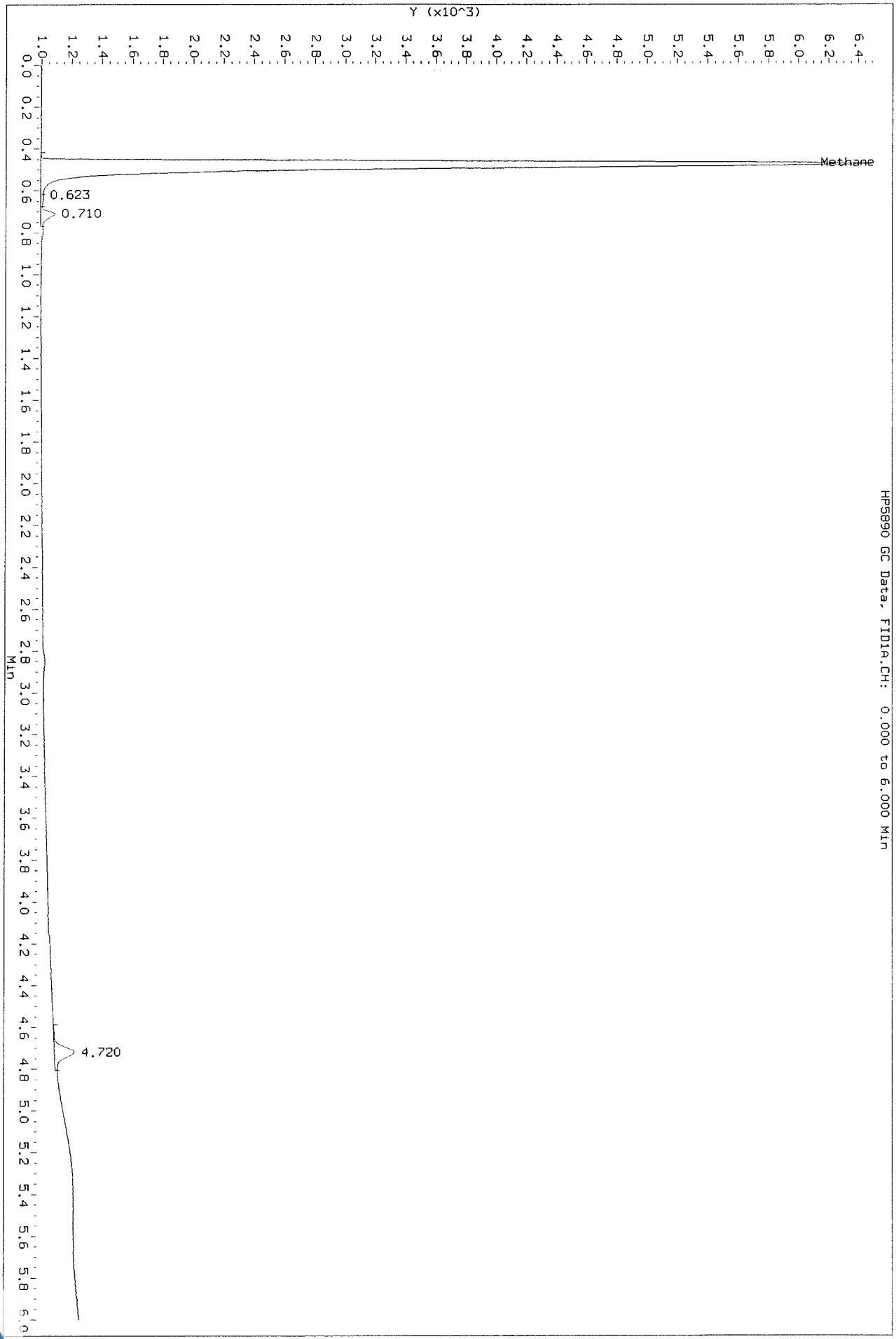
Injection Date: 21-OCT-2020 16:08
Instrument: FID-4.i
Client Sample ID: HS20100719-01
HP5890 GC Data, FID1A.CH: 0.000 to 6.000 Min
Y (x10^3)
Min
Methane
Ethene
4.720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Injection Date: 21-OCT-2020 16:08
Instrument: FID-4.i
Client Sample ID: HS201007I9-01
HP5890 GC Data, FID1A.CH: 0.000 to 6.000 Min
Y (x10^3)
Min
Methane
0.623
0.710
4.720

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201021.b\030.D
Lab Smp Id: HS20100719-02 Client Smp ID: HS20100719-02
Inj Date : 21-OCT-2020 16:17
Operator : PL Inst ID: FID-4.i
Smp Info : HS20100719-02;HS20100719-02
Misc Info : ;1;0;10
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201021.b\RSKNI3.m
Meth Date : 01-Dec-2020 12:04 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 30
Dil Factor: 10.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.473	0.466	0.007	9444	9.68623	96.862(M)

QC Flag Legend

M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\030.D

Date : 21-OCT-2020 16:17

Client ID: HS20100719-02

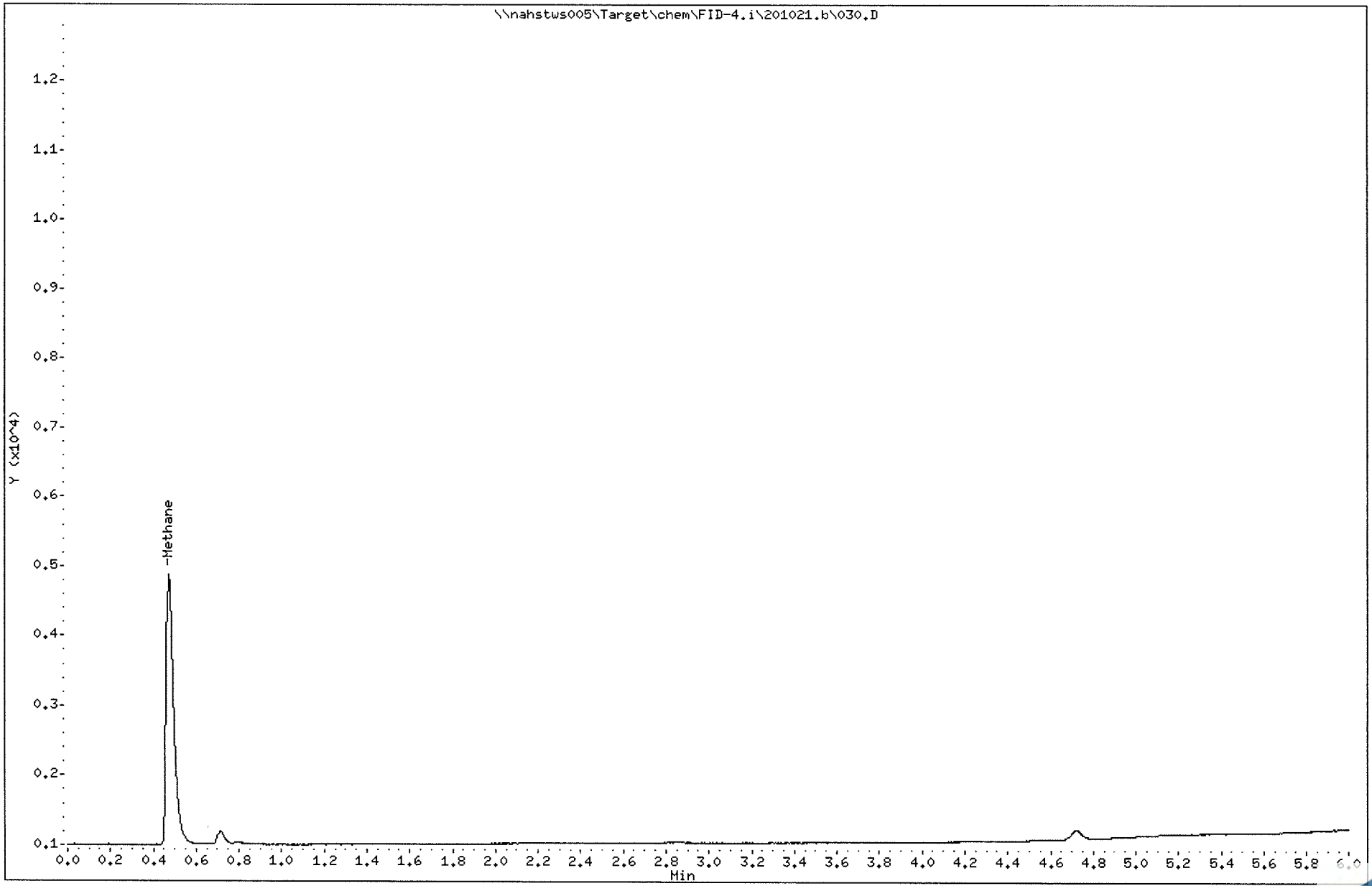
Instrument: FID-4.i

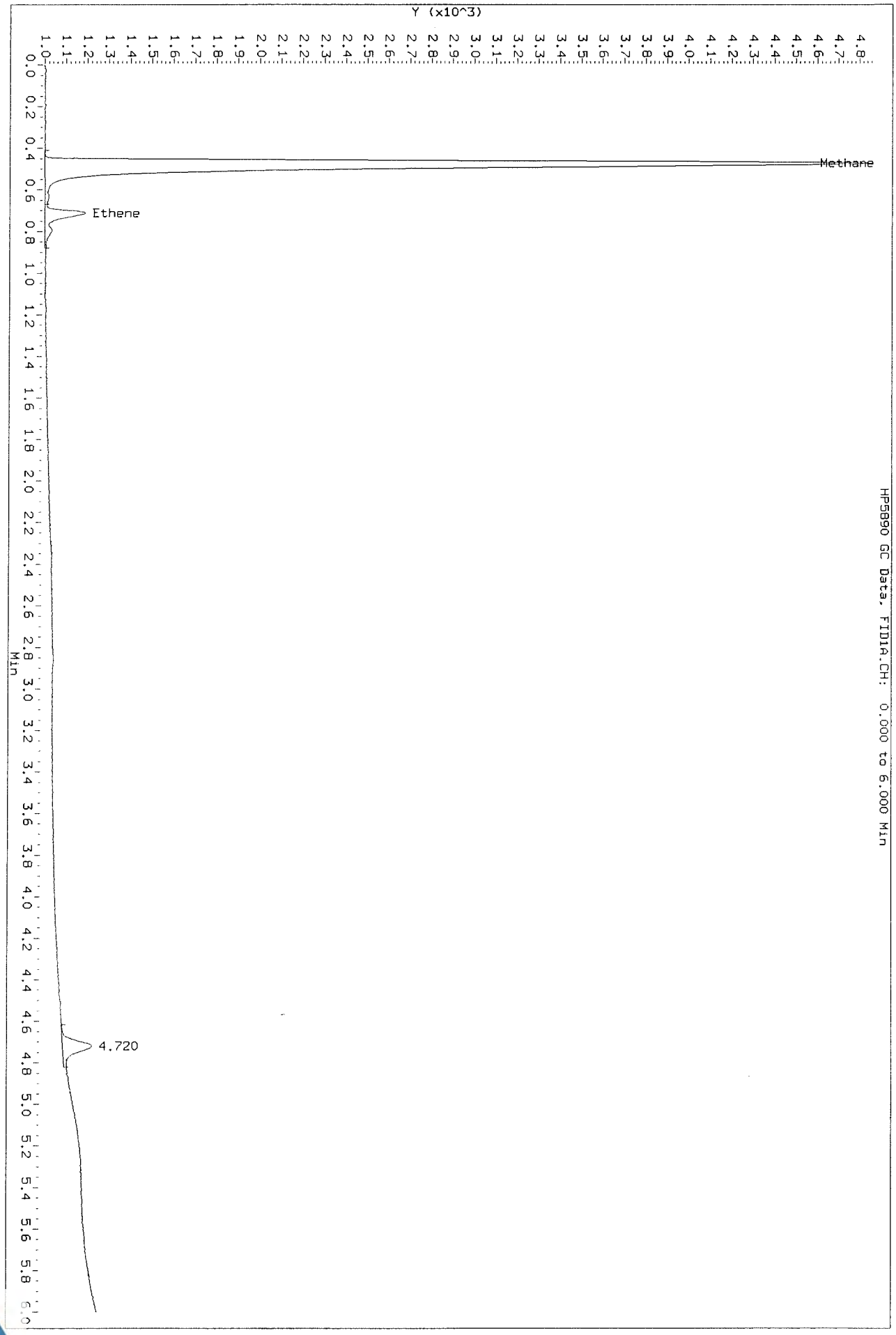
Sample Info: HS20100719-02;HS20100719-02

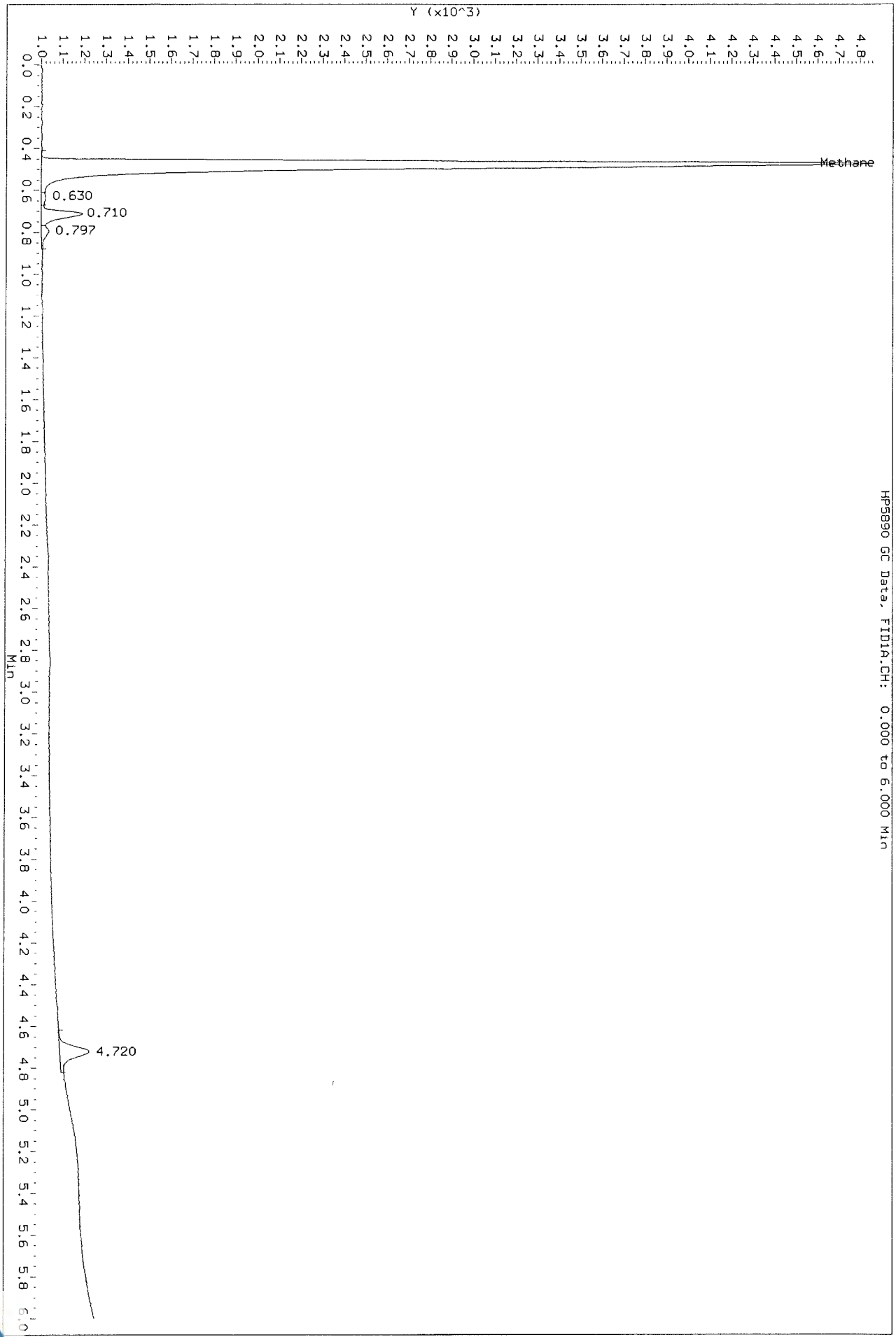
Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53




Data File: \\nahstws005\Target\Chem\FID-4.i\201021.b\before\030.D
Injection Date: 21-OCT-2020 16:17
Instrument: FID-4.i
Client Sample ID: HS20100719-02
HP5890 GC Data, FIDiA.CH: 0.000 to 6.000 Min
Y (x10^3)
Min
Methane
Ethene
4.720


Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\030.D
Injection Date: 21-OCT-2020 16:17
Instrument: FID-4.i
Client Sample ID: HS20100719-02
HP5890 GC Data, FID1A.CH: 0.000 to 6.000 Min
Y (x10^3)
Min
Methane
0.630
0.710
0.797
4.720

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201021.b\032.D
Lab Smp Id: HS20100719-06 Client Smp ID: HS20100719-06
Inj Date : 21-OCT-2020 16:52
Operator : PL Inst ID: FID-4.i
Smp Info : HS20100719-06;HS20100719-06
Misc Info : ;1;0;50
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201021.b\RSKNI3.m
Meth Date : 01-Dec-2020 12:04 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 32
Dil Factor: 50.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	0.473	0.466	0.007	28577	29.3100	1465.498

Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\032.D

Date : 21-OCT-2020 16:52

Client ID: HS20100719-06

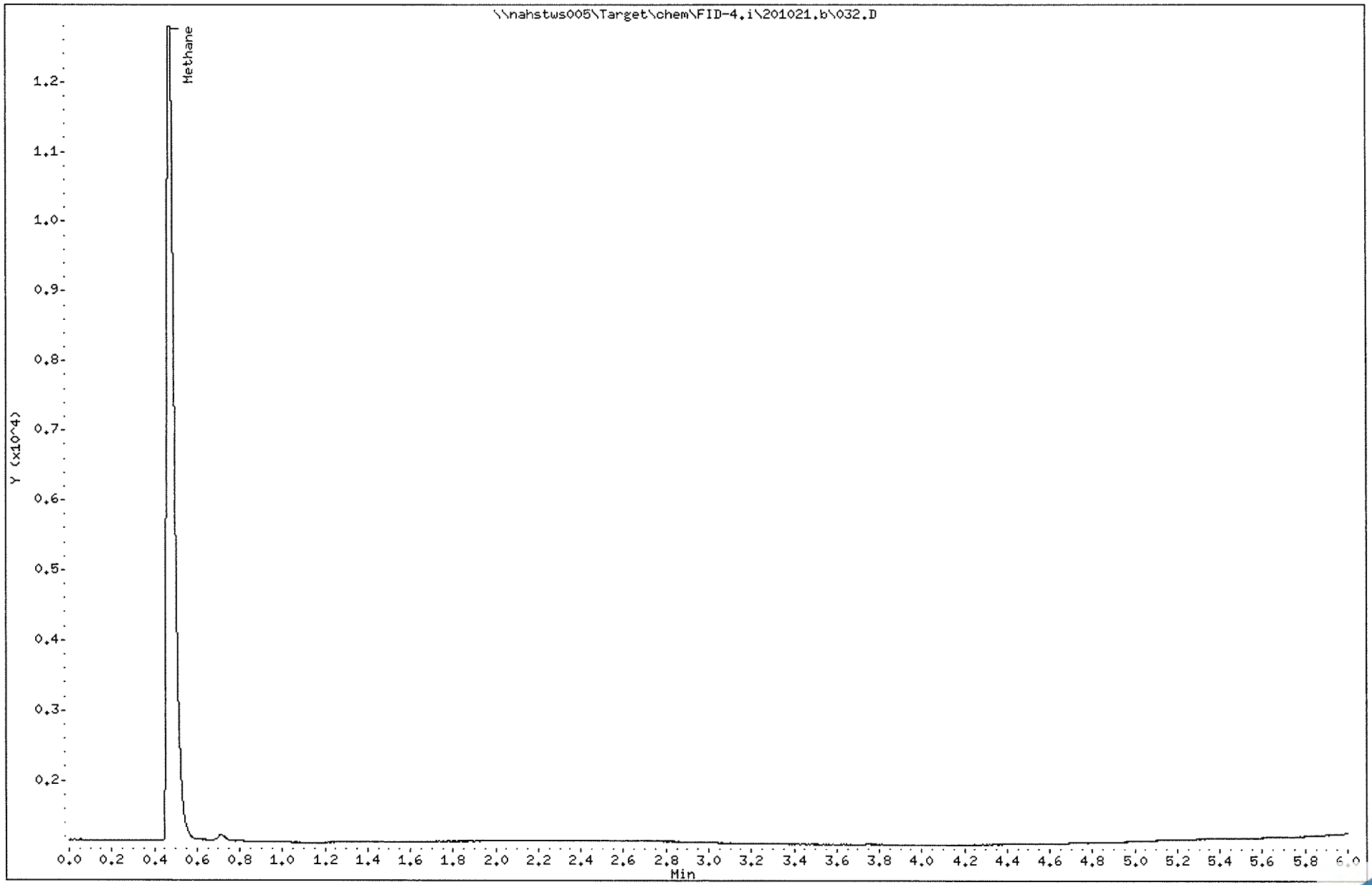
Instrument: FID-4.i

Sample Info: HS20100719-06;HS20100719-06

Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201021.b\033.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 21-OCT-2020 17:03
Operator : PL Inst ID: FID-4.i
Smp Info : RSK-CCV;RSK-CCV;2;4
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201021.b\RSKNI3.m
Meth Date : 01-Dec-2020 12:04 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 33 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

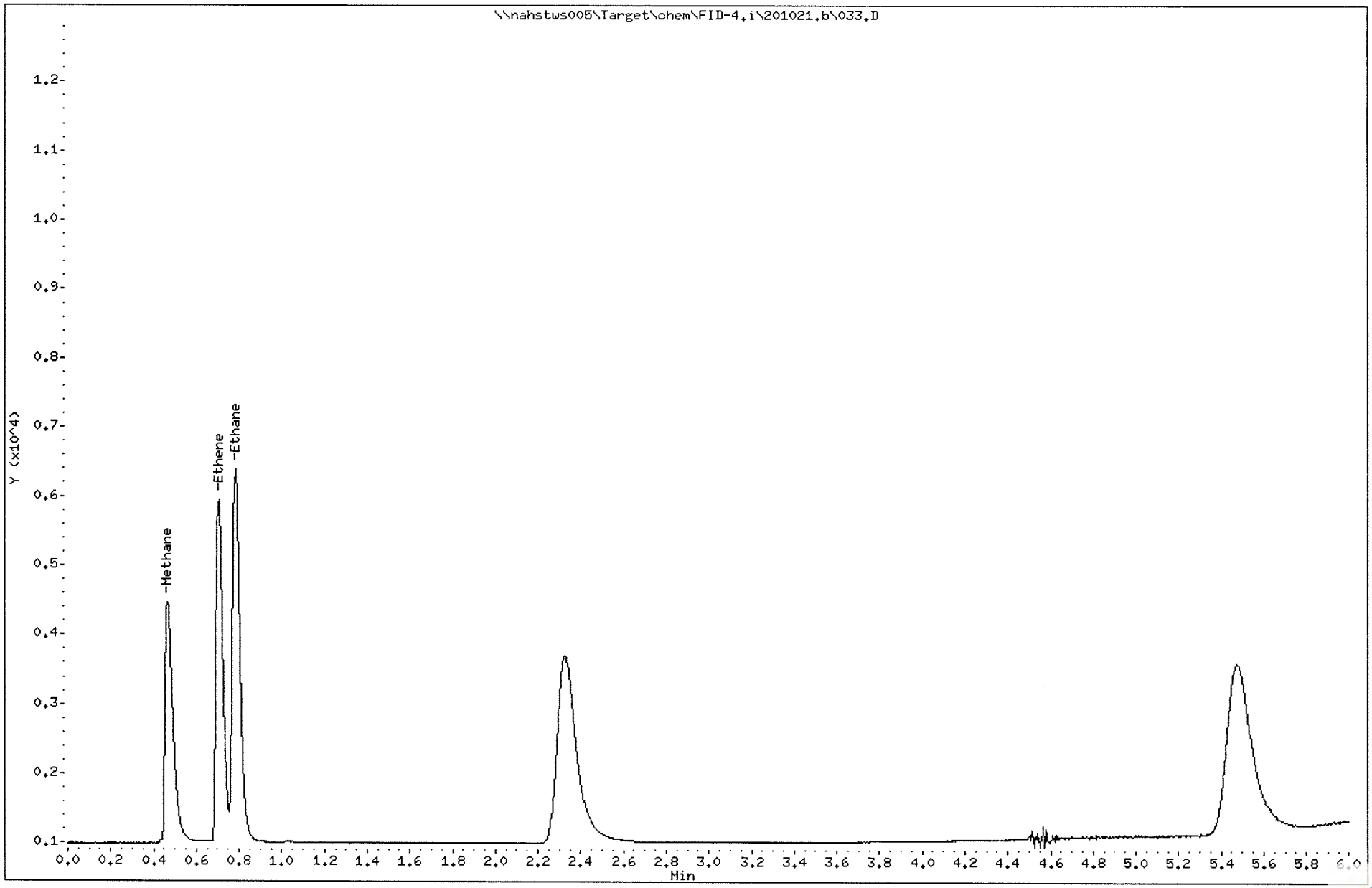
					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	0.466	0.466	0.000	8993	9.64700	9.223
2 Ethene	0.706	0.706	0.000	10937	16.8500	18.671
3 Ethane	0.783	0.783	0.000	13255	18.0430	18.422

Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\033.D
Date : 21-OCT-2020 17:03
Client ID: RSK-CCV
Sample Info: RSK-CCV;RSK-CCV;2;4

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\034.D Page 1
Report Date: 01-Dec-2020 12:04

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201021.b\034.D
Lab Smp Id: HS20100719-05 Client Smp ID: HS20100719-05
Inj Date : 21-OCT-2020 17:13
Operator : PL Inst ID: FID-4.i
Smp Info : HS20100719-05;HS20100719-05
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201021.b\RSKNI3.m
Meth Date : 01-Dec-2020 12:04 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 34
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 Methane	0.470	0.466	0.004	763370	782.950	782.949(A)
2 Ethene	0.706	0.706	0.000	33800	57.7028	57.702(M)
3 Ethane	0.783	0.783	0.000	3583	4.97992	4.979(M)

QC Flag Legend

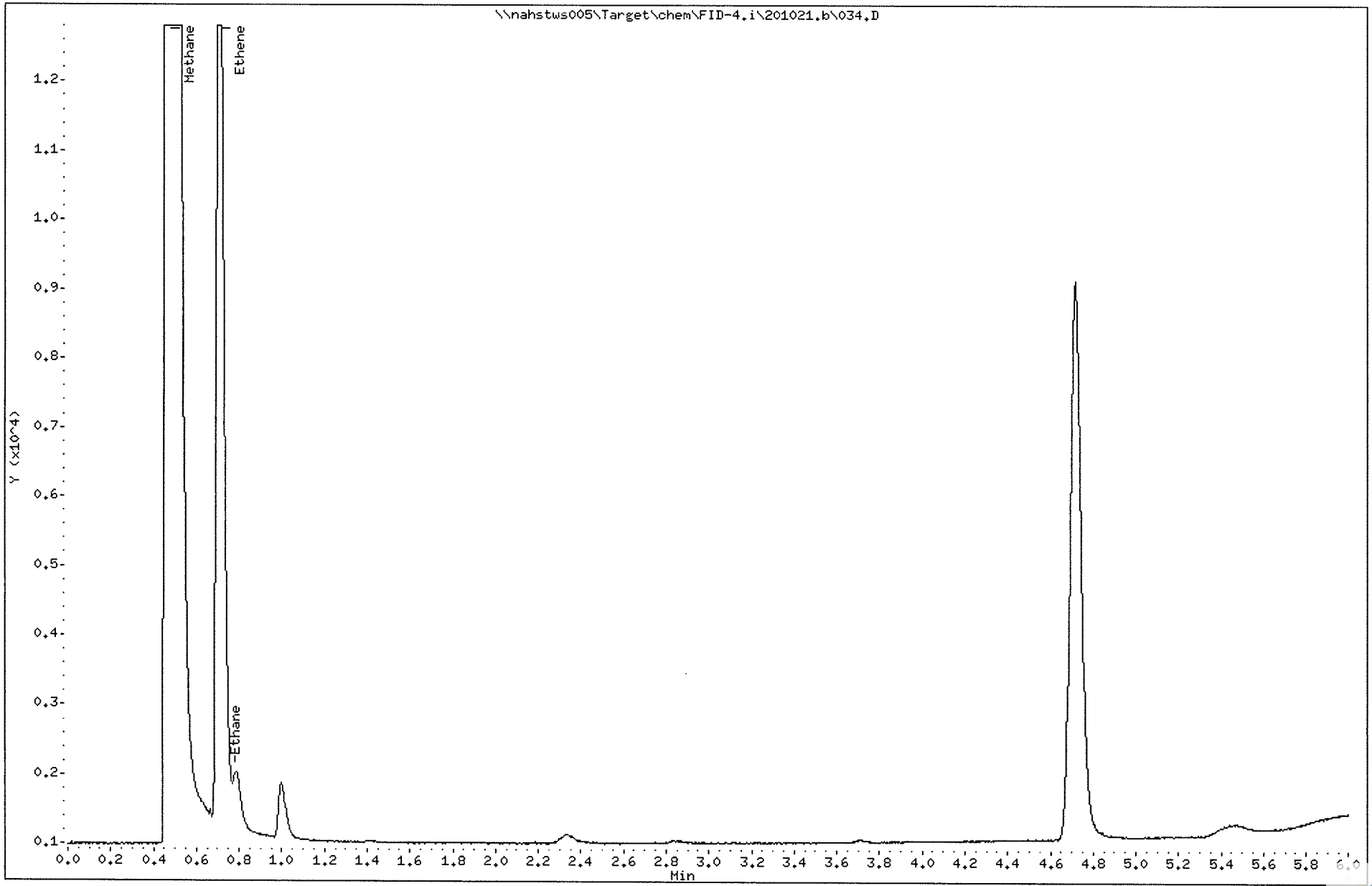
A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.

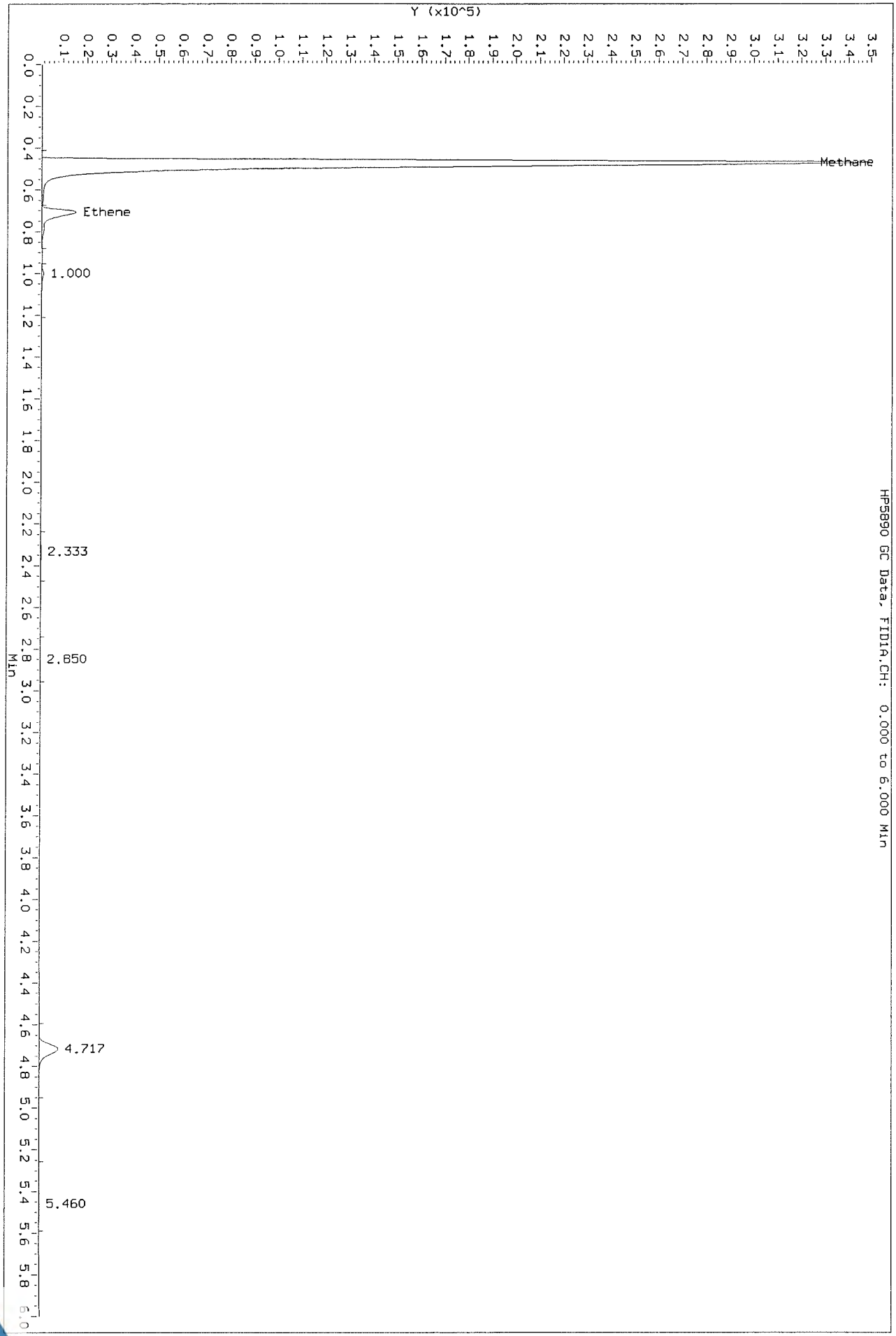
Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\034.D
Date : 21-OCT-2020 17:13
Client ID: HS20100719-05
Sample Info: HS20100719-05;HS20100719-05

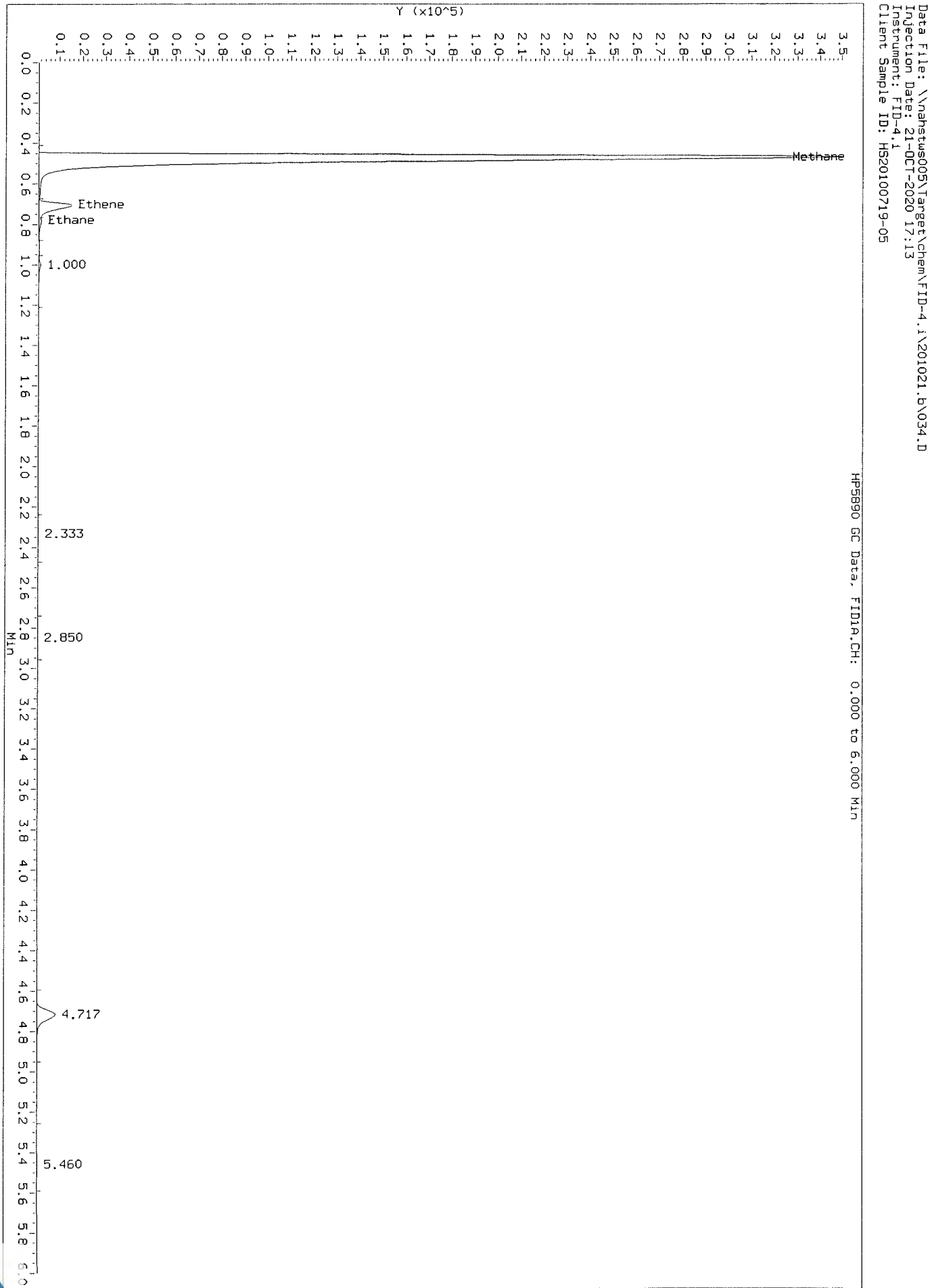
Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53




Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\before\034.D
Injection Date: 21-OCT-2020 17:13
Instrument: FID-4.i
Client Sample ID: HS20100719-05
HP5890 GC Data, FID1A.CH: 0.000 to 6.000 Min
Y (x10^5)
Min
Methane
Ethene
1.000
2.333
2.850
4.717
5.460


Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\034.D
Injection Date: 21-OCT-2020 17:13
Instrument: FID-4.i
Client Sample ID: HS20100719-05
HP5890 GC Data, FID1A.CH: 0.000 to 6.000 Min
Y (x10^5)
Min
Methane
Ethene
Ethane
1.000
2.333
2.850
4.717
5.460

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201021.b\035.D
Lab Smp Id: HS20100719-05 Client Smp ID: HS20100719-05
Inj Date : 21-OCT-2020 17:27
Operator : PL Inst ID: FID-4.i
Smp Info : HS20100719-05;HS20100719-05
Misc Info : ;1;0;50
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201021.b\RSKNI3.m
Meth Date : 01-Dec-2020 12:04 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 35
Dil Factor: 50.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 Methane	0.470	0.466	0.004	13359	13.7016	685.082
2 Ethene	0.706	0.706	0.000	609	1.03967	51.983(M)

QC Flag Legend

M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\035.D

Date : 21-OCT-2020 17:27

Client ID: HS20100719-05

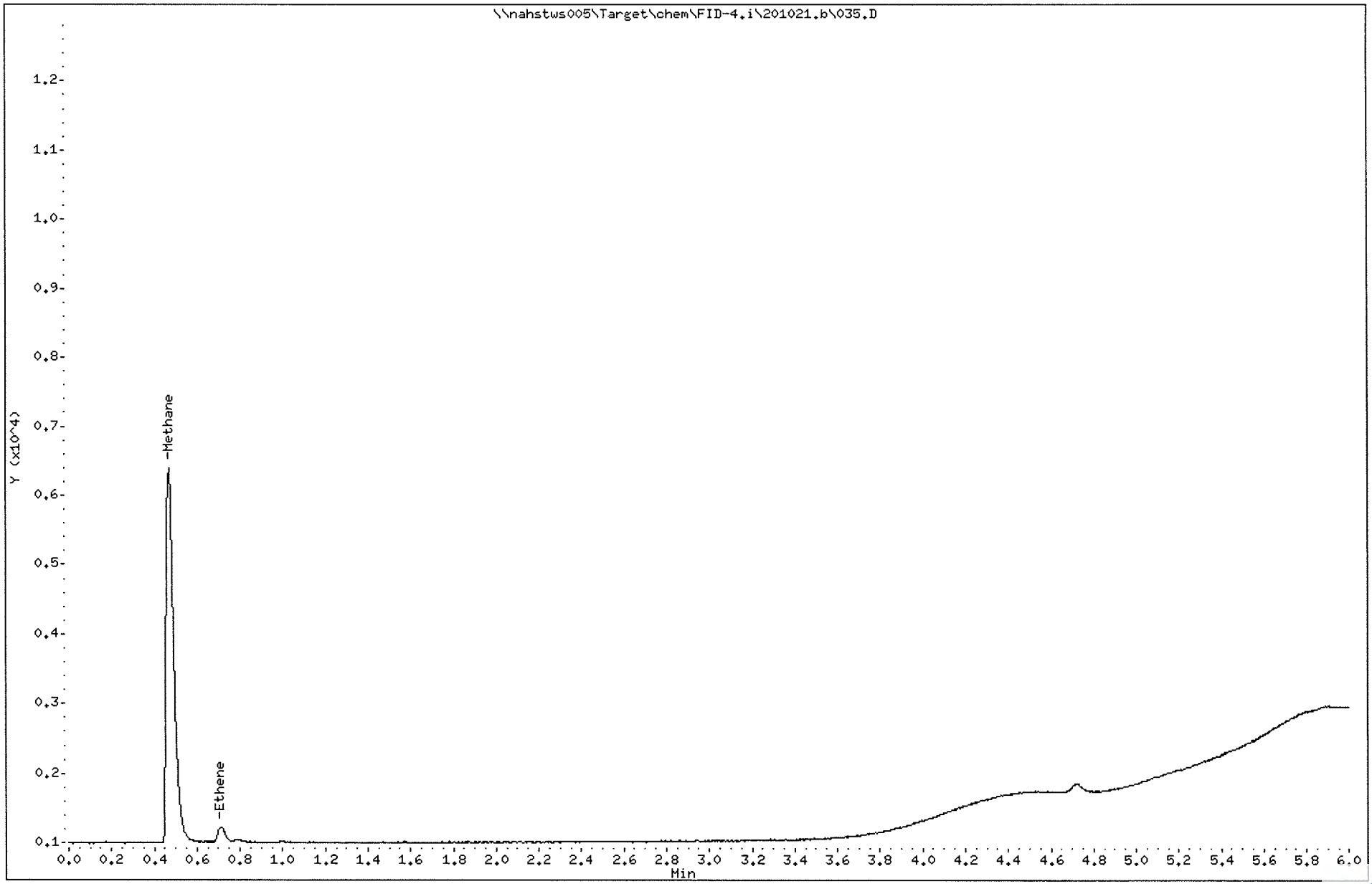
Instrument: FID-4.i

Sample Info: HS20100719-05;HS20100719-05

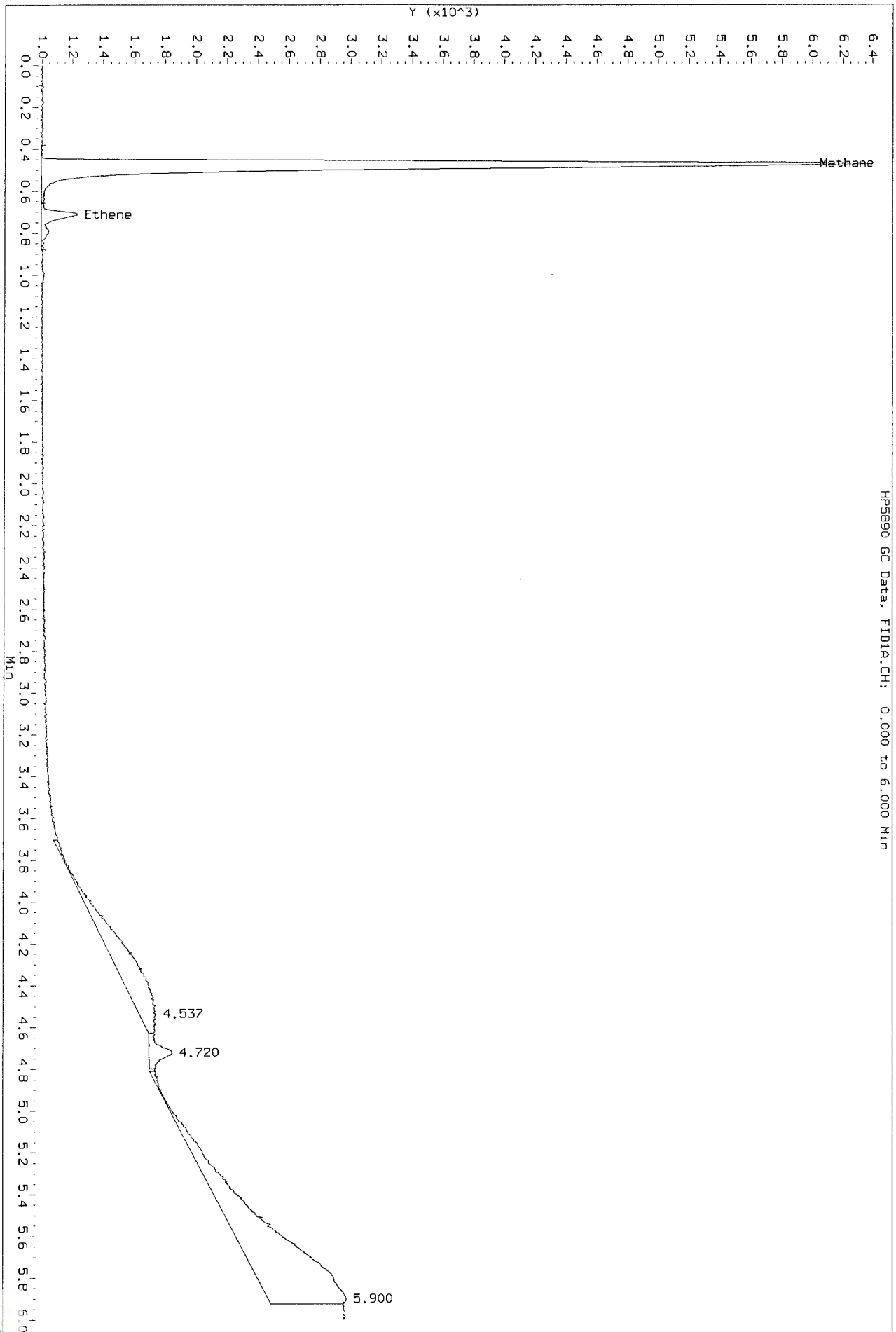
Operator: PL

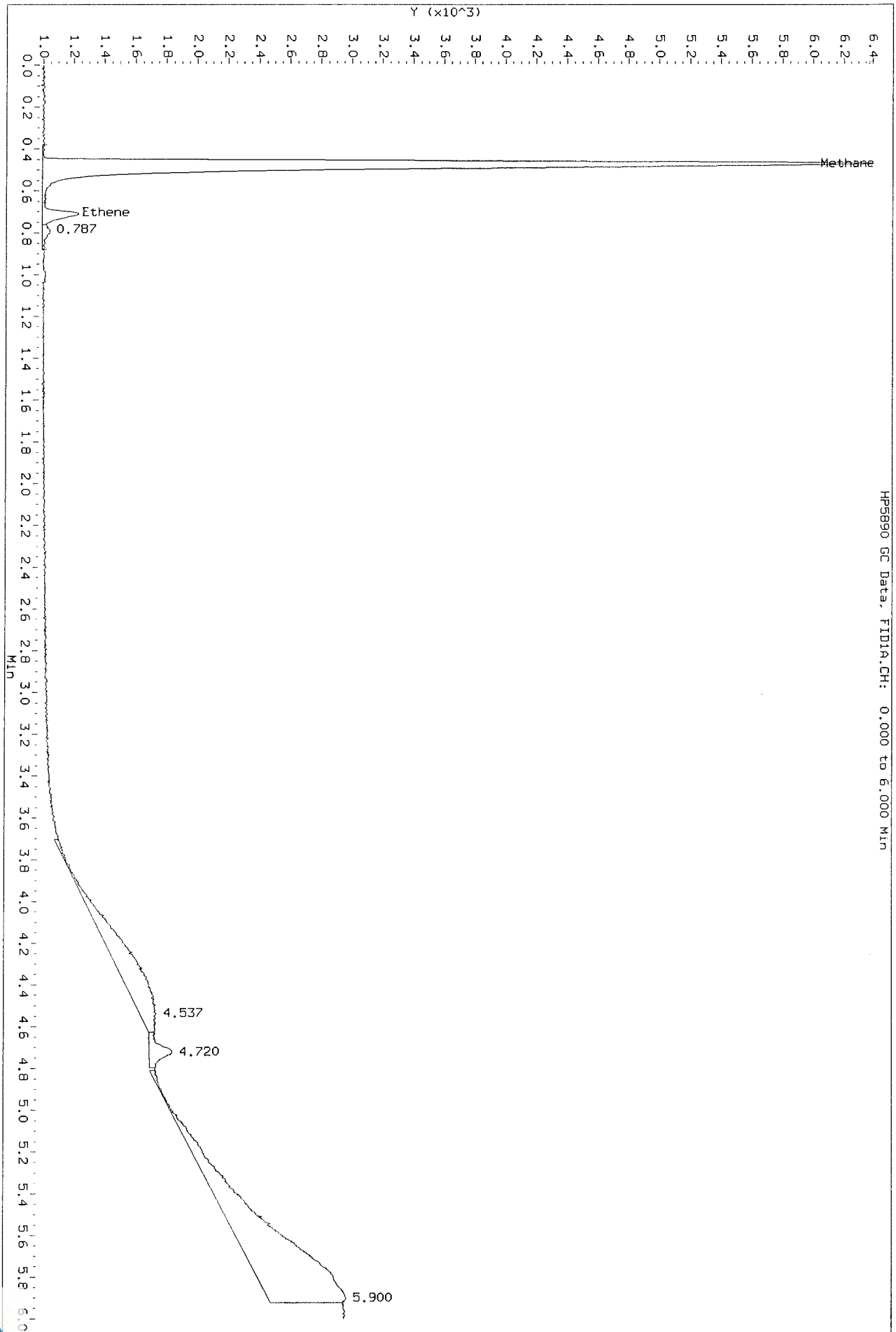
Column phase: Rtx-PLOT

Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\before\035.D
Injection Date: 21-OCT-2020 17:27
Instrument: FID-4.i
Client Sample ID: HS20100719-05




Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\035.D
Injection Date: 21-OCT-2020 17:27
Instrument: FID-4.i
Client Sample ID: HS20100719-05
HP5890 GC Data, FID1A.CH: 0.000 to 6.000 Min
Y (x10^3)
Min
Methane
Ethene
0.787
4.537
4.720
5.900

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201021.b\037.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 21-OCT-2020 17:48
Operator : PL Inst ID: FID-4.i
Smp Info : RSK-CCV;RSK-CCV;2;4
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201021.b\RSKNI3.m
Meth Date : 01-Dec-2020 12:04 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 37 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	0.466	0.466	0.000	9487	9.64700	9.730
2 Ethene	0.703	0.703	0.000	10464	16.8500	17.863
3 Ethane	0.783	0.783	0.000	13198	18.0430	18.343(M)

QC Flag Legend

M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\037.D

Date : 21-OCT-2020 17:48

Client ID: RSK-CCV

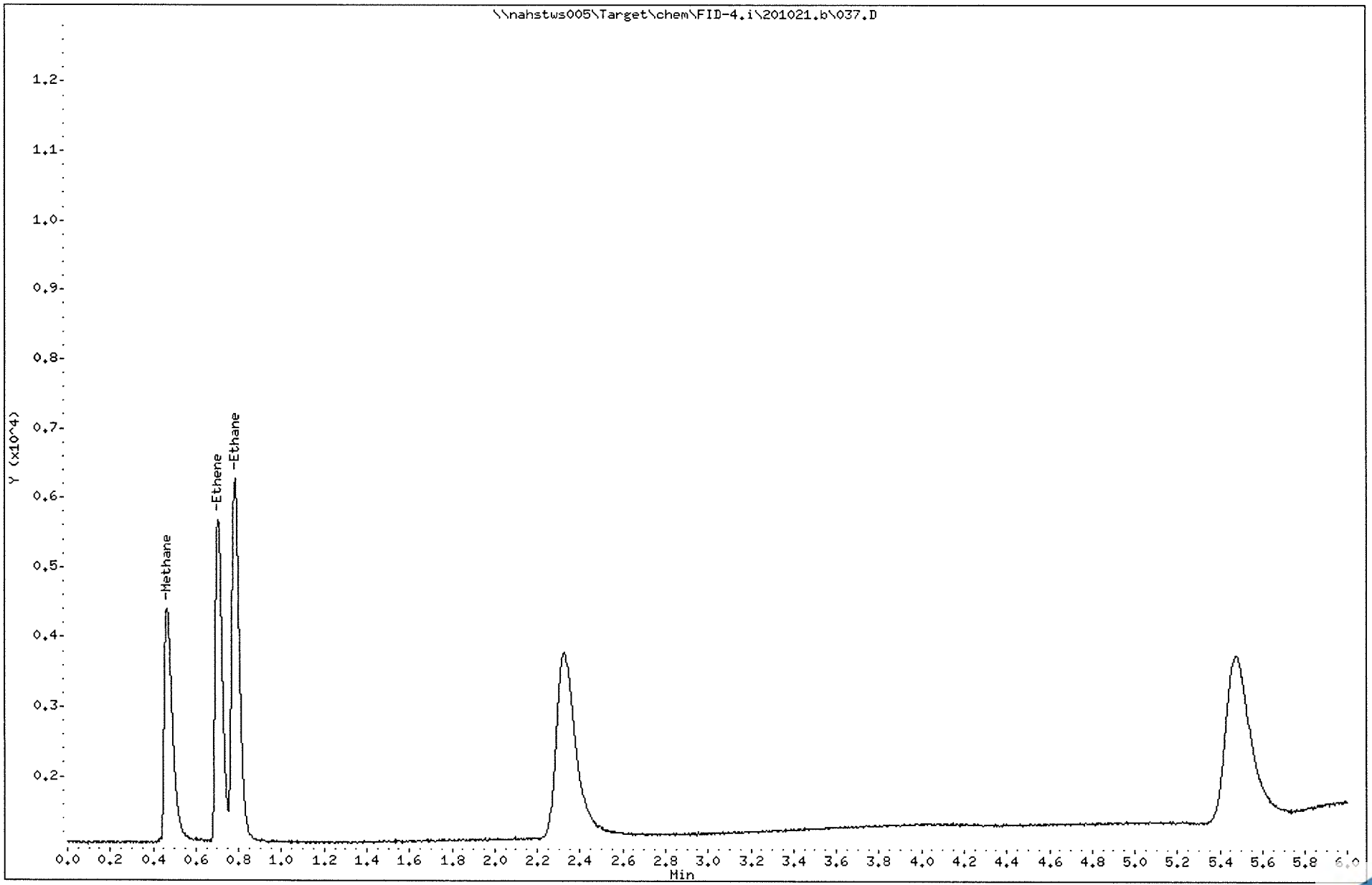
Instrument: FID-4.i

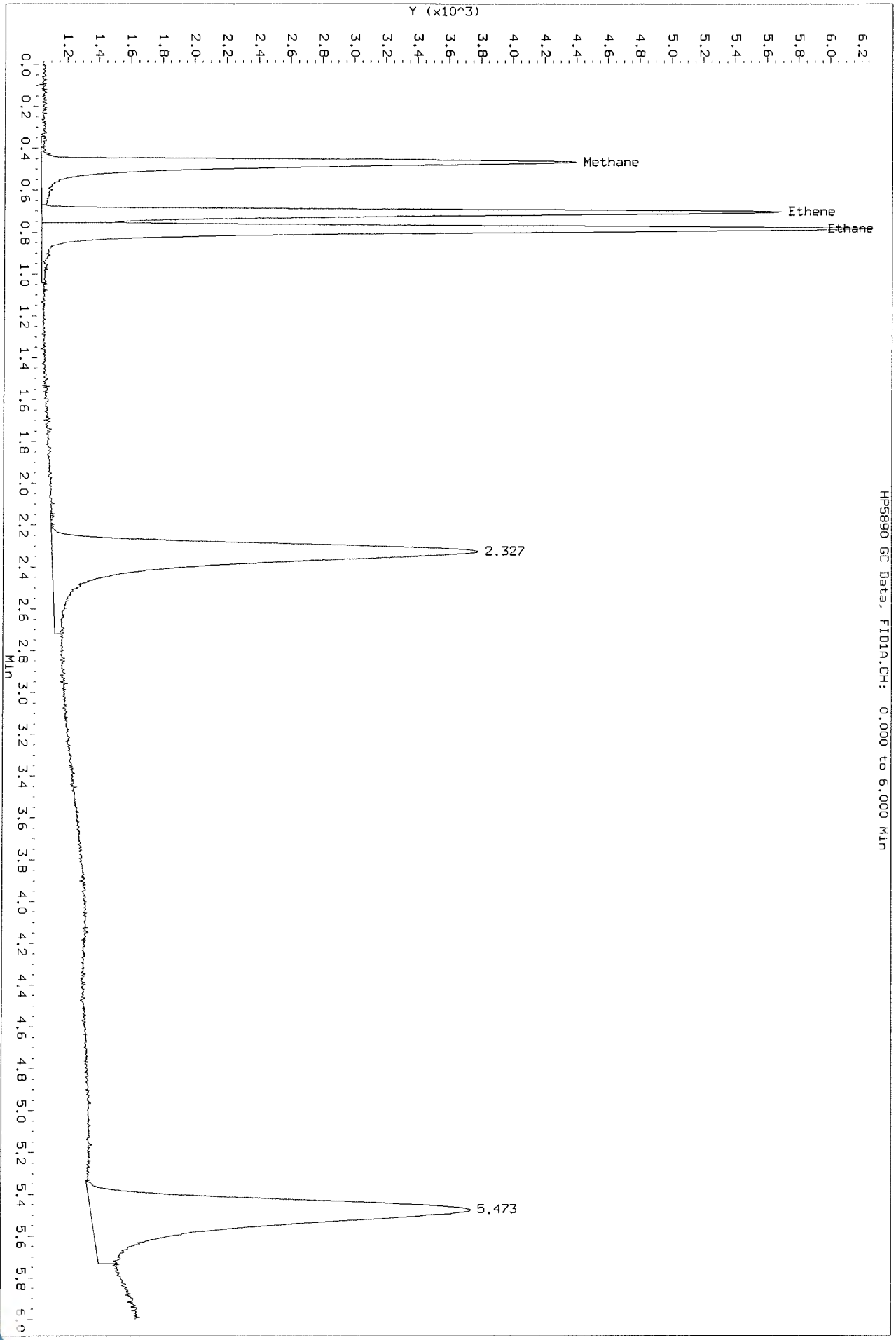
Sample Info: RSK-CCV;RSK-CCV;2;4

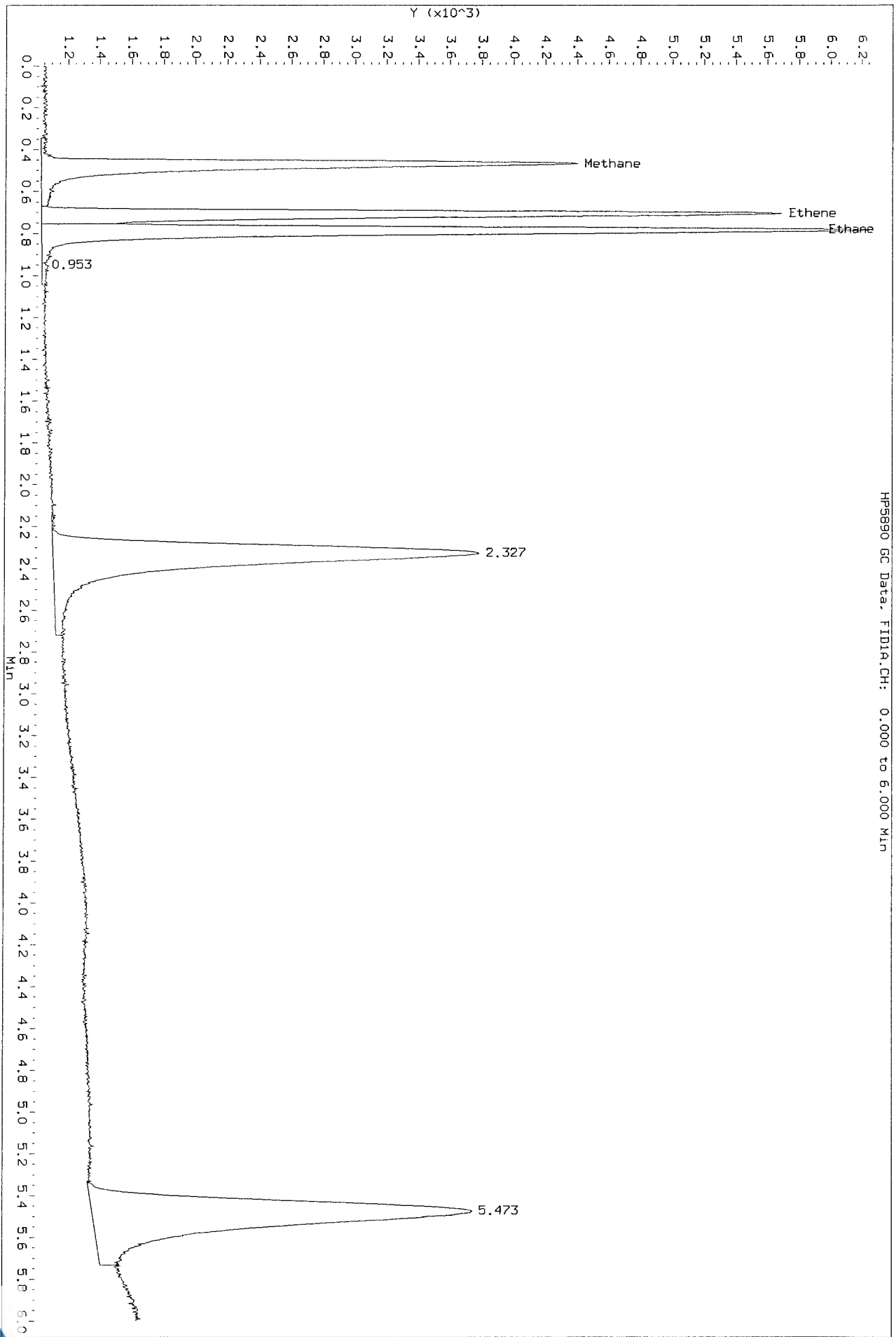
Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



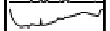
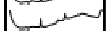
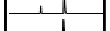
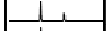

Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\before\037.D
Injection Date: 21-OCT-2020 17:48
Instrument: FID-4.i
Client Sample ID: RSK-CCV
HP5890 GC Data. FID1A.CH: 0.000 to 6.000 Min
Y (x10^3)
Min
Methane
Ethene
Ethane
2.327
5.473


Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\037.D
Injection Date: 21-OCT-2020 17:48
Instrument: FID-4.i
Client Sample ID: RSK-CCV
HP5890 GC Data, FID1A.CH: 0.000 to 6.000 Min
Y (x10^3)
Min
Methane
Ethene
Ethane
0.953
2.327
5.473

HS20100719 Wet Chem Raw Data (9056_anions_W)

ALS WO# HS20100719

Sequence: 101320
Last Update Operator: alshs.nouser

CD	Name	Comment	Type	Position	Dilution	Level	Instrument Method	Processing Method	me	Status
	STD1		Calibration	BD1	1.00	1	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD2		Calibration	BD2	1.00	2	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD3		Calibration	BD3	1.00	3	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD4		Calibration	BD4	1.00	4	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD5		Calibration	BD5	1.00	5	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD6		Calibration	BD6	1.00	6	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	ICV		Unknown	BD7	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	ICB		Unknown	BD8	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV1		Unknown	BA4	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA5	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100719-01DF5		Unknown	RC1	5.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100719-02DF5		Unknown	RC2	5.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100719-03		Unknown	RC3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100719-04		Unknown	RC4	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100719-05		Unknown	RC5	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100719-06DF5		Unknown	RC6	5.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV		Unknown	BA2	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	MBLK-101320		Unknown	BA7	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	LCS-101320		Unknown	BB1	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100719-05MS		Unknown	RD6	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100719-05MSD		Unknown	RD7	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV1		Unknown	BA4	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA5	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100719-01DF50		Unknown	RE4	50.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100719-02DF50		Unknown	RE5	50.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV		Unknown	BA2	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100719-03DF20		Unknown	RE6	20.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100719-04DF10		Unknown	RE7	10.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV1		Unknown	BA4	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA5	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished

Sequence: 101320
Last Update Operator: alshs.nouser

Inject Time
8/11/2020 10:46:45 AM -05:00
8/11/2020 11:04:45 AM -05:00
8/11/2020 11:22:45 AM -05:00
8/11/2020 11:40:48 AM -05:00
8/11/2020 11:58:48 AM -05:00
8/11/2020 12:16:48 PM -05:00
8/11/2020 12:34:48 PM -05:00
8/11/2020 12:52:50 PM -05:00
10/14/2020 11:02:36 PM -05:00
10/14/2020 11:20:38 PM -05:00
10/14/2020 11:38:39 PM -05:00
10/14/2020 11:56:39 PM -05:00
10/15/2020 12:14:42 AM -05:00
10/15/2020 12:32:45 AM -05:00
10/15/2020 12:50:45 AM -05:00
10/15/2020 1:08:45 AM -05:00
10/15/2020 2:38:53 AM -05:00
10/15/2020 2:56:56 AM -05:00
10/15/2020 3:50:58 AM -05:00
10/15/2020 4:09:01 AM -05:00
10/15/2020 5:21:05 AM -05:00
10/15/2020 5:39:04 AM -05:00
10/15/2020 5:57:06 AM -05:00
10/15/2020 6:15:07 AM -05:00
10/15/2020 8:57:21 AM -05:00
10/15/2020 9:15:21 AM -05:00
10/15/2020 9:33:23 AM -05:00
10/15/2020 9:51:24 AM -05:00
10/15/2020 10:09:27 AM -05:00
10/15/2020 10:27:27 AM -05:00
10/15/2020 11:03:31 AM -05:00
10/15/2020 11:21:33 AM -05:00

Sequence: 101320
Injection #6: STD6

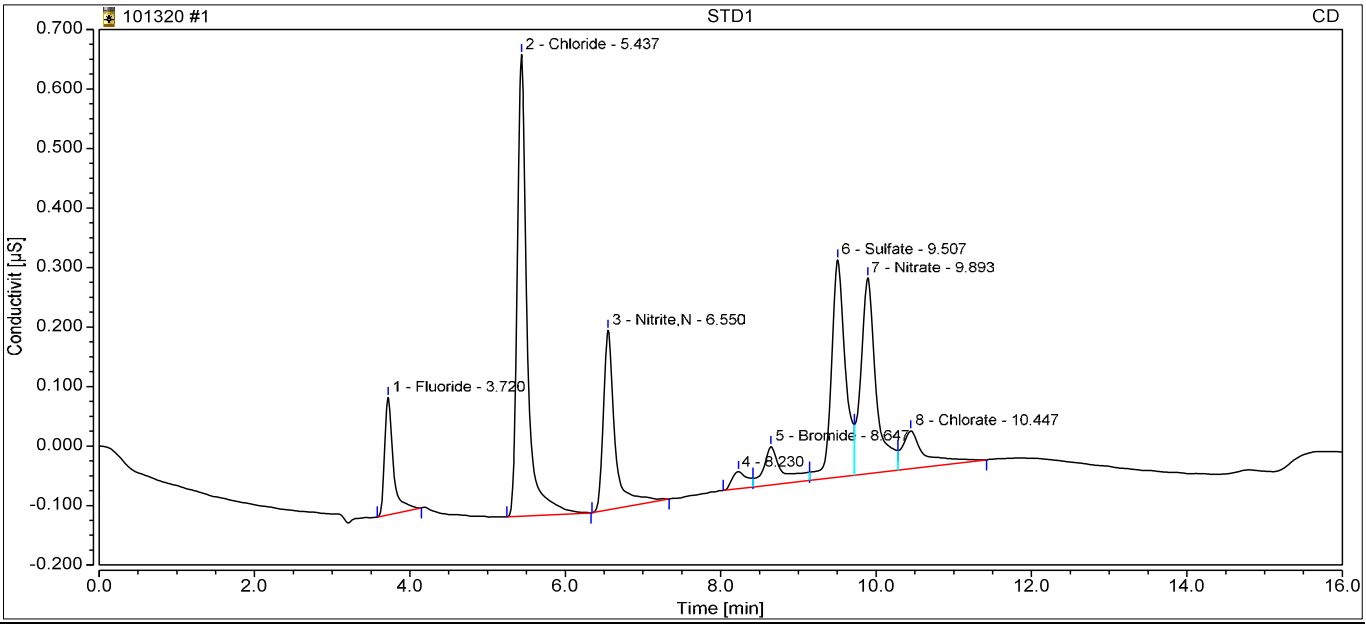
Calibration

Peak No.	Peak Name	Cal.Type	Eval.Type	Number of Points	Rel.Std.Dev. %	Coeff.of Determination	C0 (Offset)	C1 (Slope)	C2 (Curve)
1	*Fluoride*	*Lin, WithOffset, 1/*	*Area*	*6*	*17.3553*	*0.99849*	*-0.0040*	*0.3537*	*0.0000*
2	Chloride	Lin, WithOffset, 1/	Area	6	5.4804	0.99983	0.0129	0.2289	0.0000
3	Nitrite,N	Lin, WithOffset, 1/	Area	6	26.1376	0.99573	0.0186	0.4711	0.0000
5	Bromide	Lin, WithOffset, 1/	Area	6	0.9346	0.99999	0.0083	0.1008	0.0000
6	Sulfate	Lin, WithOffset, 1/	Area	6	5.2843	0.99985	-0.0019	0.1602	0.0000
7	Nitrate	Lin, WithOffset, 1/	Area	6	4.5248	0.99988	0.0144	0.6154	0.0000
8	Chlorate	Lin, WithOffset, 1/	Area	6	13.4374	0.99837	0.0139	0.1019	0.0000
10	Phosphate	Lin, WithOffset, 1/	Area	5	18.5357	0.99714	-0.0737	0.1942	0.0000
Maximum					**26.1376**	0.99999			
Minimum					0.9346	**0.99573**			

1 STD1

Sample Name:	**STD1**	*Injection Volume:*	**5.00**
Vial Number:	**BD1**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 10:46**	*Sample Weight:*	**1.0000**

Run Time:



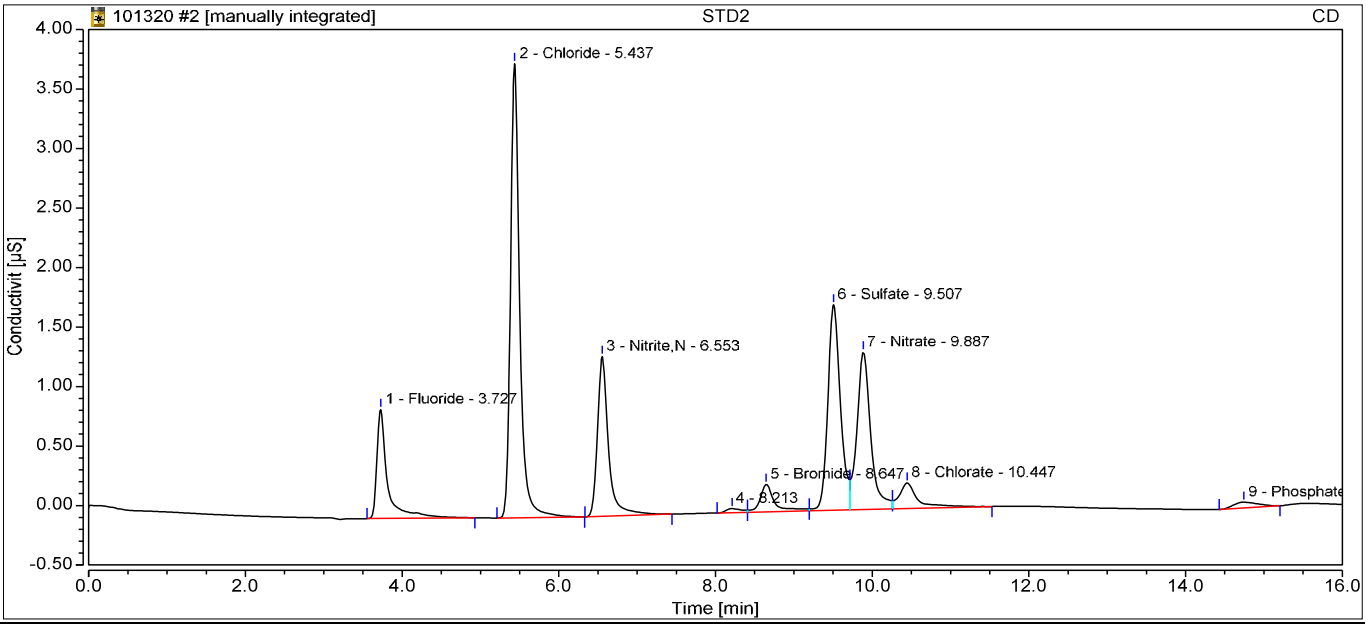
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.025	0.0833	0.0833	1.0000
2	5.44	Chloride	BMB	0.116	0.4487	0.4487	1.0000
3	6.55	Nitrite,N	BMB	0.052	0.0715	0.0715	1.0000
5	8.65	Bromide	M	0.018	0.0997	0.0997	1.0000
6	9.51	Sulfate	M	0.076	0.4861	0.4861	1.0000
7	9.89	Nitrate	M	0.075	0.0985	0.0985	1.0000
8	10.45	Chlorate	MB	0.021	0.0734	0.0734	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.384**		**1.36**	

2 STD2

Sample Name:	**STD2**	*Injection Volume:*	**5.00**
Vial Number:	**BD2**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 11:04**	*Sample Weight:*	**1.0000**

Run Time:



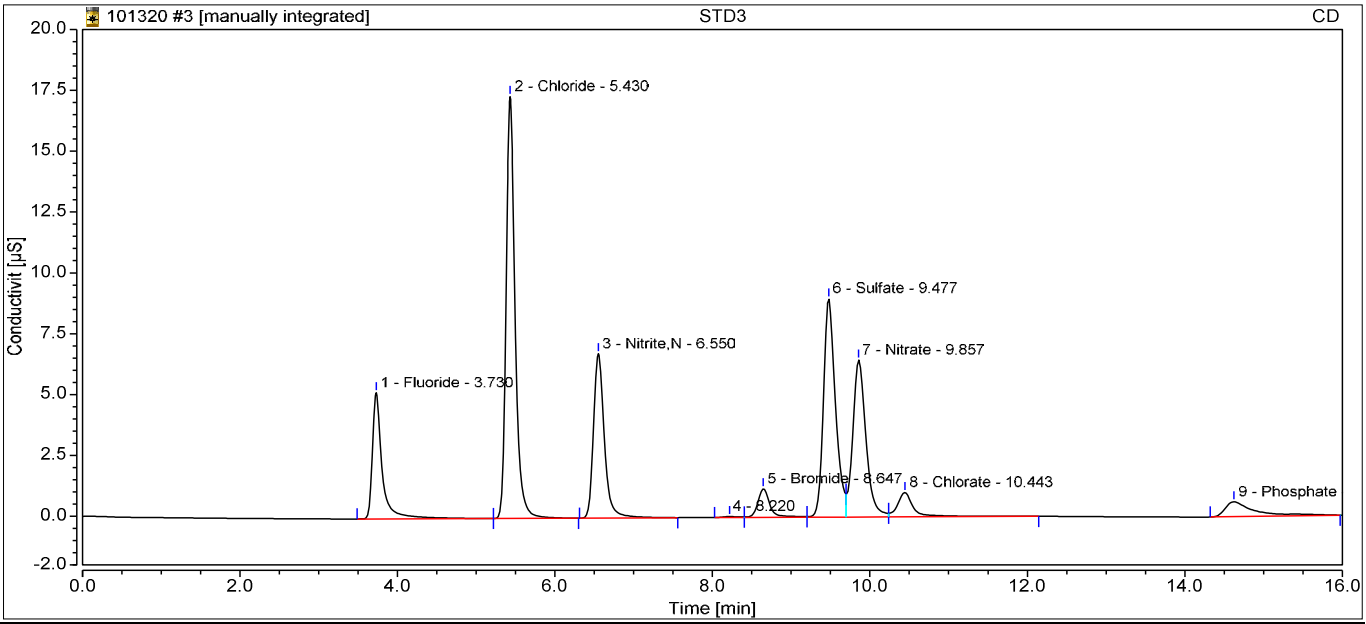
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.145	0.4204	0.4204	1.0000
2	5.44	Chloride	BMB	0.518	2.2084	2.2084	1.0000
3	6.55	Nitrite,N	BMB	0.221	0.4294	0.4294	1.0000
5	8.65	Bromide	M	0.049	0.4041	0.4041	1.0000
6	9.51	Sulfate	M	0.321	2.0151	2.0151	1.0000
7	9.89	Nitrate	M	0.270	0.4147	0.4147	1.0000
8	10.45	Chlorate	MB	0.060	0.4536	0.4536	1.0000
9	14.74	Phosphate	BMB	0.018	0.4703	0.4703	1.0000
Total:			**0.000**	**1.601**		**6.82**	

3 STD3

Sample Name:	**STD3**	*Injection Volume:*	**5.00**
Vial Number:	**BD3**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 11:22**	*Sample Weight:*	**1.0000**

Run Time:



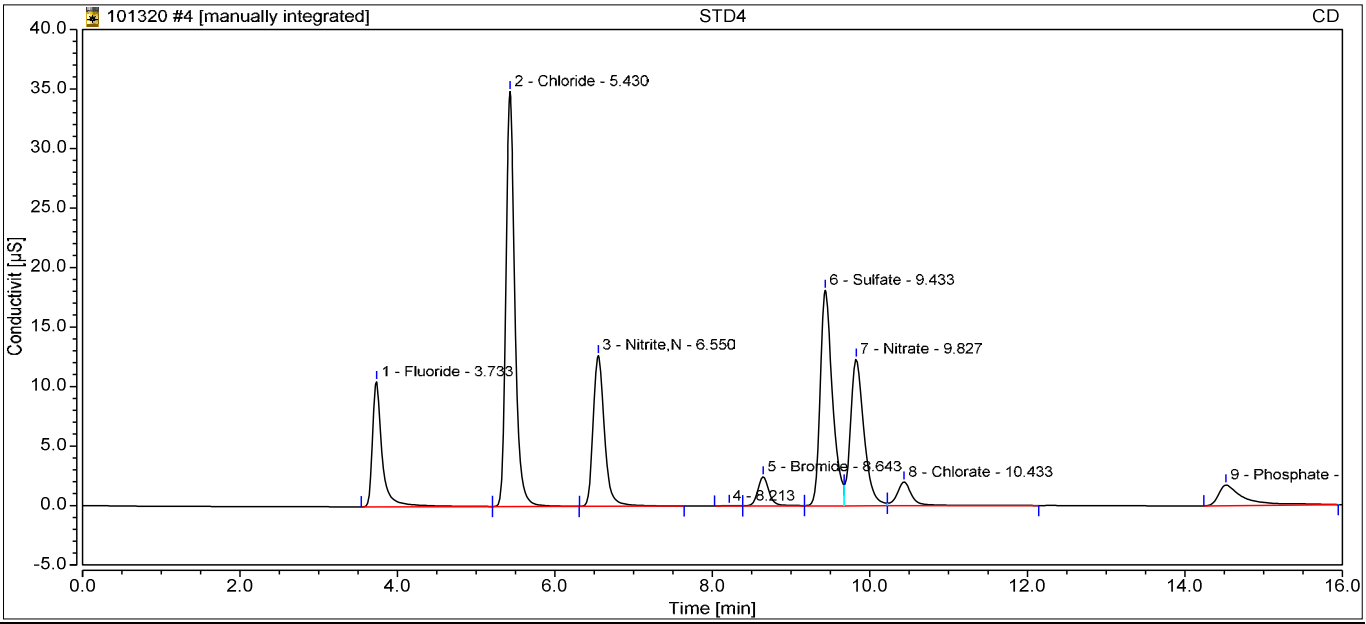
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.745	2.1166	2.1166	1.0000
2	5.43	Chloride	BMB	2.291	9.9533	9.9533	1.0000
3	6.55	Nitrite,N	BMB	1.077	2.2460	2.2460	1.0000
5	8.65	Bromide	M	0.209	1.9882	1.9882	1.0000
6	9.48	Sulfate	M	1.595	9.9688	9.9688	1.0000
7	9.86	Nitrate	M	1.238	1.9883	1.9883	1.0000
8	10.44	Chlorate	MB	0.239	2.2038	2.2038	1.0000
9	14.62	Phosphate	BM *	0.269	1.7634	1.7634	1.0000
Total:			**0.000**	**7.661**		**32.23**	

4 STD4

Sample Name:	**STD4**	*Injection Volume:*	**5.00**
Vial Number:	**BD4**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 11:40**	*Sample Weight:*	**1.0000**

Run Time:



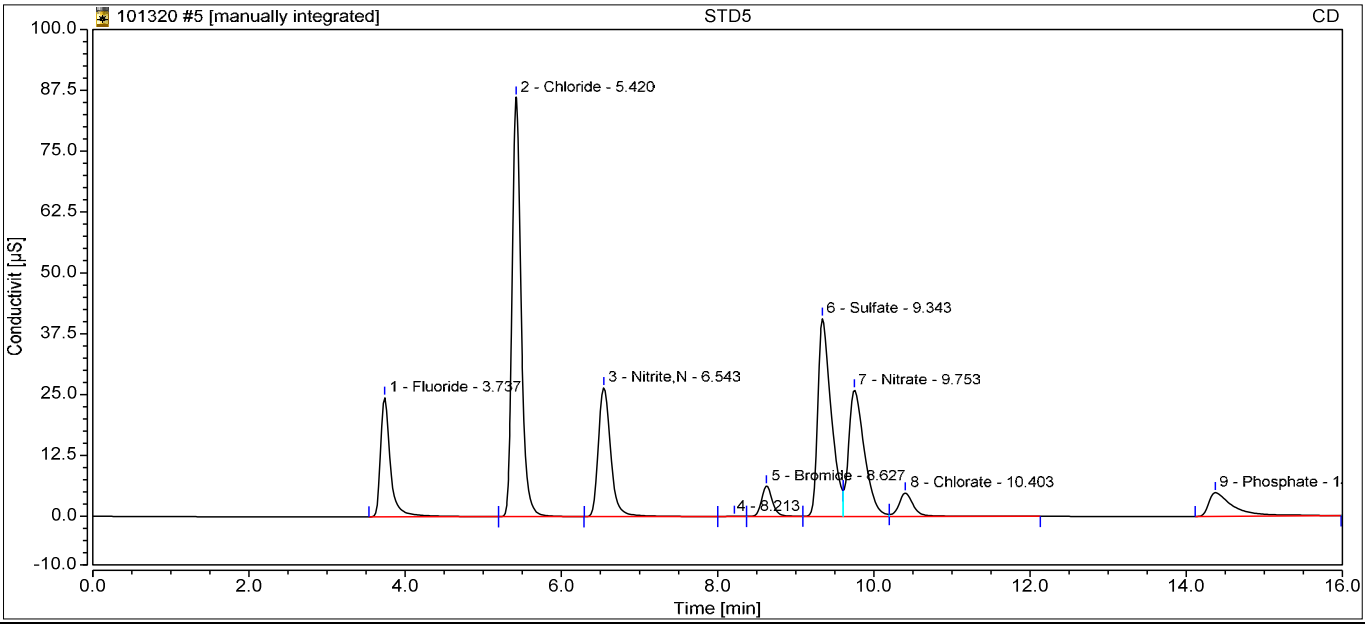
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	1.504	4.2630	4.2630	1.0000
2	5.43	Chloride	BMB	4.613	20.0986	20.0986	1.0000
3	6.55	Nitrite,N	BMB*	2.104	4.4276	4.4276	1.0000
5	8.64	Bromide	M	0.411	3.9946	3.9946	1.0000
6	9.43	Sulfate	M	3.273	20.4465	20.4465	1.0000
7	9.83	Nitrate	M	2.444	3.9482	3.9482	1.0000
8	10.43	Chlorate	MB	0.443	4.2079	4.2079	1.0000
9	14.52	Phosphate	BM *	0.648	3.7157	3.7157	1.0000
Total:			**0.000**	**15.439**		**65.10**	

5 STD5

Sample Name:	**STD5**	*Injection Volume:*	**5.00**
Vial Number:	**BD5**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 11:58**	*Sample Weight:*	**1.0000**

Run Time:

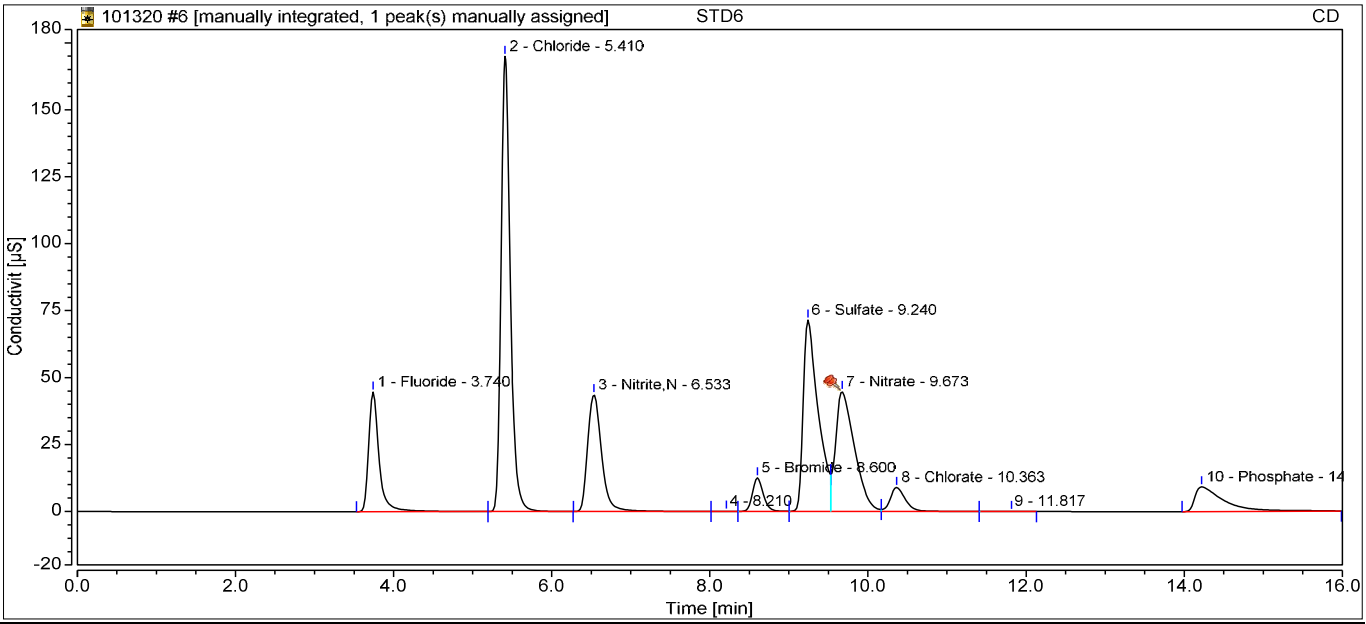


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.611	10.2228	10.2228	1.0000
2	5.42	Chloride	BMB	11.462	50.0272	50.0272	1.0000
3	6.54	Nitrite,N	BMB	4.877	10.3135	10.3135	1.0000
5	8.63	Bromide	M	1.014	9.9796	9.9796	1.0000
6	9.34	Sulfate	M	8.089	50.5200	50.5200	1.0000
7	9.75	Nitrate	M	6.097	9.8832	9.8832	1.0000
8	10.40	Chlorate	MB	1.032	9.9918	9.9918	1.0000
9	14.37	Phosphate	BM *	1.834	9.8223	9.8223	1.0000
Total:			**0.000**	**38.017**		**160.76**	

6 STD6			
Sample Name:	**STD6**	*Injection Volume:*	**5.00**
Vial Number:	**BD6**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 12:16**	*Sample Weight:*	**1.0000**

Run Time:



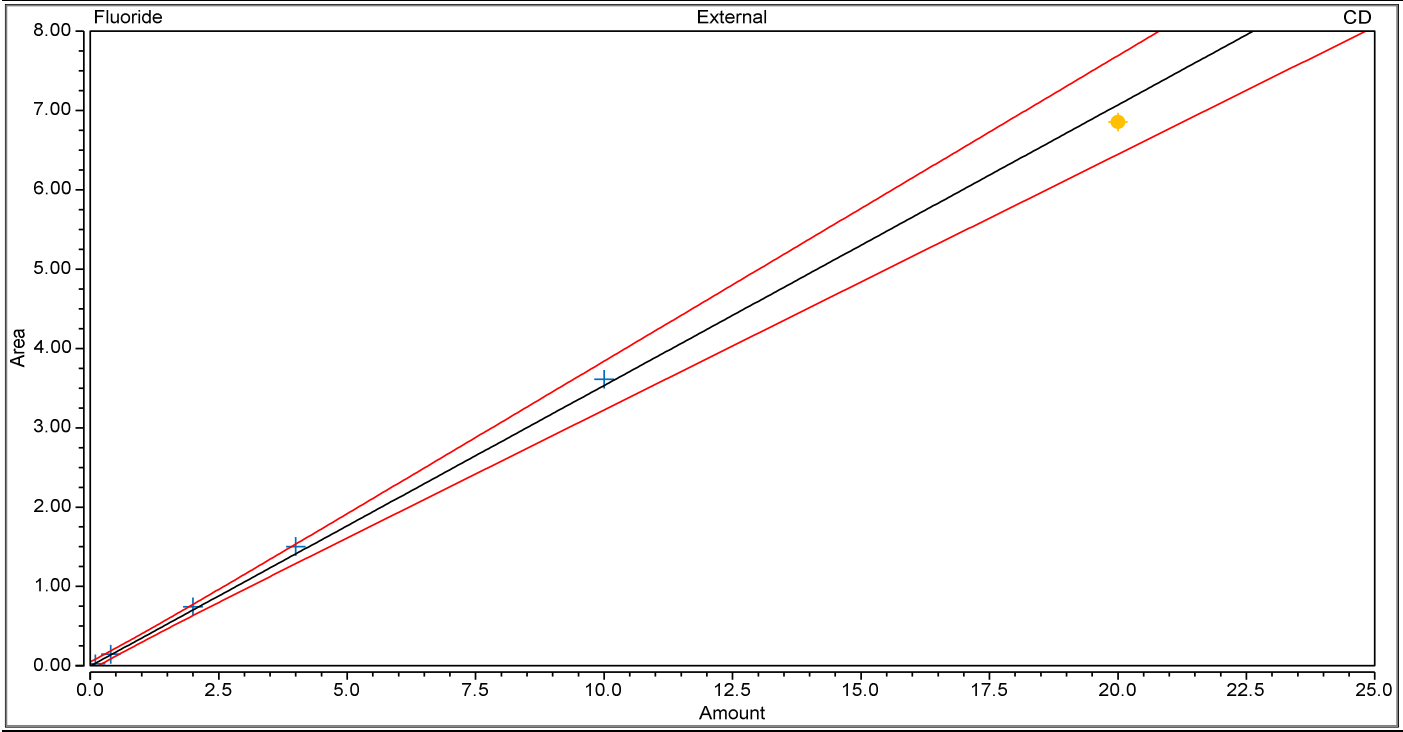
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	6.855	19.3940	19.3940	1.0000
2	5.41	Chloride	BMB	22.844	99.7639	99.7639	1.0000
3	6.53	Nitrite,N	BMB	8.975	19.0121	19.0121	1.0000
5	8.60	Bromide	M	2.028	20.0338	20.0338	1.0000
6	9.24	Sulfate	M	15.864	99.0635	99.0635	1.0000
7	9.67	Nitrate	M ^	12.426	20.1671	20.1671	1.0000
8	10.36	Chlorate	M	2.009	19.5694	19.5694	1.0000
10	14.22	Phosphate	BM *	3.933	20.6283	20.6283	1.0000
Total:			**0.000**	**74.933**		**317.63**	

Calibration

Calibration Details	Fluoride		
Calibration Type	Lin, WithOffset, 1/A	*Offset (C0)*	-0.0040
Evaluation Type	Area	*Slope (C1)*	0.3537
Number of Calibration Points	6	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.9985

Calibration Plot **Fluoride**



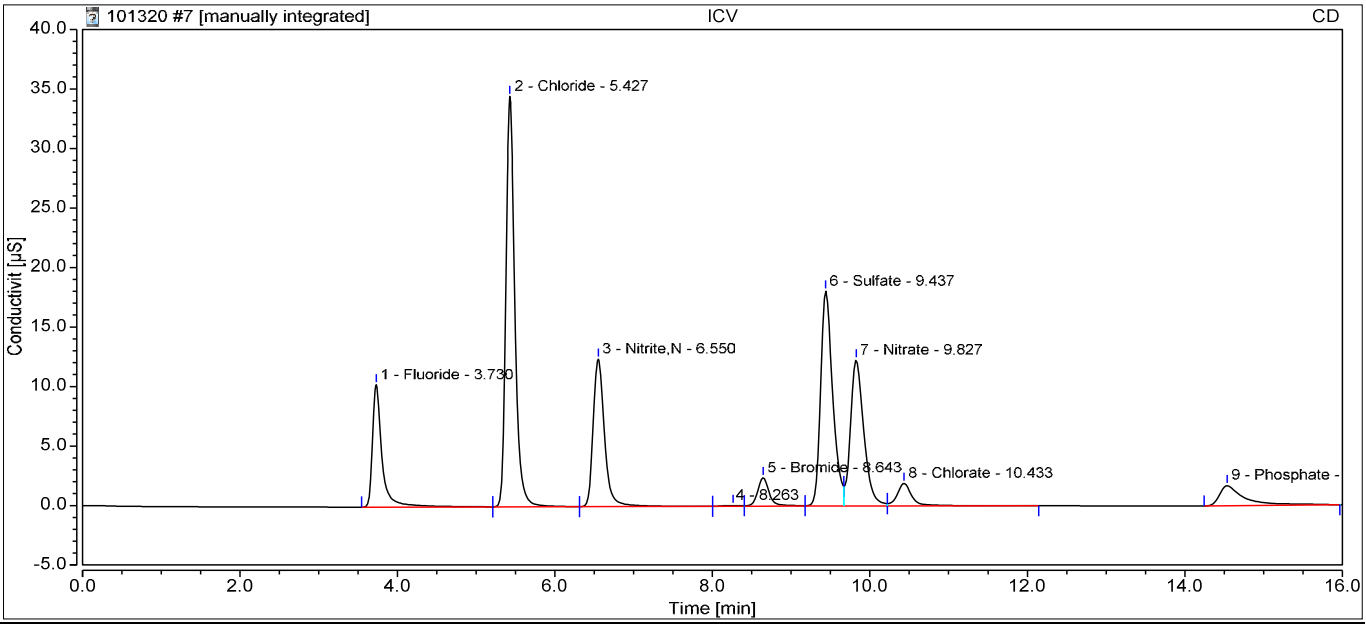
Calibration Results **Fluoride**

No.	Injection Name	Calibration Level	X Value CD Fluoride	Y Value CD Fluoride	Y Value CD Fluoride	Area µS*min CD Fluoride	Height µS CD Fluoride
1	STD1	1	0.1000	0.0254	0.0254	0.025	0.197
2	STD2	2	0.4000	0.1446	0.1446	0.145	0.916
3	STD3	3	2.0000	0.7445	0.7445	0.745	5.182
4	STD4	4	4.0000	1.5036	1.5036	1.504	10.507
5	STD5	5	10.0000	3.6113	3.6113	3.611	24.538
6	STD6	6	20.0000	6.8547	6.8547	6.855	44.677

7 ICV

Sample Name:	**ICV**	*Injection Volume:*	**5.00**
Vial Number:	**BD7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 12:34**	*Sample Weight:*	**1.0000**

Run Time:



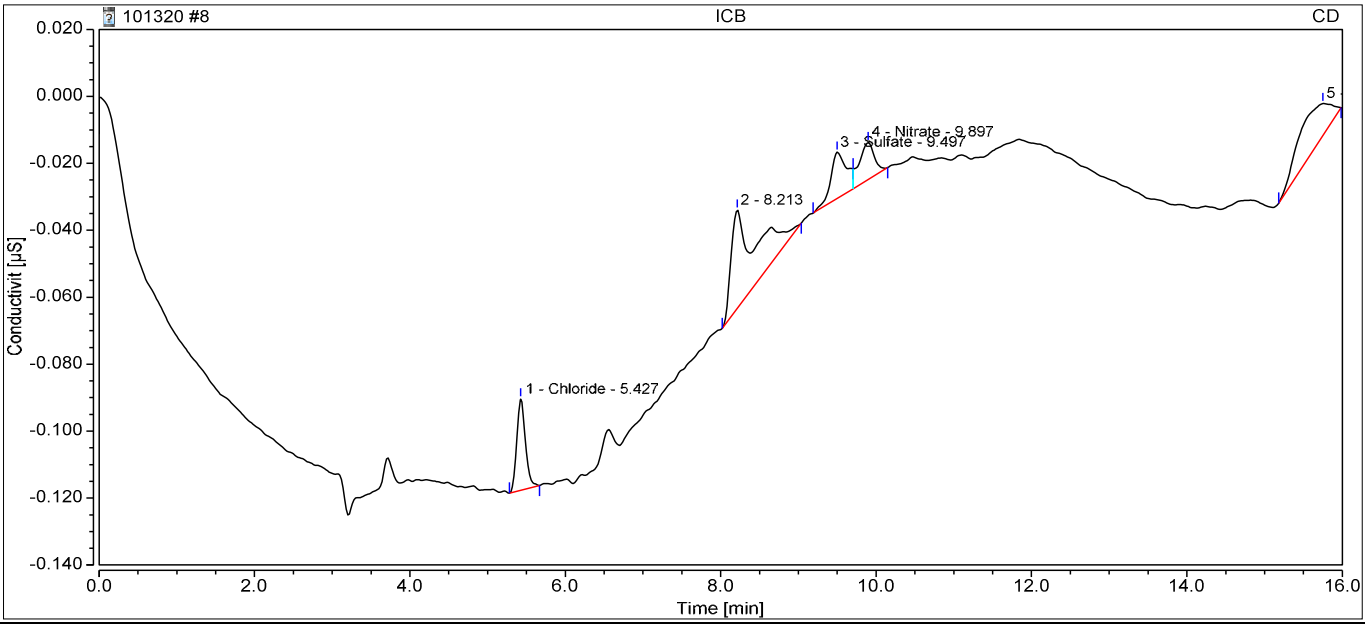
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	1.447	4.1020	4.1020	1.0000
2	5.43	Chloride	BMB	4.553	19.8399	19.8399	1.0000
3	6.55	Nitrite,N	BMB	2.061	4.3359	4.3359	1.0000
5	8.64	Bromide	M	0.413	4.0106	4.0106	1.0000
6	9.44	Sulfate	M	3.227	20.1622	20.1622	1.0000
7	9.83	Nitrate	M	2.405	3.8850	3.8850	1.0000
8	10.43	Chlorate	MB	0.422	4.0019	4.0019	1.0000
9	14.54	Phosphate	BM *	0.631	3.6292	3.6292	1.0000
Total:			**0.000**	**15.159**		**63.97**	

8 ICB

Sample Name:	**ICB**	*Injection Volume:*	**5.00**
Vial Number:	**BD8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 12:52**	*Sample Weight:*	**1.0000**

Run Time:



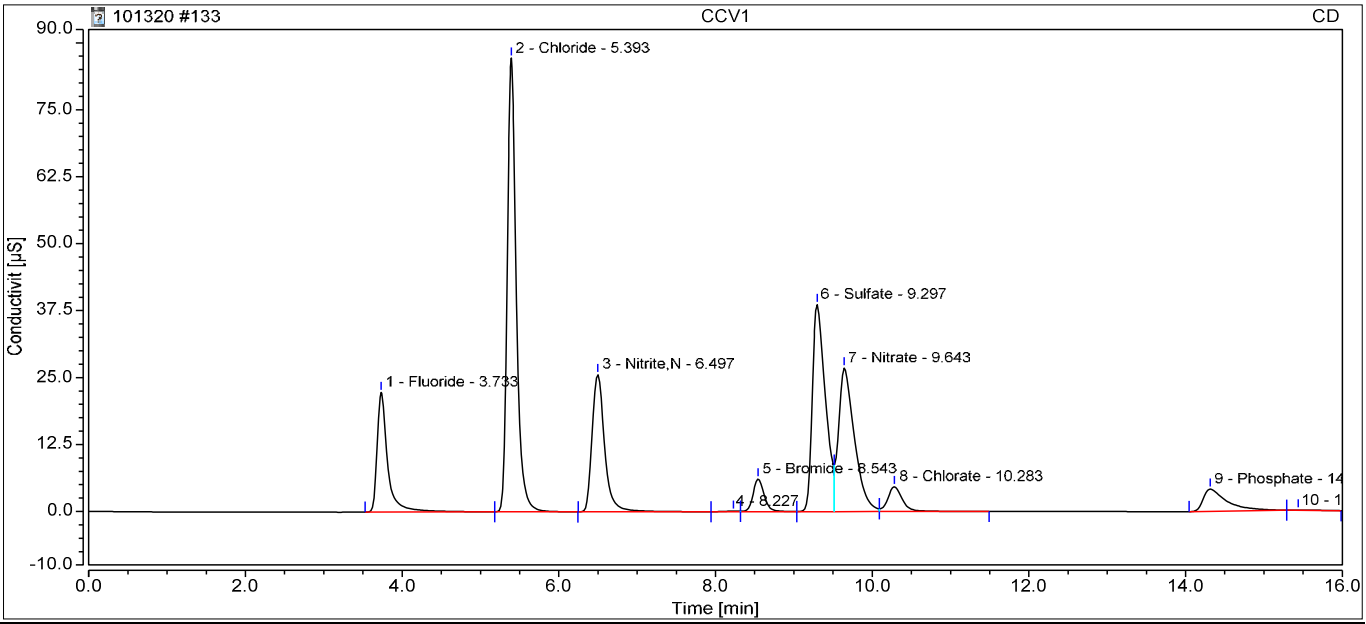
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.43	Chloride	BMB	0.004	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
3	9.50	Sulfate	BM	0.003	0.0318	0.0318	1.0000
4	9.90	Nitrate	MB	0.003	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.009**		**0.03**	

133 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**BA4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/14/2020 23:02**	*Sample Weight:*	**1.0000**

Run Time:



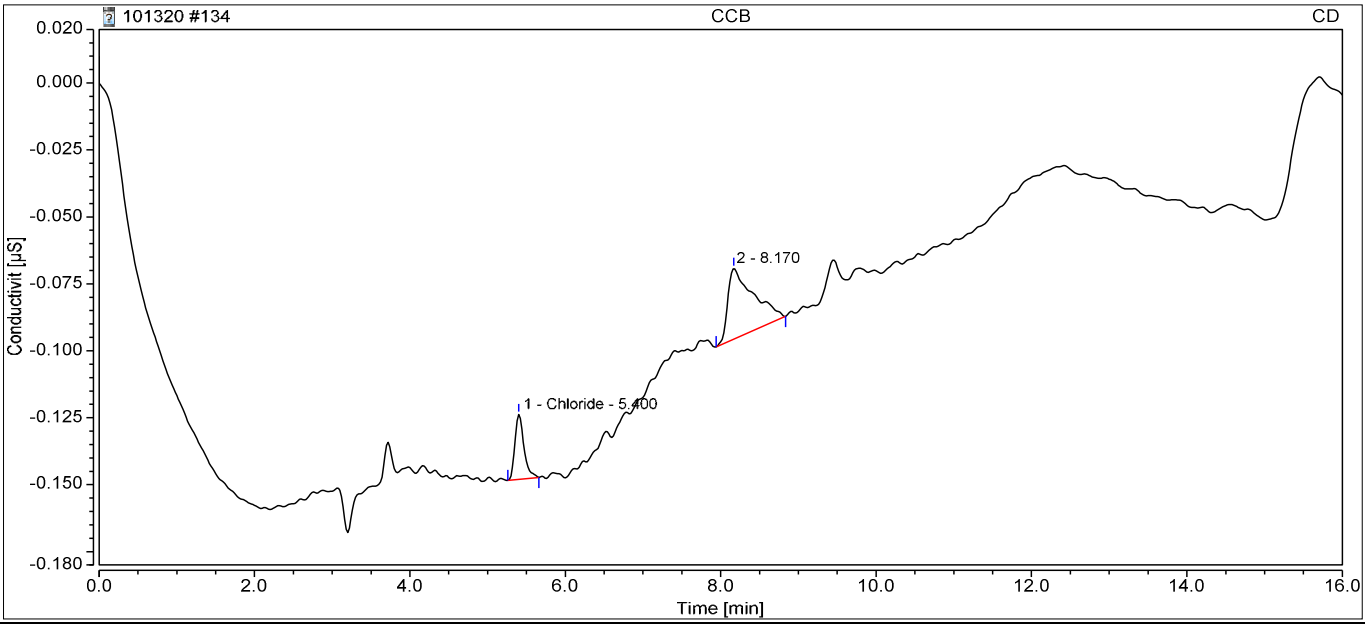
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	3.469	9.8200	9.8200	1.0000
2	5.39	Chloride	BMB	11.291	49.2786	49.2786	1.0000
3	6.50	Nitrite,N	BMB	4.770	10.0874	10.0874	1.0000
5	8.54	Bromide	M	1.006	9.8974	9.8974	1.0000
6	9.30	Sulfate	M	7.517	46.9462	46.9462	1.0000
7	9.64	Nitrate	M	6.350	10.2951	10.2951	1.0000
8	10.28	Chlorate	MB	0.998	9.6571	9.6571	1.0000
9	14.31	Phosphate	BMB	1.443	7.8066	7.8066	1.0000
Total:			**0.000**	**36.844**		**153.79**	

134 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/14/2020 23:20**	*Sample Weight:*	**1.0000**

Run Time:



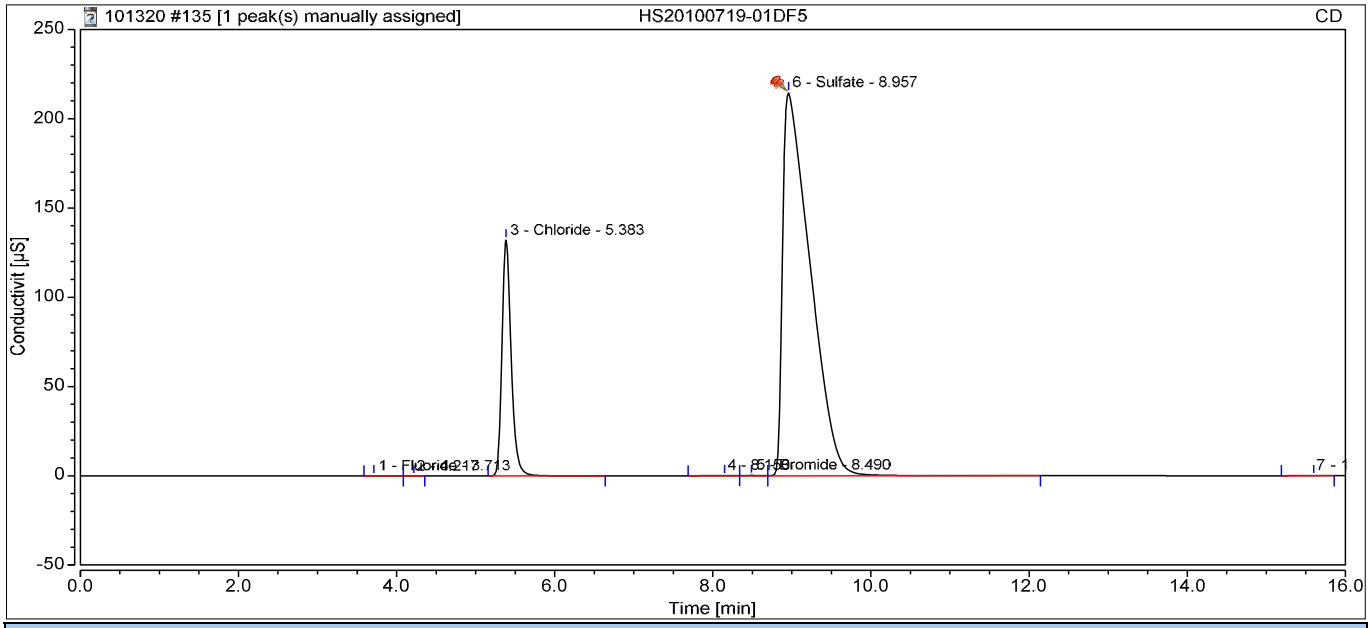
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.40	Chloride	BMB	0.003	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.003**		**0.00**	

135 HS20100719-01DF5

Sample Name:	**HS20100719-01DF5**	*Injection Volume:*	**5.00**
Vial Number:	**RC1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**5.0000**
Recording Time:	**10/14/2020 23:38**	*Sample Weight:*	**1.0000**

Run Time:



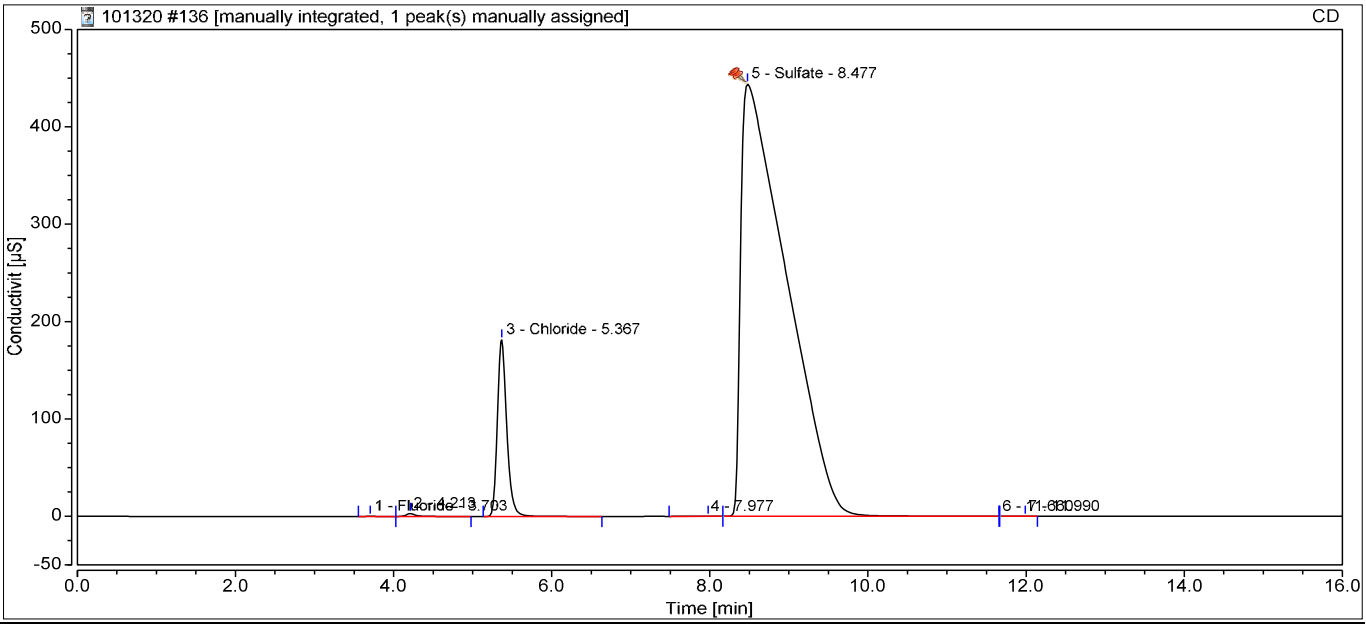
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.71	Fluoride	BMB	0.009	0.0373	0.1866	5.0000
3	5.38	Chloride	BMB	17.663	77.1211	385.6055	5.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	5.0000
5	8.49	Bromide	M	0.057	0.4821	2.4105	5.0000
6	8.96	Sulfate	MB^	86.489	540.0330	2700.1652	5.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	5.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	5.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	5.0000
Total:			**0.000**	**104.217**		**3088.37**	

136 HS20100719-02DF5

Sample Name:	**HS20100719-02DF5**	*Injection Volume:*	**5.00**
Vial Number:	**RC2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**5.0000**
Recording Time:	**10/14/2020 23:56**	*Sample Weight:*	**1.0000**

Run Time:



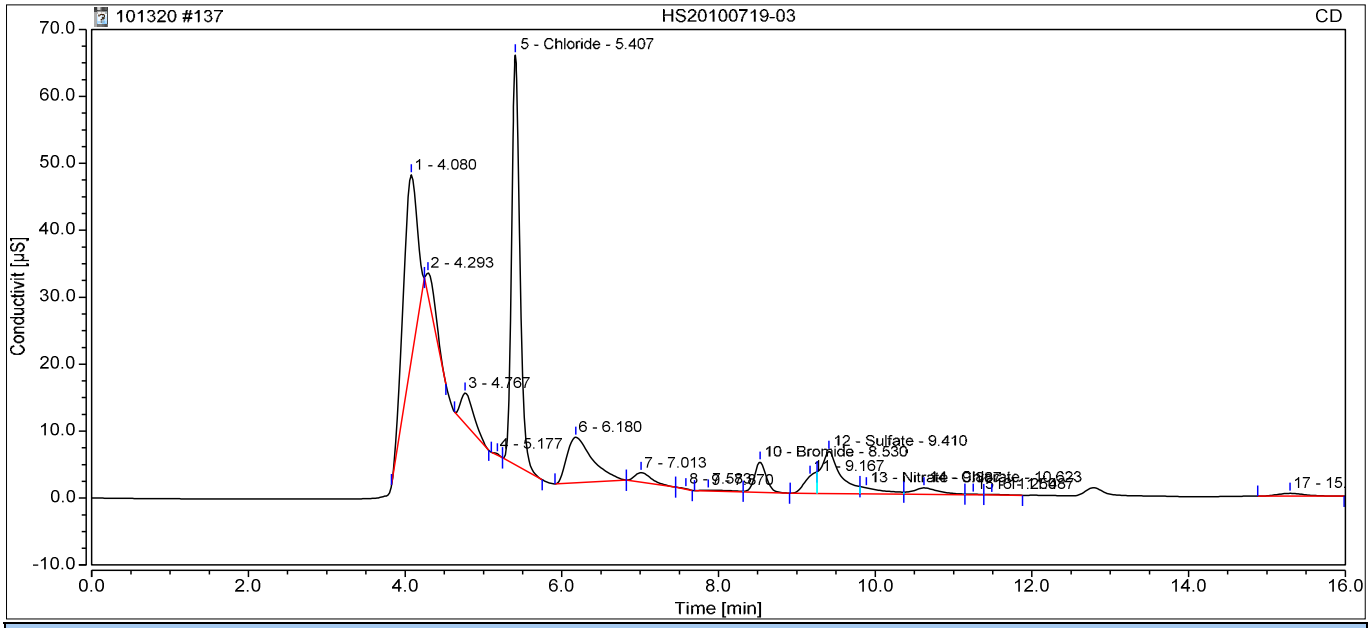
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.70	Fluoride	BMB	0.014	0.0498	0.2488	5.0000
3	5.37	Chloride	BMB	24.617	107.5098	537.5491	5.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	5.0000
5	8.48	Sulfate	M *^	295.172	1843.0216	9215.1079	5.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	5.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	5.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	5.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	5.0000
Total:			**0.000**	**319.803**		**9752.91**	

137 HS20100719-03

Sample Name:	**HS20100719-03**	*Injection Volume:*	**5.00**
Vial Number:	**RC3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/15/2020 00:14**	*Sample Weight:*	**1.0000**

Run Time:



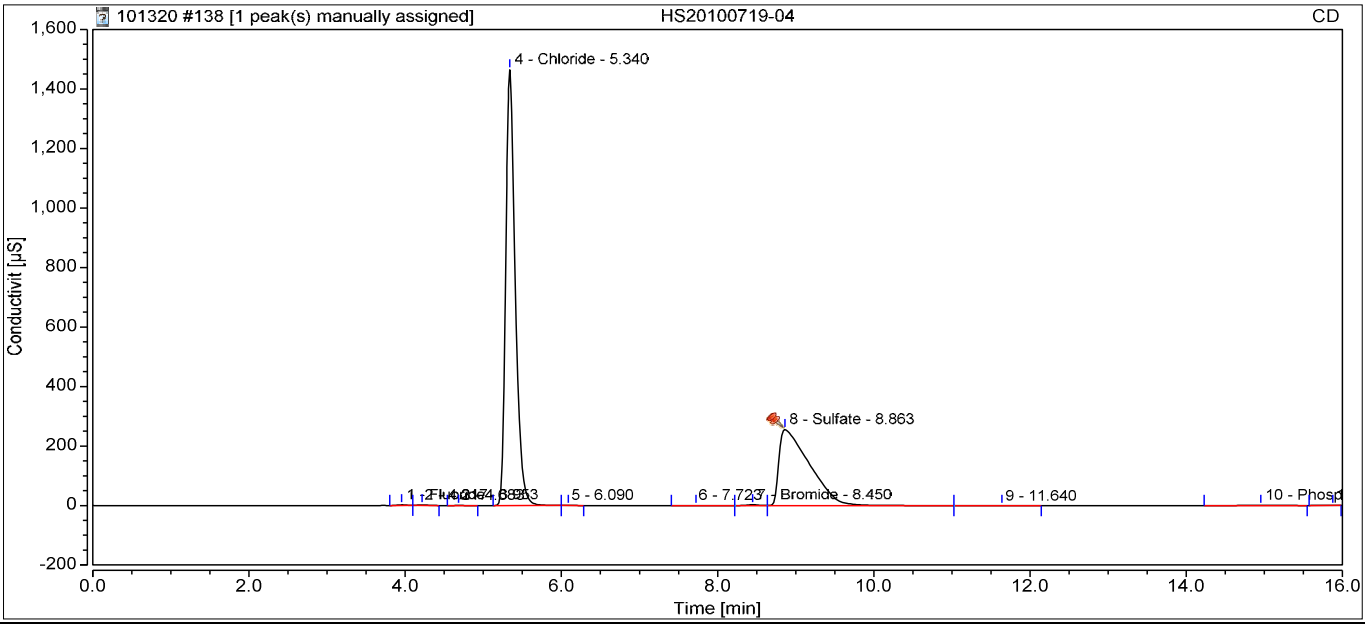
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
5	5.41	Chloride	BMB	7.497	32.7013	32.7013	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
10	8.53	Bromide	MB	0.790	7.7572	7.7572	1.0000
12	9.41	Sulfate	M	1.789	11.1846	11.1846	1.0000
13	9.89	Nitrate	M	0.322	0.4992	0.4992	1.0000
14	10.62	Chlorate	M	0.376	3.5510	3.5510	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**10.774**		**55.69**	

138 HS20100719-04

Sample Name:	**HS20100719-04**	*Injection Volume:*	**5.00**
Vial Number:	**RC4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/15/2020 00:32**	*Sample Weight:*	**1.0000**

Run Time:



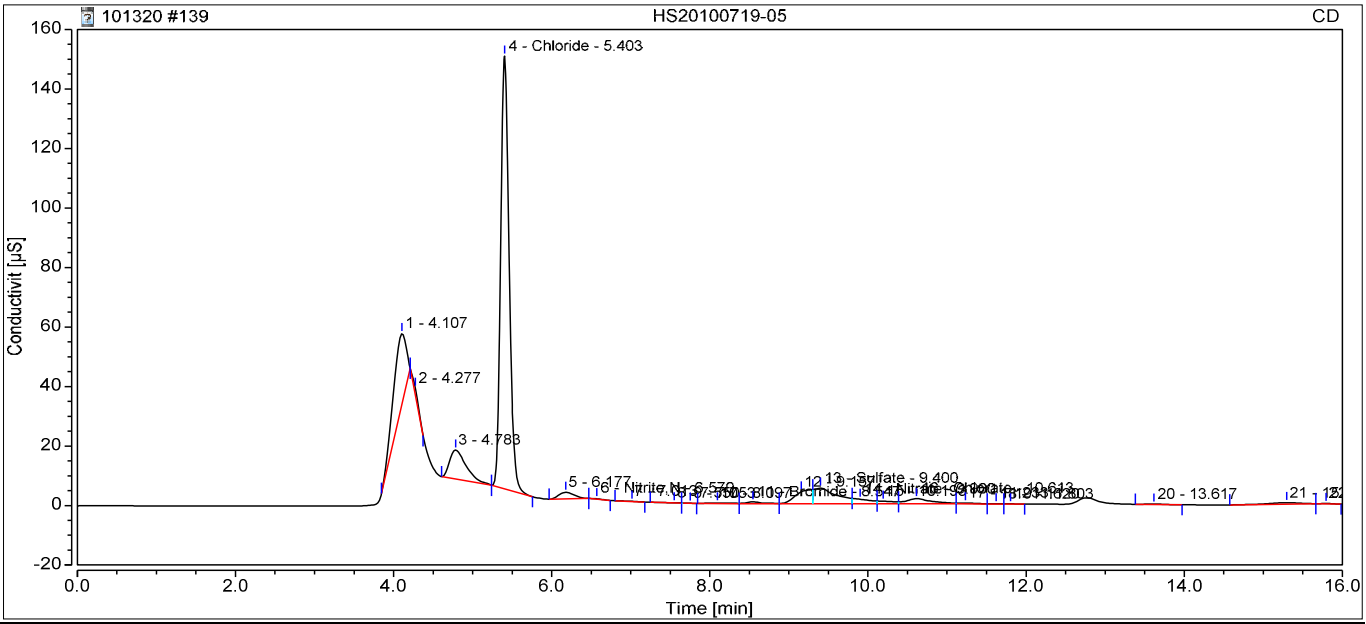
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.95	Fluoride	BMB	0.277	0.7950	0.7950	1.0000
4	5.34	Chloride	BMB	207.190	905.2699	905.2699	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
7	8.45	Bromide	M	0.487	4.7498	4.7498	1.0000
8	8.86	Sulfate	M ^	115.082	718.5638	718.5638	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
10	14.96	Phosphate	BMB	0.148	1.1391	1.1391	1.0000
Total:			**0.000**	**323.183**		**1630.52**	

139 HS20100719-05

Sample Name:	**HS20100719-05**	*Injection Volume:*	**5.00**
Vial Number:	**RC5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/15/2020 00:50**	*Sample Weight:*	**1.0000**

Run Time:



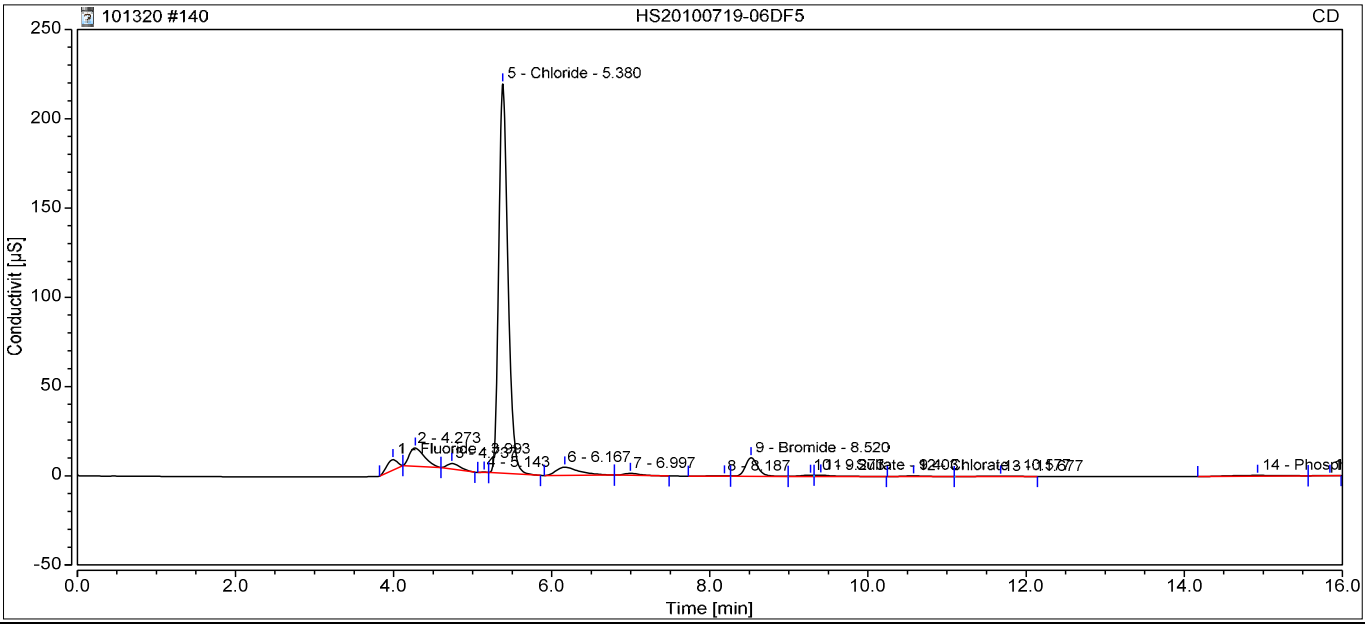
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
4	5.40	Chloride	BMB	17.849	77.9338	77.9338	1.0000
6	6.57	Nitrite,N	BMB	0.021	0.0051	0.0051	1.0000
11	8.55	Bromide	M	0.137	1.2741	1.2741	1.0000
13	9.40	Sulfate	M	1.752	10.9483	10.9483	1.0000
14	9.90	Nitrate	M	0.424	0.6648	0.6648	1.0000
16	10.61	Chlorate	M	0.669	6.4303	6.4303	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**20.851**		**97.26**	

140 HS20100719-06DF5

Sample Name:	**HS20100719-06DF5**	*Injection Volume:*	**5.00**
Vial Number:	**RC6**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**5.0000**
Recording Time:	**10/15/2020 01:08**	*Sample Weight:*	**1.0000**

Run Time:



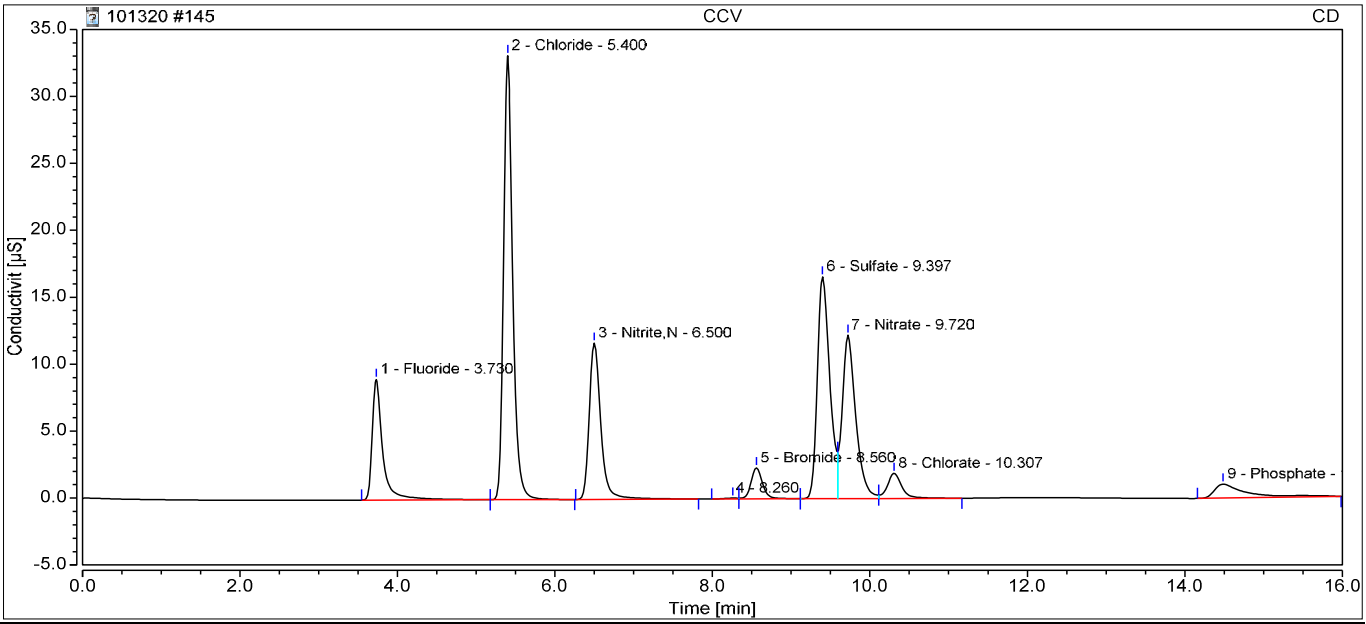
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.99	Fluoride	BMB	0.892	2.5336	12.6682	5.0000
5	5.38	Chloride	BMB	29.184	127.4661	637.3303	5.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	5.0000
9	8.52	Bromide	M	1.920	18.9613	94.8063	5.0000
11	9.40	Sulfate	MB	0.182	1.1453	5.7265	5.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	5.0000
12	10.58	Chlorate	BM	0.089	0.7371	3.6856	5.0000
14	14.93	Phosphate	BMB	0.313	1.9913	9.9563	5.0000
Total:			**0.000**	**32.580**		**764.17**	

145 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**BA2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/15/2020 02:38**	*Sample Weight:*	**1.0000**

Run Time:



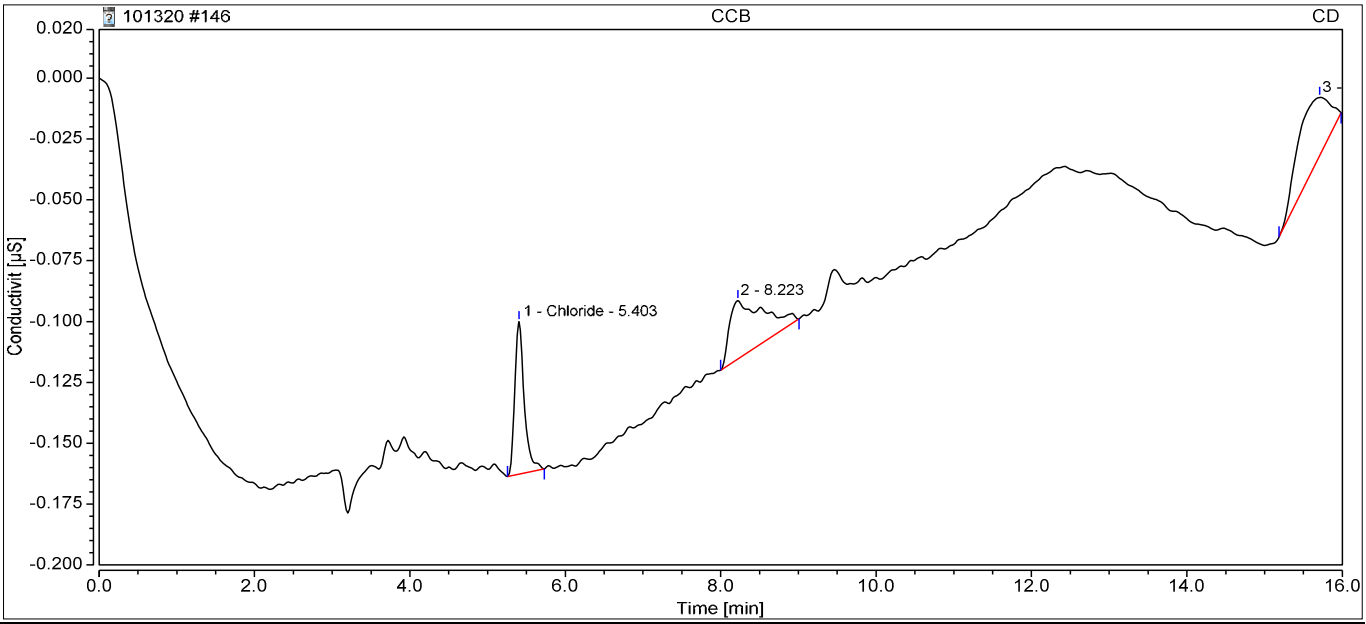
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	1.387	3.9346	3.9346	1.0000
2	5.40	Chloride	BMB	4.469	19.4701	19.4701	1.0000
3	6.50	Nitrite,N	BMB	2.005	4.2165	4.2165	1.0000
5	8.56	Bromide	M	0.393	3.8121	3.8121	1.0000
6	9.40	Sulfate	M	3.008	18.7960	18.7960	1.0000
7	9.72	Nitrate	M	2.452	3.9600	3.9600	1.0000
8	10.31	Chlorate	MB	0.399	3.7774	3.7774	1.0000
9	14.49	Phosphate	BMB	0.498	2.9449	2.9449	1.0000
Total:			**0.000**	**14.611**		**60.91**	

146 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/15/2020 02:56**	*Sample Weight:*	**1.0000**

Run Time:



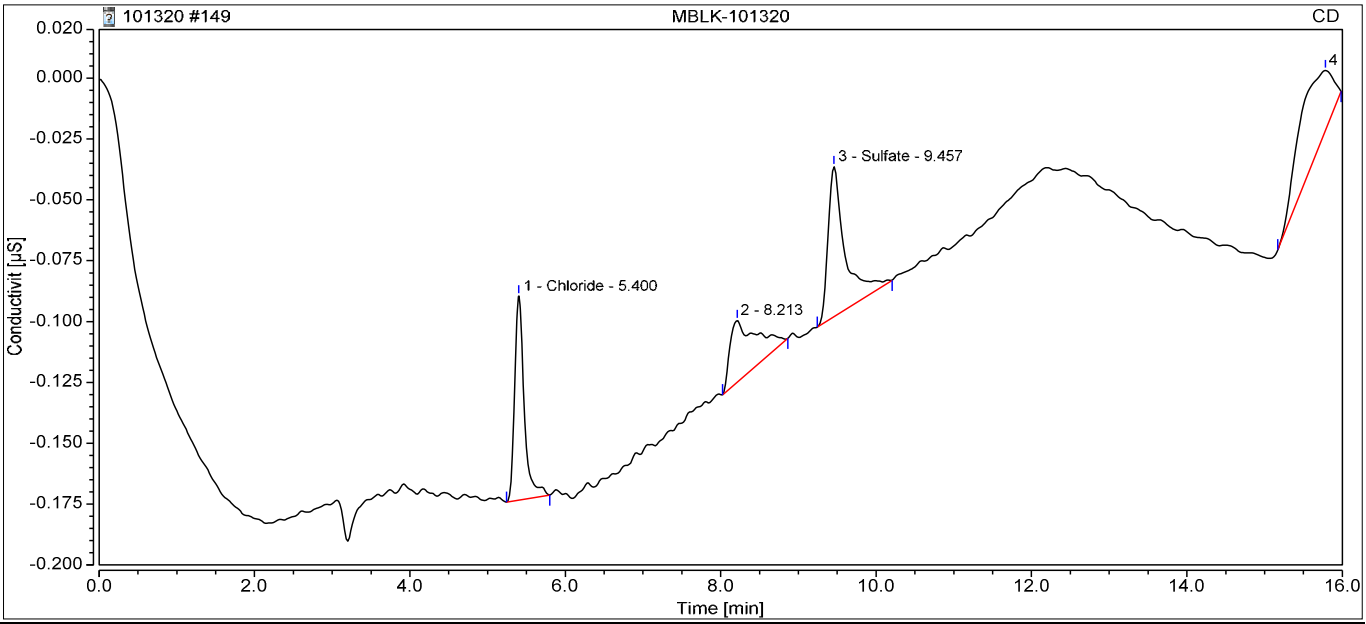
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.40	Chloride	BMB	0.009	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.009**		**0.00**	

149 MBLK-101320

Sample Name:	**MBLK-101320**	*Injection Volume:*	**5.00**
Vial Number:	**BA7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/15/2020 03:50**	*Sample Weight:*	**1.0000**

Run Time:



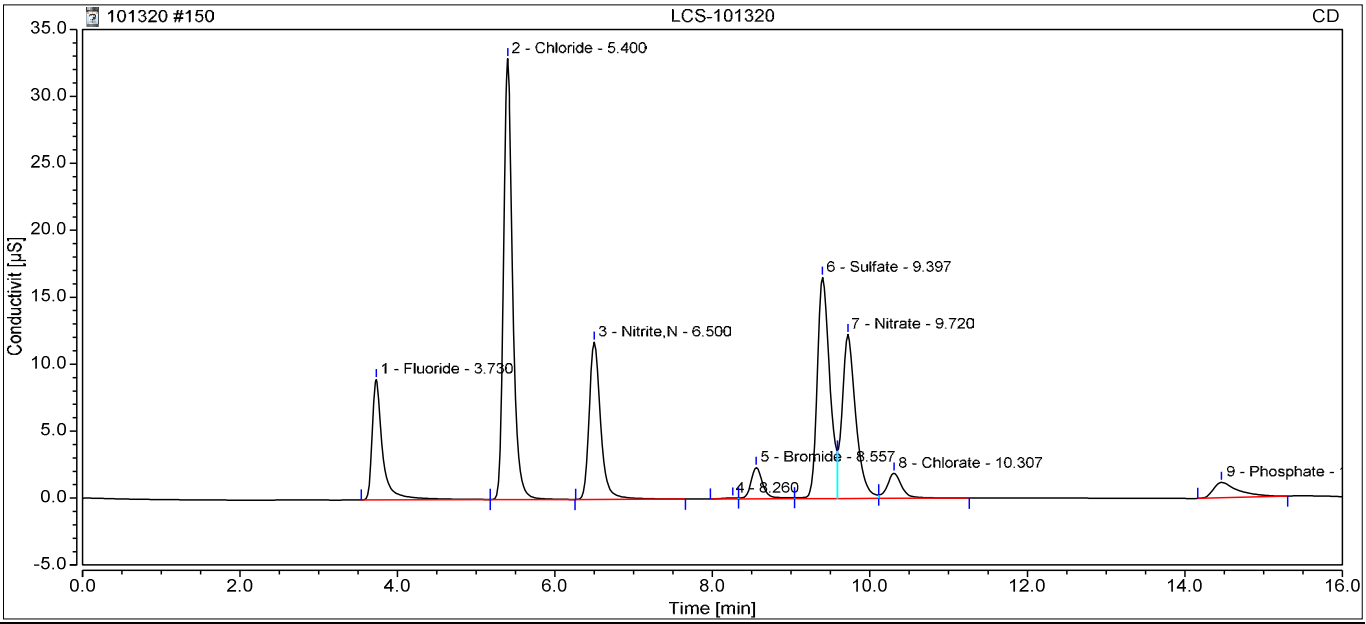
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.40	Chloride	BMB	0.012	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
3	9.46	Sulfate	BMB	0.016	0.1090	0.1090	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.028**		**0.11**	

150 LCS-101320

Sample Name:	**LCS-101320**	*Injection Volume:*	**5.00**
Vial Number:	**BB1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/15/2020 04:09**	*Sample Weight:*	**1.0000**

Run Time:



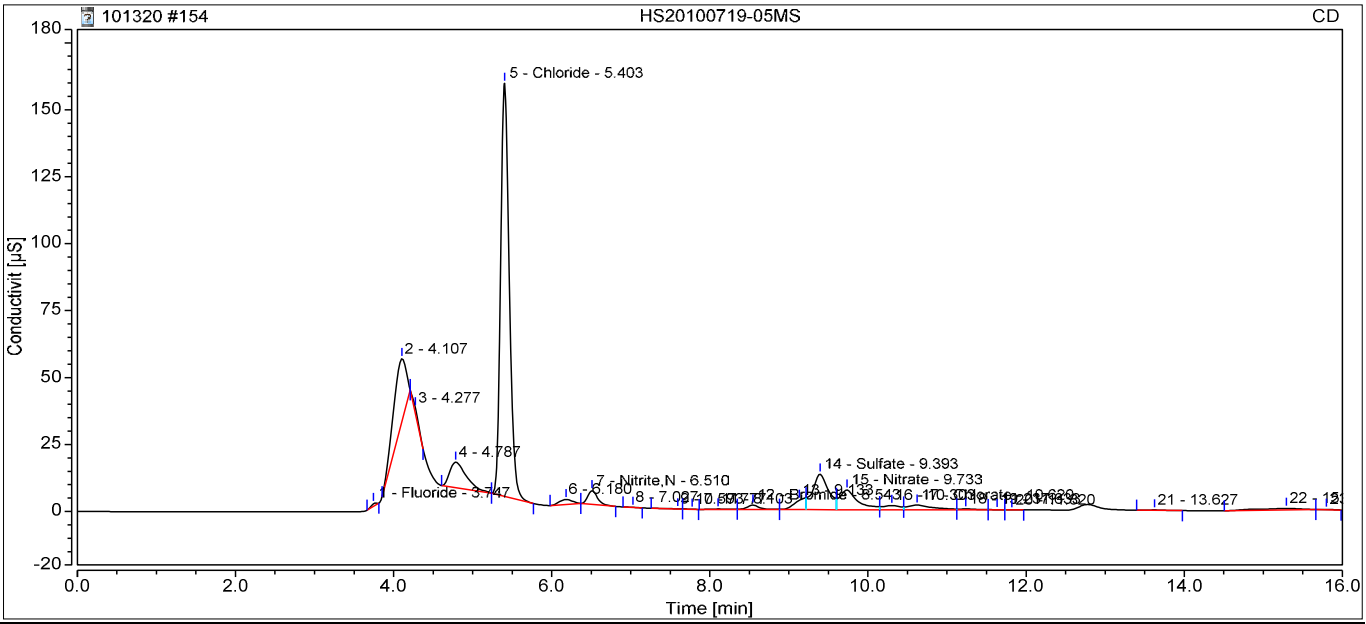
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	1.383	3.9206	3.9206	1.0000
2	5.40	Chloride	BMB	4.429	19.2980	19.2980	1.0000
3	6.50	Nitrite,N	BMB	1.997	4.1998	4.1998	1.0000
5	8.56	Bromide	M	0.421	4.0961	4.0961	1.0000
6	9.40	Sulfate	M	3.031	18.9397	18.9397	1.0000
7	9.72	Nitrate	M	2.485	4.0143	4.0143	1.0000
8	10.31	Chlorate	MB	0.408	3.8691	3.8691	1.0000
9	14.47	Phosphate	BMB	0.418	2.5318	2.5318	1.0000
Total:			**0.000**	**14.573**		**60.87**	

154 HS20100719-05MS

Sample Name:	**HS20100719-05MS**	*Injection Volume:*	**5.00**
Vial Number:	**RD6**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/15/2020 05:21**	*Sample Weight:*	**1.0000**

Run Time:



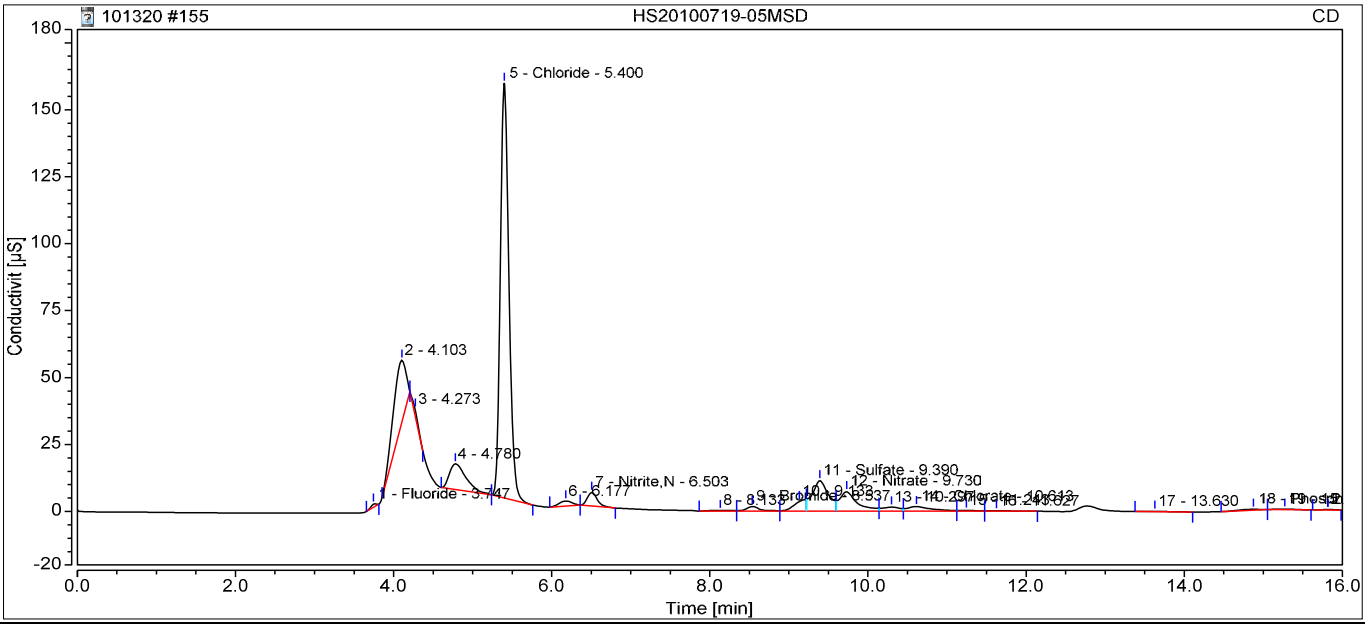
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.75	Fluoride	BMB	0.075	0.2225	0.2225	1.0000
5	5.40	Chloride	BMB	19.325	84.3859	84.3859	1.0000
7	6.51	Nitrite,N	BMB	0.744	1.5400	1.5400	1.0000
12	8.54	Bromide	M	0.316	3.0552	3.0552	1.0000
14	9.39	Sulfate	M	3.097	19.3484	19.3484	1.0000
15	9.73	Nitrate	M	1.948	3.1416	3.1416	1.0000
17	10.62	Chlorate	M	0.648	6.2172	6.2172	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**26.153**		**117.91**	

155 HS20100719-05MSD

Sample Name:	**HS20100719-05MSD**	*Injection Volume:*	**5.00**
Vial Number:	**RD7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/15/2020 05:39**	*Sample Weight:*	**1.0000**

Run Time:



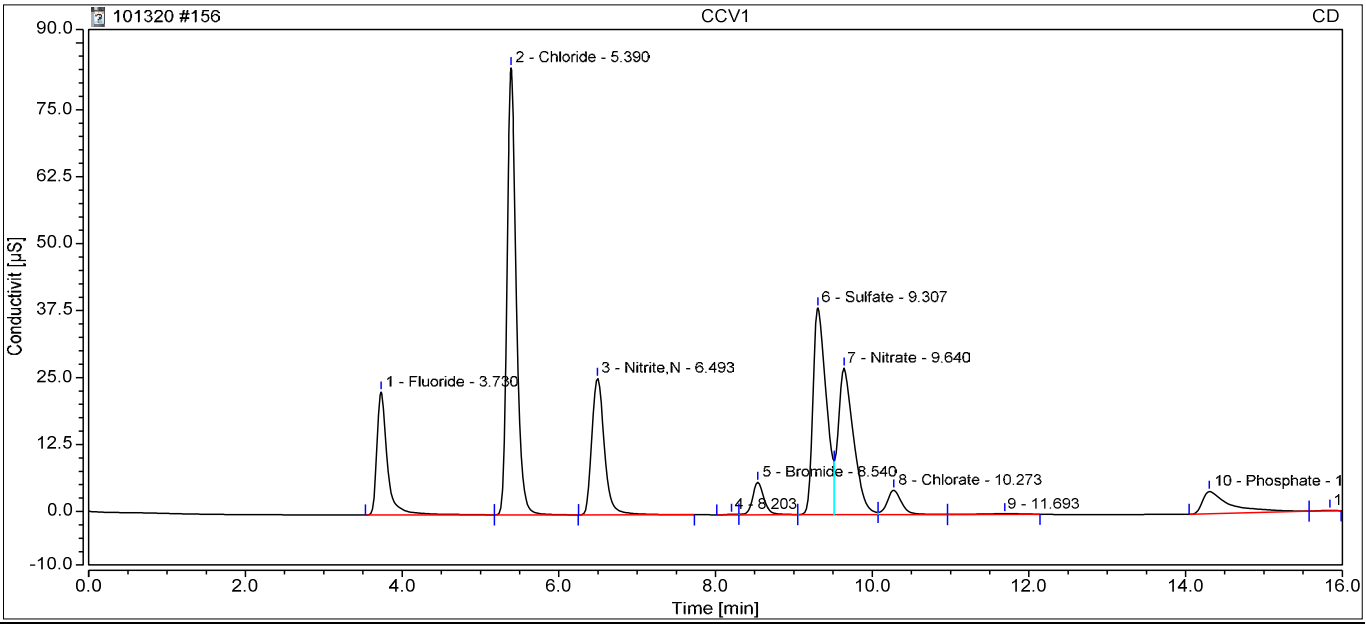
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.75	Fluoride	BMB	0.093	0.2742	0.2742	1.0000
5	5.40	Chloride	BMB	19.251	84.0612	84.0612	1.0000
7	6.50	Nitrite,N	BMB	0.741	1.5344	1.5344	1.0000
9	8.54	Bromide	M	0.337	3.2558	3.2558	1.0000
11	9.39	Sulfate	M	2.700	16.8728	16.8728	1.0000
12	9.73	Nitrate	M	1.880	3.0313	3.0313	1.0000
14	10.61	Chlorate	M	0.617	5.9141	5.9141	1.0000
18	14.88	Phosphate	BMB	0.103	0.9077	0.9077	1.0000
Total:			**0.000**	**25.721**		**115.85**	

156 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**BA4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/15/2020 05:57**	*Sample Weight:*	**1.0000**

Run Time:



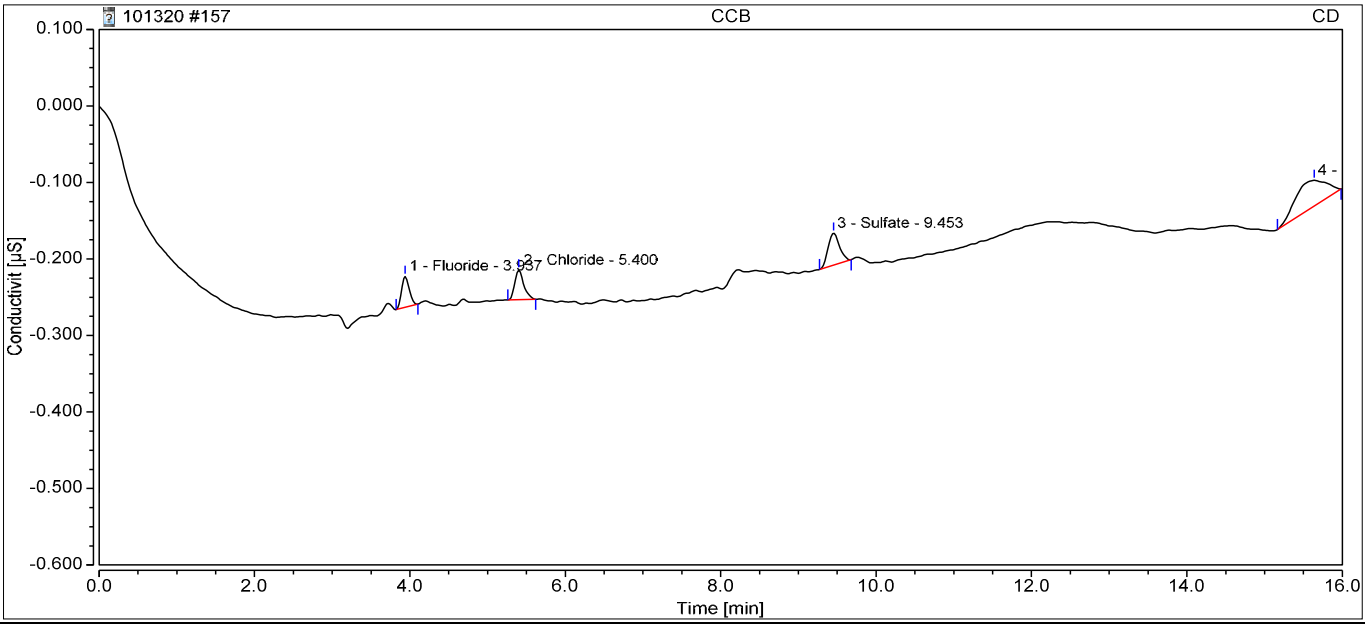
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	3.555	10.0642	10.0642	1.0000
2	5.39	Chloride	BMB	11.323	49.4199	49.4199	1.0000
3	6.49	Nitrite,N	BMB	4.747	10.0386	10.0386	1.0000
5	8.54	Bromide	M	1.032	10.1552	10.1552	1.0000
6	9.31	Sulfate	M	7.697	48.0709	48.0709	1.0000
7	9.64	Nitrate	M	6.262	10.1521	10.1521	1.0000
8	10.27	Chlorate	M	0.966	9.3426	9.3426	1.0000
10	14.30	Phosphate	BMB	1.707	9.1684	9.1684	1.0000
Total:			**0.000**	**37.290**		**156.41**	

157 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/15/2020 06:15**	*Sample Weight:*	**1.0000**

Run Time:



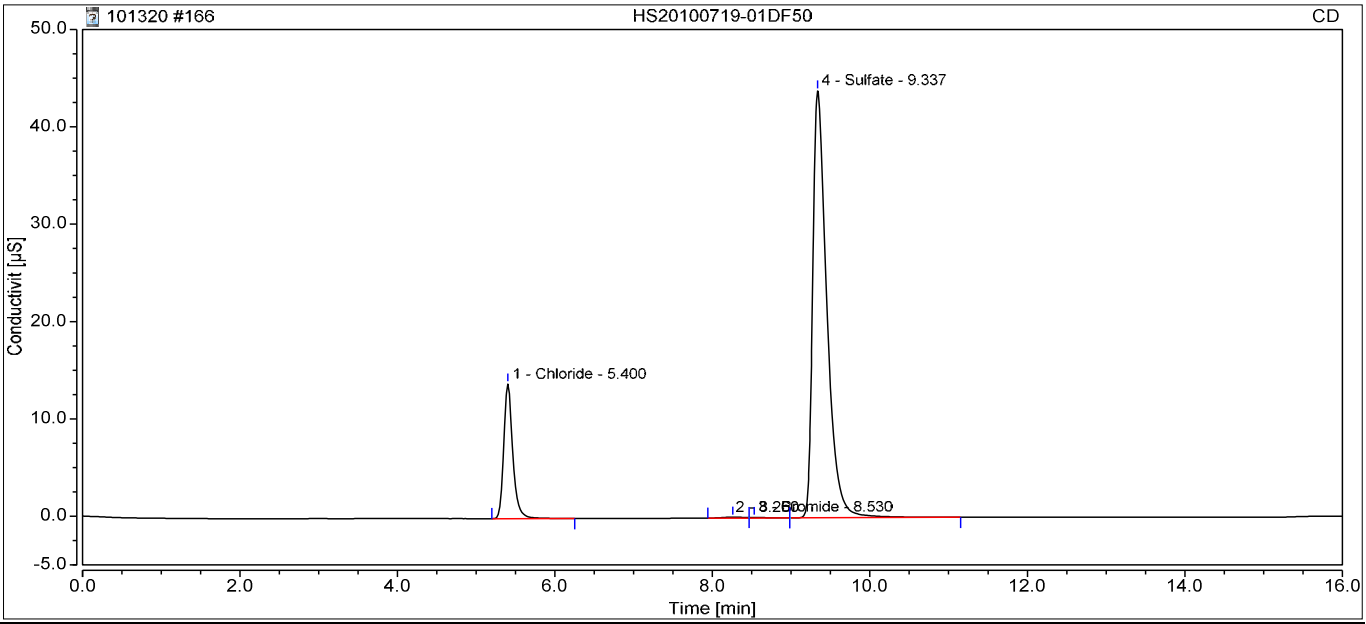
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.94	Fluoride	BMB	0.005	0.0246	0.0246	1.0000
2	5.40	Chloride	BMB	0.005	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
3	9.45	Sulfate	BMB	0.007	0.0565	0.0565	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.017**		**0.08**	

166 HS20100719-01DF50

Sample Name:	**HS20100719-01DF50**	*Injection Volume:*	**5.00**
Vial Number:	**RE4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**50.0000**
Recording Time:	**10/15/2020 08:57**	*Sample Weight:*	**1.0000**

Run Time:



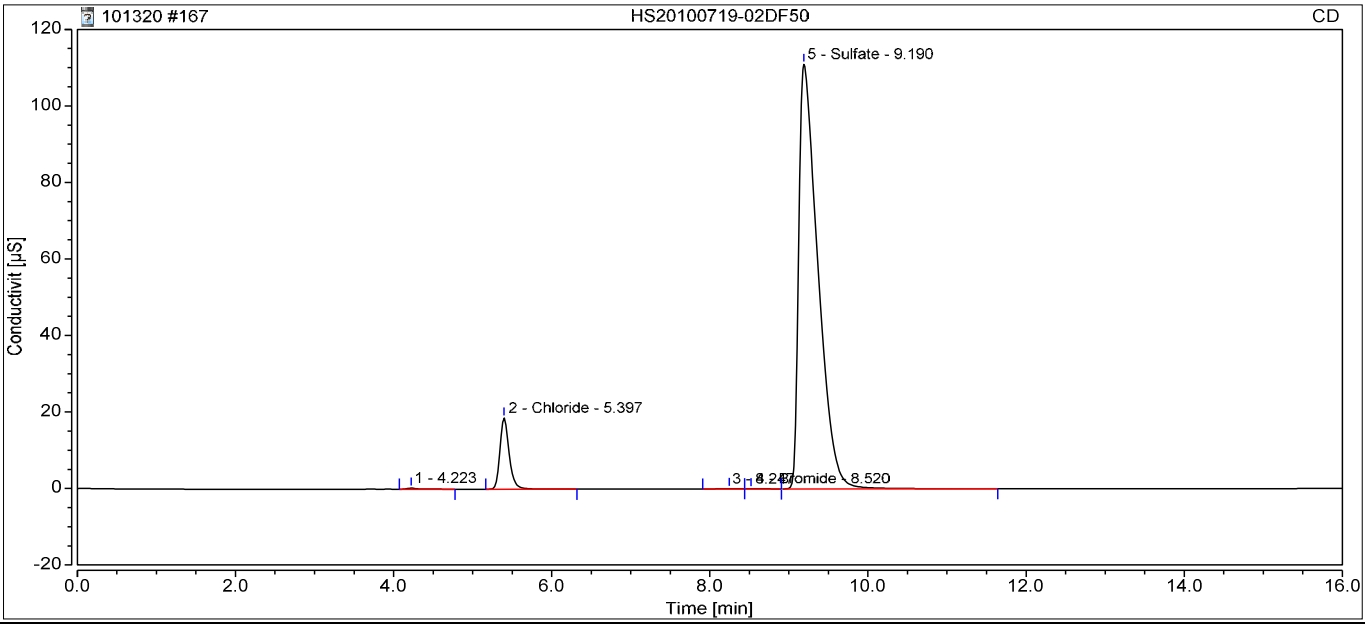
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	50.0000
1	5.40	Chloride	BMB	1.861	8.0760	403.7998	50.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	50.0000
3	8.53	Bromide	M	0.018	0.0985	4.9258	50.0000
4	9.34	Sulfate	MB	9.088	56.7562	2837.8086	50.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	50.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	50.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	50.0000
Total:			**0.000**	**10.967**		**3246.53**	

167 HS20100719-02DF50

Sample Name:	**HS20100719-02DF50**	*Injection Volume:*	**5.00**
Vial Number:	**RE5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**50.0000**
Recording Time:	**10/15/2020 09:15**	*Sample Weight:*	**1.0000**

Run Time:



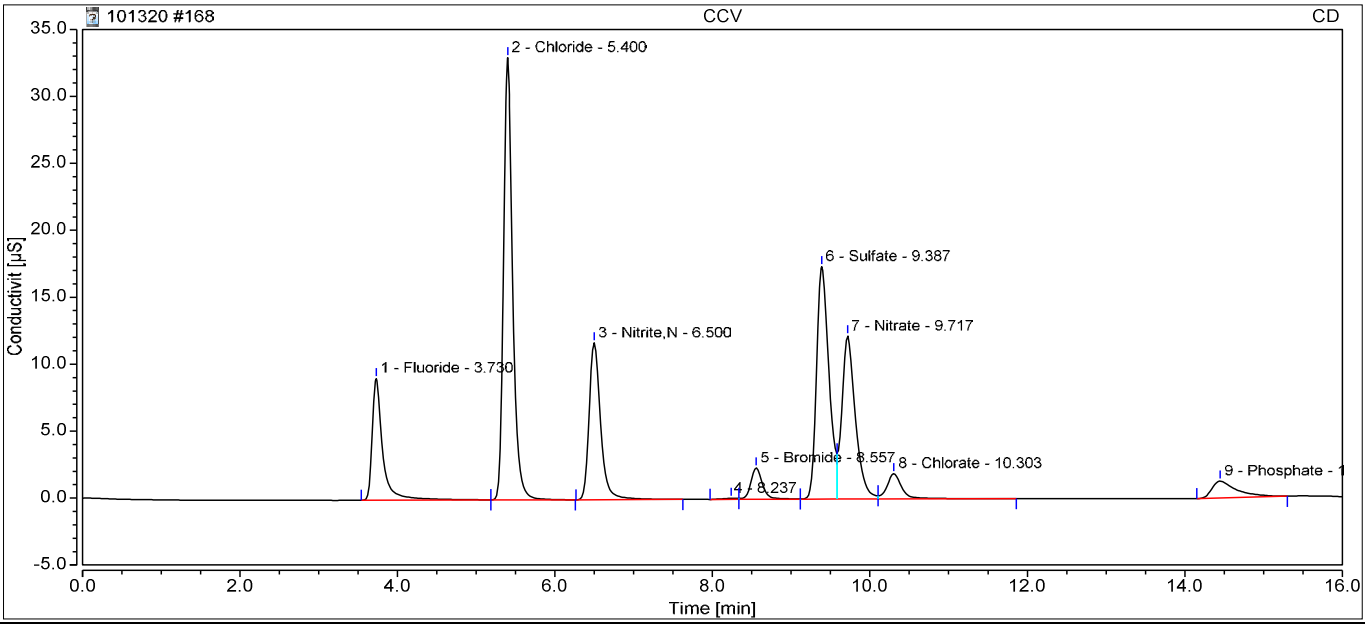
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	50.0000
2	5.40	Chloride	BMB	2.504	10.8866	544.3301	50.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	50.0000
4	8.52	Bromide	M	0.025	0.1672	8.3612	50.0000
5	9.19	Sulfate	MB	31.123	194.3369	9716.8473	50.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	50.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	50.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	50.0000
Total:			**0.000**	**33.652**		**10269.54**	

168 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**BA2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/15/2020 09:33**	*Sample Weight:*	**1.0000**

Run Time:



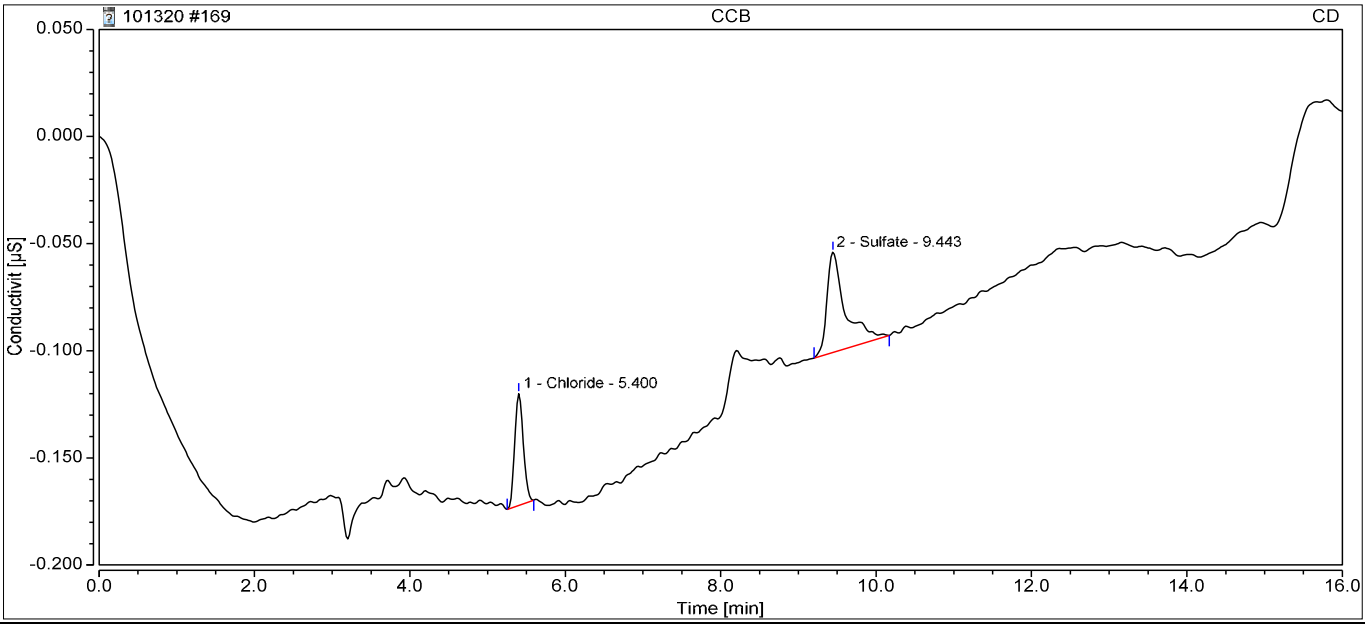
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	1.392	3.9486	3.9486	1.0000
2	5.40	Chloride	BMB	4.451	19.3946	19.3946	1.0000
3	6.50	Nitrite,N	BMB	1.997	4.1998	4.1998	1.0000
5	8.56	Bromide	M	0.402	3.9044	3.9044	1.0000
6	9.39	Sulfate	M	3.158	19.7283	19.7283	1.0000
7	9.72	Nitrate	M	2.443	3.9457	3.9457	1.0000
8	10.30	Chlorate	MB	0.413	3.9185	3.9185	1.0000
9	14.45	Phosphate	BMB	0.458	2.7367	2.7367	1.0000
Total:			**0.000**	**14.714**		**61.78**	

169 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/15/2020 09:51**	*Sample Weight:*	**1.0000**

Run Time:



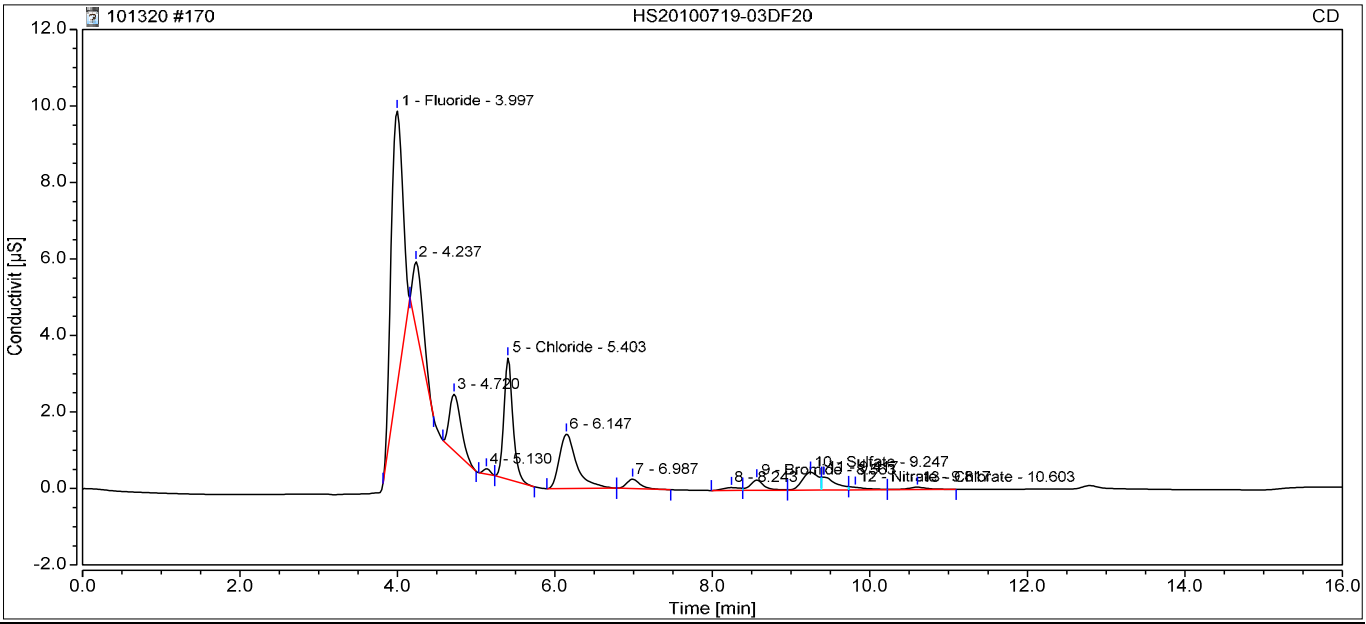
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.40	Chloride	BMB	0.007	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
2	9.44	Sulfate	BMB	0.013	0.0919	0.0919	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.019**		**0.09**	

170 HS20100719-03DF20

Sample Name:	**HS20100719-03DF20**	*Injection Volume:*	**5.00**
Vial Number:	**RE6**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**20.0000**
Recording Time:	**10/15/2020 10:09**	*Sample Weight:*	**1.0000**

Run Time:



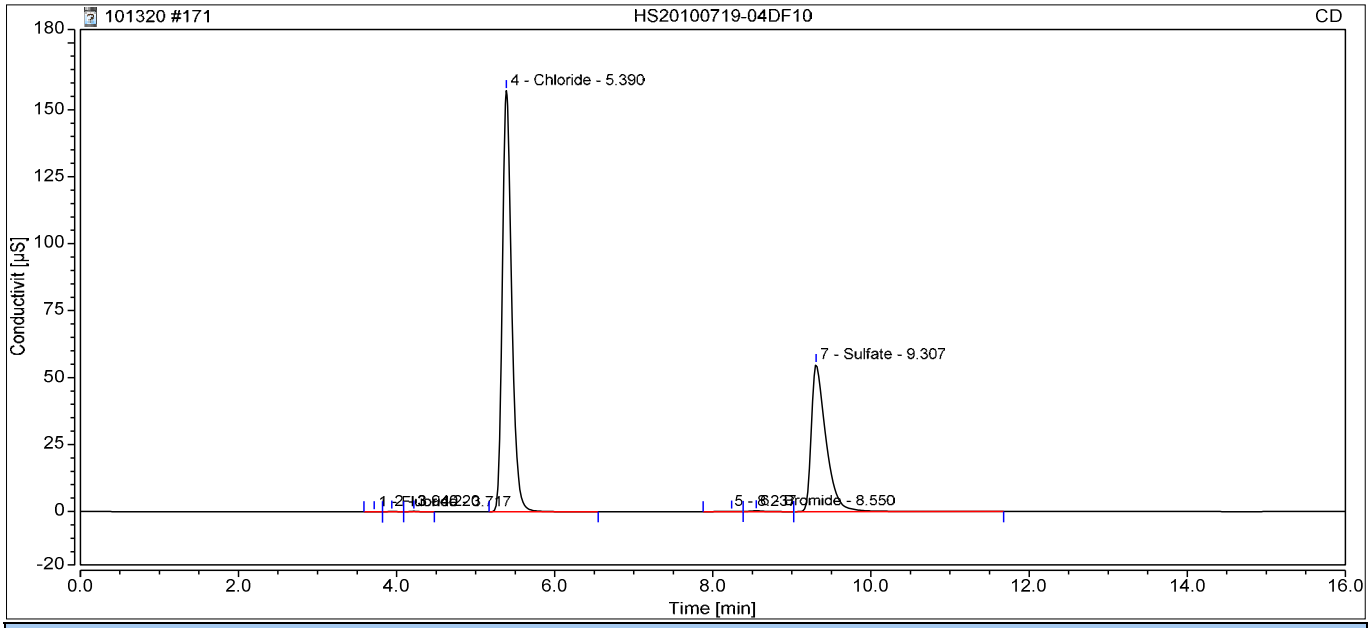
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	4.00	Fluoride	BMB	1.221	3.4643	69.2860	20.0000
5	5.40	Chloride	BMB	0.422	1.7894	35.7878	20.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	20.0000
9	8.56	Bromide	M	0.055	0.4666	9.3316	20.0000
10	9.25	Sulfate	M	0.112	0.7089	14.1776	20.0000
12	9.82	Nitrate	M	0.019	0.0073	0.1459	20.0000
13	10.60	Chlorate	MB	0.019	0.0510	1.0206	20.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	20.0000
Total:			**0.000**	**1.849**		**129.75**	

171 HS20100719-04DF10

Sample Name:	**HS20100719-04DF10**	*Injection Volume:*	**5.00**
Vial Number:	**RE7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**10.0000**
Recording Time:	**10/15/2020 10:27**	*Sample Weight:*	**1.0000**

Run Time:



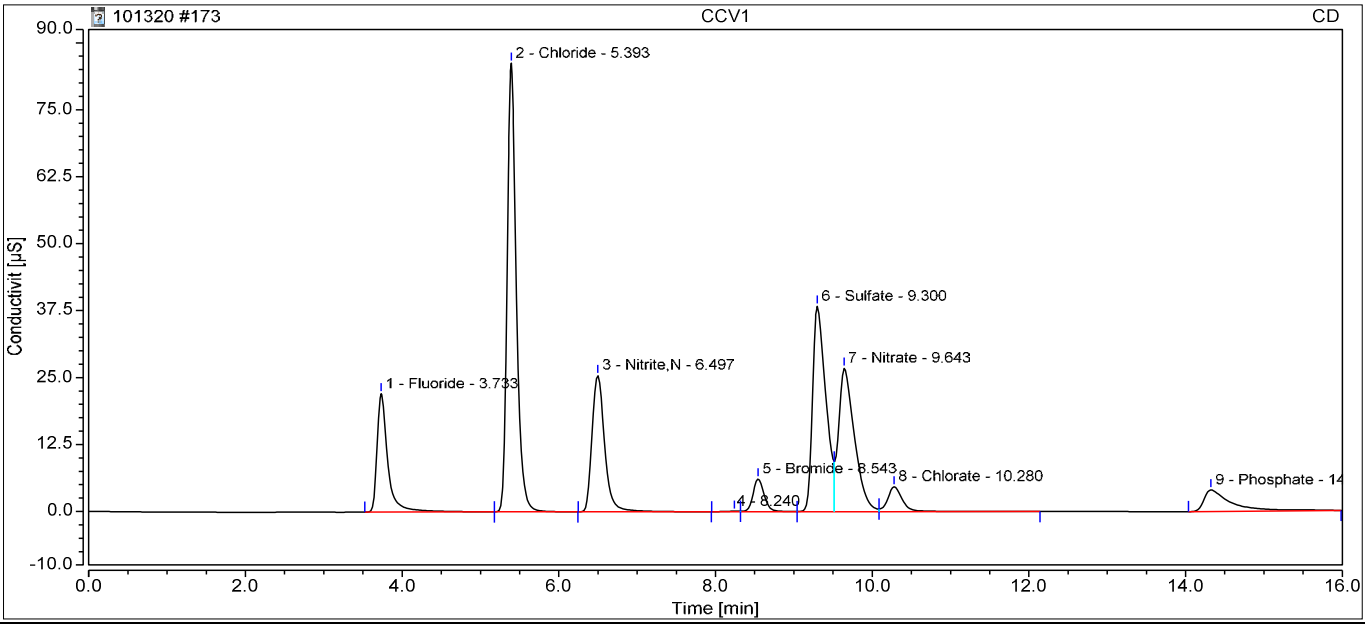
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.004	0.0223	0.2231	10.0000
4	5.39	Chloride	BMB	21.380	93.3627	933.6273	10.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	10.0000
6	8.55	Bromide	M	0.079	0.6999	6.9993	10.0000
7	9.31	Sulfate	MB	11.934	74.5251	745.2514	10.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	10.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	10.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	10.0000
Total:			**0.000**	**33.396**		**1686.10**	

173 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**BA4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/15/2020 11:03**	*Sample Weight:*	**1.0000**

Run Time:



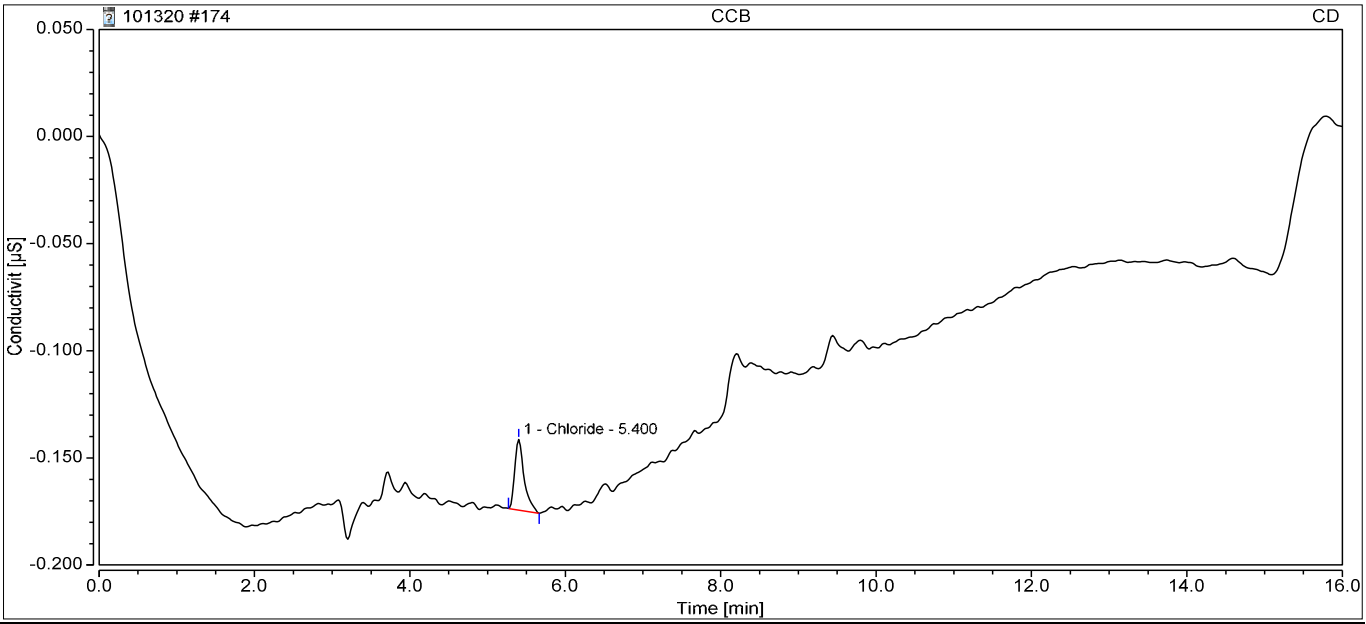
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	3.507	9.9283	9.9283	1.0000
2	5.39	Chloride	BMB	11.331	49.4535	49.4535	1.0000
3	6.50	Nitrite,N	BMB	4.787	10.1233	10.1233	1.0000
5	8.54	Bromide	M	1.015	9.9895	9.9895	1.0000
6	9.30	Sulfate	M	7.612	47.5371	47.5371	1.0000
7	9.64	Nitrate	M	6.354	10.3008	10.3008	1.0000
8	10.28	Chlorate	MB	1.019	9.8581	9.8581	1.0000
9	14.32	Phosphate	BMB	1.641	8.8300	8.8300	1.0000
Total:			**0.000**	**37.266**		**156.02**	

174 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/15/2020 11:21**	*Sample Weight:*	**1.0000**

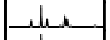
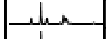
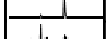
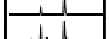
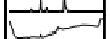
Run Time:



Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.40	Chloride	BMB	0.005	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.005**		**0.00**	

Sequence: 102720
Last Update Operator: alshs.nouser

CD	Name	Comment	Type	Position	Dilution	Level	Instrument Method	Processing Method	me	Status
	STD1		Calibration	BD1	1.00	1	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD2		Calibration	BD2	1.00	2	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD3		Calibration	BD3	1.00	3	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD4		Calibration	BD4	1.00	4	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD5		Calibration	BD5	1.00	5	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD6		Calibration	BD6	1.00	6	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	ICV		Unknown	BD7	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	ICB		Unknown	BD8	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV1		Unknown	BB8	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA5	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100719-02DF200		Unknown	RA8	200.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV		Unknown	BA2	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100779-02DF10		Unknown	RB2	10.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100779-02MSDF10		Unknown	RB3	10.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100779-02MSDDF10		Unknown	RB4	10.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	MBLK-102720		Unknown	BA7	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	LCS-102720		Unknown	BA8	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV1		Unknown	BB7	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA5	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished

Sequence: 102720
Last Update Operator: alshs.nouser

Inject Time
8/11/2020 10:46:45 AM -05:00
8/11/2020 11:04:45 AM -05:00
8/11/2020 11:22:45 AM -05:00
8/11/2020 11:40:48 AM -05:00
8/11/2020 11:58:48 AM -05:00
8/11/2020 12:16:48 PM -05:00
8/11/2020 12:34:48 PM -05:00
8/11/2020 12:52:50 PM -05:00
10/28/2020 2:50:58 AM -05:00
10/28/2020 3:08:59 AM -05:00
10/28/2020 5:33:14 AM -05:00
10/28/2020 6:09:17 AM -05:00
10/28/2020 6:27:18 AM -05:00
10/28/2020 6:45:19 AM -05:00
10/28/2020 7:03:22 AM -05:00
10/28/2020 7:21:22 AM -05:00
10/28/2020 8:33:27 AM -05:00
10/28/2020 8:51:28 AM -05:00
10/28/2020 9:09:28 AM -05:00
10/28/2020 9:27:30 AM -05:00

Sequence: 101320
Injection #6: STD6

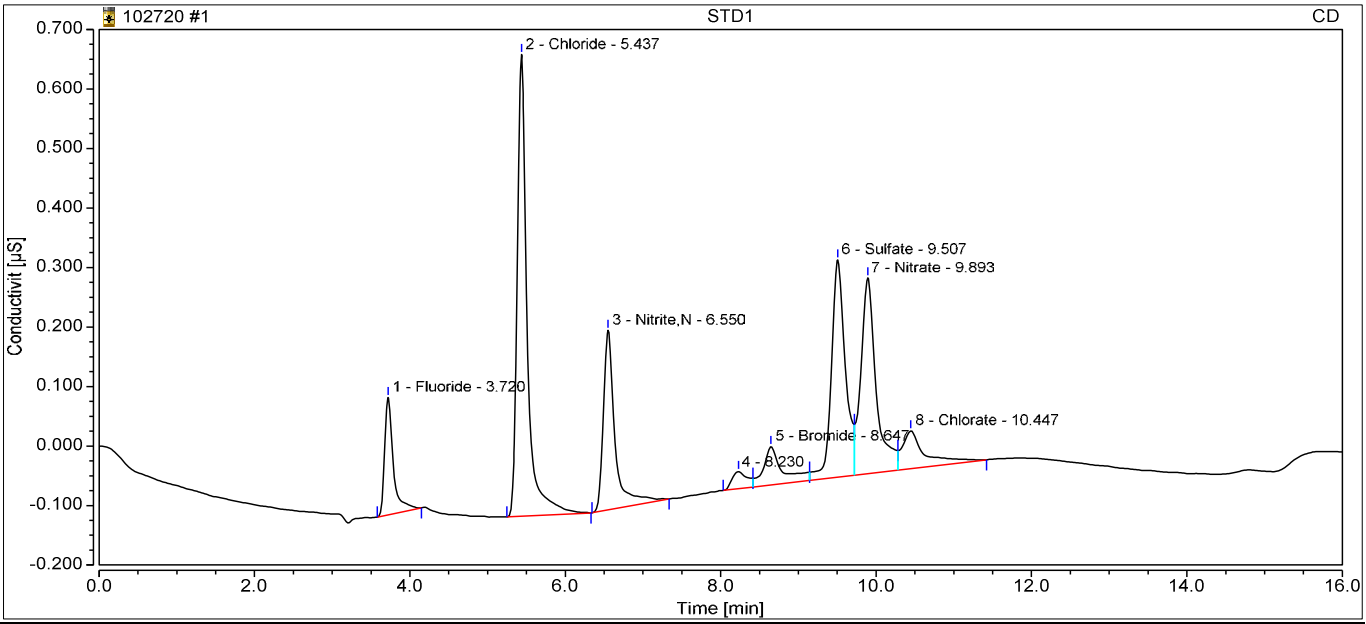
Calibration

Peak No.	Peak Name	Cal.Type	Eval.Type	Number of Points	Rel.Std.Dev. %	Coeff.of Determination	C0 (Offset)	C1 (Slope)	C2 (Curve)
1	***Fluoride***	***Lin, WithOffset, 1/***	***Area***	***6***	***17.3553***	***0.99849***	***-0.0040***	***0.3537***	***0.0000***
2	Chloride	Lin, WithOffset, 1/	Area	6	5.4804	0.99983	0.0129	0.2289	0.0000
3	Nitrite,N	Lin, WithOffset, 1/	Area	6	26.1376	0.99573	0.0186	0.4711	0.0000
5	Bromide	Lin, WithOffset, 1/	Area	6	0.9346	0.99999	0.0083	0.1008	0.0000
6	Sulfate	Lin, WithOffset, 1/	Area	6	5.2843	0.99985	-0.0019	0.1602	0.0000
7	Nitrate	Lin, WithOffset, 1/	Area	6	4.5248	0.99988	0.0144	0.6154	0.0000
8	Chlorate	Lin, WithOffset, 1/	Area	6	13.4374	0.99837	0.0139	0.1019	0.0000
10	Phosphate	Lin, WithOffset, 1/	Area	5	18.5357	0.99714	-0.0737	0.1942	0.0000
Maximum					**26.1376**	0.99999			
Minimum					0.9346	**0.99573**			

1 STD1

Sample Name:	**STD1**	*Injection Volume:*	**5.00**
Vial Number:	**BD1**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 10:46**	*Sample Weight:*	**1.0000**

Run Time:

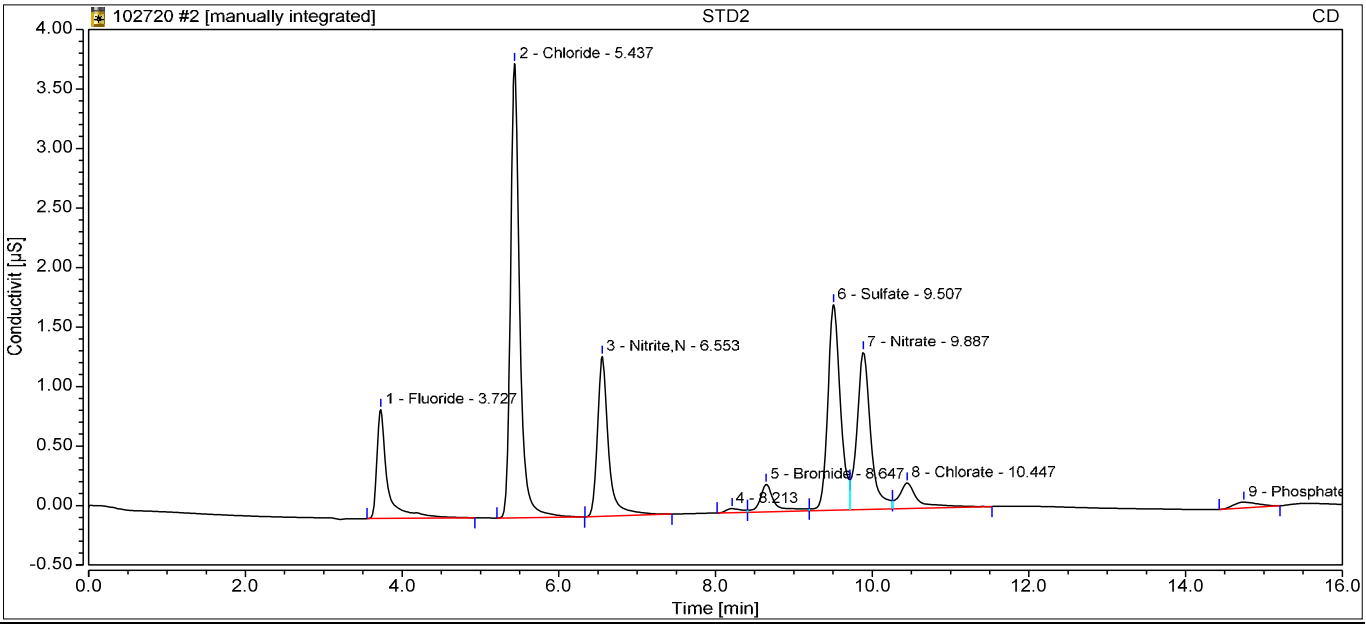


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.025	0.0833	0.0833	1.0000
2	5.44	Chloride	BMB	0.116	0.4487	0.4487	1.0000
3	6.55	Nitrite,N	BMB	0.052	0.0715	0.0715	1.0000
5	8.65	Bromide	M	0.018	0.0997	0.0997	1.0000
6	9.51	Sulfate	M	0.076	0.4861	0.4861	1.0000
7	9.89	Nitrate	M	0.075	0.0985	0.0985	1.0000
8	10.45	Chlorate	MB	0.021	0.0734	0.0734	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.384**		**1.36**	

2 STD2			
Sample Name:	**STD2**	*Injection Volume:*	**5.00**
Vial Number:	**BD2**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 11:04**	*Sample Weight:*	**1.0000**

Run Time:



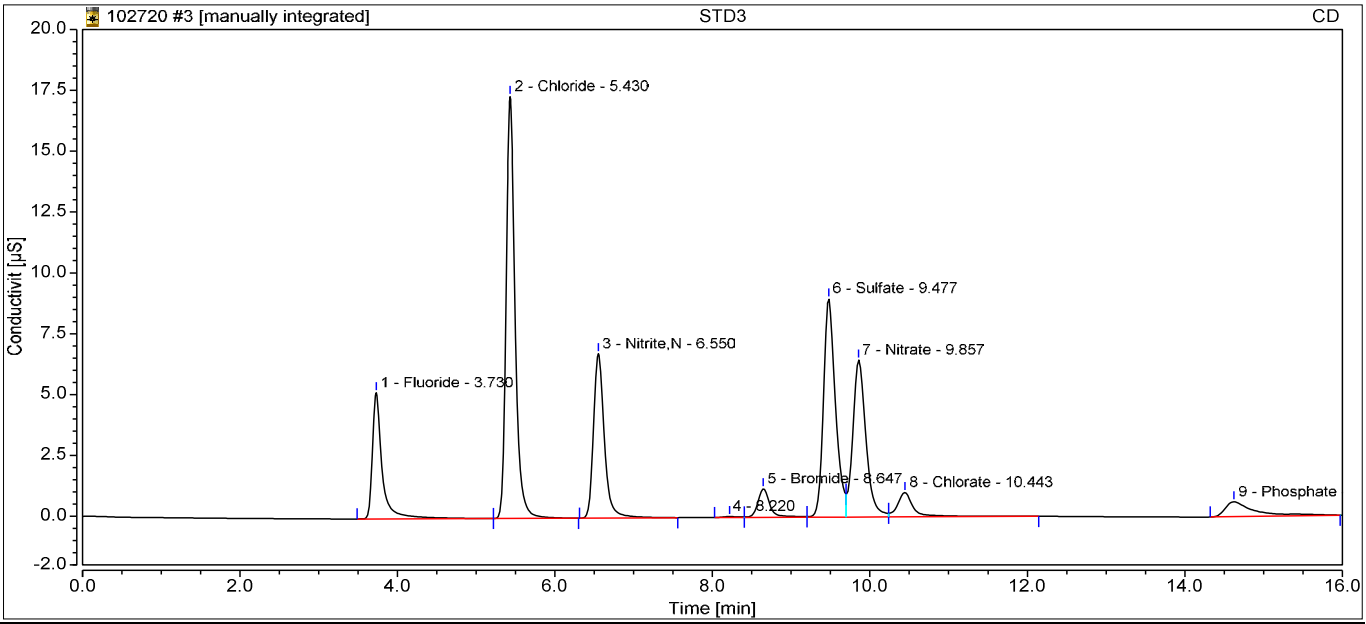
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.145	0.4204	0.4204	1.0000
2	5.44	Chloride	BMB	0.518	2.2084	2.2084	1.0000
3	6.55	Nitrite,N	BMB	0.221	0.4294	0.4294	1.0000
5	8.65	Bromide	M	0.049	0.4041	0.4041	1.0000
6	9.51	Sulfate	M	0.321	2.0151	2.0151	1.0000
7	9.89	Nitrate	M	0.270	0.4147	0.4147	1.0000
8	10.45	Chlorate	MB	0.060	0.4536	0.4536	1.0000
9	14.74	Phosphate	BMB	0.018	0.4703	0.4703	1.0000
Total:			**0.000**	**1.601**		**6.82**	

3 STD3

Sample Name:	**STD3**	*Injection Volume:*	**5.00**
Vial Number:	**BD3**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 11:22**	*Sample Weight:*	**1.0000**

Run Time:



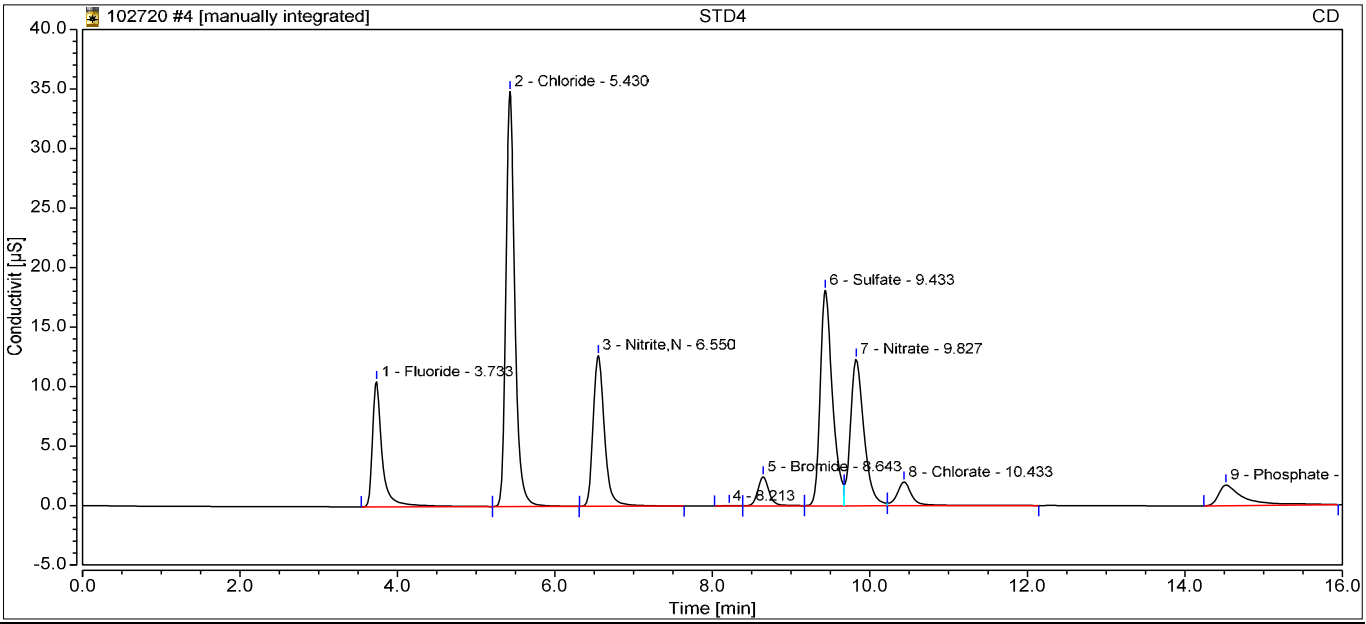
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.745	2.1166	2.1166	1.0000
2	5.43	Chloride	BMB	2.291	9.9533	9.9533	1.0000
3	6.55	Nitrite,N	BMB	1.077	2.2460	2.2460	1.0000
5	8.65	Bromide	M	0.209	1.9882	1.9882	1.0000
6	9.48	Sulfate	M	1.595	9.9688	9.9688	1.0000
7	9.86	Nitrate	M	1.238	1.9883	1.9883	1.0000
8	10.44	Chlorate	MB	0.239	2.2038	2.2038	1.0000
9	14.62	Phosphate	BM *	0.269	1.7634	1.7634	1.0000
Total:			**0.000**	**7.661**		**32.23**	

4 STD4

Sample Name:	**STD4**	*Injection Volume:*	**5.00**
Vial Number:	**BD4**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 11:40**	*Sample Weight:*	**1.0000**

Run Time:



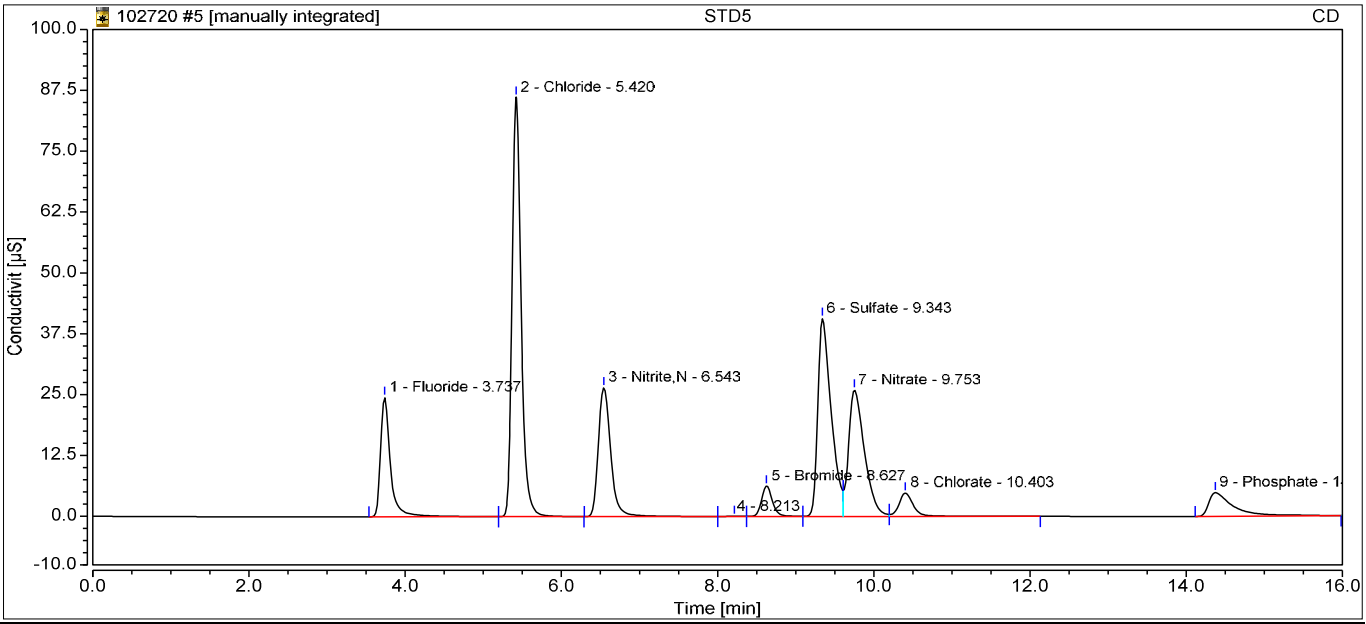
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	1.504	4.2630	4.2630	1.0000
2	5.43	Chloride	BMB	4.613	20.0986	20.0986	1.0000
3	6.55	Nitrite,N	BMB*	2.104	4.4276	4.4276	1.0000
5	8.64	Bromide	M	0.411	3.9946	3.9946	1.0000
6	9.43	Sulfate	M	3.273	20.4465	20.4465	1.0000
7	9.83	Nitrate	M	2.444	3.9482	3.9482	1.0000
8	10.43	Chlorate	MB	0.443	4.2079	4.2079	1.0000
9	14.52	Phosphate	BM *	0.648	3.7157	3.7157	1.0000
Total:			**0.000**	**15.439**		**65.10**	

5 STD5

Sample Name:	**STD5**	*Injection Volume:*	**5.00**
Vial Number:	**BD5**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 11:58**	*Sample Weight:*	**1.0000**

Run Time:



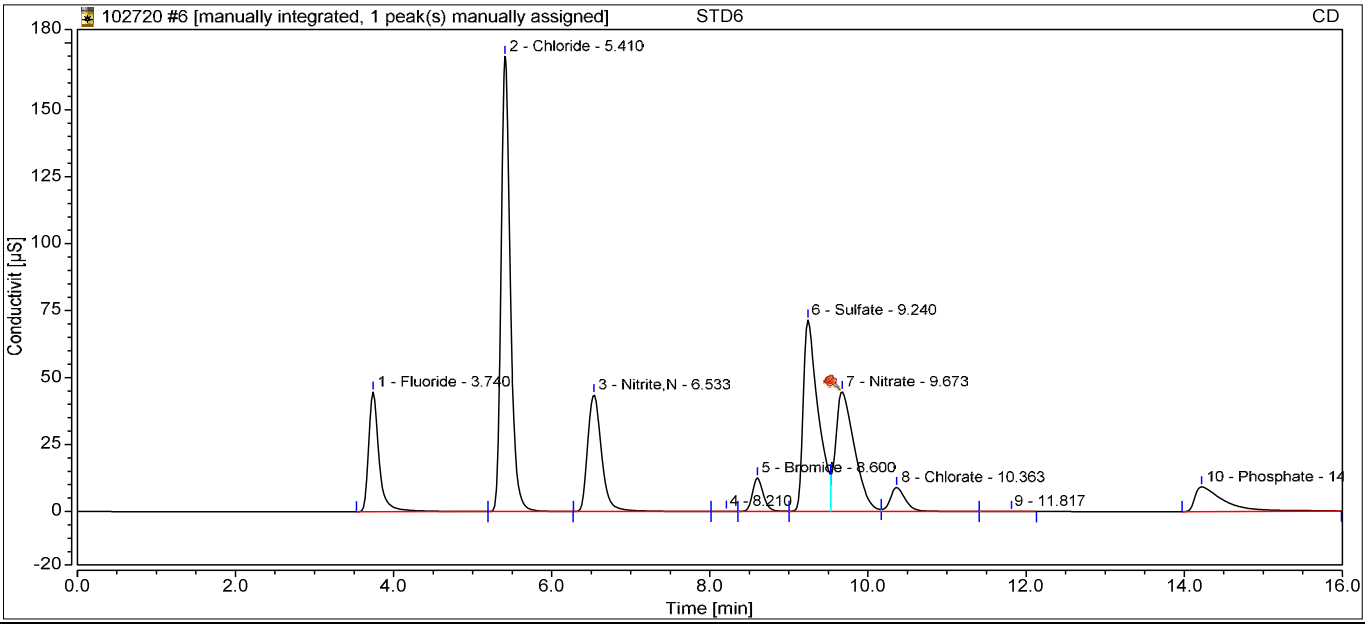
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.611	10.2228	10.2228	1.0000
2	5.42	Chloride	BMB	11.462	50.0272	50.0272	1.0000
3	6.54	Nitrite,N	BMB	4.877	10.3135	10.3135	1.0000
5	8.63	Bromide	M	1.014	9.9796	9.9796	1.0000
6	9.34	Sulfate	M	8.089	50.5200	50.5200	1.0000
7	9.75	Nitrate	M	6.097	9.8832	9.8832	1.0000
8	10.40	Chlorate	MB	1.032	9.9918	9.9918	1.0000
9	14.37	Phosphate	BM *	1.834	9.8223	9.8223	1.0000
Total:			**0.000**	**38.017**		**160.76**	

6 STD6

Sample Name:	**STD6**	*Injection Volume:*	**5.00**
Vial Number:	**BD6**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 12:16**	*Sample Weight:*	**1.0000**

Run Time:



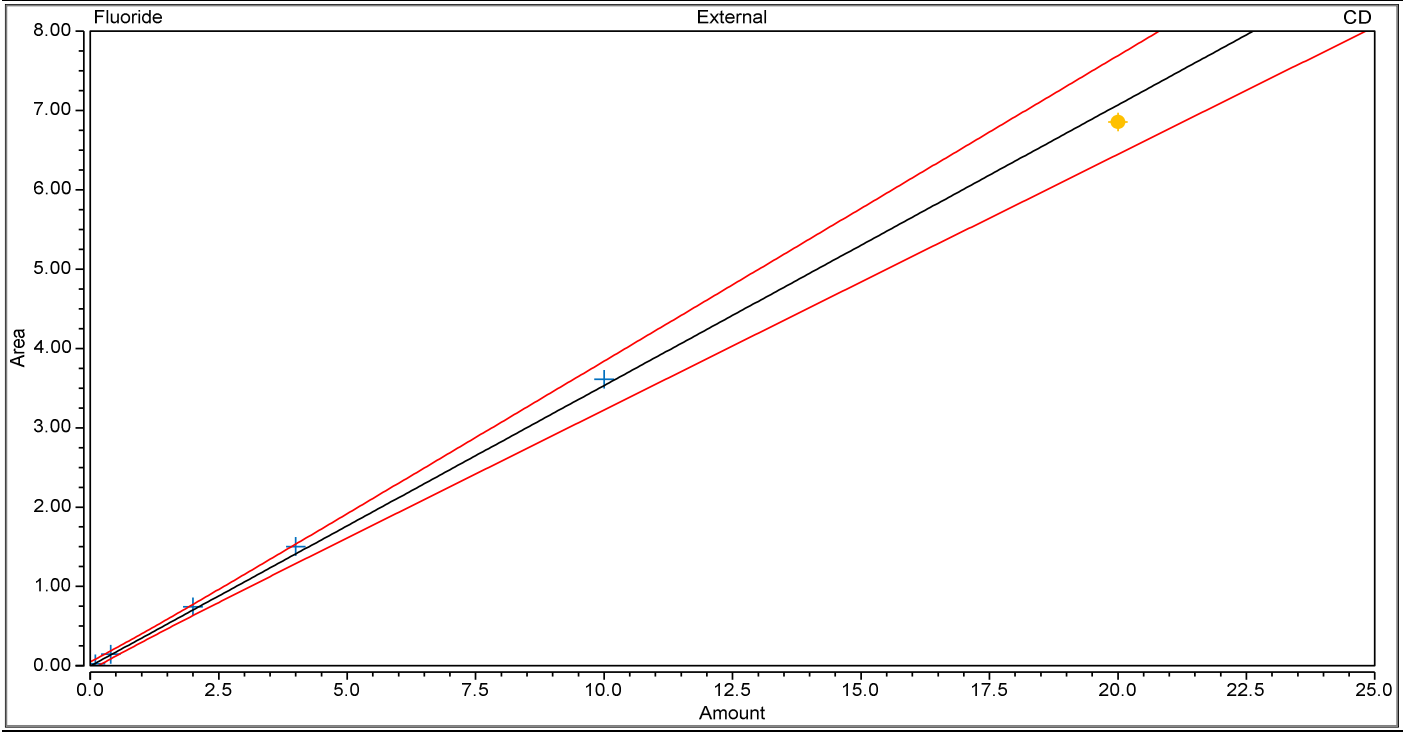
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	6.855	19.3940	19.3940	1.0000
2	5.41	Chloride	BMB	22.844	99.7639	99.7639	1.0000
3	6.53	Nitrite,N	BMB	8.975	19.0121	19.0121	1.0000
5	8.60	Bromide	M	2.028	20.0338	20.0338	1.0000
6	9.24	Sulfate	M	15.864	99.0635	99.0635	1.0000
7	9.67	Nitrate	M ^	12.426	20.1671	20.1671	1.0000
8	10.36	Chlorate	M	2.009	19.5694	19.5694	1.0000
10	14.22	Phosphate	BM *	3.933	20.6283	20.6283	1.0000
Total:			**0.000**	**74.933**		**317.63**	

Calibration

Calibration Details	Fluoride		
Calibration Type	Lin, WithOffset, 1/A	*Offset (C0)*	-0.0040
Evaluation Type	Area	*Slope (C1)*	0.3537
Number of Calibration Points	6	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.9985

Calibration Plot **Fluoride**



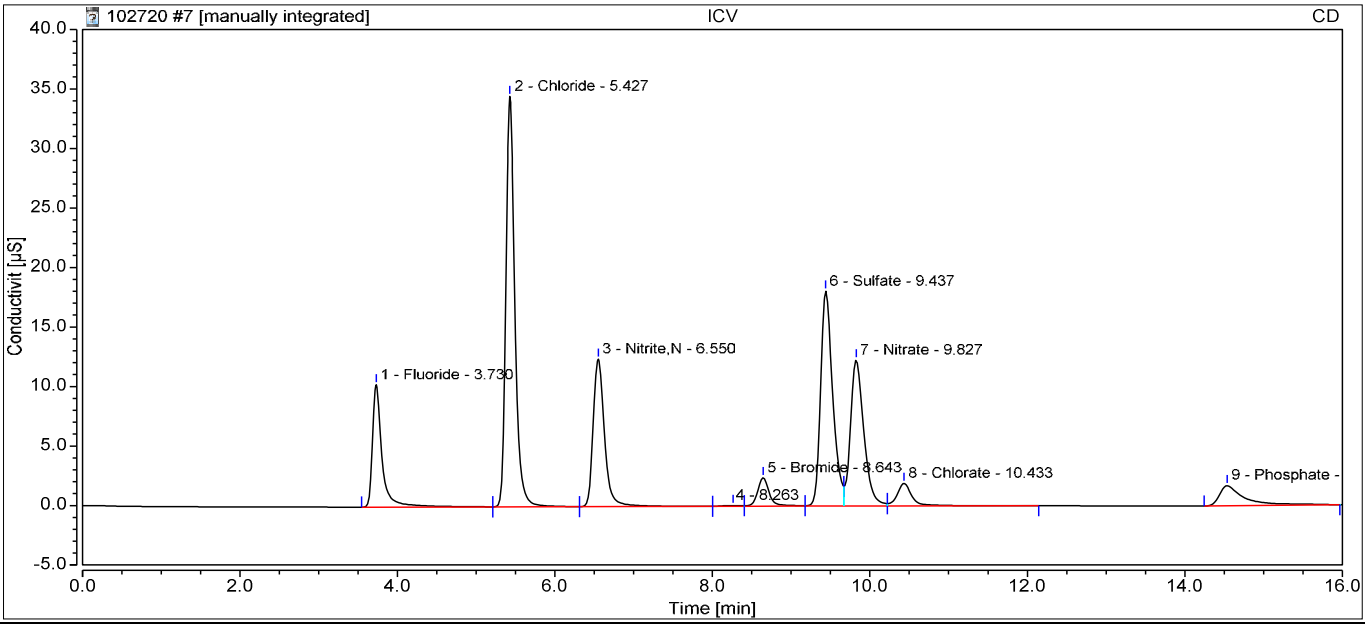
Calibration Results **Fluoride**

No.	Injection Name	Calibration Level	X Value CD Fluoride	Y Value CD Fluoride	Y Value CD Fluoride	Area µS*min CD Fluoride	Height µS CD Fluoride
1	STD1	1	0.1000	0.0254	0.0254	0.025	0.197
2	STD2	2	0.4000	0.1446	0.1446	0.145	0.916
3	STD3	3	2.0000	0.7445	0.7445	0.745	5.182
4	STD4	4	4.0000	1.5036	1.5036	1.504	10.507
5	STD5	5	10.0000	3.6113	3.6113	3.611	24.538
6	STD6	6	20.0000	6.8547	6.8547	6.855	44.677

7 ICV

Sample Name:	**ICV**	*Injection Volume:*	**5.00**
Vial Number:	**BD7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 12:34**	*Sample Weight:*	**1.0000**

Run Time:



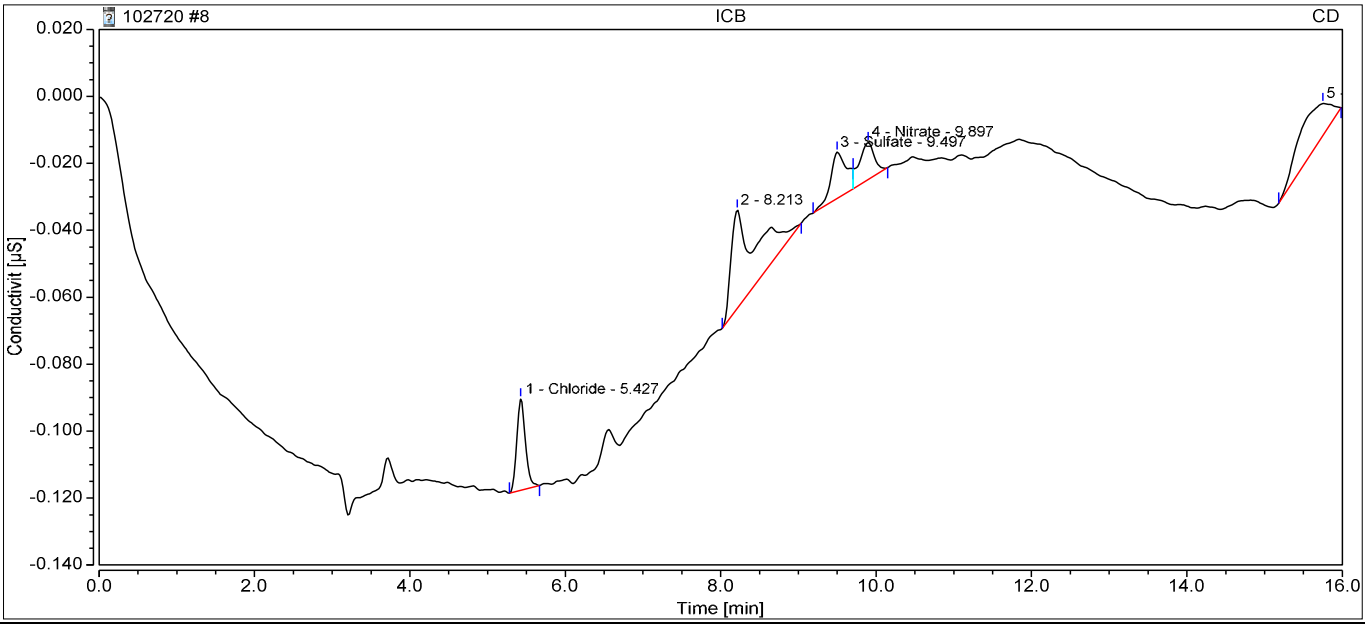
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	1.447	4.1020	4.1020	1.0000
2	5.43	Chloride	BMB	4.553	19.8399	19.8399	1.0000
3	6.55	Nitrite,N	BMB	2.061	4.3359	4.3359	1.0000
5	8.64	Bromide	M	0.413	4.0106	4.0106	1.0000
6	9.44	Sulfate	M	3.227	20.1622	20.1622	1.0000
7	9.83	Nitrate	M	2.405	3.8850	3.8850	1.0000
8	10.43	Chlorate	MB	0.422	4.0019	4.0019	1.0000
9	14.54	Phosphate	BM *	0.631	3.6292	3.6292	1.0000
Total:			**0.000**	**15.159**		**63.97**	

8 ICB

Sample Name:	**ICB**	*Injection Volume:*	**5.00**
Vial Number:	**BD8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 12:52**	*Sample Weight:*	**1.0000**

Run Time:



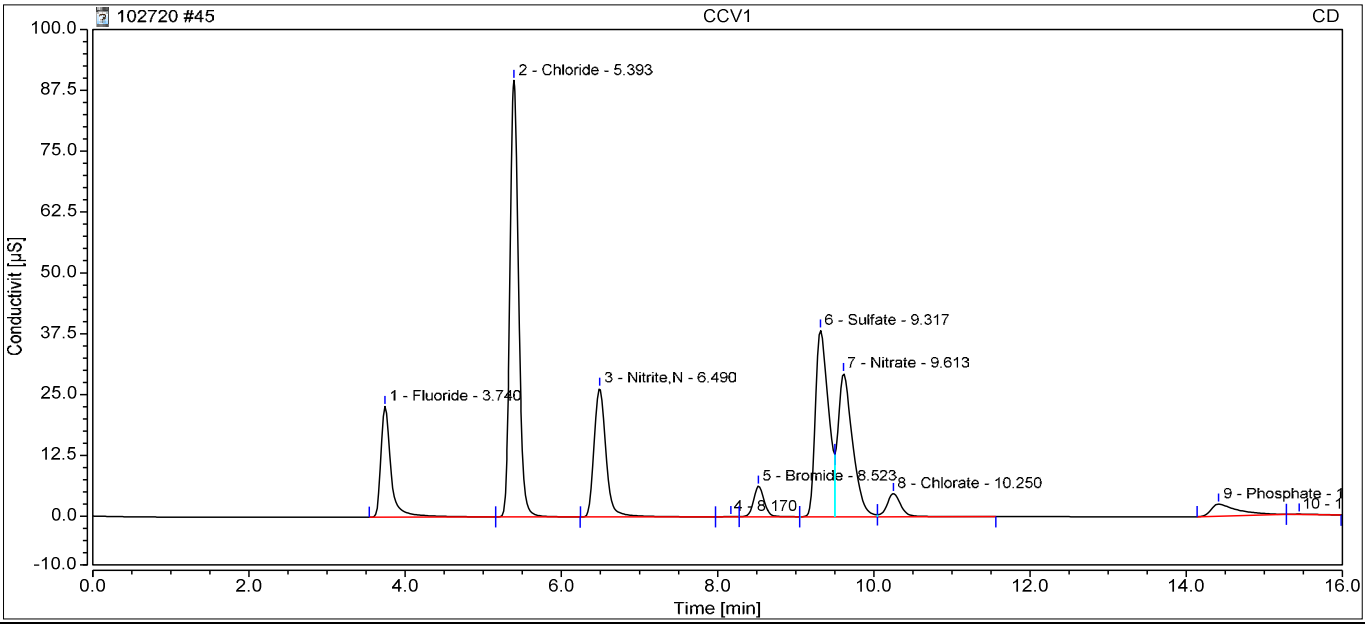
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.43	Chloride	BMB	0.004	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
3	9.50	Sulfate	BM	0.003	0.0318	0.0318	1.0000
4	9.90	Nitrate	MB	0.003	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.009**		**0.03**	

45 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**BB8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/28/2020 02:50**	*Sample Weight:*	**1.0000**

Run Time:



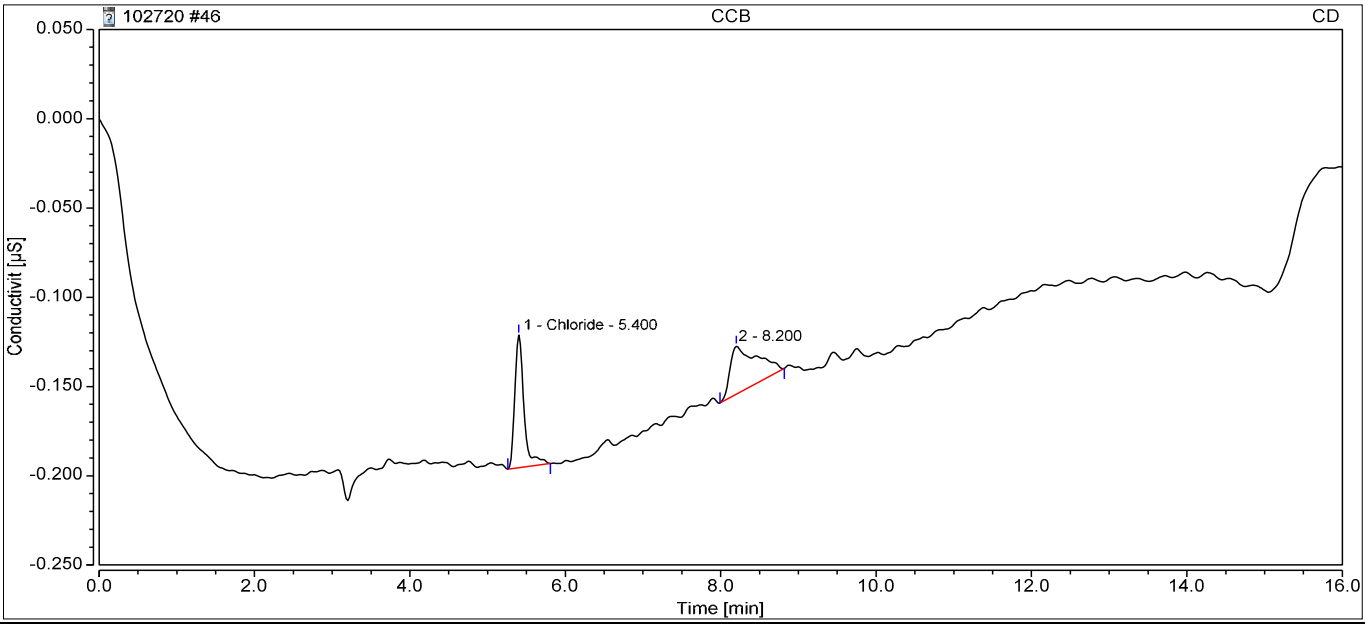
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.434	9.7229	9.7229	1.0000
2	5.39	Chloride	BMB	11.450	49.9746	49.9746	1.0000
3	6.49	Nitrite,N	BMB	4.702	9.9412	9.9412	1.0000
5	8.52	Bromide	M	0.997	9.8034	9.8034	1.0000
6	9.32	Sulfate	M	7.431	46.4116	46.4116	1.0000
7	9.61	Nitrate	M	6.428	10.4214	10.4214	1.0000
8	10.25	Chlorate	MB	0.986	9.5370	9.5370	1.0000
9	14.42	Phosphate	BMB	0.971	5.3783	5.3783	1.0000
Total:			**0.000**	**36.399**		**151.19**	

46 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/28/2020 03:08**	*Sample Weight:*	**1.0000**

Run Time:



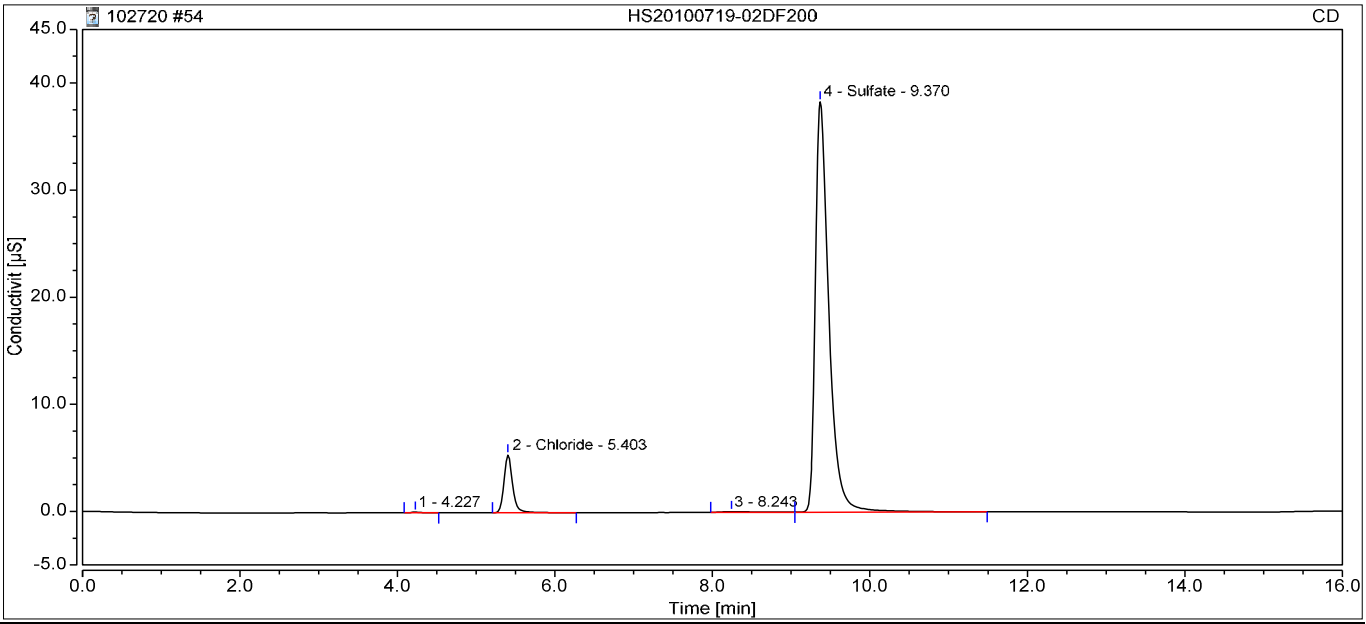
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.40	Chloride	BMB	0.010	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.010**		**0.00**	

54 HS20100719-02DF200

Sample Name:	**HS20100719-02DF200**	*Injection Volume:*	**5.00**
Vial Number:	**RA8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**200.0000**
Recording Time:	**10/28/2020 05:33**	*Sample Weight:*	**1.0000**

Run Time:



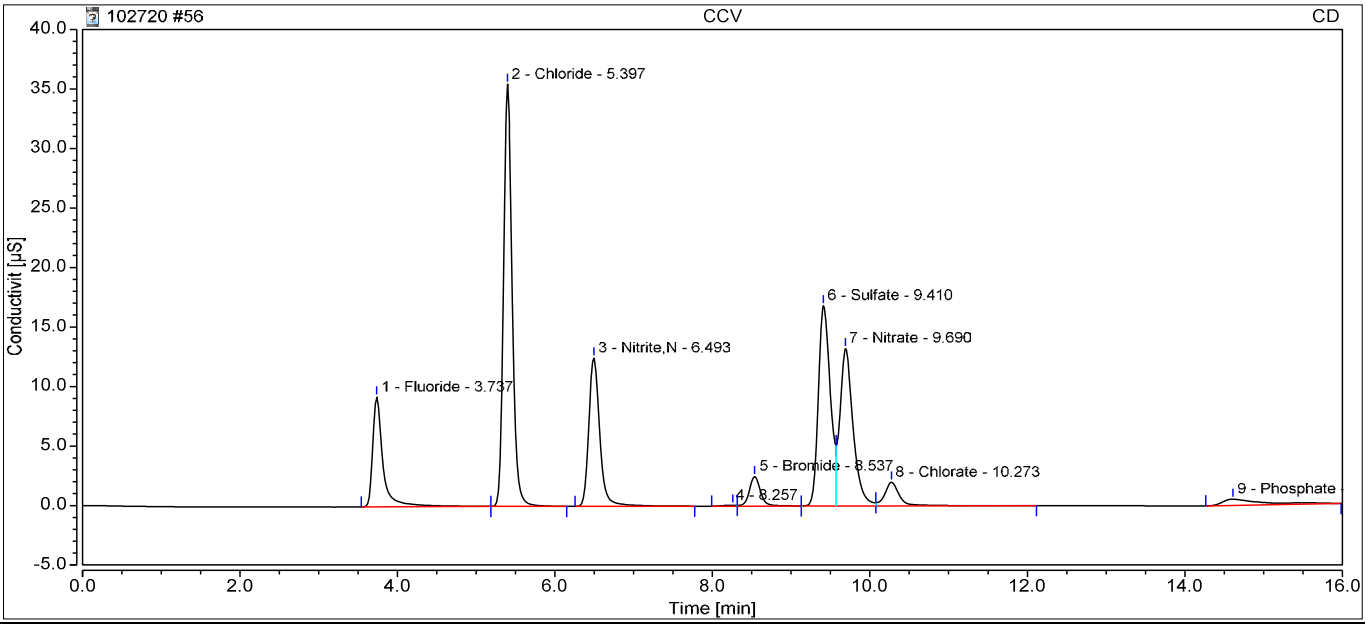
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	200.0000
2	5.40	Chloride	BMB	0.698	2.9953	599.0519	200.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	200.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	200.0000
4	9.37	Sulfate	MB	7.615	47.5575	9511.5035	200.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	200.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	200.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	200.0000
Total:			**0.000**	**8.313**		**10110.56**	

56 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**BA2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/28/2020 06:09**	*Sample Weight:*	**1.0000**

Run Time:



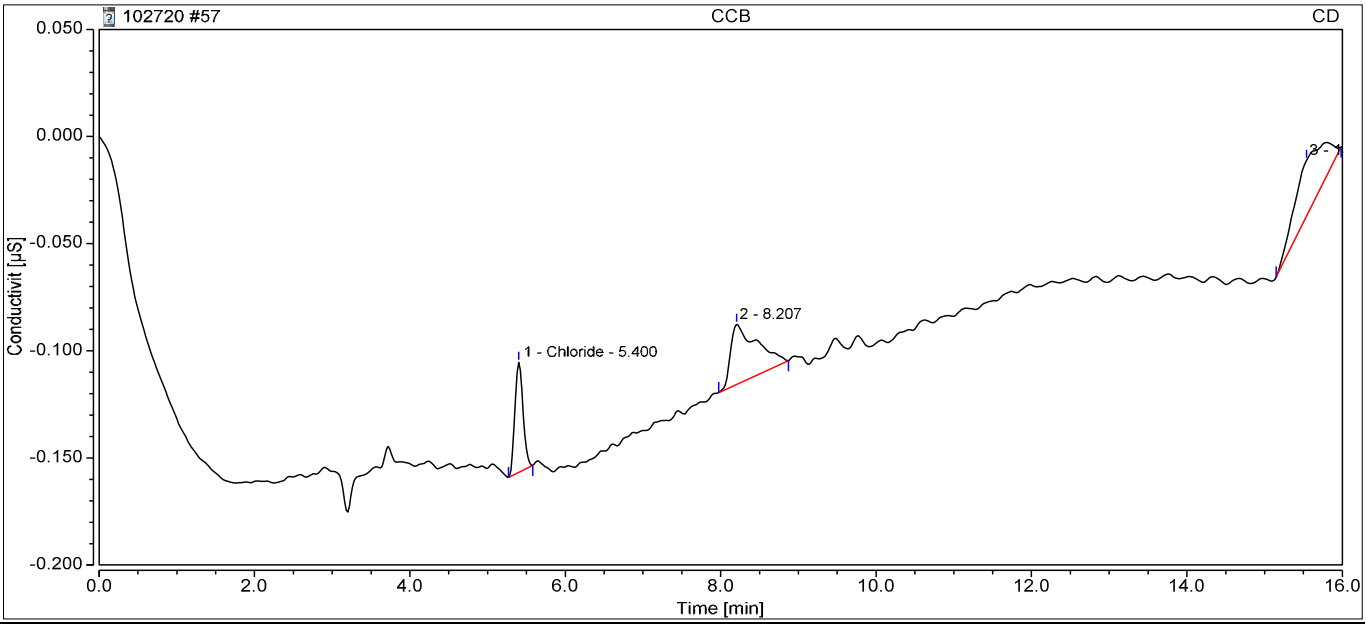
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.398	3.9631	3.9631	1.0000
2	5.40	Chloride	BMB	4.534	19.7567	19.7567	1.0000
3	6.49	Nitrite,N	BMB	2.036	4.2818	4.2818	1.0000
5	8.54	Bromide	M	0.410	3.9818	3.9818	1.0000
6	9.41	Sulfate	M	2.969	18.5501	18.5501	1.0000
7	9.69	Nitrate	M	2.574	4.1595	4.1595	1.0000
8	10.27	Chlorate	MB	0.440	4.1793	4.1793	1.0000
9	14.61	Phosphate	BMB	0.312	1.9871	1.9871	1.0000
Total:			**0.000**	**14.673**		**60.86**	

57 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/28/2020 06:27**	*Sample Weight:*	**1.0000**

Run Time:



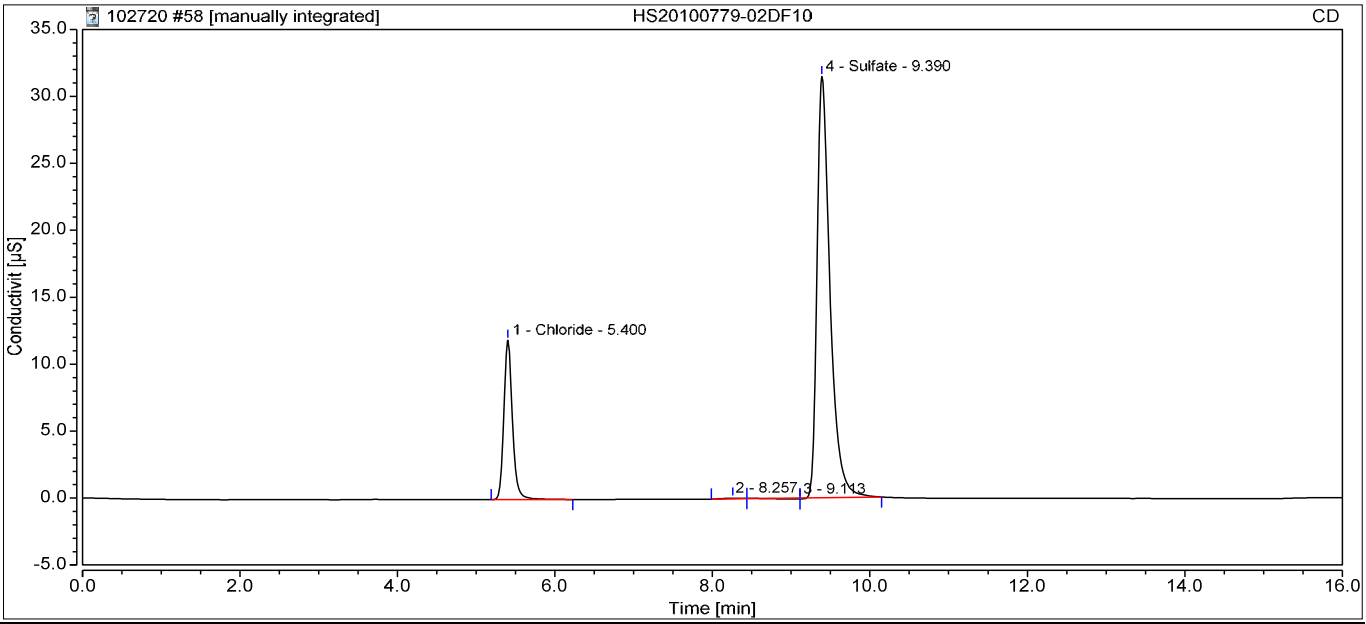
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.40	Chloride	BMB	0.006	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.006**		**0.00**	

58 HS20100779-02DF10

Sample Name:	**HS20100779-02DF10**	*Injection Volume:*	**5.00**
Vial Number:	**RB2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**10.0000**
Recording Time:	**10/28/2020 06:45**	*Sample Weight:*	**1.0000**

Run Time:



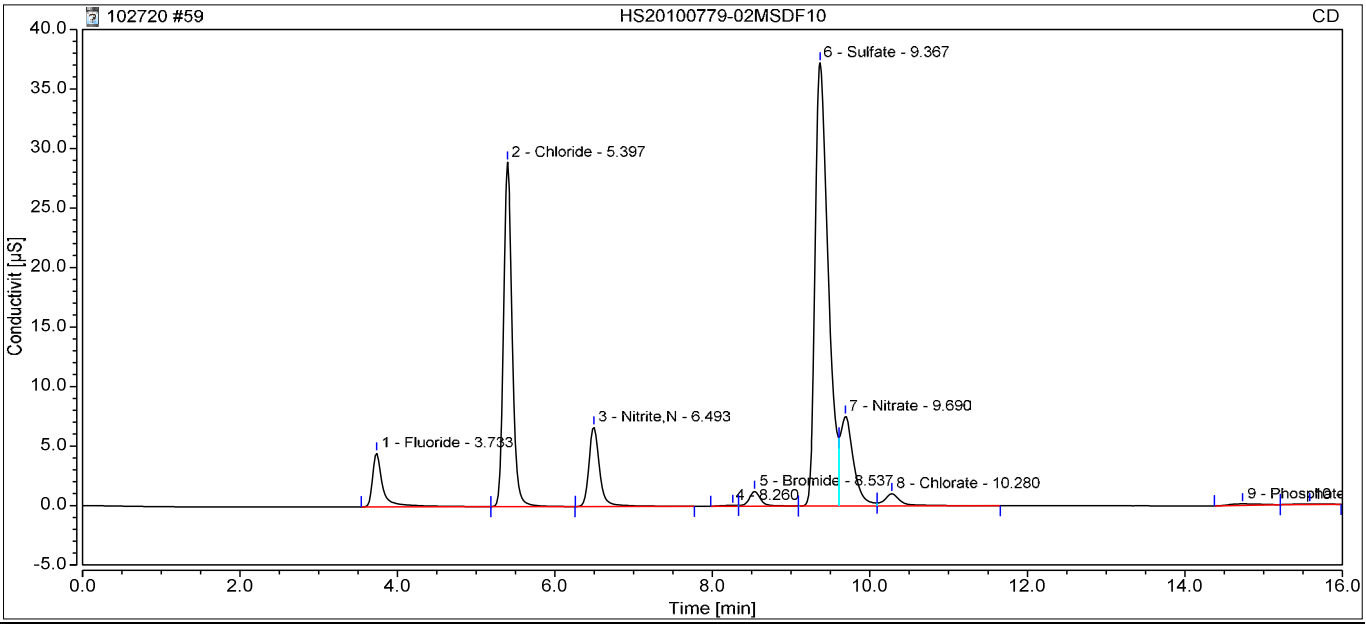
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	10.0000
1	5.40	Chloride	BMB	1.525	6.6053	66.0529	10.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	10.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	10.0000
4	9.39	Sulfate	MB*	5.996	37.4529	374.5294	10.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	10.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	10.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	10.0000
Total:			**0.000**	**7.521**		**440.58**	

59 HS20100779-02MSDF10

Sample Name:	**HS20100779-02MSDF10**	*Injection Volume:*	**5.00**
Vial Number:	**RB3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**10.0000**
Recording Time:	**10/28/2020 07:03**	*Sample Weight:*	**1.0000**

Run Time:



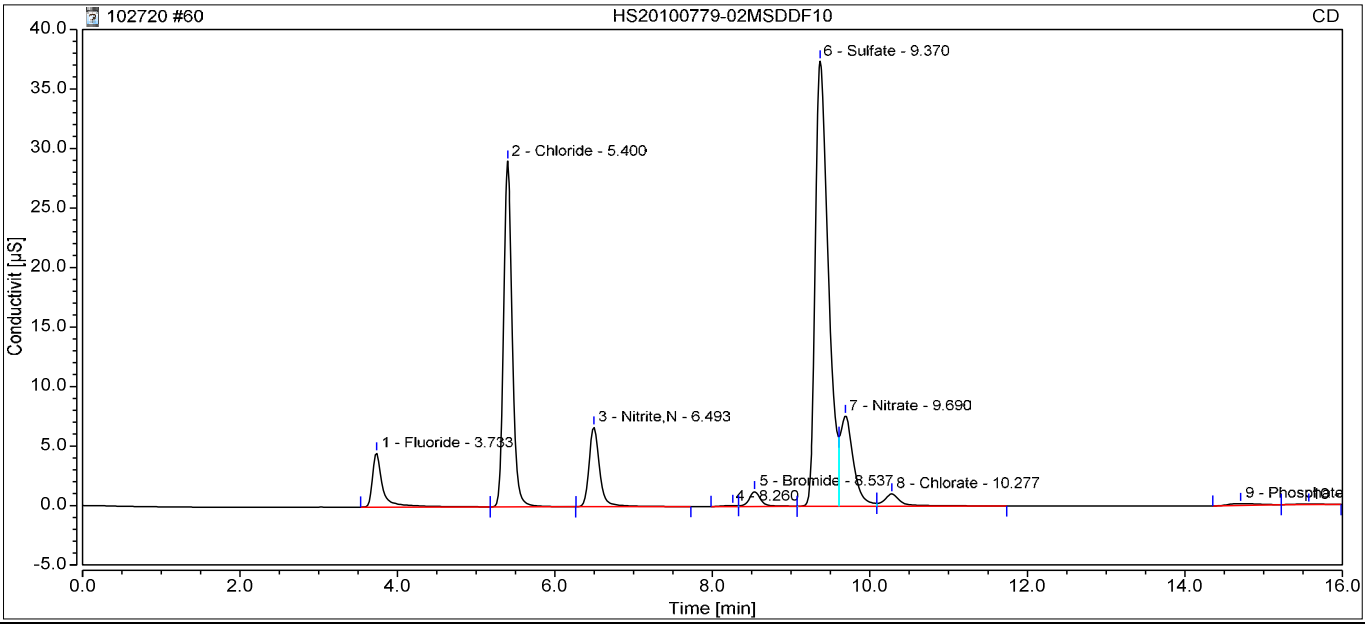
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.690	1.9628	19.6282	10.0000
2	5.40	Chloride	BMB	3.696	16.0939	160.9388	10.0000
3	6.49	Nitrite,N	BMB	1.050	2.1887	21.8869	10.0000
5	8.54	Bromide	M	0.213	2.0282	20.2816	10.0000
6	9.37	Sulfate	M	7.162	44.7284	447.2838	10.0000
7	9.69	Nitrate	M	1.483	2.3860	23.8604	10.0000
8	10.28	Chlorate	MB	0.251	2.3250	23.2499	10.0000
9	14.73	Phosphate	BMB	0.050	0.6385	6.3849	10.0000
Total:			**0.000**	**14.594**		**723.51**	

60 HS20100779-02MSDDF10

Sample Name:	**HS20100779-02MSDDF10**	*Injection Volume:*	**5.00**
Vial Number:	**RB4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**10.0000**
Recording Time:	**10/28/2020 07:21**	*Sample Weight:*	**1.0000**

Run Time:



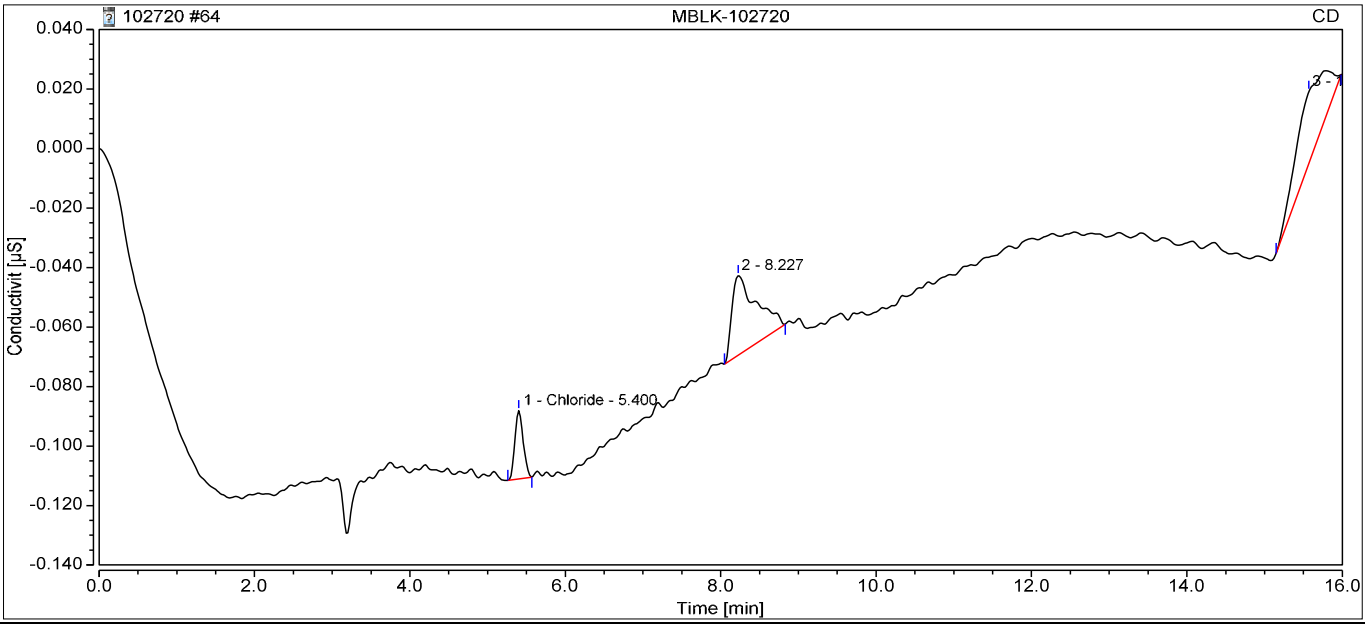
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.691	1.9640	19.6401	10.0000
2	5.40	Chloride	BMB	3.717	16.1859	161.8593	10.0000
3	6.49	Nitrite,N	BMB	1.046	2.1809	21.8091	10.0000
5	8.54	Bromide	M	0.213	2.0341	20.3413	10.0000
6	9.37	Sulfate	M	7.170	44.7823	447.8229	10.0000
7	9.69	Nitrate	M	1.481	2.3829	23.8290	10.0000
8	10.28	Chlorate	MB	0.252	2.3393	23.3929	10.0000
9	14.71	Phosphate	BMB	0.066	0.7184	7.1844	10.0000
Total:			**0.000**	**14.636**		**725.88**	

64 MBLK-102720

Sample Name:	**MBLK-102720**	*Injection Volume:*	**5.00**
Vial Number:	**BA7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/28/2020 08:33**	*Sample Weight:*	**1.0000**

Run Time:



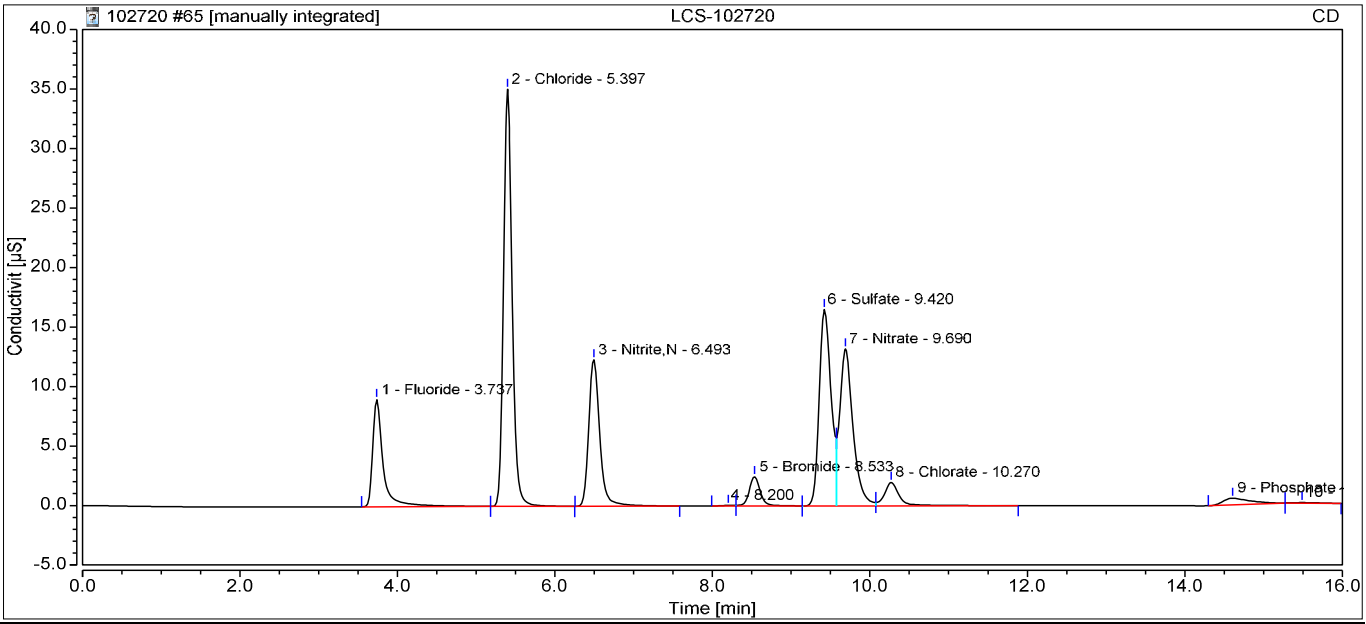
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.40	Chloride	BMB	0.003	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.003**		**0.00**	

65 LCS-102720

Sample Name:	**LCS-102720**	*Injection Volume:*	**5.00**
Vial Number:	**BA8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/28/2020 08:51**	*Sample Weight:*	**1.0000**

Run Time:



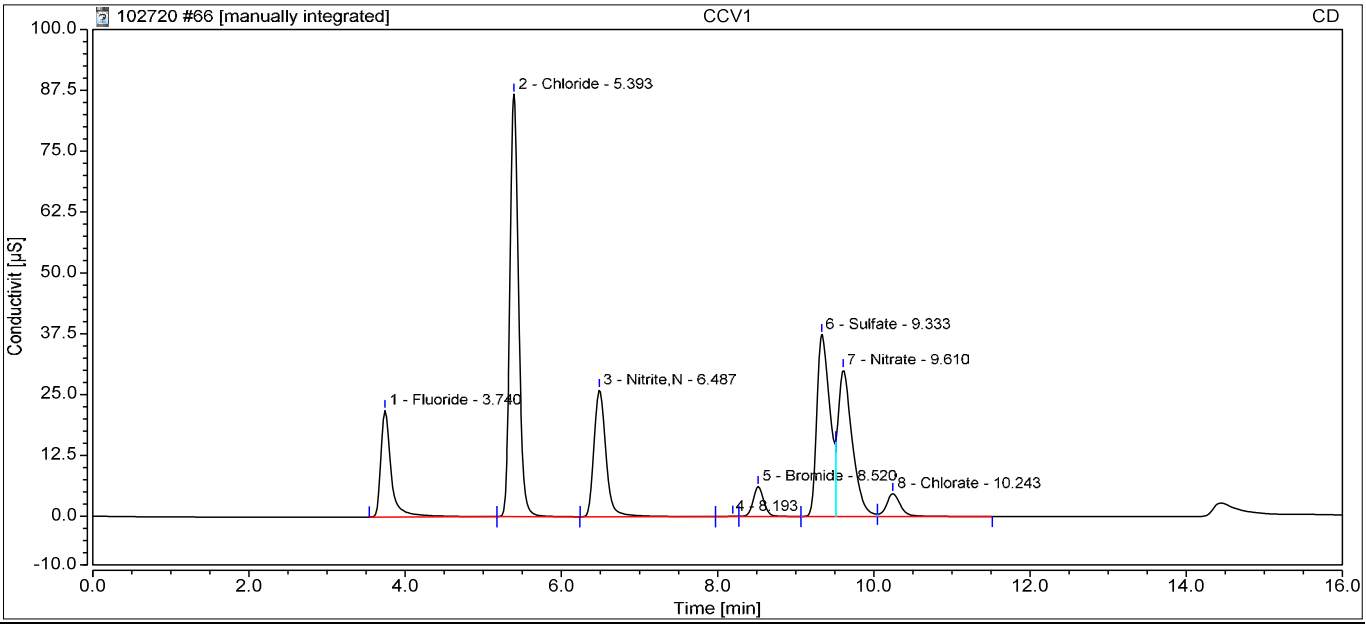
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.385	3.9266	3.9266	1.0000
2	5.40	Chloride	BMB	4.491	19.5674	19.5674	1.0000
3	6.49	Nitrite,N	BMB	2.015	4.2371	4.2371	1.0000
5	8.53	Bromide	M	0.406	3.9402	3.9402	1.0000
6	9.42	Sulfate	M *	2.889	18.0484	18.0484	1.0000
7	9.69	Nitrate	M *	2.584	4.1757	4.1757	1.0000
8	10.27	Chlorate	MB	0.435	4.1270	4.1270	1.0000
9	14.61	Phosphate	BMB	0.219	1.5050	1.5050	1.0000
Total:			**0.000**	**14.422**		**59.53**	

66 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**BB7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/28/2020 09:09**	*Sample Weight:*	**1.0000**

Run Time:



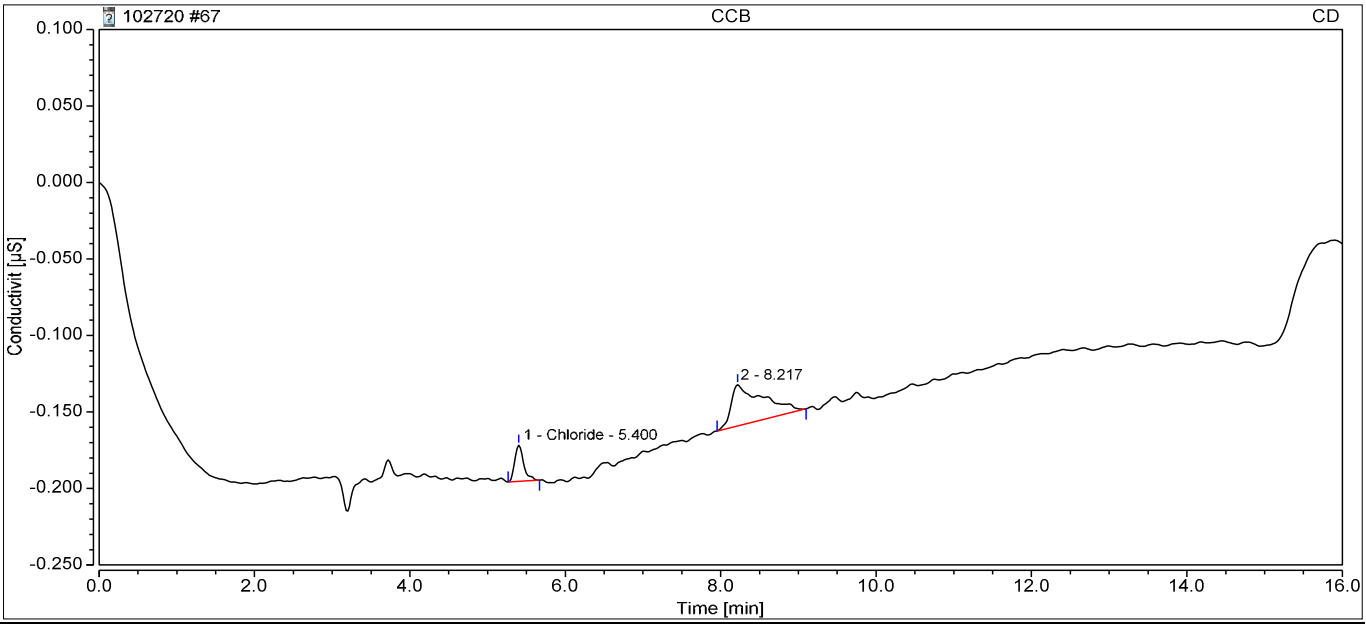
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.381	9.5726	9.5726	1.0000
2	5.39	Chloride	BMB	11.144	48.6370	48.6370	1.0000
3	6.49	Nitrite,N	BMB	4.670	9.8740	9.8740	1.0000
5	8.52	Bromide	M	0.992	9.7529	9.7529	1.0000
6	9.33	Sulfate	M *	7.273	45.4237	45.4237	1.0000
7	9.61	Nitrate	M *	6.386	10.3533	10.3533	1.0000
8	10.24	Chlorate	MB	0.988	9.5537	9.5537	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**34.834**		**143.17**	

67 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/28/2020 09:27**	*Sample Weight:*	**1.0000**

Run Time:



Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.40	Chloride	BMB	0.003	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.003**		**0.00**	

HS20100719 Wet Chem Raw Data (ALK_W 2320B)

ALS WO# HS20100719

Report Date: 10/15/2020 : 6:19

PC-TitratION PLUS
Calibration Report

Calibration Record # 2291

Calibration Settings

Calibration ID	PH CAL 4-7-10	Date	10/15/2020
Channel	1	Time	6:19 PM
Probe Type	pH	Temperature	296.26 K 23.11 C
Probe ID	PH ELECTRODE	Analysis Type	Single Line Fit

Calibration Results

Slope	-58.408	CorrCoeff	0.9999
Intercept	4.270	Equation:	Y = (-58.408) X + (4.270)

Calibration Validity True Operator

	Result	Minimum	Maximum
Slope	-58.408	-65.00	-53.00
Intercept	4.270	-100.00	100.00
Correlation Coefficient	0.9999	0.99	1.00

Note: "True" means the calibration was within the specified ranges
"False" means the calibration was NOT within the specified ranges

Calibration Data	Standard	Reading
	4.00	180.78
	7.00	1.70
	10.00	-169.67

#370621 (A)
#370623 (B)

validated RG 10/15/2020

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Report Date: 10/16/2020 : 2:33 AM

PC-TitratION PLUS
Water Analysis Report

Run Number 3933 **Order Number** 20201015-2

SampleID	RunDate	RunTime	Temp	cond (uS)	pH	palk-ppm	talk-ppm	bcarb-ppm	carb-ppm	hydr-ppm	mLs @ 8.3	mLs @ 4.5	mLs @ 4.2
ICV-PH	10/15/2020	6:45 PM	22.86	-1.00	6.03	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
TAP WATER	10/15/2020	6:52 PM	23.17	-1.00	7.87	.00	277.73	277.73	.00	.00	.00	2.65	2.65
WBLKW1-201015	10/15/2020	6:57 PM	23.22	-1.00	5.85	.00	.60	.60	.00	.00	.00	.02	.02
LCS1-201015	10/15/2020	7:06 PM	23.31	-1.00	10.96	529.64	1,027.98	.00	996.68	31.30	5.04	9.79	9.79
LCSD1-201015	10/15/2020	7:15 PM	23.23	-1.00	10.97	527.86	1,023.38	.00	991.03	32.35	5.03	9.75	9.75
HS20100780-04	10/15/2020	7:22 PM	22.78	-1.00	7.58	.00	327.28	327.28	.00	.00	.00	3.12	3.12
HS20100780-04DUP	10/15/2020	7:28 PM	22.64	-1.00	7.58	.00	325.63	325.63	.00	.00	.00	3.10	3.10
HS20100780-01	10/15/2020	7:35 PM	22.61	-1.00	7.37	.00	637.40	637.40	.00	.00	.00	6.07	6.07
HS20100780-02	10/15/2020	7:42 PM	22.67	-1.00	7.50	.00	479.15	479.15	.00	.00	.00	4.56	4.56
HS20100780-03	10/15/2020	7:48 PM	22.78	-1.00	7.39	.00	489.58	489.58	.00	.00	.00	4.66	4.66
HS20100776-01	10/15/2020	7:55 PM	22.96	-1.00	8.33	1.46	183.10	180.18	2.92	.00	.01	1.74	1.74
CCV-PH	10/15/2020	7:58 PM	23.17	-1.00	7.05	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
CCV-ALK	10/15/2020	8:07 PM	23.11	-1.00	10.94	526.19	1,025.76	.00	999.15	26.61	5.01	9.77	9.77
DI RINSE	10/15/2020	8:12 PM	22.98	-1.00	6.06	.00	.47	.47	.00	.00	.00	.02	.02
HS20100657-01	10/15/2020	8:19 PM	22.92	-1.00	8.59	10.75	314.26	292.76	21.51	.00	.10	2.99	2.99
HS20100657-02	10/15/2020	8:29 PM	22.90	-1.00	8.63	65.51	1,353.63	1,222.62	131.01	.00	.62	12.89	12.89
HS20100657-03	10/15/2020	8:36 PM	22.80	-1.00	8.74	22.30	445.05	400.46	44.60	.00	.21	4.24	4.24
HS20100657-04	10/15/2020	8:44 PM	22.83	-1.00	8.71	19.80	448.67	409.08	39.59	.00	.19	4.27	4.27
HS20100755-02	10/15/2020	8:49 PM	22.84	-1.00	6.38	.00	1.25	1.25	.00	.00	.00	.03	.03
HS20100755-04	10/15/2020	8:54 PM	22.84	-1.00	5.68	.00	16.14	16.14	.00	.00	.00	.18	.18
HS20100755-05	10/15/2020	9:00 PM	22.98	-1.00	5.59	.00	13.38	13.38	.00	.00	.00	.16	.16
HS20100755-06	10/15/2020	9:06 PM	22.90	-1.00	7.09	.00	273.08	273.08	.00	.00	.00	2.60	2.60
HS20100714-01	10/15/2020	9:13 PM	22.90	-1.00	7.78	.00	358.60	358.60	.00	.00	.00	3.42	3.42
CCV-PH	10/15/2020	9:15 PM	22.80	-1.00	7.04	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
CCV-ALK	10/15/2020	9:23 PM	22.75	-1.00	10.92	523.01	1,027.98	.00	1,009.93	18.05	4.98	9.79	9.79
DI RINSE	10/15/2020	9:28 PM	22.84	-1.00	6.08	.00	.43	.43	.00	.00	.00	.02	.02
HS20100714-02	10/15/2020	9:36 PM	22.77	-1.00	7.65	.00	484.24	484.24	.00	.00	.00	4.61	4.61

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Run Number 3933 **Order Number** 20201015-2

SampleID	RunDate	RunTime	Temp	cond (uS)	pH	palk-ppm	talk-ppm	bcarb-ppm	carb-ppm	hydr-ppm	mLs @ 8.3	mLs @ 4.5	mLs @ 4.2
HS20100714-03	10/15/2020	9:43 PM	22.86	-1.00	7.65	.00	482.44	482.44	.00	.00	.00	4.59	4.59
HS20100696-02	10/15/2020	9:48 PM	22.93	-1.00	5.78	.00	16.41	16.41	.00	.00	.00	.18	.18
HS20100696-03	10/15/2020	9:53 PM	22.87	-1.00	6.08	.00	36.36	36.36	.00	.00	.00	.35	.35
HS20100696-04	10/15/2020	9:59 PM	22.84	-1.00	6.74	.00	51.84	51.84	.00	.00	.00	.49	.49
HS20100696-05	10/15/2020	10:05 PM	22.83	-1.00	6.38	.00	34.35	34.35	.00	.00	.00	.33	.33
WBLKW2-201015	10/15/2020	10:10 PM	22.75	-1.00	5.75	.00	.42	.42	.00	.00	.00	.02	.02
LCS2-201015	10/15/2020	10:18 PM	22.75	-1.00	10.89	521.82	1,029.12	.00	1,014.60	14.52	4.97	9.80	9.80
CCV-PH	10/15/2020	10:21 PM	22.70	-1.00	7.04	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
CCV-ALK	10/15/2020	10:30 PM	22.58	-1.00	10.90	523.52	1,032.63	.00	1,018.21	14.42	4.99	9.83	9.83
DI RINSE	10/15/2020	10:35 PM	22.67	-1.00	6.25	.00	.54	.54	.00	.00	.00	.02	.02
LCSD2-201015	10/15/2020	10:43 PM	22.74	-1.00	10.89	522.58	1,026.99	.00	1,008.82	18.18	4.98	9.78	9.78
HS20100719-05	10/15/2020	10:51 PM	22.63	-1.00	5.25	.00	770.80	770.80	.00	.00	.00	7.34	7.34
HS20100719-05DUP	10/15/2020	11:00 PM	22.55	-1.00	5.24	.00	778.18	778.18	.00	.00	.00	7.41	7.41
HS20100719-01	10/15/2020	11:06 PM	22.55	-1.00	6.87	.00	563.41	563.41	.00	.00	.00	5.37	5.37
HS20100719-02	10/15/2020	11:16 PM	22.51	-1.00	7.58	.00	1,140.17	1,140.17	.00	.00	.00	10.86	10.86
HS20100719-03	10/15/2020	11:24 PM	22.39	-1.00	5.45	.00	697.74	697.74	.00	.00	.00	6.65	6.65
HS20100719-04	10/15/2020	11:30 PM	22.43	-1.00	6.88	.00	355.45	355.45	.00	.00	.00	3.39	3.39
HS20100719-06	10/15/2020	11:42 PM	22.43	-1.00	6.75	.00	1,683.83	1,683.83	.00	.00	.00	16.04	16.04
HS20100757-01	10/15/2020	11:49 PM	22.55	-1.00	8.00	.00	310.12	310.12	.00	.00	.00	2.95	2.95
CCV-PH	10/15/2020	11:51 PM	22.57	-1.00	7.04	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
CCV-ALK	10/16/2020	12:00 AM	22.54	-1.00	10.86	514.31	1,027.47	.00	1,026.32	1.15	4.90	9.79	9.79
DI RINSE	10/16/2020	12:05 AM	22.49	-1.00	6.04	.00	.58	.58	.00	.00	.00	.02	.02
HS20100757-02	10/16/2020	12:11 AM	22.48	-1.00	7.94	.00	353.90	353.90	.00	.00	.00	3.37	3.37
HS20100788-01	10/16/2020	12:25 AM	22.46	-1.00	8.64	1,102.63	.00	-2,205.26	2,205.26	.00	10.50	.00	.00 NR TH
HS20100465-08	10/16/2020	12:34 AM	22.40	-1.00	8.33	7.40	723.69	708.88	14.81	.00	.07	6.89	6.89
HS20100465-09	10/16/2020	12:42 AM	22.34	-1.00	8.19	.00	616.12	616.12	.00	.00	.00	5.87	5.87
HS20100465-10	10/16/2020	12:49 AM	22.32	-1.00	8.23	.00	363.97	363.97	.00	.00	.00	3.47	3.47
HS20100471-06	10/16/2020	12:56 AM	22.39	-1.00	8.44	10.27	444.11	423.57	20.54	.00	.10	4.23	4.23
HS20100471-07	10/16/2020	1:04 AM	22.28	-1.00	10.19	87.16	131.76	.00	89.20	42.56	.83	1.25	1.25
HS20100471-10	10/16/2020	1:11 AM	22.28	-1.00	7.80	.00	273.00	273.00	.00	.00	.00	2.60	2.60

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Run Number 3933 **Order Number** 20201015-2

SampleID	RunDate	RunTime	Temp	cond (uS)	pH	palk-ppm	talk-ppm	bcarb-ppm	carb-ppm	hydr-ppm	mLs @ 8.3	mLs @ 4.5	mLs @ 4.2
HS20100471-11	10/16/2020	1:19 AM	22.25	-1.00	9.73	37.76	69.89	.00	64.26	5.63	.36	.67	.67
CCV-PH	10/16/2020	1:21 AM	22.14	-1.00	7.04	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
CCV-ALK	10/16/2020	1:31 AM	22.13	-1.00	10.83	490.94	989.73	7.85	981.87	.00	4.68	9.43	9.43
DI RINSE	10/16/2020	1:36 AM	21.96	-1.00	6.97	.00	2.29	2.29	.00	.00	.00	.04	.04
HS20100471-13	10/16/2020	1:43 AM	21.90	-1.00	8.08	.00	232.67	232.67	.00	.00	.00	2.22	2.22
HS20100723-01	10/16/2020	1:54 AM	21.85	-1.00	8.60	76.48	1,556.07	1,403.11	152.95	.00	.73	14.82	14.82
HS20100723-02	10/16/2020	2:04 AM	21.61	-1.00	8.58	60.56	1,441.96	1,320.83	121.13	.00	.58	13.73	13.73
HS20100723-03	10/16/2020	2:15 AM	21.41	-1.00	8.64	63.02	1,333.00	1,206.97	126.03	.00	.60	12.70	12.70
CCV-PH	10/16/2020	2:18 AM	21.16	-1.00	7.03	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
CCV-ALK	10/16/2020	2:26 AM	21.14	-1.00	10.85	514.38	1,026.02	.00	1,023.27	2.75	4.90	9.77	9.77
DI RINSE	10/16/2020	2:31 AM	21.01	-1.00	6.65	.00	1.59	1.59	.00	.00	.00	.03	.03

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Batch ID Exception Report

Batch ID: R370621
QC Group: 0

Sample ID	Seq No	Sample Type	Test Code	Analyzed Date	Dilution Factor
	Analyte Type	Analyte		Qualifier	
SAMP	0	SAMP		16 Oct 2020 9:01 AM	1
	X	No exceptions found			

Batch ID Exception Report

Batch ID: R370623
QC Group: 0

Sample ID	Seq No	Sample Type	Test Code	Analyzed Date	Dilution Factor
	Analyte Type	Analyte	Qualifier		
SAMP	0	SAMP		16 Oct 2020 9:12 AM	1

X No exceptions found

HS20100719 ALS Kelso K2009347_Tier IV

ALS WO# HS20100719

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October 30, 2020

Analytical Report for Service Request No: K2009347

RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Suite 210
Houston, TX 77099-4338

RE: ALS Houston DOD TOC / HS20100719

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory October 15, 2020
For your reference, these analyses have been assigned our service request number **K2009347.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3350. You may also contact me via email at Kelley.Lovejoy@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Kelley Lovejoy

Kelley Lovejoy
Project Manager

RIGHT SOLUTIONS | RIGHT PARTNER

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Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjlabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water-	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Case Narrative

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1317 South 13th Ave, Kelso, WA 98626 | 1-360-577-7222 | www.alsglobal.com

Client: ALS Environmental - US
Project: ALS Houston DOD TOC
Sample Matrix: Ground Water

Service Request: K2009347
Date Received: 10/15/2020

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier level IV requested by the client.

Sample Receipt:

Six ground water samples were received for analysis at ALS Environmental on 10/15/2020. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

General Chemistry:

No significant anomalies were noted with this analysis.

Approved by Kelley Lovejoy Date 10/30/2020

Chain of Custody

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Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14936**

SUBCONTRACT TO:

ALS Environmental Kelso
1317 S. 13th Avenue
Kelso, WA 98626

Phone: +1 360 501 3312

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	RJ Modashia
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	RJ.Modashia@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS20100719
TSR:	Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20100719-01**	**16WW36-201013**	**Groundwater**	**13 Oct 2020 07:35**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			28 Oct 2020
2.	**HS20100719-02**	**16WW35-201013**	**Groundwater**	**13 Oct 2020 08:20**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			28 Oct 2020
3.	**HS20100719-03**	**16IW09-201013**	**Groundwater**	**13 Oct 2020 09:10**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			28 Oct 2020
4.	**HS20100719-04**	**16WW55-201013**	**Groundwater**	**13 Oct 2020 10:00**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			28 Oct 2020
5.	**HS20100719-05**	**16IW03-201013**	**Groundwater**	**13 Oct 2020 10:50**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			28 Oct 2020
6.	**HS20100719-06**	**16IW10-201013**	**Groundwater**	**13 Oct 2020 11:50**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			28 Oct 2020

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

HS20100719-05 MS/MSD

QC Level: DOD IV (DoD Data Package)

K2009347

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14936**

Relinquished By: [signature] Date/Time: 10/14/20 18:00

Received By: [signature] Date/Time: 10/15/20 1000

Cooler ID(s): Temperature(s):

PM KL

Cooler Receipt and Preservation Form

Client ALS-Houston Service Request K20 09347

Received: 10/15/20 Opened: 10/15/20 By: BR Unloaded: 10/15/20 By: BR

1. Samples were received via? *USPS* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? 2 front
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N
4. Was a Temperature Blank present in cooler? NA Y N If yes, notate the temperature in the appropriate column below:
   If no, take the temperature of a representative sample bottle contained within the cooler; notate in the column "Sample Temp":
5. Were samples received within the method specified temperature ranges? NA Y N
   If no, were they received on ice and same day as collected? If not, notate the cooler # below and notify the PM. NA Y N

If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*

Temp Blank	Sample Temp	IR Gun	Cooler #/COC ID / NA	Out of temp indicate with "X"	PM Notified if out of temp	Tracking Number NA	Filed
1.4	—	10.01	19436	—	—	189188815529	

6. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* _____
7. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
8. Were samples received in good condition (unbroken) NA Y N
9. Were all sample labels complete (ie, analysis, preservation, etc.)? NA Y N
10. Did all sample labels and tags agree with custody papers? NA Y N
11. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
12. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
13. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
14. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, Resolutions: RUSH

General Chemistry

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ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	K2009347
Project:	ALS Houston DOD TOC/HS20100719	**Date Collected:**	10/13/20
Sample Matrix:	Ground Water	**Date Received:**	10/15/20
Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Carbon, Total Organic

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
16WW36-201013	K2009347-001	**18.3**	0.50	0.20	0.07	1	10/23/20 18:00	
16WW35-201013	K2009347-002	**65.5**	2.5	1.0	0.4	5	10/23/20 18:00	
16IW09-201013	K2009347-003	**1250**	50	20	7	100	10/26/20 10:05	
16WW55-201013	K2009347-004	**4.98**	0.50	0.20	0.07	1	10/23/20 18:00	
16IW03-201013	K2009347-005	**1190**	13	5	2	25	10/16/20 08:40	
16IW10-201013	K2009347-006	**1220**	13	5	2	25	10/16/20 08:40	
Method Blank	K2009347-MB1	ND U	0.50	0.20	0.07	1	10/16/20 08:40	
Method Blank	K2009347-MB2	ND U	0.50	0.20	0.07	1	10/23/20 18:00	
Method Blank	K2009347-MB3	ND U	0.50	0.20	0.07	1	10/26/20 10:05	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2009347
Project	ALS Houston DOD TOC/HS20100719	**Date Collected:**	10/13/20
Sample Matrix:	Ground Water	**Date Received:**	10/15/20
		Date Analyzed:	10/16/20

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	16IW03-201013	**Units:**	mg/L
Lab Code:	K2009347-005	**Basis:**	NA

Analyte Name	Analysis Method	LOQ	LOD	MDL	Sample Result	Duplicate Sample K2009347-005DUP Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	13	5	2	1190	1200	1200	<1	10

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

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

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

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2009347
Project:	ALS Houston DOD TOC/HS20100719	**Date Collected:**	10/13/20
Sample Matrix:	Ground Water	**Date Received:**	10/15/20
		Date Analyzed:	10/23/20
		Date Extracted:	NA

Matrix Spike Summary
Carbon, Total Organic

Sample Name:	16WW55-201013	**Units:**	mg/L
Lab Code:	K2009347-004	**Basis:**	NA
Analysis Method:	SM 5310 C		
Prep Method:	None		

Matrix Spike
K2009347-004MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	4.98	27.6	25.0	91	83-117

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

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

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

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2009347
Project:	ALS Houston DOD TOC/HS20100719	**Date Collected:**	10/13/20
Sample Matrix:	Ground Water	**Date Received:**	10/15/20
		Date Analyzed:	10/16/20
		Date Extracted:	NA

Matrix Spike Summary
Carbon, Total Organic

Sample Name:	16IW03-201013	**Units:**	mg/L
Lab Code:	K2009347-005	**Basis:**	NA
Analysis Method:	SM 5310 C		
Prep Method:	None		

Matrix Spike
K2009347-005MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	1190	3710	2500	101	83-117

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

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

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

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2009347
Project:	ALS Houston DOD TOC/HS20100719	**Date Analyzed:**	10/23/20
Sample Matrix:	Ground Water	**Date Extracted:**	NA

Duplicate Lab Control Sample Summary
General Chemistry Parameters

Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	700289

	Lab Control Sample K2009347-LCS1			Duplicate Lab Control Sample K2009347-DLCS1					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Carbon, Total Organic	24.5	25.0	98	24.2	25.0	97	83-117	1	10

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2009347
Project:	ALS Houston DOD TOC/HS20100719	**Date Analyzed:**	10/26/20
Sample Matrix:	Ground Water	**Date Extracted:**	NA

Duplicate Lab Control Sample Summary
General Chemistry Parameters

Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	701294

	Lab Control Sample K2009347-LCS2			Duplicate Lab Control Sample K2009347-DLCS2					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Carbon, Total Organic	23.9	25.0	96	23.8	25.0	95	83-117	<1	10

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2009347
Project:	ALS Houston DOD TOC/HS20100719	**Date Analyzed:**	10/16/20
Sample Matrix:	Ground Water	**Date Extracted:**	NA

Lab Control Sample Summary
General Chemistry Parameters

Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	699680

Lab Control Sample
K2009347-LCS3

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	24.5	25.0	98	83-117

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:** K2009347
Project: ALS Houston DOD TOC/HS20100719

Continuing Calibration Verification (CCV) Summary

Carbon, Total Organic

Analysis Method: SM 5310 C **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	699680	KQ2016003-14	10/16/20 08:40	25.0	24.9	100	90-110
CCV2	699680	KQ2016003-15	10/16/20 08:40	25.0	25.8	103	90-110
CCV3	699680	KQ2016003-16	10/16/20 08:40	25.0	25.0	100	90-110
CCV4	699680	KQ2016003-17	10/16/20 08:40	25.0	24.9	100	90-110
CCV5	699680	KQ2016003-18	10/16/20 08:40	25.0	24.6	98	90-110
CCV6	699680	KQ2016003-19	10/16/20 08:40	25.0	24.8	99	90-110
CCV7	699680	KQ2016003-20	10/16/20 08:40	25.0	25.4	102	90-110
CCV8	699680	KQ2016003-21	10/16/20 08:40	25.0	24.8	99	90-110
CCV9	699680	KQ2016003-22	10/16/20 08:40	25.0	24.8	99	90-110
CCV10	700289	KQ2016412-10	10/23/20 18:00	25.0	25.6	102	90-110
CCV11	700289	KQ2016412-11	10/23/20 18:00	25.0	25.1	100	90-110
CCV12	700289	KQ2016412-12	10/23/20 18:00	25.0	24.4	97	90-110
CCV13	701294	KQ2016909-11	10/26/20 10:05	25.0	24.7	99	90-110
CCV14	701294	KQ2016909-12	10/26/20 10:05	25.0	24.5	98	90-110
CCV15	701294	KQ2016909-13	10/26/20 10:05	25.0	24.4	97	90-110
CCV16	701294	KQ2016909-14	10/26/20 10:05	25.0	24.3	97	90-110
CCV17	701294	KQ2016909-15	10/26/20 10:05	25.0	23.8	95	90-110

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:**K2009347
Project: ALS Houston DOD TOC/HS20100719

Continuing Calibration Blank (CCB) Summary
Carbon, Total Organic

Analysis Method: SM 5310 C **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	699680	KQ2016003-05	10/16/20 08:40	0.50	0.20	0.07	0.19	J
CCB2	699680	KQ2016003-06	10/16/20 08:40	0.50	0.20	0.07	ND	U
CCB3	699680	KQ2016003-07	10/16/20 08:40	0.50	0.20	0.07	ND	U
CCB4	699680	KQ2016003-08	10/16/20 08:40	0.50	0.20	0.07	ND	U
CCB5	699680	KQ2016003-09	10/16/20 08:40	0.50	0.20	0.07	ND	U
CCB6	699680	KQ2016003-10	10/16/20 08:40	0.50	0.20	0.07	ND	U
CCB7	699680	KQ2016003-11	10/16/20 08:40	0.50	0.20	0.07	ND	U
CCB8	699680	KQ2016003-12	10/16/20 08:40	0.50	0.20	0.07	ND	U
CCB9	699680	KQ2016003-13	10/16/20 08:40	0.50	0.20	0.07	ND	U
CCB10	700289	KQ2016412-06	10/23/20 18:00	0.50	0.20	0.07	ND	U
CCB11	700289	KQ2016412-07	10/23/20 18:00	0.50	0.20	0.07	ND	U
CCB12	700289	KQ2016412-08	10/23/20 18:00	0.50	0.20	0.07	ND	U
CCB13	700289	KQ2016412-09	10/23/20 18:00	0.50	0.20	0.07	ND	U
CCB14	701294	KQ2016909-06	10/26/20 10:05	0.50	0.20	0.07	ND	U
CCB15	701294	KQ2016909-07	10/26/20 10:05	0.50	0.20	0.07	ND	U
CCB16	701294	KQ2016909-08	10/26/20 10:05	0.50	0.20	0.07	ND	U
CCB17	701294	KQ2016909-09	10/26/20 10:05	0.50	0.20	0.07	ND	U
CCB18	701294	KQ2016909-10	10/26/20 10:05	0.50	0.20	0.07	ND	U

Raw Data

ALS Environmental—Kelso Laboratory
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General Chemistry

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Work Request # 9220, 9189,

Tier: IV II

Date Analyzed: 10/16/20

Analyst: MC

Analysis: DOC TOC

Run # 699514 | 699682
699677
699680

DATA QUALITY REPORT
INORGANICS

Explain any "no" responses to questions below, and any corrective actions in the comments section below.

1.	Is the method name and number correct and appropriate?	yes/no/NA
2.	Holding times met for all analyses and for all samples?	yes/no/NA
3.	Are calculations correct?	yes/no/NA
4.	Is the reporting basis correct? (Dry Weight)	yes/no/NA
5.	All quality control criteria met?	yes/no
6.	Is the calibration curve correlation coefficient ≥ 0.995?	yes/no/NA
7.	MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency?	yes/no/NA
8.	Are ICVs, CCVs, and CCBs all within acceptance limits?	yes/no/NA
9.	Are results for methods blanks all ND?	yes/no/NA
10.	Are all QC samples within acceptance criteria? (LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.)	yes/no/NA
11.	Are all exceptions explained?	yes/no/NA
12.	Have all applicable service requests been reviewed?	yes/no/NA
13.	Are all samples labeled correctly?	yes/no/NA
14.	Have all instructions on the service request been followed? (e.g. Special MRLs, QC on a specific sample, Form V)	yes/no/NA
15.	Are detection limits and units reported correctly?	yes/no/NA
16.	Is the unused space on the benchsheet crossed out?	yes/no/NA
17.	Was analysis turned in by the due date? (n-2) (If not record SR#)	yes/no/NA

COMMENTS:

Final Approved by: [signature] Date: 10/21/20

DQREPORT

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 699514 **Method/Testcode:** SM 5310 C/TOC D

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
K2009220-001	Carbon, Dissolved Organic (DOC)	N/A		Water	2.69 mg/L	10 mL	2.69 mg/L	1	0.07	0.50			10/16/20 08:40:00	N	II
K2009220-002	Carbon, Dissolved Organic (DOC)	N/A		Water	3.59 mg/L	10 mL	3.59 mg/L	1	0.07	0.50			10/16/20 08:40:00	N	II
K2009220-003	Carbon, Dissolved Organic (DOC)	N/A		Water	1.01 mg/L	10 mL	1.01 mg/L	1	0.07	0.50			10/16/20 08:40:00	N	II
K2009220-004	Carbon, Dissolved Organic (DOC)	N/A		Water	1.63 mg/L	10 mL	1.63 mg/L	1	0.07	0.50			10/16/20 08:40:00	N	II
K2009220-005	Carbon, Dissolved Organic (DOC)	N/A		Water	0.63 mg/L	10 mL	0.63 mg/L	1	0.07	0.50			10/16/20 08:40:00	N	II
K2009220-006	Carbon, Dissolved Organic (DOC)	N/A		Water	0.90 mg/L	10 mL	0.90 mg/L	1	0.07	0.50			10/16/20 08:40:00	N	II
K2009220-007	Carbon, Dissolved Organic (DOC)	N/A		Water	0.97 mg/L	10 mL	0.97 mg/L	1	0.07	0.50			10/16/20 08:40:00	N	II
K2009220-008	Carbon, Dissolved Organic (DOC)	N/A		Water	0.10 mg/L	10 mL	0.10 mg/L J	1	0.07	0.50			10/16/20 08:40:00	N	II
K2009220-009	Carbon, Dissolved Organic (DOC)	N/A		Water	5.25 mg/L	10 mL	5.25 mg/L	1	0.07	0.50			10/16/20 08:40:00	N	II
K2009220-010	Carbon, Dissolved Organic (DOC)	N/A		Water	0.79 mg/L	10 mL	0.79 mg/L	1	0.07	0.50			10/16/20 08:40:00	N	II
K2009220-011	Carbon, Dissolved Organic (DOC)	N/A		Water	5.11 mg/L	10 mL	5.11 mg/L	1	0.07	0.50			10/16/20 08:40:00	N	II
KQ2016000-01	Carbon, Dissolved Organic (DOC)	LCS		Water	24.08 mg/L	10 mL	24.1 mg/L	1	0.07	0.50	96		10/16/20 08:40:00	N	II
KQ2016000-02	Carbon, Dissolved Organic (DOC)	DLCS		Water	24.15 mg/L	10 mL	24.2 mg/L	1	0.07	0.50	97	<1	10/16/20 08:40:00	N	II
KQ2016000-03	Carbon, Dissolved Organic (DOC)	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/16/20 08:40:00	N	II
KQ2016000-04	Carbon, Dissolved Organic (DOC)	CCB		Water	0.19 mg/L	10 mL	0.19 mg/L J	1	0.07	0.50			10/16/20 08:40:00	N	II
KQ2016000-05	Carbon, Dissolved Organic (DOC)	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/16/20 08:40:00	N	II
KQ2016000-06	Carbon, Dissolved Organic (DOC)	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/16/20 08:40:00	N	II
KQ2016000-07	Carbon, Dissolved Organic (DOC)	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/16/20 08:40:00	N	II
KQ2016000-08	Carbon, Dissolved Organic (DOC)	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/16/20 08:40:00	N	II
KQ2016000-09	Carbon, Dissolved Organic (DOC)	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/16/20 08:40:00	N	II
KQ2016000-10	Carbon, Dissolved Organic (DOC)	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/16/20 08:40:00	N	II
KQ2016000-11	Carbon, Dissolved Organic (DOC)	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/16/20 08:40:00	N	II
KQ2016000-12	Carbon, Dissolved Organic (DOC)	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/16/20 08:40:00	N	II

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 699514 **Method/Testcode:** SM 5310 C/TOC D

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
KQ2016000-13	Carbon, Dissolved Organic (DOC)	CCV		Water	24.94 mg/L	10 mL	24.9383 mg/L	1					10/16/20 08:40:00	N	II
KQ2016000-14	Carbon, Dissolved Organic (DOC)	CCV		Water	25.84 mg/L	10 mL	25.8 mg/L	1					10/16/20 08:40:00	N	II
KQ2016000-15	Carbon, Dissolved Organic (DOC)	CCV		Water	25.04 mg/L	10 mL	25.0 mg/L	1					10/16/20 08:40:00	N	II
KQ2016000-16	Carbon, Dissolved Organic (DOC)	CCV		Water	24.91 mg/L	10 mL	24.9 mg/L	1					10/16/20 08:40:00	N	II
KQ2016000-17	Carbon, Dissolved Organic (DOC)	CCV		Water	24.58 mg/L	10 mL	24.6 mg/L	1					10/16/20 08:40:00	N	II
KQ2016000-18	Carbon, Dissolved Organic (DOC)	CCV		Water	24.78 mg/L	10 mL	24.8 mg/L	1					10/16/20 08:40:00	N	II
KQ2016000-19	Carbon, Dissolved Organic (DOC)	CCV		Water	25.45 mg/L	10 mL	25.4 mg/L	1					10/16/20 08:40:00	N	II
KQ2016000-20	Carbon, Dissolved Organic (DOC)	CCV		Water	24.82 mg/L	10 mL	24.8 mg/L	1					10/16/20 08:40:00	N	II
KQ2016000-21	Carbon, Dissolved Organic (DOC)	CCV		Water	24.79 mg/L	10 mL	24.8 mg/L	1					10/16/20 08:40:00	N	II

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 699682 **Method/Testcode:** SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
K2009189-001	Carbon, Total Organic	N/A		Ground Water	2.89 mg/L	10 mL	2.89 mg/L	1	0.07	0.50			10/16/20 08:40:00	N	II
K2009189-002	Carbon, Total Organic	N/A		Ground Water	1.31 mg/L	10 mL	1.31 mg/L	1	0.07	0.50			10/16/20 08:40:00	N	II
KQ2016004-01	Carbon, Total Organic	DUP	K2009189-001	Ground Water	2.88 mg/L	10 mL	2.88 mg/L	1	0.07	0.50		<1	10/16/20 08:40:00	N	II
KQ2016004-02	Carbon, Total Organic	MS	K2009189-001	Ground Water	29.68 mg/L	10 mL	29.7 mg/L	1	0.07	0.50	107		10/16/20 08:40:00	N	II
KQ2016004-03	Carbon, Total Organic	CCB		Ground Water	0.19 mg/L	10 mL	0.19 mg/L J	1	0.07	0.50			10/16/20 08:40:00	N	II
KQ2016004-04	Carbon, Total Organic	CCB		Ground Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/16/20 08:40:00	N	II
KQ2016004-05	Carbon, Total Organic	CCB		Ground Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/16/20 08:40:00	N	II
KQ2016004-06	Carbon, Total Organic	CCB		Ground Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/16/20 08:40:00	N	II
KQ2016004-07	Carbon, Total Organic	CCB		Ground Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/16/20 08:40:00	N	II
KQ2016004-08	Carbon, Total Organic	CCB		Ground Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/16/20 08:40:00	N	II
KQ2016004-09	Carbon, Total Organic	CCB		Ground Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/16/20 08:40:00	N	II
KQ2016004-10	Carbon, Total Organic	CCB		Ground Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/16/20 08:40:00	N	II
KQ2016004-11	Carbon, Total Organic	CCB		Ground Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/16/20 08:40:00	N	II
KQ2016004-12	Carbon, Total Organic	CCV		Ground Water	24.94 mg/L	10 mL	24.9 mg/L	1					10/16/20 08:40:00	N	II
KQ2016004-13	Carbon, Total Organic	CCV		Ground Water	25.84 mg/L	10 mL	25.8 mg/L	1					10/16/20 08:40:00	N	II
KQ2016004-14	Carbon, Total Organic	CCV		Ground Water	25.04 mg/L	10 mL	25.0 mg/L	1					10/16/20 08:40:00	N	II
KQ2016004-15	Carbon, Total Organic	CCV		Ground Water	24.91 mg/L	10 mL	24.9 mg/L	1					10/16/20 08:40:00	N	II
KQ2016004-16	Carbon, Total Organic	CCV		Ground Water	24.58 mg/L	10 mL	24.6 mg/L	1					10/16/20 08:40:00	N	II
KQ2016004-17	Carbon, Total Organic	CCV		Ground Water	24.78 mg/L	10 mL	24.8 mg/L	1					10/16/20 08:40:00	N	II
KQ2016004-18	Carbon, Total Organic	CCV		Ground Water	25.45 mg/L	10 mL	25.4 mg/L	1					10/16/20 08:40:00	N	II
KQ2016004-19	Carbon, Total Organic	CCV		Ground Water	24.82 mg/L	10 mL	24.8 mg/L	1					10/16/20 08:40:00	N	II
KQ2016004-20	Carbon, Total Organic	LCS		Ground Water	24.22 mg/L	10 mL	24.2 mg/L	1	0.07	0.50	97		10/16/20 08:40:00	N	II
KQ2016004-21	Carbon, Total Organic	MB		Ground Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/16/20 08:40:00	N	II

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 699682 **Method/Testcode:** SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
KQ2016004-22	Carbon, Total Organic	CCV		Ground Water	24.79 mg/L	10 mL	24.7903 mg/L	1					10/16/20 08:40:00	N	II

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 699680 **Method/Testcode:** SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
K2009220-001	Carbon, Total Organic	N/A		Water	2.71 mg/L	10 mL	2.71 mg/L	1	0.07	0.50			10/16/20 08:40:00	N	II
K2009220-002	Carbon, Total Organic	N/A		Water	2.71 mg/L	10 mL	2.71 mg/L	1	0.07	0.50			10/16/20 08:40:00	N	II
K2009220-003	Carbon, Total Organic	N/A		Water	0.93 mg/L	10 mL	0.93 mg/L	1	0.07	0.50			10/16/20 08:40:00	N	II
K2009220-004	Carbon, Total Organic	N/A		Water	1.63 mg/L	10 mL	1.63 mg/L	1	0.07	0.50			10/16/20 08:40:00	N	II
K2009220-005	Carbon, Total Organic	N/A		Water	0.63 mg/L	10 mL	0.63 mg/L	1	0.07	0.50			10/16/20 08:40:00	N	II
K2009220-006	Carbon, Total Organic	N/A		Water	0.97 mg/L	10 mL	0.97 mg/L	1	0.07	0.50			10/16/20 08:40:00	N	II
K2009220-007	Carbon, Total Organic	N/A		Water	1.03 mg/L	10 mL	1.03 mg/L	1	0.07	0.50			10/16/20 08:40:00	N	II
K2009220-008	Carbon, Total Organic	N/A		Water	0.04 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/16/20 08:40:00	N	II
K2009220-009	Carbon, Total Organic	N/A		Water	5.84 mg/L	10 mL	5.84 mg/L	1	0.07	0.50			10/16/20 08:40:00	N	II
K2009220-010	Carbon, Total Organic	N/A		Water	0.88 mg/L	10 mL	0.88 mg/L	1	0.07	0.50			10/16/20 08:40:00	N	II
K2009220-011	Carbon, Total Organic	N/A		Water	5.84 mg/L	10 mL	5.84 mg/L	1	0.07	0.50			10/16/20 08:40:00	N	II
K2009347-005	Carbon, Total Organic	N/A		Ground Water	47.75 mg/L	10 mL	1190 mg/L	25	2	13			10/16/20 08:40:00	Y	IV
K2009347-006	Carbon, Total Organic	N/A		Ground Water	49.00 mg/L	10 mL	1220 mg/L	25	2	13			10/16/20 08:40:00	N	IV
K2009356-003	Carbon, Total Organic	N/A		Drinking Water	1.30 mg/L	10 mL	1.30 mg/L	1	0.07	0.50			10/16/20 08:40:00	N	I
K2009356-004	Carbon, Total Organic	N/A		Drinking Water	0.60 mg/L	10 mL	0.60 mg/L	1	0.07	0.50			10/16/20 08:40:00	N	I
KQ2016003-01	Carbon, Total Organic	DUP	K2009347-005	Ground Water	47.88 mg/L	10 mL	1200 mg/L	25	2	13		<1	10/16/20 08:40:00	N	IV
KQ2016003-02	Carbon, Total Organic	MS	K2009347-005	Ground Water	37.10 mg/L	10 mL	3710 mg/L	100	7	50	101		10/16/20 08:40:00	N	IV
KQ2016003-03	Carbon, Total Organic	DUP	K2009220-001	Water	2.66 mg/L	10 mL	2.66 mg/L	1	0.07	0.50		2	10/16/20 08:40:00	N	II
KQ2016003-04	Carbon, Total Organic	MS	K2009220-001	Water	29.40 mg/L	10 mL	29.4 mg/L	1	0.07	0.50	107		10/16/20 08:40:00	N	II
KQ2016003-05	Carbon, Total Organic	CCB		Surface Water	0.19 mg/L	10 mL	0.19 mg/L J	1	0.07	0.50			10/16/20 08:40:00	N	IV
KQ2016003-06	Carbon, Total Organic	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/16/20 08:40:00	N	IV
KQ2016003-07	Carbon, Total Organic	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/16/20 08:40:00	N	IV
KQ2016003-08	Carbon, Total Organic	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/16/20 08:40:00	N	IV
KQ2016003-09	Carbon, Total Organic	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/16/20 08:40:00	N	IV
KQ2016003-10	Carbon, Total Organic	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/16/20 08:40:00	N	IV
KQ2016003-11	Carbon, Total Organic	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/16/20 08:40:00	N	IV
KQ2016003-12	Carbon, Total Organic	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/16/20 08:40:00	N	IV
KQ2016003-13	Carbon, Total Organic	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/16/20 08:40:00	N	IV

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 699680 **Method/Testcode:** SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
KQ2016003-14	Carbon, Total Organic	CCV		Surface Water	24.94 mg/L	10 mL	24.9 mg/L	1					10/16/20 08:40:00	N	IV
KQ2016003-15	Carbon, Total Organic	CCV		Surface Water	25.84 mg/L	10 mL	25.8 mg/L	1					10/16/20 08:40:00	N	IV
KQ2016003-16	Carbon, Total Organic	CCV		Surface Water	25.04 mg/L	10 mL	25.0 mg/L	1					10/16/20 08:40:00	N	IV
KQ2016003-17	Carbon, Total Organic	CCV		Surface Water	24.91 mg/L	10 mL	24.9 mg/L	1					10/16/20 08:40:00	N	IV
KQ2016003-18	Carbon, Total Organic	CCV		Surface Water	24.58 mg/L	10 mL	24.6 mg/L	1					10/16/20 08:40:00	N	IV
KQ2016003-19	Carbon, Total Organic	CCV		Surface Water	24.78 mg/L	10 mL	24.8 mg/L	1					10/16/20 08:40:00	N	IV
KQ2016003-20	Carbon, Total Organic	CCV		Surface Water	25.45 mg/L	10 mL	25.4 mg/L	1					10/16/20 08:40:00	N	IV
KQ2016003-21	Carbon, Total Organic	CCV		Surface Water	24.82 mg/L	10 mL	24.8 mg/L	1					10/16/20 08:40:00	N	IV
KQ2016003-22	Carbon, Total Organic	CCV		Surface Water	24.79 mg/L	10 mL	24.8 mg/L	1					10/16/20 08:40:00	N	IV
KQ2016003-23	Carbon, Total Organic	LCS		Surface Water	24.46 mg/L	10 mL	24.5 mg/L	1	0.07	0.50	98		10/16/20 08:40:00	N	IV
KQ2016003-24	Carbon, Total Organic	MB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/16/20 08:40:00	N	IV

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Schedule: 101620

Version: 12
Instrument: Fusion1
Last Saved by: Fusion1 (Fusion1)
Last Saved on: 2020/10/16 16:45 - Friday

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
(Clean)	Clean	Clean		1	True	Ready
(Clean)	Clean	Clean		1	True	Ready
(Clean)	Clean	Clean		1	True	Ready
(Blank)	Blank	Reagent/Acid Blank		1	True	Ready
D	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
1	Sample	MB1	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
2	Sample	ICS	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
3	Sample	K2009189-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
4	Sample	K2009189-001D	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
5	Sample	K2009189-001 MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
6	Sample	K2009189-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
7	Sample	K2009356-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
8	Sample	K2008356-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
9	Sample	K2009347-005*25	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
10	Sample	K2009347-005D*25	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
11	Sample	K2009347-005MS*25	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
12	Sample	K2009347-006*25	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
13	Sample	K2009220-001*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
14	Sample	K2009220-002*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
15	Sample	K2009220-003*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
16	Sample	K2009220-004*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
17	Sample	K2009220-005*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
18	Sample	K2009220-006*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
19	Sample	K2009220-007*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
20	Sample	MB2	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
21	Sample	K2009220-008*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
22	Sample	K2009220-009*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
23	Sample	K2009220-010*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
24	Sample	K2009220-011*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
25	Sample	K2009220-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
26	Sample	K2009220-001D	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
27	Sample	K2009220-001MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
28	Sample	K2009220-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
29	Sample	K2009220-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
30	Sample	K2009220-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
31	Sample	K2009220-005	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
32	Sample	K2009220-006	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
33	Sample	K2009220-007	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
34	Sample	K2009220-008	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
35	Sample	K2009220-009	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
36	Sample	K2009220-010	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
37	Sample	K2009220-011	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
38	Sample	K2008879-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready

Schedule: 101620

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
39	Sample	MB3	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
40	Sample	K2008879-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
41	Sample	K2008879-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
42	Sample	K2008879-005	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
43	Sample	K2008879-006	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
44	Sample	K2008879-007	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
45	Sample	K2008879-008	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
46	Sample	K2008879-009	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
47	Sample	K2008879-010	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
48	Sample	K2008879-011	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
49	Sample	K2008879-013	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
50	Sample	K2008879-016	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
51	Sample	K2008879-016D	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
52	Sample	K2008879-016MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
53	Sample	K2008879-017	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
54	Sample	K2008879-018	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
55	Sample	K2008879-018D	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
56	Sample	K2008879-018MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
57	Sample	K2008879-019	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
58	Sample	MB4	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
59	Sample	K2008879-020	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
60	Sample	K2008879-021	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
61	Sample	K2008879-022	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
62	Sample	K2008879-023	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
63	Sample	K2008879-024	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
64	Sample	K2008879-025	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
65	Sample	K2008879-026	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
66	Sample	K2008879-027	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
67	Sample	K2008879-028	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
68	Sample	K2008879-033	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
69	Sample	K2009347-05MS*100	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
					False	

Fusion Report - 101620
Friday, October 16, 2020 08:18 AM

(View - Reps, Unused Reps, Meta-Data, Signature, History)
Printed on 2020/10/19 08:04 - Monday

Report Summary Information

Company Location:	Gen Chem Lab		
Schedule Name:	101620	Engine Version:	1.1.5.1
Instrument Name:	Fusion1	Firmware Version:	1.2.0696
Report Version:	1 of 1	Connection:	RS232 COM1
Report Creation by Operators (schedule version):	Fusion1 (Fusion1) (v1) Fusion1 (Fusion1) (v2) Fusion1 (Fusion1) (v3) Fusion1 (Fusion1) (v4) Fusion1 (Fusion1) (v5) Fusion1 (Fusion1) (v8) Fusion1 (Fusion1) (v10) Fusion1 (Fusion1) (v11) Fusion1 (Fusion1) (v12)		
Comment:			

Report Results

Sample Type: Clean — From Schedule Version 1

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/10/16 08:18

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	10.01	27.19	17.18	49.43	05:25
2	TC Clean	7.79	21.27	13.48	50.21	04:03
3	TC Clean	1.18	14.72	13.54	50.24	03:51
4	TC Clean	1.29	14.76	13.47	50.11	03:48

Sample Type: Clean — From Schedule Version 1

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/10/16 08:40

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.16	13.31	13.47	49.70	05:24

2	TC Clean	3.46	16.92	13.47	50.20	04:09
3	TC Clean	0.81	14.22	13.41	50.24	03:58
4	TC Clean	0.66	14.01	13.36	50.13	03:56

Sample Type: Clean From Schedule Version 1

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/10/16 09:02

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.52	12.84	13.36	49.55	05:23
2	TC Clean	3.31	16.60	13.29	50.06	04:03
3	TC Clean	0.82	13.98	13.16	50.16	03:54
4	TC Clean	0.80	14.12	13.32	50.16	03:56

Sample Type: Blank (Creating v1462) From Schedule Version 1

	Pos	Analysis Type	Sample ID	Start Time
◆	(blank)		Reagent/Acid Blank	2020/10/16 09:25

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.36	12.90	13.27	49.59	05:23
2	TC Clean	3.65	16.96	13.30	50.18	04:04
3	TC Clean	0.61	13.99	13.38	49.98	03:47
4	TC Clean	0.57	14.04	13.47	50.04	03:47
5	Reagent Blank	5.14	18.51	13.36	49.98	05:08
6	Acid Blank	-0.04	12.98	13.01	49.62	05:31

Sample Type: Sample From Schedule Version 1

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	D	TOC	RB	0.0000 ppm	0.0000 ppm	0.0000%	2020/10/16 09:58

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	8.81	22.03	13.22	50.48	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 1

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.9383 ppm (PASS)	0.0000 ppm	0%	2020/10/16 10:13

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.9383	249.3831	184.83	198.06	13.23	50.49	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 1

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.1873 ppm (PASS)	0.0000 ppm	0%	2020/10/16 10:28

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.1873	1.8731	11.21	24.58	13.37	50.46	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 1

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	1	TOC	MB1	0.0000 ppm	0.0000 ppm	0.0000%	2020/10/16 10:42

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	8.86	22.04	13.17	50.45	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 2

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	24.2243 ppm (PASS)	0.0000 ppm	0%	2020/10/16 10:58

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	24.2243	242.2426	179.82	192.82	13.00	50.43	10:34

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	2	TOC	ICS	0.0000 ppm	0.0000 ppm	0.0000%	2020/10/16 11:13

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	8.79	21.92	13.13	50.41	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	3	TOC	K2009189-001	2.8876 ppm	0.0288 ppm	1.0000%	2020/10/16 11:27

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.9080	29.0801	29.64	42.68	13.04	50.40	10:26
2	TOC	2.8672	28.6724	29.36	42.49	13.13	50.42	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	4	TOC	K2009189-001D	2.8809 ppm	0.0463 ppm	1.6100%	2020/10/16 11:55

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.8481	28.4814	29.22	42.42	13.20	50.39	10:29
2	TOC	2.9136	29.1357	29.68	42.71	13.02	50.40	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample From Schedule Version 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	5	TOC	K2009189-001 MS	29.6835 ppm	0.2910 ppm	0.9800%	2020/10/16 12:23

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	29.4777	294.7774	216.03	228.82	12.80	50.38	10:26
2	TOC	29.8893	298.8930	218.91	231.81	12.90	50.34	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample From Schedule Version 4

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	6	TOC	K2009189-002	1.3149 ppm	0.0104 ppm	0.7900%	2020/10/16 13:19

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.3075	13.0755	18.42	31.29	12.87	50.28	10:28
2	TOC	1.3222	13.2223	18.52	31.42	12.90	50.27	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample From Schedule Version 5

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	7	TOC	K2009356-003	1.2979 ppm	0.0427 ppm	3.2900%	2020/10/16 13:47

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.3281	13.2808	18.56	31.44	12.88	50.25	10:31
2	TOC	1.2676	12.6763	18.14	31.07	12.94	50.25	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	8	TOC	K2008356-004	0.5951 ppm	0.0608 ppm	10.2100%	2020/10/16 14:15

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5521	5.5215	13.12	26.12	13.00	50.22	10:27
2	TOC	0.6381	6.3811	13.72	26.71	12.99	50.18	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample From Schedule Version 8

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	9	TOC	K2009347-005*25	47.7462 ppm	0.1441 ppm	0.3000%	2020/10/16 14:43

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	47.6443	476.4426	343.46	356.43	12.97	50.15	10:27
2	TOC	47.8481	478.4811	344.89	358.01	13.12	50.12	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 10

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	25.8394 ppm (PASS)	0.0000 ppm	0%	2020/10/16 15:11

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.8394	258.3941	191.15	204.12	12.97	50.14	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 11

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/10/16 15:25

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	7.33	20.33	13.01	50.11	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 11

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	10	TOC	K2009347-005D*25	47.8763 ppm	0.2446 ppm	0.5100%	2020/10/16 15:40

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	47.7033	477.0328	343.88	356.88	13.00	50.24	10:27
2	TOC	48.0493	480.4926	346.30	359.22	12.92	50.23	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	11	TOC	K2009347-005MS*25	70.2704 ppm	0.4549 ppm	0.6500%	2020/10/16 16:08

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	70.5921	705.9208	504.44	517.48	13.05	50.16	10:29
2	TOC	69.9487	699.4873	499.92	513.00	13.08	50.15	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	12	TOC	K2009347-006*25	48.9979 ppm	0.2545 ppm	0.5200%	2020/10/16 16:37

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	49.1779	491.7787	354.22	367.15	12.93	50.13	10:28
2	TOC	48.8179	488.1792	351.70	364.63	12.93	50.08	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample From Schedule Version 12

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	13	TOC	K2009220-001*	2.6879 ppm	0.2163 ppm	8.0500%	2020/10/16 17:05

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.8409	28.4087	29.17	42.07	12.89	50.27	10:29
2	TOC	2.5349	25.3495	27.03	39.94	12.91	50.22	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	14	TOC	K2009220-002*	3.5856 ppm	0.1016 ppm	2.8300%	2020/10/16 17:33

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.6574	36.5743	34.90	47.81	12.91	50.15	10:27

2	TOC	3.5137	35.1373	33.89	47.03	13.14	50.16	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	15	TOC	K2009220-003*	1.0135 ppm	0.0375 ppm	3.7000%	2020/10/16 18:01

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.0400	10.3997	16.54	29.57	13.03	50.11	10:26
2	TOC	0.9869	9.8694	16.17	29.09	12.93	50.10	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	16	TOC	K2009220-004*	1.6257 ppm	0.0020 ppm	0.1200%	2020/10/16 18:29

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.6243	16.2431	20.64	33.54	12.90	50.09	10:30
2	TOC	1.6272	16.2716	20.66	33.42	12.76	50.09	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	17	TOC	K2009220-005*	0.6309 ppm	0.0430 ppm	6.8200%	2020/10/16 18:57

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6613	6.6134	13.88	26.74	12.85	50.09	10:30
2	TOC	0.6005	6.0047	13.46	26.52	13.06	50.12	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	18	TOC	K2009220-006*	0.8994 ppm	0.0198 ppm	2.2000%	2020/10/16 19:25

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9134	9.1338	15.65	28.71	13.06	50.12	10:28
2	TOC	0.8854	8.8544	15.46	28.68	13.22	50.14	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time

◆	19	TOC	K2009220-007*	0.9738 ppm	0.0131 ppm	1.3500%	2020/10/16 19:53

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9831	9.8309	16.14	29.00	12.86	50.15	10:29
2	TOC	0.9646	9.6456	16.01	29.15	13.14	50.17	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 12

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	25.0377 ppm (PASS)	0.0000 ppm	0%	2020/10/16 20:21

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.0377	250.3768	185.53	198.39	12.86	50.15	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 12

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/10/16 20:35

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	7.09	20.07	12.98	50.16	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 12

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	20	TOC	MB2	0.0000 ppm	0.0000 ppm	0.0000%	2020/10/16 20:50

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	6.74	19.88	13.14	50.19	10:33

Dilution	Blank Contribution	Method	Calibration

1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 12

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	24.0791 ppm (PASS)	0.0000 ppm	0%	2020/10/16 21:05

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	24.0791	240.7913	178.80	191.79	12.98	50.16	10:34

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Check Standard --> LCS From Schedule Version 12

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	24.1523 ppm (PASS)	0.0000 ppm	0%	2020/10/16 21:19

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	24.1523	241.5226	179.32	192.39	13.07	50.16	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample From Schedule Version 12

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	21	TOC	K2009220-008*	0.1031 ppm	0.0617 ppm	59.8400%	2020/10/16 21:34

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1467	1.4672	10.28	23.14	12.87	50.17	10:29
2	TOC	0.0595	0.5948	9.66	22.64	12.97	50.17	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	22	TOC	K2009220-009*	5.2456 ppm	0.0400 ppm	0.7600%	2020/10/16 22:03

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	5.2173	52.1727	45.84	58.70	12.85	50.16	10:25
2	TOC	5.2739	52.7386	46.24	59.38	13.14	50.20	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	23	TOC	K2009220-010*	0.7915 ppm	0.0147 ppm	1.8600%	2020/10/16 22:31

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.8019	8.0190	14.87	27.93	13.06	50.19	10:29
2	TOC	0.7811	7.8109	14.72	27.68	12.95	50.16	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	24	TOC	K2009220-011*	5.1108 ppm	0.0490 ppm	0.9600%	2020/10/16 22:59

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	5.1454	51.4542	45.34	58.18	12.84	50.19	10:28
2	TOC	5.0761	50.7614	44.85	57.92	13.06	50.18	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	25	TOC	K2009220-001	2.7069 ppm	0.0162 ppm	0.6000%	2020/10/16 23:27

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.7184	27.1842	28.32	41.09	12.78	50.18	10:28
2	TOC	2.6955	26.9546	28.15	41.11	12.96	50.18	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	26	TOC	K2009220-001D	2.6642 ppm	0.0187 ppm	0.7000%	2020/10/16 23:55

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.6510	26.5099	27.84	40.77	12.93	50.19	10:28
2	TOC	2.6775	26.7750	28.03	41.16	13.13	50.18	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC)	CAS_salt_010711	CAS_salt_010711

(v1462) (v4) (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	27	TOC	K2009220-001MS	29.4007 ppm	0.2539 ppm	0.8600%	2020/10/17 00:23

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	29.2211	292.2114	214.23	227.15	12.93	50.18	10:32
2	TOC	29.5802	295.8024	216.75	229.71	12.96	50.19	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	28	TOC	K2009220-002	4.2373 ppm	0.0919 ppm	2.1700%	2020/10/17 00:51

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.3023	43.0235	39.43	52.59	13.16	50.19	10:25
2	TOC	4.1723	41.7234	38.51	51.63	13.11	50.20	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 12

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.9051 ppm (PASS)	0.0000 ppm	0%	2020/10/17 01:19

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.9051	249.0510	184.60	197.52	12.92	50.22	10:28

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 12

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/10/17 01:33

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	7.54	20.44	12.91	50.23	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 12

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	29	TOC	K2009220-003	0.9261 ppm	0.0503 ppm	5.4300%	2020/10/17 01:48

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9617	9.6171	15.99	28.79	12.80	50.23	10:29
2	TOC	0.8906	8.9057	15.49	28.55	13.06	50.23	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	30	TOC	K2009220-004	1.6272 ppm	0.0326 ppm	2.0000%	2020/10/17 02:16

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.6042	16.0420	20.50	33.26	12.76	50.24	10:25
2	TOC	1.6503	16.5025	20.82	33.82	12.99	50.25	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	31	TOC	K2009220-005	0.6314 ppm	0.0298 ppm	4.7300%	2020/10/17 02:44

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6525	6.5251	13.82	26.95	13.13	50.25	10:31
2	TOC	0.6103	6.1031	13.53	26.75	13.22	50.28	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	32	TOC	K2009220-006	0.9668 ppm	0.0077 ppm	0.7900%	2020/10/17 03:12

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9614	9.6142	15.99	29.18	13.19	50.28	10:26
2	TOC	0.9723	9.7226	16.07	29.33	13.26	50.31	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	33	TOC	K2009220-007	1.0308 ppm	0.0210 ppm	2.0300%	2020/10/17 03:40

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.0160	10.1602	16.37	29.60	13.22	50.32	10:27
2	TOC	1.0457	10.4567	16.58	29.71	13.12	50.31	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	34	TOC	K2009220-008	0.0412 ppm	0.0583 ppm	141.4200%	2020/10/17 04:09

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	9.13	22.32	13.19	50.33	10:29
2	TOC	0.0824	0.8243	9.82	22.79	12.96	50.37	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	35	TOC	K2009220-009	5.8404 ppm	0.1130 ppm	1.9300%	2020/10/17 04:37

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	5.7605	57.6054	49.66	62.94	13.28	50.36	10:30
2	TOC	5.9203	59.2035	50.78	63.77	13.00	50.37	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	36	TOC	K2009220-010	0.8812 ppm	0.0345 ppm	3.9100%	2020/10/17 05:05

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9055	9.0554	15.60	28.72	13.12	50.37	10:29
2	TOC	0.8568	8.5679	15.26	28.56	13.30	50.37	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	37	TOC	K2009220-011	5.8432 ppm	0.0488 ppm	0.8300%	2020/10/17 05:33

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	5.8087	58.0873	49.99	63.09	13.10	50.39	10:25

2	TOC	5.8777	58.7772	50.48	63.63	13.16	50.40	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	38	TOC	K2008879-002	5.8506 ppm	0.0136 ppm	0.2300%	2020/10/17 06:01

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	5.8602	58.6019	50.35	63.34	12.98	50.41	10:26
2	TOC	5.8409	58.4095	50.22	63.35	13.13	50.45	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 12

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.5755 ppm (PASS)	0.0000 ppm	0%	2020/10/17 06:29

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.5755	245.7551	182.28	195.53	13.25	50.44	10:28

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 12

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/10/17 06:43

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	7.14	20.36	13.22	50.46	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 12

		Analysis			Std. Dev.		

	Pos	Type	Sample ID	Result (ppmC)	(ppmC)	RSD	Start Time
◆	39	TOC	MB3	0.0000 ppm	0.0000 ppm	0.0000%	2020/10/17 06:58

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	6.78	19.87	13.10	50.46	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 12

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	23.8766 ppm (PASS)	0.0000 ppm	0%	2020/10/17 07:13

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	23.8766	238.7656	177.38	190.56	13.17	50.49	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Check Standard --> LCS From Schedule Version 12

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	23.8163 ppm (PASS)	0.0000 ppm	0%	2020/10/17 07:27

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	23.8163	238.1626	176.96	190.30	13.34	50.51	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample From Schedule Version 12

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	40	TOC	K2008879-003	5.4448 ppm	0.1032 ppm	1.9000%	2020/10/17 07:42

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	5.3718	53.7180	46.93	60.33	13.41	50.53	10:25
2	TOC	5.5178	55.1777	47.95	61.21	13.26	50.53	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	41	TOC	K2008879-004	5.1714 ppm	0.0291 ppm	0.5600%	2020/10/17 08:10

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	5.1508	51.5084	45.38	58.82	13.44	50.54	10:30
2	TOC	5.1920	51.9203	45.67	58.98	13.32	50.55	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	42	TOC	K2008879-005	4.9564 ppm	0.0187 ppm	0.3800%	2020/10/17 08:38

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.9431	49.4313	43.92	57.16	13.24	50.56	10:28
2	TOC	4.9696	49.6965	44.11	57.48	13.37	50.53	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	43	TOC	K2008879-006	4.9883 ppm	0.0859 ppm	1.7200%	2020/10/17 09:06

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	5.0491	50.4905	44.66	57.94	13.28	50.51	10:28
2	TOC	4.9276	49.2759	43.81	57.20	13.39	50.48	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	44	TOC	K2008879-007	4.8845 ppm	0.0550 ppm	1.1300%	2020/10/17 09:34

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.9235	49.2346	43.78	57.02	13.24	50.45	10:24
2	TOC	4.8456	48.4562	43.24	56.53	13.29	50.41	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	45	TOC	K2008879-008	4.9381 ppm	0.0765 ppm	1.5500%	2020/10/17 10:02

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.8840	48.8397	43.51	56.66	13.16	50.38	10:27
2	TOC	4.9922	49.9217	44.26	57.40	13.14	50.36	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	46	TOC	K2008879-009	5.1540 ppm	0.0321 ppm	0.6200%	2020/10/17 10:30

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	5.1313	51.3131	45.24	58.46	13.22	50.37	10:27
2	TOC	5.1766	51.7664	45.56	58.70	13.14	50.35	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	47	TOC	K2008879-010	5.2474 ppm	0.0422 ppm	0.8000%	2020/10/17 10:58

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	5.2176	52.1755	45.85	59.07	13.23	50.34	10:28
2	TOC	5.2773	52.7728	46.26	59.53	13.27	50.32	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 12

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◈	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.7814 ppm (PASS)	0.0000 ppm	0%	2020/10/17 11:26

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.7814	247.8136	183.73	196.57	12.84	50.29	10:34

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 12

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time

◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/10/17 11:41

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	7.56	20.64	13.08	50.28	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 12

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	48	TOC	K2008879-011	5.3253 ppm	0.1492 ppm	2.8000%	2020/10/17 11:56

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	5.2198	52.1983	45.86	58.74	12.88	50.24	10:29
2	TOC	5.4308	54.3081	47.34	60.20	12.86	50.20	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	49	TOC	K2008879-013	5.1400 ppm	0.0242 ppm	0.4700%	2020/10/17 12:24

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	5.1229	51.2289	45.18	58.17	12.99	50.20	10:26
2	TOC	5.1571	51.5711	45.42	58.48	13.06	50.19	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	50	TOC	K2008879-016	5.9174 ppm	0.1229 ppm	2.0800%	2020/10/17 12:52

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	5.8305	58.3054	50.15	63.13	12.98	50.18	10:31
2	TOC	6.0043	60.0431	51.37	64.25	12.88	50.20	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	51	TOC	K2008879-016D	6.0561 ppm	0.0670 ppm	1.1100%	2020/10/17 13:20

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	6.0087	60.0873	51.40	64.23	12.84	50.18	10:27
2	TOC	6.1035	61.0353	52.06	65.07	13.01	50.16	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	52	TOC	K2008879-016MS	31.9028 ppm	0.0729 ppm	0.2300%	2020/10/17 13:48

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	31.9543	319.5435	233.40	246.28	12.88	50.14	10:26
2	TOC	31.8513	318.5128	232.68	245.58	12.90	50.08	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	53	TOC	K2008879-017	6.2497 ppm	0.1085 ppm	1.7400%	2020/10/17 14:16

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	6.3263	63.2635	53.62	66.32	12.70	50.05	10:28
2	TOC	6.1730	61.7296	52.55	65.44	12.90	50.02	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	54	TOC	K2008879-018	6.3120 ppm	0.0412 ppm	0.6500%	2020/10/17 14:44

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	6.2829	62.8287	53.32	66.15	12.83	50.01	10:26
2	TOC	6.3412	63.4117	53.73	66.37	12.64	50.00	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	55	TOC	K2008879-018D	6.4453 ppm	0.1195 ppm	1.8500%	2020/10/17 15:12

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	6.5298	65.2977	55.05	67.90	12.85	50.00	10:25
2	TOC	6.3608	63.6084	53.87	66.59	12.73	49.95	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC)	CAS_salt_010711	CAS_salt_010711

(v1462) (v4) (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	56	TOC	K2008879-018MS	32.6445 ppm	0.0480 ppm	0.1500%	2020/10/17 15:40

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	32.6105	326.1053	238.00	250.60	12.60	49.92	10:24
2	TOC	32.6784	326.7839	238.48	251.20	12.72	49.96	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	57	TOC	K2008879-019	6.4874 ppm	0.0016 ppm	0.0200%	2020/10/17 16:08

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	6.4886	64.8857	54.76	67.55	12.79	49.93	10:28
2	TOC	6.4863	64.8629	54.75	67.43	12.68	49.92	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 12

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	25.4494 ppm (PASS)	0.0000 ppm	0%	2020/10/17 16:36

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.4494	254.4937	188.42	201.10	12.69	49.93	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 12

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/10/17 16:51

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	8.11	20.72	12.61	49.90	10:34

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 12

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	58	TOC	MB4	0.0000 ppm	0.0000 ppm	0.0000%	2020/10/17 17:06

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	6.96	19.92	12.96	49.89	10:32

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 12

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	24.4618 ppm (PASS)	0.0000 ppm	0%	2020/10/17 17:20

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	24.4618	244.6175	181.49	194.30	12.81	49.90	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Check Standard --> LCS From Schedule Version 12

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	24.5416 ppm (PASS)	0.0000 ppm	0%	2020/10/17 17:35

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	24.5416	245.4158	182.05	194.80	12.75	49.90	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample From Schedule Version 12

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	59	TOC	K2008879-020	6.3370 ppm	0.0612 ppm	0.9700%	2020/10/17 17:50

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	6.2937	62.9370	53.40	66.03	12.63	49.91	10:30
2	TOC	6.3802	63.8023	54.00	66.69	12.69	49.94	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	60	TOC	K2008879-021	6.4390 ppm	0.0146 ppm	0.2300%	2020/10/17 18:18

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	6.4287	64.2870	54.34	67.40	13.06	49.94	10:25
2	TOC	6.4494	64.4937	54.49	67.53	13.04	49.96	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	61	TOC	K2008879-022	6.3765 ppm	0.0100 ppm	0.1600%	2020/10/17 18:46

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	6.3835	63.8351	54.03	66.82	12.79	49.99	10:26
2	TOC	6.3694	63.6940	53.93	66.91	12.99	49.99	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	62	TOC	K2008879-023	6.3944 ppm	0.0068 ppm	0.1100%	2020/10/17 19:14

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	6.3992	63.9919	54.14	67.03	12.89	50.00	10:26
2	TOC	6.3896	63.8964	54.07	67.12	13.05	50.03	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	63	TOC	K2008879-024	6.2988 ppm	0.0101 ppm	0.1600%	2020/10/17 19:42

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	6.2917	62.9170	53.38	66.39	13.01	50.03	10:29

2	TOC	6.3060	63.0596	53.48	66.47	12.98	50.05	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	64	TOC	K2008879-025	5.8538 ppm	0.0286 ppm	0.4900%	2020/10/17 20:10

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	5.8335	58.3353	50.17	63.32	13.16	50.07	10:28
2	TOC	5.8740	58.7402	50.45	63.48	13.03	50.06	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	65	TOC	K2008879-026	5.3004 ppm	0.0376 ppm	0.7100%	2020/10/17 20:38

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	5.3270	53.2703	46.61	59.58	12.97	50.08	10:26
2	TOC	5.2739	52.7386	46.24	59.31	13.06	50.09	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	66	TOC	K2008879-027	5.3052 ppm	0.0107 ppm	0.2000%	2020/10/17 21:06

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	5.2977	52.9767	46.41	59.33	12.92	50.10	10:28
2	TOC	5.3128	53.1278	46.51	59.59	13.07	50.12	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 12

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.8161 ppm (PASS)	0.0000 ppm	0%	2020/10/17 21:34

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.8161	248.1614	183.97	196.97	12.99	50.13	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 12

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◈	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/10/17 21:49

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	7.43	20.45	13.02	50.13	10:35

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 12

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	67	TOC	K2008879-028	4.8957 ppm	0.0504 ppm	1.0300%	2020/10/17 22:04

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.9313	49.3130	43.84	56.89	13.05	50.16	10:26
2	TOC	4.8600	48.6002	43.34	56.54	13.20	50.17	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	68	TOC	K2008879-033	5.5439 ppm	0.0308 ppm	0.5600%	2020/10/17 22:32

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	5.5220	55.2205	47.98	61.17	13.19	50.19	10:30
2	TOC	5.5657	55.6567	48.29	61.55	13.26	50.20	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	69	TOC	K2009347-05MS*100	37.0990 ppm	0.0000 ppm	0.0000%	2020/10/17 23:00

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	37.0990	370.9902	269.49	282.63	13.14	50.20	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2458 (IC) (v1462)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 12

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.7903 ppm (PASS)	0.0000 ppm	0%	2020/10/17 23:14

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.7903	247.9034	183.79	196.84	13.05	50.20	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 12

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/10/17 23:29

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	7.30	20.41	13.12	50.22	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Meta Data Used in this Report

Blanks

Version	Reagent (Abs)	Acid (Abs)	DI IC (Abs)	DI TC (Abs)	DI TOC (Abs)	Save Time	Operator
v1461	1.7083	0.2430	0.0000	0.0000	0.0000	2020/10/14 11:33	Fusion1 (Fusion1)
v1462	1.7147	-0.0390	0.0000	0.0000	0.0000	2020/10/16 09:58	Fusion1 (Fusion1)

Calibrations

Name: CAS_salt_010711 (TOC)

Version:	v38	Calibration curve formula:	TOC: y = 7.015x + 9.892
Ver Creation:	2020/06/13 16:40	r^2 value:	TOC: r^2 = 0.99974
Comment:			
Operator:	Fusion1 (Fusion1)		
Basic Analysis Type	TOC		

Basic Analysis Type: TOC

Sample ID	Y Raw Value	X Expected	Message	End Time
DI Water	9.5750	0.0000		2020/06/13 15:13
0.500 ppm	12.9010	0.5000		2020/06/13 15:28
1.0 ppm	15.6320	1.0000		2020/06/13 15:42
5.0 ppm	43.2510	5.0000		2020/06/13 15:56
10 ppm	82.4040	10.0000		2020/06/13 16:11
25 ppm	188.6880	25.0000		2020/06/13 16:25
50 ppm	358.6500	50.0000		2020/06/13 16:39

Methods

Name: CAS_salt_010711 (TOC)

Version:	v4	Operator:	Fusion1 (Fusion1)
Ver Creation:	2019/02/21 17:57		
Comment:			

Parameter	Value
SampleVolume	10.0 mL
Dilution	1:10
AcidVolume	0.5 ml
ReagentVolume	2.0 ml
UVReactorPrerinse	Off
UVReactorPrerinseVolume	5.0
NumberOfUVReactorPrerinses	1
ICSpargeTime	1.00 mins
DetectorSweepFlow	500 ml/min
PreSpargeTime	2.00 mins
SystemFlow	500 ml/min

Advanced Parameter	Value
NeedleRinseVolume	5.0 ml
VialPrimeVolume	2.0 ml
ICSamplePrimeVolume	2.0 ml
ICSpargeRinseVolume	12.0 ml
BaselineStabilizeTime	0.70 min
DetectorPressureFlow	150 ml/min
SyringeSpeedWaste	10
SyringeSpeedAcid	7
SyringeSpeedReagent	7
SyringeSpeedDIWater	7
NDIRPressurization	60 psig
SyringeSpeedSampleDispense	5
SyringeSpeedSampleAspirate	4
SyringeSpeedUVDispense	5
SyringeSpeedUVAspirate	5
SyringeSpeedICDispense	5
SyringeSpeedICAspirate	5
NDIRPressureStabilize	1.75 min
SampleMixing	Off
SampleMixingCycles	1

SampleMixingVolume	10.0
LowLevelFilterNDIR	Off

Acceptance / Approval

Electronic Signatures

Report Version	User Name	Acceptance	Reason	Date

Report History

Report History

Report Version	User Name	System Reason	User Reason	Date
1	Fusion1 (Fusion1)	Schedule completed	Schedule completed	2020/10/17 23:44

ALS Environmental

StarLIMS Run: 699682/699680/699514699677

Analysis: DOC/TOC

Method: SM 5310 C, 9060A, 415.1, 9060

CCV: 19-GEN-8-40-C 50 ppm LCS: 19-GEN-8-41-k 25.0 ppm

ICAL Date: 6/16/2020

ICAL ID: 19-GEN-8-22-G

ICS ID: 19-GEN-8-35-J

ICS TV: 25.0 ppm ICS % R < 1

Spike ID: 19-GEN-8-15-B 0.05 ml of 5000 ppm stock ---> 10.0 ml = 25.0 ppm x dilution factor

Sodium Persulfate: 19-GEN-08-49-F

21 % H3PO4: 19-GEN-08-49-E

Equipment ID: K-TOC-03

PIPETTE ID: 124276B, 129001F, N11314F, Marge

FILTER ID: 16967789

Analyzed By: MK	Date Analyzed: 10/16/20
Reviewed By:	Date Reviewed: 10/21/20

Work Request # 8994 9090 9347 9468

Tier: # # IV II

Date Analyzed: 10.23.20

Analyst: MK Run # 700289

Analysis: TOC/DOC

DATA QUALITY REPORT
INORGANICS

Explain any "no" responses to questions below, and any corrective actions in the comments section below.

1.	Is the method name and number correct and appropriate?	yes/no/NA
2.	Holding times met for all analyses and for all samples?	yes/no/NA
3.	Are calculations correct?	yes/no/NA
4.	Is the reporting basis correct? (Dry Weight)	yes/no/NA
5.	All quality control criteria met?	yes/no
6.	Is the calibration curve correlation coefficient ≥ 0.995?	yes/no/NA
7.	MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency?	yes/no/NA
8.	Are ICVs, CCVs, and CCBs all within acceptance limits?	yes/no/NA
9.	Are results for methods blanks all ND?	yes/no/NA
10.	Are all QC samples within acceptance criteria? (LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.)	yes/no/NA
11.	Are all exceptions explained?	yes/no/NA
12.	Have all applicable service requests been reviewed?	yes/no/NA
13.	Are all samples labeled correctly?	yes/no/NA
14.	Have all instructions on the service request been followed? (e.g. Special MRLs, QC on a specific sample, Form V)	yes/no/NA
15.	Are detection limits and units reported correctly?	yes/no/NA
16.	Is the unused space on the benchsheet crossed out?	yes/no/NA
17.	Was analysis turned in by the due date? (n-2) (If not record SR#)	yes/no/NA

COMMENTS:

Final Approved by: _____ Date: 10/26/20

DQREPORT

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 700289 **Method/Testcode:** SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
K2008994-001	Carbon, Total Organic	N/A		Water	3.27 mg/L	10 mL	32.7 mg/L	10	0.7	5.0			10/23/20 18:00:00	N	II
K2009090-001	Carbon, Total Organic	N/A		Wastewater	3.02 mg/L	10 mL	30.2 mg/L	10	0.7	5.0			10/23/20 18:00:00	N	II
K2009090-002	Carbon, Total Organic	N/A		Water	2.43 mg/L	10 mL	2.43 mg/L	1	0.07	0.50			10/23/20 18:00:00	N	II
K2009347-001	Carbon, Total Organic	N/A		Ground Water	18.28 mg/L	10 mL	18.3 mg/L	1	0.07	0.50			10/23/20 18:00:00	N	IV
K2009347-002	Carbon, Total Organic	N/A		Ground Water	13.11 mg/L	10 mL	65.5 mg/L	5	0.4	2.5			10/23/20 18:00:00	N	IV
K2009347-004	Carbon, Total Organic	N/A		Ground Water	4.98 mg/L	10 mL	4.98 mg/L	1	0.07	0.50			10/23/20 18:00:00	N	IV
K2009387-001	Carbon, Total Organic	N/A		Water	7.03 mg/L	10 mL	7.03 mg/L	1	0.07	0.50			10/23/20 18:00:00	N	II
K2009468-001	Carbon, Dissolved Organic (DOC)	N/A		Water	0.35 mg/L	10 mL	0.35 mg/L J	1	0.07	0.50			10/23/20 18:00:00	N	II
K2009468-002	Carbon, Dissolved Organic (DOC)	N/A		Water	0.40 mg/L	10 mL	0.40 mg/L J	1	0.07	0.50			10/23/20 18:00:00	N	II
K2009468-003	Carbon, Dissolved Organic (DOC)	N/A		Water	0.48 mg/L	10 mL	0.48 mg/L J	1	0.07	0.50			10/23/20 18:00:00	N	II
K2009468-004	Carbon, Dissolved Organic (DOC)	N/A		Water	0.63 mg/L	10 mL	0.63 mg/L	1	0.07	0.50			10/23/20 18:00:00	N	II
K2009468-005	Carbon, Dissolved Organic (DOC)	N/A		Water	0.29 mg/L	10 mL	0.29 mg/L J	1	0.07	0.50			10/23/20 18:00:00	N	II
K2009468-006	Carbon, Dissolved Organic (DOC)	N/A		Water	0.59 mg/L	10 mL	0.59 mg/L	1	0.07	0.50			10/23/20 18:00:00	N	II
KQ2016412-02	Carbon, Total Organic	MS	K2009347-004	Ground Water	27.62 mg/L	10 mL	27.6 mg/L	1	0.07	0.50	91		10/23/20 18:00:00	N	IV
KQ2016412-03	Carbon, Dissolved Organic (DOC)	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/23/20 18:00:00	N	II
KQ2016412-03	Carbon, Total Organic	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/23/20 18:00:00	N	II
KQ2016412-04	Carbon, Dissolved Organic (DOC)	LCS		Water	24.53 mg/L	10 mL	24.5 mg/L	1	0.07	0.50	98		10/23/20 18:00:00	N	II
KQ2016412-04	Carbon, Total Organic	LCS		Water	24.53 mg/L	10 mL	24.5 mg/L	1	0.07	0.50	98		10/23/20 18:00:00	N	II
KQ2016412-05	Carbon, Dissolved Organic (DOC)	DLCS		Water	24.22 mg/L	10 mL	24.2 mg/L	1	0.07	0.50	97	1	10/23/20 18:00:00	N	II
KQ2016412-05	Carbon, Total Organic	DLCS		Water	24.22 mg/L	10 mL	24.2 mg/L	1	0.07	0.50	97	1	10/23/20 18:00:00	N	II
KQ2016412-06	Carbon, Dissolved Organic (DOC)	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/23/20 18:00:00	N	II
KQ2016412-06	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/23/20 18:00:00	N	II
KQ2016412-07	Carbon, Dissolved Organic (DOC)	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/23/20 18:00:00	N	II
KQ2016412-07	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/23/20 18:00:00	N	II
KQ2016412-08	Carbon, Dissolved Organic (DOC)	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/23/20 18:00:00	N	II
KQ2016412-08	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/23/20 18:00:00	N	II

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 700289 **Method/Testcode:** SM 5310 C/TOC D

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
KQ2016412-09	Carbon, Dissolved Organic (DOC)	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/23/20 18:00:00	N	II
KQ2016412-09	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/23/20 18:00:00	N	II
KQ2016412-10	Carbon, Dissolved Organic (DOC)	CCV		Water	25.57 mg/L	10 mL	25.6 mg/L	1					10/23/20 18:00:00	N	II
KQ2016412-10	Carbon, Total Organic	CCV		Water	25.57 mg/L	10 mL	25.6 mg/L	1					10/23/20 18:00:00	N	II
KQ2016412-11	Carbon, Dissolved Organic (DOC)	CCV		Water	25.07 mg/L	10 mL	25.1 mg/L	1					10/23/20 18:00:00	N	II
KQ2016412-11	Carbon, Total Organic	CCV		Water	25.07 mg/L	10 mL	25.1 mg/L	1					10/23/20 18:00:00	N	II
KQ2016412-12	Carbon, Dissolved Organic (DOC)	CCV		Water	24.37 mg/L	10 mL	24.4 mg/L	1					10/23/20 18:00:00	N	II
KQ2016412-12	Carbon, Total Organic	CCV		Water	24.37 mg/L	10 mL	24.4 mg/L	1					10/23/20 18:00:00	N	II

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Schedule: 102320A

Version: 7
Instrument: Fusion1
Last Saved by: Fusion1 (Fusion1)
Last Saved on: 2020/10/23 17:32 - Friday

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
(Clean)	Clean	Clean		1	True	Ready
(Clean)	Clean	Clean		1	True	Ready
(Blank)	Blank	Reagent/Acid Blank		1	True	Ready
D	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
B (1)	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
1	Sample	MB1	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
2	Sample	ICS	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
3	Sample	K2009347-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
4	Sample	K2009347-002*5	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
5	Sample	K2009347-003*10	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
6	Sample	K2009347-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
7	Sample	K2009347-004D	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
8	Sample	K2009347-004MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
9	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
B (2)	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
10	Sample	K2008994-001*10	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
11	Sample	K2009090-001*103	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
12	Sample	K2009090-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
13	Sample	K2009387-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
14	Sample	K2009468-001*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
15	Sample	K2009468-002*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
16	Sample	K2009468-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
17	Sample	K2009468-004*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
18	Sample	K2009468-005*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
19	Sample	K2009468-006*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B (3)	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
20	Sample	MB2	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
B (4)	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
					False	

Fusion Report - 102320A
Friday, October 23, 2020 04:12 PM

(View - Reps, Unused Reps, Meta-Data, Signature, History)
Printed on 2020/10/24 12:04 - Saturday

Report Summary Information

Company Location:	Gen Chem Lab		
Schedule Name:	102320A	Engine Version:	1.1.5.1
Instrument Name:	Fusion1	Firmware Version:	1.2.0696
Report Version:	1 of 1	Connection:	RS232 COM1
Report Creation by Operators (schedule version):	Fusion1 (Fusion1) (v1) Fusion1 (Fusion1) (v2) Fusion1 (Fusion1) (v3) Fusion1 (Fusion1) (v7)		
Comment:			

Report Results

Sample Type: Clean — From Schedule Version 1

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/10/23 16:12

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	12.03	24.96	12.92	49.82	05:23
2	TC Clean	9.71	22.49	12.78	50.10	04:04
3	TC Clean	4.15	17.13	12.98	50.02	03:45
4	TC Clean	4.01	16.93	12.92	50.24	03:47

Sample Type: Clean — From Schedule Version 2

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/10/23 16:34

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.08	12.63	12.71	49.78	05:23
2	TC Clean	9.98	22.89	12.90	50.16	04:03
3	TC Clean	2.40	15.39	12.99	50.28	03:49

4	TC Clean	3.35	16.02	12.67	50.08	03:52

Sample Type: Blank (Creating v1467) From Schedule Version 3

	Pos	Analysis Type	Sample ID	Start Time
◈	(blank)		Reagent/Acid Blank	2020/10/23 17:18

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	9.27	22.07	12.80	49.79	05:26
2	TC Clean	9.86	22.71	12.85	50.19	04:05
3	TC Clean	2.62	15.62	13.00	49.98	03:45
4	TC Clean	2.51	15.29	12.78	49.97	03:48
5	Reagent Blank	5.67	18.52	12.85	50.01	05:05
6	Acid Blank	0.61	13.20	12.59	49.74	05:31

Sample Type: Sample From Schedule Version 7

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	D	TOC	RB	0.5272 ppm	0.0000 ppm	0.0000%	2020/10/23 17:52

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5272	5.2721	12.98	25.87	12.89	50.40	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2807 (IC) (v1467)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 7

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◈	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	25.5700 ppm (PASS)	0.0000 ppm	0%	2020/10/23 18:06

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.5700	255.6998	189.26	201.99	12.73	50.43	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB

From Schedule Version 7

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/10/23 18:21

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	9.68	22.40	12.72	50.45	10:28

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample

From Schedule Version 7

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	1	TOC	MB1	0.0176 ppm	0.0000 ppm	0.0000%	2020/10/23 18:36

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0176	0.1757	9.40	22.20	12.80	50.45	10:34

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2807 (IC) (v1467)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS

From Schedule Version 7

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	25.1189 ppm (PASS)	0.0000 ppm	0%	2020/10/23 18:50

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	25.1189	251.1893	186.10	199.13	13.03	50.47	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample

From Schedule Version 7

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	2	TOC	ICS	2.7496 ppm	0.0000 ppm	0.0000%	2020/10/23 19:05

Rep	Base			Adjusted		Baseline	Pressure	Run

#	Analysis Type	ppm	µg	(Abs)	NDIR (Abs)	(Abs)	(psig)	Time
1	TOC	2.7496	27.4965	28.57	41.34	12.77	50.50	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2807 (IC) (v1467)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 7

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	25.2772 ppm (PASS)	0.0000 ppm	0%	2020/10/23 19:20

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	25.2772	252.7717	187.21	200.08	12.87	50.53	10:28

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample From Schedule Version 7

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	3	TOC	K2009347-001	18.2778 ppm	0.2213 ppm	1.2100%	2020/10/23 19:34

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	18.4343	184.3428	138.59	151.58	12.99	50.54	10:25
2	TOC	18.1214	181.2137	136.40	149.55	13.15	50.56	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2807 (IC) (v1467)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	4	TOC	K2009347-002*5	13.1052 ppm	0.1102 ppm	0.8400%	2020/10/23 20:02

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	13.1831	131.8312	101.76	114.92	13.17	50.55	10:29
2	TOC	13.0273	130.2731	100.66	114.00	13.34	50.56	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2807 (IC) (v1467)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	5	TOC	K2009347-003*10	122.2974 ppm	0.7127 ppm	0.5800%	2020/10/23 20:31

Rep	Base			Adjusted		Baseline	Pressure	Run

#	Analysis Type	ppm	µg	(Abs)	NDIR (Abs)	(Abs)	(psig)	Time
1	TOC	121.7935	1217.9350	863.64	876.60	12.95	50.58	10:29
2	TOC	122.8014	1228.0137	870.71	884.11	13.40	50.57	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2807 (IC) (v1467)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	6	TOC	K2009347-004	5.6227 ppm	0.4828 ppm	8.5900%	2020/10/23 20:59

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	5.9641	59.6412	51.12	64.25	13.13	50.59	10:23
2	TOC	5.2813	52.8128	46.33	59.32	13.00	50.60	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2807 (IC) (v1467)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	7	TOC	K2009347-004D	4.9766 ppm	0.2592 ppm	5.2100%	2020/10/23 21:27

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	5.1598	51.5983	45.48	58.49	13.02	50.61	10:28
2	TOC	4.7933	47.9332	42.90	56.10	13.20	50.65	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2807 (IC) (v1467)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	8	TOC	K2009347-004MS	27.6237 ppm	0.3516 ppm	1.2700%	2020/10/23 21:55

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	27.8723	278.7229	204.80	218.01	13.21	50.64	10:27
2	TOC	27.3751	273.7506	201.31	214.24	12.93	50.65	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2807 (IC) (v1467)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	9	TOC	RB	0.0246 ppm	0.0493 ppm	200.0000%	2020/10/23 22:23

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0985	0.9855	9.97	23.17	13.20	50.66	10:29
2	TOC	0.0000	0.0000	9.16	22.27	13.11	50.67	10:30
3	TOC	0.0000	0.0000	8.68	21.84	13.16	50.68	10:26
4	TOC	0.0000	0.0000	8.91	21.80	12.89	50.69	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2807 (IC) (v1467)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm — From Schedule Version 7

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	25.0683 ppm (PASS)	0.0000 ppm	0%	2020/10/23 23:19

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.0683	250.6832	185.74	198.81	13.07	50.68	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB — From Schedule Version 7

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/10/23 23:33

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	9.03	22.06	13.02	50.70	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample — From Schedule Version 7

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	10	TOC	K2008994-001*10	3.2731 ppm	0.0060 ppm	0.1800%	2020/10/23 23:48

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.2774	32.7738	32.27	45.37	13.10	50.70	10:26
2	TOC	3.2688	32.6883	32.21	45.37	13.16	50.68	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2807 (IC) (v1467)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time

◆	11	TOC	K2009090-001*103	3.0231 ppm	0.0067 ppm	0.2200%	2020/10/24 00:16

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.0278	30.2777	30.52	43.72	13.20	50.71	10:27
2	TOC	3.0184	30.1836	30.45	43.49	13.04	50.71	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2807 (IC) (v1467)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	12	TOC	K2009090-002	2.4339 ppm	0.0883 ppm	3.6300%	2020/10/24 00:44

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.4963	24.9632	26.79	39.84	13.04	50.70	10:31
2	TOC	2.3714	23.7145	25.92	39.03	13.11	50.71	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2807 (IC) (v1467)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	13	TOC	K2009387-001	7.0280 ppm	0.0437 ppm	0.6200%	2020/10/24 01:12

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	7.0589	70.5895	58.80	71.86	13.06	50.71	10:27
2	TOC	6.9971	69.9708	58.36	71.51	13.14	50.72	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2807 (IC) (v1467)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	14	TOC	K2009468-001*	0.3515 ppm	0.0197 ppm	5.5900%	2020/10/24 01:40

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.3654	3.6541	11.84	25.07	13.23	50.72	10:26
2	TOC	0.3376	3.3761	11.65	24.92	13.27	50.70	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2807 (IC) (v1467)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	15	TOC	K2009468-002*	0.4032 ppm	0.0450 ppm	11.1500%	2020/10/24 02:08

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.4350	4.3498	12.33	25.60	13.26	50.73	10:25
2	TOC	0.3714	3.7140	11.89	25.22	13.33	50.70	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2807 (IC) (v1467)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	16	TOC	K2009468-003	0.4762 ppm	0.0177 ppm	3.7300%	2020/10/24 02:36

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.4887	4.8872	12.71	25.97	13.26	50.73	10:29
2	TOC	0.4636	4.6363	12.53	25.84	13.31	50.76	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2807 (IC) (v1467)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	17	TOC	K2009468-004*	0.6328 ppm	0.0324 ppm	5.1100%	2020/10/24 03:04

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6557	6.5565	13.88	27.15	13.27	50.75	10:27
2	TOC	0.6099	6.0989	13.56	26.89	13.33	50.77	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2807 (IC) (v1467)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	18	TOC	K2009468-005*	0.2948 ppm	0.0312 ppm	10.6000%	2020/10/24 03:32

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.3169	3.1694	11.50	24.53	13.03	50.79	10:27
2	TOC	0.2727	2.7275	11.19	24.48	13.28	50.79	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2807 (IC) (v1467)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	19	TOC	K2009468-006*	0.5858 ppm	0.0004 ppm	0.0700%	2020/10/24 04:00

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5861	5.8609	13.39	26.60	13.21	50.82	10:26
2	TOC	0.5855	5.8551	13.39	26.60	13.21	50.82	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2807 (IC) (v1467)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm

From Schedule Version 7

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.3728 ppm (PASS)	0.0000 ppm	0%	2020/10/24 04:28

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.3728	243.7280	180.86	194.20	13.33	50.81	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 7

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/10/24 04:43

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	7.34	20.62	13.27	50.83	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 7

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	20	TOC	MB2	0.0000 ppm	0.0000 ppm	0.0000%	2020/10/24 04:58

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	6.92	20.32	13.40	50.83	10:32

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2807 (IC) (v1467)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 7

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	24.5298 ppm (PASS)	0.0000 ppm	0%	2020/10/24 05:12

Pos	Base Analysis	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time

	Type									
C	TOC	25.0 ppm	1	24.5298	245.2975	181.96	195.13	13.17	50.84	10:34

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Check Standard --> LCS From Schedule Version 7

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	24.2215 ppm (PASS)	0.0000 ppm	0%	2020/10/24 05:27

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	24.2215	242.2155	179.80	193.04	13.23	50.86	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 7

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.5025 ppm (PASS)	0.0000 ppm	0%	2020/10/24 05:42

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.5025	245.0252	181.77	195.16	13.39	50.86	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 7

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/10/24 05:56

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	7.10	20.32	13.23	50.86	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria	Do Nothing	CAS_salt_010711	CAS_salt_010711	0 ppmC

met. (v4) (v38)

Meta Data Used in this Report

Blanks

Version	Reagent (Abs)	Acid (Abs)	DI IC (Abs)	DI TC (Abs)	DI TOC (Abs)	Save Time	Operator
v1466	1.8597	0.2000	0.0000	0.0000	0.0000	2020/10/23 10:22	Fusion1 (Fusion1)
v1467	1.8893	0.6090	0.0000	0.0000	0.0000	2020/10/23 17:52	Fusion1 (Fusion1)

Calibrations

Name: CAS_salt_010711 (TOC)

Version: v38
Ver Creation: 2020/06/13 16:40
Comment:
Operator: Fusion1 (Fusion1)
Basic Analysis Type: TOC
Calibration curve formula: TOC: y = 7.015x + 9.892
r^2 value: TOC: r^2 = 0.99974

Basic Analysis Type: TOC

Sample ID	Y Raw Value	X Expected	Message	End Time
DI Water	9.5750	0.0000		2020/06/13 15:13
0.500 ppm	12.9010	0.5000		2020/06/13 15:28
1.0 ppm	15.6320	1.0000		2020/06/13 15:42
5.0 ppm	43.2510	5.0000		2020/06/13 15:56
10 ppm	82.4040	10.0000		2020/06/13 16:11
25 ppm	188.6880	25.0000		2020/06/13 16:25
50 ppm	358.6500	50.0000		2020/06/13 16:39

Methods

Name: CAS_salt_010711 (TOC)

Version: v4
Ver Creation: 2019/02/21 17:57
Comment:
Operator: Fusion1 (Fusion1)

Parameter	Value
SampleVolume	10.0 mL
Dilution	1:10
AcidVolume	0.5 ml

Advanced Parameter	Value
NeedleRinseVolume	5.0 ml
VialPrimeVolume	2.0 ml
ICSamplePrimeVolume	2.0 ml

ReagentVolume	2.0 ml
UVReactorPrerinse	Off
UVReactorPrerinseVolume	5.0
NumberOfUVReactorPrerinses	1
ICSpargeTime	1.00 mins
DetectorSweepFlow	500 ml/min
PreSpargeTime	2.00 mins
SystemFlow	500 ml/min

ICSpargeRinseVolume	12.0 ml
BaselineStabilizeTime	0.70 min
DetectorPressureFlow	150 ml/min
SyringeSpeedWaste	10
SyringeSpeedAcid	7
SyringeSpeedReagent	7
SyringeSpeedDIWater	7
NDIRPressurization	60 psig
SyringeSpeedSampleDispense	5
SyringeSpeedSampleAspirate	4
SyringeSpeedUVDispense	5
SyringeSpeedUVAspirate	5
SyringeSpeedICDispense	5
SyringeSpeedICAspirate	5
NDIRPressureStabilize	1.75 min
SampleMixing	Off
SampleMixingCycles	1
SampleMixingVolume	10.0
LowLevelFilterNDIR	Off

Acceptance / Approval

Electronic Signatures

Report Version	User Name	Acceptance	Reason	Date

Report History

Report History

Report Version	User Name	System Reason	User Reason	Date
1	Fusion1 (Fusion1)	Schedule completed	Schedule completed	2020/10/24 06:11

ALS Environmental

StarLIMS Run: 700289

Analysis: DOC/TOC

Method: SM 5310 C, 9060A, 415.1, 9060

CCV: 19-GEN-8-40-C 50 ppm LCS: 19-GEN-8-41-k 25.0 ppm

ICAL Date: 6/16/2020

ICAL ID: 19-GEN-8-22-G

ICS ID: 19-GEN-8-35-J

ICS TV: 25.0 ppm ICS % R < 1

Spike ID: 19-GEN-8-15-B 0.05 ml of 5000 ppm stock ---> 10.0 ml = 25.0 ppm x dilution factor

Sodium Persulfate: 19-GEN-08-49-F

21 % H3PO4: 19-GEN-08-49-E

Equipment ID: K-TOC-03

PIPETTE ID: 124276B, 129001F, N11314F, Marge

FILTER ID: 16967789

Analyzed By: JMC	Date Analyzed: 10-23-20
Reviewed By:	Date Reviewed: 10/26/20

Work Request # 9328 9347 9524

Tier: II IV II

Date Analyzed: 10/20/20

Analyst: MK

Run # 701294 701292

Analysis: TOC/DOC

DATA QUALITY REPORT
INORGANICS

Explain any "no" responses to questions below, and any corrective actions in the comments section below.

1.	Is the method name and number correct and appropriate?	yes/no/NA
2.	Holding times met for all analyses and for all samples?	yes/no/NA
3.	Are calculations correct?	yes/no/NA
4.	Is the reporting basis correct? (Dry Weight)	yes/no/NA
5.	All quality control criteria met?	yes/no
6.	Is the calibration curve correlation coefficient ≥ 0.995?	yes/no/NA
7.	MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency?	yes/no/NA
8.	Are ICVs, CCVs, and CCBs all within acceptance limits?	yes/no/NA
9.	Are results for methods blanks all ND?	yes/no/NA
10.	Are all QC samples within acceptance criteria? (LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.)	yes/no/NA
11.	Are all exceptions explained?	yes/no/NA
12.	Have all applicable service requests been reviewed?	yes/no/NA
13.	Are all samples labeled correctly?	yes/no/NA
14.	Have all instructions on the service request been followed? (e.g. Special MRLs, QC on a specific sample, Form V)	yes/no/NA
15.	Are detection limits and units reported correctly?	yes/no/NA
16.	Is the unused space on the benchsheet crossed out?	yes/no/NA
17.	Was analysis turned in by the due date? (n-2) (If not record SR#)	yes/no/NA

COMMENTS:

Final Approved by: _____ Date: 10/30/20

DQREPORT

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 701294 **Method/Testcode:** SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
K2009328-001	Carbon, Total Organic	N/A		Water	3.48 mg/L	10 mL	3.48 mg/L	1	0.07	0.50			10/26/20 10:05:00	N	II
K2009328-002	Carbon, Total Organic	N/A		Water	18.50 mg/L	10 mL	18.5 mg/L	1	0.07	0.50			10/26/20 10:05:00	N	II
K2009328-003	Carbon, Total Organic	N/A		Water	23.49 mg/L	10 mL	23.5 mg/L	1	0.07	0.50			10/26/20 10:05:00	N	II
K2009328-004	Carbon, Total Organic	N/A		Water	16.65 mg/L	10 mL	16.7 mg/L	1	0.07	0.50			10/26/20 10:05:00	N	II
K2009328-005	Carbon, Total Organic	N/A		Water	9.92 mg/L	10 mL	9.92 mg/L	1	0.07	0.50			10/26/20 10:05:00	N	II
K2009328-006	Carbon, Total Organic	N/A		Water	10.82 mg/L	10 mL	10.8 mg/L	1	0.07	0.50			10/26/20 10:05:00	N	II
K2009328-007	Carbon, Total Organic	N/A		Water	23.90 mg/L	10 mL	23.9 mg/L	1	0.07	0.50			10/26/20 10:05:00	N	II
K2009328-008	Carbon, Total Organic	N/A		Water	16.43 mg/L	10 mL	16.4 mg/L	1	0.07	0.50			10/26/20 10:05:00	N	II
K2009328-009	Carbon, Total Organic	N/A		Water	3.83 mg/L	10 mL	3.83 mg/L	1	0.07	0.50			10/26/20 10:05:00	N	II
K2009328-010	Carbon, Total Organic	N/A		Water	9.80 mg/L	10 mL	9.80 mg/L	1	0.07	0.50			10/26/20 10:05:00	N	II
K2009328-011	Carbon, Total Organic	N/A		Water	16.01 mg/L	10 mL	16.0 mg/L	1	0.07	0.50			10/26/20 10:05:00	N	II
K2009328-013	Carbon, Total Organic	N/A		Water	12.82 mg/L	10 mL	12.8 mg/L	1	0.07	0.50			10/26/20 10:05:00	N	II
K2009328-016	Carbon, Total Organic	N/A		Water	5.14 mg/L	10 mL	5.14 mg/L	1	0.07	0.50			10/26/20 10:05:00	N	II
K2009328-017	Carbon, Total Organic	N/A		Water	9.61 mg/L	10 mL	240 mg/L	25	2	13			10/26/20 10:05:00	N	II
K2009328-018	Carbon, Total Organic	N/A		Water	8.84 mg/L	10 mL	221 mg/L	25	2	13			10/26/20 10:05:00	N	II
K2009347-003	Carbon, Total Organic	N/A		Ground Water	12.50 mg/L	10 mL	1250 mg/L	100	7	50			10/26/20 10:05:00	N	IV
KQ2016909-03	Carbon, Total Organic	LCS		Surface Water	23.91 mg/L	10 mL	23.9 mg/L	1	0.07	0.50	96		10/26/20 10:05:00	N	IV
KQ2016909-04	Carbon, Total Organic	DLCS		Surface Water	23.80 mg/L	10 mL	23.8 mg/L	1	0.07	0.50	95	<1	10/26/20 10:05:00	N	IV
KQ2016909-05	Carbon, Total Organic	MB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/26/20 10:05:00	N	IV
KQ2016909-06	Carbon, Total Organic	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/26/20 10:05:00	N	IV
KQ2016909-07	Carbon, Total Organic	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/26/20 10:05:00	N	IV
KQ2016909-08	Carbon, Total Organic	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/26/20 10:05:00	N	IV
KQ2016909-09	Carbon, Total Organic	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/26/20 10:05:00	N	IV
KQ2016909-10	Carbon, Total Organic	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/26/20 10:05:00	N	IV
KQ2016909-11	Carbon, Total Organic	CCV		Surface Water	24.69 mg/L	10 mL	24.7 mg/L	1					10/26/20 10:05:00	N	IV
KQ2016909-12	Carbon, Total Organic	CCV		Surface Water	24.52 mg/L	10 mL	24.5 mg/L	1					10/26/20 10:05:00	N	IV
KQ2016909-13	Carbon, Total Organic	CCV		Surface Water	24.35 mg/L	10 mL	24.4 mg/L	1					10/26/20 10:05:00	N	IV
KQ2016909-14	Carbon, Total Organic	CCV		Surface Water	24.26 mg/L	10 mL	24.3 mg/L	1					10/26/20 10:05:00	N	IV
KQ2016909-15	Carbon, Total Organic	CCV		Surface Water	23.82 mg/L	10 mL	23.8 mg/L	1					10/26/20 10:05:00	N	IV

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 701294 **Method/Testcode:** SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
KQ2016909-16	Carbon, Total Organic	DUP	K2009328-002	Water	18.49 mg/L	10 mL	18.5 mg/L	1	0.07	0.50		<1	10/26/20 10:05:00	N	II
KQ2016909-17	Carbon, Total Organic	MS	K2009328-002	Water	46.14 mg/L	10 mL	46.1 mg/L	1	0.07	0.50	111		10/26/20 10:05:00	N	II

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 701292 **Method/Testcode:** SM 5310 C/TOC D

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
K2009524-001	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	1.53 mg/L	10 mL	1.53 mg/L	1	0.07	0.50			10/26/20 10:05:00	N	II
K2009524-002	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	1.73 mg/L	10 mL	1.73 mg/L	1	0.07	0.50			10/26/20 10:05:00	N	II
K2009524-003	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	0.26 mg/L	10 mL	0.26 mg/L J	1	0.07	0.50			10/26/20 10:05:00	N	II
K2009524-004	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	0.95 mg/L	10 mL	0.95 mg/L	1	0.07	0.50			10/26/20 10:05:00	N	II
K2009524-005	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	0.73 mg/L	10 mL	0.73 mg/L	1	0.07	0.50			10/26/20 10:05:00	N	II
K2009524-006	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	1.49 mg/L	10 mL	1.49 mg/L	1	0.07	0.50			10/26/20 10:05:00	N	II
K2009524-007	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	1.67 mg/L	10 mL	1.67 mg/L	1	0.07	0.50			10/26/20 10:05:00	N	II
K2009524-008	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	1.68 mg/L	10 mL	1.68 mg/L	1	0.07	0.50			10/26/20 10:05:00	N	II
K2009524-009	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	1.67 mg/L	10 mL	1.67 mg/L	1	0.07	0.50			10/26/20 10:05:00	N	II
K2009524-010	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	0.76 mg/L	10 mL	0.76 mg/L	1	0.07	0.50			10/26/20 10:05:00	N	II
K2009524-011	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	1.61 mg/L	10 mL	1.61 mg/L	1	0.07	0.50			10/26/20 10:05:00	N	II
K2009524-012	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	1.69 mg/L	10 mL	1.69 mg/L	1	0.07	0.50			10/26/20 10:05:00	N	II
KQ2016898-01	Carbon, Dissolved Organic (DOC)	LCS		Surface Water	23.91 mg/L	10 mL	23.9 mg/L	1	0.07	0.50	96		10/26/20 10:05:00	N	II
KQ2016898-02	Carbon, Dissolved Organic (DOC)	DLCS		Surface Water	23.80 mg/L	10 mL	23.8 mg/L	1	0.07	0.50	95	<1	10/26/20 10:05:00	N	II
KQ2016898-03	Carbon, Dissolved Organic (DOC)	MB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/26/20 10:05:00	N	II
KQ2016898-04	Carbon, Dissolved Organic (DOC)	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/26/20 10:05:00	N	II
KQ2016898-05	Carbon, Dissolved Organic (DOC)	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/26/20 10:05:00	N	II
KQ2016898-06	Carbon, Dissolved Organic (DOC)	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/26/20 10:05:00	N	II
KQ2016898-07	Carbon, Dissolved Organic (DOC)	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/26/20 10:05:00	N	II
KQ2016898-08	Carbon, Dissolved Organic (DOC)	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/26/20 10:05:00	N	II
KQ2016898-09	Carbon, Dissolved Organic (DOC)	CCV		Surface Water	24.69 mg/L	10 mL	24.7 mg/L	1					10/26/20 10:05:00	N	II
KQ2016898-10	Carbon, Dissolved Organic (DOC)	CCV		Surface Water	24.52 mg/L	10 mL	24.5 mg/L	1					10/26/20 10:05:00	N	II
KQ2016898-11	Carbon, Dissolved Organic (DOC)	CCV		Surface Water	24.35 mg/L	10 mL	24.4 mg/L	1					10/26/20 10:05:00	N	II

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 701292 **Method/Testcode:** SM 5310 C/TOC D

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
KQ2016898-12	Carbon, Dissolved Organic (DOC)	CCV		Surface Water	24.26 mg/L	10 mL	24.3 mg/L	1					10/26/20 10:05:00	N	II
KQ2016898-13	Carbon, Dissolved Organic (DOC)	CCV		Surface Water	23.82 mg/L	10 mL	23.8 mg/L	1					10/26/20 10:05:00	N	II

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Schedule: 102620

Version: 9
Instrument: Fusion1
Last Saved by: Fusion1 (Fusion1)
Last Saved on: 2020/10/26 18:42 - Monday

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
(Clean)	Clean	Clean		1	True	Ready
(Clean)	Clean	Clean		1	True	Ready
(Blank)	Blank	Reagent/Acid Blank		1	True	Ready
D	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
1	Sample	MB1	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
2	Sample	ICS	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
3	Sample	K2009524-001*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
4	Sample	K2009524-002*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
5	Sample	K2009524-003*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
6	Sample	K2009524-004*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
7	Sample	K2009524-005*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
8	Sample	K2009524-006*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
9	Sample	K2009524-007*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
10	Sample	K2009524-008*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
11	Sample	K2009524-009*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
12	Sample	K2009524-010*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
13	Sample	K2009524-011*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
14	Sample	K2009524-012*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
15	Sample	K2009328-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
16	Sample	K2009328-~~001D~~ 2	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
17	Sample	K2009328-~~001~~MS 2D	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
18	Sample	K2009328-002 2MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
19	Sample	K2009328-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
20	Sample	MB2	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
21	Sample	K2009328-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
22	Sample	K2009328-005	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
23	Sample	K2009328-006	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
24	Sample	K2009328-007	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
25	Sample	K2009348-008	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
26	Sample	K2009348-009	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
27	Sample	K2009348-010	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
28	Sample	K2009348-011	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
29	Sample	K2009348-013	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
30	Sample	K209347-003*100	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
31	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
32	Sample	K2009328-016	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
33	Sample	K2009328-017*25	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
34	Sample	K2009328-018*25	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
39	Sample	MB3	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready

Fusion Report - 102620
Monday, October 26, 2020 10:05 AM

(View - Reps, Unused Reps, Meta-Data, Signature, History)
Printed on 2020/10/27 08:35 - Tuesday

Report Summary Information

Company Location:	Gen Chem Lab		
Schedule Name:	102620	Engine Version:	1.1.5.1
Instrument Name:	Fusion1	Firmware Version:	1.2.0696
Report Version:	1 of 1	Connection:	RS232 COM1
Report Creation by Operators (schedule version):	Fusion1 (Fusion1) (v1) Fusion1 (Fusion1) (v2) Fusion1 (Fusion1) (v3) Fusion1 (Fusion1) (v4) Fusion1 (Fusion1) (v6) Fusion1 (Fusion1) (v9)		
Comment:			

Report Results

Sample Type: Clean — From Schedule Version 1

	Pos	Analysis Type	Sample ID	Start Time
◈	(clean)		Clean	2020/10/26 10:05

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	12.21	30.41	18.20	49.64	05:23
2	TC Clean	22.88	36.75	13.87	50.19	04:04
3	TC Clean	3.03	16.84	13.82	50.38	03:50
4	TC Clean	2.18	16.30	14.12	50.56	03:48

Sample Type: Clean — From Schedule Version 1

	Pos	Analysis Type	Sample ID	Start Time
◈	(clean)		Clean	2020/10/26 10:27

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.02	13.76	13.78	49.89	05:11
2	TC Clean	4.94	18.71	13.77	50.09	04:04

3	TC Clean	0.77	14.67	13.91	50.54	03:47
4	TC Clean	1.24	14.81	13.57	50.47	03:49

Sample Type: Clean From Schedule Version 1

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/10/26 10:48

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	0.04	13.42	13.38	49.65	05:14
2	TC Clean	4.97	18.27	13.30	50.15	04:01
3	TC Clean	1.19	14.55	13.36	50.30	03:47
4	TC Clean	1.58	14.93	13.35	50.56	03:58

Sample Type: Blank (Creating v1468) From Schedule Version 1

	Pos	Analysis Type	Sample ID	Start Time
◆	(blank)		Reagent/Acid Blank	2020/10/26 11:10

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.21	13.27	13.48	49.60	05:21
2	TC Clean	5.00	18.37	13.37	50.13	04:03
3	TC Clean	1.42	14.73	13.31	50.49	03:58
4	TC Clean	1.42	14.80	13.38	50.50	03:56
5	Reagent Blank	5.32	18.71	13.39	50.43	05:07
6	Acid Blank	-0.05	13.27	13.32	49.69	05:27

Sample Type: Sample From Schedule Version 1

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	D	TOC	RB	0.1108 ppm	0.0000 ppm	0.0000%	2020/10/26 11:44

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1108	1.1084	10.04	23.28	13.25	50.81	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2574 (IC) (v1468)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 1

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.6874 ppm (PASS)	0.0000 ppm	0%	2020/10/26 11:59

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.6874	246.8742	183.07	196.29	13.22	50.80	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 1

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/10/26 12:14

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	8.00	21.40	13.39	50.80	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Check Standard --> LCS From Schedule Version 2

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	24.1650 ppm (PASS)	0.0000 ppm	0%	2020/10/26 12:30

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	24.1650	241.6495	179.40	192.56	13.16	50.73	10:34

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Check Standard --> LCS From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time

◈	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	24.2982 ppm (PASS)	0.0000 ppm	0%	2020/10/26 12:45

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	24.2982	242.9824	180.34	193.43	13.09	50.74	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample From Schedule Version 4

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	2	TOC	ICS	0.0838 ppm	0.0000 ppm	0.0000%	2020/10/26 12:59

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0838	0.8376	9.85	23.04	13.20	50.74	10:32

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2574 (IC) (v1468)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	3	TOC	K2009524-001*	1.5256 ppm	0.0288 ppm	1.8900%	2020/10/26 13:14

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.5459	15.4595	20.10	33.31	13.21	50.72	10:29
2	TOC	1.5052	15.0518	19.82	32.86	13.04	50.73	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2574 (IC) (v1468)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	4	TOC	K2009524-002*	1.7308 ppm	0.0309 ppm	1.7900%	2020/10/26 13:42

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.7527	17.5265	21.55	34.53	12.98	50.72	10:28
2	TOC	1.7089	17.0889	21.24	34.33	13.09	50.76	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2574 (IC) (v1468)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	5	TOC	K2009524-003*	0.2588 ppm	0.0383 ppm	14.8000%	2020/10/26 14:10

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time

1	TOC	0.2859	2.8590	11.26	24.20	12.94	50.77	10:29
2	TOC	0.2317	2.3173	10.88	24.02	13.14	50.76	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2574 (IC) (v1468)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	6	TOC	K2009524-004*	0.9490 ppm	0.0011 ppm	0.1200%	2020/10/26 14:38

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9482	9.4821	15.91	28.90	12.99	50.77	10:25
2	TOC	0.9498	9.4978	15.92	28.95	13.03	50.73	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2574 (IC) (v1468)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	7	TOC	K2009524-005*	0.7250 ppm	0.0246 ppm	3.3900%	2020/10/26 15:06

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7076	7.0758	14.22	27.03	12.81	50.72	10:30
2	TOC	0.7424	7.4236	14.46	27.19	12.72	50.64	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2574 (IC) (v1468)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	8	TOC	K2009524-006*	1.4883 ppm	0.0344 ppm	2.3100%	2020/10/26 15:34

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.5126	15.1259	19.87	32.65	12.78	50.61	10:28
2	TOC	1.4640	14.6398	19.53	32.33	12.80	50.63	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2574 (IC) (v1468)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	9	TOC	K2009524-007*	1.6748 ppm	0.0200 ppm	1.1900%	2020/10/26 16:03

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.6889	16.8893	21.10	33.88	12.77	50.68	10:26
2	TOC	1.6607	16.6070	20.91	33.90	13.00	50.63	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2574 (IC) (v1468)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 4

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.5178 ppm (PASS)	0.0000 ppm	0%	2020/10/26 16:31

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.5178	245.1778	181.88	194.76	12.88	50.55	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 4

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/10/26 16:45

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	7.56	20.26	12.70	50.52	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 4

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	10	TOC	K2009524-008*	1.6806 ppm	0.0041 ppm	0.2500%	2020/10/26 17:00

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.6777	16.7767	21.03	33.99	12.97	50.47	10:27
2	TOC	1.6835	16.8351	21.07	33.79	12.72	50.42	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2574 (IC) (v1468)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	11	TOC	K2009524-009*	1.6749 ppm	0.0297 ppm	1.7800%	2020/10/26 17:28

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.6539	16.5386	20.86	33.70	12.84	50.53	10:24

2	TOC	1.6959	16.9592	21.15	33.97	12.81	50.48	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2574 (IC) (v1468)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	12	TOC	K2009524-010*	0.7613 ppm	0.0252 ppm	3.3100%	2020/10/26 17:56

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7791	7.7914	14.72	27.56	12.83	50.47	10:28
2	TOC	0.7435	7.4350	14.47	27.30	12.83	50.44	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2574 (IC) (v1468)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample From Schedule Version 6

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	13	TOC	K2009524-011*	1.6077 ppm	0.0438 ppm	2.7300%	2020/10/26 18:24

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.6388	16.3875	20.75	33.71	12.95	50.45	10:28
2	TOC	1.5767	15.7674	20.32	33.37	13.06	50.49	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2574 (IC) (v1468)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample From Schedule Version 9

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	14	TOC	K2009524-012*	1.6873 ppm	0.0279 ppm	1.6500%	2020/10/26 18:52

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.6675	16.6755	20.96	33.88	12.92	50.51	10:29
2	TOC	1.7070	17.0703	21.23	34.10	12.86	50.49	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2574 (IC) (v1468)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	15	TOC	K2009328-001	3.4826 ppm	0.0032 ppm	0.0900%	2020/10/26 19:20

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.4803	34.8028	33.67	46.54	12.87	50.46	10:28

2	TOC	3.4848	34.8484	33.70	46.64	12.93	50.57	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2574 (IC) (v1468)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	16	TOC	K2009328-001D2	18.4999 ppm	0.0889 ppm	0.4800%	2020/10/26 19:48

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	18.4370	184.3703	138.59	151.65	13.06	50.61	10:27
2	TOC	18.5628	185.6276	139.47	152.62	13.15	50.66	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2574 (IC) (v1468)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	17	TOC	K2009328-001MS Dup	18.4908 ppm	0.0399 ppm	0.2200%	2020/10/26 20:16

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	18.5190	185.1900	139.16	152.19	13.03	50.70	10:29
2	TOC	18.4625	184.6255	138.77	151.92	13.15	50.70	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2574 (IC) (v1468)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	18	TOC	K2009328-002 MS	46.1385 ppm	1.9687 ppm	4.2700%	2020/10/26 20:44

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	44.7464	447.4645	323.15	336.22	13.07	50.71	10:28
2	TOC	47.5305	475.3055	342.68	355.80	13.12	50.77	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2574 (IC) (v1468)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	19	TOC	K2009328-003	23.4912 ppm	0.2562 ppm	1.0900%	2020/10/26 21:12

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	23.6724	236.7237	175.32	188.43	13.12	50.81	10:31
2	TOC	23.3100	233.0999	172.77	186.10	13.33	50.86	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2574 (IC) (v1468)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.3503 ppm (PASS)	0.0000 ppm	0%	2020/10/26 21:40

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.3503	243.5027	180.70	194.08	13.38	50.87	10:34

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/10/26 21:55

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	7.52	20.80	13.28	50.90	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 9

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	20	TOC	MB2	0.0000 ppm	0.0000 ppm	0.0000%	2020/10/26 22:10

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	6.90	20.11	13.21	50.91	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2574 (IC) (v1468)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	23.9106 ppm (PASS)	0.0000 ppm	0%	2020/10/26 22:24

	Base

Pos	Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	23.9106	239.1063	177.62	190.91	13.29	50.93	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Check Standard --> LCS From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	23.8029 ppm (PASS)	0.0000 ppm	0%	2020/10/26 22:39

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	23.8029	238.0286	176.86	190.13	13.27	50.97	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample From Schedule Version 9

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	21	TOC	K2009328-004	16.6542 ppm	0.0412 ppm	0.2500%	2020/10/26 22:53

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	16.6833	166.8331	126.29	139.64	13.36	50.97	10:27
2	TOC	16.6250	166.2501	125.88	139.02	13.14	50.99	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2574 (IC) (v1468)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	22	TOC	K2009328-005	9.9231 ppm	0.0230 ppm	0.2300%	2020/10/26 23:21

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	9.9068	99.0681	78.75	92.28	13.53	51.03	10:27
2	TOC	9.9393	99.3931	78.98	92.30	13.32	51.01	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2574 (IC) (v1468)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	23	TOC	K2009328-006	10.8159 ppm	0.1216 ppm	1.1200%	2020/10/26 23:49

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	10.7299	107.2992	84.53	98.11	13.58	51.04	10:26
2	TOC	10.9018	109.0185	85.73	99.44	13.71	51.04	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2574 (IC) (v1468)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	24	TOC	K2009328-007	23.9025 ppm	0.1122 ppm	0.4700%	2020/10/27 00:17

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	23.8232	238.2319	176.37	189.84	13.47	51.07	10:29
2	TOC	23.9819	239.8186	177.49	191.24	13.75	51.08	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2574 (IC) (v1468)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	25	TOC	K2009348-008	16.4321 ppm	0.1422 ppm	0.8700%	2020/10/27 00:45

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	16.5326	165.3263	125.23	138.68	13.45	51.07	10:28
2	TOC	16.3315	163.3149	123.82	137.64	13.82	51.11	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2574 (IC) (v1468)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	26	TOC	K2009348-009	3.8253 ppm	0.0230 ppm	0.6000%	2020/10/27 01:13

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.8415	38.4151	36.20	49.85	13.64	51.10	10:29
2	TOC	3.8090	38.0901	35.98	49.48	13.50	51.12	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2574 (IC) (v1468)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	27	TOC	K2009348-010	9.7960 ppm	0.1349 ppm	1.3800%	2020/10/27 01:42

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	9.7007	97.0067	77.31	90.89	13.58	51.14	10:25
2	TOC	9.8914	98.9141	78.64	92.28	13.64	51.12	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2574 (IC)	CAS_salt_010711	CAS_salt_010711

(v1468) (v4) (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	28	TOC	K2009348-011	16.0108 ppm	0.0098 ppm	0.0600%	2020/10/27 02:10

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	16.0039	160.0390	121.52	135.10	13.57	51.15	10:29
2	TOC	16.0177	160.1772	121.62	135.51	13.89	51.16	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2574 (IC) (v1468)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.2575 ppm (PASS)	0.0000 ppm	0%	2020/10/27 02:38

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.2575	242.5747	180.05	193.69	13.63	51.16	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/10/27 02:52

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	7.34	20.84	13.50	51.17	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 9

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	29	TOC	K2009348-013	12.8181 ppm	0.1411 ppm	1.1000%	2020/10/27 03:07

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	12.7183	127.1828	98.47	112.24	13.77	51.18	10:31
2	TOC	12.9179	129.1786	99.87	113.69	13.82	51.18	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2574 (IC) (v1468)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	30	TOC	K209347-003*100	12.5018 ppm	0.2664 ppm	2.1300%	2020/10/27 03:35

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	12.3134	123.1343	95.63	109.42	13.79	51.18	10:30
2	TOC	12.6902	126.9020	98.28	111.90	13.62	51.20	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2574 (IC) (v1468)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	31	TOC	RB	0.0000 ppm	0.0000 ppm	0.0000%	2020/10/27 04:03

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	7.56	21.27	13.71	51.22	10:26
2	TOC	0.0000	0.0000	7.03	20.77	13.74	51.23	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2574 (IC) (v1468)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	32	TOC	K2009328-016	5.1389 ppm	0.0101 ppm	0.2000%	2020/10/27 04:31

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	5.1318	51.3178	45.26	59.08	13.82	51.24	10:29
2	TOC	5.1460	51.4604	45.36	59.11	13.75	51.23	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2574 (IC) (v1468)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	33	TOC	K2009328-017*25	9.6116 ppm	0.1163 ppm	1.2100%	2020/10/27 05:00

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	9.6938	96.9383	77.26	91.08	13.82	51.24	10:26
2	TOC	9.5293	95.2932	76.10	90.07	13.97	51.23	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2574 (IC)	CAS_salt_010711	CAS_salt_010711

(v1468) (v4) (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	34	TOC	K2009328-018*25	8.8444 ppm	0.0848 ppm	0.9600%	2020/10/27 05:28

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	8.7845	87.8447	70.88	84.67	13.79	51.26	10:28
2	TOC	8.9044	89.0436	71.72	85.41	13.69	51.27	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2574 (IC) (v1468)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◈	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	23.8181 ppm (PASS)	0.0000 ppm	0%	2020/10/27 05:56

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	23.8181	238.1812	176.97	190.79	13.82	51.26	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◈	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/10/27 06:11

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	7.28	21.14	13.86	51.24	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 9

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	39	TOC	MB3	0.0000 ppm	0.0000 ppm	0.0000%	2020/10/27 06:25

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	6.30	20.28	13.99	51.20	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2574 (IC) (v1468)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 9

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	23.3887 ppm (PASS)	0.0000 ppm	0%	2020/10/27 06:40

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	23.3887	233.8874	173.96	187.92	13.96	51.22	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Meta Data Used in this Report

Blanks

Version	Reagent (Abs)	Acid (Abs)	DI IC (Abs)	DI TC (Abs)	DI TOC (Abs)	Save Time	Operator
v1467	1.8893	0.6090	0.0000	0.0000	0.0000	2020/10/23 17:52	Fusion1 (Fusion1)
v1468	1.7730	-0.0490	0.0000	0.0000	0.0000	2020/10/26 11:44	Fusion1 (Fusion1)

Calibrations

Name: CAS_salt_010711 (TOC)

Version:	v38	Calibration curve formula:	TOC: y = 7.015x + 9.892
Ver Creation:	2020/06/13 16:40	r^2 value:	TOC: r^2 = 0.99974
Comment:			
Operator:	Fusion1 (Fusion1)		
Basic Analysis Type	TOC		

Basic Analysis Type: TOC

Sample ID	Y Raw Value	X Expected	Message	End Time

DI Water	9.5750	0.0000		2020/06/13 15:13
0.500 ppm	12.9010	0.5000		2020/06/13 15:28
1.0 ppm	15.6320	1.0000		2020/06/13 15:42
5.0 ppm	43.2510	5.0000		2020/06/13 15:56
10 ppm	82.4040	10.0000		2020/06/13 16:11
25 ppm	188.6880	25.0000		2020/06/13 16:25
50 ppm	358.6500	50.0000		2020/06/13 16:39

Methods

Name: CAS_salt_010711 (TOC)

Version: v4 Operator: Fusion1 (Fusion1)

Ver Creation: 2019/02/21 17:57

Comment:

Parameter	Value
SampleVolume	10.0 mL
Dilution	1:10
AcidVolume	0.5 ml
ReagentVolume	2.0 ml
UVReactorPrerinse	Off
UVReactorPrerinseVolume	5.0
NumberOfUVReactorPrerinses	1
ICSpargeTime	1.00 mins
DetectorSweepFlow	500 ml/min
PreSpargeTime	2.00 mins
SystemFlow	500 ml/min

Advanced Parameter	Value
NeedleRinseVolume	5.0 ml
VialPrimeVolume	2.0 ml
ICSamplePrimeVolume	2.0 ml
ICSpargeRinseVolume	12.0 ml
BaselineStabilizeTime	0.70 min
DetectorPressureFlow	150 ml/min
SyringeSpeedWaste	10
SyringeSpeedAcid	7
SyringeSpeedReagent	7
SyringeSpeedDIWater	7
NDIRPressurization	60 psig
SyringeSpeedSampleDispense	5
SyringeSpeedSampleAspirate	4
SyringeSpeedUVDispense	5
SyringeSpeedUVAspirate	5
SyringeSpeedICDispense	5
SyringeSpeedICAspirate	5
NDIRPressureStabilize	1.75 min
SampleMixing	Off
SampleMixingCycles	1
SampleMixingVolume	10.0
LowLevelFilterNDIR	Off

Acceptance / Approval

Electronic Signatures

Report				

Version	User Name	Acceptance	Reason	Date

Report History

Report History

Report Version	User Name	System Reason	User Reason	Date
1	Fusion1 (Fusion1)	Schedule completed	Schedule completed	2020/10/27 06:55

ALS Environmental

StarLIMS Run: 701294/701292

Analysis: DOC/TOC

Method: SM 5310 C, 9060A, 415.1, 9060

CCV: 19-GEN-8-40-C 50 ppm LCS: 19-GEN-8-41-k 25.0 ppm

ICAL Date: 6/16/2020

ICAL ID: 19-GEN-8-22-G

ICS ID: 19-GEN-8-35-J

ICS TV: 25.0 ppm ICS % R < 1

Spike ID: 19-GEN-8-15-B 0.05 ml of 5000 ppm stock ---> 10.0 ml = 25.0 ppm x dilution factor

Sodium Persulfate: 19-GEN-08-49-F

21 % H3PO4: 19-GEN-08-49-E

Equipment ID: K-TOC-03

PIPETTE ID: 124276B, 129001F, N11314F, Marge

FILTER ID: 16967789

Analyzed By:	MM	Date Analyzed:	10/26/20
Reviewed By:		Date Reviewed:	10/30/20

HS20100719 - Sub Perch Report (E2000985)
IV

ALS WO# HS20100719

October 22, 2020 Service Request No:E2000985

RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Suite 210
Houston, TX 77099-4338

Laboratory Results for: HS20100719

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory October 14, 2020
For your reference, these analyses have been assigned our service request number **E2000985.**

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

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Corey Grandits
Project Manager

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ALS Group USA, Corp.
dba ALS Environmental

Certificate of Analysis

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
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ALS Environmental

Client:	ALS Houston	**Service Request No.:**	E2000985
Project:	HS20100719	**Date Received:**	10/14/20
Sample Matrix:	W		

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Six samples were received for analysis at ALS Environmental in Houston on 10/14/20.

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

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2000513: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in addition to a MS/MSD for this extraction batch. The LCS, DLCS, MS, & MSD recoveries are within QC limits.

DoD Certification is held for the method/matrix/analytes provided in this report.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

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

Client: ALS Environmental - US **Service Request:**E2000985
Project: HS20100719

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2000985-001	16WW36-201013	10/13/2020	0735
E2000985-002	16WW35-201013	10/13/2020	0820
E2000985-003	16IW09-201013	10/13/2020	0910
E2000985-004	16WW55-201013	10/13/2020	1000
E2000985-005	16IW03-201013	10/13/2020	1050
E2000985-006	16IW10-201013	10/13/2020	1150

Service Request Summary

Folder #: **E2000985**
Client Name: ALS Environmental - US
Project Name: HS20100719
Project Number:

Report To: RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 10/14/20
Internal Due Date: 10/28/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: N
Report to MDL?: Y
P.O. Number: HS20100719
EDD: No EDD Specified

8 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 10E
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2000985-001	16WW36-201013	Water	10/13/20 0735	**IV**
E2000985-002	16WW35-201013	Water	10/13/20 0820	**IV**
E2000985-003	16IW09-201013	Water	10/13/20 0910	**IV**
E2000985-004	16WW55-201013	Water	10/13/20 1000	**IV**
E2000985-005	16IW03-201013	Water	10/13/20 1050	**IV**
E2000985-006	16IW10-201013	Water	10/13/20 1150	**IV**

Service Request Summary

Folder #: **E2000985**
Client Name: ALS Environmental - US
Project Name: HS20100719
Project Number:

Report To: RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
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Date Received: 10/14/20
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QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: N
Report to MDL?: Y
P.O. Number: HS20100719
EDD: No EDD Specified

8 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 10E
Pressure Gas:

Test Comments:

Group	Test/Method	Samples	Comments
Semivoa GCMS	ClO4 DOD/6850	1	MS/MSD
Semivoa GCMS	ClO4 DOD/6850	5	Level II due 10/28,level IV 11/4

Data Qualifiers

Lab Standard

+	Possible Tedlar bag artifact.
A	TIC is a suspected aldol-condensation product
B	Analyte found in the associated method blank as well as in the sample.
BC	Reported results are not blank corrected.
BH	The back section of the tube yielded higher results than the front.
BT	Results indicated possible breakthrough; back section >=10% front section.
C	Result identification confirmed.
D	Compound identified in an analysis at a secondary dilution factor
D	Spike was diluted out
DE	Reported results are corrected for desorption efficiency.
E	Estimated value. Concentration above calibration range
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
H1	Sample analysis performed past holding time. See case narrative.
H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
H3	Sample was received and analyzed past holding time.
H4	Sample was extracted past required extraction holding time, but analyzed within analysis holding time. See case narrative.
I	Internal standard not within the specified limits. See case narrative.
J	Estimated Value. Concentration found below MRL.
K	A deflection in the QC ion may indicate interference with the quantitation of this ion. The concentration of this analyte should be considered as an estimate.
K	Analyte was detected above the method reporting limit prior to normalization.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
L1	Laboratory control sample recovery outside the specified limits; results may be biased high.
L2	Laboratory control sample recovery outside the specified limits; results may be biased low.
L3	Laboratory control sample recovery outside the specified limits.
M	Matrix interference; results may be biased high.
M	The duplicate injection precision not met.
M1	Matrix interference due to coelution with a non-target compound; results may be biased high.
N	Presumptive evidence of a compound for TICs that have been identified based on a mass spectral library search.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.

Data Qualifiers

Lab Standard

P	Indicates chlorodiphenyl ether interference present at the retention time of the target compound.
P	Pesticide/Aroclor target analyte > 40% difference for detected concentrations between GC columns
Q	Indicates as estimated value because the P and P + 2 theoretical abundance ratio does not meet method criteria.
R	Duplicate Precision not met.
R1	Duplicate precision not within the specified limits; however, the results are below the MRL and considered estimated.
S	Surrogate recovery not within specified limits.
S	The reported value was determined by the Method of Standard Additions (MSA).
T	Analyte is a tentatively identified compound, result is estimated.
U	Compound was analyzed for, but was not detected (ND).
V1	The continuing calibration verification standard was outside (biased high) the specified limits for this compound.
V2	The continuing calibration verification standard was outside (biased low) the specified limits for this compound.
W	Result quantified, but the corresponding peak was detected outside the generated retention time window.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
X	See case narrative.
Y	Recovery outside limits
Y	The chromatogram resembles a petroleum product but does not match the calibration standard.
Z	The chromatogram does not resemble a petroleum product.
i	The MRL/MDL has been elevated due to a matrix interference.

ALS Laboratory Group

Acronyms

Cal	Calibration
Conc	CONCentration
Dioxin(s)	Polychlorinated dibenzo-p-dioxin(s)
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
Flags	Data qualifiers
Furan(s)	Polychlorinated dibenzofuran(s)
g	Grams
ICAL	Initial CALibration
ID	IDentifier
Ions	Masses monitored for the analyte during data acquisition
L	Liter (s)
LCS	Laboratory Control Sample
DLCS	Duplicate Laboratory Control Sample
MB	Method Blank
MCL	Method Calibration Limit
MDL	Method Detection Limit
mL	Milliliters
MS	Matrix Spiked sample
DMS	Duplicate Matrix Spiked sample
NO	Number of peaks meeting all identification criteria
PCDD(s)	Polychlorinated dibenzo-p-dioxin(s)
PCDF(s)	Polychlorinated dibenzofuran(s)
ppb	Parts per billion
ppm	Parts per million
ppq	Parts per quadrillion
ppt	Parts per trillion
QA	Quality Assurance
QC	Quality Control
Ratio	Ratio of areas from monitored ions for an analyte
% Rec.	Percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
SDG	Sample Delivery Group
S/N	Signal-to-noise ratio
TEF	Toxicity Equivalence Factor
TEQ	Toxicity Equivalence Quotient

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ALS Environmental

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
American Association for Laboratory Accreditation	2897.01 2020	11/30/2021
Arizona Department of Health Services	AZ0793-2020	5/27/2021
Arkansas Department of Environmental Quality	20-030-0	3/26/2021
California Department of Health Services	2919-2020	4/30/2021
Department of Defense	A2LA 2897.01	11/30/2021
Florida Department of Health	E87611-2020	6/30/2021
Hawaii Department of Health	2020	4/30/2021
Illinois Environmental Protection Agency	2000322020-4	5/9/2021
Kansas Department of Health and Environment	E-10352-2020	7/31/2021
Louisiana Department of Environmental Quality	03087-2020	6/30/2021
Louisiana Department of Health and Hospitals	LA028-2020	12/31/2020
Maine Department of Health and Human Services	2020016	6/5/2022
Maryland Department of the Environment	343-2020	6/30/2021
Michigan Depratment of Environmental Quality	9971-2020	4/30/2021
Minnesota Department of Health	1785988	12/31/2020
Nebraska Department of Health and Human Services	NE-OS-25-13 (2020)	4/30/2021
Nevada Department of Concervation and Natural Resources	TX026932021-1	7/31/2021
New Hampshire Environmental Laboratory Accreditation Program	209420	4/24/2021
New Jersey Department of Environmental Protection	TX008	6/30/2021
New York Department of Health	11707	3/31/2021
Oklahoma Department of Environmental Quality	2020-123	8/31/2021
Pennsylvania Department of Environmental Protection	014	6/30/2021
Tennessee Department of Environment and Concervation	04016-2020	4/30/2021
Texas Commision on Environmental Quality	T104704231-20-26	4/30/2021
United States Department of Agriculture	P330-19-00299	10/10/2022
Washington Department of Health	C819	11/14/2020

Chain of Custody

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
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Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14937**

SUBCONTRACT TO:

ALS Environmental
10450 Stancliff RoadSuite 210
Houston, TX 77084

Phone: +1 281 530 5656

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	RJ Modashia
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	RJ.Modashia@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS20100719
TSR:	Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20100719-01**	**16WW36-201013**	**Groundwater**	**13 Oct 2020 07:35**
	SUB_Perch-6850			28 Oct 2020
2.	**HS20100719-02**	**16WW35-201013**	**Groundwater**	**13 Oct 2020 08:20**
	SUB_Perch-6850			28 Oct 2020
3.	**HS20100719-03**	**16IW09-201013**	**Groundwater**	**13 Oct 2020 09:10**
	SUB_Perch-6850			28 Oct 2020
4.	**HS20100719-04**	**16WW55-201013**	**Groundwater**	**13 Oct 2020 10:00**
	SUB_Perch-6850			28 Oct 2020
5.	**HS20100719-05**	**16IW03-201013**	**Groundwater**	**13 Oct 2020 10:50**
	SUB_Perch-6850			28 Oct 2020
6.	**HS20100719-06**	**16IW10-201013**	**Groundwater**	**13 Oct 2020 11:50**
	SUB_Perch-6850			28 Oct 2020

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

HS20100719-05 MS/MSD

QC Level: DOD IV (DoD Data Package)

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense**

COC ID: **14937**

Relinquished By: J. Hansen

Date/Time:

Received By: CH

Date/Time: 10/14/20 1500

Cooler ID(s):

Temperature(s):

ALS Environmental

Cooler Receipt Form

Project Chemist CL

Client/Project ALS-H

Thermometer ID IR31

Date/Time Received: 10/14/20 Initials: ____

Date/Time Logged in: 10/14/20 Initials CL

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ✓ ALS Courier ○ Client

2. Samples received in: ✓ Cooler ○ Box ○ Envelope ○ Other ____

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

4. Packing Material: ○ Inserts ✓ Baggies ○ Bubble Wrap ○ Gel Packs ✓ Wet Ice ○ Sleeves ○ Other ____

5. Foreign or Regulated Soil? ○ Yes ○ No Location of Sampling: ____

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
-		10/14/20	1500	CL	3.3	X
						☐
						☐
						☐

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

Notes, Discrepancies, & Resolutions:

Service request Label:

10450 Stancliff Rd., Suite 210
Houston, TX 77099
T: +1 713 266 1599
F: +1 713 266 1599
www.alsglobal.com

SAMPLE ACCEPTANCE POLICY

This policy outlines the criteria samples must meet to be accepted by ALS Environmental – Houston HRMS.

Cooler Custody Seals (desirable, mandatory if specified in SAP):

- ✓ Intact on outside of cooler, signed and dated

Chain-of-Custody (COC) documentation (mandatory):

The following is required on each COC:

- ✓ Sample ID, the location, date and time of collection, collector's name, preservation type, sample type, and any other special remarks concerning the sampleThe COC must be completed in ink.
- ✓ Signature and date of relinquishing party.

In the absence of a COC at sample receipt, the COC will be requested from the client.

Sample Integrity (mandatory):

Samples are inspected upon arrival to ensure that sample integrity was not compromised during transfer to the laboratory.

- ✓ Sample containers must arrive in good condition (not broken or leaking).
- ✓ Samples must be labeled appropriately, including Sample IDs, and requested test using durable labels and indelible ink.
- ✓ The correct type of sample bottle must be used for the method requested.
- ✓ An appropriate sample volume, or weight, must be received.
- ✓ Sample IDs and number of containers must reconcile with the COC.
- ✓ Samples must be received within the method defined holding time.

Temperature Requirement (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6ºC.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10ºC.
- ✓ Air samples are shipped and stored cold, at 0 to 6ºC
- ✓ The sample temperature must be recorded on the COC

All cooler inspections are documented on the Cooler Receipt Form (CRF). A separate CRF is completed for each service request. Any samples not meeting the above criteria are noted on the CRF and the Project Manager notified. The Project Manager must resolve any sample integrity issues with the client prior to proceeding with the analysis. Such resolutions are documented in writing and filed with the project folder. Data associated with samples received outside of this acceptance policy will be qualified on the case narrative of the final report

Preparation Information Benchsheets

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

Preparation Information Benchsheet

Prep Run#: 368005 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 10/19/20 09:34

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2000981-001	LH18/24-SP650_101320-AIX	.01	6850/ClO4 DOD			Water	10mL	
2	E2000982-001	LH18/24-SP140_101320	.01	6850/ClO4 DOD			Water	10mL	
3	E2000984-001	LH18/24-SP650_101320-AIX	.01	6850/ClO4 DOD			Water	10mL	
4	E2000985-001	16WW36-201013	.01	6850/ClO4 DOD			Water	10mL	
5	E2000985-002	16WW35-201013	.01	6850/ClO4 DOD			Water	10mL	
6	E2000985-003	16IW09-201013	.01	6850/ClO4 DOD			Water	10mL	
7	E2000985-004	16WW55-201013	.01	6850/ClO4 DOD			Water	10mL	
8	E2000985-005	16IW03-201013	.01	6850/ClO4 DOD			Water	10mL	
9	E2000985-006	16IW10-201013	.01	6850/ClO4 DOD			Water	10mL	
10	E2000996-001	16WW25-201014	.01	6850/ClO4 DOD			Water	10mL	
11	E2000996-002	16WW26-201014	.01	6850/ClO4 DOD			Water	10mL	
12	E2000996-003	16WW30-201014	.01	6850/ClO4 DOD			Water	10mL	
13	E2000996-004	16WW29-201014	.01	6850/ClO4 DOD			Water	10mL	
14	E2000996-005	16WW22-201014	.01	6850/ClO4 DOD			Water	10mL	
15	E2000996-006	16WW41-201014	.01	6850/ClO4 DOD			Water	10mL	
16	E2000996-007	16WW21-201014	.01	6850/ClO4 DOD			Water	10mL	
17	E2000996-008	16WW21-201014-FD	.01	6850/ClO4 DOD			Water	10mL	
18	E2000996-009	16WW39-201014	.01	6850/ClO4 DOD			Water	10mL	
19	EQ2000513-01	MB		6850/ClO4 DOD			Liquid	10mL	
20	EQ2000513-02	LCS		6850/ClO4 DOD			Liquid	10mL	
21	EQ2000513-03	DLCS		6850/ClO4 DOD			Liquid	10mL	
22	EQ2000513-04	16IW03-201013 MS	.01	6850/ClO4 DOD			Liquid	10mL	
23	EQ2000513-05	16IW03-201013 DMS	.01	6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 209764 Logbook Ref: Perchlorate Int. Stock1 51820 Expires On: 11/18/2020

EQ2000513-02	1.00µL	EQ2000513-03	1.00µL	EQ2000513-04	1.00µL	EQ2000513-05	1.00µL

Name: Sodium Perchlorate 1 ug/mL (IS) (18-O) as CLO4 Inventory ID 212340 Logbook Ref: Sodium Perchlorate Expires On: 07/13/2022

E2000981-001	100.00µL	E2000982-001	100.00µL	E2000984-001	100.00µL	E2000985-001	100.00µL	E2000985-002	100.00µL	E2000985-003	100.00µL
E2000985-004	100.00µL	E2000985-005	100.00µL	E2000985-006	100.00µL	E2000996-001	100.00µL	E2000996-002	100.00µL	E2000996-003	100.00µL
E2000996-004	100.00µL	E2000996-005	100.00µL	E2000996-006	100.00µL	E2000996-007	100.00µL	E2000996-008	100.00µL	E2000996-009	100.00µL
EQ2000513-01	100.00µL	EQ2000513-02	100.00µL	EQ2000513-03	100.00µL	EQ2000513-04	100.00µL	EQ2000513-05	100.00µL		

Preparation Information Benchsheet

Prep Run#: 368005 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 10/19/20 09:34

Preparation Steps

Step: Preparation
Started: 10/19/20 09:34
Finished: 10/19/20 14:58
By: GRIVERA
Comments

Comments: _____

Reviewed By: GR Date: 10/19/2020

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Analytical Results

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Collected:**	10/13/20 0735
Sample Matrix:	Water	**Date Received:**	10/14/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/19/20 21:26
Sample Name:	16WW36-201013	**Units:**	µg/L
Lab Code:	E2000985-001	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700168
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201019\20201019_050	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**0.167**		0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Collected:**	10/13/20 0820
Sample Matrix:	Water	**Date Received:**	10/14/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/20/20 20:59
Sample Name:	16WW35-201013	**Units:**	µg/L
Lab Code:	E2000985-002	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700170
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201020\20201020_039	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	20

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**565**		2.00	1.00	0.500	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Collected:**	10/13/20 0910
Sample Matrix:	Water	**Date Received:**	10/14/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/21/20 11:26
Sample Name:	16IW09-201013	**Units:**	µg/L
Lab Code:	E2000985-003	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700177
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201021\20201021_015	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**0.0381**	J	0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Collected:**	10/13/20 1000
Sample Matrix:	Water	**Date Received:**	10/14/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/20/20 21:15
Sample Name:	16WW55-201013	**Units:**	µg/L
Lab Code:	E2000985-004	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700170
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201020\20201020_041	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	10

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**287**		1.00	0.500	0.250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Collected:**	10/13/20 1050
Sample Matrix:	Water	**Date Received:**	10/14/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/21/20 11:34
Sample Name:	16IW03-201013	**Units:**	µg/L
Lab Code:	E2000985-005	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700177
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201021\20201021_016	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**0.0876**	J	0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Collected:**	10/13/20 1150
Sample Matrix:	Water	**Date Received:**	10/14/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/21/20 12:40
Sample Name:	16IW10-201013	**Units:**	µg/L
Lab Code:	E2000985-006	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700177
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201021\20201021_022	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	2

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	ND	U	0.200	0.100	0.0500	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	10/19/20
		Date Analyzed:	10/19/20 20:15
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000513-01	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700168
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201019\20201019_041	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	ND	U	0.100	0.0500	0.0250	

Accuracy & Precision

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www.alsglobal.com

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20100719
Sample Matrix: Water

Service Request: E2000985
Date Analyzed: 10/20/20

Lab Control Sample Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Units: µg/L
Basis: NA

Extraction Lot: 368005

	Lab Control Sample EQ2000513-02			Duplicate Lab Control Sample EQ2000513-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.105	0.100	105	0.108	0.100	108	84 - 119	3	15

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

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

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	10/19/20
		Date Analyzed:	10/20/20 20:04
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000513-02	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700170
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201020\20201020_032	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**0.105**		0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	10/19/20
		Date Analyzed:	10/20/20 20:12
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000513-03	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700170
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201020\20201020_033	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**0.108**		0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Collected:**	10/13/20
Sample Matrix:	Water	**Date Received:**	10/14/20
		Date Analyzed:	10/20/20

Matrix Spike Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Sample Name:	16IW03-201013	**Units:**	µg/L
Lab Code:	E2000985-005	**Basis:**	NA

Analytical Method: 6850
Prep Method: Method

		16IW03-201013MS				16IW03-201013DMS					
		Matrix Spike				**Duplicate Matrix Spike**					
		EQ2000513-04				EQ2000513-05					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**		**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.0876	0.194	0.100	106		0.193	0.100	105	84 - 119	<1	15

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

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

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

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Collected:**	10/13/20 1050
Sample Matrix:	Water	**Date Received:**	10/14/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/20/20 20:20
Sample Name:	16IW03-201013	**Units:**	µg/L
Lab Code:	EQ2000513-04	**Basis:**	NA
Run Type:	Matrix Spike		

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700170
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201020\20201020_034	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**0.194**		0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Collected:**	10/13/20 1050
Sample Matrix:	Water	**Date Received:**	10/14/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/20/20 20:28
Sample Name:	16IW03-201013	**Units:**	µg/L
Lab Code:	EQ2000513-05	**Basis:**	NA
Run Type:	Duplicate Matrix Spike		

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700170
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201020\20201020_035	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**0.193**		0.100	0.0500	0.0250	

Initial Calibration

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Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

20200915

ALS Environmental

ICAL Date: 9/15/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000032**

1st Review: Grivera
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	PERCHLORATE1		20200915_044	Perchlorate6850b.lcm	1x	☒	3100806-05	9/15/2020 17:55
2	PERCHLORATE2		20200915_024	Perchlorate6850b.lcm	1x	☒	3100806-06	9/15/2020 15:10
3	PERCHLORATE3		20200915_046	Perchlorate6850b.lcm	1x	☒	3100806-07	9/15/2020 18:13
4	PERCHLORATE4		20200915_047	Perchlorate6850b.lcm	1x	☒	3100807-01	9/15/2020 18:21
5	PERCHLORATE5		20200915_048	Perchlorate6850b.lcm	1x	☒	3100807-02	9/15/2020 18:29
6	PERCHLORATE6		20200915_049	Perchlorate6850b.lcm	1x	☒	3100807-03	9/15/2020 18:37
7	PERCHLORATE7		20200915_029	Perchlorate6850b.lcm	1x	☒	3100807-04	9/15/2020 15:49
8	PERCHLORATE8		20200915_051	Perchlorate6850b.lcm	1x	☒	3100807-05	9/15/2020 18:52
9	PERCHLORATE9		20200915_052	Perchlorate6850b.lcm	1x	☒	3100807-06	9/15/2020 19:00
10	PERCHLORATE10		20200915_053	Perchlorate6850b.lcm	1x	☒	3100807-07	9/15/2020 19:08
11	PERCHLORATE ICV		20200915_054	Perchlorate6850b.lcm	1x	☒	3100807-08	9/15/2020 19:16
12	LODV		20200915_055	Perchlorate6850b.lcm	1x	☒		9/15/2020 19:24
13	E2000817-001		20200915_056	Perchlorate6850b.lcm	1x	☒		9/15/2020 19:40
14	E2000817-001x10		20200915_057	Perchlorate6850b.lcm	1x	☒		9/15/2020 19:48
15	PERCHLORATE7		20200915_058	Perchlorate6850b.lcm	1x	☒	3100807-04	9/15/2020 19:56
16								
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36								

Initial Calibration - Detailed Report

Calibration ID: EC2000032 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2000032-01	PERCHLORATE2	20200915_024	09/15/2020 15:10
02	EC2000032-02	PERCHLORATE7	20200915_029	09/15/2020 15:49
03	EC2000032-03	PERCHLORATE1	20200915_044	09/15/2020 17:55
04	EC2000032-04	PERCHLORATE3	20200915_046	09/15/2020 18:13
05	EC2000032-05	PERCHLORATE4	20200915_047	09/15/2020 18:21
06	EC2000032-06	PERCHLORATE5	20200915_048	09/15/2020 18:29
07	EC2000032-07	PERCHLORATE6	20200915_049	09/15/2020 18:37
08	EC2000032-08	PERCHLORATE8	20200915_051	09/15/2020 18:52
09	EC2000032-09	PERCHLORATE9	20200915_052	09/15/2020 19:00
10	EC2000032-10	PERCHLORATE10	20200915_053	09/15/2020 19:08

Analyte **Curve Fit** **Weighting**

Perchlorate **Quadratic** **Equal** **COD = 0.9998** **Y= -9.474E-05 X² + 0.1066 X + 0.00148**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5000	0.1319	02	10.0000	0.1001	03	0.1000	0.1399	04	0.7000	0.1079
05	1.0000	0.1089	06	2.0000	0.1096	07	5.0000	0.1086	08	20.0000	0.1062
09	30.0000	0.104	10	50.0000	0.1018						

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.5000	0.605	21.0	02	10.0000	9.45	-5.5	03	0.1000	0.117	17.3
04	0.7000	0.695	-0.8	05	1.0000	1.01	0.8	06	2.0000	2.05	2.3
07	5.0000	5.10	2.0	08	20.0000	20.3	1.3	09	30.0000	30.1	0.2
10	50.0000	50.0	-0.1								

Initial Calibration Verification Summary Report

Calibration ID:	EC2000032	**Instrument ID:**	E-LCMS-01
Datafile ID:	20200915_054	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2000032-11	T	Quadratic	10	9.462	ng/mL	-5.4	<= 15

ALS Group Houston

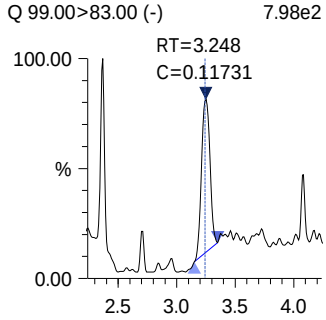
PERCHLORATE1

Date acquired: 9/15/2020 5:55:29 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200915\20200915_044.lcd
Vial: 5 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE1	9/15/2020 5:55:29 PM	2833	0.11731	20200915_044	3.248	25.0000	1.0000	5
Sodium Perchlorate-18O4_IS	PERCHLORATE1	9/15/2020 5:55:29 PM	202512	1.00000	20200915_044	3.237	25.0000	1.0000	5

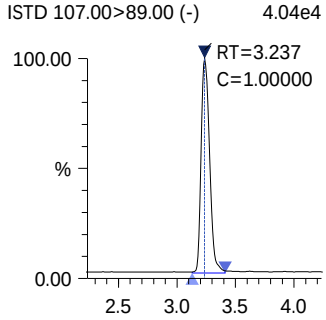
Perchlorate

Conc 0.11731
Area 2833



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 202512



ALS Group Houston

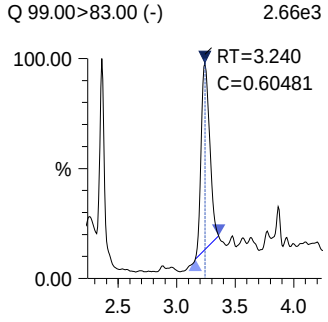
PERCHLORATE2

Date acquired: 9/15/2020 3:10:04 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200915\20200915_024.lcd
Vial: 6 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE2	9/15/2020 3:10:04 PM	11634	0.60481	20200915_024	3.240	25.0000	1.0000	6
Sodium Perchlorate-18O4_IS	PERCHLORATE2	9/15/2020 3:10:04 PM	176422	1.00000	20200915_024	3.240	25.0000	1.0000	6

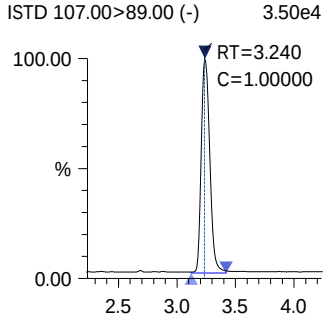
Perchlorate

Conc 0.60481
Area 11634



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 176422



ALS Group Houston

PERCHLORATE3

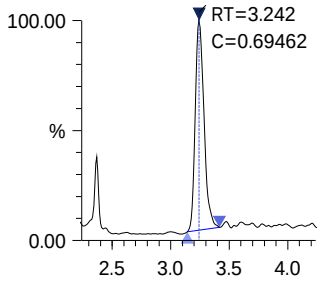
Date acquired: 9/15/2020 6:13:20 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200915\20200915_046.lcd
Vial: 7 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE3	9/15/2020 6:13:20 PM	14722	0.69462	20200915_046	3.242	25.0000	1.0000	7
Sodium Perchlorate-18O4_IS	PERCHLORATE3	9/15/2020 6:13:20 PM	194971	1.00000	20200915_046	3.239	25.0000	1.0000	7

Perchlorate

Conc 0.69462
Area 14722

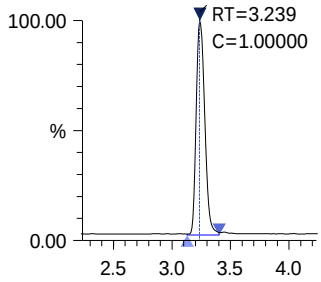
Q 99.00>83.00 (-) 2.91e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 194971

ISTD 107.00>89.00 (-) 3.85e4



ALS Group Houston

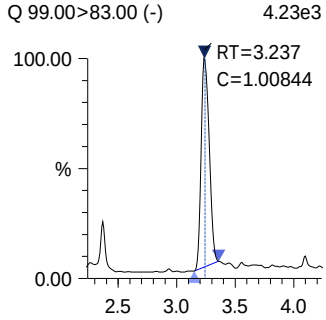
PERCHLORATE4

Date acquired: 9/15/2020 6:21:15 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200915\20200915_047.lcd
Vial: 8 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE4	9/15/2020 6:21:15 PM	19524	1.00844	20200915_047	3.237	25.0000	1.0000	8
Sodium Perchlorate-18O4_IS	PERCHLORATE4	9/15/2020 6:21:15 PM	179246	1.00000	20200915_047	3.240	25.0000	1.0000	8

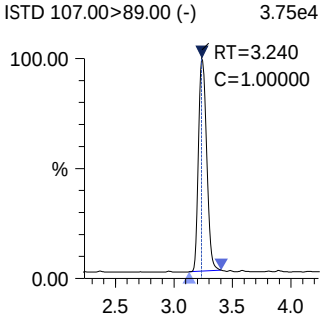
Perchlorate

Conc 1.00844
Area 19524



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 179246



ALS Group Houston

PERCHLORATE5

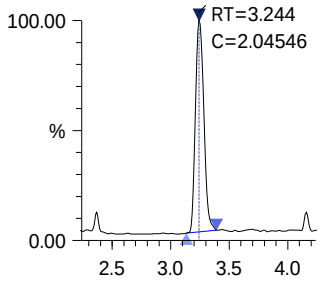
Date acquired: 9/15/2020 6:29:08 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200915\20200915_048.lcd
Vial: 9 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE5	9/15/2020 6:29:08 PM	38522	2.04546	20200915_048	3.244	25.0000	1.0000	9
Sodium Perchlorate-18O4_IS	PERCHLORATE5	9/15/2020 6:29:08 PM	175734	1.00000	20200915_048	3.240	25.0000	1.0000	9

Perchlorate

Conc 2.04546
Area 38522

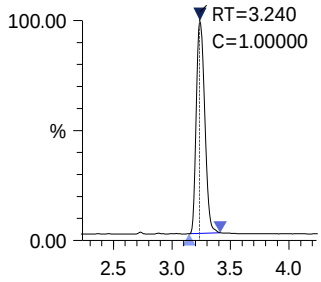
Q 99.00>83.00 (-) 7.92e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 175734

ISTD 107.00>89.00 (-) 3.56e4



ALS Group Houston

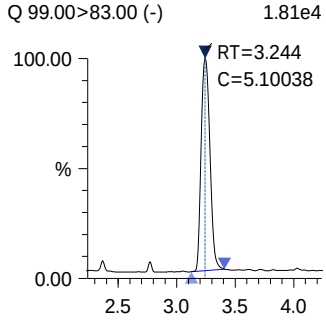
PERCHLORATE6

Date acquired: 9/15/2020 6:37:05 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200915\20200915_049.lcd
Vial: 10 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE6	9/15/2020 6:37:05 PM	92162	5.10038	20200915_049	3.244	25.0000	1.0000	10
Sodium Perchlorate-18O4_IS	PERCHLORATE6	9/15/2020 6:37:05 PM	169754	1.00000	20200915_049	3.239	25.0000	1.0000	10

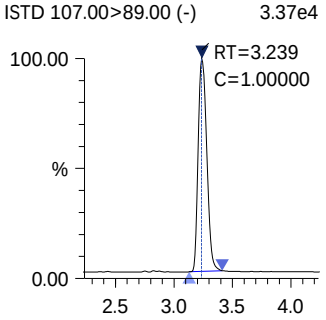
Perchlorate

Conc 5.10038
Area 92162



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 169754



ALS Group Houston

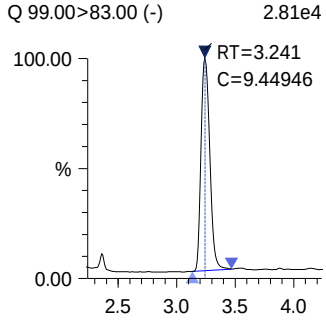
PERCHLORATE7

Date acquired: 9/15/2020 3:49:35 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200915\20200915_029.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	9/15/2020 3:49:35 PM	144012	9.44946	20200915_029	3.241	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	9/15/2020 3:49:35 PM	143911	1.00000	20200915_029	3.238	25.0000	1.0000	4

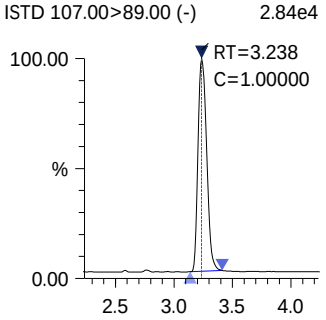
Perchlorate

Conc 9.44946
Area 144012



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 143911



ALS Group Houston

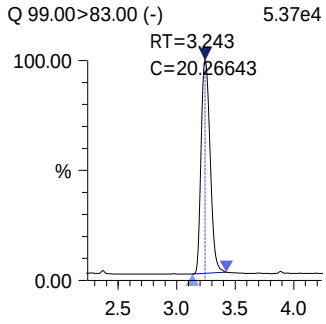
PERCHLORATE8

Date acquired: 9/15/2020 6:52:54 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200915\20200915_051.lcd
Vial: 11 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE8	9/15/2020 6:52:54 PM	284308	20.26643	20200915_051	3.243	25.0000	1.0000	11
Sodium Perchlorate-18O4_IS	PERCHLORATE8	9/15/2020 6:52:54 PM	133870	1.00000	20200915_051	3.240	25.0000	1.0000	11

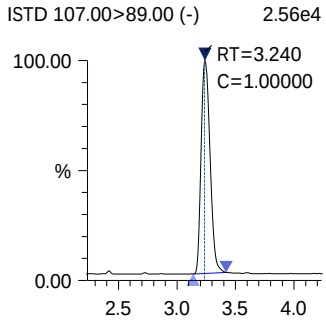
Perchlorate

Conc 20.26643
Area 284308



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 133870



ALS Group Houston

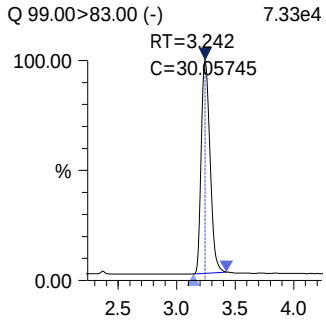
PERCHLORATE9

Date acquired: 9/15/2020 7:00:50 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200915\20200915_052.lcd
Vial: 12 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE9	9/15/2020 7:00:50 PM	377183	30.05745	20200915_052	3.242	25.0000	1.0000	12
Sodium Perchlorate-18O4_IS	PERCHLORATE9	9/15/2020 7:00:50 PM	120846	1.00000	20200915_052	3.240	25.0000	1.0000	12

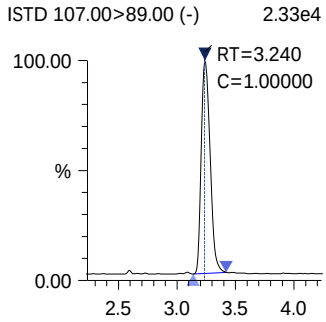
Perchlorate

Conc 30.05745
Area 377183



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 120846



ALS Group Houston

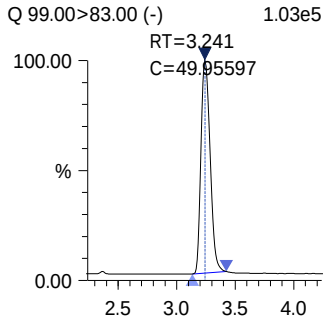
PERCHLORATE10

Date acquired: 9/15/2020 7:08:43 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200915\20200915_053.lcd
Vial: 13 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE10	9/15/2020 7:08:43 PM	553330	49.95597	20200915_053	3.241	25.0000	1.0000	13
Sodium Perchlorate-18O4_IS	PERCHLORATE10	9/15/2020 7:08:43 PM	108660	1.00000	20200915_053	3.240	25.0000	1.0000	13

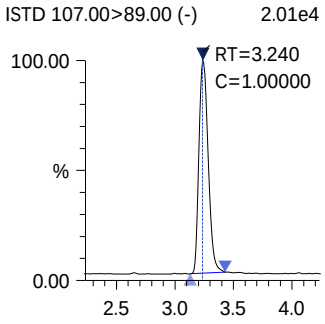
Perchlorate

Conc 49.95597
Area 553330



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 108660



ALS Group Houston

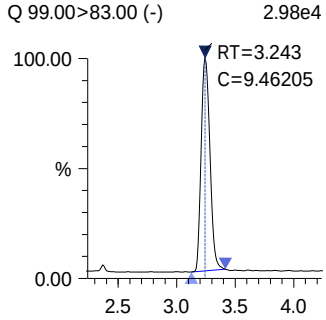
PERCHLORATEICV

Date acquired: 9/15/2020 7:16:39 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200915\20200915_054.lcd
Vial: 14 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATEICV	9/15/2020 7:16:39 PM	152650	9.46205	20200915_054	3.243	25.0000	1.0000	14
Sodium Perchlorate-18O4_IS	PERCHLORATEICV	9/15/2020 7:16:39 PM	152342	1.00000	20200915_054	3.241	25.0000	1.0000	14

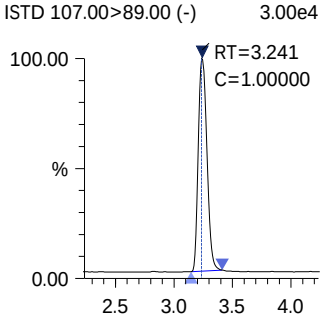
Perchlorate

Conc 9.46205
Area 152650



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 152342



20201020

ALS Environmental

ICAL Date: 9/20/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000045**

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	PERCHLORATE1		20201020_009	Perchlorate6850b.lcm	1x	☒	3100806-05	10/20/2020 17:02
2	PERCHLORATE2		20201020_011	Perchlorate6850b.lcm	1x	☒	3100806-07	10/20/2020 17:18
3	PERCHLORATE3		20201020_012	Perchlorate6850b.lcm	1x	☒	3100807-01	10/20/2020 17:26
4	PERCHLORATE4		20201020_013	Perchlorate6850b.lcm	1x	☒	3100807-02	10/20/2020 17:34
5	PERCHLORATE5		20201020_014	Perchlorate6850b.lcm	1x	☒	3100807-03	10/20/2020 17:42
6	PERCHLORATE6		20201020_015	Perchlorate6850b.lcm	1x	☒	3100807-04	10/20/2020 17:50
7	PERCHLORATE7		20201020_016	Perchlorate6850b.lcm	1x	☒	3100807-05	10/20/2020 17:58
8	PERCHLORATE8		20201020_017	Perchlorate6850b.lcm	1x	☒	3100807-06	10/20/2020 18:06
9	PERCHLORATE9		20201020_018	Perchlorate6850b.lcm	1x	☒	3100807-07	10/20/2020 18:14
10	PERCHLORATEICV		20201020_019	Perchlorate6850b.lcm	1x	☒	3100807-08	10/20/2020 18:21
11	IB		20201020_020	Perchlorate6850b.lcm	1x	☒		10/20/2020 18:29
12	LODV		20201020_021	Perchlorate6850b.lcm	1x	☒		10/20/2020 18:37
13	ICS		20201020_022	Perchlorate6850b.lcm	1x	☒		10/20/2020 18:45
14	PERCHLORATE7		20201020_023	Perchlorate6850b.lcm	1x	☒	3100807-05	10/20/2020 18:53
15	EQ2000512-03RR		20201020_024	Perchlorate6850b.lcm	1x	☒		10/20/2020 19:01
16	E2000965-005X2		20201020_025	Perchlorate6850b.lcm	2x	☒		10/20/2020 19:09
17	E2000966-002X2		20201020_026	Perchlorate6850b.lcm	2x	☒		10/20/2020 19:17
18	E2000971-001X2		20201020_027	Perchlorate6850b.lcm	2x	☒		10/20/2020 19:25
19	E2000971-003X2		20201020_028	Perchlorate6850b.lcm	2x	☒		10/20/2020 19:33
20	E2000971-004X2		20201020_029	Perchlorate6850b.lcm	2x	☒		10/20/2020 19:40
21	E2000971-005X10		20201020_030	Perchlorate6850b.lcm	10x	☒		10/20/2020 19:48
22	PERCHLORATE7		20201020_031	Perchlorate6850b.lcm	1x	☒	3100807-05	10/20/2020 19:56
23	EQ2000513-02RR		20201020_032	Perchlorate6850b.lcm	1x	☒		10/20/2020 20:04
24	EQ2000513-03RR		20201020_033	Perchlorate6850b.lcm	1x	☒		10/20/2020 20:12
25	EQ2000513-04RR		20201020_034	Perchlorate6850b.lcm	1x	☒		10/20/2020 20:20
26	EQ2000513-05RR		20201020_035	Perchlorate6850b.lcm	1x	☒		10/20/2020 20:28
27	E2000981-001X2		20201020_036	Perchlorate6850b.lcm	2x	☒		10/20/2020 20:36
28	E2000982-001X200		20201020_037	Perchlorate6850b.lcm	200x	☒		10/20/2020 20:44
29	E2000984-001X2		20201020_038	Perchlorate6850b.lcm	2x	☒		10/20/2020 20:51
30	E2000985-002X20		20201020_039	Perchlorate6850b.lcm	20x	☒		10/20/2020 20:59
31	E2000985-003X2		20201020_040	Perchlorate6850b.lcm	2x	☒		10/20/2020 21:07
32	E2000985-004X10		20201020_041	Perchlorate6850b.lcm	10x	☒		10/20/2020 21:15
33	PERCHLORATE7		20201020_042	Perchlorate6850b.lcm	1x	☒	3100807-05	10/20/2020 21:23
34	E2000985-006X10		20201020_043	Perchlorate6850b.lcm	10x	☒		10/20/2020 21:31
35	E2000996-003X2		20201020_044	Perchlorate6850b.lcm	2x	☒		10/20/2020 21:39
36	E2000996-005X2		20201020_045	Perchlorate6850b.lcm	2x	☒		10/20/2020 21:47
37	E2000996-006X5		20201020_046	Perchlorate6850b.lcm	5x	☒		10/20/2020 21:55
38	E2000996-009X5		20201020_047	Perchlorate6850b.lcm	5x	☒		10/20/2020 22:02
39	PERCHLORATE7		20201020_048	Perchlorate6850b.lcm	1x	☒	3100807-05	10/20/2020 22:10
40	null		20201020_049	Perchlorate6850b.lcm	1x	☒		10/20/2020 22:15
41	null		20201020_050	Perchlorate6850b.lcm	1x	☒		10/20/2020 22:20
42								
43								

Initial Calibration - Detailed Report

Calibration ID: EC2000045 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2000045-01	PERCHLORATE1	20201020_009	10/20/2020 17:02
02	EC2000045-02	PERCHLORATE2	20201020_011	10/20/2020 17:18
03	EC2000045-03	PERCHLORATE3	20201020_012	10/20/2020 17:26
04	EC2000045-04	PERCHLORATE4	20201020_013	10/20/2020 17:34
05	EC2000045-05	PERCHLORATE5	20201020_014	10/20/2020 17:42
06	EC2000045-06	PERCHLORATE6	20201020_015	10/20/2020 17:50
07	EC2000045-07	PERCHLORATE7	20201020_016	10/20/2020 17:58
08	EC2000045-08	PERCHLORATE8	20201020_017	10/20/2020 18:06
09	EC2000045-09	PERCHLORATE9	20201020_018	10/20/2020 18:14

Analyte	Curve Fit	Weighting		
Perchlorate	**Linear**	**Equal**	**R2 = 0.9997655579102110**	**Y=0.09298 X+0.005025**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1448	02	0.7000	0.09763	03	1.0000	0.1037	04	2.0000	0.09831
05	5.0000	0.0959	06	10.0000	0.08798	07	20.0000	0.09511	08	30.0000	0.09343
09	50.0000	0.09287									

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.102	1.6	02	0.7000	0.681	-2.7	03	1.0000	1.06	6.1
04	2.0000	2.06	3.0	05	5.0000	5.10	2.1	06	10.0000	9.41	-5.9
07	20.0000	20.4	2.0	08	30.0000	30.1	0.3	09	50.0000	49.9	-0.2

Initial Calibration Verification Summary Report

Calibration ID:	EC2000045	**Instrument ID:**	E-LCMS-01
Datafile ID:	20201020_019	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2000045-10	T	Linear	10	10.013	ng/mL	0.1	<= 15

ALS Group Houston

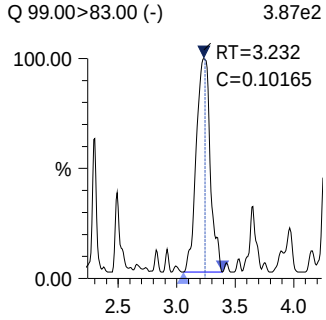
PERCHLORATE1

Date acquired: 10/20/2020 5:02:55 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201020\20201020_009.lcd
Vial: 5 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE1	10/20/2020 5:02:55 PM	3205	0.10165	20201020_009	3.232	25.0000	1.0000	5
Sodium Perchlorate-18O4_IS	PERCHLORATE1	10/20/2020 5:02:55 PM	221415	1.00000	20201020_009	3.222	25.0000	1.0000	5

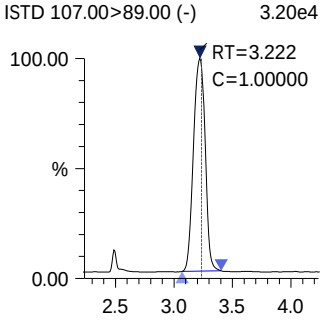
Perchlorate

Conc 0.10165
Area 3205



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 221415



ALS Group Houston

PERCHLORATE2

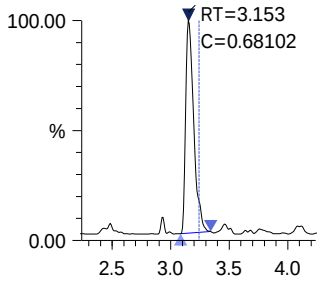
Date acquired: 10/20/2020 5:18:44 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201020\20201020_011.lcd
Vial: 7 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE2	10/20/2020 5:18:44 PM	12196	0.68102	20201020_011	3.153	25.0000	1.0000	7
Sodium Perchlorate-18O4_IS	PERCHLORATE2	10/20/2020 5:18:44 PM	178459	1.00000	20201020_011	3.151	25.0000	1.0000	7

Perchlorate

Conc 0.68102
Area 12196

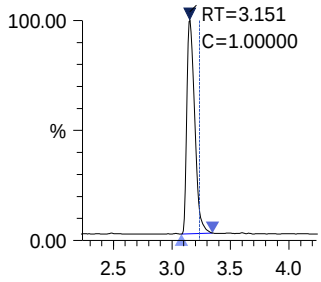
Q 99.00>83.00 (-) 2.52e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 178459

ISTD 107.00>89.00 (-) 3.74e4



ALS Group Houston

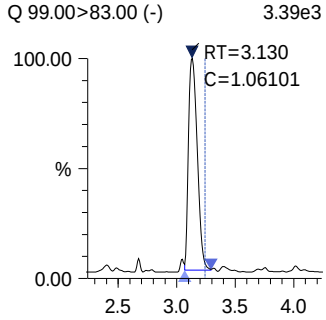
PERCHLORATE3

Date acquired: 10/20/2020 5:26:37 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201020\20201020_012.lcd
Vial: 8 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE3	10/20/2020 5:26:37 PM	17953	1.06101	20201020_012	3.130	25.0000	1.0000	8
Sodium Perchlorate-18O4_IS	PERCHLORATE3	10/20/2020 5:26:37 PM	173169	1.00000	20201020_012	3.123	25.0000	1.0000	8

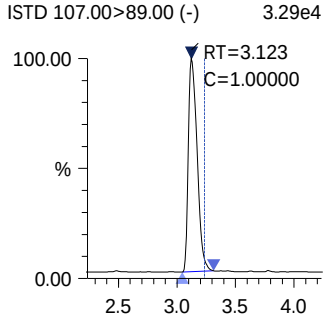
Perchlorate

Conc 1.06101
Area 17953



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 173169



ALS Group Houston

PERCHLORATE4

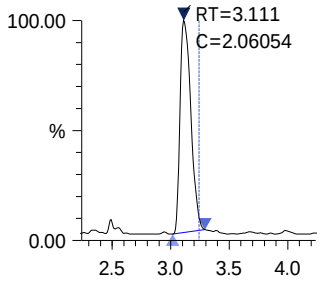
Date acquired: 10/20/2020 5:34:30 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201020\20201020_013.lcd
Vial: 9 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE4	10/20/2020 5:34:30 PM	36954	2.06054	20201020_013	3.111	25.0000	1.0000	9
Sodium Perchlorate-18O4_IS	PERCHLORATE4	10/20/2020 5:34:30 PM	187954	1.00000	20201020_013	3.113	25.0000	1.0000	9

Perchlorate

Conc 2.06054
Area 36954

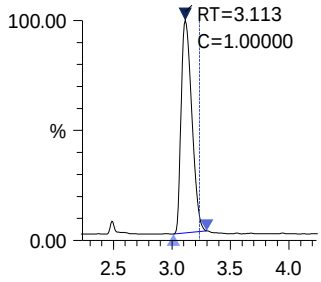
Q 99.00>83.00 (-) 5.74e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 187954

ISTD 107.00>89.00 (-) 2.97e4



ALS Group Houston

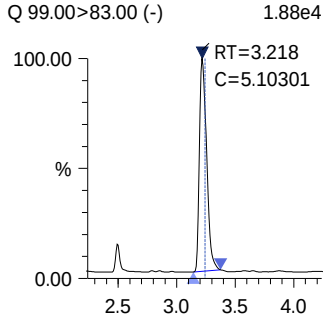
PERCHLORATE5

Date acquired: 10/20/2020 5:42:26 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201020\20201020_014.lcd
Vial: 10 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE5	10/20/2020 5:42:26 PM	79828	5.10301	20201020_014	3.218	25.0000	1.0000	10
Sodium Perchlorate-18O4_IS	PERCHLORATE5	10/20/2020 5:42:26 PM	166486	1.00000	20201020_014	3.217	25.0000	1.0000	10

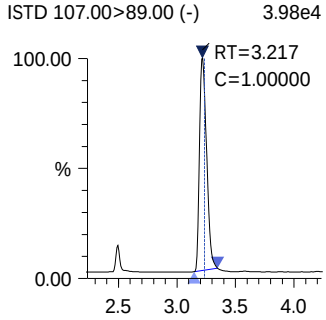
Perchlorate

Conc 5.10301
Area 79828



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 166486



ALS Group Houston

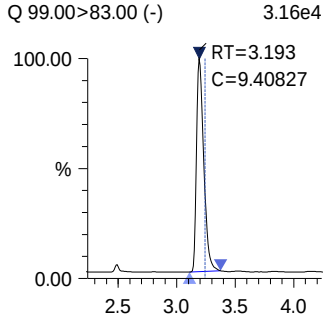
PERCHLORATE6

Date acquired: 10/20/2020 5:50:19 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201020\20201020_015.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE6	10/20/2020 5:50:19 PM	136097	9.40827	20201020_015	3.193	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE6	10/20/2020 5:50:19 PM	154693	1.00000	20201020_015	3.190	25.0000	1.0000	4

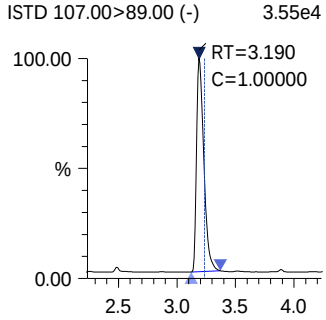
Perchlorate

Conc 9.40827
Area 136097



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 154693



ALS Group Houston

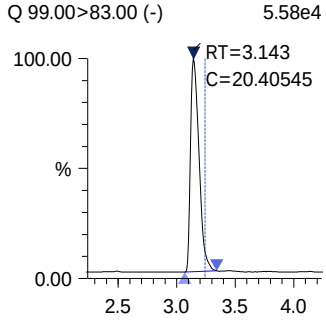
PERCHLORATE7

Date acquired: 10/20/2020 5:58:14 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201020\20201020_016.lcd
Vial: 11 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	10/20/2020 5:58:14 PM	286302	20.40545	20201020_016	3.143	25.0000	1.0000	11
Sodium Perchlorate-18O4_IS	PERCHLORATE7	10/20/2020 5:58:14 PM	150504	1.00000	20201020_016	3.142	25.0000	1.0000	11

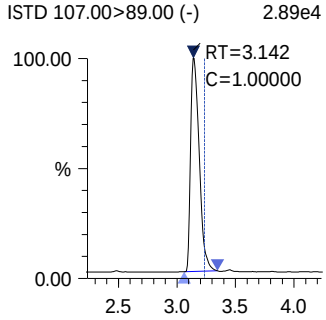
Perchlorate

Conc 20.40545
Area 286302



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 150504



ALS Group Houston

PERCHLORATE8

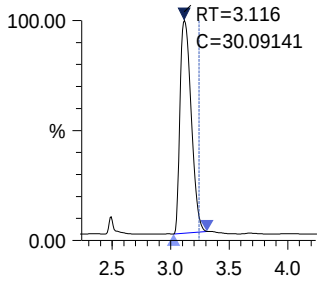
Date acquired: 10/20/2020 6:06:08 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201020\20201020_017.lcd
Vial: 12 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE8	10/20/2020 6:06:08 PM	429904	30.09141	20201020_017	3.116	25.0000	1.0000	12
Sodium Perchlorate-18O4_IS	PERCHLORATE8	10/20/2020 6:06:08 PM	153380	1.00000	20201020_017	3.115	25.0000	1.0000	12

Perchlorate

Conc 30.09141
Area 429904

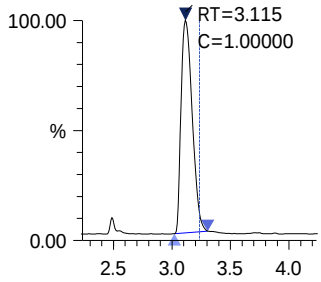
Q 99.00>83.00 (-) 6.42e4



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 153380

ISTD 107.00>89.00 (-) 2.32e4



ALS Group Houston

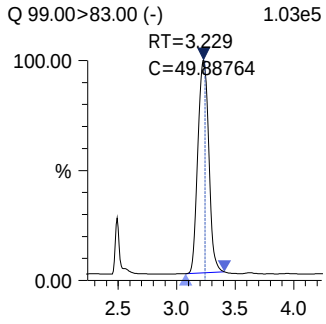
PERCHLORATE9

Date acquired: 10/20/2020 6:14:02 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201020\20201020_018.lcd
Vial: 13 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE9	10/20/2020 6:14:02 PM	663959	49.88764	20201020_018	3.229	25.0000	1.0000	13
Sodium Perchlorate-18O4_IS	PERCHLORATE9	10/20/2020 6:14:02 PM	142988	1.00000	20201020_018	3.226	25.0000	1.0000	13

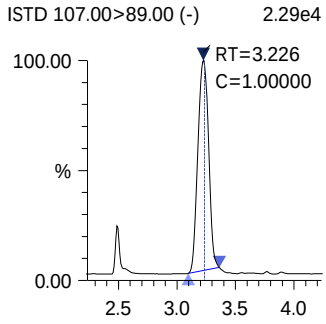
Perchlorate

Conc 49.88764
Area 663959



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 142988



ALS Group Houston

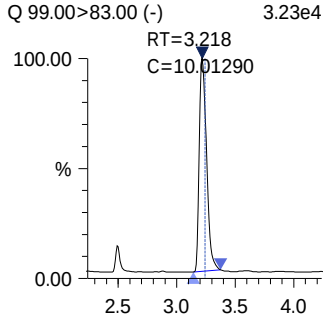
PERCHLORATEICV

Date acquired: 10/20/2020 6:21:55 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201020\20201020_019.lcd
Vial: 14 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATEICV	10/20/2020 6:21:55 PM	138426	10.01290	20201020_019	3.218	25.0000	1.0000	14
Sodium Perchlorate-18O4_IS	PERCHLORATEICV	10/20/2020 6:21:55 PM	147890	1.00000	20201020_019	3.215	25.0000	1.0000	14

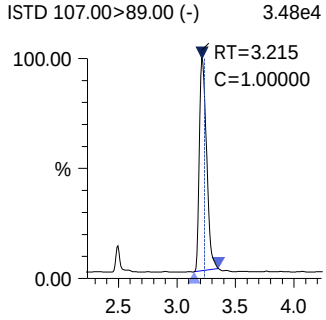
Perchlorate

Conc 10.01290
Area 138426



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 147890



Chromatograms and Selected Ion Monitoring

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 320, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

20201019

ALS Environmental

ICAL Date: 9/15/2020
Cal. Std. xp: 11/18/2020
ICAL ID: EC2000032

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	null		20201019_001	Perchlorate6850b.lcm	1x	☒		10/19/2020 14:37
2	null		20201019_002	Perchlorate6850b.lcm	1x	☒		10/19/2020 14:41
3	IB		20201019_003	Perchlorate6850b.lcm	1x	☒		10/19/2020 14:47
4	LODV		20201019_004	Perchlorate6850b.lcm	1x	☒		10/19/2020 14:55
5	ICS		20201019_006	Perchlorate6850b.lcm	1x	☒		10/19/2020 15:10
6	PERCHLORATE7		20201019_007	Perchlorate6850b.lcm	1x	☒	3100807-04	10/19/2020 15:18
7	E2000964-001X10		20201019_008	Perchlorate6850b.lcm	10x	☒		10/19/2020 15:26
8	E2000964-002X10		20201019_009	Perchlorate6850b.lcm	10x	☒		10/19/2020 15:34
9	E2000964-003X10		20201019_010	Perchlorate6850b.lcm	10x	☒		10/19/2020 15:42
10	E2000964-004X10		20201019_011	Perchlorate6850b.lcm	10x	☒		10/19/2020 15:50
11	E2000964-005X10		20201019_012	Perchlorate6850b.lcm	10x	☒		10/19/2020 15:58
12	E2000964-006		20201019_013	Perchlorate6850b.lcm	1x	☒		10/19/2020 16:06
13	E2000964-007X10		20201019_014	Perchlorate6850b.lcm	10x	☒		10/19/2020 16:42
14	E2000964-008X10		20201019_015	Perchlorate6850b.lcm	10x	☒		10/19/2020 16:50
15	PERCHLORATE7		20201019_016	Perchlorate6850b.lcm	1x	☒	3100807-04	10/19/2020 16:58
16	EQ2000512-01		20201019_017	Perchlorate6850b.lcm	1x	☒		10/19/2020 17:05
17	EQ2000512-02		20201019_018	Perchlorate6850b.lcm	1x	☒		10/19/2020 17:13
18	EQ2000512-03		20201019_019	Perchlorate6850b.lcm	1x	☒		10/19/2020 17:21
19	E2000965-001		20201019_020	Perchlorate6850b.lcm	1x	☒		10/19/2020 17:29
20	E2000965-002		20201019_021	Perchlorate6850b.lcm	1x	☒		10/19/2020 17:37
21	E2000965-003		20201019_022	Perchlorate6850b.lcm	1x	☒		10/19/2020 17:45
22	E2000965-004		20201019_023	Perchlorate6850b.lcm	1x	☒		10/19/2020 17:53
23	E2000965-005		20201019_024	Perchlorate6850b.lcm	1x	☒		10/19/2020 18:01
24	E2000966-001		20201019_025	Perchlorate6850b.lcm	1x	☒		10/19/2020 18:09
25	E2000966-002		20201019_026	Perchlorate6850b.lcm	1x	☒		10/19/2020 18:17
26	PERCHLORATE7		20201019_027	Perchlorate6850b.lcm	1x	☒	3100807-04	10/19/2020 18:25
27	E2000968-001		20201019_028	Perchlorate6850b.lcm	1x	☒		10/19/2020 18:33
28	E2000968-002		20201019_029	Perchlorate6850b.lcm	1x	☒		10/19/2020 18:40
29	E2000968-003		20201019_030	Perchlorate6850b.lcm	1x	☒		10/19/2020 18:48
30	E2000968-004		20201019_031	Perchlorate6850b.lcm	1x	☒		10/19/2020 18:56
31	E2000968-005		20201019_032	Perchlorate6850b.lcm	1x	☒		10/19/2020 19:04
32	E2000968-006		20201019_033	Perchlorate6850b.lcm	1x	☒		10/19/2020 19:12
33	E2000968-007		20201019_034	Perchlorate6850b.lcm	1x	☒		10/19/2020 19:20
34	E2000971-001		20201019_035	Perchlorate6850b.lcm	1x	☒		10/19/2020 19:28
35	E2000971-002		20201019_036	Perchlorate6850b.lcm	1x	☒		10/19/2020 19:36
36	E2000971-003		20201019_037	Perchlorate6850b.lcm	1x	☒		10/19/2020 19:44
37	PERCHLORATE7		20201019_038	Perchlorate6850b.lcm	1x	☒	3100807-04	10/19/2020 19:51
38	E2000971-004		20201019_039	Perchlorate6850b.lcm	1x	☒		10/19/2020 19:59
39	E2000971-005		20201019_040	Perchlorate6850b.lcm	1x	☒		10/19/2020 20:07
40	EQ2000513-01		20201019_041	Perchlorate6850b.lcm	1x	☒		10/19/2020 20:15
41	EQ2000513-02		20201019_042	Perchlorate6850b.lcm	1x	☒		10/19/2020 20:23
42	EQ2000513-03		20201019_043	Perchlorate6850b.lcm	1x	☒		10/19/2020 20:31
43	EQ2000513-04		20201019_044	Perchlorate6850b.lcm	1x	☒		10/19/2020 20:39
44	EQ2000513-05		20201019_045	Perchlorate6850b.lcm	1x	☒		10/19/2020 20:47
45	E2000981-001		20201019_046	Perchlorate6850b.lcm	1x	☒		10/19/2020 20:55
46	E2000982-001		20201019_047	Perchlorate6850b.lcm	1x	☒		10/19/2020 21:02
47	E2000984-001		20201019_048	Perchlorate6850b.lcm	1x	☒		10/19/2020 21:10
48	PERCHLORATE7		20201019_049	Perchlorate6850b.lcm	1x	☒	3100807-04	10/19/2020 21:18
49	E2000985-001		20201019_050	Perchlorate6850b.lcm	1x	☒		10/19/2020 21:26
50	E2000985-002		20201019_051	Perchlorate6850b.lcm	1x	☒		10/19/2020 21:34
51	E2000985-003		20201019_052	Perchlorate6850b.lcm	1x	☒		10/19/2020 21:42
52	E2000985-004		20201019_053	Perchlorate6850b.lcm	1x	☒		10/19/2020 21:50
53	E2000985-005		20201019_054	Perchlorate6850b.lcm	1x	☒		10/19/2020 21:58
54	E2000985-006		20201019_055	Perchlorate6850b.lcm	1x	☒		10/19/2020 22:05
55	E2000996-001		20201019_056	Perchlorate6850b.lcm	1x	☒		10/19/2020 22:13
56	E2000996-002		20201019_057	Perchlorate6850b.lcm	1x	☒		10/19/2020 22:21
57	E2000996-003		20201019_058	Perchlorate6850b.lcm	1x	☒		10/19/2020 22:29
58	E2000996-004		20201019_059	Perchlorate6850b.lcm	1x	☒		10/19/2020 22:37
59	PERCHLORATE7		20201019_060	Perchlorate6850b.lcm	1x	☒	3100807-04	10/19/2020 22:45
60	E2000996-005		20201019_061	Perchlorate6850b.lcm	1x	☒		10/19/2020 22:53
61	E2000996-006		20201019_062	Perchlorate6850b.lcm	1x	☒		10/19/2020 23:01

20201019

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 9/15/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000032**

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
62	E2000996-007		20201019_063	Perchlorate6850b.lcm	1x	☒		10/19/2020 23:09
63	E2000996-008		20201019_064	Perchlorate6850b.lcm	1x	☒		10/19/2020 23:16
64	E2000996-009		20201019_065	Perchlorate6850b.lcm	1x	☒		10/19/2020 23:24
65	PERCHLORATE7		20201019_066	Perchlorate6850b.lcm	1x	☒	3100807-04	10/19/2020 23:32
66	null		20201019_067	Perchlorate6850b.lcm	1x	☒		10/19/2020 23:37
67	null		20201019_068	Perchlorate6850b.lcm	1x	☒		10/19/2020 23:42
68								
69								

20201020

ALS Environmental

ICAL Date: 9/20/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000045**

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	PERCHLORATE1		20201020_009	Perchlorate6850b.lcm	1x	☒	3100806-05	10/20/2020 17:02
2	PERCHLORATE2		20201020_011	Perchlorate6850b.lcm	1x	☒	3100806-07	10/20/2020 17:18
3	PERCHLORATE3		20201020_012	Perchlorate6850b.lcm	1x	☒	3100807-01	10/20/2020 17:26
4	PERCHLORATE4		20201020_013	Perchlorate6850b.lcm	1x	☒	3100807-02	10/20/2020 17:34
5	PERCHLORATE5		20201020_014	Perchlorate6850b.lcm	1x	☒	3100807-03	10/20/2020 17:42
6	PERCHLORATE6		20201020_015	Perchlorate6850b.lcm	1x	☒	3100807-04	10/20/2020 17:50
7	PERCHLORATE7		20201020_016	Perchlorate6850b.lcm	1x	☒	3100807-05	10/20/2020 17:58
8	PERCHLORATE8		20201020_017	Perchlorate6850b.lcm	1x	☒	3100807-06	10/20/2020 18:06
9	PERCHLORATE9		20201020_018	Perchlorate6850b.lcm	1x	☒	3100807-07	10/20/2020 18:14
10	PERCHLORATEICV		20201020_019	Perchlorate6850b.lcm	1x	☒	3100807-08	10/20/2020 18:21
11	IB		20201020_020	Perchlorate6850b.lcm	1x	☒		10/20/2020 18:29
12	LODV		20201020_021	Perchlorate6850b.lcm	1x	☒		10/20/2020 18:37
13	ICS		20201020_022	Perchlorate6850b.lcm	1x	☒		10/20/2020 18:45
14	PERCHLORATE7		20201020_023	Perchlorate6850b.lcm	1x	☒	3100807-05	10/20/2020 18:53
15	EQ2000512-03RR		20201020_024	Perchlorate6850b.lcm	1x	☒		10/20/2020 19:01
16	E2000965-005X2		20201020_025	Perchlorate6850b.lcm	2x	☒		10/20/2020 19:09
17	E2000966-002X2		20201020_026	Perchlorate6850b.lcm	2x	☒		10/20/2020 19:17
18	E2000971-001X2		20201020_027	Perchlorate6850b.lcm	2x	☒		10/20/2020 19:25
19	E2000971-003X2		20201020_028	Perchlorate6850b.lcm	2x	☒		10/20/2020 19:33
20	E2000971-004X2		20201020_029	Perchlorate6850b.lcm	2x	☒		10/20/2020 19:40
21	E2000971-005X10		20201020_030	Perchlorate6850b.lcm	10x	☒		10/20/2020 19:48
22	PERCHLORATE7		20201020_031	Perchlorate6850b.lcm	1x	☒	3100807-05	10/20/2020 19:56
23	EQ2000513-02RR		20201020_032	Perchlorate6850b.lcm	1x	☒		10/20/2020 20:04
24	EQ2000513-03RR		20201020_033	Perchlorate6850b.lcm	1x	☒		10/20/2020 20:12
25	EQ2000513-04RR		20201020_034	Perchlorate6850b.lcm	1x	☒		10/20/2020 20:20
26	EQ2000513-05RR		20201020_035	Perchlorate6850b.lcm	1x	☒		10/20/2020 20:28
27	E2000981-001X2		20201020_036	Perchlorate6850b.lcm	2x	☒		10/20/2020 20:36
28	E2000982-001X200		20201020_037	Perchlorate6850b.lcm	200x	☒		10/20/2020 20:44
29	E2000984-001X2		20201020_038	Perchlorate6850b.lcm	2x	☒		10/20/2020 20:51
30	E2000985-002X20		20201020_039	Perchlorate6850b.lcm	20x	☒		10/20/2020 20:59
31	E2000985-003X2		20201020_040	Perchlorate6850b.lcm	2x	☒		10/20/2020 21:07
32	E2000985-004X10		20201020_041	Perchlorate6850b.lcm	10x	☒		10/20/2020 21:15
33	PERCHLORATE7		20201020_042	Perchlorate6850b.lcm	1x	☒	3100807-05	10/20/2020 21:23
34	E2000985-006X10		20201020_043	Perchlorate6850b.lcm	10x	☒		10/20/2020 21:31
35	E2000996-003X2		20201020_044	Perchlorate6850b.lcm	2x	☒		10/20/2020 21:39
36	E2000996-005X2		20201020_045	Perchlorate6850b.lcm	2x	☒		10/20/2020 21:47
37	E2000996-006X5		20201020_046	Perchlorate6850b.lcm	5x	☒		10/20/2020 21:55
38	E2000996-009X5		20201020_047	Perchlorate6850b.lcm	5x	☒		10/20/2020 22:02
39	PERCHLORATE7		20201020_048	Perchlorate6850b.lcm	1x	☒	3100807-05	10/20/2020 22:10
40	null		20201020_049	Perchlorate6850b.lcm	1x	☒		10/20/2020 22:15
41	null		20201020_050	Perchlorate6850b.lcm	1x	☒		10/20/2020 22:20
42								
43								

20201021

ALS Environmental

ICAL Date: 9/20/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000045**

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	null		20201021_001	Perchlorate6850b.lcm	1x	☒		10/21/2020 9:41
2	null		20201021_002	Perchlorate6850b.lcm	1x	☒		10/21/2020 9:46
3	IB		20201021_003	Perchlorate6850b.lcm	1x	☒		10/21/2020 9:52
4	IB		20201021_004	Perchlorate6850b.lcm	1x	☒		10/21/2020 10:00
5	LODV		20201021_005	Perchlorate6850b.lcm	1x	☒		10/21/2020 10:07
6	ICS		20201021_006	Perchlorate6850b.lcm	1x	☒		10/21/2020 10:15
7	PERCHLORATE7		20201021_007	Perchlorate6850b.lcm	1x	☒	3100807-05	10/21/2020 10:23
8	E2000965-005RR		20201021_008	Perchlorate6850b.lcm	1x	☒		10/21/2020 10:31
9	E2000966-002RR		20201021_009	Perchlorate6850b.lcm	1x	☒		10/21/2020 10:39
10	E2000971-001RR		20201021_010	Perchlorate6850b.lcm	1x	☒		10/21/2020 10:47
11	E2000971-003RR		20201021_011	Perchlorate6850b.lcm	1x	☒		10/21/2020 10:55
12	E2000971-004RR		20201021_012	Perchlorate6850b.lcm	1x	☒		10/21/2020 11:03
13	E2000981-001RR		20201021_013	Perchlorate6850b.lcm	1x	☒		10/21/2020 11:11
14	E2000984-001RR		20201021_014	Perchlorate6850b.lcm	1x	☒		10/21/2020 11:19
15	E2000985-003RR		20201021_015	Perchlorate6850b.lcm	1x	☒		10/21/2020 11:26
16	E2000985-005RR		20201021_016	Perchlorate6850b.lcm	1x	☒		10/21/2020 11:34
17	E2000985-006RR		20201021_017	Perchlorate6850b.lcm	1x	☒		10/21/2020 11:42
18	PERCHLORATE7		20201021_018	Perchlorate6850b.lcm	1x	☒	3100807-05	10/21/2020 11:50
19	E2000996-003RR		20201021_019	Perchlorate6850b.lcm	1x	☒		10/21/2020 11:58
20	E2000996-005RR		20201021_020	Perchlorate6850b.lcm	1x	☒		10/21/2020 12:06
21	E2000996-009RR		20201021_021	Perchlorate6850b.lcm	1x	☒		10/21/2020 12:14
22	E2000985-006X2		20201021_022	Perchlorate6850b.lcm	2x	☒		10/21/2020 12:40
23	E2000996-009X2		20201021_023	Perchlorate6850b.lcm	2x	☒		10/21/2020 12:48
24	PERCHLORATE7		20201021_024	Perchlorate6850b.lcm	1x	☒	3100807-05	10/21/2020 12:56
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ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20100719

Service Request: E2000985
Date Analyzed: 10/19/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201019\20201019_016

Calibration Date: 9/15/20
Calibration ID: EC2000032
Analysis Lot: 700168
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.4	NA	NA	NA	4.1	± 15 %	Quadratic

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20100719

Service Request: E2000985
Date Analyzed: 10/19/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201019\20201019_027

Calibration Date: 9/15/20
Calibration ID: EC2000032
Analysis Lot: 700168
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.6	NA	NA	NA	5.7	± 15 %	Quadratic

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20100719

Service Request: E2000985
Date Analyzed: 10/19/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201019\20201019_038

Calibration Date: 9/15/20
Calibration ID: EC2000032
Analysis Lot: 700168
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.5	NA	NA	NA	4.8	± 15 %	Quadratic

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20100719

Service Request: E2000985
Date Analyzed: 10/19/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201019\20201019_049

Calibration Date: 9/15/20
Calibration ID: EC2000032
Analysis Lot: 700168
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.7	NA	NA	NA	6.8	± 15 %	Quadratic

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20100719

Service Request: E2000985
Date Analyzed: 10/19/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201019\20201019_060

Calibration Date: 9/15/20
Calibration ID: EC2000032
Analysis Lot: 700168
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.7	NA	NA	NA	6.8	± 15 %	Quadratic

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20100719

Service Request: E2000985
Date Analyzed: 10/19/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201019\20201019_066

Calibration Date: 9/15/20
Calibration ID: EC2000032
Analysis Lot: 700168
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.8	NA	NA	NA	7.8	± 15 %	Quadratic

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20100719

Service Request: E2000985
Date Analyzed: 10/20/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201020\20201020_023

Calibration Date: 10/20/20
Calibration ID: EC2000045
Analysis Lot: 700170
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.12	NA	NA	NA	-8.8	± 15 %	Linear

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20100719

Service Request: E2000985
Date Analyzed: 10/20/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201020\20201020_031

Calibration Date: 10/20/20
Calibration ID: EC2000045
Analysis Lot: 700170
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.22	NA	NA	NA	-7.8	± 15 %	Linear

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20100719

Service Request: E2000985
Date Analyzed: 10/20/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201020\20201020_042

Calibration Date: 10/20/20
Calibration ID: EC2000045
Analysis Lot: 700170
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.16	NA	NA	NA	-8.4	± 15 %	Linear

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20100719

Service Request: E2000985
Date Analyzed: 10/20/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201020\20201020_048

Calibration Date: 10/20/20
Calibration ID: EC2000045
Analysis Lot: 700170
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.05	NA	NA	NA	-9.5	± 15 %	Linear

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20100719

Service Request: E2000985
Date Analyzed: 10/21/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201021\20201021_007

Calibration Date: 10/20/20
Calibration ID: EC2000045
Analysis Lot: 700177
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.69	NA	NA	NA	-3.1	± 15 %	Linear

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20100719

Service Request: E2000985
Date Analyzed: 10/21/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201021\20201021_018

Calibration Date: 10/20/20
Calibration ID: EC2000045
Analysis Lot: 700177
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.93	NA	NA	NA	-0.7	± 15 %	Linear

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20100719

Service Request: E2000985
Date Analyzed: 10/21/20

Continuing Calibration Verification Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20201021\20201021_024

Calibration Date: 10/20/20
Calibration ID: EC2000045
Analysis Lot: 700177
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.86	NA	NA	NA	-1.4	± 15 %	Linear

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Analyzed:**	10/19/20 16:58

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20201019\20201019_016	**Lab Code:**	EQ2000518-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	700168
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	160,593	3.24
	Upper Limit ==>	240,890	5.24
	Lower Limit ==>	80,297	1.24
Associated Analyses			
Continuing Calibration Verification	EQ2000518-01	94,962	3.08

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Analyzed:**	10/19/20 18:25

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20201019\20201019_027	**Lab Code:**	EQ2000518-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	700168
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	160,593	3.24
	Upper Limit ==>	240,890	5.24
	Lower Limit ==>	80,297	1.24
Associated Analyses			
Continuing Calibration Verification	EQ2000518-02	93,770	3.07

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Analyzed:**	10/19/20 19:51

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20201019\20201019_038	**Lab Code:**	EQ2000518-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	700168
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	160,593	3.24
	Upper Limit ==>	240,890	5.24
	Lower Limit ==>	80,297	1.24
Associated Analyses			
Continuing Calibration Verification	EQ2000518-03	104,278	3.07
Method Blank	EQ2000513-01	116,517	3.08

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Analyzed:**	10/19/20 21:18

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20201019\20201019_049	**Lab Code:**	EQ2000518-04
Instrument ID:	E-LCMS-01	**Analysis Lot:**	700168
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	160,593	3.24
	Upper Limit ==>	240,890	5.24
	Lower Limit ==>	80,297	1.24
Associated Analyses			
Continuing Calibration Verification	EQ2000518-04	106,768	3.07
16WW36-201013	E2000985-001	81,556	3.04

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Analyzed:**	10/19/20 22:45

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20201019\20201019_060	**Lab Code:**	EQ2000518-05
Instrument ID:	E-LCMS-01	**Analysis Lot:**	700168
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	160,593	3.24
	Upper Limit ==>	240,890	5.24
	Lower Limit ==>	80,297	1.24
Associated Analyses			
Continuing Calibration Verification	EQ2000518-05	112,348	3.07

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Analyzed:**	10/19/20 23:32

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20201019\20201019_066	**Lab Code:**	EQ2000518-06
Instrument ID:	E-LCMS-01	**Analysis Lot:**	700168
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	160,593	3.24
	Upper Limit ==>	240,890	5.24
	Lower Limit ==>	80,297	1.24
Associated Analyses			
Continuing Calibration Verification	EQ2000518-06	109,491	3.07

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Analyzed:**	10/20/20 18:53

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20201020\20201020_023	**Lab Code:**	EQ2000519-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	700170
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	169,894	3.17
	Upper Limit ==>	254,841	5.17
	Lower Limit ==>	84,947	1.17
Associated Analyses			
Continuing Calibration Verification	EQ2000519-01	192,599	3.23

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20100719

Service Request: E2000985
Date Analyzed: 10/20/20 19:56

Internal Standard Area and RT Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID: I:\LCMS01\DATA\20201020\20201020_031
Instrument ID: E-LCMS-01
Analytical Method: 6850

Lab Code: EQ2000519-02
Analysis Lot: 700170
Signal ID: 1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	169,894	3.17
	Upper Limit ==>	254,841	5.17
	Lower Limit ==>	84,947	1.17
Associated Analyses			
Continuing Calibration Verification	EQ2000519-02	208,788	3.11
Lab Control Sample	EQ2000513-02	249,532	3.22
Duplicate Lab Control Sample	EQ2000513-03	201,356	3.21
16IW03-201013MS	EQ2000513-04	123,478	3.16
16IW03-201013DMS	EQ2000513-05	125,527	3.14
16WW35-201013	E2000985-002	115,127	3.20
16WW55-201013	E2000985-004	149,881	3.11

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Analyzed:**	10/20/20 21:23

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20201020\20201020_042	**Lab Code:**	EQ2000519-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	700170
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	169,894	3.17
	Upper Limit ==>	254,841	5.17
	Lower Limit ==>	84,947	1.17
Associated Analyses			
Continuing Calibration Verification	EQ2000519-03	244,880	3.11

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Analyzed:**	10/20/20 22:10

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20201020\20201020_048	**Lab Code:**	EQ2000519-04
Instrument ID:	E-LCMS-01	**Analysis Lot:**	700170
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	169,894	3.17
	Upper Limit ==>	254,841	5.17
	Lower Limit ==>	84,947	1.17
Associated Analyses			
Continuing Calibration Verification	EQ2000519-04	243,797	3.11

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Analyzed:**	10/21/20 10:23

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20201021\20201021_007	**Lab Code:**	EQ2000520-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	700177
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	169,894	3.17
	Upper Limit ==>	254,841	5.17
	Lower Limit ==>	84,947	1.17
Associated Analyses			
Continuing Calibration Verification	EQ2000520-01	232,030	3.25
16IW09-201013	E2000985-003	105,257	3.18
16IW03-201013	E2000985-005	86,070	3.14

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20100719

Service Request: E2000985
Date Analyzed: 10/21/20 11:50

Internal Standard Area and RT Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID: I:\LCMS01\DATA\20201021\20201021_018
Instrument ID: E-LCMS-01
Analytical Method: 6850

Lab Code: EQ2000520-02
Analysis Lot: 700177
Signal ID: 1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	169,894	3.17
	Upper Limit ==>	254,841	5.17
	Lower Limit ==>	84,947	1.17
Associated Analyses			
Continuing Calibration Verification	EQ2000520-02	184,365	3.23
16IW10-201013	E2000985-006	176,047	3.04

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000985
Project:	HS20100719	**Date Analyzed:**	10/21/20 12:56

Internal Standard Area and RT Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

File ID:	I:\LCMS01\DATA\20201021\20201021_024	**Lab Code:**	EQ2000520-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	700177
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	169,894	3.17
	Upper Limit ==>	254,841	5.17
	Lower Limit ==>	84,947	1.17
Associated Analyses			
Continuing Calibration Verification	EQ2000520-03	190,977	3.19

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

ALS Group Houston

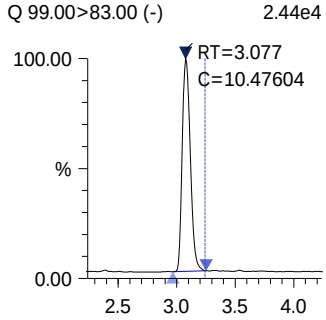
PERCHLORATE7

Date acquired: 10/19/2020 7:51:58 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201019\20201019_038.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	10/19/2020 7:51:58 PM	115561	10.47604	20201019_038	3.077	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	10/19/2020 7:51:58 PM	104278	1.00000	20201019_038	3.074	25.0000	1.0000	4

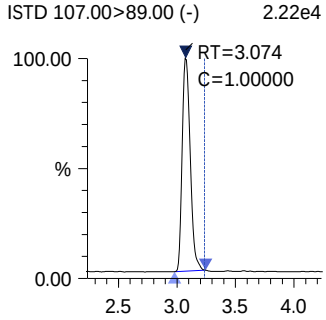
Perchlorate

Conc 10.47604
Area 115561



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 104278



ALS Group Houston

EQ2000513-01

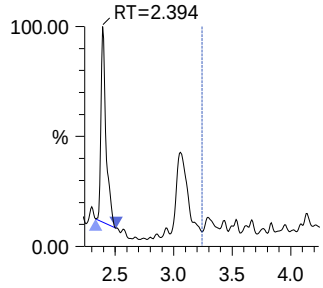
Date acquired: 10/19/2020 8:15:36 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201019\20201019_041.lcd
Vial: 23 | Inj. Volume: 25.0000uL | Tray: 3

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000513-01	10/19/2020 8:15:36 PM	----	----	20201019_041	----	25.0000	1.0000	23
Sodium Perchlorate-18O4_IS	EQ2000513-01	10/19/2020 8:15:36 PM	116517	1.00000	20201019_041	3.075	25.0000	1.0000	23

Perchlorate

Conc ----
Area ----

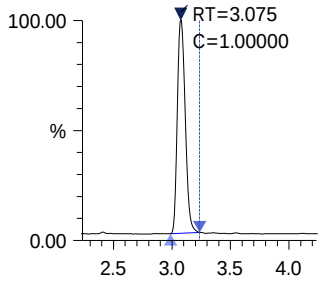
Q 99.00>83.00 (-) 1.40e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 116517

ISTD 107.00>89.00 (-) 2.53e4



ALS Group Houston

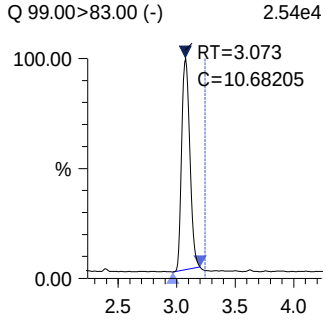
PERCHLORATE7

Date acquired: 10/19/2020 9:18:43 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201019\20201019_049.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	10/19/2020 9:18:43 PM	120622	10.68205	20201019_049	3.073	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	10/19/2020 9:18:43 PM	106768	1.00000	20201019_049	3.071	25.0000	1.0000	4

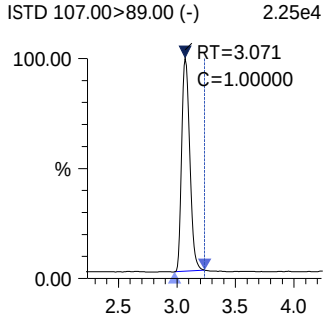
Perchlorate

Conc 10.68205
Area 120622



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 106768



ALS Group Houston

PERCHLORATE7

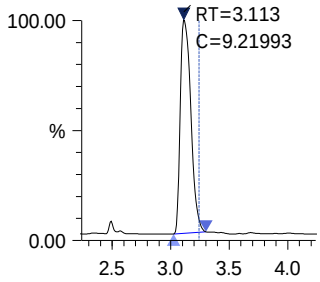
Date acquired: 10/20/2020 7:56:44 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201020\20201020_031.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	10/20/2020 7:56:44 PM	180033	9.21993	20201020_031	3.113	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	10/20/2020 7:56:44 PM	208788	1.00000	20201020_031	3.114	25.0000	1.0000	4

Perchlorate

Conc 9.21993
Area 180033

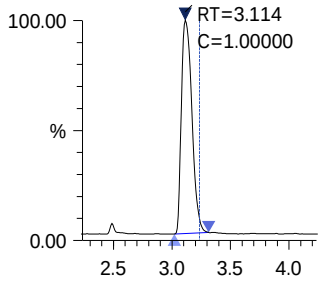
Q 99.00>83.00 (-) 2.84e4



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 208788

ISTD 107.00>89.00 (-) 3.33e4



ALS Group Houston

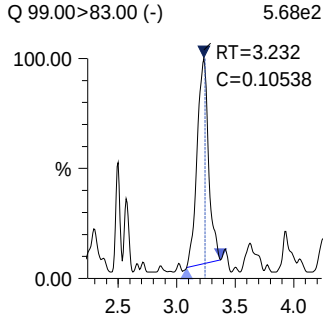
EQ2000513-02

Date acquired: 10/20/2020 8:04:37 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201020\20201020_032.lcd
Vial: 24 | Inj. Volume: 25.0000uL | Tray: 3

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000513-02RR	10/20/2020 8:04:37 PM	3698	0.10538	20201020_032	3.232	25.0000	1.0000	24
Sodium Perchlorate-18O4_IS	EQ2000513-02RR	10/20/2020 8:04:37 PM	249532	1.00000	20201020_032	3.218	25.0000	1.0000	24

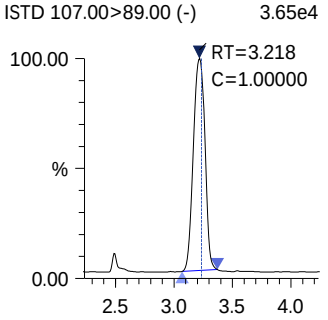
Perchlorate

Conc 0.10538
Area 3698



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 249532



ALS Group Houston

EQ2000513-03

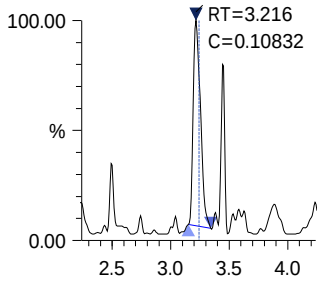
Date acquired: 10/20/2020 8:12:31 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201020\20201020_033.lcd
Vial: 25 | Inj. Volume: 25.0000uL | Tray: 3

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000513-03RR	10/20/2020 8:12:31 PM	3040	0.10832	20201020_033	3.216	25.0000	1.0000	25
Sodium Perchlorate-18O4_IS	EQ2000513-03RR	10/20/2020 8:12:31 PM	201356	1.00000	20201020_033	3.214	25.0000	1.0000	25

Perchlorate

Conc 0.10832
Area 3040

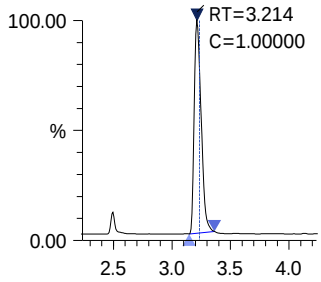
Q 99.00>83.00 (-) 7.35e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 201356

ISTD 107.00>89.00 (-) 4.92e4



ALS Group Houston

EQ2000513-04

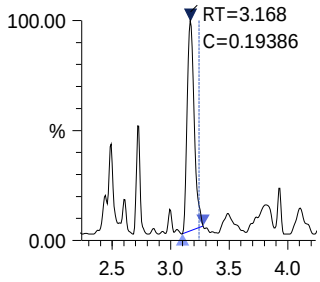
Date acquired: 10/20/2020 8:20:26 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201020\20201020_034.lcd
Vial: 26 | Inj. Volume: 25.0000uL | Tray: 3

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000513-04RR	10/20/2020 8:20:26 PM	2846	0.19386	20201020_034	3.168	25.0000	1.0000	26
Sodium Perchlorate-18O4_IS	EQ2000513-04RR	10/20/2020 8:20:26 PM	123478	1.00000	20201020_034	3.159	25.0000	1.0000	26

Perchlorate

Conc 0.19386
Area 2846

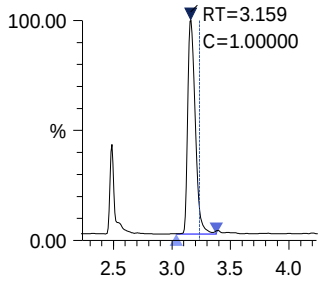
Q 99.00>83.00 (-) 6.78e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 123478

ISTD 107.00>89.00 (-) 2.69e4



ALS Group Houston

EQ2000513-05

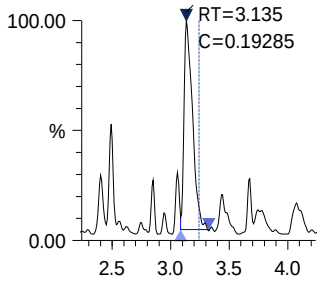
Date acquired: 10/20/2020 8:28:18 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201020\20201020_035.lcd
Vial: 27 | Inj. Volume: 25.0000uL | Tray: 3

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000513-05RR	10/20/2020 8:28:18 PM	2882	0.19285	20201020_035	3.135	25.0000	1.0000	27
Sodium Perchlorate-18O4_IS	EQ2000513-05RR	10/20/2020 8:28:18 PM	125527	1.00000	20201020_035	3.142	25.0000	1.0000	27

Perchlorate

Conc 0.19285
Area 2882

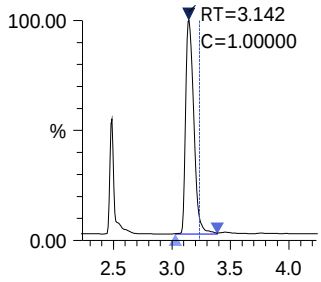
Q 99.00>83.00 (-) 5.79e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 125527

ISTD 107.00>89.00 (-) 2.54e4



ALS Group Houston

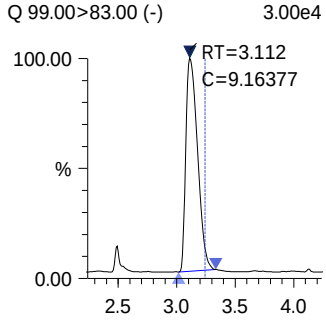
PERCHLORATE7

Date acquired: 10/20/2020 9:23:31 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201020\20201020_042.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	10/20/2020 9:23:31 PM	209875	9.16377	20201020_042	3.112	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	10/20/2020 9:23:31 PM	244880	1.00000	20201020_042	3.112	25.0000	1.0000	4

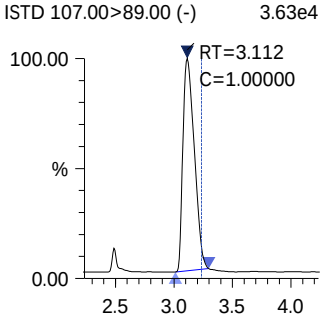
Perchlorate

Conc 9.16377
Area 209875



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 244880



10450 Stancliff Rd. Suite 210
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October 29, 2020

Susan Huang
Aptim Environmental & Infrastucture, Inc.
2500 City West Blvd., Suite 1700
Houston, TX 77042

Work Order: **HS20100779**

Laboratory Results for: **LHAAP 16 October 2020**

Dear Susan Huang,

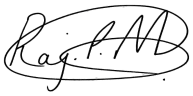
ALS Environmental received 10 sample(s) on Oct 15, 2020 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,



Generated By: JUMOKE.LAWAL
RJ Modashia
Project Manager

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
Work Order: HS20100779

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20100779-01	16WW25-201014	Groundwater		14-Oct-2020 07:40	15-Oct-2020 09:10	☐
HS20100779-02	16WW26-201014	Groundwater		14-Oct-2020 08:25	15-Oct-2020 09:10	☐
HS20100779-03	16WW30-201014	Groundwater		14-Oct-2020 09:20	15-Oct-2020 09:10	☐
HS20100779-04	16WW29-201014	Groundwater		14-Oct-2020 10:05	15-Oct-2020 09:10	☐
HS20100779-05	16WW22-201014	Groundwater		14-Oct-2020 10:55	15-Oct-2020 09:10	☐
HS20100779-06	16WW41-201014	Groundwater		14-Oct-2020 11:45	15-Oct-2020 09:10	☐
HS20100779-07	16WW21-201014	Groundwater		14-Oct-2020 12:35	15-Oct-2020 09:10	☐
HS20100779-08	16WW21-201014-FD	Groundwater		14-Oct-2020 12:35	15-Oct-2020 09:10	☐
HS20100779-09	16WW39-201014	Groundwater		14-Oct-2020 13:25	15-Oct-2020 09:10	☐
HS20100779-10	Trip Blank	Water	CG 090120 -189	14-Oct-2020 00:00	15-Oct-2020 09:10	☐

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc. **CASE NARRATIVE**
Project: LHAAP 16 October 2020
Work Order: HS20100779

Work Order Comments

• Analysis of Perchlorate was performed by ALS Houston TX, High Resolution. Laboratory. Final report attached.

The analysis for TOC was subcontracted to ALS Environmental in Kelso WA. Final report attached.

GC Semivolatiles by Method RSK-175

Batch ID: R371090

Sample ID: HS20100719-05MS

• MS and MSD are for an unrelated sample

GCMS Volatiles by Method SW8260

Batch ID: R371099

Sample ID: 16WW26-201014 (HS20100779-02)

• 4-Bromofluorobenzene (Surrogate) and Toluene-d8 (Surrogate) exceeded recovery limit, compounds reported are not associated with these surrogates

Sample ID: 16WW39-201014 (HS20100779-09)

• Toluene-d8 (Surrogate) exceeded recovery limits. Compounds reported are not associated with this surrogate.

Sample ID: CCV-END

• Closing CCV exceeded %D recovery limits for some compounds.

Sample ID: HS20100714-01MS

• MS and MSD are for an unrelated sample

Batch ID: R371372

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SW9056

Batch ID: R371570

Sample ID: 16WW39-201014 (HS20100779-09)

• Sample ran at 2x due to high concentration of Chloride

Batch ID: R370723

Sample ID: 16WW25-201014 (HS20100779-01)

• Sample ran at 5X due to high concentration of Sulfate

Sample ID: 16WW29-201014 (HS20100779-04)

• Sample ran at 2X due to high concentration of Sulfate

Sample ID: 16WW41-201014 (HS20100779-06)

• Sample ran at 5X due to high concentration of Sulfate

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
Work Order: HS20100779

CASE NARRATIVE

WetChemistry by Method SW9056

Batch ID: R371460

Sample ID: 16WW26-201014 (HS20100779-02MS)

- The recovery of the Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) associated with this analyte was outside of the established control limits. However, the LCS was within control limits. The recovery of the MS/MSD may be due to sample matrix interference. (Sulfate)

WetChemistry by Method SM2320B

Batch ID: R370718

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
Sample ID: 16WW25-201014
Collection Date: 14-Oct-2020 07:40

ANALYTICAL REPORT
WorkOrder:HS20100779
Lab ID:HS20100779-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	26-Oct-2020 18:50
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 18:50
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 18:50
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 18:50
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	26-Oct-2020 18:50
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 18:50
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 18:50
Surr: 1,2-Dichloroethane-d4	*86.8*			**0**	*81-118*	*%REC*	*1*	*26-Oct-2020 18:50*
Surr: 4-Bromofluorobenzene	*86.2*			**0**	*85-114*	*%REC*	*1*	*26-Oct-2020 18:50*
Surr: Dibromofluoromethane	*89.3*			**0**	*80-119*	*%REC*	*1*	*26-Oct-2020 18:50*
Surr: Toluene-d8	*101*			**0**	*89-112*	*%REC*	*1*	*26-Oct-2020 18:50*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PVL
Ethane	0.000250	U	0.000144	0.000250	0.00100	mg/L	1	21-Oct-2020 11:10
Ethene	0.000500	U	0.000234	0.000500	0.00100	mg/L	1	21-Oct-2020 11:10
Methane	**0.0153**		**0.000107**	**0.000250**	**0.000500**	**mg/L**	1	21-Oct-2020 11:10
ALKALINITY BY SM2320B		**Method:SM2320B**						Analyst: TH
Alkalinity, Total (As CaCO3)	**52.7**	a	**5.00**	**5.00**	**5.00**	**mg/L**	1	16-Oct-2020 21:21
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**2.11**		**0.150**	**0.500**	**0.500**	**mg/L**	5	15-Oct-2020 22:58
Nitrogen, Nitrate (As N)	0.500	U	0.150	0.500	0.500	mg/L	5	15-Oct-2020 22:58
Sulfate	**5,270**		**40.0**	**100**	**100**	**mg/L**	200	28-Oct-2020 05:51
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	22-Oct-2020 13:19
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	23-Oct-2020 09:16

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
Sample ID: 16WW26-201014
Collection Date: 14-Oct-2020 08:25

ANALYTICAL REPORT
WorkOrder:HS20100779
Lab ID:HS20100779-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	22-Oct-2020 18:37
1,1-Dichloroethene	**2.5**		**0.20**	**0.50**	**1.0**	**UG/L**	1	22-Oct-2020 18:37
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	22-Oct-2020 18:37
cis-1,2-Dichloroethene	**78**		**0.20**	**0.50**	**1.0**	**UG/L**	1	22-Oct-2020 18:37
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	22-Oct-2020 18:37
Trichloroethene	**850**		**2.0**	**5.0**	**10**	**UG/L**	10	22-Oct-2020 18:58
Vinyl chloride	**1.9**		**0.20**	**0.50**	**1.0**	**UG/L**	1	22-Oct-2020 18:37
Surr: 1,2-Dichloroethane-d4	*105*			**0**	*81-118*	*%REC*	*1*	*22-Oct-2020 18:37*
Surr: 1,2-Dichloroethane-d4	*86.0*			**0**	*81-118*	*%REC*	*10*	*22-Oct-2020 18:58*
Surr: 4-Bromofluorobenzene	*85.9*			**0**	*85-114*	*%REC*	*1*	*22-Oct-2020 18:37*
Surr: 4-Bromofluorobenzene	*123*	*S*		**0**	*85-114*	*%REC*	*10*	*22-Oct-2020 18:58*
Surr: Dibromofluoromethane	*96.0*			**0**	*80-119*	*%REC*	*1*	*22-Oct-2020 18:37*
Surr: Dibromofluoromethane	*101*			**0**	*80-119*	*%REC*	*10*	*22-Oct-2020 18:58*
Surr: Toluene-d8	*99.6*			**0**	*89-112*	*%REC*	*1*	*22-Oct-2020 18:37*
Surr: Toluene-d8	*132*	*S*		**0**	*89-112*	*%REC*	*10*	*22-Oct-2020 18:58*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PVL
Ethane	0.000250	U	0.000144	0.000250	0.00100	mg/L	1	21-Oct-2020 11:51
Ethene	0.000500	U	0.000234	0.000500	0.00100	mg/L	1	21-Oct-2020 11:51
Methane	**0.00450**		**0.000107**	**0.000250**	**0.000500**	**mg/L**	1	21-Oct-2020 11:51
ALKALINITY BY SM2320B		**Method:SM2320B**						Analyst: TH
Alkalinity, Total (As CaCO3)	**38.4**	a	**5.00**	**5.00**	**5.00**	**mg/L**	1	16-Oct-2020 21:26
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**0.638**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	15-Oct-2020 23:52
Nitrogen, Nitrate (As N)	0.100	U	0.0300	0.100	0.100	mg/L	1	15-Oct-2020 23:52
Sulfate	**375**		**2.00**	**5.00**	**5.00**	**mg/L**	10	28-Oct-2020 06:45
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	22-Oct-2020 13:19
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	23-Oct-2020 09:16

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
Sample ID: 16WW30-201014
Collection Date: 14-Oct-2020 09:20

ANALYTICAL REPORT
WorkOrder:HS20100779
Lab ID:HS20100779-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	22-Oct-2020 16:31
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	22-Oct-2020 16:31
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	22-Oct-2020 16:31
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	22-Oct-2020 16:31
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	22-Oct-2020 16:31
Trichloroethene	**5.7**		**0.20**	**0.50**	**1.0**	**UG/L**	1	22-Oct-2020 16:31
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	22-Oct-2020 16:31
Surr: 1,2-Dichloroethane-d4	*110*			**0**	*81-118*	*%REC*	*1*	*22-Oct-2020 16:31*
Surr: 4-Bromofluorobenzene	*98.8*			**0**	*85-114*	*%REC*	*1*	*22-Oct-2020 16:31*
Surr: Dibromofluoromethane	*86.1*			**0**	*80-119*	*%REC*	*1*	*22-Oct-2020 16:31*
Surr: Toluene-d8	*93.3*			**0**	*89-112*	*%REC*	*1*	*22-Oct-2020 16:31*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**3.56**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	29-Oct-2020 09:22
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	22-Oct-2020 13:19
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	23-Oct-2020 09:16

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
Sample ID: 16WW29-201014
Collection Date: 14-Oct-2020 10:05

ANALYTICAL REPORT
WorkOrder:HS20100779
Lab ID:HS20100779-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	22-Oct-2020 16:52
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	22-Oct-2020 16:52
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	22-Oct-2020 16:52
cis-1,2-Dichloroethene	**1.1**		**0.20**	**0.50**	**1.0**	**UG/L**	1	22-Oct-2020 16:52
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	22-Oct-2020 16:52
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	22-Oct-2020 16:52
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	22-Oct-2020 16:52
Surr: 1,2-Dichloroethane-d4	*108*			**0**	*81-118*	*%REC*	*1*	*22-Oct-2020 16:52*
Surr: 4-Bromofluorobenzene	*111*			**0**	*85-114*	*%REC*	*1*	*22-Oct-2020 16:52*
Surr: Dibromofluoromethane	*91.8*			**0**	*80-119*	*%REC*	*1*	*22-Oct-2020 16:52*
Surr: Toluene-d8	*112*			**0**	*89-112*	*%REC*	*1*	*22-Oct-2020 16:52*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PVL
Ethane	0.000250	U	0.000144	0.000250	0.00100	mg/L	1	21-Oct-2020 12:11
Ethene	**0.00113**		**0.000234**	**0.000500**	**0.00100**	**mg/L**	1	21-Oct-2020 12:11
Methane	**0.0153**		**0.000107**	**0.000250**	**0.000500**	**mg/L**	1	21-Oct-2020 12:11
ALKALINITY BY SM2320B		**Method:SM2320B**						Analyst: TH
Alkalinity, Total (As CaCO3)	**71.8**	a	**5.00**	**5.00**	**5.00**	**mg/L**	1	16-Oct-2020 21:32
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**1.37**		**0.0600**	**0.200**	**0.200**	**mg/L**	2	16-Oct-2020 00:10
Nitrogen, Nitrate (As N)	0.200	U	0.0600	0.200	0.200	mg/L	2	16-Oct-2020 00:10
Sulfate	**1,200**		**20.0**	**50.0**	**50.0**	**mg/L**	100	28-Oct-2020 07:39
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	22-Oct-2020 13:19
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	23-Oct-2020 09:16

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
Sample ID: 16WW22-201014
Collection Date: 14-Oct-2020 10:55

ANALYTICAL REPORT
WorkOrder:HS20100779
Lab ID:HS20100779-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	22-Oct-2020 17:13
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	22-Oct-2020 17:13
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	22-Oct-2020 17:13
cis-1,2-Dichloroethene	**3.0**		**0.20**	**0.50**	**1.0**	**UG/L**	1	22-Oct-2020 17:13
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	22-Oct-2020 17:13
Trichloroethene	**7.8**		**0.20**	**0.50**	**1.0**	**UG/L**	1	22-Oct-2020 17:13
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	22-Oct-2020 17:13
Surr: 1,2-Dichloroethane-d4	*109*			**0**	*81-118*	*%REC*	*1*	*22-Oct-2020 17:13*
Surr: 4-Bromofluorobenzene	*85.2*			**0**	*85-114*	*%REC*	*1*	*22-Oct-2020 17:13*
Surr: Dibromofluoromethane	*90.8*			**0**	*80-119*	*%REC*	*1*	*22-Oct-2020 17:13*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*22-Oct-2020 17:13*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PVL
Ethane	0.000250	U	0.000144	0.000250	0.00100	mg/L	1	21-Oct-2020 12:19
Ethene	0.000500	U	0.000234	0.000500	0.00100	mg/L	1	21-Oct-2020 12:19
Methane	**0.00204**		**0.000107**	**0.000250**	**0.000500**	**mg/L**	1	21-Oct-2020 12:19
ALKALINITY BY SM2320B		**Method:SM2320B**						Analyst: TH
Alkalinity, Total (As CaCO3)	**183**	a	**5.00**	**5.00**	**5.00**	**mg/L**	1	16-Oct-2020 21:38
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**5.26**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	16-Oct-2020 00:46
Nitrogen, Nitrate (As N)	0.100	U	0.0300	0.100	0.100	mg/L	1	16-Oct-2020 00:46
Sulfate	**163**		**2.00**	**5.00**	**5.00**	**mg/L**	10	28-Oct-2020 07:57
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	22-Oct-2020 13:19
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	23-Oct-2020 09:16

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
Sample ID: 16WW41-201014
Collection Date: 14-Oct-2020 11:45

ANALYTICAL REPORT
WorkOrder:HS20100779
Lab ID:HS20100779-06
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	5.0	U	3.0	5.0	10	UG/L	10	26-Oct-2020 19:32
1,1-Dichloroethene	**17**		**2.0**	**5.0**	**10**	**UG/L**	10	26-Oct-2020 19:32
1,2-Dichloroethane	**5.7**	J	**2.0**	**5.0**	**10**	**UG/L**	10	26-Oct-2020 19:32
cis-1,2-Dichloroethene	**2,400**		**20**	**50**	**100**	**UG/L**	100	26-Oct-2020 19:53
Methylene chloride	10	U	4.0	10	20	UG/L	10	26-Oct-2020 19:32
Trichloroethene	**5,400**		**20**	**50**	**100**	**UG/L**	100	26-Oct-2020 19:53
Vinyl chloride	**230**		**2.0**	**5.0**	**10**	**UG/L**	10	26-Oct-2020 19:32
Surr: 1,2-Dichloroethane-d4	*86.2*			**0**	*81-118*	*%REC*	*10*	*26-Oct-2020 19:32*
Surr: 1,2-Dichloroethane-d4	*82.1*			**0**	*81-118*	*%REC*	*100*	*26-Oct-2020 19:53*
Surr: 4-Bromofluorobenzene	*86.8*			**0**	*85-114*	*%REC*	*100*	*26-Oct-2020 19:53*
Surr: 4-Bromofluorobenzene	*85.9*			**0**	*85-114*	*%REC*	*10*	*26-Oct-2020 19:32*
Surr: Dibromofluoromethane	*89.5*			**0**	*80-119*	*%REC*	*10*	*26-Oct-2020 19:32*
Surr: Dibromofluoromethane	*84.4*			**0**	*80-119*	*%REC*	*100*	*26-Oct-2020 19:53*
Surr: Toluene-d8	*101*			**0**	*89-112*	*%REC*	*100*	*26-Oct-2020 19:53*
Surr: Toluene-d8	*98.2*			**0**	*89-112*	*%REC*	*10*	*26-Oct-2020 19:32*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PVL
Ethane	0.000250	U	0.000144	0.000250	0.00100	mg/L	1	21-Oct-2020 12:27
Ethene	**0.0107**		**0.000234**	**0.000500**	**0.00100**	**mg/L**	1	21-Oct-2020 12:27
Methane	**0.0145**		**0.000107**	**0.000250**	**0.000500**	**mg/L**	1	21-Oct-2020 12:27
ALKALINITY BY SM2320B		**Method:SM2320B**						Analyst: TH
Alkalinity, Total (As CaCO3)	**1,000**	a	**5.00**	**5.00**	**5.00**	**mg/L**	1	16-Oct-2020 21:46
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	0.500	U	0.150	0.500	0.500	mg/L	5	16-Oct-2020 01:04
Nitrogen, Nitrate (As N)	0.500	U	0.150	0.500	0.500	mg/L	5	16-Oct-2020 01:04
Sulfate	**9,220**		**40.0**	**100**	**100**	**mg/L**	200	28-Oct-2020 08:15
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	22-Oct-2020 13:19
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	23-Oct-2020 09:16

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
Sample ID: 16WW21-201014
Collection Date: 14-Oct-2020 12:35

ANALYTICAL REPORT
WorkOrder:HS20100779
Lab ID:HS20100779-07
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	22-Oct-2020 17:34
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	22-Oct-2020 17:34
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	22-Oct-2020 17:34
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	22-Oct-2020 17:34
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	22-Oct-2020 17:34
Trichloroethene	**1.5**		**0.20**	**0.50**	**1.0**	**UG/L**	1	22-Oct-2020 17:34
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	22-Oct-2020 17:34
Surr: 1,2-Dichloroethane-d4	*108*			**0**	*81-118*	*%REC*	*1*	*22-Oct-2020 17:34*
Surr: 4-Bromofluorobenzene	*103*			**0**	*85-114*	*%REC*	*1*	*22-Oct-2020 17:34*
Surr: Dibromofluoromethane	*96.3*			**0**	*80-119*	*%REC*	*1*	*22-Oct-2020 17:34*
Surr: Toluene-d8	*101*			**0**	*89-112*	*%REC*	*1*	*22-Oct-2020 17:34*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**0.864**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	29-Oct-2020 09:40
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	22-Oct-2020 13:19
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	23-Oct-2020 09:16

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
Sample ID: 16WW21-201014-FD
Collection Date: 14-Oct-2020 12:35

ANALYTICAL REPORT
WorkOrder:HS20100779
Lab ID:HS20100779-08
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	26-Oct-2020 19:11
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 19:11
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 19:11
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 19:11
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	26-Oct-2020 19:11
Trichloroethene	**1.9**		**0.20**	**0.50**	**1.0**	**UG/L**	1	26-Oct-2020 19:11
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 19:11
Surr: 1,2-Dichloroethane-d4	*85.1*			**0**	*81-118*	*%REC*	*1*	*26-Oct-2020 19:11*
Surr: 4-Bromofluorobenzene	*87.8*			**0**	*85-114*	*%REC*	*1*	*26-Oct-2020 19:11*
Surr: Dibromofluoromethane	*85.7*			**0**	*80-119*	*%REC*	*1*	*26-Oct-2020 19:11*
Surr: Toluene-d8	*99.0*			**0**	*89-112*	*%REC*	*1*	*26-Oct-2020 19:11*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**0.895**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	29-Oct-2020 09:58
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	22-Oct-2020 13:19
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	23-Oct-2020 09:16

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
Sample ID: 16WW39-201014
Collection Date: 14-Oct-2020 13:25

ANALYTICAL REPORT
WorkOrder:HS20100779
Lab ID:HS20100779-09
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	22-Oct-2020 19:19
1,1-Dichloroethene	**1.7**		**0.20**	**0.50**	**1.0**	**UG/L**	1	22-Oct-2020 19:19
1,2-Dichloroethane	**1.3**		**0.20**	**0.50**	**1.0**	**UG/L**	1	22-Oct-2020 19:19
cis-1,2-Dichloroethene	**73**		**0.20**	**0.50**	**1.0**	**UG/L**	1	22-Oct-2020 19:19
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	22-Oct-2020 19:19
Trichloroethene	**350**		**2.0**	**5.0**	**10**	**UG/L**	10	22-Oct-2020 19:40
Vinyl chloride	**5.0**		**0.20**	**0.50**	**1.0**	**UG/L**	1	22-Oct-2020 19:19
Surr: 1,2-Dichloroethane-d4	*92.5*			**0**	*81-118*	*%REC*	*1*	*22-Oct-2020 19:19*
Surr: 1,2-Dichloroethane-d4	*98.0*			**0**	*81-118*	*%REC*	*10*	*22-Oct-2020 19:40*
Surr: 4-Bromofluorobenzene	*107*			**0**	*85-114*	*%REC*	*1*	*22-Oct-2020 19:19*
Surr: 4-Bromofluorobenzene	*113*			**0**	*85-114*	*%REC*	*10*	*22-Oct-2020 19:40*
Surr: Dibromofluoromethane	*89.1*			**0**	*80-119*	*%REC*	*1*	*22-Oct-2020 19:19*
Surr: Dibromofluoromethane	*99.8*			**0**	*80-119*	*%REC*	*10*	*22-Oct-2020 19:40*
Surr: Toluene-d8	*89.5*			**0**	*89-112*	*%REC*	*1*	*22-Oct-2020 19:19*
Surr: Toluene-d8	*118*	*S*		**0**	*89-112*	*%REC*	*10*	*22-Oct-2020 19:40*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**7.90**		**0.0600**	**0.200**	**0.200**	**mg/L**	2	29-Oct-2020 10:16
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	22-Oct-2020 13:19
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	23-Oct-2020 09:16

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
Sample ID: Trip Blank
Collection Date: 14-Oct-2020 00:00

ANALYTICAL REPORT
WorkOrder:HS20100779
Lab ID:HS20100779-10
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	26-Oct-2020 18:29
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 18:29
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 18:29
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 18:29
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	26-Oct-2020 18:29
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 18:29
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 18:29
Surr: 1,2-Dichloroethane-d4	*84.6*			**0**	*81-118*	*%REC*	*1*	*26-Oct-2020 18:29*
Surr: 4-Bromofluorobenzene	*85.7*			**0**	*85-114*	*%REC*	*1*	*26-Oct-2020 18:29*
Surr: Dibromofluoromethane	*86.0*			**0**	*80-119*	*%REC*	*1*	*26-Oct-2020 18:29*
Surr: Toluene-d8	*96.7*			**0**	*89-112*	*%REC*	*1*	*26-Oct-2020 18:29*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020 **DATES REPORT**
WorkOrder: HS20100779

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R370718 (0)	**Test Name :** ALKALINITY BY SM2320B				**Matrix:** Groundwater	
HS20100779-01	16WW25-201014	14 Oct 2020 07:40			16 Oct 2020 21:21	1
HS20100779-02	16WW26-201014	14 Oct 2020 08:25			16 Oct 2020 21:26	1
HS20100779-04	16WW29-201014	14 Oct 2020 10:05			16 Oct 2020 21:32	1
HS20100779-05	16WW22-201014	14 Oct 2020 10:55			16 Oct 2020 21:38	1
HS20100779-06	16WW41-201014	14 Oct 2020 11:45			16 Oct 2020 21:46	1
Batch ID: R370723 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS20100779-01	16WW25-201014	14 Oct 2020 07:40			15 Oct 2020 22:58	5
HS20100779-02	16WW26-201014	14 Oct 2020 08:25			15 Oct 2020 23:52	1
HS20100779-04	16WW29-201014	14 Oct 2020 10:05			16 Oct 2020 00:10	2
HS20100779-05	16WW22-201014	14 Oct 2020 10:55			16 Oct 2020 00:46	1
HS20100779-06	16WW41-201014	14 Oct 2020 11:45			16 Oct 2020 01:04	5
Batch ID: R371062 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Groundwater	
HS20100779-01	16WW25-201014	14 Oct 2020 07:40			22 Oct 2020 13:19	1
HS20100779-02	16WW26-201014	14 Oct 2020 08:25			22 Oct 2020 13:19	1
HS20100779-03	16WW30-201014	14 Oct 2020 09:20			22 Oct 2020 13:19	1
HS20100779-04	16WW29-201014	14 Oct 2020 10:05			22 Oct 2020 13:19	1
HS20100779-05	16WW22-201014	14 Oct 2020 10:55			22 Oct 2020 13:19	1
HS20100779-06	16WW41-201014	14 Oct 2020 11:45			22 Oct 2020 13:19	1
HS20100779-07	16WW21-201014	14 Oct 2020 12:35			22 Oct 2020 13:19	1
HS20100779-08	16WW21-201014-FD	14 Oct 2020 12:35			22 Oct 2020 13:19	1
HS20100779-09	16WW39-201014	14 Oct 2020 13:25			22 Oct 2020 13:19	1
Batch ID: R371090 (0)	**Test Name :** DISSOLVED GASES BY RSK-175				**Matrix:** Groundwater	
HS20100779-01	16WW25-201014	14 Oct 2020 07:40			21 Oct 2020 11:10	1
HS20100779-02	16WW26-201014	14 Oct 2020 08:25			21 Oct 2020 11:51	1
HS20100779-04	16WW29-201014	14 Oct 2020 10:05			21 Oct 2020 12:11	1
HS20100779-05	16WW22-201014	14 Oct 2020 10:55			21 Oct 2020 12:19	1
HS20100779-06	16WW41-201014	14 Oct 2020 11:45			21 Oct 2020 12:27	1
Batch ID: R371099 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS20100779-02	16WW26-201014	14 Oct 2020 08:25			22 Oct 2020 18:58	10
HS20100779-02	16WW26-201014	14 Oct 2020 08:25			22 Oct 2020 18:37	1
HS20100779-03	16WW30-201014	14 Oct 2020 09:20			22 Oct 2020 16:31	1
HS20100779-04	16WW29-201014	14 Oct 2020 10:05			22 Oct 2020 16:52	1
HS20100779-05	16WW22-201014	14 Oct 2020 10:55			22 Oct 2020 17:13	1
HS20100779-07	16WW21-201014	14 Oct 2020 12:35			22 Oct 2020 17:34	1
HS20100779-09	16WW39-201014	14 Oct 2020 13:25			22 Oct 2020 19:40	10
HS20100779-09	16WW39-201014	14 Oct 2020 13:25			22 Oct 2020 19:19	1

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020 **DATES REPORT**
WorkOrder: HS20100779

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R371124 (0)	**Test Name :** SUBCONTRACT ANALYSIS - TOC ANALYSIS				**Matrix:** Groundwater	
HS20100779-01	16WW25-201014	14 Oct 2020 07:40			23 Oct 2020 09:16	1
HS20100779-02	16WW26-201014	14 Oct 2020 08:25			23 Oct 2020 09:16	1
HS20100779-03	16WW30-201014	14 Oct 2020 09:20			23 Oct 2020 09:16	1
HS20100779-04	16WW29-201014	14 Oct 2020 10:05			23 Oct 2020 09:16	1
HS20100779-05	16WW22-201014	14 Oct 2020 10:55			23 Oct 2020 09:16	1
HS20100779-06	16WW41-201014	14 Oct 2020 11:45			23 Oct 2020 09:16	1
HS20100779-07	16WW21-201014	14 Oct 2020 12:35			23 Oct 2020 09:16	1
HS20100779-08	16WW21-201014-FD	14 Oct 2020 12:35			23 Oct 2020 09:16	1
HS20100779-09	16WW39-201014	14 Oct 2020 13:25			23 Oct 2020 09:16	1
Batch ID: R371372 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS20100779-10	Trip Blank	14 Oct 2020 00:00			26 Oct 2020 18:29	1
Batch ID: R371372 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS20100779-01	16WW25-201014	14 Oct 2020 07:40			26 Oct 2020 18:50	1
HS20100779-06	16WW41-201014	14 Oct 2020 11:45			26 Oct 2020 19:53	100
HS20100779-06	16WW41-201014	14 Oct 2020 11:45			26 Oct 2020 19:32	10
HS20100779-08	16WW21-201014-FD	14 Oct 2020 12:35			26 Oct 2020 19:11	1
Batch ID: R371460 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS20100779-01	16WW25-201014	14 Oct 2020 07:40			28 Oct 2020 05:51	200
HS20100779-02	16WW26-201014	14 Oct 2020 08:25			28 Oct 2020 06:45	10
HS20100779-04	16WW29-201014	14 Oct 2020 10:05			28 Oct 2020 07:39	100
HS20100779-05	16WW22-201014	14 Oct 2020 10:55			28 Oct 2020 07:57	10
HS20100779-06	16WW41-201014	14 Oct 2020 11:45			28 Oct 2020 08:15	200
Batch ID: R371570 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS20100779-03	16WW30-201014	14 Oct 2020 09:20			29 Oct 2020 09:22	1
HS20100779-07	16WW21-201014	14 Oct 2020 12:35			29 Oct 2020 09:40	1
HS20100779-08	16WW21-201014-FD	14 Oct 2020 12:35			29 Oct 2020 09:58	1
HS20100779-09	16WW39-201014	14 Oct 2020 13:25			29 Oct 2020 10:16	2

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: HS20100779

QC BATCH REPORT

Batch ID: R371090 (0) **Instrument: FID-4** **Method: DISSOLVED GASES BY RSK-175**

MBLK Sample ID: **MBLK-201021** Units: **mg/L** Analysis Date: **21-Oct-2020 10:07**
Client ID: Run ID: **FID-4_371090** SeqNo: **5795268** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.000250	0.00100								U
Ethene	0.000500	0.00100								U
Methane	0.000250	0.000500								U

LCS Sample ID: **LCS-201021** Units: **mg/L** Analysis Date: **21-Oct-2020 10:14**
Client ID: Run ID: **FID-4_371090** SeqNo: **5795269** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0191	0.00100	0.01804	0	106	75 - 125				
Ethene	0.0193	0.00100	0.0168	0	115	75 - 125				
Methane	0.00952	0.000500	0.009647	0	98.7	75 - 125				

LCSD Sample ID: **LCSD-201021** Units: **mg/L** Analysis Date: **21-Oct-2020 10:25**
Client ID: Run ID: **FID-4_371090** SeqNo: **5795270** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0188	0.00100	0.01804	0	104	75 - 125	0.01912	1.54	30	
Ethene	0.0189	0.00100	0.0168	0	112	75 - 125	0.01928	2.21	30	
Methane	0.00950	0.000500	0.009647	0	98.5	75 - 125	0.009521	0.194	30	

MS Sample ID: **HS20100719-05MS** Units: **mg/L** Analysis Date: **21-Oct-2020 15:33**
Client ID: Run ID: **FID-4_371090** SeqNo: **5795290** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0282	0.00100	0.01804	0.004980	129	75 - 125				S
Ethene	0.101	0.00100	0.0168	0.05770	260	75 - 125				SE
Methane	0.791	0.000500	0.009647	0.7829	84.8	75 - 125				EO

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: HS20100779

QC BATCH REPORT

Batch ID: R371090 (0) **Instrument:** FID-4 **Method:** DISSOLVED GASES BY RSK-175

MSD Sample ID: **HS20100719-05MSD** Units: **mg/L** Analysis Date: **21-Oct-2020 15:44**
Client ID: Run ID: **FID-4_371090** SeqNo: **5795291** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0268	0.00100	0.01804	0.004980	121	75 - 125	0.02820	4.92	30	
Ethene	0.101	0.00100	0.0168	0.05770	259	75 - 125	0.1014	0.15	30	SE
Methane	0.789	0.000500	0.009647	0.7829	64.7	75 - 125	0.7911	0.245	30	SEO

DUP Sample ID: **HS20100779-01DUP** Units: **mg/L** Analysis Date: **21-Oct-2020 11:26**
Client ID: **16WW25-201014** Run ID: **FID-4_371090** SeqNo: **5795276** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.000250	0.00100					0	0	30	U
Ethene	0.000500	0.00100					0	0	30	U
Methane	0.0154	0.000500					0.01529	0.595	30	

The following samples were analyzed in this batch: HS20100779-01 HS20100779-02 HS20100779-04 HS20100779-05 HS20100779-06

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: HS20100779

QC BATCH REPORT

Batch ID: R371099 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-201022** Units: **UG/L** Analysis Date: **22-Oct-2020 12:18**
Client ID: Run ID: **VOA6_371099** SeqNo: **5795516** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	0.50	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,2-Dichloroethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
Methylene chloride	1.0	2.0								U
Trichloroethene	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*44.51*	*1.0*	*50*	*0*	*89.0*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.26*	*1.0*	*50*	*0*	*101*	*85 - 114*				
Surr: Dibromofluoromethane	*45.63*	*1.0*	*50*	*0*	*91.3*	*80 - 119*				
Surr: Toluene-d8	*51.48*	*1.0*	*50*	*0*	*103*	*89 - 112*				

LCS Sample ID: **VLCSW-201022** Units: **UG/L** Analysis Date: **22-Oct-2020 11:36**
Client ID: Run ID: **VOA6_371099** SeqNo: **5795515** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	21.25	1.0	20	0	106	80 - 119				
1,1-Dichloroethene	21.92	1.0	20	0	110	71 - 131				
1,2-Dichloroethane	19.82	1.0	20	0	99.1	73 - 128				
cis-1,2-Dichloroethene	20.83	1.0	20	0	104	78 - 123				
Methylene chloride	21.07	2.0	20	0	105	74 - 124				
Trichloroethene	19.98	1.0	20	0	99.9	79 - 123				
Vinyl chloride	21.88	1.0	20	0	109	58 - 137				
Surr: 1,2-Dichloroethane-d4	*54.03*	*1.0*	*50*	*0*	*108*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*52.68*	*1.0*	*50*	*0*	*105*	*85 - 114*				
Surr: Dibromofluoromethane	*52.08*	*1.0*	*50*	*0*	*104*	*80 - 119*				
Surr: Toluene-d8	*51.08*	*1.0*	*50*	*0*	*102*	*89 - 112*				

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: HS20100779

QC BATCH REPORT

Batch ID: R371099 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MS Sample ID: **HS20100714-01MS** Units: **UG/L** Analysis Date: **22-Oct-2020 14:25**
Client ID: Run ID: **VOA6_371099** SeqNo: **5795522** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	41.45	1.0	20	0	207	80 - 119				S
1,1-Dichloroethene	26.05	1.0	20	0	130	71 - 131				
1,2-Dichloroethane	27.4	1.0	20	0	137	73 - 128				S
cis-1,2-Dichloroethene	24.01	1.0	20	0	120	78 - 123				
Methylene chloride	25.13	2.0	20	0	126	74 - 124				S
Trichloroethene	24.04	1.0	20	0	120	79 - 123				
Vinyl chloride	24.56	1.0	20	0	123	58 - 137				
Surr: 1,2-Dichloroethane-d4	*45.07*	*1.0*	*50*	*0*	*90.1*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*53.32*	*1.0*	*50*	*0*	*107*	*85 - 114*				
Surr: Dibromofluoromethane	*46.99*	*1.0*	*50*	*0*	*94.0*	*80 - 119*				
Surr: Toluene-d8	*52*	*1.0*	*50*	*0*	*104*	*89 - 112*				

MSD Sample ID: **HS20100714-01MSD** Units: **UG/L** Analysis Date: **22-Oct-2020 14:46**
Client ID: Run ID: **VOA6_371099** SeqNo: **5795523** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	39.18	1.0	20	0	196	80 - 119	41.45	5.63	20	S
1,1-Dichloroethene	23.68	1.0	20	0	118	71 - 131	26.05	9.55	20	
1,2-Dichloroethane	25.85	1.0	20	0	129	73 - 128	27.4	5.83	20	S
cis-1,2-Dichloroethene	22.57	1.0	20	0	113	78 - 123	24.01	6.21	20	
Methylene chloride	22.94	2.0	20	0	115	74 - 124	25.13	9.1	20	
Trichloroethene	22.21	1.0	20	0	111	79 - 123	24.04	7.9	20	
Vinyl chloride	22.25	1.0	20	0	111	58 - 137	24.56	9.86	20	
Surr: 1,2-Dichloroethane-d4	*44.64*	*1.0*	*50*	*0*	*89.3*	*81 - 118*	*45.07*	*0.969*	*20*	
Surr: 4-Bromofluorobenzene	*53.6*	*1.0*	*50*	*0*	*107*	*85 - 114*	*53.32*	*0.523*	*20*	
Surr: Dibromofluoromethane	*46.8*	*1.0*	*50*	*0*	*93.6*	*80 - 119*	*46.99*	*0.391*	*20*	
Surr: Toluene-d8	*51.6*	*1.0*	*50*	*0*	*103*	*89 - 112*	*52*	*0.776*	*20*	

The following samples were analyzed in this batch: HS20100779-02 HS20100779-03 HS20100779-04 HS20100779-05 HS20100779-07 HS20100779-09

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: HS20100779

QC BATCH REPORT

Batch ID: R371372 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-201026** Units: **UG/L** Analysis Date: **26-Oct-2020 12:31**
Client ID: Run ID: **VOA6_371372** SeqNo: **5801594** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	0.50	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,2-Dichloroethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
Methylene chloride	1.0	2.0								U
Trichloroethene	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*42.52*	*1.0*	*50*	*0*	*85.0*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*43.05*	*1.0*	*50*	*0*	*86.1*	*85 - 114*				
Surr: Dibromofluoromethane	*43.8*	*1.0*	*50*	*0*	*87.6*	*80 - 119*				
Surr: Toluene-d8	*48.64*	*1.0*	*50*	*0*	*97.3*	*89 - 112*				

LCS Sample ID: **VLCSW-201026** Units: **UG/L** Analysis Date: **26-Oct-2020 11:49**
Client ID: Run ID: **VOA6_371372** SeqNo: **5801593** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	18.09	1.0	20	0	90.4	80 - 119				
1,1-Dichloroethene	19.45	1.0	20	0	97.3	71 - 131				
1,2-Dichloroethane	20.07	1.0	20	0	100	73 - 128				
cis-1,2-Dichloroethene	19.4	1.0	20	0	97.0	78 - 123				
Methylene chloride	17.36	2.0	20	0	86.8	74 - 124				
Trichloroethene	20.44	1.0	20	0	102	79 - 123				
Vinyl chloride	19.78	1.0	20	0	98.9	58 - 137				
Surr: 1,2-Dichloroethane-d4	*51.34*	*1.0*	*50*	*0*	*103*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*46.54*	*1.0*	*50*	*0*	*93.1*	*85 - 114*				
Surr: Dibromofluoromethane	*51.39*	*1.0*	*50*	*0*	*103*	*80 - 119*				
Surr: Toluene-d8	*48.55*	*1.0*	*50*	*0*	*97.1*	*89 - 112*				

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: HS20100779

QC BATCH REPORT

Batch ID: R371372 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MS Sample ID: **HS20100719-05MS** Units: **UG/L** Analysis Date: **26-Oct-2020 16:02**
Client ID: Run ID: **VOA6_371372** SeqNo: **5801601** PrepDate: DF: **200**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	4135	200	4000	0	103	80 - 119				
1,1-Dichloroethene	4884	200	4000	0	122	71 - 131				
1,2-Dichloroethane	4672	200	4000	0	117	73 - 128				
cis-1,2-Dichloroethene	15300	200	4000	10560	118	78 - 123				
Methylene chloride	3910	400	4000	0	97.7	74 - 124				
Trichloroethene	15370	200	4000	10480	122	79 - 123				
Vinyl chloride	5705	200	4000	771.5	123	58 - 137				
Surr: 1,2-Dichloroethane-d4	*8472*	*200*	*10000*	*0*	*84.7*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*8745*	*200*	*10000*	*0*	*87.5*	*85 - 114*				
Surr: Dibromofluoromethane	*8756*	*200*	*10000*	*0*	*87.6*	*80 - 119*				
Surr: Toluene-d8	*9275*	*200*	*10000*	*0*	*92.7*	*89 - 112*				

MSD Sample ID: **HS20100719-05MSD** Units: **UG/L** Analysis Date: **26-Oct-2020 16:23**
Client ID: Run ID: **VOA6_371372** SeqNo: **5801602** PrepDate: DF: **200**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	4326	200	4000	0	108	80 - 119	4135	4.52	20	
1,1-Dichloroethene	4560	200	4000	0	114	71 - 131	4884	6.86	20	
1,2-Dichloroethane	4427	200	4000	0	111	73 - 128	4672	5.38	20	
cis-1,2-Dichloroethene	14990	200	4000	10560	111	78 - 123	15300	2	20	
Methylene chloride	3564	400	4000	0	89.1	74 - 124	3910	9.24	20	
Trichloroethene	15010	200	4000	10480	113	79 - 123	15370	2.37	20	
Vinyl chloride	5302	200	4000	771.5	113	58 - 137	5705	7.32	20	
Surr: 1,2-Dichloroethane-d4	*8511*	*200*	*10000*	*0*	*85.1*	*81 - 118*	*8472*	*0.464*	*20*	
Surr: 4-Bromofluorobenzene	*8769*	*200*	*10000*	*0*	*87.7*	*85 - 114*	*8745*	*0.276*	*20*	
Surr: Dibromofluoromethane	*8777*	*200*	*10000*	*0*	*87.8*	*80 - 119*	*8756*	*0.235*	*20*	
Surr: Toluene-d8	*9391*	*200*	*10000*	*0*	*93.9*	*89 - 112*	*9275*	*1.24*	*20*	

The following samples were analyzed in this batch: HS20100779-01 HS20100779-06 HS20100779-08 HS20100779-10

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: HS20100779

QC BATCH REPORT

Batch ID: R370718 (0) **Instrument: ManTech01** **Method: ALKALINITY BY SM2320B**

MBLK Sample ID: **WBLKW1-201016** Units: **mg/L** Analysis Date: **16-Oct-2020 19:12**
Client ID: Run ID: **ManTech01_370718** SeqNo: **5786720** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	5.00	5.00								U

LCS Sample ID: **LCS1-201016** Units: **mg/L** Analysis Date: **16-Oct-2020 19:20**
Client ID: Run ID: **ManTech01_370718** SeqNo: **5786721** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	1030	5.00	1000	0	103	85 - 115				

LCSD Sample ID: **LCSD1-201016** Units: **mg/L** Analysis Date: **16-Oct-2020 19:29**
Client ID: Run ID: **ManTech01_370718** SeqNo: **5786722** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	1037	5.00	1000	0	104	85 - 115	1030	0.636	20	

DUP Sample ID: **HS20100868-02DUP** Units: **mg/L** Analysis Date: **16-Oct-2020 19:41**
Client ID: Run ID: **ManTech01_370718** SeqNo: **5786724** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	127.3	5.00					123.9	2.7	20	

The following samples were analyzed in this batch: HS20100779-01 HS20100779-02 HS20100779-04 HS20100779-05 HS20100779-06

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: HS20100779

QC BATCH REPORT

Batch ID: R370723 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK-101520** Units: **mg/L** Analysis Date: **15-Oct-2020 20:16**
Client ID: Run ID: **ICS-Integrion_370723** SeqNo: **5787171** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	0.100	0.100								U
Nitrogen, Nitrate (As N)	0.100	0.100								U

LCS Sample ID: **LCS-101520** Units: **mg/L** Analysis Date: **15-Oct-2020 20:34**
Client ID: Run ID: **ICS-Integrion_370723** SeqNo: **5787172** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	4.06	0.100	4	0	101	80 - 120				
Nitrogen, Nitrate (As N)	4.033	0.100	4	0	101	80 - 120				

MS Sample ID: **HS20100754-03MS** Units: **mg/L** Analysis Date: **15-Oct-2020 20:52**
Client ID: Run ID: **ICS-Integrion_370723** SeqNo: **5787173** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	2.571	0.100	2	0.6885	94.1	80 - 120				
Nitrogen, Nitrate (As N)	2.556	0.100	2	0.5605	99.8	80 - 120				

MSD Sample ID: **HS20100754-03MSD** Units: **mg/L** Analysis Date: **15-Oct-2020 21:10**
Client ID: Run ID: **ICS-Integrion_370723** SeqNo: **5787174** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	2.539	0.100	2	0.6885	92.5	80 - 120	2.571	1.25	20	
Nitrogen, Nitrate (As N)	2.549	0.100	2	0.5605	99.4	80 - 120	2.556	0.286	20	

The following samples were analyzed in this batch: HS20100779-01 HS20100779-02 HS20100779-04 HS20100779-05 HS20100779-06

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: HS20100779

QC BATCH REPORT

Batch ID: R371460 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK-102720** Units: **mg/L** Analysis Date: **28-Oct-2020 08:33**
Client ID: Run ID: **ICS-Integrion_371460** SeqNo: **5804154** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	0.500	0.500								U

LCS Sample ID: **LCS-102720** Units: **mg/L** Analysis Date: **28-Oct-2020 08:51**
Client ID: Run ID: **ICS-Integrion_371460** SeqNo: **5804155** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	18.05	0.500	20	0	90.2	80 - 120				

MS Sample ID: **HS20100779-02MS** Units: **mg/L** Analysis Date: **28-Oct-2020 07:03**
Client ID: **16WW26-201014** Run ID: **ICS-Integrion_371460** SeqNo: **5804149** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	447.3	5.00	100	374.5	72.8	80 - 120				S

MSD Sample ID: **HS20100779-02MSD** Units: **mg/L** Analysis Date: **28-Oct-2020 07:21**
Client ID: **16WW26-201014** Run ID: **ICS-Integrion_371460** SeqNo: **5804150** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	447.8	5.00	100	374.5	73.3	80 - 120	447.3	0.12	20	S

The following samples were analyzed in this batch: HS20100779-01 HS20100779-02 HS20100779-04 HS20100779-05 HS20100779-06

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: HS20100779

QC BATCH REPORT

Batch ID: R371570 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK-102820** Units: **mg/L** Analysis Date: **28-Oct-2020 11:27**
Client ID: Run ID: **ICS-Integrion_371570** SeqNo: **5806771** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	0.100	0.100								U

LCS Sample ID: **LCS-102820** Units: **mg/L** Analysis Date: **28-Oct-2020 11:45**
Client ID: Run ID: **ICS-Integrion_371570** SeqNo: **5806772** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	3.851	0.100	4	0	96.3	80 - 120				

MS Sample ID: **HS20100780-04MS** Units: **mg/L** Analysis Date: **29-Oct-2020 07:15**
Client ID: Run ID: **ICS-Integrion_371570** SeqNo: **5806778** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	24.04	1.00	20	4.767	96.4	80 - 120				

MSD Sample ID: **HS20100780-04MSD** Units: **mg/L** Analysis Date: **29-Oct-2020 07:33**
Client ID: Run ID: **ICS-Integrion_371570** SeqNo: **5806779** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	23.89	1.00	20	4.767	95.6	80 - 120	24.04	0.63	20	

The following samples were analyzed in this batch: HS20100779-03 HS20100779-07 HS20100779-08 HS20100779-09

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: **HS20100779**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	20-030-0	26-Mar-2021
California	2919, 2020-2021	30-Apr-2021
Dept of Defense	PJLA L20-507	22-Dec-2021
Florida	E87611-30-07/01/2020	30-Jun-2021
Illinois	2000322020-4	09-May-2021
Kansas	E-10352 2020-2021	31-Jul-2021
Kentucky	123043, 2020-2021	30-Apr-2021
Louisiana	03087, 2020-2021	30-Jun-2021
North Carolina	624-2020	31-Dec-2020
North Dakota	R-193 2020-2021	30-Apr-2021
Texas	T104704231-20-26	30-Apr-2021

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
Work Order: HS20100779

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20100779-01	16WW25-201014	Login	10/15/2020 2:32:33 PM	JRM	Sub
HS20100779-01	16WW25-201014	Login	10/15/2020 2:32:33 PM	JRM	WET083
HS20100779-01	16WW25-201014	Login	10/15/2020 2:32:33 PM	JRM	VOA155
HS20100779-01	16WW25-201014	Login	10/15/2020 2:32:33 PM	JRM	RSK001
HS20100779-01	16WW25-201014	Login	10/15/2020 2:32:33 PM	JRM	Sub

ALS Houston, US Date: 29-Oct-20

Sample Receipt Checklist

Work Order ID: HS20100779 **Date/Time Received:** **15-Oct-2020 09:10**

Client Name: CBI-Houston **Received by:** **Jared R. Makan**

Completed By:	/S/ Jared R. Makan	15-Oct-2020 18:43	**Reviewed by:**	/S/ RJ Modashia	16-Oct-2020 14:46
	eSignature	Date/Time		eSignature	Date/Time

Matrices: **Water** Carrier name: **ALS Courier**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	2 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	1.4°C/1.4°C UC/C	IR31
Cooler(s)/Kit(s):	43908	
Date/Time sample(s) sent to storage:	10/15/2020 18:45	

Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd. Suite 210 Houston, TX. 77099 (281)530-5656 ATTN: R.J Modashia

Project: APTIM
LONGHORN ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No. 501032

Job: **LHAAP 16 October 2020**

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D. / Time	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (bromide, sulfate, nitrate) by SW9056 and Alkalinity by SM2320	Bromide by SW9056	Perchlorate by SW6850	Metals (arsenic, chromium, manganese, nickel, thallium) by SW6020				Remarks (Preservatives, etc.)	Lab I.D.#
16WW25-201014	WG	10/14/20/0740		10	X	X	X	X	X	X						
16WW26-201014	WG	10/14/20/0825		10	X	X	X	X	X	X						
16WW30-201014	WG	10/14/20/0920		7	X	X			X	X						
16WW29-201014	WG	10/14/20/1005		10	X	X	X	X	X	X						
16WW22-201014	WG	10/14/20/1055		10	X	X	X	X	X	X						
16WW41-201014	WG	10/14/20/1145		10	X	X	X	X	X	X						
16WW21-201014	WG	10/14/20/1235		7	X	X			X	X						
16WW21-201014-FD	WG	10/14/20/1235		7	X	X			X	X						

Additional Remarks: Standard TAT on all parameters. Please email results to Susan.Huang@aptim.com and invoices to fedinvoices@aptim.com

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	10/14/20	1430									

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
J. Mercer	10/15/20	09:10							

Remarks: Cooler 43908 IR31
Temp 1.4°C CF 0

HS20100779

Aptim Environmental & Infrastucture, Inc.
LHAAP 16 October 2020

(Word) S:\U-ces\Forms\Chain of Custody - BiWeekly

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd. Suite 210 Houston, TX. 77099 (281)530-5656 ATTN: R.J Modashia

Project: APTIM
LONGHORN ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No. 501032

Job: **LHAAP 16 October 2020**

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D. / Time	Sample Matrix	Date /	MS / MSD	No. OF CONTAINERS	VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (bromide, sulfate, nitrate) by SW9056 and Alkalinity by SM2320	Bromide by SW9056	Perchlorate by SW6850	Metals (arsenic, chromium, manganese, nickel, thallium) by SW6020				Remarks (Preservatives, etc.)	Lab I.D.#
					Analyses											
16WW39-201014	WG	10/14/20/1325		7	X	X			X	X						
TRIP BLANK-201014	W	10/14/20		2	X											

Additional Remarks: **Standard TAT on all parameters. Please email results to Susan.Huang@aptim.com and invoices to fedinvoices@aptim.com**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	10/14/20	1430									

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
J. WHITNEY	10/15/20	09:10							

Remarks:

HS20100779

Aptim Environmental & Infrastucture, Inc.
LHAAP 16 October 2020

(Word) S:\Forms\Chain of Custody - BiWeekly

ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

43908

CUSTODY SEAL

Date: 10/14/20 Time: 1400
Name: Scott Beesinger
Company: BHHTS

Seal Broken By:
Date: 10/15/20

43908

Must Deliver Next Business Day
Time and Tempature Sensitive!

ORIGIN ID:SGRA (903) 930 8199
SCOTT BEESINGER
APTIM
1209 B EAST GRAND AVE.
PMB202
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 23JUN20
ACTWGT: 1.00 LB MAN
CAD: 3000130/CAFE3211
DIMS: 19x16x13 IN

TO CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099
(281) 530-5656
REF: LHAAP 16 - B072394 - RJ
RMA:

FedEx Express

FedEx
TRK# 0221 1891 8877 8369

THU - 15 OCT AA
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US
IAH

FID: 162785 140ct2020 CGGA 56D6/A07E/85A2

October 22, 2020 Service Request No:E2000996

RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Suite 210
Houston, TX 77099-4338

Laboratory Results for: HS20100779

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory October 16, 2020
For your reference, these analyses have been assigned our service request number **E2000996.**

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

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Corey Grandits
Project Manager

ADDRESS 10450 Stancliff Rd., Suite 210, Houston, TX 77099
PHONE +1 281 530 5656 | FAX +1 281 530 5887
ALS Group USA, Corp.
dba ALS Environmental

Certificate of Analysis

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

ALS Environmental

Client:	ALS Houston	**Service Request No.:**	E2000996
Project:	HS20100779	**Date Received:**	10/16/20
Sample Matrix:	W		

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Nine samples were received for analysis at ALS Environmental in Houston on 10/16/20.

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

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2000513: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in addition to a MS/MSD for this extraction batch. The LCS and DLCS recoveries are within QC limits. The MS/MSD was performed on an unrelated sample.

DoD Certification is held for the method/matrix/analytes provided in this report.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

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

Client: ALS Environmental - US **Service Request:**E2000996
Project: HS20100779

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2000996-001	16WW25-201014	10/14/2020	0735
E2000996-002	16WW26-201014	10/14/2020	0825
E2000996-003	16WW30-201014	10/14/2020	0920
E2000996-004	16WW29-201014	10/14/2020	1005
E2000996-005	16WW22-201014	10/14/2020	1055
E2000996-006	16WW41-201014	10/14/2020	1145
E2000996-007	16WW21-201014	10/14/2020	1235
E2000996-008	16WW21-201014-FD	10/14/2020	1235
E2000996-009	16WW39-201014	10/14/2020	1325

Service Request Summary

Folder #: **E2000996**
Client Name: ALS Environmental - US
Project Name: HS20100779
Project Number:

Report To: RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 10/16/20
Internal Due Date: 10/29/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: N
Report to MDL?: Y
P.O. Number: HS20100779
EDD: No EDD Specified

9 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 10D
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2000996-001	16WW25-201014	Water	10/14/20 0735	**IV**
E2000996-002	16WW26-201014	Water	10/14/20 0825	**IV**
E2000996-003	16WW30-201014	Water	10/14/20 0920	**IV**
E2000996-004	16WW29-201014	Water	10/14/20 1005	**IV**
E2000996-005	16WW22-201014	Water	10/14/20 1055	**IV**
E2000996-006	16WW41-201014	Water	10/14/20 1145	**IV**
E2000996-007	16WW21-201014	Water	10/14/20 1235	**IV**
E2000996-008	16WW21-201014-FD	Water	10/14/20 1235	**IV**
E2000996-009	16WW39-201014	Water	10/14/20 1325	**IV**

Service Request Summary

Folder #: **E2000996**
Client Name: ALS Environmental - US
Project Name: HS20100779
Project Number:

Report To: RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
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Date Received: 10/16/20
Internal Due Date: 10/29/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: N
Report to MDL?: Y
P.O. Number: HS20100779
EDD: No EDD Specified

9 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 10D
Pressure Gas:

Test Comments:

Group	Test/Method	Samples	Comments
Semivoa GCMS	ClO4 DOD/6850	9	Level II due 10/29,level IV 11/5

Data Qualifiers

Lab Standard

+	Possible Tedlar bag artifact.
A	TIC is a suspected aldol-condensation product
B	Analyte found in the associated method blank as well as in the sample.
BC	Reported results are not blank corrected.
BH	The back section of the tube yielded higher results than the front.
BT	Results indicated possible breakthrough; back section >=10% front section.
C	Result identification confirmed.
D	Compound identified in an analysis at a secondary dilution factor
D	Spike was diluted out
DE	Reported results are corrected for desorption efficiency.
E	Estimated value. Concentration above calibration range
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
H1	Sample analysis performed past holding time. See case narrative.
H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
H3	Sample was received and analyzed past holding time.
H4	Sample was extracted past required extraction holding time, but analyzed within analysis holding time. See case narrative.
I	Internal standard not within the specified limits. See case narrative.
J	Estimated Value. Concentration found below MRL.
K	A deflection in the QC ion may indicate interference with the quantitation of this ion. The concentration of this analyte should be considered as an estimate.
K	Analyte was detected above the method reporting limit prior to normalization.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
L1	Laboratory control sample recovery outside the specified limits; results may be biased high.
L2	Laboratory control sample recovery outside the specified limits; results may be biased low.
L3	Laboratory control sample recovery outside the specified limits.
M	Matrix interference; results may be biased high.
M	The duplicate injection precision not met.
M1	Matrix interference due to coelution with a non-target compound; results may be biased high.
N	Presumptive evidence of a compound for TICs that have been identified based on a mass spectral library search.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.

Data Qualifiers

Lab Standard

P	Indicates chlorodiphenyl ether interference present at the retention time of the target compound.
P	Pesticide/Aroclor target analyte > 40% difference for detected concentrations between GC columns
Q	Indicates as estimated value because the P and P + 2 theoretical abundance ratio does not meet method criteria.
R	Duplicate Precision not met.
R1	Duplicate precision not within the specified limits; however, the results are below the MRL and considered estimated.
S	Surrogate recovery not within specified limits.
S	The reported value was determined by the Method of Standard Additions (MSA).
T	Analyte is a tentatively identified compound, result is estimated.
U	Compound was analyzed for, but was not detected (ND).
V1	The continuing calibration verification standard was outside (biased high) the specified limits for this compound.
V2	The continuing calibration verification standard was outside (biased low) the specified limits for this compound.
W	Result quantified, but the corresponding peak was detected outside the generated retention time window.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
X	See case narrative.
Y	Recovery outside limits
Y	The chromatogram resembles a petroleum product but does not match the calibration standard.
Z	The chromatogram does not resemble a petroleum product.
i	The MRL/MDL has been elevated due to a matrix interference.

ALS Laboratory Group

Acronyms

Cal	Calibration
Conc	CONCentration
Dioxin(s)	Polychlorinated dibenzo-p-dioxin(s)
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
Flags	Data qualifiers
Furan(s)	Polychlorinated dibenzofuran(s)
g	Grams
ICAL	Initial CALibration
ID	IDentifier
Ions	Masses monitored for the analyte during data acquisition
L	Liter (s)
LCS	Laboratory Control Sample
DLCS	Duplicate Laboratory Control Sample
MB	Method Blank
MCL	Method Calibration Limit
MDL	Method Detection Limit
mL	Milliliters
MS	Matrix Spiked sample
DMS	Duplicate Matrix Spiked sample
NO	Number of peaks meeting all identification criteria
PCDD(s)	Polychlorinated dibenzo-p-dioxin(s)
PCDF(s)	Polychlorinated dibenzofuran(s)
ppb	Parts per billion
ppm	Parts per million
ppq	Parts per quadrillion
ppt	Parts per trillion
QA	Quality Assurance
QC	Quality Control
Ratio	Ratio of areas from monitored ions for an analyte
% Rec.	Percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
SDG	Sample Delivery Group
S/N	Signal-to-noise ratio
TEF	Toxicity Equivalence Factor
TEQ	Toxicity Equivalence Quotient

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ALS Environmental

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
American Association for Laboratory Accreditation	2897.01 2020	11/30/2021
Arizona Department of Health Services	AZ0793-2020	5/27/2021
Arkansas Department of Environmental Quality	20-030-0	3/26/2021
California Department of Health Services	2919-2020	4/30/2021
Department of Defense	A2LA 2897.01	11/30/2021
Florida Department of Health	E87611-2020	6/30/2021
Hawaii Department of Health	2020	4/30/2021
Illinois Environmental Protection Agency	2000322020-4	5/9/2021
Kansas Department of Health and Environment	E-10352-2020	7/31/2021
Louisiana Department of Environmental Quality	03087-2020	6/30/2021
Louisiana Department of Health and Hospitals	LA028-2020	12/31/2020
Maine Department of Health and Human Services	2020016	6/5/2022
Maryland Department of the Environment	343-2020	6/30/2021
Michigan Depratment of Environmental Quality	9971-2020	4/30/2021
Minnesota Department of Health	1785988	12/31/2020
Nebraska Department of Health and Human Services	NE-OS-25-13 (2020)	4/30/2021
Nevada Department of Concervation and Natural Resources	TX026932021-1	7/31/2021
New Hampshire Environmental Laboratory Accreditation Program	209420	4/24/2021
New Jersey Department of Environmental Protection	TX008	6/30/2021
New York Department of Health	11707	3/31/2021
Oklahoma Department of Environmental Quality	2020-123	8/31/2021
Pennsylvania Department of Environmental Protection	014	6/30/2021
Tennessee Department of Environment and Concervation	04016-2020	4/30/2021
Texas Commision on Environmental Quality	T104704231-20-26	4/30/2021
United States Department of Agriculture	P330-19-00299	10/10/2022
Washington Department of Health	C819	11/14/2020

Chain of Custody

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID: 14951**

SUBCONTRACT TO:

ALS Environmental
10450 Stancliff RoadSuite 210
Houston, TX 77084

Phone: +1 281 530 5656

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	RJ Modashia
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	RJ.Modashia@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS20100779
TSR:	Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20100779-01**	**16WW25-201014**	**Groundwater**	**14 Oct 2020 07:40**
	SUB_Perch-6850			22 Oct 2020
2.	**HS20100779-02**	**16WW26-201014**	**Groundwater**	**14 Oct 2020 08:25**
	SUB_Perch-6850			22 Oct 2020
3.	**HS20100779-03**	**16WW30-201014**	**Groundwater**	**14 Oct 2020 09:20**
	SUB_Perch-6850			22 Oct 2020
4.	**HS20100779-04**	**16WW29-201014**	**Groundwater**	**14 Oct 2020 10:05**
	SUB_Perch-6850			22 Oct 2020
5.	**HS20100779-05**	**16WW22-201014**	**Groundwater**	**14 Oct 2020 10:55**
	SUB_Perch-6850			22 Oct 2020
6.	**HS20100779-06**	**16WW41-201014**	**Groundwater**	**14 Oct 2020 11:45**
	SUB_Perch-6850			22 Oct 2020
7.	**HS20100779-07**	**16WW21-201014**	**Groundwater**	**14 Oct 2020 12:35**
	SUB_Perch-6850			22 Oct 2020
8.	**HS20100779-08**	**16WW21-201014-FD**	**Groundwater**	**14 Oct 2020 12:35**
	SUB_Perch-6850			22 Oct 2020
9.	**HS20100779-09**	**16WW39-201014**	**Groundwater**	**14 Oct 2020 13:25**

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID: 14951**

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
ANALYSIS REQUESTED			DUE DATE
SUB_Perch-6850			22 Oct 2020

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: DOD IV (DoD Data Package)

Relinquished By: _____ Date/Time: _____

Received By: _____ Date/Time: _____

Cooler ID(s): _____ Temperature(s): _____

ALS Environmental

Cooler Receipt Form

Project Chemist CG

Client/Project ALS-H

Thermometer ID 1051

Date/Time Received: 10/16/20

Initials: CG

Date/Time Logged in: 10/16/20

Initials CG

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ✓ ALS Courier ○ Client

2. Samples received in: ✓ Cooler ○ Box ○ Envelope ○ Other

3. Were custody seals on coolers? ○ Yes ✓ No

If yes, how many and where?

Were they intact? ○ Yes ○ No ✓ N/A

Were they signed and dated? ○ Yes ○ No ✓ N/A

4. Packing Material: ○ Inserts ✓ Baggies ○ Bubble Wrap ○ Gel Packs ✓ Wet Ice ○ Sleeves ○ Other

5. Foreign or Regulated Soil? ○ Yes ✓ No Location of Sampling:

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
-		10/16/20	1100	CG	1.1	☒
						☐
						☐
						☐

6. Were custody papers properly filled out (ink, signed, dated, etc)? ✓ Yes ○ No

7. Did all bottles arrive in good condition (not broken, no signs of leakage)? ✓ Yes ○ No

8. Were all sample labels complete (i.e., sample ID, analysis, preservation, etc)? ✓ Yes ○ No

9. Were appropriate bottles/containers and volumes received for the requested tests? ✓ Yes ○ No

10. Did sample labels and tags agree with custody documents? ✓ Yes ○ No

Notes, Discrepancies, & Resolutions:

Service request Label:

10450 Stancliff Rd., Suite 210
Houston, TX 77099
T: +1 713 266 1599
F: +1 713 266 1599
www.alsglobal.com

SAMPLE ACCEPTANCE POLICY

This policy outlines the criteria samples must meet to be accepted by ALS Environmental – Houston HRMS.

Cooler Custody Seals (desirable, mandatory if specified in SAP):

- ✓ Intact on outside of cooler, signed and dated

Chain-of-Custody (COC) documentation (mandatory):

The following is required on each COC:

- ✓ Sample ID, the location, date and time of collection, collector's name, preservation type, sample type, and any other special remarks concerning the sampleThe COC must be completed in ink.
- ✓ Signature and date of relinquishing party.

In the absence of a COC at sample receipt, the COC will be requested from the client.

Sample Integrity (mandatory):

Samples are inspected upon arrival to ensure that sample integrity was not compromised during transfer to the laboratory.

- ✓ Sample containers must arrive in good condition (not broken or leaking).
- ✓ Samples must be labeled appropriately, including Sample IDs, and requested test using durable labels and indelible ink.
- ✓ The correct type of sample bottle must be used for the method requested.
- ✓ An appropriate sample volume, or weight, must be received.
- ✓ Sample IDs and number of containers must reconcile with the COC.
- ✓ Samples must be received within the method defined holding time.

Temperature Requirement (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6ºC.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10ºC.
- ✓ Air samples are shipped and stored cold, at 0 to 6ºC
- ✓ The sample temperature must be recorded on the COC

All cooler inspections are documented on the Cooler Receipt Form (CRF). A separate CRF is completed for each service request. Any samples not meeting the above criteria are noted on the CRF and the Project Manager notified. The Project Manager must resolve any sample integrity issues with the client prior to proceeding with the analysis. Such resolutions are documented in writing and filed with the project folder. Data associated with samples received outside of this acceptance policy will be qualified on the case narrative of the final report

Preparation Information Benchsheets

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

Preparation Information Benchsheet

Prep Run#: 368005 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 10/19/20 09:34

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2000981-001	LH18/24-SP650_101320-AIX	.01	6850/ClO4 DOD			Water	10mL	
2	E2000982-001	LH18/24-SP140_101320	.01	6850/ClO4 DOD			Water	10mL	
3	E2000984-001	LH18/24-SP650_101320-AIX	.01	6850/ClO4 DOD			Water	10mL	
4	E2000985-001	16WW36-201013	.01	6850/ClO4 DOD			Water	10mL	
5	E2000985-002	16WW35-201013	.01	6850/ClO4 DOD			Water	10mL	
6	E2000985-003	16IW09-201013	.01	6850/ClO4 DOD			Water	10mL	
7	E2000985-004	16WW55-201013	.01	6850/ClO4 DOD			Water	10mL	
8	E2000985-005	16IW03-201013	.01	6850/ClO4 DOD			Water	10mL	
9	E2000985-006	16IW10-201013	.01	6850/ClO4 DOD			Water	10mL	
10	E2000996-001	16WW25-201014	.01	6850/ClO4 DOD			Water	10mL	
11	E2000996-002	16WW26-201014	.01	6850/ClO4 DOD			Water	10mL	
12	E2000996-003	16WW30-201014	.01	6850/ClO4 DOD			Water	10mL	
13	E2000996-004	16WW29-201014	.01	6850/ClO4 DOD			Water	10mL	
14	E2000996-005	16WW22-201014	.01	6850/ClO4 DOD			Water	10mL	
15	E2000996-006	16WW41-201014	.01	6850/ClO4 DOD			Water	10mL	
16	E2000996-007	16WW21-201014	.01	6850/ClO4 DOD			Water	10mL	
17	E2000996-008	16WW21-201014-FD	.01	6850/ClO4 DOD			Water	10mL	
18	E2000996-009	16WW39-201014	.01	6850/ClO4 DOD			Water	10mL	
19	EQ2000513-01	MB		6850/ClO4 DOD			Liquid	10mL	
20	EQ2000513-02	LCS		6850/ClO4 DOD			Liquid	10mL	
21	EQ2000513-03	DLCS		6850/ClO4 DOD			Liquid	10mL	
22	EQ2000513-04	16IW03-201013 MS	.01	6850/ClO4 DOD			Liquid	10mL	
23	EQ2000513-05	16IW03-201013 DMS	.01	6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 209764 Logbook Ref: Perchlorate Int. Stock1 51820 Expires On: 11/18/2020

EQ2000513-02	1.00µL	EQ2000513-03	1.00µL	EQ2000513-04	1.00µL	EQ2000513-05	1.00µL

Name: Sodium Perchlorate 1 ug/mL (IS) (18-O) as CLO4 Inventory ID 212340 Logbook Ref: Sodium Perchlorate Expires On: 07/13/2022

E2000981-001	100.00µL	E2000982-001	100.00µL	E2000984-001	100.00µL	E2000985-001	100.00µL	E2000985-002	100.00µL	E2000985-003	100.00µL
E2000985-004	100.00µL	E2000985-005	100.00µL	E2000985-006	100.00µL	E2000996-001	100.00µL	E2000996-002	100.00µL	E2000996-003	100.00µL
E2000996-004	100.00µL	E2000996-005	100.00µL	E2000996-006	100.00µL	E2000996-007	100.00µL	E2000996-008	100.00µL	E2000996-009	100.00µL
EQ2000513-01	100.00µL	EQ2000513-02	100.00µL	EQ2000513-03	100.00µL	EQ2000513-04	100.00µL	EQ2000513-05	100.00µL		

Preparation Information Benchsheet

Prep Run#: 368005 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 10/19/20 09:34

Preparation Steps

Step: Preparation
Started: 10/19/20 09:34
Finished: 10/19/20 14:58
By: GRIVERA
Comments

Comments: _____

Reviewed By: GR Date: 10/19/2020

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Analytical Results

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	10/14/20 0735
Sample Matrix:	Water	**Date Received:**	10/16/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/19/20 22:13
Sample Name:	16WW25-201014	**Units:**	µg/L
Lab Code:	E2000996-001	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700168
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201019\20201019_056	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**0.0770**	J	0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	10/14/20 0825
Sample Matrix:	Water	**Date Received:**	10/16/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/19/20 22:21
Sample Name:	16WW26-201014	**Units:**	µg/L
Lab Code:	E2000996-002	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700168
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201019\20201019_057	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	ND	U	0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	10/14/20 0920
Sample Matrix:	Water	**Date Received:**	10/16/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/21/20 11:58
Sample Name:	16WW30-201014	**Units:**	µg/L
Lab Code:	E2000996-003	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700177
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201021\20201021_019	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	ND	U	0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	10/14/20 1005
Sample Matrix:	Water	**Date Received:**	10/16/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/19/20 22:37
Sample Name:	16WW29-201014	**Units:**	µg/L
Lab Code:	E2000996-004	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700168
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201019\20201019_059	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	ND	U	0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	10/14/20 1055
Sample Matrix:	Water	**Date Received:**	10/16/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/21/20 12:06
Sample Name:	16WW22-201014	**Units:**	µg/L
Lab Code:	E2000996-005	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700177
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201021\20201021_020	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	ND	U	0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	10/14/20 1145
Sample Matrix:	Water	**Date Received:**	10/16/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/20/20 21:55
Sample Name:	16WW41-201014	**Units:**	µg/L
Lab Code:	E2000996-006	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700170
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201020\20201020_046	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	5

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**81.2**		0.500	0.250	0.125	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	10/14/20 1235
Sample Matrix:	Water	**Date Received:**	10/16/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/19/20 23:09
Sample Name:	16WW21-201014	**Units:**	µg/L
Lab Code:	E2000996-007	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700168
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201019\20201019_063	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	ND	U	0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	10/14/20 1235
Sample Matrix:	Water	**Date Received:**	10/16/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/19/20 23:16
Sample Name:	16WW21-201014-FD	**Units:**	µg/L
Lab Code:	E2000996-008	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700168
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201019\20201019_064	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	ND	U	0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	10/14/20 1325
Sample Matrix:	Water	**Date Received:**	10/16/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/21/20 12:48
Sample Name:	16WW39-201014	**Units:**	µg/L
Lab Code:	E2000996-009	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700177
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201021\20201021_023	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	2

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**1.08**		0.200	0.100	0.0500	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	10/19/20
		Date Analyzed:	10/19/20 20:15
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000513-01	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700168
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201019\20201019_041	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	ND	U	0.100	0.0500	0.0250	

Accuracy & Precision

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ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20100779
Sample Matrix: Water

Service Request: E2000996
Date Analyzed: 10/20/20

Lab Control Sample Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Units: µg/L
Basis: NA

Extraction Lot: 368005

	Lab Control Sample EQ2000513-02			Duplicate Lab Control Sample EQ2000513-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.105	0.100	105	0.108	0.100	108	84 - 119	3	15

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

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

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	10/19/20
		Date Analyzed:	10/20/20 20:04
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000513-02	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700170
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201020\20201020_032	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**0.105**		0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	10/19/20
		Date Analyzed:	10/20/20 20:12
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000513-03	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700170
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201020\20201020_033	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**0.108**		0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Analyzed:	10/20/20

Matrix Spike Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Sample Name:	Batch QC	**Units:**	µg/L
Lab Code:	E2000985-005	**Basis:**	NA

Analytical Method: 6850
Prep Method: Method

		Batch QCMS			Batch QCDMS					
		Matrix Spike			**Duplicate Matrix Spike**					
		EQ2000513-04			EQ2000513-05					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.0876	0.194	0.100	106	0.193	0.100	105	84 - 119	<1	15

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

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

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

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	10/19/20
		Date Analyzed:	10/20/20 20:20
Sample Name:	Batch QC	**Units:**	µg/L
Lab Code:	EQ2000513-04	**Basis:**	NA
Run Type:	Matrix Spike		

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700170
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201020\20201020_034	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**0.194**		0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	10/19/20
		Date Analyzed:	10/20/20 20:28
Sample Name:	Batch QC	**Units:**	µg/L
Lab Code:	EQ2000513-05	**Basis:**	NA
Run Type:	Duplicate Matrix Spike		

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700170
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201020\20201020_035	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**0.193**		0.100	0.0500	0.0250	

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October 22, 2020

Analytical Report for Service Request No: K2009424

RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Suite 210
Houston, TX 77099-4338

RE: HS20100779

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory October 16, 2020
For your reference, these analyses have been assigned our service request number **K2009424.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3350. You may also contact me via email at Kelley.Lovejoy@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Kelley Lovejoy

Kelley Lovejoy
Project Manager

RIGHT SOLUTIONS | RIGHT PARTNER

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Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjlabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water-	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Case Narrative

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1317 South 13th Ave, Kelso, WA 98626 | 1-360-577-7222 | www.alsglobal.com

Client: ALS Environmental - US
Project: HS20100779
Sample Matrix: Ground Water

Service Request: K2009424
Date Received: 10/16/2020

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier level II requested by the client.

Sample Receipt:

Nine ground water samples were received for analysis at ALS Environmental on 10/16/2020. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

General Chemistry:

Method SM 5310 C, 10/19/2020: The matrix spike recovery of Total Organic Carbon for sample 16WW25-201014 was outside control criteria. Recovery in the Laboratory Control Sample (LCS) was acceptable, which indicated the analytical batch was in control. The matrix spike outlier suggested a potential low bias in this matrix. No further corrective action was appropriate.

Approved by Kelley Lovejoy Date 10/22/2020

Chain of Custody

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K2009424

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Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14949**

SUBCONTRACT TO:

ALS Environmental Kelso
1317 S. 13th Avenue
Kelso, WA 98626

Phone: +1 360 501 3312

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	RJ Modashia
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	RJ.Modashia@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS20100779
TSR:	Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20100779-01**	**16WW25-201014**	**Groundwater**	**14 Oct 2020 07:40**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			22 Oct 2020
2.	**HS20100779-02**	**16WW26-201014**	**Groundwater**	**14 Oct 2020 08:25**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			22 Oct 2020
3.	**HS20100779-03**	**16WW30-201014**	**Groundwater**	**14 Oct 2020 09:20**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			22 Oct 2020
4.	**HS20100779-04**	**16WW29-201014**	**Groundwater**	**14 Oct 2020 10:05**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			22 Oct 2020
5.	**HS20100779-05**	**16WW22-201014**	**Groundwater**	**14 Oct 2020 10:55**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			22 Oct 2020
6.	**HS20100779-06**	**16WW41-201014**	**Groundwater**	**14 Oct 2020 11:45**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			22 Oct 2020
7.	**HS20100779-07**	**16WW21-201014**	**Groundwater**	**14 Oct 2020 12:35**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			22 Oct 2020
8.	**HS20100779-08**	**16WW21-201014-FD**	**Groundwater**	**14 Oct 2020 12:35**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			22 Oct 2020
9.	**HS20100779-09**	**16WW39-201014**	**Groundwater**	**14 Oct 2020 13:25**

Received By Nlederson ALS 10/16/20 0950

K2009424

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14949**

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
ANALYSIS REQUESTED			DUE DATE
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD		22 Oct 2020

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: DOD IV (DoD Data Package)

Relinquished By:	J. Mahaffey	Date/Time:	10/15/20 18:00
Received By:	N Pedersen	Date/Time:	10/16/20 0950
Cooler ID(s):		Temperature(s):	

PM KL

Cooler Receipt and Preservation Form

Client ALS Houston Service Request K2094124

Received: 10/16/20 Opened: 10/16/20 By: AK Unloaded: 10/16/20 By: AK

1. Samples were received via? *USPS* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 2 Front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Was a Temperature Blank present in cooler? NA (Y) N If yes, notate the temperature in the appropriate column below:
   If no, take the temperature of a representative sample bottle contained within the cooler; notate in the column "Sample Temp":
5. Were samples received within the method specified temperature ranges? NA (Y) N
   If no, were they received on ice and same day as collected? If not, notate the cooler # below and notify the PM. (NA) Y N

If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*

Temp Blank	Sample Temp	IR Gun	Cooler #/COC ID / NA	Out of temp indicate with "X"	PM Notified If out of temp	Tracking Number NA	Filed
0.6	—	IR02		—	—	7891 8881 5860	
			14949				
			14945				

6. Packing material: *Inserts* (*Baggies*) (*Bubble Wrap*) *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* _____
7. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
8. Were samples received in good condition (unbroken) NA (Y) N
9. Were all sample labels complete (ie, analysis, preservation, etc.)? NA (Y) N
10. Did all sample labels and tags agree with custody papers? NA (Y) N
11. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
12. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
13. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
14. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, Resolutions: _____

General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	K2009424
Project:	HS20100779	**Date Collected:**	10/14/20
Sample Matrix:	Ground Water	**Date Received:**	10/16/20
Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Carbon, Total Organic

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
16WW25-201014	K2009424-001	**27.7**	0.50	0.20	0.07	1	10/19/20 11:49	
16WW26-201014	K2009424-002	**2.11**	0.50	0.20	0.07	1	10/19/20 11:49	
16WW30-201014	K2009424-003	**2.13**	0.50	0.20	0.07	1	10/19/20 11:49	
16WW29-201014	K2009424-004	**11.2**	0.50	0.20	0.07	1	10/19/20 11:49	
16WW22-201014	K2009424-005	**0.81**	0.50	0.20	0.07	1	10/19/20 11:49	
16WW41-201014	K2009424-006	**40.8**	0.50	0.20	0.07	1	10/19/20 11:49	
16WW21-201014	K2009424-007	**0.58**	0.50	0.20	0.07	1	10/19/20 11:49	
16WW21-201014-FD	K2009424-008	**0.12 J**	0.50	0.20	0.07	1	10/19/20 11:49	
16WW39-201014	K2009424-009	**2.31**	0.50	0.20	0.07	1	10/19/20 11:49	
Method Blank	K2009424-MB	ND U	0.50	0.20	0.07	1	10/19/20 11:49	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2009424
Project	HS20100779	**Date Collected:**	10/14/20
Sample Matrix:	Ground Water	**Date Received:**	10/16/20
		Date Analyzed:	10/19/20

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	16WW25-201014	**Units:**	mg/L
Lab Code:	K2009424-001	**Basis:**	NA

Analyte Name	Analysis Method	LOQ	LOD	MDL	Sample Result	Duplicate Sample K2009424-001DUP Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	0.50	0.20	0.07	27.7	27.1	27.4	2	10

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

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

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

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2009424
Project:	HS20100779	**Date Collected:**	10/14/20
Sample Matrix:	Ground Water	**Date Received:**	10/16/20
		Date Analyzed:	10/19/20
		Date Extracted:	NA

Matrix Spike Summary
Carbon, Total Organic

Sample Name:	16WW25-201014	**Units:**	mg/L
Lab Code:	K2009424-001	**Basis:**	NA
Analysis Method:	SM 5310 C		
Prep Method:	None		

Matrix Spike
K2009424-001MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	27.7	48.1	25.0	82 *	83-117

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

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

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

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2009424
Project:	HS20100779	**Date Analyzed:**	10/19/20
Sample Matrix:	Ground Water	**Date Extracted:**	NA

Lab Control Sample Summary
Carbon, Total Organic

Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	700002

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2009424-LCS	23.9	25.0	95	83-117

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WorkOrder: HS20100779

LHAAP 16 October 2020

Aptim Environmental & Infrastucture, Inc.

Susan Huang
2500 City West Blvd., Suite 1700
Houston TX 77042

01-Dec-2020

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HS20100779 LHAAP 16 October 2020 Final

ALS WO# HS20100779

10450 Stancliff Rd. Suite 210
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T: +1 281 530 5656
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October 29, 2020

Susan Huang
Aptim Environmental & Infrastucture, Inc.
2500 City West Blvd., Suite 1700
Houston, TX 77042

Work Order: **HS20100779**

Laboratory Results for: **LHAAP 16 October 2020**

Dear Susan Huang,

ALS Environmental received 10 sample(s) on Oct 15, 2020 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL
RJ Modashia
Project Manager

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
Work Order: HS20100779

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20100779-01	16WW25-201014	Groundwater		14-Oct-2020 07:40	15-Oct-2020 09:10	☐
HS20100779-02	16WW26-201014	Groundwater		14-Oct-2020 08:25	15-Oct-2020 09:10	☐
HS20100779-03	16WW30-201014	Groundwater		14-Oct-2020 09:20	15-Oct-2020 09:10	☐
HS20100779-04	16WW29-201014	Groundwater		14-Oct-2020 10:05	15-Oct-2020 09:10	☐
HS20100779-05	16WW22-201014	Groundwater		14-Oct-2020 10:55	15-Oct-2020 09:10	☐
HS20100779-06	16WW41-201014	Groundwater		14-Oct-2020 11:45	15-Oct-2020 09:10	☐
HS20100779-07	16WW21-201014	Groundwater		14-Oct-2020 12:35	15-Oct-2020 09:10	☐
HS20100779-08	16WW21-201014-FD	Groundwater		14-Oct-2020 12:35	15-Oct-2020 09:10	☐
HS20100779-09	16WW39-201014	Groundwater		14-Oct-2020 13:25	15-Oct-2020 09:10	☐
HS20100779-10	Trip Blank	Water	CG 090120 -189	14-Oct-2020 00:00	15-Oct-2020 09:10	☐

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc. **CASE NARRATIVE**
Project: LHAAP 16 October 2020
Work Order: HS20100779

Work Order Comments

• Analysis of Perchlorate was performed by ALS Houston TX, High Resolution. Laboratory. Final report attached.

The analysis for TOC was subcontracted to ALS Environmental in Kelso WA. Final report attached.

GC Semivolatiles by Method RSK-175

Batch ID: R371090

Sample ID: HS20100719-05MS

• MS and MSD are for an unrelated sample

GCMS Volatiles by Method SW8260

Batch ID: R371099

Sample ID: 16WW26-201014 (HS20100779-02)

• 4-Bromofluorobenzene (Surrogate) and Toluene-d8 (Surrogate) exceeded recovery limit, compounds reported are not associated with these surrogates

Sample ID: 16WW39-201014 (HS20100779-09)

• Toluene-d8 (Surrogate) exceeded recovery limits. Compounds reported are not associated with this surrogate.

Sample ID: CCV-END

• Closing CCV exceeded %D recovery limits for some compounds.

Sample ID: HS20100714-01MS

• MS and MSD are for an unrelated sample

Batch ID: R371372

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SW9056

Batch ID: R371570

Sample ID: 16WW39-201014 (HS20100779-09)

• Sample ran at 2x due to high concentration of Chloride

Batch ID: R370723

Sample ID: 16WW25-201014 (HS20100779-01)

• Sample ran at 5X due to high concentration of Sulfate

Sample ID: 16WW29-201014 (HS20100779-04)

• Sample ran at 2X due to high concentration of Sulfate

Sample ID: 16WW41-201014 (HS20100779-06)

• Sample ran at 5X due to high concentration of Sulfate

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
Work Order: HS20100779

CASE NARRATIVE

WetChemistry by Method SW9056

Batch ID: R371460

Sample ID: 16WW26-201014 (HS20100779-02MS)

- The recovery of the Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) associated with this analyte was outside of the established control limits. However, the LCS was within control limits. The recovery of the MS/MSD may be due to sample matrix interference. (Sulfate)

WetChemistry by Method SM2320B

Batch ID: R370718

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
Sample ID: 16WW25-201014
Collection Date: 14-Oct-2020 07:40

ANALYTICAL REPORT
WorkOrder:HS20100779
Lab ID:HS20100779-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	26-Oct-2020 18:50
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 18:50
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 18:50
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 18:50
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	26-Oct-2020 18:50
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 18:50
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 18:50
Surr: 1,2-Dichloroethane-d4	*86.8*			**0**	*81-118*	*%REC*	*1*	*26-Oct-2020 18:50*
Surr: 4-Bromofluorobenzene	*86.2*			**0**	*85-114*	*%REC*	*1*	*26-Oct-2020 18:50*
Surr: Dibromofluoromethane	*89.3*			**0**	*80-119*	*%REC*	*1*	*26-Oct-2020 18:50*
Surr: Toluene-d8	*101*			**0**	*89-112*	*%REC*	*1*	*26-Oct-2020 18:50*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PVL
Ethane	0.000250	U	0.000144	0.000250	0.00100	mg/L	1	21-Oct-2020 11:10
Ethene	0.000500	U	0.000234	0.000500	0.00100	mg/L	1	21-Oct-2020 11:10
Methane	**0.0153**		**0.000107**	**0.000250**	**0.000500**	**mg/L**	1	21-Oct-2020 11:10
ALKALINITY BY SM2320B		**Method:SM2320B**						Analyst: TH
Alkalinity, Total (As CaCO3)	**52.7**	a	**5.00**	**5.00**	**5.00**	**mg/L**	1	16-Oct-2020 21:21
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**2.11**		**0.150**	**0.500**	**0.500**	**mg/L**	5	15-Oct-2020 22:58
Nitrogen, Nitrate (As N)	0.500	U	0.150	0.500	0.500	mg/L	5	15-Oct-2020 22:58
Sulfate	**5,270**		**40.0**	**100**	**100**	**mg/L**	200	28-Oct-2020 05:51
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	22-Oct-2020 13:19
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	23-Oct-2020 09:16

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
Sample ID: 16WW26-201014
Collection Date: 14-Oct-2020 08:25

ANALYTICAL REPORT
WorkOrder:HS20100779
Lab ID:HS20100779-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	22-Oct-2020 18:37
1,1-Dichloroethene	**2.5**		**0.20**	**0.50**	**1.0**	**UG/L**	1	22-Oct-2020 18:37
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	22-Oct-2020 18:37
cis-1,2-Dichloroethene	**78**		**0.20**	**0.50**	**1.0**	**UG/L**	1	22-Oct-2020 18:37
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	22-Oct-2020 18:37
Trichloroethene	**850**		**2.0**	**5.0**	**10**	**UG/L**	10	22-Oct-2020 18:58
Vinyl chloride	**1.9**		**0.20**	**0.50**	**1.0**	**UG/L**	1	22-Oct-2020 18:37
Surr: 1,2-Dichloroethane-d4	*105*			**0**	*81-118*	*%REC*	*1*	*22-Oct-2020 18:37*
Surr: 1,2-Dichloroethane-d4	*86.0*			**0**	*81-118*	*%REC*	*10*	*22-Oct-2020 18:58*
Surr: 4-Bromofluorobenzene	*85.9*			**0**	*85-114*	*%REC*	*1*	*22-Oct-2020 18:37*
Surr: 4-Bromofluorobenzene	*123*	*S*		**0**	*85-114*	*%REC*	*10*	*22-Oct-2020 18:58*
Surr: Dibromofluoromethane	*96.0*			**0**	*80-119*	*%REC*	*1*	*22-Oct-2020 18:37*
Surr: Dibromofluoromethane	*101*			**0**	*80-119*	*%REC*	*10*	*22-Oct-2020 18:58*
Surr: Toluene-d8	*99.6*			**0**	*89-112*	*%REC*	*1*	*22-Oct-2020 18:37*
Surr: Toluene-d8	*132*	*S*		**0**	*89-112*	*%REC*	*10*	*22-Oct-2020 18:58*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PVL
Ethane	0.000250	U	0.000144	0.000250	0.00100	mg/L	1	21-Oct-2020 11:51
Ethene	0.000500	U	0.000234	0.000500	0.00100	mg/L	1	21-Oct-2020 11:51
Methane	**0.00450**		**0.000107**	**0.000250**	**0.000500**	**mg/L**	1	21-Oct-2020 11:51
ALKALINITY BY SM2320B		**Method:SM2320B**						Analyst: TH
Alkalinity, Total (As CaCO3)	**38.4**	a	**5.00**	**5.00**	**5.00**	**mg/L**	1	16-Oct-2020 21:26
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**0.638**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	15-Oct-2020 23:52
Nitrogen, Nitrate (As N)	0.100	U	0.0300	0.100	0.100	mg/L	1	15-Oct-2020 23:52
Sulfate	**375**		**2.00**	**5.00**	**5.00**	**mg/L**	10	28-Oct-2020 06:45
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	22-Oct-2020 13:19
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	23-Oct-2020 09:16

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
Sample ID: 16WW30-201014
Collection Date: 14-Oct-2020 09:20

ANALYTICAL REPORT
WorkOrder:HS20100779
Lab ID:HS20100779-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	22-Oct-2020 16:31
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	22-Oct-2020 16:31
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	22-Oct-2020 16:31
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	22-Oct-2020 16:31
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	22-Oct-2020 16:31
Trichloroethene	**5.7**		**0.20**	**0.50**	**1.0**	**UG/L**	1	22-Oct-2020 16:31
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	22-Oct-2020 16:31
Surr: 1,2-Dichloroethane-d4	*110*			**0**	*81-118*	*%REC*	*1*	*22-Oct-2020 16:31*
Surr: 4-Bromofluorobenzene	*98.8*			**0**	*85-114*	*%REC*	*1*	*22-Oct-2020 16:31*
Surr: Dibromofluoromethane	*86.1*			**0**	*80-119*	*%REC*	*1*	*22-Oct-2020 16:31*
Surr: Toluene-d8	*93.3*			**0**	*89-112*	*%REC*	*1*	*22-Oct-2020 16:31*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**3.56**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	29-Oct-2020 09:22
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	22-Oct-2020 13:19
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	23-Oct-2020 09:16

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
Sample ID: 16WW29-201014
Collection Date: 14-Oct-2020 10:05

ANALYTICAL REPORT
WorkOrder:HS20100779
Lab ID:HS20100779-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	22-Oct-2020 16:52
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	22-Oct-2020 16:52
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	22-Oct-2020 16:52
cis-1,2-Dichloroethene	**1.1**		**0.20**	**0.50**	**1.0**	**UG/L**	1	22-Oct-2020 16:52
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	22-Oct-2020 16:52
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	22-Oct-2020 16:52
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	22-Oct-2020 16:52
Surr: 1,2-Dichloroethane-d4	*108*			**0**	*81-118*	*%REC*	*1*	*22-Oct-2020 16:52*
Surr: 4-Bromofluorobenzene	*111*			**0**	*85-114*	*%REC*	*1*	*22-Oct-2020 16:52*
Surr: Dibromofluoromethane	*91.8*			**0**	*80-119*	*%REC*	*1*	*22-Oct-2020 16:52*
Surr: Toluene-d8	*112*			**0**	*89-112*	*%REC*	*1*	*22-Oct-2020 16:52*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PVL
Ethane	0.000250	U	0.000144	0.000250	0.00100	mg/L	1	21-Oct-2020 12:11
Ethene	**0.00113**		**0.000234**	**0.000500**	**0.00100**	**mg/L**	1	21-Oct-2020 12:11
Methane	**0.0153**		**0.000107**	**0.000250**	**0.000500**	**mg/L**	1	21-Oct-2020 12:11
ALKALINITY BY SM2320B		**Method:SM2320B**						Analyst: TH
Alkalinity, Total (As CaCO3)	**71.8**	a	**5.00**	**5.00**	**5.00**	**mg/L**	1	16-Oct-2020 21:32
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**1.37**		**0.0600**	**0.200**	**0.200**	**mg/L**	2	16-Oct-2020 00:10
Nitrogen, Nitrate (As N)	0.200	U	0.0600	0.200	0.200	mg/L	2	16-Oct-2020 00:10
Sulfate	**1,200**		**20.0**	**50.0**	**50.0**	**mg/L**	100	28-Oct-2020 07:39
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	22-Oct-2020 13:19
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	23-Oct-2020 09:16

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
Sample ID: 16WW22-201014
Collection Date: 14-Oct-2020 10:55

ANALYTICAL REPORT
WorkOrder:HS20100779
Lab ID:HS20100779-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	22-Oct-2020 17:13
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	22-Oct-2020 17:13
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	22-Oct-2020 17:13
cis-1,2-Dichloroethene	**3.0**		**0.20**	**0.50**	**1.0**	**UG/L**	1	22-Oct-2020 17:13
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	22-Oct-2020 17:13
Trichloroethene	**7.8**		**0.20**	**0.50**	**1.0**	**UG/L**	1	22-Oct-2020 17:13
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	22-Oct-2020 17:13
Surr: 1,2-Dichloroethane-d4	*109*			**0**	*81-118*	*%REC*	*1*	*22-Oct-2020 17:13*
Surr: 4-Bromofluorobenzene	*85.2*			**0**	*85-114*	*%REC*	*1*	*22-Oct-2020 17:13*
Surr: Dibromofluoromethane	*90.8*			**0**	*80-119*	*%REC*	*1*	*22-Oct-2020 17:13*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*22-Oct-2020 17:13*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PVL
Ethane	0.000250	U	0.000144	0.000250	0.00100	mg/L	1	21-Oct-2020 12:19
Ethene	0.000500	U	0.000234	0.000500	0.00100	mg/L	1	21-Oct-2020 12:19
Methane	**0.00204**		**0.000107**	**0.000250**	**0.000500**	**mg/L**	1	21-Oct-2020 12:19
ALKALINITY BY SM2320B		**Method:SM2320B**						Analyst: TH
Alkalinity, Total (As CaCO3)	**183**	a	**5.00**	**5.00**	**5.00**	**mg/L**	1	16-Oct-2020 21:38
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**5.26**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	16-Oct-2020 00:46
Nitrogen, Nitrate (As N)	0.100	U	0.0300	0.100	0.100	mg/L	1	16-Oct-2020 00:46
Sulfate	**163**		**2.00**	**5.00**	**5.00**	**mg/L**	10	28-Oct-2020 07:57
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	22-Oct-2020 13:19
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	23-Oct-2020 09:16

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
Sample ID: 16WW41-201014
Collection Date: 14-Oct-2020 11:45

ANALYTICAL REPORT
WorkOrder:HS20100779
Lab ID:HS20100779-06
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	5.0	U	3.0	5.0	10	UG/L	10	26-Oct-2020 19:32
1,1-Dichloroethene	**17**		**2.0**	**5.0**	**10**	**UG/L**	10	26-Oct-2020 19:32
1,2-Dichloroethane	**5.7**	J	**2.0**	**5.0**	**10**	**UG/L**	10	26-Oct-2020 19:32
cis-1,2-Dichloroethene	**2,400**		**20**	**50**	**100**	**UG/L**	100	26-Oct-2020 19:53
Methylene chloride	10	U	4.0	10	20	UG/L	10	26-Oct-2020 19:32
Trichloroethene	**5,400**		**20**	**50**	**100**	**UG/L**	100	26-Oct-2020 19:53
Vinyl chloride	**230**		**2.0**	**5.0**	**10**	**UG/L**	10	26-Oct-2020 19:32
Surr: 1,2-Dichloroethane-d4	*86.2*			**0**	*81-118*	*%REC*	*10*	*26-Oct-2020 19:32*
Surr: 1,2-Dichloroethane-d4	*82.1*			**0**	*81-118*	*%REC*	*100*	*26-Oct-2020 19:53*
Surr: 4-Bromofluorobenzene	*86.8*			**0**	*85-114*	*%REC*	*100*	*26-Oct-2020 19:53*
Surr: 4-Bromofluorobenzene	*85.9*			**0**	*85-114*	*%REC*	*10*	*26-Oct-2020 19:32*
Surr: Dibromofluoromethane	*89.5*			**0**	*80-119*	*%REC*	*10*	*26-Oct-2020 19:32*
Surr: Dibromofluoromethane	*84.4*			**0**	*80-119*	*%REC*	*100*	*26-Oct-2020 19:53*
Surr: Toluene-d8	*101*			**0**	*89-112*	*%REC*	*100*	*26-Oct-2020 19:53*
Surr: Toluene-d8	*98.2*			**0**	*89-112*	*%REC*	*10*	*26-Oct-2020 19:32*
DISSOLVED GASES BY RSK-175		**Method:RSK-175**						Analyst: PVL
Ethane	0.000250	U	0.000144	0.000250	0.00100	mg/L	1	21-Oct-2020 12:27
Ethene	**0.0107**		**0.000234**	**0.000500**	**0.00100**	**mg/L**	1	21-Oct-2020 12:27
Methane	**0.0145**		**0.000107**	**0.000250**	**0.000500**	**mg/L**	1	21-Oct-2020 12:27
ALKALINITY BY SM2320B		**Method:SM2320B**						Analyst: TH
Alkalinity, Total (As CaCO3)	**1,000**	a	**5.00**	**5.00**	**5.00**	**mg/L**	1	16-Oct-2020 21:46
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	0.500	U	0.150	0.500	0.500	mg/L	5	16-Oct-2020 01:04
Nitrogen, Nitrate (As N)	0.500	U	0.150	0.500	0.500	mg/L	5	16-Oct-2020 01:04
Sulfate	**9,220**		**40.0**	**100**	**100**	**mg/L**	200	28-Oct-2020 08:15
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	22-Oct-2020 13:19
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	23-Oct-2020 09:16

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
Sample ID: 16WW21-201014
Collection Date: 14-Oct-2020 12:35

ANALYTICAL REPORT
WorkOrder:HS20100779
Lab ID:HS20100779-07
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	22-Oct-2020 17:34
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	22-Oct-2020 17:34
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	22-Oct-2020 17:34
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	22-Oct-2020 17:34
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	22-Oct-2020 17:34
Trichloroethene	**1.5**		**0.20**	**0.50**	**1.0**	**UG/L**	1	22-Oct-2020 17:34
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	22-Oct-2020 17:34
Surr: 1,2-Dichloroethane-d4	*108*			**0**	*81-118*	*%REC*	*1*	*22-Oct-2020 17:34*
Surr: 4-Bromofluorobenzene	*103*			**0**	*85-114*	*%REC*	*1*	*22-Oct-2020 17:34*
Surr: Dibromofluoromethane	*96.3*			**0**	*80-119*	*%REC*	*1*	*22-Oct-2020 17:34*
Surr: Toluene-d8	*101*			**0**	*89-112*	*%REC*	*1*	*22-Oct-2020 17:34*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**0.864**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	29-Oct-2020 09:40
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	22-Oct-2020 13:19
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	23-Oct-2020 09:16

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
Sample ID: 16WW21-201014-FD
Collection Date: 14-Oct-2020 12:35

ANALYTICAL REPORT
WorkOrder:HS20100779
Lab ID:HS20100779-08
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	UG/L	1	26-Oct-2020 19:11
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 19:11
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 19:11
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 19:11
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	26-Oct-2020 19:11
Trichloroethene	**1.9**		**0.20**	**0.50**	**1.0**	**UG/L**	1	26-Oct-2020 19:11
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 19:11
Surr: 1,2-Dichloroethane-d4	*85.1*			**0**	*81-118*	*%REC*	*1*	*26-Oct-2020 19:11*
Surr: 4-Bromofluorobenzene	*87.8*			**0**	*85-114*	*%REC*	*1*	*26-Oct-2020 19:11*
Surr: Dibromofluoromethane	*85.7*			**0**	*80-119*	*%REC*	*1*	*26-Oct-2020 19:11*
Surr: Toluene-d8	*99.0*			**0**	*89-112*	*%REC*	*1*	*26-Oct-2020 19:11*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**0.895**		**0.0300**	**0.100**	**0.100**	**mg/L**	1	29-Oct-2020 09:58
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	22-Oct-2020 13:19
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	23-Oct-2020 09:16

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc. **ANALYTICAL REPORT**
Project: LHAAP 16 October 2020 WorkOrder:HS20100779
Sample ID: 16WW39-201014 Lab ID:HS20100779-09
Collection Date: 14-Oct-2020 13:25 Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	22-Oct-2020 19:19
1,1-Dichloroethene	**1.7**		**0.20**	**0.50**	**1.0**	**UG/L**	1	22-Oct-2020 19:19
1,2-Dichloroethane	**1.3**		**0.20**	**0.50**	**1.0**	**UG/L**	1	22-Oct-2020 19:19
cis-1,2-Dichloroethene	**73**		**0.20**	**0.50**	**1.0**	**UG/L**	1	22-Oct-2020 19:19
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	22-Oct-2020 19:19
Trichloroethene	**350**		**2.0**	**5.0**	**10**	**UG/L**	10	22-Oct-2020 19:40
Vinyl chloride	**5.0**		**0.20**	**0.50**	**1.0**	**UG/L**	1	22-Oct-2020 19:19
Surr: 1,2-Dichloroethane-d4	*92.5*			**0**	*81-118*	*%REC*	*1*	*22-Oct-2020 19:19*
Surr: 1,2-Dichloroethane-d4	*98.0*			**0**	*81-118*	*%REC*	*10*	*22-Oct-2020 19:40*
Surr: 4-Bromofluorobenzene	*107*			**0**	*85-114*	*%REC*	*1*	*22-Oct-2020 19:19*
Surr: 4-Bromofluorobenzene	*113*			**0**	*85-114*	*%REC*	*10*	*22-Oct-2020 19:40*
Surr: Dibromofluoromethane	*89.1*			**0**	*80-119*	*%REC*	*1*	*22-Oct-2020 19:19*
Surr: Dibromofluoromethane	*99.8*			**0**	*80-119*	*%REC*	*10*	*22-Oct-2020 19:40*
Surr: Toluene-d8	*89.5*			**0**	*89-112*	*%REC*	*1*	*22-Oct-2020 19:19*
Surr: Toluene-d8	*118*	*S*		**0**	*89-112*	*%REC*	*10*	*22-Oct-2020 19:40*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Bromide	**7.90**		**0.0600**	**0.200**	**0.200**	**mg/L**	2	29-Oct-2020 10:16
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	22-Oct-2020 13:19
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	23-Oct-2020 09:16

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
Sample ID: Trip Blank
Collection Date: 14-Oct-2020 00:00

ANALYTICAL REPORT
WorkOrder:HS20100779
Lab ID:HS20100779-10
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	26-Oct-2020 18:29
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 18:29
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 18:29
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 18:29
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	26-Oct-2020 18:29
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 18:29
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	26-Oct-2020 18:29
Surr: 1,2-Dichloroethane-d4	*84.6*			**0**	*81-118*	*%REC*	*1*	*26-Oct-2020 18:29*
Surr: 4-Bromofluorobenzene	*85.7*			**0**	*85-114*	*%REC*	*1*	*26-Oct-2020 18:29*
Surr: Dibromofluoromethane	*86.0*			**0**	*80-119*	*%REC*	*1*	*26-Oct-2020 18:29*
Surr: Toluene-d8	*96.7*			**0**	*89-112*	*%REC*	*1*	*26-Oct-2020 18:29*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: HS20100779

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R370718 (0)	**Test Name :** ALKALINITY BY SM2320B				**Matrix:** Groundwater	
HS20100779-01	16WW25-201014	14 Oct 2020 07:40			16 Oct 2020 21:21	1
HS20100779-02	16WW26-201014	14 Oct 2020 08:25			16 Oct 2020 21:26	1
HS20100779-04	16WW29-201014	14 Oct 2020 10:05			16 Oct 2020 21:32	1
HS20100779-05	16WW22-201014	14 Oct 2020 10:55			16 Oct 2020 21:38	1
HS20100779-06	16WW41-201014	14 Oct 2020 11:45			16 Oct 2020 21:46	1
Batch ID: R370723 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS20100779-01	16WW25-201014	14 Oct 2020 07:40			15 Oct 2020 22:58	5
HS20100779-02	16WW26-201014	14 Oct 2020 08:25			15 Oct 2020 23:52	1
HS20100779-04	16WW29-201014	14 Oct 2020 10:05			16 Oct 2020 00:10	2
HS20100779-05	16WW22-201014	14 Oct 2020 10:55			16 Oct 2020 00:46	1
HS20100779-06	16WW41-201014	14 Oct 2020 11:45			16 Oct 2020 01:04	5
Batch ID: R371062 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Groundwater	
HS20100779-01	16WW25-201014	14 Oct 2020 07:40			22 Oct 2020 13:19	1
HS20100779-02	16WW26-201014	14 Oct 2020 08:25			22 Oct 2020 13:19	1
HS20100779-03	16WW30-201014	14 Oct 2020 09:20			22 Oct 2020 13:19	1
HS20100779-04	16WW29-201014	14 Oct 2020 10:05			22 Oct 2020 13:19	1
HS20100779-05	16WW22-201014	14 Oct 2020 10:55			22 Oct 2020 13:19	1
HS20100779-06	16WW41-201014	14 Oct 2020 11:45			22 Oct 2020 13:19	1
HS20100779-07	16WW21-201014	14 Oct 2020 12:35			22 Oct 2020 13:19	1
HS20100779-08	16WW21-201014-FD	14 Oct 2020 12:35			22 Oct 2020 13:19	1
HS20100779-09	16WW39-201014	14 Oct 2020 13:25			22 Oct 2020 13:19	1
Batch ID: R371090 (0)	**Test Name :** DISSOLVED GASES BY RSK-175				**Matrix:** Groundwater	
HS20100779-01	16WW25-201014	14 Oct 2020 07:40			21 Oct 2020 11:10	1
HS20100779-02	16WW26-201014	14 Oct 2020 08:25			21 Oct 2020 11:51	1
HS20100779-04	16WW29-201014	14 Oct 2020 10:05			21 Oct 2020 12:11	1
HS20100779-05	16WW22-201014	14 Oct 2020 10:55			21 Oct 2020 12:19	1
HS20100779-06	16WW41-201014	14 Oct 2020 11:45			21 Oct 2020 12:27	1
Batch ID: R371099 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS20100779-02	16WW26-201014	14 Oct 2020 08:25			22 Oct 2020 18:58	10
HS20100779-02	16WW26-201014	14 Oct 2020 08:25			22 Oct 2020 18:37	1
HS20100779-03	16WW30-201014	14 Oct 2020 09:20			22 Oct 2020 16:31	1
HS20100779-04	16WW29-201014	14 Oct 2020 10:05			22 Oct 2020 16:52	1
HS20100779-05	16WW22-201014	14 Oct 2020 10:55			22 Oct 2020 17:13	1
HS20100779-07	16WW21-201014	14 Oct 2020 12:35			22 Oct 2020 17:34	1
HS20100779-09	16WW39-201014	14 Oct 2020 13:25			22 Oct 2020 19:40	10
HS20100779-09	16WW39-201014	14 Oct 2020 13:25			22 Oct 2020 19:19	1

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020 **DATES REPORT**
WorkOrder: HS20100779

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R371124 (0)	**Test Name :** SUBCONTRACT ANALYSIS - TOC ANALYSIS				**Matrix:** Groundwater	
HS20100779-01	16WW25-201014	14 Oct 2020 07:40			23 Oct 2020 09:16	1
HS20100779-02	16WW26-201014	14 Oct 2020 08:25			23 Oct 2020 09:16	1
HS20100779-03	16WW30-201014	14 Oct 2020 09:20			23 Oct 2020 09:16	1
HS20100779-04	16WW29-201014	14 Oct 2020 10:05			23 Oct 2020 09:16	1
HS20100779-05	16WW22-201014	14 Oct 2020 10:55			23 Oct 2020 09:16	1
HS20100779-06	16WW41-201014	14 Oct 2020 11:45			23 Oct 2020 09:16	1
HS20100779-07	16WW21-201014	14 Oct 2020 12:35			23 Oct 2020 09:16	1
HS20100779-08	16WW21-201014-FD	14 Oct 2020 12:35			23 Oct 2020 09:16	1
HS20100779-09	16WW39-201014	14 Oct 2020 13:25			23 Oct 2020 09:16	1
Batch ID: R371372 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS20100779-10	Trip Blank	14 Oct 2020 00:00			26 Oct 2020 18:29	1
Batch ID: R371372 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Groundwater	
HS20100779-01	16WW25-201014	14 Oct 2020 07:40			26 Oct 2020 18:50	1
HS20100779-06	16WW41-201014	14 Oct 2020 11:45			26 Oct 2020 19:53	100
HS20100779-06	16WW41-201014	14 Oct 2020 11:45			26 Oct 2020 19:32	10
HS20100779-08	16WW21-201014-FD	14 Oct 2020 12:35			26 Oct 2020 19:11	1
Batch ID: R371460 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS20100779-01	16WW25-201014	14 Oct 2020 07:40			28 Oct 2020 05:51	200
HS20100779-02	16WW26-201014	14 Oct 2020 08:25			28 Oct 2020 06:45	10
HS20100779-04	16WW29-201014	14 Oct 2020 10:05			28 Oct 2020 07:39	100
HS20100779-05	16WW22-201014	14 Oct 2020 10:55			28 Oct 2020 07:57	10
HS20100779-06	16WW41-201014	14 Oct 2020 11:45			28 Oct 2020 08:15	200
Batch ID: R371570 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Groundwater	
HS20100779-03	16WW30-201014	14 Oct 2020 09:20			29 Oct 2020 09:22	1
HS20100779-07	16WW21-201014	14 Oct 2020 12:35			29 Oct 2020 09:40	1
HS20100779-08	16WW21-201014-FD	14 Oct 2020 12:35			29 Oct 2020 09:58	1
HS20100779-09	16WW39-201014	14 Oct 2020 13:25			29 Oct 2020 10:16	2

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: HS20100779

QC BATCH REPORT

Batch ID: R371090 (0) **Instrument:** FID-4 **Method:** DISSOLVED GASES BY RSK-175

MBLK Sample ID: **MBLK-201021** Units: **mg/L** Analysis Date: **21-Oct-2020 10:07**
Client ID: Run ID: **FID-4_371090** SeqNo: **5795268** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.000250	0.00100								U
Ethene	0.000500	0.00100								U
Methane	0.000250	0.000500								U

LCS Sample ID: **LCS-201021** Units: **mg/L** Analysis Date: **21-Oct-2020 10:14**
Client ID: Run ID: **FID-4_371090** SeqNo: **5795269** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0191	0.00100	0.01804	0	106	75 - 125				
Ethene	0.0193	0.00100	0.0168	0	115	75 - 125				
Methane	0.00952	0.000500	0.009647	0	98.7	75 - 125				

LCSD Sample ID: **LCSD-201021** Units: **mg/L** Analysis Date: **21-Oct-2020 10:25**
Client ID: Run ID: **FID-4_371090** SeqNo: **5795270** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0188	0.00100	0.01804	0	104	75 - 125	0.01912	1.54	30	
Ethene	0.0189	0.00100	0.0168	0	112	75 - 125	0.01928	2.21	30	
Methane	0.00950	0.000500	0.009647	0	98.5	75 - 125	0.009521	0.194	30	

MS Sample ID: **HS20100719-05MS** Units: **mg/L** Analysis Date: **21-Oct-2020 15:33**
Client ID: Run ID: **FID-4_371090** SeqNo: **5795290** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0282	0.00100	0.01804	0.004980	129	75 - 125				S
Ethene	0.101	0.00100	0.0168	0.05770	260	75 - 125				SE
Methane	0.791	0.000500	0.009647	0.7829	84.8	75 - 125				EO

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: HS20100779

QC BATCH REPORT

Batch ID: R371090 (0) **Instrument:** FID-4 **Method:** DISSOLVED GASES BY RSK-175

MSD Sample ID: **HS20100719-05MSD** Units: **mg/L** Analysis Date: **21-Oct-2020 15:44**
Client ID: Run ID: **FID-4_371090** SeqNo: **5795291** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.0268	0.00100	0.01804	0.004980	121	75 - 125	0.02820	4.92	30	
Ethene	0.101	0.00100	0.0168	0.05770	259	75 - 125	0.1014	0.15	30	SE
Methane	0.789	0.000500	0.009647	0.7829	64.7	75 - 125	0.7911	0.245	30	SEO

DUP Sample ID: **HS20100779-01DUP** Units: **mg/L** Analysis Date: **21-Oct-2020 11:26**
Client ID: **16WW25-201014** Run ID: **FID-4_371090** SeqNo: **5795276** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	0.000250	0.00100					0	0	30	U
Ethene	0.000500	0.00100					0	0	30	U
Methane	0.0154	0.000500					0.01529	0.595	30	

The following samples were analyzed in this batch: HS20100779-01 HS20100779-02 HS20100779-04 HS20100779-05 HS20100779-06

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: HS20100779

QC BATCH REPORT

Batch ID: R371099 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-201022** Units: **UG/L** Analysis Date: **22-Oct-2020 12:18**
Client ID: Run ID: **VOA6_371099** SeqNo: **5795516** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	0.50	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,2-Dichloroethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
Methylene chloride	1.0	2.0								U
Trichloroethene	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*44.51*	*1.0*	*50*	*0*	*89.0*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.26*	*1.0*	*50*	*0*	*101*	*85 - 114*				
Surr: Dibromofluoromethane	*45.63*	*1.0*	*50*	*0*	*91.3*	*80 - 119*				
Surr: Toluene-d8	*51.48*	*1.0*	*50*	*0*	*103*	*89 - 112*				

LCS Sample ID: **VLCSW-201022** Units: **UG/L** Analysis Date: **22-Oct-2020 11:36**
Client ID: Run ID: **VOA6_371099** SeqNo: **5795515** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	21.25	1.0	20	0	106	80 - 119				
1,1-Dichloroethene	21.92	1.0	20	0	110	71 - 131				
1,2-Dichloroethane	19.82	1.0	20	0	99.1	73 - 128				
cis-1,2-Dichloroethene	20.83	1.0	20	0	104	78 - 123				
Methylene chloride	21.07	2.0	20	0	105	74 - 124				
Trichloroethene	19.98	1.0	20	0	99.9	79 - 123				
Vinyl chloride	21.88	1.0	20	0	109	58 - 137				
Surr: 1,2-Dichloroethane-d4	*54.03*	*1.0*	*50*	*0*	*108*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*52.68*	*1.0*	*50*	*0*	*105*	*85 - 114*				
Surr: Dibromofluoromethane	*52.08*	*1.0*	*50*	*0*	*104*	*80 - 119*				
Surr: Toluene-d8	*51.08*	*1.0*	*50*	*0*	*102*	*89 - 112*				

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: HS20100779

QC BATCH REPORT

Batch ID: R371099 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20100714-01MS** Units: **UG/L** Analysis Date: **22-Oct-2020 14:25**
Client ID: Run ID: **VOA6_371099** SeqNo: **5795522** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	41.45	1.0	20	0	207	80 - 119				S
1,1-Dichloroethene	26.05	1.0	20	0	130	71 - 131				
1,2-Dichloroethane	27.4	1.0	20	0	137	73 - 128				S
cis-1,2-Dichloroethene	24.01	1.0	20	0	120	78 - 123				
Methylene chloride	25.13	2.0	20	0	126	74 - 124				S
Trichloroethene	24.04	1.0	20	0	120	79 - 123				
Vinyl chloride	24.56	1.0	20	0	123	58 - 137				
Surr: 1,2-Dichloroethane-d4	*45.07*	*1.0*	*50*	*0*	*90.1*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*53.32*	*1.0*	*50*	*0*	*107*	*85 - 114*				
Surr: Dibromofluoromethane	*46.99*	*1.0*	*50*	*0*	*94.0*	*80 - 119*				
Surr: Toluene-d8	*52*	*1.0*	*50*	*0*	*104*	*89 - 112*				

MSD Sample ID: **HS20100714-01MSD** Units: **UG/L** Analysis Date: **22-Oct-2020 14:46**
Client ID: Run ID: **VOA6_371099** SeqNo: **5795523** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	39.18	1.0	20	0	196	80 - 119	41.45	5.63	20	S
1,1-Dichloroethene	23.68	1.0	20	0	118	71 - 131	26.05	9.55	20	
1,2-Dichloroethane	25.85	1.0	20	0	129	73 - 128	27.4	5.83	20	S
cis-1,2-Dichloroethene	22.57	1.0	20	0	113	78 - 123	24.01	6.21	20	
Methylene chloride	22.94	2.0	20	0	115	74 - 124	25.13	9.1	20	
Trichloroethene	22.21	1.0	20	0	111	79 - 123	24.04	7.9	20	
Vinyl chloride	22.25	1.0	20	0	111	58 - 137	24.56	9.86	20	
Surr: 1,2-Dichloroethane-d4	*44.64*	*1.0*	*50*	*0*	*89.3*	*81 - 118*	*45.07*	*0.969*	*20*	
Surr: 4-Bromofluorobenzene	*53.6*	*1.0*	*50*	*0*	*107*	*85 - 114*	*53.32*	*0.523*	*20*	
Surr: Dibromofluoromethane	*46.8*	*1.0*	*50*	*0*	*93.6*	*80 - 119*	*46.99*	*0.391*	*20*	
Surr: Toluene-d8	*51.6*	*1.0*	*50*	*0*	*103*	*89 - 112*	*52*	*0.776*	*20*	

The following samples were analyzed in this batch: HS20100779-02 HS20100779-03 HS20100779-04 HS20100779-05 HS20100779-07 HS20100779-09

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: HS20100779

QC BATCH REPORT

Batch ID: R371372 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-201026** Units: **UG/L** Analysis Date: **26-Oct-2020 12:31**
Client ID: Run ID: **VOA6_371372** SeqNo: **5801594** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	0.50	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,2-Dichloroethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
Methylene chloride	1.0	2.0								U
Trichloroethene	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*42.52*	*1.0*	*50*	*0*	*85.0*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*43.05*	*1.0*	*50*	*0*	*86.1*	*85 - 114*				
Surr: Dibromofluoromethane	*43.8*	*1.0*	*50*	*0*	*87.6*	*80 - 119*				
Surr: Toluene-d8	*48.64*	*1.0*	*50*	*0*	*97.3*	*89 - 112*				

LCS Sample ID: **VLCSW-201026** Units: **UG/L** Analysis Date: **26-Oct-2020 11:49**
Client ID: Run ID: **VOA6_371372** SeqNo: **5801593** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	18.09	1.0	20	0	90.4	80 - 119				
1,1-Dichloroethene	19.45	1.0	20	0	97.3	71 - 131				
1,2-Dichloroethane	20.07	1.0	20	0	100	73 - 128				
cis-1,2-Dichloroethene	19.4	1.0	20	0	97.0	78 - 123				
Methylene chloride	17.36	2.0	20	0	86.8	74 - 124				
Trichloroethene	20.44	1.0	20	0	102	79 - 123				
Vinyl chloride	19.78	1.0	20	0	98.9	58 - 137				
Surr: 1,2-Dichloroethane-d4	*51.34*	*1.0*	*50*	*0*	*103*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*46.54*	*1.0*	*50*	*0*	*93.1*	*85 - 114*				
Surr: Dibromofluoromethane	*51.39*	*1.0*	*50*	*0*	*103*	*80 - 119*				
Surr: Toluene-d8	*48.55*	*1.0*	*50*	*0*	*97.1*	*89 - 112*				

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: HS20100779

QC BATCH REPORT

Batch ID: R371372 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20100719-05MS** Units: **UG/L** Analysis Date: **26-Oct-2020 16:02**
Client ID: Run ID: **VOA6_371372** SeqNo: **5801601** PrepDate: DF: **200**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	4135	200	4000	0	103	80 - 119				
1,1-Dichloroethene	4884	200	4000	0	122	71 - 131				
1,2-Dichloroethane	4672	200	4000	0	117	73 - 128				
cis-1,2-Dichloroethene	15300	200	4000	10560	118	78 - 123				
Methylene chloride	3910	400	4000	0	97.7	74 - 124				
Trichloroethene	15370	200	4000	10480	122	79 - 123				
Vinyl chloride	5705	200	4000	771.5	123	58 - 137				
Surr: 1,2-Dichloroethane-d4	*8472*	*200*	*10000*	*0*	*84.7*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*8745*	*200*	*10000*	*0*	*87.5*	*85 - 114*				
Surr: Dibromofluoromethane	*8756*	*200*	*10000*	*0*	*87.6*	*80 - 119*				
Surr: Toluene-d8	*9275*	*200*	*10000*	*0*	*92.7*	*89 - 112*				

MSD Sample ID: **HS20100719-05MSD** Units: **UG/L** Analysis Date: **26-Oct-2020 16:23**
Client ID: Run ID: **VOA6_371372** SeqNo: **5801602** PrepDate: DF: **200**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,2-Trichloroethane	4326	200	4000	0	108	80 - 119	4135	4.52	20	
1,1-Dichloroethene	4560	200	4000	0	114	71 - 131	4884	6.86	20	
1,2-Dichloroethane	4427	200	4000	0	111	73 - 128	4672	5.38	20	
cis-1,2-Dichloroethene	14990	200	4000	10560	111	78 - 123	15300	2	20	
Methylene chloride	3564	400	4000	0	89.1	74 - 124	3910	9.24	20	
Trichloroethene	15010	200	4000	10480	113	79 - 123	15370	2.37	20	
Vinyl chloride	5302	200	4000	771.5	113	58 - 137	5705	7.32	20	
Surr: 1,2-Dichloroethane-d4	*8511*	*200*	*10000*	*0*	*85.1*	*81 - 118*	*8472*	*0.464*	*20*	
Surr: 4-Bromofluorobenzene	*8769*	*200*	*10000*	*0*	*87.7*	*85 - 114*	*8745*	*0.276*	*20*	
Surr: Dibromofluoromethane	*8777*	*200*	*10000*	*0*	*87.8*	*80 - 119*	*8756*	*0.235*	*20*	
Surr: Toluene-d8	*9391*	*200*	*10000*	*0*	*93.9*	*89 - 112*	*9275*	*1.24*	*20*	

The following samples were analyzed in this batch: HS20100779-01 HS20100779-06 HS20100779-08 HS20100779-10

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: HS20100779

QC BATCH REPORT

Batch ID: R370718 (0) **Instrument: ManTech01** **Method: ALKALINITY BY SM2320B**

MBLK Sample ID: **WBLKW1-201016** Units: **mg/L** Analysis Date: **16-Oct-2020 19:12**
Client ID: Run ID: **ManTech01_370718** SeqNo: **5786720** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	5.00	5.00								U

LCS Sample ID: **LCS1-201016** Units: **mg/L** Analysis Date: **16-Oct-2020 19:20**
Client ID: Run ID: **ManTech01_370718** SeqNo: **5786721** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	1030	5.00	1000	0	103	85 - 115				

LCSD Sample ID: **LCSD1-201016** Units: **mg/L** Analysis Date: **16-Oct-2020 19:29**
Client ID: Run ID: **ManTech01_370718** SeqNo: **5786722** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	1037	5.00	1000	0	104	85 - 115	1030	0.636	20	

DUP Sample ID: **HS20100868-02DUP** Units: **mg/L** Analysis Date: **16-Oct-2020 19:41**
Client ID: Run ID: **ManTech01_370718** SeqNo: **5786724** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	127.3	5.00					123.9	2.7	20	

The following samples were analyzed in this batch: HS20100779-01 HS20100779-02 HS20100779-04 HS20100779-05 HS20100779-06

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: HS20100779

QC BATCH REPORT

Batch ID: R370723 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK-101520** Units: **mg/L** Analysis Date: **15-Oct-2020 20:16**
Client ID: Run ID: **ICS-Integrion_370723** SeqNo: **5787171** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	0.100	0.100								U
Nitrogen, Nitrate (As N)	0.100	0.100								U

LCS Sample ID: **LCS-101520** Units: **mg/L** Analysis Date: **15-Oct-2020 20:34**
Client ID: Run ID: **ICS-Integrion_370723** SeqNo: **5787172** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	4.06	0.100	4	0	101	80 - 120				
Nitrogen, Nitrate (As N)	4.033	0.100	4	0	101	80 - 120				

MS Sample ID: **HS20100754-03MS** Units: **mg/L** Analysis Date: **15-Oct-2020 20:52**
Client ID: Run ID: **ICS-Integrion_370723** SeqNo: **5787173** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	2.571	0.100	2	0.6885	94.1	80 - 120				
Nitrogen, Nitrate (As N)	2.556	0.100	2	0.5605	99.8	80 - 120				

MSD Sample ID: **HS20100754-03MSD** Units: **mg/L** Analysis Date: **15-Oct-2020 21:10**
Client ID: Run ID: **ICS-Integrion_370723** SeqNo: **5787174** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	2.539	0.100	2	0.6885	92.5	80 - 120	2.571	1.25	20	
Nitrogen, Nitrate (As N)	2.549	0.100	2	0.5605	99.4	80 - 120	2.556	0.286	20	

The following samples were analyzed in this batch: HS20100779-01 HS20100779-02 HS20100779-04 HS20100779-05 HS20100779-06

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: HS20100779

QC BATCH REPORT

Batch ID: R371460 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK-102720** Units: **mg/L** Analysis Date: **28-Oct-2020 08:33**
Client ID: Run ID: **ICS-Integrion_371460** SeqNo: **5804154** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	0.500	0.500								U

LCS Sample ID: **LCS-102720** Units: **mg/L** Analysis Date: **28-Oct-2020 08:51**
Client ID: Run ID: **ICS-Integrion_371460** SeqNo: **5804155** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	18.05	0.500	20	0	90.2	80 - 120				

MS Sample ID: **HS20100779-02MS** Units: **mg/L** Analysis Date: **28-Oct-2020 07:03**
Client ID: **16WW26-201014** Run ID: **ICS-Integrion_371460** SeqNo: **5804149** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	447.3	5.00	100	374.5	72.8	80 - 120				S

MSD Sample ID: **HS20100779-02MSD** Units: **mg/L** Analysis Date: **28-Oct-2020 07:21**
Client ID: **16WW26-201014** Run ID: **ICS-Integrion_371460** SeqNo: **5804150** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	447.8	5.00	100	374.5	73.3	80 - 120	447.3	0.12	20	S

The following samples were analyzed in this batch: HS20100779-01 HS20100779-02 HS20100779-04 HS20100779-05 HS20100779-06

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: HS20100779

QC BATCH REPORT

Batch ID: R371570 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK-102820** Units: **mg/L** Analysis Date: **28-Oct-2020 11:27**
Client ID: Run ID: **ICS-Integrion_371570** SeqNo: **5806771** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	0.100	0.100								U

LCS Sample ID: **LCS-102820** Units: **mg/L** Analysis Date: **28-Oct-2020 11:45**
Client ID: Run ID: **ICS-Integrion_371570** SeqNo: **5806772** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	3.851	0.100	4	0	96.3	80 - 120				

MS Sample ID: **HS20100780-04MS** Units: **mg/L** Analysis Date: **29-Oct-2020 07:15**
Client ID: Run ID: **ICS-Integrion_371570** SeqNo: **5806778** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	24.04	1.00	20	4.767	96.4	80 - 120				

MSD Sample ID: **HS20100780-04MSD** Units: **mg/L** Analysis Date: **29-Oct-2020 07:33**
Client ID: Run ID: **ICS-Integrion_371570** SeqNo: **5806779** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	23.89	1.00	20	4.767	95.6	80 - 120	24.04	0.63	20	

The following samples were analyzed in this batch: HS20100779-03 HS20100779-07 HS20100779-08 HS20100779-09

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
WorkOrder: **HS20100779**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	20-030-0	26-Mar-2021
California	2919, 2020-2021	30-Apr-2021
Dept of Defense	PJLA L20-507	22-Dec-2021
Florida	E87611-30-07/01/2020	30-Jun-2021
Illinois	2000322020-4	09-May-2021
Kansas	E-10352 2020-2021	31-Jul-2021
Kentucky	123043, 2020-2021	30-Apr-2021
Louisiana	03087, 2020-2021	30-Jun-2021
North Carolina	624-2020	31-Dec-2020
North Dakota	R-193 2020-2021	30-Apr-2021
Texas	T104704231-20-26	30-Apr-2021

ALS Houston, US Date: 29-Oct-20

Client: Aptim Environmental & Infrastucture, Inc.
Project: LHAAP 16 October 2020
Work Order: HS20100779

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20100779-01	16WW25-201014	Login	10/15/2020 2:32:33 PM	JRM	Sub
HS20100779-01	16WW25-201014	Login	10/15/2020 2:32:33 PM	JRM	WET083
HS20100779-01	16WW25-201014	Login	10/15/2020 2:32:33 PM	JRM	VOA155
HS20100779-01	16WW25-201014	Login	10/15/2020 2:32:33 PM	JRM	RSK001
HS20100779-01	16WW25-201014	Login	10/15/2020 2:32:33 PM	JRM	Sub

ALS Houston, US Date: 29-Oct-20

Sample Receipt Checklist

Work Order ID: HS20100779 **Date/Time Received:** **15-Oct-2020 09:10**

Client Name: CBI-Houston **Received by:** **Jared R. Makan**

Completed By:	/S/ Jared R. Makan	15-Oct-2020 18:43	**Reviewed by:**	/S/ RJ Modashia	16-Oct-2020 14:46
	eSignature	Date/Time		eSignature	Date/Time

Matrices: **Water** Carrier name: **ALS Courier**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	2 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	1.4°C/1.4°C UC/C	IR31
Cooler(s)/Kit(s):	43908	
Date/Time sample(s) sent to storage:	10/15/2020 18:45	

Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd. Suite 210 Houston, TX. 77099 (281)530-5656 ATTN: R.J Modashia

Project: APTIM
LONGHORN ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No. 501032

Job: **LHAAP 16 October 2020**

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D. / Time	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (bromide, sulfate, nitrate) by SW9056 and Alkalinity by SM2320	Bromide by SW9056	Perchlorate by SW6850	Metals (arsenic, chromium, manganese, nickel, thallium) by SW6020				Remarks (Preservatives, etc.)	Lab I.D.#
16WW25-201014	WG	10/14/20/0740		10	X	X	X	X	X	X						
16WW26-201014	WG	10/14/20/0825		10	X	X	X	X	X	X						
16WW30-201014	WG	10/14/20/0920		7	X	X			X	X						
16WW29-201014	WG	10/14/20/1005		10	X	X	X	X	X	X						
16WW22-201014	WG	10/14/20/1055		10	X	X	X	X	X	X						
16WW41-201014	WG	10/14/20/1145		10	X	X	X	X	X	X						
16WW21-201014	WG	10/14/20/1235		7	X	X			X	X						
16WW21-201014-FD	WG	10/14/20/1235		7	X	X			X	X						

Additional Remarks: **Standard TAT on all parameters. Please email results to Susan.Huang@aptim.com and invoices to fedinvoices@aptim.com**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	10/14/20	1430									

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
J. Mercer	10/15/20	09:10							

Remarks: Cooler 43908 IR31
Temp 1.4°C CF 0

HS20100779

Aptim Environmental & Infrastucture, Inc.
LHAAP 16 October 2020

(Word) S:\U-ces\Forms\Chain of Custody - BiWeekly

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd. Suite 210 Houston, TX. 77099 (281)530-5656 ATTN: R.J Modashia

Project: APTIM
LONGHORN ARMY AMMN. PLANT (LHAAP)
GROUNDWATER TREATMENT PLANT (GWTP)
KARNACK, TEXAS

Project No. 501032

Job: **LHAAP 16 October 2020**

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D. / Time	Sample Matrix	Date /	MS / MSD	No. OF CONTAINERS	VOC by SW 8260B	TOC by SM5310C	MEE by RSK 175	Anions (bromide, sulfate, nitrate) by SW9056 and Alkalinity by SM2320	Bromide by SW9056	Perchlorate by SW6850	Metals (arsenic, chromium, manganese, nickel, thallium) by SW6020				Remarks (Preservatives, etc.)	Lab I.D.#
16WW39-201014	WG	10/14/20/1325		7	X	X			X	X						
TRIPBLANK-201014	W	10/14/20		2	X											

Additional Remarks: **Standard TAT on all parameters. Please email results to Susan.Huang@aptim.com and invoices to fedinvoices@aptim.com**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	10/14/20	1430									

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
J. Whitney	10/15/20	09:10							

Remarks:

HS20100779

Aptim Environmental & Infrastucture, Inc.
LHAAP 16 October 2020

(Word) S:\Forms\Chain of Custody - BiWeekly

ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

43908

CUSTODY SEAL

Date: 10/14/20 Time: 1430
Name: Scott Gresinger
Company: DHHTS

Seal Broken By:
Date: 10/15/20

43908

Must Deliver Next Business Day
Time and Tempature Sensitive!

43908

ORIGIN ID:SGRA (903) 930 8199
SCOTT GRESINGER
APTIM
1203 B EAST GRAND AVE.
PMB202
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 23JUN20
ACTWGT: 1.00 LB MAN
CAD: 3000130/CAFE3211
DIMS: 19x16x13 IN

TO CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099
(281) 530-5656
REF: LHAAP 16 - B072394 - RJ
RMA:

FedEx Express

FedEx
TRK# 0221 1891 8877 8369

THU - 15 OCT AA
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US
IAH

FID: 162785 140cl2070 GGGA 56D67/A77E/8542

October 22, 2020 Service Request No:E2000996

RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Suite 210
Houston, TX 77099-4338

Laboratory Results for: HS20100779

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory October 16, 2020
For your reference, these analyses have been assigned our service request number **E2000996.**

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

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Corey Grandits
Project Manager

Certificate of Analysis

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

ALS Environmental

Client:	ALS Houston	**Service Request No.:**	E2000996
Project:	HS20100779	**Date Received:**	10/16/20
Sample Matrix:	W		

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Nine samples were received for analysis at ALS Environmental in Houston on 10/16/20.

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

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2000513: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in addition to a MS/MSD for this extraction batch. The LCS and DLCS recoveries are within QC limits. The MS/MSD was performed on an unrelated sample.

DoD Certification is held for the method/matrix/analytes provided in this report.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

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

Client: ALS Environmental - US **Service Request:**E2000996
Project: HS20100779

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2000996-001	16WW25-201014	10/14/2020	0735
E2000996-002	16WW26-201014	10/14/2020	0825
E2000996-003	16WW30-201014	10/14/2020	0920
E2000996-004	16WW29-201014	10/14/2020	1005
E2000996-005	16WW22-201014	10/14/2020	1055
E2000996-006	16WW41-201014	10/14/2020	1145
E2000996-007	16WW21-201014	10/14/2020	1235
E2000996-008	16WW21-201014-FD	10/14/2020	1235
E2000996-009	16WW39-201014	10/14/2020	1325

Service Request Summary

Folder #: **E2000996**
Client Name: ALS Environmental - US
Project Name: HS20100779
Project Number:

Report To: RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 10/16/20
Internal Due Date: 10/29/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: N
Report to MDL?: Y
P.O. Number: HS20100779
EDD: No EDD Specified

9 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 10D
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2000996-001	16WW25-201014	Water	10/14/20 0735	**IV**
E2000996-002	16WW26-201014	Water	10/14/20 0825	**IV**
E2000996-003	16WW30-201014	Water	10/14/20 0920	**IV**
E2000996-004	16WW29-201014	Water	10/14/20 1005	**IV**
E2000996-005	16WW22-201014	Water	10/14/20 1055	**IV**
E2000996-006	16WW41-201014	Water	10/14/20 1145	**IV**
E2000996-007	16WW21-201014	Water	10/14/20 1235	**IV**
E2000996-008	16WW21-201014-FD	Water	10/14/20 1235	**IV**
E2000996-009	16WW39-201014	Water	10/14/20 1325	**IV**

Service Request Summary

Folder #: **E2000996**
Client Name: ALS Environmental - US
Project Name: HS20100779
Project Number:

Report To: RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 10/16/20
Internal Due Date: 10/29/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: N
Report to MDL?: Y
P.O. Number: HS20100779
EDD: No EDD Specified

9 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 10D
Pressure Gas:

Test Comments:

Group	Test/Method	Samples	Comments
Semivoa GCMS	ClO4 DOD/6850	9	Level II due 10/29,level IV 11/5

Data Qualifiers

Lab Standard

+	Possible Tedlar bag artifact.
A	TIC is a suspected aldol-condensation product
B	Analyte found in the associated method blank as well as in the sample.
BC	Reported results are not blank corrected.
BH	The back section of the tube yielded higher results than the front.
BT	Results indicated possible breakthrough; back section >=10% front section.
C	Result identification confirmed.
D	Compound identified in an analysis at a secondary dilution factor
D	Spike was diluted out
DE	Reported results are corrected for desorption efficiency.
E	Estimated value. Concentration above calibration range
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
H1	Sample analysis performed past holding time. See case narrative.
H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
H3	Sample was received and analyzed past holding time.
H4	Sample was extracted past required extraction holding time, but analyzed within analysis holding time. See case narrative.
I	Internal standard not within the specified limits. See case narrative.
J	Estimated Value. Concentration found below MRL.
K	A deflection in the QC ion may indicate interference with the quantitation of this ion. The concentration of this analyte should be considered as an estimate.
K	Analyte was detected above the method reporting limit prior to normalization.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
L1	Laboratory control sample recovery outside the specified limits; results may be biased high.
L2	Laboratory control sample recovery outside the specified limits; results may be biased low.
L3	Laboratory control sample recovery outside the specified limits.
M	Matrix interference; results may be biased high.
M	The duplicate injection precision not met.
M1	Matrix interference due to coelution with a non-target compound; results may be biased high.
N	Presumptive evidence of a compound for TICs that have been identified based on a mass spectral library search.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.

Data Qualifiers

Lab Standard

P	Indicates chlorodiphenyl ether interference present at the retention time of the target compound.
P	Pesticide/Aroclor target analyte > 40% difference for detected concentrations between GC columns
Q	Indicates as estimated value because the P and P + 2 theoretical abundance ratio does not meet method criteria.
R	Duplicate Precision not met.
R1	Duplicate precision not within the specified limits; however, the results are below the MRL and considered estimated.
S	Surrogate recovery not within specified limits.
S	The reported value was determined by the Method of Standard Additions (MSA).
T	Analyte is a tentatively identified compound, result is estimated.
U	Compound was analyzed for, but was not detected (ND).
V1	The continuing calibration verification standard was outside (biased high) the specified limits for this compound.
V2	The continuing calibration verification standard was outside (biased low) the specified limits for this compound.
W	Result quantified, but the corresponding peak was detected outside the generated retention time window.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
X	See case narrative.
Y	Recovery outside limits
Y	The chromatogram resembles a petroleum product but does not match the calibration standard.
Z	The chromatogram does not resemble a petroleum product.
i	The MRL/MDL has been elevated due to a matrix interference.

ALS Laboratory Group

Acronyms

Cal	Calibration
Conc	CONCentration
Dioxin(s)	Polychlorinated dibenzo-p-dioxin(s)
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
Flags	Data qualifiers
Furan(s)	Polychlorinated dibenzofuran(s)
g	Grams
ICAL	Initial CALibration
ID	IDentifier
Ions	Masses monitored for the analyte during data acquisition
L	Liter (s)
LCS	Laboratory Control Sample
DLCS	Duplicate Laboratory Control Sample
MB	Method Blank
MCL	Method Calibration Limit
MDL	Method Detection Limit
mL	Milliliters
MS	Matrix Spiked sample
DMS	Duplicate Matrix Spiked sample
NO	Number of peaks meeting all identification criteria
PCDD(s)	Polychlorinated dibenzo-p-dioxin(s)
PCDF(s)	Polychlorinated dibenzofuran(s)
ppb	Parts per billion
ppm	Parts per million
ppq	Parts per quadrillion
ppt	Parts per trillion
QA	Quality Assurance
QC	Quality Control
Ratio	Ratio of areas from monitored ions for an analyte
% Rec.	Percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
SDG	Sample Delivery Group
S/N	Signal-to-noise ratio
TEF	Toxicity Equivalence Factor
TEQ	Toxicity Equivalence Quotient

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ALS Environmental

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
American Association for Laboratory Accreditation	2897.01 2020	11/30/2021
Arizona Department of Health Services	AZ0793-2020	5/27/2021
Arkansas Department of Environmental Quality	20-030-0	3/26/2021
California Department of Health Services	2919-2020	4/30/2021
Department of Defense	A2LA 2897.01	11/30/2021
Florida Department of Health	E87611-2020	6/30/2021
Hawaii Department of Health	2020	4/30/2021
Illinois Environmental Protection Agency	2000322020-4	5/9/2021
Kansas Department of Health and Environment	E-10352-2020	7/31/2021
Louisiana Department of Environmental Quality	03087-2020	6/30/2021
Louisiana Department of Health and Hospitals	LA028-2020	12/31/2020
Maine Department of Health and Human Services	2020016	6/5/2022
Maryland Department of the Environment	343-2020	6/30/2021
Michigan Depratment of Environmental Quality	9971-2020	4/30/2021
Minnesota Department of Health	1785988	12/31/2020
Nebraska Department of Health and Human Services	NE-OS-25-13 (2020)	4/30/2021
Nevada Department of Concervation and Natural Resources	TX026932021-1	7/31/2021
New Hampshire Environmental Laboratory Accreditation Program	209420	4/24/2021
New Jersey Department of Environmental Protection	TX008	6/30/2021
New York Department of Health	11707	3/31/2021
Oklahoma Department of Environmental Quality	2020-123	8/31/2021
Pennsylvania Department of Environmental Protection	014	6/30/2021
Tennessee Department of Environment and Concervation	04016-2020	4/30/2021
Texas Commision on Environmental Quality	T104704231-20-26	4/30/2021
United States Department of Agriculture	P330-19-00299	10/10/2022
Washington Department of Health	C819	11/14/2020

ALS

Chain of Custody

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Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14951**

SUBCONTRACT TO:

ALS Environmental
10450 Stancliff RoadSuite 210
Houston, TX 77084

Phone: +1 281 530 5656

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	RJ Modashia
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	RJ.Modashia@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS20100779
TSR:	Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20100779-01**	**16WW25-201014**	**Groundwater**	**14 Oct 2020 07:40**
	SUB_Perch-6850			22 Oct 2020
2.	**HS20100779-02**	**16WW26-201014**	**Groundwater**	**14 Oct 2020 08:25**
	SUB_Perch-6850			22 Oct 2020
3.	**HS20100779-03**	**16WW30-201014**	**Groundwater**	**14 Oct 2020 09:20**
	SUB_Perch-6850			22 Oct 2020
4.	**HS20100779-04**	**16WW29-201014**	**Groundwater**	**14 Oct 2020 10:05**
	SUB_Perch-6850			22 Oct 2020
5.	**HS20100779-05**	**16WW22-201014**	**Groundwater**	**14 Oct 2020 10:55**
	SUB_Perch-6850			22 Oct 2020
6.	**HS20100779-06**	**16WW41-201014**	**Groundwater**	**14 Oct 2020 11:45**
	SUB_Perch-6850			22 Oct 2020
7.	**HS20100779-07**	**16WW21-201014**	**Groundwater**	**14 Oct 2020 12:35**
	SUB_Perch-6850			22 Oct 2020
8.	**HS20100779-08**	**16WW21-201014-FD**	**Groundwater**	**14 Oct 2020 12:35**
	SUB_Perch-6850			22 Oct 2020
9.	**HS20100779-09**	**16WW39-201014**	**Groundwater**	**14 Oct 2020 13:25**

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14951**

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
ANALYSIS REQUESTED			DUE DATE
SUB_Perch-6850			22 Oct 2020

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: DOD IV (DoD Data Package)

Relinquished By: J. Duggan Date/Time:

Received By: Date/Time:

Cooler ID(s): Temperature(s):

ALS Environmental

Cooler Receipt Form

Project Chemist CG

Client/Project ALS-H

Thermometer ID 1051

Date/Time Received: 10/16/20 Initials: CG

Date/Time Logged in: 10/16/20 Initials CG

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ✓ ALS Courier ○ Client

2. Samples received in: ✓ Cooler ○ Box ○ Envelope ○ Other

3. Were custody seals on coolers? ○ Yes ✓ No

Were they intact? ○ Yes ○ No ✓ N/A

Were they signed and dated? ○ Yes ○ No ✓ N/A

If yes, how many and where?

4. Packing Material: ○ Inserts ✓ Baggies ○ Bubble Wrap ○ Gel Packs ✓ Wet Ice ○ Sleeves ○ Other

5. Foreign or Regulated Soil? ○ Yes ✓ No Location of Sampling:

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
-		10/16/20	1100	CG	1.1	☒
						☐
						☐
						☐

6. Were custody papers properly filled out (ink, signed, dated, etc)? ✓ Yes ○ No

7. Did all bottles arrive in good condition (not broken, no signs of leakage)? ✓ Yes ○ No

8. Were all sample labels complete (i.e., sample ID, analysis, preservation, etc)? ✓ Yes ○ No

9. Were appropriate bottles/containers and volumes received for the requested tests? ✓ Yes ○ No

10. Did sample labels and tags agree with custody documents? ✓ Yes ○ No

Notes, Discrepancies, & Resolutions:

Service request Label:

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SAMPLE ACCEPTANCE POLICY

This policy outlines the criteria samples must meet to be accepted by ALS Environmental – Houston HRMS.

Cooler Custody Seals (desirable, mandatory if specified in SAP):

- ✓ Intact on outside of cooler, signed and dated

Chain-of-Custody (COC) documentation (mandatory):

The following is required on each COC:

- ✓ Sample ID, the location, date and time of collection, collector's name, preservation type, sample type, and any other special remarks concerning the sampleThe COC must be completed in ink.
- ✓ Signature and date of relinquishing party.

In the absence of a COC at sample receipt, the COC will be requested from the client.

Sample Integrity (mandatory):

Samples are inspected upon arrival to ensure that sample integrity was not compromised during transfer to the laboratory.

- ✓ Sample containers must arrive in good condition (not broken or leaking).
- ✓ Samples must be labeled appropriately, including Sample IDs, and requested test using durable labels and indelible ink.
- ✓ The correct type of sample bottle must be used for the method requested.
- ✓ An appropriate sample volume, or weight, must be received.
- ✓ Sample IDs and number of containers must reconcile with the COC.
- ✓ Samples must be received within the method defined holding time.

Temperature Requirement (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6ºC.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10ºC.
- ✓ Air samples are shipped and stored cold, at 0 to 6ºC
- ✓ The sample temperature must be recorded on the COC

All cooler inspections are documented on the Cooler Receipt Form (CRF). A separate CRF is completed for each service request. Any samples not meeting the above criteria are noted on the CRF and the Project Manager notified. The Project Manager must resolve any sample integrity issues with the client prior to proceeding with the analysis. Such resolutions are documented in writing and filed with the project folder. Data associated with samples received outside of this acceptance policy will be qualified on the case narrative of the final report

Preparation Information Benchsheets

ALS Environmental - Houston HRMS
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Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

Preparation Information Benchsheet

Prep Run#: 368005 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 10/19/20 09:34

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2000981-001	LH18/24-SP650_101320-AIX	.01	6850/ClO4 DOD			Water	10mL	
2	E2000982-001	LH18/24-SP140_101320	.01	6850/ClO4 DOD			Water	10mL	
3	E2000984-001	LH18/24-SP650_101320-AIX	.01	6850/ClO4 DOD			Water	10mL	
4	E2000985-001	16WW36-201013	.01	6850/ClO4 DOD			Water	10mL	
5	E2000985-002	16WW35-201013	.01	6850/ClO4 DOD			Water	10mL	
6	E2000985-003	16IW09-201013	.01	6850/ClO4 DOD			Water	10mL	
7	E2000985-004	16WW55-201013	.01	6850/ClO4 DOD			Water	10mL	
8	E2000985-005	16IW03-201013	.01	6850/ClO4 DOD			Water	10mL	
9	E2000985-006	16IW10-201013	.01	6850/ClO4 DOD			Water	10mL	
10	E2000996-001	16WW25-201014	.01	6850/ClO4 DOD			Water	10mL	
11	E2000996-002	16WW26-201014	.01	6850/ClO4 DOD			Water	10mL	
12	E2000996-003	16WW30-201014	.01	6850/ClO4 DOD			Water	10mL	
13	E2000996-004	16WW29-201014	.01	6850/ClO4 DOD			Water	10mL	
14	E2000996-005	16WW22-201014	.01	6850/ClO4 DOD			Water	10mL	
15	E2000996-006	16WW41-201014	.01	6850/ClO4 DOD			Water	10mL	
16	E2000996-007	16WW21-201014	.01	6850/ClO4 DOD			Water	10mL	
17	E2000996-008	16WW21-201014-FD	.01	6850/ClO4 DOD			Water	10mL	
18	E2000996-009	16WW39-201014	.01	6850/ClO4 DOD			Water	10mL	
19	EQ2000513-01	MB		6850/ClO4 DOD			Liquid	10mL	
20	EQ2000513-02	LCS		6850/ClO4 DOD			Liquid	10mL	
21	EQ2000513-03	DLCS		6850/ClO4 DOD			Liquid	10mL	
22	EQ2000513-04	16IW03-201013 MS	.01	6850/ClO4 DOD			Liquid	10mL	
23	EQ2000513-05	16IW03-201013 DMS	.01	6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 209764 Logbook Ref: Perchlorate Int. Stock1 51820 Expires On: 11/18/2020

EQ2000513-02	1.00µL	EQ2000513-03	1.00µL	EQ2000513-04	1.00µL	EQ2000513-05	1.00µL

Name: Sodium Perchlorate 1 ug/mL (IS) (18-O) as CLO4 Inventory ID 212340 Logbook Ref: Sodium Perchlorate Expires On: 07/13/2022

E2000981-001	100.00µL	E2000982-001	100.00µL	E2000984-001	100.00µL	E2000985-001	100.00µL	E2000985-002	100.00µL	E2000985-003	100.00µL
E2000985-004	100.00µL	E2000985-005	100.00µL	E2000985-006	100.00µL	E2000996-001	100.00µL	E2000996-002	100.00µL	E2000996-003	100.00µL
E2000996-004	100.00µL	E2000996-005	100.00µL	E2000996-006	100.00µL	E2000996-007	100.00µL	E2000996-008	100.00µL	E2000996-009	100.00µL
EQ2000513-01	100.00µL	EQ2000513-02	100.00µL	EQ2000513-03	100.00µL	EQ2000513-04	100.00µL	EQ2000513-05	100.00µL		

Preparation Information Benchsheet

Prep Run#: 368005 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 10/19/20 09:34

Preparation Steps

Step: Preparation
Started: 10/19/20 09:34
Finished: 10/19/20 14:58
By: GRIVERA
Comments

Comments: _____

Reviewed By: GR Date: 10/19/2020

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Analytical Results

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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	10/14/20 0735
Sample Matrix:	Water	**Date Received:**	10/16/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/19/20 22:13
Sample Name:	16WW25-201014	**Units:**	µg/L
Lab Code:	E2000996-001	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700168
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201019\20201019_056	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**0.0770**	J	0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	10/14/20 0825
Sample Matrix:	Water	**Date Received:**	10/16/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/19/20 22:21
Sample Name:	16WW26-201014	**Units:**	µg/L
Lab Code:	E2000996-002	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700168
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201019\20201019_057	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	ND	U	0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	10/14/20 0920
Sample Matrix:	Water	**Date Received:**	10/16/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/21/20 11:58
Sample Name:	16WW30-201014	**Units:**	µg/L
Lab Code:	E2000996-003	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700177
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201021\20201021_019	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	ND	U	0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	10/14/20 1005
Sample Matrix:	Water	**Date Received:**	10/16/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/19/20 22:37
Sample Name:	16WW29-201014	**Units:**	µg/L
Lab Code:	E2000996-004	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700168
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201019\20201019_059	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	ND	U	0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	10/14/20 1055
Sample Matrix:	Water	**Date Received:**	10/16/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/21/20 12:06
Sample Name:	16WW22-201014	**Units:**	µg/L
Lab Code:	E2000996-005	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700177
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201021\20201021_020	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	ND	U	0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	10/14/20 1145
Sample Matrix:	Water	**Date Received:**	10/16/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/20/20 21:55
Sample Name:	16WW41-201014	**Units:**	µg/L
Lab Code:	E2000996-006	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700170
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201020\20201020_046	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	5

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**81.2**		0.500	0.250	0.125	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	10/14/20 1235
Sample Matrix:	Water	**Date Received:**	10/16/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/19/20 23:09
Sample Name:	16WW21-201014	**Units:**	µg/L
Lab Code:	E2000996-007	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700168
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201019\20201019_063	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	ND	U	0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	10/14/20 1235
Sample Matrix:	Water	**Date Received:**	10/16/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/19/20 23:16
Sample Name:	16WW21-201014-FD	**Units:**	µg/L
Lab Code:	E2000996-008	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700168
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201019\20201019_064	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	ND	U	0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	10/14/20 1325
Sample Matrix:	Water	**Date Received:**	10/16/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/21/20 12:48
Sample Name:	16WW39-201014	**Units:**	µg/L
Lab Code:	E2000996-009	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700177
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201021\20201021_023	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	2

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**1.08**		0.200	0.100	0.0500	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	10/19/20
		Date Analyzed:	10/19/20 20:15
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000513-01	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700168
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201019\20201019_041	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	ND	U	0.100	0.0500	0.0250	

Accuracy & Precision

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ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20100779
Sample Matrix: Water

Service Request: E2000996
Date Analyzed: 10/20/20

Lab Control Sample Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Units: µg/L
Basis: NA

Extraction Lot: 368005

	Lab Control Sample EQ2000513-02			Duplicate Lab Control Sample EQ2000513-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.105	0.100	105	0.108	0.100	108	84 - 119	3	15

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

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

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	10/19/20
		Date Analyzed:	10/20/20 20:04
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000513-02	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700170
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201020\20201020_032	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**0.105**		0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	10/19/20
		Date Analyzed:	10/20/20 20:12
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000513-03	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700170
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201020\20201020_033	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**0.108**		0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Analyzed:	10/20/20

Matrix Spike Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Sample Name:	Batch QC	**Units:**	µg/L
Lab Code:	E2000985-005	**Basis:**	NA

Analytical Method: 6850
Prep Method: Method

		Batch QCMS Matrix Spike EQ2000513-04				Batch QCDMS Duplicate Matrix Spike EQ2000513-05					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.0876	0.194	0.100	106	0.193	0.100	105	84 - 119	<1	15

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

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

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

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	10/19/20
		Date Analyzed:	10/20/20 20:20
Sample Name:	Batch QC	**Units:**	µg/L
Lab Code:	EQ2000513-04	**Basis:**	NA
Run Type:	Matrix Spike		

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700170
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201020\20201020_034	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**0.194**		0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	10/19/20
		Date Analyzed:	10/20/20 20:28
Sample Name:	Batch QC	**Units:**	µg/L
Lab Code:	EQ2000513-05	**Basis:**	NA
Run Type:	Duplicate Matrix Spike		

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700170
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201020\20201020_035	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**0.193**		0.100	0.0500	0.0250	

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October 22, 2020

Analytical Report for Service Request No: K2009424

RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Suite 210
Houston, TX 77099-4338

RE: HS20100779

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory October 16, 2020
For your reference, these analyses have been assigned our service request number **K2009424.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3350. You may also contact me via email at Kelley.Lovejoy@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Kelley Lovejoy

Kelley Lovejoy
Project Manager

RIGHT SOLUTIONS | RIGHT PARTNER

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Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjlabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water-	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Case Narrative

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ALS Environmental

Client: ALS Environmental - US
Project: HS20100779
Sample Matrix: Ground Water

Service Request: K2009424
Date Received: 10/16/2020

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier level II requested by the client.

Sample Receipt:

Nine ground water samples were received for analysis at ALS Environmental on 10/16/2020. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

General Chemistry:

Method SM 5310 C, 10/19/2020: The matrix spike recovery of Total Organic Carbon for sample 16WW25-201014 was outside control criteria. Recovery in the Laboratory Control Sample (LCS) was acceptable, which indicated the analytical batch was in control. The matrix spike outlier suggested a potential low bias in this matrix. No further corrective action was appropriate.

Approved by Kelley Lovejoy Date 10/22/2020

Chain of Custody

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Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14949**

SUBCONTRACT TO:

ALS Environmental Kelso
1317 S. 13th Avenue
Kelso, WA 98626

Phone: +1 360 501 3312

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	RJ Modashia
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	RJ.Modashia@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS20100779
TSR:	Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20100779-01**	**16WW25-201014**	**Groundwater**	**14 Oct 2020 07:40**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			22 Oct 2020
2.	**HS20100779-02**	**16WW26-201014**	**Groundwater**	**14 Oct 2020 08:25**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			22 Oct 2020
3.	**HS20100779-03**	**16WW30-201014**	**Groundwater**	**14 Oct 2020 09:20**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			22 Oct 2020
4.	**HS20100779-04**	**16WW29-201014**	**Groundwater**	**14 Oct 2020 10:05**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			22 Oct 2020
5.	**HS20100779-05**	**16WW22-201014**	**Groundwater**	**14 Oct 2020 10:55**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			22 Oct 2020
6.	**HS20100779-06**	**16WW41-201014**	**Groundwater**	**14 Oct 2020 11:45**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			22 Oct 2020
7.	**HS20100779-07**	**16WW21-201014**	**Groundwater**	**14 Oct 2020 12:35**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			22 Oct 2020
8.	**HS20100779-08**	**16WW21-201014-FD**	**Groundwater**	**14 Oct 2020 12:35**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			22 Oct 2020
9.	**HS20100779-09**	**16WW39-201014**	**Groundwater**	**14 Oct 2020 13:25**

Received By Mcdersen ALS 10/16/20 0950

K2009424

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID: 14949**

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
ANALYSIS REQUESTED			DUE DATE
TOC Analysis with DOD Level IV/EQuIS APTIM EDD			22 Oct 2020

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: DOD IV (DoD Data Package)

Relinquished By: J. Hamann Date/Time: 10/15/20 18:00

Received By: N Pedersen Date/Time: 10/16/20 0950

Cooler ID(s): Temperature(s):

PM KL

Cooler Receipt and Preservation Form

Client ALS Houston Service Request K2094124

Received: 10/16/20 Opened: 10/16/20 By: AK Unloaded: 10/16/20 By: AK

1. Samples were received via? *USPS* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 2 Front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Was a Temperature Blank present in cooler? NA (Y) N If yes, notate the temperature in the appropriate column below:
   If no, take the temperature of a representative sample bottle contained within the cooler; notate in the column "Sample Temp":
5. Were samples received within the method specified temperature ranges? NA (Y) N
   If no, were they received on ice and same day as collected? If not, notate the cooler # below and notify the PM. (NA) Y N

If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*

Temp Blank	Sample Temp	IR Gun	Cooler #/COC ID / NA	Out of temp Indicate with "X"	PM Notified If out of temp	Tracking Number NA	Filed
0.6	—	IR02		—	—	7891 8881 5860	
			14949				
			14975				

6. Packing material: *Inserts* (*Baggies*) (*Bubble Wrap*) *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* _____
7. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
8. Were samples received in good condition (unbroken) NA (Y) N
9. Were all sample labels complete (ie, analysis, preservation, etc.)? NA (Y) N
10. Did all sample labels and tags agree with custody papers? NA (Y) N
11. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
12. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
13. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
14. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, Resolutions: _____

General Chemistry

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www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	K2009424
Project:	HS20100779	**Date Collected:**	10/14/20
Sample Matrix:	Ground Water	**Date Received:**	10/16/20
Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Carbon, Total Organic

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
16WW25-201014	K2009424-001	**27.7**	0.50	0.20	0.07	1	10/19/20 11:49	
16WW26-201014	K2009424-002	**2.11**	0.50	0.20	0.07	1	10/19/20 11:49	
16WW30-201014	K2009424-003	**2.13**	0.50	0.20	0.07	1	10/19/20 11:49	
16WW29-201014	K2009424-004	**11.2**	0.50	0.20	0.07	1	10/19/20 11:49	
16WW22-201014	K2009424-005	**0.81**	0.50	0.20	0.07	1	10/19/20 11:49	
16WW41-201014	K2009424-006	**40.8**	0.50	0.20	0.07	1	10/19/20 11:49	
16WW21-201014	K2009424-007	**0.58**	0.50	0.20	0.07	1	10/19/20 11:49	
16WW21-201014-FD	K2009424-008	**0.12 J**	0.50	0.20	0.07	1	10/19/20 11:49	
16WW39-201014	K2009424-009	**2.31**	0.50	0.20	0.07	1	10/19/20 11:49	
Method Blank	K2009424-MB	ND U	0.50	0.20	0.07	1	10/19/20 11:49	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2009424
Project	HS20100779	**Date Collected:**	10/14/20
Sample Matrix:	Ground Water	**Date Received:**	10/16/20
		Date Analyzed:	10/19/20

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	16WW25-201014	**Units:**	mg/L
Lab Code:	K2009424-001	**Basis:**	NA

Analyte Name	Analysis Method	LOQ	LOD	MDL	Sample Result	Duplicate Sample K2009424-001DUP Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	0.50	0.20	0.07	27.7	27.1	27.4	2	10

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

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

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

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2009424
Project:	HS20100779	**Date Collected:**	10/14/20
Sample Matrix:	Ground Water	**Date Received:**	10/16/20
		Date Analyzed:	10/19/20
		Date Extracted:	NA

Matrix Spike Summary
Carbon, Total Organic

Sample Name:	16WW25-201014	**Units:**	mg/L
Lab Code:	K2009424-001	**Basis:**	NA
Analysis Method:	SM 5310 C		
Prep Method:	None		

Matrix Spike
K2009424-001MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	27.7	48.1	25.0	82 *	83-117

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

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

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

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2009424
Project:	HS20100779	**Date Analyzed:**	10/19/20
Sample Matrix:	Ground Water	**Date Extracted:**	NA

Lab Control Sample Summary
Carbon, Total Organic

Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	700002

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2009424-LCS	23.9	25.0	95	83-117

HS20100779 8260_W_DOD Raw Data

ALS WO# HS20100779

MSVOA06 -Logbook

Batch: 42120 **Analyst:** Presenta Cabascango

Date: 10-21-2020 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	10-21-2020 04:23 pm	1.00	50 mL	50 mL	Y102101.D	Liquid	Y	NA
	Auto find/ purged									
2	VSTD000.25	ICAL1	10-21-2020 04:44 pm	1.00	50 mL	50 mL	Y102102.D	Liquid	Y	NA
	0.10 uL cal std/100 mL DI									
3	VSTD000.5	ICAL2	10-21-2020 05:05 pm	1.00	50 mL	50 mL	Y102103.D	Liquid	Y	NA
	0.10 uL cal std/50 mL DI									
4	VSTD001	ICAL3	10-21-2020 05:47 pm	1.00	50 mL	50 mL	Y102104.D	Liquid	Y	NA
	0.20 uL cal std/50 mL DI									
5	VSTD002	ICAL4	10-21-2020 06:08 pm	1.00	50 mL	50 mL	Y102105.D	Liquid	Y	NA
	0.40 uL cal std/50 mL DI									
6	VSTD005	ICAL5	10-21-2020 06:28 pm	1.00	50 mL	50 mL	Y102106.D	Liquid	Y	NA
	1.0 uL cal std/50 mL DI									
7	VSTD020	ICAL6	10-21-2020 06:49 pm	1.00	50 mL	50 mL	Y102107.D	Liquid	Y	NA
	4.0 uL cal std/50 mL DI									
8	VSTD050	ICAL7	10-21-2020 07:10 pm	1.00	50 mL	50 mL	Y102108.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
9	VSTD100	ICAL8	10-21-2020 07:31 pm	1.00	50 mL	50 mL	Y102109.D	Liquid	Y	NA
	20 uL cal std/50 mL DI									
10	VSTD150	ICAL9	10-21-2020 07:52 pm	1.00	50 mL	50 mL	Y102110.D	Liquid	Y	NA
	30 uL cal std/50 mL DI									
11	VSTD200	ICAL	10-21-2020 08:13 pm	1.00	50 mL	50 mL	Y102111.D	Liquid	Y	NA
	40 uL cal std/50 mL DI									
12	BLANK	SAMP	10-21-2020 08:34 pm	1.00	50 mL	50 mL	Y102112.D	Liquid	Y	NA
13	BLANK	SAMP	10-21-2020 08:55 pm	1.00	50 mL	50 mL	Y102113.D	Liquid	Y	NA
14	ICV	CCV	10-21-2020 09:16 pm	1.00	50 mL	50 mL	Y102114.D	Liquid	Y	NA
	10 uL icv std/50 mL DI									
15	BLANK	SAMP	10-21-2020 09:37 pm	1.00	50 mL	50 mL	Y102115.D	Liquid	Y	NA
16	VLCSW-201021	LCS	10-21-2020 09:58 pm	1.00	50 mL	50 mL	Y102116.D	Liquid	Y	NA
	4.0 uL cal std/50 mL DI									
17	BLANK	SAMP	10-21-2020 10:19 pm	1.00	50 mL	50 mL	Y102117.D	Liquid	Y	NA
18	BLANK	SAMP	10-21-2020 10:40 pm	1.00	50 mL	50 mL	Y102118.D	Liquid	Y	NA
19	VBLKW-201021	MBLK	10-21-2020 11:01 pm	1.00	50 mL	50 mL	Y102119.D	Liquid	Y	NA
20	HS20100478-01	SAMP	10-21-2020 11:22 pm	250.0(	200 µL	50 mL	Y102120.D	Liquid	Y	<2
21	HS20101070-01	SAMP	10-21-2020 11:43 pm	1.00	50 mL	50 mL	Y102121.D	Liquid	Y	<2
22	HS20101070-01MS	MS	10-22-2020 12:04 am	1.00	50 mL	50 mL	Y102122.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
23	HS20101070-01MSD	MSD	10-22-2020 12:25 am	1.00	50 mL	50 mL	Y102123.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
24	CCV-END	CCV	10-22-2020 12:46 am	1.00	50 mL	50 mL	Y102124.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
25	HS20100814-01	SAMP	10-22-2020 01:07 am	1.00	50 mL	50 mL	Y102125.D	Liquid	Y	<2
26	HS20101064-04	SAMP	10-22-2020 01:28 am	1.00	50 mL	50 mL	Y102126.D	Liquid	Y	<2
27	HS20100926-01	SAMP	10-22-2020 01:49 am	1.00	50 mL	50 mL	Y102127.D	Liquid	Y	<2
28	HS20101075-03	SAMP	10-22-2020 02:10 am	1.00	50 mL	50 mL	Y102128.D	Liquid	Y	<2
29	HS20101075-01	SAMP	10-22-2020 02:31 am	1.00	50 mL	50 mL	Y102129.D	Liquid	Y	<2
30	HS20101075-02	SAMP	10-22-2020 02:52 am	1.00	50 mL	50 mL	Y102130.D	Liquid	Y	<2
31	HS20100876-01	SAMP	10-22-2020 03:13 am	1.00	50 mL	50 mL	Y102131.D	Liquid	Y	NA
32	HS20100891-01	SAMP	10-22-2020 03:35 am	1.00	50 mL	50 mL	Y102132.D	Liquid	Y	NA
33	HS20100925-03	SAMP	10-22-2020 03:56 am	10.00	5 mL	50 mL	Y102133.D	Liquid	Y	NA

MSVOA06 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
34	HS20100986-04c/o	SAMP	10-22-2020 04:17 am	1.00	50 mL	50 mL	Y102134.D	Liquid	Y	NA
35	HS20100966-01ott	SAMP	10-22-2020 04:38 am	1.00	50 mL	50 mL	Y102135.D	Liquid	Y	NA
36	HS20100985-02ott	SAMP	10-22-2020 04:59 am	1.00	50 mL	50 mL	Y102136.D	Liquid	Y	NA

Chemical	Value
SURR SPK ID	31106-51-06
IS ID	31106-51-06
CAL STD ID	31106-52-01/02
BFB ID	31106-51-06
pH Paper	634-64-10

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100779

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
1,2-Dichloroethane	50.00	49.47	99	80-120
Trichloroethene	50.00	49.40	99	80-120
Methylene Chloride	50.00	53.09	106	80-120
cis-1,2-Dichloroethene	50.00	51.97	104	80-120
Vinyl Chloride	50.00	57.87	116	80-120
1,1,2-Trichloroethane	50.00	51.77	104	80-120
1,1-Dichloroethene	50.00	54.74	109	80-120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

_____

FORM III VOA

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100779

Lab File ID: Y102101 BFB Injection Date: 10/21/20

Instrument ID: VOA6 BFB Injection Time: 1623

GC Column: DB624 ID: 0.25 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	15.3
75	30.0 - 60.0% of mass 95	44.4
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.8
173	Less than 2.0% of mass 174	0.4 (0.5)1
174	Greater than 50.0% of mass 95	95.4
175	5.0 - 9.0% of mass 174	7.1 (7.4)1
176	95.0 - 101.0% of mass 174	91.6 (95.9)1
177	5.0 - 9.0% of mass 176	6.3 (6.9)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD000.25	VSTD000.25	Y102102	10/21/20	1644
02	VSTD000.5	VSTD000.5	Y102103	10/21/20	1705
03	VSTD001	VSTD001	Y102104	10/21/20	1747
04	VSDT002	VSTD002	Y102105	10/21/20	1808
05	VSTD005	VSTD005	Y102106	10/21/20	1828
06	VSTD020	VSTD020	Y102107	10/21/20	1849
07	VSTD050	VSTD050	Y102108	10/21/20	1910
08	VSTD100	VSTD100	Y102109	10/21/20	1931
09	VSTD150	VSTD150	Y102110	10/21/20	1952
10	VSTD200	VSTD200	Y102111	10/21/20	2013
11	ICV	ICV	Y102114	10/21/20	2116
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM V VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100779

Instrument ID: VOA6 Calibration Date(s): 10/21/20 10/21/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1644 2013

LAB FILE ID: RF0.25: Y102102 RF0.5: Y102103 RF1: Y102104
RF2: Y102105 RF5: Y102106 RF20: Y102107

COMPOUND	RF0.25	RF0.5	RF1	RF2	RF5	RF20
1,2-Dichloroethane		0.422	0.386	0.356	0.336	0.356
Trichloroethene		0.476	0.368	0.330	0.356	0.340
Methylene Chloride		3225	5146	8361	20059	71151
cis-1,2-Dichloroethene		0.564	0.504	0.516	0.504	0.494
Vinyl Chloride		0.434	0.370	0.351	0.340	0.335
1,1,2-Trichloroethane		0.245	0.254	0.234	0.259	0.250
1,1-Dichloroethene		0.334	0.321	0.280	0.277	0.278
4-Bromofluorobenzene		3608	5292	10119	22864	85255
Dibromofluoromethane		0.474	0.425	0.452	0.449	0.432
Toluene-d8		1.542	1.230	1.270	1.190	1.194
1,2-Dichloroethane-d4		2042	3884	8241	19688	66972

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2010077

Instrument ID: VOA6 Calibration Date(s): 10/21/20 10/21/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1644 2013

LAB FILE ID: RF50: Y102108 RF100: Y102109 RF150: Y102110
RF200: Y102111

COMPOUND	RF50	RF100	RF150	RF200
1,2-Dichloroethane	0.350	0.354	0.358	0.350
Trichloroethene	0.340	0.367	0.370	0.368
Methylene Chloride	174234	338837	472805	658560
cis-1,2-Dichloroethene	0.491	0.492	0.511	0.497
Vinyl Chloride	0.341	0.377	0.396	0.415
1,1,2-Trichloroethane	0.243	0.243	0.244	0.238
1,1-Dichloroethene	0.284	0.303	0.313	0.314
4-Bromofluorobenzene	206439	398372	596302	809167
Dibromofluoromethane	0.426	0.420	0.449	0.429
Toluene-d8	1.190	1.184	1.220	1.174
1,2-Dichloroethane-d4	161294	310860	461995	630980

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2010077

Instrument ID: VOA6 Calibration Date(s): 10/21/20 10/21/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1644 2013

COMPOUND	CURVE	COEFFICENTS A0	COEFFICENTS A1	%RSD OR R^2	MAX %RSD OR R^2
1,2-Dichloroethane	AVRG		0.36305015	7.036	15.000
Trichloroethene	AVRG		0.36844021	11.692	15.000
Methylene Chloride	LINR	-5.6e-003	2.20239185	0.9996020	0.9900000
cis-1,2-Dichloroethene	AVRG		0.50798684	4.462	15.000
Vinyl Chloride	AVRG		0.37322211	9.525	15.000
1,1,2-Trichloroethane	AVRG		0.24564866	3.182	15.000
1,1-Dichloroethene	AVRG		0.30044832	7.135	15.000
4-Bromofluorobenzene	LINR	-7.61e-003	2.41523862	0.9988138	0.9900000
Dibromofluoromethane	AVRG		0.43960912	3.977	15.000
Toluene-d8	AVRG		1.24390828	9.314	15.000
1,2-Dichloroethane-d4	LINR	7.927e-003	2.28796616	0.9984256	0.9900000

FORM VI VOA

Data File: \\nahstws005\Target\chem\voa6.i\X201021.b\Y102101.D

Date : 21-OCT-2020 16:23

Client ID: BFB

Instrument: voa6.i

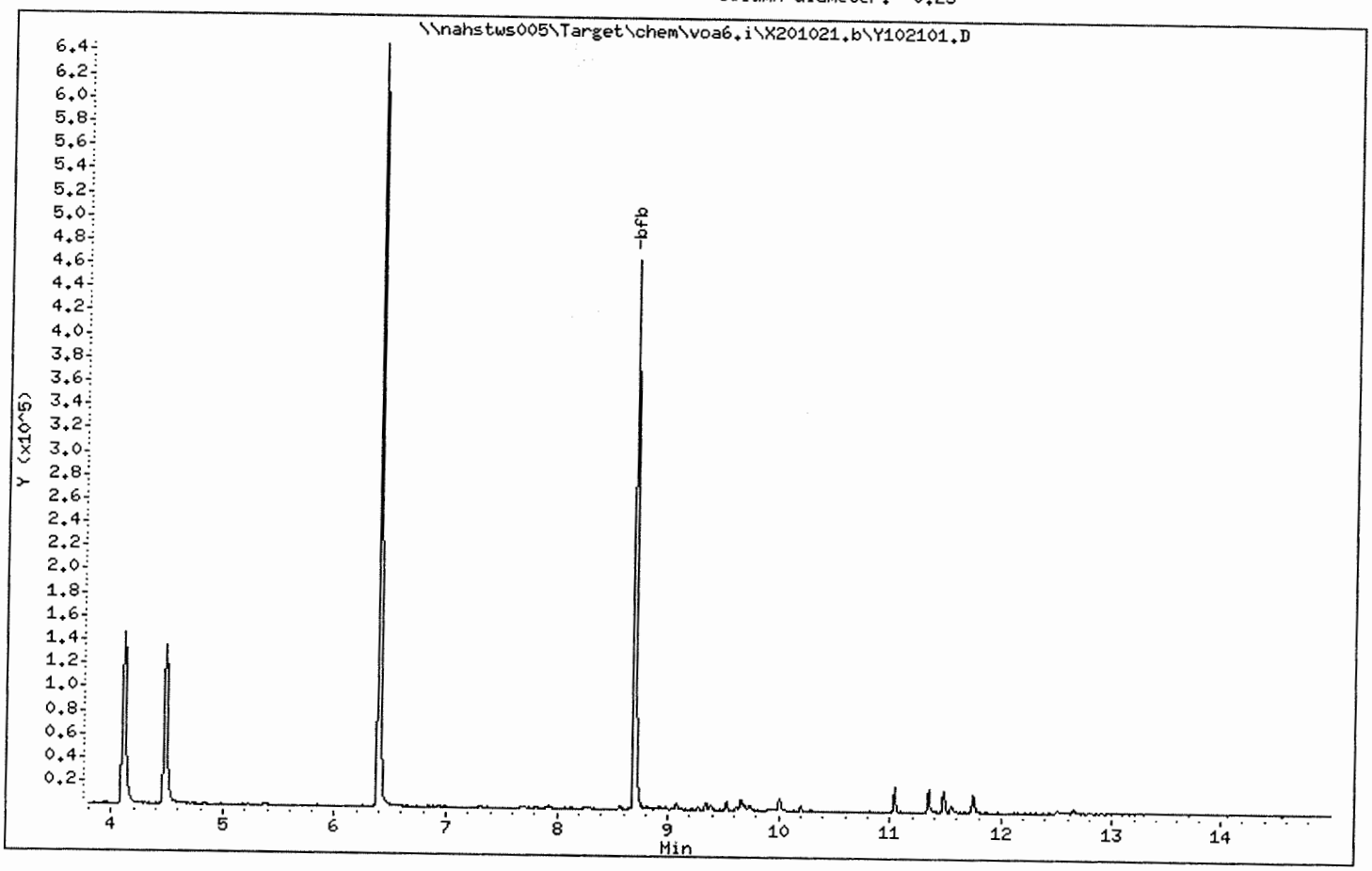
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\nahstws005\Target\chem\voa6.i\X201021.b\Y102101.D

Date : 21-OCT-2020 16:23

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

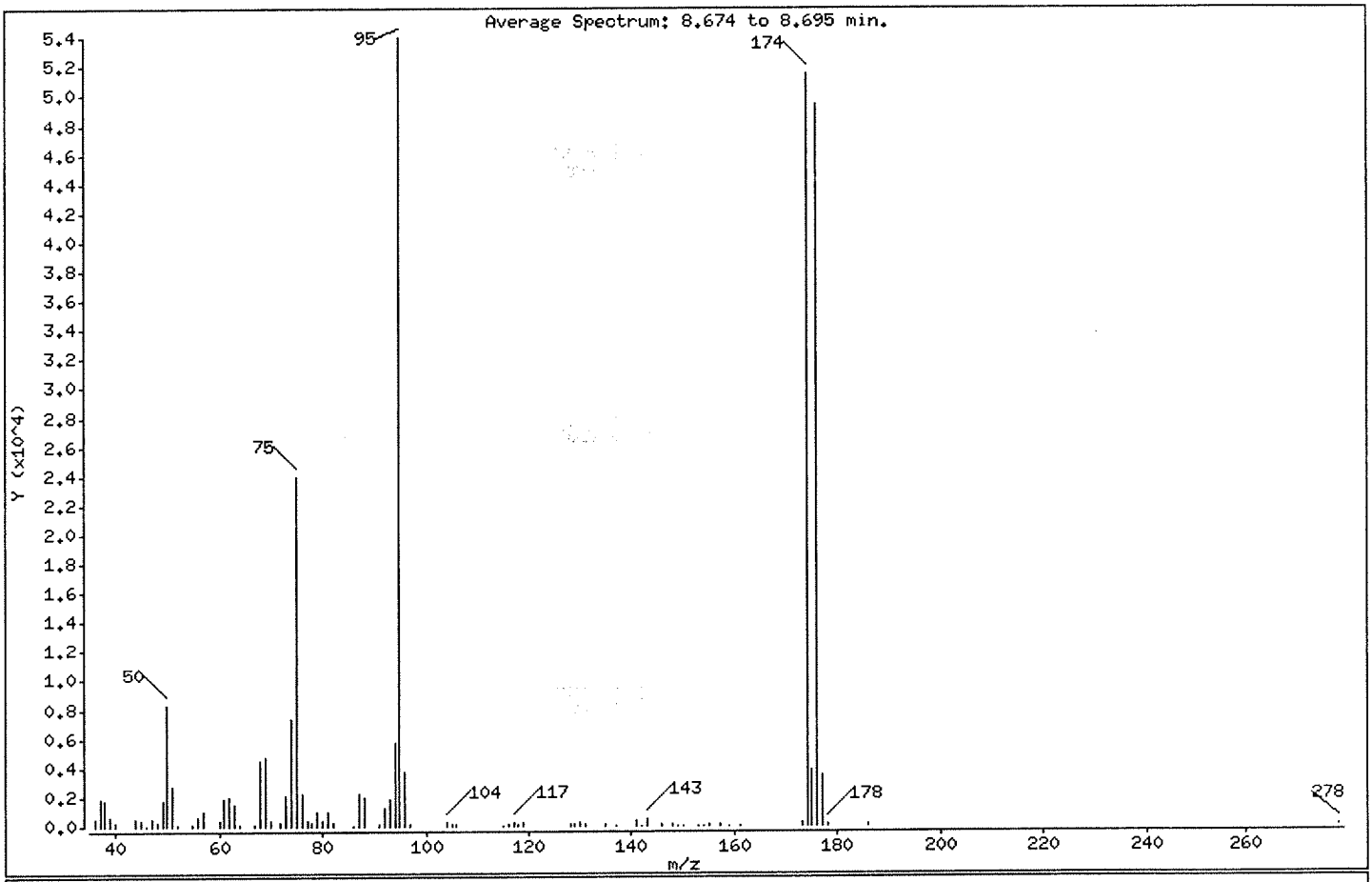
Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	15.30
75	30.00 - 60.00% of mass 95	44.43
96	5.00 - 9.00% of mass 95	6.81
173	Less than 2.00% of mass 174	0.43 (0.45)
174	Greater than 50.00% of mass 95	95.43
175	5.00 - 9.00% of mass 174	7.08 (7.42)
176	95.00 - 101.00% of mass 174	91.55 (95.94)
177	5.00 - 9.00% of mass 176	6.33 (6.91)

Data File: \\nahstws005\Target\chem\voa6.i\X201021.b\Y102101.D

Date : 21-OCT-2020 16:23

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

Data File: Y102101.D
Spectrum: Average Spectrum: 8.674 to 8.695 min.
Location of Maximum: 95.00
Number of points: 82

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	436	64.00	143	93.00	1900	143.00	486
37.00	1871	67.00	131	94.00	5668	146.00	81
38.00	1765	68.00	4502	95.00	54024	148.00	117
39.00	667	69.00	4696	96.00	3678	149.00	48
40.00	257	70.00	381	97.00	81	150.00	36
44.00	470	72.00	310	104.00	188	153.00	57
45.00	386	73.00	2052	105.00	76	154.00	54
46.00	22	74.00	7334	106.00	152	155.00	134
47.00	436	75.00	24008	115.00	48	157.00	68
48.00	301	76.00	2196	116.00	151	159.00	42
49.00	1788	77.00	347	117.00	281	161.00	35
50.00	8266	78.00	305	118.00	149	173.00	233
51.00	2717	79.00	969	119.00	243	174.00	51560
52.00	150	80.00	311	128.00	172	175.00	3828
55.00	124	81.00	1010	129.00	103	176.00	49464
56.00	612	82.00	199	130.00	187	177.00	3418
57.00	1032	86.00	57	131.00	79	178.00	106
60.00	420	87.00	2193	135.00	84	186.00	101
61.00	1895	88.00	2005	137.00	17	278.00	14
62.00	2001	91.00	107	141.00	376		
63.00	1492	92.00	1296	142.00	27		

Data File: \\nahstws005\Target\chem\voa6.i\X201021.b\Y102102.D Page 1
Report Date: 30-Nov-2020 12:41

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201021.b\Y102102.D
Lab Smp Id: VSTD000.25 Client Smp ID: VSTD000.25
Inj Date : 21-OCT-2020 16:44
Operator : PC Inst ID: voa6.i
Smp Info : VSTD000.25;VSTD000.25;1;1;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201021.b\8260W.m
Meth Date : 30-Nov-2020 12:41 voa6.i Quant Type: ISTD
Cal Date : 21-OCT-2020 19:10 Cal File: Y102108.D
Als bottle: 4 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

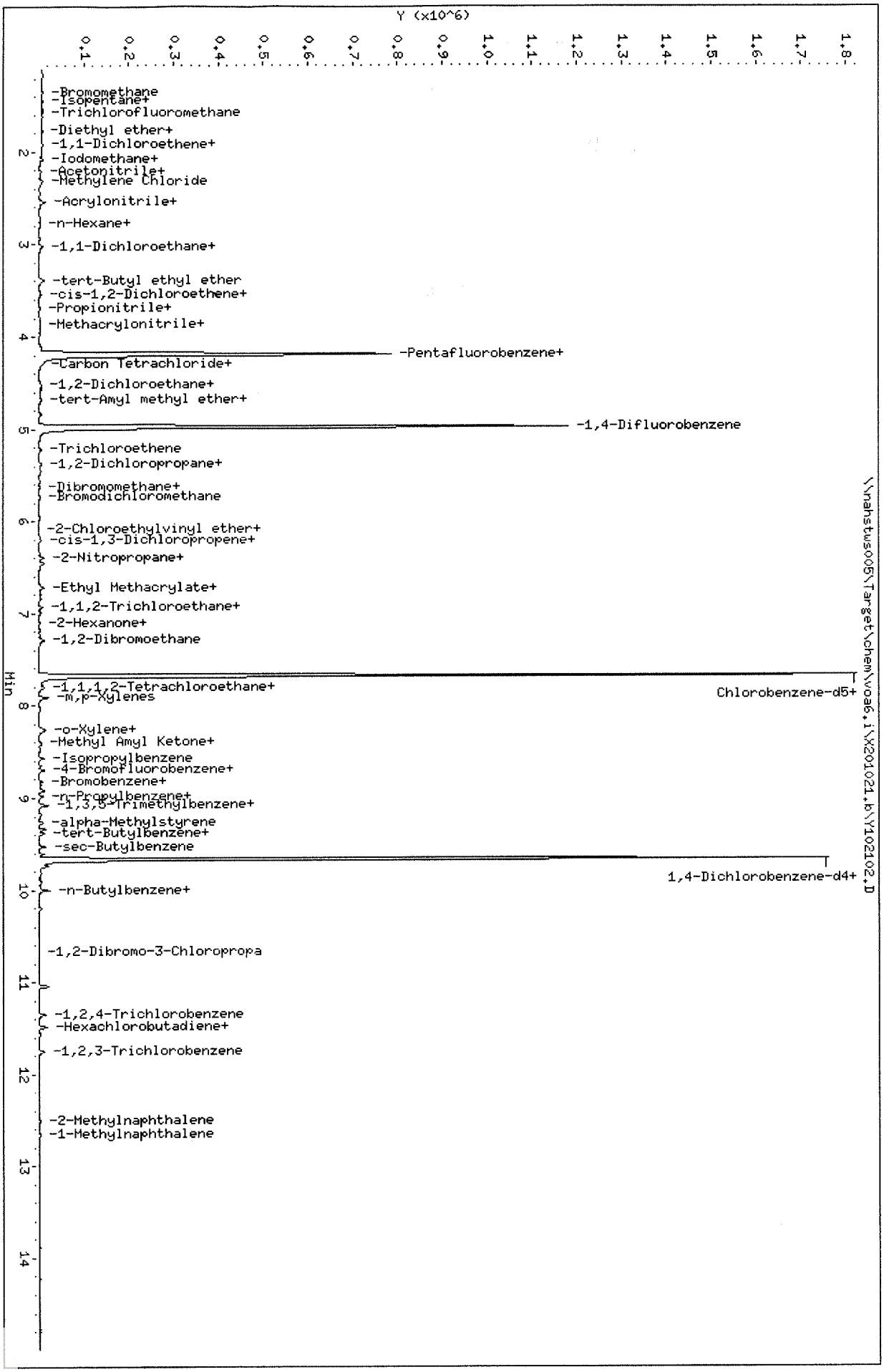
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	727731	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	1032296	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	949396	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	454084	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.490	4.490	(1.072)	2066	0.25000	0.72(TaM)
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	4081	0.25000	0.13(a)
$ 30 Dibromofluoromethane	113	4.118	4.118	(0.983)	1847	0.25000	0.28(a)
$ 48 Toluene-d8	98	6.396	6.396	(0.834)	7582	0.25000	0.32(a)
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	1254	0.25000	0.26(a)
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	1089	0.25000	0.24(a)
33 1,2-Dichloroethane	62	4.569	4.569	(0.919)	2131	0.25000	0.28(aM)
27 cis-1,2-Dichloroethene	96	3.537	3.537	(0.844)	1883	0.25000	0.25(a)
17 Methylene Chloride	84	2.313	2.313	(0.552)	2846	0.25000	0.15(a)
38 Trichloroethene	130	5.221	5.221	(1.050)	1972	0.25000	0.25(a)
5 Vinyl Chloride	62	1.145	1.145	(0.273)	1377	0.25000	0.25(a)

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.



Data File: \\nahstws005\Target\chem\voa6.i\X201021.b\Y102102.D
Date : 21-OCT-2020 16:44
Client ID: VSTD000.25
Sample Info: VSTD000.25;VSTD000.25;1;1;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201021.b\Y102103.D
Lab Smp Id: VSTD000.5 Client Smp ID: VSTD000.5
Inj Date : 21-OCT-2020 17:05
Operator : PC Inst ID: voa6.i
Smp Info : VSTD000.5;VSTD000.5;1;2;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201021.b\8260W.m
Meth Date : 30-Nov-2020 12:41 voa6.i Quant Type: ISTD
Cal Date : 21-OCT-2020 16:44 Cal File: Y102102.D
Als bottle: 5 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

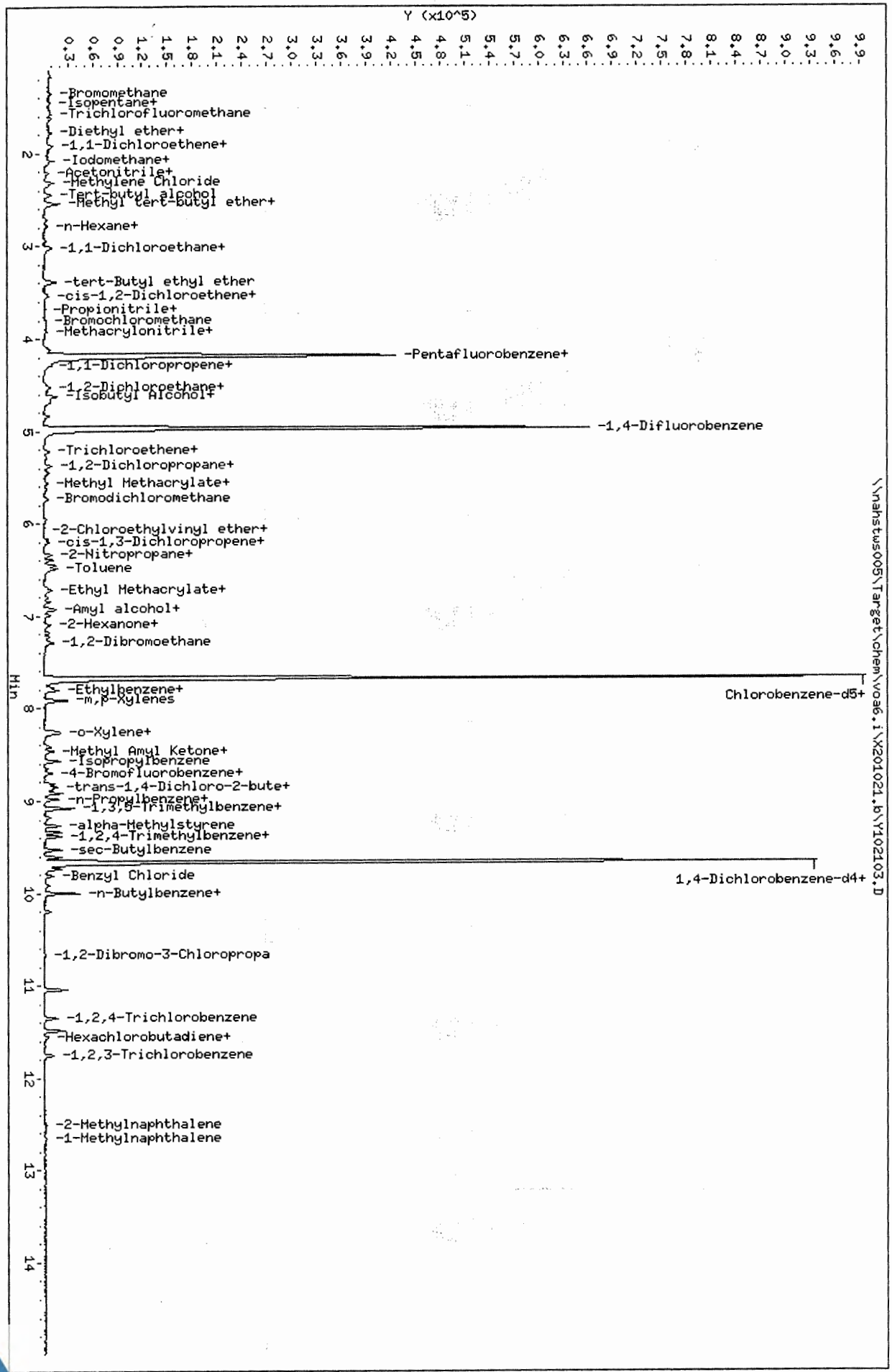
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	404887	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	578331	50.0000	
*	47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	523483	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	250882	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.490	4.490	(1.072)	2042	0.50000	0.97(Ta)
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	3608	0.50000	0.45(a)
$	30 Dibromofluoromethane	113	4.125	4.125	(0.985)	1918	0.50000	0.53(a)
$	48 Toluene-d8	98	6.395	6.395	(0.834)	8075	0.50000	0.62(a)
	53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	1281	0.50000	0.49(aM)
	11 1,1-Dichloroethene	96	1.926	1.926	(0.460)	1352	0.50000	0.55(a)
	33 1,2-Dichloroethane	62	4.569	4.569	(0.919)	2438	0.50000	0.58(aM)
	27 cis-1,2-Dichloroethene	96	3.545	3.545	(0.846)	2284	0.50000	0.55(a)
	17 Methylene Chloride	84	2.313	2.313	(0.552)	3225	0.50000	0.59(a)
	38 Trichloroethene	130	5.214	5.214	(1.049)	2754	0.50000	0.64(a)
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	1759	0.50000	0.58(a)

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

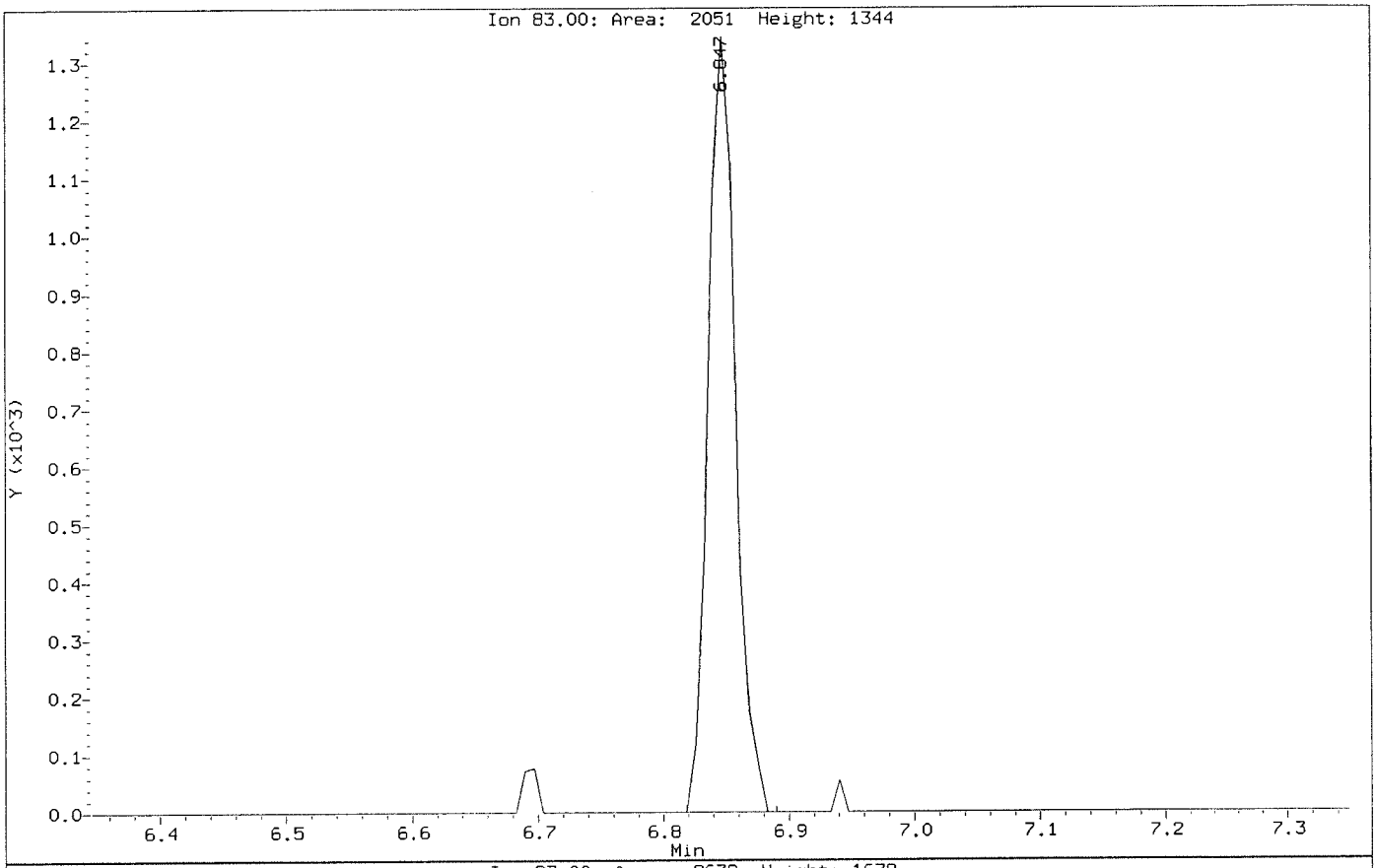


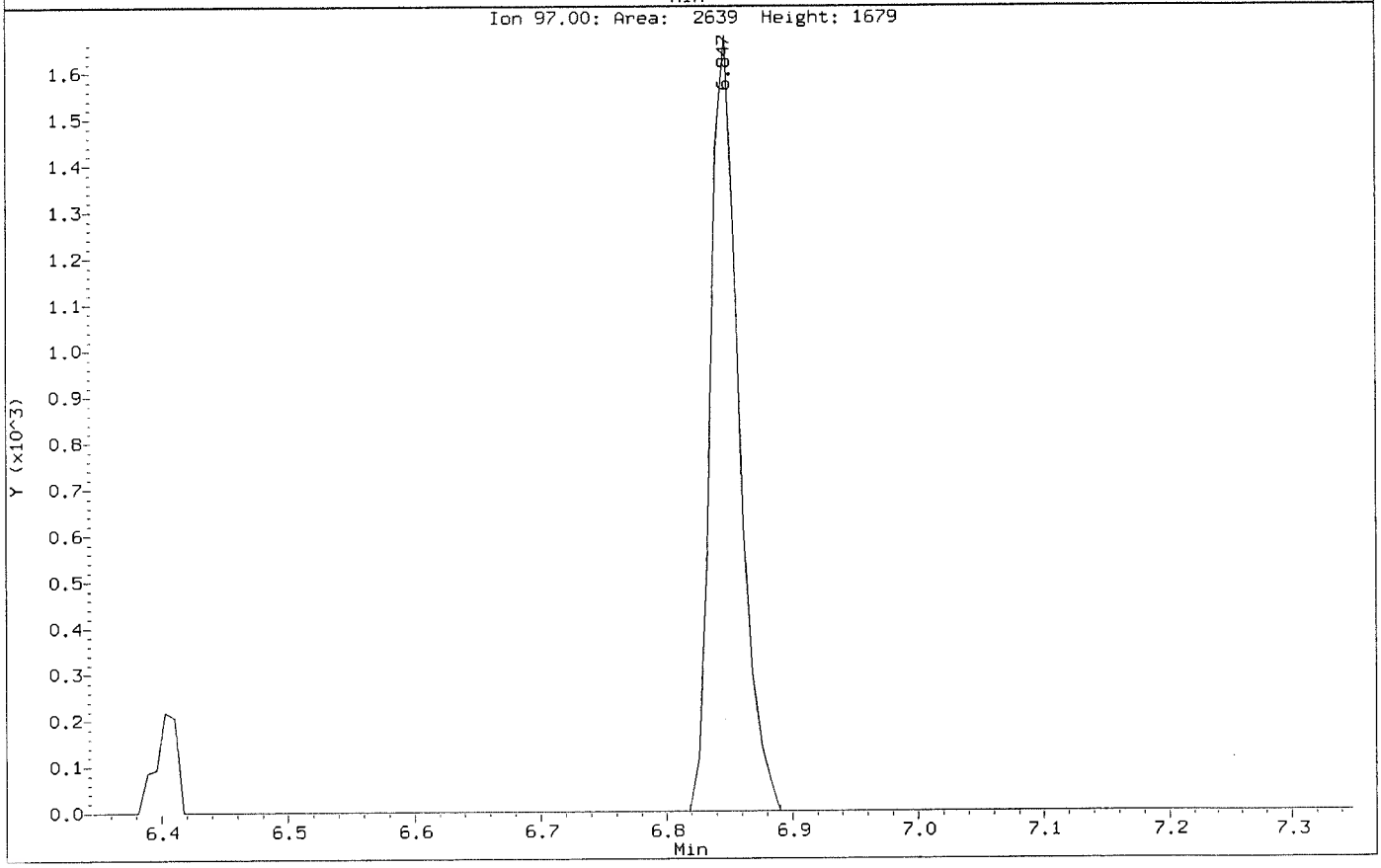
Data File: \\nahstws005\Target\chem\voa6.i\X201021.b\Y102103.D
Date : 21-OCT-2020 17:05
Client ID: VSTD000.5
Sample Info: VSTD000.5;VSTD000.5;1;2;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201021.b\Before\Y102103.D
Injection Date: 21-OCT-2020 17:05
Instrument: voa6.i
Client Sample ID: VSTD000.5

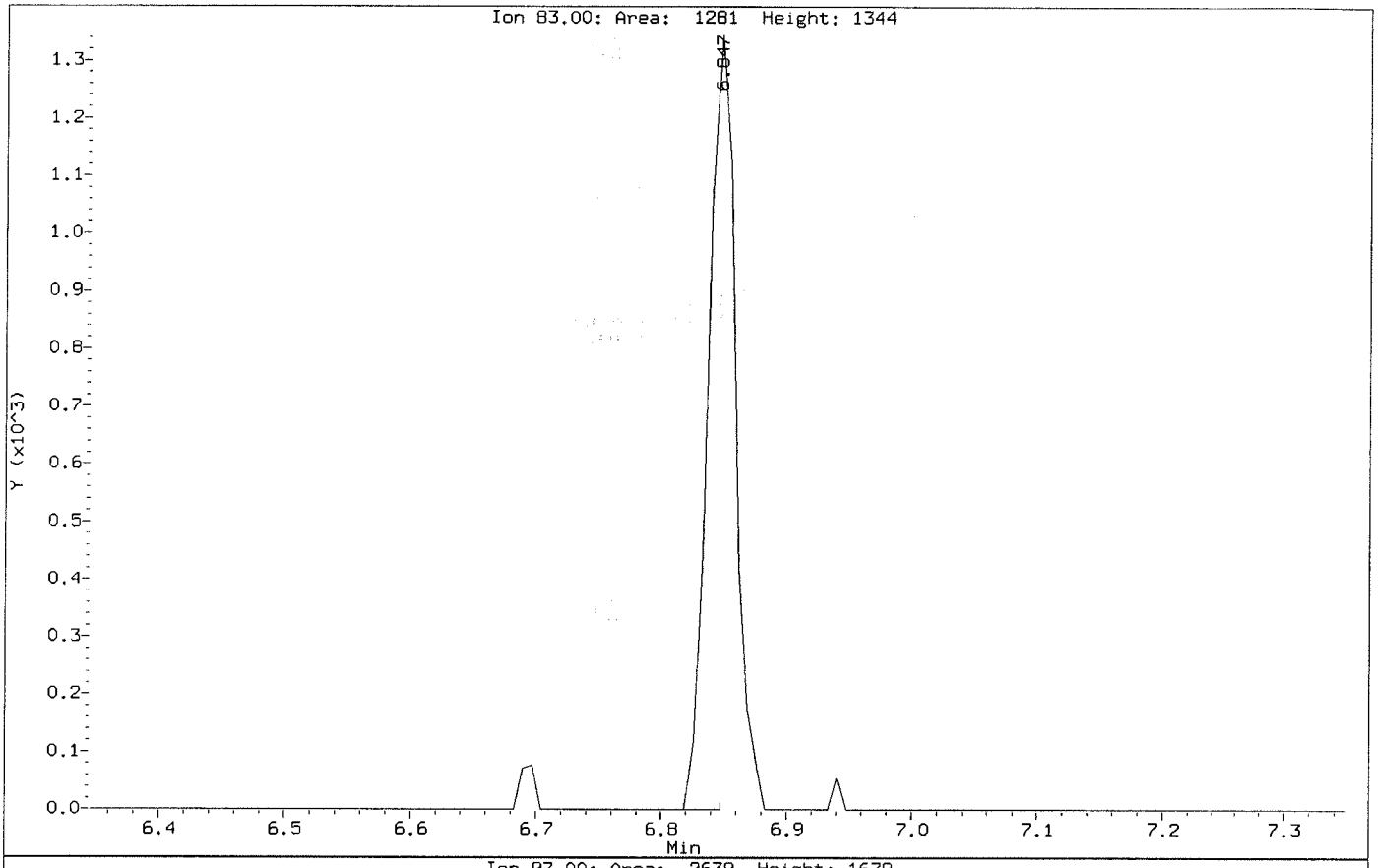
Compound: 1,1,2-Trichloroethane
CAS Number: 79-00-5

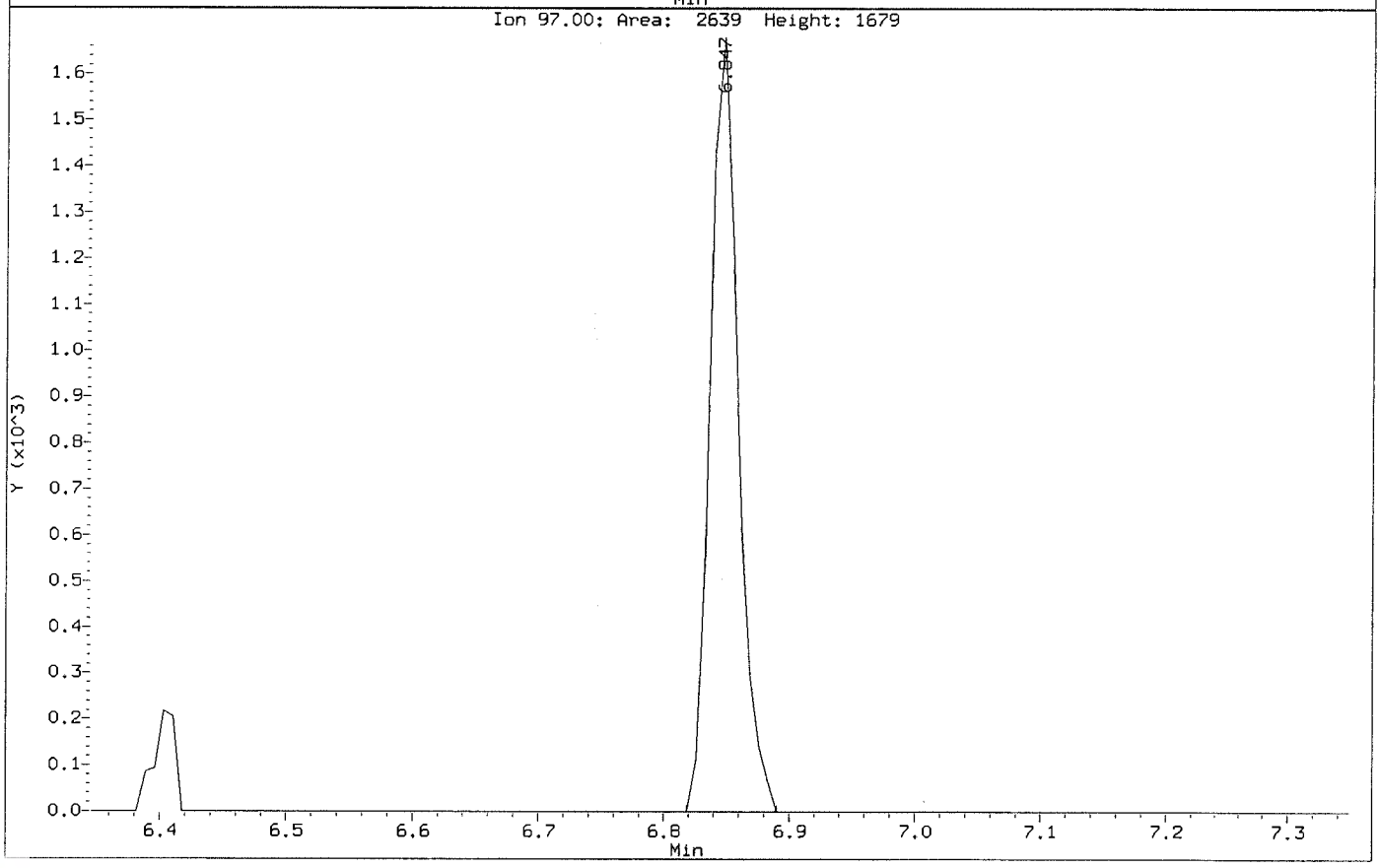




Data File: \\nahstws005\Target\chem\voa6.i\X201021.b\Y102103.D
Injection Date: 21-OCT-2020 17:05
Instrument: voa6.i
Client Sample ID: VSTD000.5

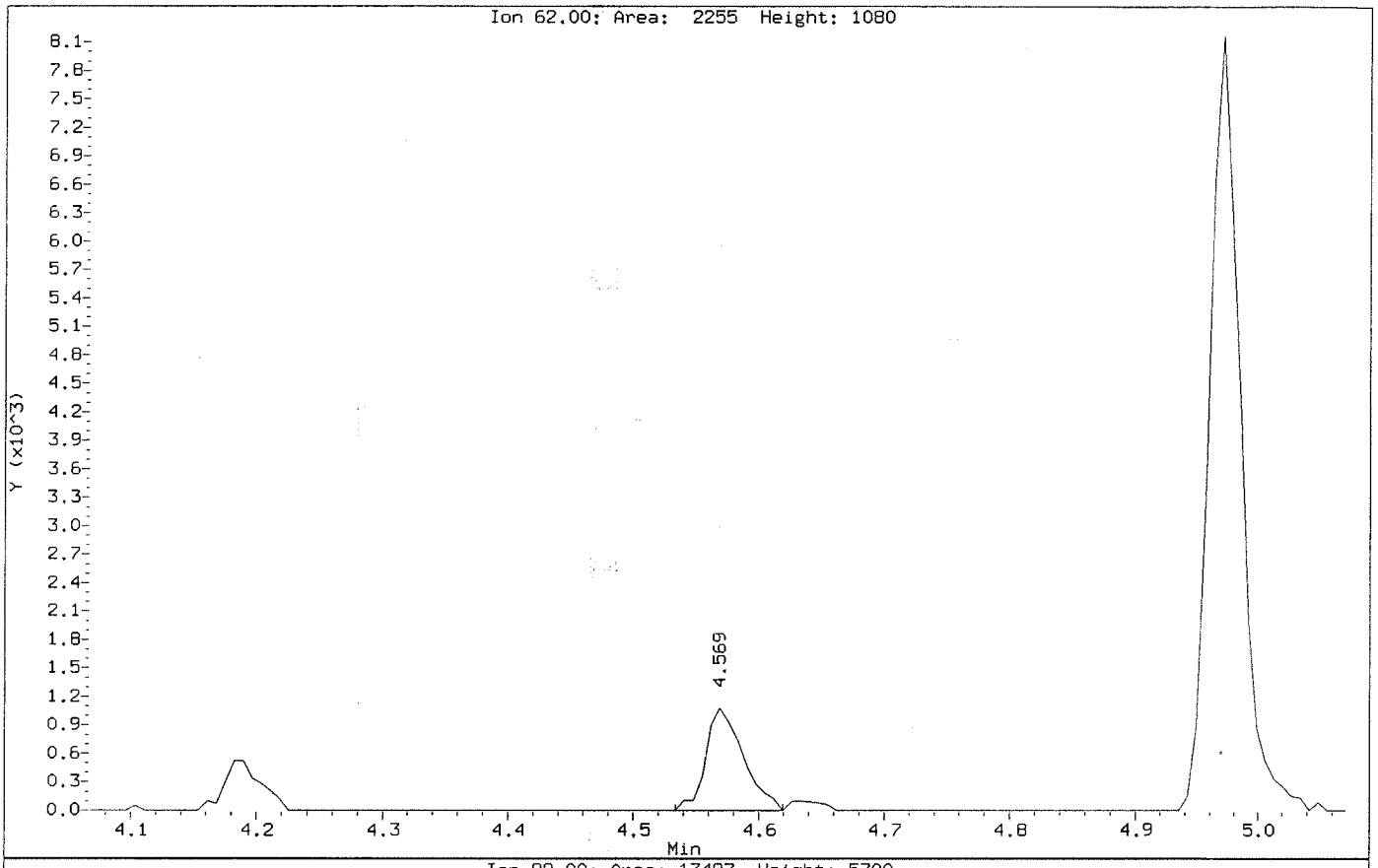
Compound: 1,1,2-Trichloroethane
CAS Number: 79-00-5

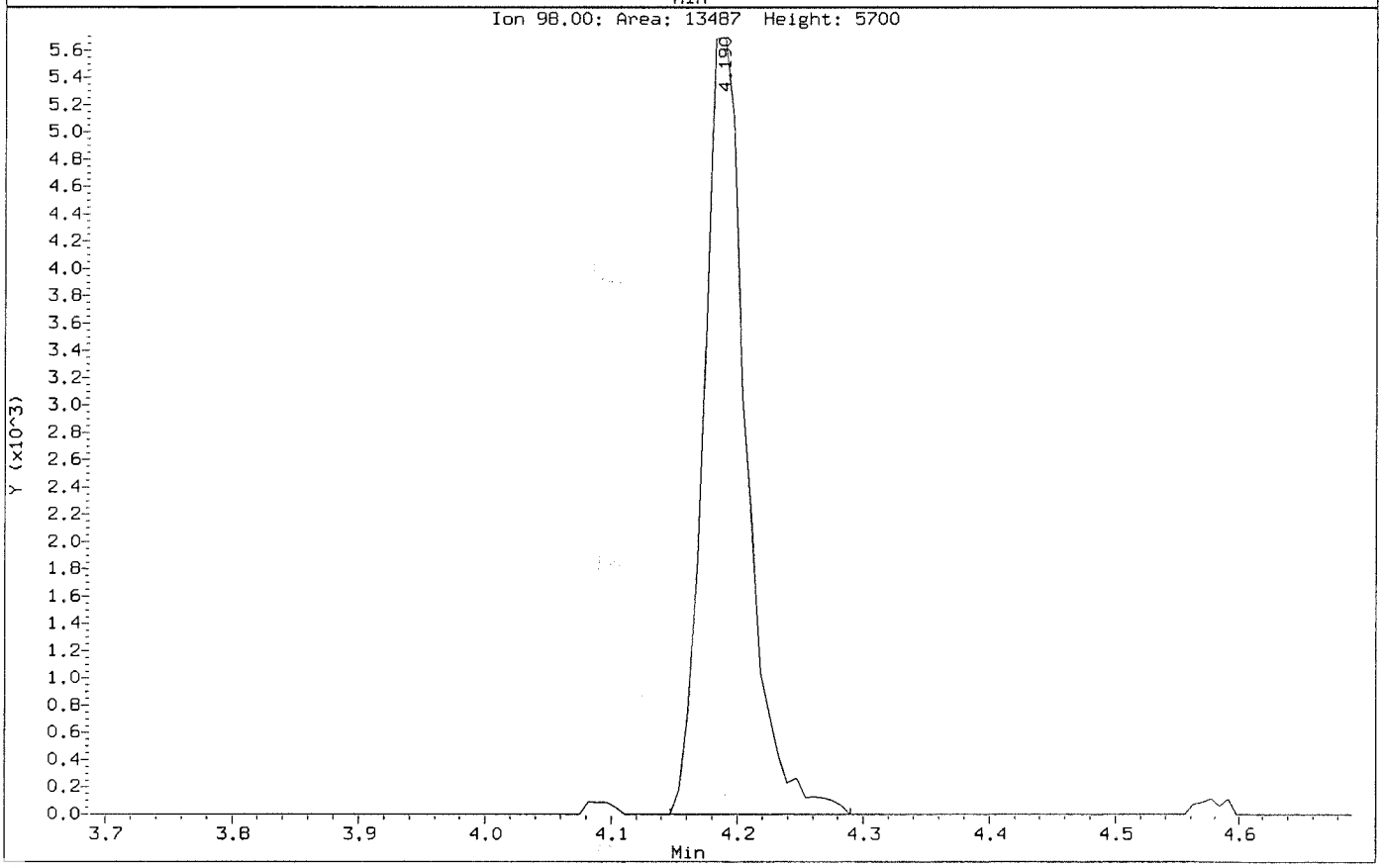




Data File: \\nahstws005\Target\chem\voa6.i\X201021.b\Before\Y102103.D
Injection Date: 21-OCT-2020 17:05
Instrument: voa6.i
Client Sample ID: VSTD000.5

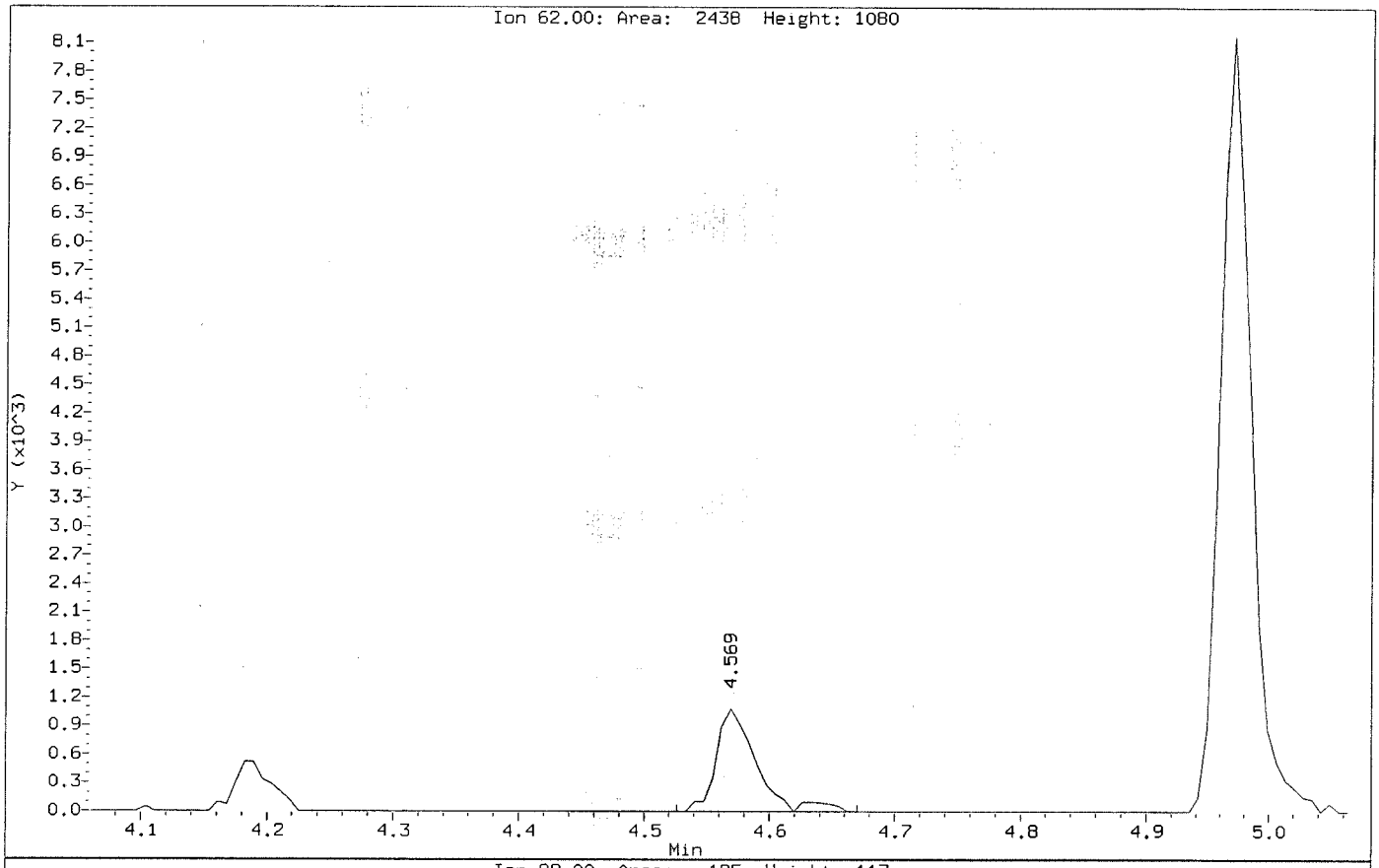
Compound: 1.2-Dichloroethane
CAS Number: 107-06-2

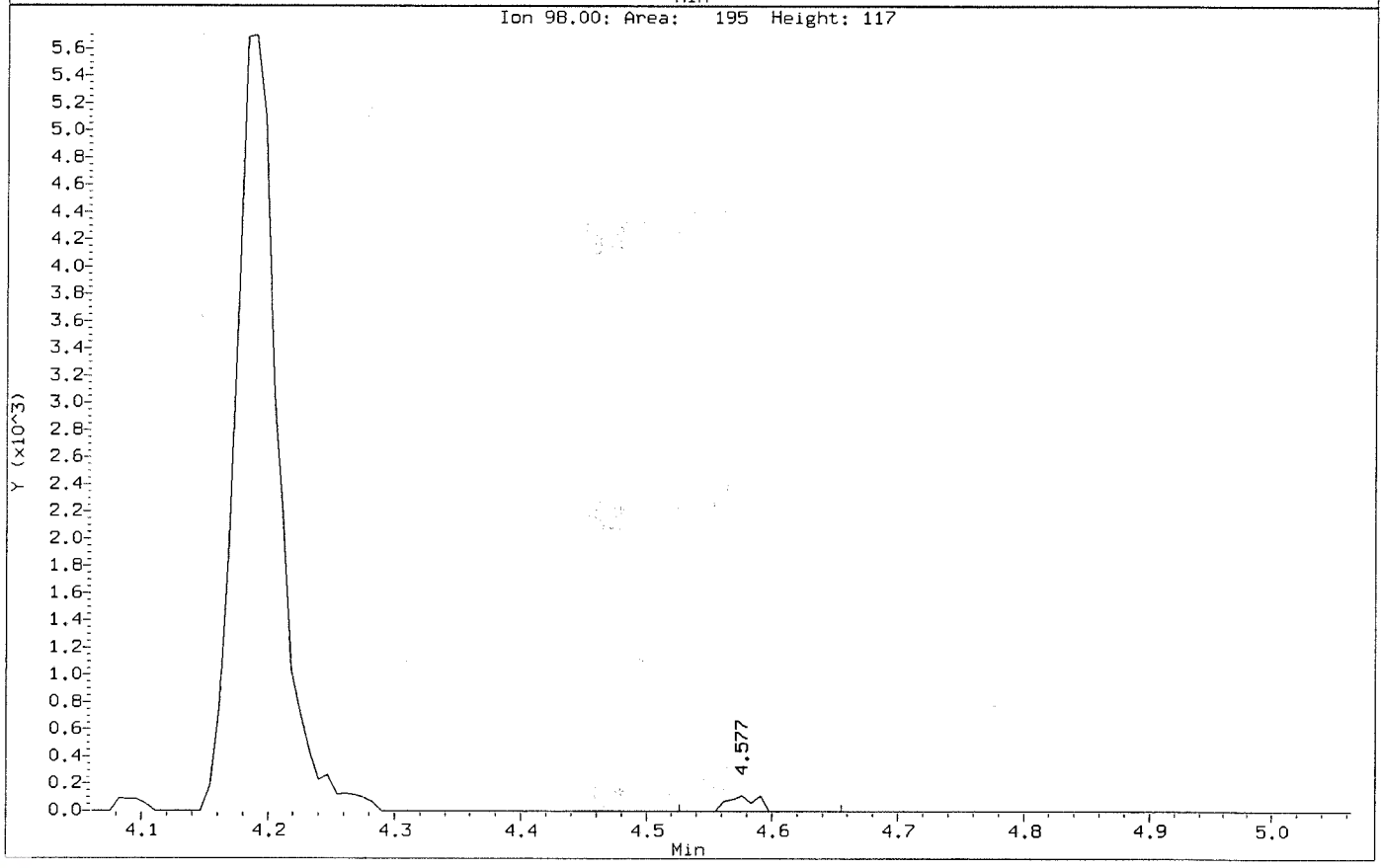




Data File: \\nahstws005\Target\chem\voa6.i\X201021.b\Y102103.D
Injection Date: 21-OCT-2020 17:05
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,2-Dichloroethane
CAS Number: 107-06-2





ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201021.b\Y102104.D
Lab Smp Id: VSTD001 Client Smp ID: VSTD001
Inj Date : 21-OCT-2020 17:47
Operator : PC Inst ID: voa6.i
Smp Info : VSTD001;VSTD001;1;3;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201021.b\8260W.m
Meth Date : 30-Nov-2020 12:41 voa6.i Quant Type: ISTD
Cal Date : 21-OCT-2020 17:05 Cal File: Y102103.D
Als bottle: 7 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

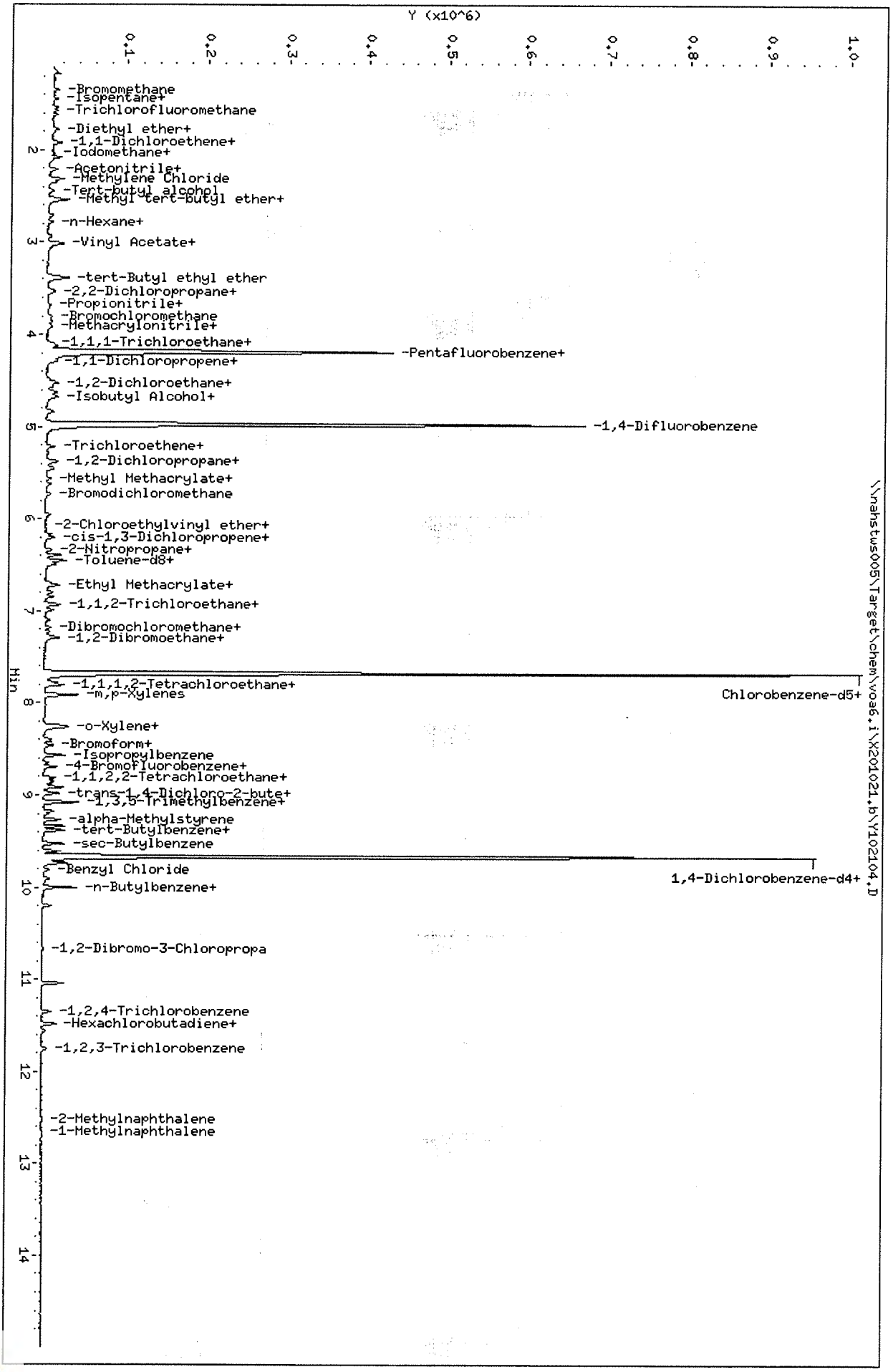
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	404562	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	589197	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	529867	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	258119	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.070)	3884	1.00000	1.49(a)
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	5292	1.00000	0.82(a)
$	30 Dibromofluoromethane	113	4.118	4.118	(0.983)	3442	1.00000	0.96(a)
$	48 Toluene-d8	98	6.396	6.396	(0.834)	13038	1.00000	0.98(a)
	53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	2697	1.00000	1.03(a)
	11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	2601	1.00000	1.06(a)
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	4548	1.00000	1.06(a)
	27 cis-1,2-Dichloroethene	96	3.537	3.537	(0.844)	4074	1.00000	0.99(a)
	17 Methylene Chloride	84	2.313	2.313	(0.552)	5146	1.00000	1.12(a)
	38 Trichloroethene	130	5.214	5.214	(1.049)	4333	1.00000	0.99(a)
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	2992	1.00000	0.99(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).



Data File: \\nahstws005\Target\chem\voa6.i\X201021.b\Y102104.D
Date : 21-OCT-2020 17:47
Client ID: VSTD001
Sample Info: VSTD001;VSTD001;1;3;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201021.b\Y102105.D Page 1
Report Date: 30-Nov-2020 12:41

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201021.b\Y102105.D
Lab Smp Id: VSTD002 Client Smp ID: VSDT002
Inj Date : 21-OCT-2020 18:08
Operator : PC Inst ID: voa6.i
Smp Info : VSTD002;VSDT002;1;4;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201021.b\8260W.m
Meth Date : 30-Nov-2020 12:41 voa6.i Quant Type: ISTD
Cal Date : 21-OCT-2020 17:47 Cal File: Y102104.D
Als bottle: 8 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

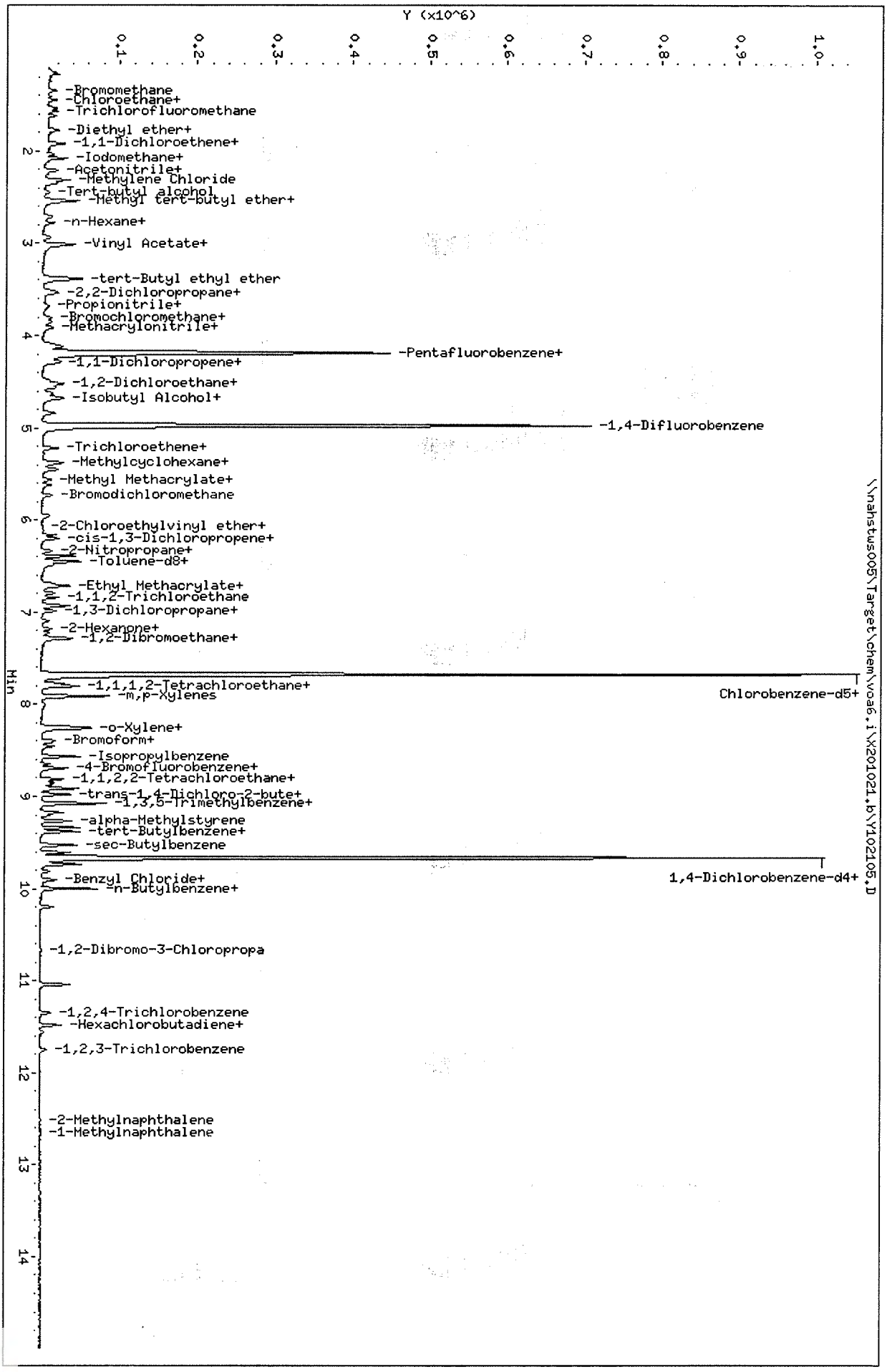
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	412758	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	609169	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	553681	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	258562	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.070)	8241	2.00000	2.68(a)
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	10119	2.00000	1.82(a)
$ 30 Dibromofluoromethane	113	4.111	4.111	(0.981)	7467	2.00000	2.05(a)
$ 48 Toluene-d8	98	6.396	6.396	(0.834)	28124	2.00000	2.04(a)
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	5184	2.00000	1.90(a)
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	4629	2.00000	1.86(a)
33 1,2-Dichloroethane	62	4.569	4.569	(0.919)	8680	2.00000	1.96(a)
27 cis-1,2-Dichloroethene	96	3.545	3.545	(0.846)	8516	2.00000	2.03(a)
17 Methylene Chloride	84	2.313	2.313	(0.552)	8361	2.00000	1.95(a)
38 Trichloroethene	130	5.214	5.214	(1.049)	8049	2.00000	1.79(a)
5 Vinyl Chloride	62	1.145	1.145	(0.273)	5795	2.00000	1.88(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).



Data File: \\nahstws005\Target\chem\voa6.i\X201021.b\Y102105.D
Date : 21-OCT-2020 18:08
Client ID: VSDT002
Sample Info: VSTD002;VSDT002;1;4;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201021.b\Y102106.D
Lab Smp Id: VSTD005 Client Smp ID: VSTD005
Inj Date : 21-OCT-2020 18:28
Operator : PC Inst ID: voa6.i
Smp Info : VSTD005;VSTD005;1;5;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201021.b\8260W.m
Meth Date : 30-Nov-2020 12:41 voa6.i Quant Type: ISTD
Cal Date : 21-OCT-2020 18:08 Cal File: Y102105.D
Als bottle: 9 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

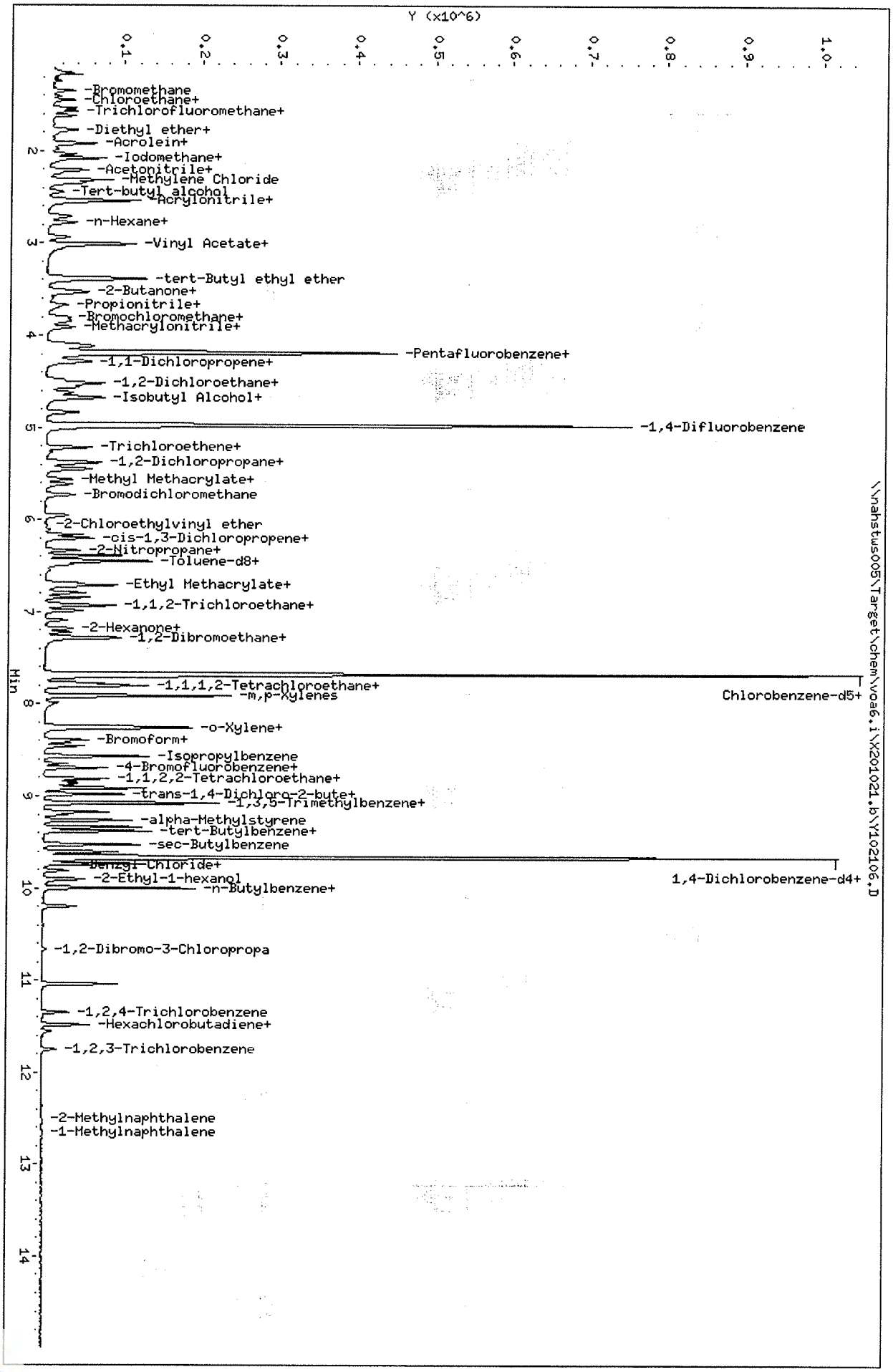
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	417074	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	606257	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	538767	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	259121	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.070)	19688	5.00000	5.79
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	22864	5.00000	4.74(a)
$	30 Dibromofluoromethane	113	4.110	4.110	(0.981)	18716	5.00000	5.10
$	48 Toluene-d8	98	6.395	6.395	(0.834)	64108	5.00000	4.78(a)
	53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	13952	5.00000	5.27
	11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	11546	5.00000	4.60(a)
	33 1,2-Dichloroethane	62	4.569	4.569	(0.919)	20390	5.00000	4.63(a)
	27 cis-1,2-Dichloroethene	96	3.537	3.537	(0.844)	21001	5.00000	4.95(a)
	17 Methylene Chloride	84	2.313	2.313	(0.552)	20059	5.00000	5.01
	38 Trichloroethene	130	5.214	5.214	(1.049)	21608	5.00000	4.83(a)
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	14189	5.00000	4.55(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).



Data File: \\nahstus005\Target\chem\voa6.i\X201021.b\Y102106.D
Date : 21-OCT-2020 18:28
Client ID: VSTD005
Sample Info: VSTD005;VSTD005;1;5;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

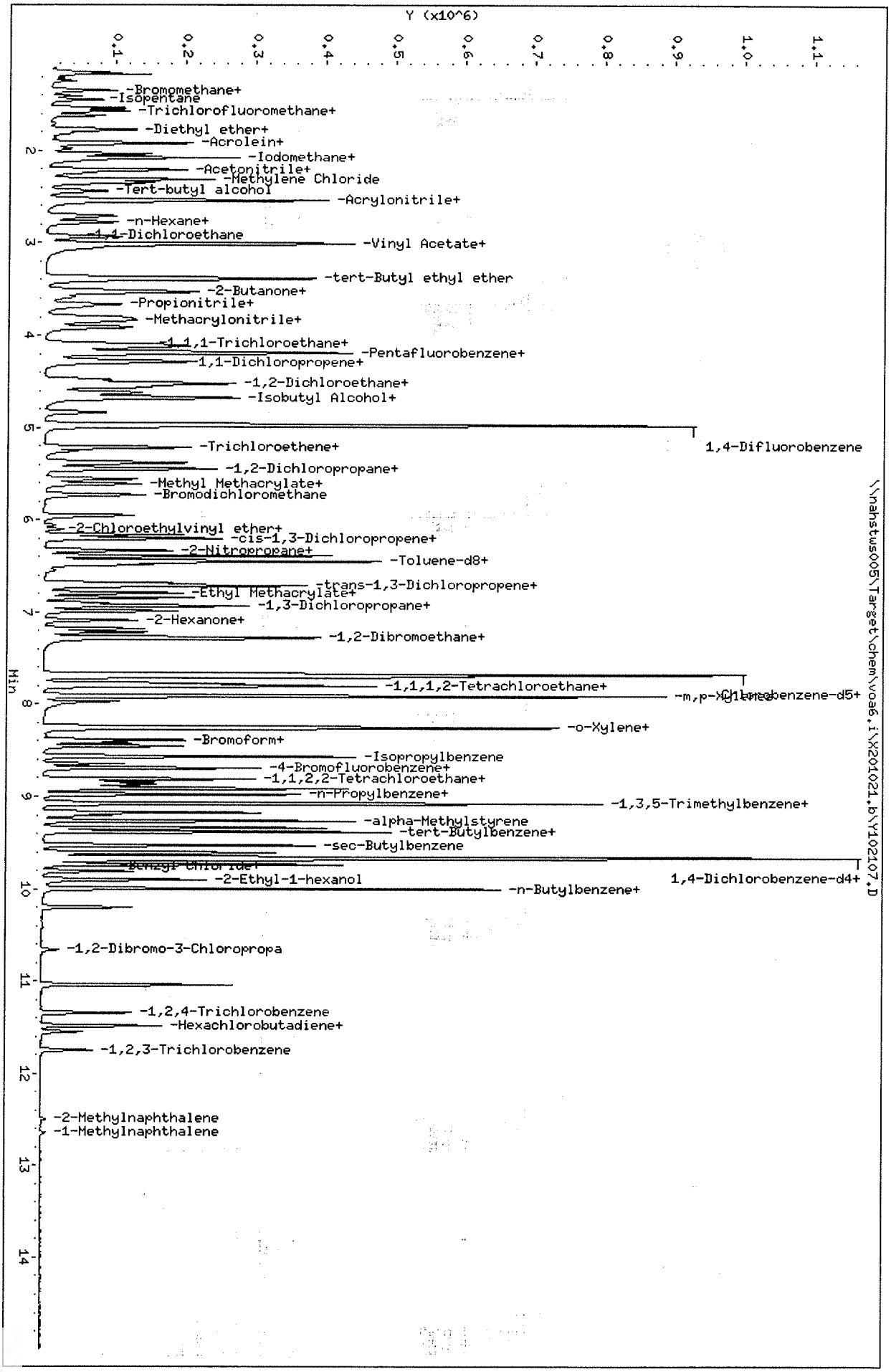
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201021.b\Y102107.D
Lab Smp Id: VSTD020 Client Smp ID: VSTD020
Inj Date : 21-OCT-2020 18:49
Operator : PC Inst ID: voa6.i
Smp Info : VSTD020;VSTD020;1;6;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201021.b\8260W.m
Meth Date : 30-Nov-2020 12:41 voa6.i Quant Type: ISTD
Cal Date : 21-OCT-2020 18:28 Cal File: Y102106.D
Als bottle: 10 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	395652	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	568136	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	509437	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	242328	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	66972	20.0000	19.76
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	85255	20.0000	19.82
$ 30 Dibromofluoromethane	113	4.110	4.110	(0.981)	68329	20.0000	19.64
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	243276	20.0000	19.19
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	51059	20.0000	20.40
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	43955	20.0000	18.48
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	80998	20.0000	19.63
27 cis-1,2-Dichloroethene	96	3.537	3.537	(0.844)	78193	20.0000	19.45
17 Methylene Chloride	84	2.312	2.312	(0.552)	71151	20.0000	19.52
38 Trichloroethene	130	5.214	5.214	(1.049)	77207	20.0000	18.44
5 Vinyl Chloride	62	1.145	1.145	(0.273)	52991	20.0000	17.94



Data File: \\nahstws005\Target\chem\voa6.i\X201021.b\Y102107.D
Date : 21-OCT-2020 18:49
Client ID: VSTD020
Sample Info: VSTD020;VSTD020;1;6;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

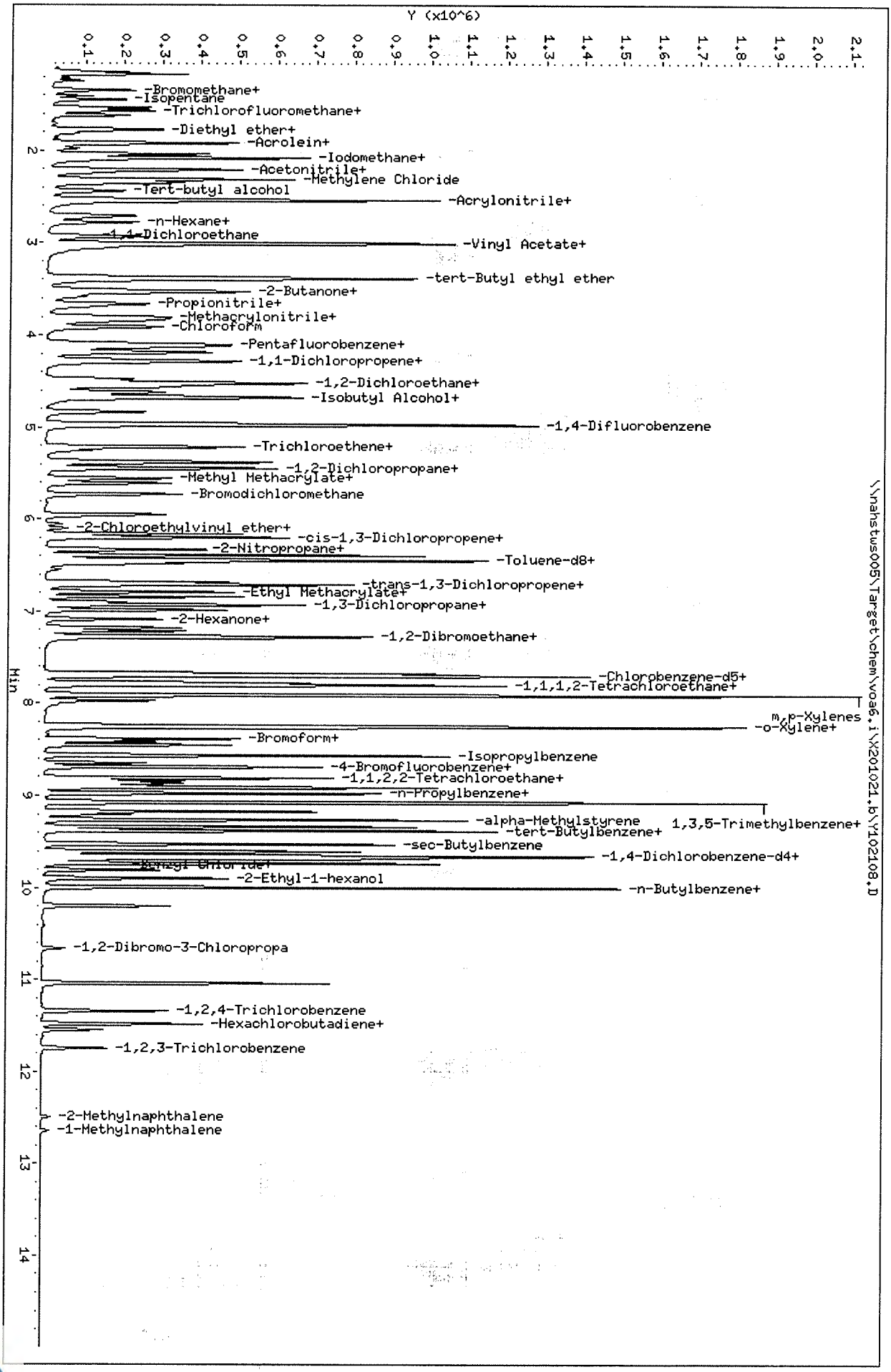
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201021.b\Y102108.D
Lab Smp Id: VSTD050 Client Smp ID: VSTD050
Inj Date : 21-OCT-2020 19:10
Operator : PC Inst ID: voa6.i
Smp Info : VSTD050;VSTD050;1;7;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201021.b\8260W.m
Meth Date : 30-Nov-2020 12:41 voa6.i Quant Type: ISTD
Cal Date : 21-OCT-2020 18:49 Cal File: Y102107.D
Als bottle: 11 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	386077	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	544665	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	494355	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	232567	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	161294	50.0000	48.18
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	206439	50.0000	50.04
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	164632	50.0000	48.50
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	588538	50.0000	47.85
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	120169	50.0000	49.47
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	109495	50.0000	47.19
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	190598	50.0000	48.19
27 cis-1,2-Dichloroethene	96	3.538	3.538	(0.844)	189594	50.0000	48.33
17 Methylene Chloride	84	2.313	2.313	(0.552)	174234	50.0000	49.41
38 Trichloroethene	130	5.214	5.214	(1.049)	185191	50.0000	46.14
5 Vinyl Chloride	62	1.145	1.145	(0.273)	131740	50.0000	45.71



Data File: \\nahstws005\Target\chem\voa6.i\X201021.b\Y102108.D
Date : 21-OCT-2020 19:10
Client ID: VSTD050
Sample Info: VSTD050;VSTD050;1;7;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

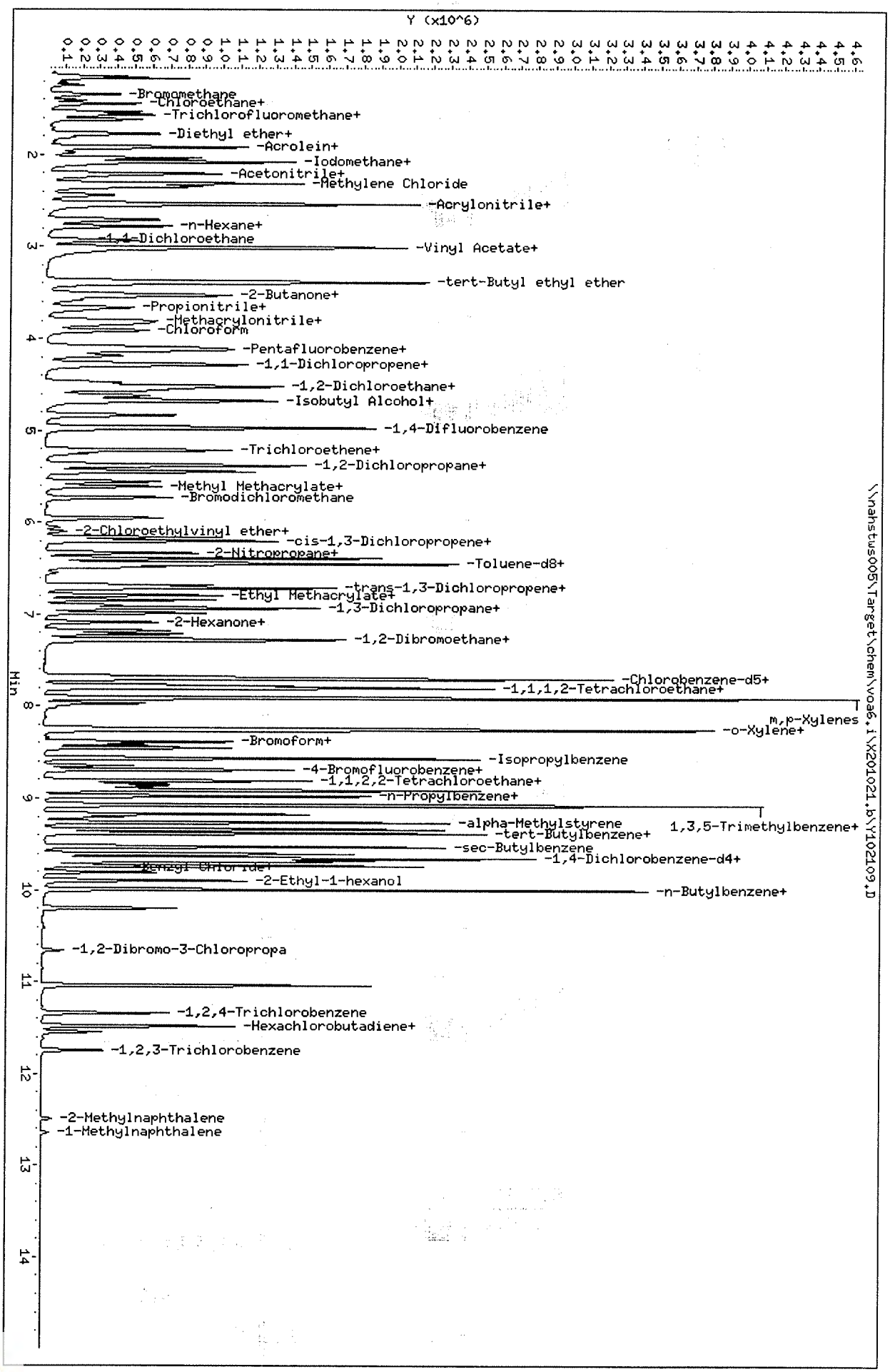
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201021.b\Y102109.D
Lab Smp Id: VSTD100 Client Smp ID: VSTD100
Inj Date : 21-OCT-2020 19:31
Operator : PC Inst ID: voa6.i
Smp Info : VSTD100;VSTD100;1;8;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201021.b\8260W.m
Meth Date : 30-Nov-2020 12:41 voa6.i Quant Type: ISTD
Cal Date : 21-OCT-2020 19:10 Cal File: Y102108.D
Als bottle: 12 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	372656	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	520976	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	483462	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	224592	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	310860	100.000	95.82
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	398372	100.000	99.12
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	312888	100.000	95.49
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	1144394	100.000	95.14
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	234805	100.000	98.85
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	225712	100.000	100.79
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	368388	100.000	97.38
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	366783	100.000	96.87
17 Methylene Chloride	84	2.313	2.313	(0.552)	338837	100.000	99.84
38 Trichloroethene	130	5.214	5.214	(1.049)	382423	100.000	99.61
5 Vinyl Chloride	62	1.145	1.145	(0.273)	280725	100.000	100.91



Data File: \\nahstws005\Target\chem\voa6.i\X201021.b\Y102109.D
Date : 21-OCT-2020 19:31
Client ID: VSTD100
Sample Info: VSTD100;VSTD100;1;8;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

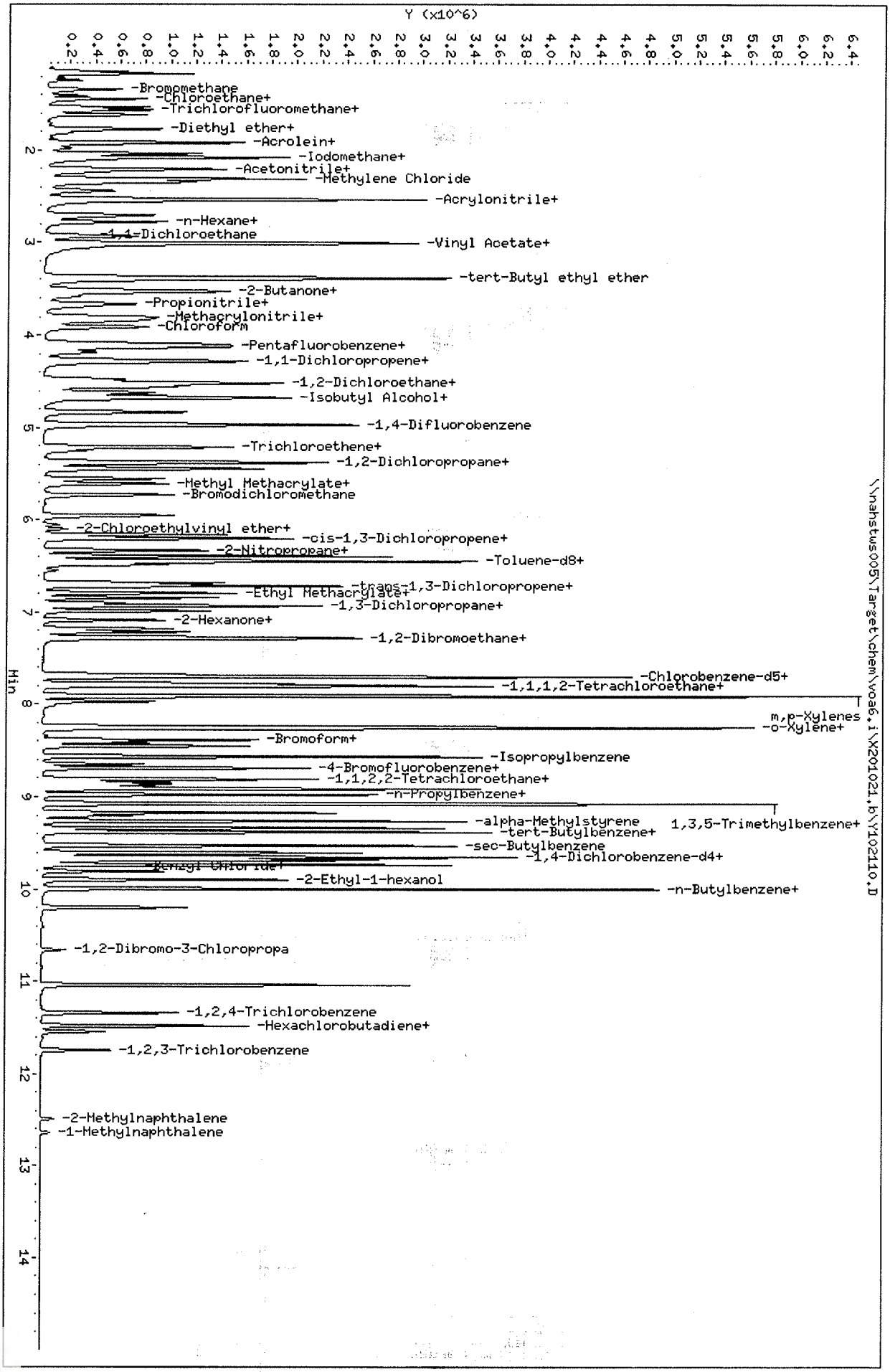
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201021.b\Y102110.D
Lab Smp Id: VSTD150 Client Smp ID: VSTD150
Inj Date : 21-OCT-2020 19:52
Operator : PC Inst ID: voa6.i
Smp Info : VSTD150;VSTD150;1;9;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201021.b\8260W.m
Meth Date : 30-Nov-2020 12:41 voa6.i Quant Type: ISTD
Cal Date : 21-OCT-2020 19:31 Cal File: Y102109.D
Als bottle: 13 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	338815	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	487328	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	460945	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	214286	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	461995	150.000	156.38
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	596302	150.000	155.84
$	30 Dibromofluoromethane	113	4.103	4.103	(0.979)	456803	150.000	153.34
$	48 Toluene-d8	98	6.388	6.388	(0.833)	1687804	150.000	147.18
	53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	337424	150.000	148.99
	11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	318042	150.000	156.21
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	523082	150.000	147.82
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	519057	150.000	150.78
	17 Methylene Chloride	84	2.313	2.313	(0.552)	472805	150.000	153.38
	38 Trichloroethene	130	5.214	5.214	(1.049)	541131	150.000	150.68
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	402395	150.000	159.10



Data File: \\nahstws005\Target\chem\voa6.i\X201021.b\Y102110.D
Date : 21-OCT-2020 19:52
Client ID: VSTD150
Sample Info: VSTD150;VSTD150;1;9;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201021.b\Y102111.D Page 1
Report Date: 30-Nov-2020 12:41

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201021.b\Y102111.D
Lab Smp Id: VSTD200 Client Smp ID: VSTD200
Inj Date : 21-OCT-2020 20:13
Operator : PC Inst ID: voa6.i
Smp Info : VSTD200;VSTD200;1;10;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201021.b\8260W.m
Meth Date : 30-Nov-2020 12:41 voa6.i Quant Type: ISTD
Cal Date : 21-OCT-2020 19:52 Cal File: Y102110.D
Als bottle: 14 Calibration Sample, Level: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

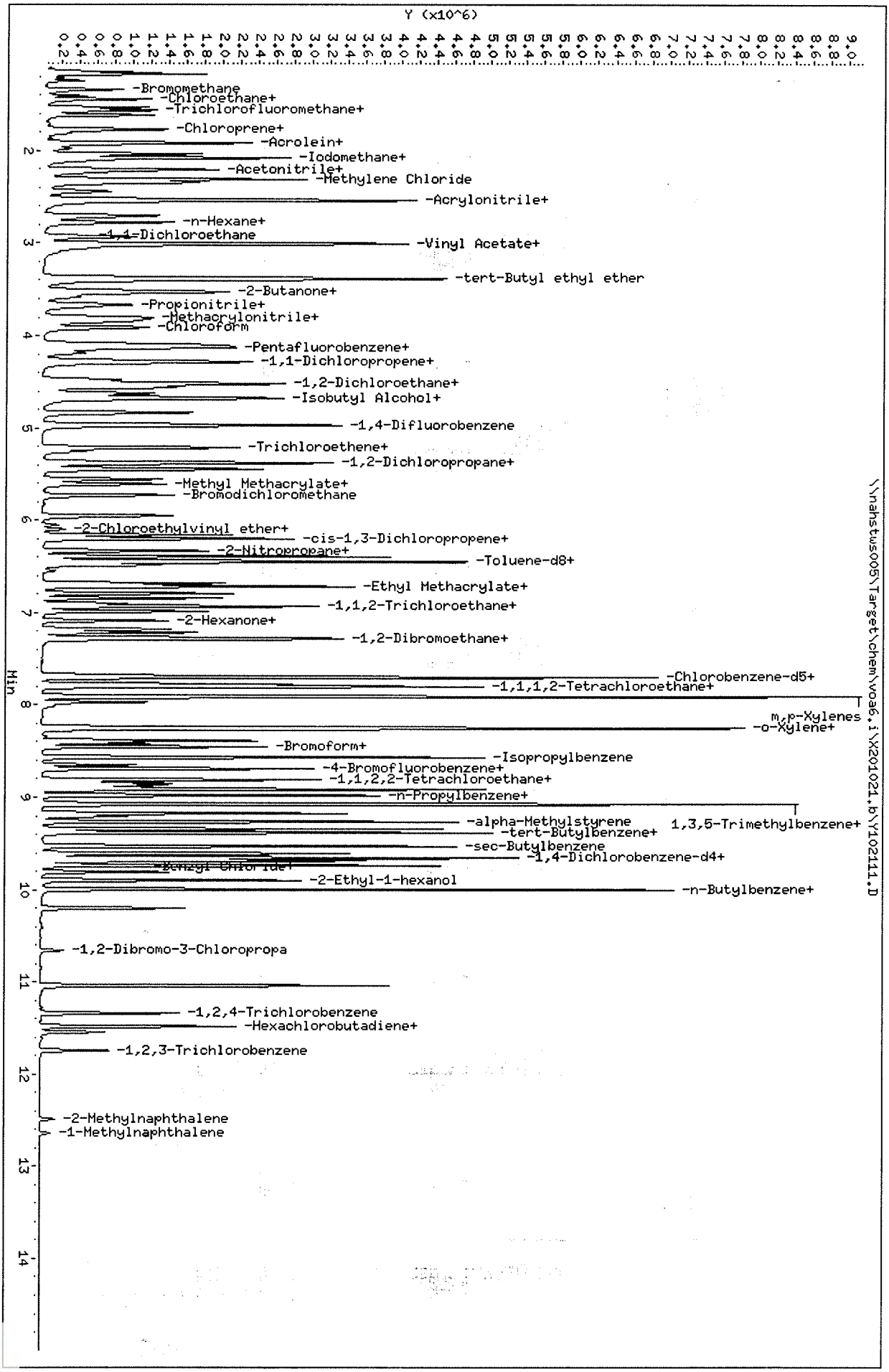
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	366413	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	525124	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	498082	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	224633	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	630980	200.000	197.39
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	809167	200.000	195.80
$ 30 Dibromofluoromethane	113	4.104	4.104	(0.979)	628722	200.000	195.16
$ 48 Toluene-d8	98	6.389	6.389	(0.833)	2339197	200.000	188.77
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	474388	200.000	193.86
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	460752	200.000	209.26(A)
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	734532	200.000	192.64
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	728431	200.000	195.67
17 Methylene Chloride	84	2.306	2.306	(0.550)	658560	200.000	197.63
38 Trichloroethene	130	5.214	5.214	(1.049)	773842	200.000	199.98
5 Vinyl Chloride	62	1.145	1.145	(0.273)	608214	200.000	222.37(A)

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.



Data File: \\nahstws005\Target\chem\voa6.i\X201021.b\Y102111.D
Date : 21-OCT-2020 20:13
Client ID: VSTD200
Sample Info: VSTD200;VSTD200;1;10;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

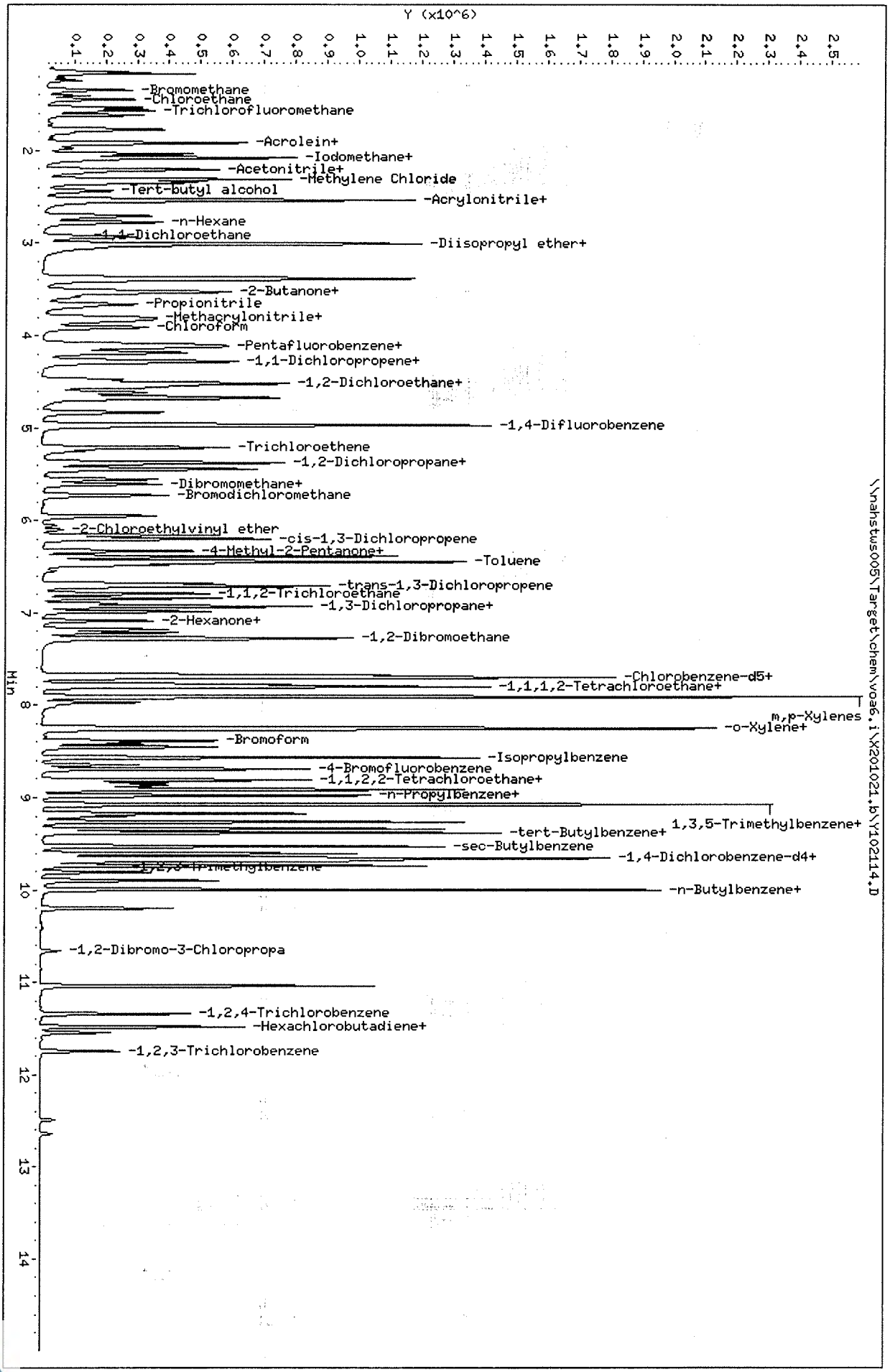
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201021.b\Y102114.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 21-OCT-2020 21:16
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;ICV
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201021.b\8260W.m
Meth Date : 30-Nov-2020 12:41 voa6.i Quant Type: ISTD
Cal Date : 21-OCT-2020 20:13 Cal File: Y102111.D
Als bottle: 17 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	398643	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	582319	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	534722	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	249575	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	180429	52.1739	52.17
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	236243	52.9725	52.97
$ 30 Dibromofluoromethane	113	4.111	4.104	(0.981)	182897	52.1826	52.18
$ 48 Toluene-d8	98	6.388	6.389	(0.833)	667265	50.1594	50.15
53 1,1,2-Trichloroethane	83	6.840	6.847	(0.892)	136024	51.7777	51.77
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	131139	54.7454	54.74
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	209177	49.4716	49.47
27 cis-1,2-Dichloroethene	96	3.537	3.530	(0.844)	210517	51.9781	51.97
17 Methylene Chloride	84	2.313	2.306	(0.552)	193230	53.0973	53.09
38 Trichloroethene	130	5.214	5.214	(1.049)	211983	49.4018	49.40
5 Vinyl Chloride	62	1.145	1.145	(0.273)	172226	57.8785	57.87



Data File: \\nahstws005\Target\chem\voa6.i\X201021.b\Y102114.D
Date : 21-OCT-2020 21:16
Client ID: ICV
Sample Info: CCV;CCV;2;;ICV
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

MSVOA06 -Logbook

Batch: 42121 **Analyst:** Presenta Cabascango

Date: 10-22-2020 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	10-22-2020 10:12 am	1.00	50 mL	50 mL	X102201.D	Liquid	Y	NA
	Auto find/ purged									
2	CCV	CCV	10-22-2020 10:33 am	1.00	50 mL	50 mL	X102202a.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
3	CCV	CCV	10-22-2020 10:54 am	1.00	50 mL	50 mL	X102203.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
4	CCB	SAMP	10-22-2020 11:15 am	1.00	50 mL	50 mL	X102204.D	Liquid	Y	NA
5	VLCSW-201022	LCS	10-22-2020 11:36 am	1.00	50 mL	50 mL	X102205.D	Liquid	Y	NA
	4.0 uL cal std/50 mL DI									
6	BLANK	SAMP	10-22-2020 11:57 am	1.00	50 mL	50 mL	X102206.D	Liquid	Y	NA
7	VBLKW-201022	MBLK	10-22-2020 12:18 pm	1.00	50 mL	50 mL	X102207.D	Liquid	Y	NA
8	HS20100714-04	SAMP	10-22-2020 12:39 pm	1.00	50 mL	50 mL	X102208.D	Liquid	Y	<2
9	HS20100714-01	SAMP	10-22-2020 01:00 pm	1.00	50 mL	50 mL	X102209.D	Liquid	Y	<2
10	HS20100478-01	SAMP	10-22-2020 01:21 pm	2000.0	25 µL	50 mL	X102210.D	Liquid	Y	<2
11	HS20100714-02	SAMP	10-22-2020 01:43 pm	10.00	5 mL	50 mL	X102211.D	Liquid	Y	<2
12	HS20100714-03	SAMP	10-22-2020 02:04 pm	10.00	5 mL	50 mL	X102212.D	Liquid	Y	<2
13	HS20100714-01MS	MS	10-22-2020 02:25 pm	1.00	50 mL	50 mL	X102213.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
14	HS20100714-01MSD	MSD	10-22-2020 02:46 pm	1.00	50 mL	50 mL	X102214.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
15	HS20100714-02	SAMP	10-22-2020 03:07 pm	100.0(	500 µL	50 mL	X102215.D	Liquid	Y	<2
16	HS20100714-03	SAMP	10-22-2020 03:28 pm	100.0(	500 µL	50 mL	X102216.D	Liquid	Y	<2
17	HS20100779-10n/r	SAMP	10-22-2020 03:49 pm	1.00	50 mL	50 mL	X102217.D	Liquid	Y	<2
18	HS20100779-01	SAMP	10-22-2020 04:10 pm	1.00	50 mL	50 mL	X102218.D	Liquid	Y	<2
19	HS20100779-03	SAMP	10-22-2020 04:31 pm	1.00	50 mL	50 mL	X102219.D	Liquid	Y	<2
20	HS20100779-04	SAMP	10-22-2020 04:52 pm	1.00	50 mL	50 mL	X102220.D	Liquid	Y	<2
21	HS20100779-05	SAMP	10-22-2020 05:13 pm	1.00	50 mL	50 mL	X102221.D	Liquid	Y	<2
22	HS20100779-07	SAMP	10-22-2020 05:34 pm	1.00	50 mL	50 mL	X102222.D	Liquid	Y	<2
23	HS20100779-10	SAMP	10-22-2020 05:55 pm	1.00	50 mL	50 mL	X102223.D	Liquid	Y	<2
24	HS20100779-08	SAMP	10-22-2020 06:16 pm	1.00	50 mL	50 mL	X102224.D	Liquid	Y	<2
25	HS20100779-02	SAMP	10-22-2020 06:37 pm	1.00	50 mL	50 mL	X102225.D	Liquid	Y	<2
26	HS20100779-02	SAMP	10-22-2020 06:58 pm	10.00	5 mL	50 mL	X102226.D	Liquid	Y	<2
27	HS20100779-09	SAMP	10-22-2020 07:19 pm	1.00	50 mL	50 mL	X102227.D	Liquid	Y	<2
28	HS20100779-09	SAMP	10-22-2020 07:40 pm	10.00	5 mL	50 mL	X102228.D	Liquid	Y	<2
29	HS20100779-06	SAMP	10-22-2020 08:01 pm	10.00	5 mL	50 mL	X102229.D	Liquid	Y	<2
30	HS20100779-06	SAMP	10-22-2020 08:22 pm	50.00	1 mL	50 mL	X102230.D	Liquid	Y	<2
31	CCV-END	CCV	10-22-2020 08:43 pm	1.00	50 mL	50 mL	X102231.D	Liquid	Y	Na
	10 uL cal std/50 mL DI									
32	BFB	TUNE	10-22-2020 09:04 pm	1.00	50 mL	50 mL	Y102201.D	Liquid	Y	na
	Auto find/ purged									
33	CCV	CCV	10-22-2020 09:25 pm	1.00	50 mL	50 mL	Y102202.D	Liquid	Y	na
	10 uL cal std/50 mL DI									
34	BLANK	SAMP	10-22-2020 09:46 pm	1.00	50 mL	50 mL	Y102203.D	Liquid	Y	na
35	CCB	SAMP	10-22-2020 10:07 pm	1.00	50 mL	50 mL	Y102204.D	Liquid	Y	na
36	VLCSW-201022	LCS	10-22-2020 10:28 pm	1.00	50 mL	50 mL	Y102205.D	Liquid	Y	na
	4.0 uL cal std/50 mL DI									

MSVOA06 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
37	BLANK	SAMP	10-22-2020 10:49 pm	1.00	50 mL	50 mL	Y102206.D	Liquid	Y	na
38	VBLKW-201022	MBLK	10-22-2020 11:10 pm	1.00	50 mL	50 mL	Y102207.D	Liquid	Y	na
39	HS20100830-17	SAMP	10-22-2020 11:31 pm	1.00	50 mL	50 mL	Y102208.D	Liquid	Y	<2
40	HS20100830-13	SAMP	10-22-2020 11:52 pm	1.00	50 mL	50 mL	Y102209.D	Liquid	Y	<2
41	HS20100830-13MS	MS	10-23-2020 12:13 am	1.00	50 mL	50 mL	Y102210.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
42	HS20100830-13MSD	MSD	10-23-2020 12:35 am	1.00	50 mL	50 mL	Y102211.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
43	HS20100929-15	SAMP	10-23-2020 12:56 am	1.00	50 mL	50 mL	Y102212.D	Liquid	Y	<2
44	HS20100925-03	SAMP	10-23-2020 01:17 am	100.0(	500 µL	50 mL	Y102213.D	Liquid	Y	<2
45	HS20101075-02	SAMP	10-23-2020 01:38 am	10.00	5 mL	50 mL	Y102214.D	Liquid	Y	<2
46	HS20100987-03	SAMP	10-23-2020 01:59 am	1.00	50 mL	50 mL	Y102215.D	Liquid	Y	<2
47	HS20100987-04	SAMP	10-23-2020 02:20 am	1.00	50 mL	50 mL	Y102216.D	Liquid	Y	<2
48	HS20100987-05	SAMP	10-23-2020 02:41 am	1.00	50 mL	50 mL	Y102217.D	Liquid	Y	<2
49	HS20100987-06	SAMP	10-23-2020 03:02 am	1.00	50 mL	50 mL	Y102218.D	Liquid	Y	<2
50	HS20100830-14	SAMP	10-23-2020 03:23 am	1.00	50 mL	50 mL	Y102219.D	Liquid	Y	<2
51	HS20100830-15	SAMP	10-23-2020 03:44 am	1.00	50 mL	50 mL	Y102220.D	Liquid	Y	<2
52	HS20100830-16	SAMP	10-23-2020 04:05 am	1.00	50 mL	50 mL	Y102221.D	Liquid	Y	<2
53	HS20100956-13	SAMP	10-23-2020 04:26 am	1.00	50 mL	50 mL	Y102222.D	Liquid	Y	<2
54	HS20100923-09	SAMP	10-23-2020 04:47 am	1.00	50 mL	50 mL	Y102223.D	Liquid	Y	<2
55	HS20100923-10	SAMP	10-23-2020 05:08 am	1.00	50 mL	50 mL	Y102224.D	Liquid	Y	<2
56	MBLK-158715	MBLK	10-23-2020 05:29 am	20.00	2.5 mL	50 mL	Y102225.D	Liquid	Y	<2
	tclps									
57	HS20101065-01	SAMP	10-23-2020 05:51 am	20.00	2.5 mL	50 mL	Y102226.D	Liquid	Y	<2
58	HS20101108-01	SAMP	10-23-2020 06:12 am	20.00	2.5 mL	50 mL	Y102227.D	Liquid	Y	<2
59	HS20101050-06	SAMP	10-23-2020 06:33 am	1.00	50 mL	50 mL	Y102228.D	Liquid	Y	<2
60	HS20101051-08	SAMP	10-23-2020 06:54 am	1.00	50 mL	50 mL	Y102229.D	Liquid	Y	<2
61	HS20101090-13	SAMP	10-23-2020 07:15 am	1.00	50 mL	50 mL	Y102230.D	Liquid	Y	<2

Chemical	Value
SURR SPK ID	31106-51-06
IS ID	31106-51-06
CAL STD ID	31106-52-01/02
BFB ID	31106-51-06
pH Paper	634-64-10

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100779

	CLIENT SAMPLE NO.	SMC1 #	SMC2 #	SMC3 (TOL) #	OTHER (DCE) #	TOT OUT
01	VLCSW-201022	105	104	102	108	0
02	VBLKW+-201022	100	91	103	89	0
03	HS20100714-01	107	94	104	90	0
04	HS20100714-01	107	94	103	89	0
05	HS20100779-03	99	86	93	110	0
06	HS20100779-04	111	92	112	108	0
07	HS20100779-05	85	91	108	109	0
08	HS20100779-07	103	96	101	108	0
09	HS20100779-02	86	96	100	105	0
10	HS20100779-02	123	101	132*	86	1
11	HS20100779-09	107	89	90	92	0
12	HS20100779-09	113	100	118	98	0
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						

		QC LIMITS
SMC1	= 4-Bromofluorobenzene	(70-130)
SMC2	= Dibromofluoromethane	(70-130)
SMC3 (TOL)	= Toluene-d8	(0-130)
OTHER(DCE)	= 1,2-Dichloroethane-d4	(0-130)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 4
VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

VBLKW+-201022

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100779

Lab File ID: X102207 Lab Sample ID: VBLKW-201022

Date Analyzed: 10/22/20 Time Analyzed: 1218

GC Column: DB624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Instrument ID: VOA6

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VLCSW-201022	VLCSW-201022	X102205	1136
02	HS20100714-0	HS20100714-01M	X102213	1425
03	HS20100714-0	HS20100714-01M	X102214	1446
04	HS20100779-0	HS20100779-03	X102219	1631
05	HS20100779-0	HS20100779-04	X102220	1652
06	HS20100779-0	HS20100779-05	X102221	1713
07	HS20100779-0	HS20100779-07	X102222	1734
08	HS20100779-0	HS20100779-02	X102225	1837
09	HS20100779-0	HS20100779-02	X102226	1858
10	HS20100779-0	HS20100779-09	X102227	1919
11	HS20100779-0	HS20100779-09	X102228	1940
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100779

Lab File ID: X102201 BFB Injection Date: 10/22/20

Instrument ID: VOA6 BFB Injection Time: 1012

GC Column: DB624 ID: 0.25 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.9
75	30.0 - 60.0% of mass 95	47.1
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.2
173	Less than 2.0% of mass 174	0.6 (0.9)1
174	Greater than 50.0% of mass 95	73.1
175	5.0 - 9.0% of mass 174	5.9 (8.1)1
176	95.0 - 101.0% of mass 174	72.6 (99.3)1
177	5.0 - 9.0% of mass 176	5.2 (7.2)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CCV	CCV	X102203	10/22/20	1054
02	VLCSW-201022	VLCSW-201022	X102205	10/22/20	1136
03	VBLKW+-20102	VBLKW-201022	X102207	10/22/20	1218
04	HS20100714-0	HS20100714-01M	X102213	10/22/20	1425
05	HS20100714-0	HS20100714-01M	X102214	10/22/20	1446
06	HS20100779-0	HS20100779-03	X102219	10/22/20	1631
07	HS20100779-0	HS20100779-04	X102220	10/22/20	1652
08	HS20100779-0	HS20100779-05	X102221	10/22/20	1713
09	HS20100779-0	HS20100779-07	X102222	10/22/20	1734
10	HS20100779-0	HS20100779-02	X102225	10/22/20	1837
11	HS20100779-0	HS20100779-02	X102226	10/22/20	1858
12	HS20100779-0	HS20100779-09	X102227	10/22/20	1919
13	HS20100779-0	HS20100779-09	X102228	10/22/20	1940
14	CCV-END	CCV-END	X102231	10/22/20	2043
15					
16					
17					
18					
19					
20					
21					
22					

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100779

Instrument ID: VOA6 Calibration Date: 10/22/20 Time: 1054

Lab File ID: X102203 Init. Calib. Date(s): 10/21/20 10/21/20

Init. Calib. Times: 1644 2013

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
1,2-Dichloroethane	0.3630000	0.3490468	0.3490468	0.1	3.84	20.00	AVRG
Trichloroethene	0.3680000	0.3297356	0.3297356	0.2	10.40	20.00	AVRG
Methylene Chloride	49.866805	50.000000	0.4553829	0.1	0.27	20.00	LINR
cis-1,2-Dichloroethene	0.5080000	0.4934215	0.4934215	0.1	2.87	20.00	AVRG
Vinyl Chloride	0.3730000	0.3546448	0.3546448	0.1	4.92	20.00	AVRG
1,1,2-Trichloroethane	0.2460000	0.2464787	0.2464787	0.1	-0.19	20.00	AVRG
1,1-Dichloroethene	0.3000000	0.2883422	0.2883422	0.1	3.88	20.00	AVRG
4-Bromofluorobenzene	50.886028	50.000000	0.4245274	0.1	-1.77	20.00	LINR
Dibromofluoromethane	0.4400000	0.4340562	0.4340562	0.1	1.35	20.00	AVRG
Toluene-d8	1.2440000	1.2183583	1.2183583	0.1	2.06	20.00	AVRG
1,2-Dichloroethane-d4	50.035392	50.000000	0.4339142	0.1	-0.07	20.00	LINR

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100779

Instrument ID: VOA6 Calibration Date: 10/22/20 Time: 2043

Lab File ID: X102231 Init. Calib. Date(s): 10/21/20 10/21/20

Init. Calib. Times: 1644 2013

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
1,2-Dichloroethane	0.3630000	0.3665945	0.3665945	0.1	-0.99	50.00	AVRG
Trichloroethene	0.3680000	0.3205483	0.3205483	0.2	12.89	50.00	AVRG
Methylene Chloride	64.245264	50.000000	0.5859542	0.1	-28.49	50.00	LINR
cis-1,2-Dichloroethene	0.5080000	0.5922822	0.5922822	0.1	-16.59	50.00	AVRG
Vinyl Chloride	0.3730000	0.4371364	0.4371364	0.1	-17.19	50.00	AVRG
1,1,2-Trichloroethane	0.2460000	0.2928204	0.2928204	0.1	-19.03	50.00	AVRG
1,1-Dichloroethene	0.3000000	0.2931008	0.2931008	0.1	2.30	50.00	AVRG
4-Bromofluorobenzene	52.831717	50.000000	0.4406391	0.1	-5.66	50.00	LINR
Dibromofluoromethane	0.4400000	0.5133612	0.5133612	0.1	-16.67	50.00	AVRG
Toluene-d8	1.2440000	1.0631665	1.0631665	0.1	14.54	50.00	AVRG
1,2-Dichloroethane-d4	52.749486	50.000000	0.4576392	0.1	-5.50	50.00	LINR

FORM VII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100779

Lab File ID (Standard): X102203 Date Analyzed: 10/22/20

Instrument ID: VOA6 Time Analyzed: 1054

GC Column: DB624 ID: 0.18 (mm) Heated Purge: (Y/N) N

		IS1(DFB) AREA #	IS1(DFB) RT #	IS2(CBZ) AREA #	IS2(CBZ) RT #	IS3(DCB) AREA #	IS3(DCB) RT #
	12 HOUR STD	566924	4.97	521116	7.67	243069	9.66
	UPPER LIMIT	1133848	5.47	1042232	8.17	486138	10.16
	LOWER LIMIT	283462	4.47	260558	7.17	121535	9.16
	CLIENT SAMPLE NO.						
01	VLCSW-201022	594459	4.97	538403	7.67	251179	9.66
02	VBLKW+-201022	585730	4.97	505131	7.67	226385	9.66
03	HS20100714-01	511440	4.97	429165	7.67	191314	9.67
04	HS20100714-01	515157	4.97	442303	7.67	199248	9.67
05	HS20100779-03	792271	4.97	683454	7.67	294366	9.67
06	HS20100779-04	820523	4.97	638864	7.67	244952	9.67
07	HS20100779-05	812417	4.97	665952	7.67	297643	9.66
08	HS20100779-07	702376	4.97	715788	7.67	325076	9.67
09	HS20100779-02	832040	4.97	690952	7.67	286753	9.67
10	HS20100779-02	782655	4.97	555064	7.67	284867	9.67
11	HS20100779-09	663523	4.97	785964	7.67	342263	9.66
12	HS20100779-09	769223	4.97	632151	7.67	289155	9.67
13							
14							
15							
16							
17							
18							
19							
20							

IS1 (DFB) = 1,4-Difluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100779

Lab File ID (Standard): X102203 Date Analyzed: 10/22/20

Instrument ID: VOA6 Time Analyzed: 1054

GC Column: DB624 ID: 0.18 (mm) Heated Purge: (Y/N) N

		IS4 AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	394389	4.19				
	UPPER LIMIT	788778	4.69				
	LOWER LIMIT	197195	3.69				
	CLIENT SAMPLE NO.						
01	VLCSW-201022	412044	4.19				
02	VBLKW+-201022	422088	4.19				
03	HS20100714-01	370592	4.19				
04	HS20100714-01	375188	4.19				
05	HS20100779-03	503067	4.19				
06	HS20100779-04	450572	4.19				
07	HS20100779-05	473864	4.19				
08	HS20100779-07	536976	4.19				
09	HS20100779-02	534796	4.19				
10	HS20100779-02	544379	4.19				
11	HS20100779-09	528965	4.19				
12	HS20100779-09	549587	4.19				
13							
14							
15							
16							
17							
18							
19							
20							

IS4 = Pentafluorobenzene

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

FORM VIII VOA

Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102201.D

Date : 22-OCT-2020 10:12

Client ID: BFB

Instrument: voa6.i

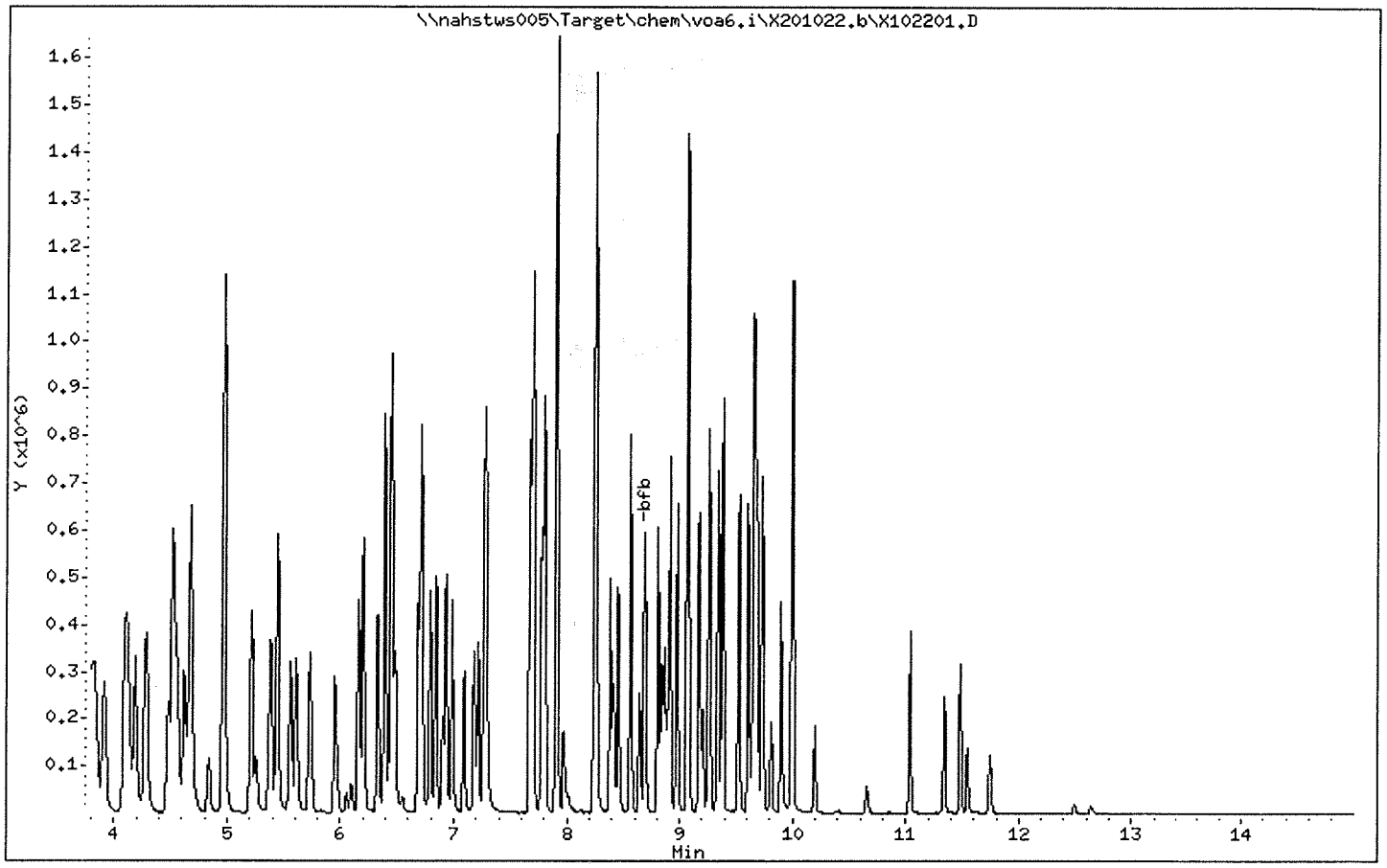
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102201.D

Date : 22-OCT-2020 10:12

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

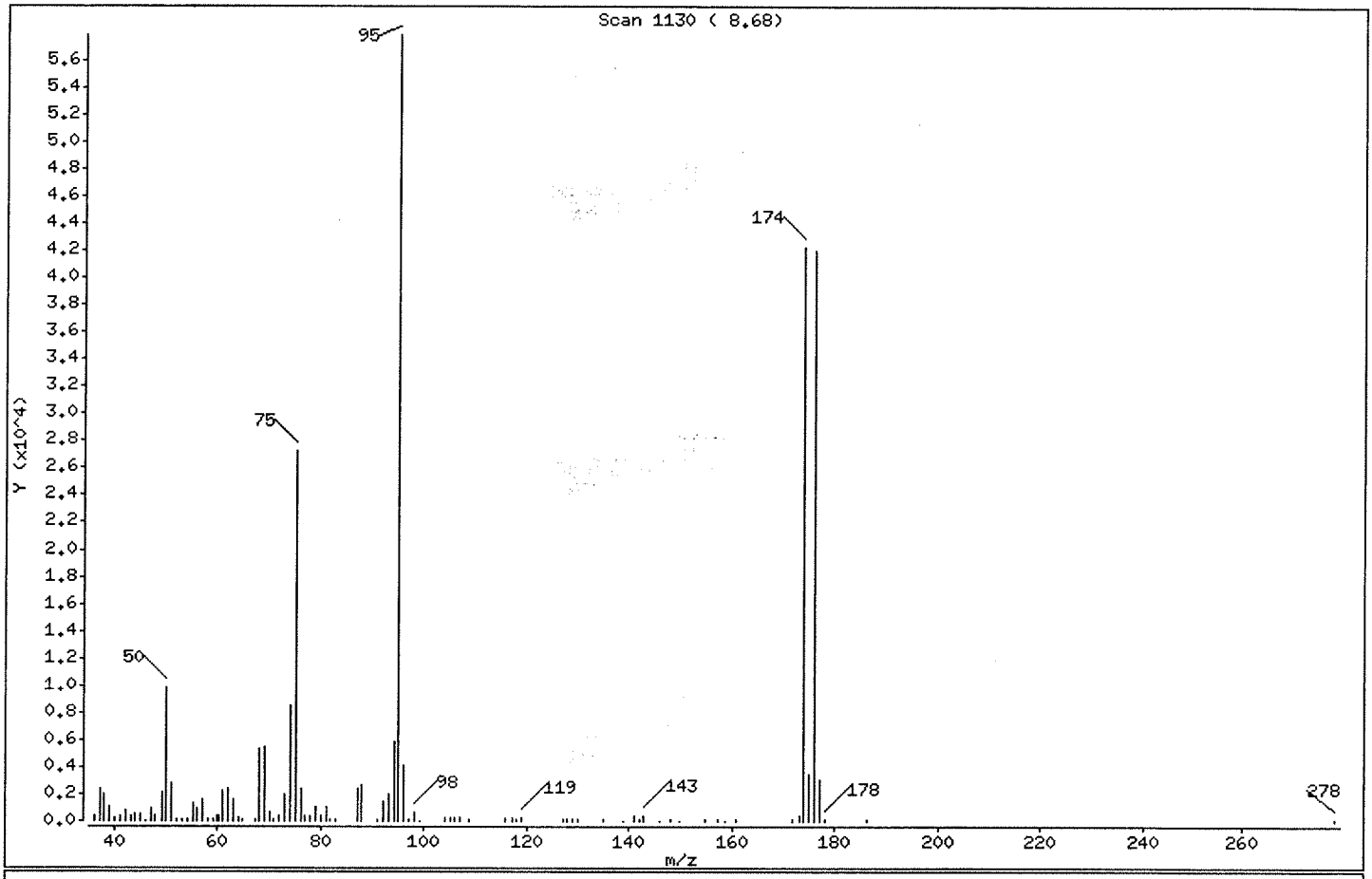
Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	16.93
75	30.00 - 60.00% of mass 95	47.07
96	5.00 - 9.00% of mass 95	7.17
173	Less than 2.00% of mass 174	0.63 (0.86)
174	Greater than 50.00% of mass 95	73.13
175	5.00 - 9.00% of mass 174	5.93 (8.11)
176	95.00 - 101.00% of mass 174	72.63 (99.32)
177	5.00 - 9.00% of mass 176	5.24 (7.21)

Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102201.D

Date : 22-OCT-2020 10:12

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

Data File: X102201.D
Spectrum: Scan 1130 (8.68)
Location of Maximum: 95.10
Number of points: 93

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.10	446	59.90	361	87.00	2408	135.00	152
37.10	2440	60.20	385	88.00	2690	138.90	56
38.10	1931	61.10	2194	91.10	153	141.00	454
39.10	1121	62.10	2411	92.00	1414	141.90	89
40.00	316	63.20	1531	93.10	2050	142.90	455
41.00	465	64.10	230	94.10	5782	146.00	59
42.10	840	65.00	72	95.10	57816	148.00	82
43.10	353	67.20	199	96.10	4144	150.00	62
44.00	478	68.10	5318	97.20	193	154.80	187
45.10	496	69.10	5496	98.10	710	157.10	131
46.10	60	70.00	683	99.10	59	158.80	51
47.00	882	71.00	134	104.00	278	160.90	112
48.00	357	72.10	333	105.10	316	171.80	101
49.10	2187	73.00	2003	106.00	226	173.10	364
50.10	9790	74.10	8545	106.90	276	174.00	42280
51.10	2760	75.10	27216	108.90	176	175.00	3430
52.10	175	76.10	2449	116.00	219	176.00	41992
53.10	84	77.00	445	117.10	246	177.00	3029
54.20	73	78.10	441	117.90	182	178.00	135
55.20	1322	79.00	1070	118.90	294	186.20	113
56.10	877	80.00	365	127.00	126	278.10	69
57.00	1643	81.00	1071	127.90	186		
58.10	75	81.90	129	129.00	89		
59.10	191	83.00	181	129.90	160		

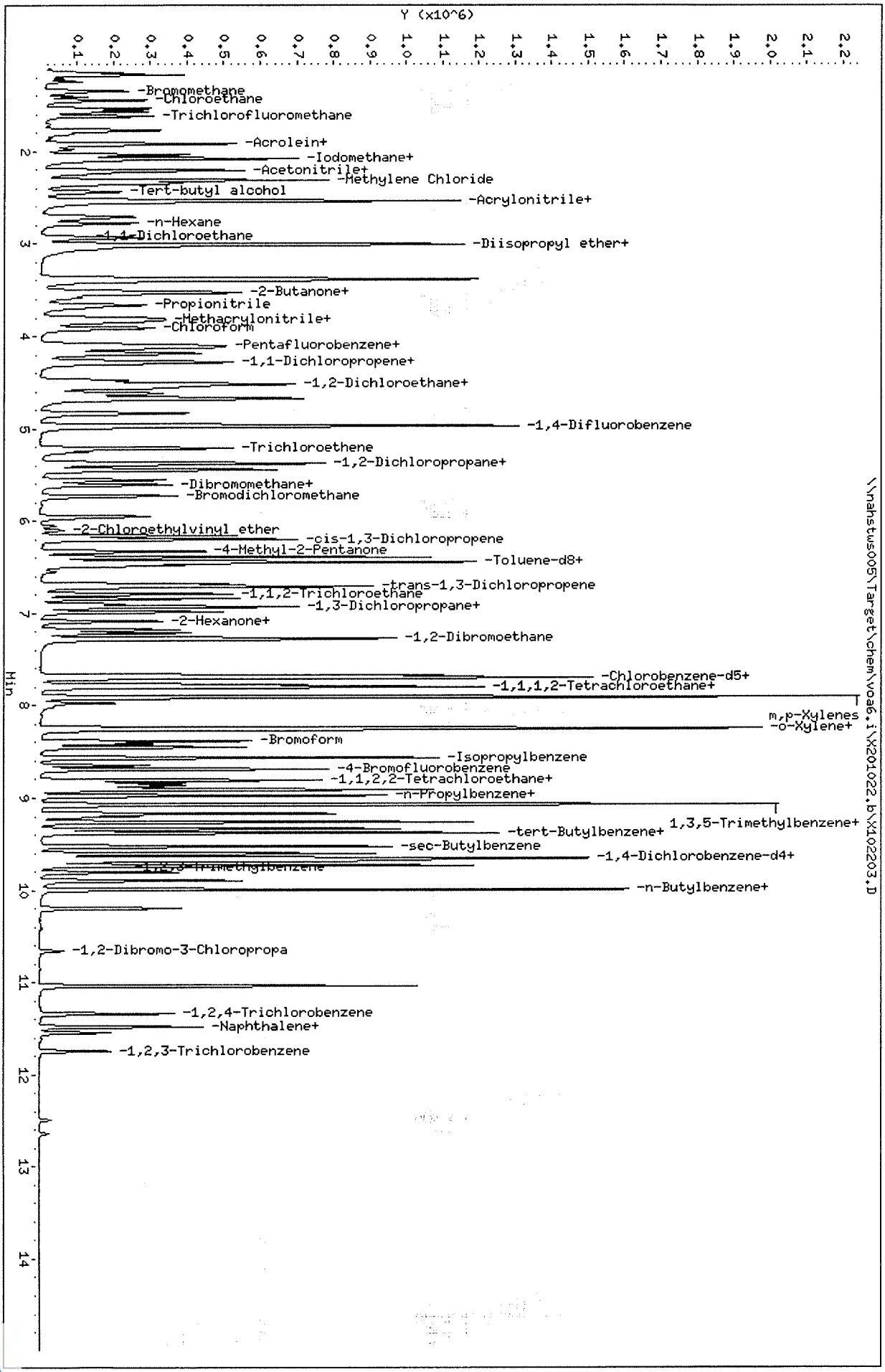
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201022.b\X102203.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 22-OCT-2020 10:54
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201022.b\8260W.m
Meth Date : 30-Nov-2020 12:49 voa6.i Quant Type: ISTD
Cal Date : 21-OCT-2020 19:10 Cal File: Y102108.D
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	394389	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	566924	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	521116	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	243069	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	171131	50.0000	50.03
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	221228	50.0000	50.88
$ 30 Dibromofluoromethane	113	4.111	4.111	(0.981)	171187	50.0000	49.36
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	634906	50.0000	48.97
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	128444	50.0000	50.16
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	113719	50.0000	47.98
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	197883	50.0000	48.07
27 cis-1,2-Dichloroethene	96	3.538	3.538	(0.844)	194600	50.0000	48.56
17 Methylene Chloride	84	2.313	2.313	(0.552)	179598	50.0000	49.86
38 Trichloroethene	130	5.214	5.214	(1.049)	186935	50.0000	44.74
5 Vinyl Chloride	62	1.145	1.145	(0.273)	139868	50.0000	47.51



Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102203.D
Date : 22-OCT-2020 10:54
Client ID: CCV
Sample Info: CCV;CCV;2;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102205.D Page 1
Report Date: 30-Nov-2020 12:49

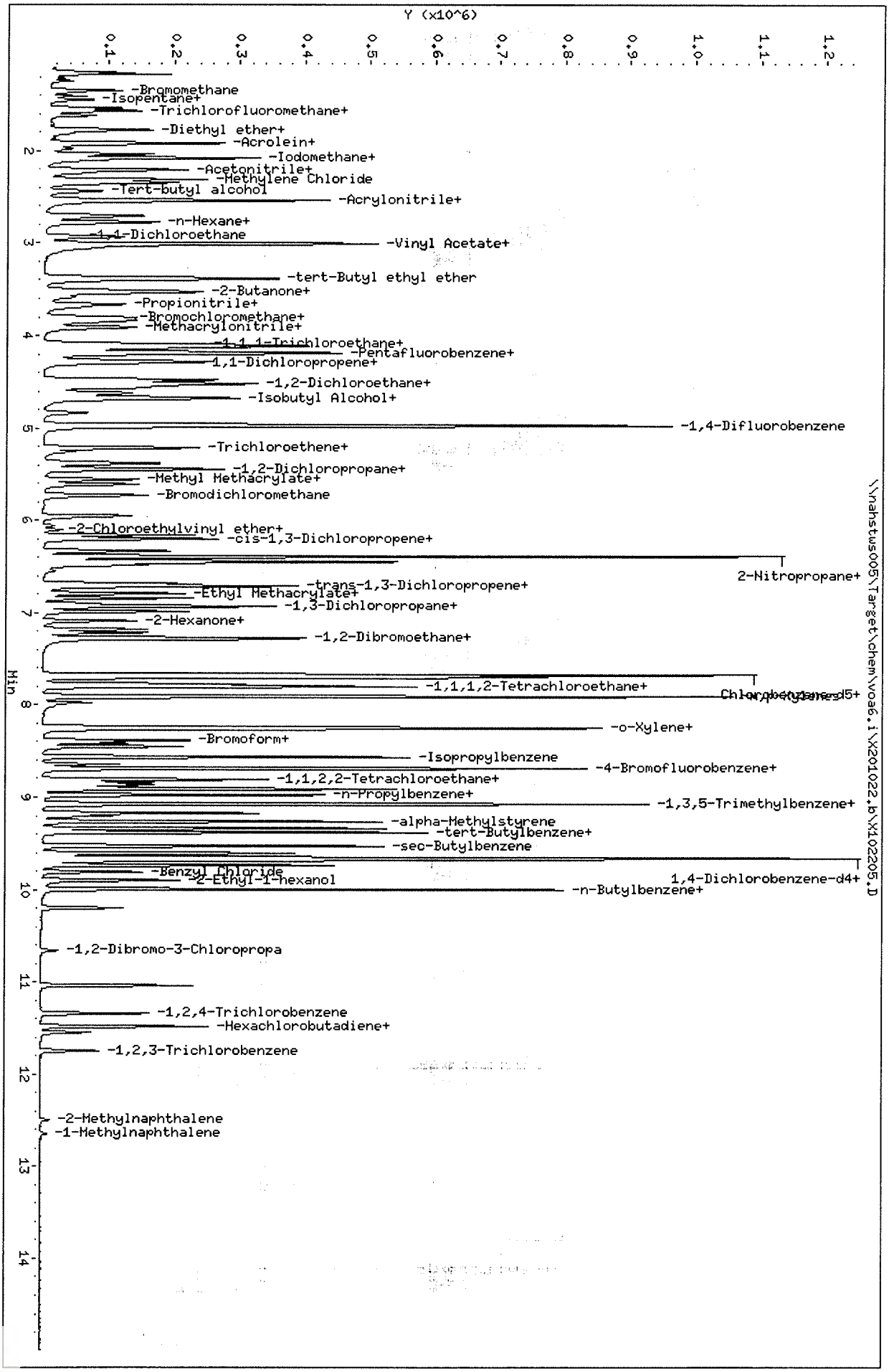
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201022.b\X102205.D
Lab Smp Id: VLCSW-201022 Client Smp ID: VLCSW-201022
Inj Date : 22-OCT-2020 11:36
Operator : PC Inst ID: voa6.i
Smp Info : VLCSW-201022;VLCSW-201022;3;;LCS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201022.b\8260W.m
Meth Date : 30-Nov-2020 12:49 voa6.i Quant Type: ISTD
Cal Date : 21-OCT-2020 19:10 Cal File: Y102108.D
Als bottle: 5 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1	Pentafluorobenzene	168	4.189	4.189	(1.000)	412044	50.0000	
* 36	1,4-Difluorobenzene	114	4.970	4.970	(1.000)	594459	50.0000	
* 47	Chlorobenzene-d5	117	7.671	7.671	(1.000)	538403	50.0000	
* 70	1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	251179	50.0000	
$ 35	1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	193169	54.0270	54.02
$ 69	4-Bromofluorobenzene	95	8.688	8.688	(1.133)	236562	52.6793	52.67
$ 30	Dibromofluoromethane	113	4.110	4.111	(0.981)	188679	52.0815	52.08
$ 48	Toluene-d8	98	6.388	6.388	(0.833)	684252	51.0846	51.08
53	1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	56218	21.2532	21.25
11	1,1-Dichloroethene	96	1.919	1.919	(0.458)	54279	21.9224	21.92
33	1,2-Dichloroethane	62	4.562	4.562	(0.918)	85551	19.8201	19.82
27	cis-1,2-Dichloroethene	96	3.537	3.538	(0.844)	87214	20.8334	20.83
17	Methylene Chloride	84	2.313	2.313	(0.552)	79893	21.0718	21.07
38	Trichloroethene	130	5.214	5.214	(1.049)	87521	19.9799	19.97
5	Vinyl Chloride	62	1.145	1.145	(0.273)	67294	21.8794	21.87



Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102205.D
Date : 22-OCT-2020 11:36
Client ID: VLCSW-201022
Sample Info: VLCSW-201022;VLCSW-201022;3;;LCS
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201022.b\X102207.D
Lab Smp Id: VBLKW-201022 Client Smp ID: VBLKW+-201022
Inj Date : 22-OCT-2020 12:18
Operator : PC Inst ID: voa6.i
Smp Info : VBLKW-201022;VBLKW-201022;3;;BLANK
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201022.b\8260W.m
Meth Date : 30-Nov-2020 12:49 voa6.i Quant Type: ISTD
Cal Date : 21-OCT-2020 19:10 Cal File: Y102108.D
Als bottle: 7 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

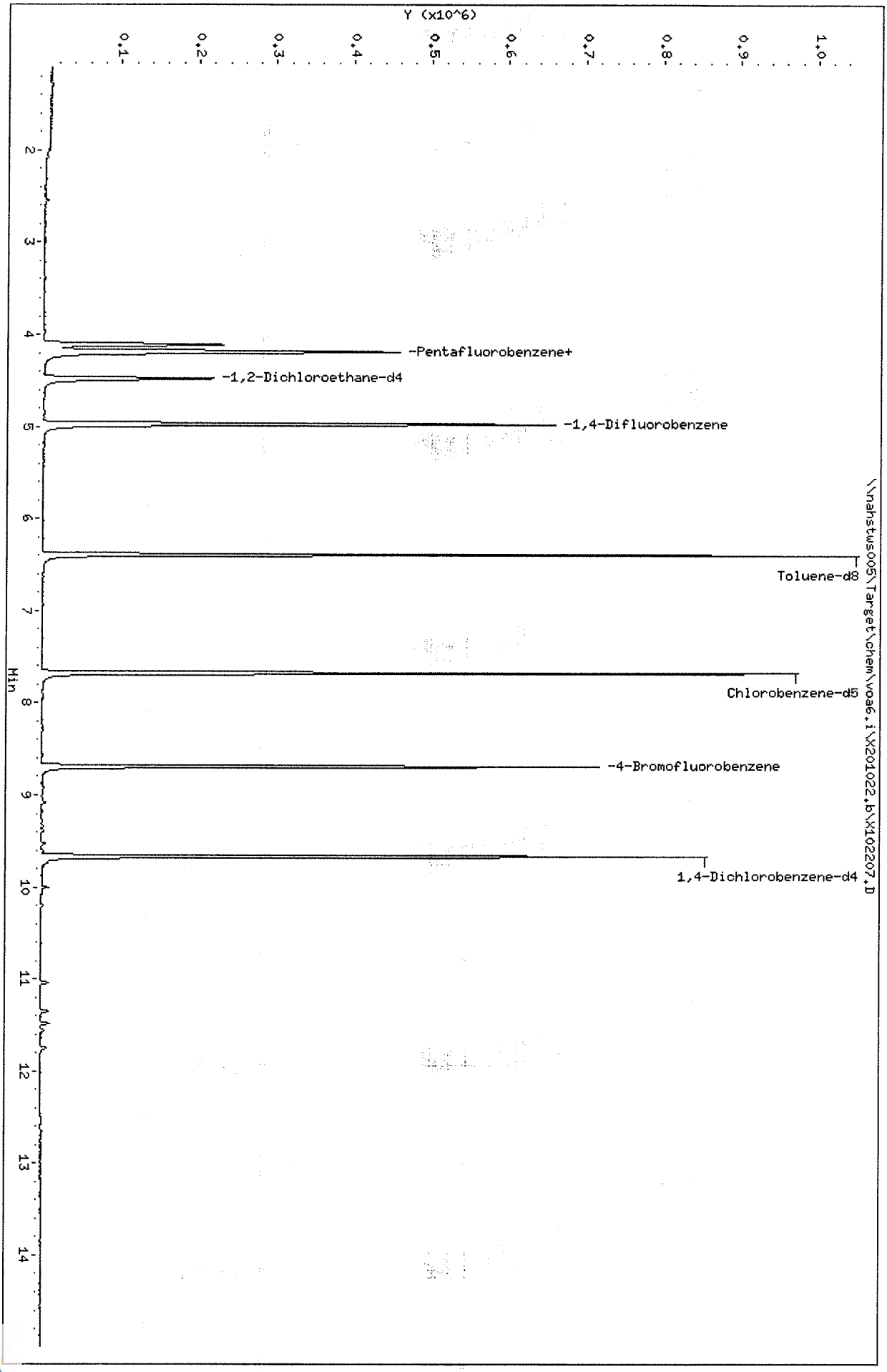
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	422088	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	585730	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	505131	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	226385	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	162773	44.5126	44.51
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	211822	50.2597	50.25
$ 30 Dibromofluoromethane	113	4.111	4.111	(0.981)	169351	45.6340	45.63
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	646907	51.4777	51.47

Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102207.D
Date : 22-OCT-2020 12:18
Client ID: VBLKW+-201022
Sample Info: VBLKW-201022;VBLKW-201022;3;;BLANK
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102213.D Page 1
Report Date: 30-Nov-2020 12:49

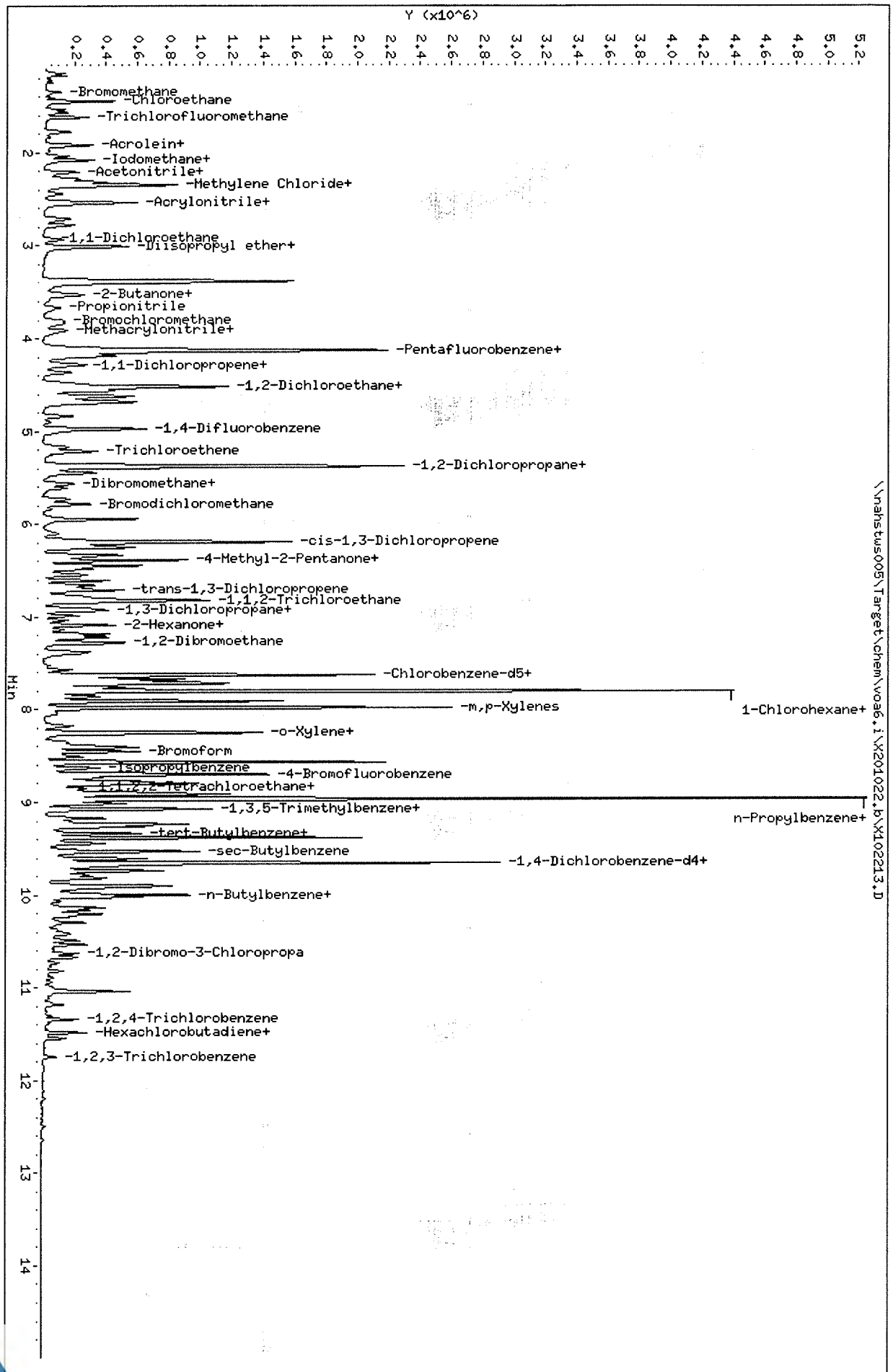
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201022.b\X102213.D
Lab Smp Id: HS20100714-01MS Client Smp ID: HS20100714-01MS
Inj Date : 22-OCT-2020 14:25
Operator : PC Inst ID: voa6.i
Smp Info : HS20100714-01MS;HS20100714-01MS;3;;MS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201022.b\8260W.m
Meth Date : 30-Nov-2020 12:49 voa6.i Quant Type: ISTD
Cal Date : 21-OCT-2020 19:10 Cal File: Y102108.D
Als bottle: 13 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	370592	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	511440	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	429165	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	191314	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	144731	45.0735	45.07
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	190850	53.3222	53.32
$ 30 Dibromofluoromethane	113	4.110	4.111	(0.981)	153095	46.9860	46.98
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	555227	52.0029	52.00
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	87401	41.4522	41.45
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	58020	26.0545	26.05
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	101755	27.4009	27.40
27 cis-1,2-Dichloroethene	96	3.530	3.538	(0.843)	90403	24.0107	24.01
17 Methylene Chloride	84	2.313	2.313	(0.552)	85499	25.1258	25.12
38 Trichloroethene	130	5.214	5.214	(1.049)	90587	24.0367	24.03
5 Vinyl Chloride	62	1.145	1.145	(0.273)	67930	24.5566	24.55



Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102213.D
Date : 22-OCT-2020 14:25
Client ID: HS20100714-01MS
Sample Info: HS20100714-01MS;HS20100714-01MS;3;;MS
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102214.D Page 1
Report Date: 30-Nov-2020 12:49

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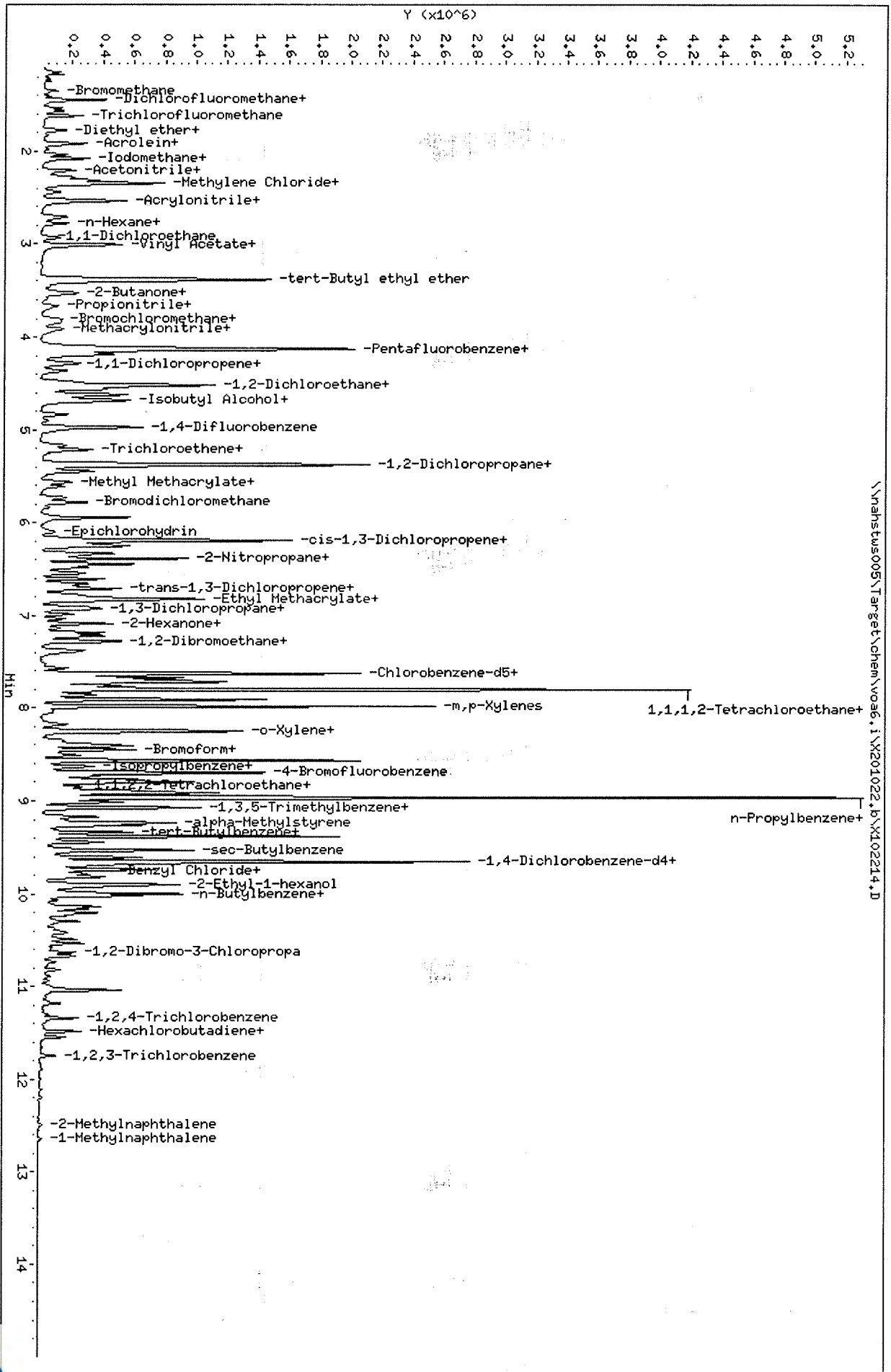
Data file : \\nahstws005\Target\chem\voa6.i\X201022.b\X102214.D
Lab Smp Id: HS20100714-01MSD Client Smp ID: HS20100714-01MSD
Inj Date : 22-OCT-2020 14:46
Operator : PC Inst ID: voa6.i
Smp Info : HS20100714-01MSD;HS20100714-01MSD;3;;MSD
Misc Info : HS18090001;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X201022.b\8260W.m
Meth Date : 30-Nov-2020 12:49 voa6.i Quant Type: ISTD
Cal Date : 21-OCT-2020 19:10 Cal File: Y102108.D
Als bottle: 13 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	375188	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	515157	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	442303	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	199248	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	145101	44.6390	44.63
$ 69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	197716	53.6017	53.60
$ 30 Dibromofluoromethane	113	4.111	4.111	(0.981)	154389	46.8027	46.80
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	567800	51.6009	51.60
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	85140	39.1804	39.18
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	53386	23.6798	23.67
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	96691	25.8494	25.84
27 cis-1,2-Dichloroethene	96	3.537	3.538	(0.844)	86015	22.5654	22.56
17 Methylene Chloride	84	2.313	2.313	(0.552)	79107	22.9385	22.93
38 Trichloroethene	130	5.214	5.214	(1.049)	84308	22.2092	22.20
5 Vinyl Chloride	62	1.145	1.145	(0.273)	62308	22.2483	22.24



Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102214.D
Date : 22-OCT-2020 14:46
Client ID: HS20100714-01HSD
Sample Info: HS20100714-01HSD;HS20100714-01HSD;3;;HSD
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102219.D Page 1
Report Date: 30-Nov-2020 12:53

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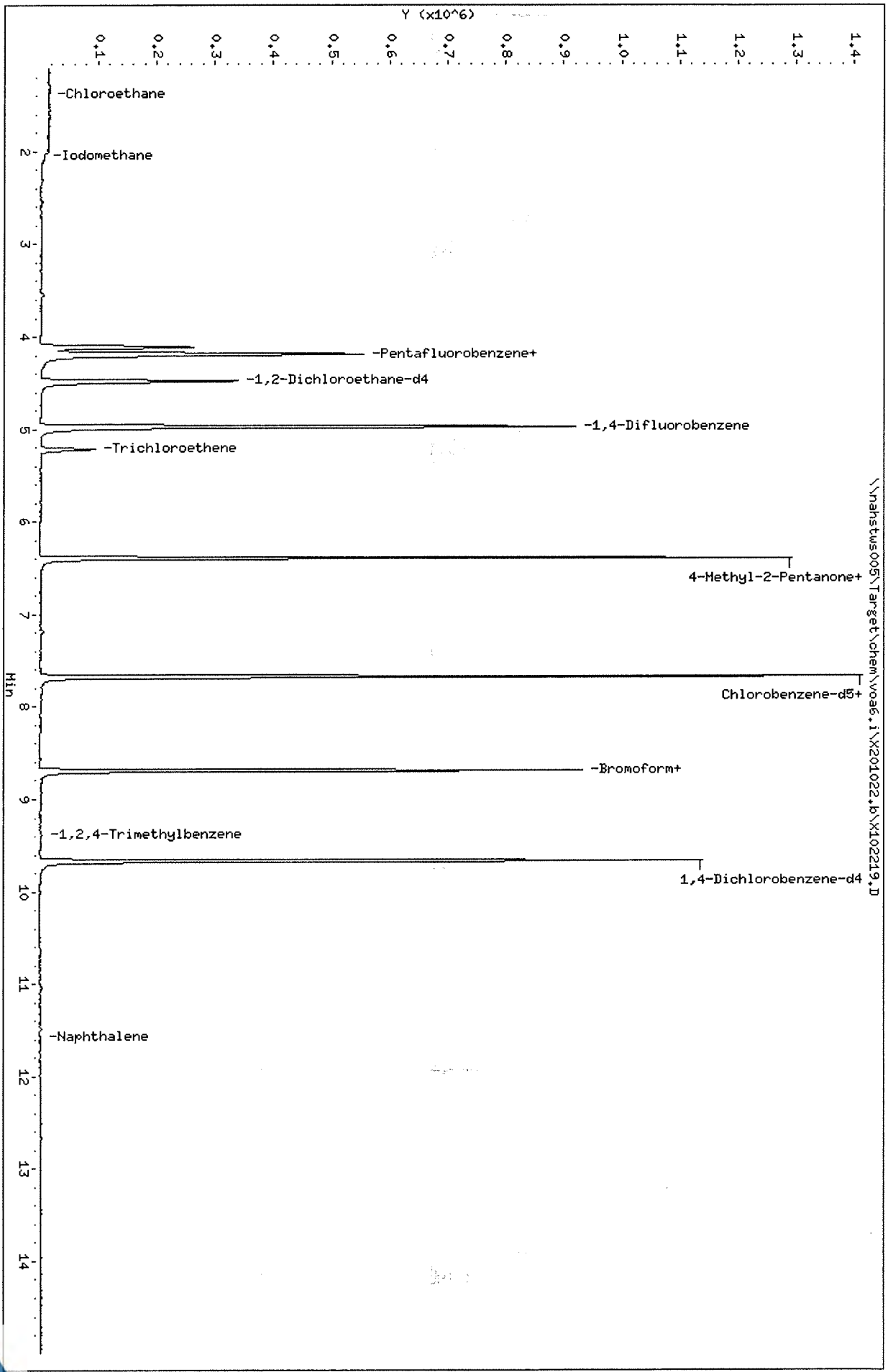
Data file : \\nahstws005\Target\chem\voa6.i\X201022.b\X102219.D
Lab Smp Id: HS20100779-03 Client Smp ID: HS20100779-03
Inj Date : 22-OCT-2020 16:31
Operator : PC Inst ID: voa6.i
Smp Info : HS20100779-03;HS20100779-03;;
Misc Info : HS18090001;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X201022.b\8260W.m
Meth Date : 30-Nov-2020 12:51 dev.giga Quant Type: ISTD
Cal Date : 21-OCT-2020 19:10 Cal File: Y102108.D
Als bottle: 18
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	503067	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	792271	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	683454	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	294366	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	240740	55.1410	55.14
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	281795	49.4106	49.41
$ 30 Dibromofluoromethane	113	4.111	4.111	(0.981)	190324	43.0300	43.02
$ 48 Toluene-d8	98	6.389	6.388	(0.833)	793610	46.6745	46.67
38 Trichloroethene	130	5.214	5.214	(1.049)	33400	5.72105	5.72



Data File: \\nahstws005\Target\chem\voa6,i\X201022,b\X102219,D
Date : 22-OCT-2020 16:31
Client ID: HS201007779-03
Sample Info: HS201007779-03;HS201007779-03;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6,i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102219.D

Date : 22-OCT-2020 16:31

Client ID: HS20100779-03

Instrument: voa6.i

Sample Info: HS20100779-03;HS20100779-03;;

Purge Volume: 5.0

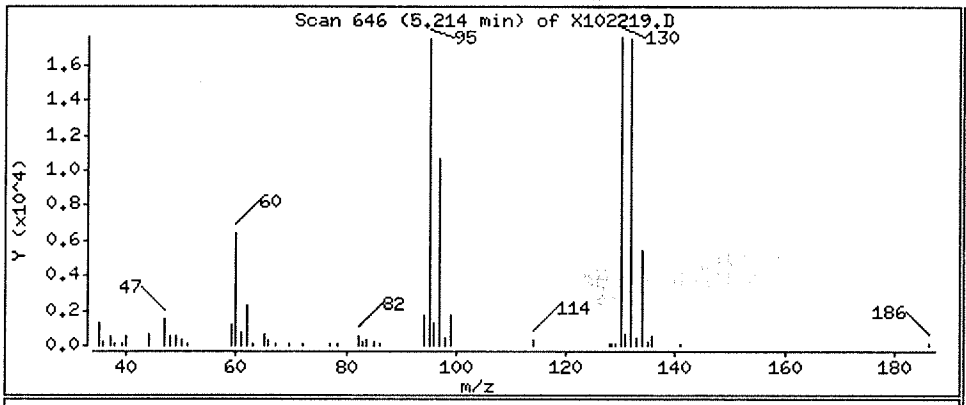
Operator: PC

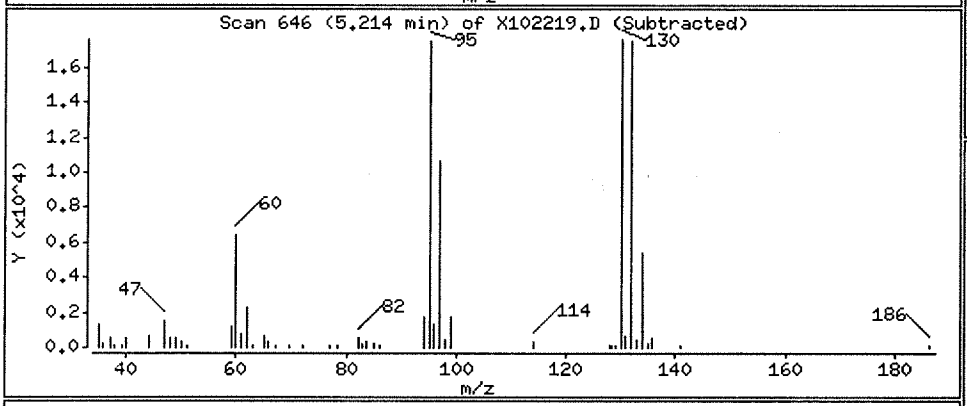
Column phase: DB624

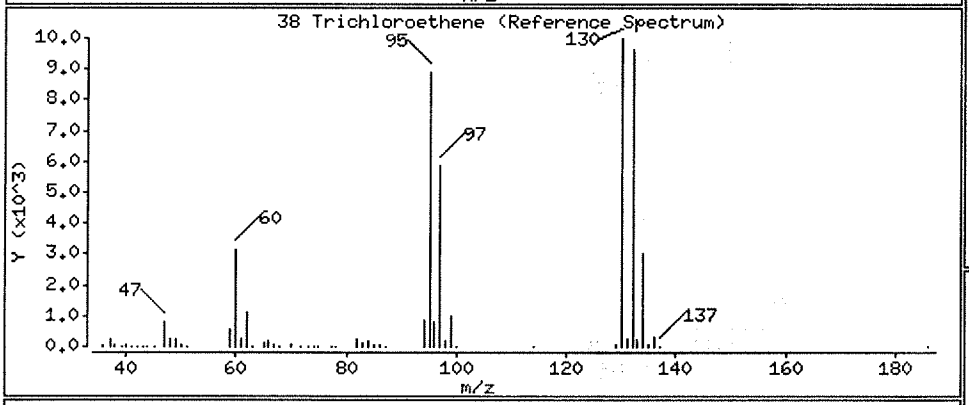
Column diameter: 0.18

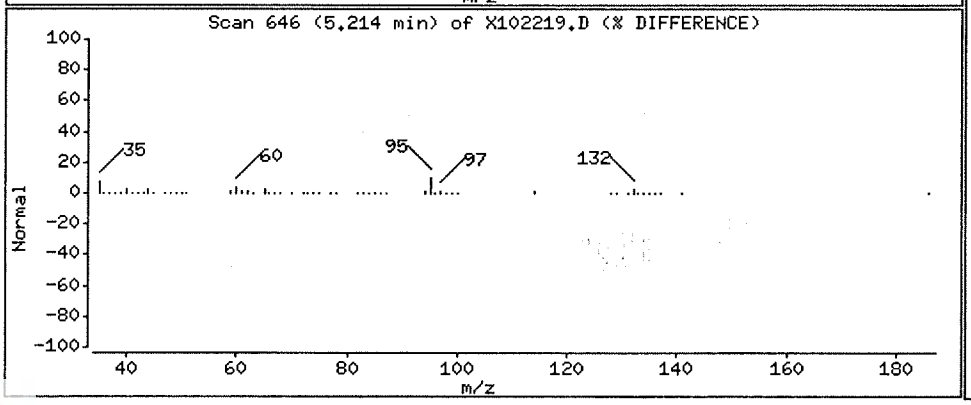
38 Trichloroethene

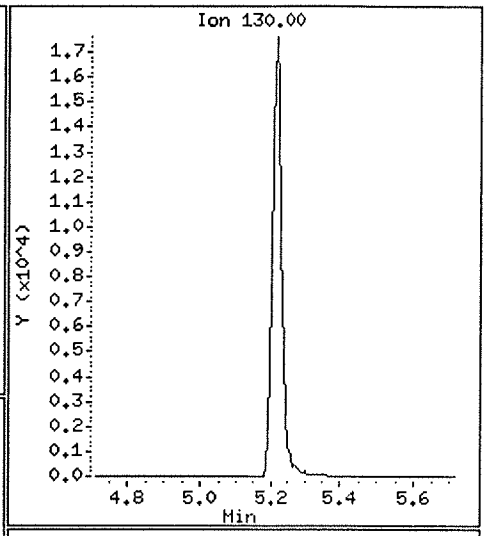
Concentration: 5.72 ug/l

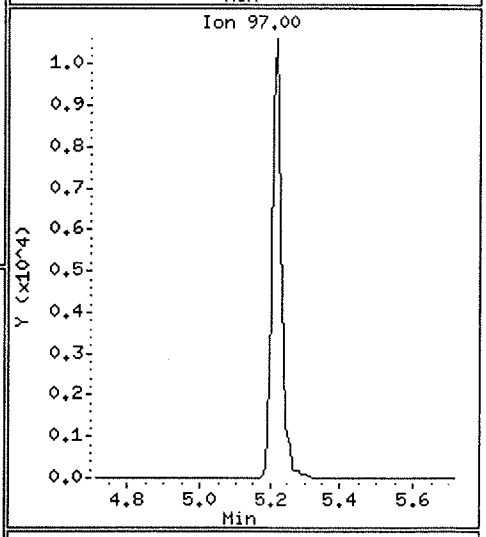


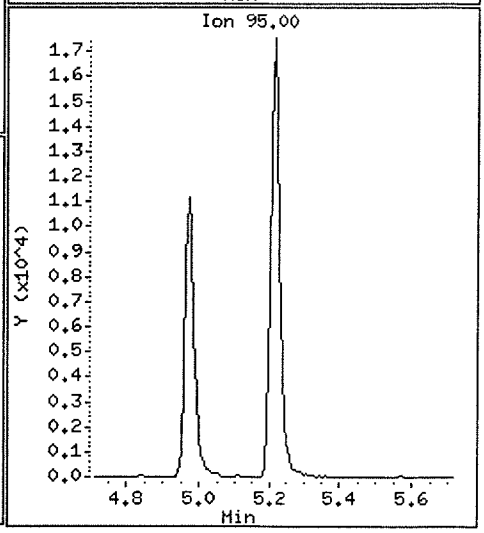












Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102220.D Page 1
Report Date: 30-Nov-2020 12:53

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201022.b\X102220.D
Lab Smp Id: HS20100779-04 Client Smp ID: HS20100779-04
Inj Date : 22-OCT-2020 16:52
Operator : PC Inst ID: voa6.i
Smp Info : HS20100779-04;HS20100779-04;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201022.b\8260W.m
Meth Date : 30-Nov-2020 12:51 dev.giga Quant Type: ISTD
Cal Date : 21-OCT-2020 19:10 Cal File: Y102108.D
Als bottle: 19
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

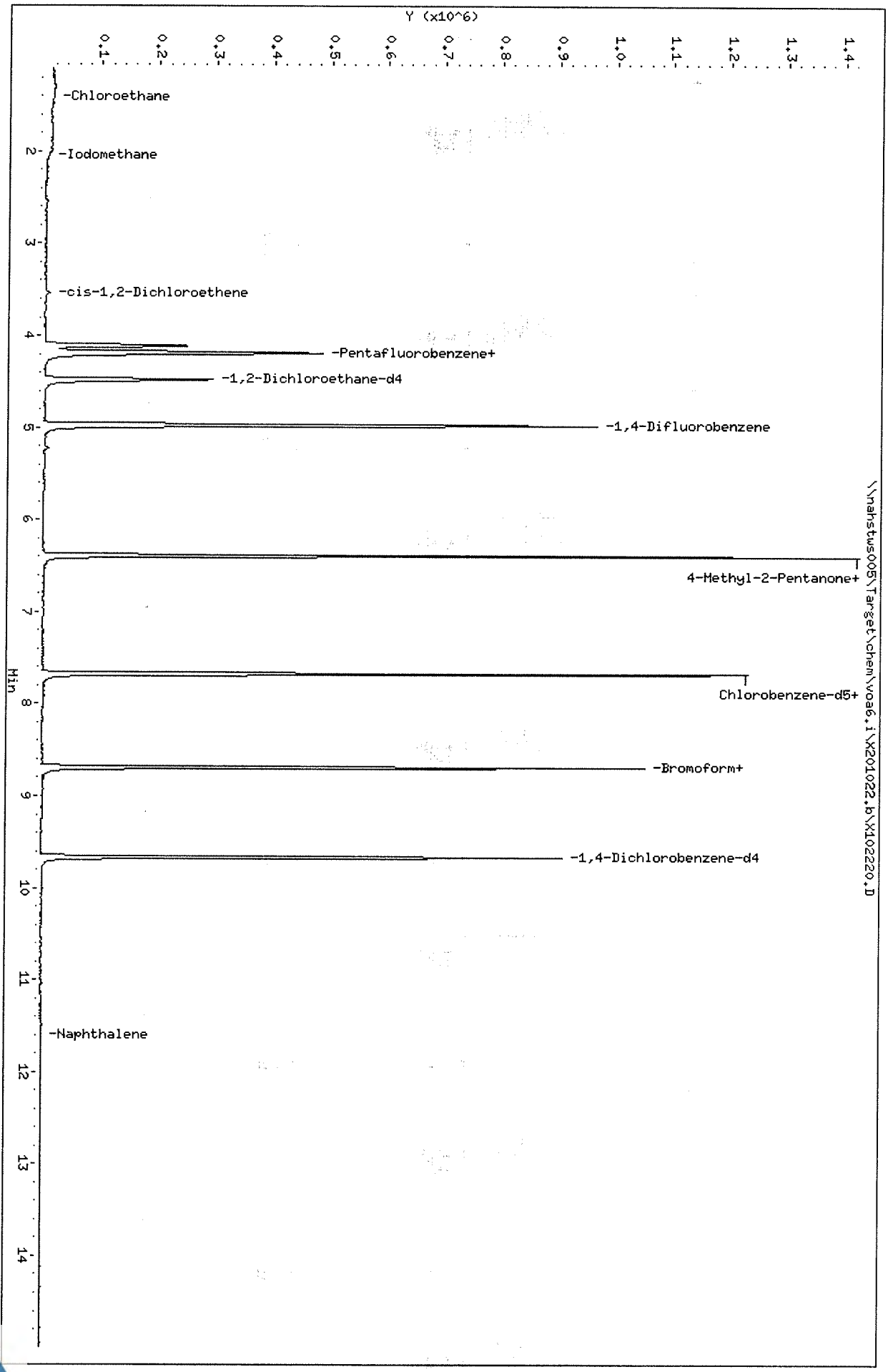
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	450572	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	820523	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	638864	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	244952	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	210337	53.8000	53.80
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	296240	55.6164	55.61
$ 30 Dibromofluoromethane	113	4.103	4.111	(0.979)	181874	45.9103	45.91
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	886631	55.7848	55.78
27 cis-1,2-Dichloroethene	96	3.545	3.538	(0.846)	4829	1.05490	1.05(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102220.D
Date : 22-OCT-2020 16:52
Client ID: HS20100779-04
Sample Info: HS20100779-04;HS20100779-04;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102220.D

Date : 22-OCT-2020 16:52

Client ID: HS20100779-04

Instrument: voa6.i

Sample Info: HS20100779-04;HS20100779-04;;;

Purge Volume: 5.0

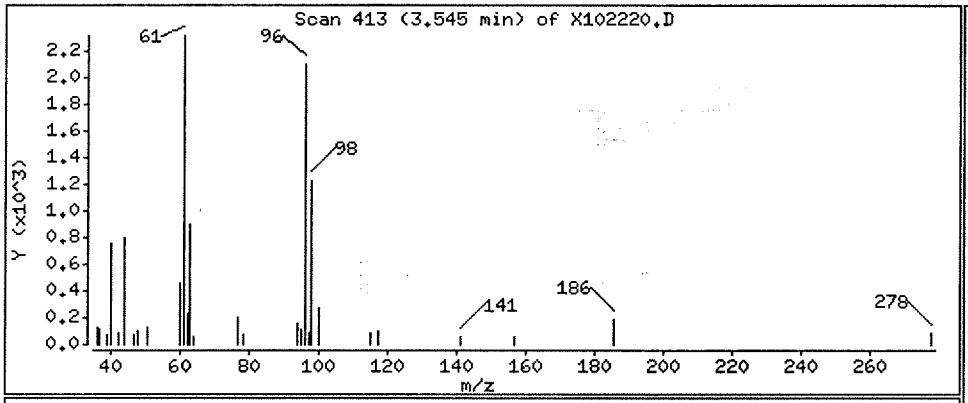
Operator: PC

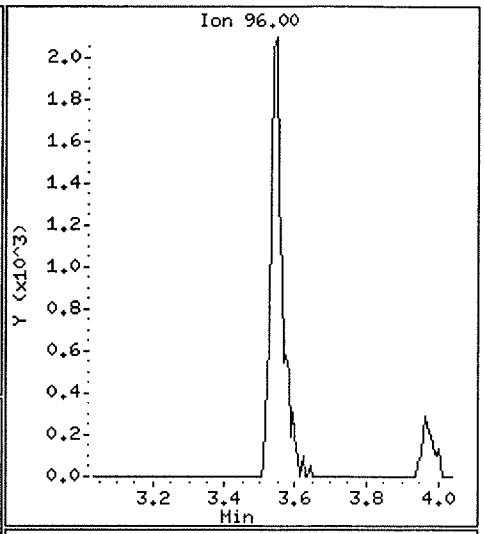
Column phase: DB624

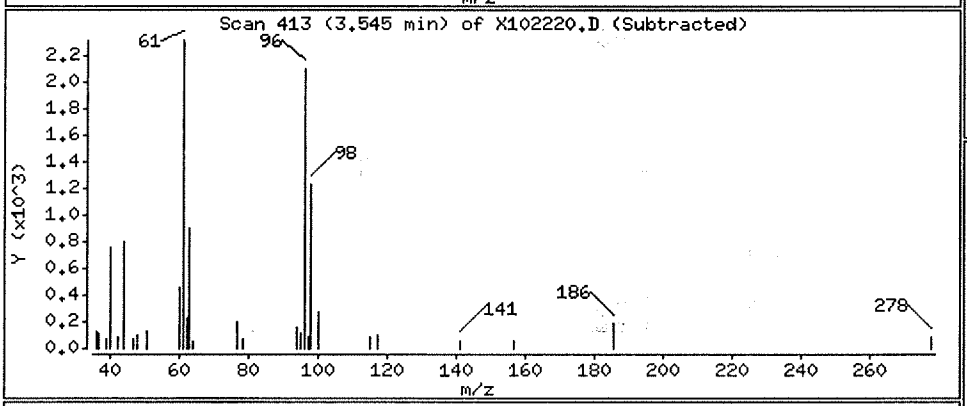
Column diameter: 0.18

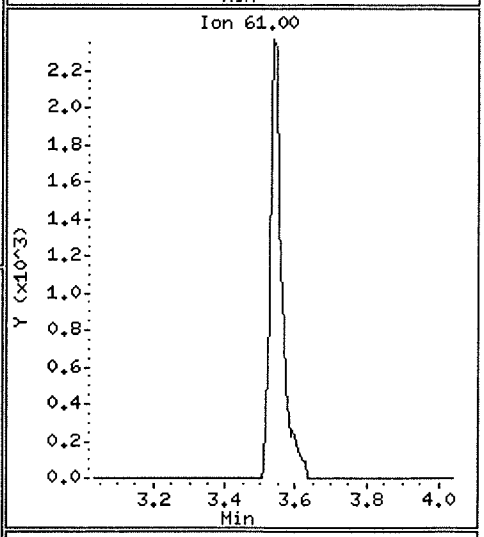
27 cis-1,2-Dichloroethene

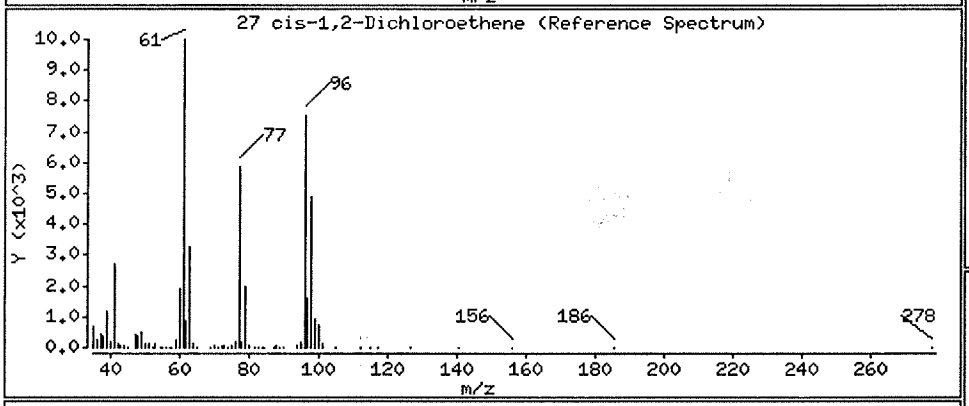
Concentration: 1.05 ug/l

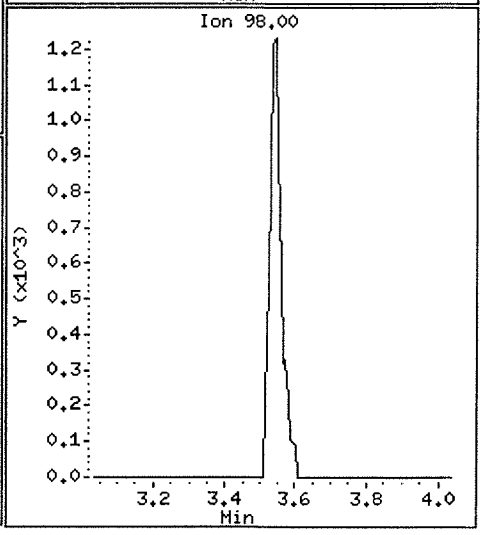


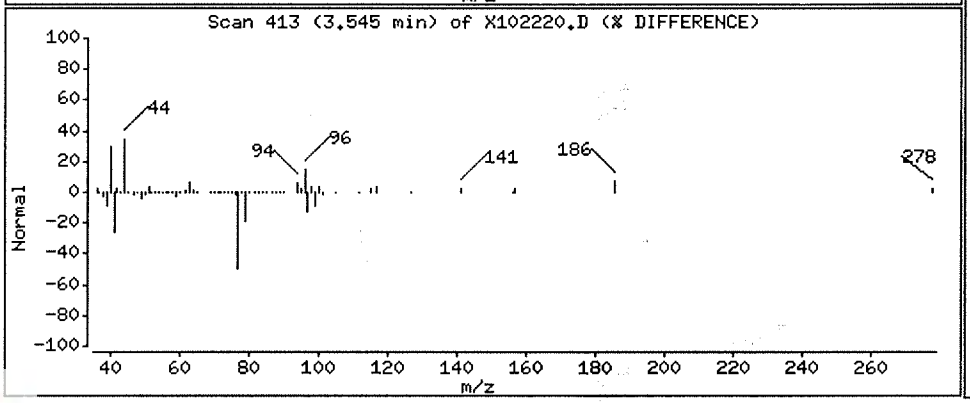












Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102221.D Page 1
Report Date: 30-Nov-2020 12:53

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201022.b\X102221.D
Lab Smp Id: HS20100779-05 Client Smp ID: HS20100779-05
Inj Date : 22-OCT-2020 17:13
Operator : PC Inst ID: voa6.i
Smp Info : HS20100779-05;HS20100779-05;;;
Misc Info : HS18090001;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X201022.b\8260W.m
Meth Date : 30-Nov-2020 12:51 dev.giga Quant Type: ISTD
Cal Date : 21-OCT-2020 19:10 Cal File: Y102108.D
Als bottle: 20
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

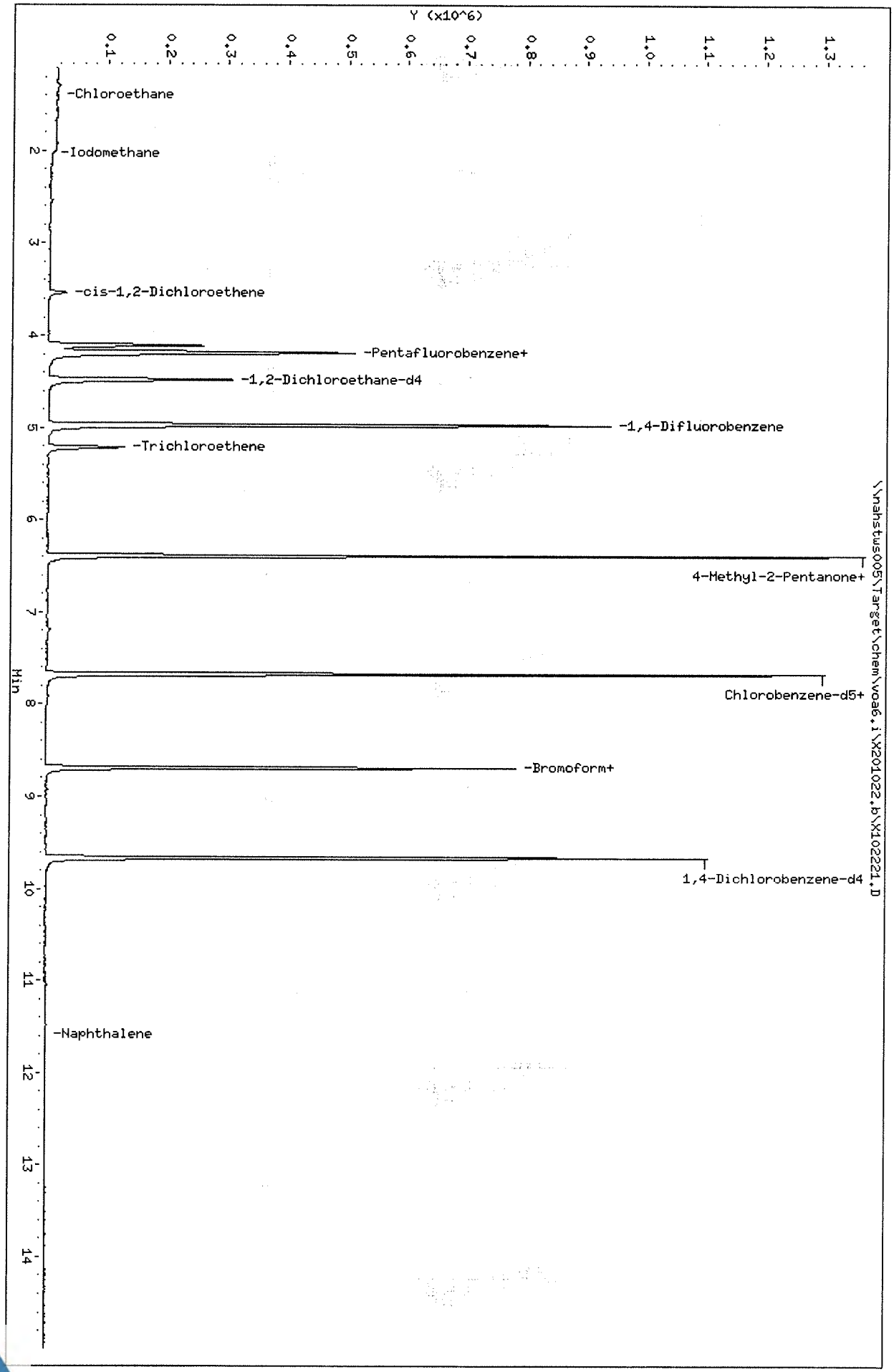
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	473864	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	812417	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	665952	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	297643	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.483	4.476	(1.070)	223409	54.3308	54.33
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	236896	42.5774	42.57(M)
$	30 Dibromofluoromethane	113	4.111	4.111	(0.981)	189089	45.3854	45.38
$	48 Toluene-d8	98	6.388	6.388	(0.833)	893566	53.9343	53.93
	27 cis-1,2-Dichloroethene	96	3.538	3.538	(0.844)	14394	2.98982	2.98(a)
	38 Trichloroethene	130	5.214	5.214	(1.049)	46412	7.75272	7.75

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102221.D
Date : 22-OCT-2020 17:13
Client ID: HS20100779-05
Sample Info: HS20100779-05;HS20100779-05;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102221.D

Date : 22-OCT-2020 17:13

Client ID: HS20100779-05

Instrument: voa6.i

Sample Info: HS20100779-05;HS20100779-05;;;

Purge Volume: 5.0

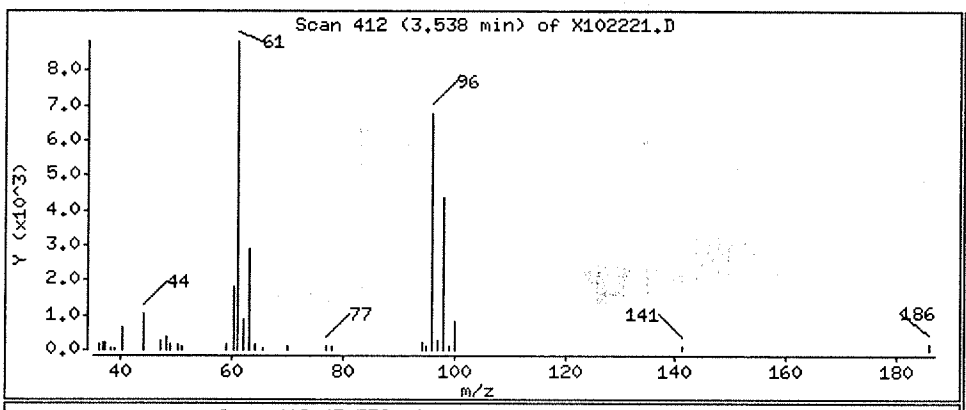
Operator: PC

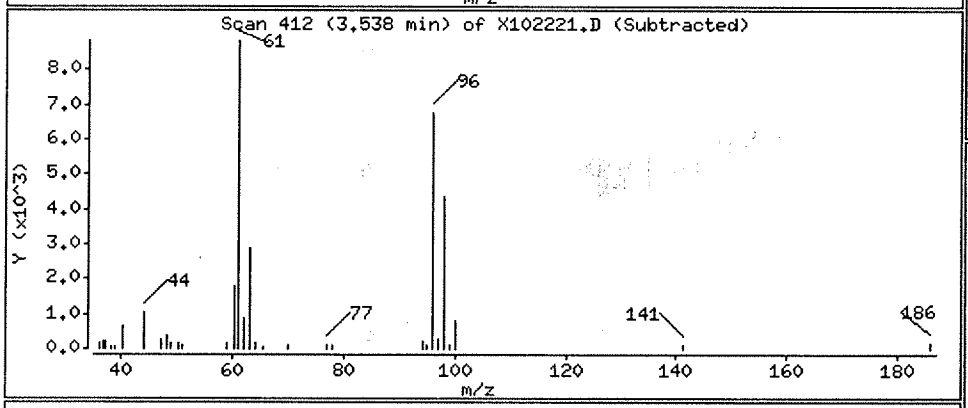
Column phase: DB624

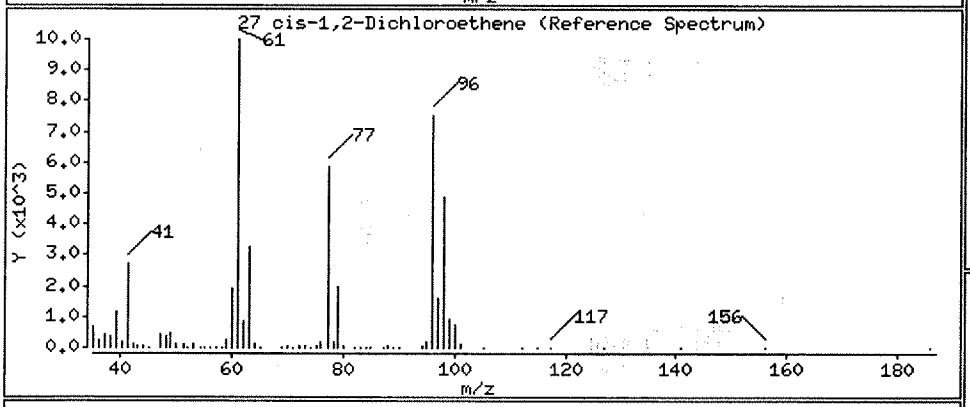
Column diameter: 0.18

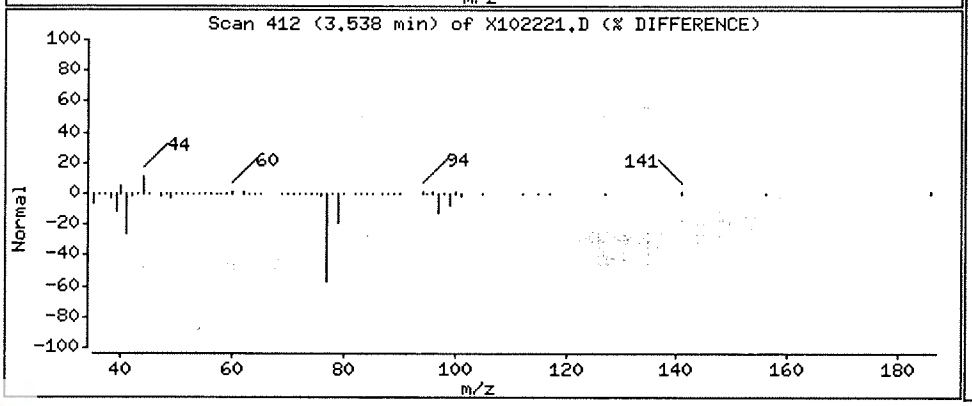
27 cis-1,2-Dichloroethene

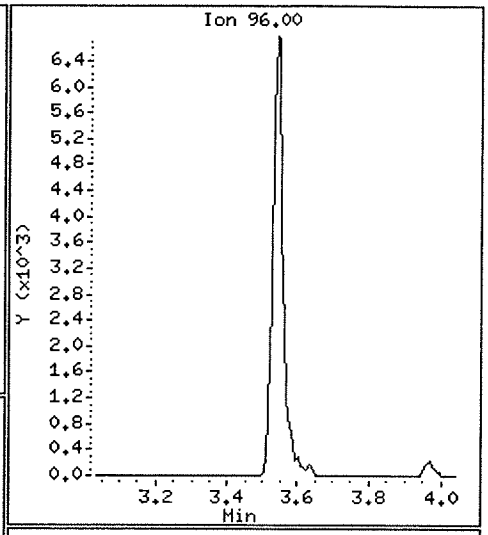
Concentration: 2.98 ug/l

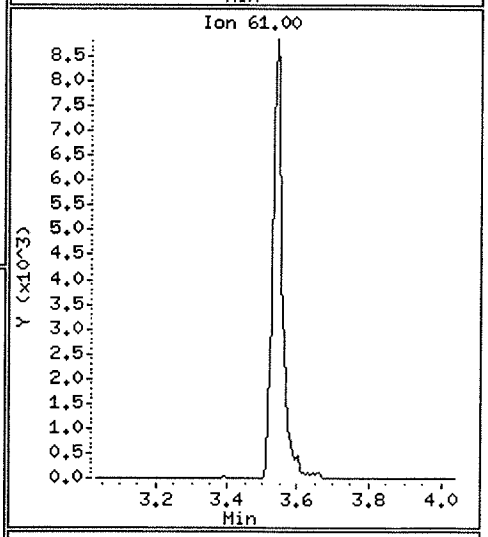


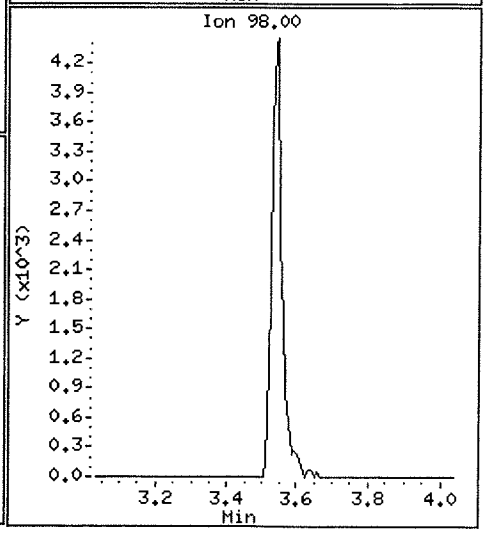












Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102221.D

Date : 22-OCT-2020 17:13

Client ID: HS20100779-05

Instrument: voa6.i

Sample Info: HS20100779-05;HS20100779-05;;;

Purge Volume: 5.0

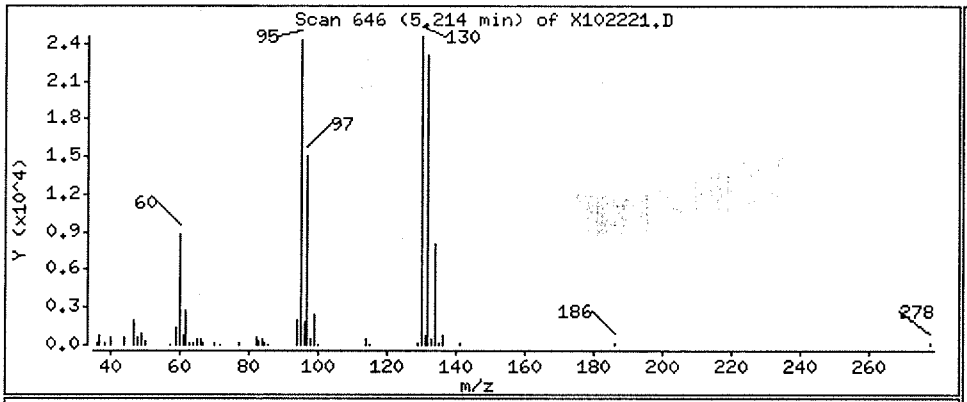
Operator: PC

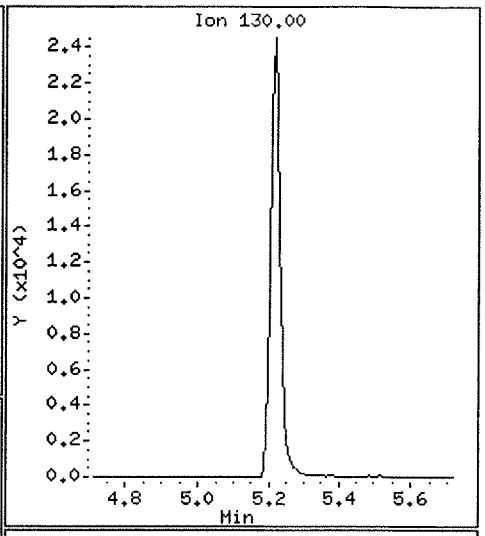
Column phase: DB624

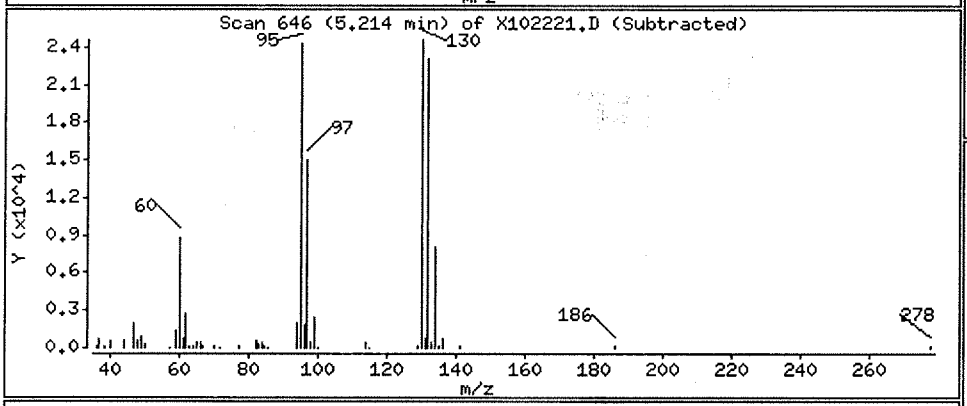
Column diameter: 0.18

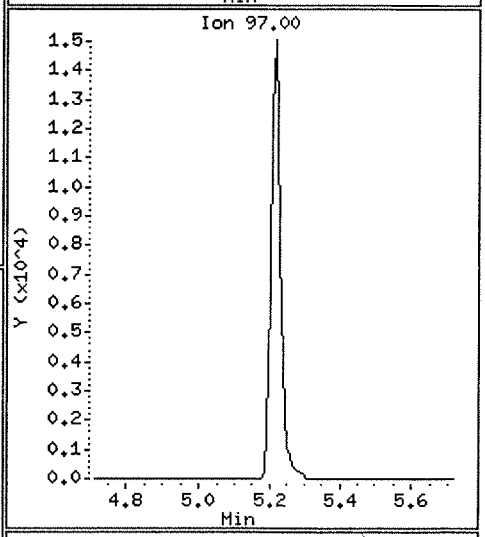
38 Trichloroethene

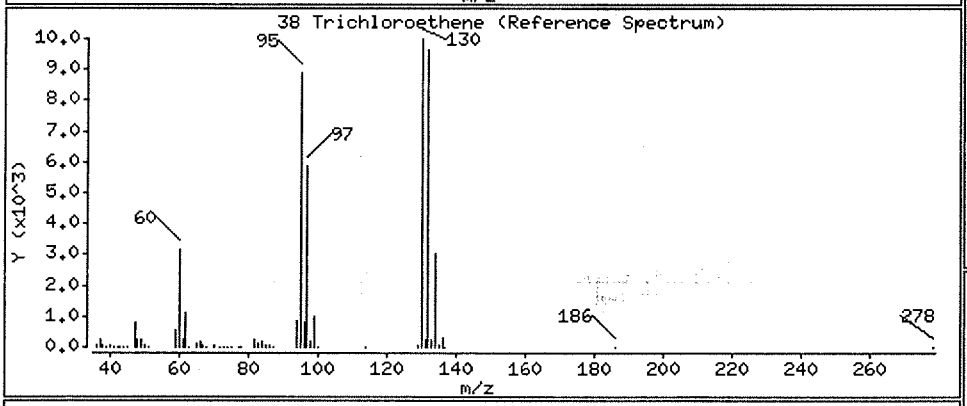
Concentration: 7.75 ug/l

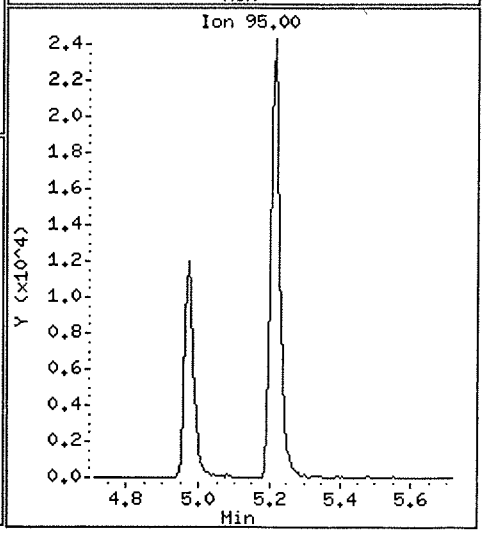


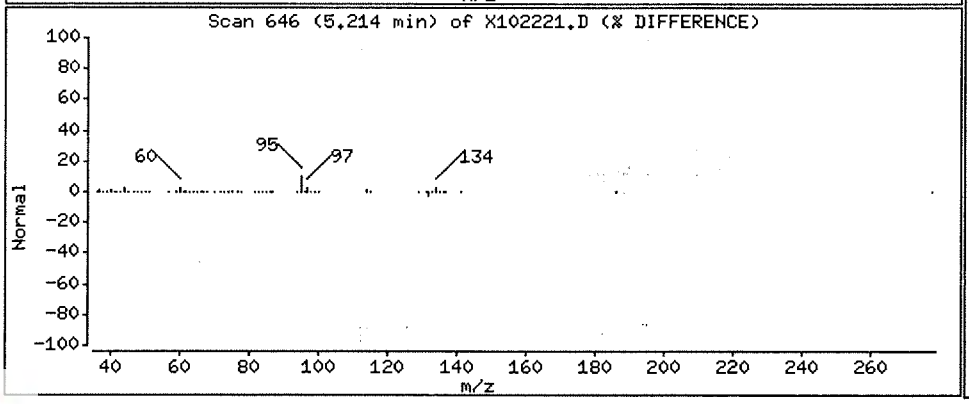






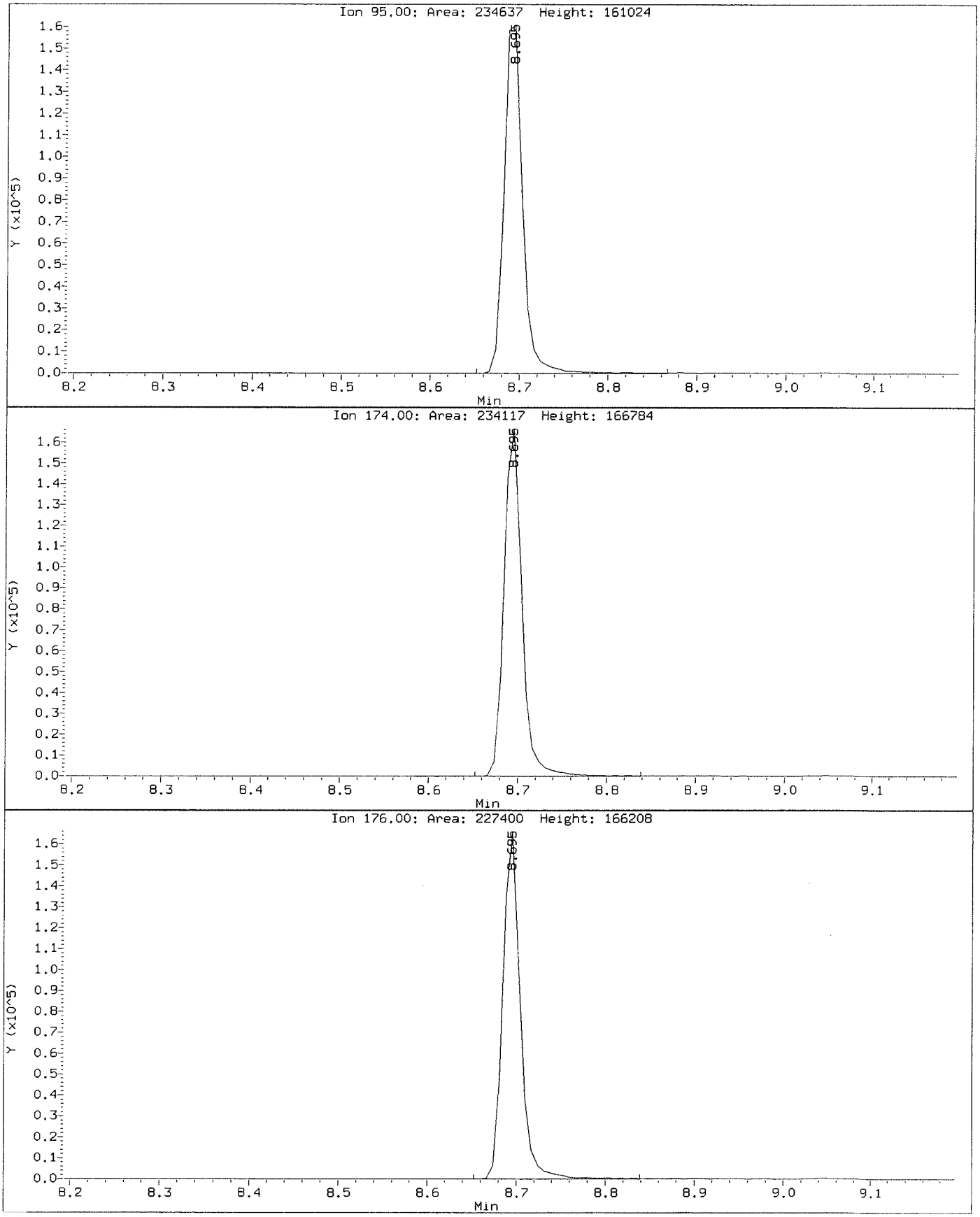






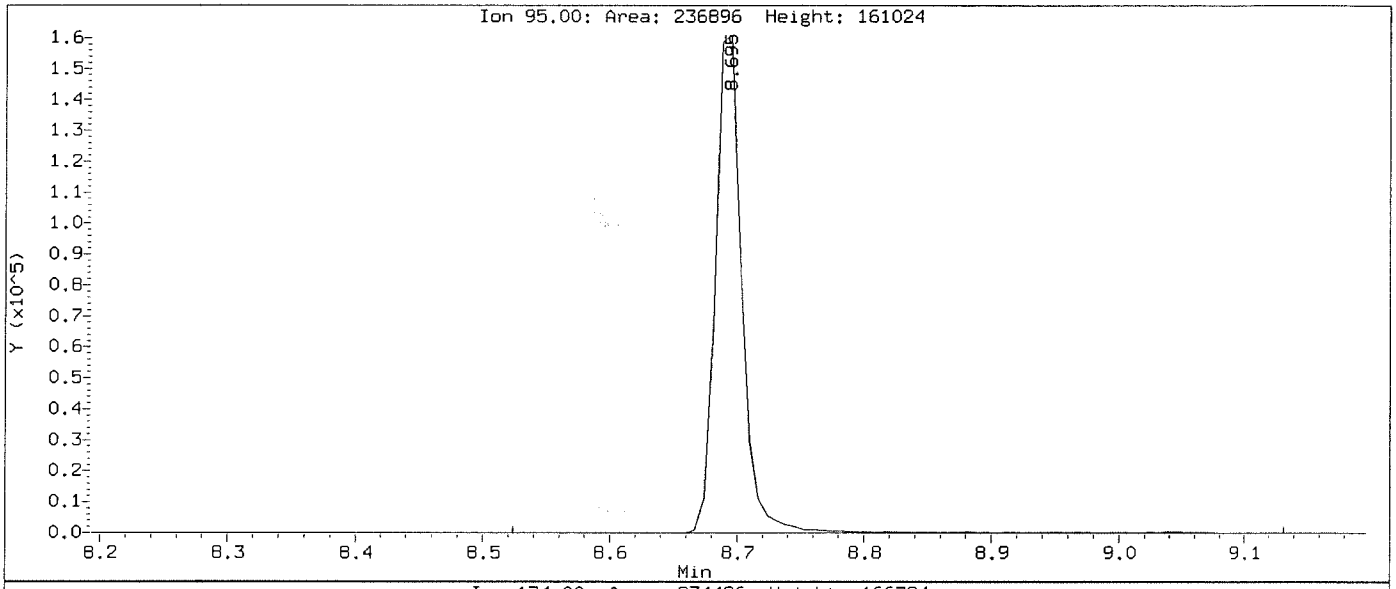
Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\Before\X102221.D
Injection Date: 22-OCT-2020 17:13
Instrument: voa6.i
Client Sample ID: HS20100779-05

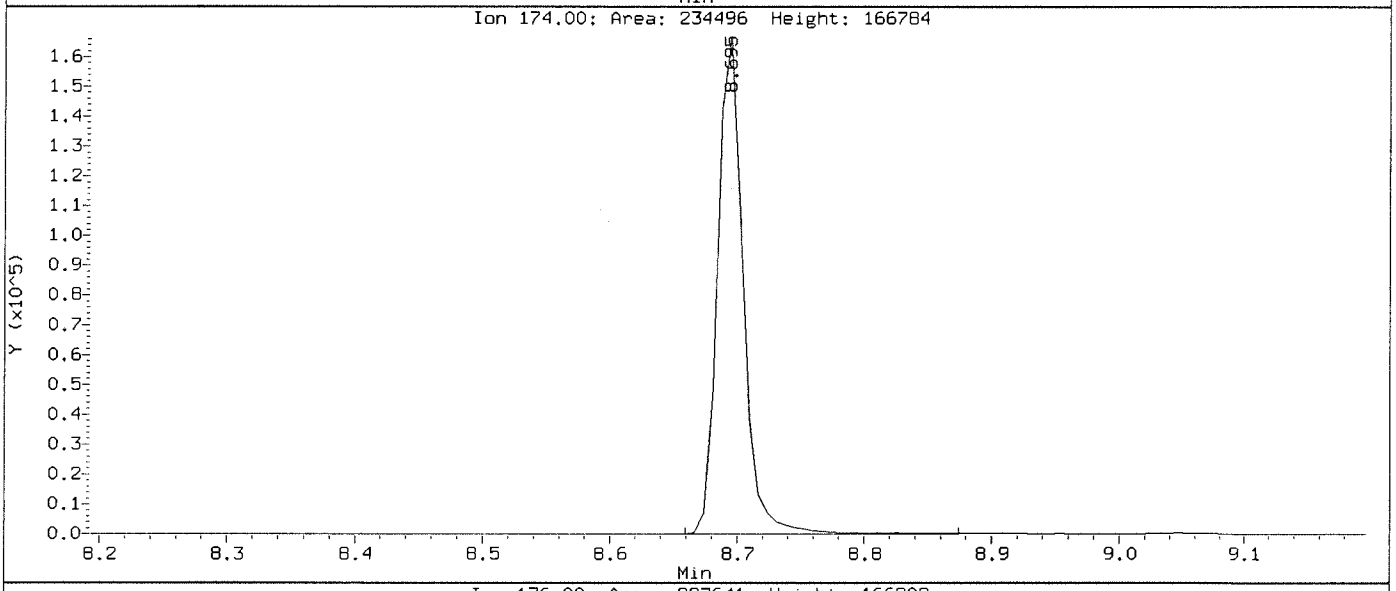
Compound: 4-Bromofluorobenzene
CAS Number: 460-00-4

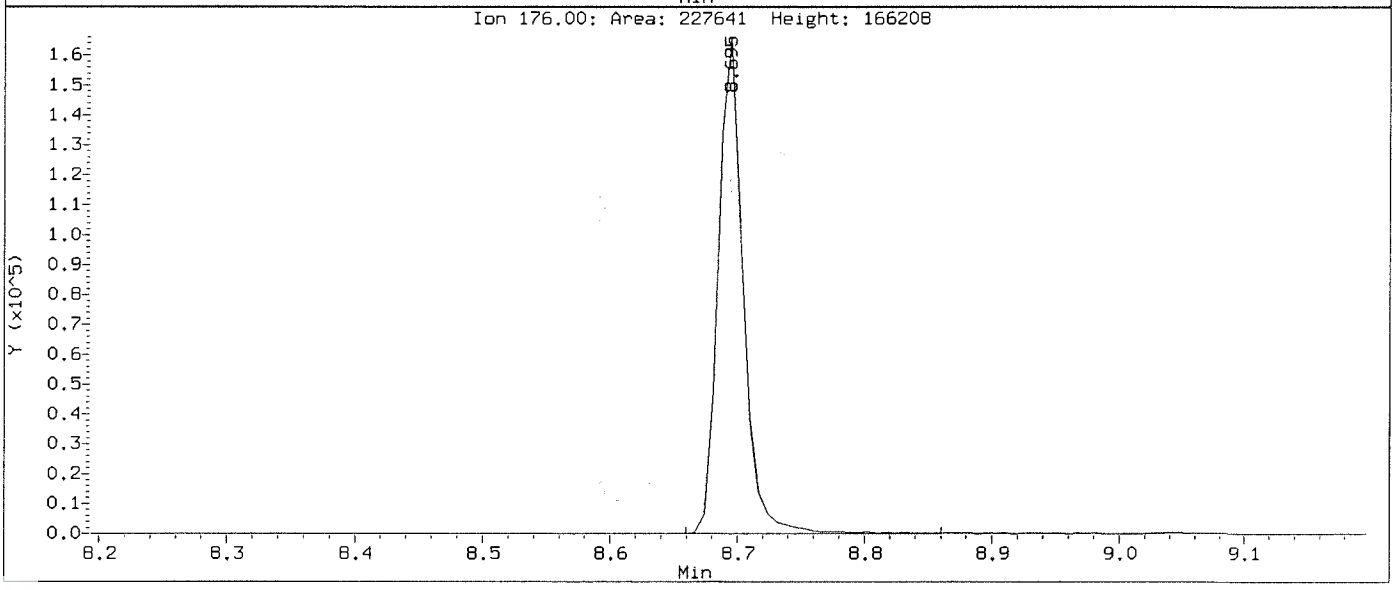


Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102221.D
Injection Date: 22-OCT-2020 17:13
Instrument: voa6.i
Client Sample ID: HS20100779-05

Compound: 4-Bromofluorobenzene
CAS Number: 460-00-4







Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102222.D Page 1
Report Date: 30-Nov-2020 12:53

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201022.b\X102222.D
Lab Smp Id: HS20100779-07 Client Smp ID: HS20100779-07
Inj Date : 22-OCT-2020 17:34
Operator : PC Inst ID: voa6.i
Smp Info : HS20100779-07;HS20100779-07;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201022.b\8260W.m
Meth Date : 30-Nov-2020 12:51 dev.giga Quant Type: ISTD
Cal Date : 21-OCT-2020 19:10 Cal File: Y102108.D
Als bottle: 21
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

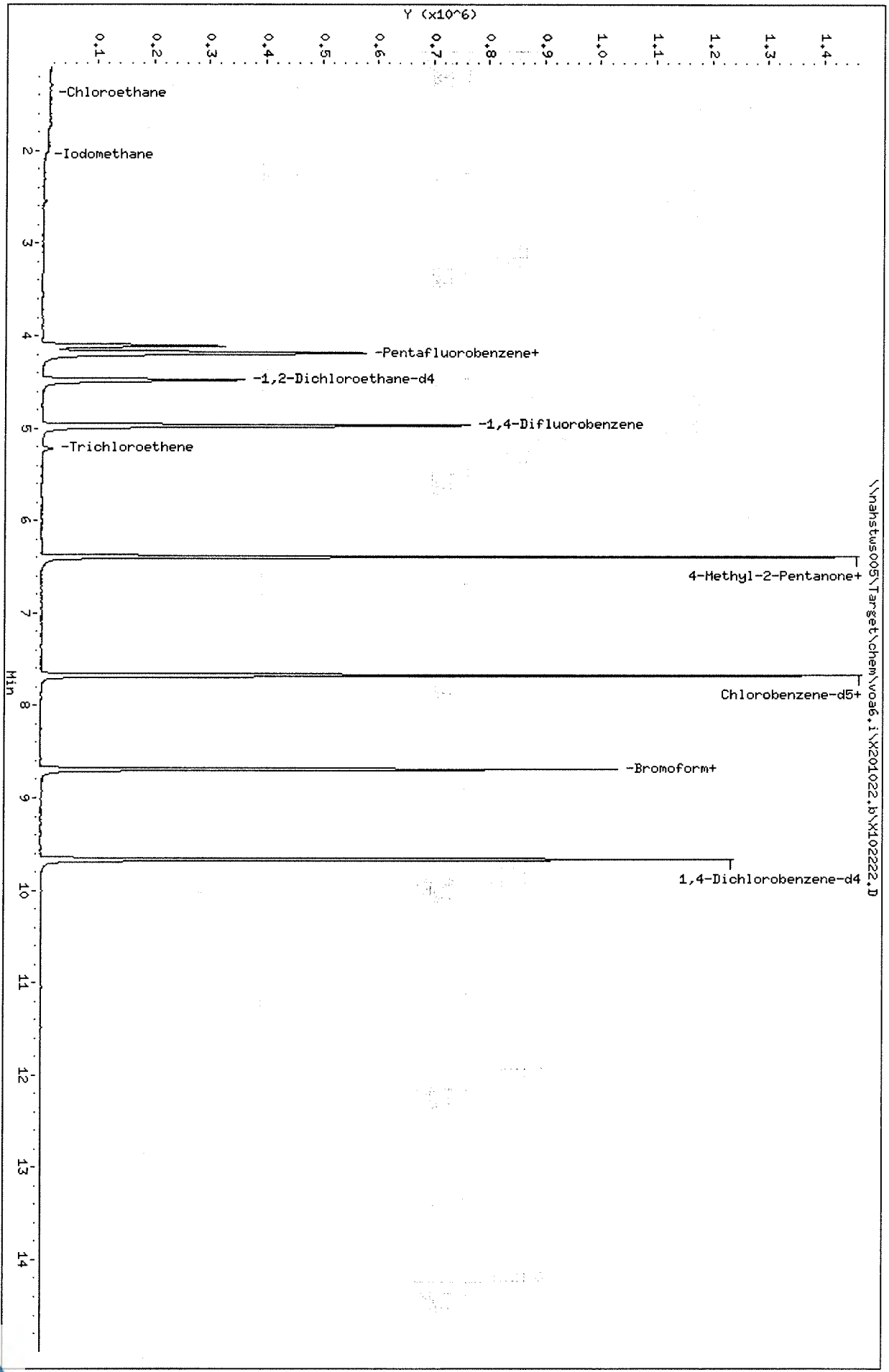
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	536976	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	702376	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	715788	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	325076	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	252538	54.1975	54.19
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	306561	51.3398	51.33
$ 30 Dibromofluoromethane	113	4.110	4.111	(0.981)	227279	48.1402	48.14
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	896180	50.3260	50.32
38 Trichloroethene	130	5.221	5.214	(1.050)	7744	1.49623	1.49(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).



Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102222.D
Date : 22-OCT-2020 17:34
Client ID: HS20100779-07
Sample Info: HS20100779-07;HS20100779-07;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102222.D

Date : 22-OCT-2020 17:34

Client ID: HS20100779-07

Instrument: voa6.i

Sample Info: HS20100779-07;HS20100779-07;;;

Purge Volume: 5.0

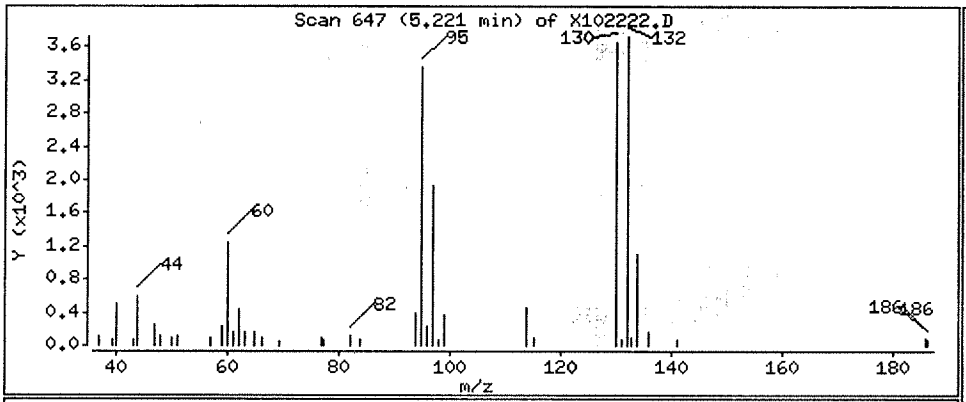
Operator: PC

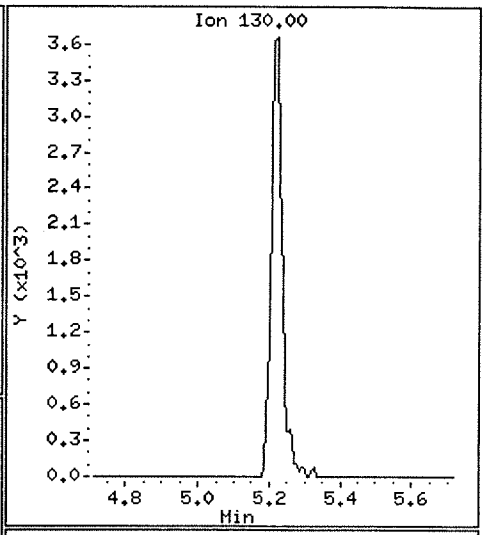
Column phase: DB624

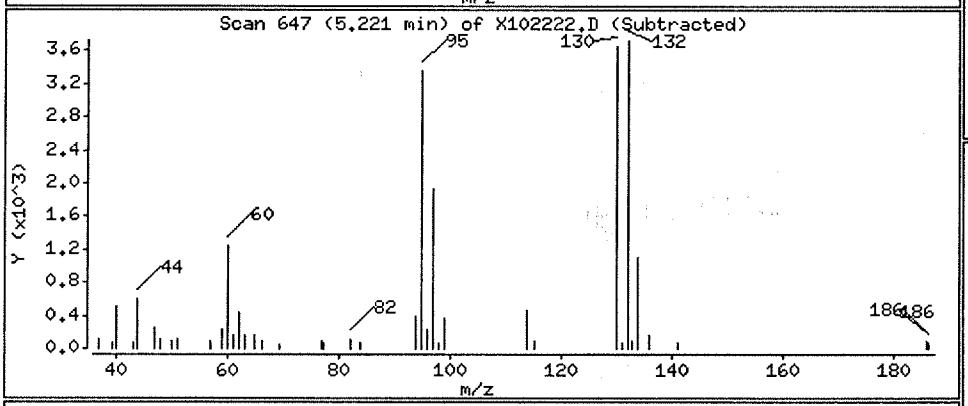
Column diameter: 0.18

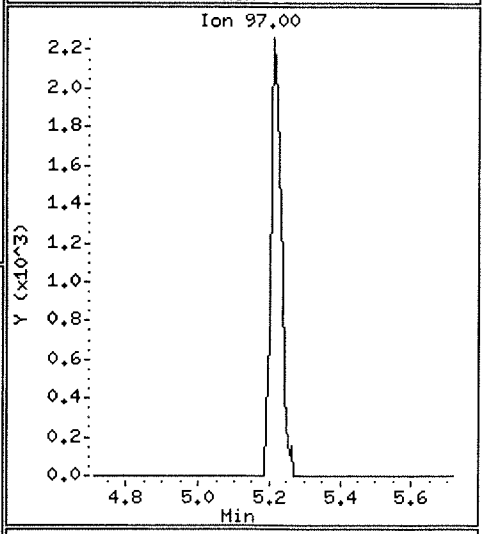
38 Trichloroethene

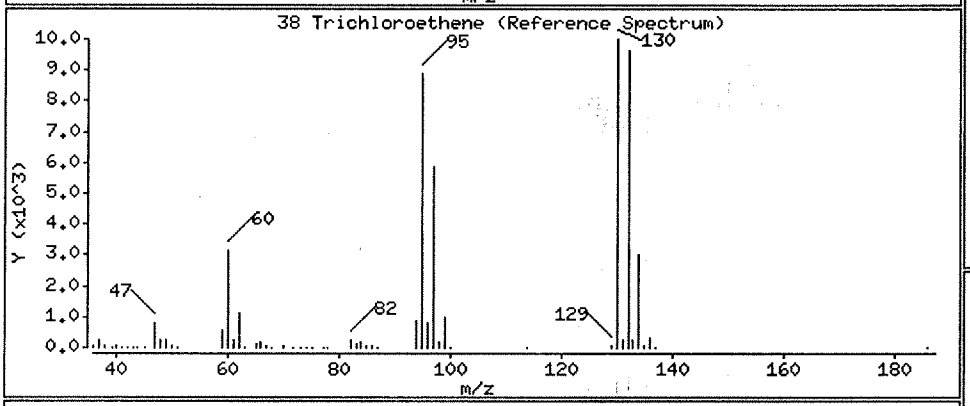
Concentration: 1.49 ug/l

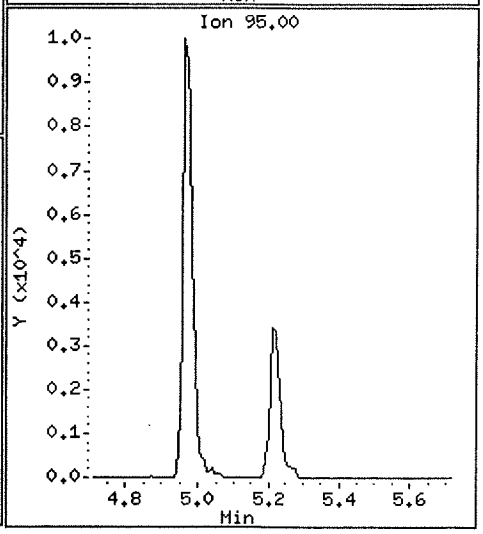


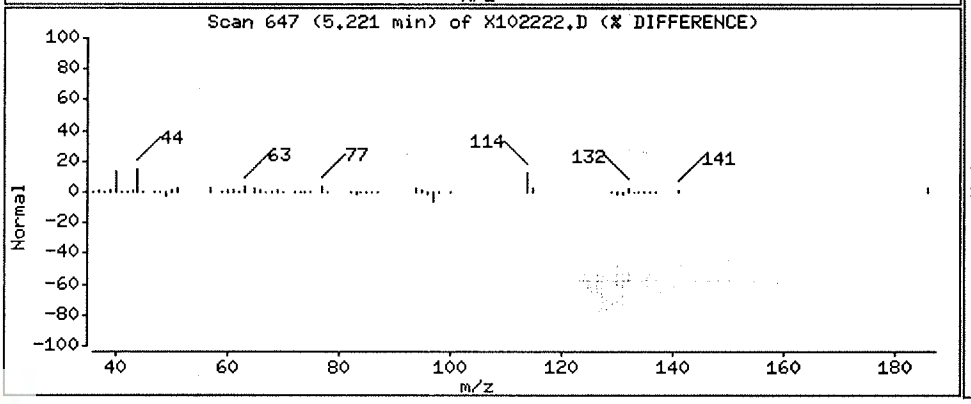












Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102225.D Page 1
Report Date: 30-Nov-2020 12:53

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201022.b\X102225.D
Lab Smp Id: HS20100779-02 Client Smp ID: HS20100779-02
Inj Date : 22-OCT-2020 18:37
Operator : PC Inst ID: voa6.i
Smp Info : HS20100779-02;HS20100779-02;;;
Misc Info : HS18090001;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X201022.b\8260W.m
Meth Date : 30-Nov-2020 12:51 dev.giga Quant Type: ISTD
Cal Date : 21-OCT-2020 19:10 Cal File: Y102108.D
Als bottle: 24
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

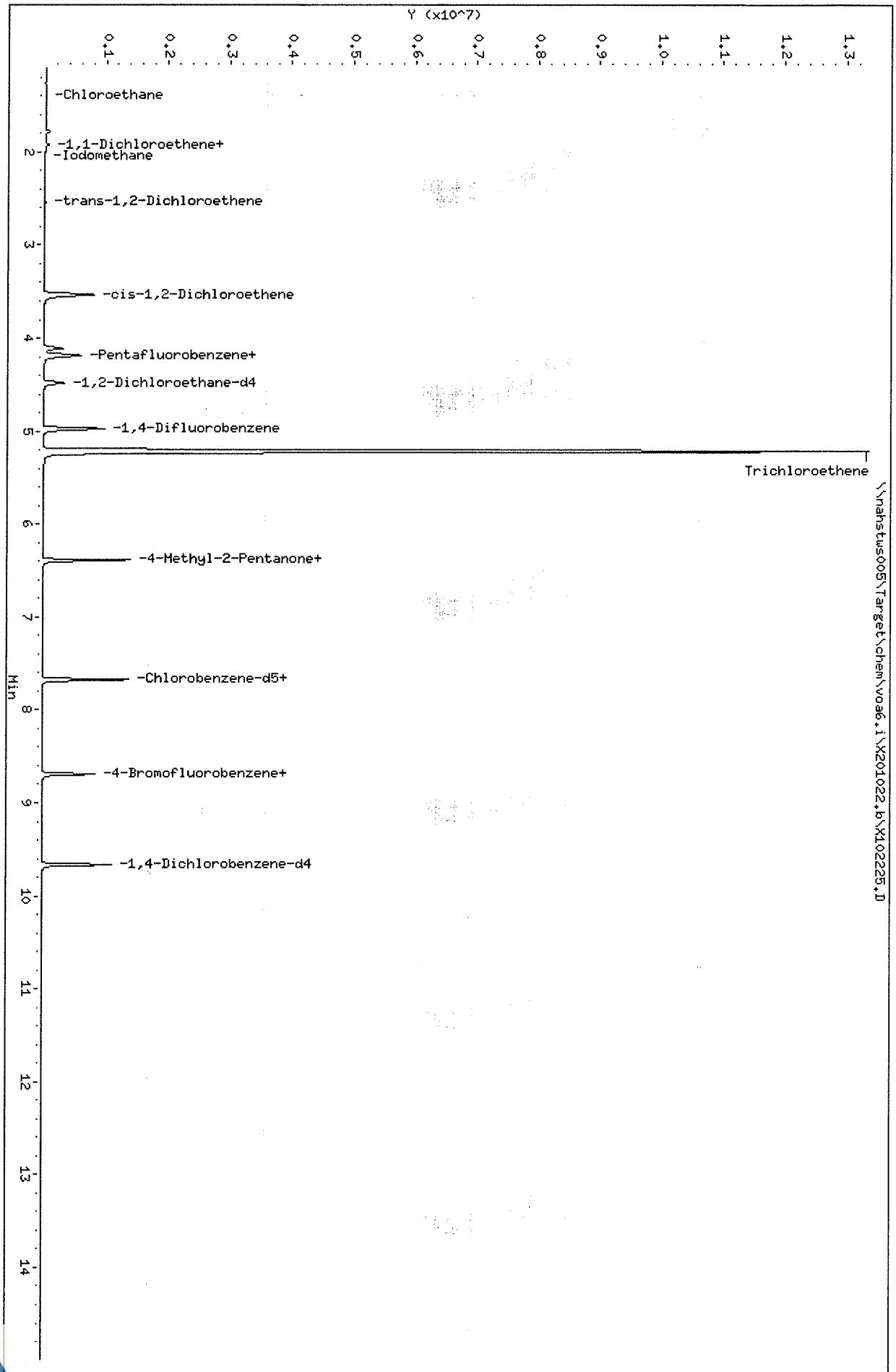
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	534796	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	832040	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	690952	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	286753	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.483	4.476	(1.070)	243667	52.5192	52.51
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	247967	42.9580	42.95
$ 30 Dibromofluoromethane	113	4.110	4.111	(0.981)	225646	47.9891	47.98
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	856260	49.8126	49.81
11 1,1-Dichloroethene	96	1.926	1.919	(0.460)	7920	2.46455	2.46(a)
27 cis-1,2-Dichloroethene	96	3.537	3.538	(0.844)	423812	78.0014	78.00
38 Trichloroethene	130	5.214	5.214	(1.049)	4591082	748.814	748.81(A)
5 Vinyl Chloride	62	1.145	1.145	(0.273)	7667	1.92061	1.92(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount
    exceeded maximum amount.

Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102225.D
Date : 22-OCT-2020 18:37
Client ID: HS20100779-02
Sample Info: HS20100779-02;HS20100779-02;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102225.D

Date : 22-OCT-2020 18:37

Client ID: HS20100779-02

Instrument: voa6.i

Sample Info: HS20100779-02;HS20100779-02;;;

Purge Volume: 5.0

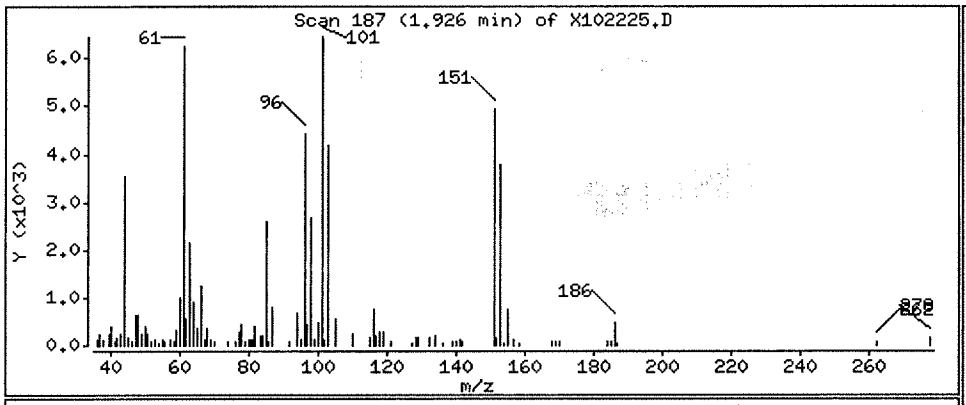
Operator: PC

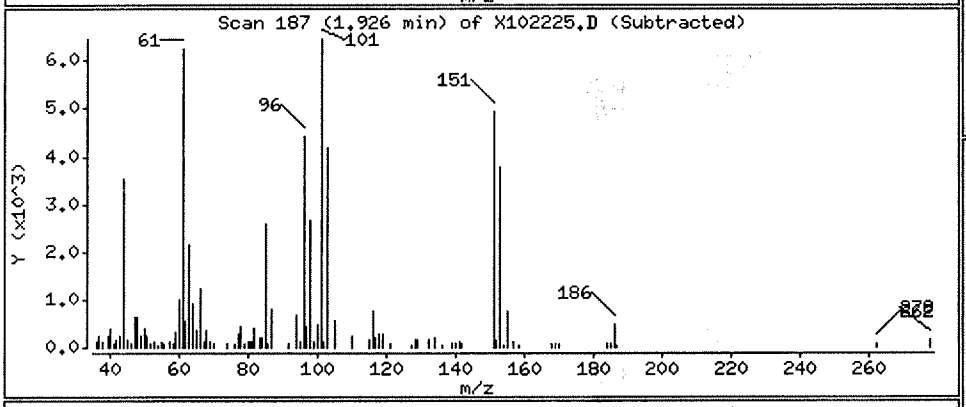
Column phase: DB624

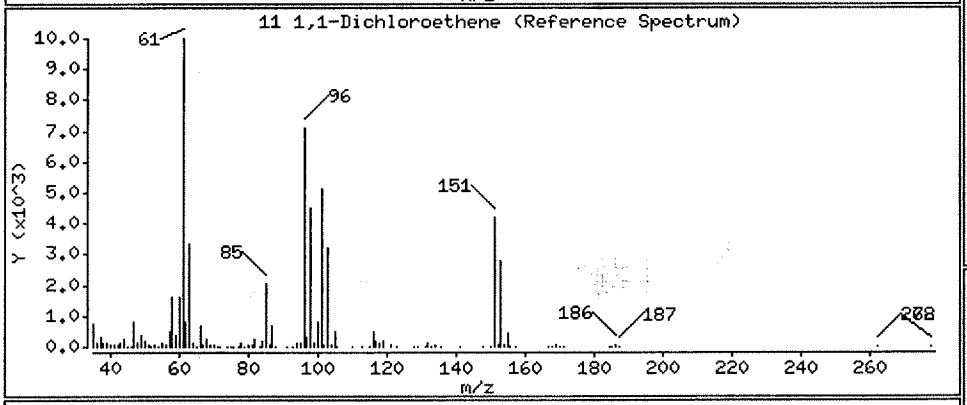
Column diameter: 0.18

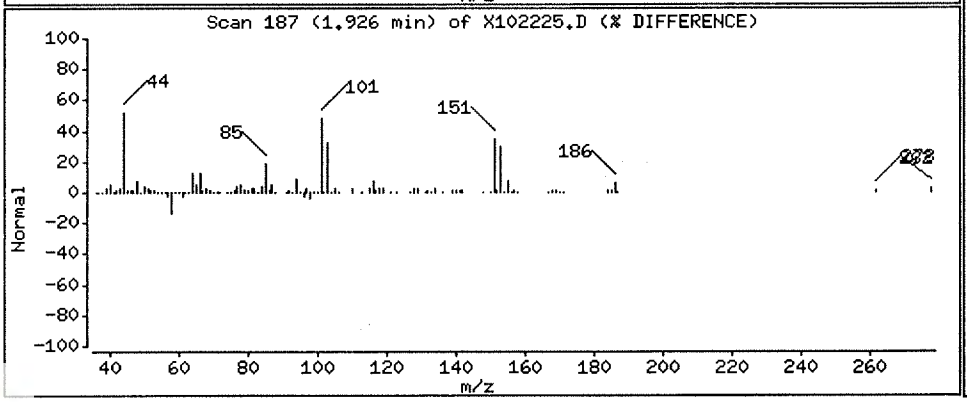
11 1,1-Dichloroethene

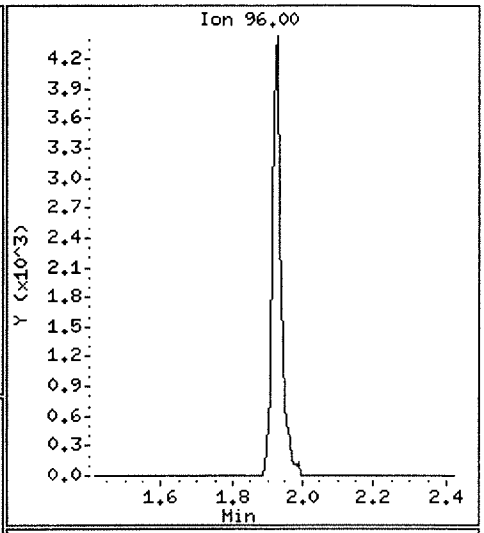
Concentration: 2.46 ug/l

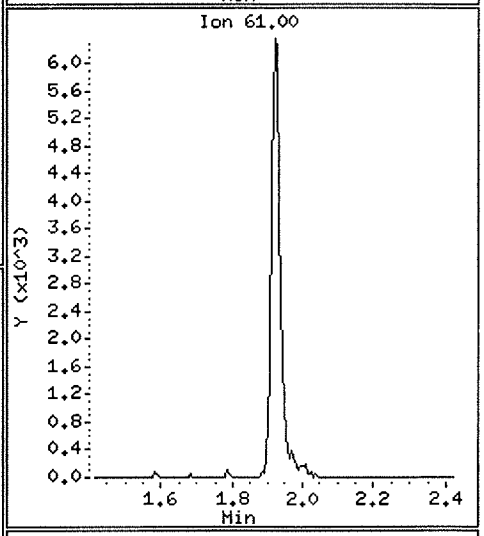


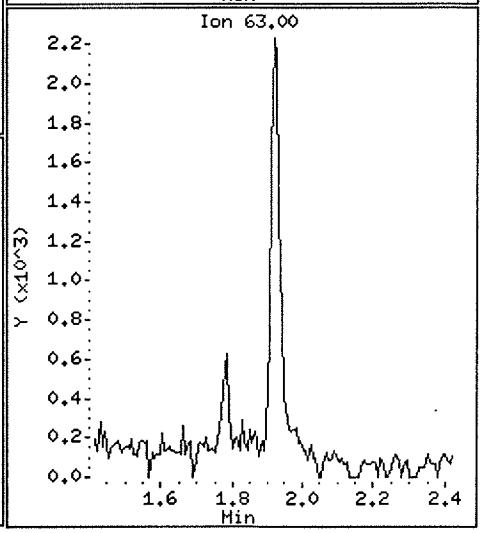












Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102225.D

Date : 22-OCT-2020 18:37

Client ID: HS20100779-02

Instrument: voa6.i

Sample Info: HS20100779-02;HS20100779-02;;;

Purge Volume: 5.0

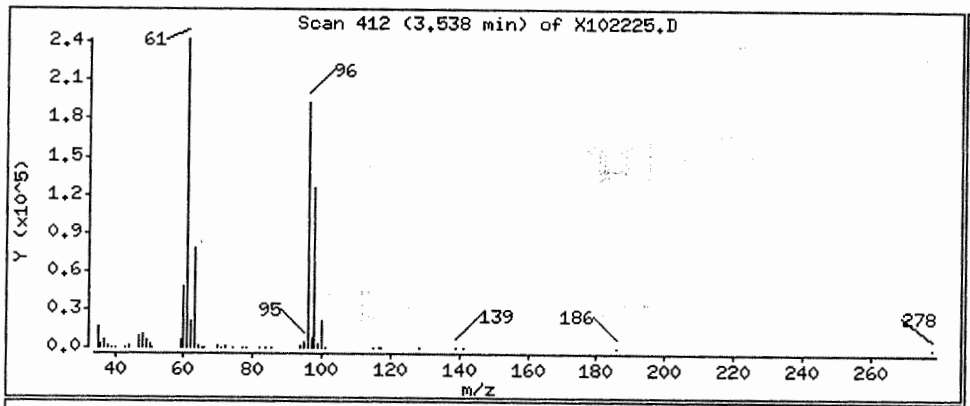
Operator: PC

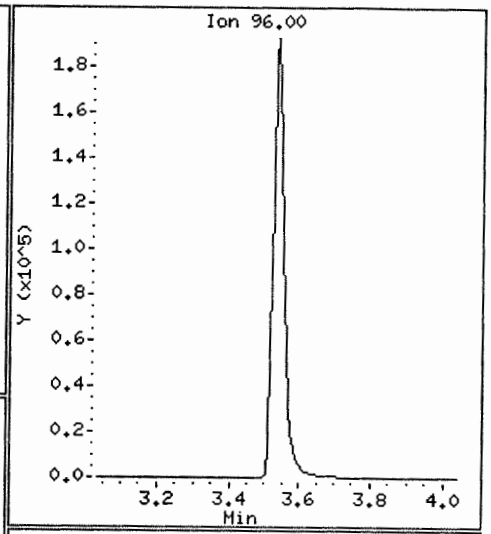
Column phase: DB624

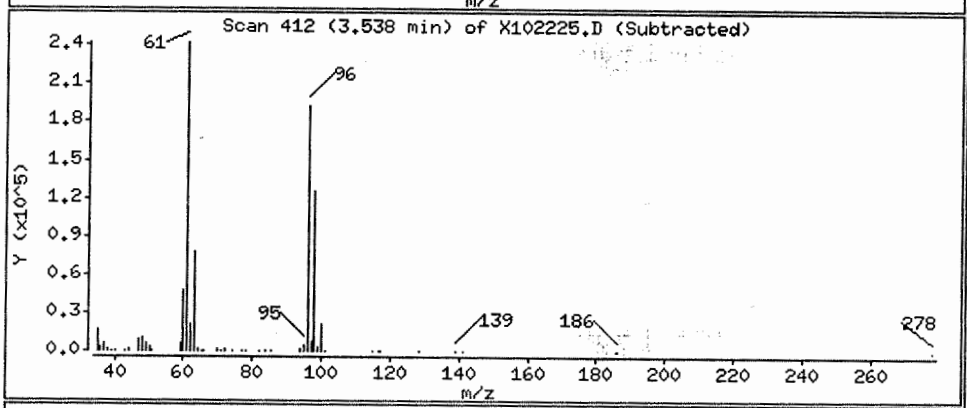
Column diameter: 0.18

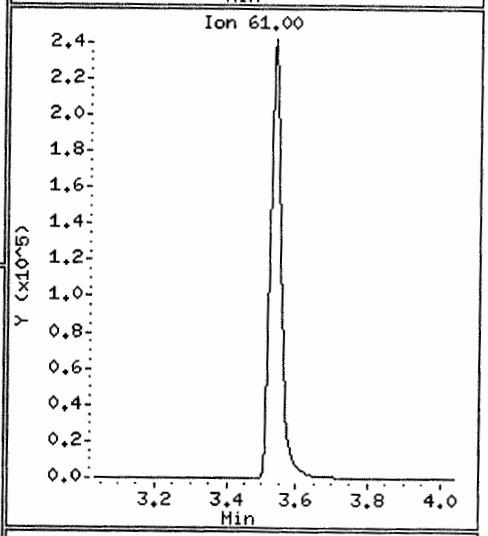
27 cis-1,2-Dichloroethene

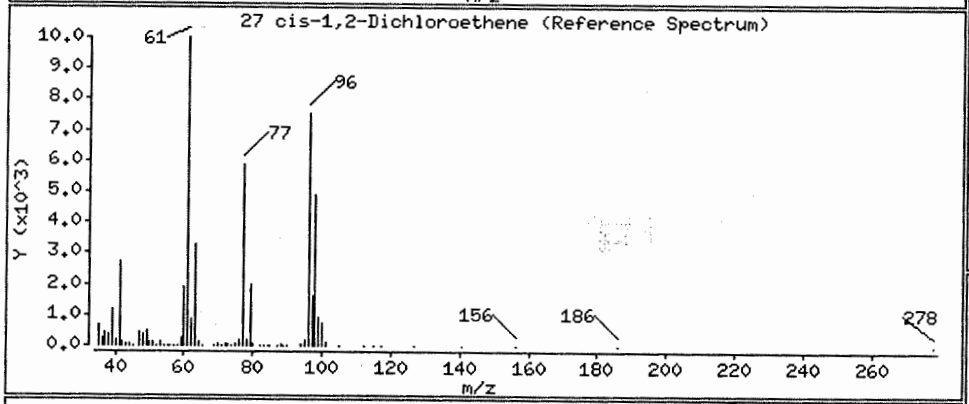
Concentration: 78.00 ug/l

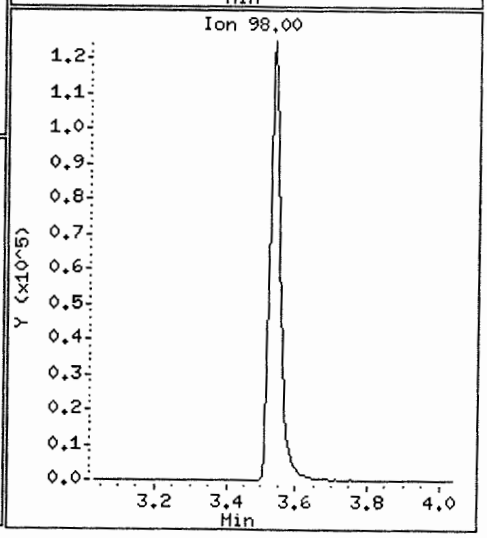


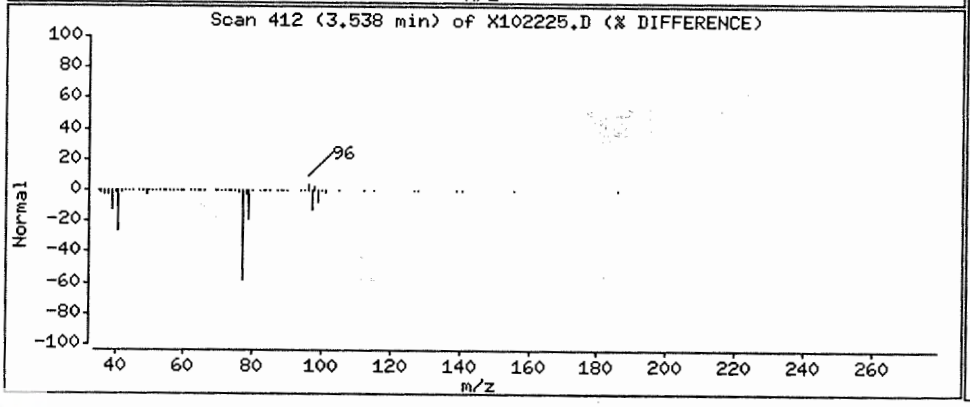












Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102225.D

Date : 22-OCT-2020 18:37

Client ID: HS20100779-02

Instrument: voa6.i

Sample Info: HS20100779-02;HS20100779-02;;;

Purge Volume: 5.0

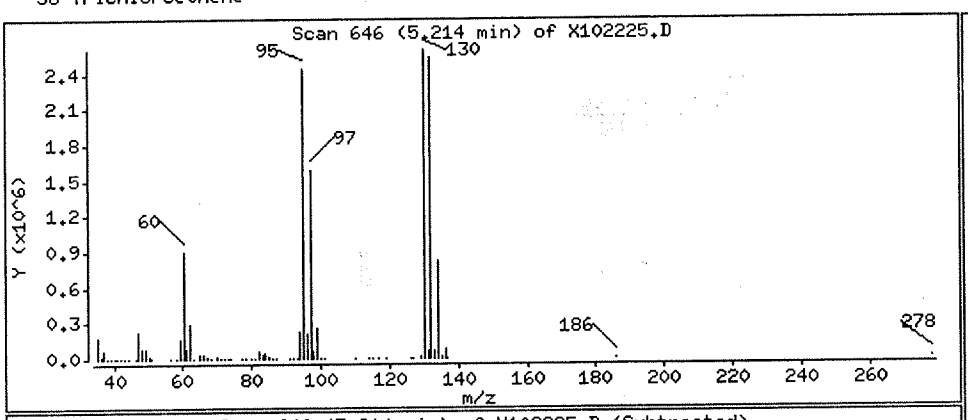
Operator: PC

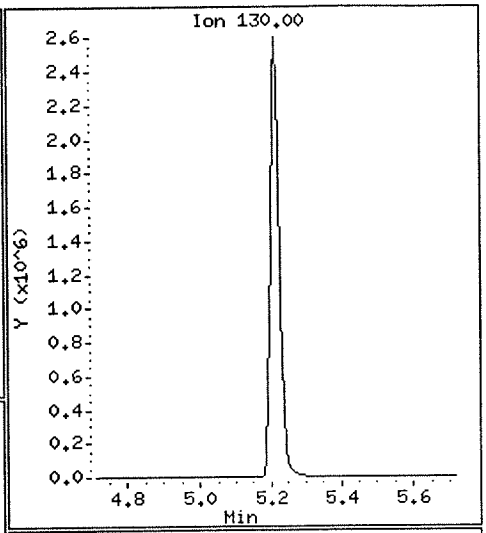
Column phase: DB624

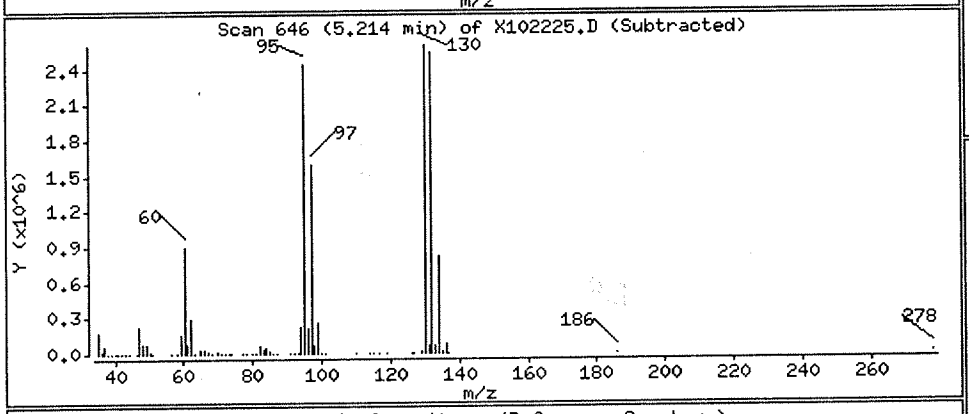
Column diameter: 0.18

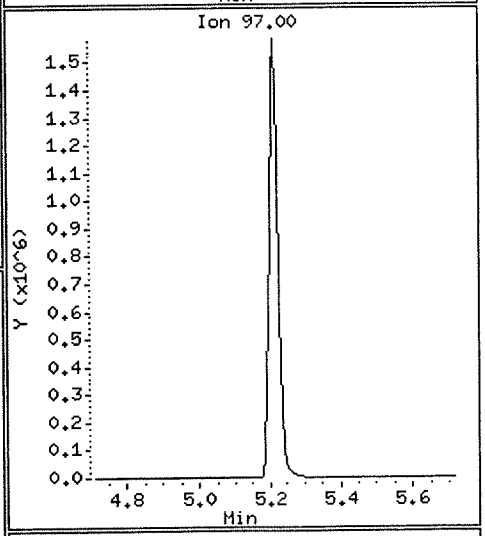
38 Trichloroethene

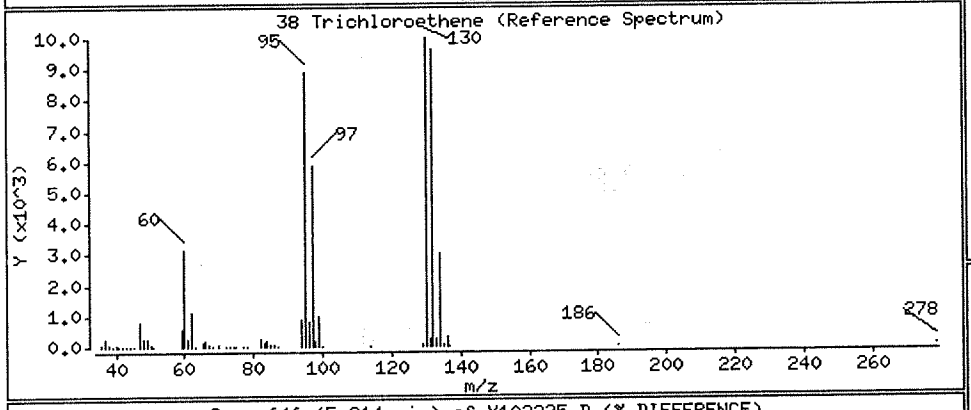
Concentration: 748.81 ug/l

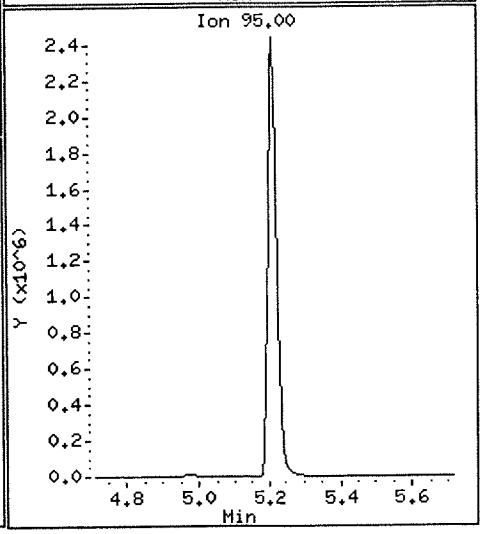


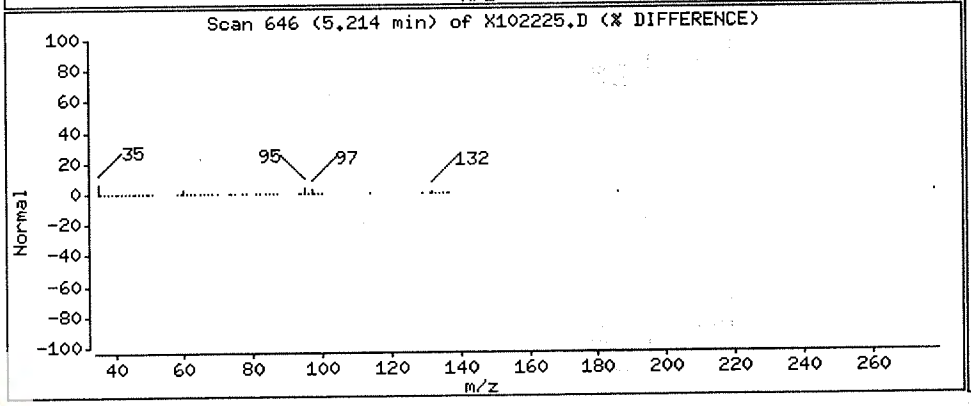












Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102225.D

Date : 22-OCT-2020 18:37

Client ID: HS20100779-02

Instrument: voa6.i

Sample Info: HS20100779-02;HS20100779-02;;;

Purge Volume: 5.0

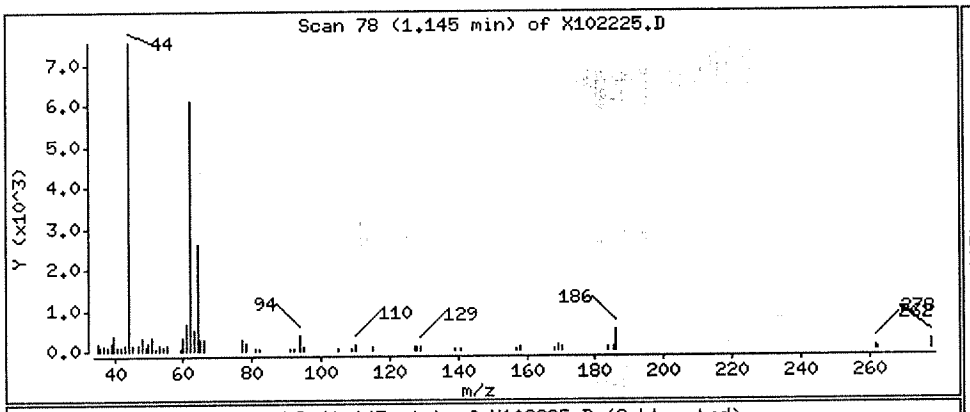
Operator: PC

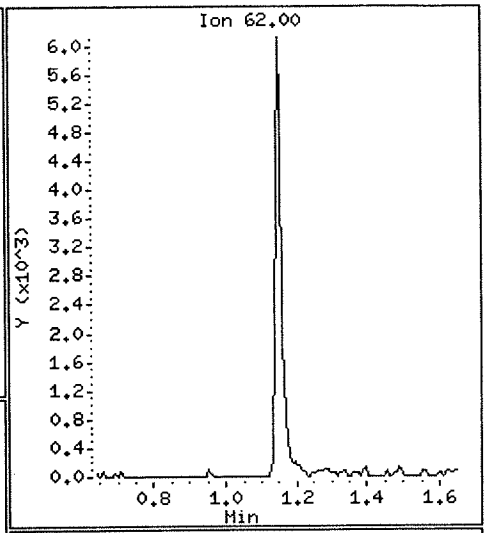
Column phase: DB624

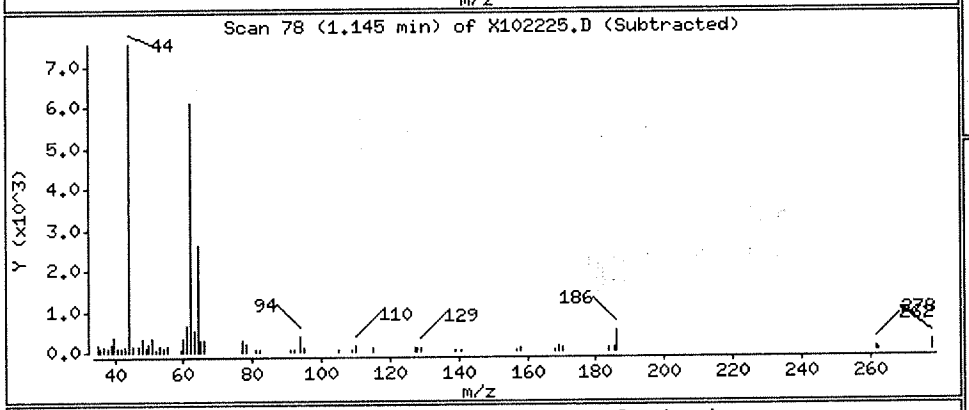
Column diameter: 0.18

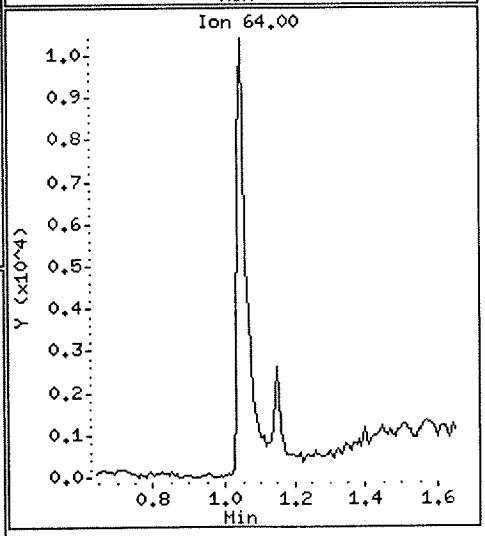
5 Vinyl Chloride

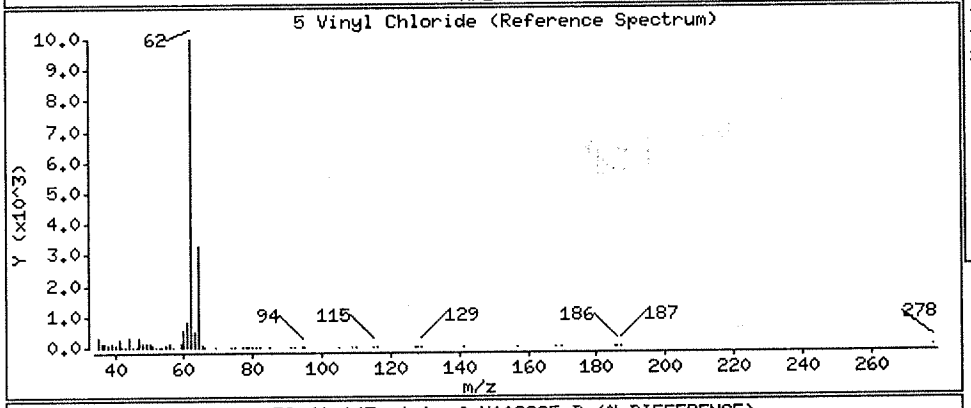
Concentration: 1.92 ug/l

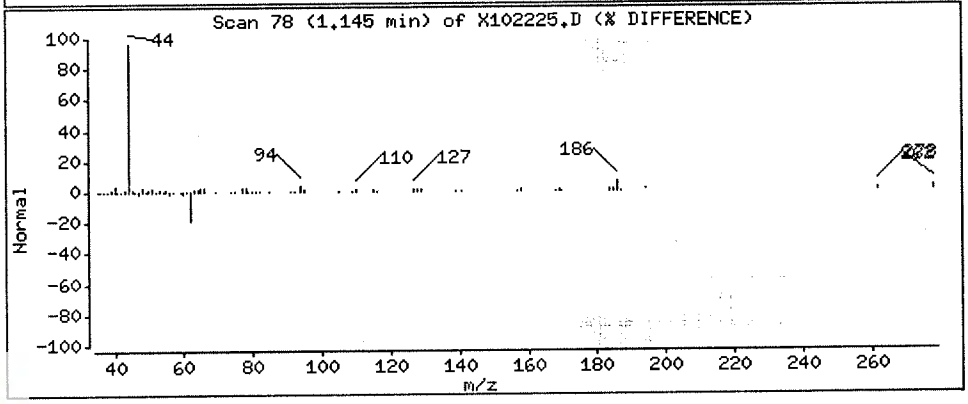












Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102226.D Page 1
Report Date: 30-Nov-2020 12:53

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201022.b\X102226.D
Lab Smp Id: HS20100779-02 Client Smp ID: HS20100779-02
Inj Date : 22-OCT-2020 18:58
Operator : PC Inst ID: voa6.i
Smp Info : HS20100779-02;HS20100779-02;;;
Misc Info : HS18090001;WATER;0;10;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201022.b\8260W.m
Meth Date : 30-Nov-2020 12:51 dev.giga Quant Type: ISTD
Cal Date : 21-OCT-2020 19:10 Cal File: Y102108.D
Als bottle: 25
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

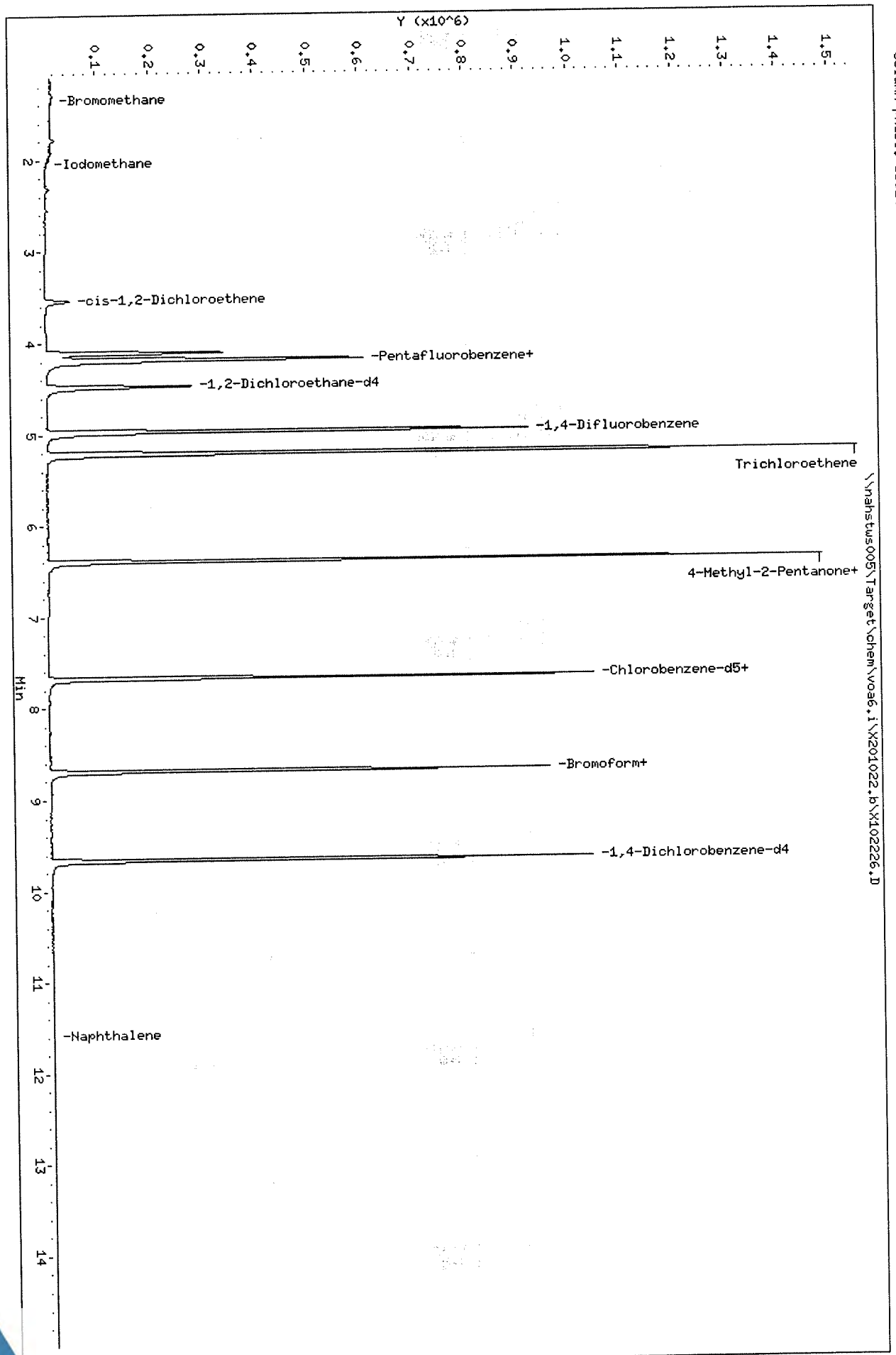
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	10.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	544379	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	782655	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	555064	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	284867	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	202665	42.9853	42.98
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	284687	61.5569	61.55
$ 30 Dibromofluoromethane	113	4.111	4.111	(0.981)	241377	50.4310	50.43
$ 48 Toluene-d8	98	6.389	6.388	(0.833)	914369	66.2156	66.21(R)
27 cis-1,2-Dichloroethene	96	3.538	3.538	(0.844)	27821	5.03024	50.30
38 Trichloroethene	130	5.214	5.214	(1.049)	488904	84.7727	847.72

QC Flag Legend

R - Spike/Surrogate failed recovery limits.



Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102226.D
Date : 22-OCT-2020 18:58
Client ID: HS20100779-02
Sample Info: HS20100779-02;HS20100779-02;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102226.D

Date : 22-OCT-2020 18:58

Client ID: HS20100779-02

Instrument: voa6.i

Sample Info: HS20100779-02;HS20100779-02;;;

Purge Volume: 5.0

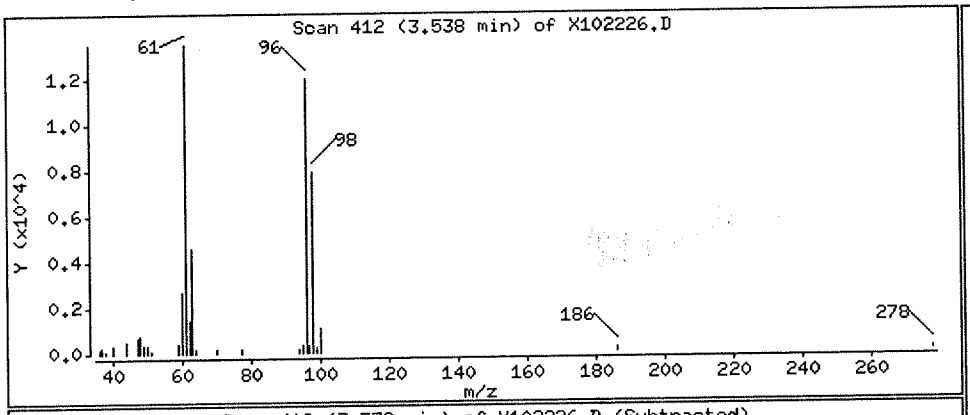
Operator: PC

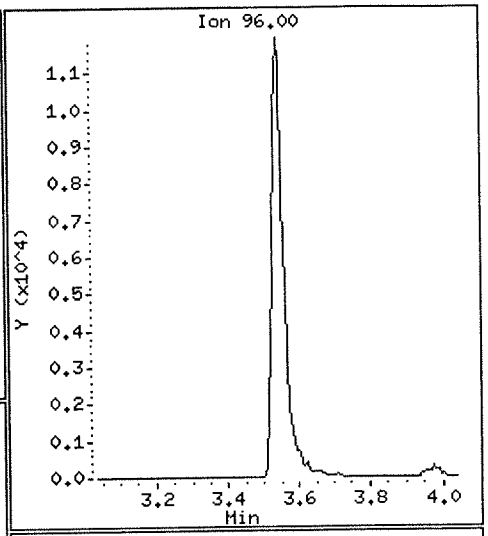
Column phase: DB624

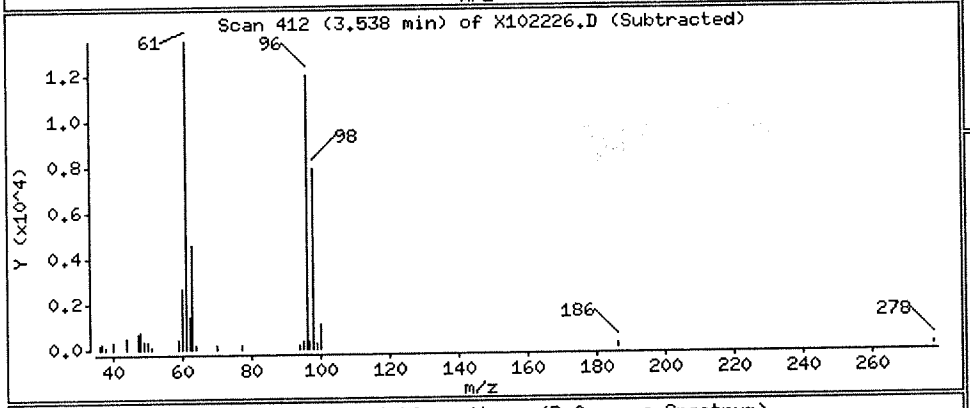
Column diameter: 0.18

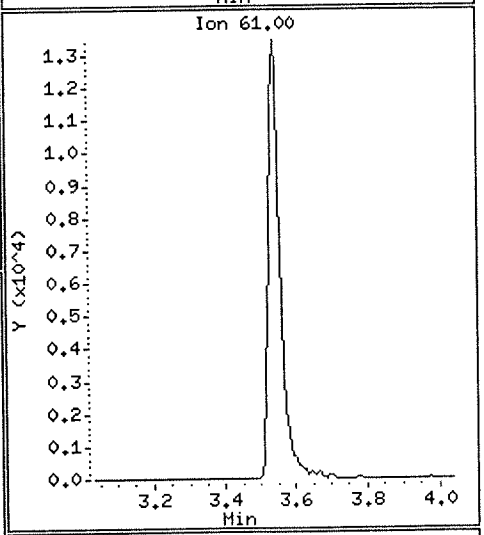
27 cis-1,2-Dichloroethene

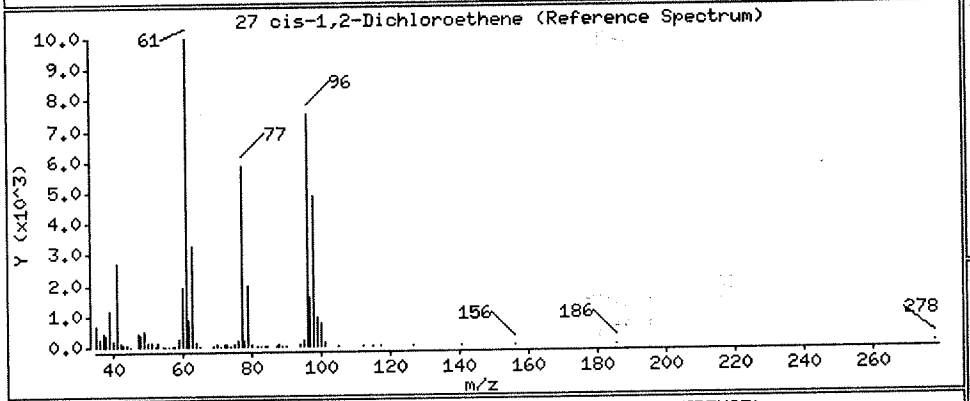
Concentration: 50.30 ug/l

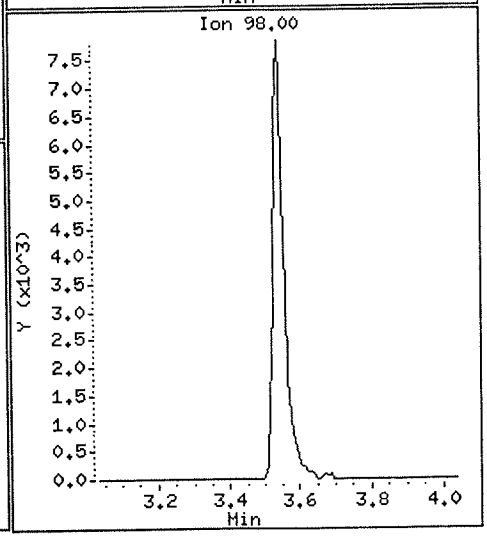


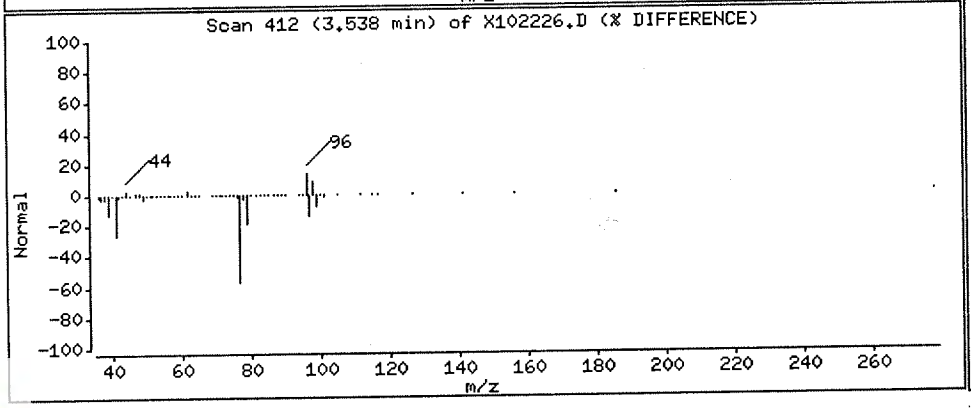












Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102226.D

Date : 22-OCT-2020 18:58

Client ID: HS20100779-02

Instrument: voa6.i

Sample Info: HS20100779-02;HS20100779-02;;;

Purge Volume: 5.0

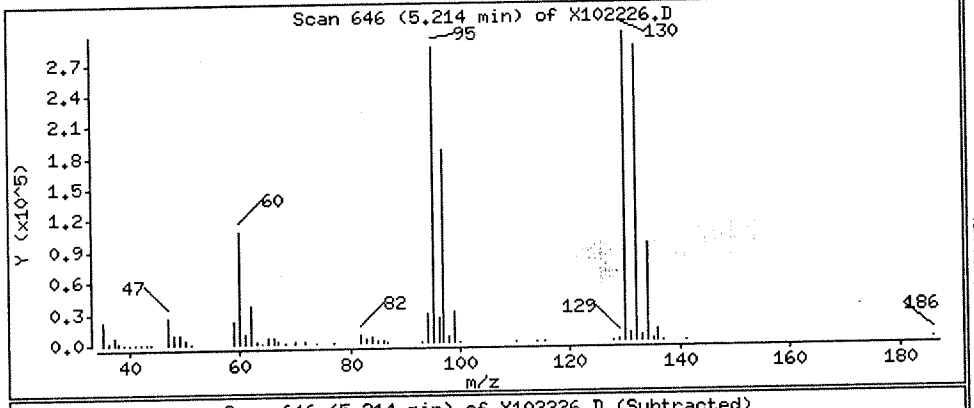
Operator: PC

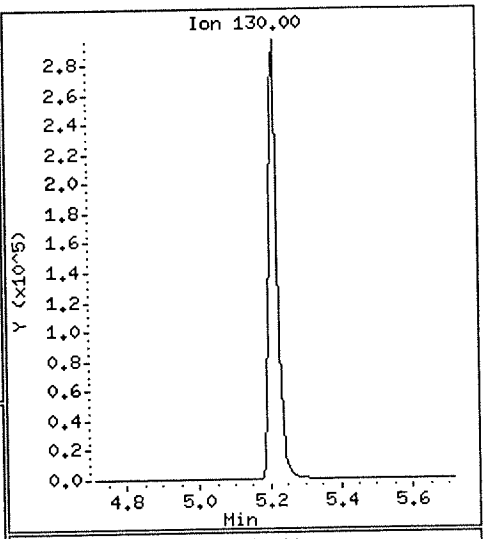
Column phase: DB624

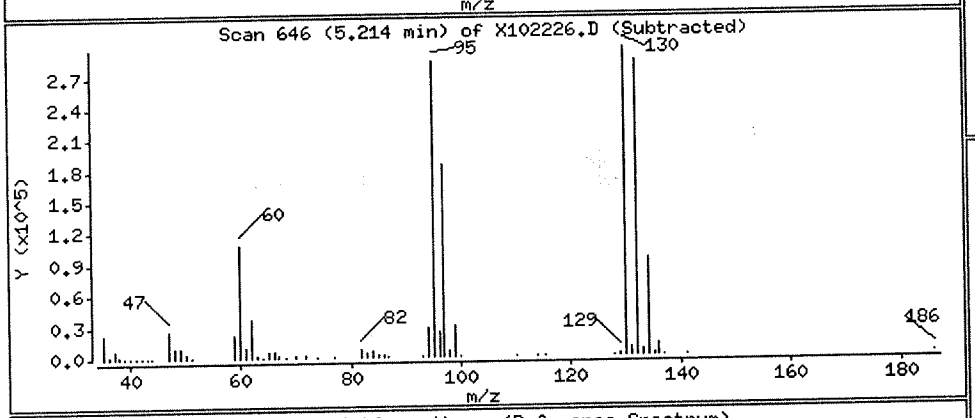
Column diameter: 0.18

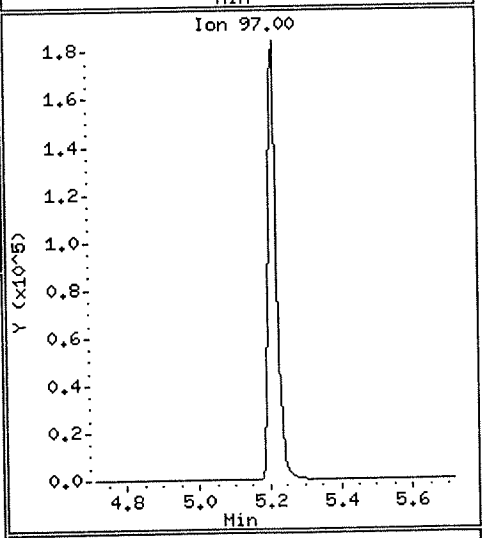
38 Trichloroethene

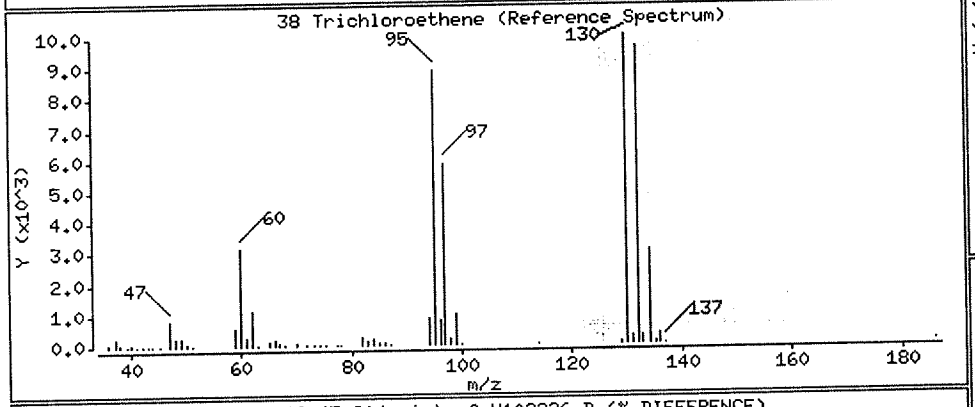
Concentration: 847.72 ug/l

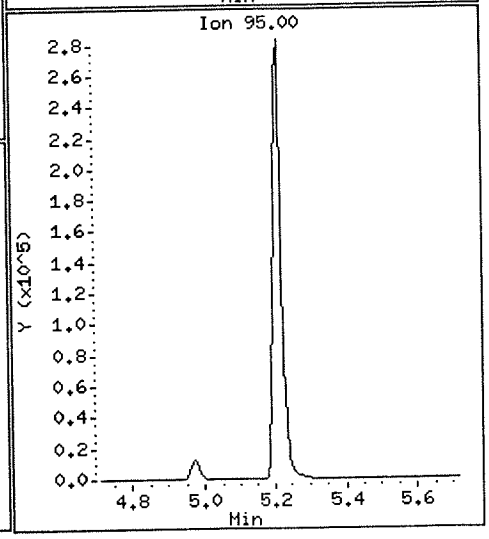


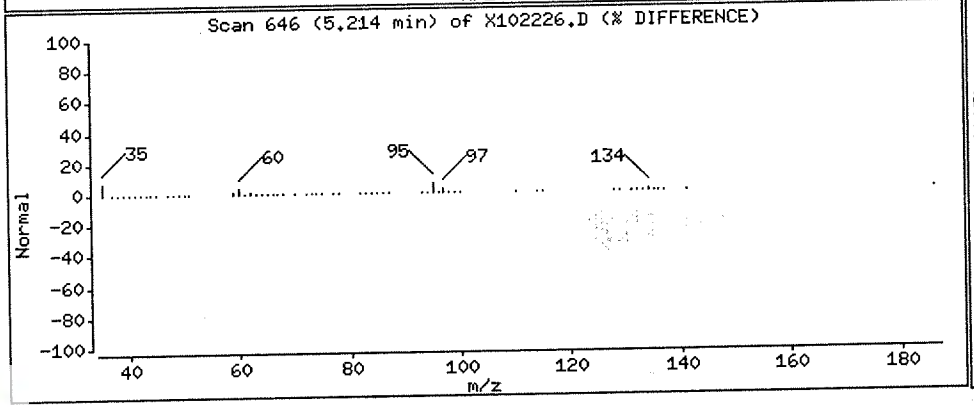












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Data file : \\nahstws005\Target\chem\voa6.i\X201022.b\X102227.D
Lab Smp Id: HS20100779-09 Client Smp ID: HS20100779-09
Inj Date : 22-OCT-2020 19:19
Operator : PC Inst ID: voa6.i
Smp Info : HS20100779-09;HS20100779-09;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201022.b\8260W.m
Meth Date : 30-Nov-2020 12:51 dev.giga Quant Type: ISTD
Cal Date : 21-OCT-2020 19:10 Cal File: Y102108.D
Als bottle: 26
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

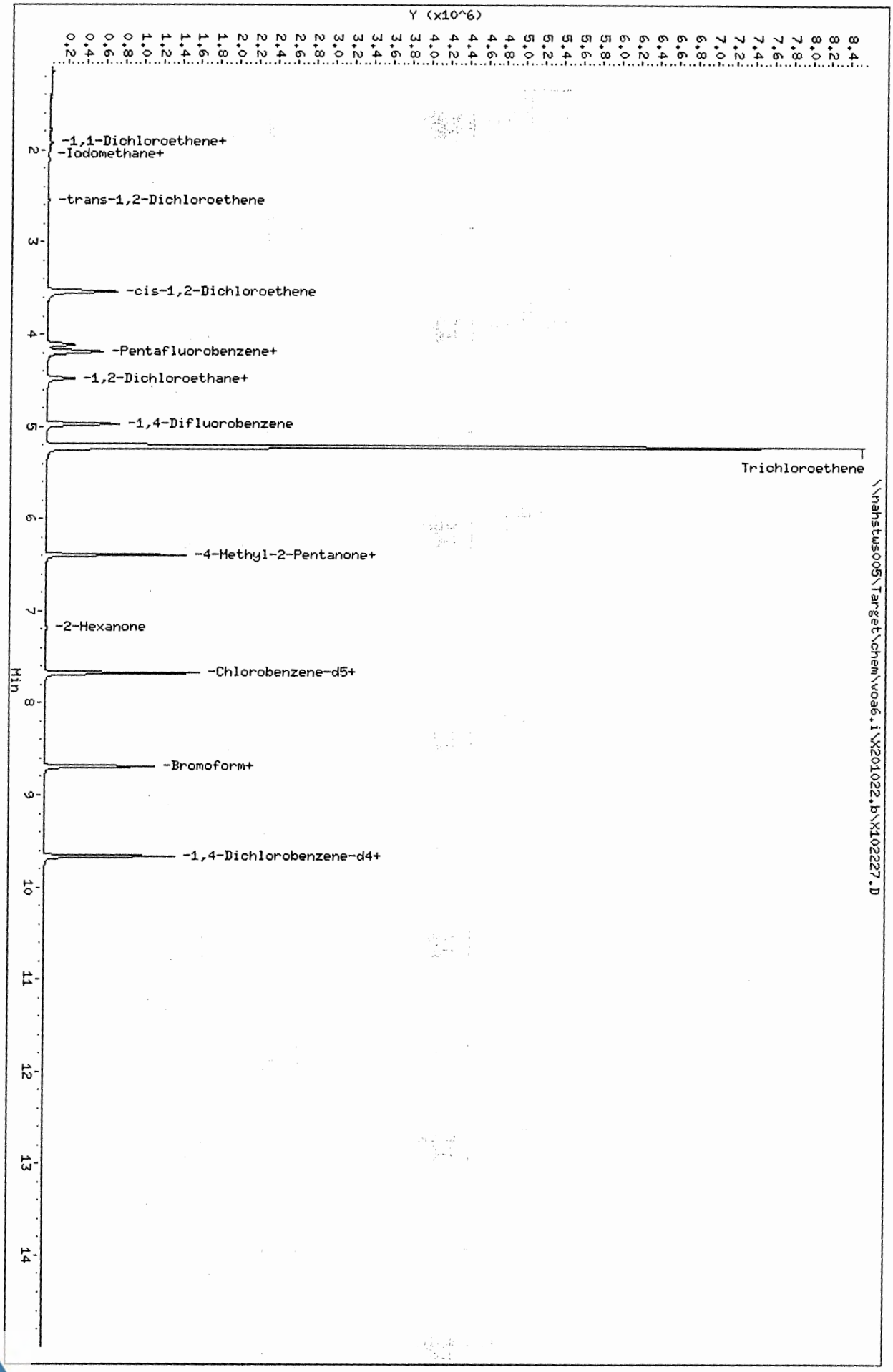
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	528965	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	663523	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	785964	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	342263	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	212013	46.2480	46.24
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	351962	53.6976	53.69
$ 30 Dibromofluoromethane	113	4.111	4.111	(0.981)	207075	44.5250	44.52
$ 48 Toluene-d8	98	6.389	6.388	(0.833)	875436	44.7717	44.77
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	5453	1.71557	1.71(a)
33 1,2-Dichloroethane	62	4.569	4.562	(0.919)	6360	1.32009	1.32(a)
27 cis-1,2-Dichloroethene	96	3.538	3.538	(0.844)	391699	72.8858	72.88
38 Trichloroethene	130	5.214	5.214	(1.049)	2963353	606.081	606.08(A)
5 Vinyl Chloride	62	1.145	1.145	(0.273)	19581	4.95919	4.95(a)

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount exceeded maximum amount.



Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102227.D
Date : 22-OCT-2020 19:19
Client ID: HS20100779-09
Sample Info: HS20100779-09;HS20100779-09;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102227.D

Date : 22-OCT-2020 19:19

Client ID: HS20100779-09

Instrument: voa6.i

Sample Info: HS20100779-09;HS20100779-09;;;

Purge Volume: 5.0

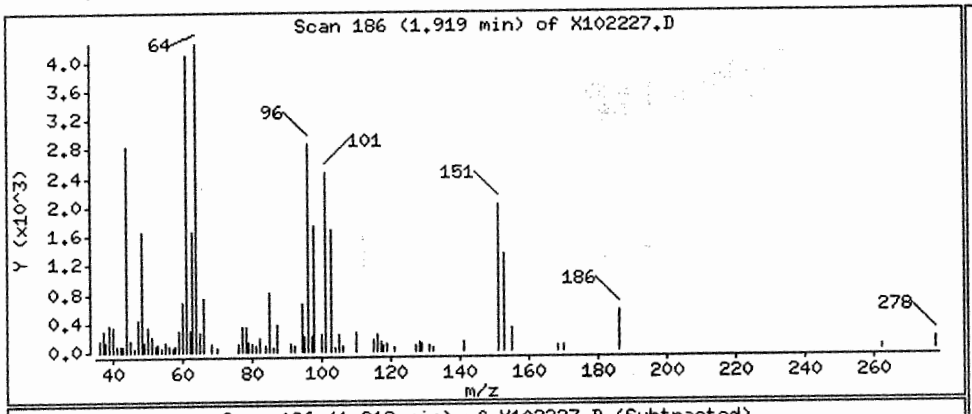
Operator: PC

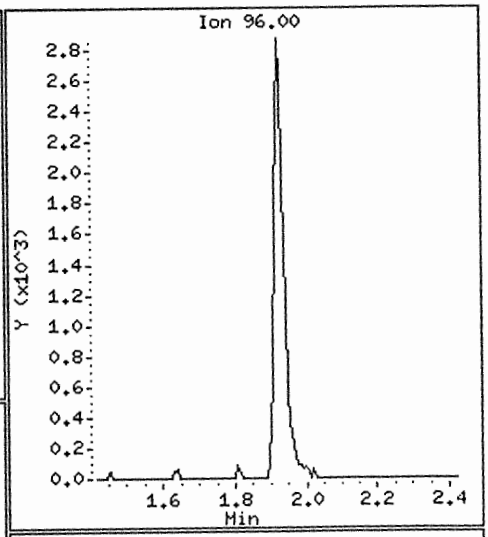
Column phase: DB624

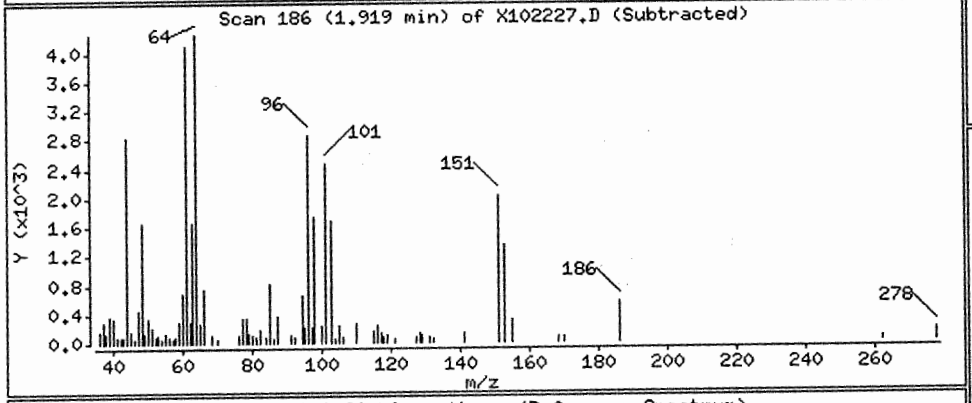
Column diameter: 0.18

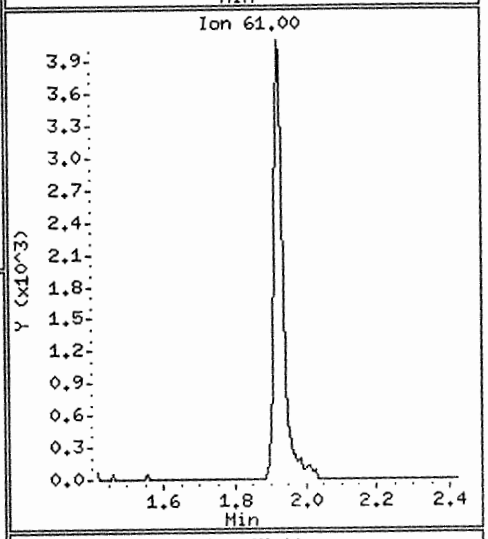
11 1,1-Dichloroethene

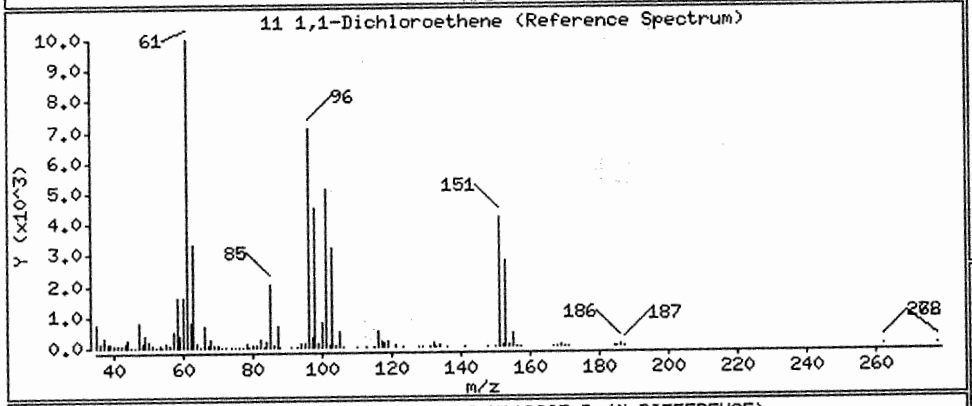
Concentration: 1.71 ug/l

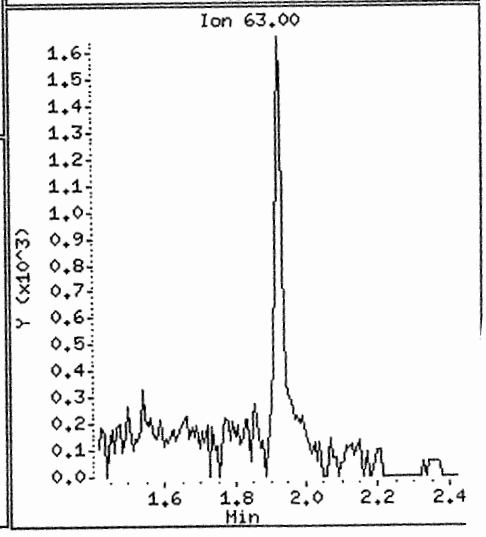


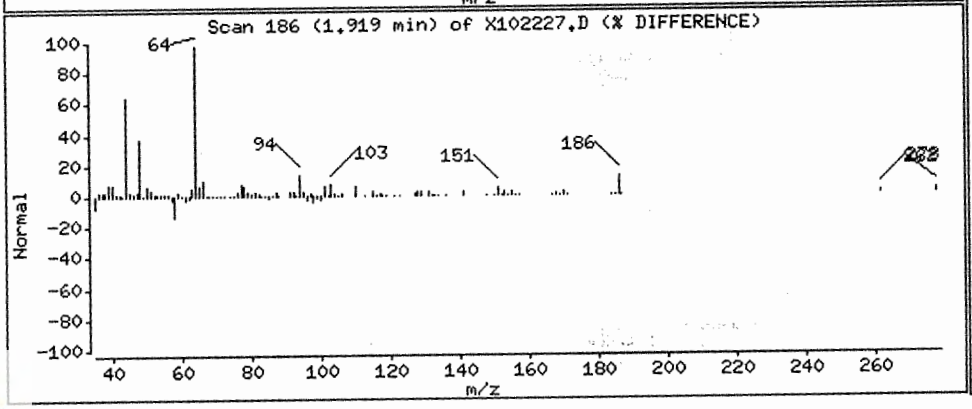












Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102227.D

Date : 22-OCT-2020 19:19

Client ID: HS20100779-09

Instrument: voa6.i

Sample Info: HS20100779-09;HS20100779-09;;;

Purge Volume: 5.0

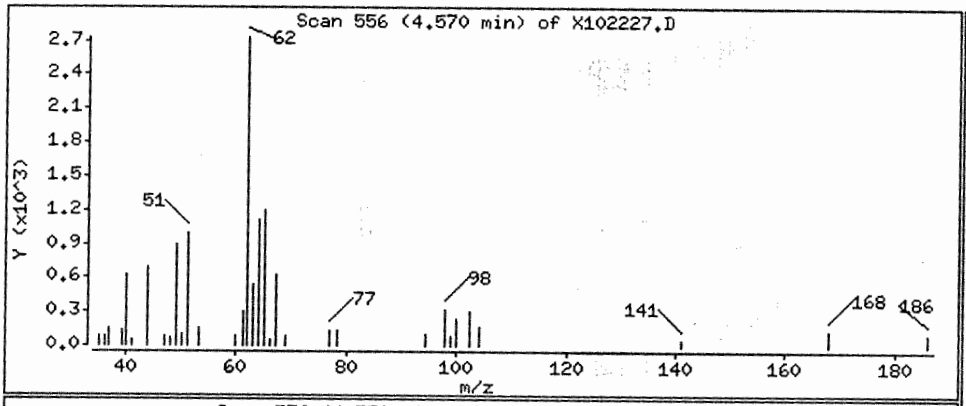
Operator: PC

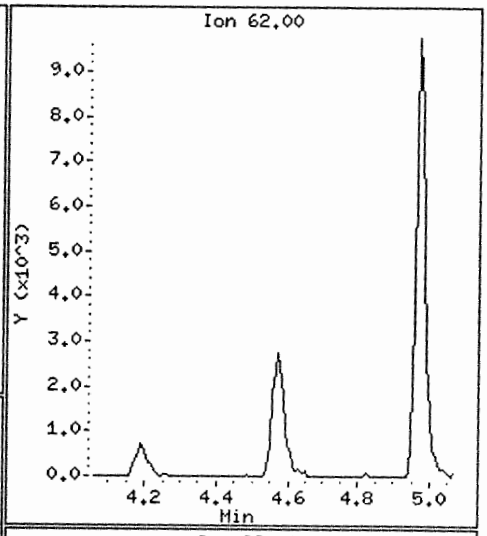
Column phase: DB624

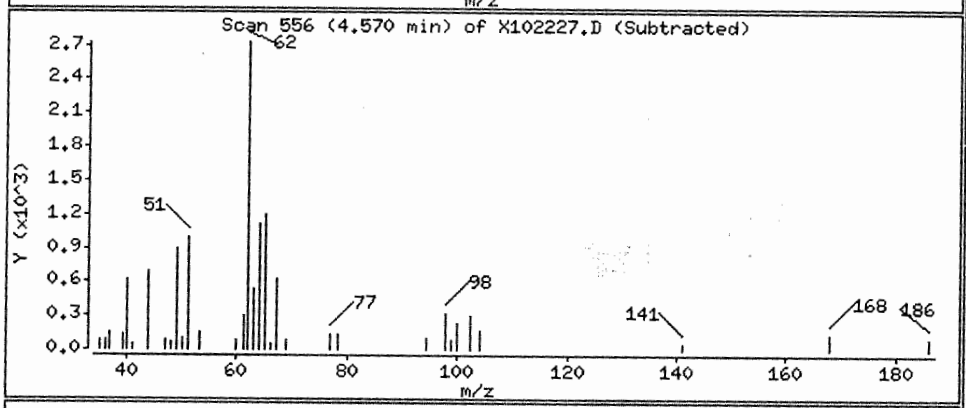
Column diameter: 0.18

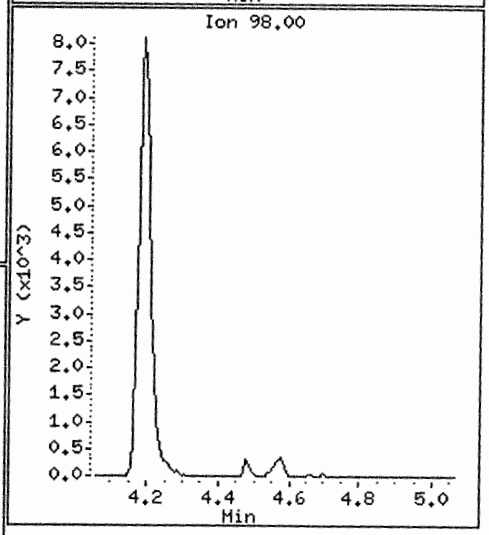
33 1,2-Dichloroethane

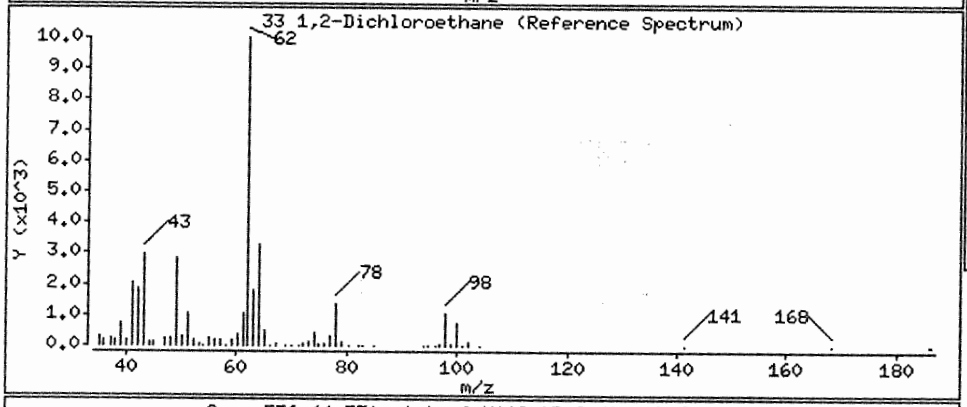
Concentration: 1.32 ug/l

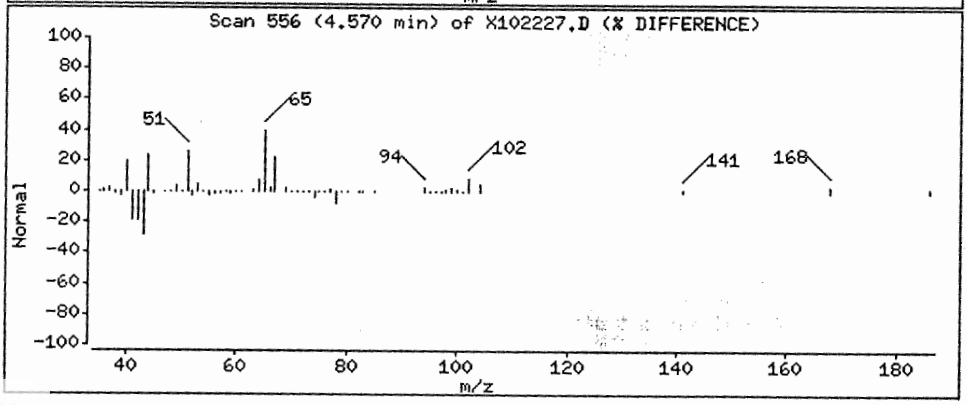












Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102227.D

Date : 22-OCT-2020 19:19

Client ID: HS20100779-09

Instrument: voa6.i

Sample Info: HS20100779-09;HS20100779-09;;;

Purge Volume: 5.0

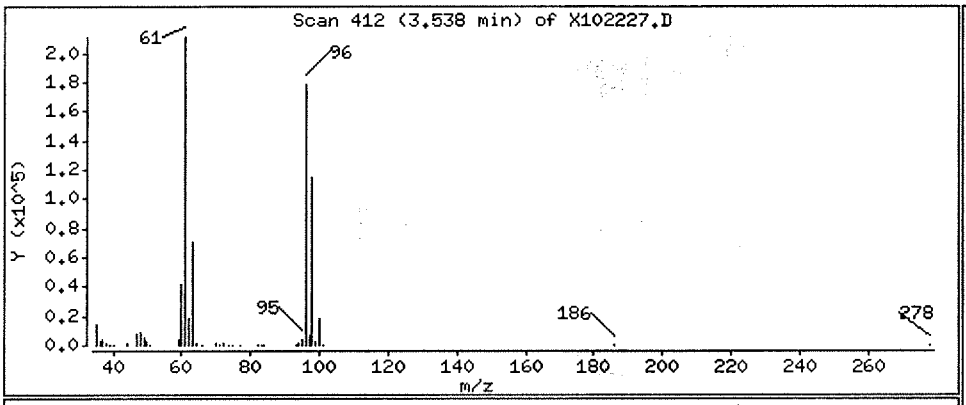
Operator: PC

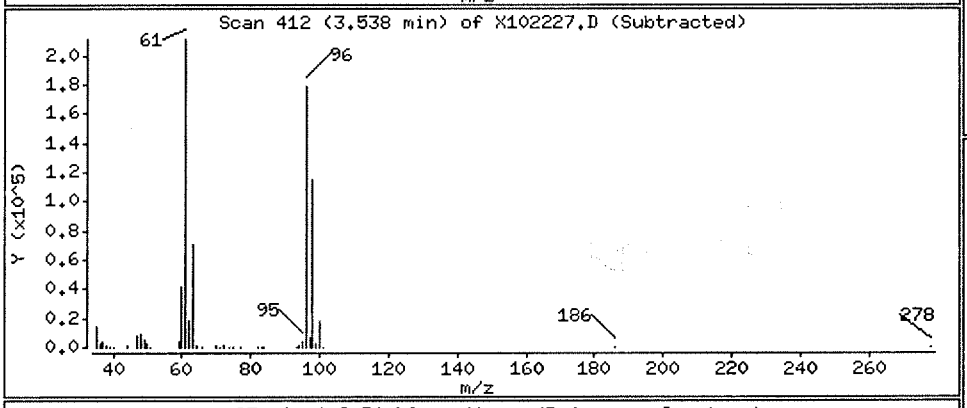
Column phase: DB624

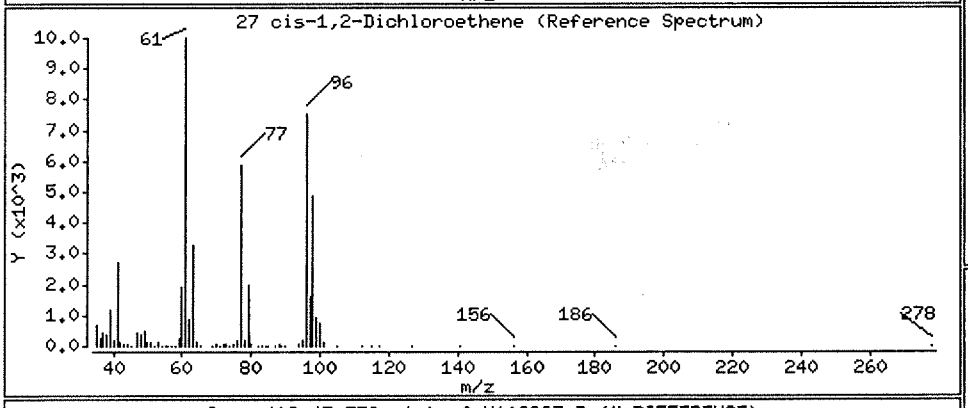
Column diameter: 0.18

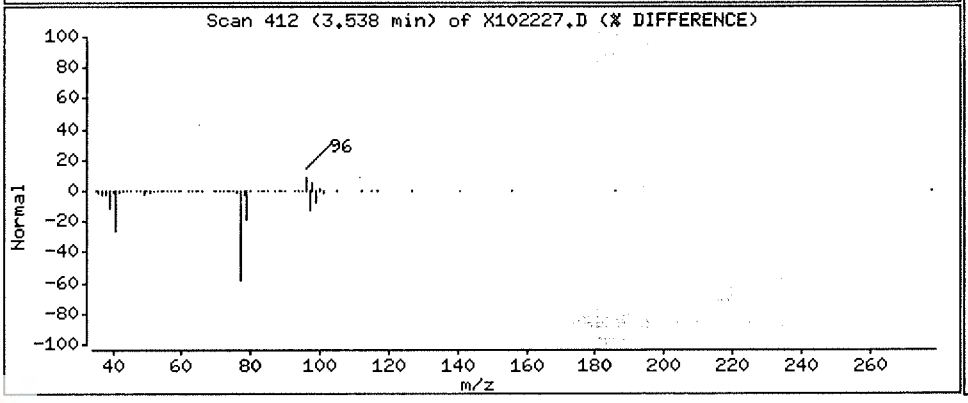
27 cis-1,2-Dichloroethene

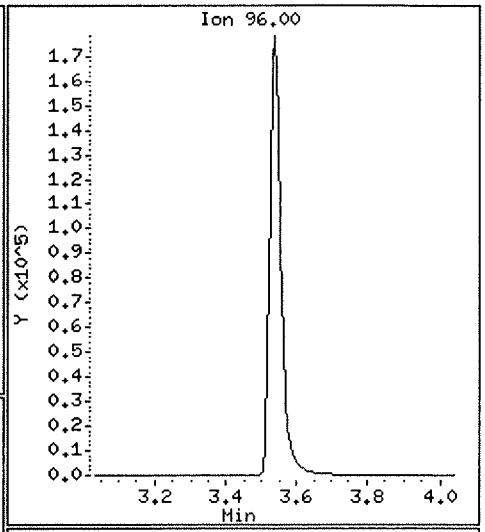
Concentration: 72.88 ug/l

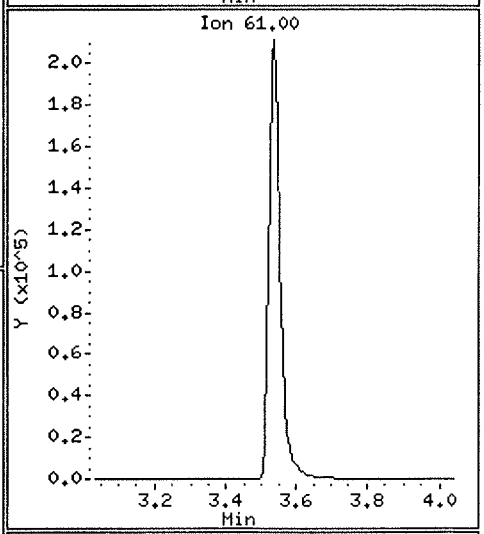


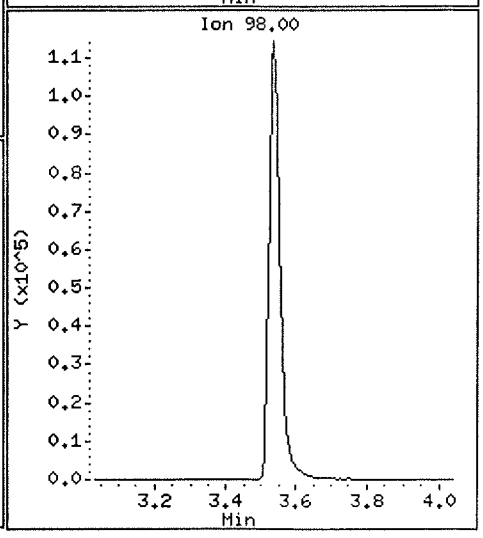












Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102227.D

Date : 22-OCT-2020 19:19

Client ID: HS20100779-09

Instrument: voa6.i

Sample Info: HS20100779-09;HS20100779-09;;;

Purge Volume: 5.0

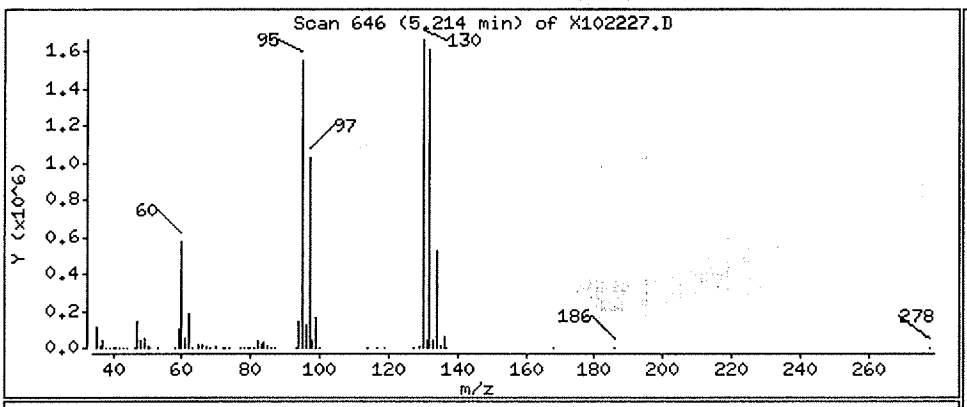
Operator: PC

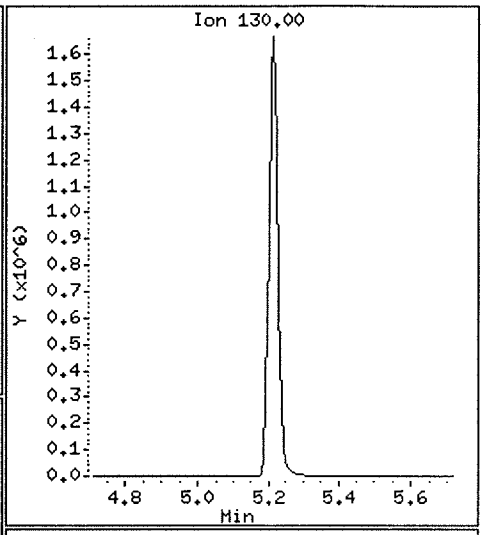
Column phase: DB624

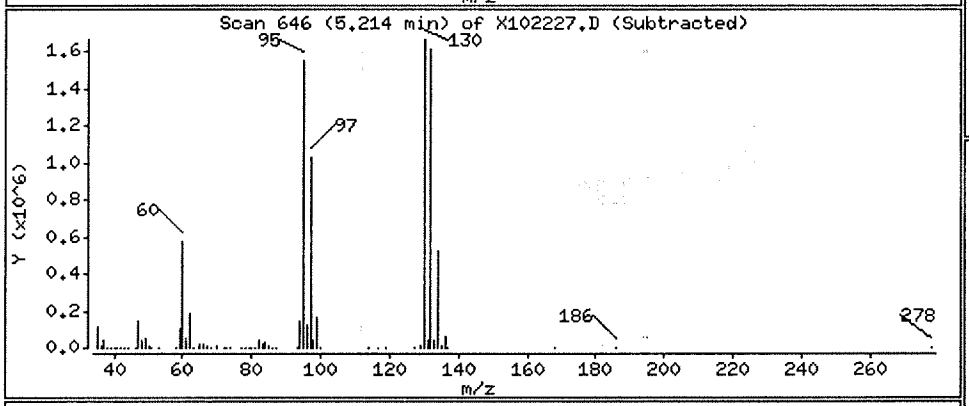
Column diameter: 0.18

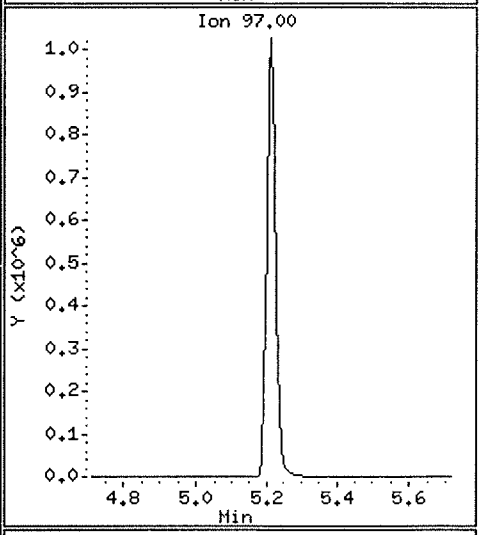
38 Trichloroethene

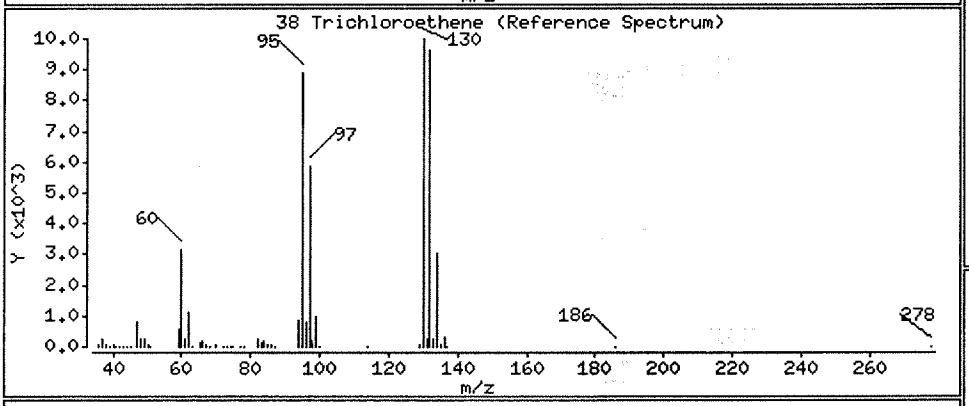
Concentration: 606.08 ug/l

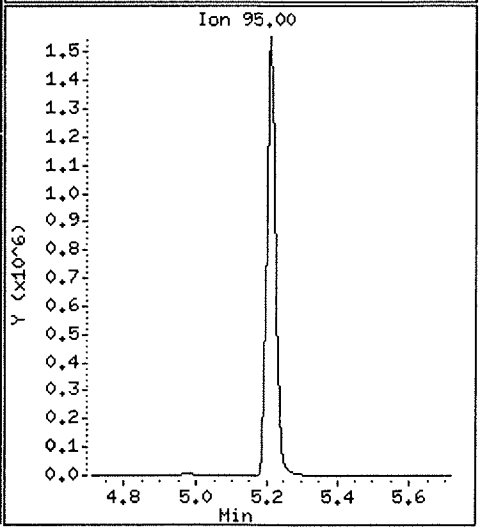


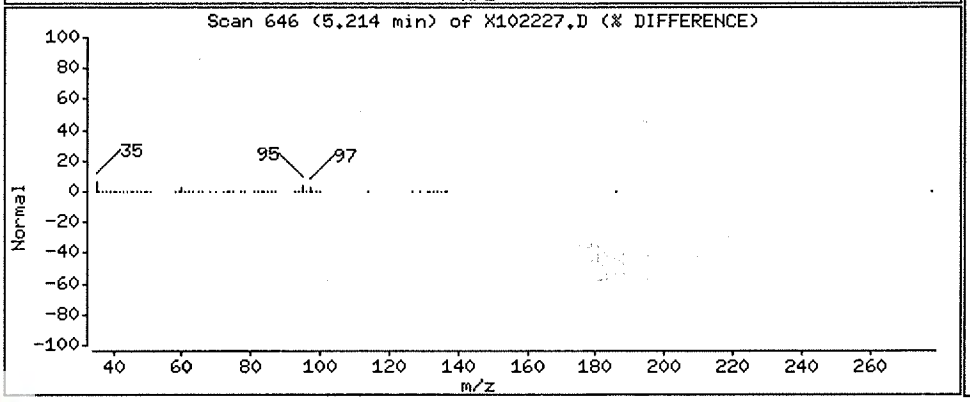












Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102227.D

Date : 22-OCT-2020 19:19

Client ID: HS20100779-09

Instrument: voa6.i

Sample Info: HS20100779-09;HS20100779-09;;;

Purge Volume: 5.0

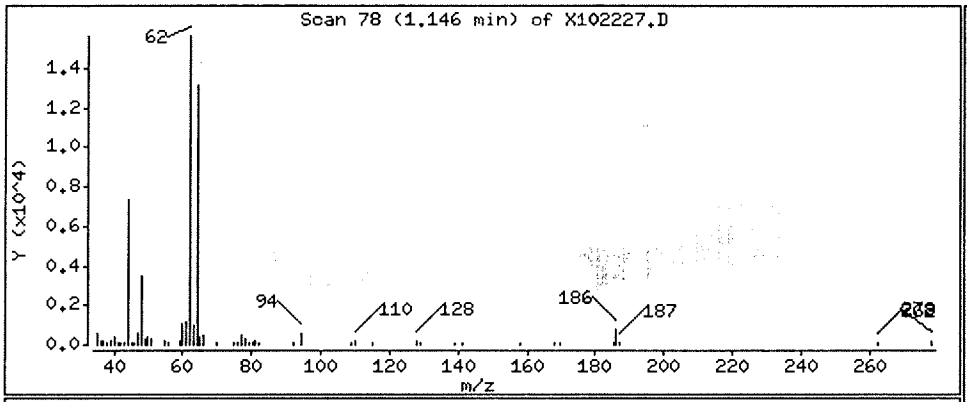
Operator: PC

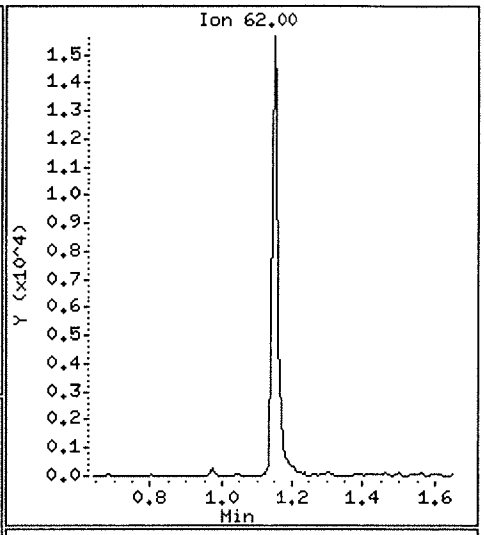
Column phase: DB624

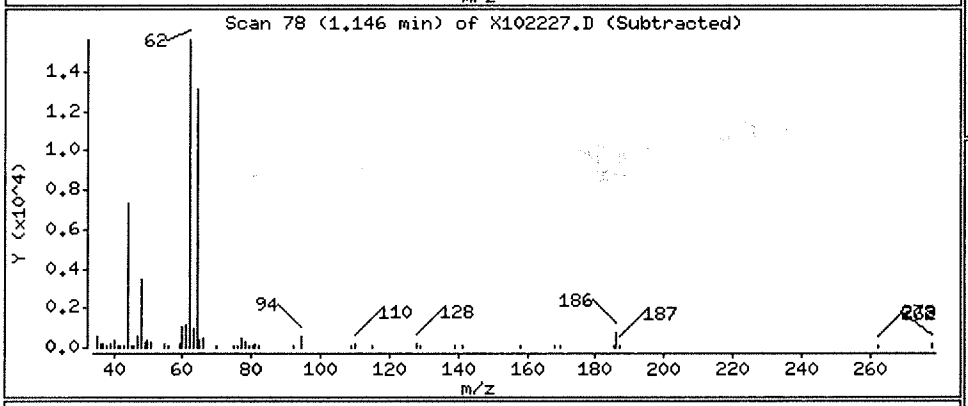
Column diameter: 0.18

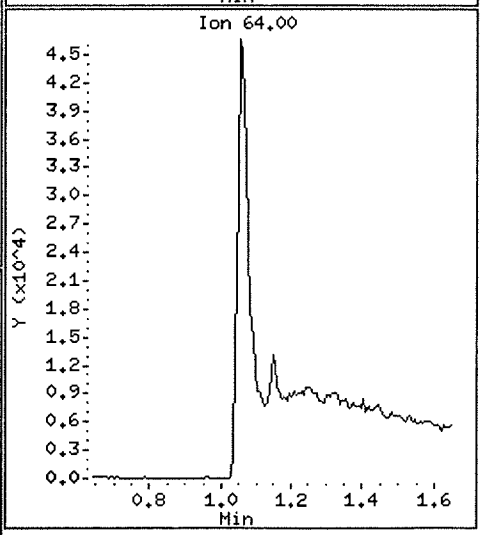
5 Vinyl Chloride

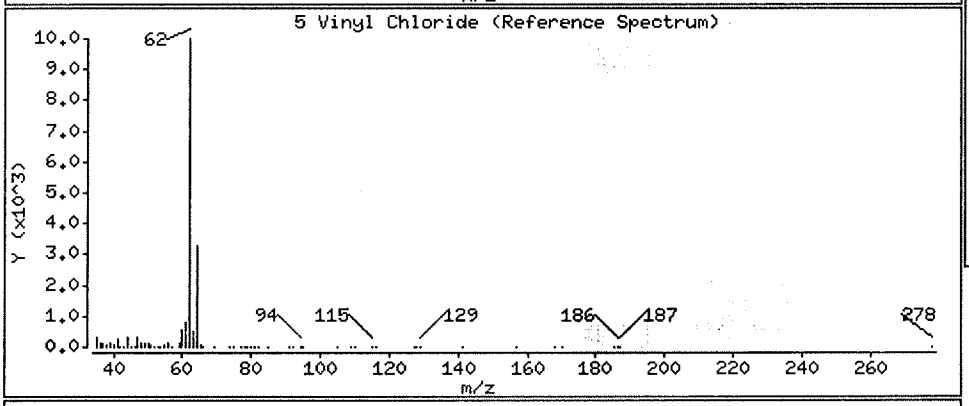
Concentration: 4.95 ug/l

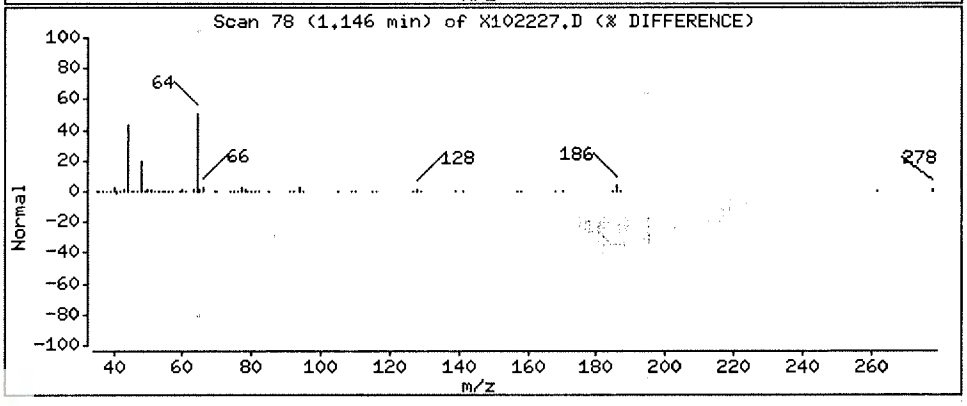












Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102228.D Page 1
Report Date: 30-Nov-2020 12:53

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201022.b\X102228.D
Lab Smp Id: HS20100779-09 Client Smp ID: HS20100779-09
Inj Date : 22-OCT-2020 19:40
Operator : PC Inst ID: voa6.i
Smp Info : HS20100779-09;HS20100779-09;;;
Misc Info : HS18090001;WATER;0;10;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X201022.b\8260W.m
Meth Date : 30-Nov-2020 12:51 dev.giga Quant Type: ISTD
Cal Date : 21-OCT-2020 19:10 Cal File: Y102108.D
Als bottle: 27
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	10.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

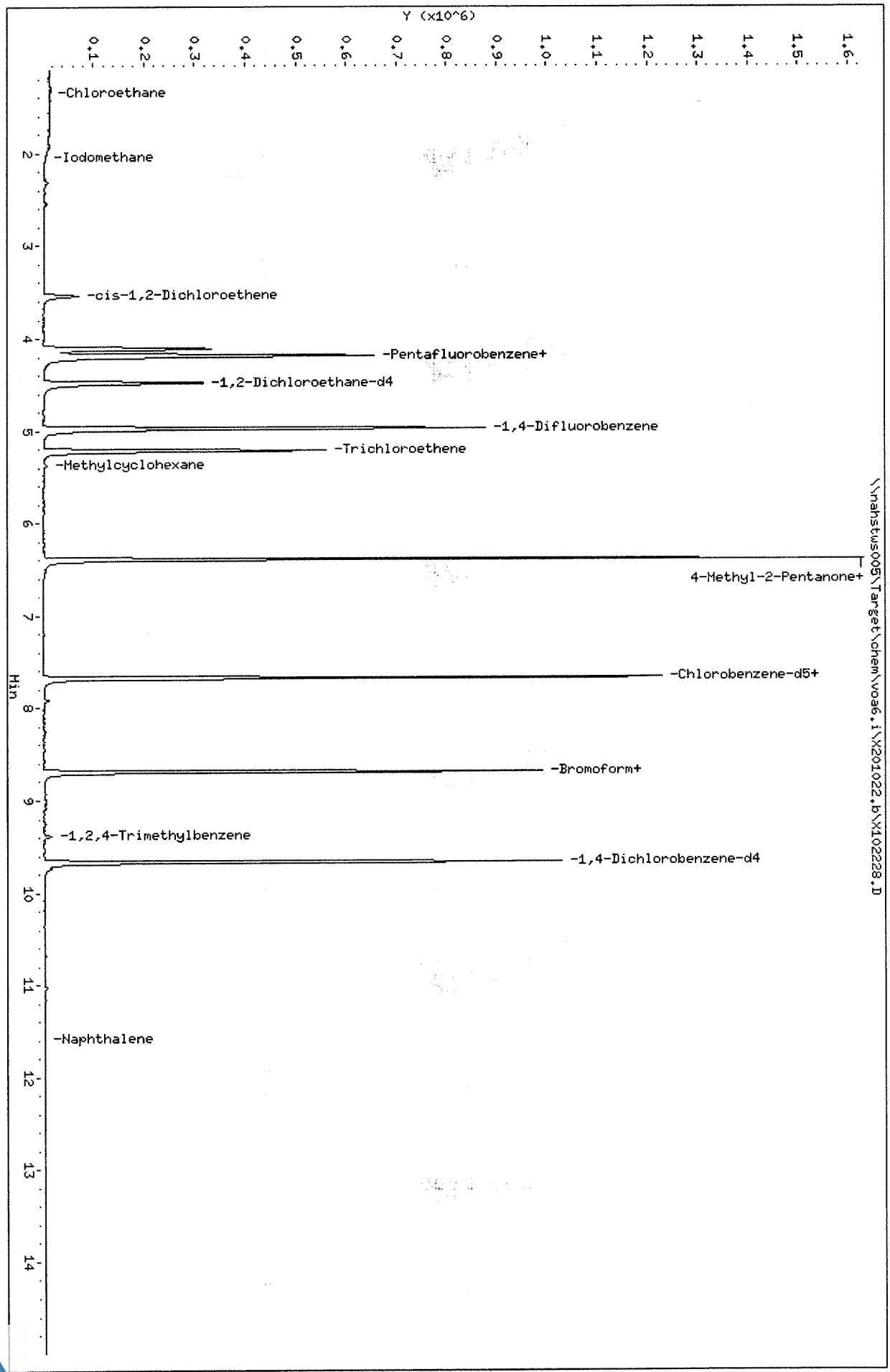
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	549587	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	769223	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	632151	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	289155	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.483	4.476	(1.070)	233390	48.9772	48.97
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	298549	56.6521	56.65
$	30 Dibromofluoromethane	113	4.111	4.111	(0.981)	241146	49.9053	49.90
$	48 Toluene-d8	98	6.388	6.388	(0.833)	929351	59.0936	59.09
	27 cis-1,2-Dichloroethene	96	3.545	3.538	(0.846)	38220	6.84497	68.44
	38 Trichloroethene	130	5.214	5.214	(1.049)	201118	35.4815	354.81
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	1816	0.44267	4.42(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).

Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102228.D
Date : 22-OCT-2020 19:40
Client ID: HS20100779-09
Sample Info: HS20100779-09;HS20100779-09;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102228.D Page 3

Date : 22-OCT-2020 19:40

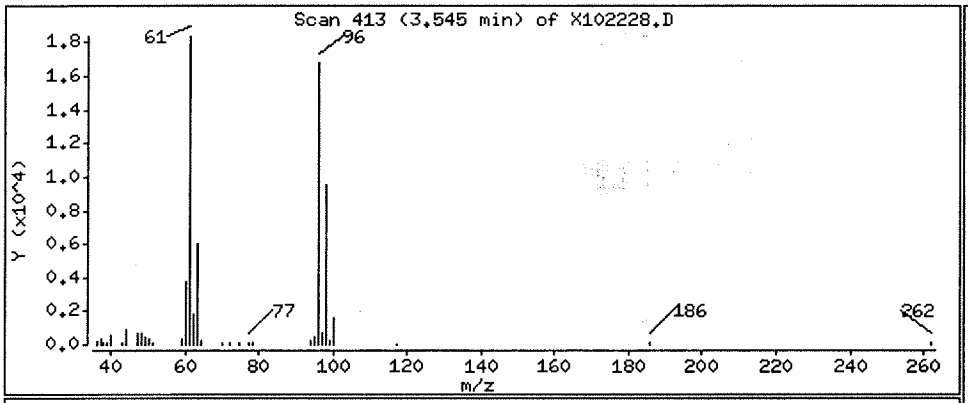
Client ID: HS20100779-09 Instrument: voa6.i

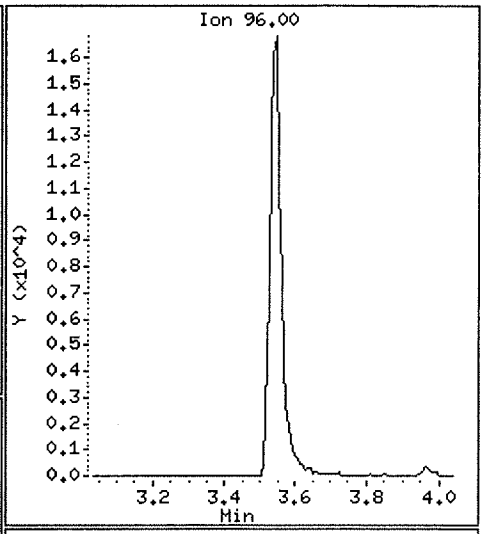
Sample Info: HS20100779-09;HS20100779-09;;;

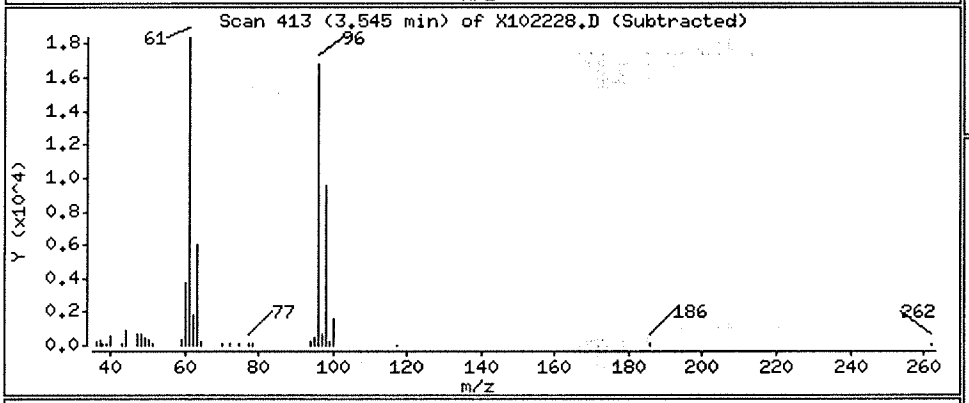
Purge Volume: 5.0 Operator: PC

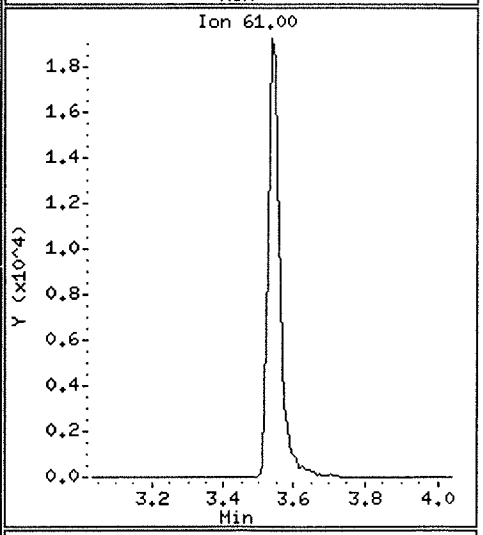
Column phase: DB624 Column diameter: 0.18

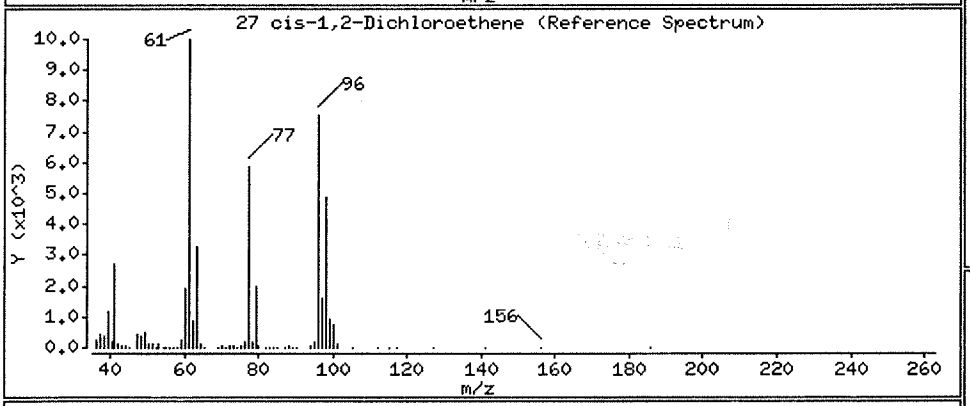
27 cis-1,2-Dichloroethene Concentration: 68.44 ug/l

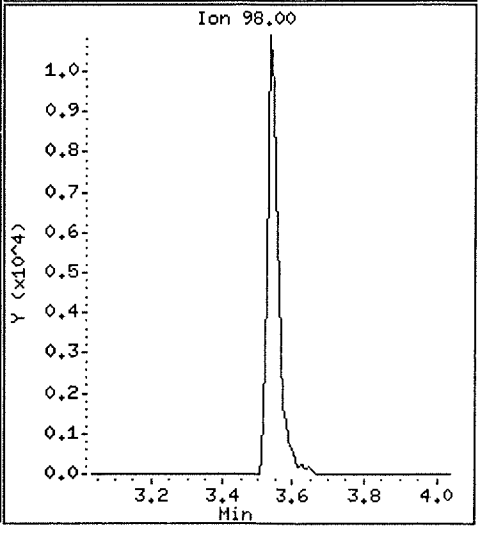


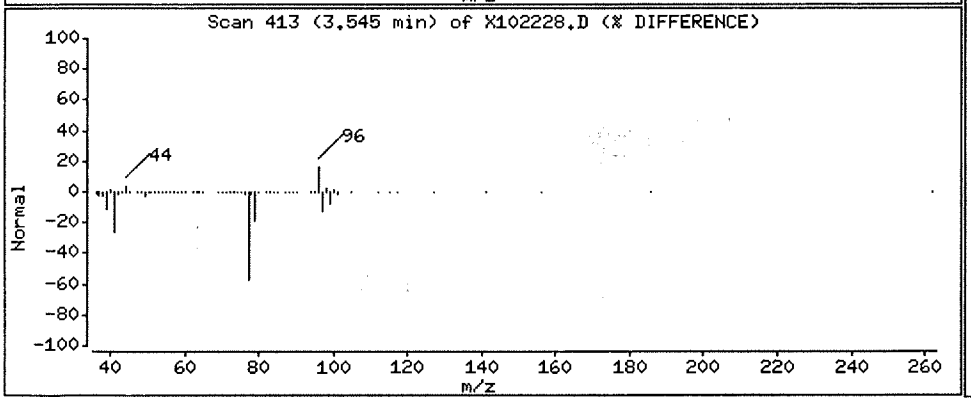












Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102228.D

Date : 22-OCT-2020 19:40

Client ID: HS20100779-09

Instrument: voa6.i

Sample Info: HS20100779-09;HS20100779-09;;;

Purge Volume: 5.0

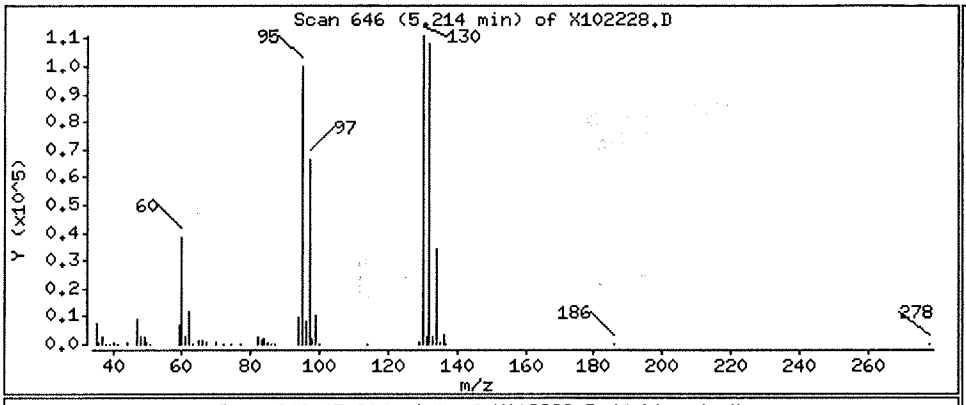
Operator: PC

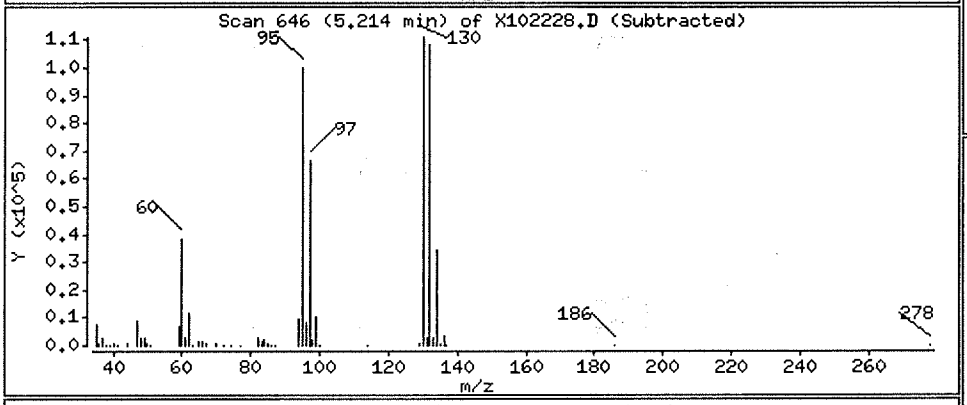
Column phase: DB624

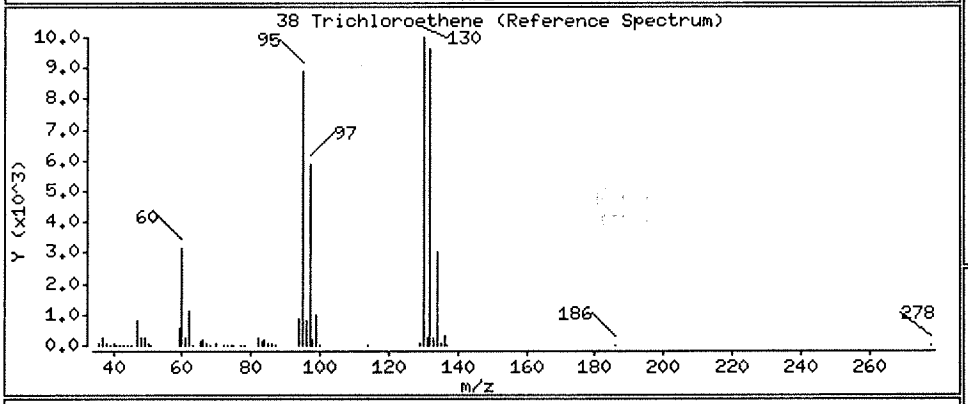
Column diameter: 0.18

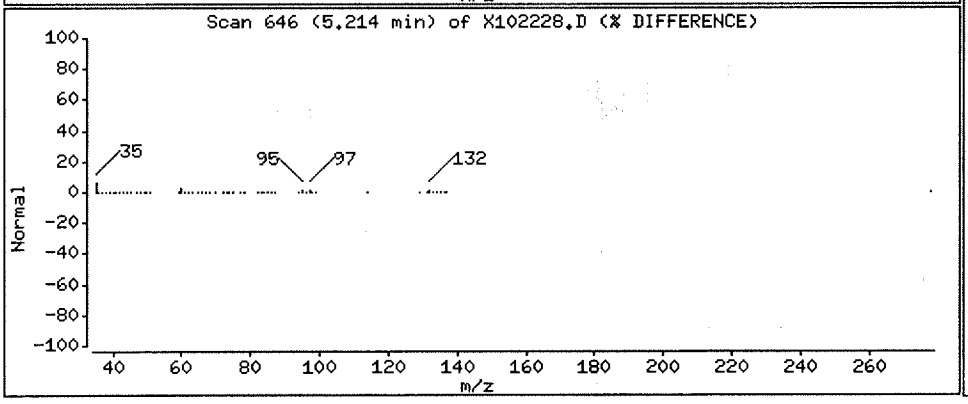
38 Trichloroethene

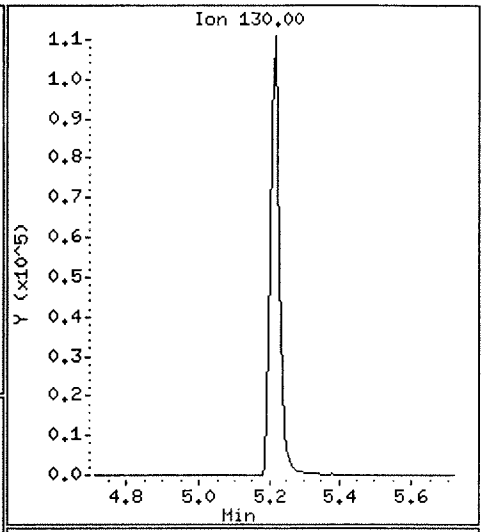
Concentration: 354.81 ug/l

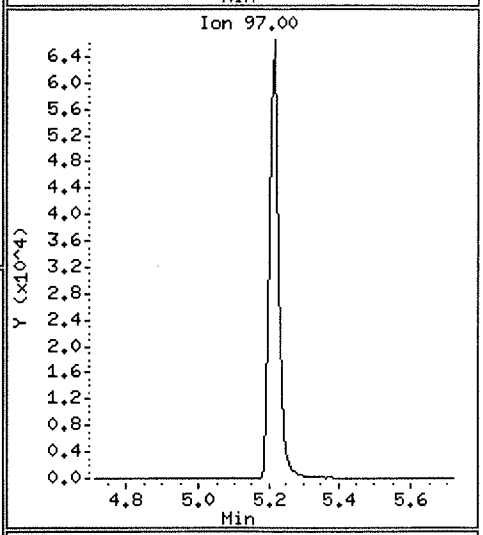


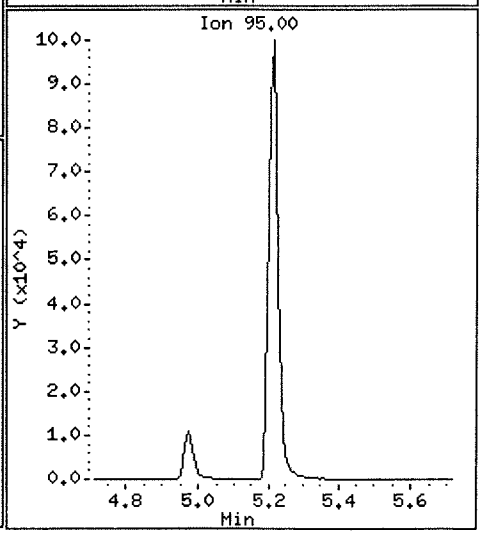












Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102228.D

Date : 22-OCT-2020 19:40

Client ID: HS20100779-09

Instrument: voa6.i

Sample Info: HS20100779-09;HS20100779-09;;;

Purge Volume: 5.0

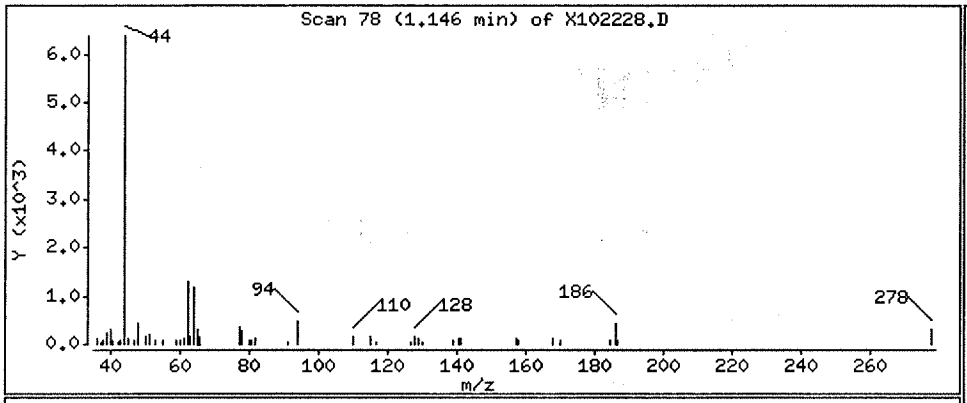
Operator: PC

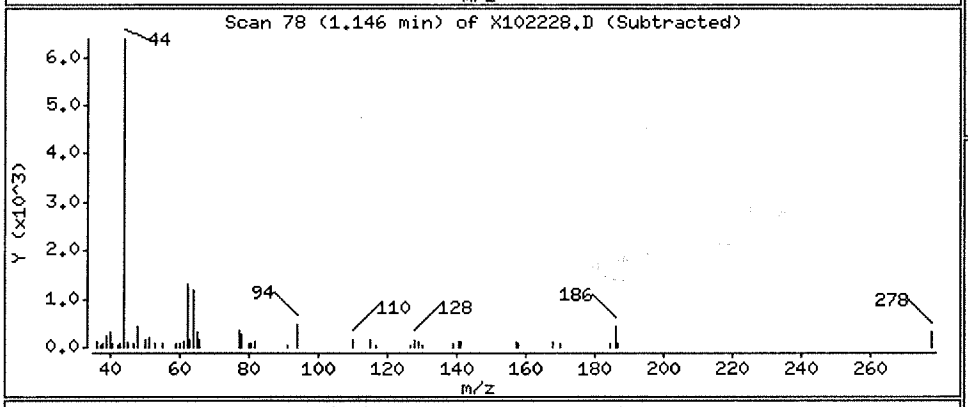
Column phase: DB624

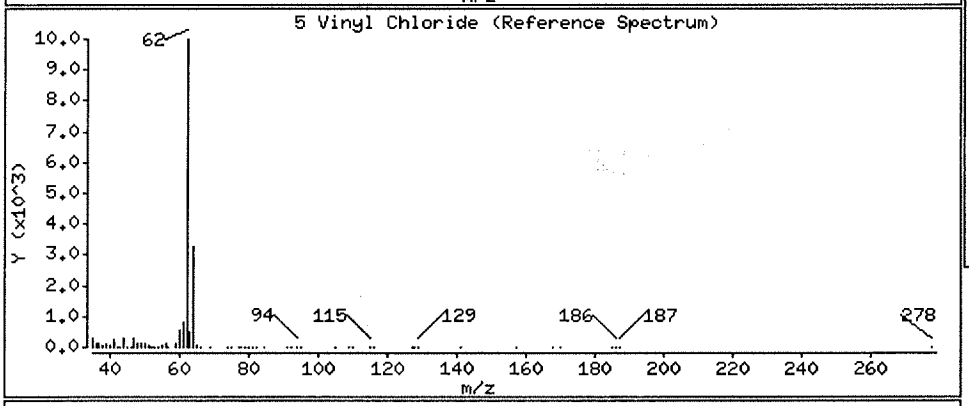
Column diameter: 0.18

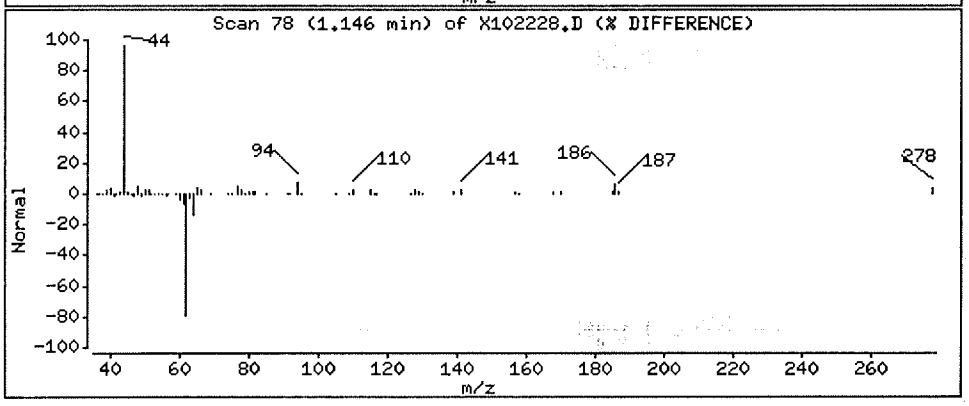
5 Vinyl Chloride

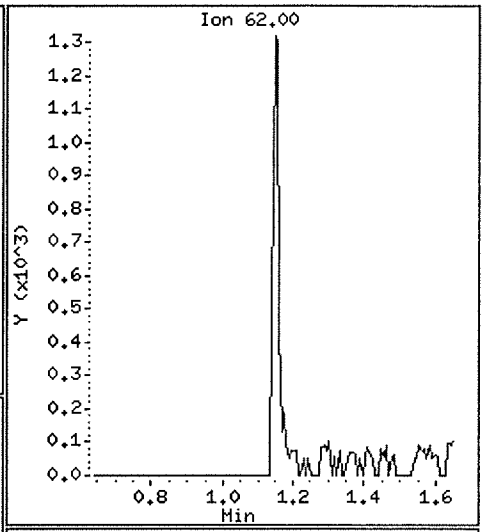
Concentration: 4.42 ug/l

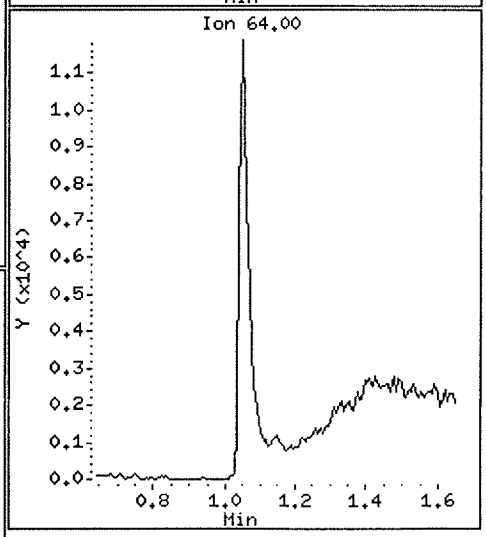












Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102231.D Page 1
Report Date: 30-Nov-2020 12:49

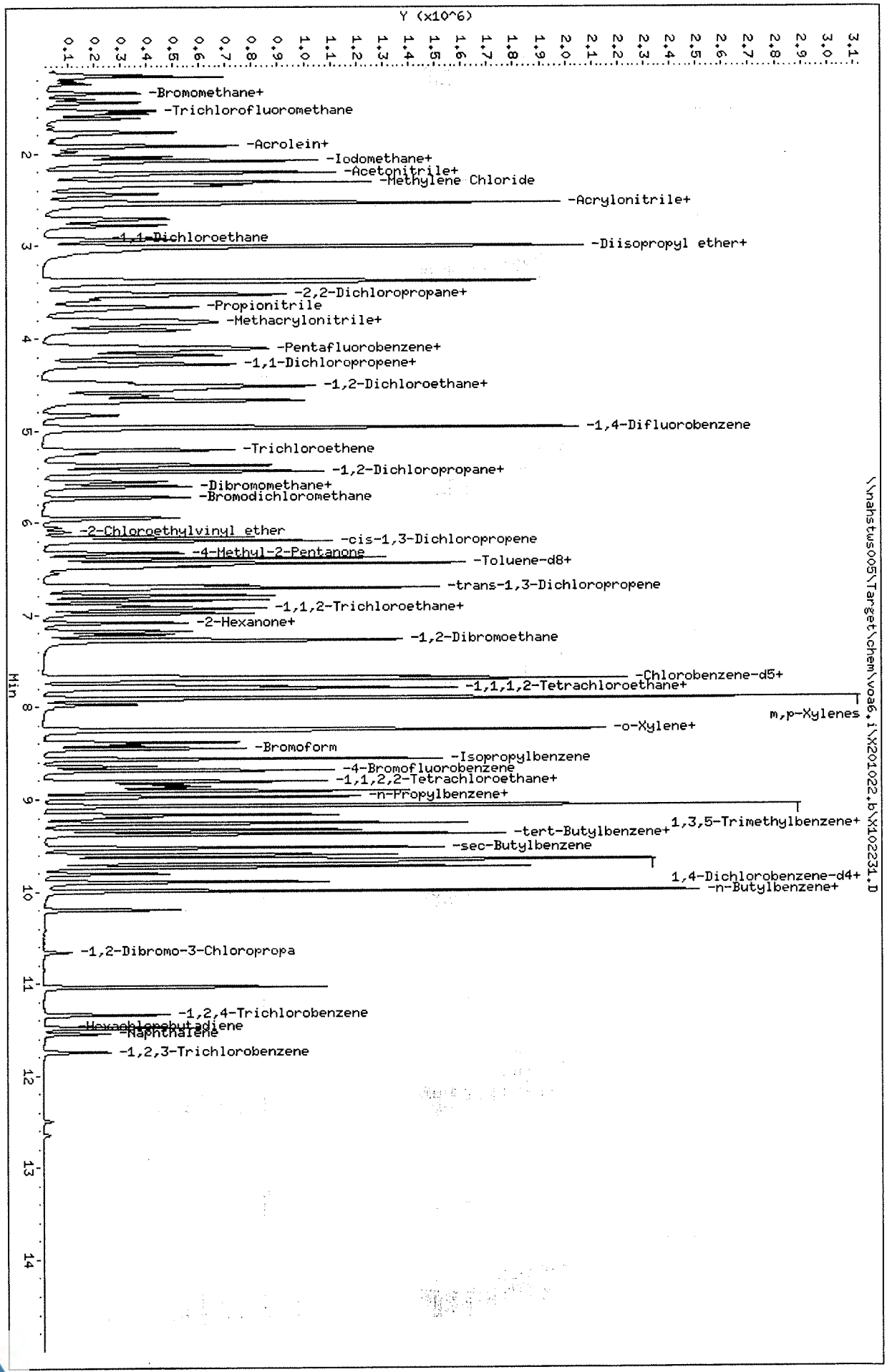
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201022.b\X102231.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 22-OCT-2020 20:43
Operator : PC Inst ID: voa6.i
Smp Info : CCV-END;CCV-END;2;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201022.b\8260W.m
Meth Date : 30-Nov-2020 12:49 voa6.i Quant Type: ISTD
Cal Date : 21-OCT-2020 19:10 Cal File: Y102108.D
Als bottle: 30 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	553731	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	802868	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	718150	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	365079	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	253409	50.0000	52.74
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	316445	50.0000	52.83
$ 30 Dibromofluoromethane	113	4.111	4.111	(0.981)	284264	50.0000	58.38
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	763513	50.0000	42.73
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	210289	50.0000	59.60
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	162299	50.0000	48.77
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	294327	50.0000	50.48
27 cis-1,2-Dichloroethene	96	3.538	3.538	(0.844)	327965	50.0000	58.29
17 Methylene Chloride	84	2.313	2.313	(0.552)	324461	50.0000	64.24
38 Trichloroethene	130	5.214	5.214	(1.049)	257358	50.0000	43.50
5 Vinyl Chloride	62	1.145	1.145	(0.273)	242056	50.0000	58.56



Data File: \\nahstws005\Target\chem\voa6.i\X201022.b\X102231.D
Date : 22-OCT-2020 20:43
Client ID: CCV-END
Sample Info: CCV-END;CCV-END;2;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

MSVOA06 -Logbook

Batch: 42421 **Analyst:** Presenta Cabascango

Date: 10-25-2020 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	10-25-2020 04:21 pm	1.00	50 mL	50 mL	X102501.D	Liquid	Y	NA
	Auto find/ purged									
2	VSTD000.25	ICAL1	10-25-2020 04:42 pm	1.00	50 mL	50 mL	X102502.D	Liquid	Y	NA
	0.10 uL cal std/100 mL DI									
3	VSTD000.5	ICAL2	10-25-2020 05:24 pm	1.00	50 mL	50 mL	X102503.D	Liquid	Y	NA
	0.10 uL cal std/50 mL DI									
4	VSTD001	ICAL3	10-25-2020 05:45 pm	1.00	50 mL	50 mL	X102504.D	Liquid	Y	NA
	0.20 uL cal std/50 mL DI									
5	VSTD002	ICAL4	10-25-2020 06:06 pm	1.00	50 mL	50 mL	X102505.D	Liquid	Y	NA
	0.40 uL cal std/50 mL DI									
6	VSTD005	ICAL5	10-25-2020 06:27 pm	1.00	50 mL	50 mL	X102506.D	Liquid	Y	NA
	1.0 uL cal std/50 mL DI									
7	VSTD020	ICAL6	10-25-2020 06:48 pm	1.00	50 mL	50 mL	X102507.D	Liquid	Y	NA
	4.0 uL cal std/50 mL DI									
8	VSTD050	ICAL7	10-25-2020 07:09 pm	1.00	50 mL	50 mL	X102508.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
9	VSTD100	ICAL8	10-25-2020 07:29 pm	1.00	50 mL	50 mL	X102509.D	Liquid	Y	NA
	20 uL cal std/50 mL DI									
10	VSTD150	ICAL9	10-25-2020 07:50 pm	1.00	50 mL	50 mL	X102510.D	Liquid	Y	NA
	30 uL cal std/50 mL DI									
11	VSTD200	ICAL	10-25-2020 08:11 pm	1.00	50 mL	50 mL	X102511.D	Liquid	Y	NA
	40 uL cal std/50 mL DI									
12	BLANK	SAMP	10-25-2020 08:32 pm	1.00	50 mL	50 mL	X102512.D	Liquid	Y	NA
13	BLANK	SAMP	10-25-2020 08:53 pm	1.00	50 mL	50 mL	X102513.D	Liquid	Y	NA
14	VSTD050	ICV	10-25-2020 09:14 pm	1.00	50 mL	50 mL	X102514.D	Liquid	Y	NA
	10 uL ical std/50 mL DI									
15	BLANK	SAMP	10-25-2020 09:35 pm	1.00	50 mL	50 mL	X102515.D	Liquid	Y	NA
16	VLCSW-201025	LCS	10-25-2020 09:56 pm	1.00	50 mL	50 mL	X102516.D	Liquid	Y	NA
	4.0 uL cal std/50 mL DI									
17	BLK	SAMP	10-25-2020 10:17 pm	1.00	50 mL	50 mL	X102517.D	Liquid	Y	NA
18	VBLKW-201025	MBLK	10-25-2020 10:38 pm	1.00	50 mL	50 mL	X102518.D	Liquid	Y	NA
19	HS20101167-11	SAMP	10-25-2020 10:59 pm	1.00	50 mL	50 mL	X102519.D	Liquid	Y	NA
20	HS20101167-01	SAMP	10-25-2020 11:21 pm	1.00	50 mL	50 mL	X102520.D	Liquid	Y	NA
21	HS20101167-01MS	MS	10-25-2020 11:42 pm	1.00	50 mL	50 mL	X102521.D	Liquid	Y	NA
	3.5 uL cal std/40 mL samp									
22	HS20101167-01MSD	MSD	10-26-2020 12:03 am	1.00	50 mL	50 mL	X102522.D	Liquid	Y	NA
	3.5 uL cal std/40 mL samp									
23	HS20101167-02	SAMP	10-26-2020 12:24 am	1.00	50 mL	50 mL	X102523.D	Liquid	Y	NA
24	HS20101167-03	SAMP	10-26-2020 12:45 am	1.00	50 mL	50 mL	X102524.D	Liquid	Y	NA
25	HS20101167-04	SAMP	10-26-2020 01:06 am	1.00	50 mL	50 mL	X102525.D	Liquid	Y	NA
26	HS20101167-05	SAMP	10-26-2020 01:27 am	1.00	50 mL	50 mL	X102526.D	Liquid	Y	NA
27	HS20101167-06	SAMP	10-26-2020 01:48 am	1.00	50 mL	50 mL	X102527.D	Liquid	Y	NA
28	HS20101167-07	SAMP	10-26-2020 02:09 am	1.00	50 mL	50 mL	X102528.D	Liquid	Y	NA
29	HS20101167-08	SAMP	10-26-2020 02:30 am	1.00	50 mL	50 mL	X102529.D	Liquid	Y	NA
30	HS20101167-09	SAMP	10-26-2020 02:51 am	1.00	50 mL	50 mL	X102530.D	Liquid	Y	NA
31	HS20101167-10	SAMP	10-26-2020 03:12 am	1.00	50 mL	50 mL	X102531.D	Liquid	Y	NA
32	HS20101049-01	SAMP	10-26-2020 03:33 am	1.00	50 mL	50 mL	X102532.D	Liquid	Y	NA
33	HS20101270-01	SAMP	10-26-2020 03:54 am	1.00	50 mL	50 mL	X102533.D	Liquid	Y	NA

Chemical	Value
SURR SPK ID	31106-51-06
IS ID	31106-51-06
LCS/MS ID	
CAL STD ID	31106-52-01-02
BFB ID	31106-51-06
pH Paper	634-64-10

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100779

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
1,2-Dichloroethane	50.00	46.31	93	80-120
Trichloroethene	50.00	47.81	96	80-120
Methylene Chloride	50.00	43.89	88	80-120
cis-1,2-Dichloroethene	50.00	46.68	93	80-120
Vinyl Chloride	50.00	46.16	92	80-120
1,1,2-Trichloroethane	50.00	44.14	88	80-120
1,1-Dichloroethene	50.00	46.19	92	80-120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: _____

_____

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100779

Lab File ID: X102501 BFB Injection Date: 10/25/20

Instrument ID: VOA6 BFB Injection Time: 1621

GC Column: DB624 ID: 0.25 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	28.0
75	30.0 - 60.0% of mass 95	58.2
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.4
173	Less than 2.0% of mass 174	0.4 (0.4)1
174	Greater than 50.0% of mass 95	89.4
175	5.0 - 9.0% of mass 174	7.9 (8.9)1
176	95.0 - 101.0% of mass 174	86.9 (97.2)1
177	5.0 - 9.0% of mass 176	4.6 (5.3)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD000.25	VSTD000.25	X102502	10/25/20	1642
02	VSTD000.5	VSTD000.5	X102503	10/25/20	1724
03	VSTD001	VSTD001	X102504	10/25/20	1745
04	VSTD002	VSTD002	X102505	10/25/20	1806
05	VSTD005	VSTD005	X102506	10/25/20	1827
06	VSTD020	VSTD020	X102507	10/25/20	1848
07	VSTD050	VSTD050	X102508	10/25/20	1909
08	VSTD100	VSTD100	X102509	10/25/20	1929
09	VSTD150	VSTD150	X102510	10/25/20	1950
10	VSTD200	VSTD200	X102511	10/25/20	2011
11	ICV	ICV	X102514	10/25/20	2114
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100779

Instrument ID: VOA6 Calibration Date(s): 10/25/20 10/25/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1642 2011

LAB FILE ID: RF0.25: X102502 RF0.5: X102503 RF1: X102504
RF2: X102505 RF5: X102506 RF20: X102507

COMPOUND	RF0.25	RF0.5	RF1	RF2	RF5	RF20
1,2-Dichloroethane		0.637	0.568	0.501	0.543	0.544
Trichloroethene		0.381	0.339	0.298	0.298	0.347
Methylene Chloride		0.998	0.868	0.781	0.768	0.727
cis-1,2-Dichloroethene		0.789	0.854	0.729	0.765	0.758
Vinyl Chloride		1.990	1.608	1.560	1.358	1.533
1,1,2-Trichloroethane		0.371	0.338	0.317	0.355	0.317
1,1-Dichloroethene		1.458	1.408	1.256	1.196	1.172
4-Bromofluorobenzene		1363	2133	4602	10188	42426
Dibromofluoromethane		0.683	0.653	0.617	0.673	0.662
Toluene-d8		4504	5855	11754	31270	131486
1,2-Dichloroethane-d4		1543	2362	4999	11402	46344

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2010077

Instrument ID: VOA6 Calibration Date(s): 10/25/20 10/25/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1642 2011

LAB FILE ID: RF50: X102508 RF100: X102509 RF150: X102510
RF200: X102511

COMPOUND	RF50	RF100	RF150	RF200
1,2-Dichloroethane	0.534	0.542	0.484	0.508
Trichloroethene	0.316	0.342	0.317	0.321
Methylene Chloride	0.670	0.761	0.771	0.767
cis-1,2-Dichloroethene	0.716	0.815	0.786	0.828
Vinyl Chloride	1.312	1.538	1.504	1.429
1,1,2-Trichloroethane	0.299	0.307	0.310	0.312
1,1-Dichloroethene	1.020	1.171	1.144	1.133
4-Bromofluorobenzene	108164	251093	410237	592427
Dibromofluoromethane	0.672	0.756	0.723	0.755
Toluene-d8	324408	742483	1192701	1743873
1,2-Dichloroethane-d4	123233	245566	392180	519723

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2010077

Instrument ID: VOA6 Calibration Date(s): 10/25/20 10/25/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1642 2011

COMPOUND	CURVE	COEFFICENTS A0	COEFFICENTS A1	%RSD OR R^2	MAX %RSD OR R^2
1,2-Dichloroethane	AVRG		0.54001827	8.254	15.000
Trichloroethene	AVRG		0.32886398	8.008	15.000
Methylene Chloride	AVRG		0.79011013	11.841	15.000
cis-1,2-Dichloroethene	AVRG		0.78242092	5.776	15.000
Vinyl Chloride	AVRG		1.53714306	12.735	15.000
1,1,2-Trichloroethane	AVRG		0.32523954	7.480	15.000
1,1-Dichloroethene	AVRG		1.21777783	11.302	15.000
4-Bromofluorobenzene	LINR	3.987e-002	2.00729845	0.9979045	0.9900000
Dibromofluoromethane	AVRG		0.68831108	6.846	15.000
Toluene-d8	LINR	3.444e-002	0.68472816	0.9978314	0.9900000
1,2-Dichloroethane-d4	LINR	6.198e-004	1.14170833	0.9993034	0.9900000

FORM VI VOA

Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102501.D

Date : 25-OCT-2020 16:21

Client ID: BFB

Instrument: voa6.i

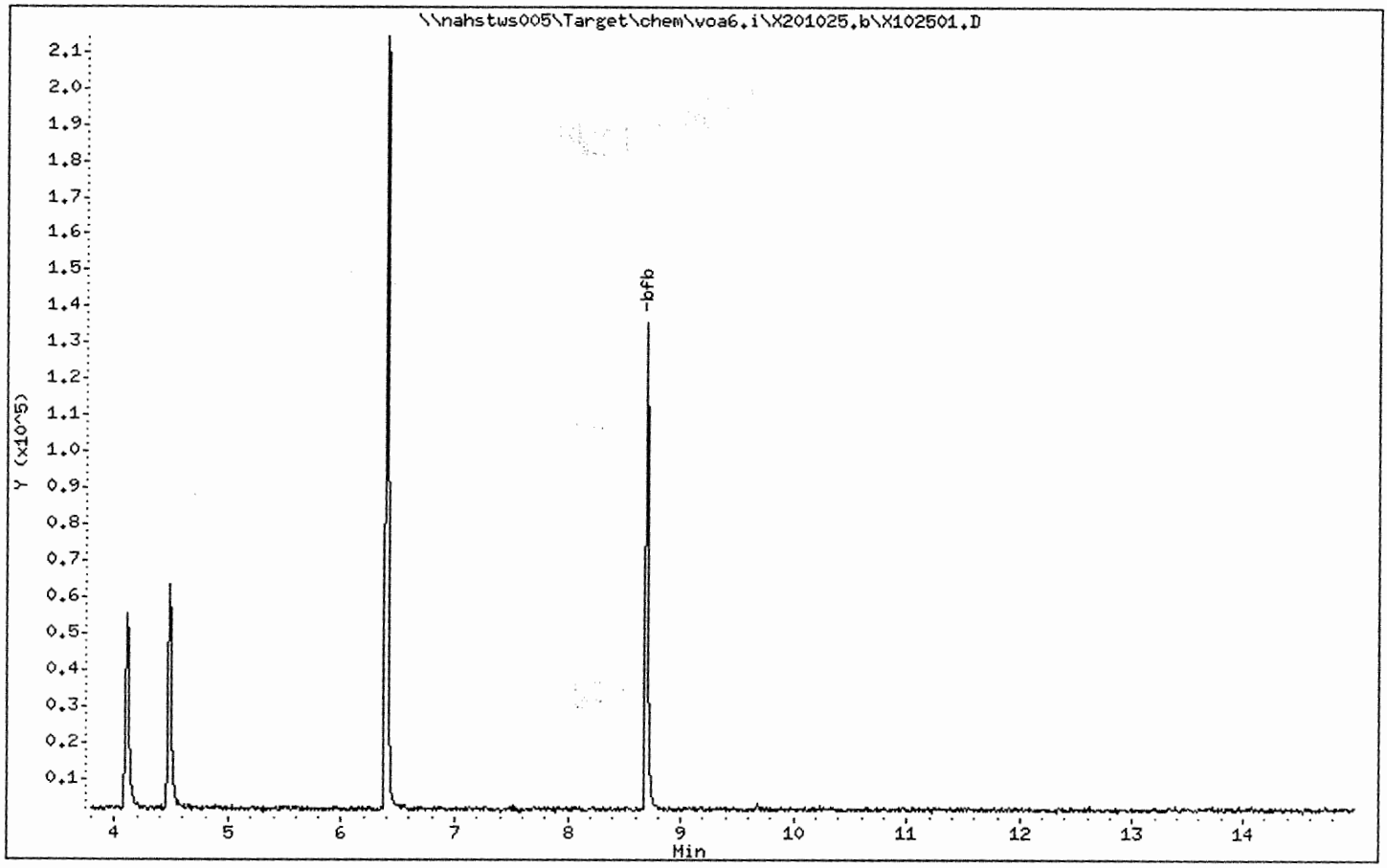
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



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Date : 25-OCT-2020 16:21

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

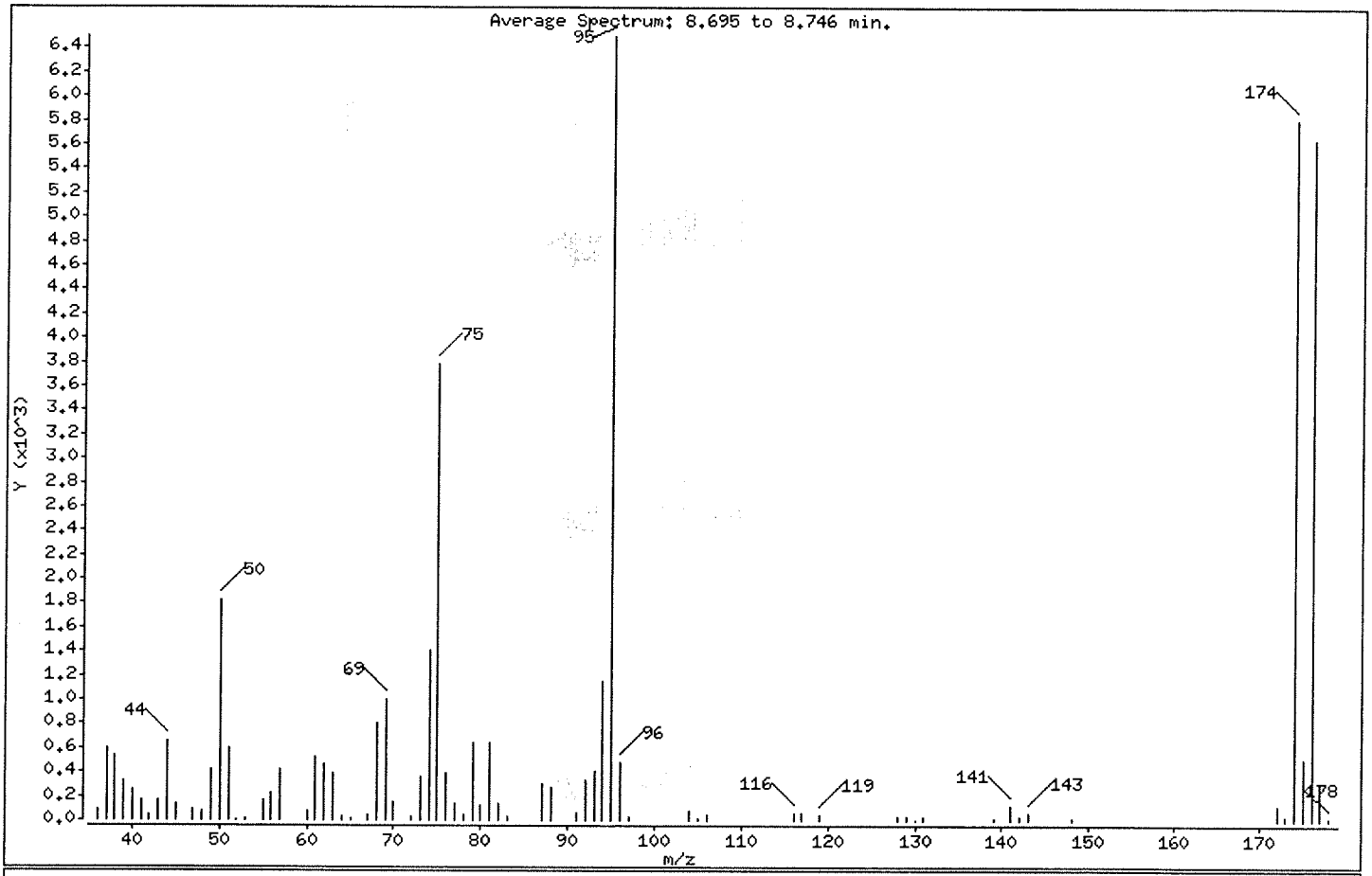
Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	28.00
75	30.00 - 60.00% of mass 95	58.21
96	5.00 - 9.00% of mass 95	7.39
173	Less than 2.00% of mass 174	0.37 (0.41)
174	Greater than 50.00% of mass 95	89.43
175	5.00 - 9.00% of mass 174	7.93 (8.86)
176	95.00 - 101.00% of mass 174	86.92 (97.19)
177	5.00 - 9.00% of mass 176	4.59 (5.28)

Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102501.D

Date : 25-OCT-2020 16:21

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

Data File: X102501.D

Spectrum: Average Spectrum: 8.695 to 8.746 min.

Location of Maximum: 95.00

Number of points: 73

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	85	57.00	418	80.00	125	128.00	32
37.00	598	60.00	77	81.00	647	129.00	25
38.00	531	61.00	530	82.00	136	130.00	7
39.00	331	62.00	462	83.00	25	131.00	23
40.00	251	63.00	389	87.00	304	139.00	11
41.00	162	64.00	32	88.00	276	141.00	125
42.00	45	65.00	13	91.00	58	142.00	27
43.00	158	67.00	40	92.00	323	143.00	62
44.00	662	68.00	802	93.00	396	148.00	14
45.00	129	69.00	1002	94.00	1155	172.00	117
47.00	83	70.00	155	95.00	6497	173.00	24
48.00	71	72.00	34	96.00	480	174.00	5810
49.00	419	73.00	365	97.00	24	175.00	515
50.00	1819	74.00	1406	104.00	74	176.00	5647
51.00	597	75.00	3782	105.00	12	177.00	298
52.00	7	76.00	391	106.00	41	178.00	13
53.00	16	77.00	127	116.00	58		
55.00	158	78.00	44	117.00	53		
56.00	225	79.00	645	119.00	46		

Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102502.D Page 1
Report Date: 30-Nov-2020 13:13

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201025.b\X102502.D
Lab Smp Id: VSTD000.25 Client Smp ID: VSTD000.25
Inj Date : 25-OCT-2020 16:42
Operator : PC Inst ID: voa6.i
Smp Info : VSTD000.25;VSTD000.25;1;1;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201025.b\8260W.m
Meth Date : 30-Nov-2020 13:13 voa6.i Quant Type: ISTD
Cal Date : 25-OCT-2020 19:09 Cal File: X102508.D
Als bottle: 4 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

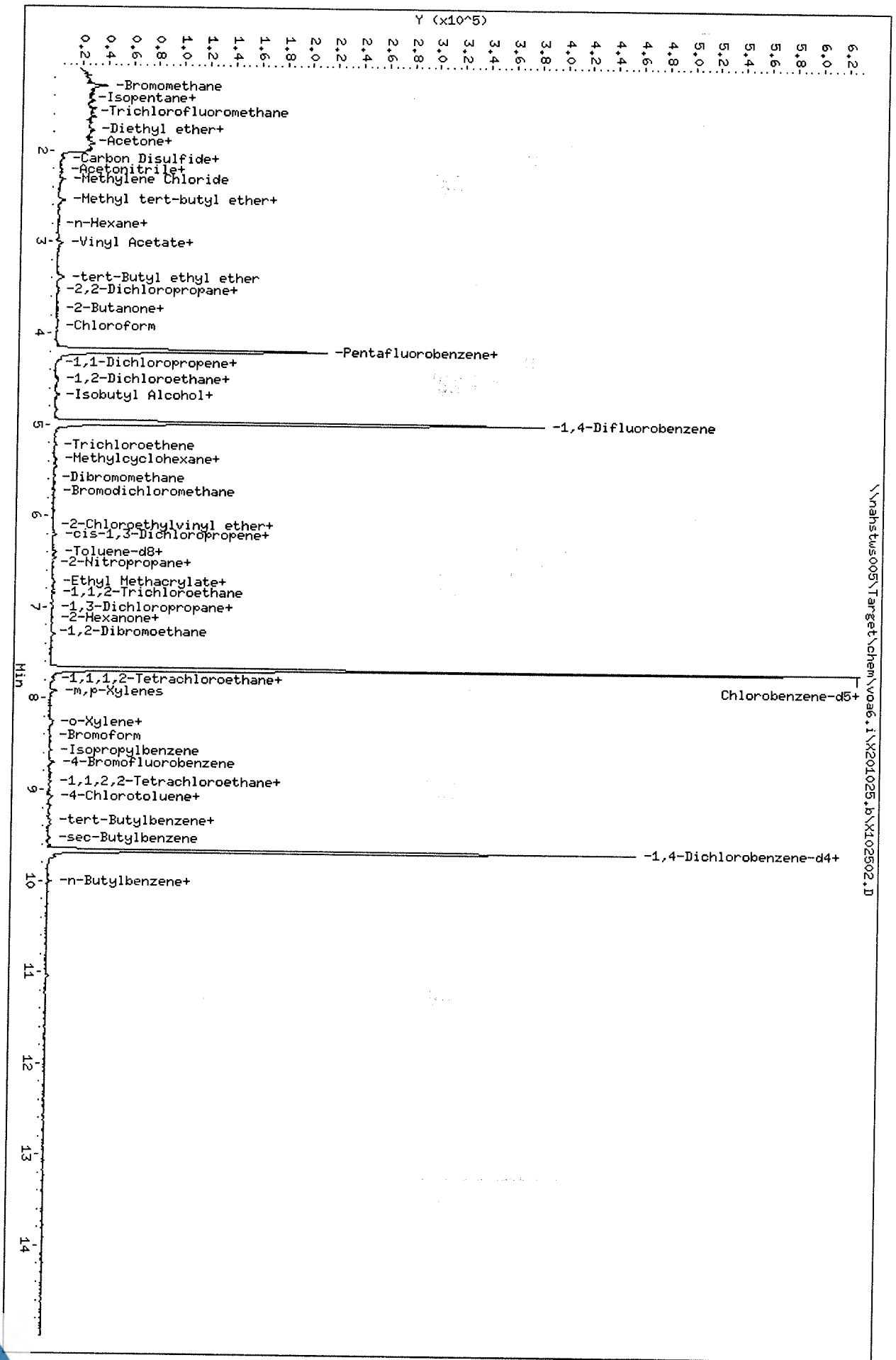
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	150152	50.0000	
* 36 1,4-Difluorobenzene	114	4.977	4.977	(1.000)	287204	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	254000	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	90115	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.070)	930	0.25000	0.38(Ta)
$ 69 4-Bromofluorobenzene	95	8.702	8.702	(1.134)	1264	0.25000	2.49(a)
$ 30 Dibromofluoromethane	113	4.125	4.125	(0.985)	683	0.25000	0.33(aM)
$ 48 Toluene-d8	98	6.396	6.396	(0.834)	2041	0.25000	1.99(Ta)
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	445	0.25000	0.26(aM)
11 1,1-Dichloroethene	96	1.926	1.926	(0.460)	948	0.25000	0.25(aM)
33 1,2-Dichloroethane	62	4.576	4.576	(0.919)	1008	0.25000	0.32(a)
27 cis-1,2-Dichloroethene	96	3.559	3.559	(0.850)	630	0.25000	0.26(aM)
17 Methylene Chloride	84	2.313	2.313	(0.552)	1009	0.25000	0.42(aM)
38 Trichloroethene	130	5.228	5.228	(1.050)	367	0.25000	0.19(aM)
5 Vinyl Chloride	62	1.145	1.145	(0.273)	1201	0.25000	0.26(aM)

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.



Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102502.D
Date : 25-OCT-2020 16:42
Client ID: VSTD000.25
Sample Info: VSTD000.25;VSTD000.25;1;1;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102503.D Page 1
Report Date: 30-Nov-2020 13:13

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201025.b\X102503.D
Lab Smp Id: VSTD000.5 Client Smp ID: VSTD000.5
Inj Date : 25-OCT-2020 17:24
Operator : PC Inst ID: voa6.i
Smp Info : VSTD000.5;VSTD000.5;1;2;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201025.b\8260W.m
Meth Date : 30-Nov-2020 13:13 voa6.i Quant Type: ISTD
Cal Date : 25-OCT-2020 16:42 Cal File: X102502.D
Als bottle: 6 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

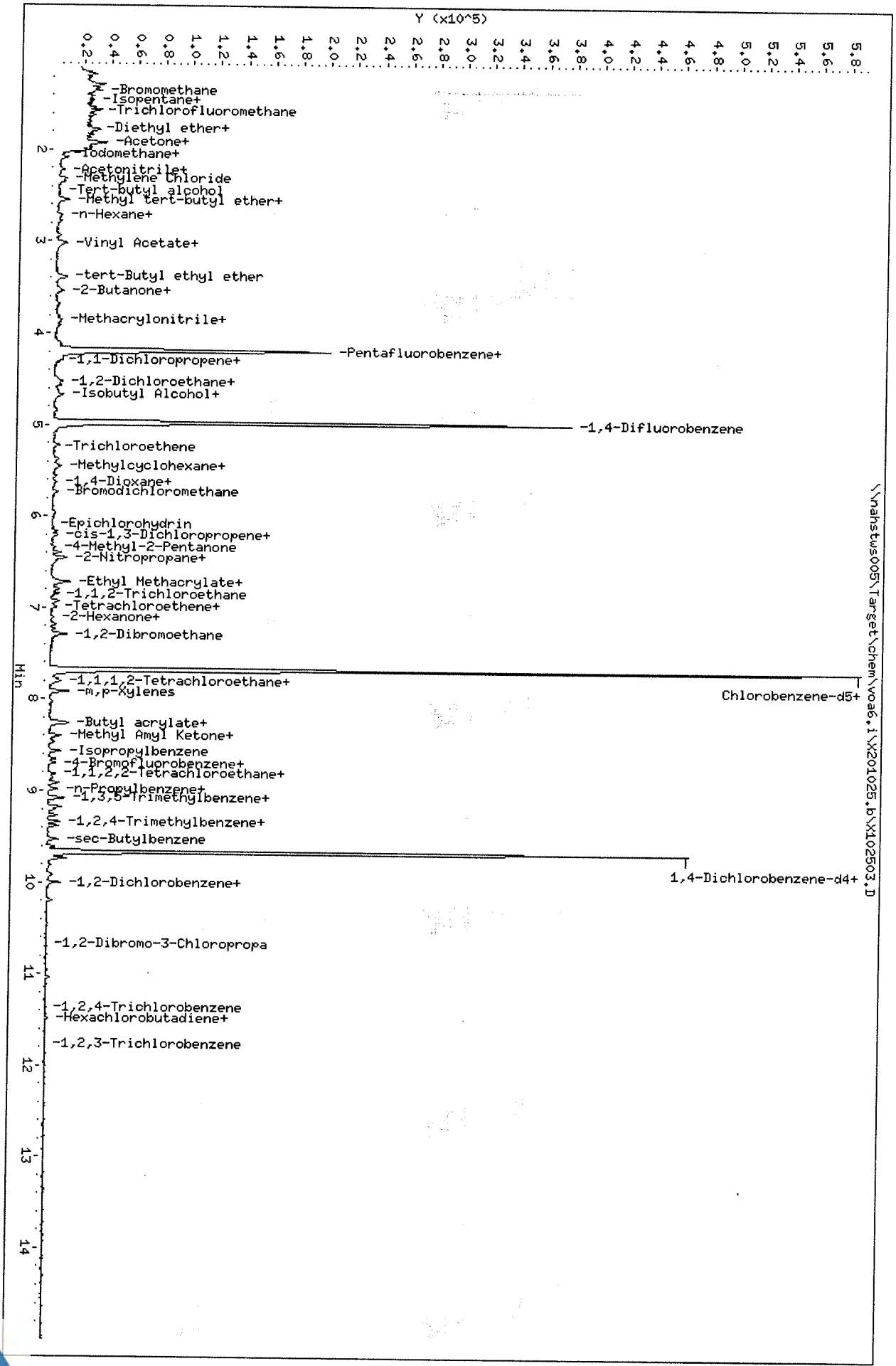
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	137561	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	274062	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	236128	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	90393	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.490	4.490	(1.072)	1543	0.50000	0.67(TaM)
$ 69 4-Bromofluorobenzene	95	8.702	8.702	(1.134)	1363	0.50000	2.57(a)
$ 30 Dibromofluoromethane	113	4.118	4.118	(0.983)	940	0.50000	0.49(a)
$ 48 Toluene-d8	98	6.396	6.396	(0.834)	4504	0.50000	2.37(Ta)
53 1,1,2-Trichloroethane	83	6.854	6.854	(0.894)	877	0.50000	0.57(aM)
11 1,1-Dichloroethene	96	1.926	1.926	(0.460)	2005	0.50000	0.59(aM)
33 1,2-Dichloroethane	62	4.583	4.583	(0.922)	1745	0.50000	0.58(a)
27 cis-1,2-Dichloroethene	96	3.545	3.545	(0.846)	1086	0.50000	0.50(aM)
17 Methylene Chloride	84	2.320	2.320	(0.554)	1373	0.50000	0.63(a)
38 Trichloroethene	130	5.235	5.235	(1.053)	1044	0.50000	0.57(a)
5 Vinyl Chloride	62	1.145	1.145	(0.273)	2738	0.50000	0.64(aM)

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

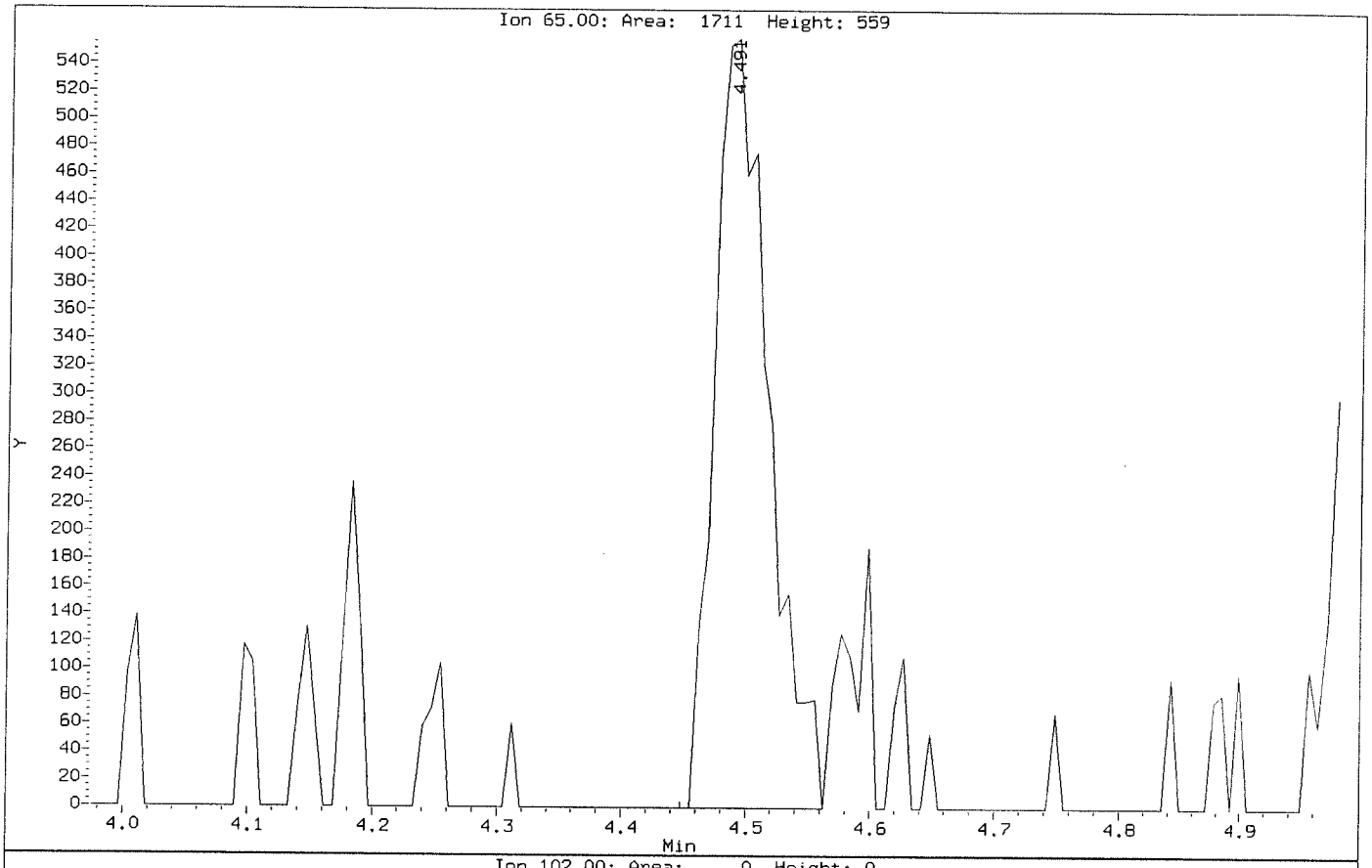


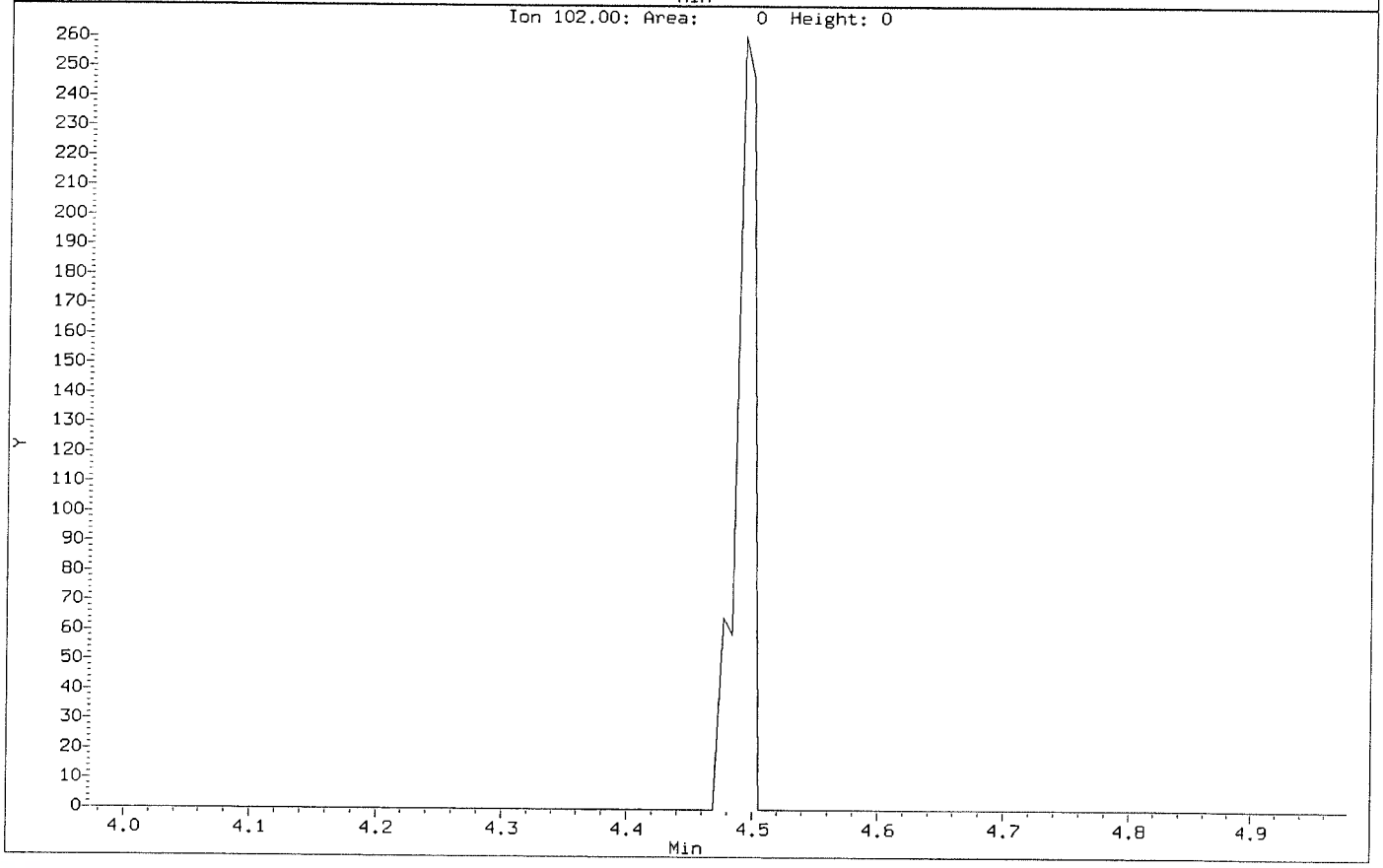
Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102503.D
Date : 25-OCT-2020 17:24
Client ID: VSTD000.5
Sample Info: VSTD000.5;VSTD000.5;1;2;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\Before\X102503.D
Injection Date: 25-OCT-2020 17:24
Instrument: voa6.i
Client Sample ID: VSTD000.5

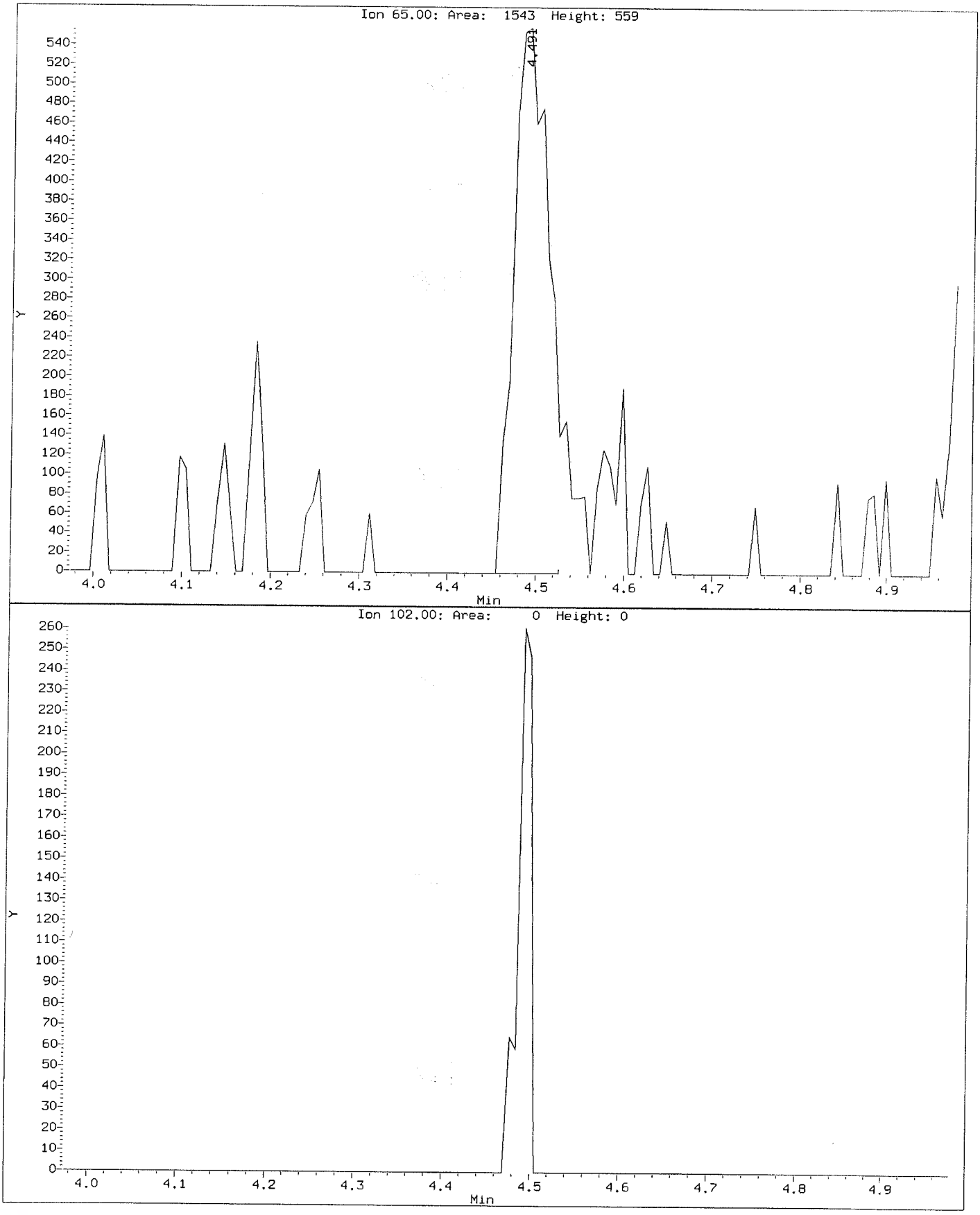
Compound: 1,2-Dichloroethane-d4
CAS Number: 17060-07-0





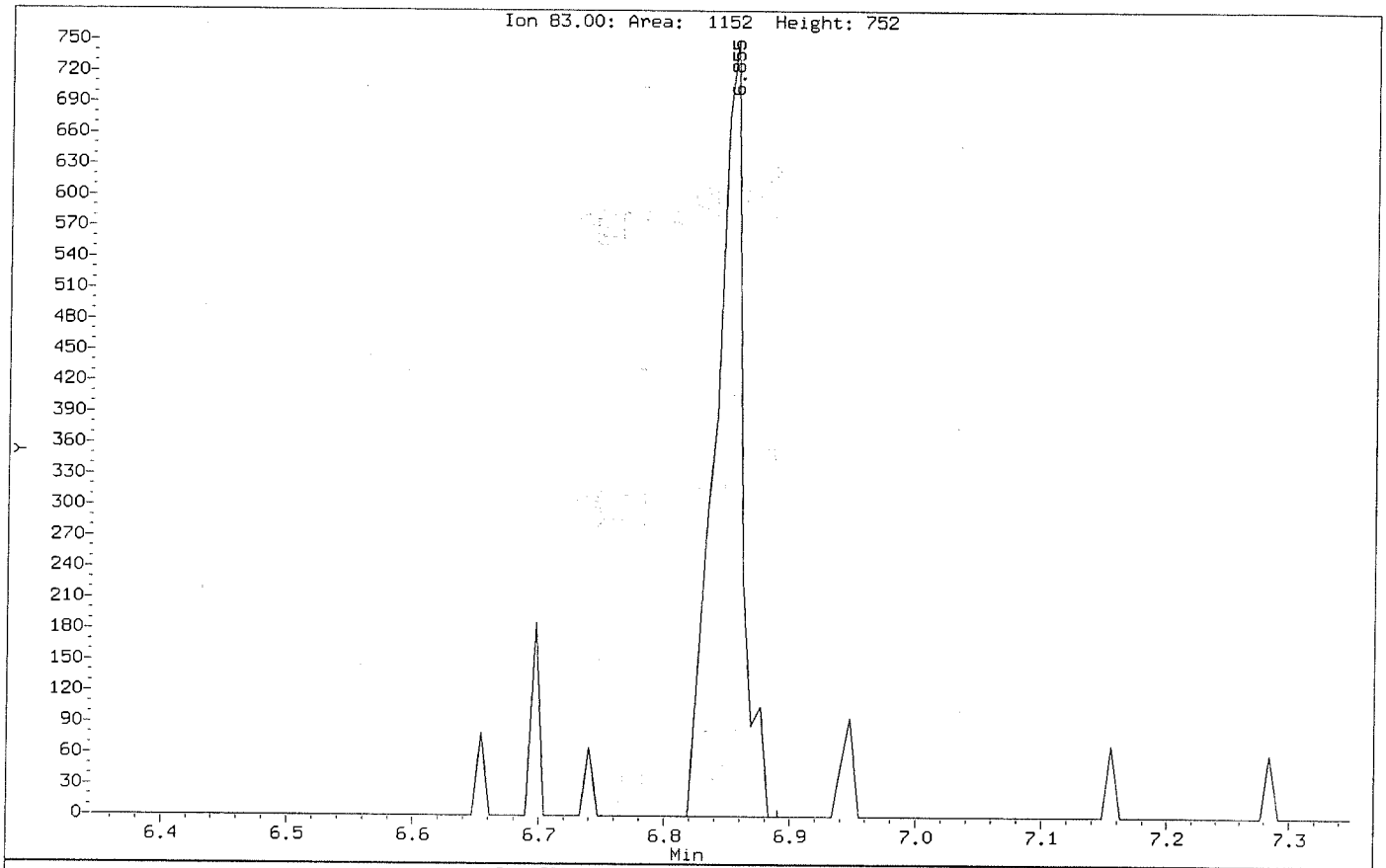
Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102503.D
Injection Date: 25-OCT-2020 17:24
Instrument: voa6.i
Client Sample ID: VSTD000.5

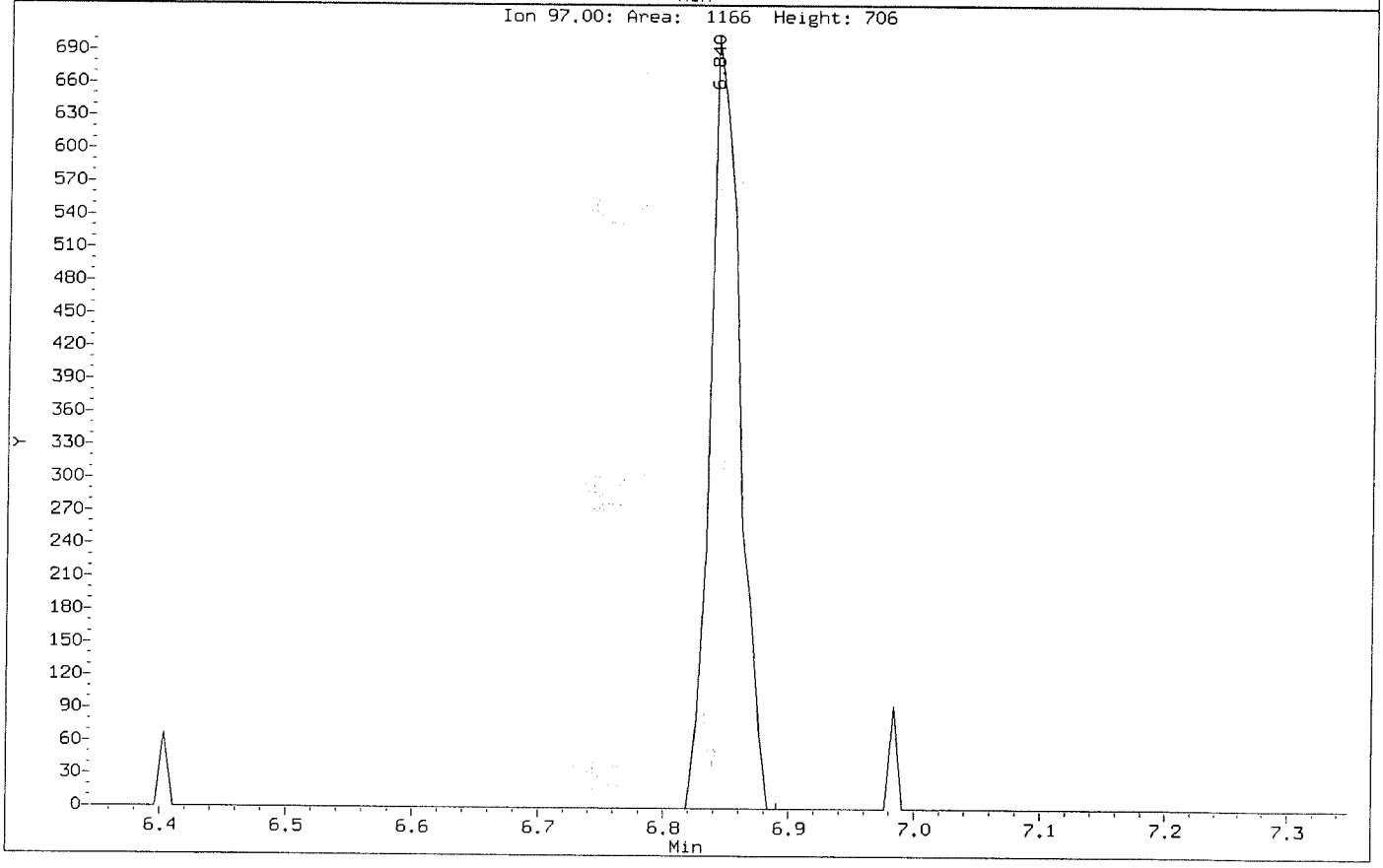
Compound: 1,2-Dichloroethane-d4
CAS Number: 17060-07-0



Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\Before\X102503.D
Injection Date: 25-OCT-2020 17:24
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1,2-Trichloroethane
CAS Number: 79-00-5





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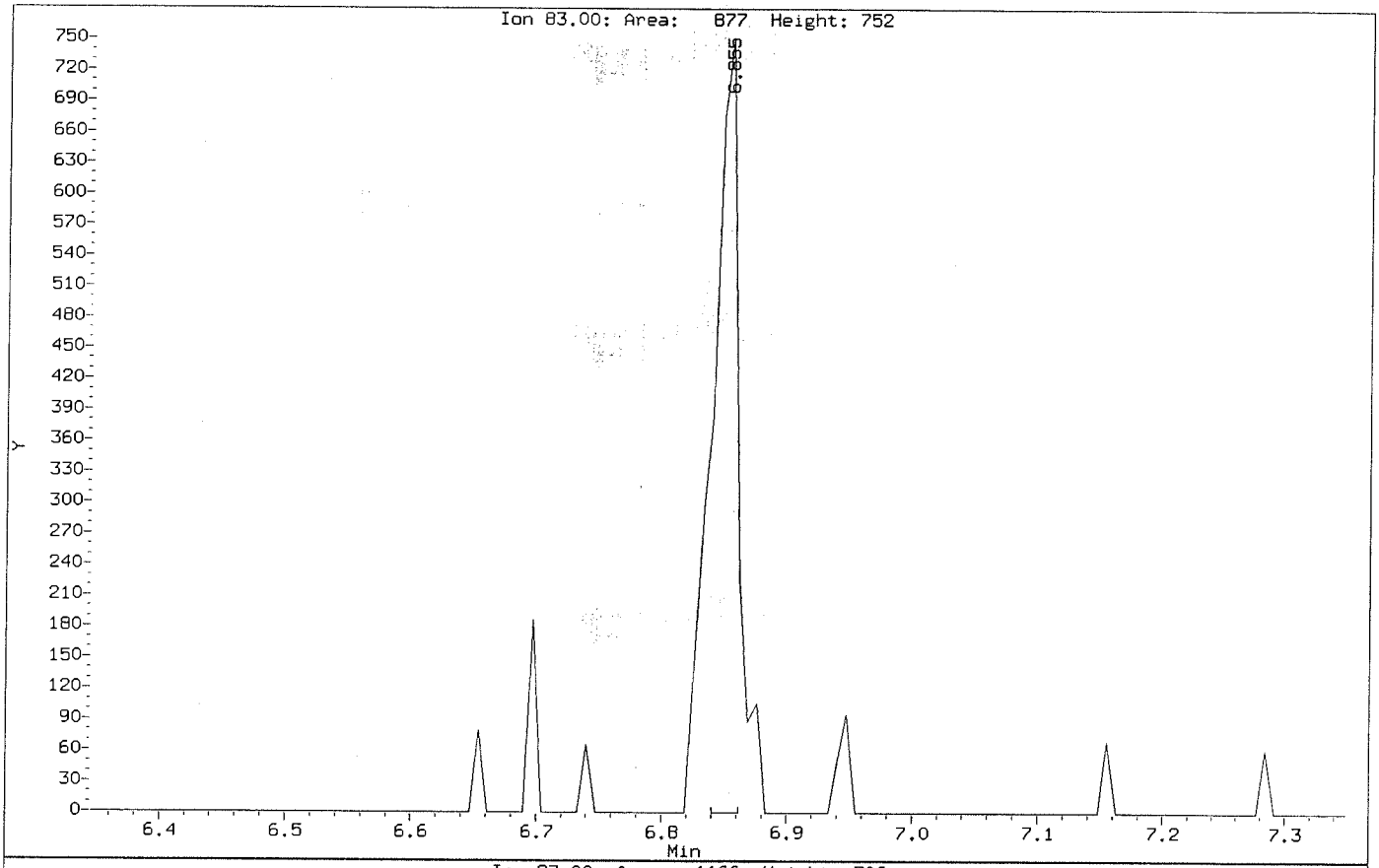
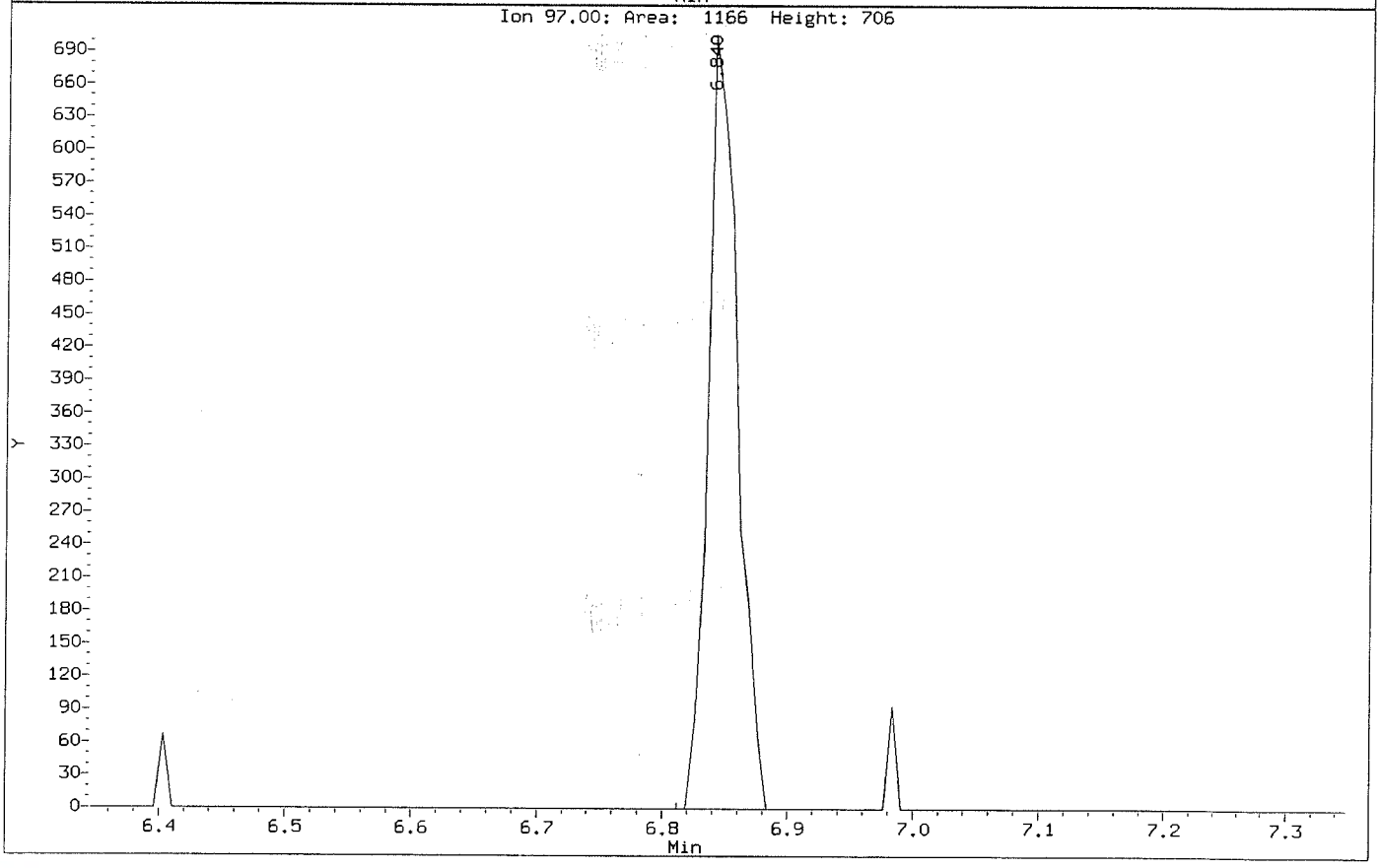
Instrument: voa6.i
Client Sample ID: VSTD000.5

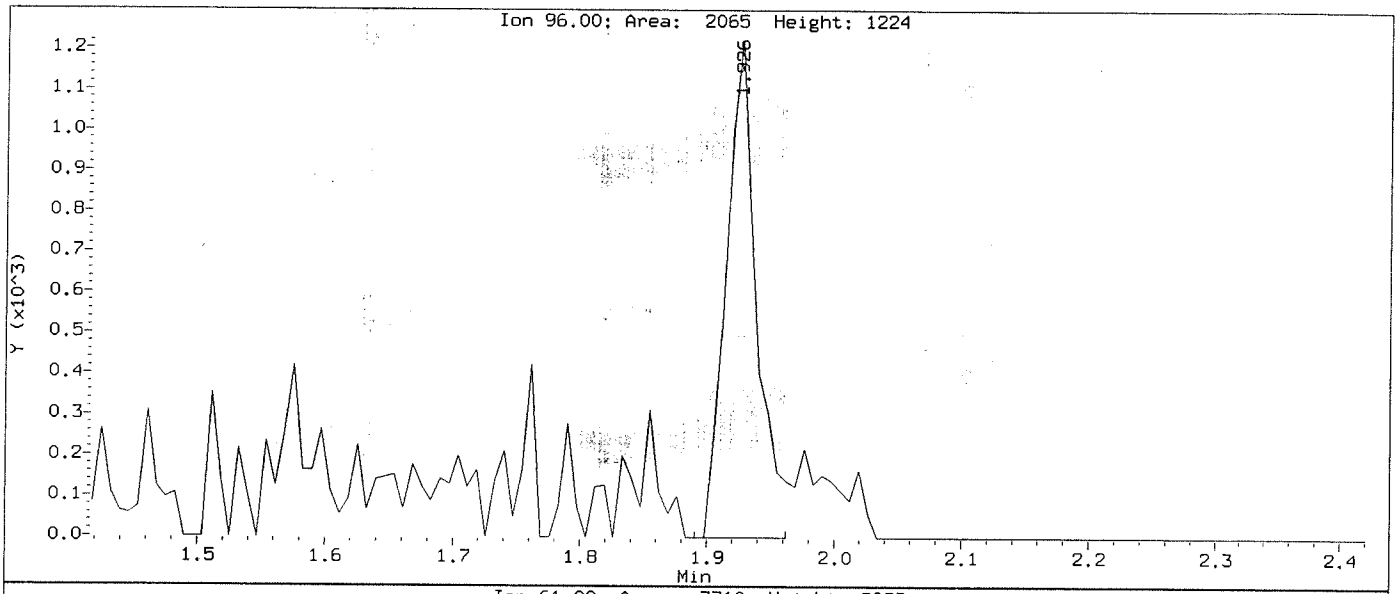
Compound: 1,1,2-Trichloroethane
CAS Number: 79-00-5

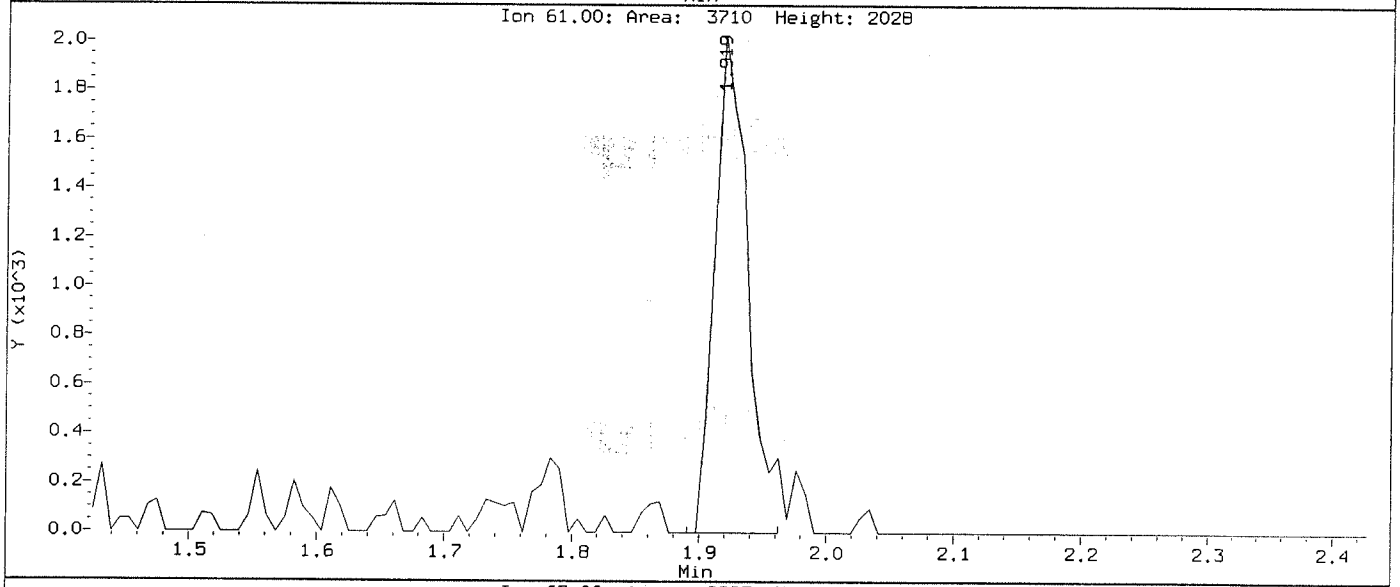


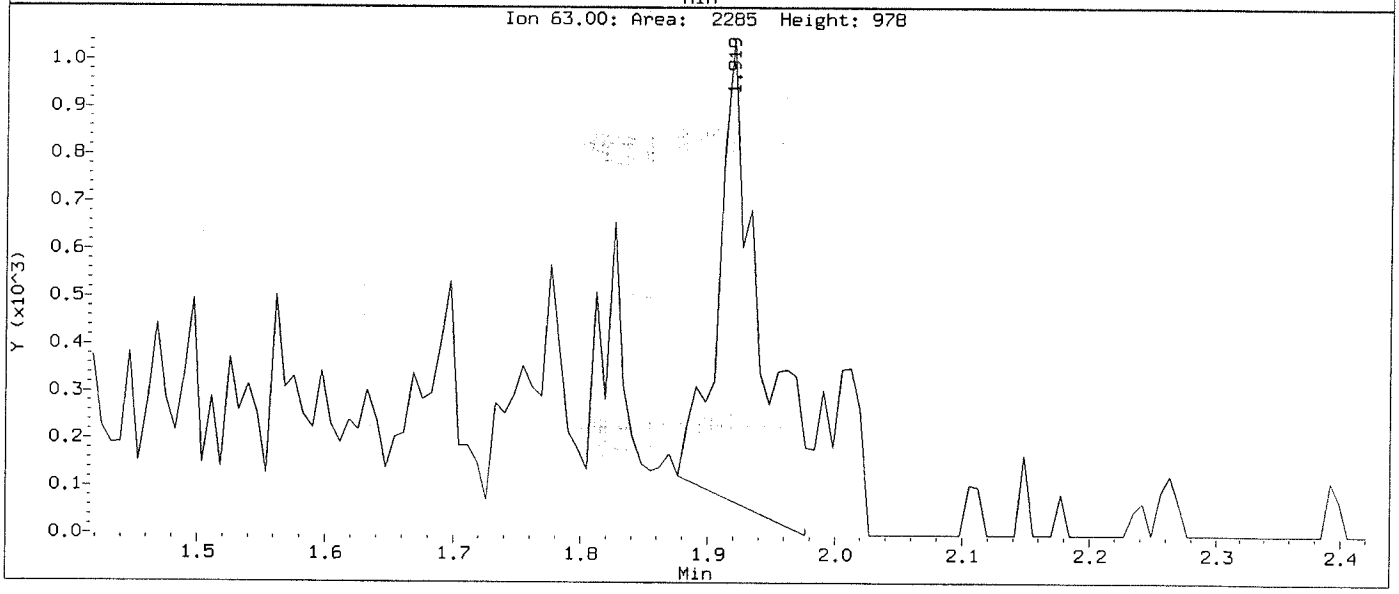


Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\Before\X102503.D
Injection Date: 25-OCT-2020 17:24
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1-Dichloroethene
CAS Number: 75-35-4

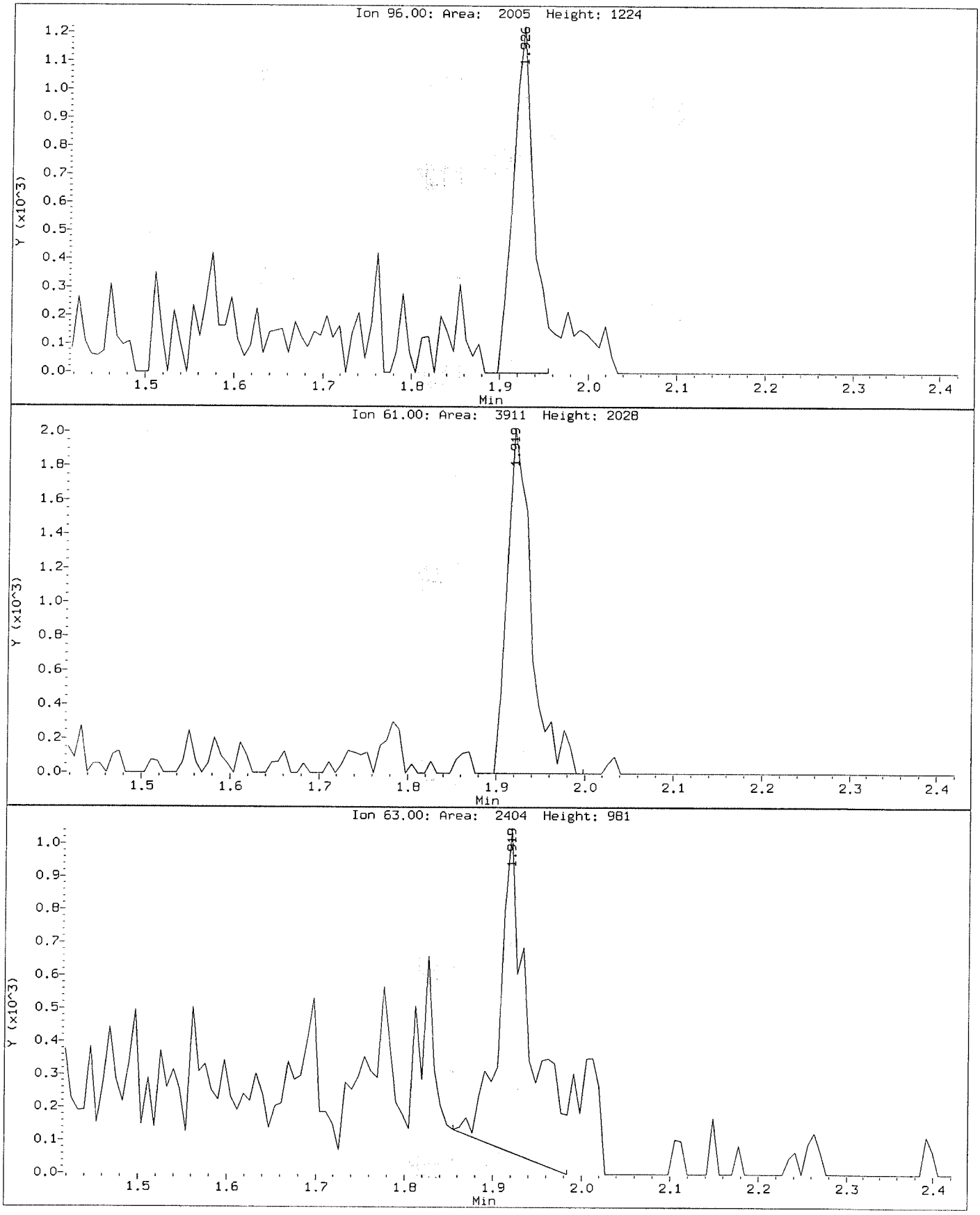






Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102503.D
Injection Date: 25-OCT-2020 17:24
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: 1,1-Dichloroethene
CAS Number: 75-35-4



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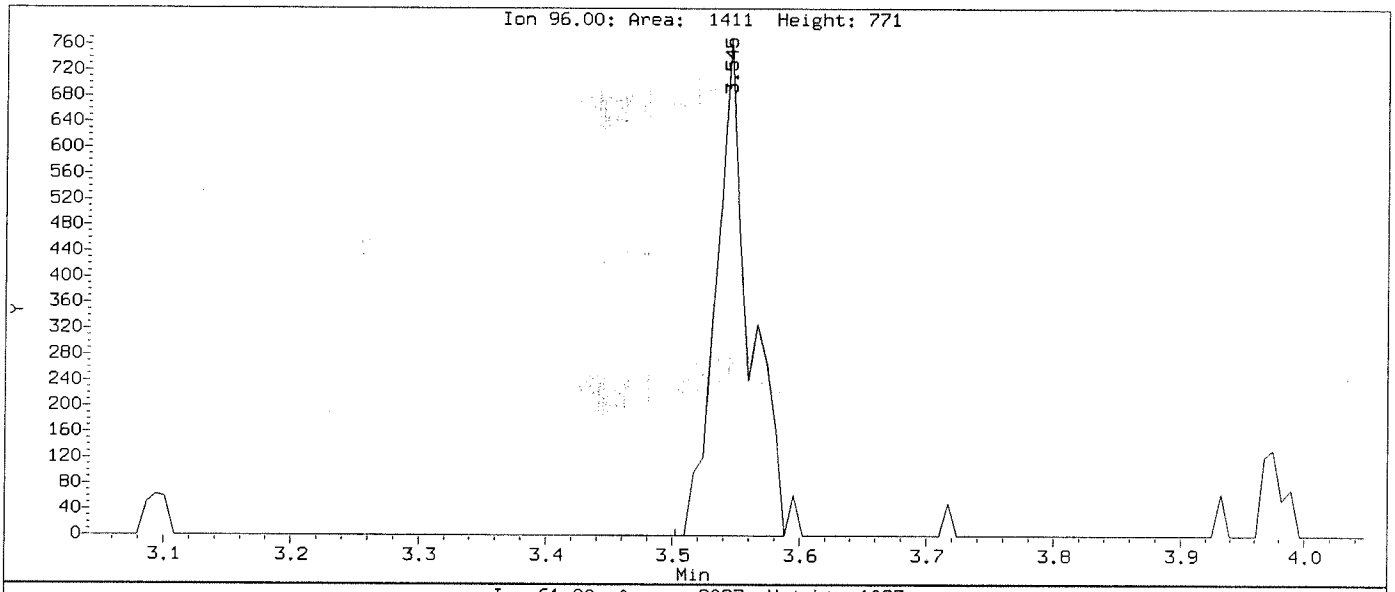
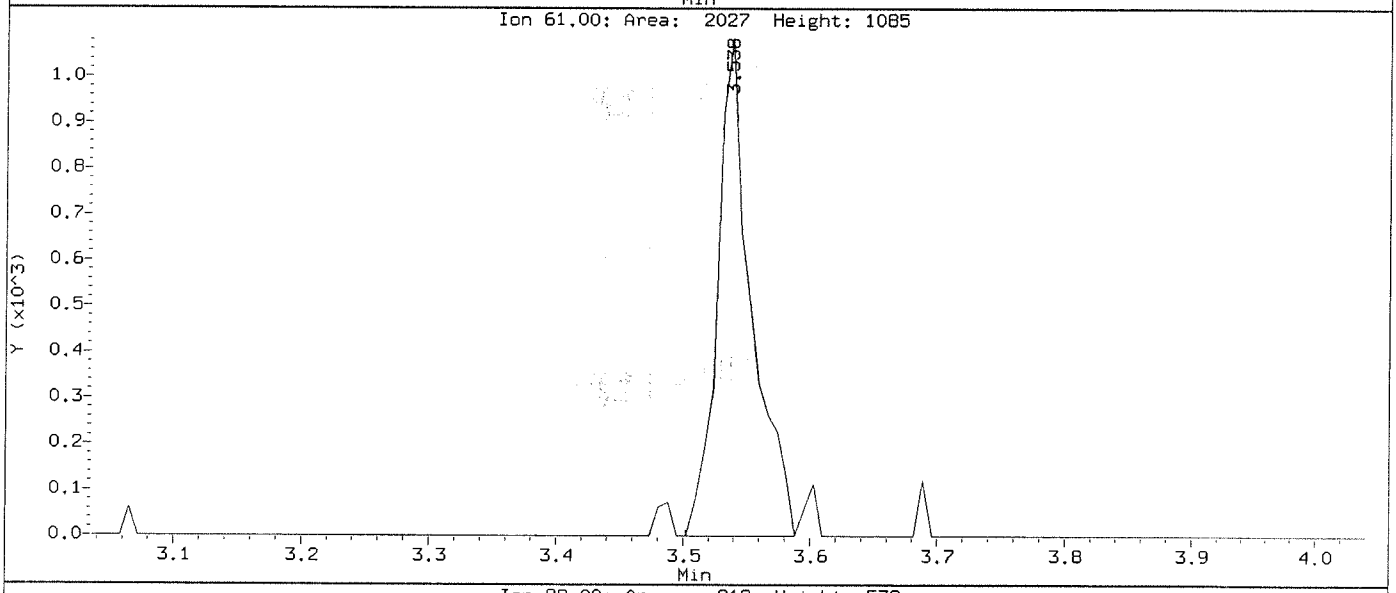
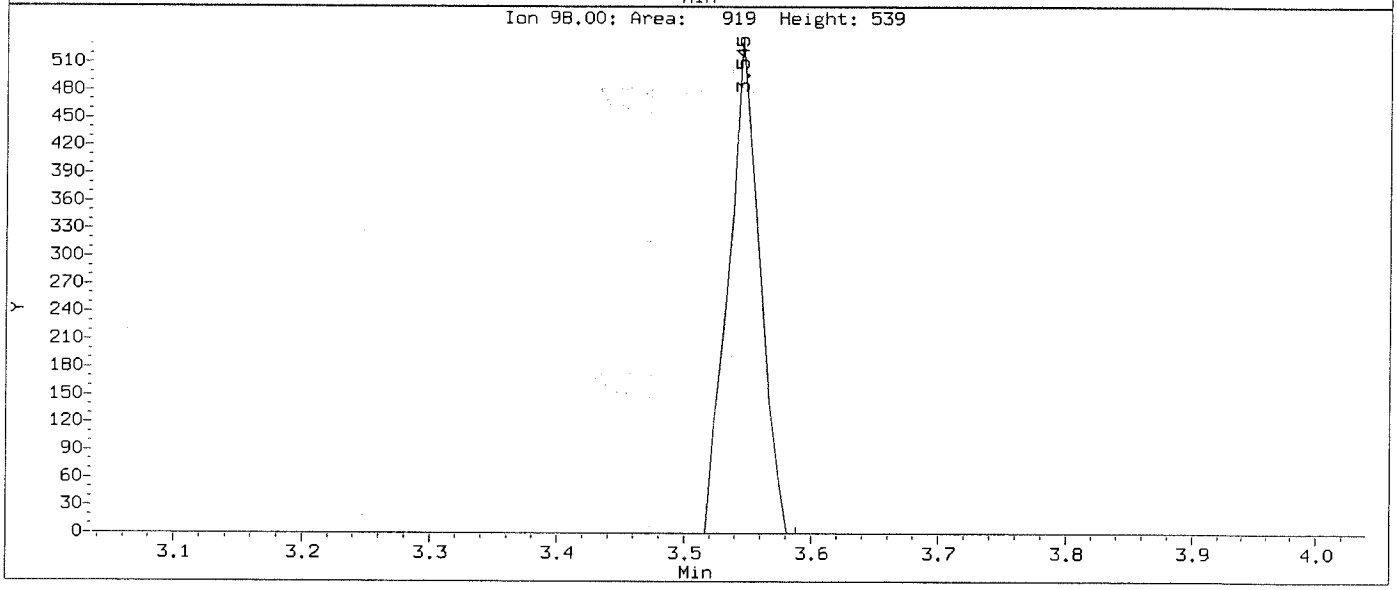
Injection Date: 25-OCT-2020 17:24
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: cis-1,2-Dichloroethene
CAS Number: 156-59-2

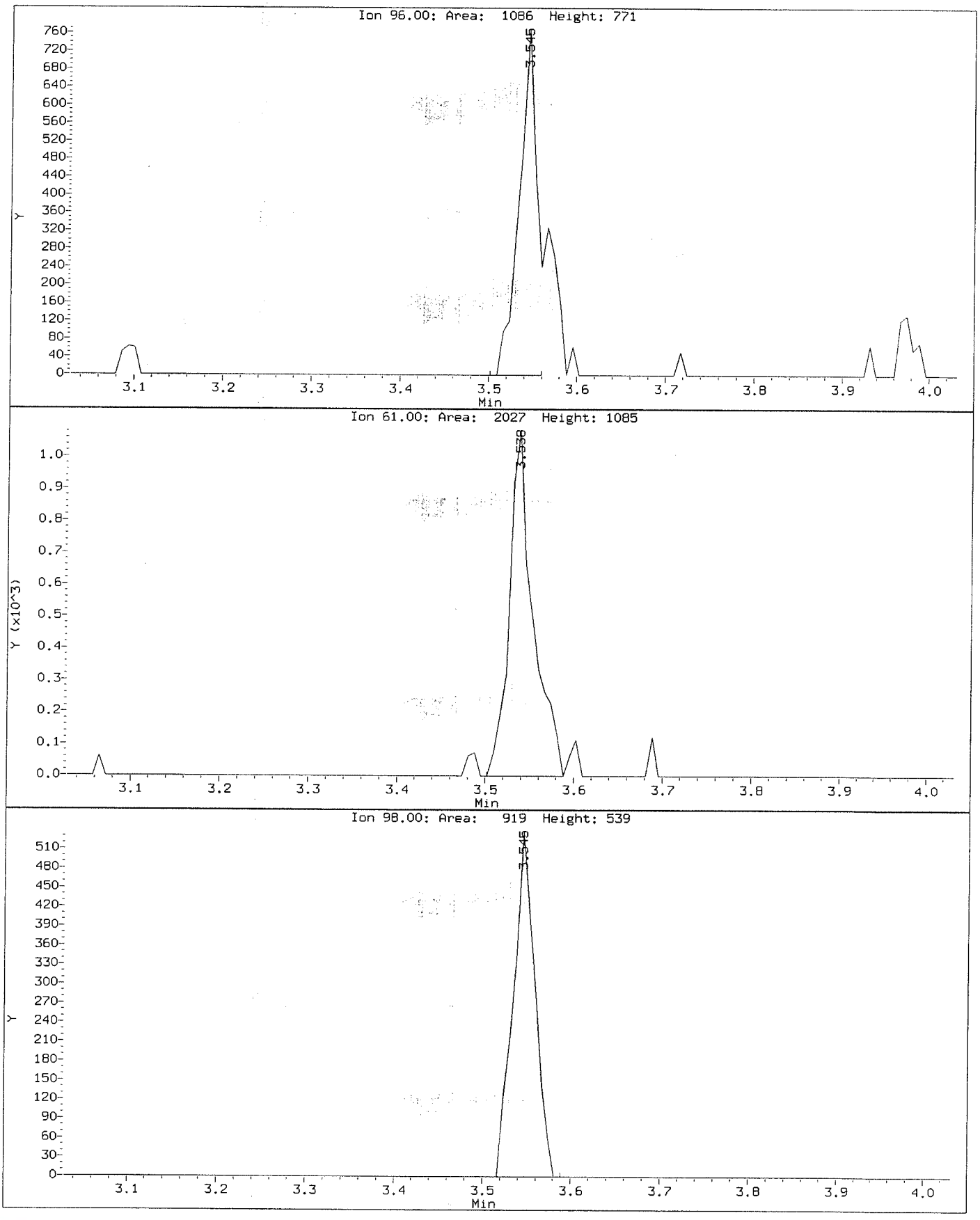






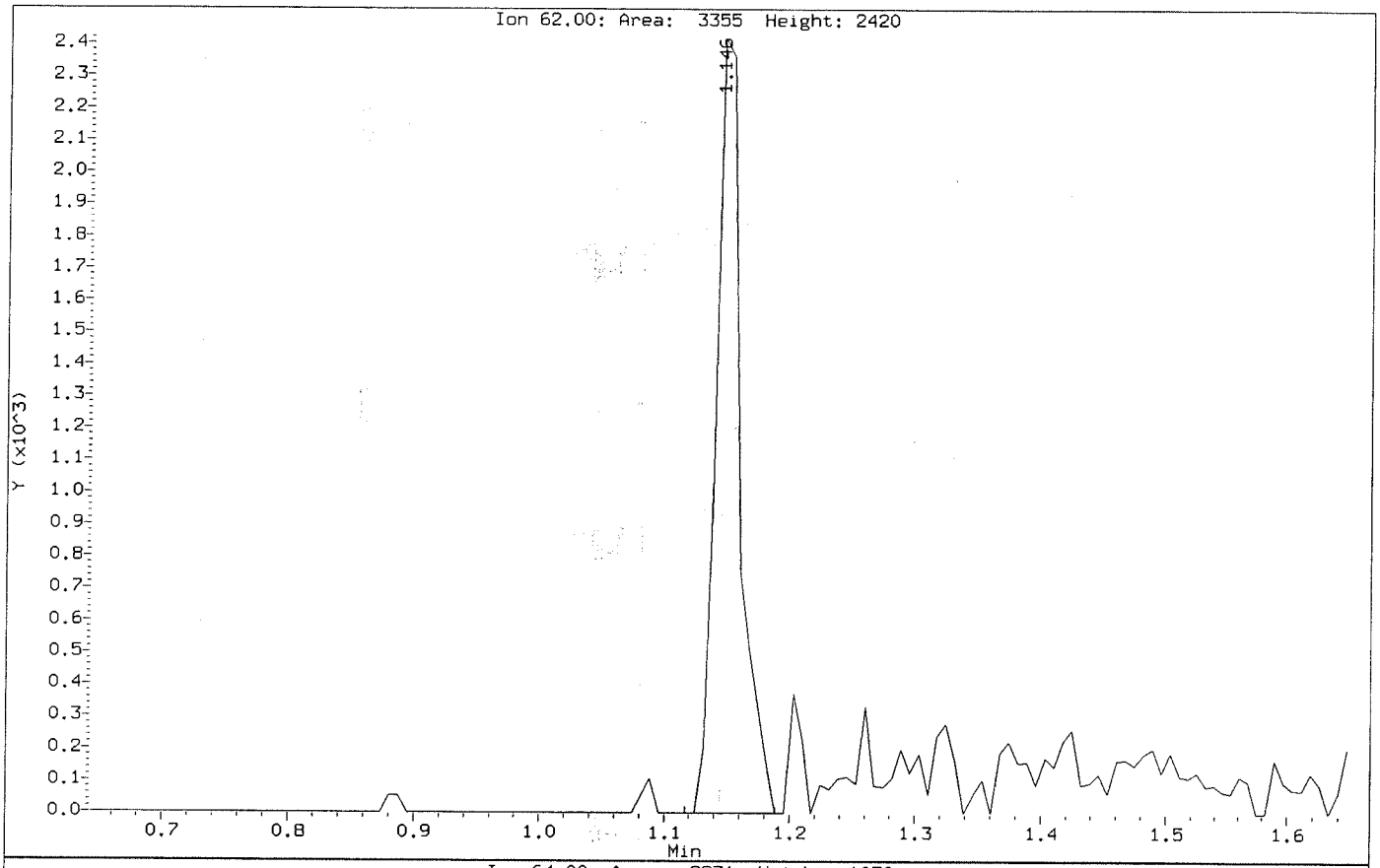
Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102503.D
Injection Date: 25-OCT-2020 17:24
Instrument: voa6.i
Client Sample ID: VSTD000.5

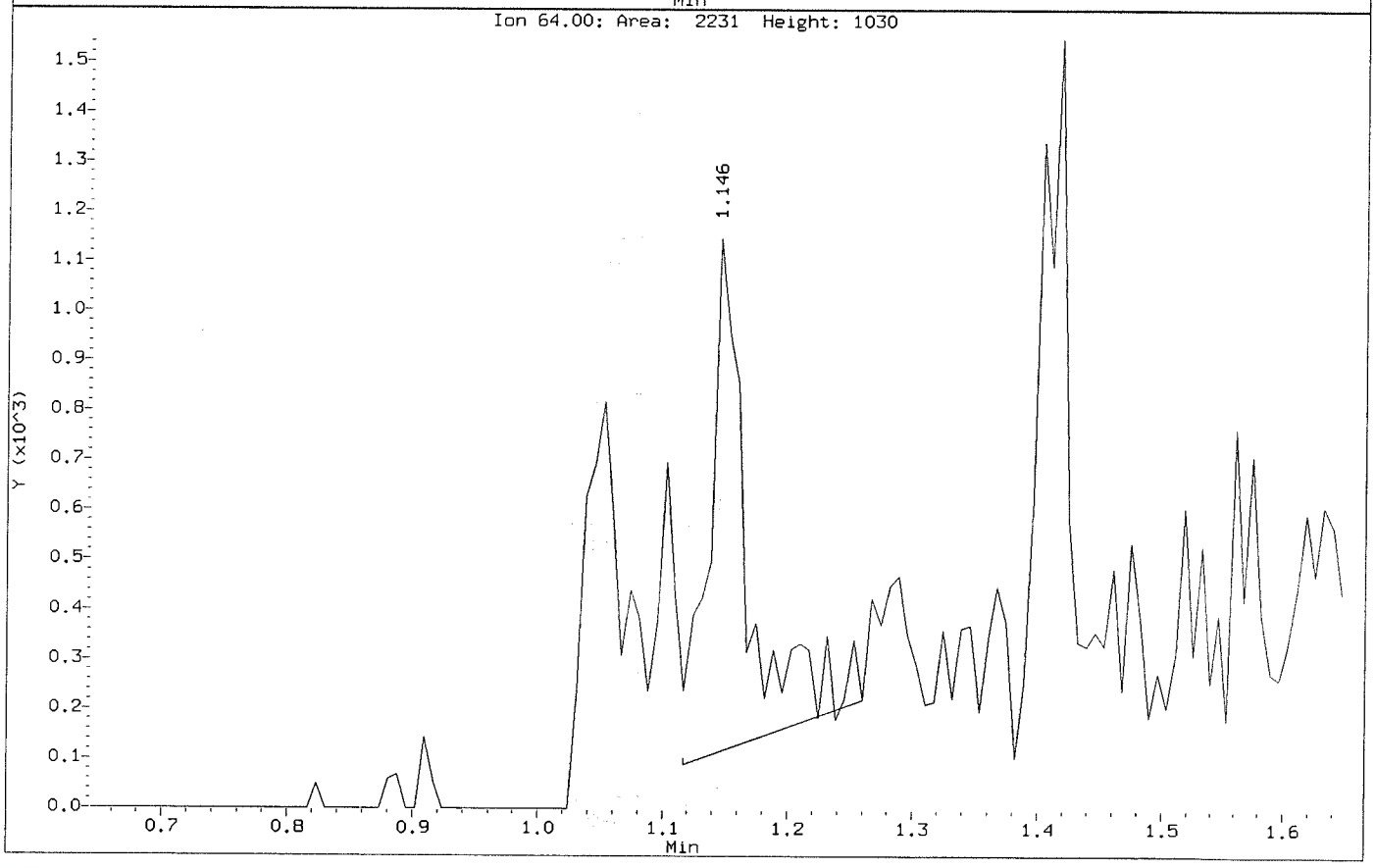
Compound: cis-1,2-Dichloroethene
CAS Number: 156-59-2



Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\Before\X102503.D
Injection Date: 25-OCT-2020 17:24
Instrument: voa6.i
Client Sample ID: VSTD000.5

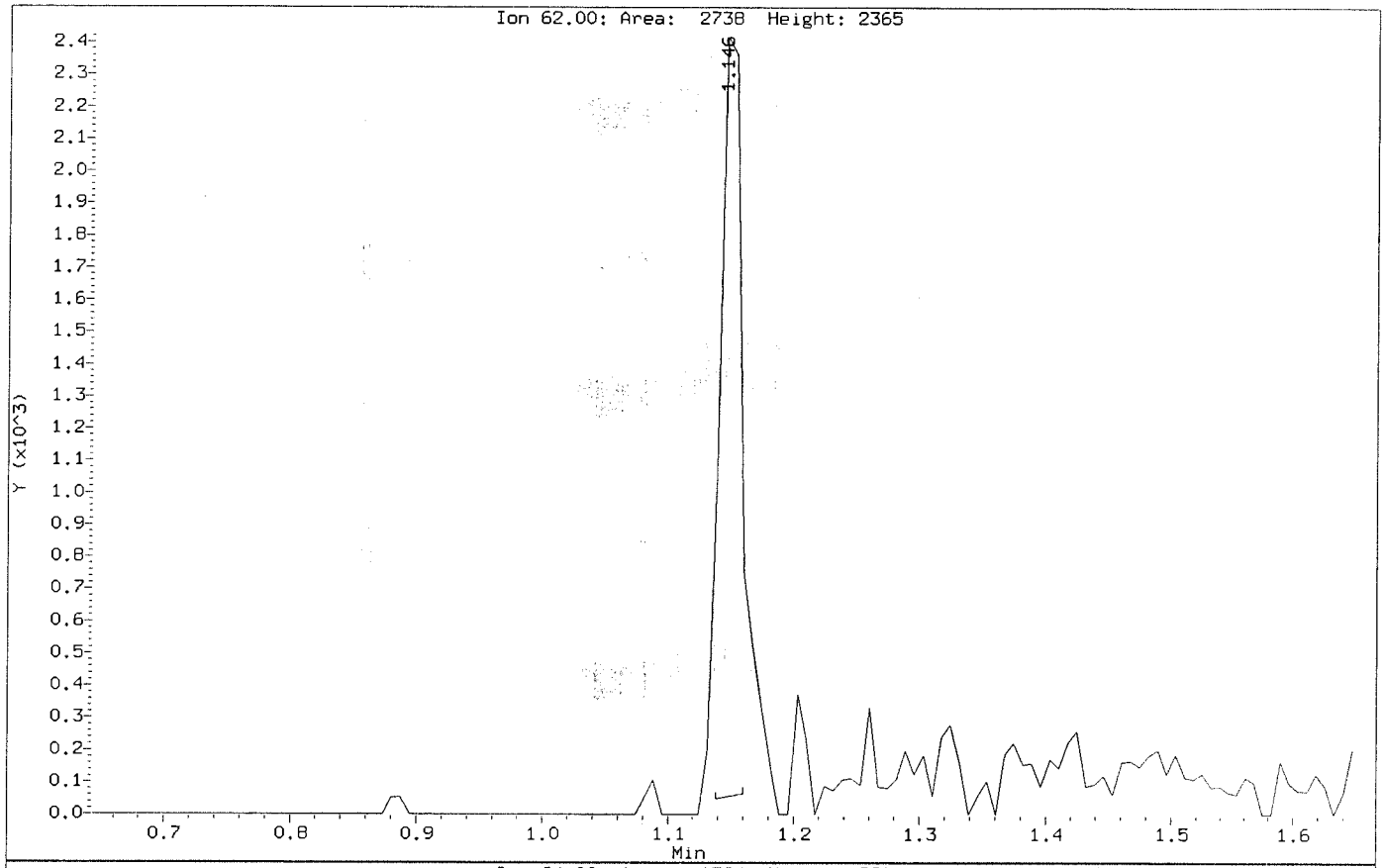
Compound: Vinyl Chloride
CAS Number: 75-01-4

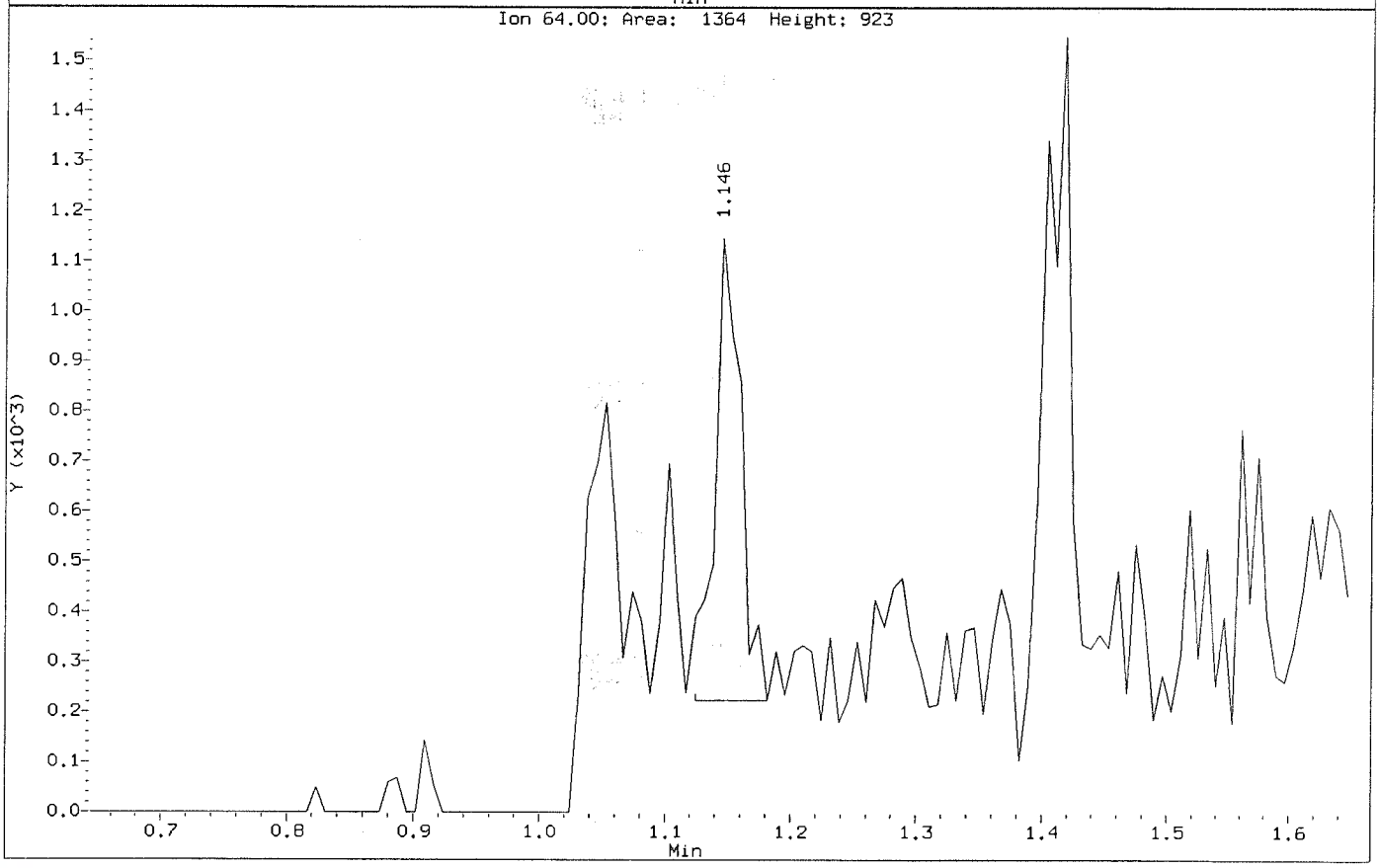




Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102503.D
Injection Date: 25-OCT-2020 17:24
Instrument: voa6.i
Client Sample ID: VSTD000.5

Compound: Vinyl Chloride
CAS Number: 75-01-4





Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102504.D Page 1
Report Date: 30-Nov-2020 13:13

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201025.b\X102504.D
Lab Smp Id: VSTD001 Client Smp ID: VSTD001
Inj Date : 25-OCT-2020 17:45
Operator : PC Inst ID: voa6.i
Smp Info : VSTD001;VSTD001;1;3;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201025.b\8260W.m
Meth Date : 30-Nov-2020 13:13 voa6.i Quant Type: ISTD
Cal Date : 25-OCT-2020 17:24 Cal File: X102503.D
Als bottle: 7 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

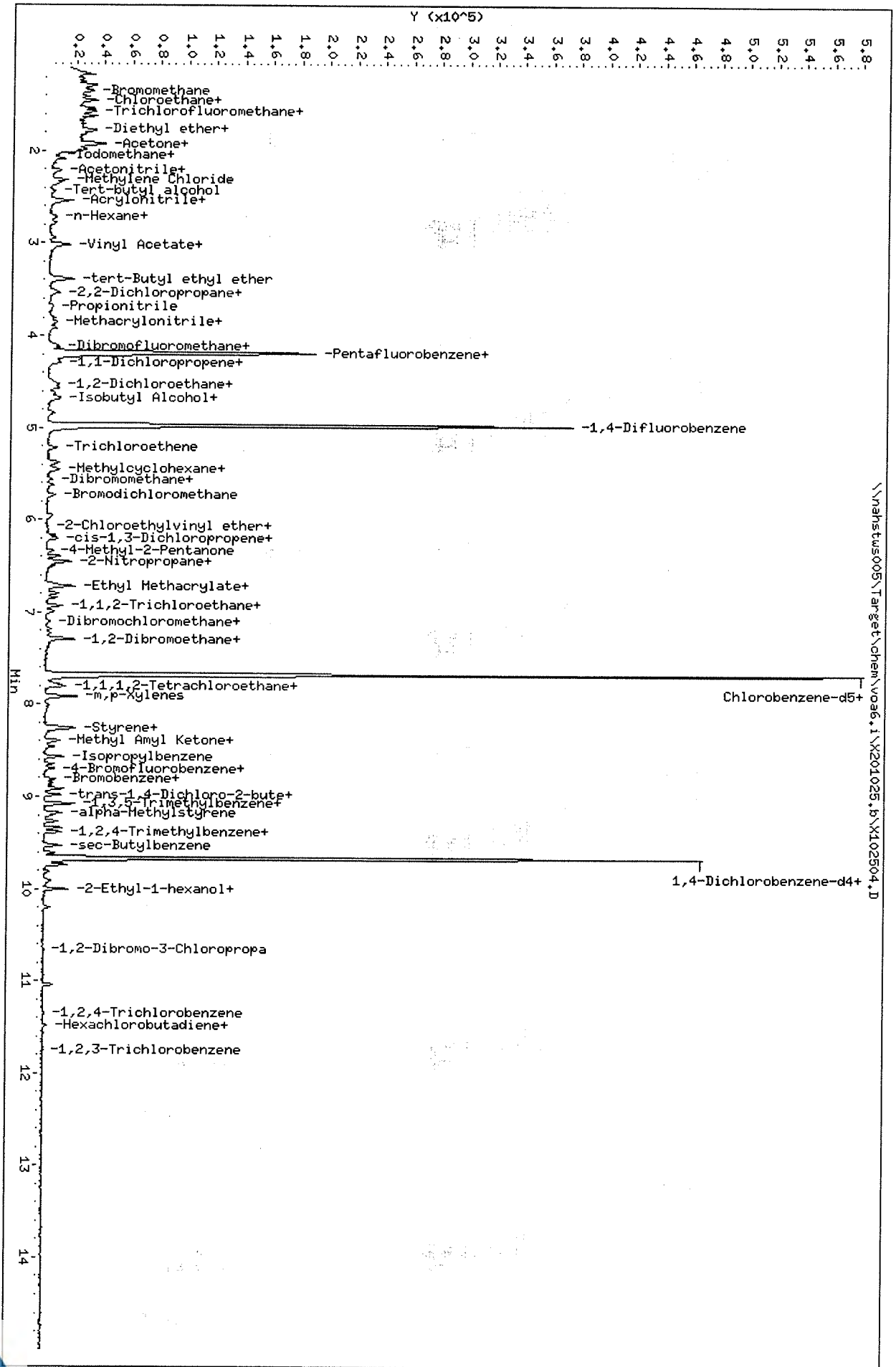
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	133725	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	265523	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	237249	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	89977	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.490	4.490	(1.072)	2362	1.00000	1.03(Ta)
$ 69 4-Bromofluorobenzene	95	8.702	8.702	(1.134)	2133	1.00000	2.89(a)
$ 30 Dibromofluoromethane	113	4.110	4.110	(0.981)	1747	1.00000	0.94(a)
$ 48 Toluene-d8	98	6.395	6.395	(0.834)	5855	1.00000	2.56(Ta)
53 1,1,2-Trichloroethane	83	6.854	6.854	(0.894)	1602	1.00000	1.03(a)
11 1,1-Dichloroethene	96	1.926	1.926	(0.460)	3767	1.00000	1.15(a)
33 1,2-Dichloroethane	62	4.569	4.569	(0.919)	3014	1.00000	1.05(a)
27 cis-1,2-Dichloroethene	96	3.545	3.545	(0.846)	2283	1.00000	1.09(a)
17 Methylene Chloride	84	2.320	2.320	(0.554)	2321	1.00000	1.09(a)
38 Trichloroethene	130	5.214	5.214	(1.049)	1801	1.00000	1.03(a)
5 Vinyl Chloride	62	1.145	1.145	(0.273)	4301	1.00000	1.04(aM)

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

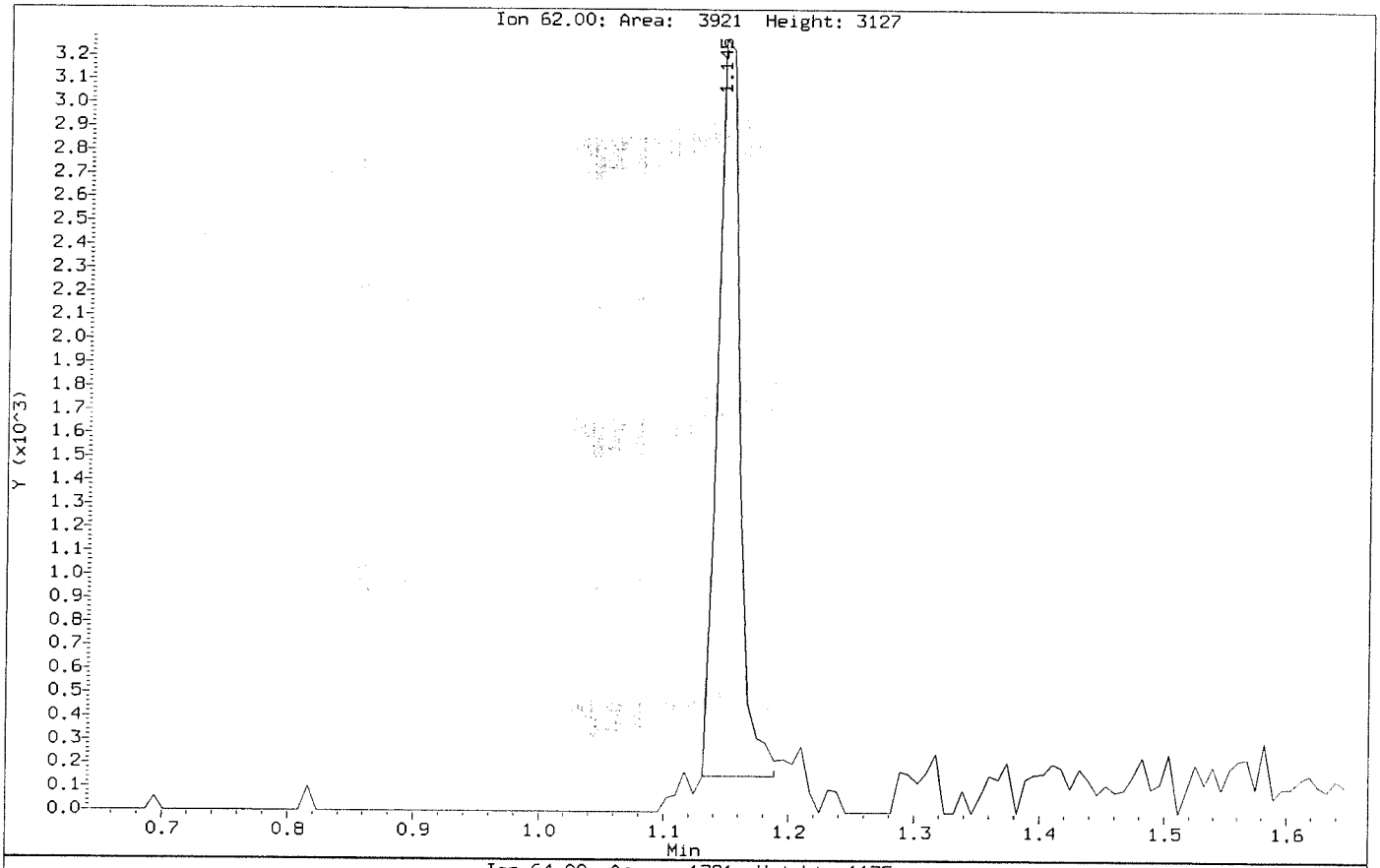


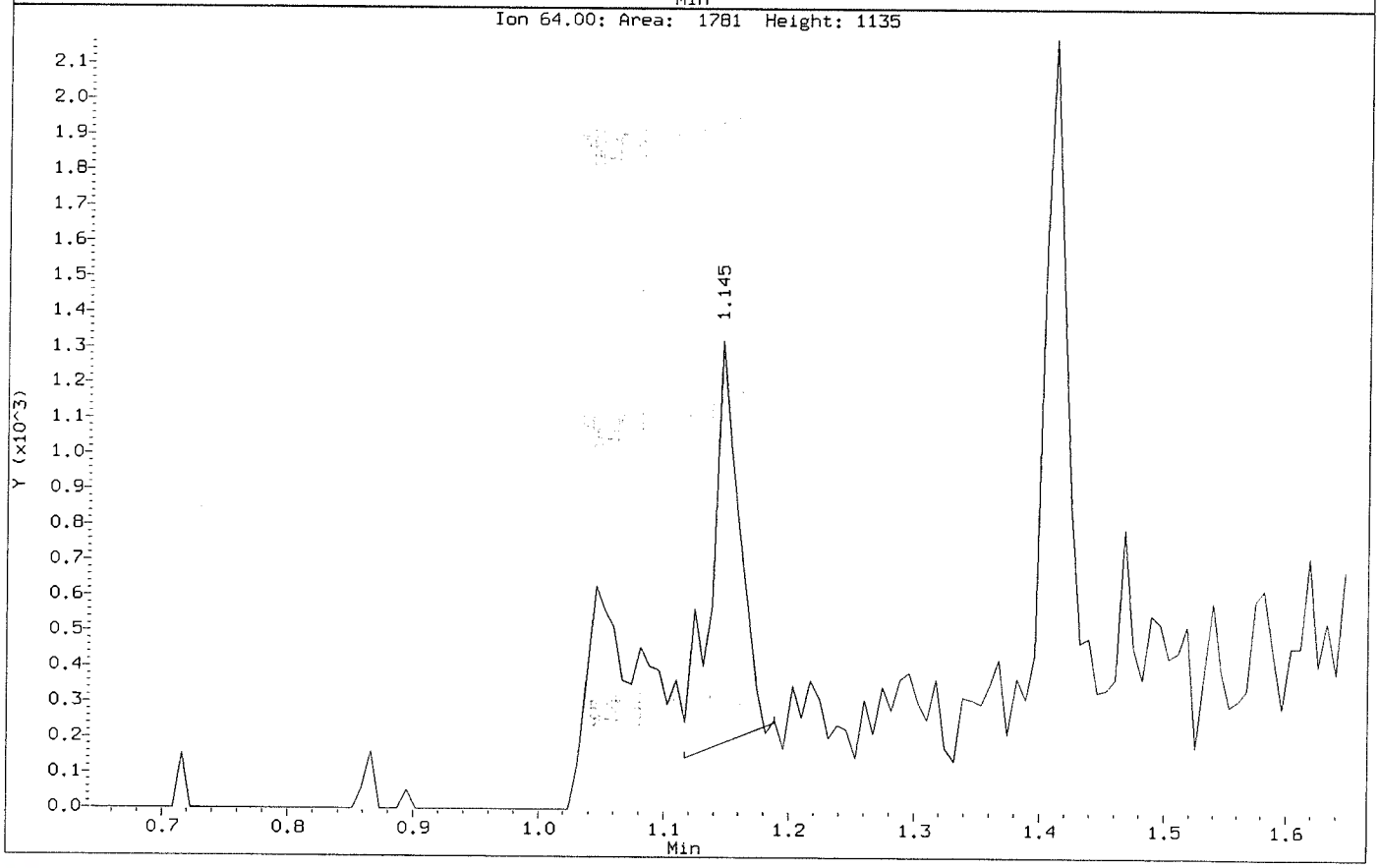
Data File: \\nahstus005\Target\chem\voa6.i\X201025.b\X102504.D
Date : 25-OCT-2020 17:45
Client ID: VSTD001
Sample Info: VSTD001;VSTD001;1;3;
Purge Volume: 5.0
Column phase: DB624

\\nahstus005\Target\chem\voa6.i\X201025.b\X102504.D
Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\Before\X102504.D
Injection Date: 25-OCT-2020 17:45
Instrument: voa6.i
Client Sample ID: VSTD001

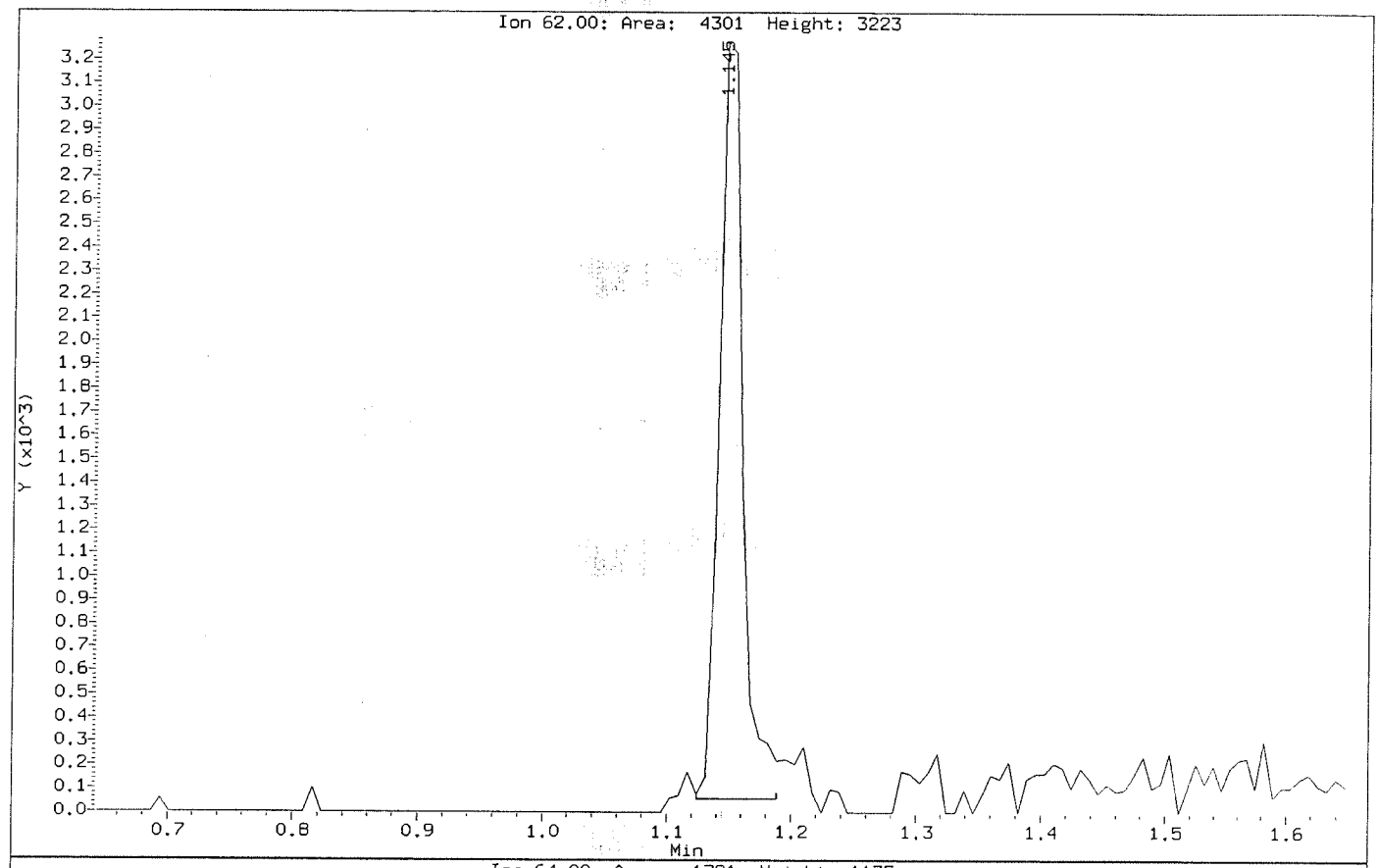
Compound: Vinyl Chloride
CAS Number: 75-01-4

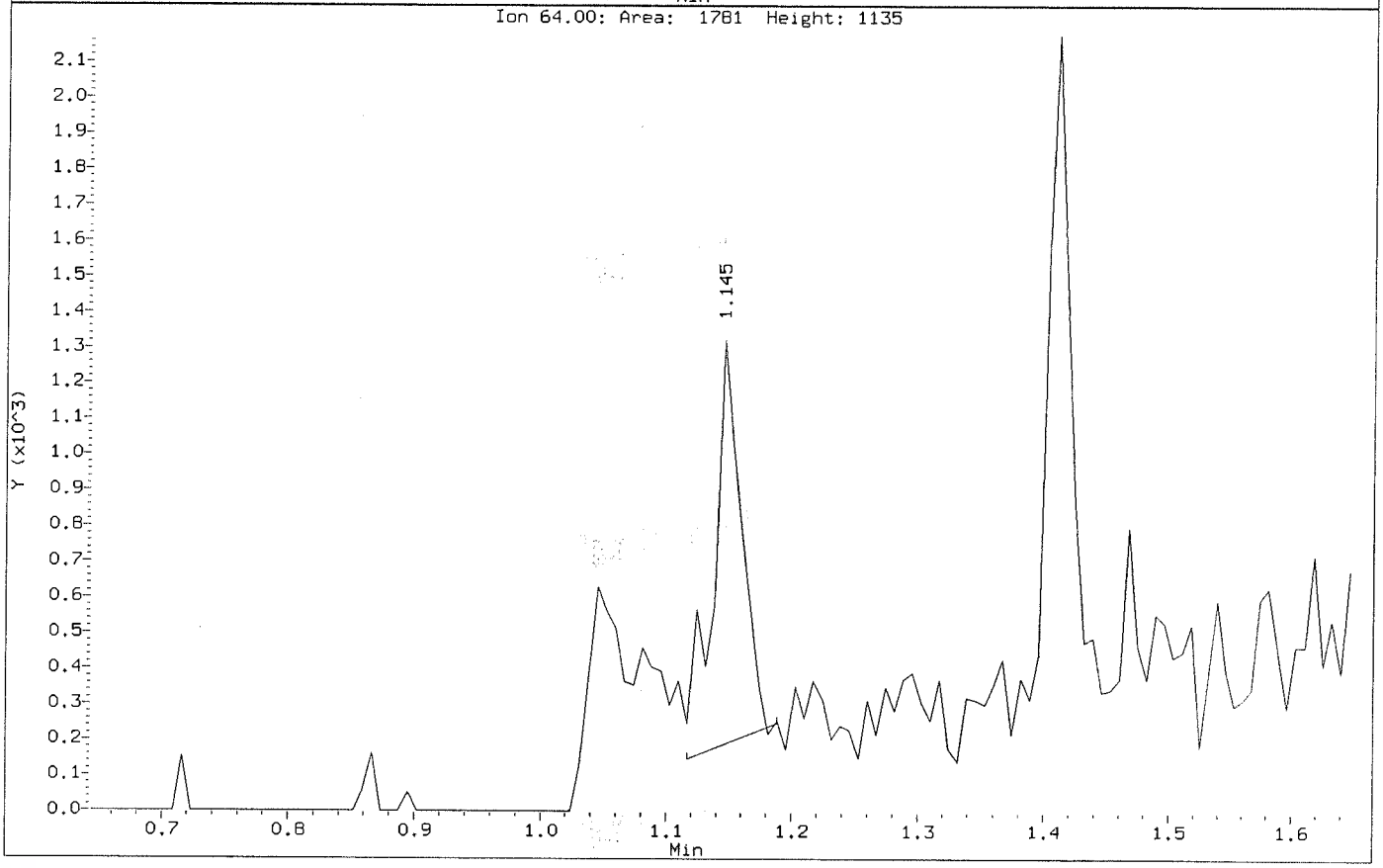




Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102504.D
Injection Date: 25-OCT-2020 17:45
Instrument: voa6.i
Client Sample ID: VSTD001

Compound: Vinyl Chloride
CAS Number: 75-01-4





ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201025.b\X102505.D
Lab Smp Id: VSTD002 Client Smp ID: VSTD002
Inj Date : 25-OCT-2020 18:06
Operator : PC Inst ID: voa6.i
Smp Info : VSTD002;VSTD002;1;4;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201025.b\8260W.m
Meth Date : 30-Nov-2020 13:14 voa6.i Quant Type: ISTD
Cal Date : 25-OCT-2020 17:45 Cal File: X102504.D
Als bottle: 8 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

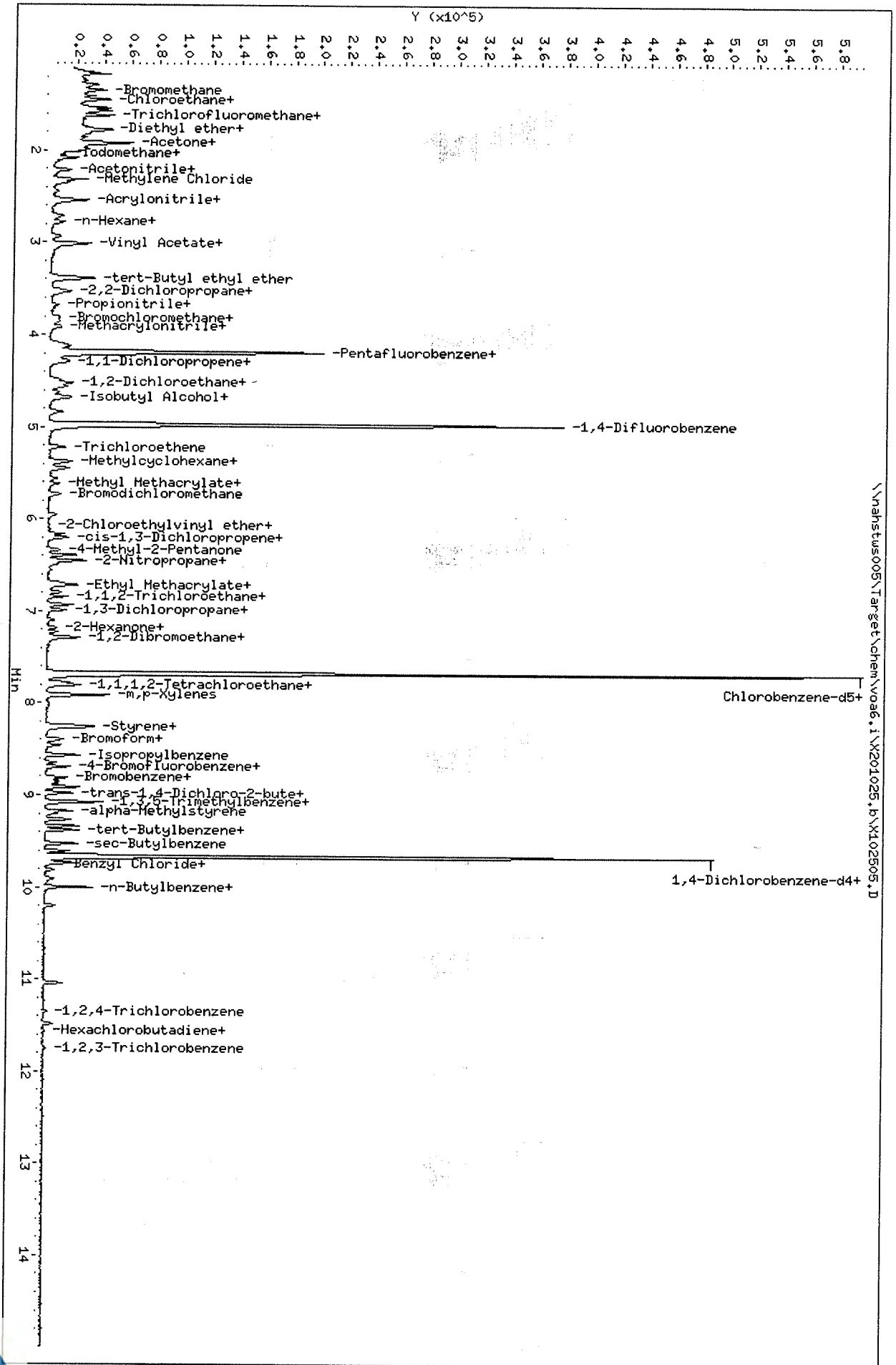
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	138059	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	268911	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	238375	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	92380	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.070)	4999	2.00000	2.09(a)
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	4602	2.00000	3.93(a)
$ 30 Dibromofluoromethane	113	4.110	4.110	(0.981)	3406	2.00000	1.79(a)
$ 48 Toluene-d8	98	6.395	6.395	(0.834)	11754	2.00000	3.40(a)
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	3021	2.00000	1.94(a)
11 1,1-Dichloroethene	96	1.926	1.926	(0.460)	6937	2.00000	2.06(a)
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	5387	2.00000	1.85(a)
27 cis-1,2-Dichloroethene	96	3.537	3.537	(0.844)	4027	2.00000	1.86(a)
17 Methylene Chloride	84	2.313	2.313	(0.552)	4313	2.00000	1.97(a)
38 Trichloroethene	130	5.221	5.221	(1.050)	3205	2.00000	1.81(a)
5 Vinyl Chloride	62	1.145	1.145	(0.273)	8618	2.00000	2.03(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).



Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102505.D
Date : 25-OCT-2020 18:06
Client ID: VSTD002
Sample Info: VSTD002;VSTD002;1;4;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

\\nahstws005\Target\chem\voa6.i\X201025.b\X102505.D

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Data file : \\nahstws005\Target\chem\voa6.i\X201025.b\X102506.D
Lab Smp Id: VSTD005 Client Smp ID: VSTD005
Inj Date : 25-OCT-2020 18:27
Operator : PC Inst ID: voa6.i
Smp Info : VSTD005;VSTD005;1;5;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201025.b\8260W.m
Meth Date : 30-Nov-2020 13:14 voa6.i Quant Type: ISTD
Cal Date : 25-OCT-2020 18:06 Cal File: X102505.D
Als bottle: 9 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

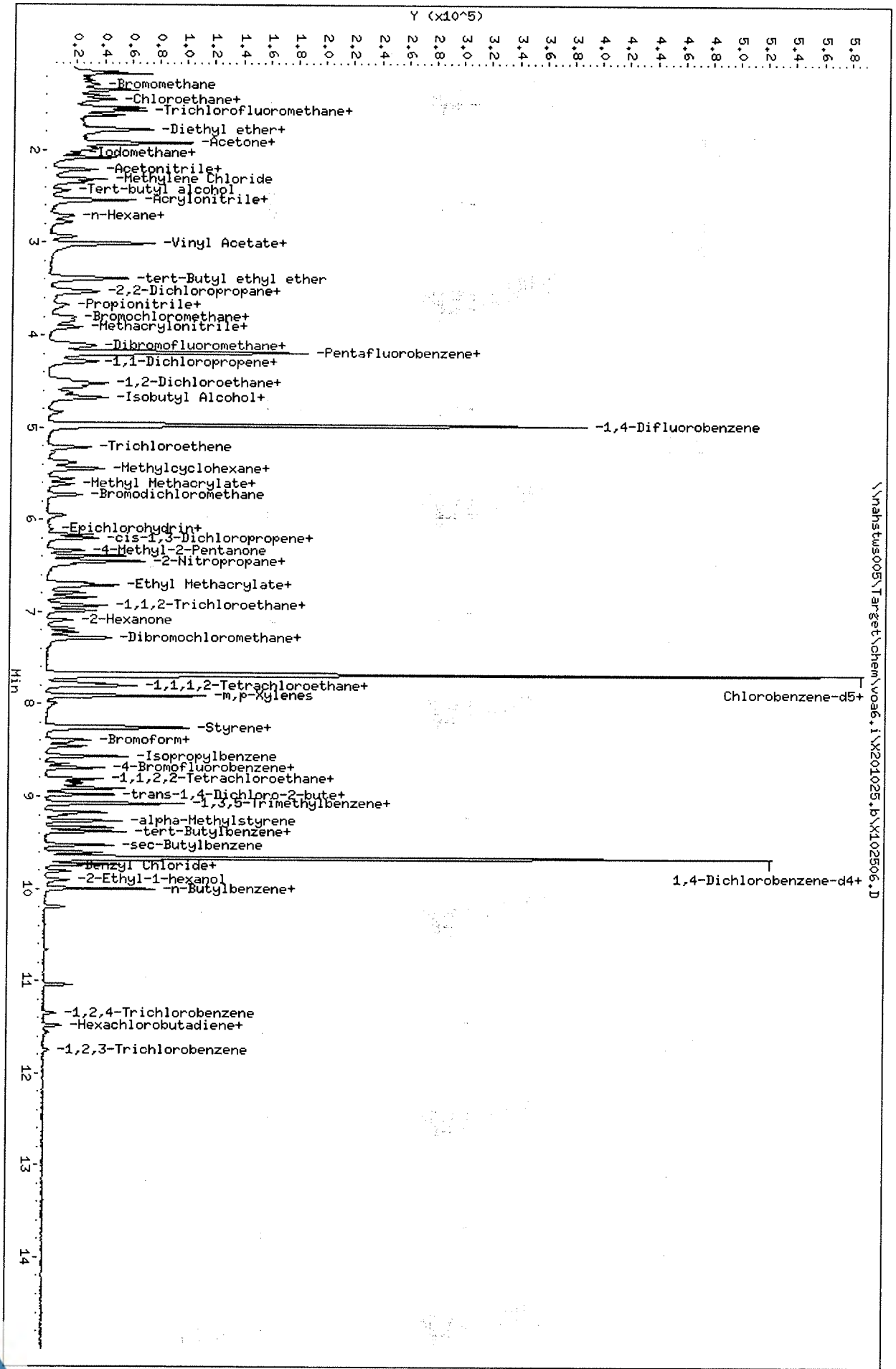
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	132183	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	262424	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	236481	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	93887	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	11402	5.00000	4.95(aM)
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	10188	5.00000	6.31
$	30 Dibromofluoromethane	113	4.110	4.110	(0.981)	8894	5.00000	4.88(a)
$	48 Toluene-d8	98	6.396	6.396	(0.834)	31270	5.00000	6.24
	53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	8403	5.00000	5.46
	11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	15811	5.00000	4.91(a)
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	14249	5.00000	5.02
	27 cis-1,2-Dichloroethene	96	3.545	3.545	(0.846)	10113	5.00000	4.88(a)
	17 Methylene Chloride	84	2.313	2.313	(0.552)	10150	5.00000	4.85(a)
	38 Trichloroethene	130	5.214	5.214	(1.049)	7833	5.00000	4.53(a)
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	17953	5.00000	4.41(a)

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

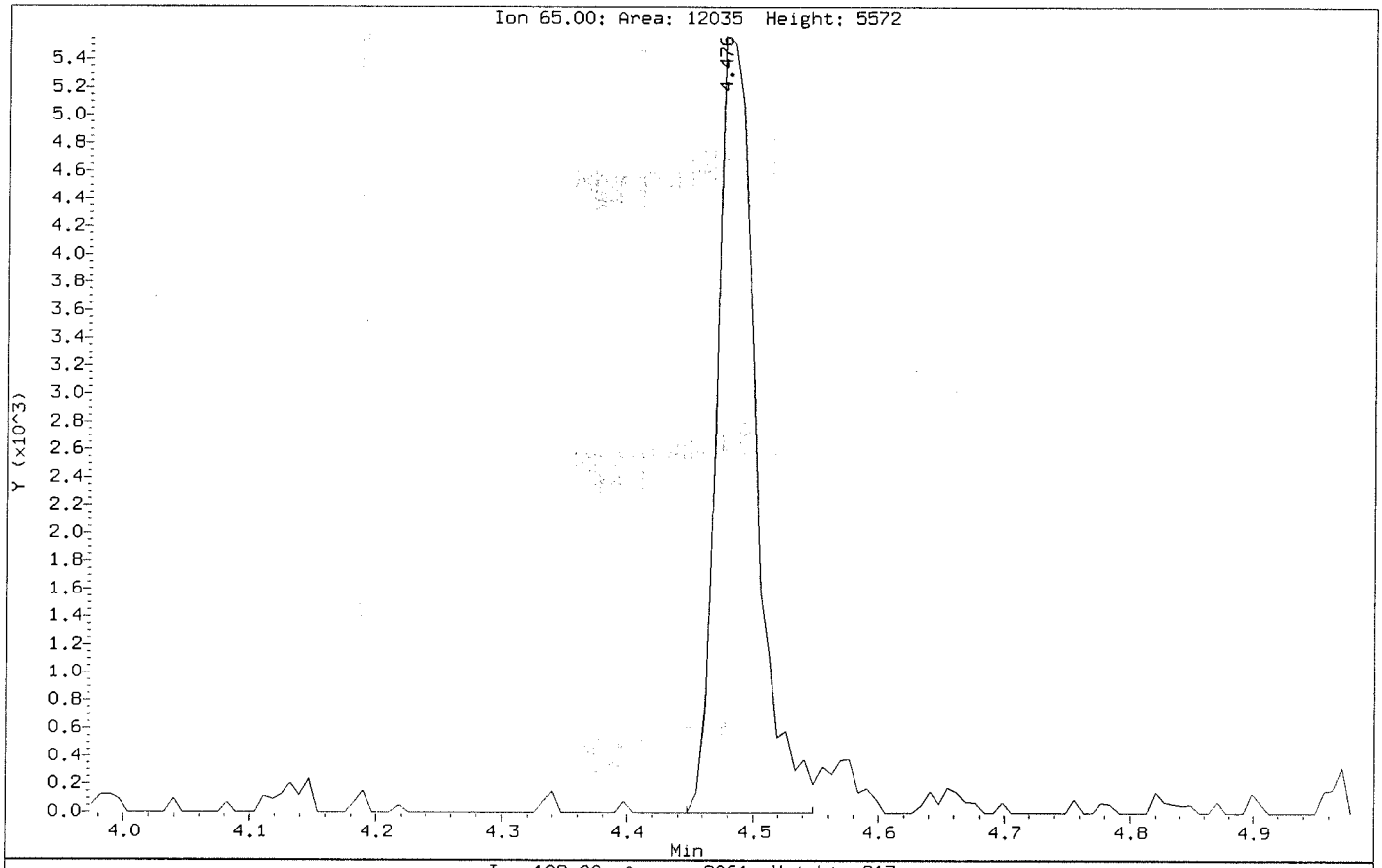


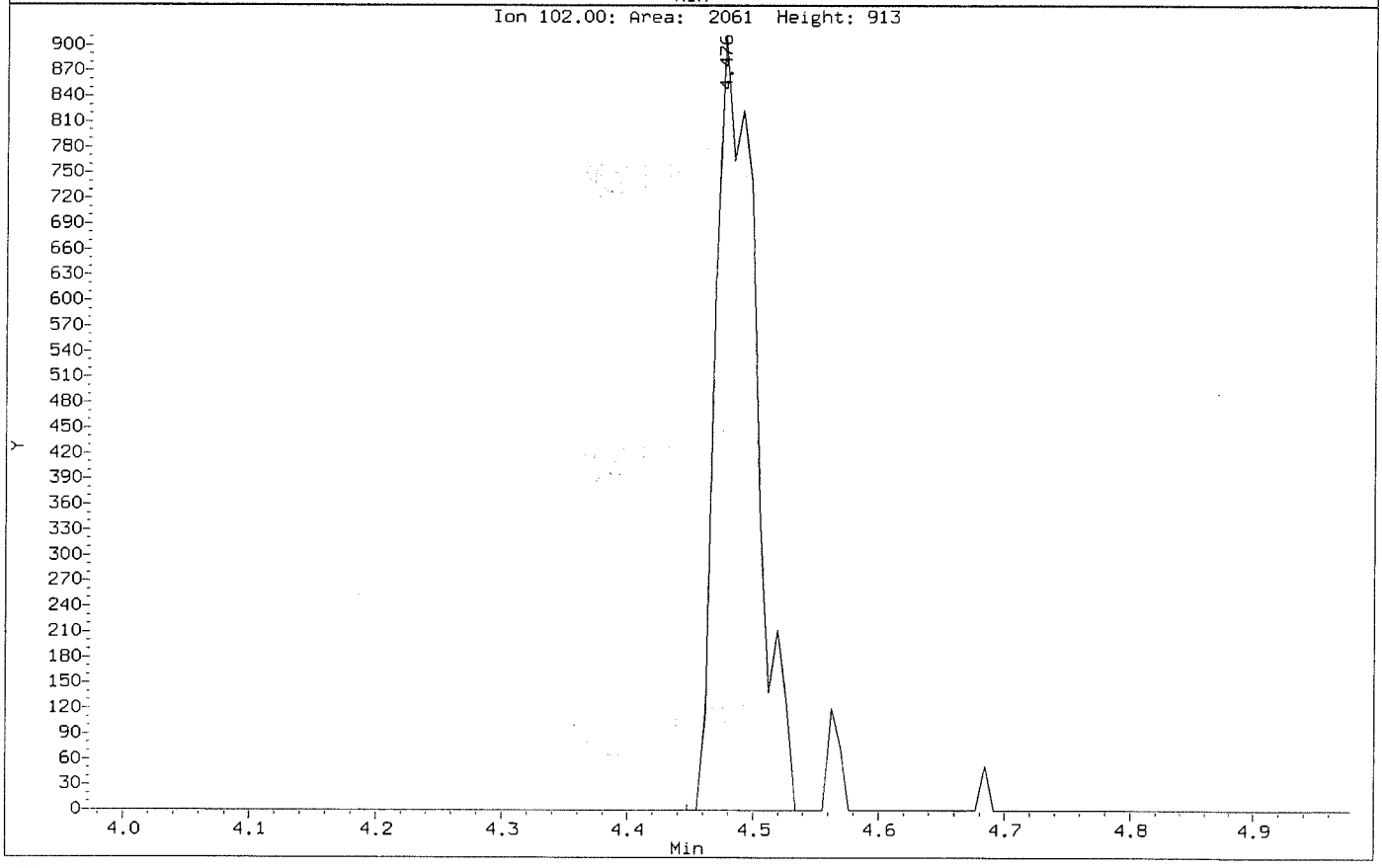
Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102506.D
Date : 25-OCT-2020 18:27
Client ID: VSTD005
Sample Info: VSTD005;VSTD005;1;5;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\Before\X102506.D
Injection Date: 25-OCT-2020 18:27
Instrument: voa6.i
Client Sample ID: VSTD005

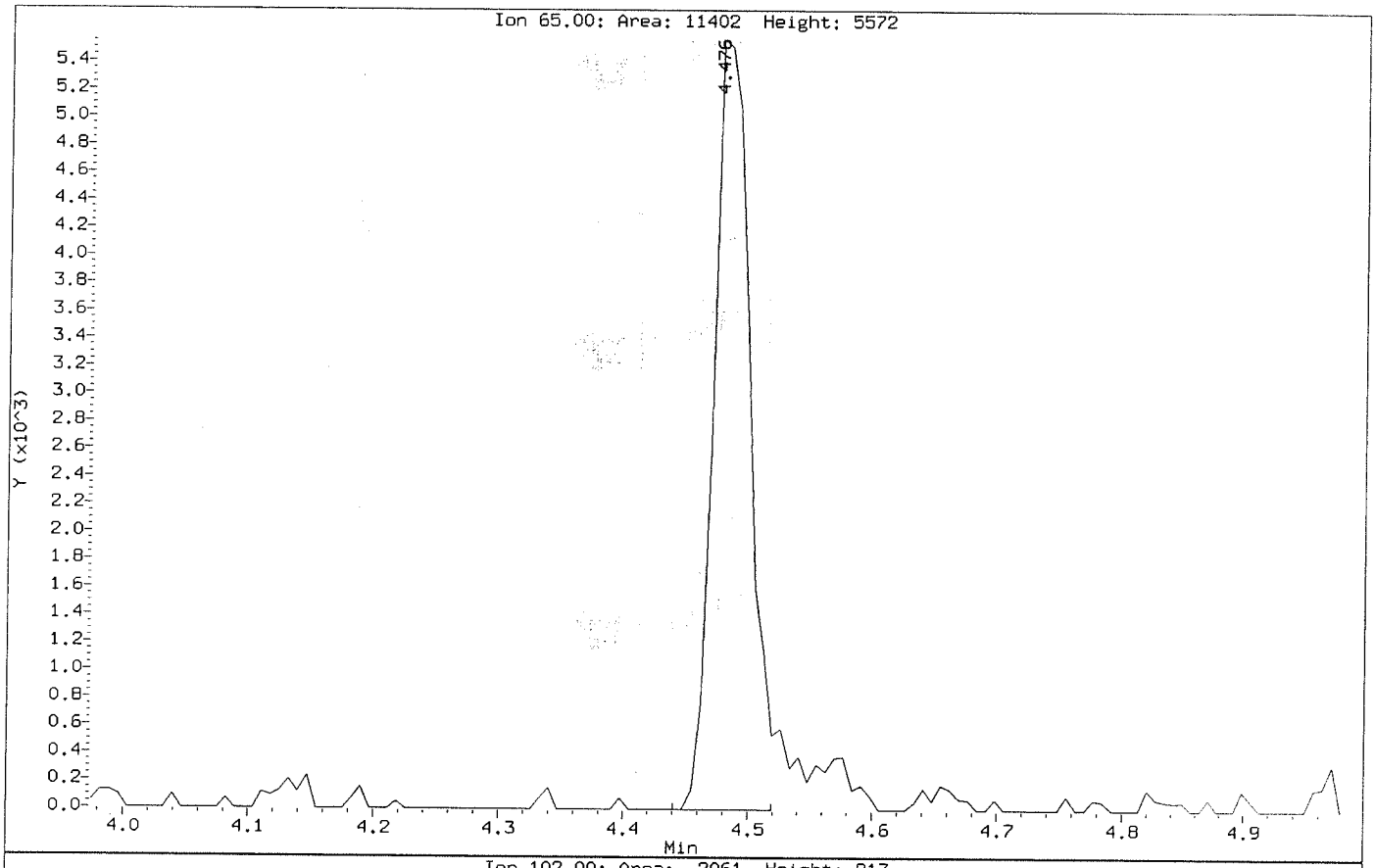
Compound: 1,2-Dichloroethane-d4
CAS Number: 17060-07-0

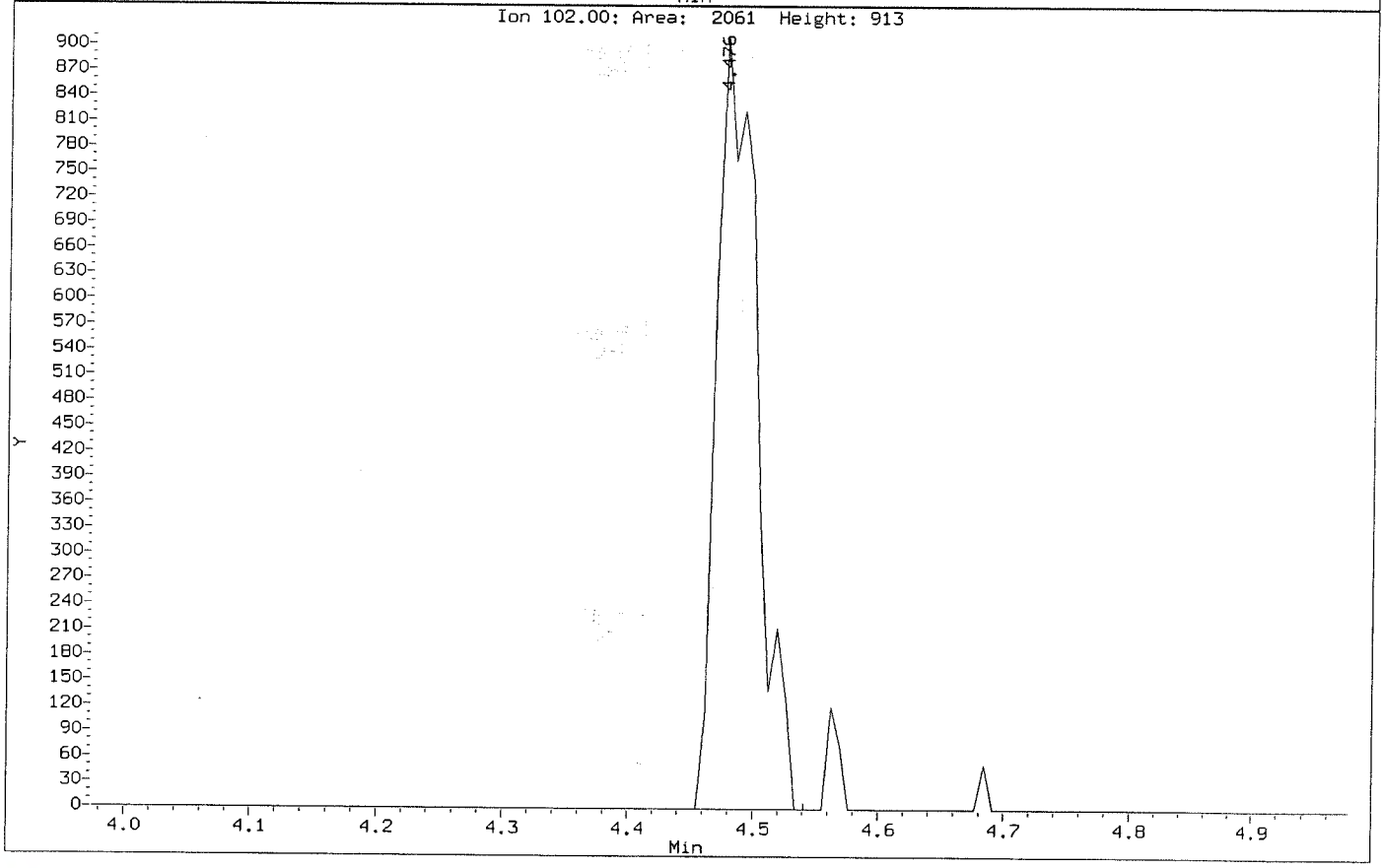




Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102506.D
Injection Date: 25-OCT-2020 18:27
Instrument: voa6.i
Client Sample ID: VSTD005

Compound: 1,2-Dichloroethane-d4
CAS Number: 17060-07-0





Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102507.D Page 1
Report Date: 30-Nov-2020 13:14

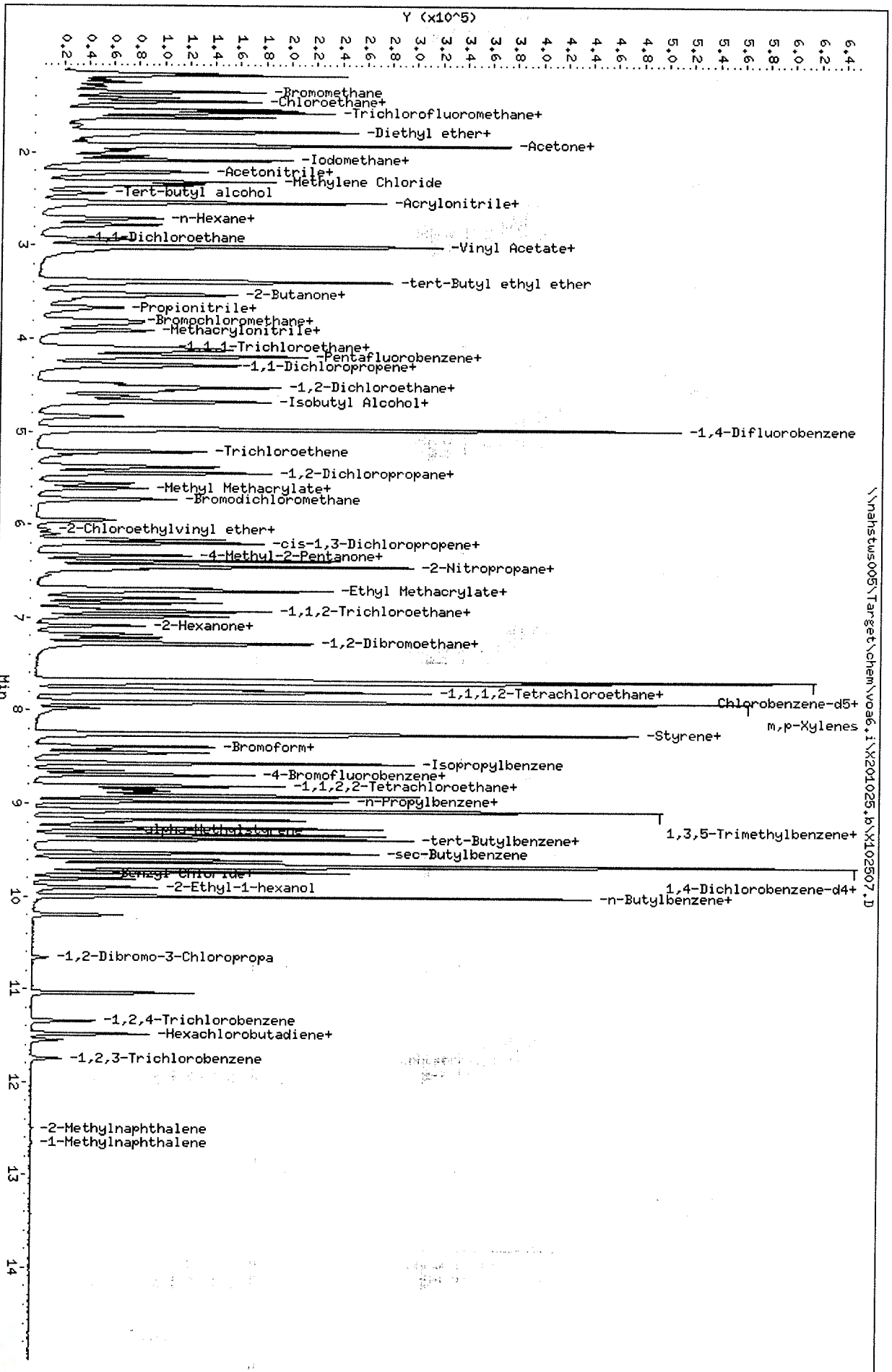
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201025.b\X102507.D
Lab Smp Id: VSTD020 Client Smp ID: VSTD020
Inj Date : 25-OCT-2020 18:48
Operator : PC Inst ID: voa6.i
Smp Info : VSTD020;VSTD020;1;6;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201025.b\8260W.m
Meth Date : 30-Nov-2020 13:14 voa6.i Quant Type: ISTD
Cal Date : 25-OCT-2020 18:27 Cal File: X102506.D
Als bottle: 10 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	136849	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	270104	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	237688	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	95866	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.070)	46344	20.0000	19.36
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	42426	20.0000	19.90
$ 30 Dibromofluoromethane	113	4.110	4.110	(0.981)	36260	20.0000	19.24
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	131486	20.0000	20.66
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	30161	20.0000	19.50
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	64169	20.0000	19.25
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	58734	20.0000	20.13
27 cis-1,2-Dichloroethene	96	3.537	3.537	(0.844)	41515	20.0000	19.38
17 Methylene Chloride	84	2.313	2.313	(0.552)	39812	20.0000	18.41
38 Trichloroethene	130	5.214	5.214	(1.049)	37487	20.0000	21.10
5 Vinyl Chloride	62	1.145	1.145	(0.273)	83926	20.0000	19.94



Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102507.D
Date : 25-OCT-2020 18:48
Client ID: VSTD020
Sample Info: VSTD020;VSTD020;1;6;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102508.D Page 1
Report Date: 30-Nov-2020 13:14

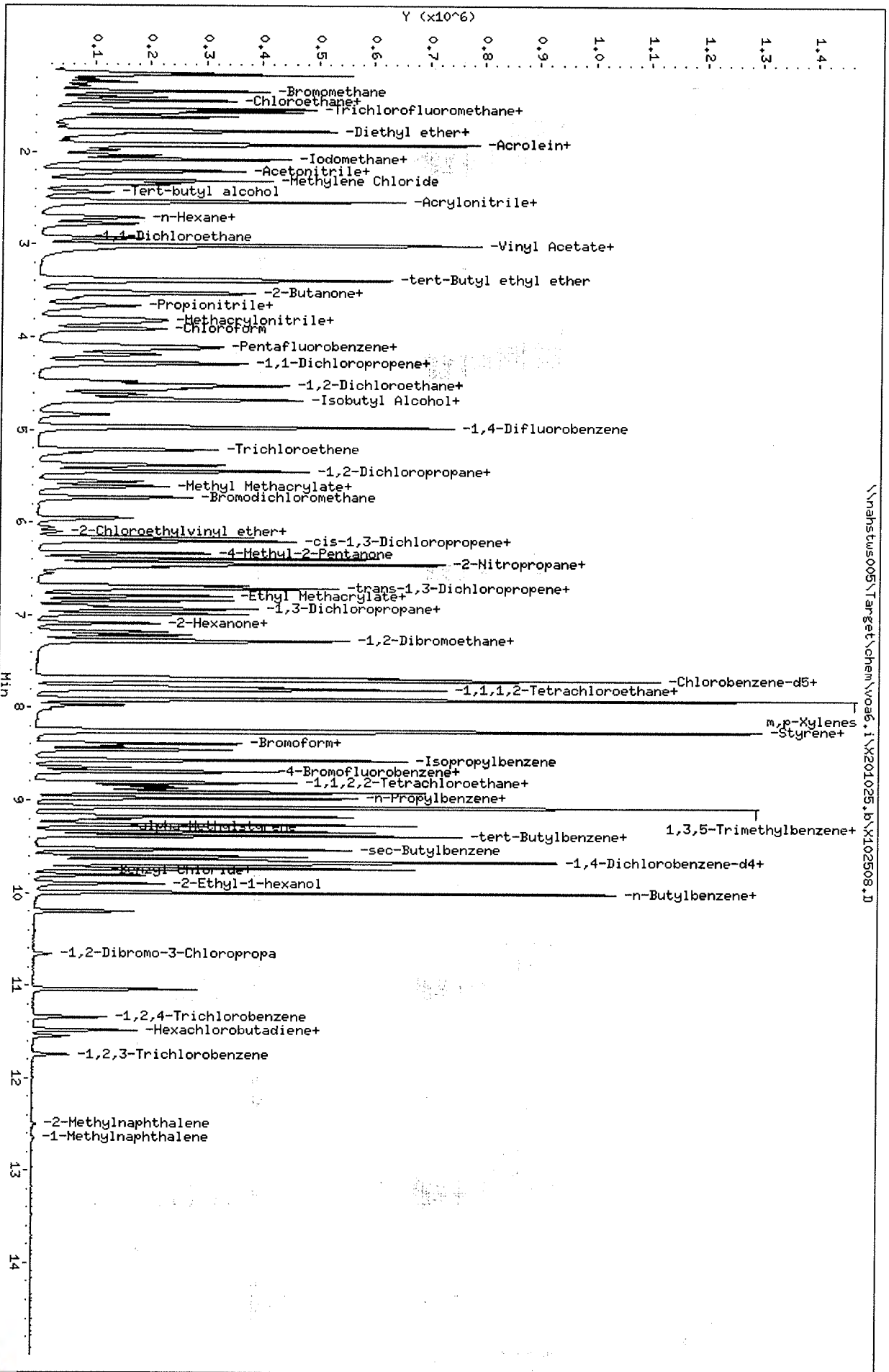
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201025.b\X102508.D
Lab Smp Id: VSTD050 Client Smp ID: VSTD050
Inj Date : 25-OCT-2020 19:09
Operator : PC Inst ID: voa6.i
Smp Info : VSTD050;VSTD050;1;7;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201025.b\8260W.m
Meth Date : 30-Nov-2020 13:14 voa6.i Quant Type: ISTD
Cal Date : 25-OCT-2020 18:48 Cal File: X102507.D
Als bottle: 11 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	144254	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	274905	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	251583	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	110676	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	123233	50.0000	48.79
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	108164	50.0000	45.14
$	30 Dibromofluoromethane	113	4.103	4.103	(0.979)	96973	50.0000	48.83
$	48 Toluene-d8	98	6.388	6.388	(0.833)	324408	50.0000	45.86
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	75198	50.0000	45.95
	11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	147185	50.0000	41.89
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	146952	50.0000	49.49
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	103361	50.0000	45.78
	17 Methylene Chloride	84	2.313	2.313	(0.552)	96633	50.0000	42.39
	38 Trichloroethene	130	5.214	5.214	(1.049)	86967	50.0000	48.09
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	189229	50.0000	42.66



Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102508.D
Date : 25-OCT-2020 19:09
Client ID: VSTD050
Sample Info: VSTD050;VSTD050;1;7;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102509.D Page 1
Report Date: 30-Nov-2020 13:14

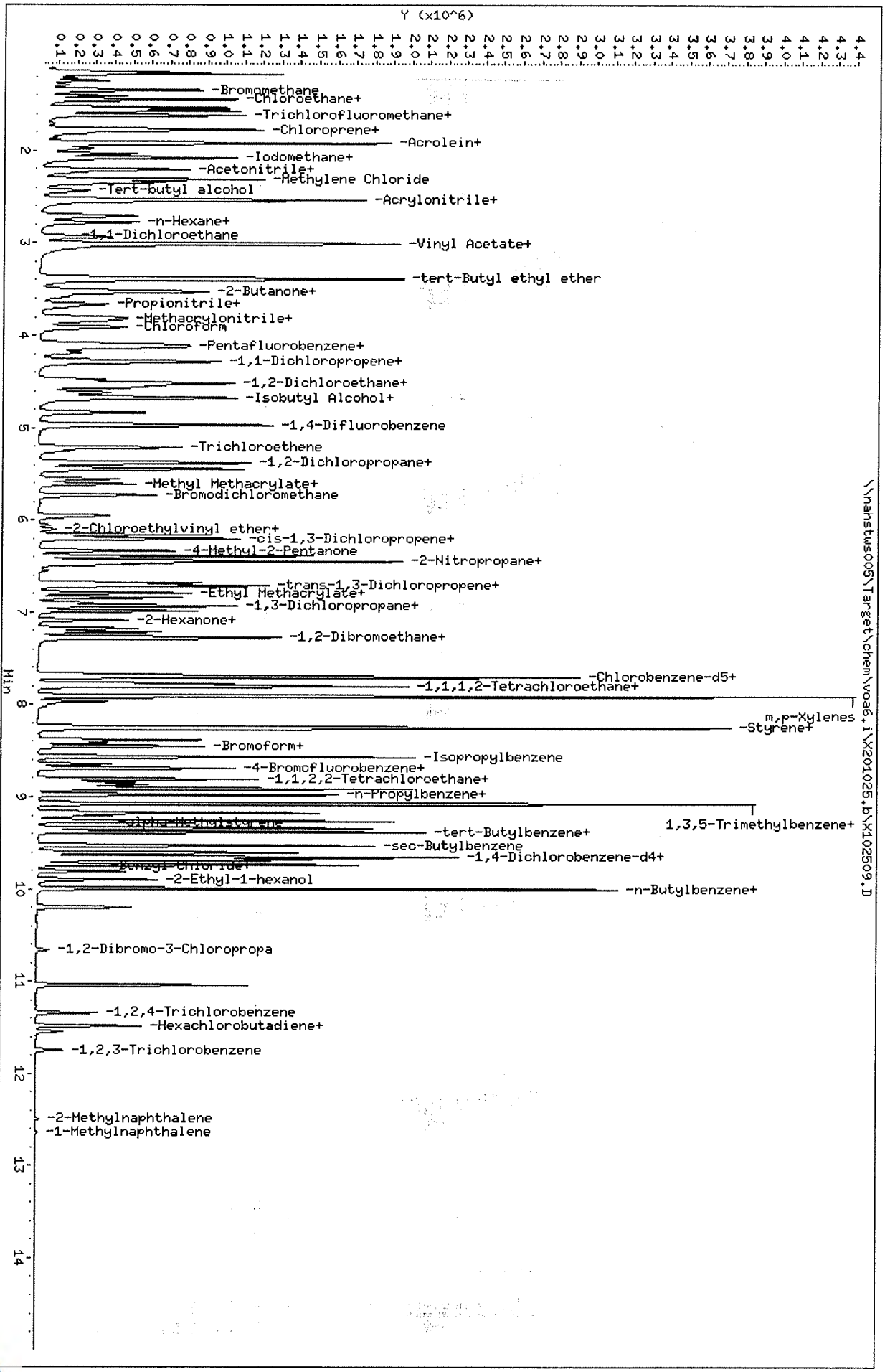
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201025.b\X102509.D
Lab Smp Id: VSTD100 Client Smp ID: VSTD100
Inj Date : 25-OCT-2020 19:29
Operator : PC Inst ID: voa6.i
Smp Info : VSTD100;VSTD100;1;8;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201025.b\8260W.m
Meth Date : 30-Nov-2020 13:14 voa6.i Quant Type: ISTD
Cal Date : 25-OCT-2020 19:09 Cal File: X102508.D
Als bottle: 12 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	139368	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	287668	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	269087	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	124024	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	245566	100.000	100.61
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	251093	100.000	95.64
$ 30 Dibromofluoromethane	113	4.111	4.111	(0.981)	210627	100.000	109.78
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	742483	100.000	96.18
53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	165395	100.000	94.49
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	326526	100.000	96.19
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	311960	100.000	100.40
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	227115	100.000	104.13
17 Methylene Chloride	84	2.313	2.313	(0.552)	212196	100.000	96.35
38 Trichloroethene	130	5.214	5.214	(1.049)	196700	100.000	103.96
5 Vinyl Chloride	62	1.145	1.145	(0.273)	428800	100.000	100.08



Data File: \\nahstws005\Target\chem\voa6,i\X201025,b\X102509.D
Date : 25-OCT-2020 19:29
Client ID: VSTD100
Sample Info: VSTD100;VSTD100;1;8;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6,i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102510.D Page 1
Report Date: 30-Nov-2020 13:14

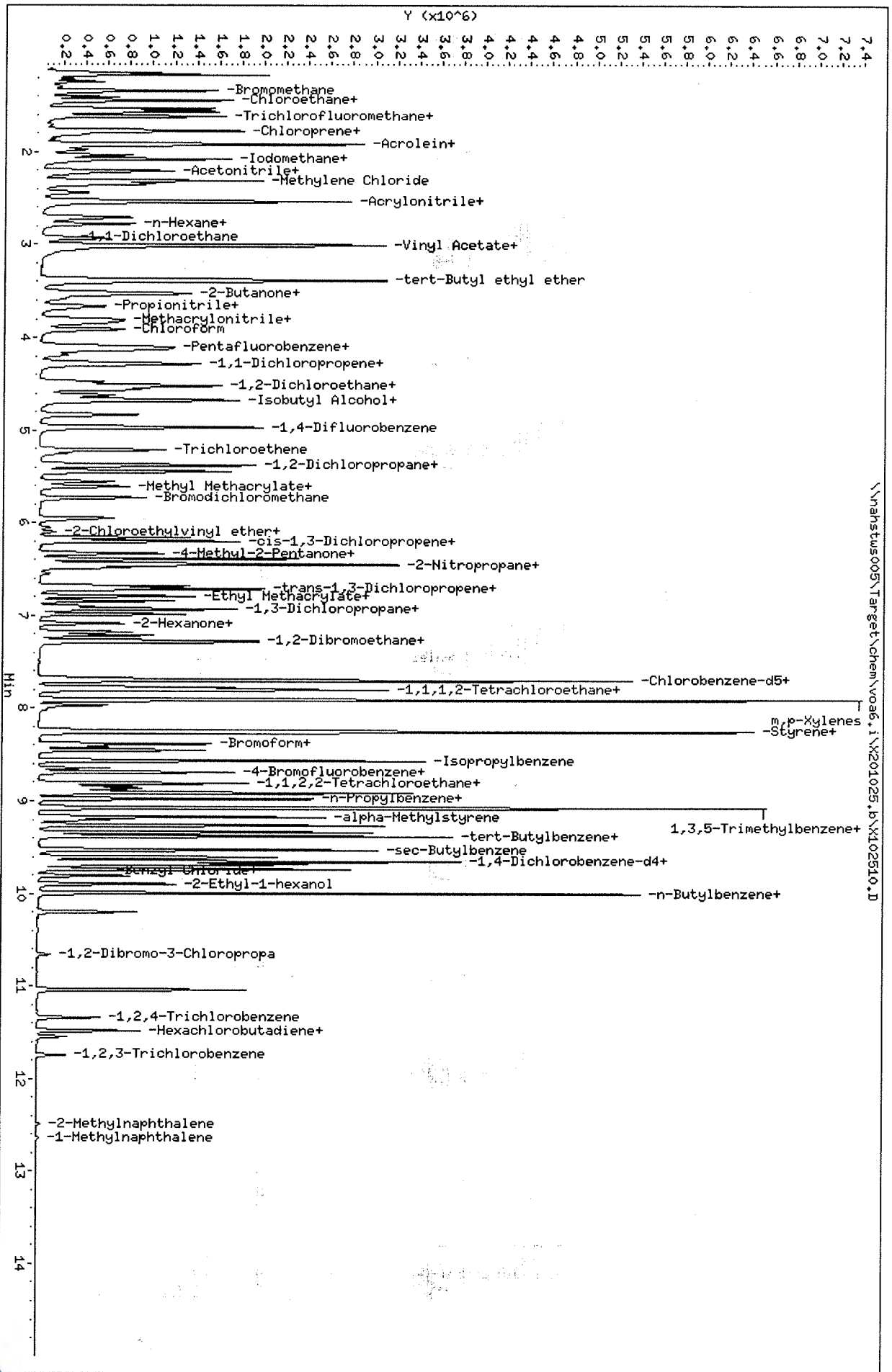
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201025.b\X102510.D
Lab Smp Id: VSTD150 Client Smp ID: VSTD150
Inj Date : 25-OCT-2020 19:50
Operator : PC Inst ID: voa6.i
Smp Info : VSTD150;VSTD150;1;9;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201025.b\8260W.m
Meth Date : 30-Nov-2020 13:14 voa6.i Quant Type: ISTD
Cal Date : 25-OCT-2020 19:29 Cal File: X102509.D
Als bottle: 13 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	145183	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	325175	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	284217	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	137394	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	392180	150.000	154.23
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	410237	150.000	146.85
$ 30 Dibromofluoromethane	113	4.111	4.111	(0.981)	314986	150.000	157.60
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	1192701	150.000	145.39
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	264336	150.000	142.97
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	498515	150.000	140.98
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	472013	150.000	134.39
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	342494	150.000	150.75
17 Methylene Chloride	84	2.313	2.313	(0.552)	335712	150.000	146.33
38 Trichloroethene	130	5.214	5.214	(1.049)	309579	150.000	144.74
5 Vinyl Chloride	62	1.145	1.145	(0.273)	655246	150.000	146.80



Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102510.D
Date : 25-OCT-2020 19:50
Client ID: VSTD150
Sample Info: VSTD150;VSTD150;1;9;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102511.D Page 1
Report Date: 30-Nov-2020 13:14

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201025.b\X102511.D
Lab Smp Id: VSTD200 Client Smp ID: VSTD200
Inj Date : 25-OCT-2020 20:11
Operator : PC Inst ID: voa6.i
Smp Info : VSTD200;VSTD200;1;10;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201025.b\8260W.m
Meth Date : 30-Nov-2020 13:14 voa6.i Quant Type: ISTD
Cal Date : 25-OCT-2020 19:50 Cal File: X102510.D
Als bottle: 14 Calibration Sample, Level: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

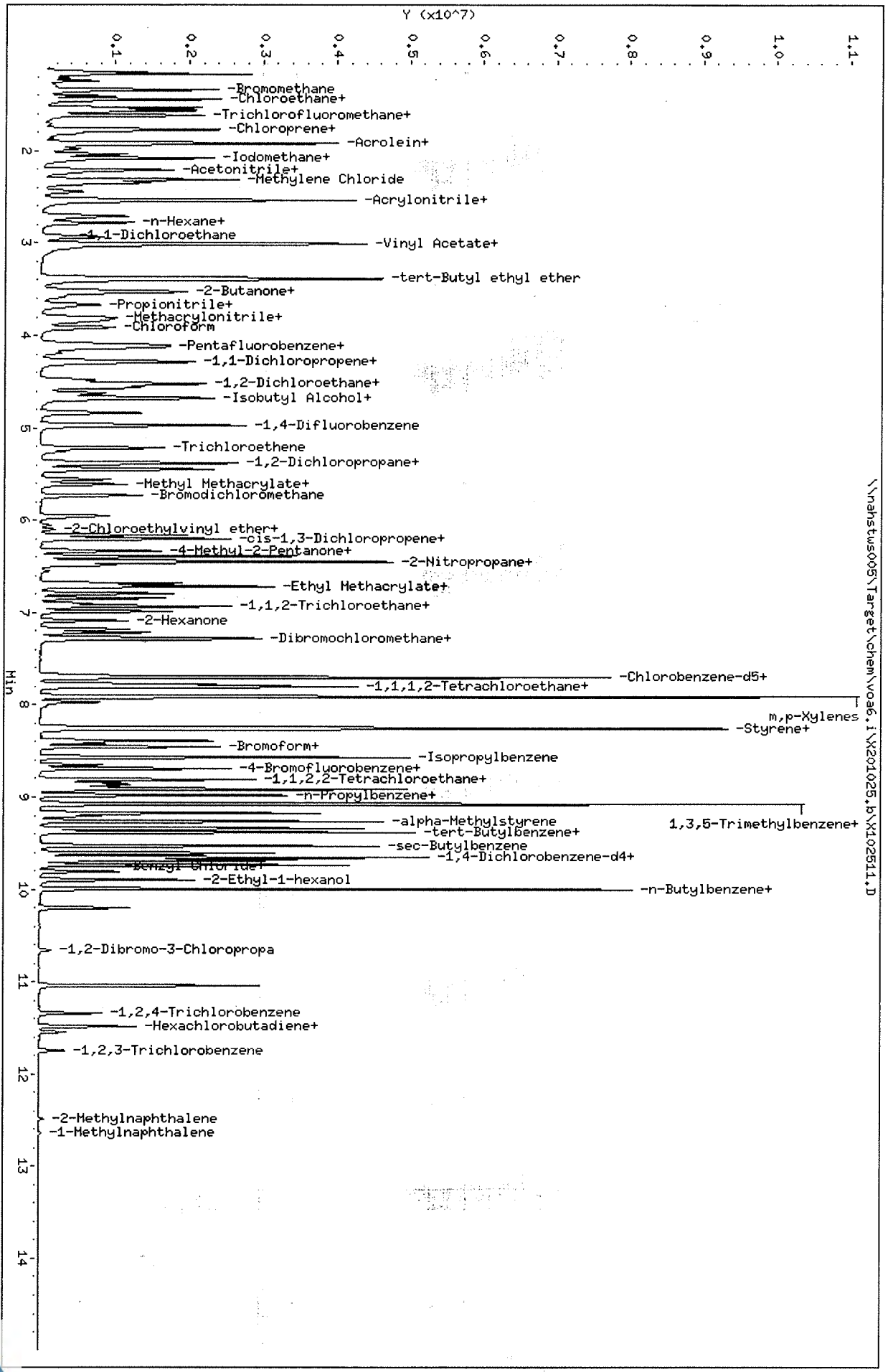
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	150836	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	333359	50.0000	
* 47 Chlorobenzene-d5	117	7.678	7.678	(1.000)	292571	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	146057	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.068)	519723	200.000	196.72
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.132)	592427	200.000	205.22(A)
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	455615	200.000	219.42(A)
$ 48 Toluene-d8	98	6.388	6.388	(0.832)	1743873	200.000	205.78(A)
53 1,1,2-Trichloroethane	83	6.847	6.847	(0.892)	365695	200.000	192.15
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	683631	200.000	186.08
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	677170	200.000	188.08
27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.843)	499766	200.000	211.73(A)
17 Methylene Chloride	84	2.313	2.313	(0.552)	462731	200.000	194.13
38 Trichloroethene	130	5.214	5.214	(1.049)	427628	200.000	195.03
5 Vinyl Chloride	62	1.145	1.145	(0.273)	862323	200.000	185.96

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.



Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102511.D
Date : 25-OCT-2020 20:11
Client ID: VSTD200
Sample Info: VSTD200;VSTD200;1;10;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

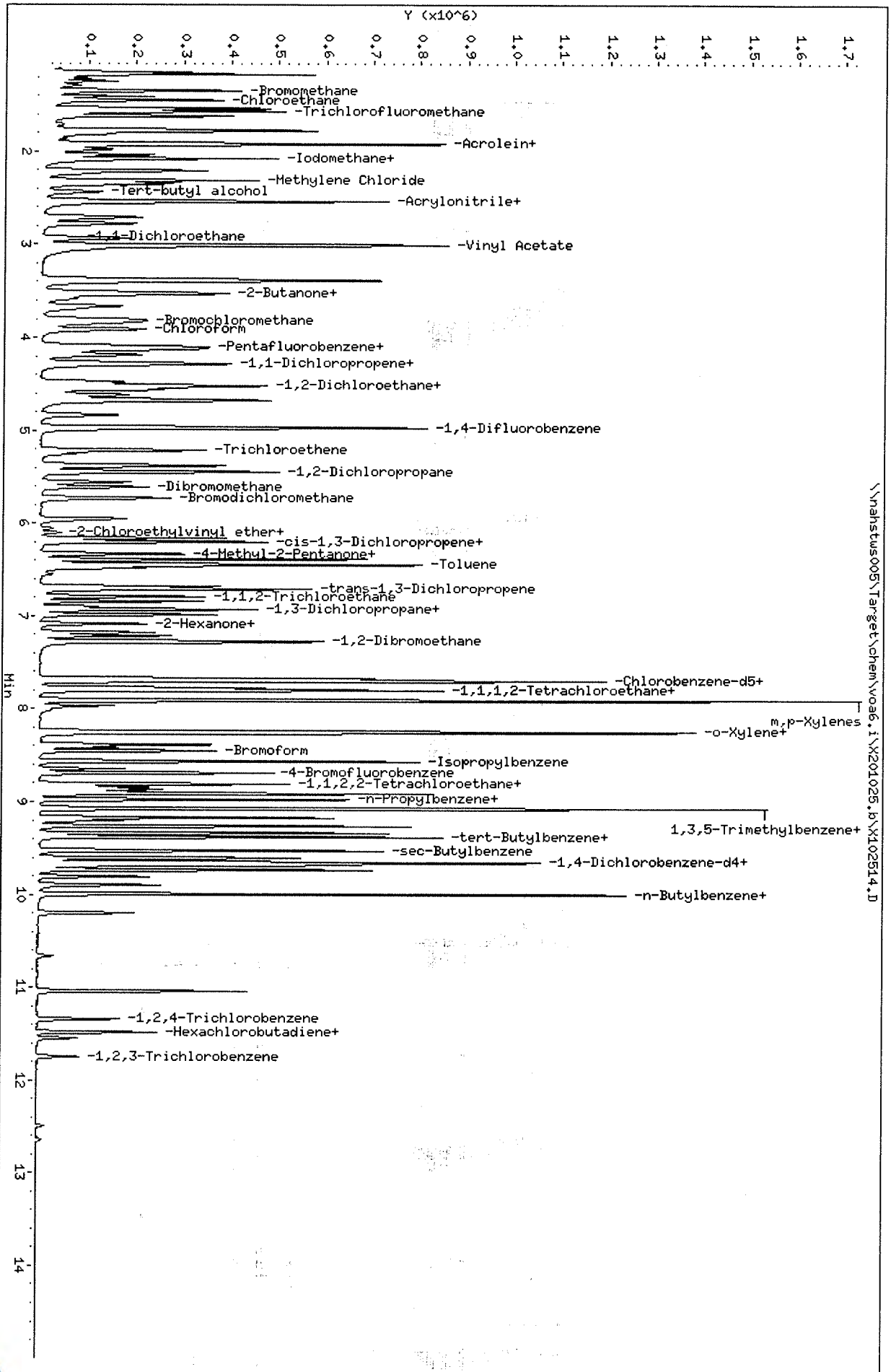
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201025.b\X102514.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 25-OCT-2020 21:14
Operator : PC Inst ID: voa6.i
Smp Info : VSTD050;VSTD050;2;;ICV
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201025.b\8260W.m
Meth Date : 30-Nov-2020 13:14 voa6.i Quant Type: ISTD
Cal Date : 25-OCT-2020 20:11 Cal File: X102511.D
Als bottle: 17 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	140573	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	287781	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.678	(1.000)	266338	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.662	(1.000)	112403	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.483	4.476	(1.070)	124058	50.4098	50.40
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	118719	46.7309	46.73
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.979)	98567	50.9348	50.93
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	349750	46.6804	46.68
53 1,1,2-Trichloroethane	83	6.840	6.847	(0.892)	76481	44.1456	44.14
11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	158166	46.1969	46.19
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	143965	46.3187	46.31
27 cis-1,2-Dichloroethene	96	3.537	3.530	(0.844)	102698	46.6863	46.68
17 Methylene Chloride	84	2.312	2.313	(0.552)	97503	43.8933	43.89
38 Trichloroethene	130	5.214	5.214	(1.049)	90499	47.8118	47.81
5 Vinyl Chloride	62	1.145	1.145	(0.273)	199528	46.1698	46.16



Data File: \\nahstws005\Target\chem\voa6.i\X201025.b\X102514.D
Date : 25-OCT-2020 21:14
Client ID: ICV
Sample Info: VSTD050;VSTD050;2;;ICV
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

MSVOA06 -Logbook

Batch: 42425 **Analyst:** Presenta Cabascango

Date: 10-26-2020 **Reviewer:**

Method: 8260 **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	10-26-2020 10:25 am	1.00	50 mL	50 mL	X102601.D	Liquid	Y	NA
	Auto find/ purged									
2	CCV	CCV	10-26-2020 10:46 am	1.00	50 mL	50 mL	X102602a.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
3	CCV	CCV	10-26-2020 11:07 am	1.00	50 mL	50 mL	X102603.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
4	CCB	SAMP	10-26-2020 11:28 am	1.00	50 mL	50 mL	X102604.D	Liquid	Y	NA
5	VLCSW-201026	LCS	10-26-2020 11:49 am	1.00	50 mL	50 mL	X102605.D	Liquid	Y	NA
	4.0 uL cal std/50 mL DI									
6	BLK	SAMP	10-26-2020 12:10 pm	1.00	50 mL	50 mL	X102606.D	Liquid	Y	NA
7	VBLKW-201026	MBLK	10-26-2020 12:31 pm	1.00	50 mL	50 mL	X102607.D	Liquid	Y	NA
8	HS20100719-07	SAMP	10-26-2020 12:52 pm	1.00	50 mL	50 mL	X102608.D	Liquid	Y	<2
9	HS20100719-03	SAMP	10-26-2020 01:13 pm	1.00	50 mL	50 mL	X102609.D	Liquid	Y	<2
10	HS20100719-06	SAMP	10-26-2020 01:34 pm	1.00	50 mL	50 mL	X102610.D	Liquid	Y	<2
11	HS20100719-04n/r	SAMP	10-26-2020 01:55 pm	1.00	50 mL	50 mL	X102611.D	Liquid	Y	<2
12	HS20100719-02	SAMP	10-26-2020 02:16 pm	5.00	10 mL	50 mL	X102612.D	Liquid	Y	<2
13	HS20100719-05n/r	SAMP	10-26-2020 02:38 pm	50.00	1 mL	50 mL	X102613.D	Liquid	Y	<2
14	HS20100719-05	SAMP	10-26-2020 02:59 pm	5.00	10 mL	50 mL	X102614.D	Liquid	Y	<2
15	HS20100924-31	SAMP	10-26-2020 03:20 pm	5.00	10 mL	50 mL	X102615.D	Liquid	Y	<2
16	HS20100719-05	SAMP	10-26-2020 03:41 pm	200.0(	250 µL	50 mL	X102616.D	Liquid	Y	<2
17	HS20100719-05MS	MS	10-26-2020 04:02 pm	200.0(	250 µL	50 mL	X102617.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
18	HS20100719-05MSD	MSD	10-26-2020 04:23 pm	200.0(	250 µL	50 mL	X102618.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
19	HS20100719-04	SAMP	10-26-2020 04:44 pm	10.00	5 mL	50 mL	X102619.D	Liquid	Y	<2
20	HS20100719-04	SAMP	10-26-2020 05:05 pm	100.0(	500 µL	50 mL	X102620.D	Liquid	Y	<2
21	HS20100719-02	SAMP	10-26-2020 05:26 pm	250.0(	200 µL	50 mL	X102621.D	Liquid	Y	<2
22	HS20100719-06	SAMP	10-26-2020 05:47 pm	5.00	10 mL	50 mL	X102622.D	Liquid	Y	<2
23	HS20100924-31	SAMP	10-26-2020 06:08 pm	50.00	1 mL	50 mL	X102623.D	Liquid	Y	<2
24	HS20100779-10	SAMP	10-26-2020 06:29 pm	1.00	50 mL	50 mL	X102624.D	Liquid	Y	<2
25	HS20100779-01	SAMP	10-26-2020 06:50 pm	1.00	50 mL	50 mL	X102625.D	Liquid	Y	<2
26	HS20100779-08	SAMP	10-26-2020 07:11 pm	1.00	50 mL	50 mL	X102626.D	Liquid	Y	<2
27	HS20100779-06	SAMP	10-26-2020 07:32 pm	10.00	5 mL	50 mL	X102627.D	Liquid	Y	<2
28	HS20100779-06	SAMP	10-26-2020 07:53 pm	100.0(	500 µL	50 mL	X102628.D	Liquid	Y	NA
29	CCV-END	CCV	10-26-2020 08:14 pm	1.00	50 mL	50 mL	X102629.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
30	BFB	TUNE	10-26-2020 08:35 pm	1.00	50 mL	50 mL	Y102601.D	Liquid	Y	NA
	Auto find/ purged									
31	CCV	CCV	10-26-2020 08:56 pm	1.00	50 mL	50 mL	Y102602a.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
32	CCV	CCV	10-26-2020 09:17 pm	1.00	50 mL	50 mL	Y102603.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
33	CCB	SAMP	10-26-2020 09:38 pm	1.00	50 mL	50 mL	Y102604.D	Liquid	Y	NA
34	VLCSW-201026	LCS	10-26-2020 09:59 pm	1.00	50 mL	50 mL	Y102605.D	Liquid	Y	NA
	4.0 uL cal std/50 mL DI									
35	VBLKW-201026	MBLK	10-26-2020 10:20 pm	1.00	50 mL	50 mL	Y102606.D	Liquid	Y	NA

MSVOA06 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
36	VBLKW-201026	MBLK	10-26-2020 10:41 pm	1.00	50 mL	50 mL	Y102607.D	Liquid	Y	NA
37	HS20101172-08	SAMP	10-26-2020 11:02 pm	1.00	50 mL	50 mL	Y102608.D	Liquid	Y	NA
38	HS20101172-09	SAMP	10-26-2020 11:23 pm	1.00	50 mL	50 mL	Y102609.D	Liquid	Y	NA
39	HS20101174-06	SAMP	10-26-2020 11:44 pm	1.00	50 mL	50 mL	Y102610.D	Liquid	Y	NA
40	HS20101174-07	SAMP	10-27-2020 12:05 am	1.00	50 mL	50 mL	Y102611.D	Liquid	Y	NA
41	HS20101172-01	SAMP	10-27-2020 12:27 am	1.00	50 mL	50 mL	Y102612.D	Liquid	Y	NA
42	HS20101172-01MS	MS	10-27-2020 12:48 am	1.00	50 mL	50 mL	Y102613.D	Liquid	Y	NA
	3.50 uL cal std/40 mL samp									
43	HS20101172-01MSD	MSD	10-27-2020 01:09 am	1.00	50 mL	50 mL	Y102614.D	Liquid	Y	NA
	3.50 uL cal std/40 mL samp									
44	HS20101260-06	SAMP	10-27-2020 01:30 am	1.00	50 mL	50 mL	Y102615.D	Liquid	Y	NA
45	HS20101172-02	SAMP	10-27-2020 01:51 am	1.00	50 mL	50 mL	Y102616.D	Liquid	Y	NA
46	HS20101172-03	SAMP	10-27-2020 02:12 am	1.00	50 mL	50 mL	Y102617.D	Liquid	Y	NA
47	HS20101172-04	SAMP	10-27-2020 02:33 am	1.00	50 mL	50 mL	Y102618.D	Liquid	Y	NA
48	HS20101172-05	SAMP	10-27-2020 02:54 am	1.00	50 mL	50 mL	Y102619.D	Liquid	Y	NA
49	HS20101172-06	SAMP	10-27-2020 03:15 am	1.00	50 mL	50 mL	Y102620.D	Liquid	Y	NA
50	HS20101172-07	SAMP	10-27-2020 03:36 am	1.00	50 mL	50 mL	Y102621.D	Liquid	Y	NA
51	HS20101174-01	SAMP	10-27-2020 03:57 am	1.00	50 mL	50 mL	Y102622.D	Liquid	Y	NA
52	HS20101174-02	SAMP	10-27-2020 04:18 am	1.00	50 mL	50 mL	Y102623.D	Liquid	Y	NA
53	HS20101174-03	SAMP	10-27-2020 04:39 am	1.00	50 mL	50 mL	Y102624.D	Liquid	Y	NA
54	HS20101174-04	SAMP	10-27-2020 05:00 am	1.00	50 mL	50 mL	Y102625.D	Liquid	Y	NA
55	HS20101174-05	SAMP	10-27-2020 05:21 am	1.00	50 mL	50 mL	Y102626.D	Liquid	Y	NA
56	HS20101239-27	SAMP	10-27-2020 05:43 am	1.00	50 mL	50 mL	Y102627.D	Liquid	Y	NA
57	HS20101239-28	SAMP	10-27-2020 06:04 am	1.00	50 mL	50 mL	Y102628.D	Liquid	Y	NA
58	HS20101239-29	SAMP	10-27-2020 06:25 am	1.00	50 mL	50 mL	Y102629.D	Liquid	Y	NA
59	BLANK	SAMP	10-27-2020 06:46 am	1.00	50 mL	50 mL	Y102630.D	Liquid	Y	NA

Chemical	Value
SURR SPK ID	31106-51-06
IS ID	31106-51-06
CAL STD ID	31106-53-01/02
BFB ID	31106-51-06
pH Paper	634-64-10

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100779

	CLIENT SAMPLE NO.	SMC1 #	SMC2 #	SMC3 (TOL) #	OTHER (DCE) #	TOT OUT
01	VLCSW-201026	93	103	97	103	0
02	VBLKW-201026	86	88	97	85	0
03	HS20100719-05	87	88	93	85	0
04	HS20100719-05	88	88	94	85	0
05	HS20100779-10	86	86	97	85	0
06	HS20100779-01	86	89	101	87	0
07	HS20100779-08	88	86	99	85	0
08	HS20100779-06	86	89	98	86	0
09	HS20100779-06	87	84	101	82	0
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						

		QC LIMITS
SMC1	= 4-Bromofluorobenzene	(70-130)
SMC2	= Dibromofluoromethane	(70-130)
SMC3 (TOL)	= Toluene-d8	(0-130)
OTHER(DCE)	= 1,2-Dichloroethane-d4	(0-130)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 4
VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

VBLKW-201026

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100779

Lab File ID: X102607 Lab Sample ID: VBLKW-201026

Date Analyzed: 10/26/20 Time Analyzed: 1231

GC Column: DB624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Instrument ID: VOA6

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VLCSW-201026	VLCSW-201026	X102605	1149
02	HS20100719-0	HS20100719-05M	X102617	1602
03	HS20100719-0	HS20100719-05M	X102618	1623
04	HS20100779-1	HS20100779-10	X102624	1829
05	HS20100779-0	HS20100779-01	X102625	1850
06	HS20100779-0	HS20100779-08	X102626	1911
07	HS20100779-0	HS20100779-06	X102627	1932
08	HS20100779-0	HS20100779-06	X102628	1953
09				
10				
11				
12				
13				
14				
15				
16				
17				
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19				
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21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100779

Lab File ID: X102601 BFB Injection Date: 10/26/20

Instrument ID: VOA6 BFB Injection Time: 1025

GC Column: DB624 ID: 0.25 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	24.8
75	30.0 - 60.0% of mass 95	58.6
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.9
173	Less than 2.0% of mass 174	1.2 (1.4)1
174	Greater than 50.0% of mass 95	83.0
175	5.0 - 9.0% of mass 174	6.3 (7.6)1
176	95.0 - 101.0% of mass 174	80.7 (97.2)1
177	5.0 - 9.0% of mass 176	5.8 (7.1)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CCV	CCV	X102603	10/26/20	1107
02	VLCSW-201026	VLCSW-201026	X102605	10/26/20	1149
03	VBLKW-201026	VBLKW-201026	X102607	10/26/20	1231
04	HS20100719-0	HS20100719-05M	X102617	10/26/20	1602
05	HS20100719-0	HS20100719-05M	X102618	10/26/20	1623
06	HS20100779-1	HS20100779-10	X102624	10/26/20	1829
07	HS20100779-0	HS20100779-01	X102625	10/26/20	1850
08	HS20100779-0	HS20100779-08	X102626	10/26/20	1911
09	HS20100779-0	HS20100779-06	X102627	10/26/20	1932
10	HS20100779-0	HS20100779-06	X102628	10/26/20	1953
11	CCV-END	CCV-END	X102629	10/26/20	2014
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100779

Instrument ID: VOA6 Calibration Date: 10/26/20 Time: 1107

Lab File ID: X102603 Init. Calib. Date(s): 10/25/20 10/25/20

Init. Calib. Times: 1642 2011

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
1,2-Dichloroethane	0.5400000	0.5286637	0.5286637	0.1	2.10	20.00	AVRG
Trichloroethene	0.3290000	0.3122459	0.3122459	0.2	5.09	20.00	AVRG
Methylene Chloride	0.7900000	0.6843770	0.6843770	0.1	13.37	20.00	AVRG
cis-1,2-Dichloroethene	0.7820000	0.7254736	0.7254736	0.1	7.23	20.00	AVRG
Vinyl Chloride	1.5370000	1.3600969	1.3600969	0.1	11.51	20.00	AVRG
1,1,2-Trichloroethane	0.3250000	0.2968675	0.2968675	0.1	8.66	20.00	AVRG
1,1-Dichloroethene	1.2180000	1.0596858	1.0596858	0.1	13.00	20.00	AVRG
4-Bromofluorobenzene	46.902598	50.000000	0.4474559	0.1	6.19	20.00	LINR
Dibromofluoromethane	0.6880000	0.7019917	0.7019917	0.1	-2.03	20.00	AVRG
Toluene-d8	46.100052	50.000000	1.2962311	0.1	7.80	20.00	LINR
1,2-Dichloroethane-d4	49.160843	50.000000	0.8606376	0.1	1.68	20.00	LINR

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100779

Instrument ID: VOA6 Calibration Date: 10/26/20 Time: 2014

Lab File ID: X102629 Init. Calib. Date(s): 10/25/20 10/25/20

Init. Calib. Times: 1642 2011

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
1,2-Dichloroethane	0.5400000	0.4984226	0.4984226	0.1	7.70	50.00	AVRG
Trichloroethene	0.3290000	0.3095995	0.3095995	0.2	5.90	50.00	AVRG
Methylene Chloride	0.7900000	0.6582911	0.6582911	0.1	16.67	50.00	AVRG
cis-1,2-Dichloroethene	0.7820000	0.7131454	0.7131454	0.1	8.80	50.00	AVRG
Vinyl Chloride	1.5370000	1.2766780	1.2766780	0.1	16.94	50.00	AVRG
1,1,2-Trichloroethane	0.3250000	0.2945492	0.2945492	0.1	9.37	50.00	AVRG
1,1-Dichloroethene	1.2180000	1.0029701	1.0029701	0.1	17.65	50.00	AVRG
4-Bromofluorobenzene	46.957202	50.000000	0.4479999	0.1	6.08	50.00	LINR
Dibromofluoromethane	0.6880000	0.6941446	0.6941446	0.1	-0.89	50.00	AVRG
Toluene-d8	45.114201	50.000000	1.2674357	0.1	9.77	50.00	LINR
1,2-Dichloroethane-d4	51.495136	50.000000	0.9015288	0.1	-2.99	50.00	LINR

FORM VII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100779

Lab File ID (Standard): X102603 Date Analyzed: 10/26/20

Instrument ID: VOA6 Time Analyzed: 1107

GC Column: DB624 ID: 0.18 (mm) Heated Purge: (Y/N) N

		IS1(DFB) AREA #	RT #	IS2(CBZ) AREA #	RT #	IS3(DCB) AREA #	RT #
	12 HOUR STD	293682	4.97	274988	7.67	124539	9.66
	UPPER LIMIT	587364	5.47	549976	8.17	249078	10.16
	LOWER LIMIT	146841	4.47	137494	7.17	62270	9.16
	CLIENT SAMPLE NO.						
01	VLCSW-201026	260345	4.97	244745	7.67	103738	9.67
02	VBLKW-201026	235472	4.97	206693	7.67	80104	9.67
03	HS20100719-05	250963	4.97	232511	7.67	93700	9.66
04	HS20100719-05	251796	4.97	227316	7.67	95096	9.66
05	HS20100779-10	242616	4.97	216835	7.67	83640	9.67
06	HS20100779-01	243413	4.97	205041	7.67	74168	9.67
07	HS20100779-08	242489	4.97	208563	7.67	82003	9.67
08	HS20100779-06	243306	4.97	205573	7.67	73972	9.67
09	HS20100779-06	237450	4.97	201993	7.67	77237	9.67
10							
11							
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16							
17							
18							
19							
20							

IS1 (DFB) = 1,4-Difluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100779

Lab File ID (Standard): X102603 Date Analyzed: 10/26/20

Instrument ID: VOA6 Time Analyzed: 1107

GC Column: DB624 ID: 0.18 (mm) Heated Purge: (Y/N) N

		IS4 AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	149818	4.19				
	UPPER LIMIT	299636	4.69				
	LOWER LIMIT	74909	3.69				
	CLIENT SAMPLE NO.						
01	VLCSW-201026	131163	4.19				
02	VBLKW-201026	132711	4.19				
03	HS20100719-05	136319	4.19				
04	HS20100719-05	135876	4.19				
05	HS20100779-10	139743	4.19				
06	HS20100779-01	139858	4.20				
07	HS20100779-08	139395	4.19				
08	HS20100779-06	136820	4.19				
09	HS20100779-06	140848	4.19				
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS4 = Pentafluorobenzene

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

FORM VIII VOA

Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102601.D

Date : 26-OCT-2020 10:25

Client ID: BFB

Instrument: voa6.i

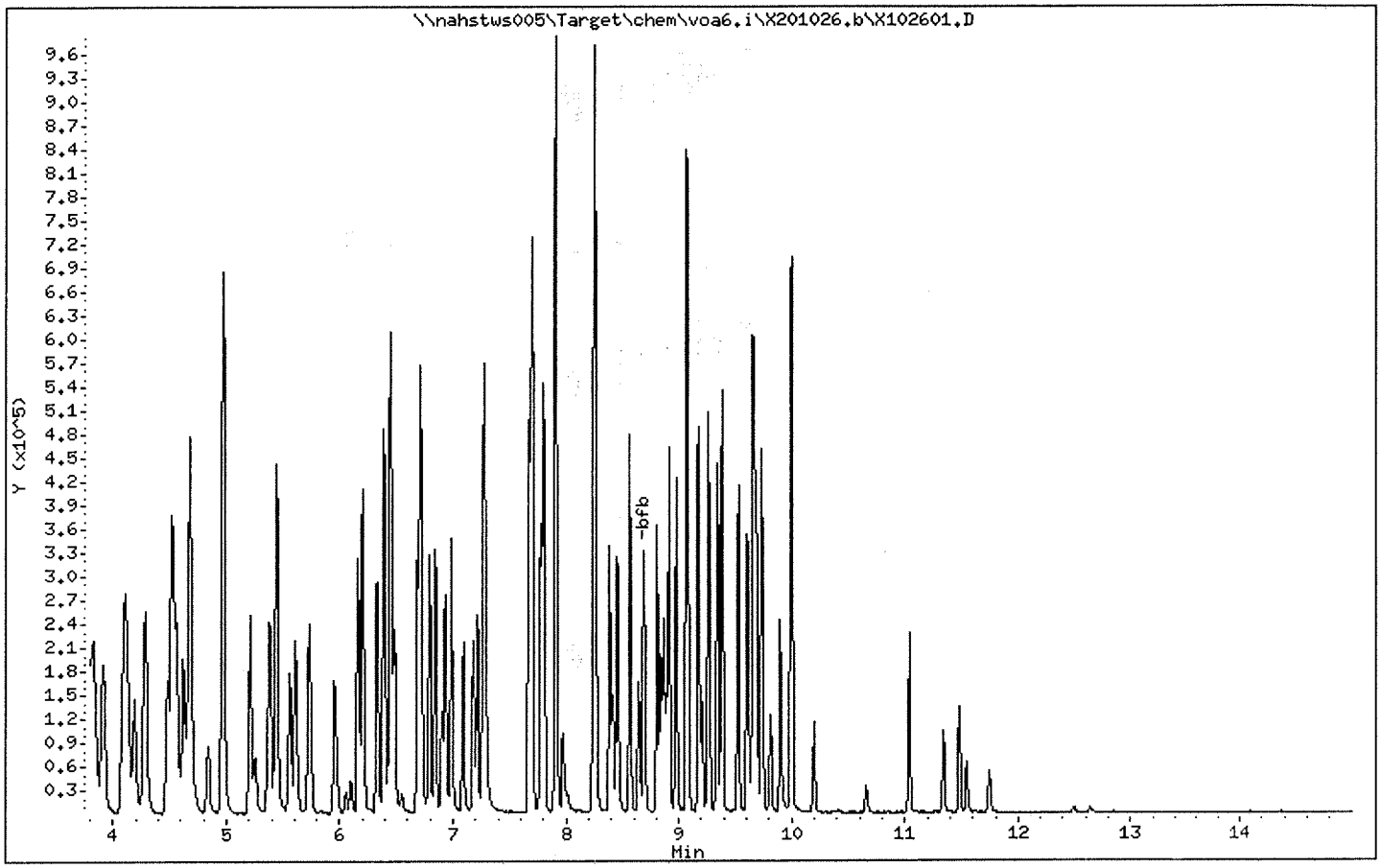
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102601.D

Date : 26-OCT-2020 10:25

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

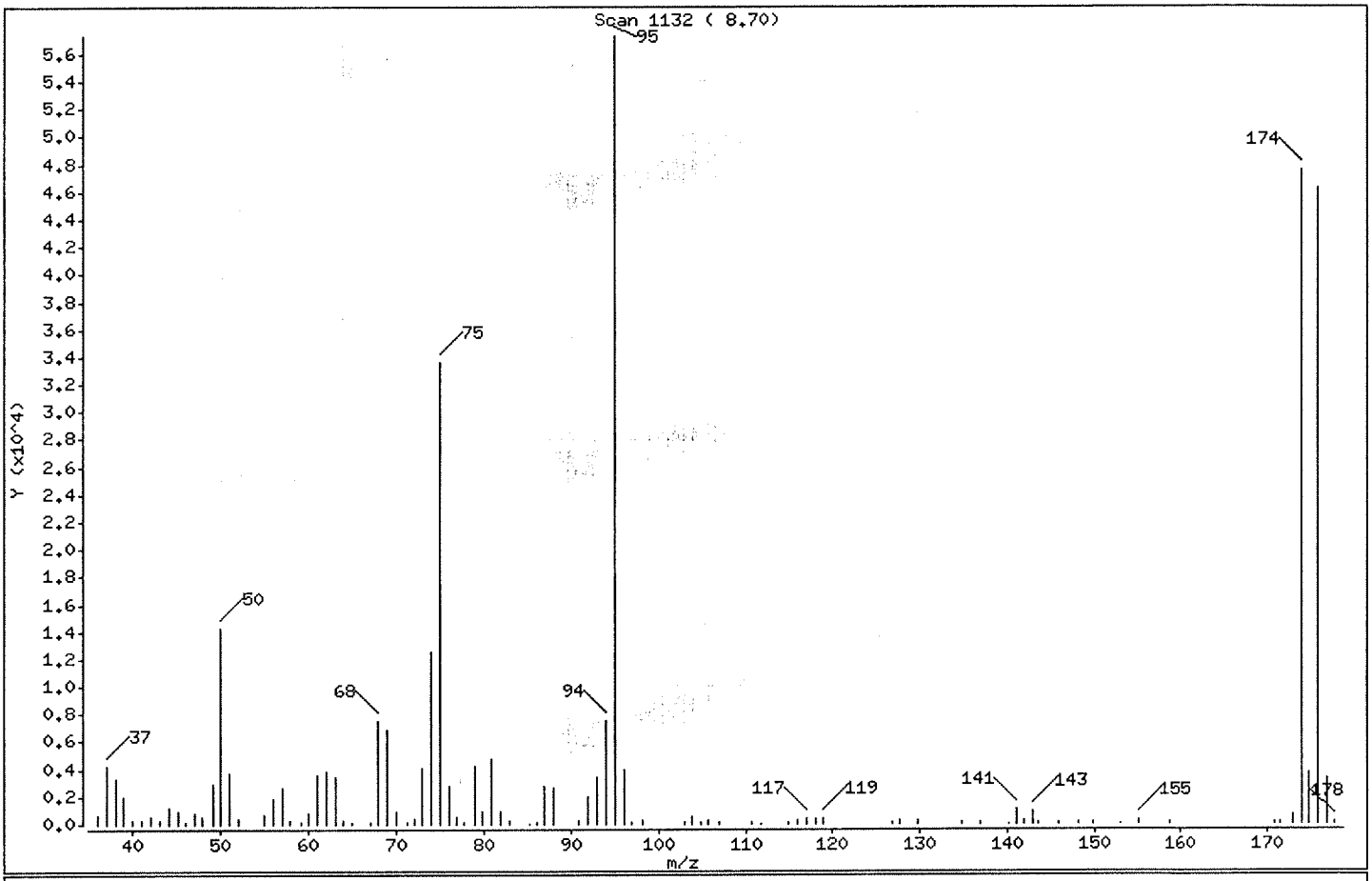
Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	24.83
75	30.00 - 60.00% of mass 95	58.63
96	5.00 - 9.00% of mass 95	6.90
173	Less than 2.00% of mass 174	1.20 (1.45)
174	Greater than 50.00% of mass 95	83.04
175	5.00 - 9.00% of mass 174	6.32 (7.61)
176	95.00 - 101.00% of mass 174	80.75 (97.24)
177	5.00 - 9.00% of mass 176	5.77 (7.15)

Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102601.D

Date : 26-OCT-2020 10:25

Client ID: BFB Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0 Operator: PC

Column phase: DB624 Column diameter: 0.25

Data File: X102601.D
Spectrum: Scan 1132 (8.70)
Location of Maximum: 95.00
Number of points: 93

m/z	Y	m/z	Y	m/z	Y	m/z	Y
35.90	655	62.00	3791	88.00	2587	134.70	75
37.00	4272	63.00	3400	90.90	277	136.80	67
38.00	3332	64.00	224	91.90	2000	140.10	64
38.90	1935	65.00	69	92.90	3401	140.90	1008
39.90	321	67.10	183	94.00	7446	141.90	322
41.00	286	68.00	7470	95.00	57304	142.80	969
42.10	490	69.00	6795	96.00	3954	143.60	93
43.00	318	70.00	884	96.90	85	145.90	134
44.10	1148	71.20	136	98.10	292	148.00	197
45.10	885	72.00	342	102.90	124	149.80	107
45.90	188	73.00	4020	103.90	494	152.90	64
47.00	745	74.00	12554	104.90	129	155.00	200
47.80	479	75.00	33600	105.80	310	158.80	78
49.00	2934	76.00	2743	106.90	90	170.90	92
50.00	14228	76.90	473	110.80	94	171.50	124
51.00	3695	77.70	169	111.80	57	172.90	688
52.00	378	78.90	4221	114.90	131	173.90	47584
55.00	676	79.90	957	115.90	225	174.90	3623
56.00	1888	80.90	4804	117.00	446	175.90	46272
57.00	2635	81.90	891	118.00	350	176.90	3307
57.80	214	83.00	299	118.90	451	177.80	124
59.10	136	85.20	51	126.70	75		
60.00	809	86.10	97	127.70	220		
61.00	3511	86.90	2781	129.70	234		

Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102603.D Page 1
Report Date: 30-Nov-2020 13:31

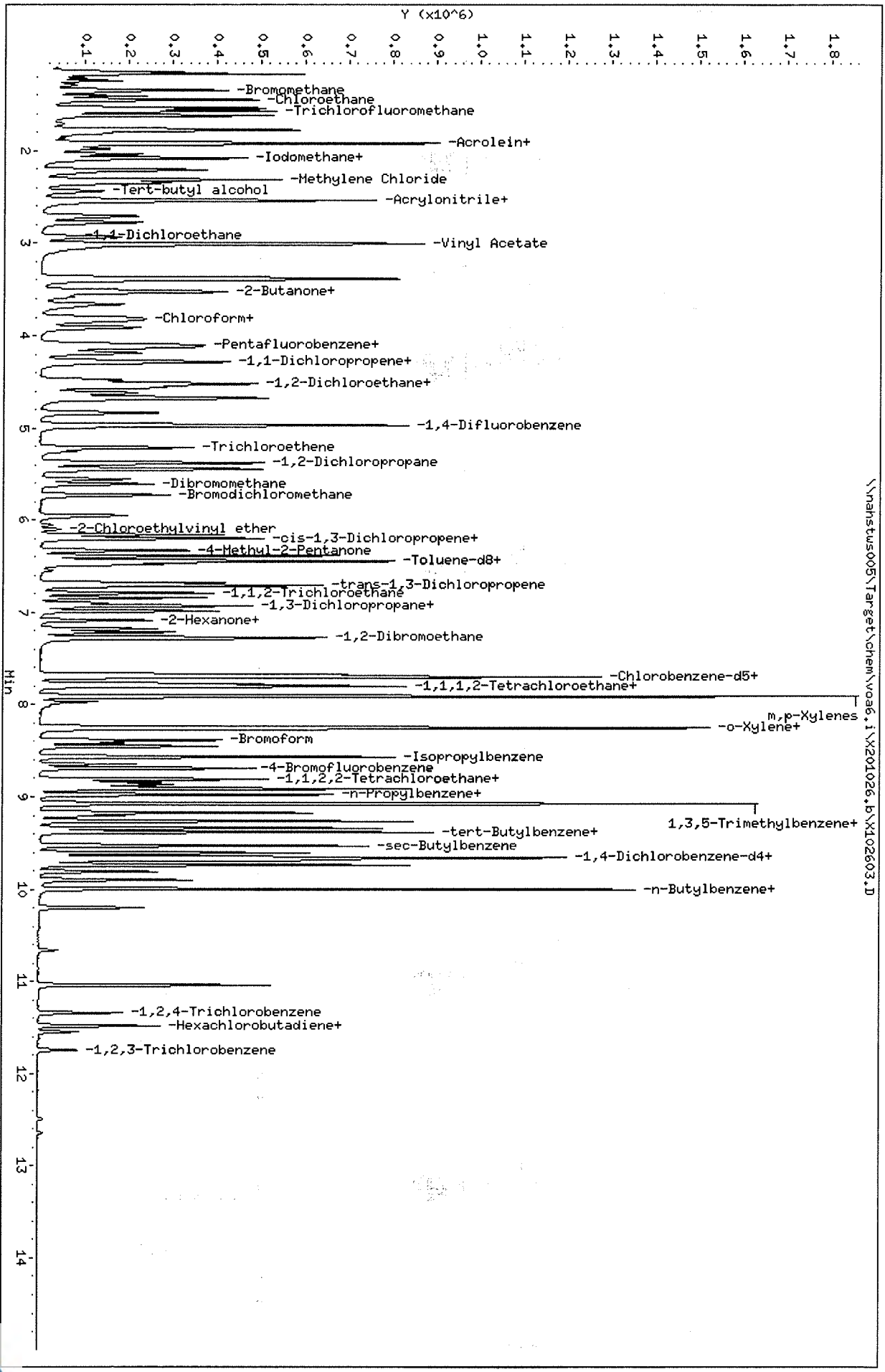
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201026.b\X102603.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 26-OCT-2020 11:07
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201026.b\8260W.m
Meth Date : 30-Nov-2020 13:31 voa6.i Quant Type: ISTD
Cal Date : 25-OCT-2020 19:09 Cal File: X102508.D
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	149818	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	293682	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	274988	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	124539	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.070)	128939	50.0000	49.16
$	69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	123045	50.0000	46.90
$	30 Dibromofluoromethane	113	4.110	4.111	(0.981)	105171	50.0000	50.99
$	48 Toluene-d8	98	6.388	6.388	(0.833)	356448	50.0000	46.10
	53 1,1,2-Trichloroethane	83	6.847	6.840	(0.893)	81635	50.0000	45.63
	11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	158760	50.0000	43.50
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	155259	50.0000	48.94
	27 cis-1,2-Dichloroethene	96	3.537	3.538	(0.844)	108689	50.0000	46.36
	17 Methylene Chloride	84	2.313	2.313	(0.552)	102532	50.0000	43.30
	38 Trichloroethene	130	5.214	5.214	(1.049)	91701	50.0000	47.47
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	203767	50.0000	44.24



Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102603.D
Date : 26-OCT-2020 11:07
Client ID: CCV
Sample Info: CCV;CCV;2;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102605.D Page 1
Report Date: 30-Nov-2020 13:31

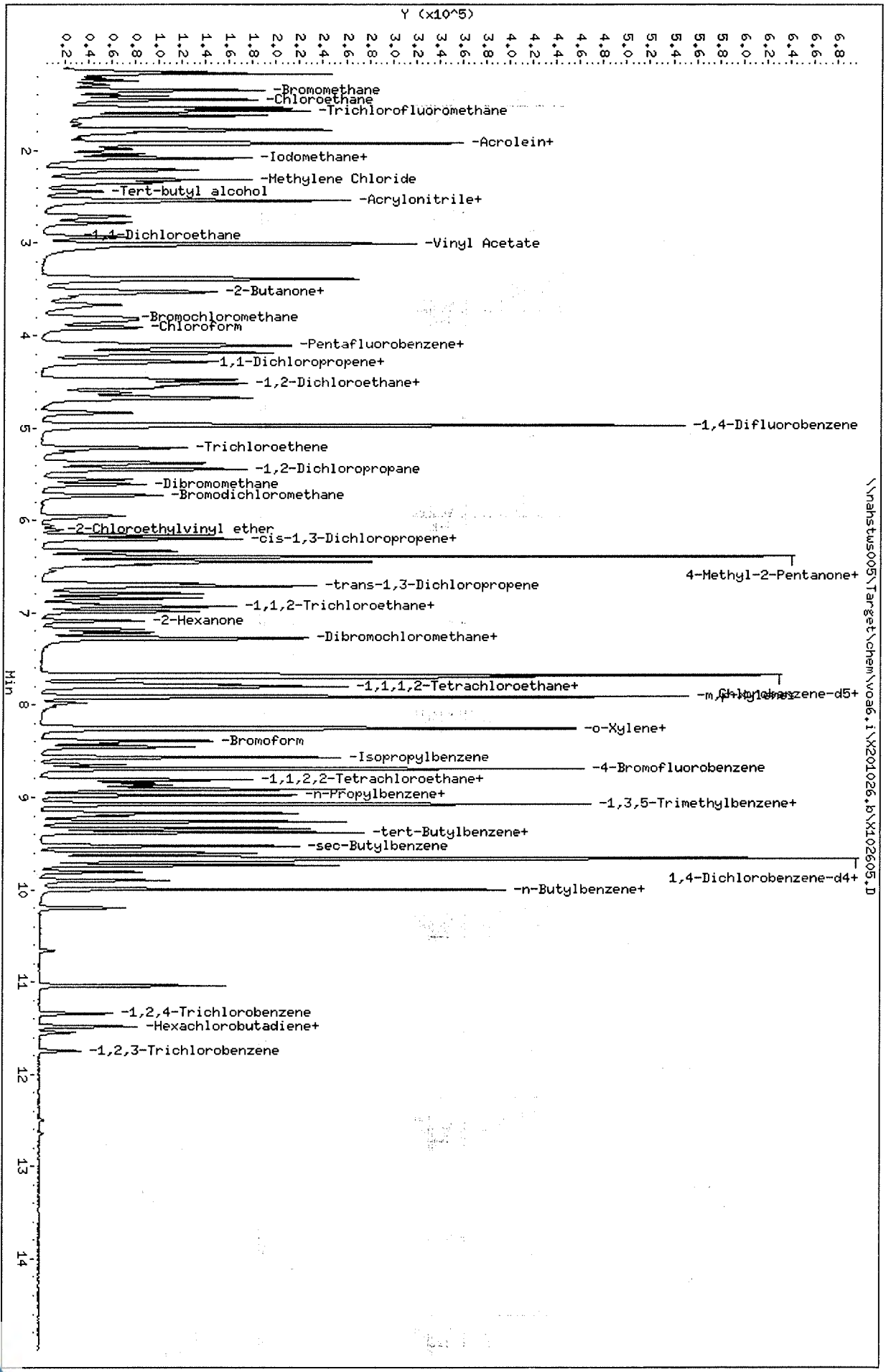
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201026.b\X102605.D
Lab Smp Id: VLCSW-201026 Client Smp ID: VLCSW-201026
Inj Date : 26-OCT-2020 11:49
Operator : PC Inst ID: voa6.i
Smp Info : VLCSW-201026;VLCSW-201026;3;;LCS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201026.b\8260W.m
Meth Date : 30-Nov-2020 13:31 voa6.i Quant Type: ISTD
Cal Date : 25-OCT-2020 19:09 Cal File: X102508.D
Als bottle: 5 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	131163	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	260345	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	244745	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	103738	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.070)	117899	51.3436	51.34
$	69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	108634	46.5423	46.54
$	30 Dibromofluoromethane	113	4.103	4.111	(0.979)	92788	51.3885	51.38
$	48 Toluene-d8	98	6.388	6.388	(0.833)	334791	48.5543	48.55
	53 1,1,2-Trichloroethane	83	6.847	6.840	(0.893)	28793	18.0859	18.08
	11 1,1-Dichloroethene	96	1.926	1.919	(0.460)	62137	19.4510	19.45
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	56436	20.0710	20.07
	27 cis-1,2-Dichloroethene	96	3.537	3.538	(0.844)	39823	19.4023	19.40
	17 Methylene Chloride	84	2.313	2.313	(0.552)	35975	17.3569	17.35
	38 Trichloroethene	130	5.214	5.214	(1.049)	34994	20.4361	20.43
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	79745	19.7764	19.77



Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102605.D
Date : 26-OCT-2020 11:49
Client ID: VLCSW-201026
Sample Info: VLCSW-201026;VLCSW-201026;3;;LCS
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

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Data file : \\nahstws005\Target\chem\voa6.i\X201026.b\X102607.D
Lab Smp Id: VBLKW-201026 Client Smp ID: VBLKW-201026
Inj Date : 26-OCT-2020 12:31
Operator : PC Inst ID: voa6.i
Smp Info : VBLKW-201026;VBLKW-201026;3;;BLANK
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201026.b\8260W.m
Meth Date : 30-Nov-2020 13:31 voa6.i Quant Type: ISTD
Cal Date : 25-OCT-2020 19:09 Cal File: X102508.D
Als bottle: 7 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14

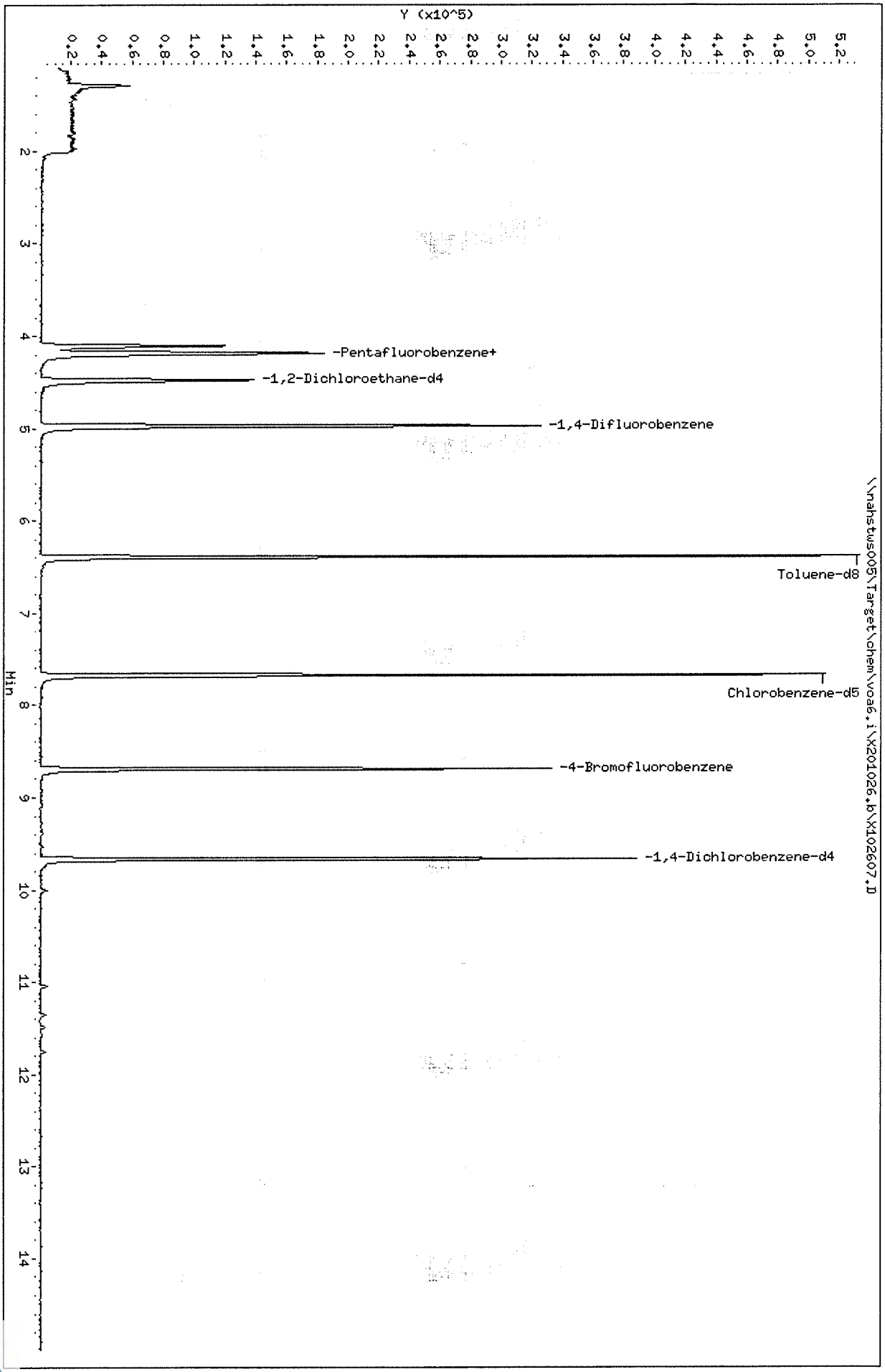
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	132711	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	235472	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	206693	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	80104	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.476	4.483	(1.068)	98785	42.5232	42.52
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	84555	43.0515	43.05
$	30 Dibromofluoromethane	113	4.111	4.111	(0.981)	80021	43.8008	43.80
$	48 Toluene-d8	98	6.388	6.388	(0.833)	283255	48.6398	48.63

Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102607.D
Date : 26-OCT-2020 12:31
Client ID: VBLKW-201026
Sample Info: VBLKW-201026;VBLKW-201026;3;;BLANK
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



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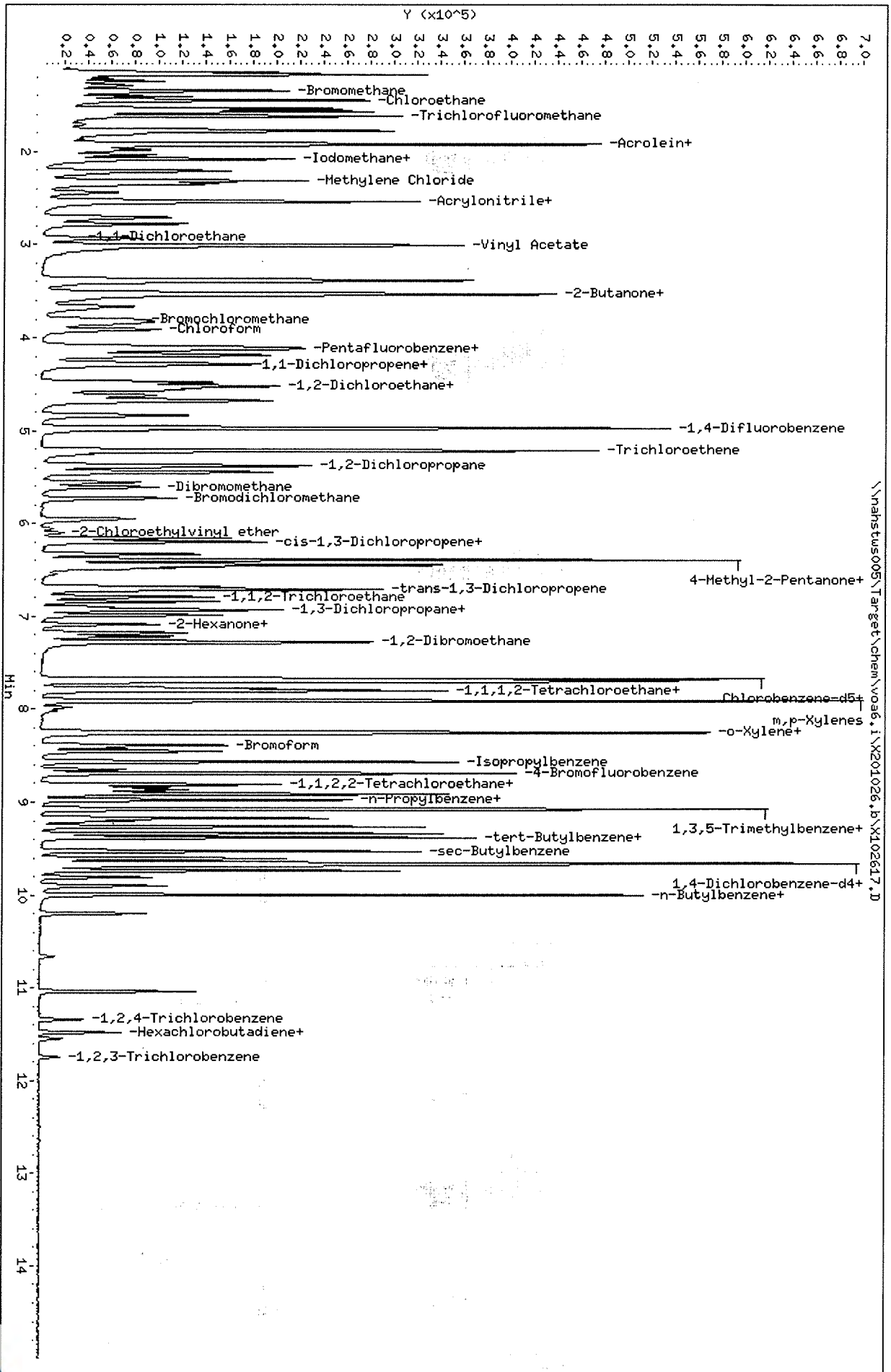
Data file : \\nahstws005\Target\chem\voa6.i\X201026.b\X102617.D
Lab Smp Id: HS20100719-05MS Client Smp ID: HS20100719-05MS
Inj Date : 26-OCT-2020 16:02
Operator : PC Inst ID: voa6.i
Smp Info : HS20100719-05MS;HS20100719-05MS;3;;MS
Misc Info : HS18090001;WATER;0;200;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201026.b\8260W.m
Meth Date : 30-Nov-2020 13:31 voa6.i Quant Type: ISTD
Cal Date : 25-OCT-2020 19:09 Cal File: X102508.D
Als bottle: 17 QC Sample: MS
Dil Factor: 200.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	200.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	136319	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	250963	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	232511	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	93700	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.070)	101081	42.3600	42.36
$ 69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	96680	43.7263	43.72
$ 30 Dibromofluoromethane	113	4.111	4.111	(0.981)	82161	43.7819	43.78
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	303244	46.3733	46.37
53 1,1,2-Trichloroethane	83	6.847	6.840	(0.893)	31268	20.6739	4134.78
11 1,1-Dichloroethene	96	1.926	1.919	(0.460)	81077	24.4199	4883.97
33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	63315	23.3592	4671.84
27 cis-1,2-Dichloroethene	96	3.538	3.538	(0.844)	163155	76.4845	15296.90
17 Methylene Chloride	84	2.313	2.313	(0.552)	42110	19.5484	3909.68
38 Trichloroethene	130	5.214	5.214	(1.049)	126894	76.8750	15374.99
5 Vinyl Chloride	62	1.145	1.145	(0.273)	119548	28.5261	5705.21



Data File: \\nahstus005\Target\chem\voa6.i\X201026.b\X102617.D
Date : 26-OCT-2020 16:02
Client ID: HS20100719-05MS
Sample Info: HS20100719-05MS;HS20100719-05MS;3;;MS
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102618.D Page 1
Report Date: 30-Nov-2020 13:32

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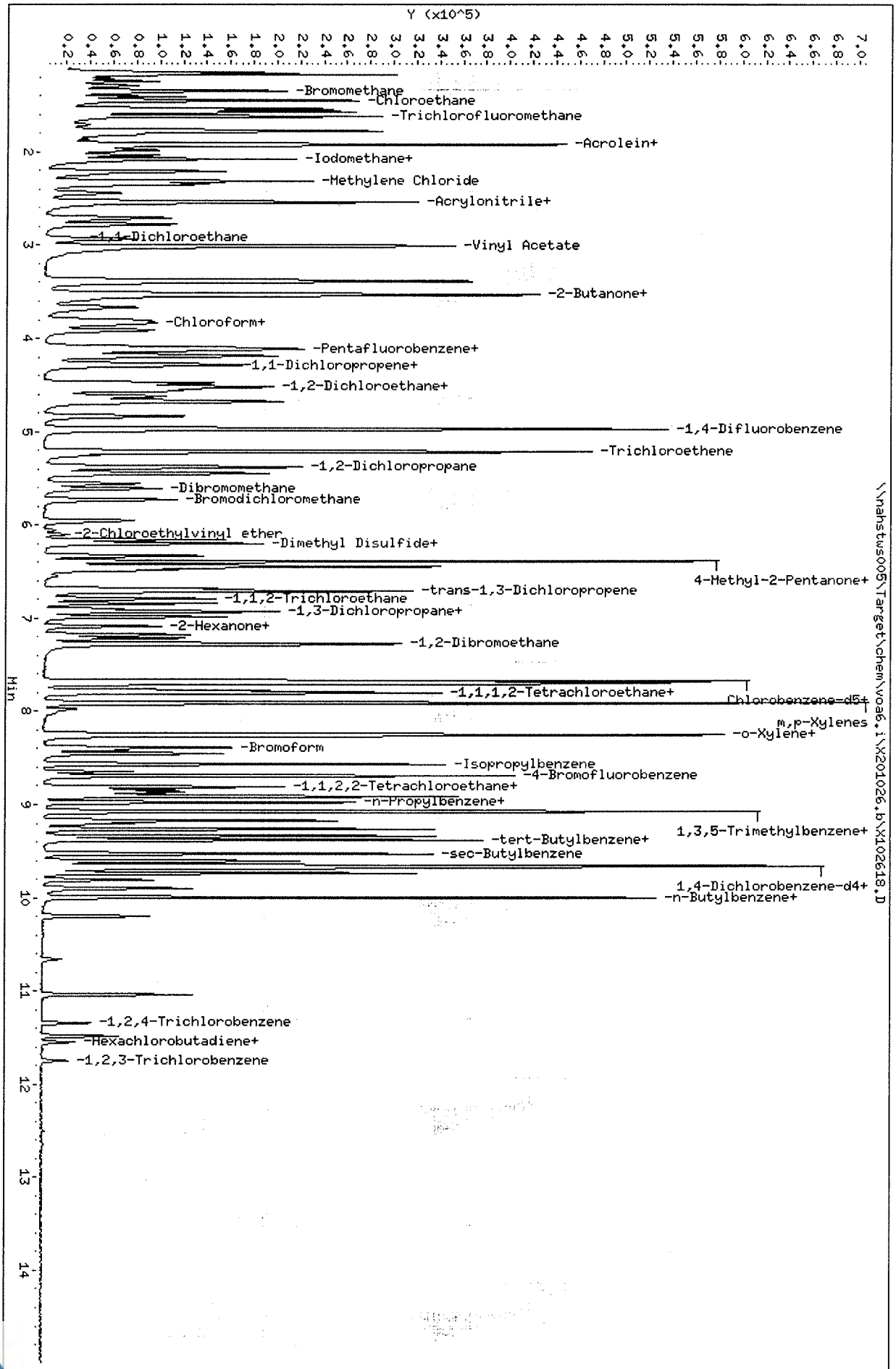
Data file : \\nahstws005\Target\chem\voa6.i\X201026.b\X102618.D
Lab Smp Id: HS20100719-05MSD Client Smp ID: HS20100719-05MSD
Inj Date : 26-OCT-2020 16:23
Operator : PC Inst ID: voa6.i
Smp Info : HS20100719-05MSD;HS20100719-05MSD;3;;MSD
Misc Info : HS18090001;WATER;0;200;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201026.b\8260W.m
Meth Date : 30-Nov-2020 13:31 voa6.i Quant Type: ISTD
Cal Date : 25-OCT-2020 19:09 Cal File: X102508.D
Als bottle: 17 QC Sample: MSD
Dil Factor: 200.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	200.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	135876	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	251796	50.0000	
*	47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	227316	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	95096	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.476	4.483	(1.068)	101221	42.5568	42.55
$	69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	94794	43.8473	43.84
$	30 Dibromofluoromethane	113	4.110	4.111	(0.981)	82087	43.8851	43.88
$	48 Toluene-d8	98	6.388	6.388	(0.833)	300322	46.9537	46.95
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	31983	21.6300	4325.99
	11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	75452	22.7997	4559.94
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	60196	22.1350	4427.00
	27 cis-1,2-Dichloroethene	96	3.537	3.538	(0.844)	159402	74.9688	14993.76
	17 Methylene Chloride	84	2.313	2.313	(0.552)	38267	17.8223	3564.46
	38 Trichloroethene	130	5.214	5.214	(1.049)	124329	75.0719	15014.37
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	110744	26.5114	5302.28



Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102618.D
Date : 26-OCT-2020 16:23
Client ID: HS20100719-05HSD
Sample Info: HS20100719-05HSD;HS20100719-05HSD;3;;HSD
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102622.D Page 1
Report Date: 30-Nov-2020 13:41

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Data file : \\nahstws005\Target\chem\voa6.i\X201026.b\X102622.D
Lab Smp Id: HS20100719-06 Client Smp ID: HS20100719-06
Inj Date : 26-OCT-2020 17:47
Operator : PC Inst ID: voa6.i
Smp Info : HS20100719-06;HS20100719-06;;;
Misc Info : HS18090001;WATER;0;5;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201026.b\8260W.m
Meth Date : 30-Nov-2020 13:37 dev.giga Quant Type: ISTD
Cal Date : 25-OCT-2020 19:09 Cal File: X102508.D
Als bottle: 21
Dil Factor: 5.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

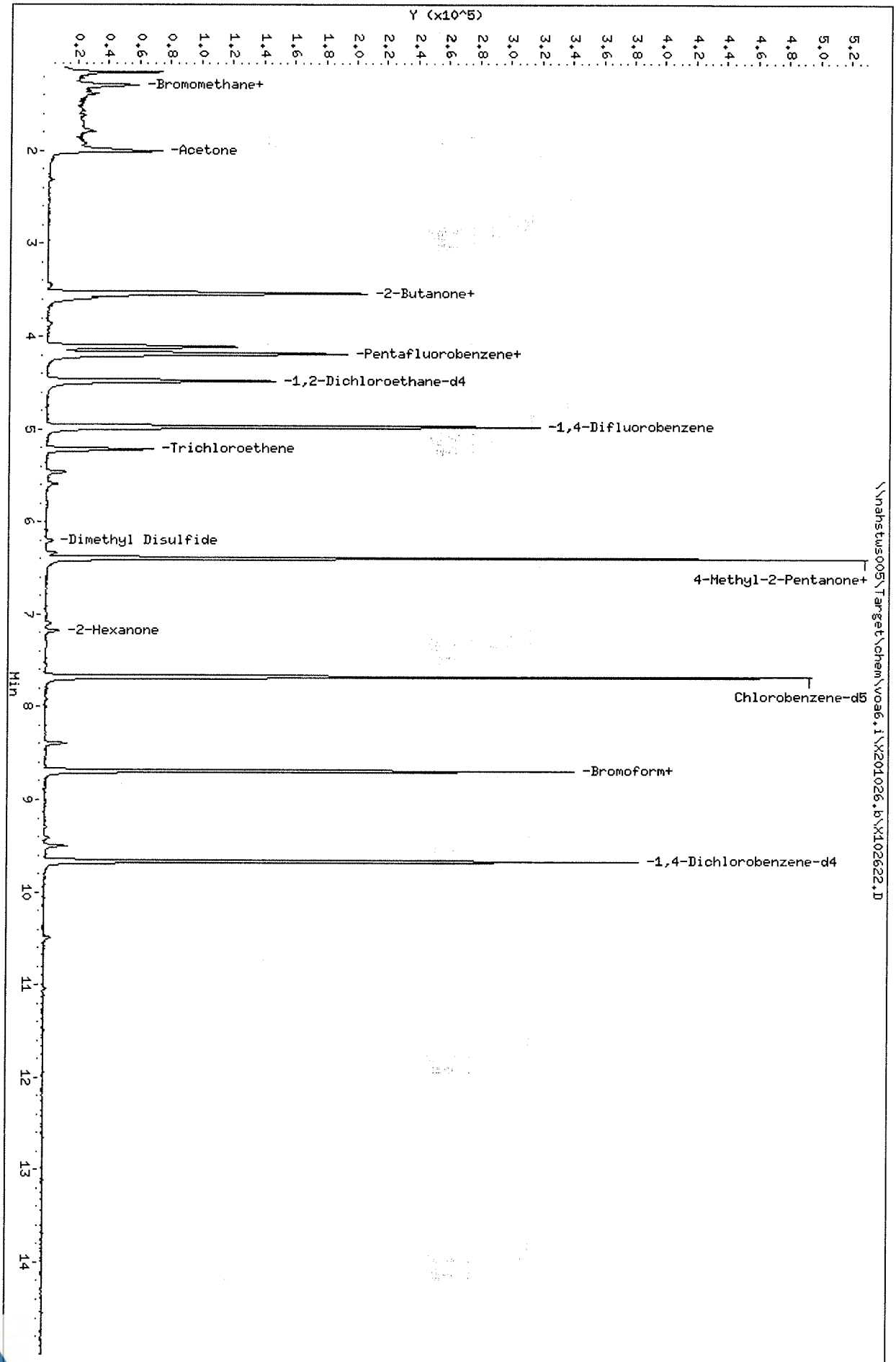
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	5.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	137895	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	239734	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	203325	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	77161	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.070)	103184	42.7468	42.74
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	85995	44.4424	44.44
$ 30 Dibromofluoromethane	113	4.103	4.111	(0.979)	80756	42.5414	42.54
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	285220	49.7479	49.74
27 cis-1,2-Dichloroethene	96	3.538	3.538	(0.844)	96256	44.6076	223.03
38 Trichloroethene	130	5.214	5.214	(1.049)	16864	10.6951	53.47
5 Vinyl Chloride	62	1.145	1.145	(0.273)	41278	9.73702	48.68

Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102622.D
Date : 26-OCT-2020 17:47
Client ID: HS20100719-06
Sample Info: HS20100719-06;HS20100719-06;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102622.D

Date : 26-OCT-2020 17:47

Client ID: HS20100719-06

Instrument: voa6.i

Sample Info: HS20100719-06;HS20100719-06;;;

Purge Volume: 5.0

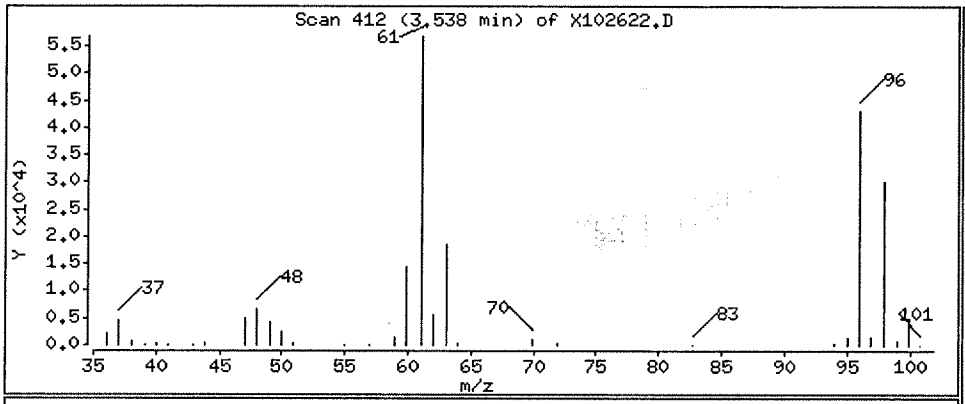
Operator: PC

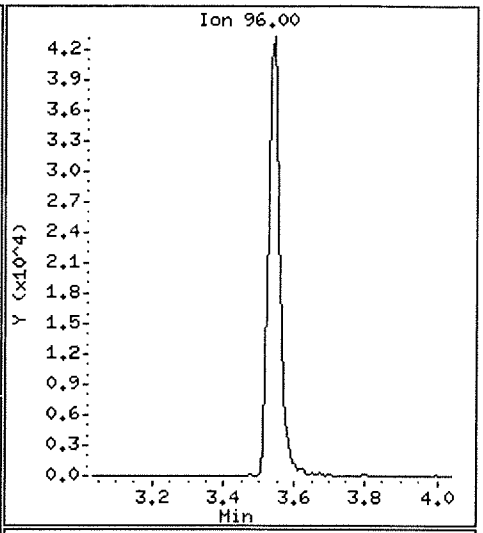
Column phase: DB624

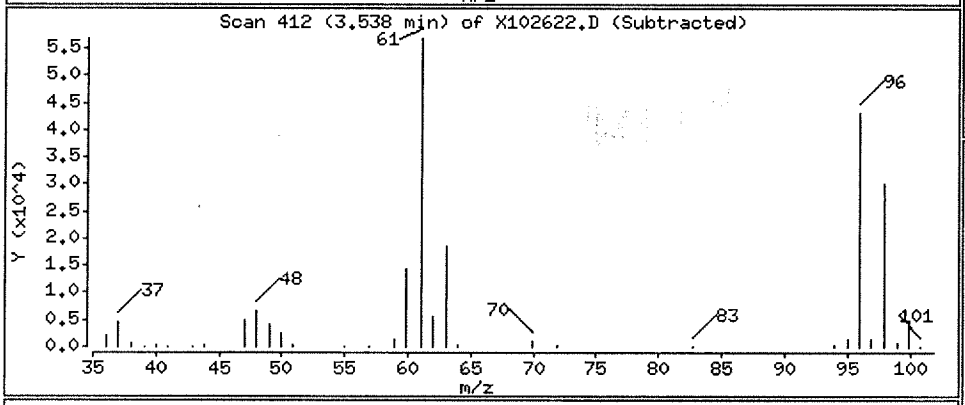
Column diameter: 0.18

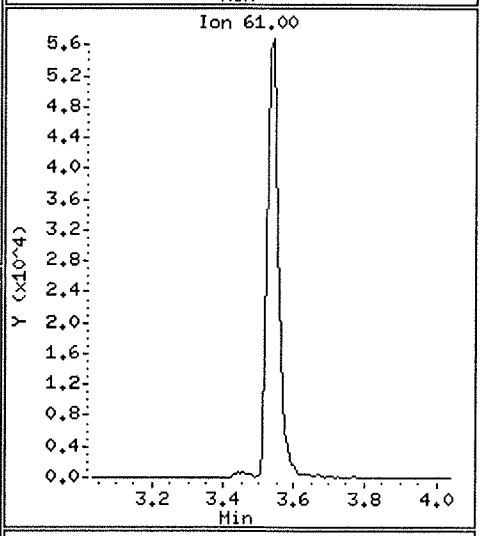
27 cis-1,2-Dichloroethene

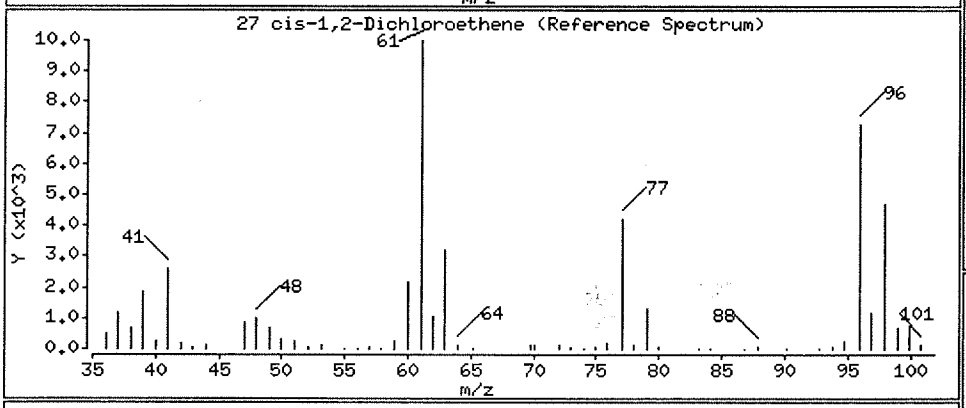
Concentration: 223.03 ug/l

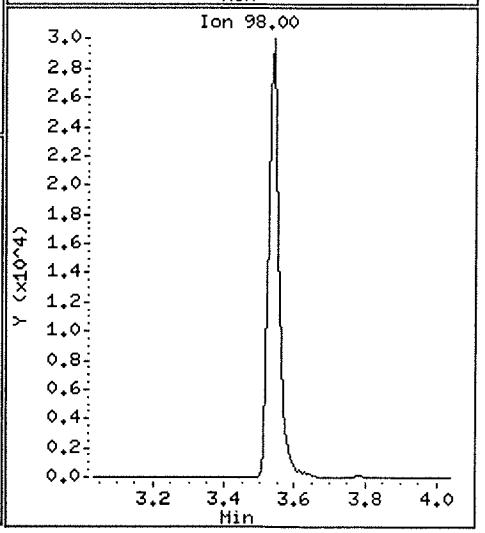


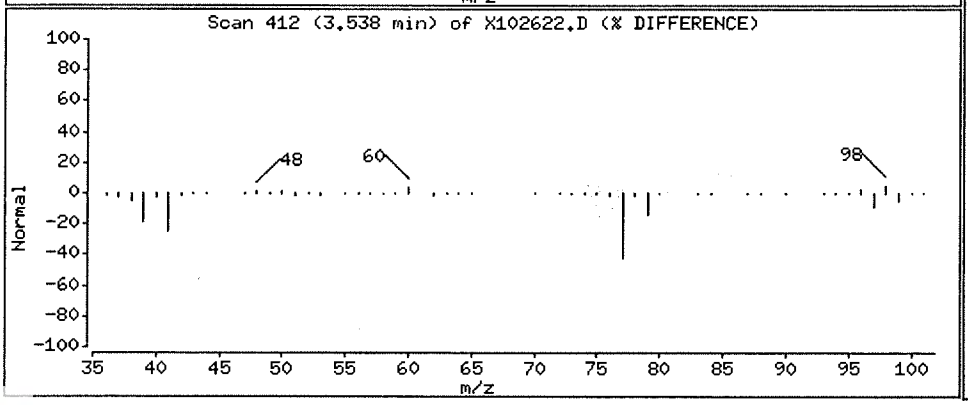












Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102622.D

Date : 26-OCT-2020 17:47

Client ID: HS20100719-06

Instrument: voa6.i

Sample Info: HS20100719-06;HS20100719-06;;;

Purge Volume: 5.0

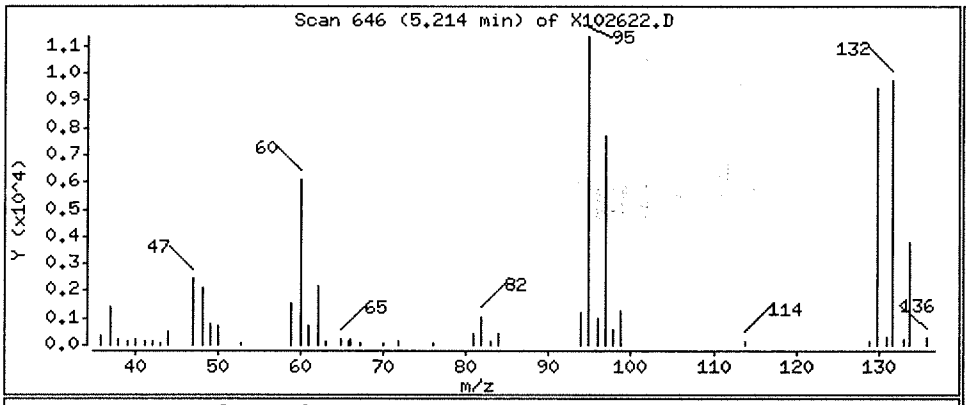
Operator: PC

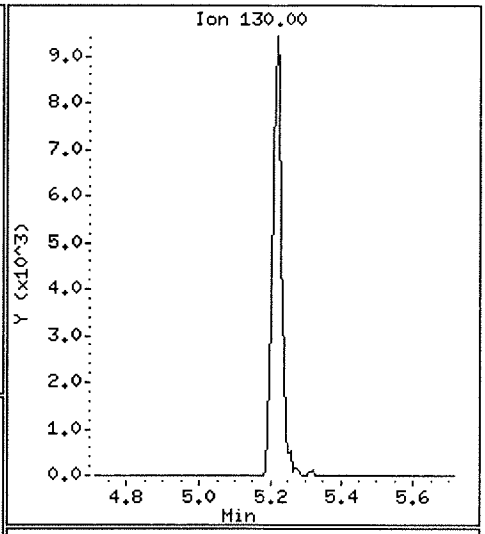
Column phase: DB624

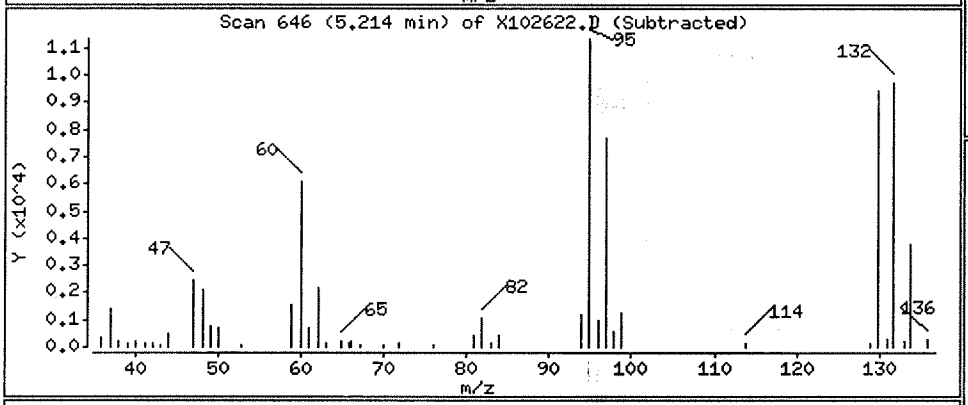
Column diameter: 0.18

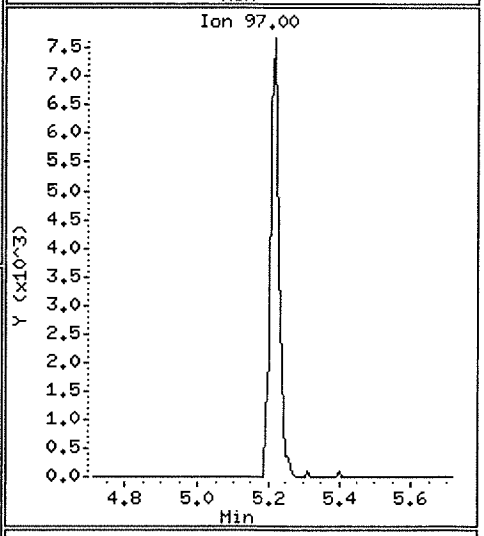
38 Trichloroethene

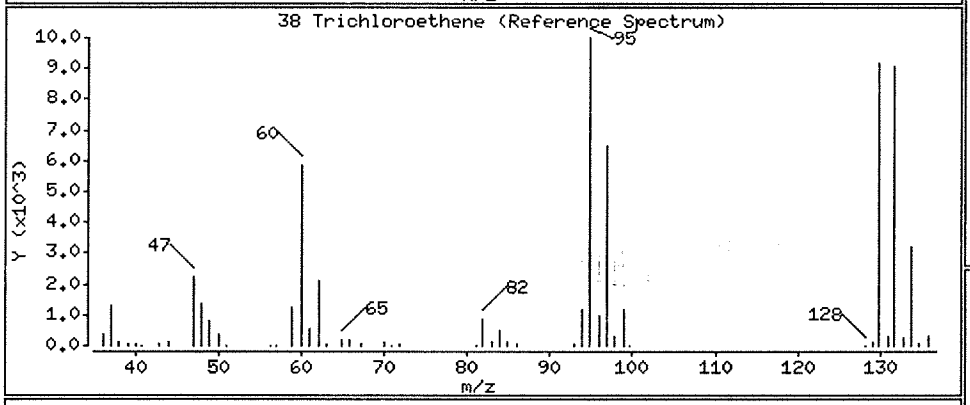
Concentration: 53.47 ug/l

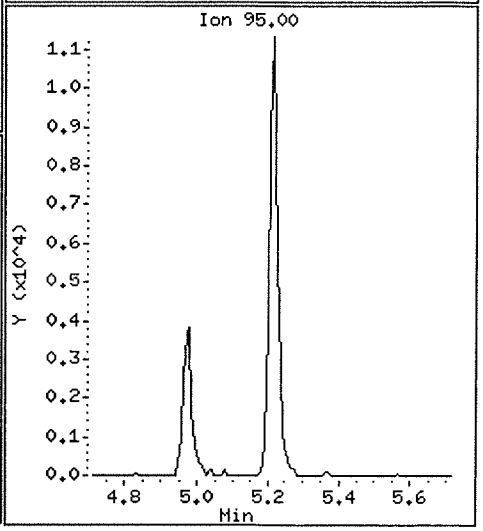


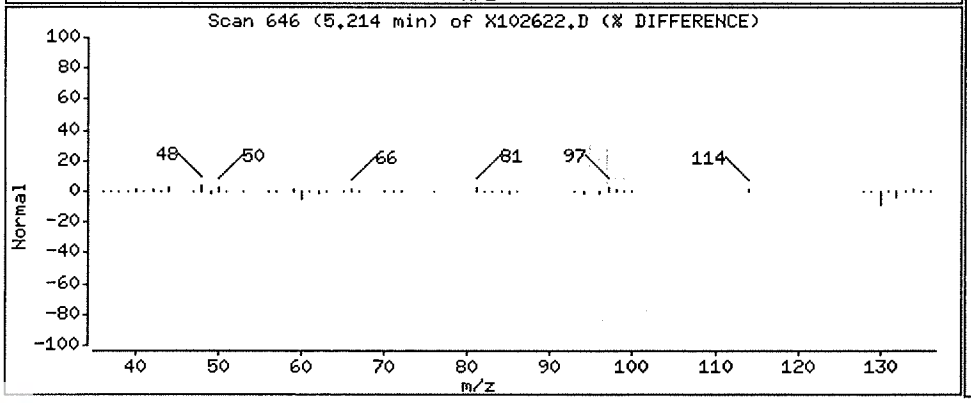












Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102622.D

Date : 26-OCT-2020 17:47

Client ID: HS20100719-06

Instrument: voa6.i

Sample Info: HS20100719-06;HS20100719-06;;;

Purge Volume: 5.0

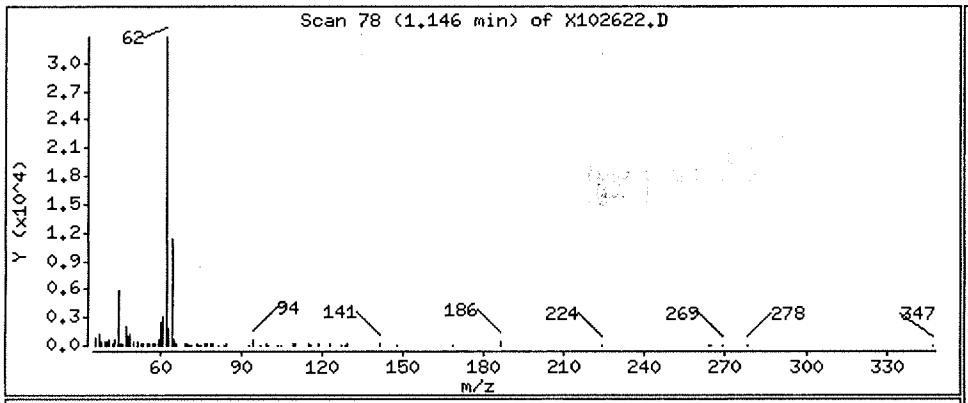
Operator: PC

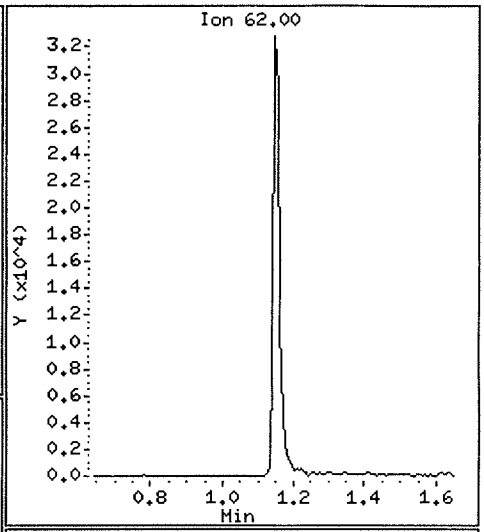
Column phase: DB624

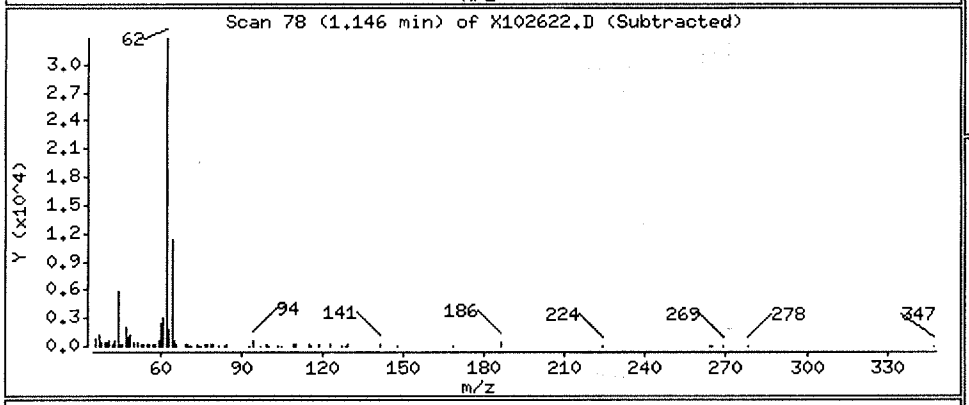
Column diameter: 0.18

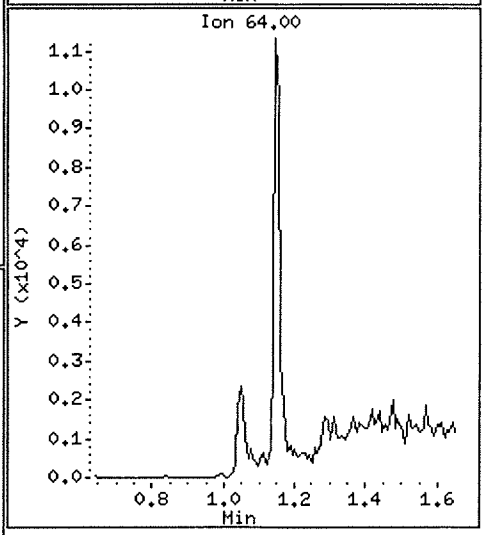
5 Vinyl Chloride

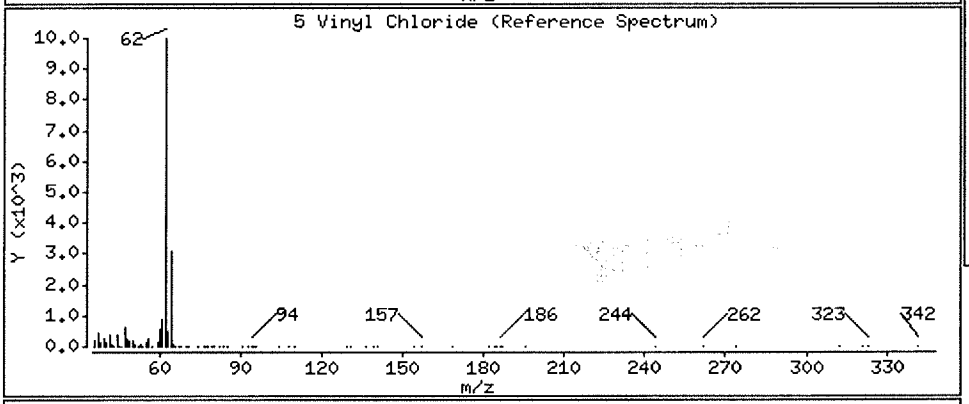
Concentration: 48.68 ug/l

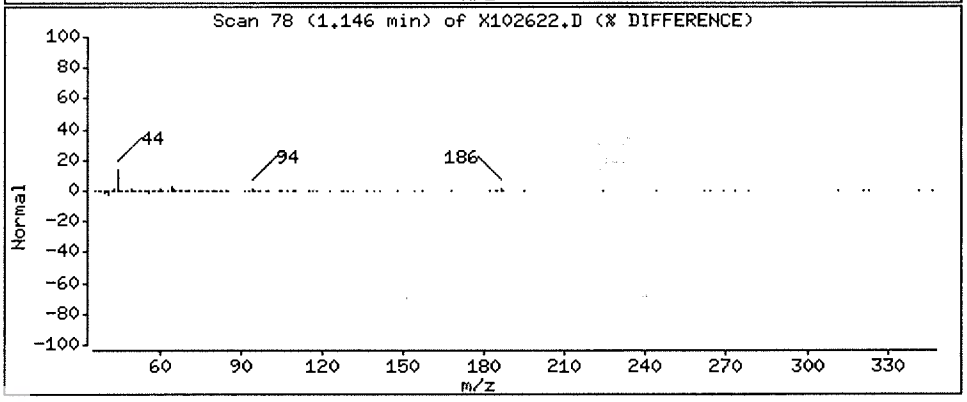












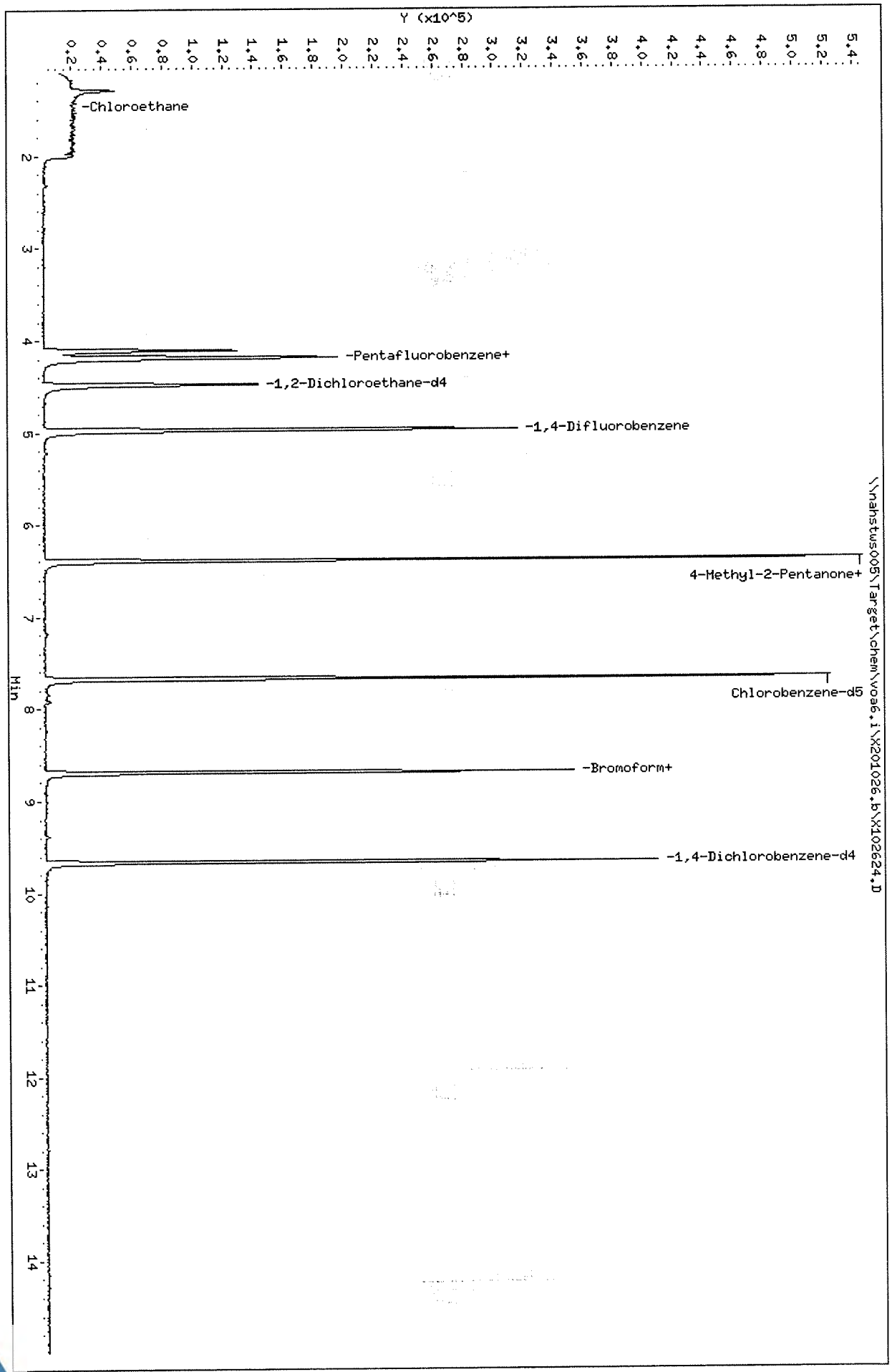
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201026.b\X102624.D
Lab Smp Id: HS20100779-10 Client Smp ID: HS20100779-10
Inj Date : 26-OCT-2020 18:29
Operator : PC Inst ID: voa6.i
Smp Info : HS20100779-10;HS20100779-10;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201026.b\8260W.m
Meth Date : 30-Nov-2020 13:37 dev.giga Quant Type: ISTD
Cal Date : 25-OCT-2020 19:09 Cal File: X102508.D
Als bottle: 23
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	139743	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	242616	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	216835	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	83640	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.070)	103488	42.3061	42.30
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	88302	42.8655	42.86
$ 30 Dibromofluoromethane	113	4.111	4.111	(0.981)	82714	42.9966	42.99
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	295326	48.3512	48.35



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Date : 26-OCT-2020 18:29
Client ID: HS20100779-10
Sample Info: HS20100779-10;HS20100779-10;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201026.b\X102625.D
Lab Smp Id: HS20100779-01 Client Smp ID: HS20100779-01
Inj Date : 26-OCT-2020 18:50
Operator : PC Inst ID: voa6.i
Smp Info : HS20100779-01;HS20100779-01;;;
Misc Info : HS18090001;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X201026.b\8260W.m
Meth Date : 30-Nov-2020 13:37 dev.giga Quant Type: ISTD
Cal Date : 25-OCT-2020 19:09 Cal File: X102508.D
Als bottle: 24
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

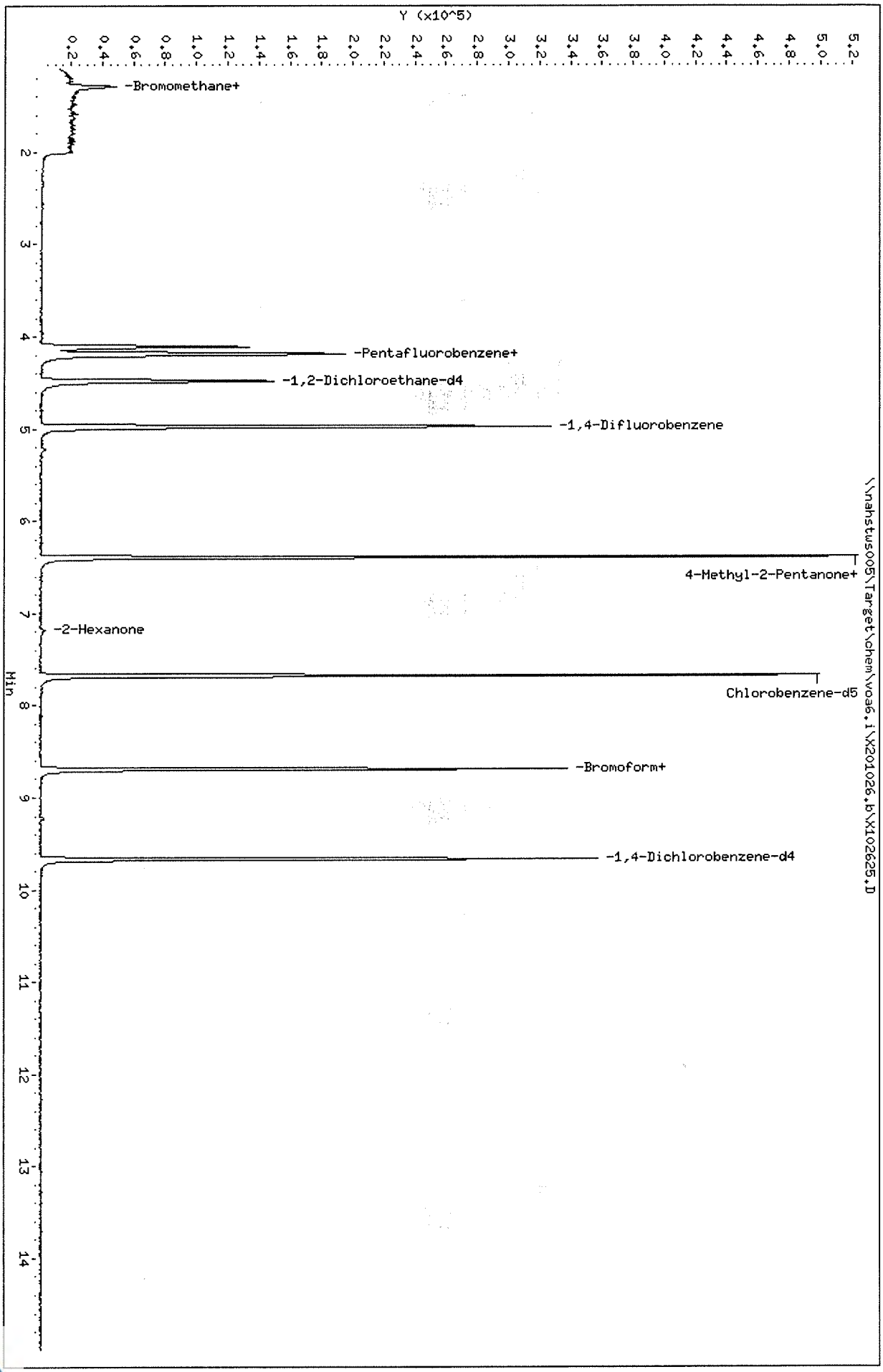
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.196	4.189	(1.000)	139858	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	243413	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	205041	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	74168	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.068)	106293	43.4163	43.41
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	83931	43.0769	43.07
$ 30 Dibromofluoromethane	113	4.110	4.111	(0.980)	85922	44.6275	44.62
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	291450	50.3862	50.38

Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102625.D
Date : 26-OCT-2020 18:50
Client ID: HS20100779-01
Sample Info: HS20100779-01;HS20100779-01;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102626.D Page 1
Report Date: 30-Nov-2020 13:41

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201026.b\X102626.D
Lab Smp Id: HS20100779-08 Client Smp ID: HS20100779-08
Inj Date : 26-OCT-2020 19:11
Operator : PC Inst ID: voa6.i
Smp Info : HS20100779-08;HS20100779-08;;;
Misc Info : HS18090001;WATER;0;1;
Comment   :
Method   : \\nahstws005\Target\chem\voa6.i\X201026.b\8260W.m
Meth Date : 30-Nov-2020 13:37 dev.giga Quant Type: ISTD
Cal Date : 25-OCT-2020 19:09 Cal File: X102508.D
Als bottle: 25
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

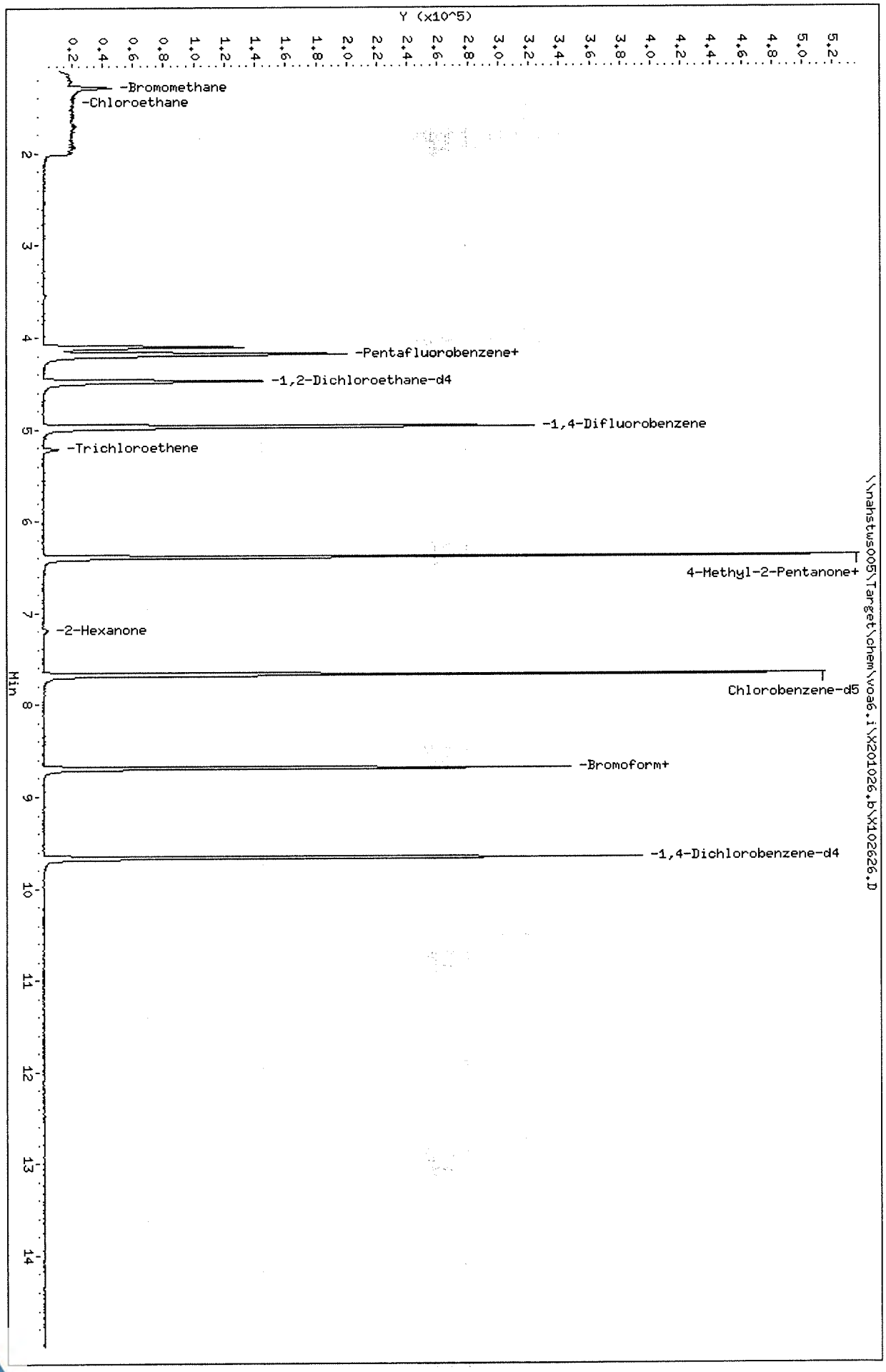
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.189	4.189	(1.000)	139395	50.0000	
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	242489	50.0000	
* 47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	208563	50.0000	
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	82003	50.0000	
$ 35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.070)	103853	42.5611	42.56
$ 69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	87095	43.9057	43.90
$ 30 Dibromofluoromethane	113	4.110	4.111	(0.981)	82202	42.8371	42.83
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	290939	49.4805	49.48
38 Trichloroethene	130	5.214	5.214	(1.049)	3056	1.91609	1.91(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).



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Client ID: HS20100779-08
Sample Info: HS20100779-08;HS20100779-08;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102626.D

Date : 26-OCT-2020 19:11

Client ID: HS20100779-08

Instrument: voa6.i

Sample Info: HS20100779-08;HS20100779-08;;;

Purge Volume: 5.0

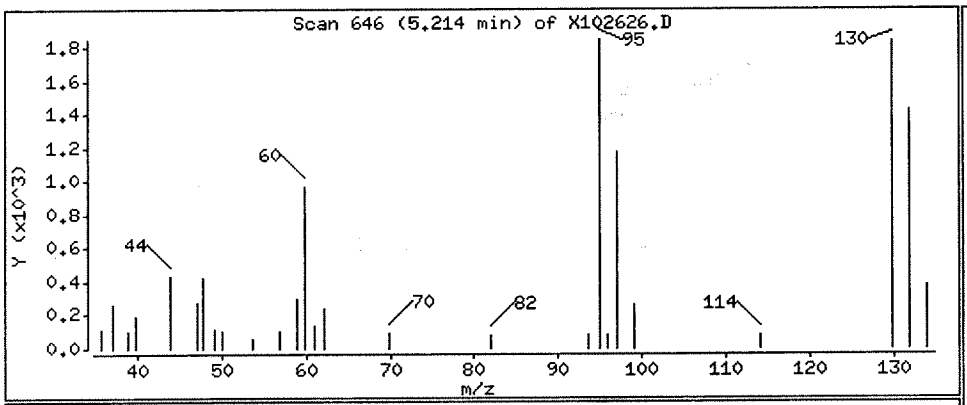
Operator: PC

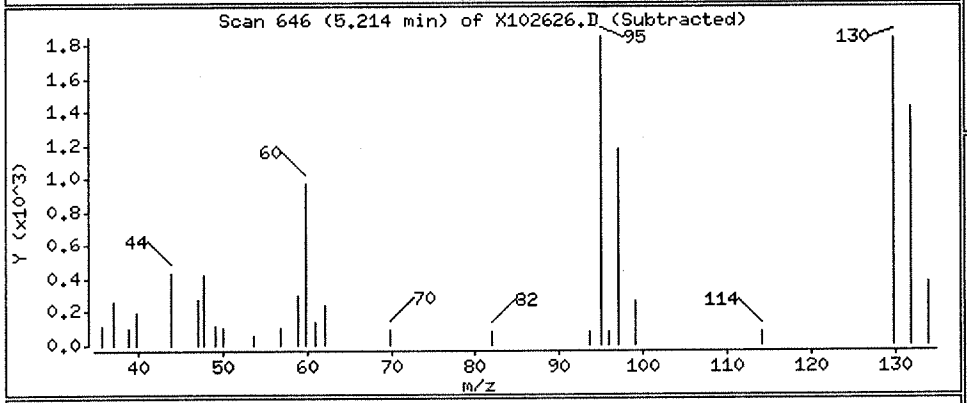
Column phase: DB624

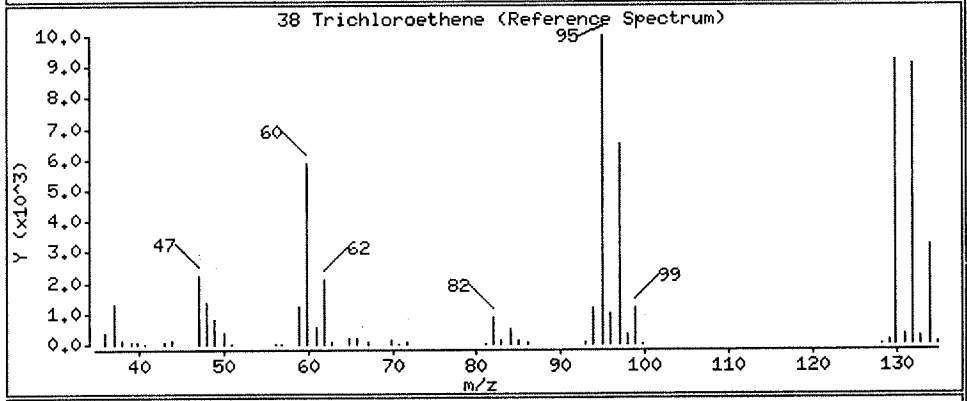
Column diameter: 0.18

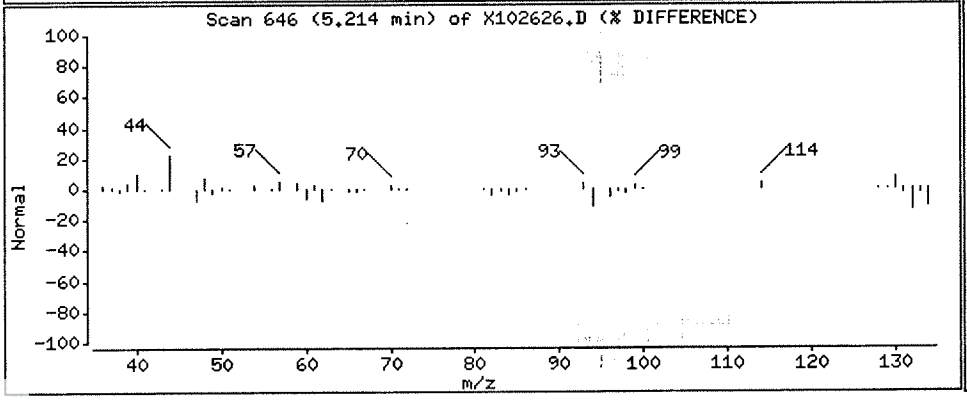
38 Trichloroethene

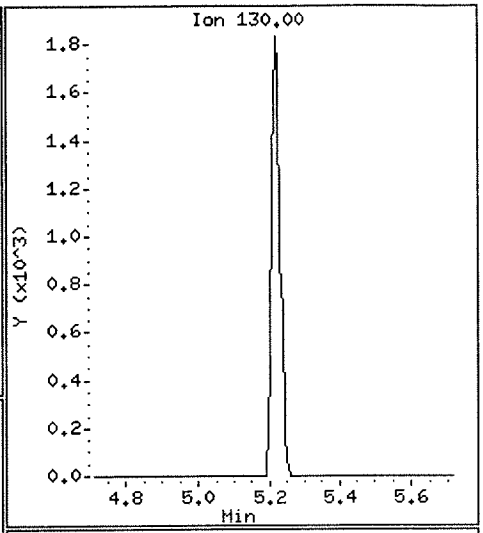
Concentration: 1.91 ug/l

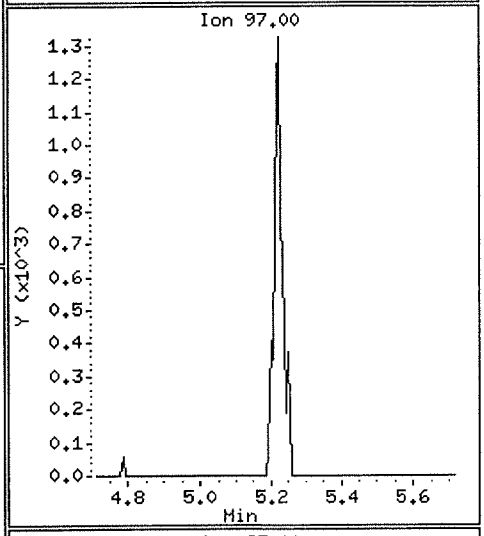


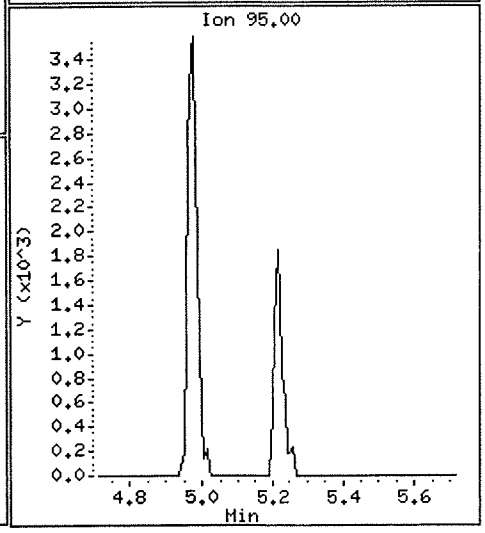












Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102627.D Page 1
Report Date: 30-Nov-2020 13:41

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201026.b\X102627.D
Lab Smp Id: HS20100779-06 Client Smp ID: HS20100779-06
Inj Date : 26-OCT-2020 19:32
Operator : PC Inst ID: voa6.i
Smp Info : HS20100779-06;HS20100779-06;;;
Misc Info : HS18090001;WATER;0;10;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201026.b\8260W.m
Meth Date : 30-Nov-2020 13:37 dev.giga Quant Type: ISTD
Cal Date : 25-OCT-2020 19:09 Cal File: X102508.D
Als bottle: 26
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

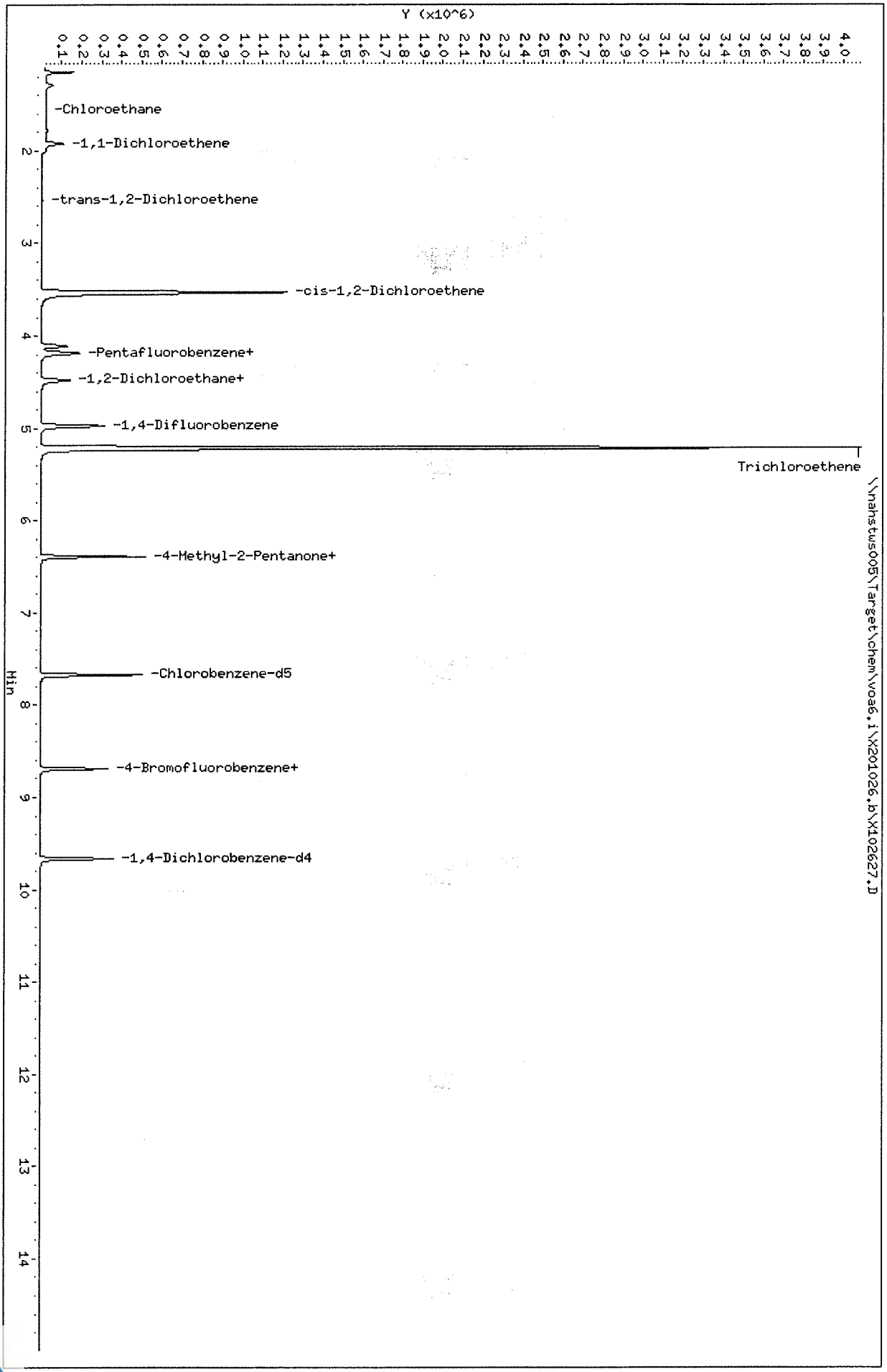
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	10.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	136820	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	243306	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	205573	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	73972	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.476	4.483	(1.068)	103262	43.1150	43.11
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	83937	42.9735	42.97
$	30 Dibromofluoromethane	113	4.111	4.111	(0.981)	84277	44.7450	44.74
$	48 Toluene-d8	98	6.388	6.388	(0.833)	284378	49.0825	49.08
	11 1,1-Dichloroethene	96	1.926	1.919	(0.460)	5499	1.65020	16.50(a)
	33 1,2-Dichloroethane	62	4.569	4.562	(0.919)	1509	0.57425	5.74(a)
	27 cis-1,2-Dichloroethene	96	3.530	3.538	(0.843)	552392	258.005	2580.04(A)
	38 Trichloroethene	130	5.214	5.214	(1.049)	999156	624.359	6243.58(A)
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	98388	23.3910	233.90

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount
exceeded maximum amount.



Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102627.D
Date : 26-OCT-2020 19:32
Client ID: HS20100779-06
Sample Info: HS20100779-06;HS20100779-06;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102627.D

Date : 26-OCT-2020 19:32

Client ID: HS20100779-06

Instrument: voa6.i

Sample Info: HS20100779-06;HS20100779-06;;;

Purge Volume: 5.0

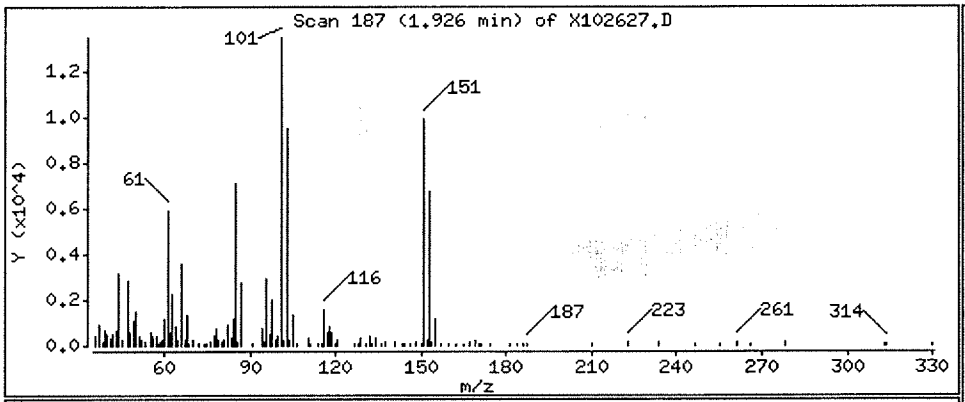
Operator: PC

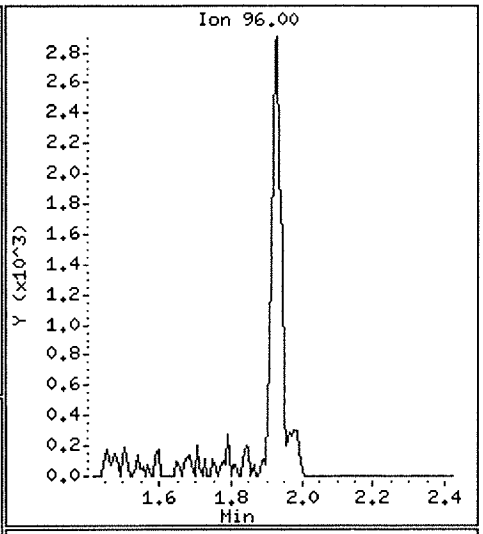
Column phase: DB624

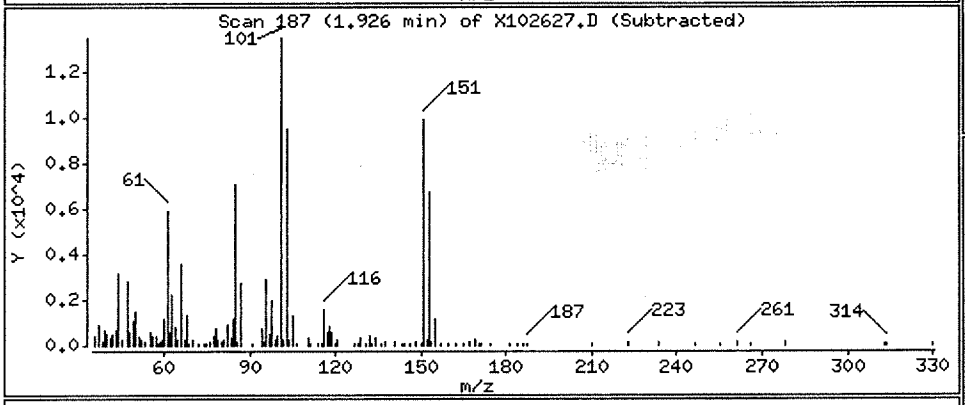
Column diameter: 0.18

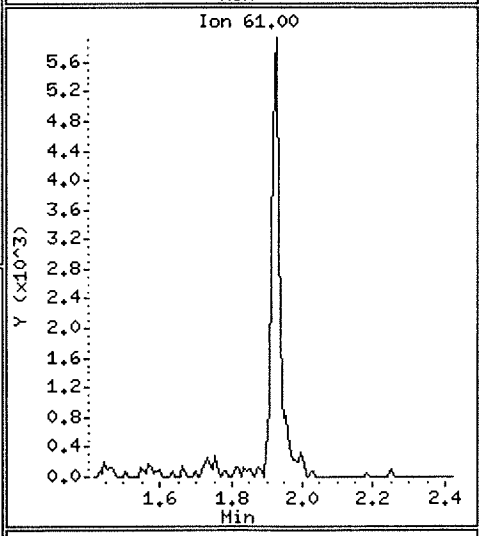
11 1,1-Dichloroethene

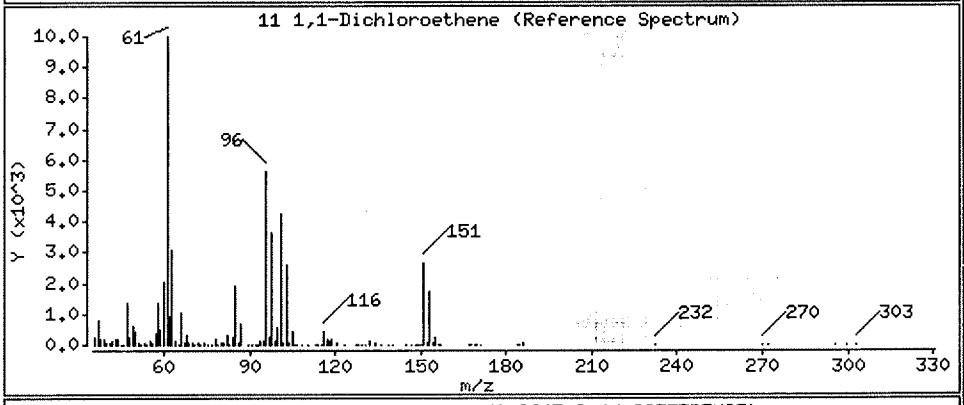
Concentration: 16.50 ug/l

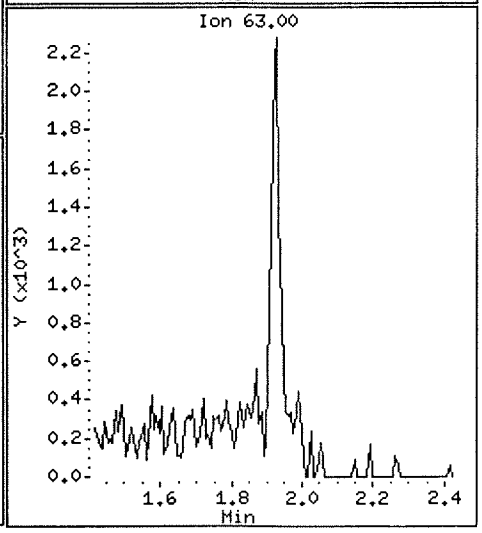


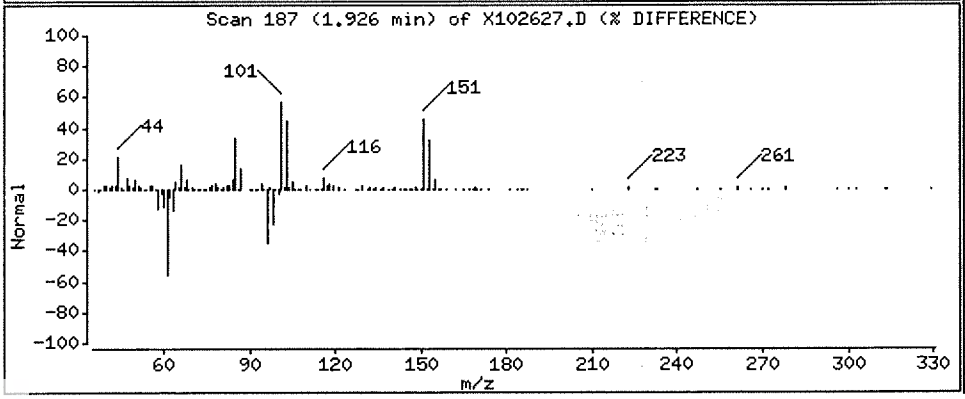












Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102627.D

Date : 26-OCT-2020 19:32

Client ID: HS20100779-06

Instrument: voa6.i

Sample Info: HS20100779-06;HS20100779-06;;;

Purge Volume: 5.0

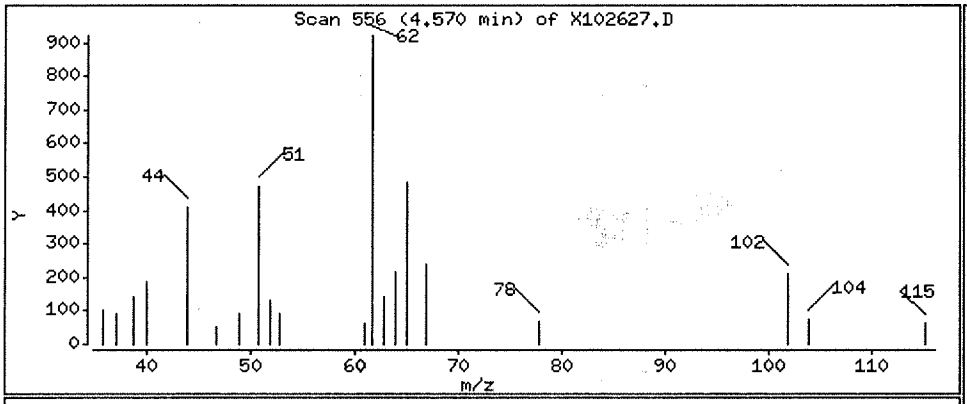
Operator: PC

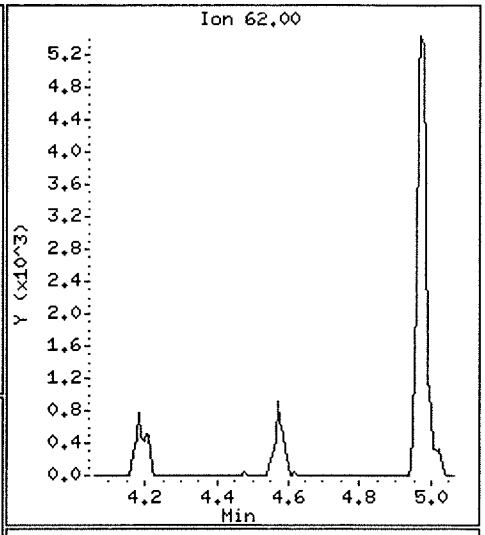
Column phase: DB624

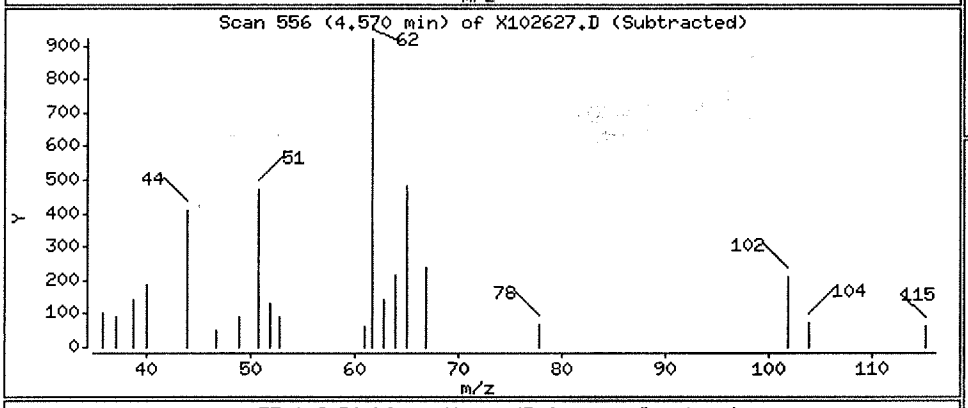
Column diameter: 0.18

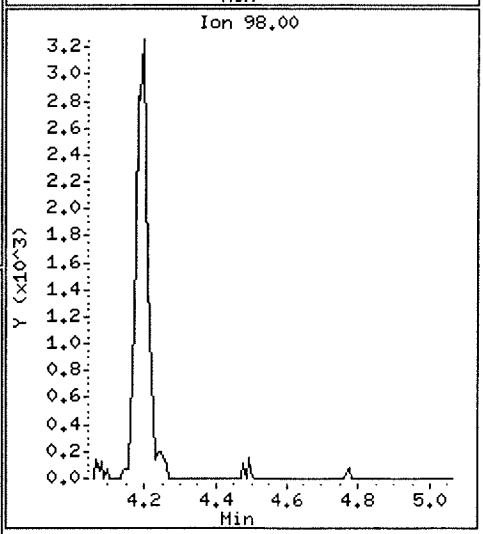
33 1,2-Dichloroethane

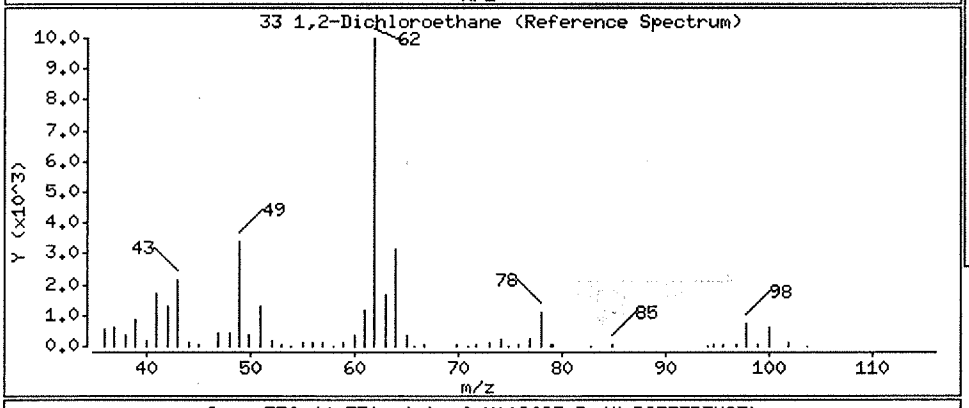
Concentration: 5.74 ug/l

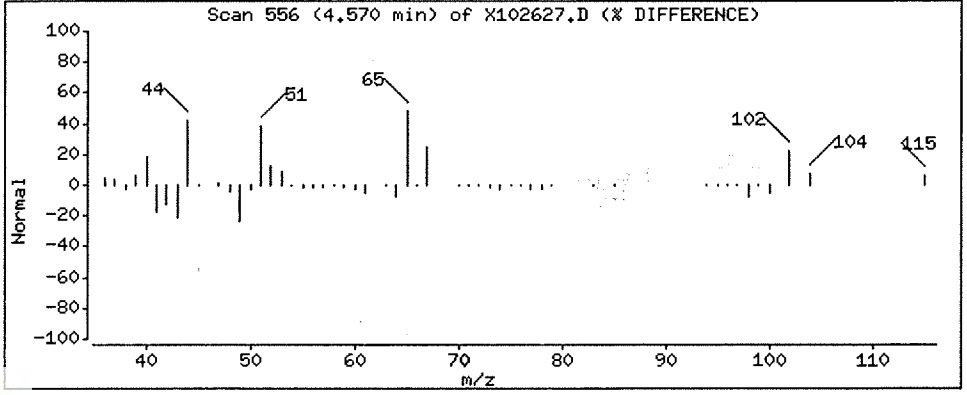












Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102627.D Page 5

Date : 26-OCT-2020 19:32

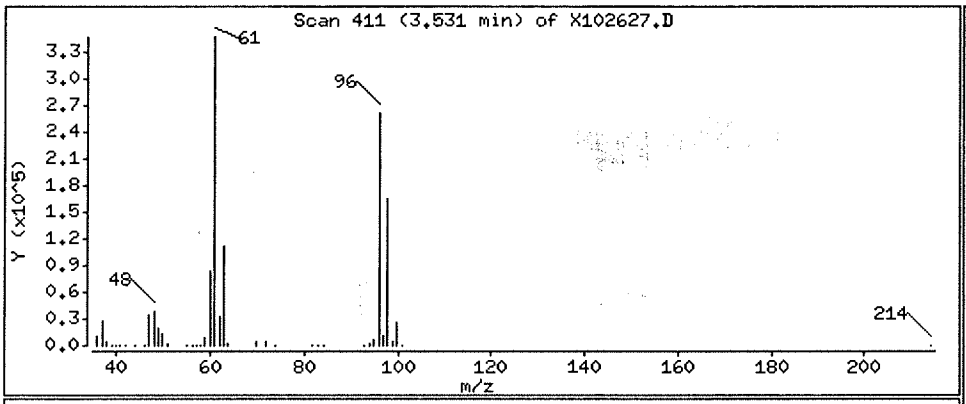
Client ID: HS20100779-06 Instrument: voa6.i

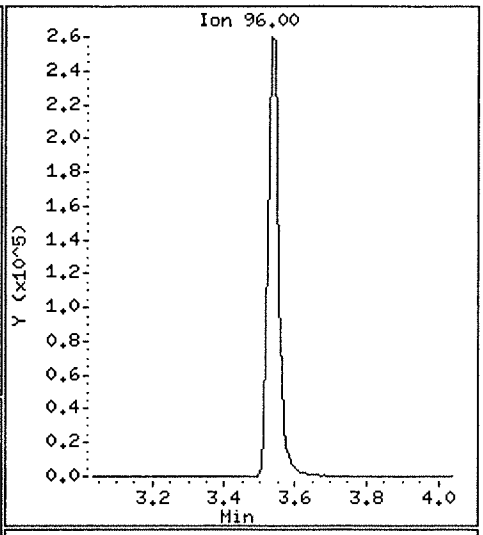
Sample Info: HS20100779-06;HS20100779-06;;;

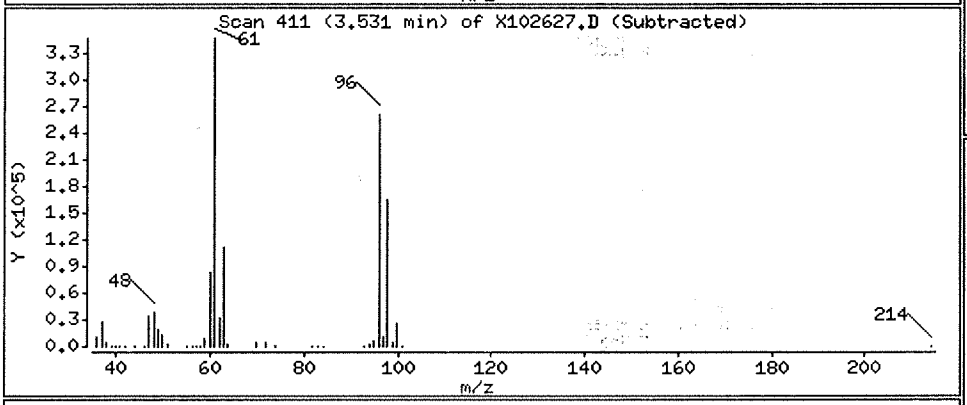
Purge Volume: 5.0 Operator: PC

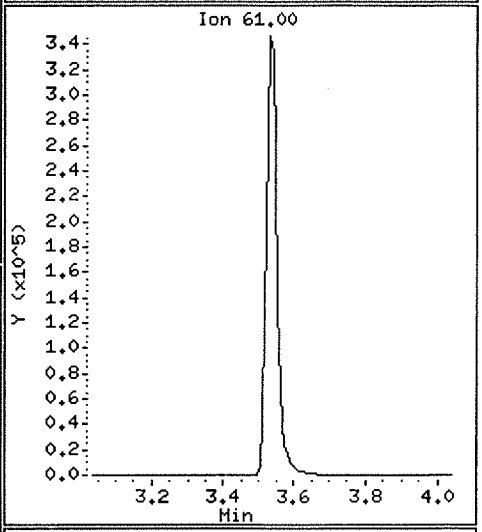
Column phase: DB624 Column diameter: 0.18

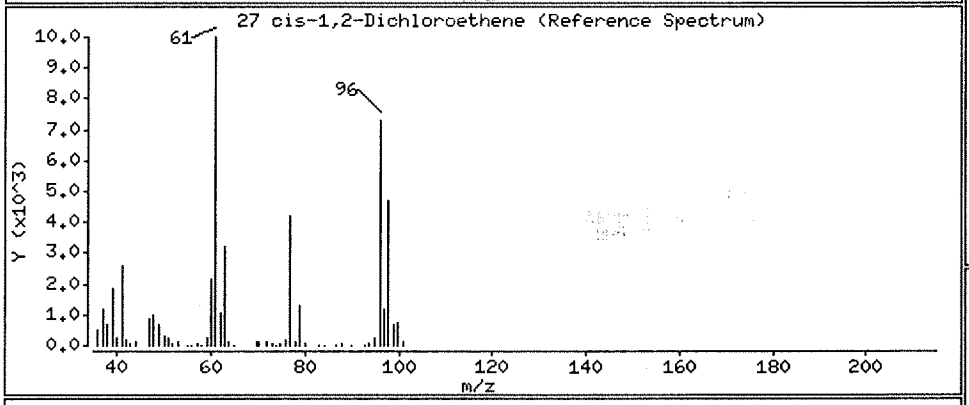
27 cis-1,2-Dichloroethene Concentration: 2580.04 ug/l

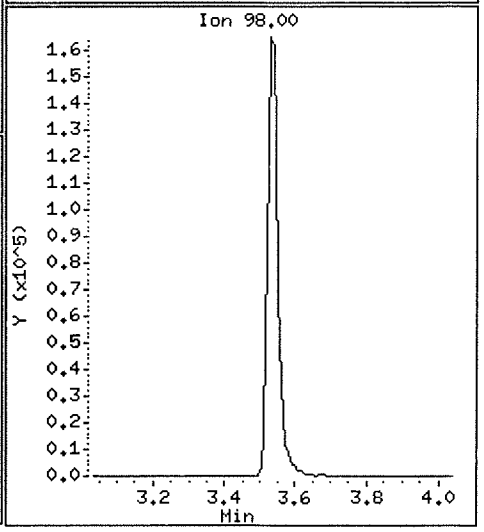


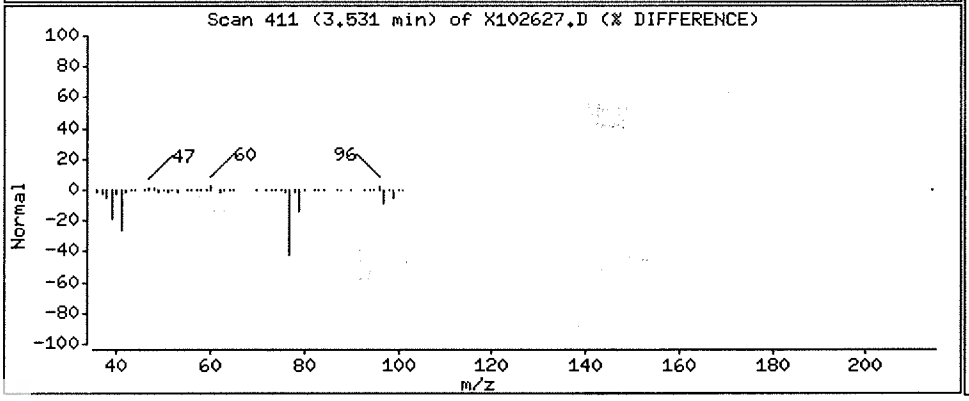












Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102627.D

Date : 26-OCT-2020 19:32

Client ID: HS20100779-06

Instrument: voa6.i

Sample Info: HS20100779-06;HS20100779-06;;;

Purge Volume: 5.0

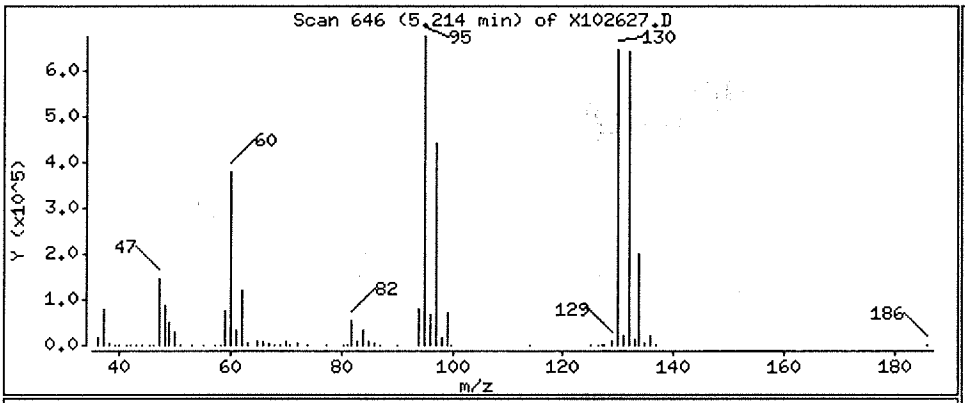
Operator: PC

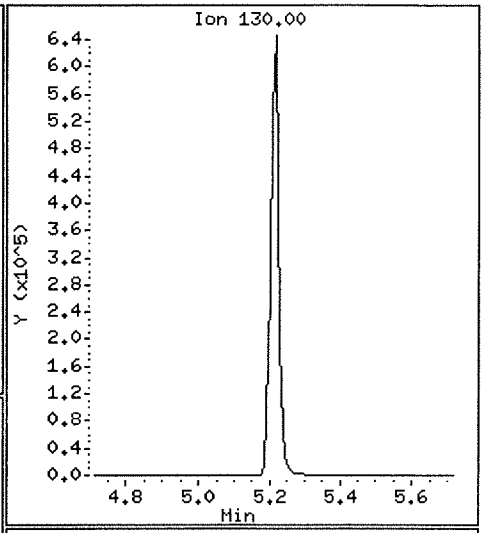
Column phase: DB624

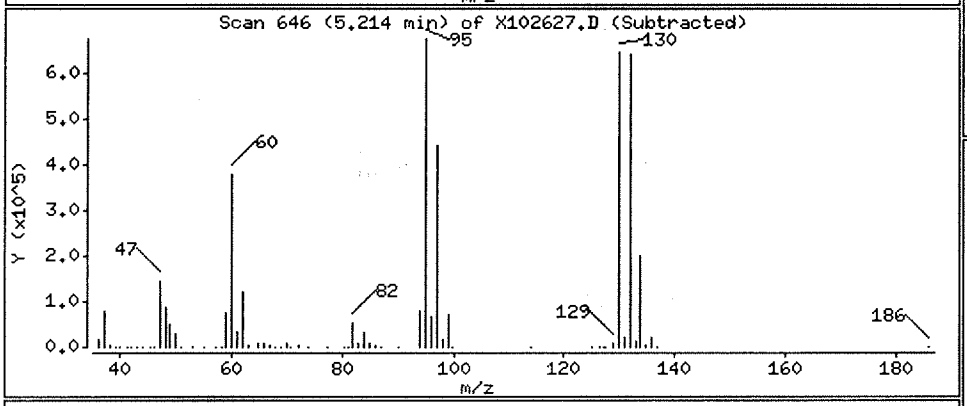
Column diameter: 0.18

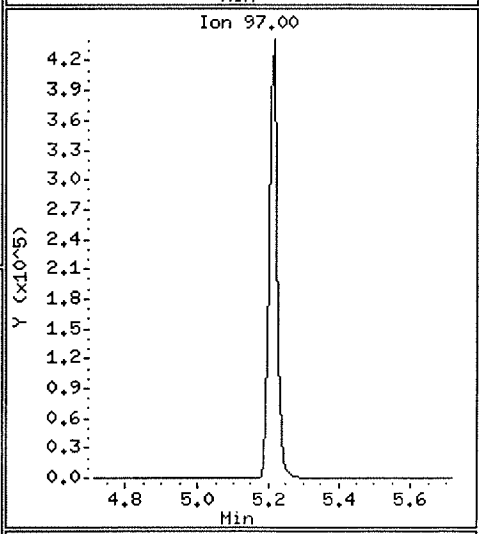
38 Trichloroethene

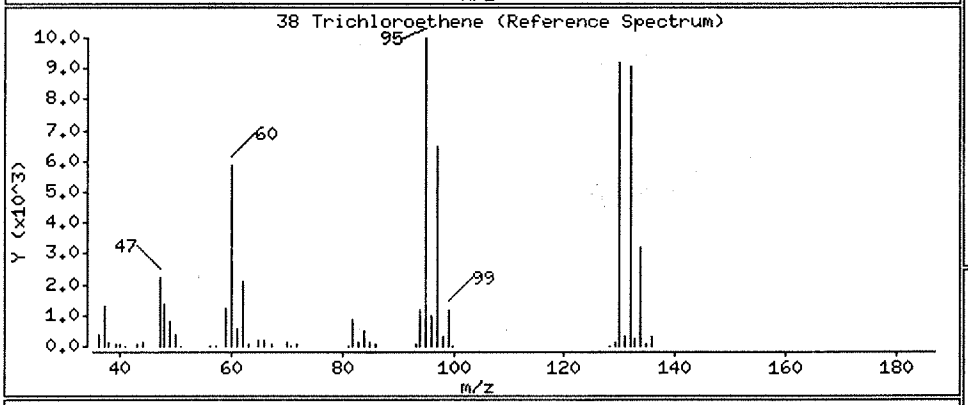
Concentration: 6243.58 ug/l

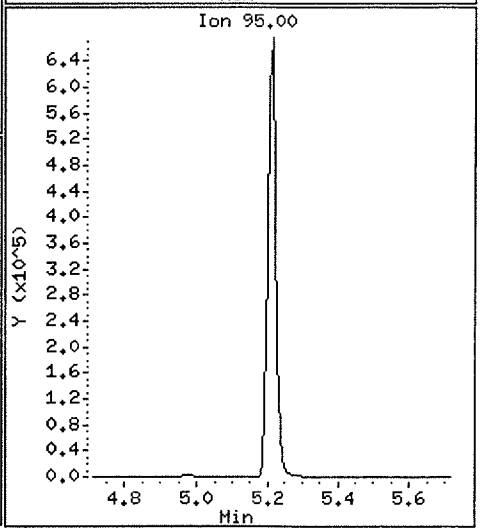


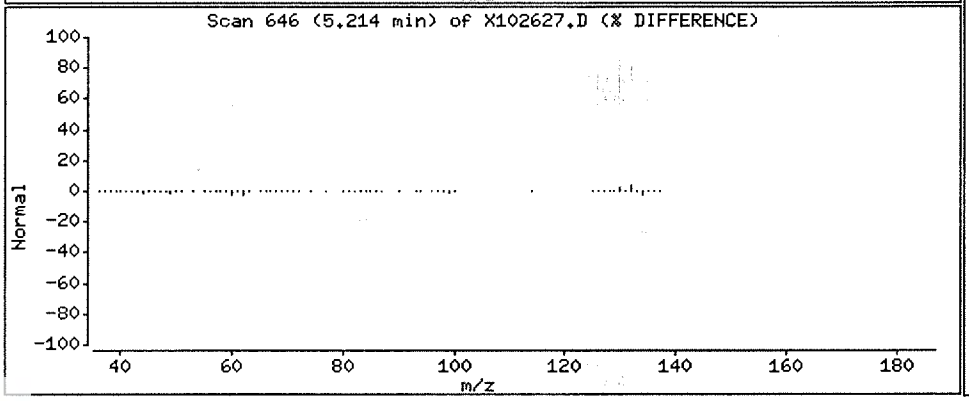












Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102627.D

Date : 26-OCT-2020 19:32

Client ID: HS20100779-06

Instrument: voa6.i

Sample Info: HS20100779-06;HS20100779-06;;;

Purge Volume: 5.0

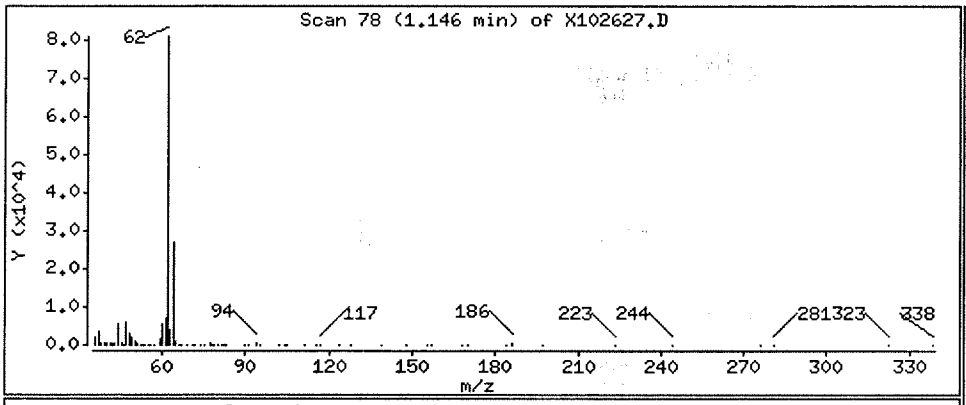
Operator: PC

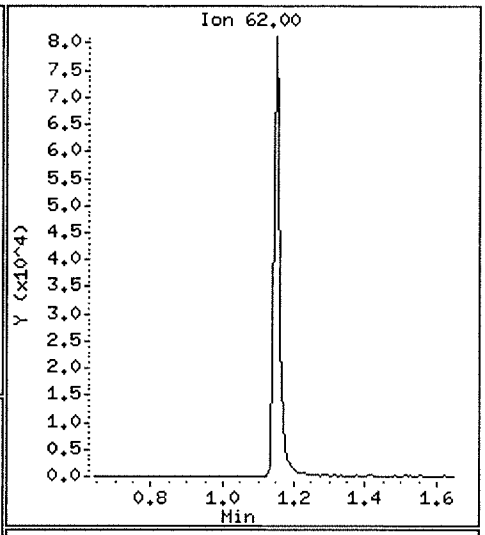
Column phase: DB624

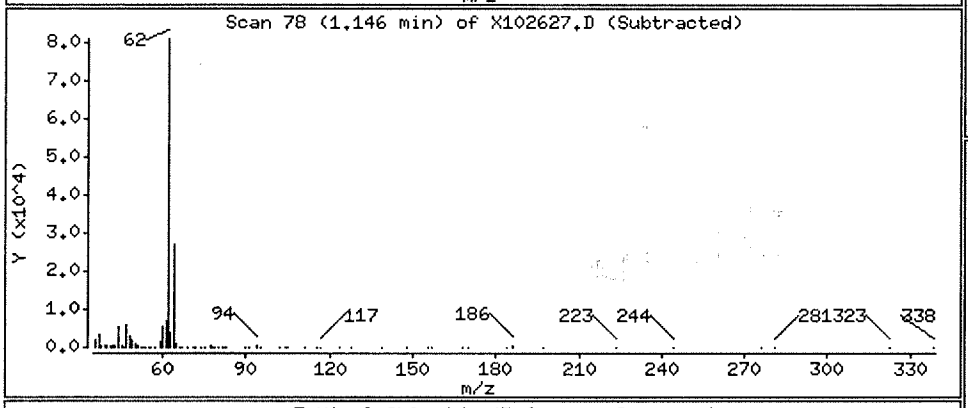
Column diameter: 0.18

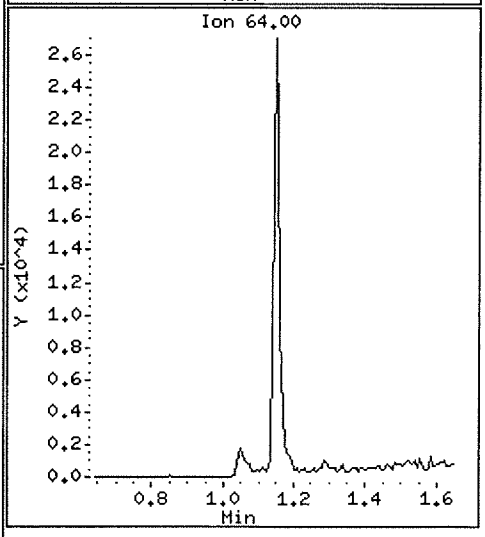
5 Vinyl Chloride

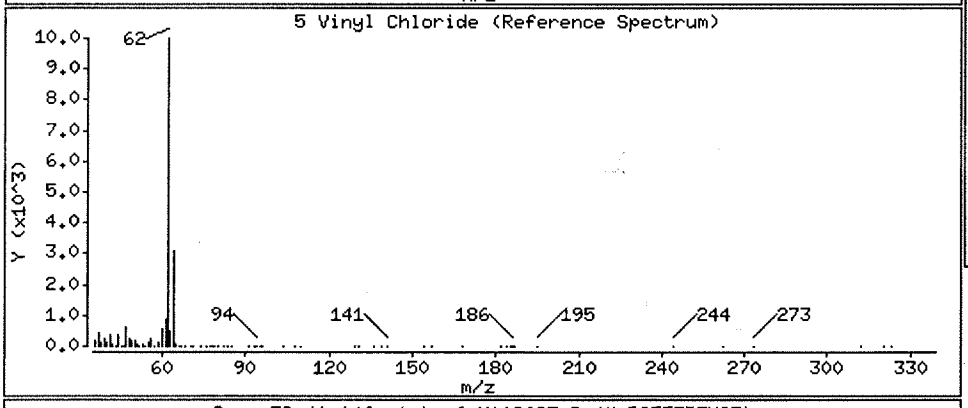
Concentration: 233.90 ug/l

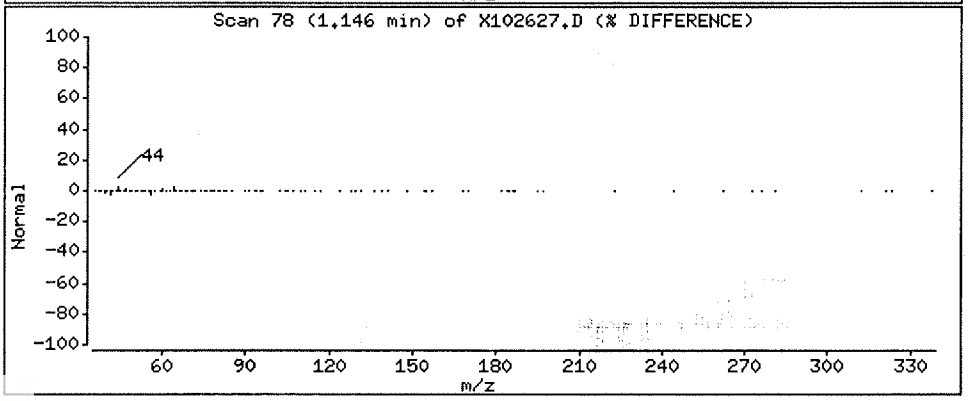












Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102628.D Page 1
Report Date: 30-Nov-2020 13:41

ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201026.b\X102628.D
Lab Smp Id: HS20100779-06 Client Smp ID: HS20100779-06
Inj Date : 26-OCT-2020 19:53
Operator : PC Inst ID: voa6.i
Smp Info : HS20100779-06;HS20100779-06;;;
Misc Info : HS18090001;WATER;0;100;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201026.b\8260W.m
Meth Date : 30-Nov-2020 13:37 dev.giga Quant Type: ISTD
Cal Date : 25-OCT-2020 19:09 Cal File: X102508.D
Als bottle: 27
Dil Factor: 100.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	100.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

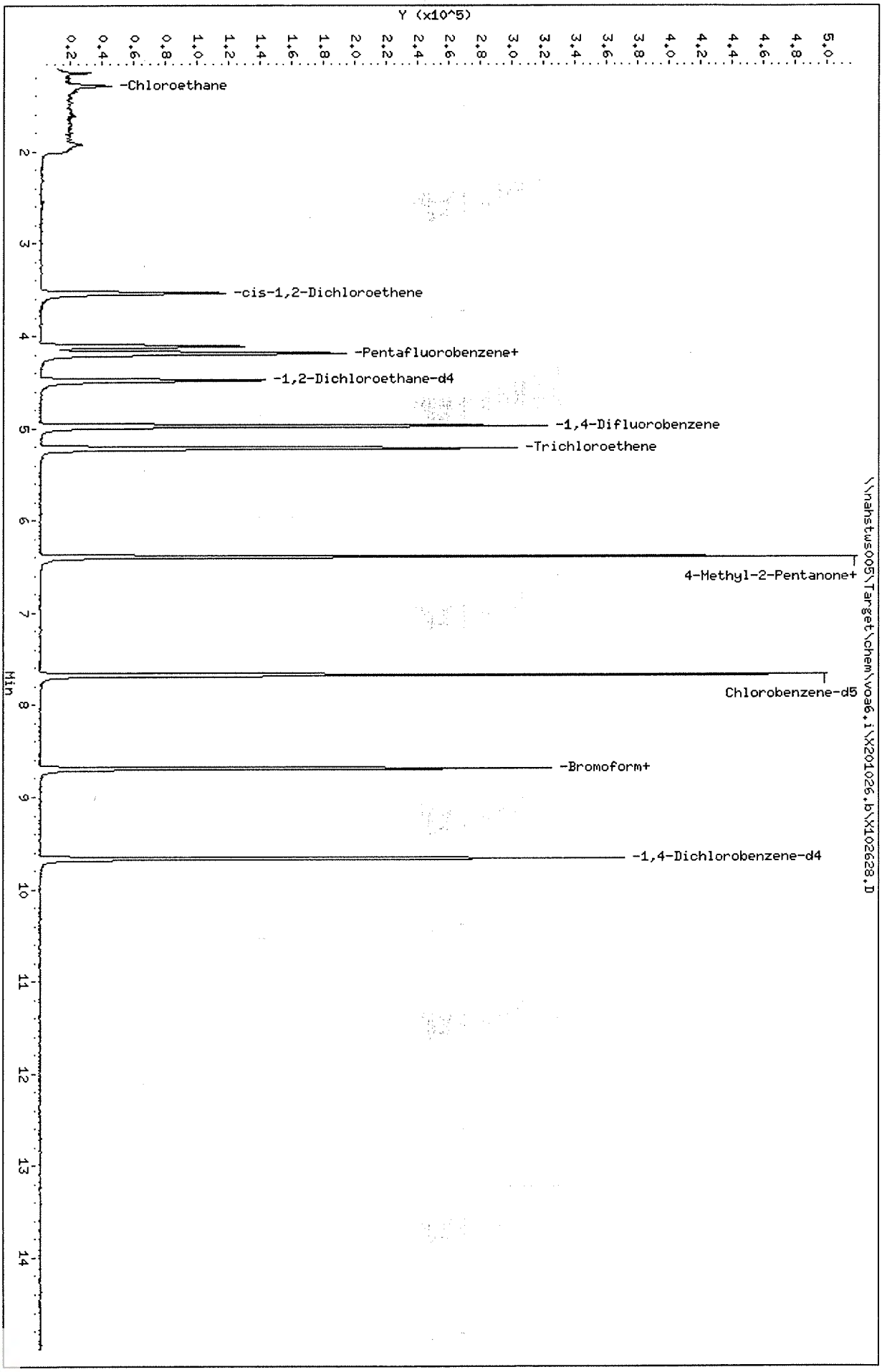
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	140848	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	237450	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	201993	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	77237	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.476	4.483	(1.068)	101193	41.0443	41.04
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	83296	43.3813	43.38
$	30 Dibromofluoromethane	113	4.104	4.111	(0.979)	81808	42.1920	42.19(M)
$	48 Toluene-d8	98	6.389	6.388	(0.833)	286968	50.3608	50.36
	27 cis-1,2-Dichloroethene	96	3.538	3.538	(0.844)	52576	23.8543	2385.42
	38 Trichloroethene	130	5.214	5.214	(1.049)	84663	54.2095	5420.94
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	11410	2.63506	263.50(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102628.D
Date : 26-OCT-2020 19:53
Client ID: HS20100779-06
Sample Info: HS20100779-06;HS20100779-06;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18



Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102628.D

Date : 26-OCT-2020 19:53

Client ID: HS20100779-06

Instrument: voa6.i

Sample Info: HS20100779-06;HS20100779-06;;;

Purge Volume: 5.0

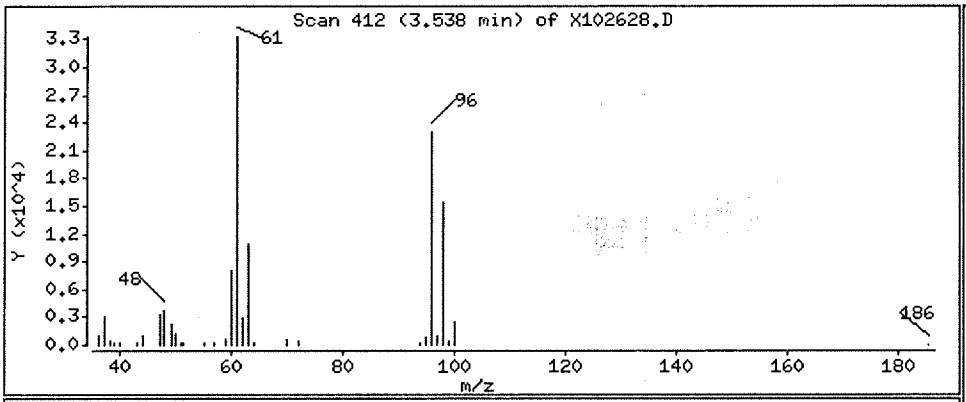
Operator: PC

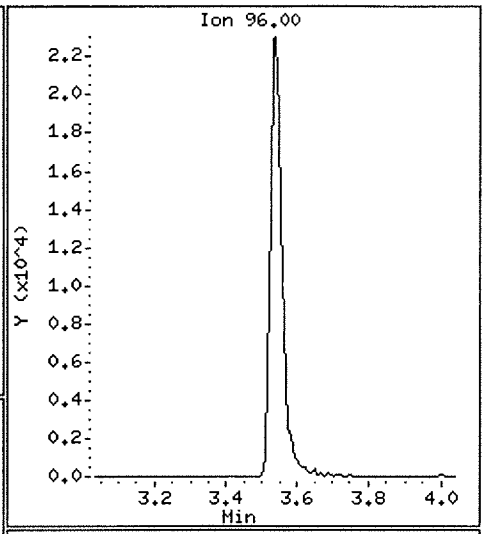
Column phase: DB624

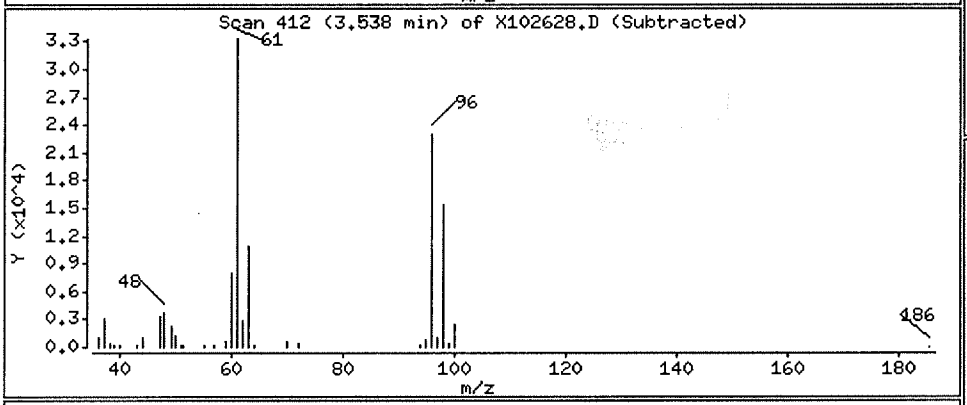
Column diameter: 0.18

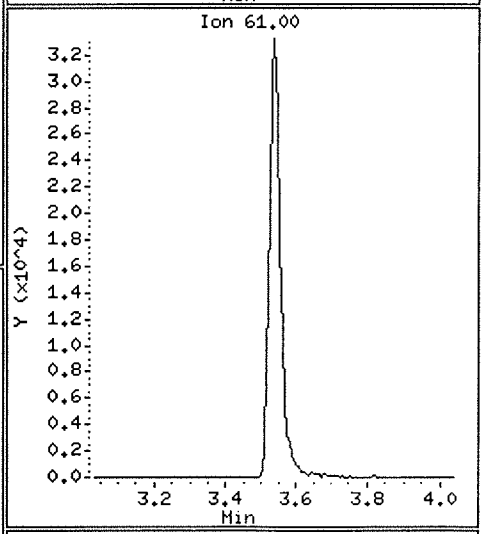
27 cis-1,2-Dichloroethene

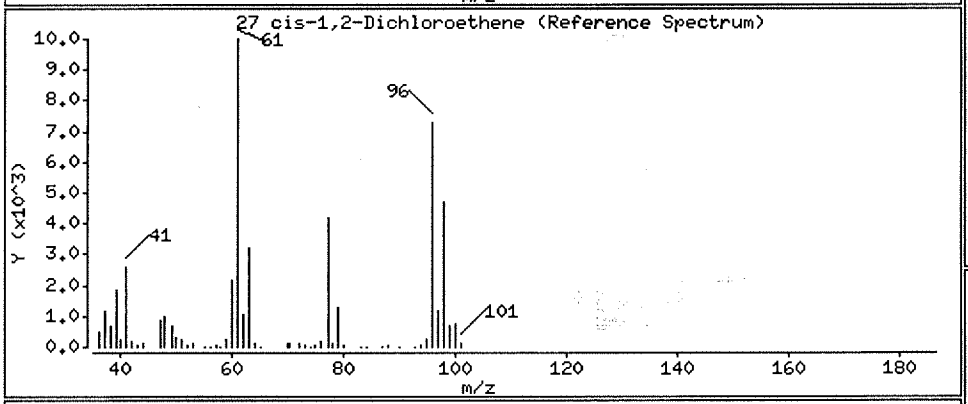
Concentration: 2385.42 ug/l

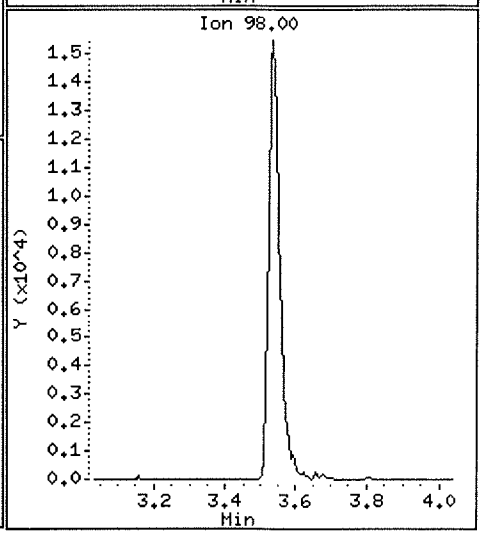


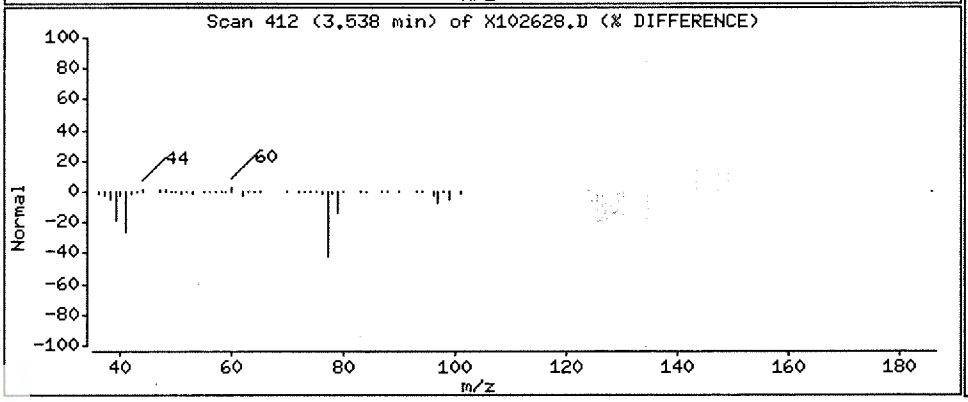












Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102628.D

Date : 26-OCT-2020 19:53

Client ID: HS20100779-06

Instrument: voa6.i

Sample Info: HS20100779-06;HS20100779-06;;;

Purge Volume: 5.0

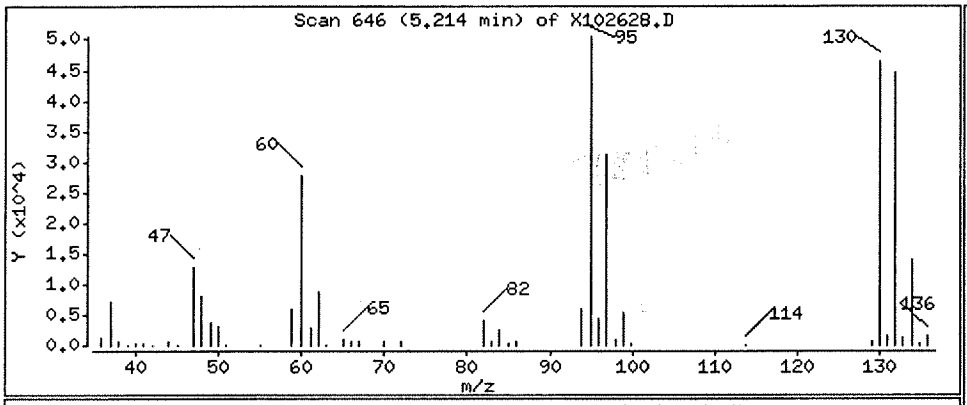
Operator: PC

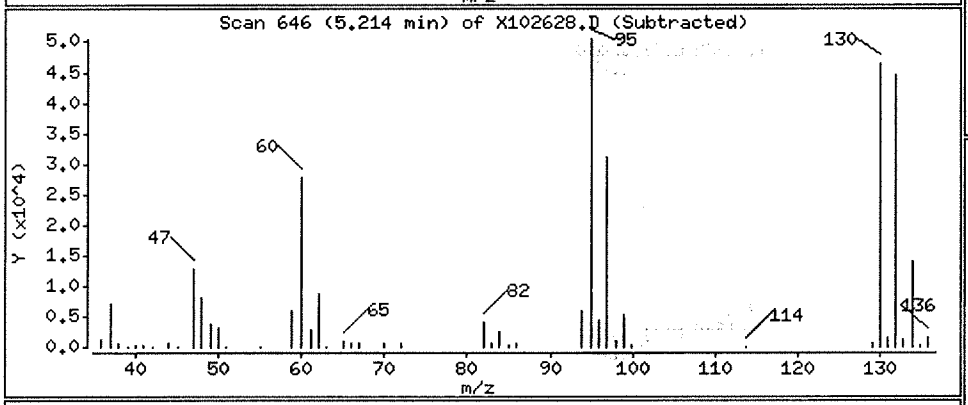
Column phase: DB624

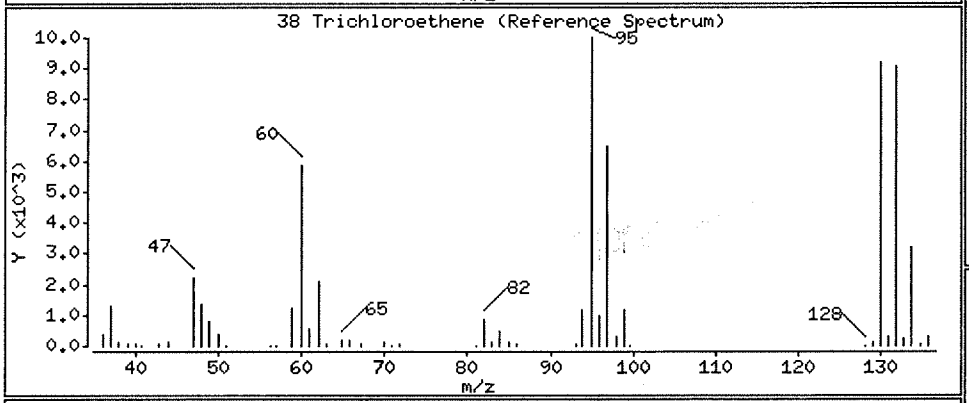
Column diameter: 0.18

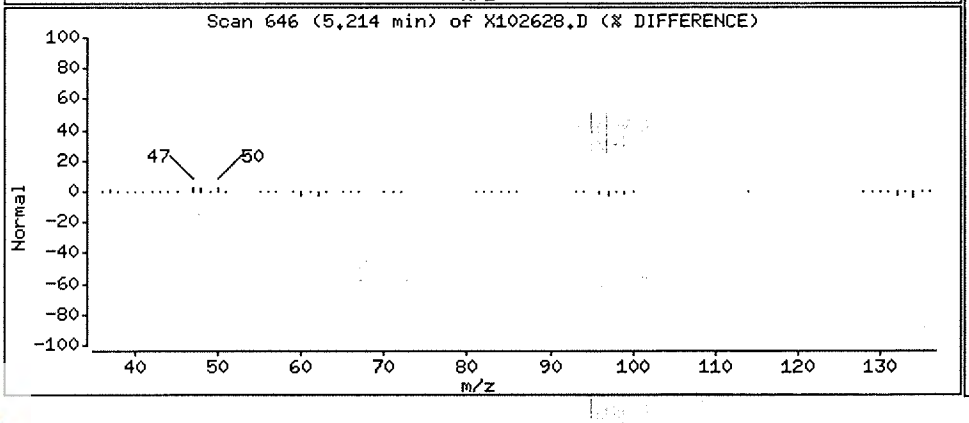
38 Trichloroethene

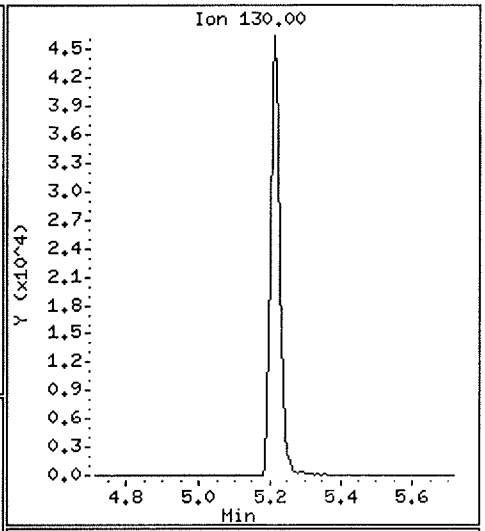
Concentration: 5420.94 ug/l

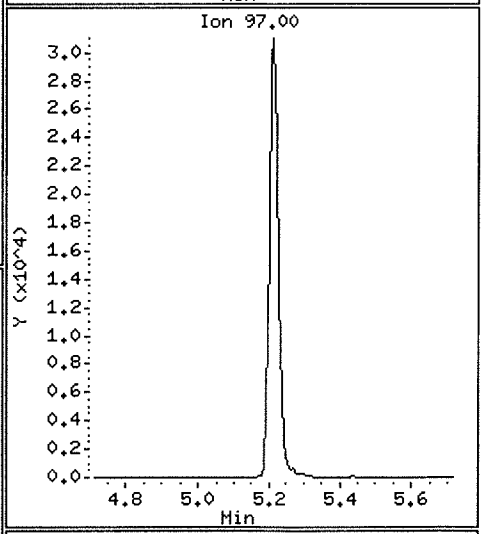


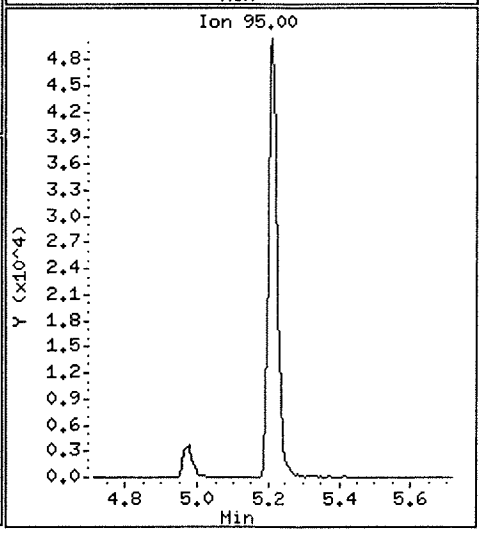












Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102628.D

Date : 26-OCT-2020 19:53

Client ID: HS20100779-06

Instrument: voa6.i

Sample Info: HS20100779-06;HS20100779-06;;;

Purge Volume: 5.0

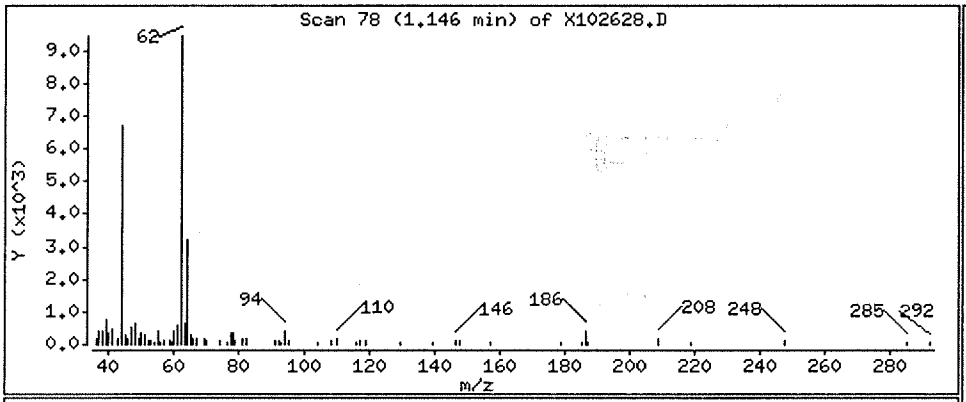
Operator: PC

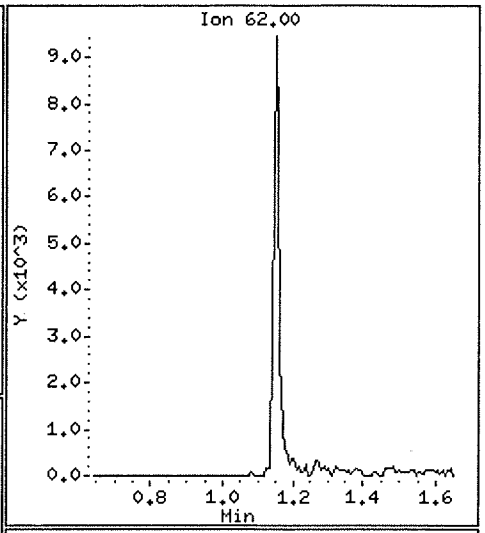
Column phase: DB624

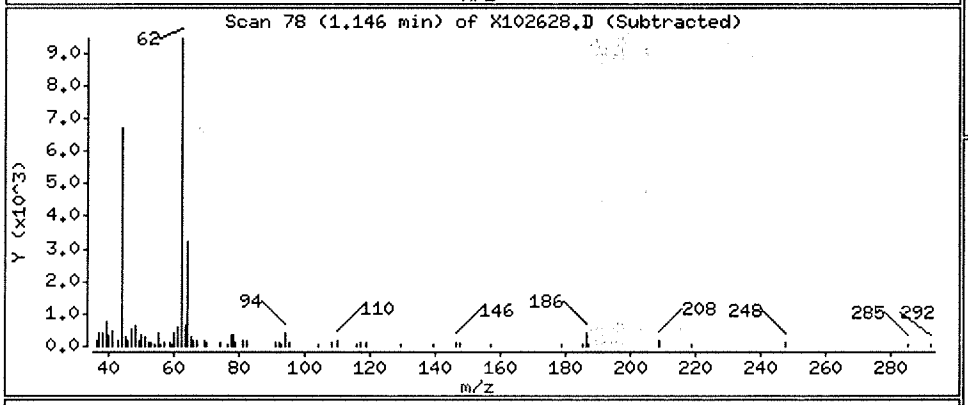
Column diameter: 0.18

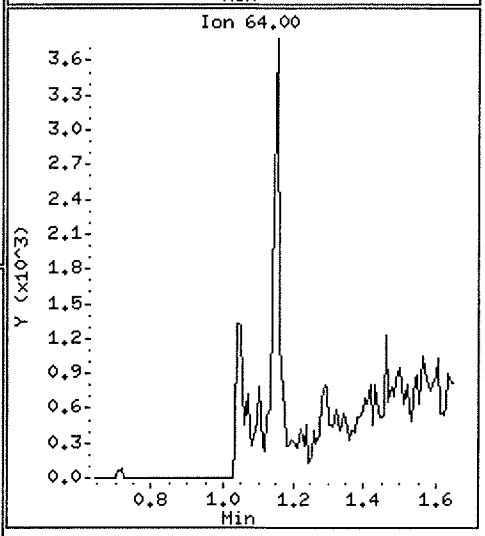
5 Vinyl Chloride

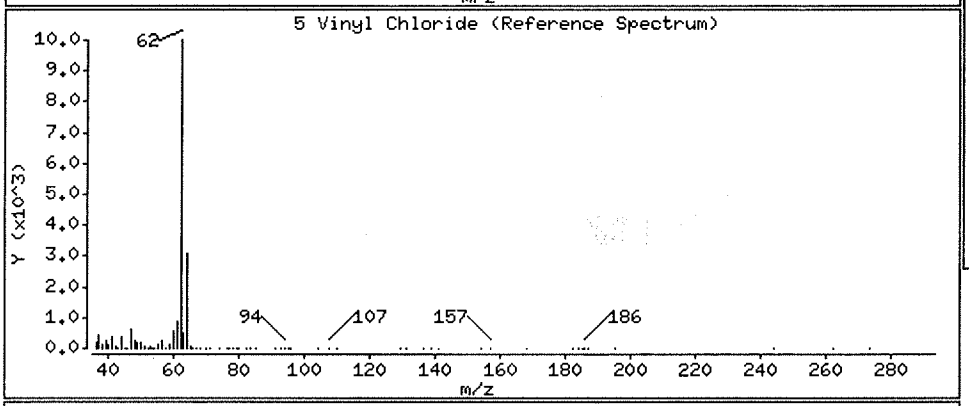
Concentration: 263.50 ug/l

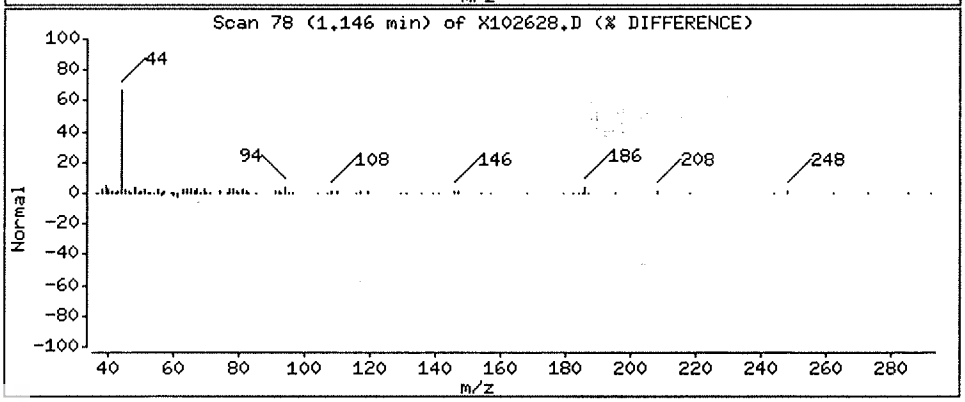






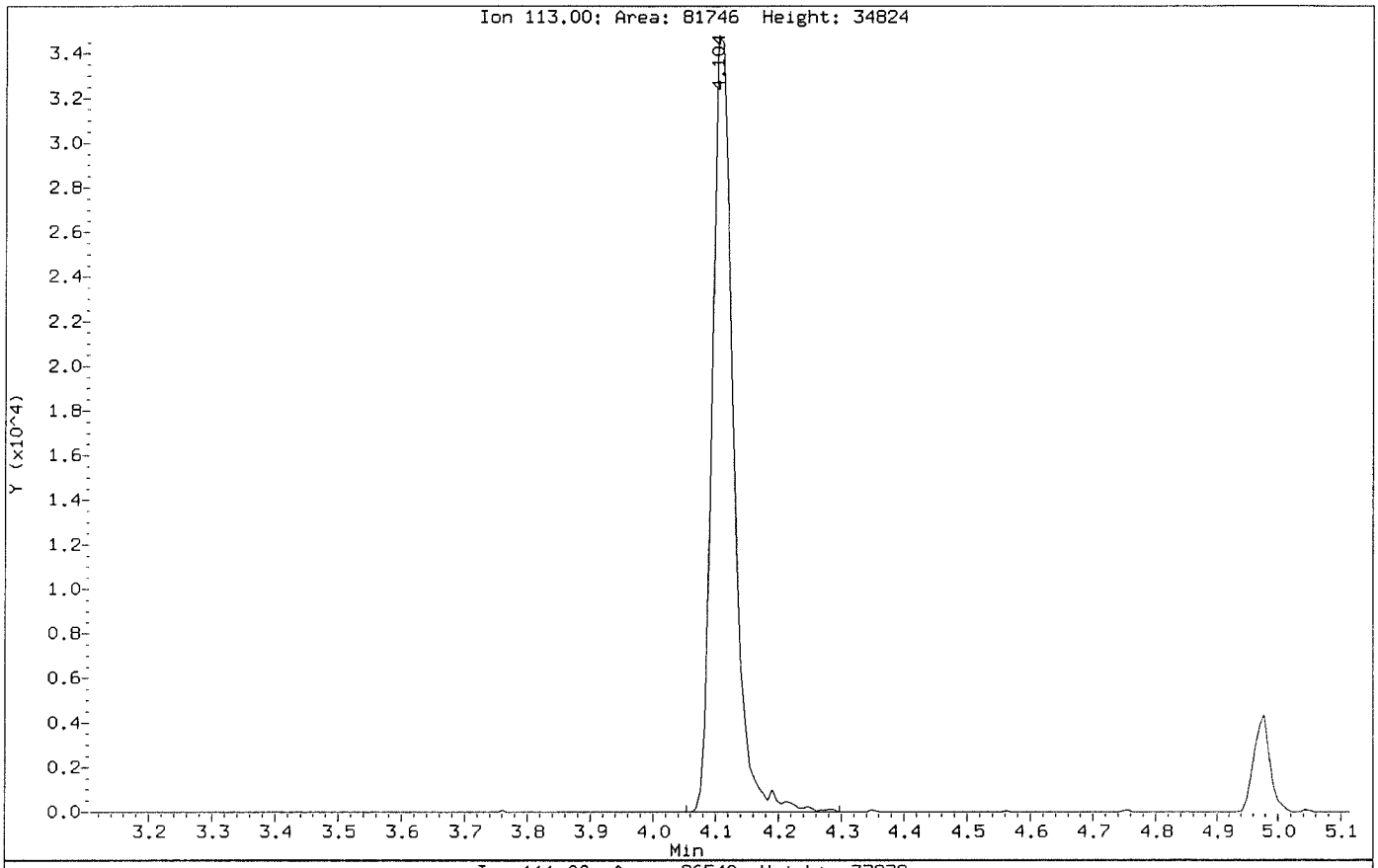


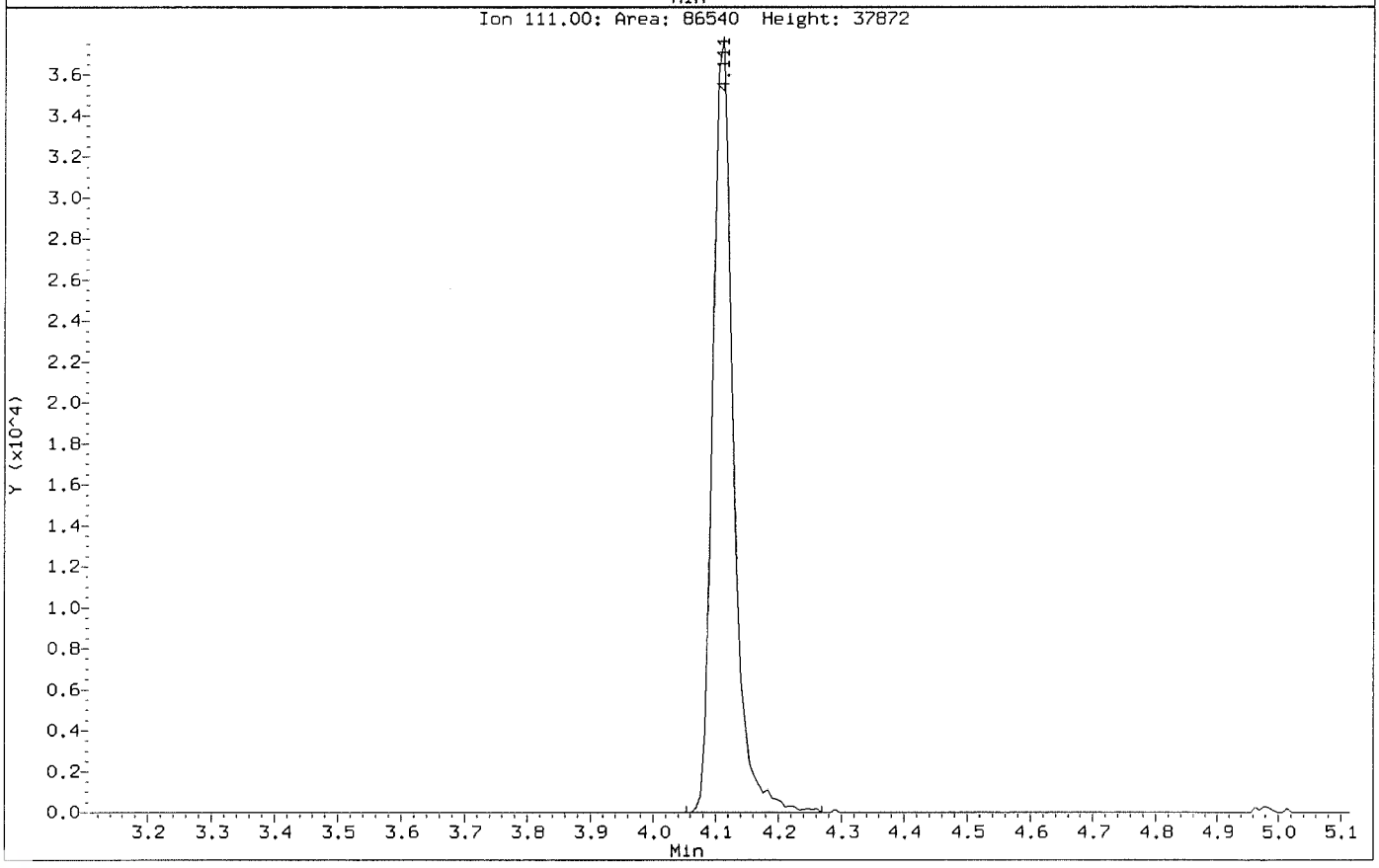




Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\Before\X102628.D
Injection Date: 26-OCT-2020 19:53
Instrument: voa6.i
Client Sample ID: HS20100779-06

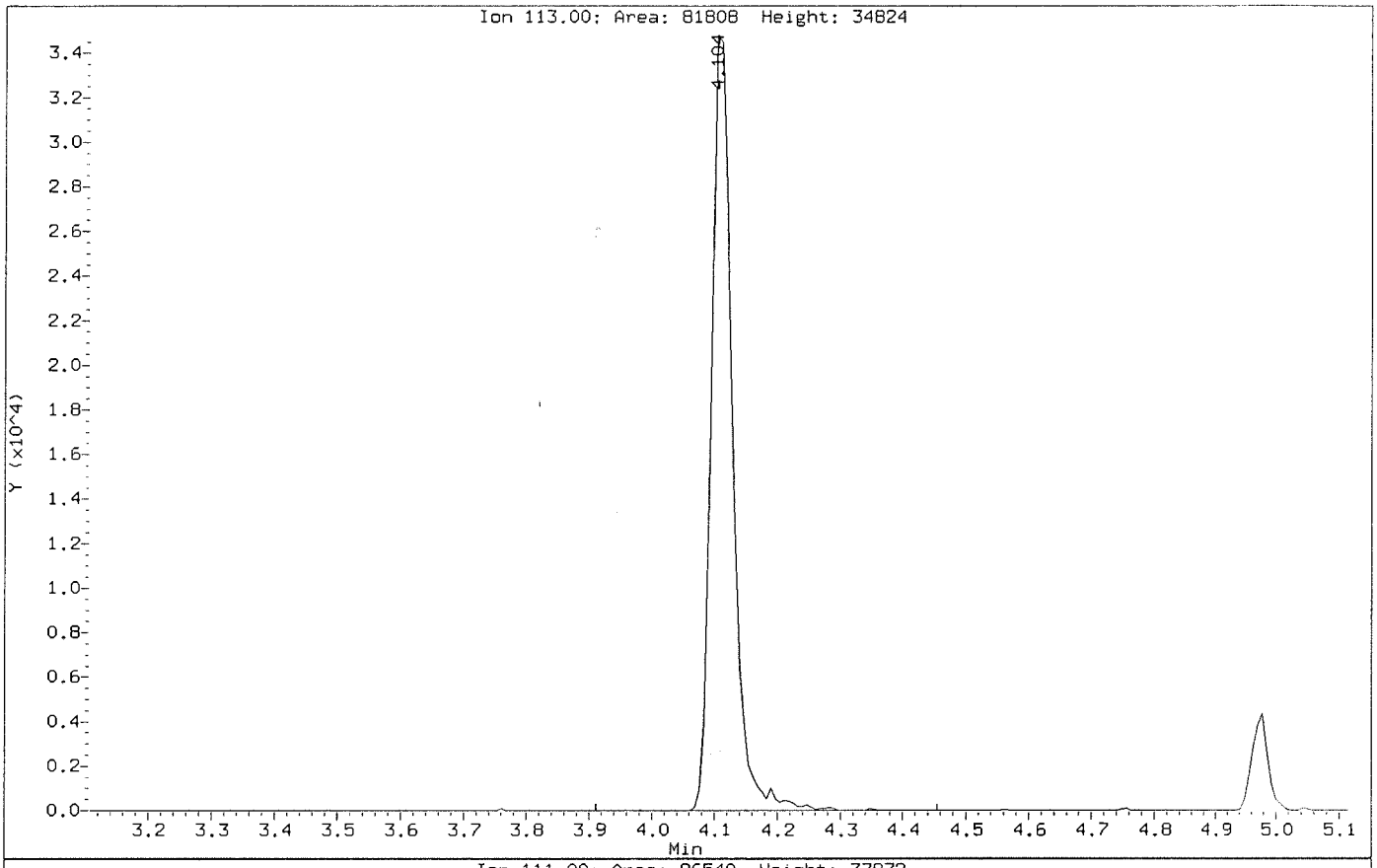
Compound: Dibromofluoromethane
CAS Number: 1868-53-7

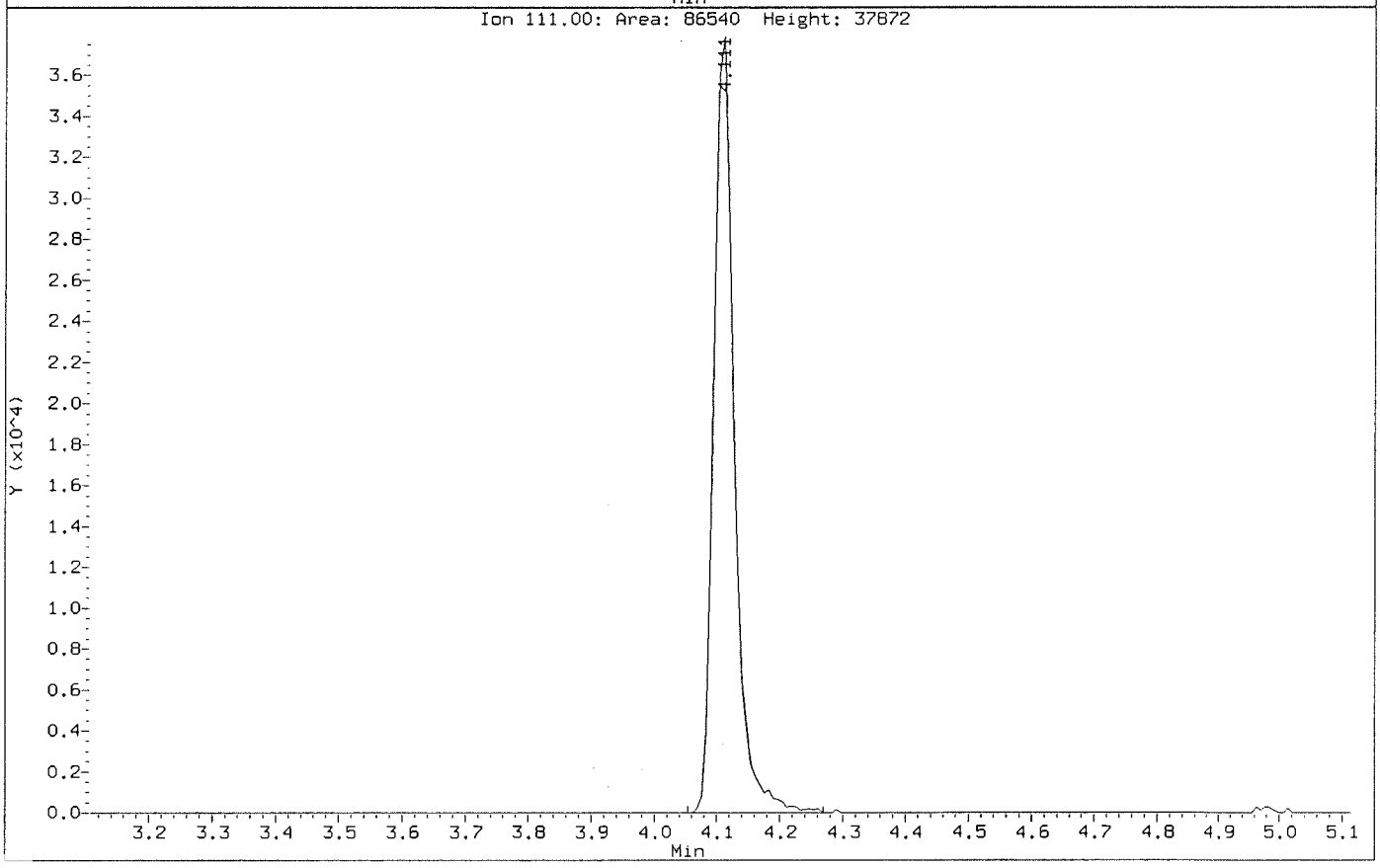




Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102628.D
Injection Date: 26-OCT-2020 19:53
Instrument: voa6.i
Client Sample ID: HS20100779-06

Compound: Dibromofluoromethane
CAS Number: 1868-53-7





Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102629.D Page 1
Report Date: 30-Nov-2020 13:32

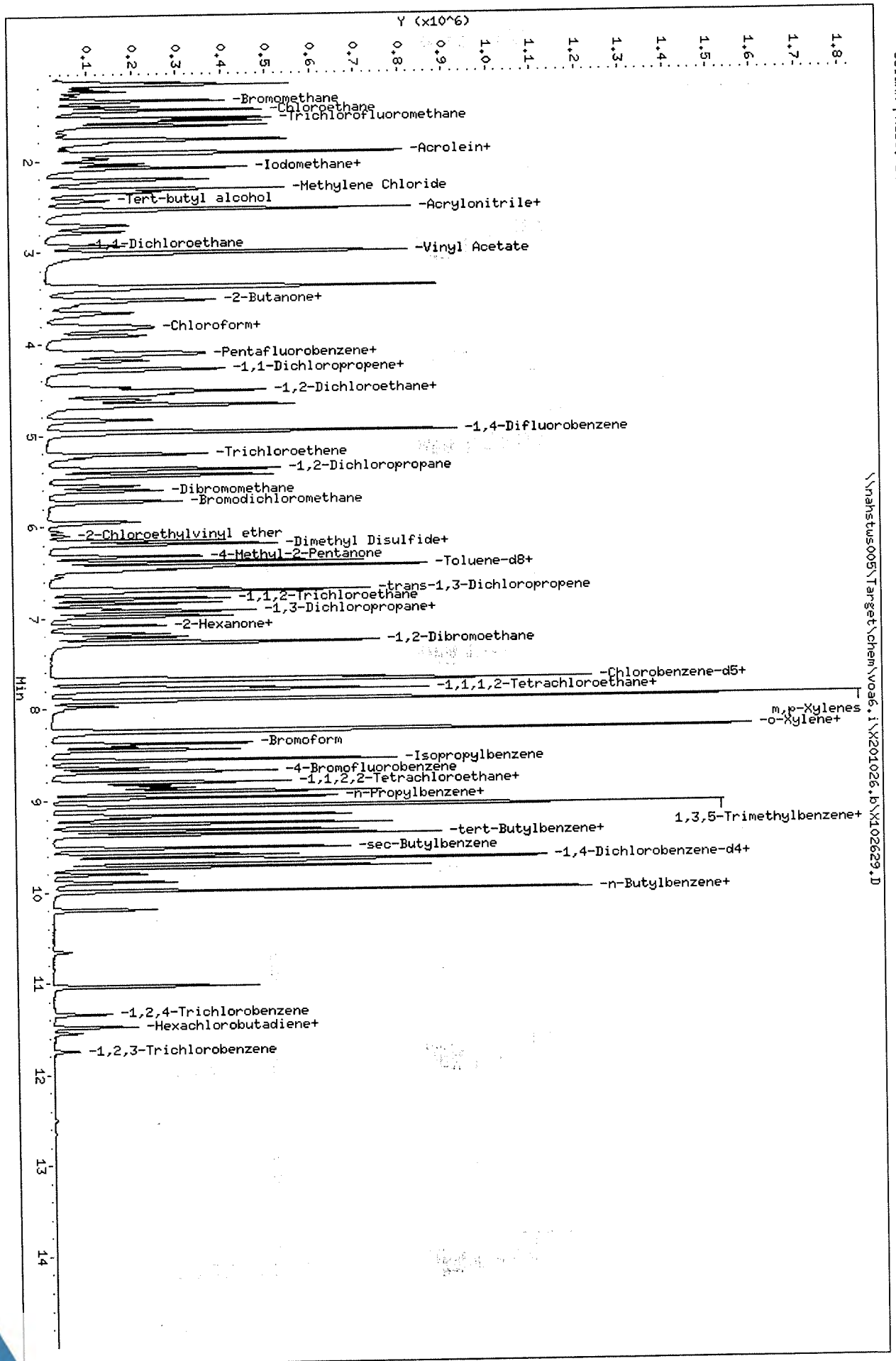
ALS Laboratory Group

Data file : \\nahstws005\Target\chem\voa6.i\X201026.b\X102629.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 26-OCT-2020 20:14
Operator : PC Inst ID: voa6.i
Smp Info : CCV-END;CCV-END;2;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\nahstws005\Target\chem\voa6.i\X201026.b\8260W.m
Meth Date : 30-Nov-2020 13:31 voa6.i Quant Type: ISTD
Cal Date : 25-OCT-2020 19:09 Cal File: X102508.D
Als bottle: 28 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SLCBI-HOU.sub
Target Version: 4.14

Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

		QUANT SIG					AMOUNTS	
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/l)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.189	4.189	(1.000)	150836	50.0000	
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	319193	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	291442	50.0000	
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	131559	50.0000	
$	35 1,2-Dichloroethane-d4	65	4.483	4.483	(1.070)	135983	50.0000	51.49
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	130566	50.0000	46.95
$	30 Dibromofluoromethane	113	4.111	4.111	(0.981)	104702	50.0000	50.42
$	48 Toluene-d8	98	6.388	6.388	(0.833)	369384	50.0000	45.11
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	85844	50.0000	45.28
	11 1,1-Dichloroethene	96	1.919	1.919	(0.458)	151284	50.0000	41.18
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	159093	50.0000	46.14
	27 cis-1,2-Dichloroethene	96	3.538	3.538	(0.844)	107568	50.0000	45.57
	17 Methylene Chloride	84	2.313	2.313	(0.552)	99294	50.0000	41.65
	38 Trichloroethene	130	5.214	5.214	(1.049)	98822	50.0000	47.07
	5 Vinyl Chloride	62	1.145	1.145	(0.273)	192569	50.0000	41.52



Data File: \\nahstws005\Target\chem\voa6.i\X201026.b\X102629.D
Date : 26-OCT-2020 20:14
Client ID: CCV-END
Sample Info: CCV-END;CCV-END;2;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: voa6.i
Operator: PC
Column diameter: 0.18

HS20100779 RSK175 Raw Data

ALS WO# HS20100779

FID04 -Logbook

Batch: 26730 **Analyst:** Nosa Izekor

Date: 01-24-2017 **Reviewer:**

Method: RSK 175 ICAL **Laboratory:** Houston

Comments: Target Sequence 170124

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	ICAL1	CALIB_1	01-24-2017 09:06 am	1.00	0.00 mL	0.00 mL	001.D	Liquid	Y	NA
2	ICAL2	CALIB_2	01-24-2017 09:30 am	1.00	0.00 mL	0.00 mL	002.D	Liquid	Y	NA
3	ICAL3	CALIB_3	01-24-2017 09:59 am	1.00	0.00 mL	0.00 mL	003.D	Liquid	Y	NA
4	ICAL4	CALIB_4	01-24-2017 10:15 am	1.00	0.00 mL	0.00 mL	004.D	Liquid	Y	NA
5	ICAL5	CALIB_5	01-24-2017 10:39 am	1.00	0.00 mL	0.00 mL	005.D	Liquid	Y	NA
6	ICAL6	CALIB_6	01-24-2017 10:57 am	1.00	0.00 mL	0.00 mL	006.D	Liquid	Y	NA
7	ICAL7	CALIB_7	01-24-2017 11:13 am	1.00	0.00 mL	0.00 mL	007.D	Liquid	Y	NA
8	ICV	METHSPIKI	01-24-2017 12:05 pm	1.00	0.00 mL	0.00 mL	008.D	Liquid	Y	NA
9	LCS-170124	LCS	01-24-2017 12:24 pm	1.00	0.00 mL	0.00 mL	009.D	Liquid	Y	NA
10	LCSD-170124	LCSD	01-24-2017 12:40 pm	1.00	0.00 mL	0.00 mL	010.D	Liquid	Y	NA
11	MBLK-170124	MBLK	01-24-2017 12:57 pm	1.00	0.00 mL	0.00 mL	011.D	Liquid	Y	NA
12	HS17010778-01	SAMP	01-24-2017 01:14 pm	1.00	0.00 mL	0.00 mL	012.D	Liquid	Y	NA
13	HS17010779-01	SAMP	01-24-2017 01:31 pm	1.00	0.00 mL	0.00 mL	013.D	Liquid	Y	NA
14	HS17010779-01DUP	SAMP	01-24-2017 01:47 pm	1.00	0.00 mL	0.00 mL	014.D	Liquid	Y	NA
15	CCV	CCV	01-24-2017 02:01 pm	1.00	0.00 mL	0.00 mL	015.D	Liquid	Y	NA

Chemical	Value
ICAL STD ID	30010700217
ICV STD ID	30010700610

FORM 3
WATER GASES METHOD SPIKE RECOVERY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100779

Matrix Spike - ENG SC Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
Ethene	16.800	19.090	114	75-125
Methane	9.647	9.597	99	75-125
Ethane	18.043	19.657	109	75-125
Propane	26.463	27.238	103	75-125
N-Butane	34.955	36.010	103	75-125

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

COMMENTS: _____

_____

FORM III GASES

FORM 6
GASES INITIAL CALIBRATION DATA

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100779

Instrument ID: FID-4 Calibration Date(s): 01/24/17 01/24/17

Column: RTX-PLOT ID: 0.53 (mm) Calibration Time(s): 0906 1113

LAB FILE ID: RF10: 001 RF25: 002 RF50: 003
RF100: 004 RF250: 005 RF500: 006

COMPOUND	RF10	RF25	RF50	RF100	RF250	RF500
Ethene	535.608	567.359	564.985	516.024	665.282	425.678
Methane	968.912	978.238	1019.699	880.798	960.713	930.704
Ethane	602.493	670.177	658.908	597.201	808.513	817.630
Propane	500	1279	2602	4785	18294	38286
N-Butane	438	936	2034	3864	18446	42817

FORM VI GASES

FORM 6
GASES INITIAL CALIBRATION DATA

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2010077

Instrument ID: FID-4 Calibration Date(s): 01/24/17 01/24/17

Column: RTX-PLOT ID: 0.53 (mm) Calibration Time(s): 0906 1113

RF1000: 007

COMPOUND	RF1000	CURVE	COEFFICENTS A0	A1	A2	%RSD OR R^2	MA
Ethene	828.858	AVRG		586.256273		21.932	
Methane	1081.580	AVRG		974.377787		6.550	
Ethane	999.335	AVRG		736.322546		19.885	
Propane	96509	2ORDR	0.97987006	1.529e-003	-4.58e-009	0.9991365	0
N-Butane	114164	2ORDR	2.46870151	1.834e-003	-5.54e-009	0.9980766	0

FORM VI GASES

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\001.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\001.D
Lab Smp Id: ICAL1 Client Smp ID: ICAL1
Inj Date : 24-JAN-2017 09:06
Operator : JA Inst ID: FID-4.i
Smp Info : ICAL1;ICAL1;;;
Misc Info :
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 09:06 Cal File: 001.D
Als bottle: 1 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)
1 Methane	1.043	1.030	0.013	374	0.38600	0.383(a)
2 Ethene	1.553	1.556	-0.003	361	0.67400	0.615(a)
3 Ethane	1.716	1.723	-0.007	435	0.72200	0.590(a)
4 Propane	4.073	4.113	-0.040	500	1.05900	1.743
5 N-Butane	7.640	7.690	-0.050	438	1.39800	3.271

QC Flag Legend

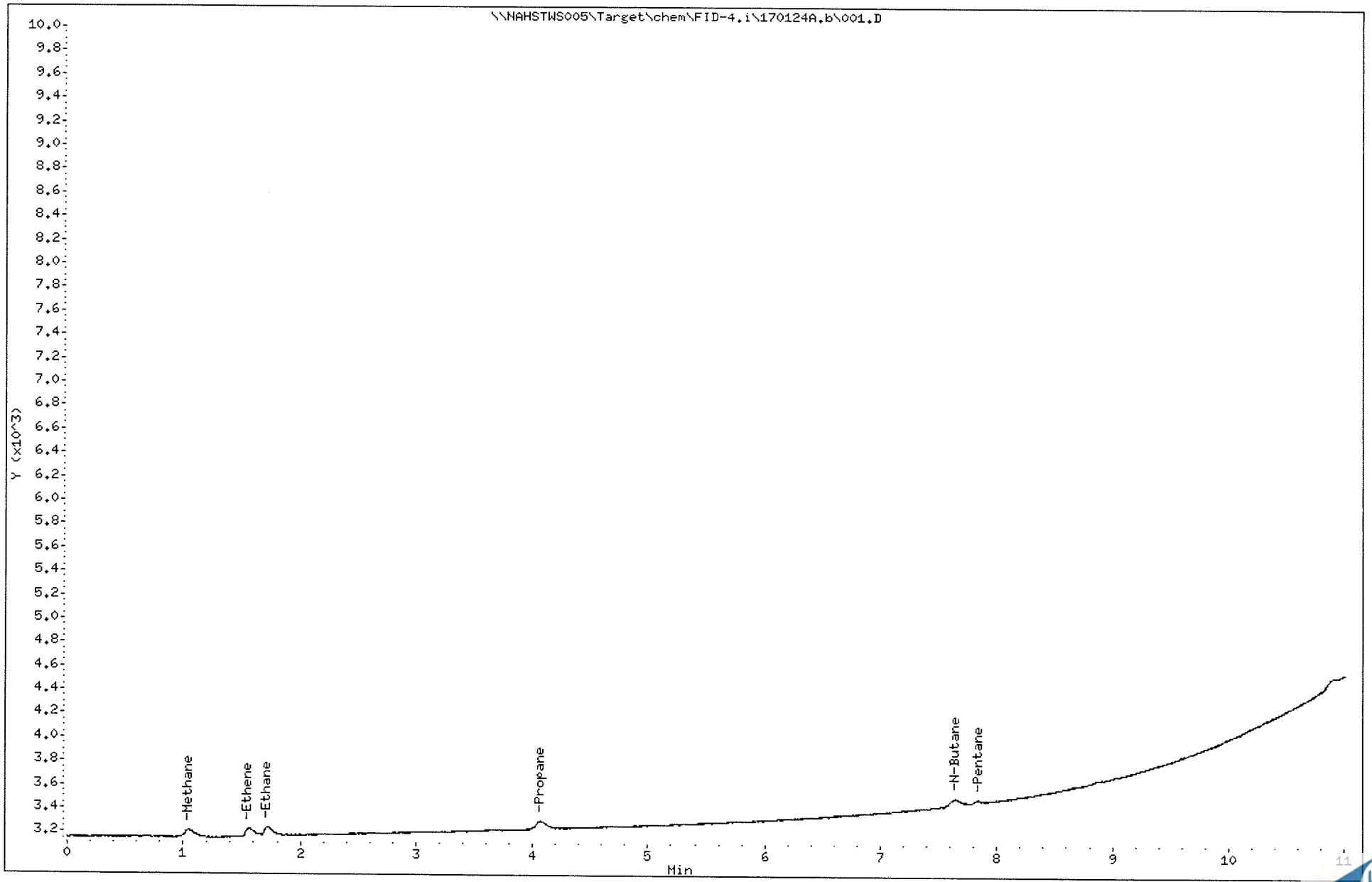
a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\001.D
Date : 24-JAN-2017 09:06
Client ID: ICAL1
Sample Info: ICAL1;ICAL1;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: JA
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\002.D
Lab Smp Id: ICAL2 Client Smp ID: ICAL2
Inj Date : 24-JAN-2017 09:30
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL2;ICAL2;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 09:59 Cal File: 003.D
Als bottle: 2 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

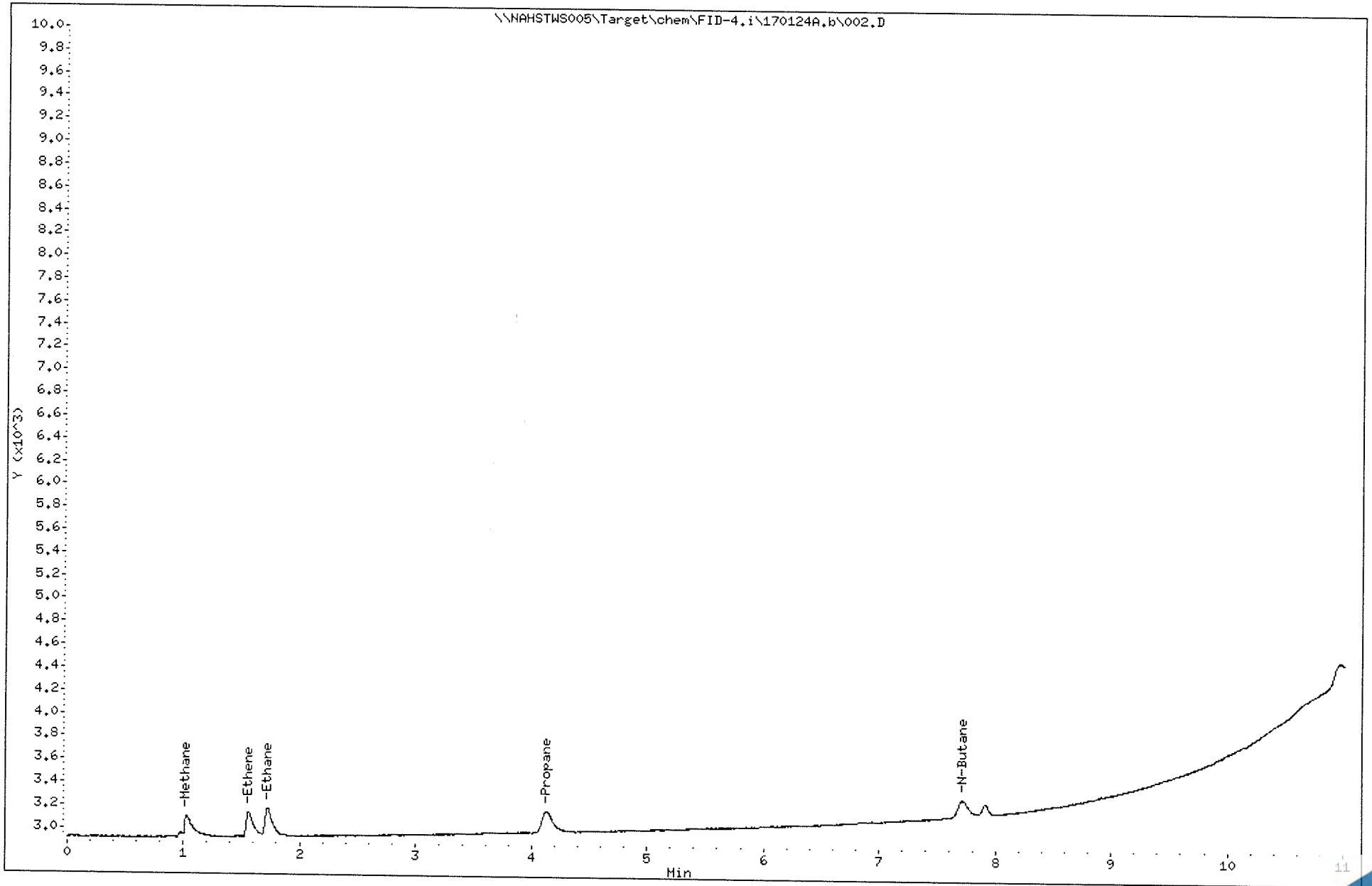
					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	1.023	1.030	-0.007	944	0.96500	0.968
2 Ethene	1.560	1.556	0.004	956	1.68500	1.630
3 Ethane	1.723	1.723	0.000	1209	1.80400	1.641
4 Propane	4.123	4.113	0.010	1279	2.64600	2.927
5 N-Butane	7.716	7.690	0.026	936	3.49600	4.180

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\002.D
Date : 24-JAN-2017 09:30
Client ID: ICAL2
Sample Info: ICAL2;ICAL2;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\003.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\003.D
Lab Smp Id: ICAL3 Client Smp ID: ICAL3
Inj Date : 24-JAN-2017 09:59
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL3;ICAL3;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 11:13 Cal File: 007.D
Als bottle: 3 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

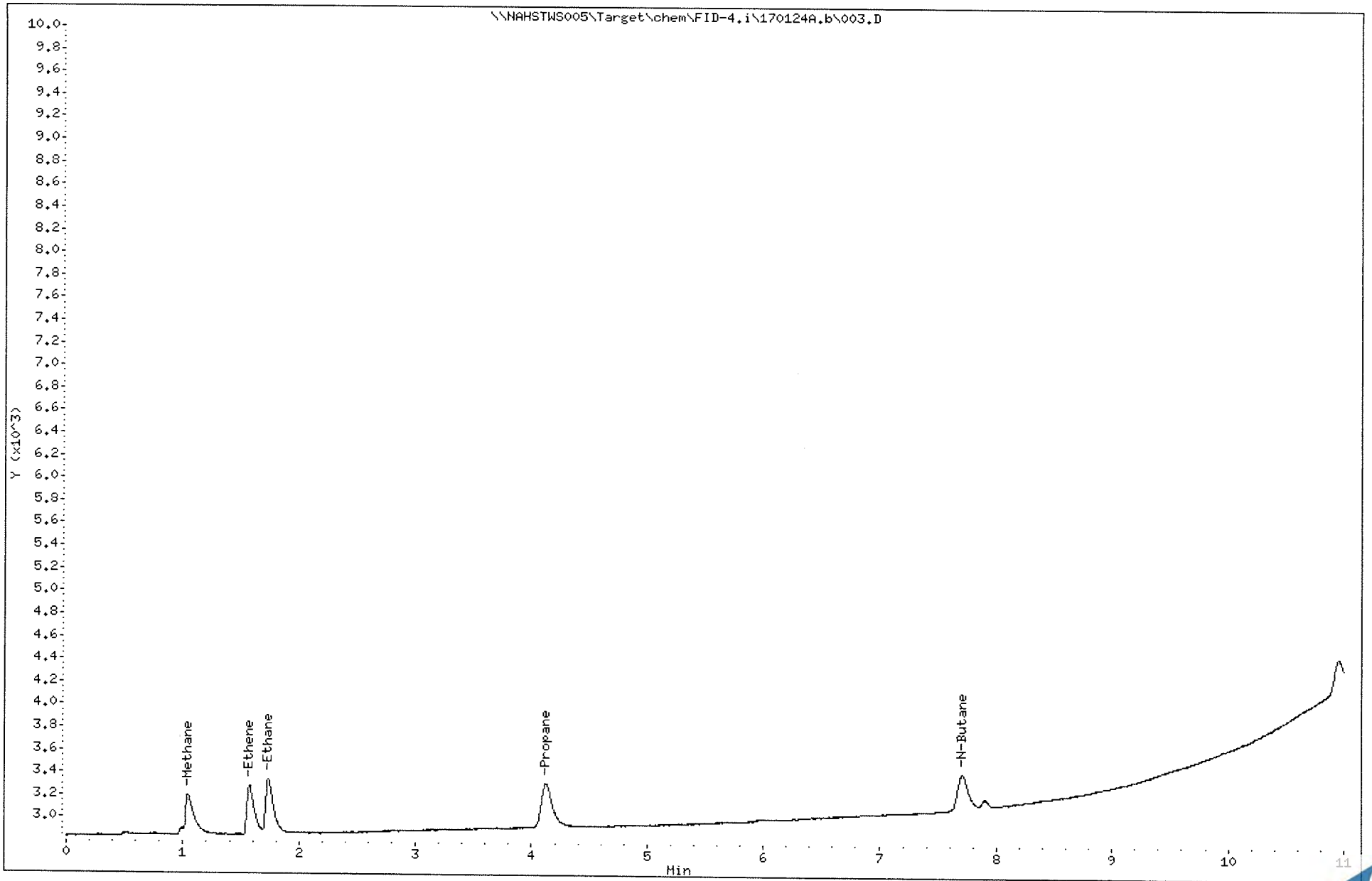
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	1.043	1.030	0.013	1967	1.92900	2.018
2 Ethene	1.570	1.556	0.014	1904	3.37000	3.247
3 Ethane	1.736	1.723	0.013	2378	3.60900	3.229
4 Propane	4.123	4.113	0.010	2602	5.29300	4.926
5 N-Butane	7.703	7.690	0.013	2034	6.99100	6.176

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\003.D
Date : 24-JAN-2017 09:59
Client ID: ICAL3
Sample Info: ICAL3;ICAL3;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\004.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\004.D
Lab Smp Id: ICAL4 Client Smp ID: ICAL4
Inj Date : 24-JAN-2017 10:15
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL4;ICAL4;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 09:30 Cal File: 002.D
Als bottle: 4 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	1.033	1.030	0.003	3399	3.85900	3.488
2 Ethene	1.563	1.556	0.007	3478	6.74000	5.932
3 Ethane	1.726	1.723	0.003	4310	7.21700	5.853
4 Propane	4.120	4.113	0.007	4785	10.5850	8.190
5 N-Butane	7.703	7.690	0.013	3864	13.9820	9.473(M)

QC Flag Legend

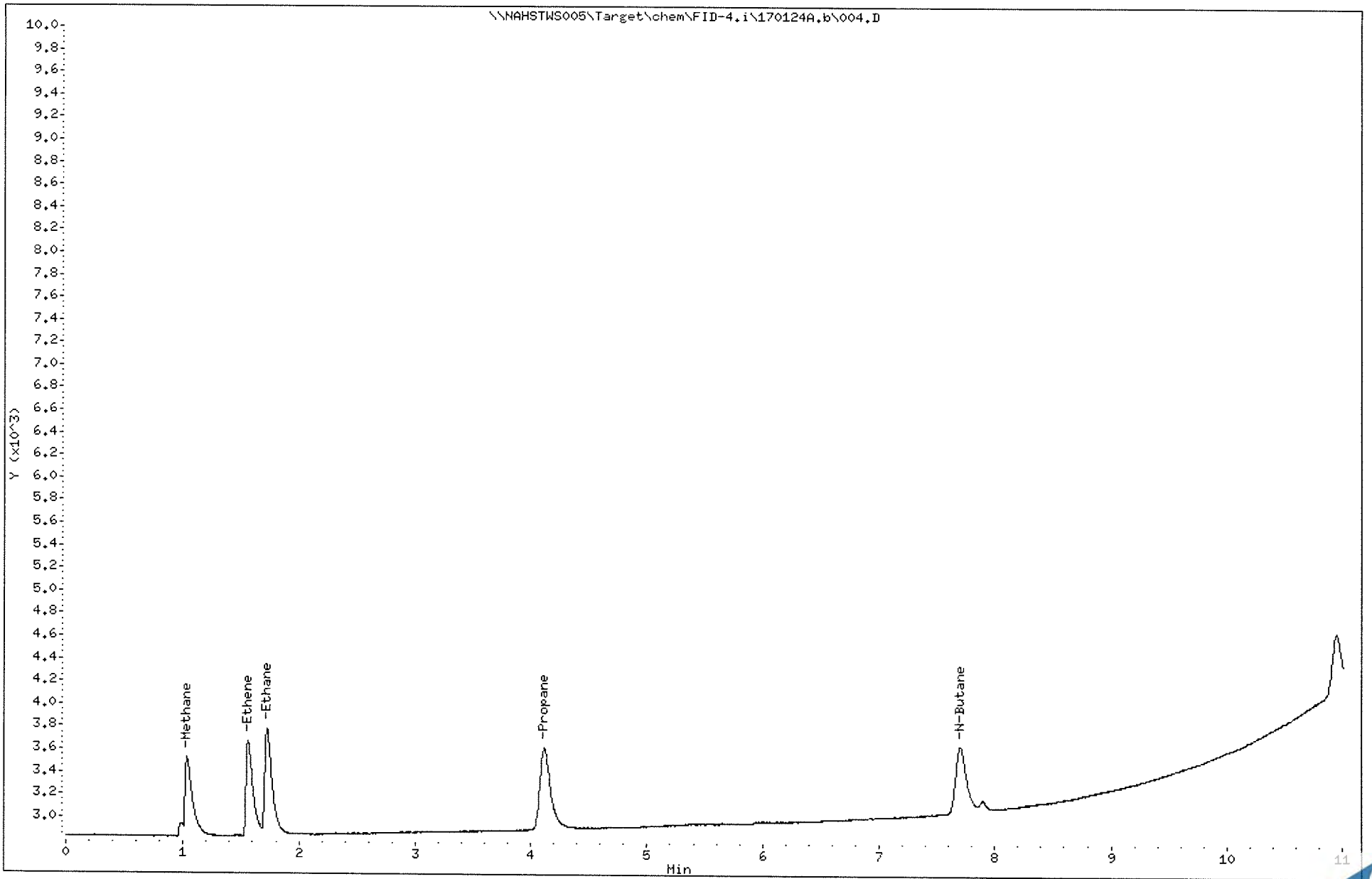
M - Compound response manually integrated.

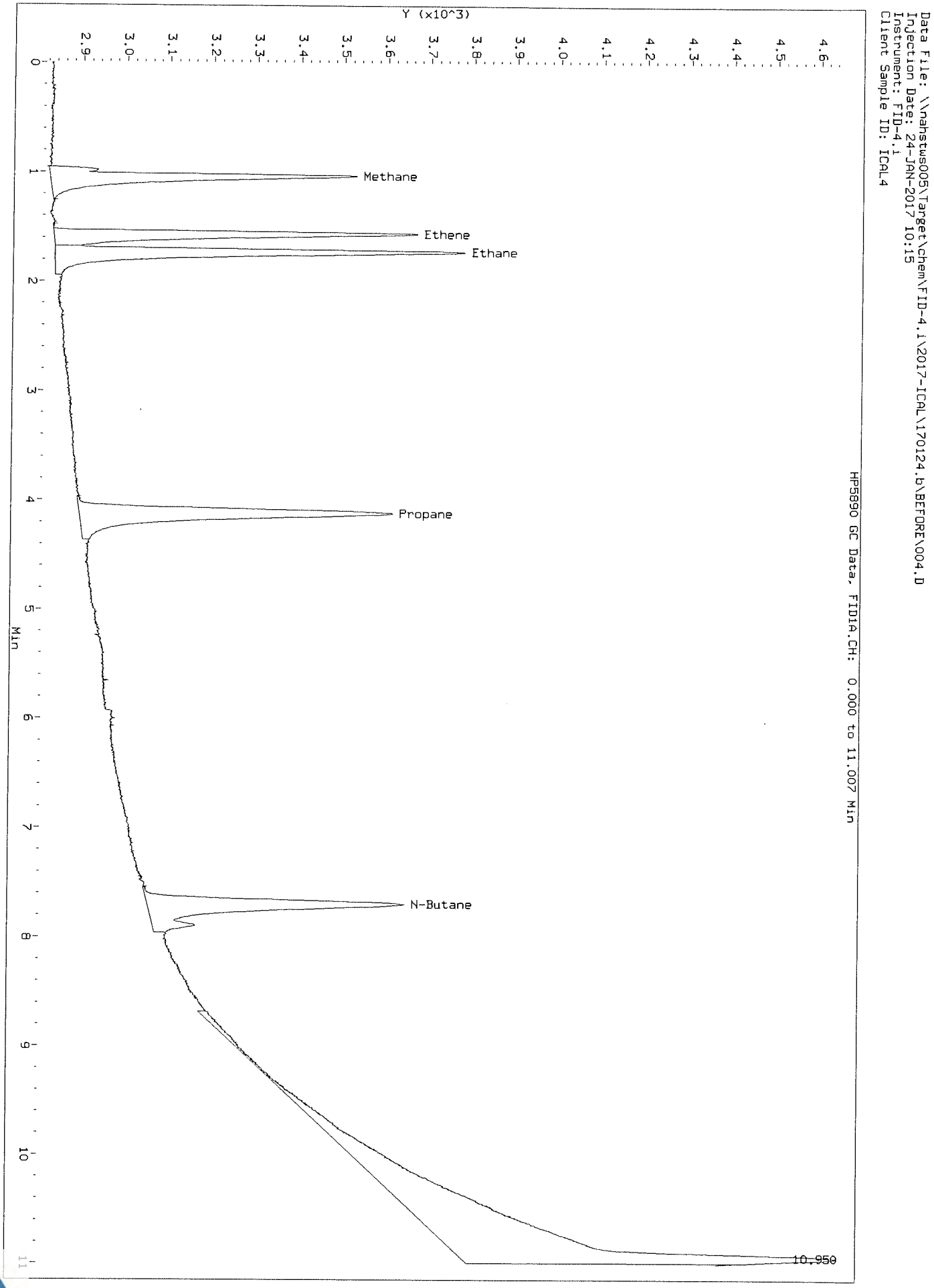
Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\004.D
Date : 24-JAN-2017 10:15
Client ID: ICAL4
Sample Info: ICAL4;ICAL4;;;

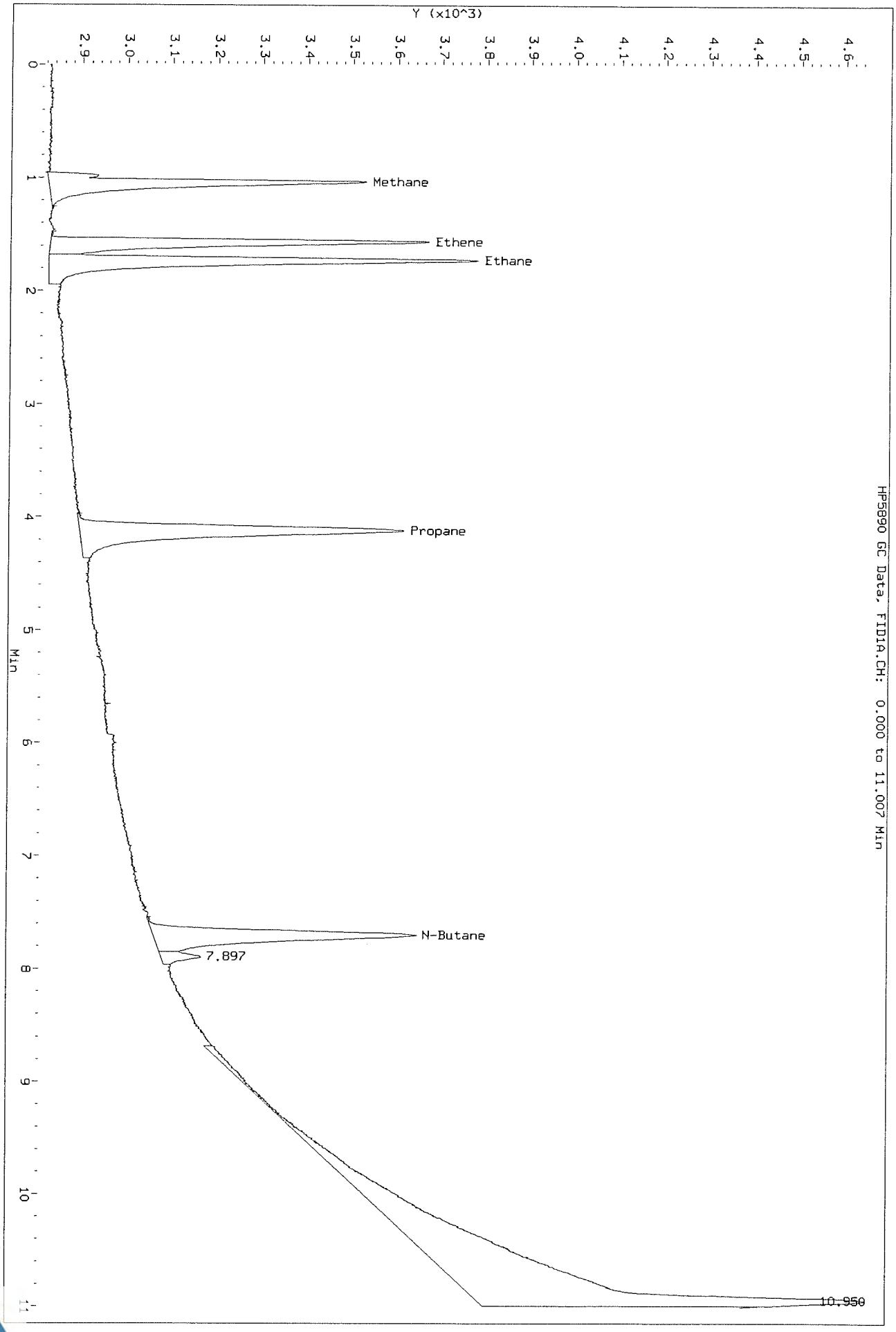
Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53




Data File: \\nahstws005\Target\chem\FID-4.i\2017-ICAL\170124.b\BEFORE\004.D
Injection Date: 24-JAN-2017 10:15
Instrument: FID-4.i
Client Sample ID: ICAL4
HP5890 GC Data, FID1A.CH: 0.000 to 11.007 Min
Y (x10^3)
Min
Methane
Ethene
Ethane
Propane
N-Butane
10.950


Data File: \\nahstws005\Target\chem\FID-4.i\2017-ICAL\170124.b\004.D
Injection Date: 24-JAN-2017 10:15
Instrument: FID-4.i
Client Sample ID: ICAL4
Y (x10^3)
Methane
Ethene
Ethane
Propane
N-Butane
7.897
10.950
Min
HP5890 GC Data, FID1A.CH: 0.000 to 11.007 Min

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\005.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\005.D
Lab Smp Id: ICAL5 Client Smp ID: ICAL5
Inj Date : 24-JAN-2017 10:39
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL5;ICAL5;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 10:39 Cal File: 005.D
Als bottle: 5 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	1.043	1.030	0.013	9268	9.64700	9.511
2 Ethene	1.570	1.556	0.014	11210	16.8500	19.121
3 Ethane	1.733	1.723	0.010	14588	18.0430	19.811
4 Propane	4.120	4.113	0.007	18294	26.4630	27.415
5 N-Butane	7.700	7.690	0.010	18446	34.9550	34.419(M)

QC Flag Legend

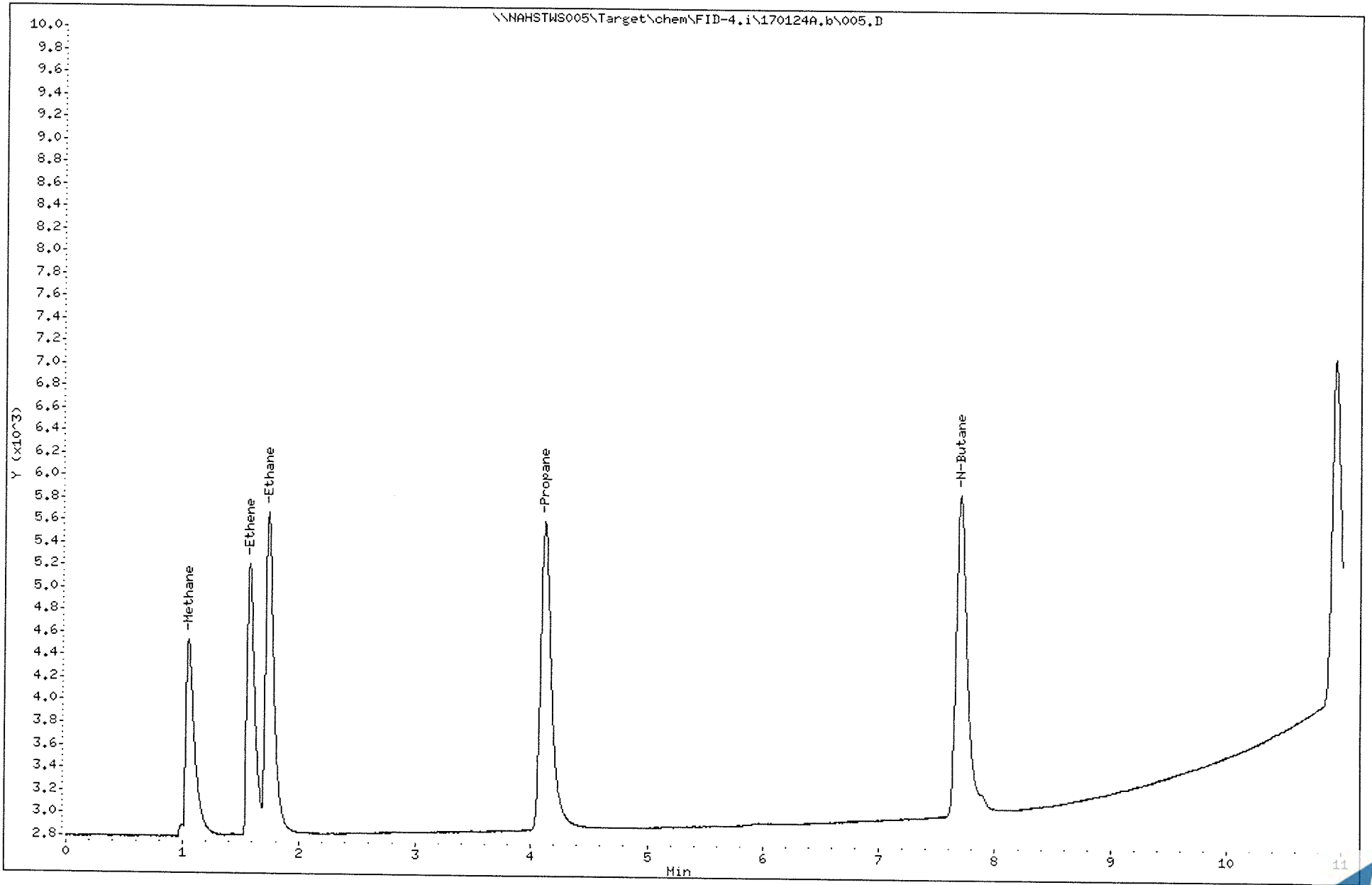
M - Compound response manually integrated.

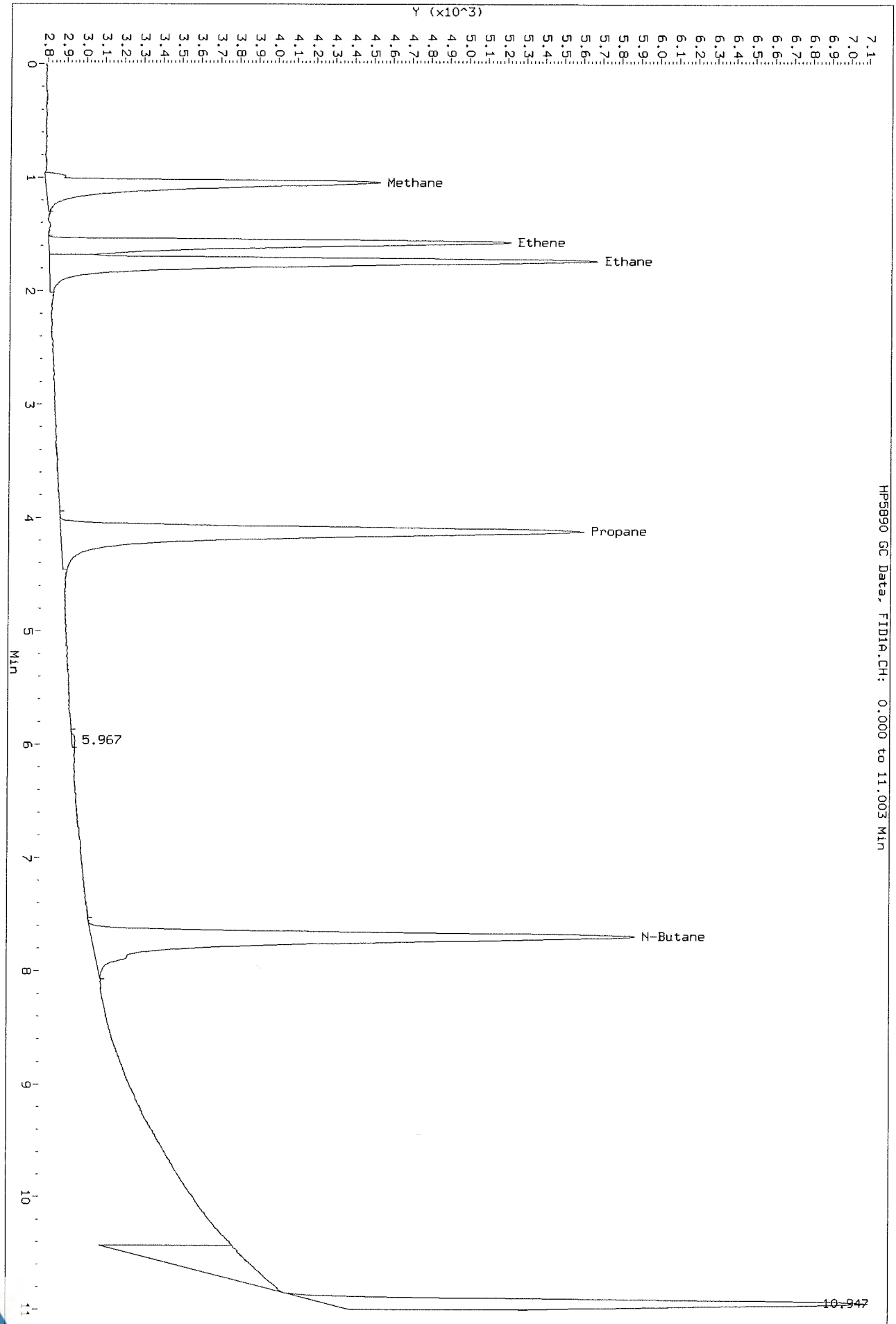
Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\005.D
Date : 24-JAN-2017 10:39
Client ID: ICAL5
Sample Info: ICAL5;ICAL5;;;

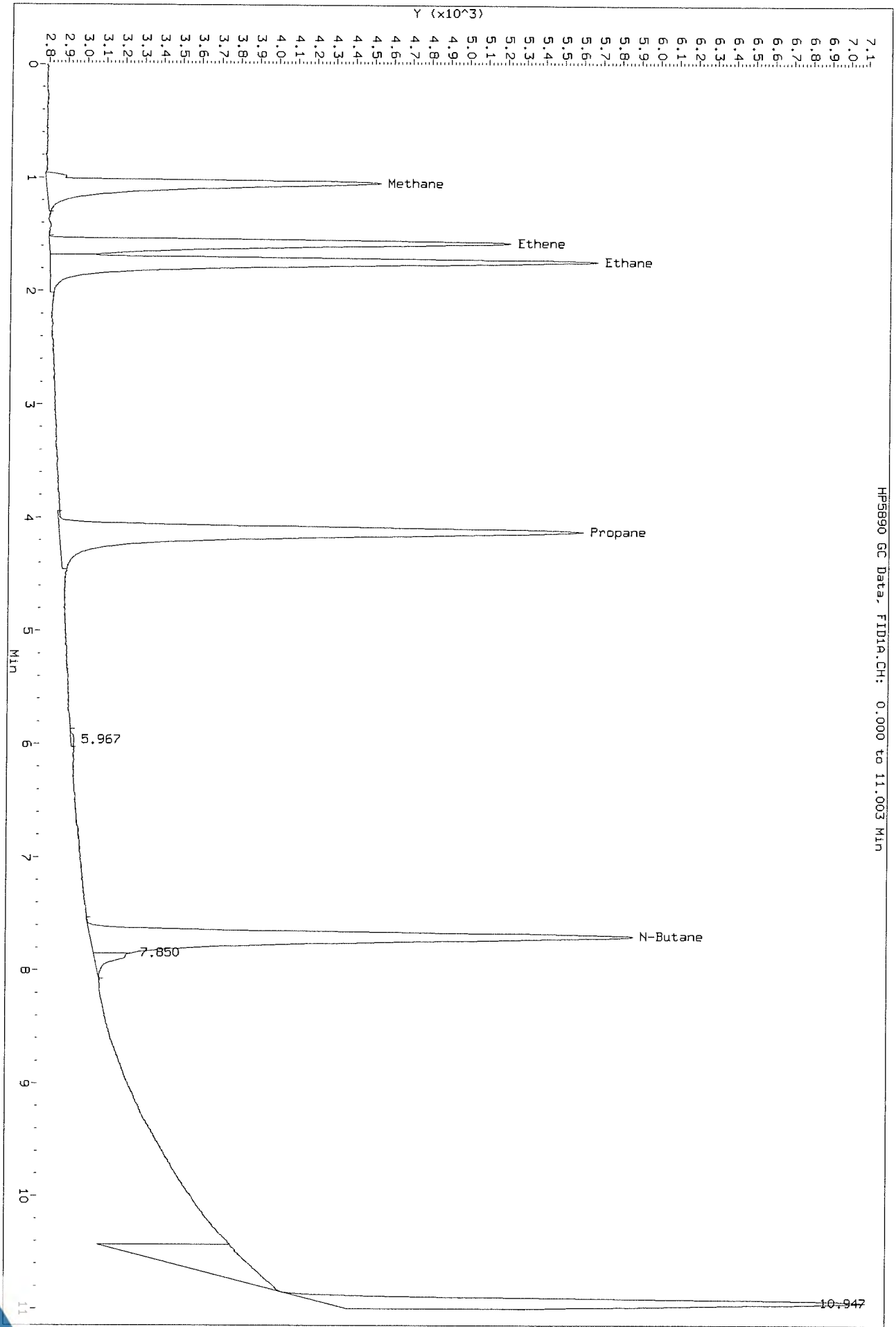
Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53




Data File: \\nahstws005\Target\chem\FID-4.i\2017-ICAL\170124.b\BEFORE\005.D
Injection Date: 24-JAN-2017 10:39
Instrument: FID-4.i
Client Sample ID: ICAL5
HP5890 GC Data, FIDiA.CH: 0.000 to 11.003 Min
Y (x10^3)
Min
Methane
Ethene
Ethane
Propane
5.967
N-Butane
10.947


Data File: \\nahstws005\Target\chem\FID-4.i\2017-ICAL\170124.b\005.D
Injection Date: 24-JAN-2017 10:39
Instrument: FID-4.i
Client Sample ID: ICAL5
HP5890 GC Data, FID1A.CH: 0.000 to 11.003 Min
Y (x10^3)
Min
Methane
Ethene
Ethane
Propane
5.967
N-Butane
7.850
10.947

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\006.D
Lab Smp Id: ICAL6 Client Smp ID: ICAL6
Inj Date : 24-JAN-2017 10:57
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL6;ICAL6;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 10:39 Cal File: 005.D
Als bottle: 6 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

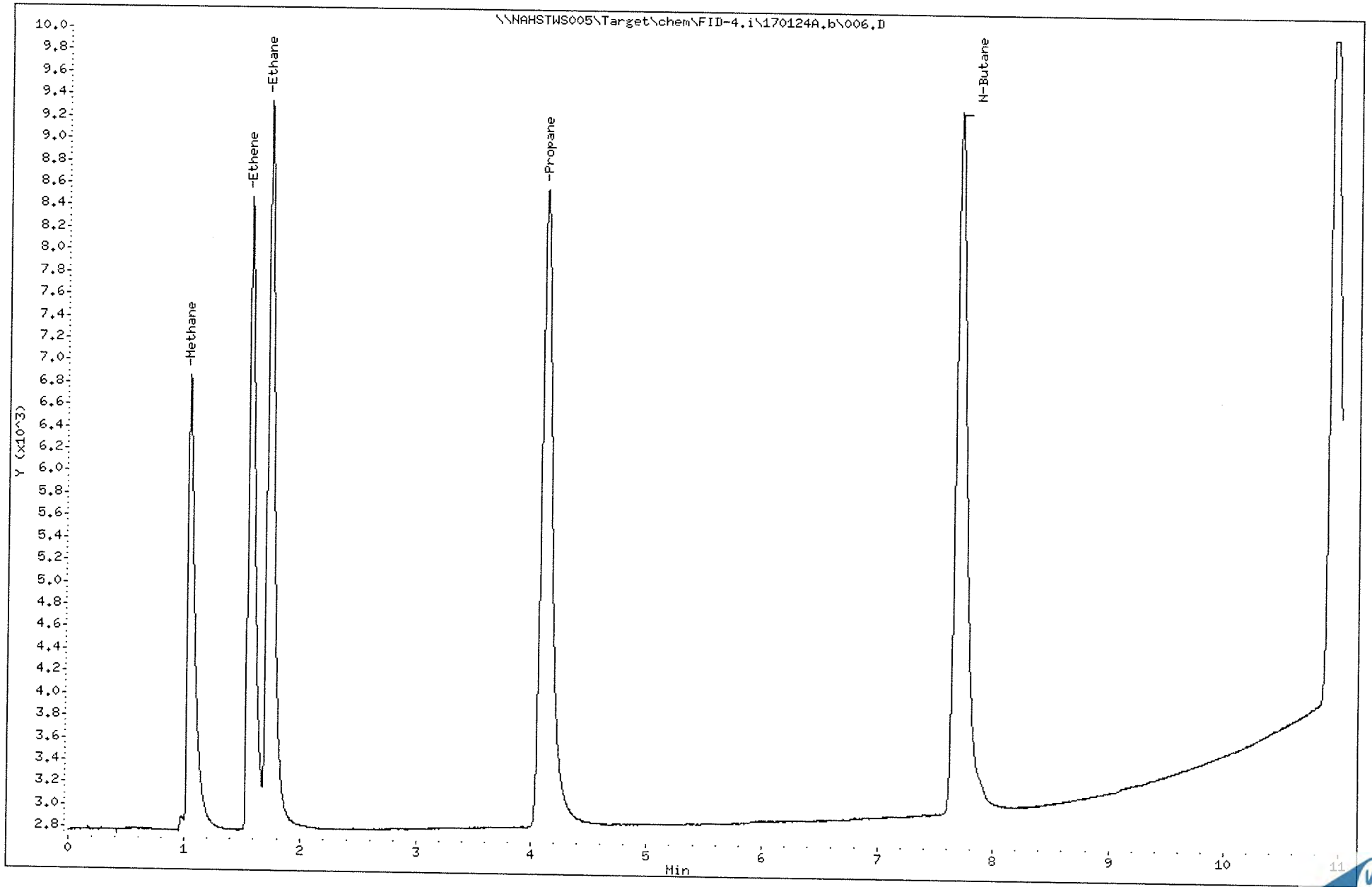
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	1.023	1.030	-0.007	17957	19.2940	18.429
2 Ethene	1.550	1.556	-0.006	22910	53.8200	39.078
3 Ethane	1.716	1.723	-0.007	29505	36.0860	40.070
4 Propane	4.110	4.113	-0.003	38286	52.9260	52.796
5 N-Butane	7.696	7.690	0.006	42817	69.9110	70.855

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\006.D
Date : 24-JAN-2017 10:57
Client ID: ICAL6
Sample Info: ICAL6;ICAL6;;;

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: MA
Column diameter: 0.53



Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\007.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\007.D
Lab Smp Id: ICAL7 Client Smp ID: ICAL7
Inj Date : 24-JAN-2017 11:13
Operator : MA Inst ID: FID-4.i
Smp Info : ICAL7;ICAL7;;;
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 10:57 Cal File: 006.D
Als bottle: 7 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

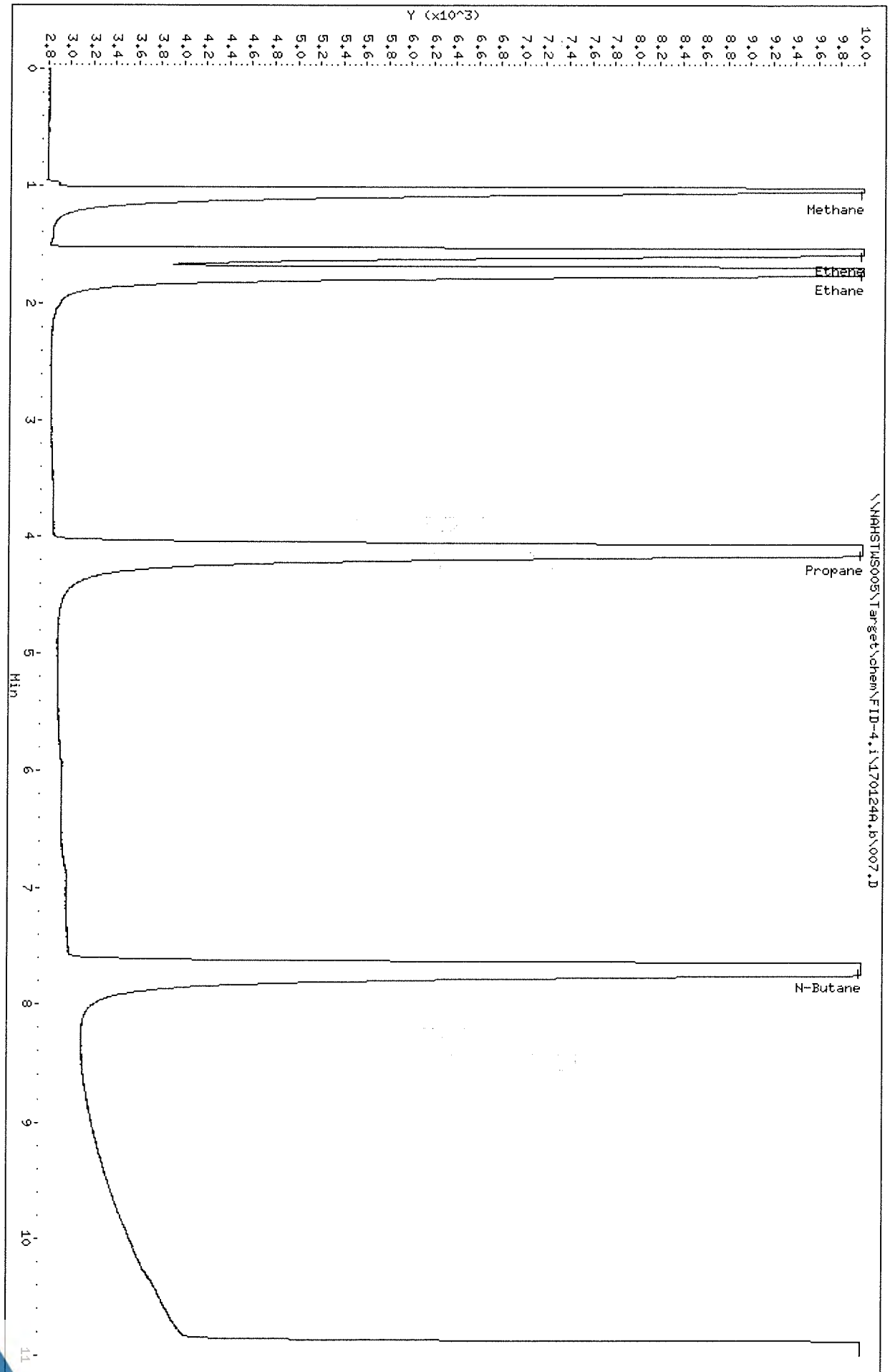
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	1.030	1.030	0.000	41736	38.5880	42.833(A)
2 Ethene	1.556	1.556	0.000	55865	67.4000	95.291(A)
3 Ethane	1.723	1.723	0.000	72124	72.1720	97.951(A)
4 Propane	4.113	4.113	0.000	96509	105.852	105.844
5 N-Butane	7.690	7.690	0.000	114164	139.821	139.707

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\007.D
Date : 24-JAN-2017 11:13
Client ID: ICAL7
Sample Info: ICAL7;ICAL7;;;
Column phase: Rtx-PLOT

Instrument: FID-4.i
Operator: MA
Column diameter: 0.53



Data File: \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\008.D Page 1
Report Date: 08-Apr-2020 12:18

ALS Laboratory Group

Dissolved Gases Analysis

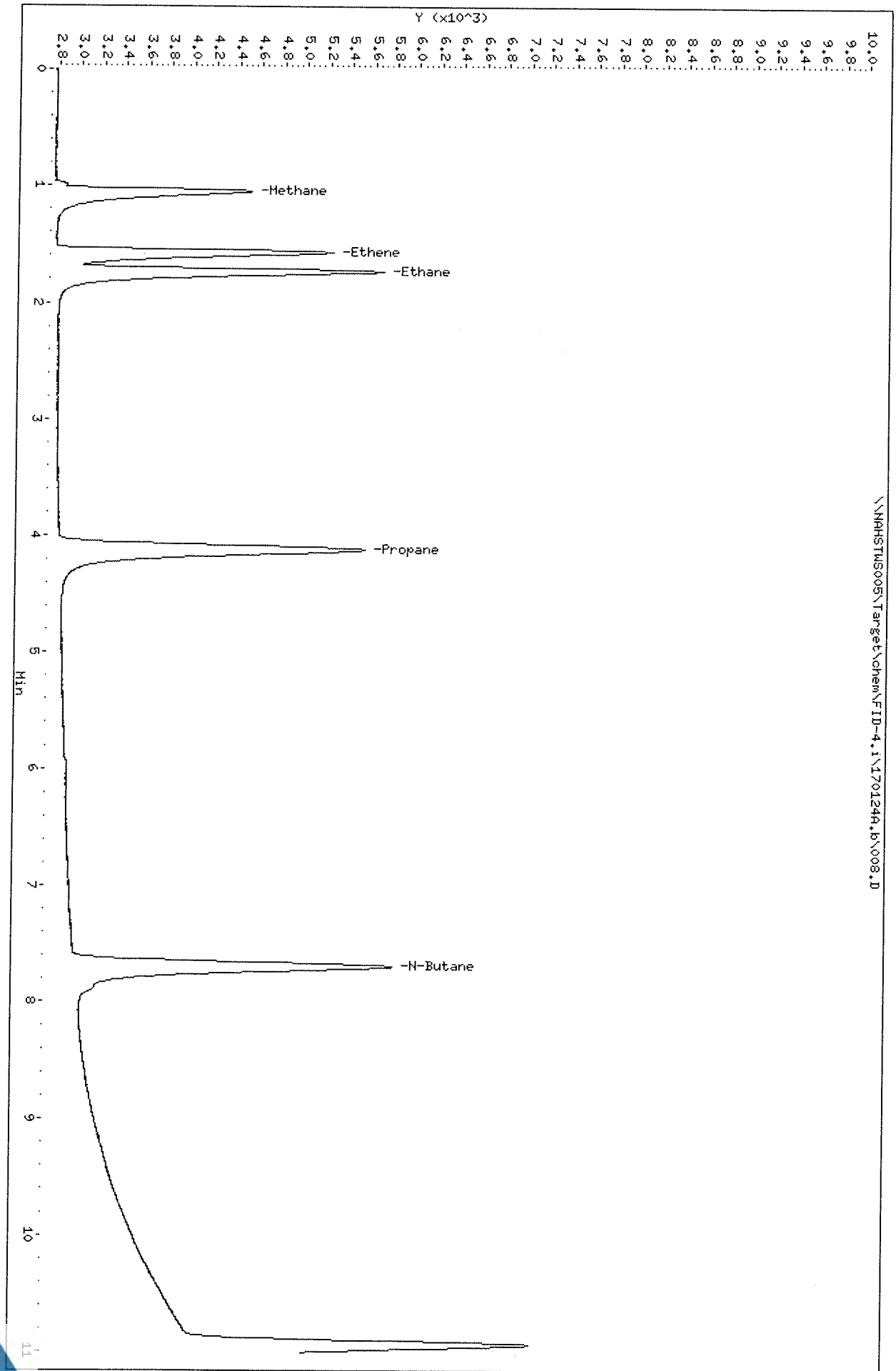
Data file : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\008.D
Lab Smp Id: ICV Client Smp ID: ICV
Inj Date : 24-JAN-2017 12:05
Operator : MA Inst ID: FID-4.i
Smp Info : ICV;ICV;;;
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\FID-4.i\170124A.b\RSKNI2.m
Meth Date : 26-Feb-2020 16:33 Purvi.lad Quant Type: ESTD
Cal Date : 24-JAN-2017 11:13 Cal File: 007.D
Als bottle: 8 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: stdNIP2.sub
Target Version: 4.14

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 Methane	1.046	1.030	0.016	9352	9.59792	9.597
2 Ethene	1.573	1.556	0.017	11192	19.0906	19.090
3 Ethane	1.736	1.723	0.013	14474	19.6571	19.657
4 Propane	4.116	4.113	0.003	18164	27.2381	27.238
5 N-Butane	7.696	7.690	0.006	19425	36.0103	36.010

Data File: \\NAHSTWS005\Target\chem\FID-4,i\170124A,b\008.D
Date : 24-JAN-2017 12:05
Client ID: ICV
Sample Info: ICV;ICV;;;
Column phase: Rtx-PLOT

Instrument: FID-4,i
Operator: HA
Column diameter: 0.53



FID04 -Logbook

Batch: 42549 **Analyst:** Devak Giga

Date: 10-21-2020 **Reviewer:**

Method: RSK **Laboratory:** Houston

Comments:

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	RSK-CCV	CCV	10-21-2020 09:52 am	1.00	0.00 mL	0.00 mL	001.D	Liquid	Y	NA
2	MBLK-201021	MBLK	10-21-2020 10:07 am	1.00	0.00 mL	0.00 mL	002.D	Liquid	Y	NA
3	LCS-201021	LCS	10-21-2020 10:14 am	1.00	0.00 mL	0.00 mL	003.D	Liquid	Y	NA
4	LCSD-201021	LCSD	10-21-2020 10:25 am	1.00	0.00 mL	0.00 mL	004.D	Liquid	Y	NA
5	HS20100755-02	SAMP	10-21-2020 10:37 am	1.00	0.00 mL	0.00 mL	005.D	Liquid	Y	NA
6	HS20100755-04	SAMP	10-21-2020 10:45 am	1.00	0.00 mL	0.00 mL	006.D	Liquid	Y	NA
7	HS20100755-05	SAMP	10-21-2020 10:54 am	1.00	0.00 mL	0.00 mL	007.D	Liquid	Y	NA
8	HS20100755-06	SAMP	10-21-2020 11:02 am	1.00	0.00 mL	0.00 mL	008.D	Liquid	Y	NA
9	HS20100779-01	SAMP	10-21-2020 11:10 am	1.00	0.00 mL	0.00 mL	009.D	Liquid	Y	NA
10	HS20100779-01DUP	SAMP	10-21-2020 11:26 am	1.00	0.00 mL	0.00 mL	010.D	Liquid	Y	NA
11	RSK-CCV	CCV	10-21-2020 11:38 am	1.00	0.00 mL	0.00 mL	011.D	Liquid	Y	NA
12	HS20100779-02	SAMP	10-21-2020 11:51 am	1.00	0.00 mL	0.00 mL	012.D	Liquid	Y	NA
13	HS20100779-04	SAMP	10-21-2020 12:11 pm	1.00	0.00 mL	0.00 mL	013.D	Liquid	Y	NA
14	HS20100779-05	SAMP	10-21-2020 12:19 pm	1.00	0.00 mL	0.00 mL	014.D	Liquid	Y	NA
15	HS20100779-06	SAMP	10-21-2020 12:27 pm	1.00	0.00 mL	0.00 mL	015.D	Liquid	Y	NA
16	HS20100755-04	SAMP	10-21-2020 12:49 pm	50.00	0.00 mL	0.00 mL	016.D	Liquid	Y	NA
17	HS20100755-05	SAMP	10-21-2020 01:13 pm	50.00	0.00 mL	0.00 mL	017.D	Liquid	Y	NA
18	HS20100755-06	SAMP	10-21-2020 01:23 pm	20.00	0.00 mL	0.00 mL	018.D	Liquid	Y	NA
19	HS20100719-01	SAMP	10-21-2020 02:23 pm	1.00	0.00 mL	0.00 mL	019.D	Liquid	Y	NA
20	HS20100719-02	SAMP	10-21-2020 02:41 pm	1.00	0.00 mL	0.00 mL	020.D	Liquid	Y	NA
21	HS20100719-03	SAMP	10-21-2020 02:57 pm	1.00	0.00 mL	0.00 mL	021.D	Liquid	Y	NA
22	RSK-CCV	CCV	10-21-2020 03:05 pm	1.00	0.00 mL	0.00 mL	022.D	Liquid	Y	NA
23	HS20100719-04	SAMP	10-21-2020 03:14 pm	1.00	0.00 mL	0.00 mL	023.D	Liquid	Y	NA
24	HS20100719-05	SAMP	10-21-2020 03:25 pm	1.00	0.00 mL	0.00 mL	024.D	Liquid	Y	NA
25	HS20100719-05MS	MS	10-21-2020 03:33 pm	1.00	0.00 mL	0.00 mL	025.D	Liquid	Y	NA
26	HS20100719-05MSD	MSD	10-21-2020 03:44 pm	1.00	0.00 mL	0.00 mL	026.D	Liquid	Y	NA
27	HS20100719-06	SAMP	10-21-2020 03:52 pm	1.00	0.00 mL	0.00 mL	027.D	Liquid	Y	NA
28	HS20100916-02	SAMP	10-21-2020 04:00 pm	1.00	0.00 mL	0.00 mL	028.D	Liquid	Y	NA
29	HS20100719-01	SAMP	10-21-2020 04:08 pm	20.00	0.00 mL	0.00 mL	029.D	Liquid	Y	NA
30	HS20100719-02	SAMP	10-21-2020 04:17 pm	10.00	0.00 mL	0.00 mL	030.D	Liquid	Y	NA
31	HS20100719-05	SAMP	10-21-2020 04:42 pm	1.00	0.00 mL	0.00 mL	031.D	Liquid	Y	NA
32	HS20100719-06	SAMP	10-21-2020 04:52 pm	50.00	0.00 mL	0.00 mL	032.D	Liquid	Y	NA
33	RSK-CCV	CCV	10-21-2020 05:03 pm	1.00	0.00 mL	0.00 mL	033.D	Liquid	Y	NA
34	HS20100719-05	SAMP	10-21-2020 05:13 pm	1.00	0.00 mL	0.00 mL	034.D	Liquid	Y	NA
35	HS20100719-05	SAMP	10-21-2020 05:27 pm	50.00	0.00 mL	0.00 mL	035.D	Liquid	Y	NA
36	HS20100916-02	SAMP	10-21-2020 05:35 pm	100.0(	0.00 mL	0.00 mL	036.D	Liquid	Y	NA
37	RSK-CCV	CCV	10-21-2020 05:48 pm	1.00	0.00 mL	0.00 mL	037.D	Liquid	Y	NA

FORM 7B
GASES CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100779

Instrument ID: FID-4 Calibration Date: 10/21/20 Time: 0952

Lab File ID: 001 Init. Calib. Date(s): 01/24/17 01/24/17

Init. Calib. Times: 0906 1113

GC Column: RTX-PLOT ID: 0.53 (mm)

COMPOUND	RRF OR AMOUNT	RRF250.00 OR AMOUNT	MIN RRF	%D OR %DRIFT	MAX %D OR %DRIFT	CURV TYPE
Ethane	719.48900	751.75969	0.01	-4.48	20.00	AVRG
Methane	974.99200	903.18234	0.01	7.36	20.00	AVRG
Ethene	585.76000	652.64095	0.01	-11.42	20.00	AVRG

FORM VII GASES

FORM 7B
GASES CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100779

Instrument ID: FID-4 Calibration Date: 10/21/20 Time: 1138

Lab File ID: 011 Init. Calib. Date(s): 01/24/17 01/24/17

Init. Calib. Times: 0906 1113

GC Column: RTX-PLOT ID: 0.53 (mm)

COMPOUND	RRF OR AMOUNT	RRF250.00 OR AMOUNT	MIN RRF	%D OR %DRIFT	MAX %D OR %DRIFT	CURV TYPE
Ethane	719.48900	779.80380	0.01	-8.38	20.00	AVRG
Methane	974.99200	955.01192	0.01	2.05	20.00	AVRG
Ethene	585.76000	667.06231	0.01	-13.88	20.00	AVRG

FORM VII GASES

FORM 7B
GASES CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100779

Instrument ID: FID-4 Calibration Date: 10/21/20 Time: 1505

Lab File ID: 022 Init. Calib. Date(s): 01/24/17 01/24/17

Init. Calib. Times: 0906 1113

GC Column: RTX-PLOT ID: 0.53 (mm)

COMPOUND	RRF OR AMOUNT	RRF250.00 OR AMOUNT	MIN RRF	%D OR %DRIFT	MAX %D OR %DRIFT	CURV TYPE
Ethane	719.48900	752.25849	0.01	-4.55	20.00	AVRG
Methane	974.99200	853.11496	0.01	12.50	20.00	AVRG
Ethene	585.76000	656.26113	0.01	-12.04	20.00	AVRG

FORM VII GASES

FORM 7B
GASES CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100779

Instrument ID: FID-4 Calibration Date: 10/21/20 Time: 1703

Lab File ID: 033 Init. Calib. Date(s): 01/24/17 01/24/17

Init. Calib. Times: 0906 1113

GC Column: RTX-PLOT ID: 0.53 (mm)

COMPOUND	RRF OR AMOUNT	RRF250.00 OR AMOUNT	MIN RRF	%D OR %DRIFT	MAX %D OR %DRIFT	CURV TYPE
Ethane	719.48900	734.63393	0.01	-2.10	20.00	AVRG
Methane	974.99200	932.20690	0.01	4.39	20.00	AVRG
Ethene	585.76000	649.08012	0.01	-10.81	20.00	AVRG

FORM VII GASES

FORM 7B
GASES CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS-HOUSTON Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20100779

Instrument ID: FID-4 Calibration Date: 10/21/20 Time: 1748

Lab File ID: 037 Init. Calib. Date(s): 01/24/17 01/24/17

Init. Calib. Times: 0906 1113

GC Column: RTX-PLOT ID: 0.53 (mm)

COMPOUND	RRF OR AMOUNT	RRF250.00 OR AMOUNT	MIN RRF	%D OR %DRIFT	MAX %D OR %DRIFT	CURV TYPE
Ethane	719.48900	731.47481	0.01	-1.66	20.00	AVRG
Methane	974.99200	983.41453	0.01	-0.86	20.00	AVRG
Ethene	585.76000	621.00890	0.01	-6.02	20.00	AVRG

FORM VII GASES

Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\001.D Page 1
Report Date: 01-Dec-2020 12:04

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201021.b\001.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 21-OCT-2020 09:52
Operator : PL Inst ID: FID-4.i
Smp Info : RSK-CCV;RSK-CCV;2;4
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201021.b\RSKNI3.m
Meth Date : 01-Dec-2020 12:04 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

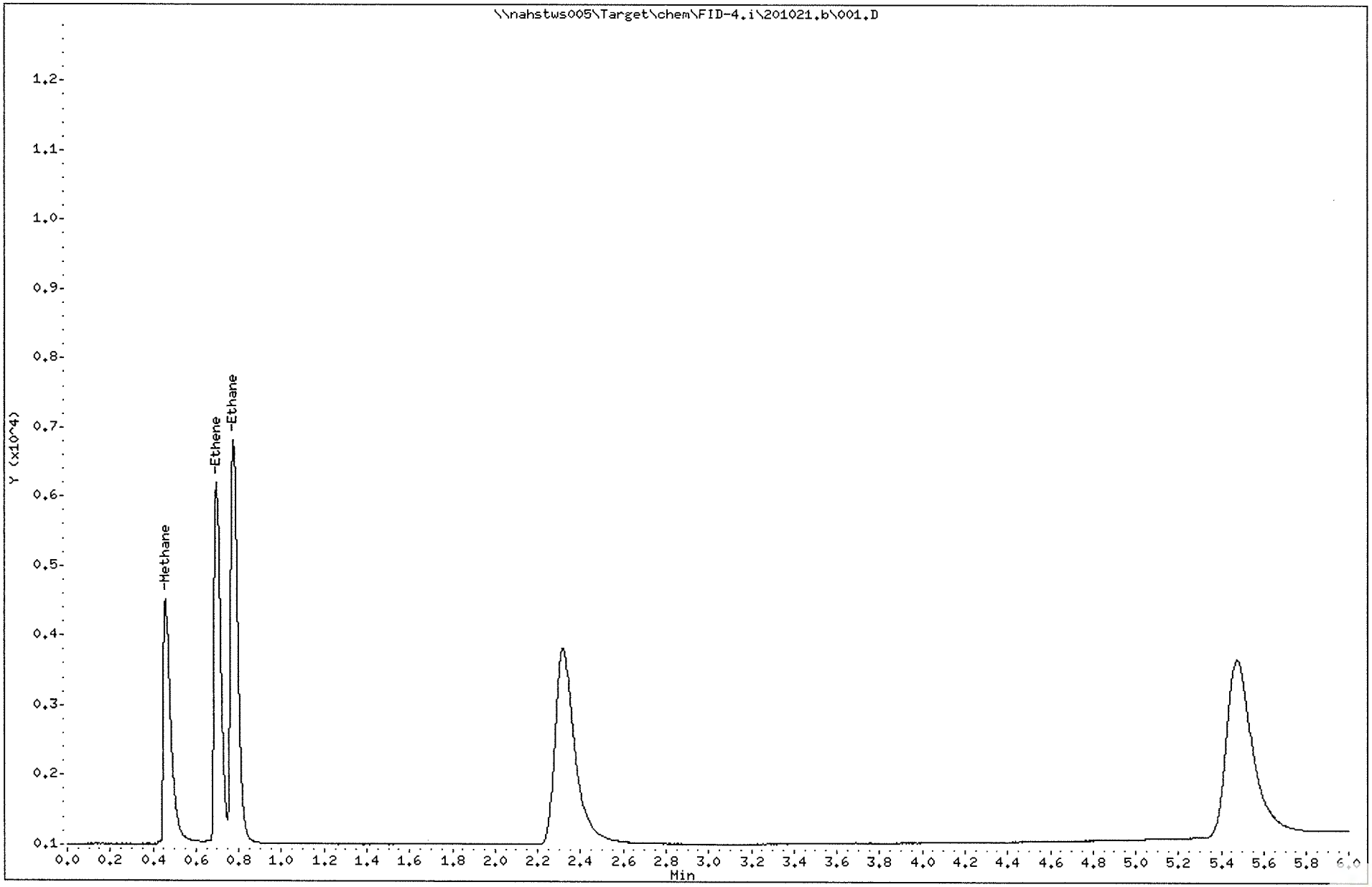
					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	0.460	0.460	0.000	8713	9.64700	8.936
2 Ethene	0.696	0.696	0.000	10997	16.8500	18.773
3 Ethane	0.776	0.776	0.000	13564	18.0430	18.852

Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\001.D
Date : 21-OCT-2020 09:52
Client ID: RSK-CCV
Sample Info: RSK-CCV;RSK-CCV;2;4

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201021.b\002.D
Lab Smp Id: MBLK-201021 Client Smp ID: MBLK-201021
Inj Date : 21-OCT-2020 10:07
Operator : PL Inst ID: FID-4.i
Smp Info : MBLK-201021;MBLK-201021;3;;BLANK
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201021.b\RSKNI3.m
Meth Date : 01-Dec-2020 12:04 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 2 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)

Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\002.D

Date : 21-OCT-2020 10:07

Client ID: MBLK-201021

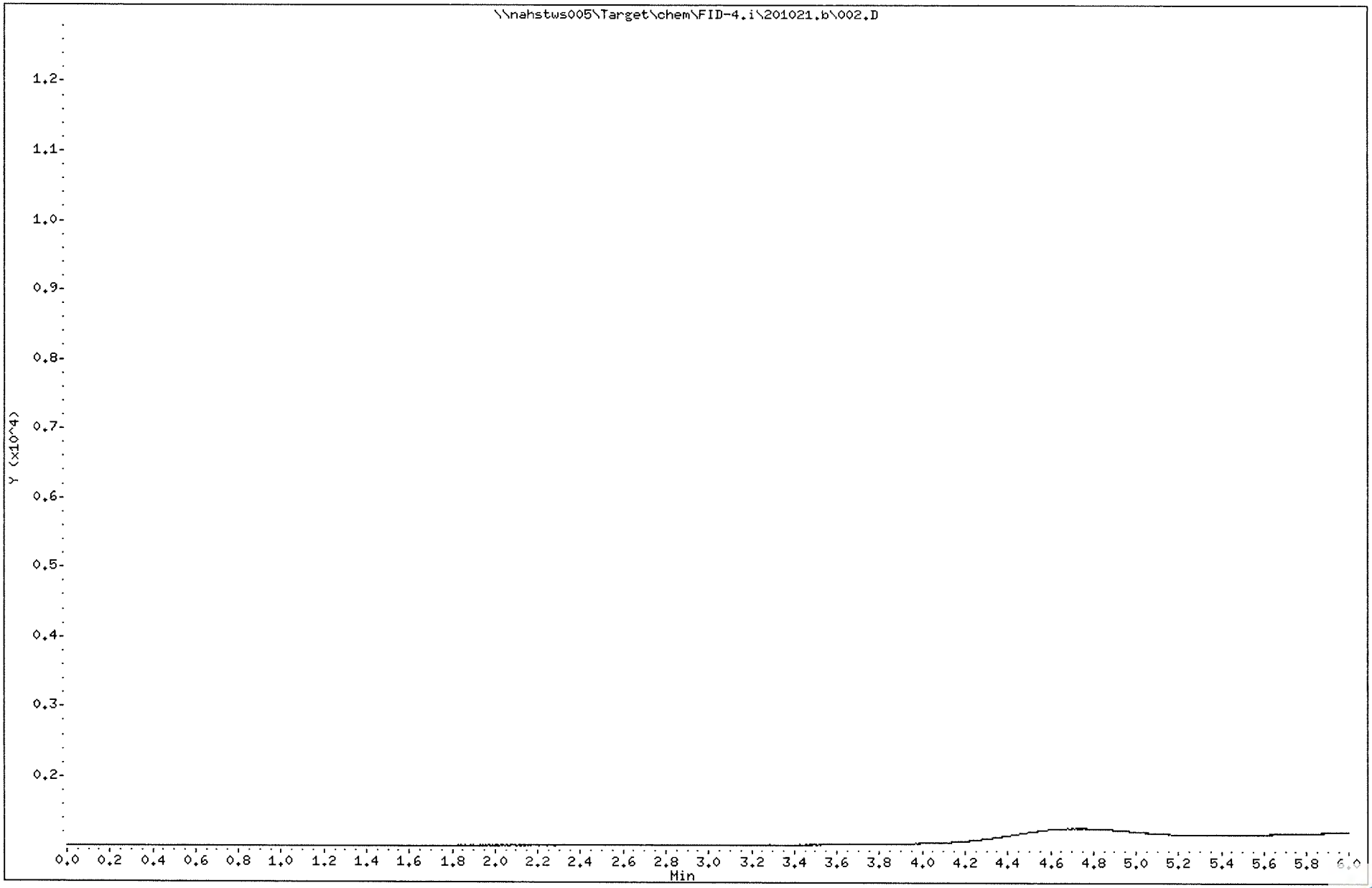
Sample Info: MBLK-201021;MBLK-201021;3;;BLANK

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL

Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\003.D Page 1
Report Date: 01-Dec-2020 12:04

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201021.b\003.D
Lab Smp Id: LCS-201021 Client Smp ID: LCS-201021
Inj Date : 21-OCT-2020 10:14
Operator : PL Inst ID: FID-4.i
Smp Info : LCS-201021;LCS-201021;3;;LCS
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201021.b\RSKNI3.m
Meth Date : 01-Dec-2020 12:04 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 3 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.463	0.460	0.003	9283	9.52110	9.521
2 Ethene	0.706	0.696	0.010	11295	19.2826	19.282(M)
3 Ethane	0.786	0.776	0.010	13757	19.1205	19.120(M)

QC Flag Legend

M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\003.D

Date : 21-OCT-2020 10:14

Client ID: LCS-201021

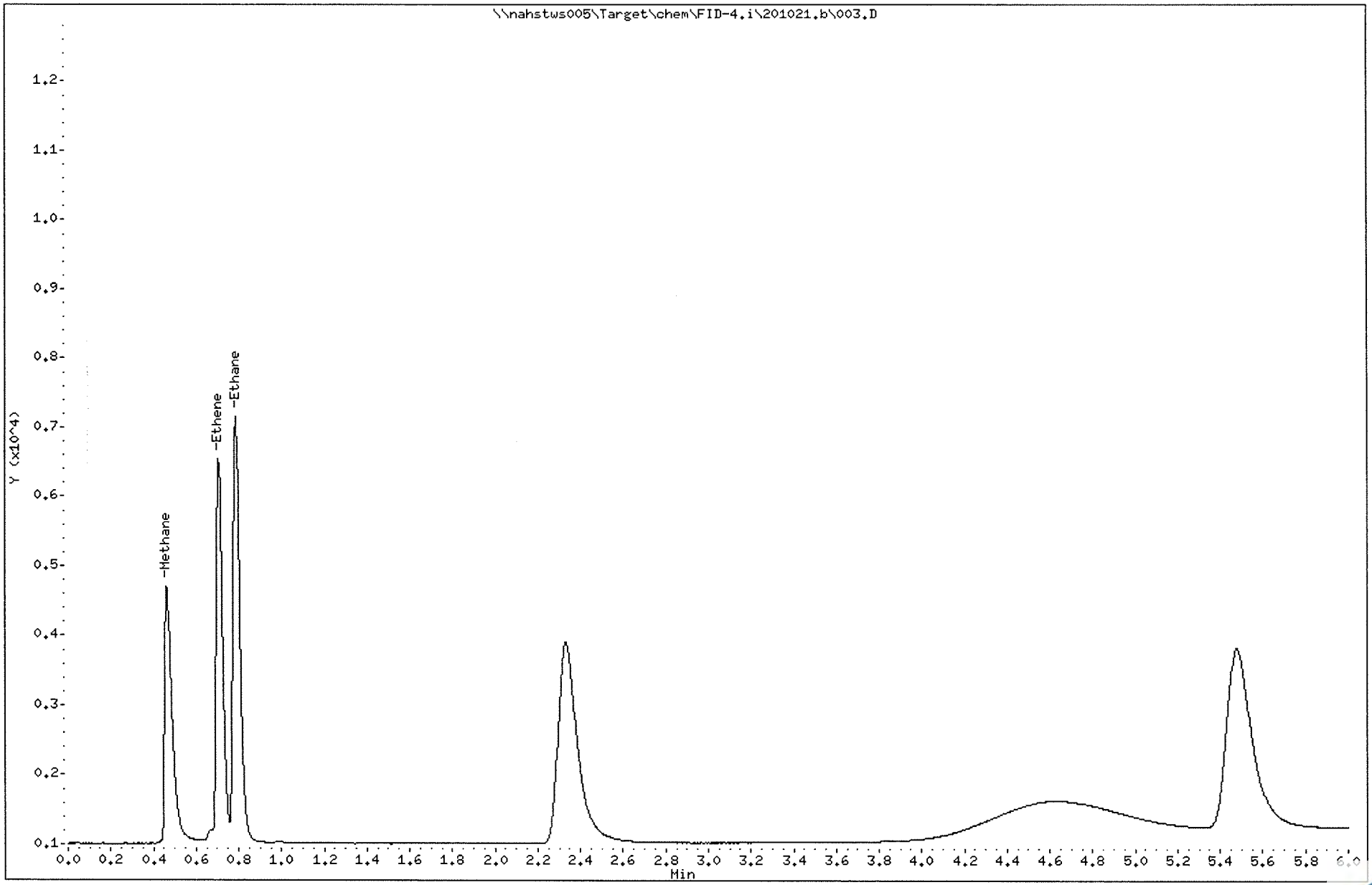
Instrument: FID-4.i

Sample Info: LCS-201021;LCS-201021;3;;LCS

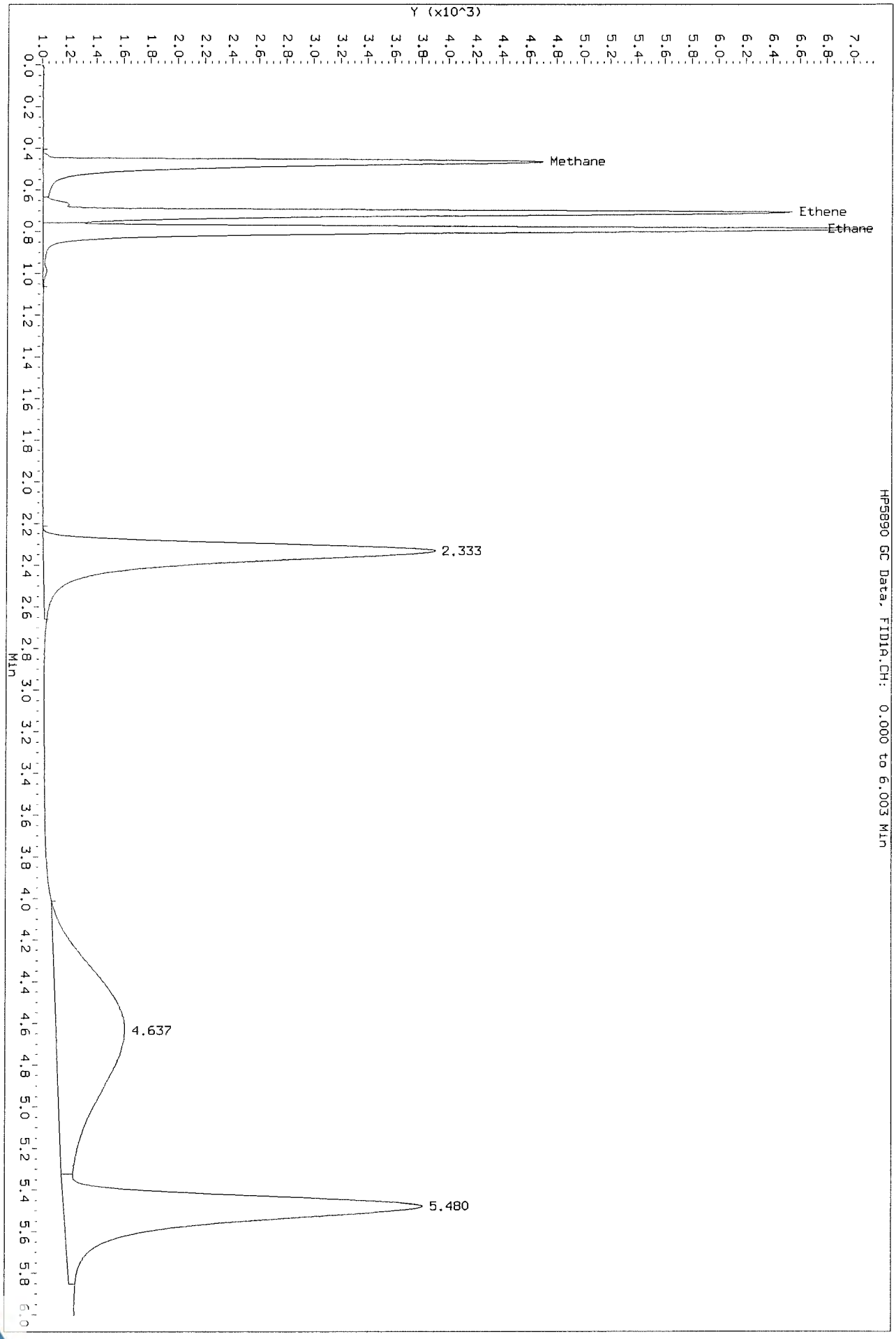
Operator: PL

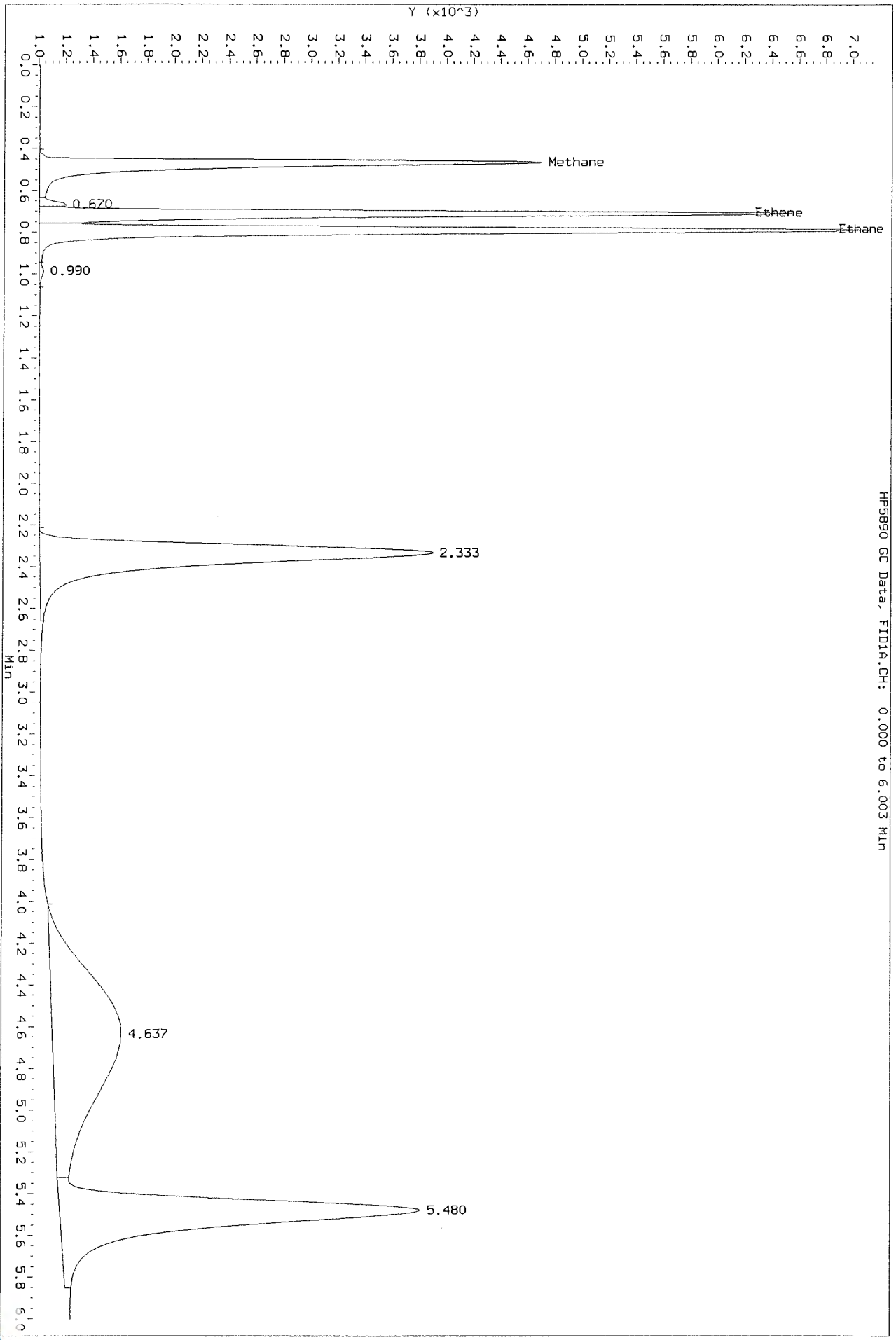
Column phase: Rtx-PLOT

Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\before\003.D
Injection Date: 21-OCT-2020 10:14
Instrument: FID-4.i
Client Sample ID: LCS-201021




Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\003.D
Injection Date: 21-OCT-2020 10:14
Instrument: FID-4.i
Client Sample ID: LCS-201021
HP5890 GC Data, FID1A.CH: 0.000 to 6.003 Min
Y (x10^3)
Min
Methane
0.670
Ethene
Ethane
0.990
2.333
4.637
5.480

Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\004.D Page 1
Report Date: 01-Dec-2020 12:04

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201021.b\004.D
Lab Smp Id: LCSD-201021 Client Smp ID: LCSD-201021
Inj Date : 21-OCT-2020 10:25
Operator : PL Inst ID: FID-4.i
Smp Info : LCSD-201021;LCSD-201021;3;;LCSD
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201021.b\RSKNI3.m
Meth Date : 01-Dec-2020 12:04 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 4 QC Sample: LCSD
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.460	0.460	0.000	9265	9.50264	9.502
2 Ethene	0.700	0.696	0.004	11048	18.8610	18.860(M)
3 Ethane	0.780	0.776	0.004	13547	18.8286	18.828(M)

QC Flag Legend

M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\004.D

Date : 21-OCT-2020 10:25

Client ID: LCSD-201021

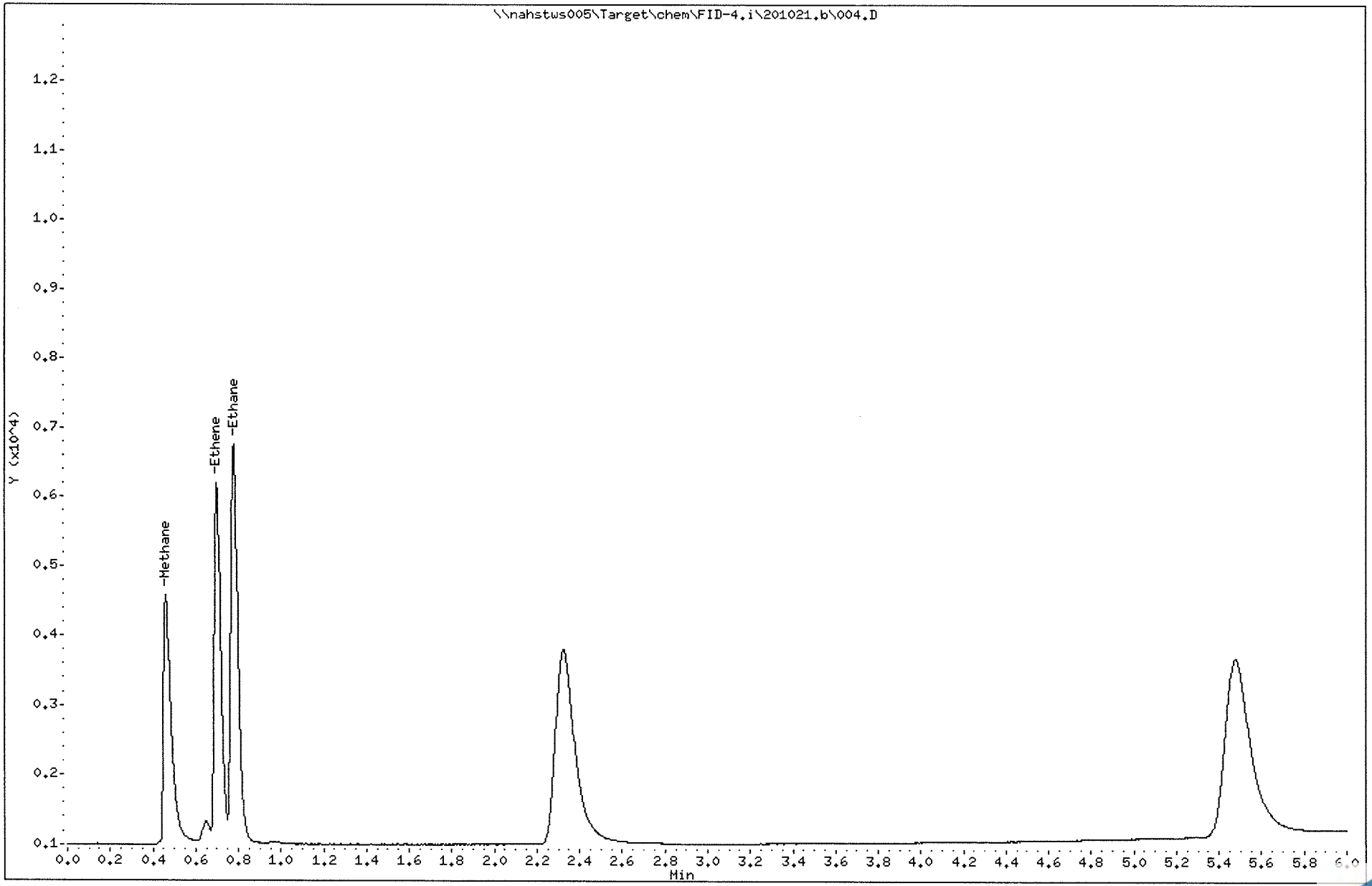
Instrument: FID-4.i

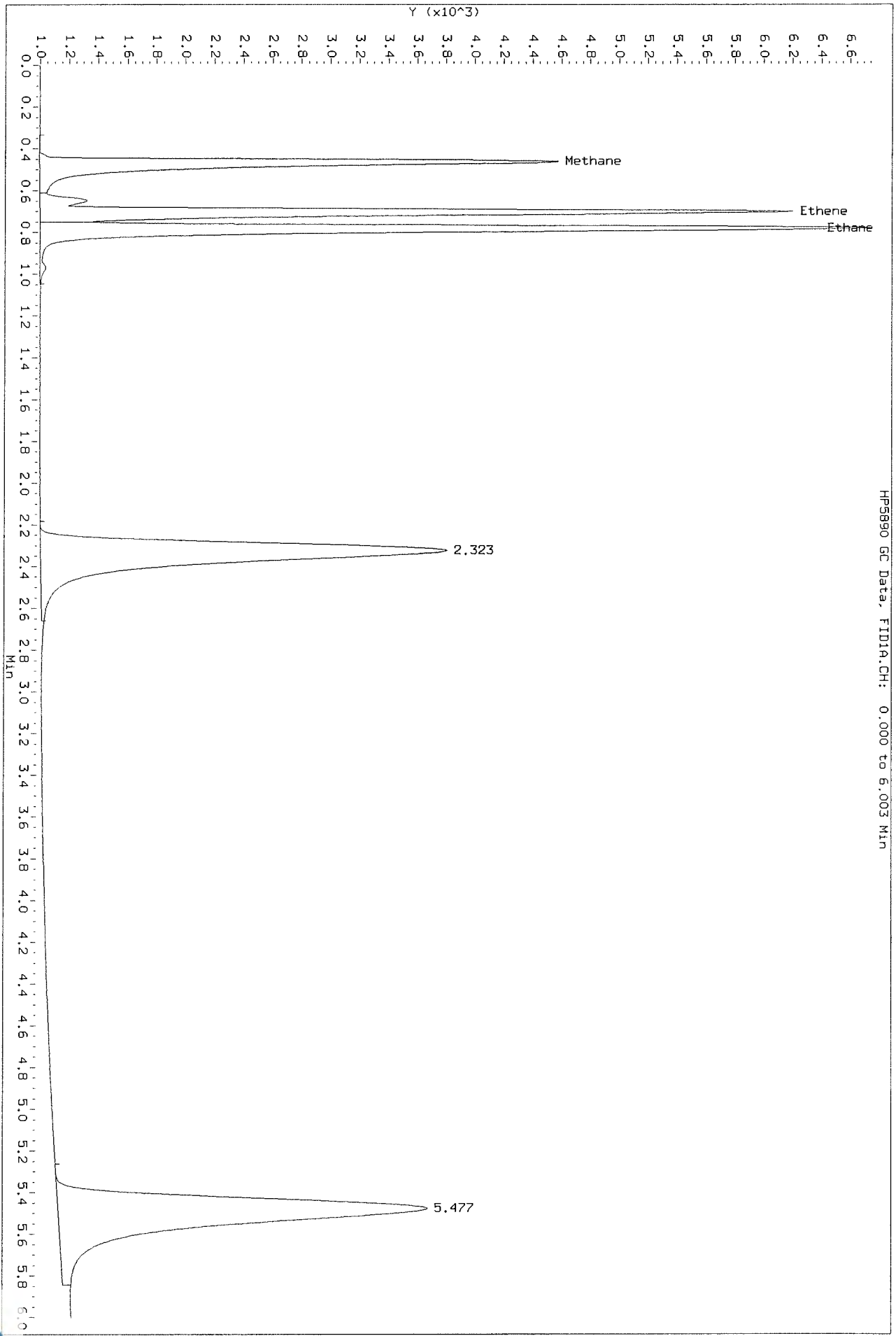
Sample Info: LCSD-201021;LCSD-201021;3;;LCSD

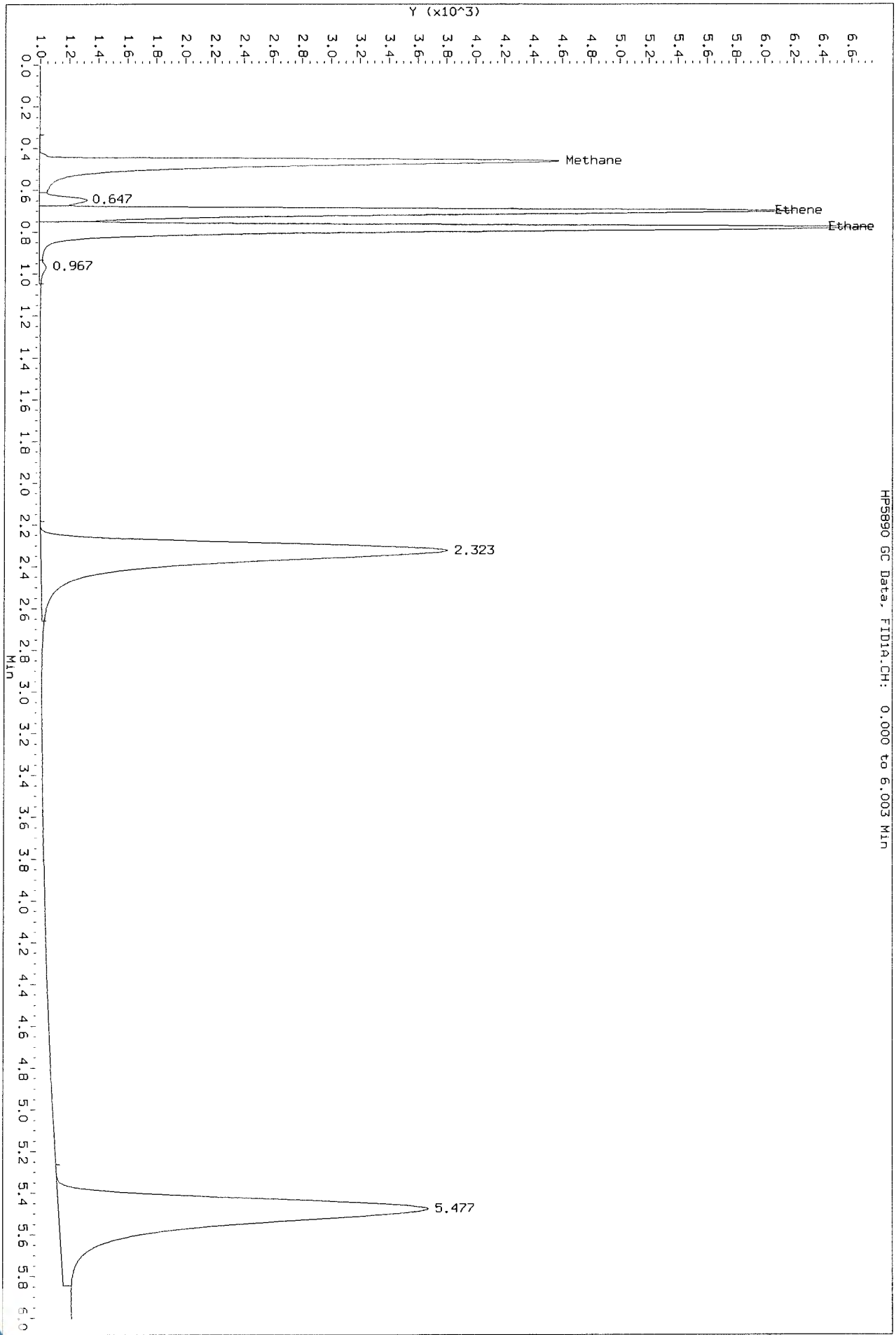
Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53




Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\before\004.D
Injection Date: 21-OCT-2020 10:25
Instrument: FID-4.i
Client Sample ID: LCSD-201021
HP5890 GC Data, FID1A.CH: 0.000 to 6.003 Min
Y (x10^3)
Min
Methane
Ethene
Ethane
2.323
5.477


Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\004.D
Injection Date: 21-OCT-2020 10:25
Instrument: FID-4.i
Client Sample ID: LCSD-201021
HP5890 GC Data, FID1A.CH: 0.000 to 6.003 Min
Y (x10^3)
Min
Methane
0.647
Ethene
Ethane
0.967
2.323
5.477

Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\009.D Page 1
Report Date: 01-Dec-2020 12:04

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201021.b\009.D
Lab Smp Id: HS20100779-01 Client Smp ID: HS20100779-01
Inj Date : 21-OCT-2020 11:10
Operator : PL Inst ID: FID-4.i
Smp Info : HS20100779-01;HS20100779-01
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201021.b\RSKNI3.m
Meth Date : 01-Dec-2020 12:04 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.466	0.460	0.006	14908	15.2904	15.290(M)

QC Flag Legend

M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\009.D

Date : 21-OCT-2020 11:10

Client ID: HS20100779-01

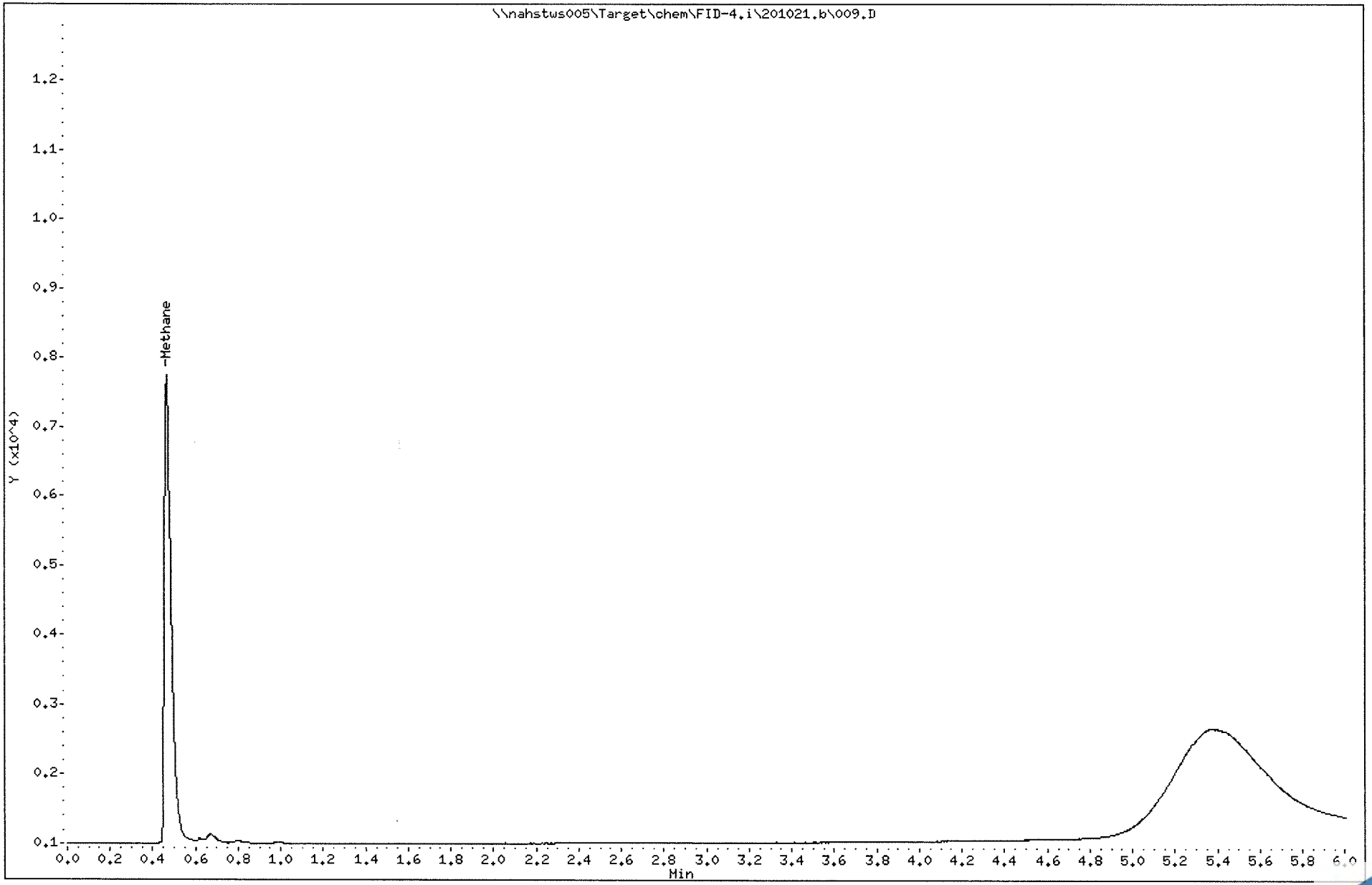
Instrument: FID-4.i

Sample Info: HS20100779-01;HS20100779-01

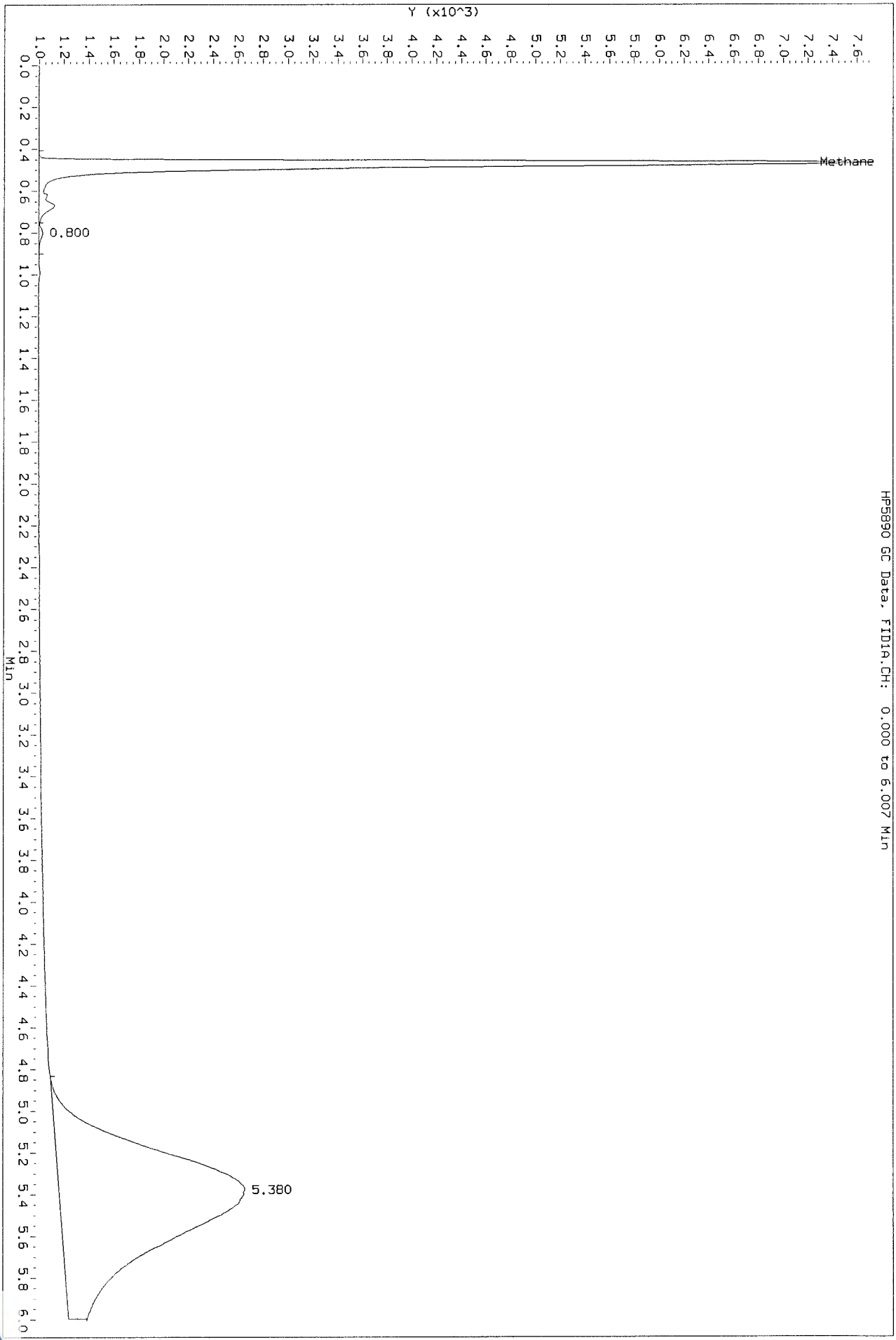
Operator: PL

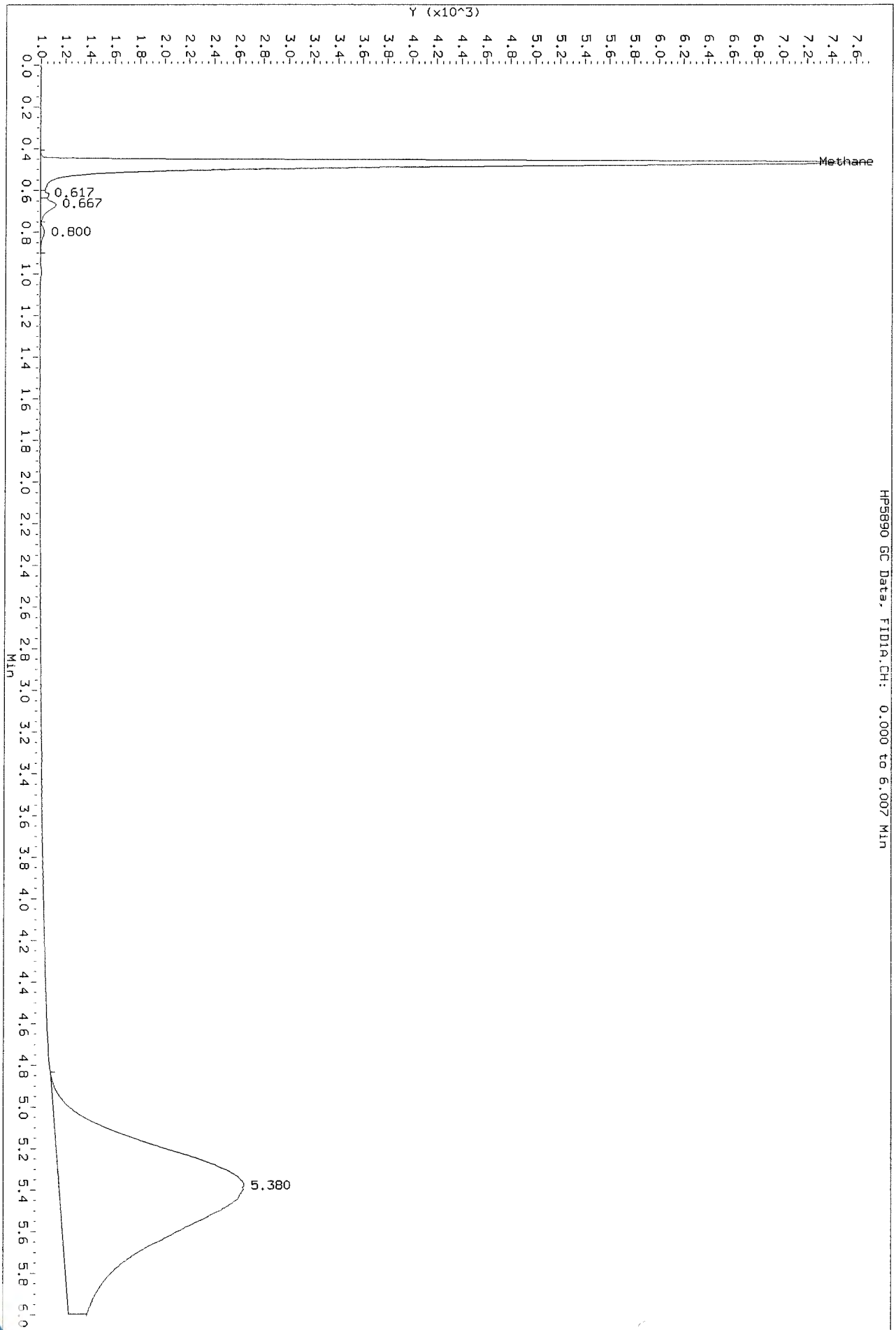
Column phase: Rtx-PLOT

Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\before\009.D
Injection Date: 21-OCT-2020 11:10
Instrument: FID-4.i
Client Sample ID: HS201007?9-01




Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\009.D
Injection Date: 21-OCT-2020 11:10
Instrument: FID-4.i
Client Sample ID: HS20100779-01
HP5890 GC Data, FID1A.CH: 0.000 to 6.007 Min
Y (x10^3)
Min
Methane
0.617
0.667
0.800
5.380

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201021.b\011.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 21-OCT-2020 11:38
Operator : PL Inst ID: FID-4.i
Smp Info : RSK-CCV;RSK-CCV;2;4
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201021.b\RSKNI3.m
Meth Date : 01-Dec-2020 12:04 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 11 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

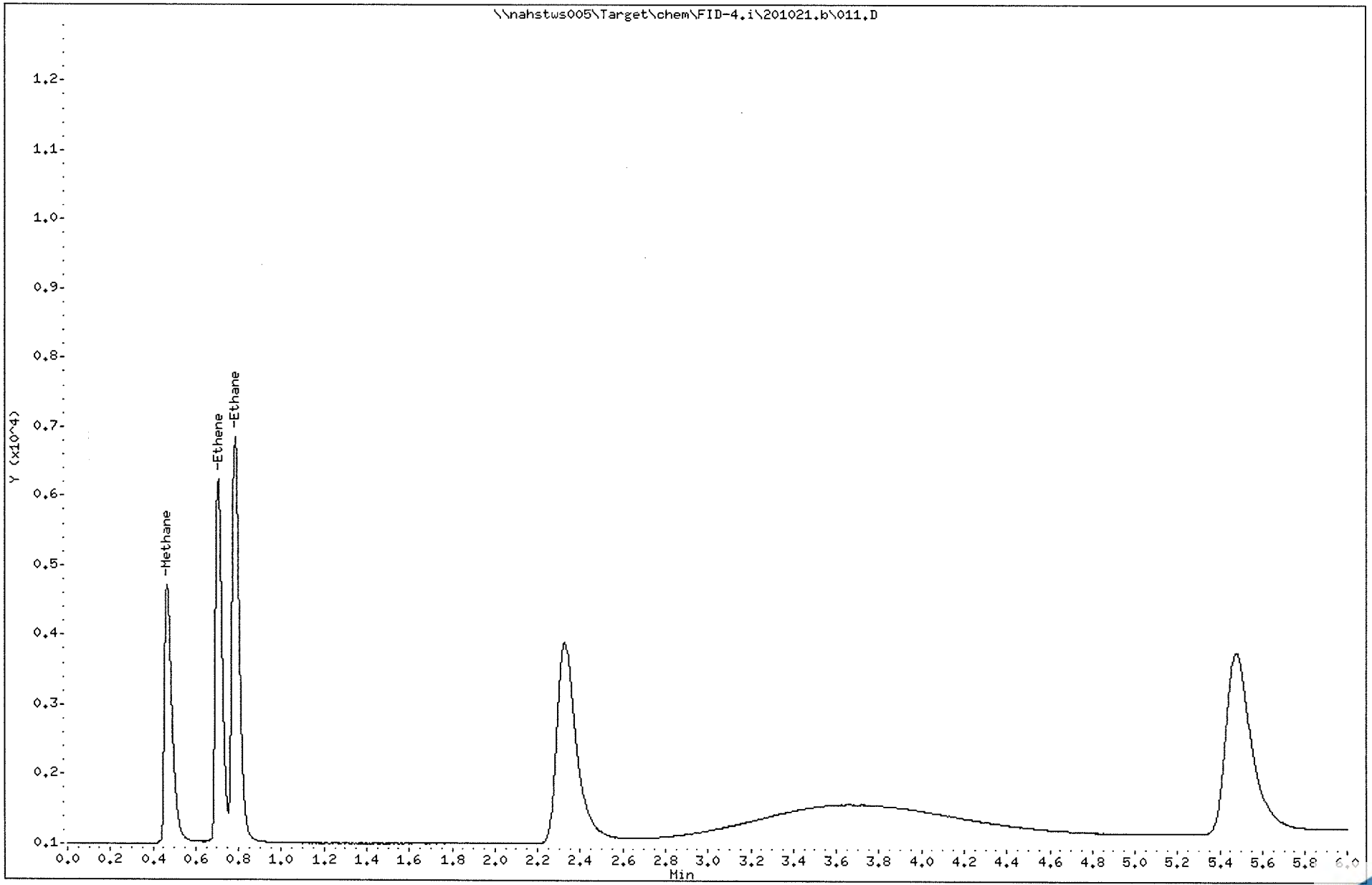
					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	0.466	0.466	0.000	9213	9.64700	9.449
2 Ethene	0.706	0.706	0.000	11240	16.8500	19.188
3 Ethane	0.783	0.783	0.000	14070	18.0430	19.555

Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\011.D
Date : 21-OCT-2020 11:38
Client ID: RSK-CCV
Sample Info: RSK-CCV;RSK-CCV;2;4

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\012.D Page 1
Report Date: 01-Dec-2020 12:04

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201021.b\012.D
Lab Smp Id: HS20100779-02 Client Smp ID: HS20100779-02
Inj Date : 21-OCT-2020 11:51
Operator : PL Inst ID: FID-4.i
Smp Info : HS20100779-02;HS20100779-02
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201021.b\RSKNI3.m
Meth Date : 01-Dec-2020 12:04 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.466	0.466	0.000	4384	4.49645	4.496 (M)

QC Flag Legend

M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\012.D

Date : 21-OCT-2020 11:51

Client ID: HS20100779-02

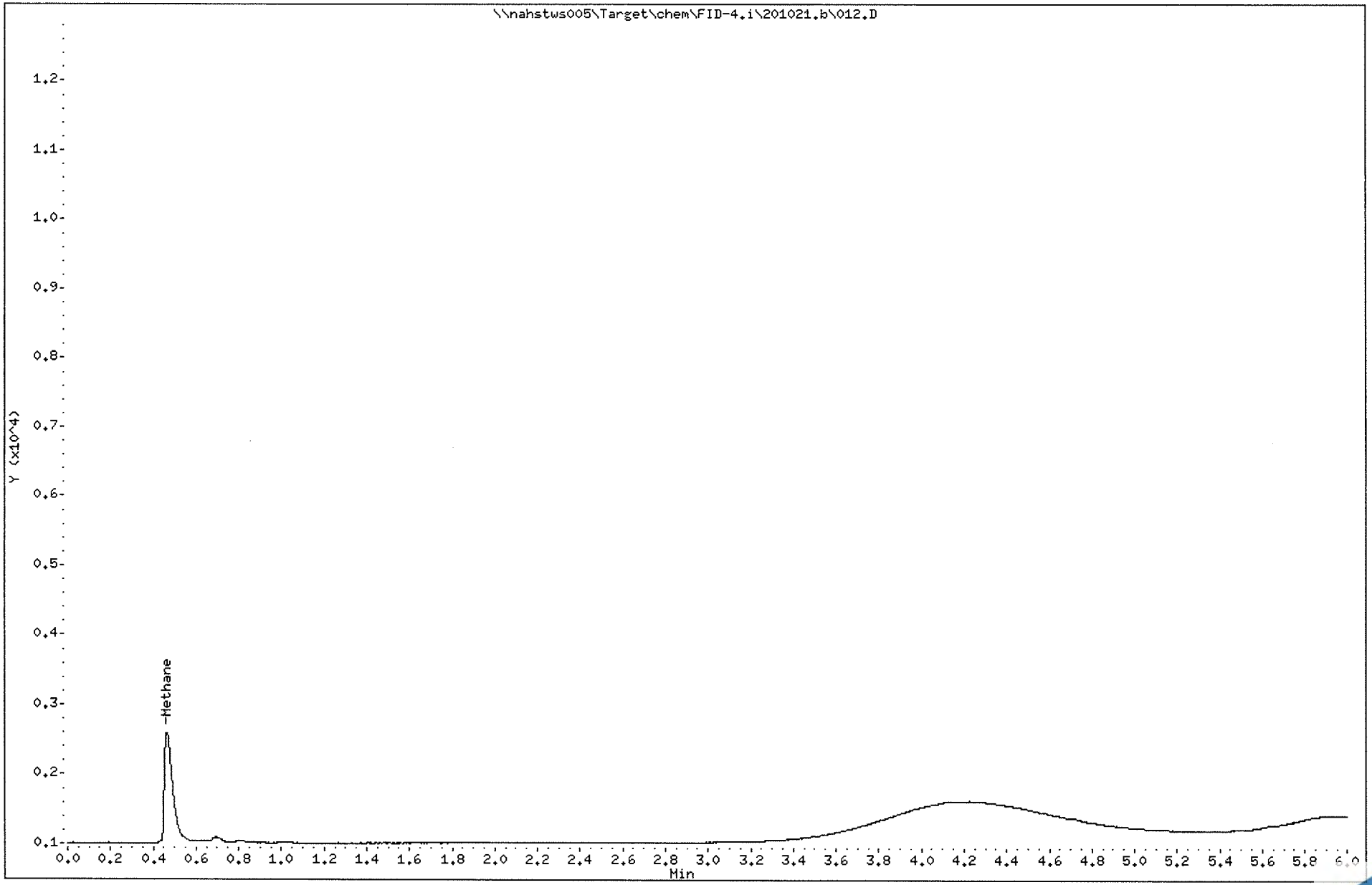
Instrument: FID-4.i

Sample Info: HS20100779-02;HS20100779-02

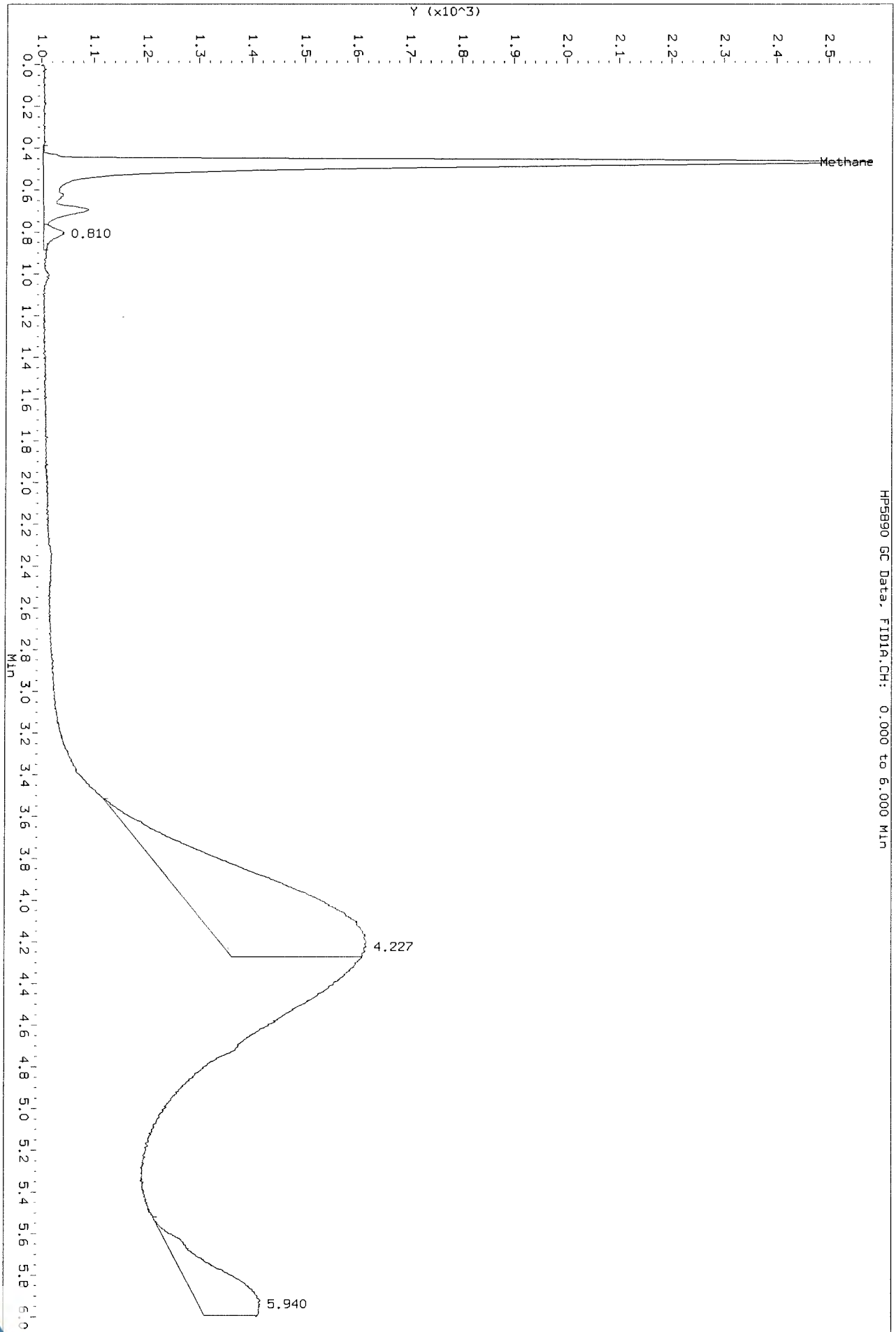
Operator: PL

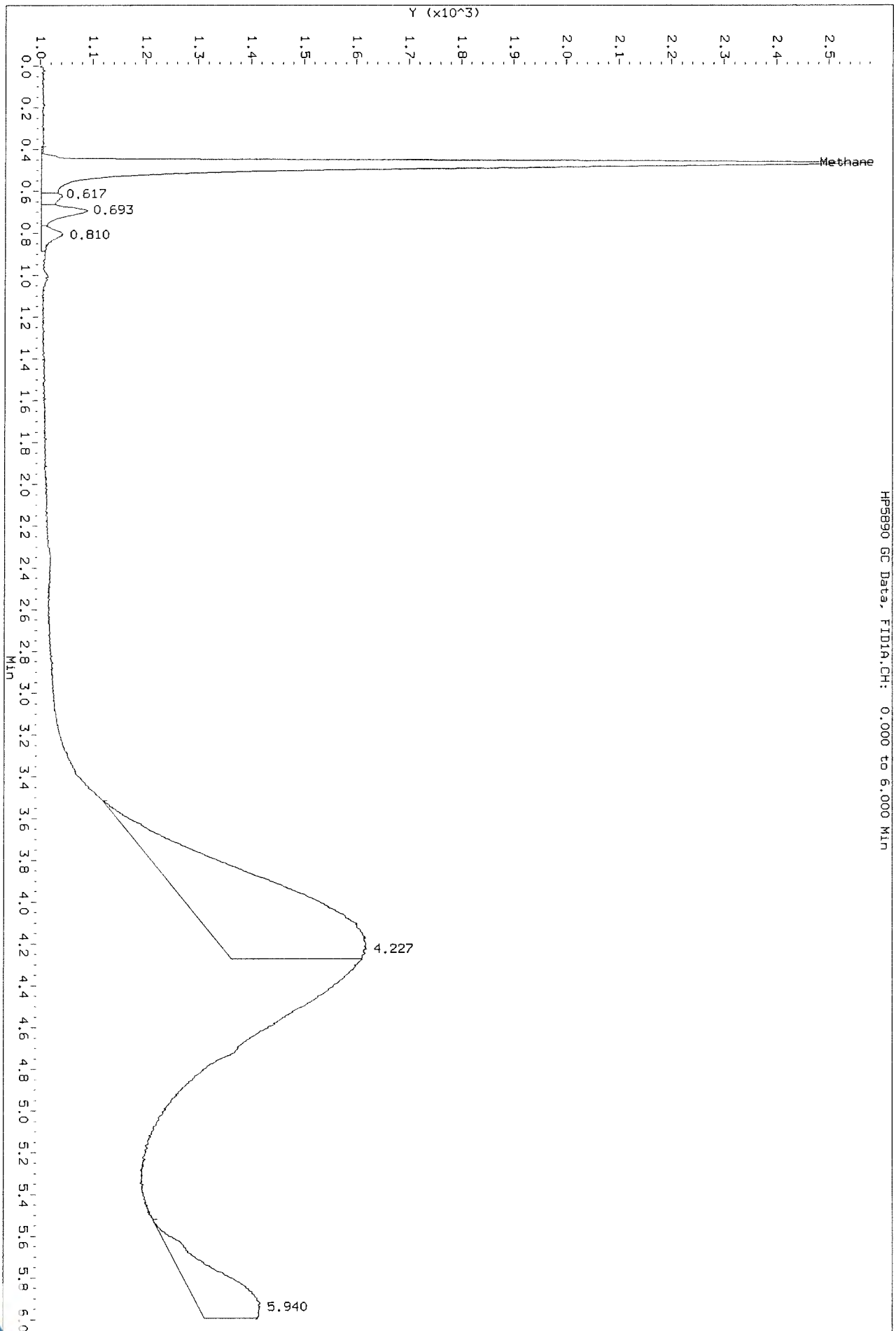
Column phase: Rtx-PLOT

Column diameter: 0.53



Data File: \\nahstws005\Target\Chem\FID-4.i\201021.b\before\012.D
Injection Date: 21-OCT-2020 11:51
Instrument: FID-4.i
Client Sample ID: HS20100779-02




Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\012.D
Injection Date: 21-OCT-2020 11:51
Instrument: FID-4.i
Client Sample ID: HS20100779-02
HP5890 GC Data, FID1A.CH: 0.000 to 6.000 Min
Y (x10^3)
Min
Methane
0.617
0.693
0.810
4.227
5.940

Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\013.D Page 1
Report Date: 01-Dec-2020 12:04

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201021.b\013.D
Lab Smp Id: HS20100779-04 Client Smp ID: HS20100778-04
Inj Date : 21-OCT-2020 12:11
Operator : PL Inst ID: FID-4.i
Smp Info : HS20100779-04;HS20100778-04
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201021.b\RSKNI3.m
Meth Date : 01-Dec-2020 12:04 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 14
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 Methane	0.466	0.466	0.000	14952	15.3355	15.335
2 Ethene	0.670	0.706	-0.036	664	1.13357	1.133(M)

QC Flag Legend

M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\013.D

Date : 21-OCT-2020 12:11

Client ID: HS20100778-04

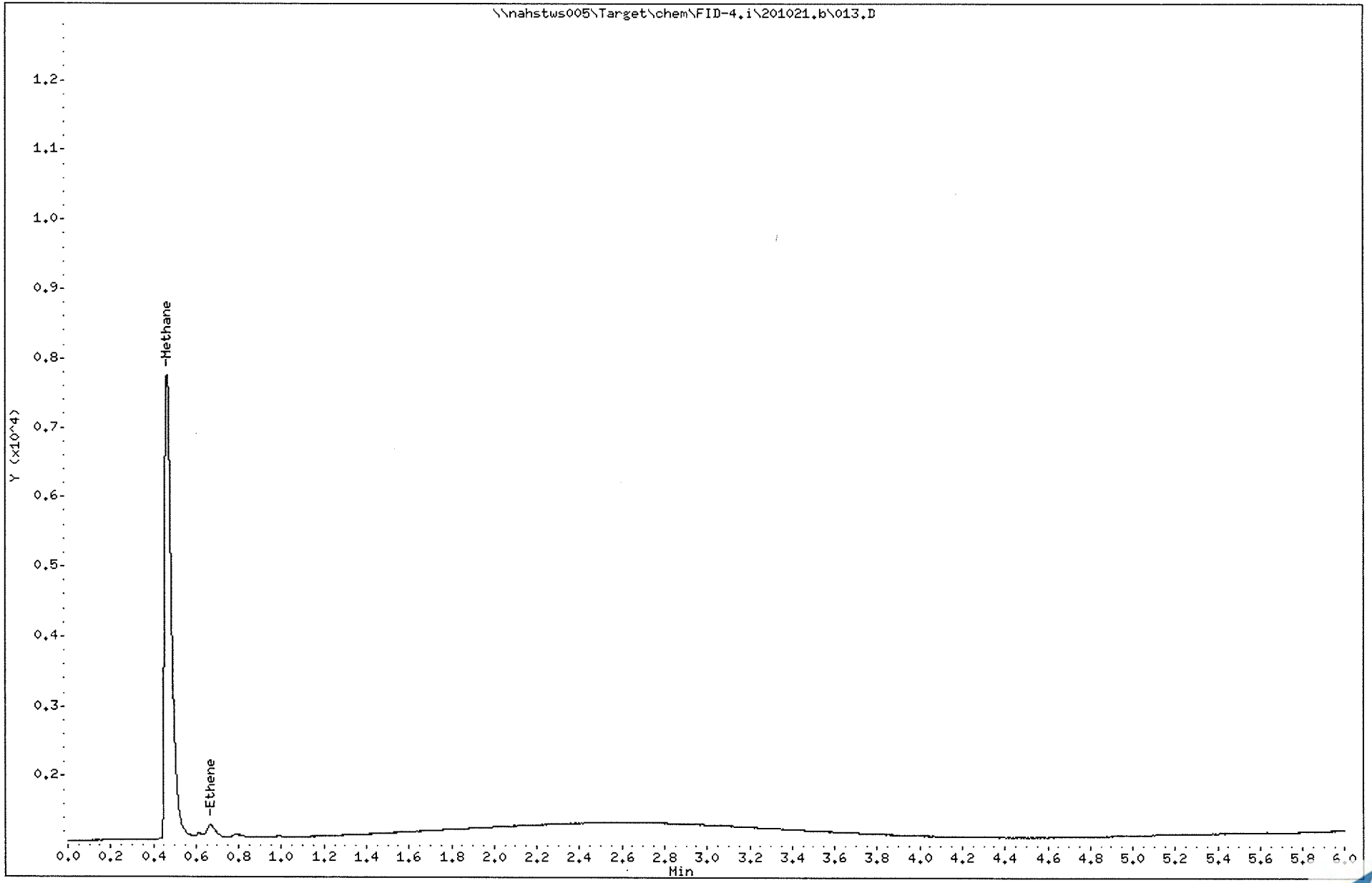
Instrument: FID-4.i

Sample Info: HS20100779-04;HS20100778-04

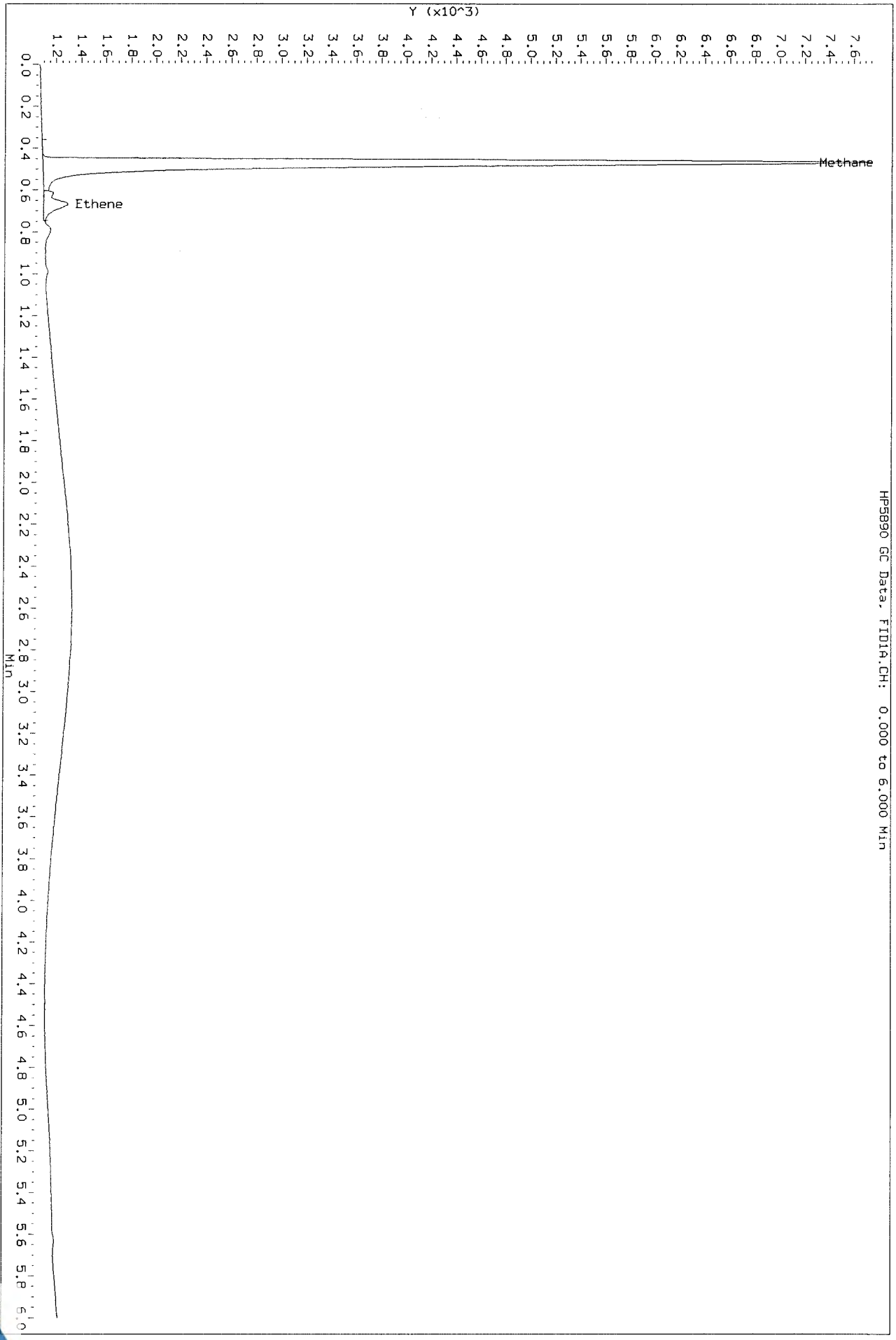
Operator: PL

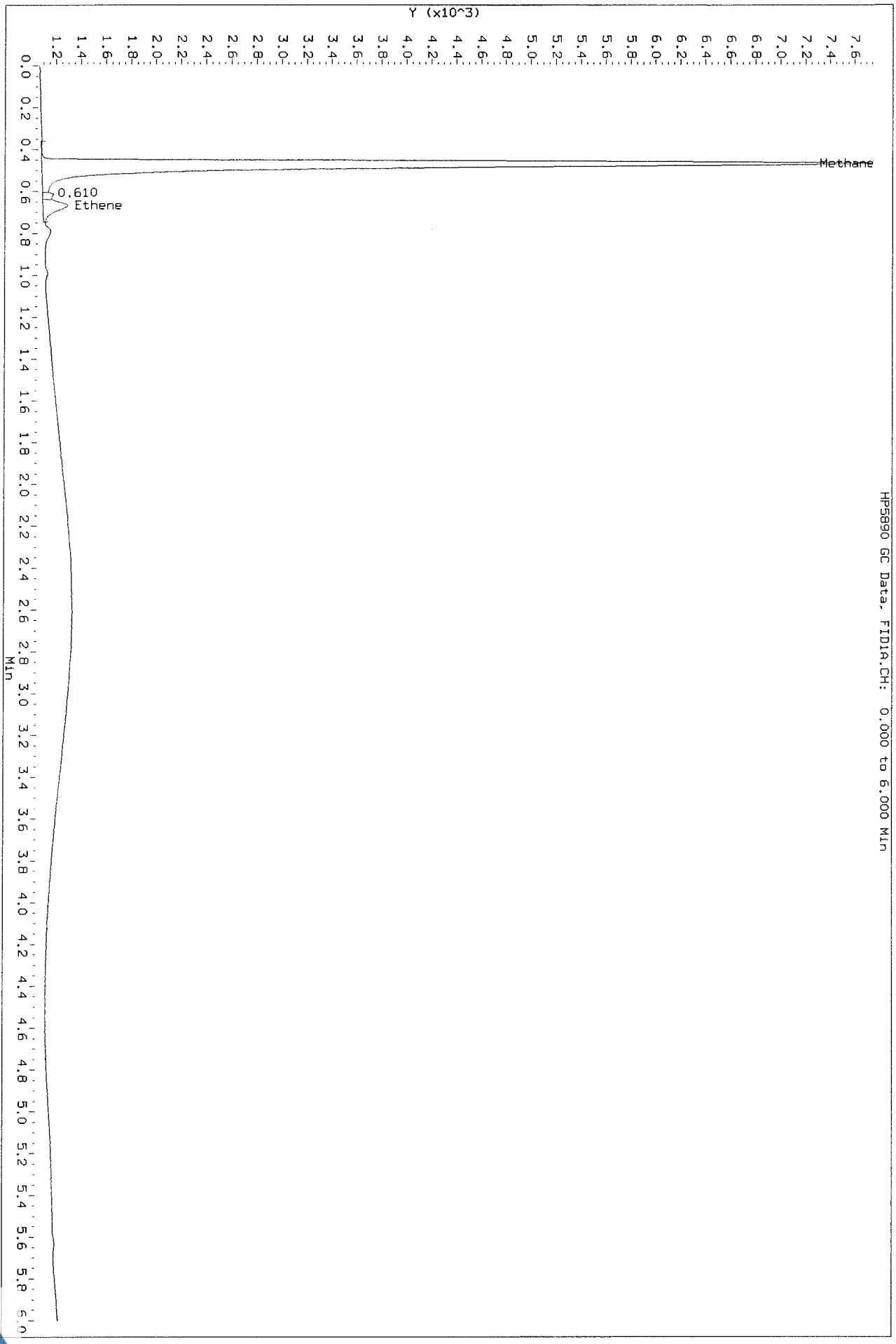
Column phase: Rtx-PLOT

Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\before\013.D
Injection Date: 21-OCT-2020 12:11
Instrument: FID-4.i
Client Sample ID: HS20100778-04




Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\013.D
Injection Date: 21-OCT-2020 12:11
Instrument: FID-4.i
Client Sample ID: HS20100778-04
HP5890 GC Data, FIDiA.CH: 0.000 to 6.000 Min
Y (x10^3)
Methane
0.610
Ethene
Min

Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\014.D Page 1
Report Date: 01-Dec-2020 12:04

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201021.b\014.D
Lab Smp Id: HS20100779-05 Client Smp ID: HS20100779-05
Inj Date : 21-OCT-2020 12:19
Operator : PL Inst ID: FID-4.i
Smp Info : HS20100779-05;HS20100779-05
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201021.b\RSKNI3.m
Meth Date : 01-Dec-2020 12:04 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 13
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

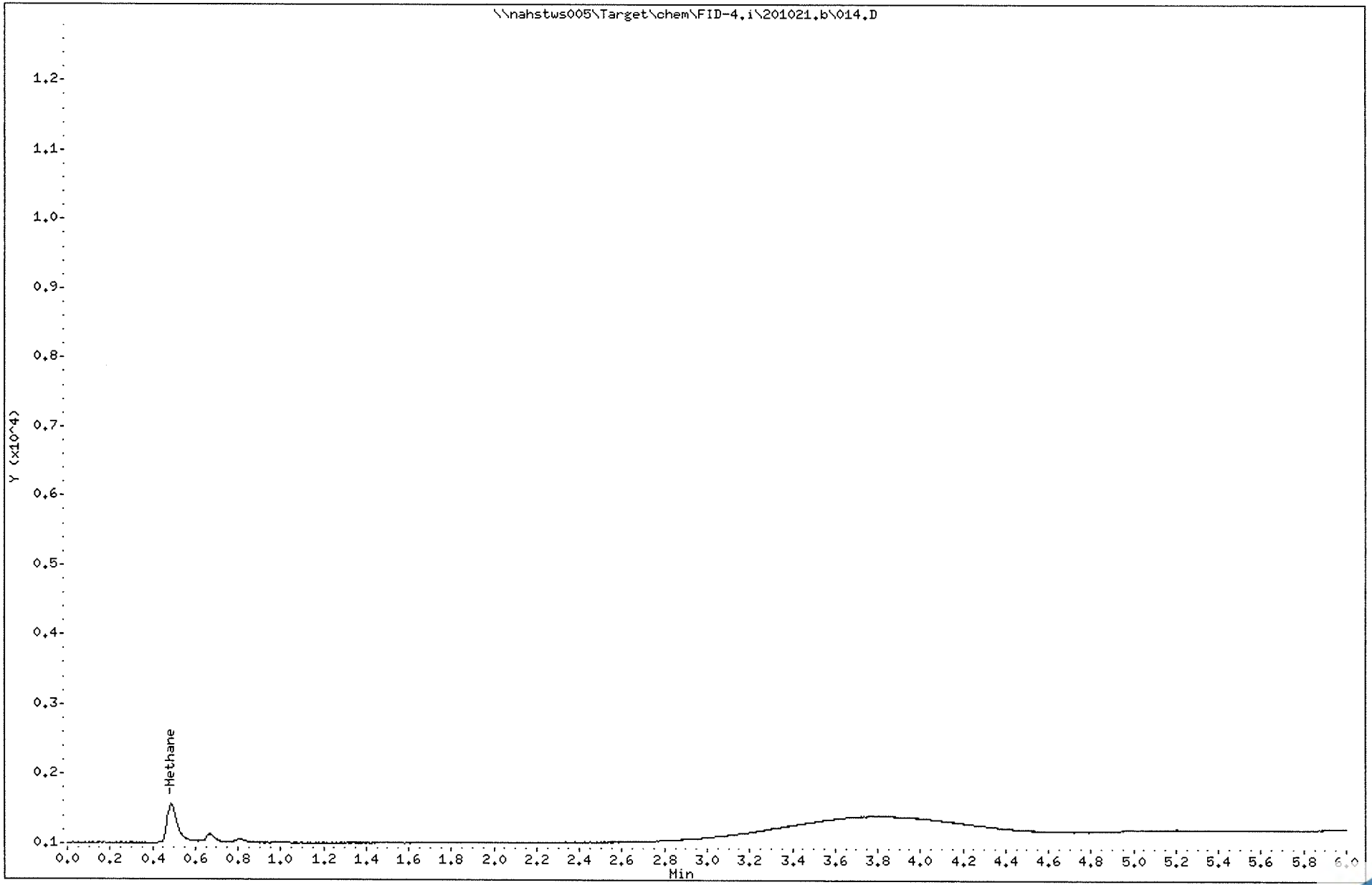
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
1 Methane	0.486	0.466	0.020	1993	2.04412	2.044

Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\014.D
Date : 21-OCT-2020 12:19
Client ID: HS20100779-05
Sample Info: HS20100779-05;HS20100779-05

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\015.D Page 1
Report Date: 01-Dec-2020 12:04

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201021.b\015.D
Lab Smp Id: HS20100779-06 Client Smp ID: HS20100779-06
Inj Date : 21-OCT-2020 12:27
Operator : PL Inst ID: FID-4.i
Smp Info : HS20100779-06;HS20100779-06
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201021.b\RSKNI3.m
Meth Date : 01-Dec-2020 12:04 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 15
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	0.463	0.466	-0.003	14118	14.4801	14.480
2 Ethene	0.703	0.706	-0.003	6266	10.6972	10.697(M)

QC Flag Legend

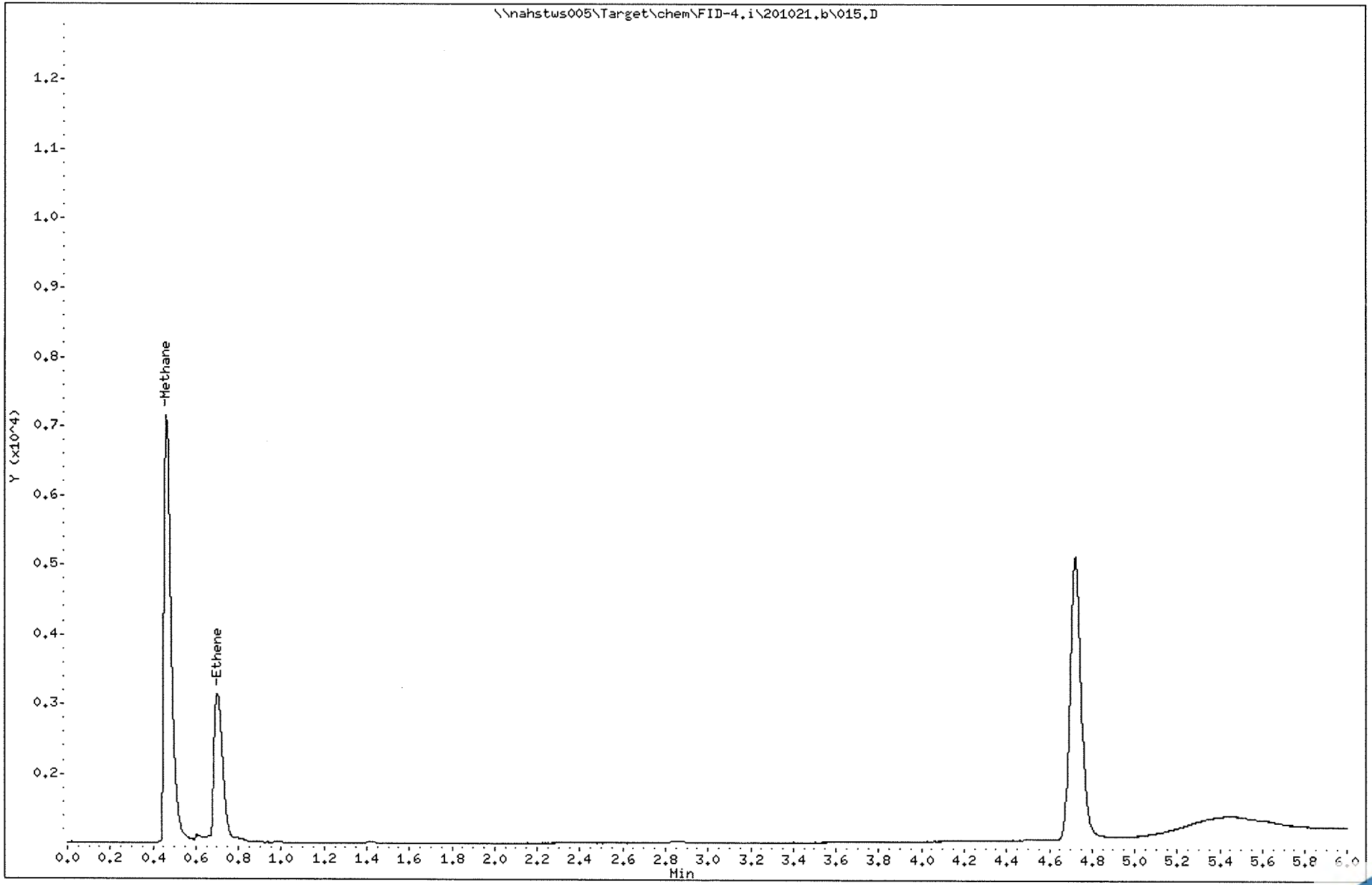
M - Compound response manually integrated.

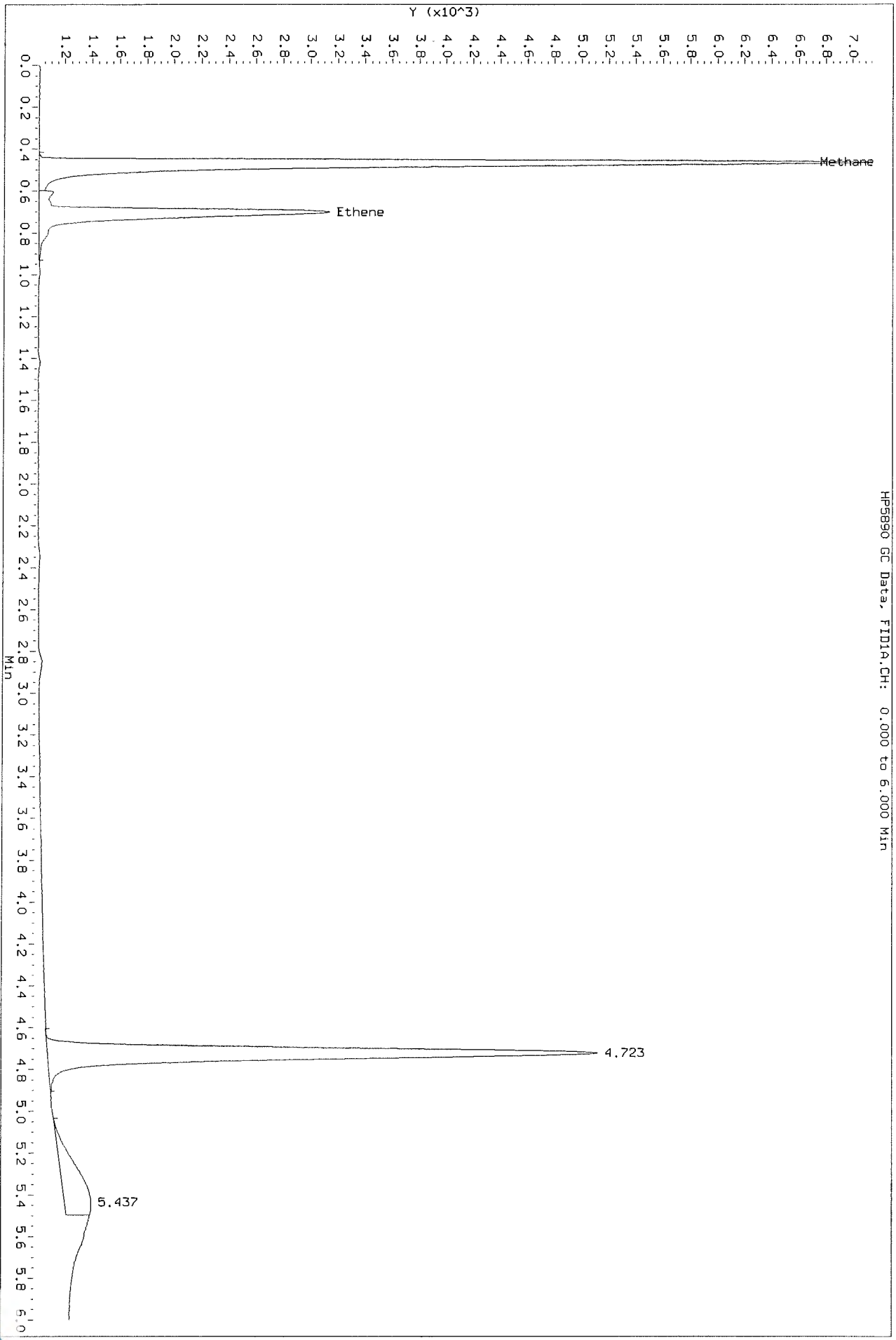
Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\015.D
Date : 21-OCT-2020 12:27
Client ID: HS20100779-06
Sample Info: HS20100779-06;HS20100779-06

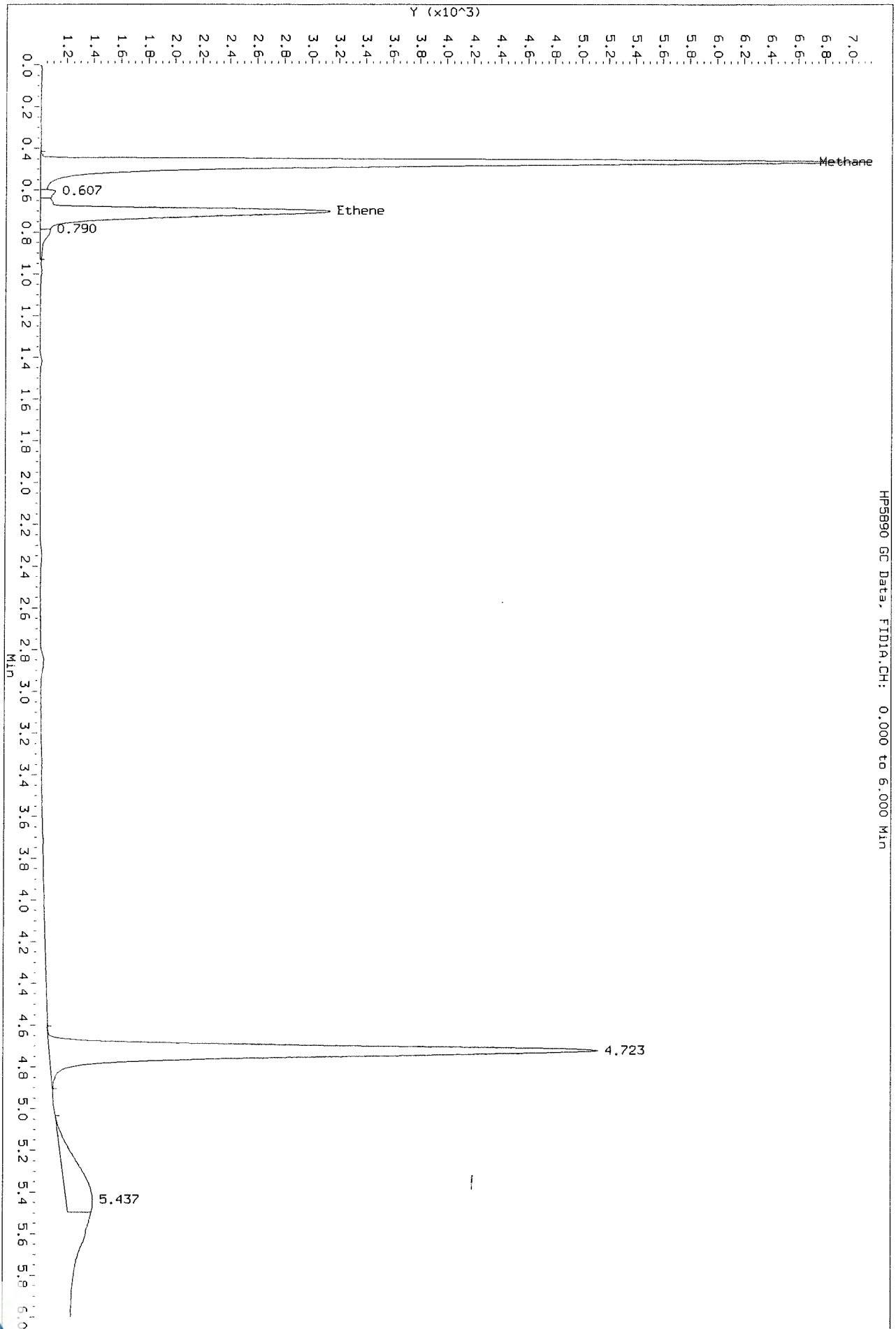
Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53




Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\before\015.D
Injection Date: 21-OCT-2020 12:27
Instrument: FID-4.i
Client Sample ID: HS20100779-06
HP5890 GC Data, FIDiA.CH: 0.000 to 6.000 Min
Y (x10^3)
Min
Methane
Ethene
4.723
5.437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Injection Date: 21-OCT-2020 12:27
Instrument: FID-4.i
Client Sample ID: HS20100779-06
HP5890 GC Data, FID1A.CH: 0.000 to 6.000 Min
Y (x10^3)
Min
Methane
0.607
Ethene
0.790
4.723
5.437

Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\022.D Page 1
Report Date: 01-Dec-2020 12:04

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201021.b\022.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 21-OCT-2020 15:05
Operator : PL Inst ID: FID-4.i
Smp Info : RSK-CCV;RSK-CCV;2;4
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201021.b\RSKNI3.m
Meth Date : 01-Dec-2020 12:04 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 22 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	0.466	0.466	0.000	8230	9.64700	8.441
2 Ethene	0.706	0.706	0.000	11058	16.8500	18.878(M)
3 Ethane	0.783	0.783	0.000	13573	18.0430	18.864(M)

QC Flag Legend

M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\022.D

Date : 21-OCT-2020 15:05

Client ID: RSK-CCV

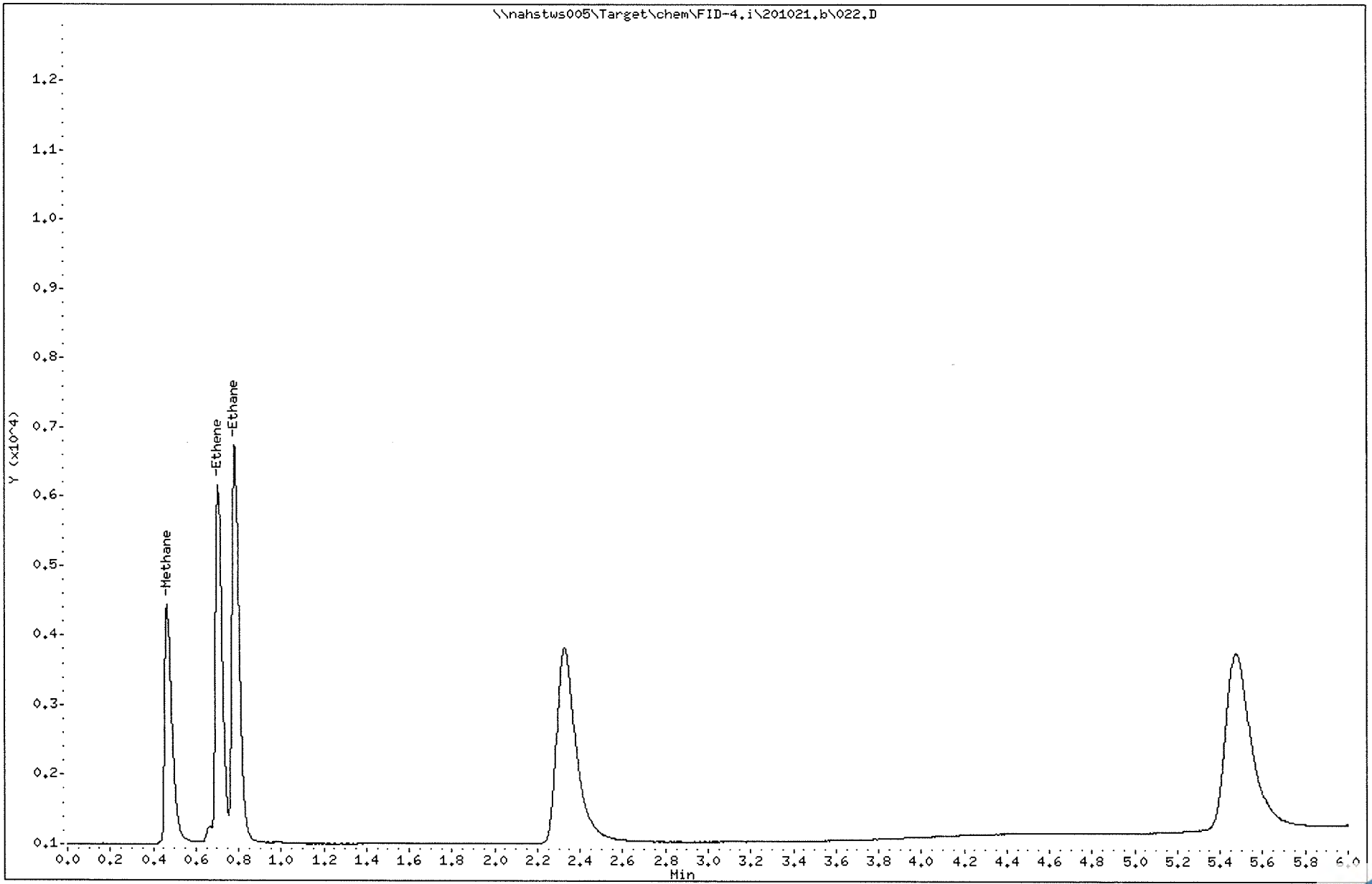
Instrument: FID-4.i

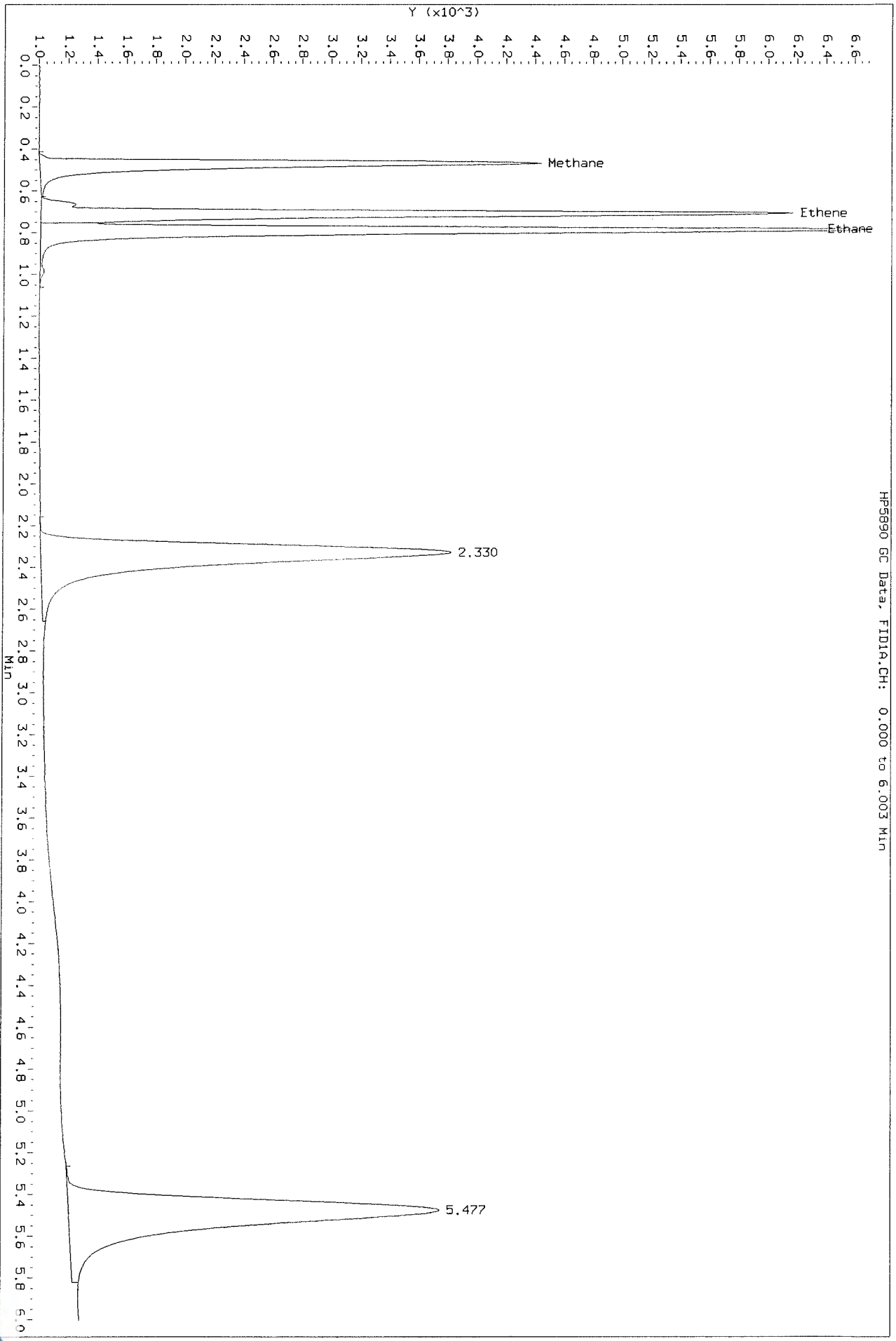
Sample Info: RSK-CCV;RSK-CCV;2;4

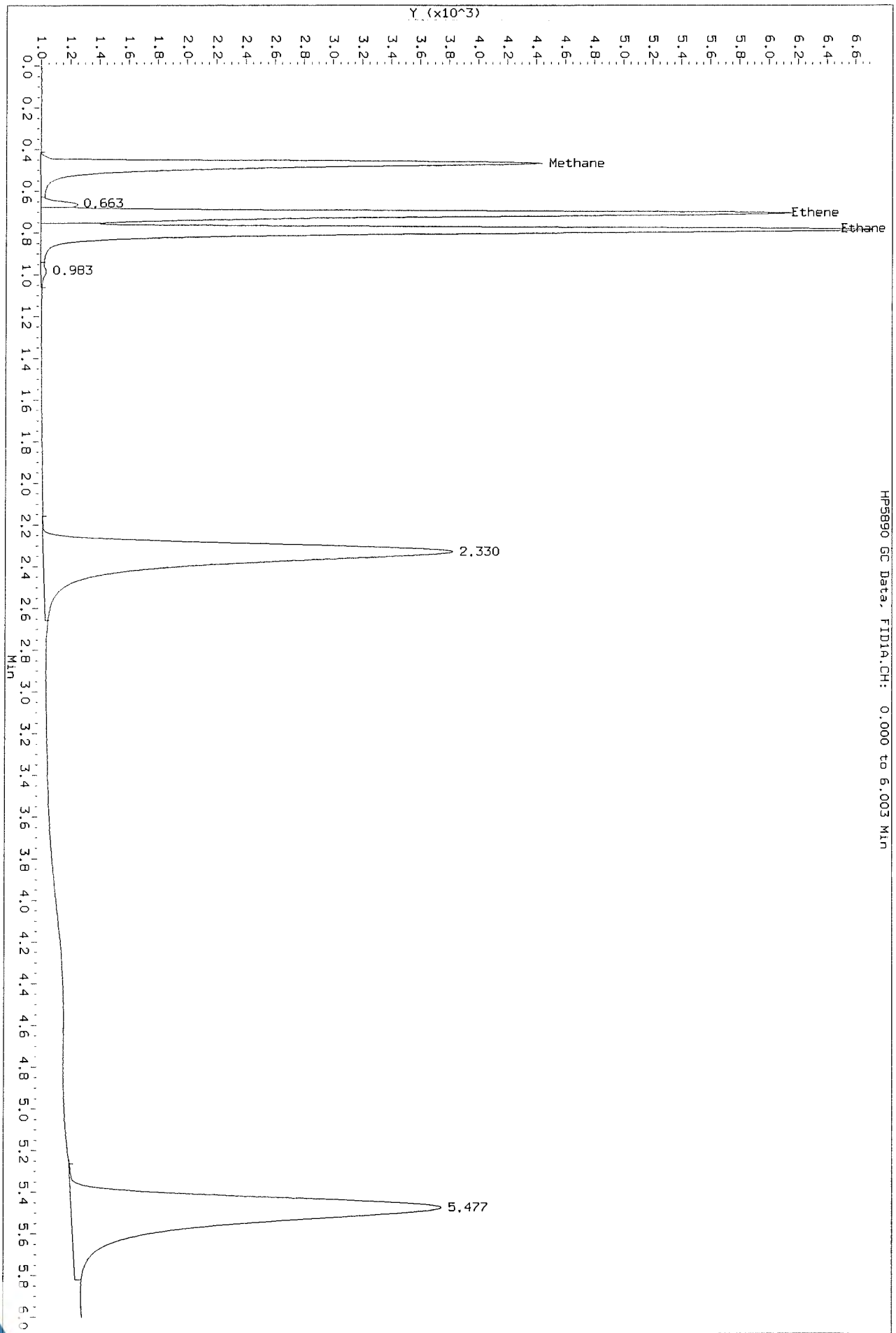
Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53




Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\before\022.D
Injection Date: 21-OCT-2020 15:05
Instrument: FID-4.i
Client Sample ID: RSK-CCV
HP5890 GC Data, FID1A.CH: 0.000 to 6.003 Min
Y (x10^3)
Min
Methane
Ethene
Ethane
2.330
5.477


Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\022.D
Injection Date: 21-OCT-2020 15:05
Instrument: FID-4.i
Client Sample ID: RSK-CCV
HP5890 GC Data, FID1A.CH: 0.000 to 6.003 Min
Y (x10^3)
Min
Methane
0.663
Ethene
Ethane
0.983
2.330
5.477

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201021.b\025.D
Lab Smp Id: HS20100719-05MS Client Smp ID: HS20100719-05MS
Inj Date : 21-OCT-2020 15:33
Operator : PL Inst ID: FID-4.i
Smp Info : HS20100719-05MS;HS20100719-05MS
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201021.b\RSKNI3.m
Meth Date : 01-Dec-2020 12:04 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 25 QC Sample: MS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 Methane	0.466	0.466	0.000	771343	791.127	791.127(AR)
2 Ethene	0.706	0.706	0.000	59398	101.403	101.403(AR)
3 Ethane	0.783	0.783	0.000	20291	28.2019	28.201(R)

QC Flag Legend

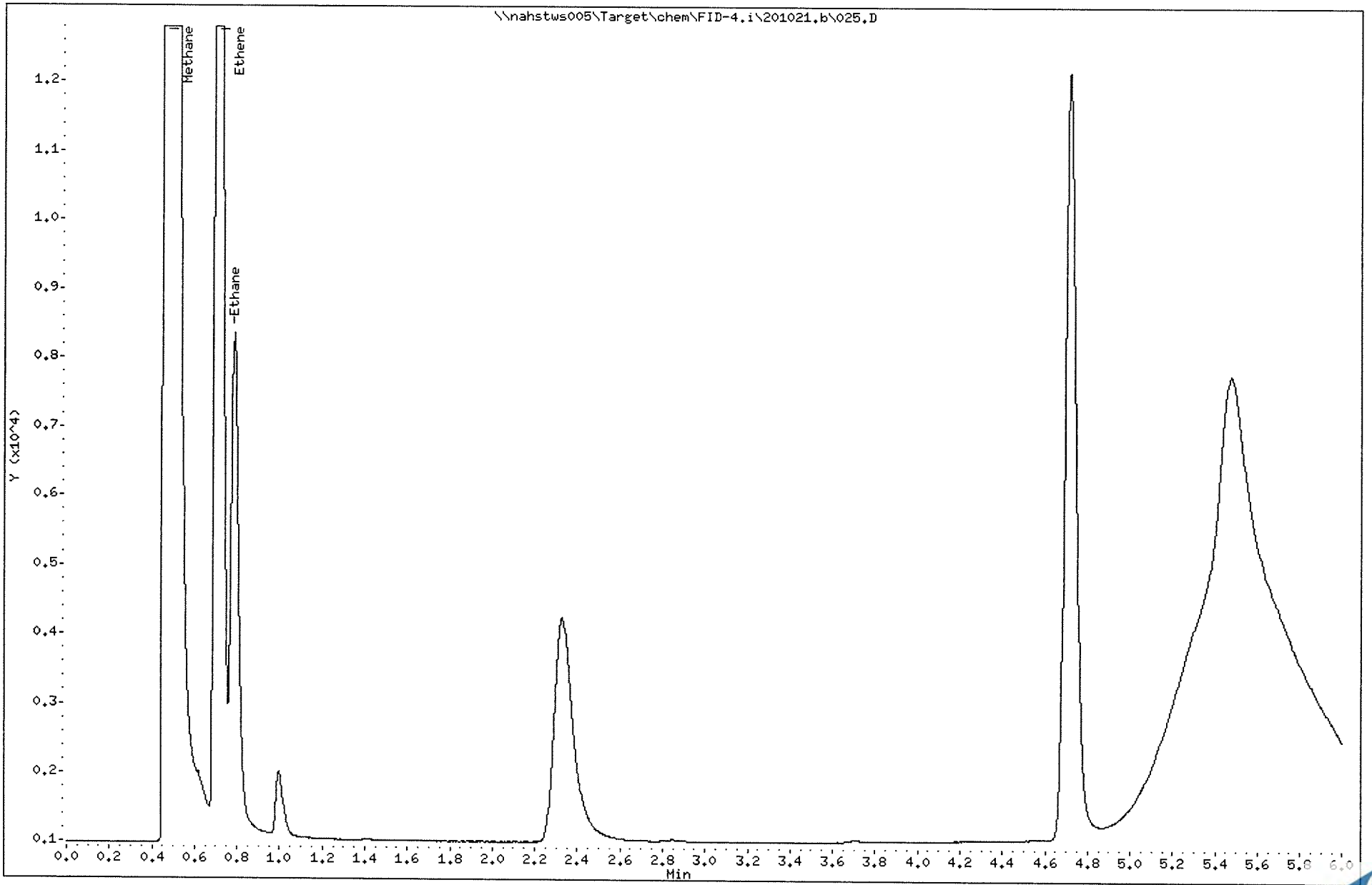
A - Target compound detected but, quantitated amount exceeded maximum amount.
R - Spike/Surrogate failed recovery limits.

Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\025.D
Date : 21-OCT-2020 15:33
Client ID: HS20100719-05MS
Sample Info: HS20100719-05MS;HS20100719-05MS

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\026.D Page 1
Report Date: 01-Dec-2020 12:04

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201021.b\026.D
Lab Smp Id: HS20100719-05MSD Client Smp ID: HS20100719-05MSD
Inj Date : 21-OCT-2020 15:44
Operator : PL Inst ID: FID-4.i
Smp Info : HS20100719-05MSD;HS20100719-05MSD
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201021.b\RSKNI3.m
Meth Date : 01-Dec-2020 12:04 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 26 QC Sample: MSD
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

					CONCENTRATIONS	
					ON-COLUMN	FINAL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(ug/L)	(ug/L)
1 Methane	0.463	0.466	-0.003	769454	789.190	789.189(AR)
2 Ethene	0.703	0.706	-0.003	59309	101.251	101.251(ARM)
3 Ethane	0.780	0.783	-0.003	19317	26.8482	26.848(RM)

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\026.D

Date : 21-OCT-2020 15:44

Client ID: HS20100719-05MSD

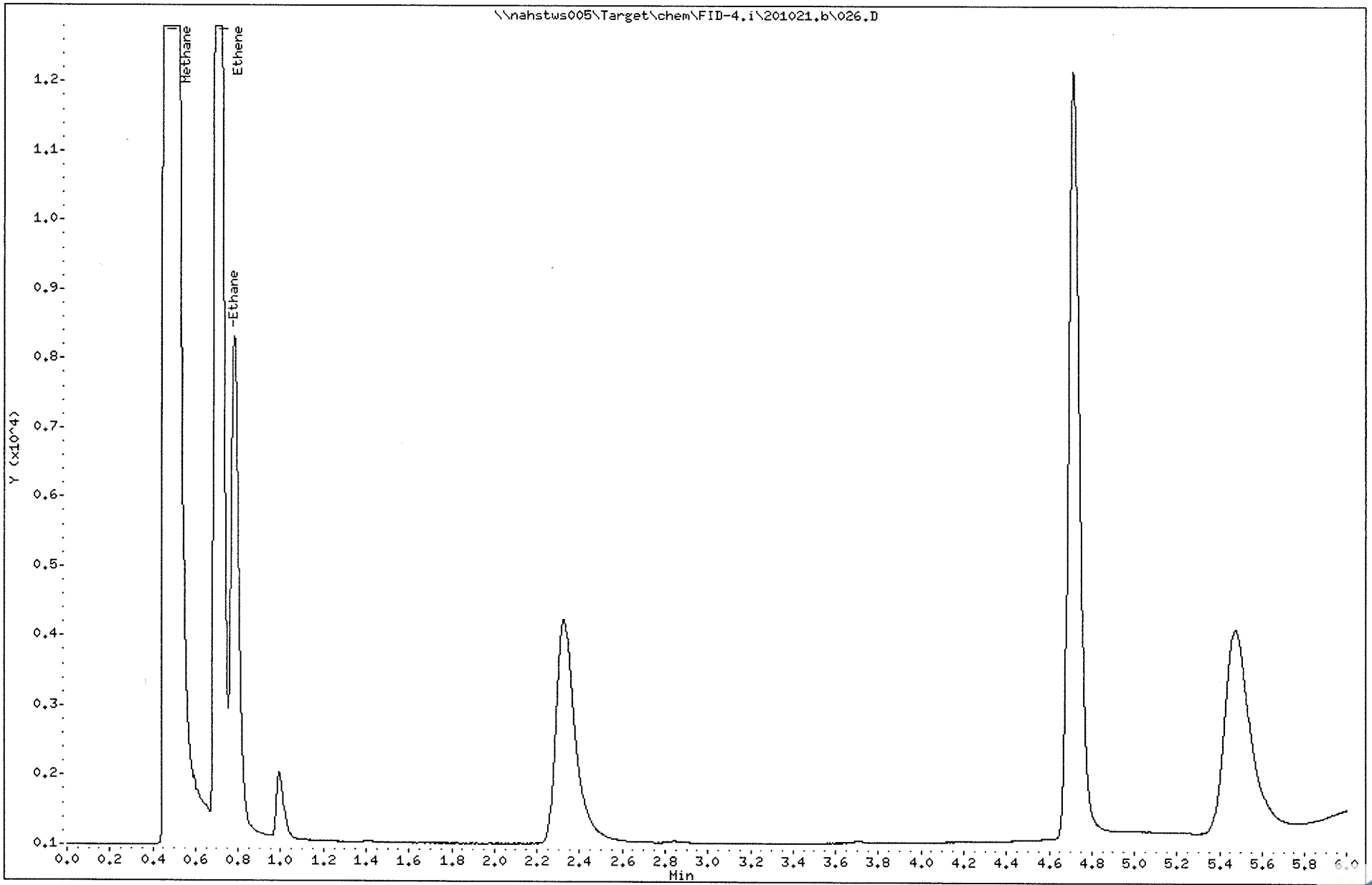
Sample Info: HS20100719-05MSD;HS20100719-05MSD

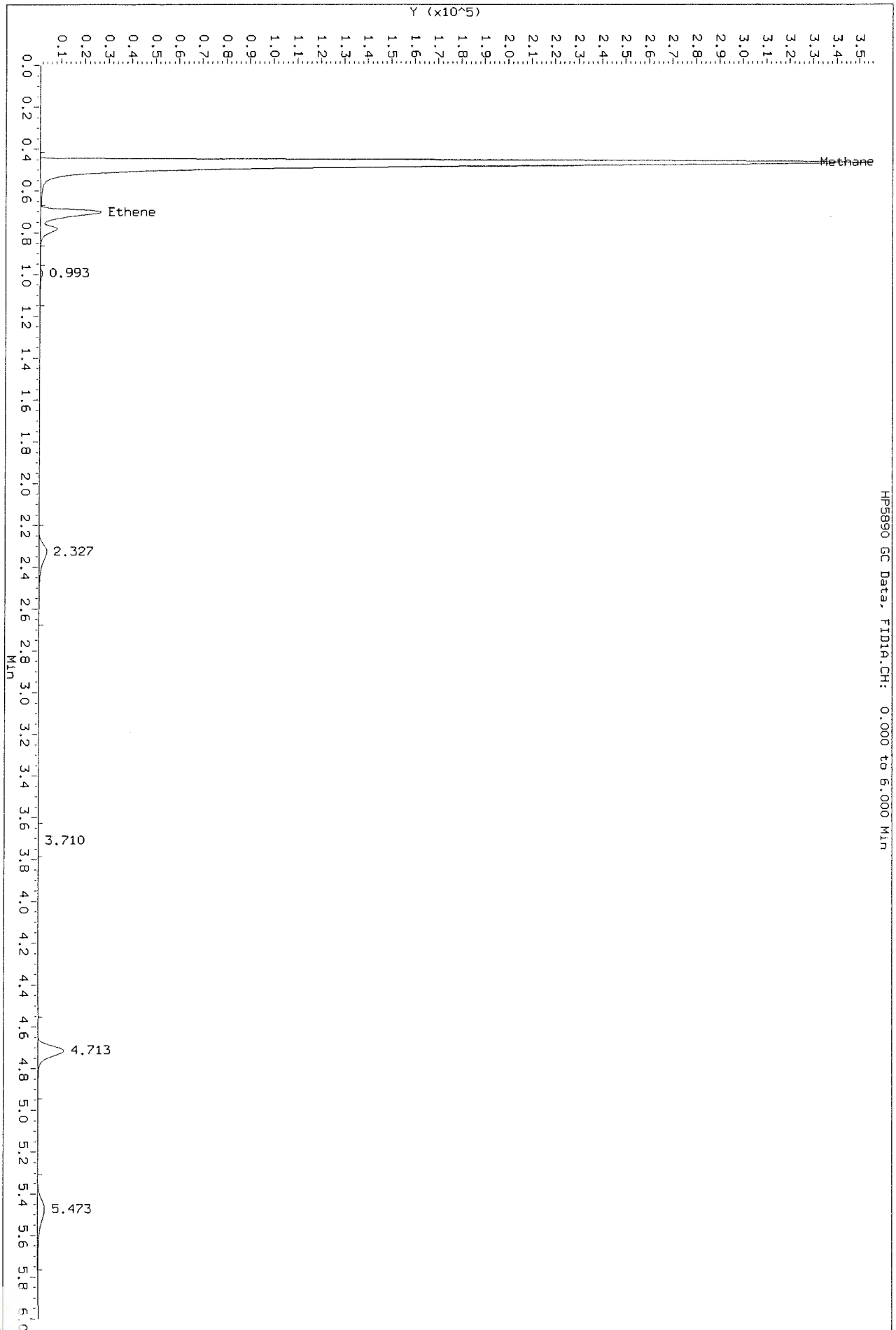
Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL

Column diameter: 0.53

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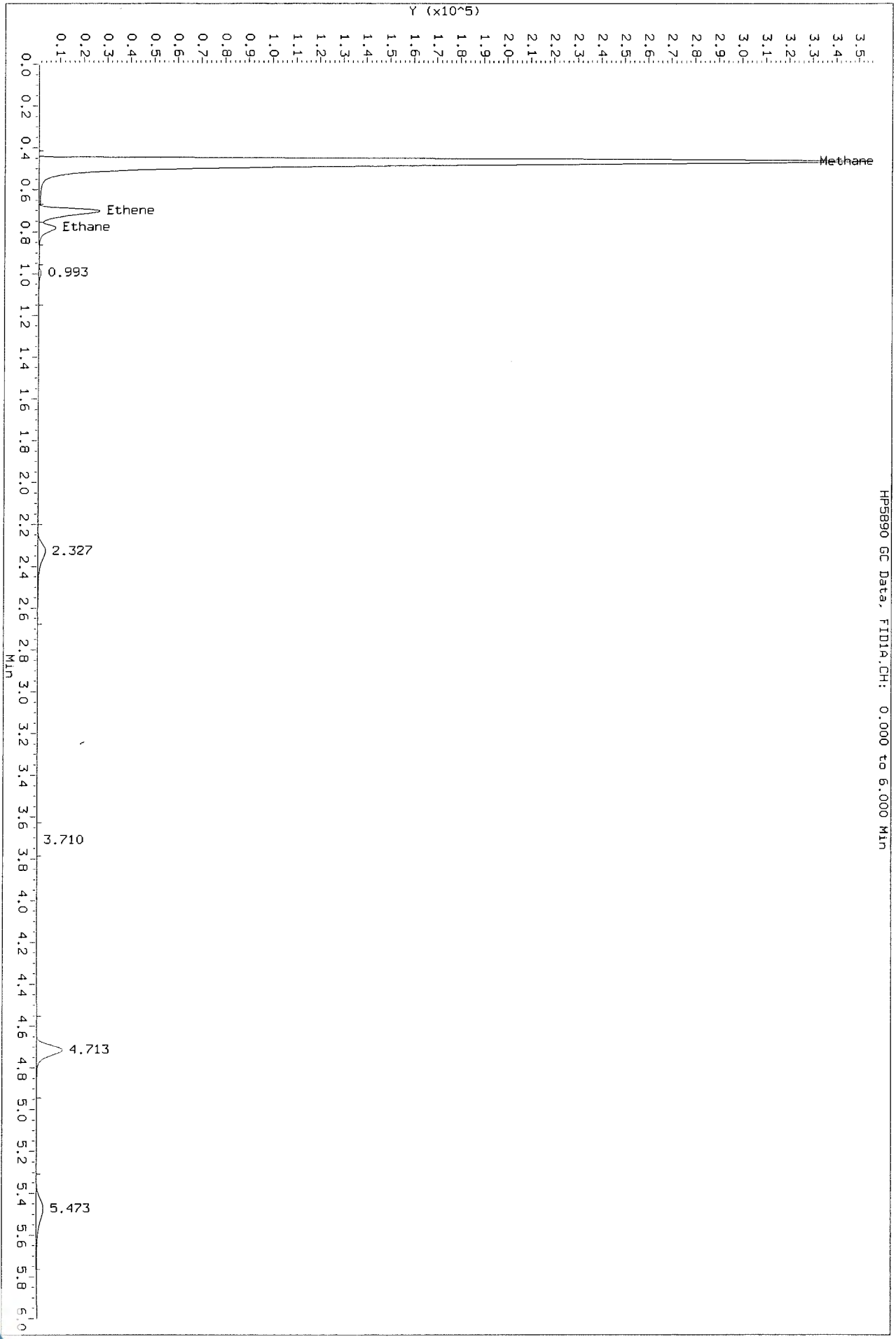
Injection Date: 21-OCT-2020 15:44
Instrument: FID-4.i
Client Sample ID: HS20100719-05MSD
HP5890 GC Data, FID1A.CH: 0.000 to 6.000 Min
Y (x10^5)
Min
Methane
Ethene
0.993
2.327
3.710
4.713
5.473


Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\026.D
Injection Date: 21-OCT-2020 15:44
Instrument: FID-4.i
Client Sample ID: HS20100719-05MSD
HP5890 GC Data, FID1A.CH: 0.000 to 6.000 Min
Y (x10^5)
Min
Methane
Ethene
Ethane
0.993
2.327
3.710
4.713
5.473

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201021.b\033.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 21-OCT-2020 17:03
Operator : PL Inst ID: FID-4.i
Smp Info : RSK-CCV;RSK-CCV;2;4
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201021.b\RSKNI3.m
Meth Date : 01-Dec-2020 12:04 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 33 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

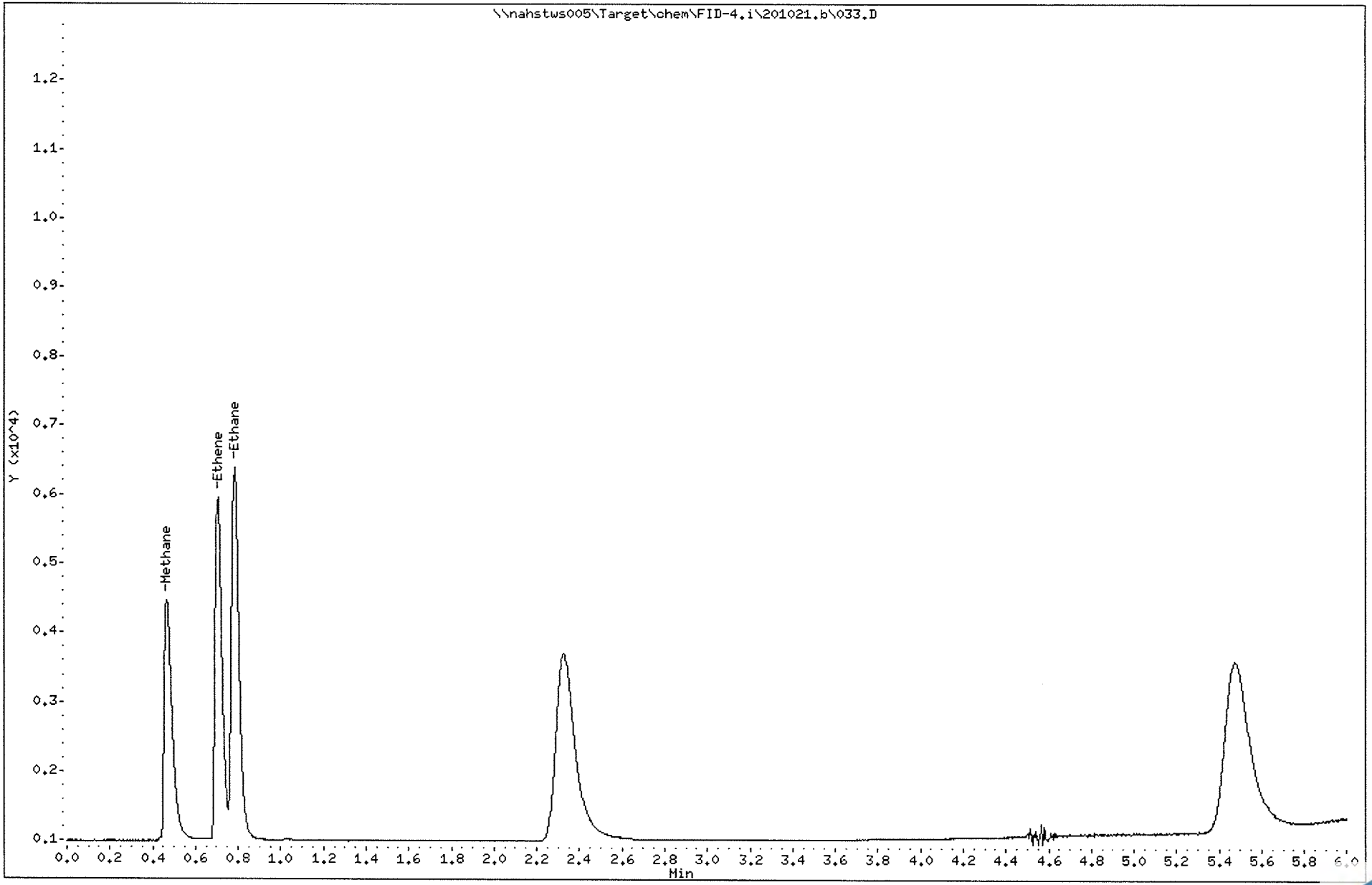
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	0.466	0.466	0.000	8993	9.64700	9.223
2 Ethene	0.706	0.706	0.000	10937	16.8500	18.671
3 Ethane	0.783	0.783	0.000	13255	18.0430	18.422

Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\033.D
Date : 21-OCT-2020 17:03
Client ID: RSK-CCV
Sample Info: RSK-CCV;RSK-CCV;2;4

Column phase: Rtx-PLOT

Instrument: FID-4.i

Operator: PL
Column diameter: 0.53



Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\037.D Page 1
Report Date: 01-Dec-2020 12:04

ALS Laboratory Group

Dissolved Gases Analysis

Data file : \\nahstws005\Target\chem\FID-4.i\201021.b\037.D
Lab Smp Id: RSK-CCV Client Smp ID: RSK-CCV
Inj Date : 21-OCT-2020 17:48
Operator : PL Inst ID: FID-4.i
Smp Info : RSK-CCV;RSK-CCV;2;4
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\FID-4.i\201021.b\RSKNI3.m
Meth Date : 01-Dec-2020 12:04 FID-4.i Quant Type: ESTD
Cal Date : 24-JAN-2017 10:15 Cal File: 004.D
Als bottle: 37 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: RSK175.sub
Target Version: 4.14
Processing Host: NAHSTW7056

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 Methane	0.466	0.466	0.000	9487	9.64700	9.730
2 Ethene	0.703	0.703	0.000	10464	16.8500	17.863
3 Ethane	0.783	0.783	0.000	13198	18.0430	18.343(M)

QC Flag Legend

M - Compound response manually integrated.

Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\037.D

Date : 21-OCT-2020 17:48

Client ID: RSK-CCV

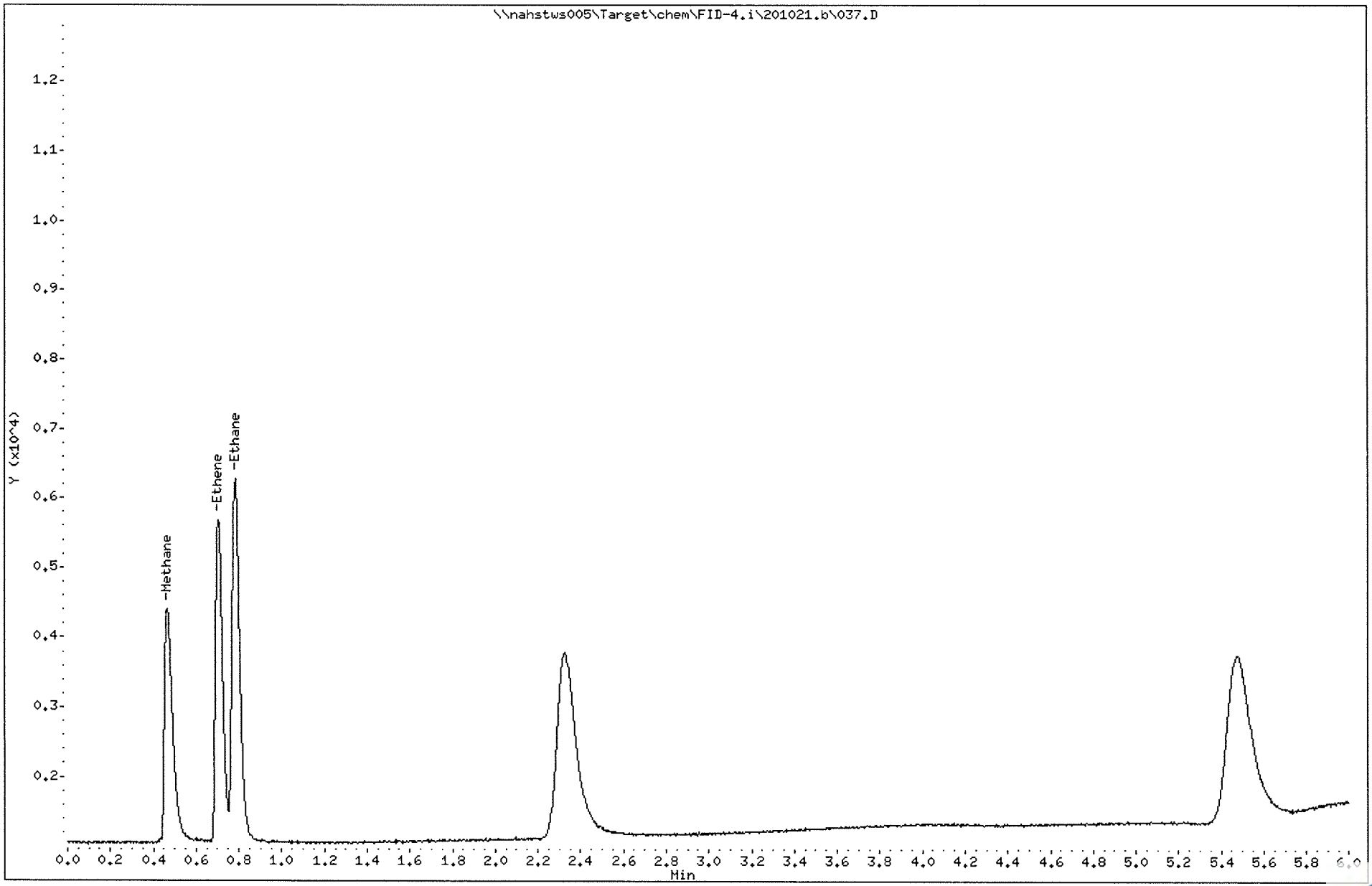
Instrument: FID-4.i

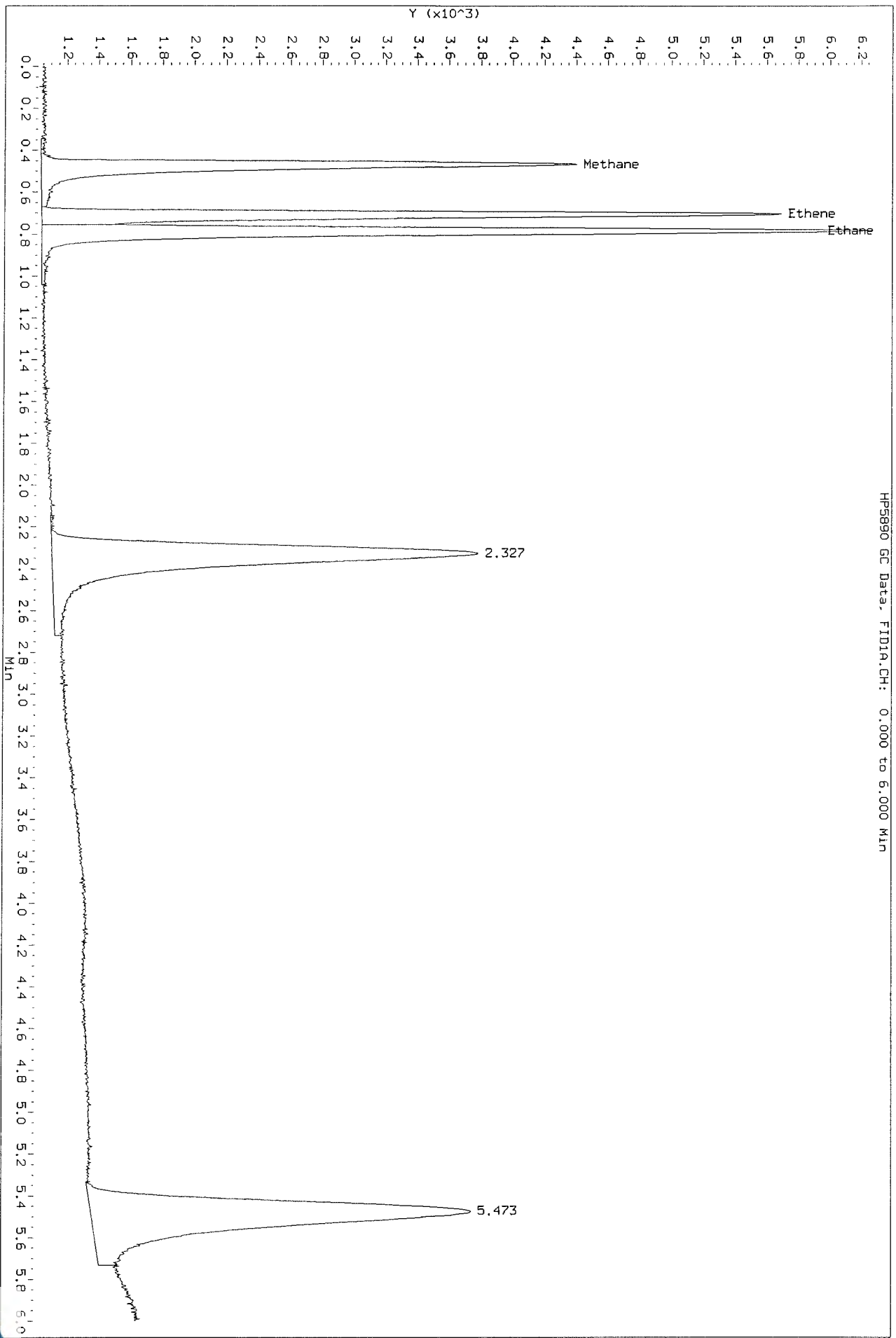
Sample Info: RSK-CCV;RSK-CCV;2;4

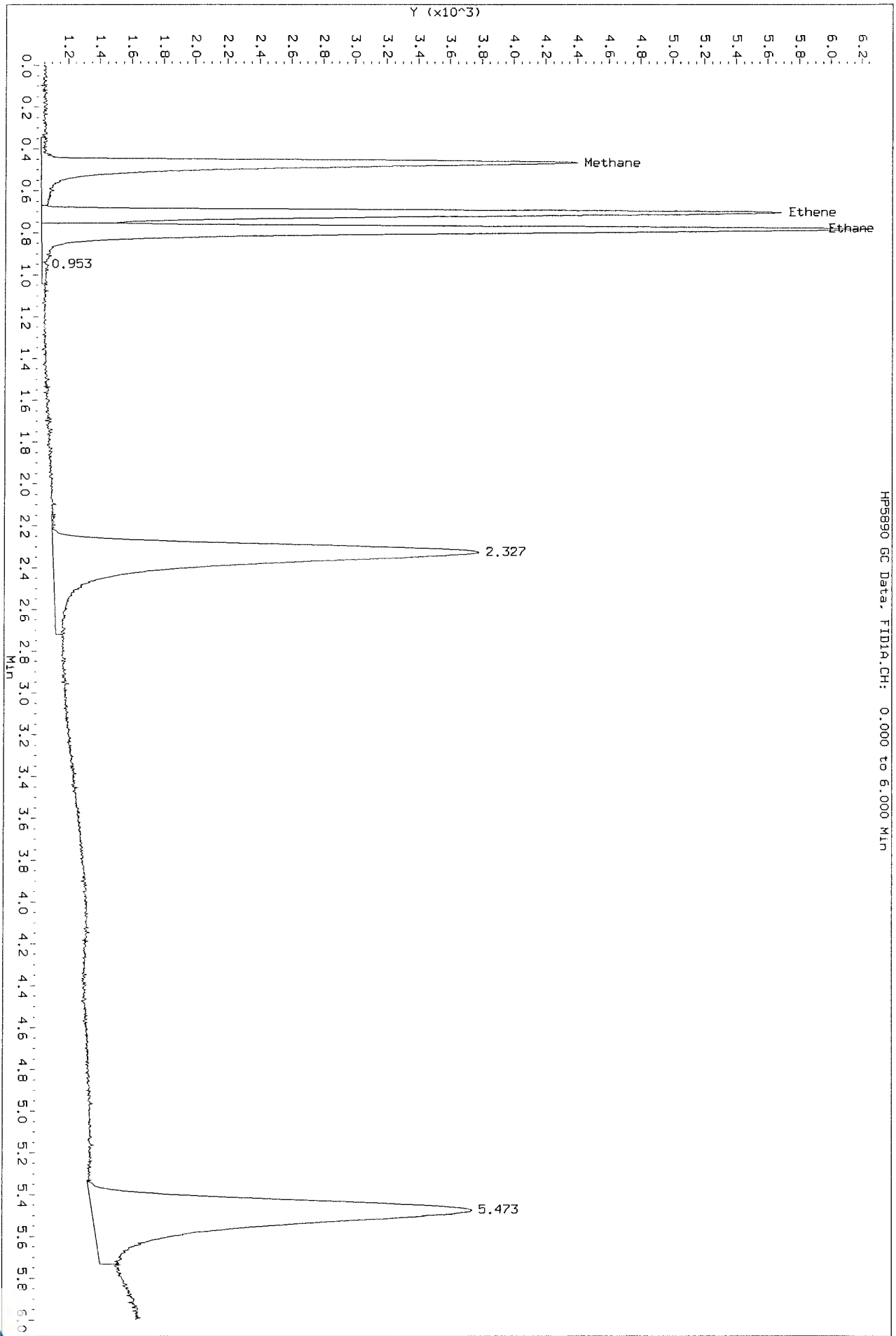
Operator: PL

Column phase: Rtx-PLOT

Column diameter: 0.53



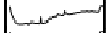
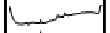
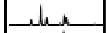
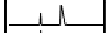
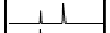

Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\before\037.D
Injection Date: 21-OCT-2020 17:48
Instrument: FID-4.i
Client Sample ID: RSK-CCV
HP5890 GC Data, FID1A.CH: 0.000 to 6.000 Min
Y (x10^3)
Min
Methane
Ethene
Ethane
2.327
5.473


Data File: \\nahstws005\Target\chem\FID-4.i\201021.b\037.D
Injection Date: 21-OCT-2020 17:48
Instrument: FID-4.i
Client Sample ID: RSK-CCV
HP5890 GC Data, FID1A.CH: 0.000 to 6.000 Min
Y (x10^3)
Min
Methane
Ethene
Ethane
0.953
2.327
5.473

HS20100779 Wet Chem Raw Data (9056_anions_W)

ALS WO# HS20100779

Sequence: 101520
Last Update Operator: alshs.nouser

CD	Name	Comment	Type	Position	Dilution	Level	Instrument Method	Processing Method	me	Status
	STD1		Calibration	BD1	1.00	1	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD2		Calibration	BD2	1.00	2	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD3		Calibration	BD3	1.00	3	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD4		Calibration	BD4	1.00	4	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD5		Calibration	BD5	1.00	5	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD6		Calibration	BD6	1.00	6	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	ICV		Unknown	BD7	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	ICB		Unknown	BD8	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV	dont sulfate	Unknown	BA2	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100754-03		Unknown	GC3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV1		Unknown	BA4	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA5	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV		Unknown	BA2	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	MBLK-101520		Unknown	BA7	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	LCS-101520		Unknown	BA8	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100754-03MS		Unknown	GC8	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100754-03MSD		Unknown	GD1	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100779-01DF5		Unknown	GE4	5.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV1		Unknown	BA4	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA5	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100779-02		Unknown	GE5	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100779-04DF2		Unknown	GE6	2.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100779-04DF5		Unknown	GE7	5.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100779-05		Unknown	GE8	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100779-06DF5		Unknown	GA1	5.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV		Unknown	BA2	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished

Sequence: 101520
Last Update Operator: alshs.nouser

Inject Time
8/11/2020 10:46:45 AM -05:00
8/11/2020 11:04:45 AM -05:00
8/11/2020 11:22:45 AM -05:00
8/11/2020 11:40:48 AM -05:00
8/11/2020 11:58:48 AM -05:00
8/11/2020 12:16:48 PM -05:00
8/11/2020 12:34:48 PM -05:00
8/11/2020 12:52:50 PM -05:00
10/15/2020 12:08:50 PM -05:00
10/15/2020 12:26:51 PM -05:00
10/15/2020 3:27:15 PM -05:00
10/15/2020 3:45:20 PM -05:00
10/15/2020 4:03:25 PM -05:00
10/15/2020 7:40:06 PM -05:00
10/15/2020 7:58:08 PM -05:00
10/15/2020 8:16:08 PM -05:00
10/15/2020 8:34:09 PM -05:00
10/15/2020 8:52:10 PM -05:00
10/15/2020 9:10:13 PM -05:00
10/15/2020 10:58:16 PM -05:00
10/15/2020 11:16:17 PM -05:00
10/15/2020 11:34:20 PM -05:00
10/15/2020 11:52:22 PM -05:00
10/16/2020 12:10:22 AM -05:00
10/16/2020 12:28:21 AM -05:00
10/16/2020 12:46:23 AM -05:00
10/16/2020 1:04:23 AM -05:00
10/16/2020 2:52:28 AM -05:00
10/16/2020 3:10:31 AM -05:00

Sequence: 101520
Injection #6: STD6

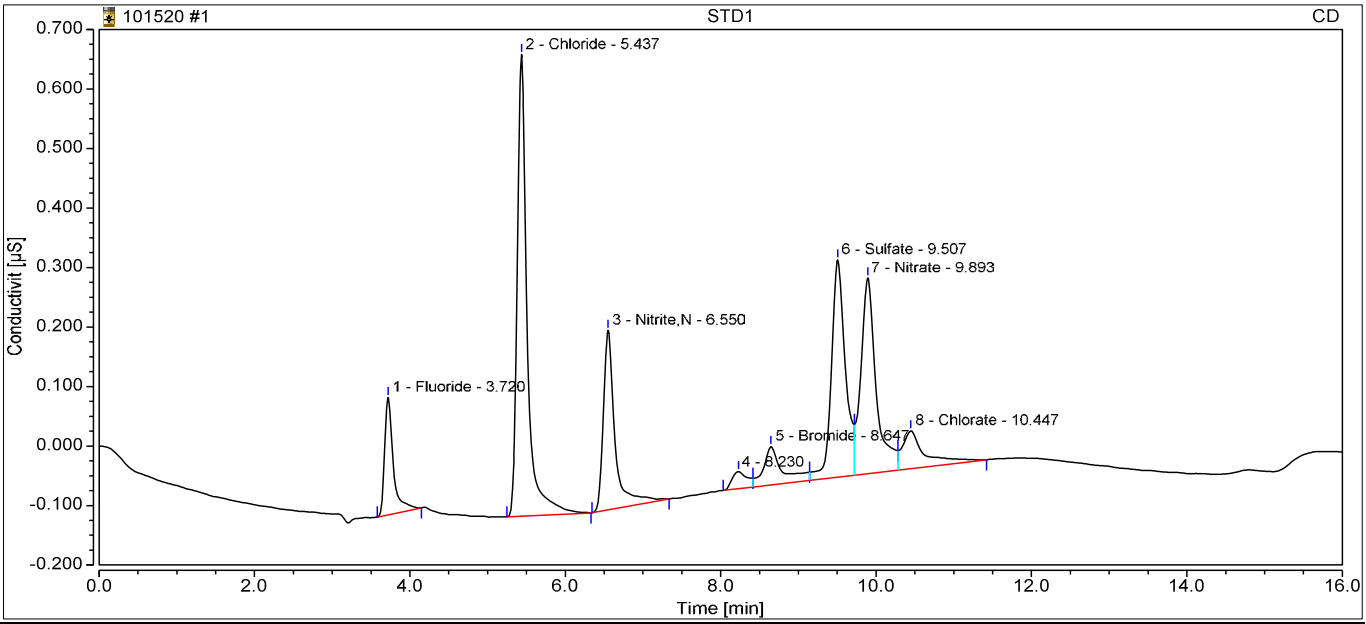
Calibration

Peak No.	Peak Name	Cal.Type	Eval.Type	Number of Points	Rel.Std.Dev. %	Coeff.of Determination	C0 (Offset)	C1 (Slope)	C2 (Curve)
1	*Fluoride*	*Lin, WithOffset, 1/*	*Area*	*6*	*17.3553*	*0.99849*	*-0.0040*	*0.3537*	*0.0000*
2	Chloride	Lin, WithOffset, 1/	Area	6	5.4804	0.99983	0.0129	0.2289	0.0000
3	Nitrite,N	Lin, WithOffset, 1/	Area	6	26.1376	0.99573	0.0186	0.4711	0.0000
5	Bromide	Lin, WithOffset, 1/	Area	6	0.9346	0.99999	0.0083	0.1008	0.0000
6	Sulfate	Lin, WithOffset, 1/	Area	6	5.2843	0.99985	-0.0019	0.1602	0.0000
7	Nitrate	Lin, WithOffset, 1/	Area	6	4.5248	0.99988	0.0144	0.6154	0.0000
8	Chlorate	Lin, WithOffset, 1/	Area	6	13.4374	0.99837	0.0139	0.1019	0.0000
10	Phosphate	Lin, WithOffset, 1/	Area	5	18.5357	0.99714	-0.0737	0.1942	0.0000
Maximum					**26.1376**	0.99999			
Minimum					0.9346	**0.99573**			

1 STD1

Sample Name:	**STD1**	*Injection Volume:*	**5.00**
Vial Number:	**BD1**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 10:46**	*Sample Weight:*	**1.0000**

Run Time:



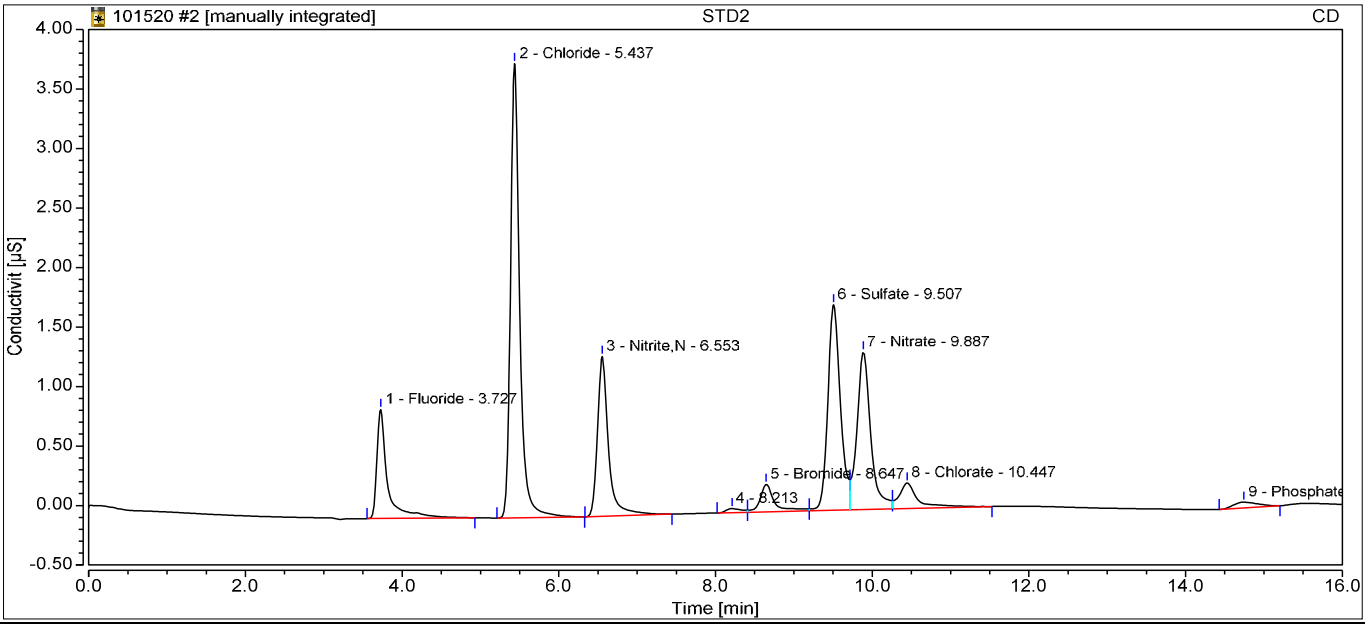
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.025	0.0833	0.0833	1.0000
2	5.44	Chloride	BMB	0.116	0.4487	0.4487	1.0000
3	6.55	Nitrite,N	BMB	0.052	0.0715	0.0715	1.0000
5	8.65	Bromide	M	0.018	0.0997	0.0997	1.0000
6	9.51	Sulfate	M	0.076	0.4861	0.4861	1.0000
7	9.89	Nitrate	M	0.075	0.0985	0.0985	1.0000
8	10.45	Chlorate	MB	0.021	0.0734	0.0734	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.384**		**1.36**	

2 STD2

Sample Name:	**STD2**	*Injection Volume:*	**5.00**
Vial Number:	**BD2**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 11:04**	*Sample Weight:*	**1.0000**

Run Time:



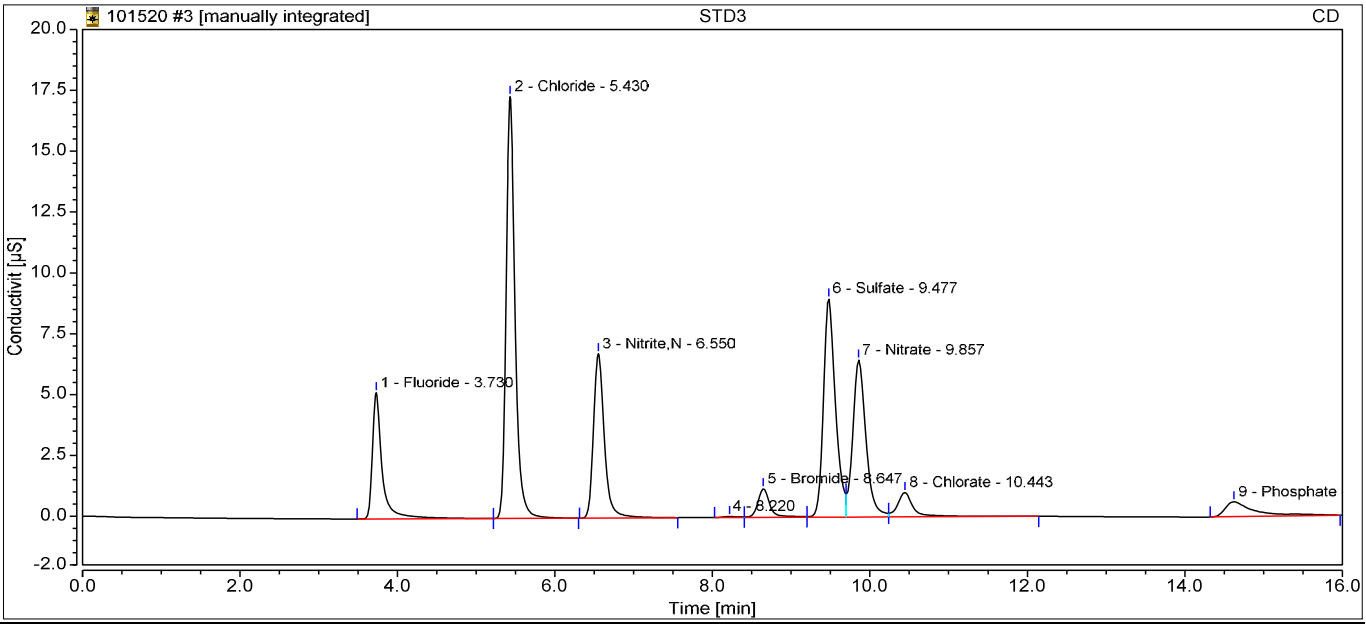
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.145	0.4204	0.4204	1.0000
2	5.44	Chloride	BMB	0.518	2.2084	2.2084	1.0000
3	6.55	Nitrite,N	BMB	0.221	0.4294	0.4294	1.0000
5	8.65	Bromide	M	0.049	0.4041	0.4041	1.0000
6	9.51	Sulfate	M	0.321	2.0151	2.0151	1.0000
7	9.89	Nitrate	M	0.270	0.4147	0.4147	1.0000
8	10.45	Chlorate	MB	0.060	0.4536	0.4536	1.0000
9	14.74	Phosphate	BMB	0.018	0.4703	0.4703	1.0000
Total:			**0.000**	**1.601**		**6.82**	

3 STD3

Sample Name:	**STD3**	*Injection Volume:*	**5.00**
Vial Number:	**BD3**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 11:22**	*Sample Weight:*	**1.0000**

Run Time:



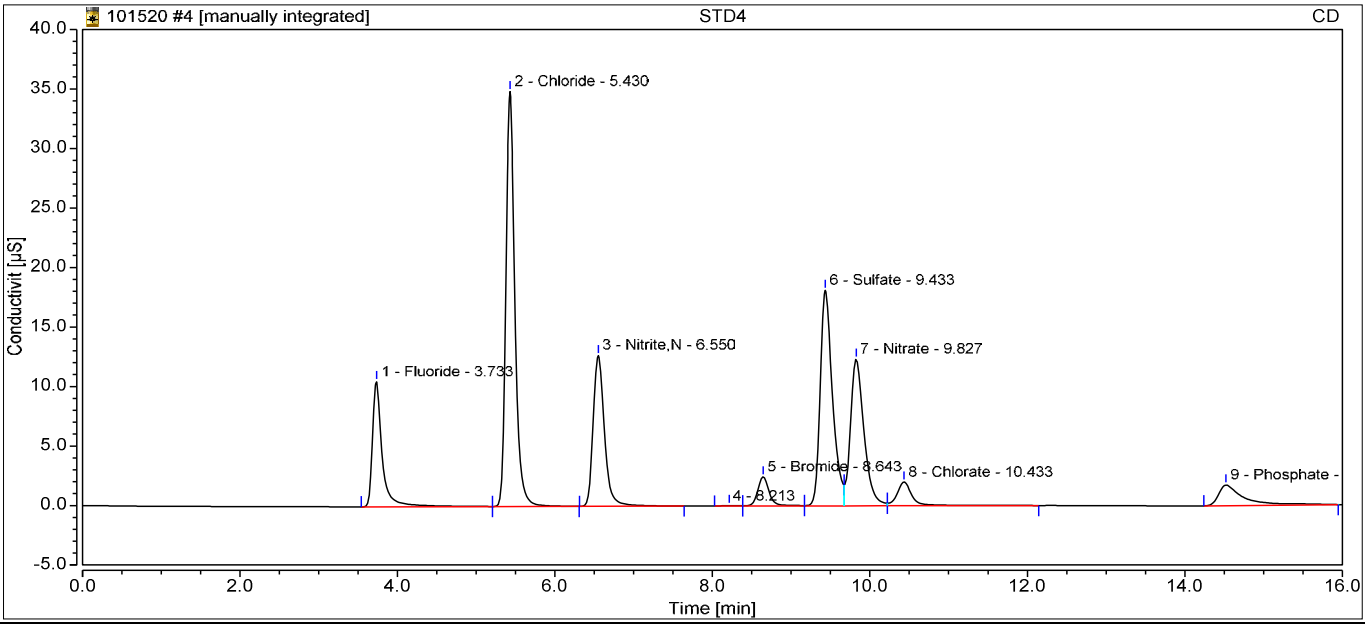
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.745	2.1166	2.1166	1.0000
2	5.43	Chloride	BMB	2.291	9.9533	9.9533	1.0000
3	6.55	Nitrite,N	BMB	1.077	2.2460	2.2460	1.0000
5	8.65	Bromide	M	0.209	1.9882	1.9882	1.0000
6	9.48	Sulfate	M	1.595	9.9688	9.9688	1.0000
7	9.86	Nitrate	M	1.238	1.9883	1.9883	1.0000
8	10.44	Chlorate	MB	0.239	2.2038	2.2038	1.0000
9	14.62	Phosphate	BM *	0.269	1.7634	1.7634	1.0000
Total:			**0.000**	**7.661**		**32.23**	

4 STD4

Sample Name:	**STD4**	*Injection Volume:*	**5.00**
Vial Number:	**BD4**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 11:40**	*Sample Weight:*	**1.0000**

Run Time:



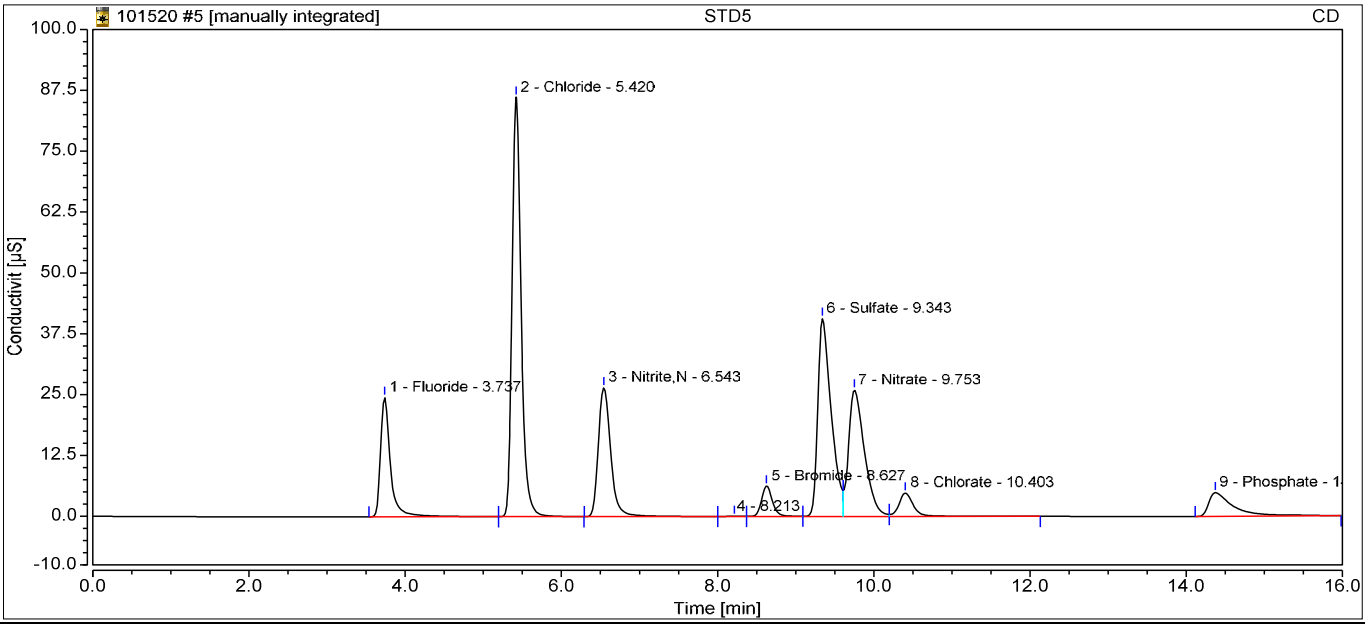
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	1.504	4.2630	4.2630	1.0000
2	5.43	Chloride	BMB	4.613	20.0986	20.0986	1.0000
3	6.55	Nitrite,N	BMB*	2.104	4.4276	4.4276	1.0000
5	8.64	Bromide	M	0.411	3.9946	3.9946	1.0000
6	9.43	Sulfate	M	3.273	20.4465	20.4465	1.0000
7	9.83	Nitrate	M	2.444	3.9482	3.9482	1.0000
8	10.43	Chlorate	MB	0.443	4.2079	4.2079	1.0000
9	14.52	Phosphate	BM *	0.648	3.7157	3.7157	1.0000
Total:			**0.000**	**15.439**		**65.10**	

5 STD5

Sample Name:	**STD5**	*Injection Volume:*	**5.00**
Vial Number:	**BD5**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 11:58**	*Sample Weight:*	**1.0000**

Run Time:



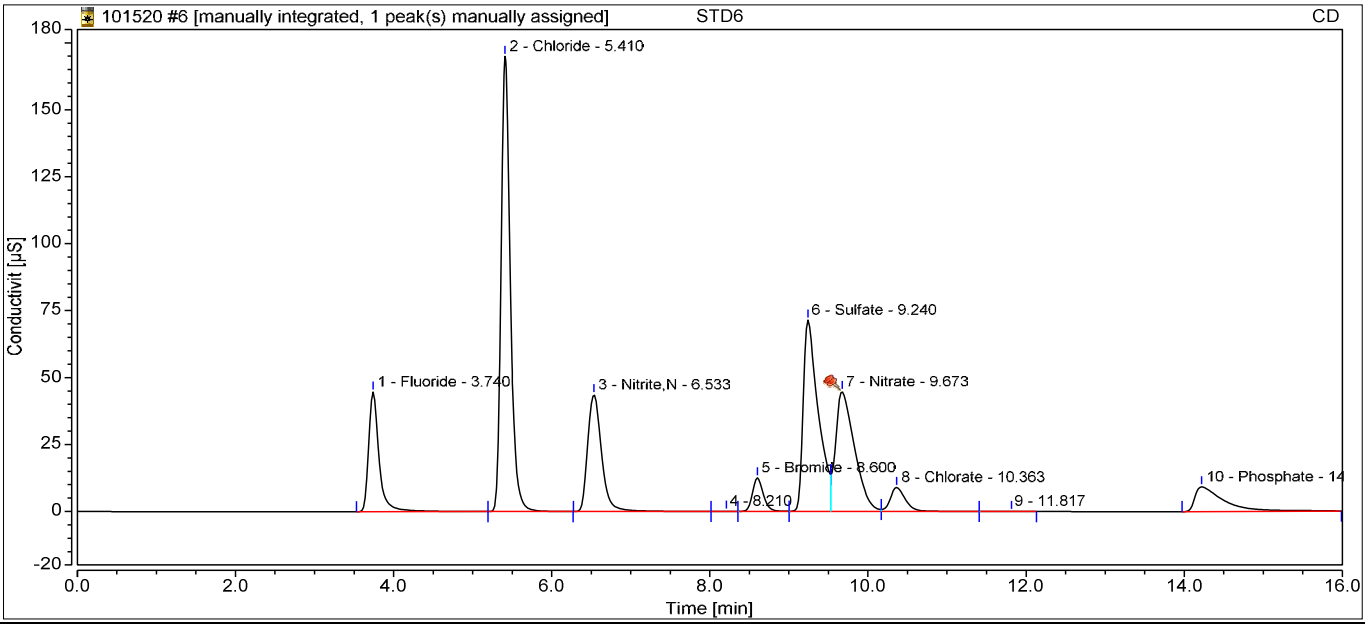
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.611	10.2228	10.2228	1.0000
2	5.42	Chloride	BMB	11.462	50.0272	50.0272	1.0000
3	6.54	Nitrite,N	BMB	4.877	10.3135	10.3135	1.0000
5	8.63	Bromide	M	1.014	9.9796	9.9796	1.0000
6	9.34	Sulfate	M	8.089	50.5200	50.5200	1.0000
7	9.75	Nitrate	M	6.097	9.8832	9.8832	1.0000
8	10.40	Chlorate	MB	1.032	9.9918	9.9918	1.0000
9	14.37	Phosphate	BM *	1.834	9.8223	9.8223	1.0000
Total:			**0.000**	**38.017**		**160.76**	

6 STD6

Sample Name:	**STD6**	*Injection Volume:*	**5.00**
Vial Number:	**BD6**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 12:16**	*Sample Weight:*	**1.0000**

Run Time:



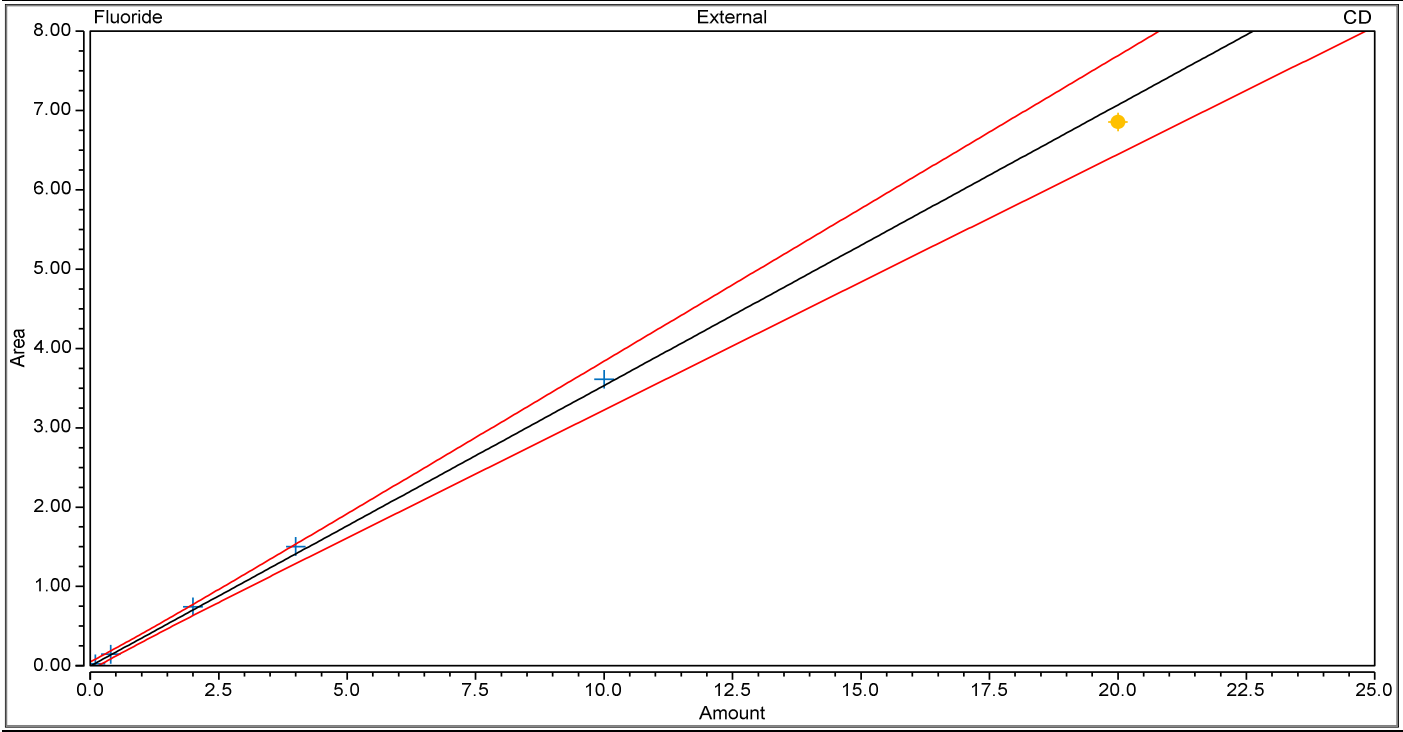
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	6.855	19.3940	19.3940	1.0000
2	5.41	Chloride	BMB	22.844	99.7639	99.7639	1.0000
3	6.53	Nitrite,N	BMB	8.975	19.0121	19.0121	1.0000
5	8.60	Bromide	M	2.028	20.0338	20.0338	1.0000
6	9.24	Sulfate	M	15.864	99.0635	99.0635	1.0000
7	9.67	Nitrate	M ^	12.426	20.1671	20.1671	1.0000
8	10.36	Chlorate	M	2.009	19.5694	19.5694	1.0000
10	14.22	Phosphate	BM *	3.933	20.6283	20.6283	1.0000
Total:			**0.000**	**74.933**		**317.63**	

Calibration

Calibration Details	Fluoride		
Calibration Type	Lin, WithOffset, 1/A	*Offset (C0)*	-0.0040
Evaluation Type	Area	*Slope (C1)*	0.3537
Number of Calibration Points	6	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.9985

Calibration Plot **Fluoride**



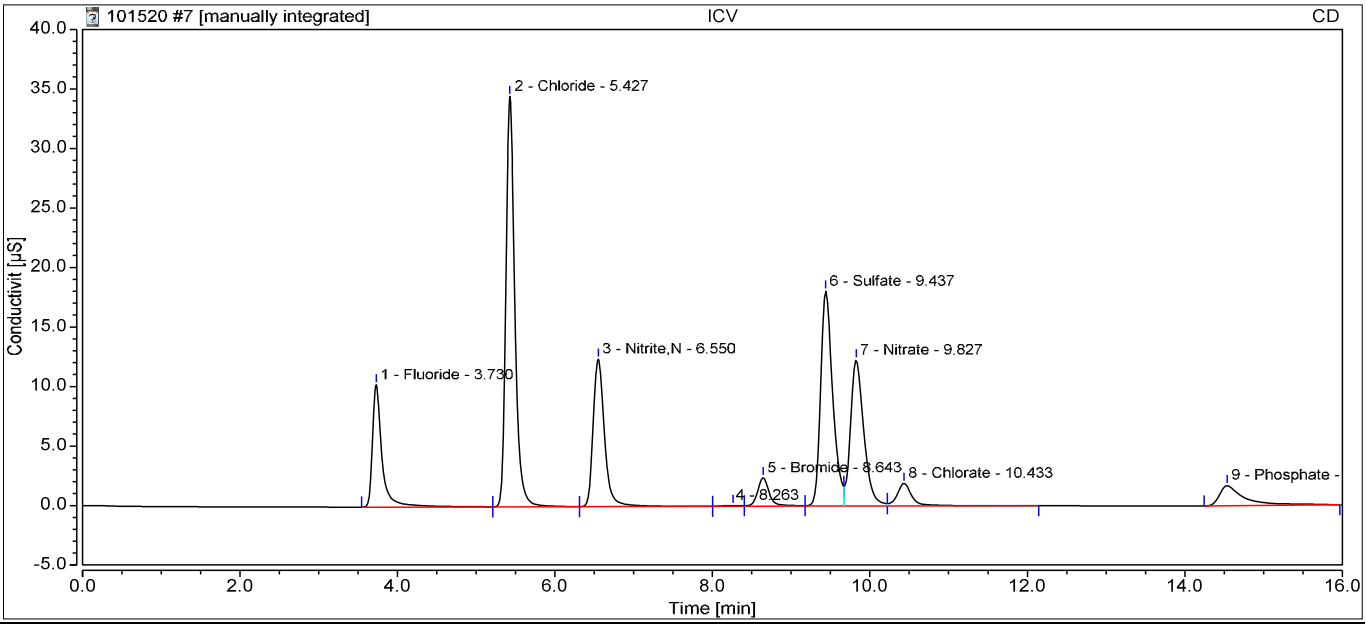
Calibration Results **Fluoride**

No.	Injection Name	Calibration Level	X Value CD Fluoride	Y Value CD Fluoride	Y Value CD Fluoride	Area µS*min CD Fluoride	Height µS CD Fluoride
1	STD1	1	0.1000	0.0254	0.0254	0.025	0.197
2	STD2	2	0.4000	0.1446	0.1446	0.145	0.916
3	STD3	3	2.0000	0.7445	0.7445	0.745	5.182
4	STD4	4	4.0000	1.5036	1.5036	1.504	10.507
5	STD5	5	10.0000	3.6113	3.6113	3.611	24.538
6	STD6	6	20.0000	6.8547	6.8547	6.855	44.677

7 ICV

Sample Name:	**ICV**	*Injection Volume:*	**5.00**
Vial Number:	**BD7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 12:34**	*Sample Weight:*	**1.0000**

Run Time:



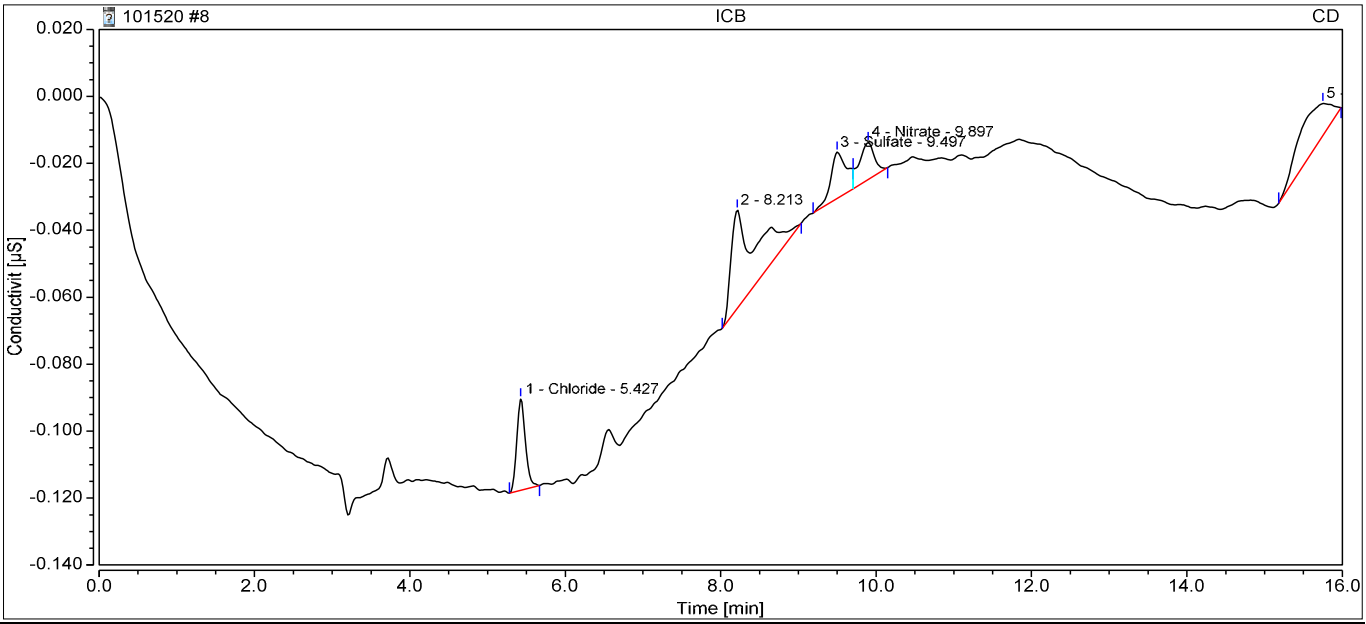
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	1.447	4.1020	4.1020	1.0000
2	5.43	Chloride	BMB	4.553	19.8399	19.8399	1.0000
3	6.55	Nitrite,N	BMB	2.061	4.3359	4.3359	1.0000
5	8.64	Bromide	M	0.413	4.0106	4.0106	1.0000
6	9.44	Sulfate	M	3.227	20.1622	20.1622	1.0000
7	9.83	Nitrate	M	2.405	3.8850	3.8850	1.0000
8	10.43	Chlorate	MB	0.422	4.0019	4.0019	1.0000
9	14.54	Phosphate	BM *	0.631	3.6292	3.6292	1.0000
Total:			**0.000**	**15.159**		**63.97**	

8 ICB

Sample Name:	**ICB**	*Injection Volume:*	**5.00**
Vial Number:	**BD8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 12:52**	*Sample Weight:*	**1.0000**

Run Time:

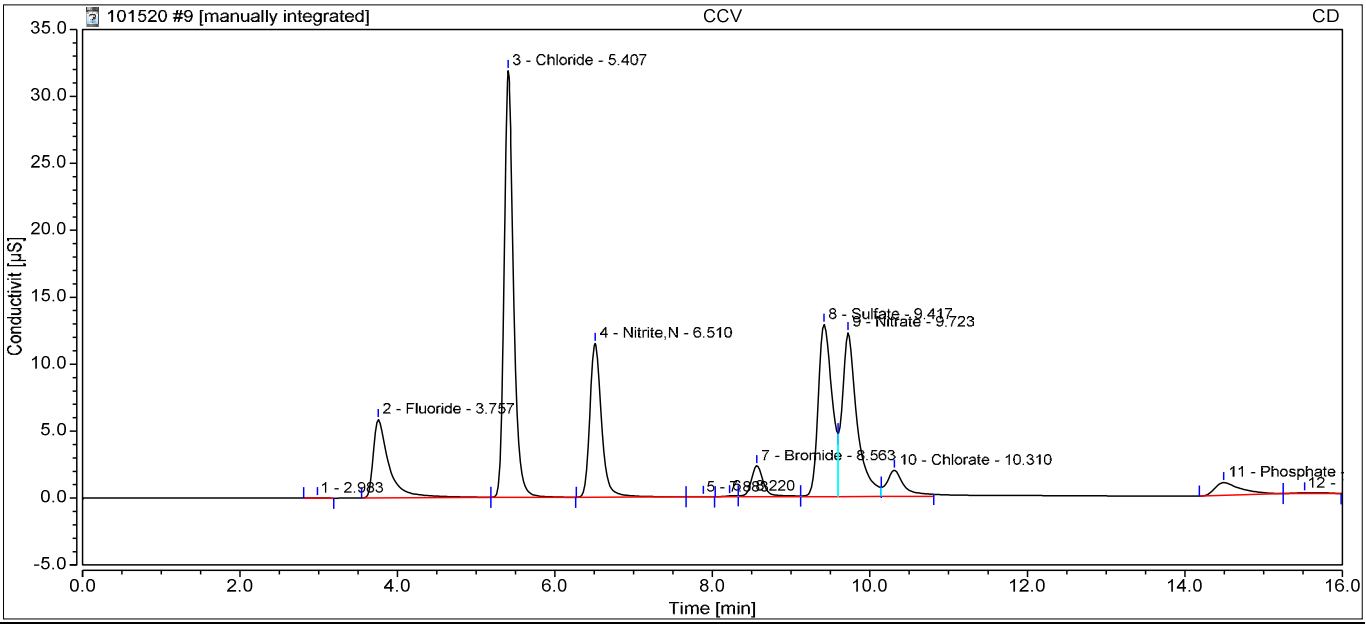


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.43	Chloride	BMB	0.004	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
3	9.50	Sulfate	BM	0.003	0.0318	0.0318	1.0000
4	9.90	Nitrate	MB	0.003	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.009**		**0.03**	

9 CCV			
Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**BA2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/15/2020 12:08**	*Sample Weight:*	**1.0000**

Run Time:



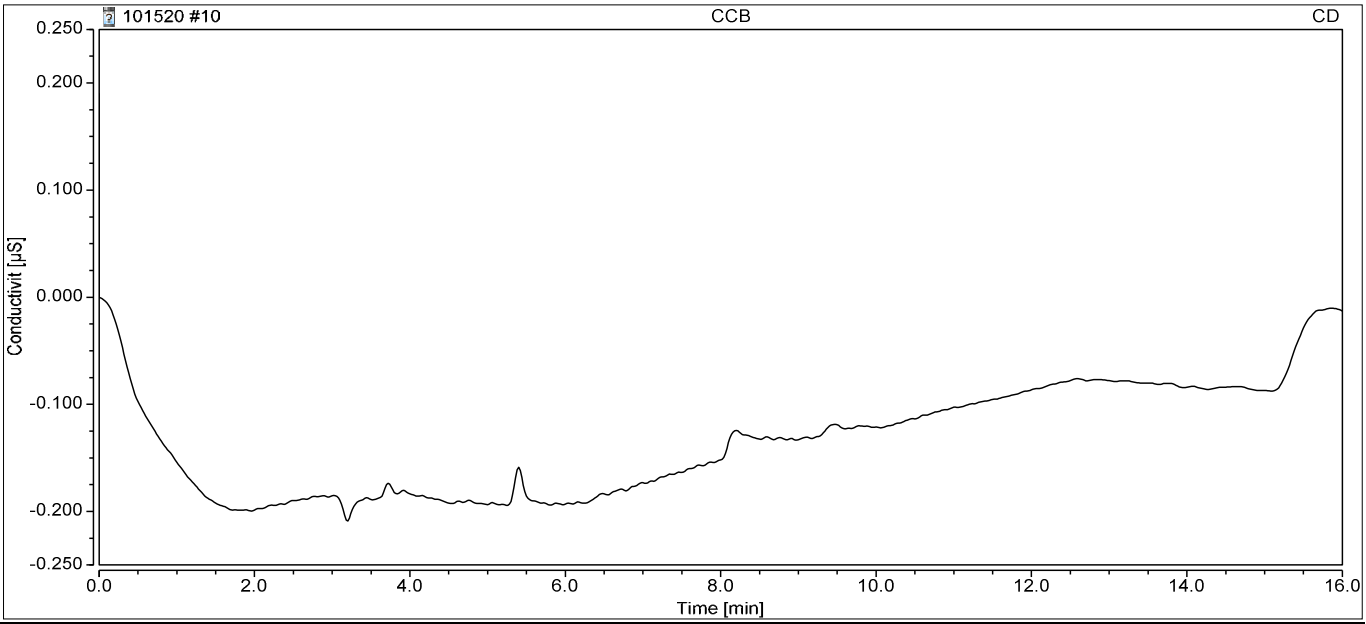
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
2	3.76	Fluoride	BMB	1.348	3.8237	3.8237	1.0000
3	5.41	Chloride	BMB	4.409	19.2087	19.2087	1.0000
4	6.51	Nitrite,N	BMB	1.977	4.1582	4.1582	1.0000
7	8.56	Bromide	M *	0.422	4.1055	4.1055	1.0000
8	9.42	Sulfate	M *	2.625	16.4048	16.4048	1.0000
9	9.72	Nitrate	M *	2.717	4.3906	4.3906	1.0000
10	10.31	Chlorate	M *	0.510	4.8656	4.8656	1.0000
11	14.49	Phosphate	BMB	0.363	2.2510	2.2510	1.0000
Total:			**0.000**	**14.372**		**59.21**	

10 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/15/2020 12:26**	*Sample Weight:*	**1.0000**

Run Time:



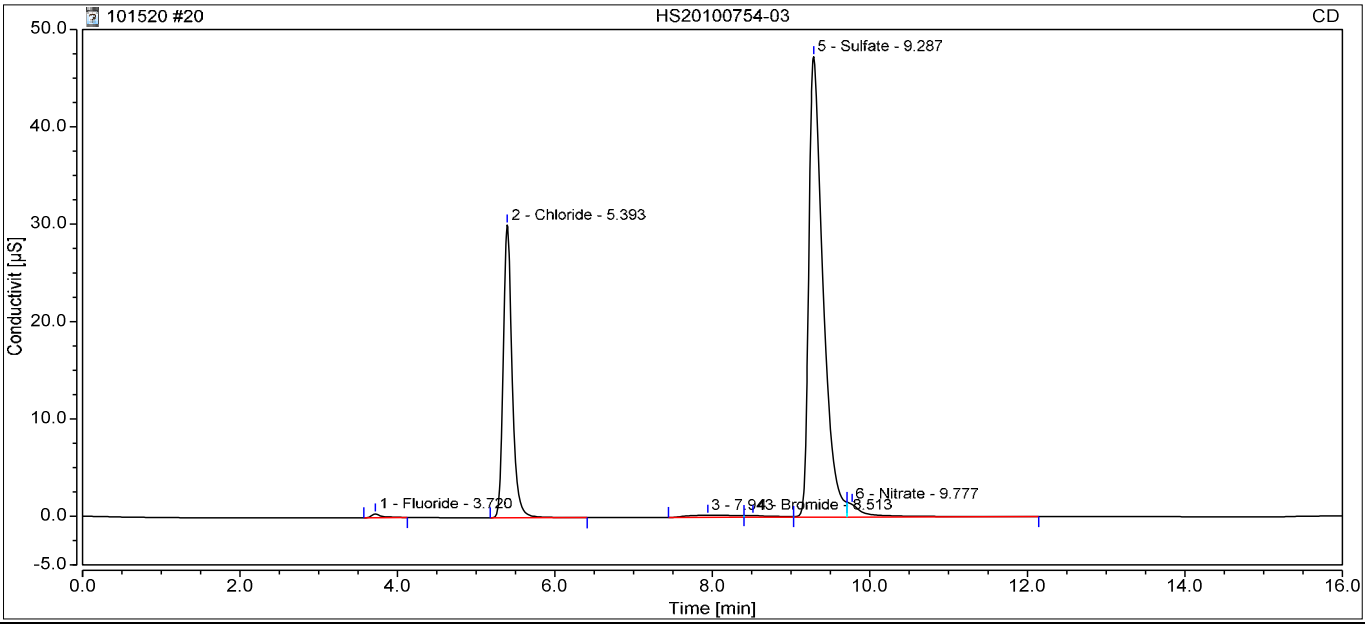
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.000**		**0.00**	

20 HS20100754-03

Sample Name:	**HS20100754-03**	*Injection Volume:*	**5.00**
Vial Number:	**GC3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/15/2020 15:27**	*Sample Weight:*	**1.0000**

Run Time:



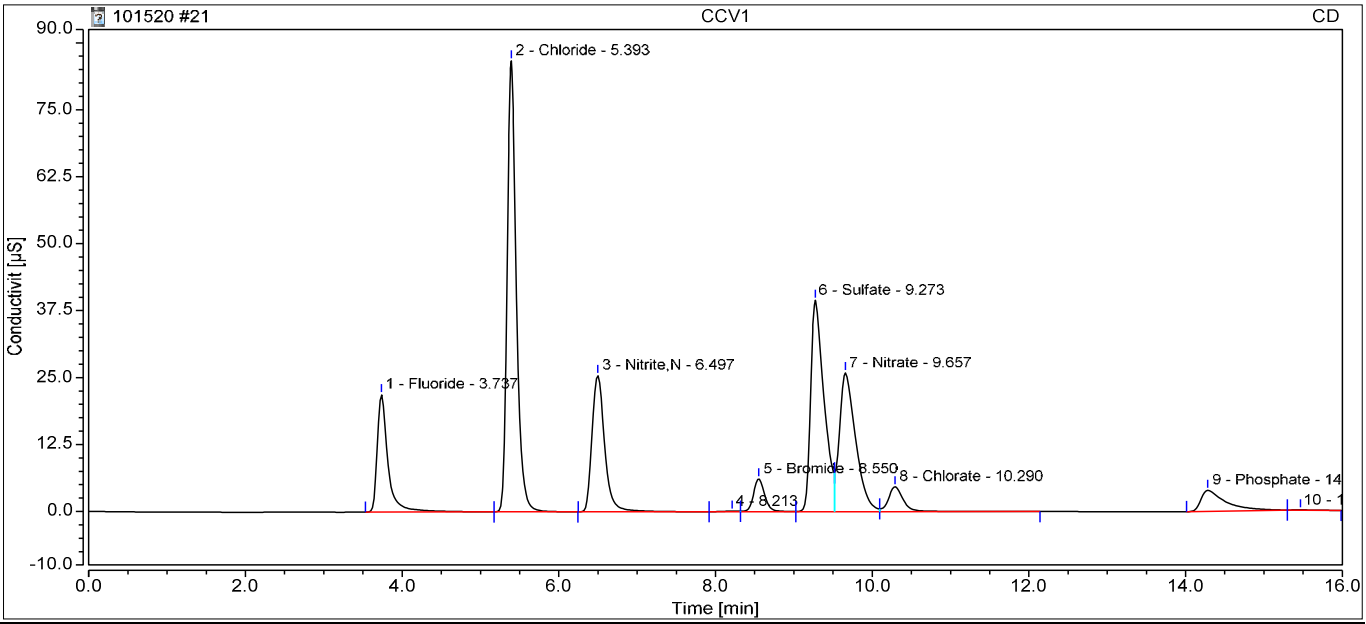
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.055	0.1662	0.1662	1.0000
2	5.39	Chloride	BMB	3.966	17.2713	17.2713	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
4	8.51	Bromide	M	0.078	0.6885	0.6885	1.0000
5	9.29	Sulfate	M	9.923	61.9706	61.9706	1.0000
6	9.78	Nitrate	MB	0.359	0.5605	0.5605	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**14.381**		**80.66**	

21 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**BA4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/15/2020 15:45**	*Sample Weight:*	**1.0000**

Run Time:



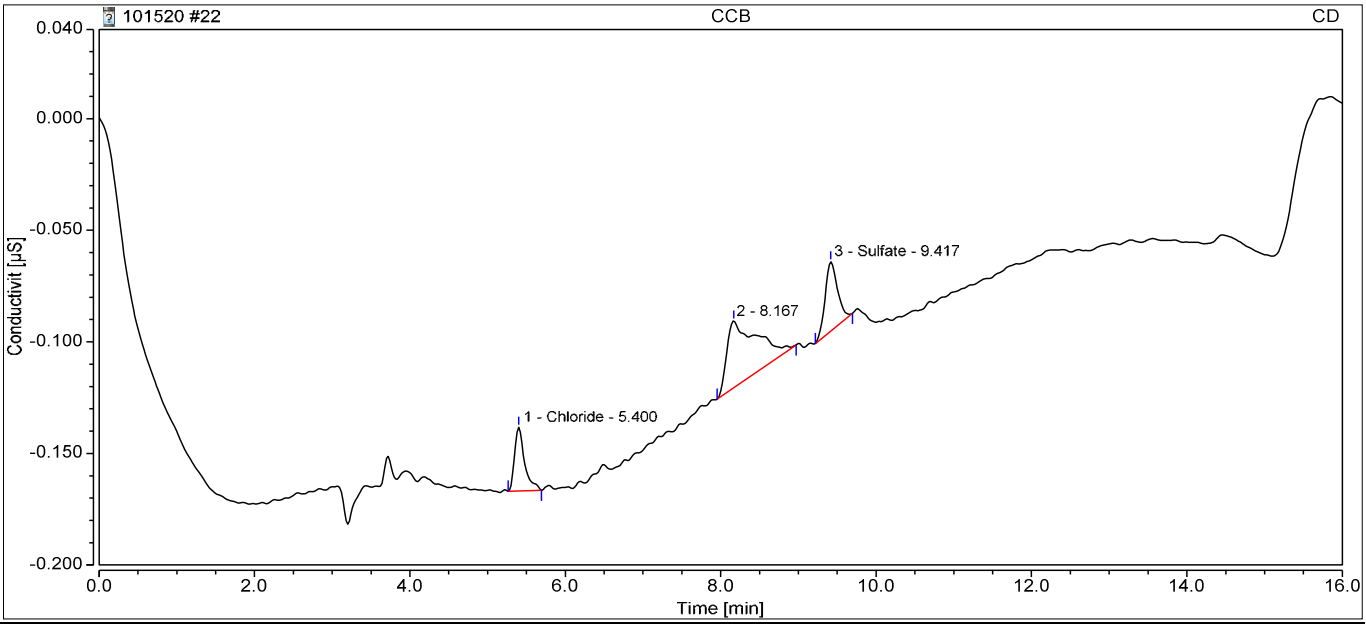
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.498	9.9012	9.9012	1.0000
2	5.39	Chloride	BMB	11.386	49.6956	49.6956	1.0000
3	6.50	Nitrite,N	BMB	4.788	10.1247	10.1247	1.0000
5	8.55	Bromide	M	1.016	9.9995	9.9995	1.0000
6	9.27	Sulfate	M	7.847	49.0103	49.0103	1.0000
7	9.66	Nitrate	M	6.257	10.1441	10.1441	1.0000
8	10.29	Chlorate	MB	1.028	9.9439	9.9439	1.0000
9	14.28	Phosphate	BMB	1.415	7.6632	7.6632	1.0000
Total:			**0.000**	**37.235**		**156.48**	

22 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/15/2020 16:03**	*Sample Weight:*	**1.0000**

Run Time:



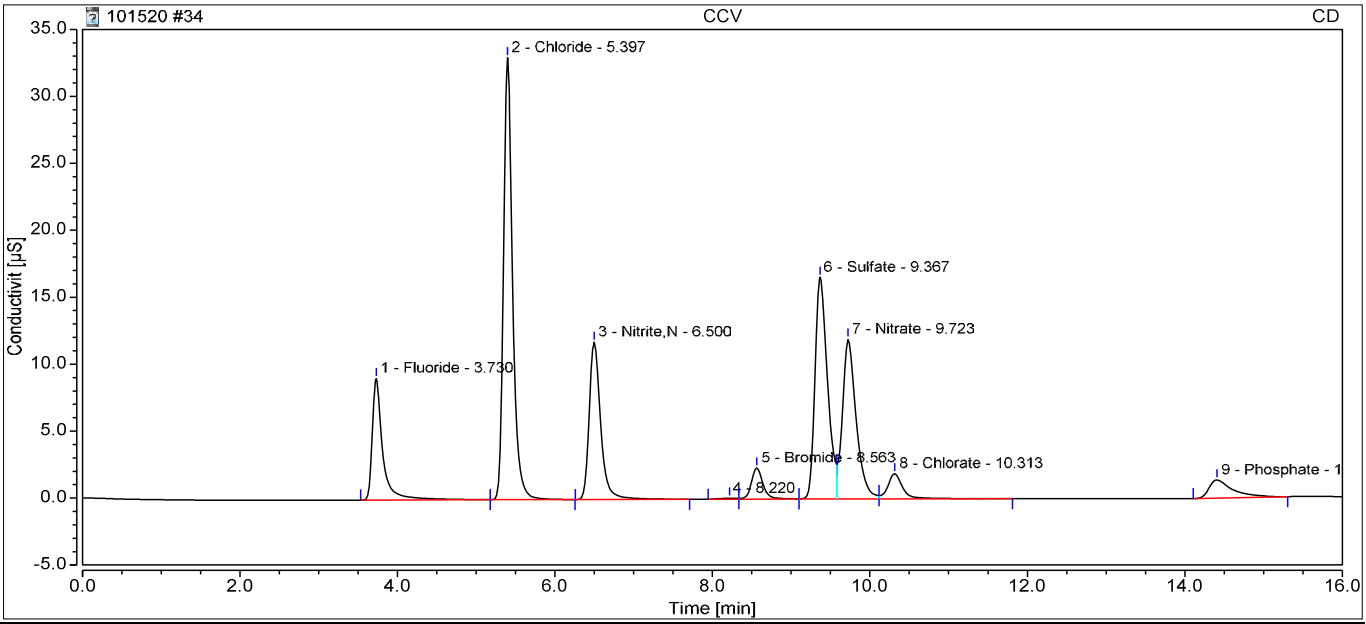
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.40	Chloride	BMB	0.004	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
3	9.42	Sulfate	BMB	0.006	0.0476	0.0476	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.010**		**0.05**	

34 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**BA2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/15/2020 19:40**	*Sample Weight:*	**1.0000**

Run Time:



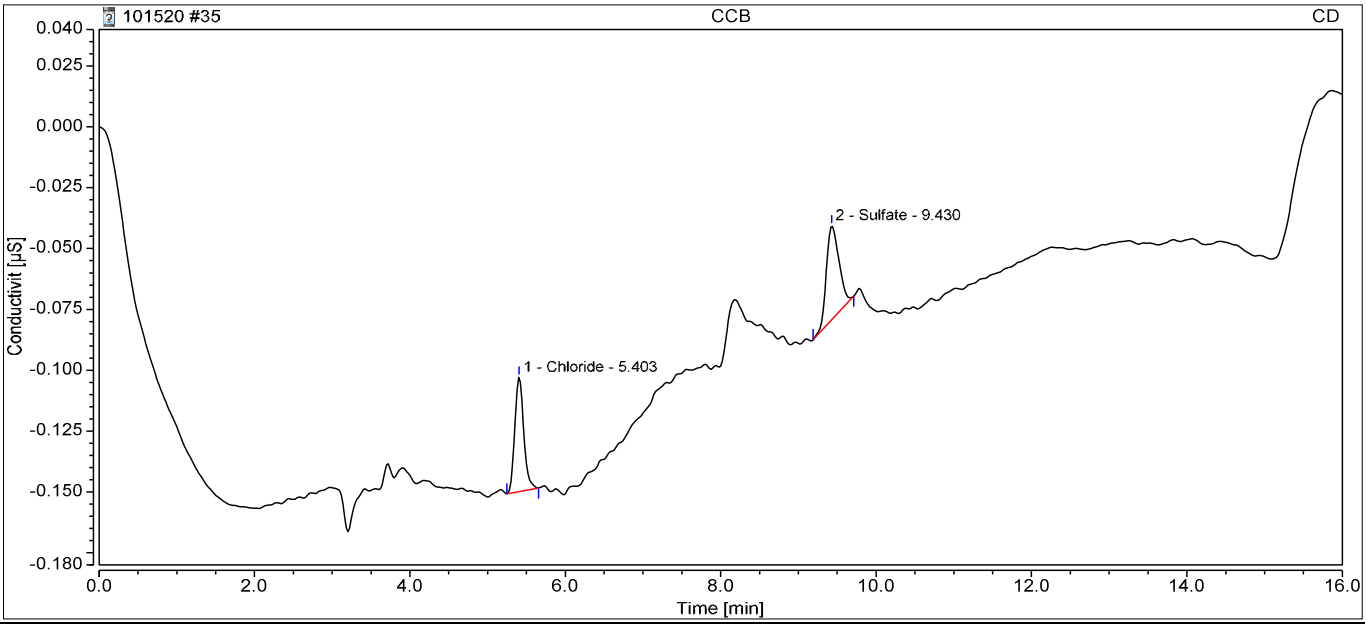
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	1.391	3.9435	3.9435	1.0000
2	5.40	Chloride	BMB	4.446	19.3698	19.3698	1.0000
3	6.50	Nitrite,N	BMB	2.000	4.2069	4.2069	1.0000
5	8.56	Bromide	M	0.399	3.8721	3.8721	1.0000
6	9.37	Sulfate	M	3.025	18.9002	18.9002	1.0000
7	9.72	Nitrate	M	2.424	3.9156	3.9156	1.0000
8	10.31	Chlorate	MB	0.412	3.9099	3.9099	1.0000
9	14.41	Phosphate	BMB	0.478	2.8394	2.8394	1.0000
Total:			**0.000**	**14.575**		**60.96**	

35 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/15/2020 19:58**	*Sample Weight:*	**1.0000**

Run Time:



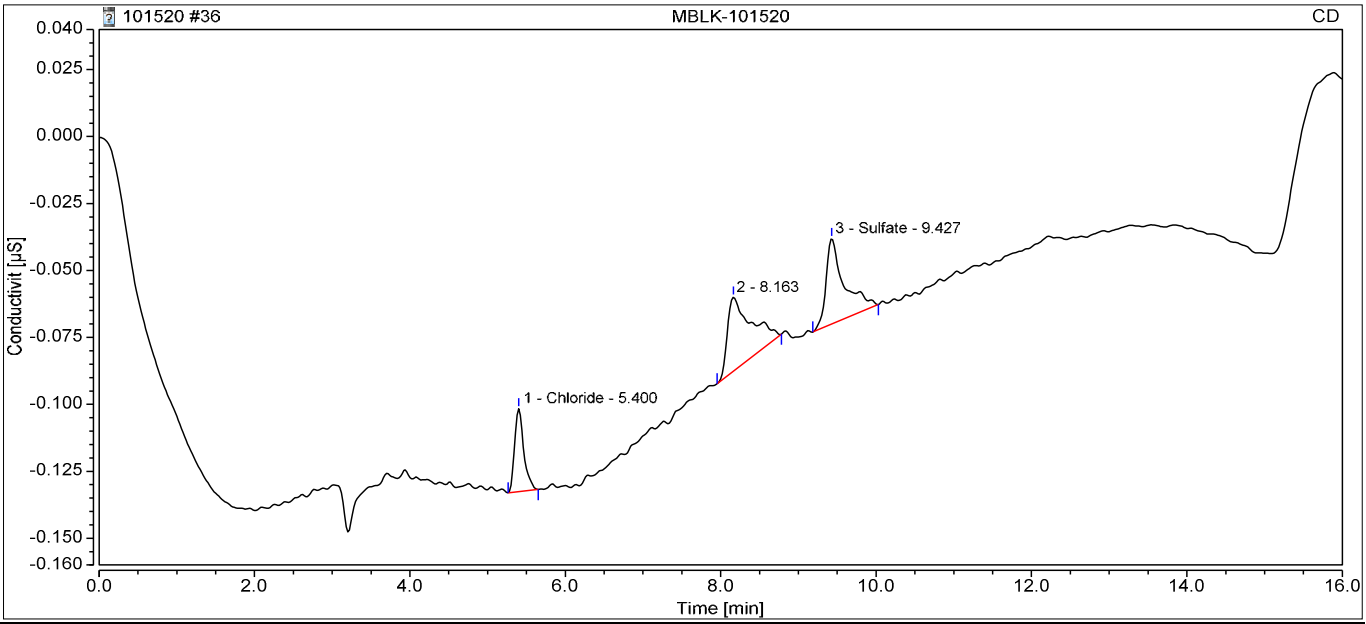
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.40	Chloride	BMB	0.006	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
2	9.43	Sulfate	BMB	0.007	0.0568	0.0568	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.013**		**0.06**	

36 MBLK-101520

Sample Name:	**MBLK-101520**	*Injection Volume:*	**5.00**
Vial Number:	**BA7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/15/2020 20:16**	*Sample Weight:*	**1.0000**

Run Time:



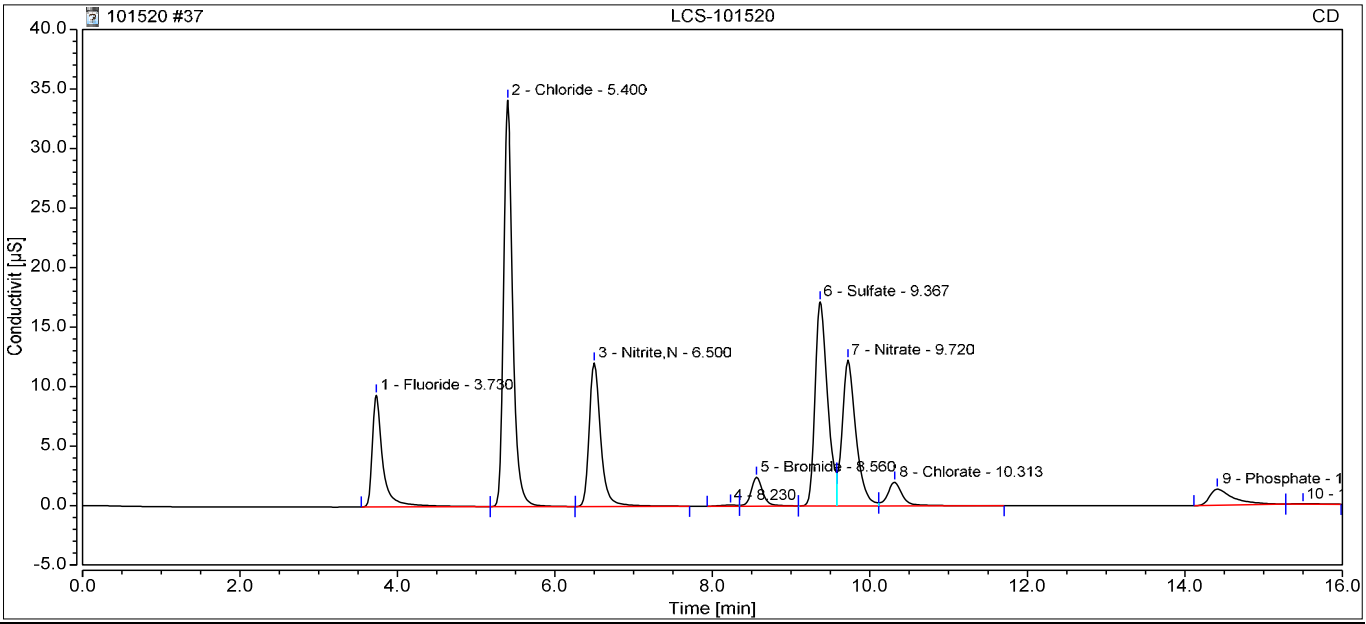
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.40	Chloride	BMB	0.004	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
3	9.43	Sulfate	BMB	0.009	0.0661	0.0661	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.013**		**0.07**	

37 LCS-101520

Sample Name:	**LCS-101520**	*Injection Volume:*	**5.00**
Vial Number:	**BA8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/15/2020 20:34**	*Sample Weight:*	**1.0000**

Run Time:

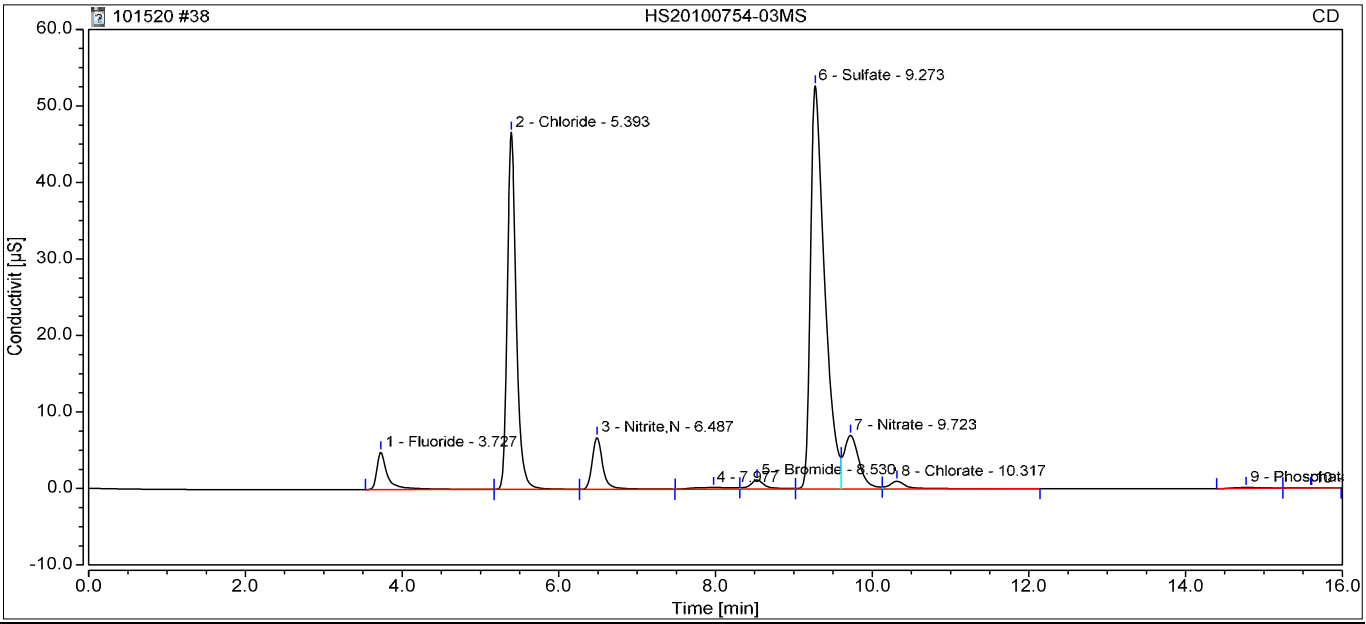


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	1.457	4.1315	4.1315	1.0000
2	5.40	Chloride	BMB	4.597	20.0311	20.0311	1.0000
3	6.50	Nitrite,N	BMB	2.054	4.3216	4.3216	1.0000
5	8.56	Bromide	M	0.418	4.0595	4.0595	1.0000
6	9.37	Sulfate	M	3.135	19.5865	19.5865	1.0000
7	9.72	Nitrate	M	2.496	4.0326	4.0326	1.0000
8	10.31	Chlorate	MB	0.437	4.1477	4.1477	1.0000
9	14.41	Phosphate	BMB	0.474	2.8202	2.8202	1.0000
Total:			**0.000**	**15.068**		**63.13**	

38 HS20100754-03MS			
Sample Name:	**HS20100754-03MS**	*Injection Volume:*	**5.00**
Vial Number:	**GC8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/15/2020 20:52**	*Sample Weight:*	**1.0000**

Run Time:



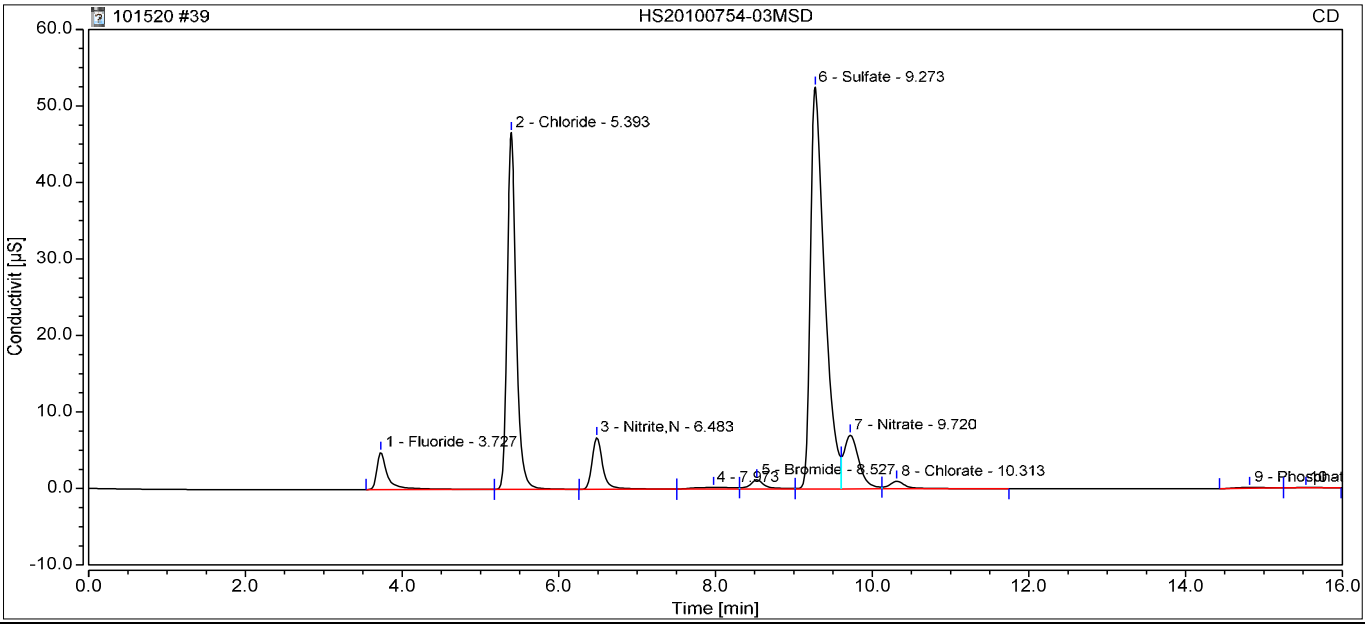
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.787	2.2364	2.2364	1.0000
2	5.39	Chloride	BMB	6.178	26.9398	26.9398	1.0000
3	6.49	Nitrite,N	BMB	1.059	2.2090	2.2090	1.0000
5	8.53	Bromide	M	0.267	2.5707	2.5707	1.0000
6	9.27	Sulfate	M	11.079	69.1898	69.1898	1.0000
7	9.72	Nitrate	M	1.588	2.5563	2.5563	1.0000
8	10.32	Chlorate	MB	0.262	2.4364	2.4364	1.0000
9	14.77	Phosphate	BMB	0.048	0.6262	0.6262	1.0000
Total:			**0.000**	**21.269**		**108.76**	

39 HS20100754-03MSD

Sample Name:	**HS20100754-03MSD**	*Injection Volume:*	**5.00**
Vial Number:	**GD1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/15/2020 21:10**	*Sample Weight:*	**1.0000**

Run Time:



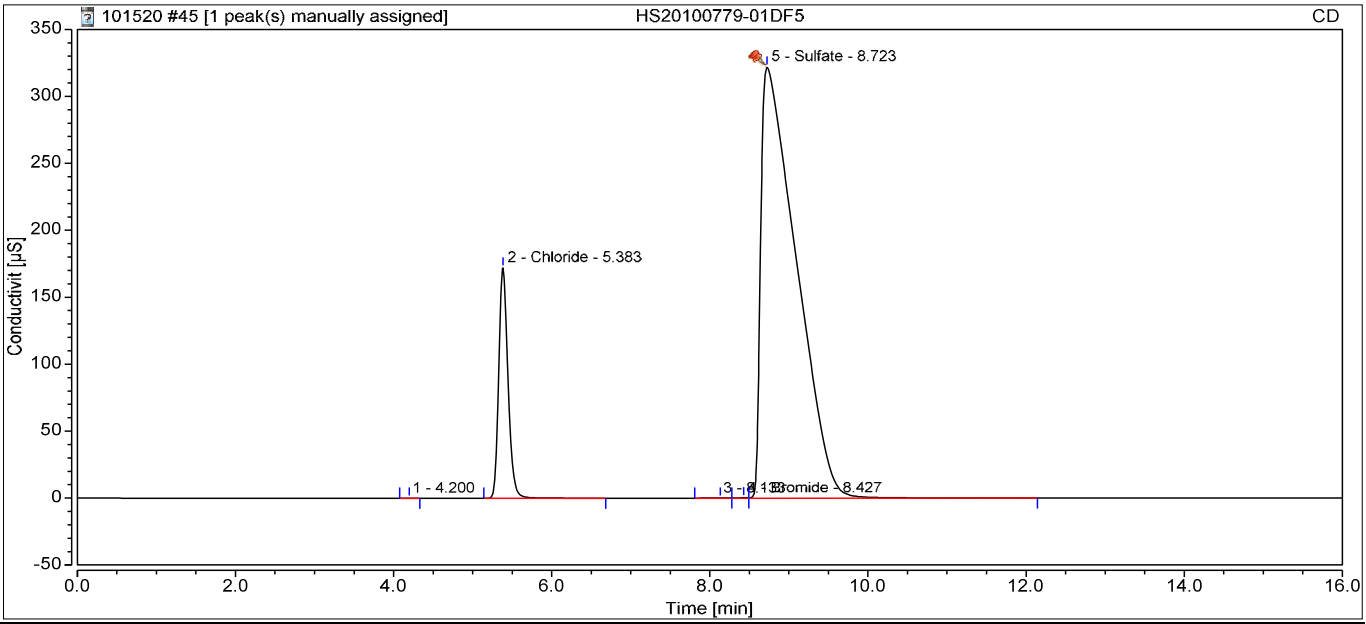
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.784	2.2274	2.2274	1.0000
2	5.39	Chloride	BMB	6.169	26.9013	26.9013	1.0000
3	6.48	Nitrite,N	BMB	1.066	2.2227	2.2227	1.0000
5	8.53	Bromide	M	0.264	2.5388	2.5388	1.0000
6	9.27	Sulfate	M	11.064	69.0963	69.0963	1.0000
7	9.72	Nitrate	M	1.583	2.5490	2.5490	1.0000
8	10.31	Chlorate	MB	0.249	2.3070	2.3070	1.0000
9	14.82	Phosphate	BMB	0.049	0.6317	0.6317	1.0000
Total:			**0.000**	**21.229**		**108.47**	

45 HS20100779-01DF5

Sample Name:	**HS20100779-01DF5**	*Injection Volume:*	**5.00**
Vial Number:	**GE4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**5.0000**
Recording Time:	**10/15/2020 22:58**	*Sample Weight:*	**1.0000**

Run Time:



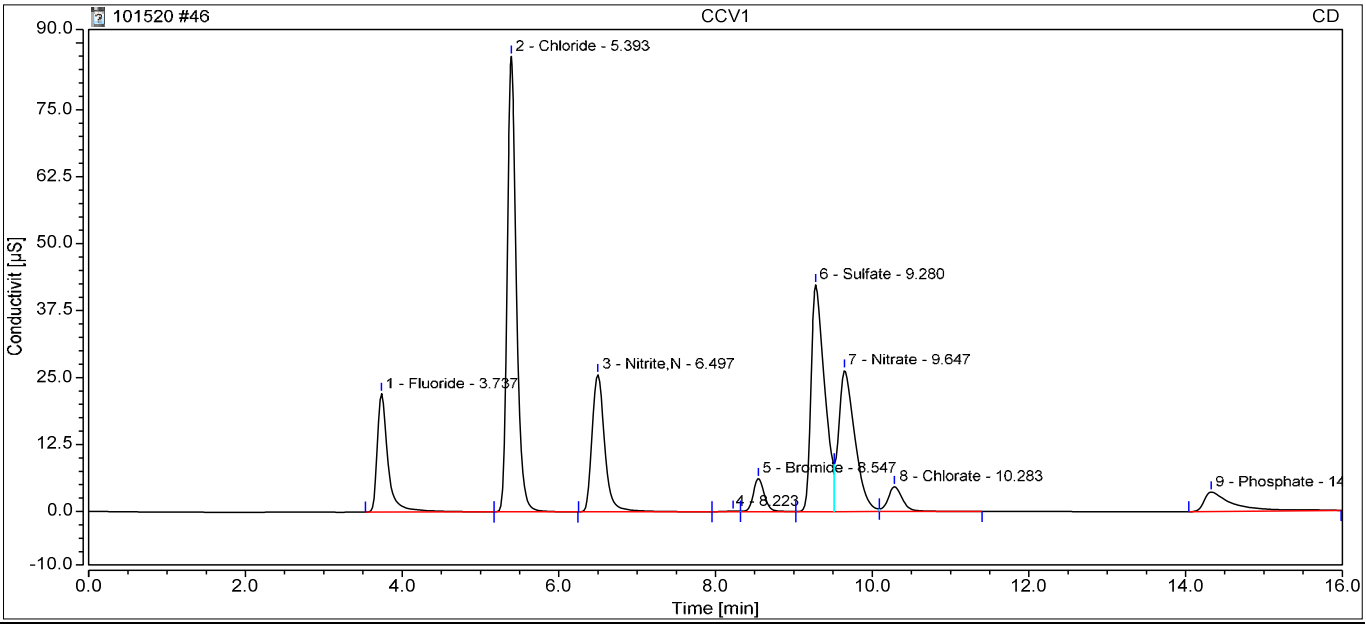
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	5.0000
2	5.38	Chloride	BMB	22.966	100.2956	501.4781	5.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	5.0000
4	8.43	Bromide	M	0.051	0.4220	2.1099	5.0000
5	8.72	Sulfate	MB^	166.077	1036.9683	5184.8413	5.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	5.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	5.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	5.0000
Total:			**0.000**	**189.094**		**5688.43**	

46 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**BA4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/15/2020 23:16**	*Sample Weight:*	**1.0000**

Run Time:



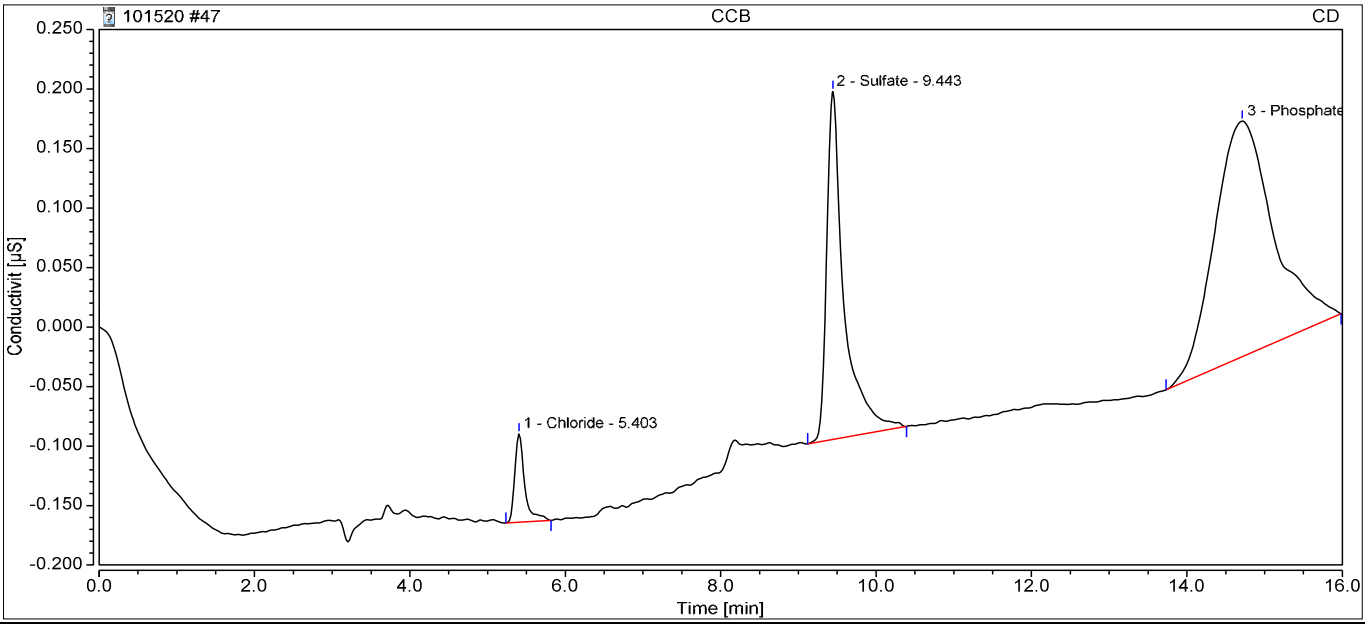
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.525	9.9796	9.9796	1.0000
2	5.39	Chloride	BMB	11.476	50.0882	50.0882	1.0000
3	6.50	Nitrite,N	BMB	4.800	10.1491	10.1491	1.0000
5	8.55	Bromide	M	1.019	10.0263	10.0263	1.0000
6	9.28	Sulfate	M	8.575	53.5559	53.5559	1.0000
7	9.65	Nitrate	M	6.363	10.3158	10.3158	1.0000
8	10.28	Chlorate	MB	1.004	9.7156	9.7156	1.0000
9	14.33	Phosphate	BMB	1.552	8.3707	8.3707	1.0000
Total:			**0.000**	**38.315**		**162.20**	

47 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/15/2020 23:34**	*Sample Weight:*	**1.0000**

Run Time:



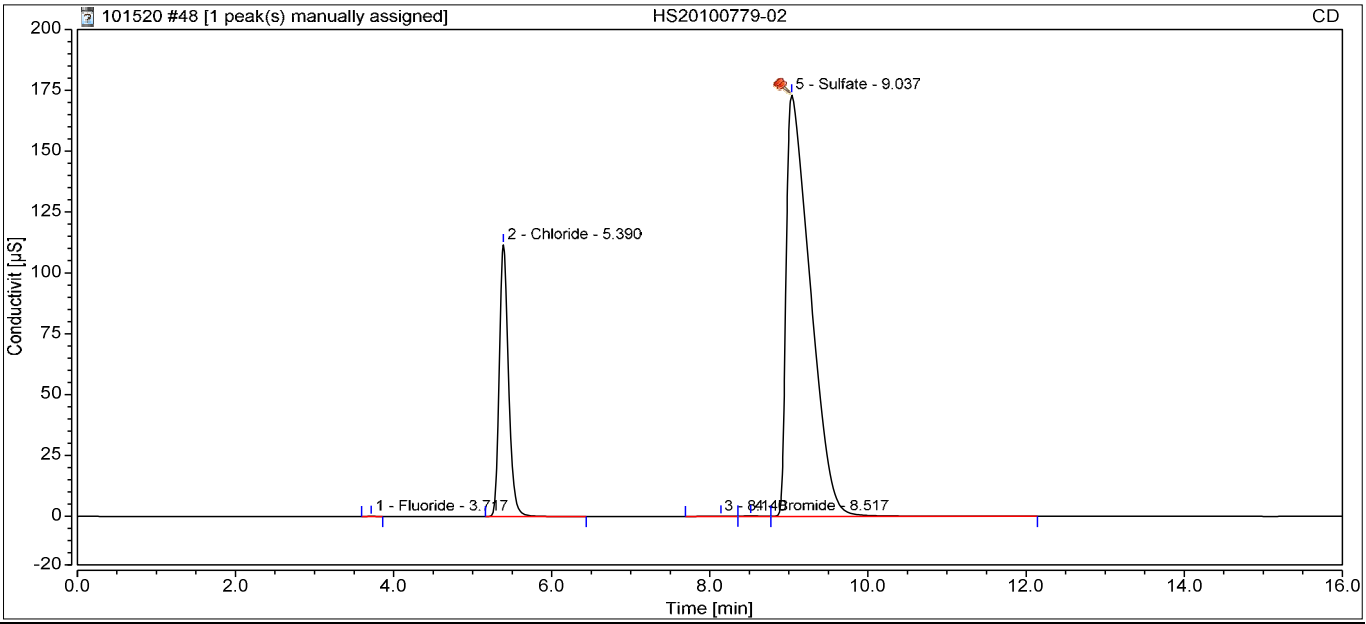
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.40	Chloride	BMB	0.011	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
2	9.44	Sulfate	BMB	0.076	0.4837	0.4837	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
3	14.71	Phosphate	BMB	0.175	1.2790	1.2790	1.0000
Total:			**0.000**	**0.261**		**1.76**	

48 HS20100779-02

Sample Name:	**HS20100779-02**	*Injection Volume:*	**5.00**
Vial Number:	**GE5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/15/2020 23:52**	*Sample Weight:*	**1.0000**

Run Time:



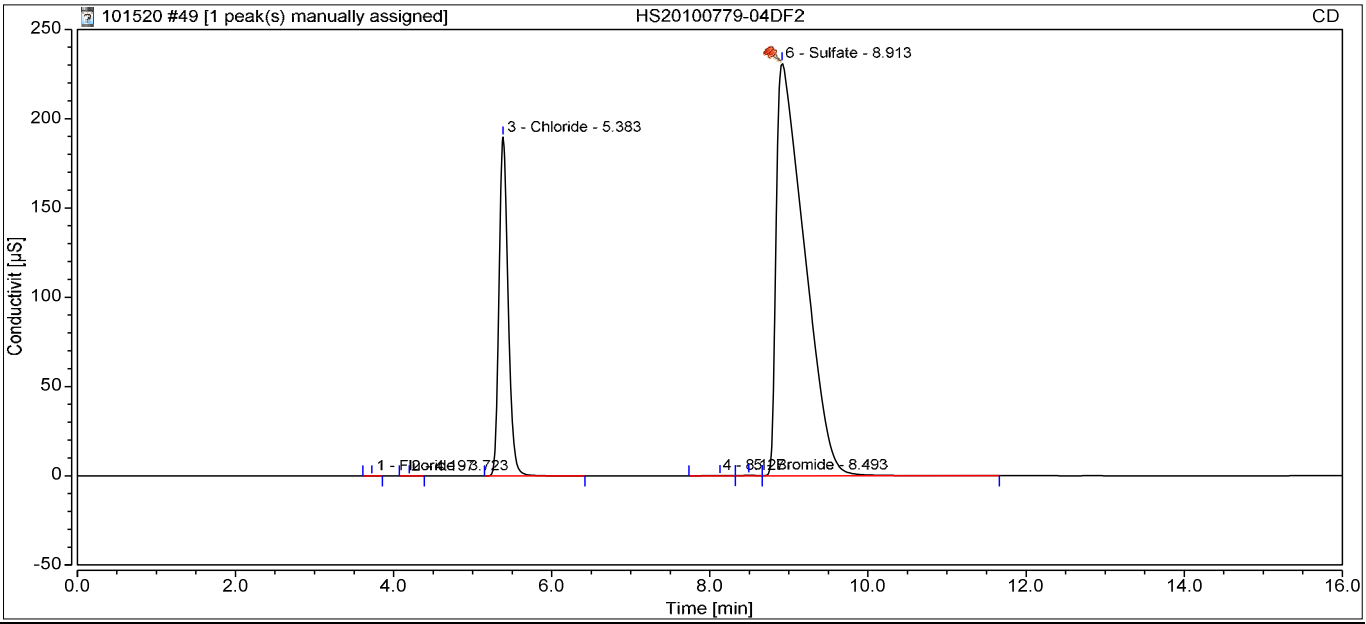
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.017	0.0590	0.0590	1.0000
2	5.39	Chloride	BMB	14.955	65.2890	65.2890	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
4	8.52	Bromide	M	0.073	0.6379	0.6379	1.0000
5	9.04	Sulfate	MB^	60.944	380.5385	380.5385	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**75.988**		**446.52**	

49 HS20100779-04DF2

Sample Name:	**HS20100779-04DF2**	*Injection Volume:*	**5.00**
Vial Number:	**GE6**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**2.0000**
Recording Time:	**10/16/2020 00:10**	*Sample Weight:*	**1.0000**

Run Time:



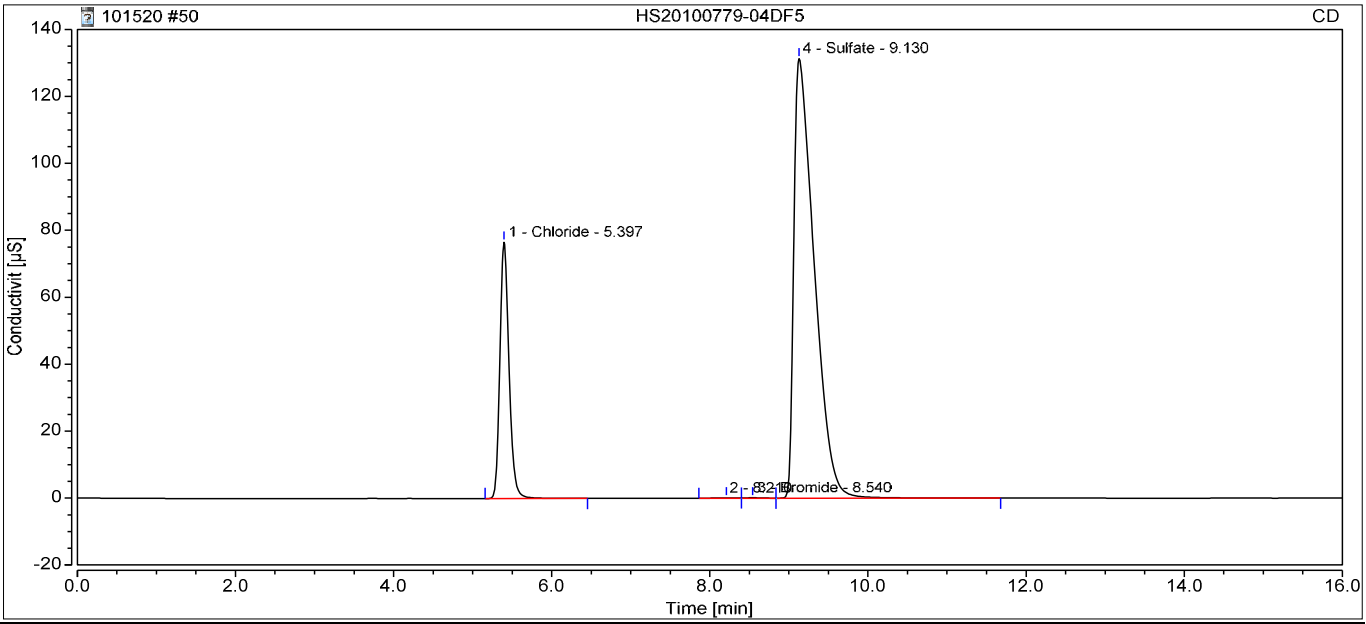
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.006	0.0271	0.0542	2.0000
3	5.38	Chloride	BMB	25.129	109.7463	219.4927	2.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	2.0000
5	8.49	Bromide	M	0.078	0.6866	1.3732	2.0000
6	8.91	Sulfate	MB^	95.264	594.8236	1189.6472	2.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	2.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	2.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	2.0000
Total:			**0.000**	**120.476**		**1410.57**	

50 HS20100779-04DF5

Sample Name:	**HS20100779-04DF5**	*Injection Volume:*	**5.00**
Vial Number:	**GE7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**5.0000**
Recording Time:	**10/16/2020 00:28**	*Sample Weight:*	**1.0000**

Run Time:



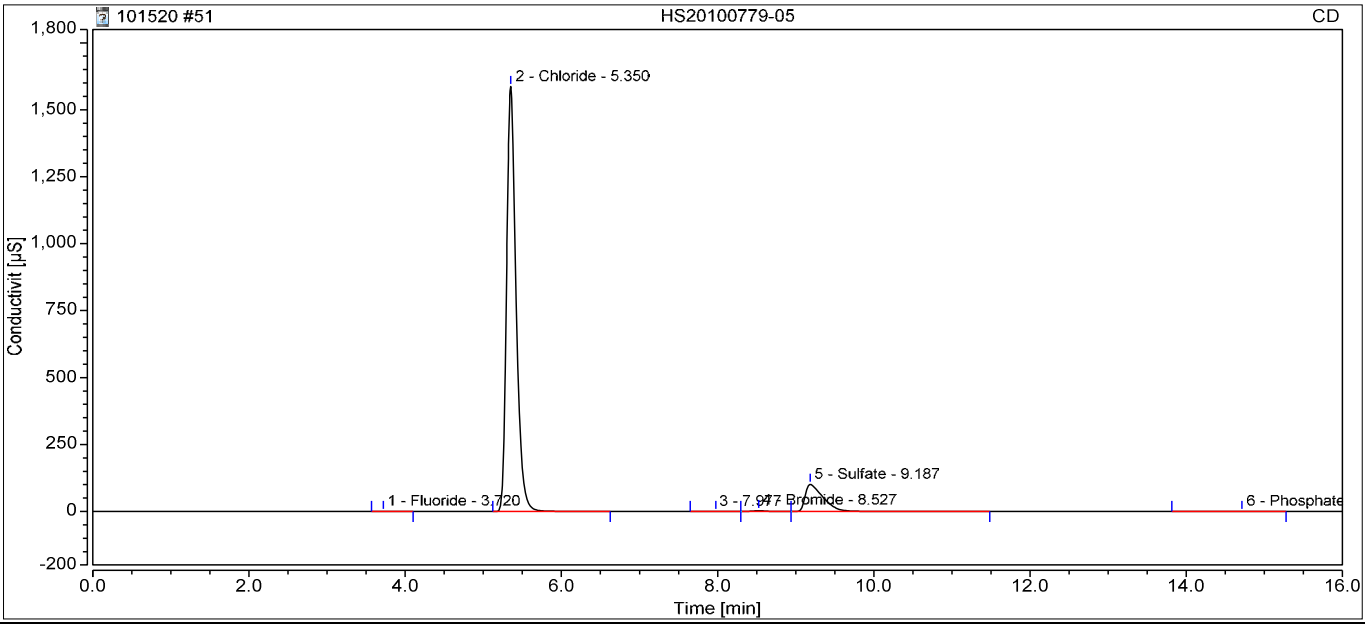
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	5.0000
1	5.40	Chloride	BMB	10.136	44.2317	221.1584	5.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	5.0000
3	8.54	Bromide	M	0.047	0.3834	1.9170	5.0000
4	9.13	Sulfate	MB	39.093	244.1007	1220.5036	5.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	5.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	5.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	5.0000
Total:			**0.000**	**49.275**		**1443.58**	

51 HS20100779-05

Sample Name:	**HS20100779-05**	*Injection Volume:*	**5.00**
Vial Number:	**GE8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/16/2020 00:46**	*Sample Weight:*	**1.0000**

Run Time:



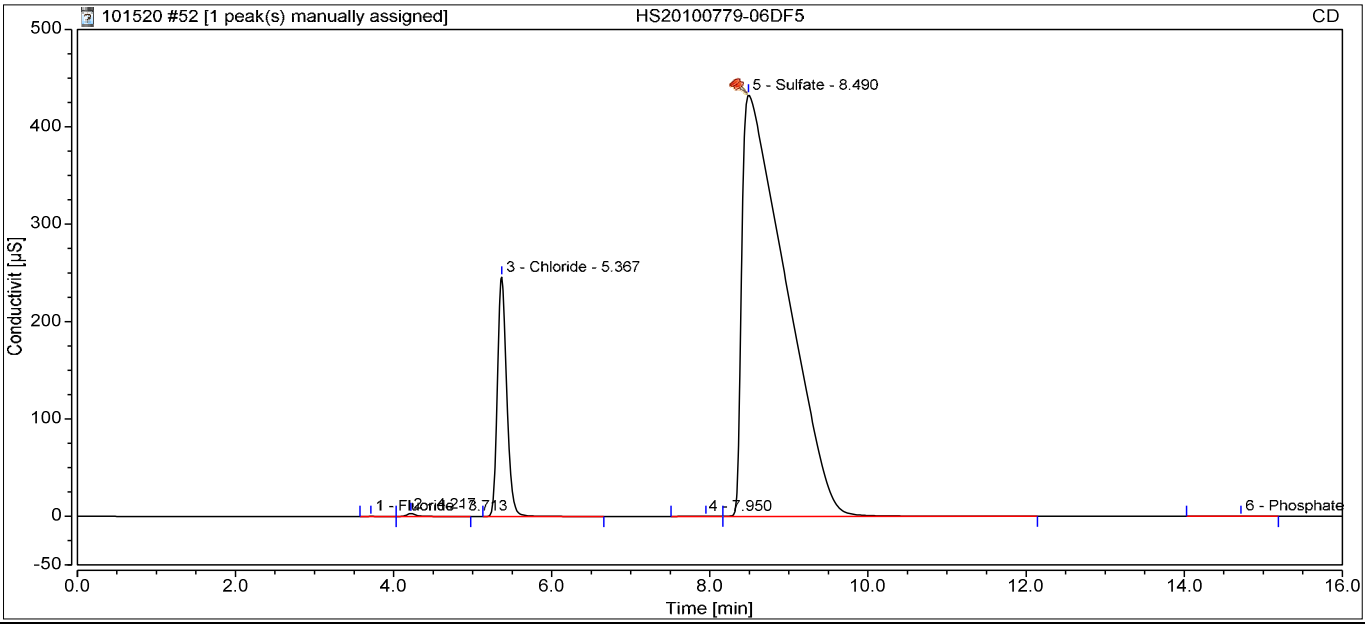
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.031	0.0993	0.0993	1.0000
2	5.35	Chloride	BMB	222.327	971.4131	971.4131	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
4	8.53	Bromide	M	0.539	5.2635	5.2635	1.0000
5	9.19	Sulfate	MB	26.812	167.4200	167.4200	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
6	14.71	Phosphate	BMB	0.073	0.7572	0.7572	1.0000
Total:			**0.000**	**249.782**		**1144.95**	

52 HS20100779-06DF5

Sample Name:	**HS20100779-06DF5**	*Injection Volume:*	**5.00**
Vial Number:	**GA1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**5.0000**
Recording Time:	**10/16/2020 01:04**	*Sample Weight:*	**1.0000**

Run Time:



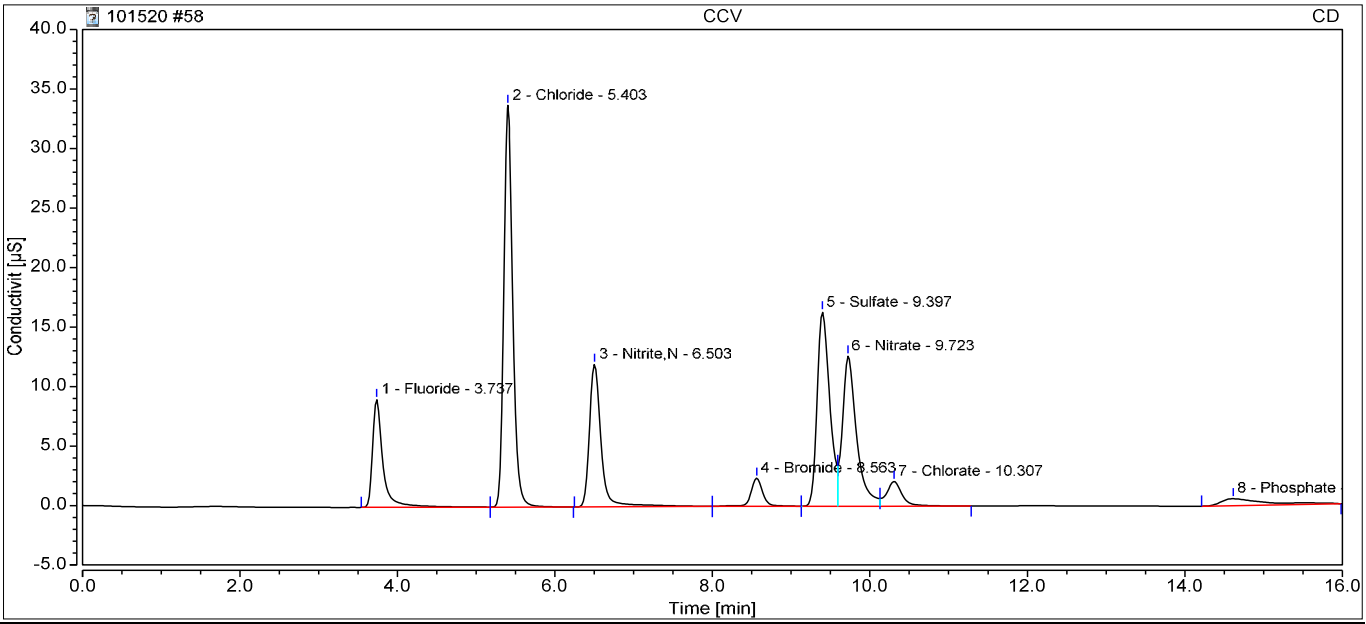
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.71	Fluoride	BMB	0.012	0.0451	0.2255	5.0000
3	5.37	Chloride	BMB	33.184	144.9428	724.7141	5.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	5.0000
5	8.49	Sulfate	MB^	276.768	1728.1079	8640.5395	5.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	5.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	5.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	5.0000
6	14.72	Phosphate	BMB	0.027	0.5180	2.5902	5.0000
Total:			**0.000**	**309.991**		**9368.07**	

58 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**BA2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/16/2020 02:52**	*Sample Weight:*	**1.0000**

Run Time:



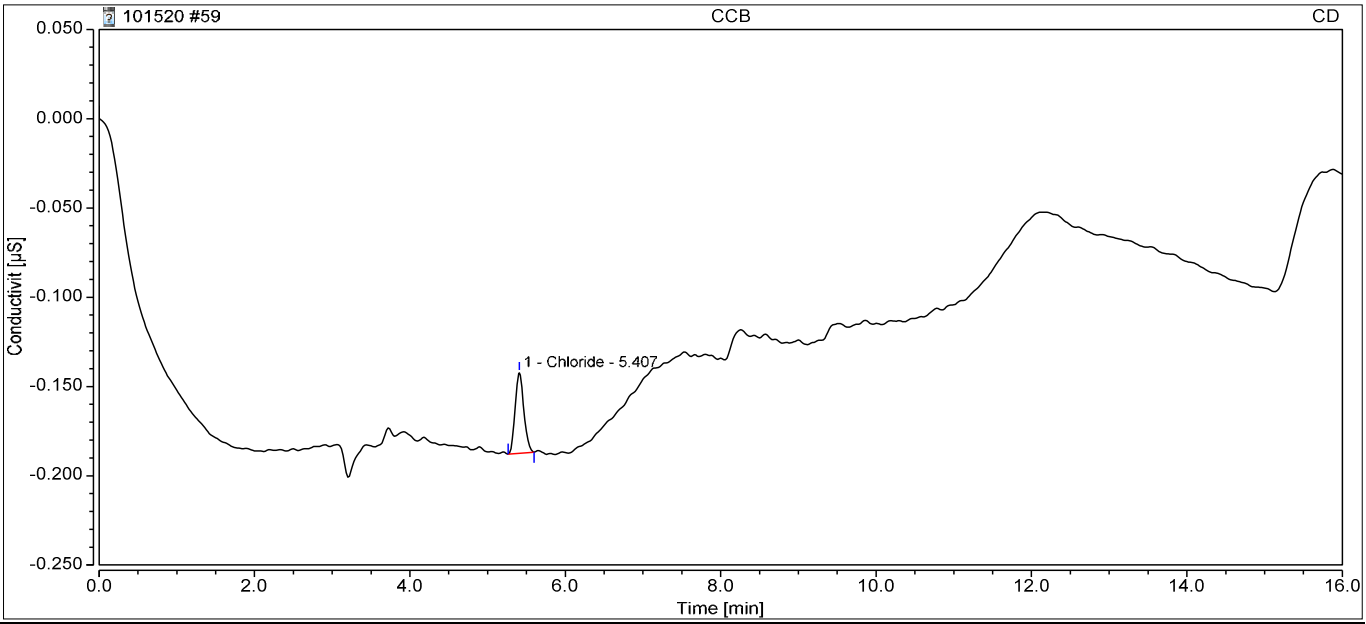
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.384	3.9240	3.9240	1.0000
2	5.40	Chloride	BMB	4.467	19.4609	19.4609	1.0000
3	6.50	Nitrite,N	BMB	2.077	4.3696	4.3696	1.0000
4	8.56	Bromide	BM	0.410	3.9860	3.9860	1.0000
5	9.40	Sulfate	M	3.008	18.7926	18.7926	1.0000
6	9.72	Nitrate	M	2.655	4.2909	4.2909	1.0000
7	10.31	Chlorate	MB	0.475	4.5233	4.5233	1.0000
8	14.61	Phosphate	BMB	0.375	2.3091	2.3091	1.0000
Total:			**0.000**	**14.850**		**61.66**	

59 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/16/2020 03:10**	*Sample Weight:*	**1.0000**

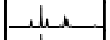
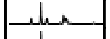
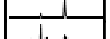
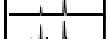
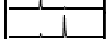
Run Time:



Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.41	Chloride	BMB	0.006	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.006**		**0.00**	

Sequence: 102720
Last Update Operator: alshs.nouser

CD	Name	Comment	Type	Position	Dilution	Level	Instrument Method	Processing Method	me	Status
	STD1		Calibration	BD1	1.00	1	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD2		Calibration	BD2	1.00	2	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD3		Calibration	BD3	1.00	3	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD4		Calibration	BD4	1.00	4	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD5		Calibration	BD5	1.00	5	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD6		Calibration	BD6	1.00	6	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	ICV		Unknown	BD7	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	ICB		Unknown	BD8	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV1		Unknown	BB8	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA5	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100779-01DF200		Unknown	RB1	200.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV		Unknown	BA2	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100779-02DF10		Unknown	RB2	10.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100779-02MSDF10		Unknown	RB3	10.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100779-02MSDDF10		Unknown	RB4	10.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100779-04DF100		Unknown	RB5	100.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100779-05DF10		Unknown	RB6	10.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100779-06DF200		Unknown	RB7	200.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	MBLK-102720		Unknown	BA7	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	LCS-102720		Unknown	BA8	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV1		Unknown	BB7	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA5	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished

Sequence: 102720
Last Update Operator: alshs.nouser

Inject Time
8/11/2020 10:46:45 AM -05:00
8/11/2020 11:04:45 AM -05:00
8/11/2020 11:22:45 AM -05:00
8/11/2020 11:40:48 AM -05:00
8/11/2020 11:58:48 AM -05:00
8/11/2020 12:16:48 PM -05:00
8/11/2020 12:34:48 PM -05:00
8/11/2020 12:52:50 PM -05:00
10/28/2020 2:50:58 AM -05:00
10/28/2020 3:08:59 AM -05:00
10/28/2020 5:51:16 AM -05:00
10/28/2020 6:09:17 AM -05:00
10/28/2020 6:27:18 AM -05:00
10/28/2020 6:45:19 AM -05:00
10/28/2020 7:03:22 AM -05:00
10/28/2020 7:21:22 AM -05:00
10/28/2020 7:39:23 AM -05:00
10/28/2020 7:57:23 AM -05:00
10/28/2020 8:15:26 AM -05:00
10/28/2020 8:33:27 AM -05:00
10/28/2020 8:51:28 AM -05:00
10/28/2020 9:09:28 AM -05:00
10/28/2020 9:27:30 AM -05:00

Sequence: 101520
Injection #6: STD6

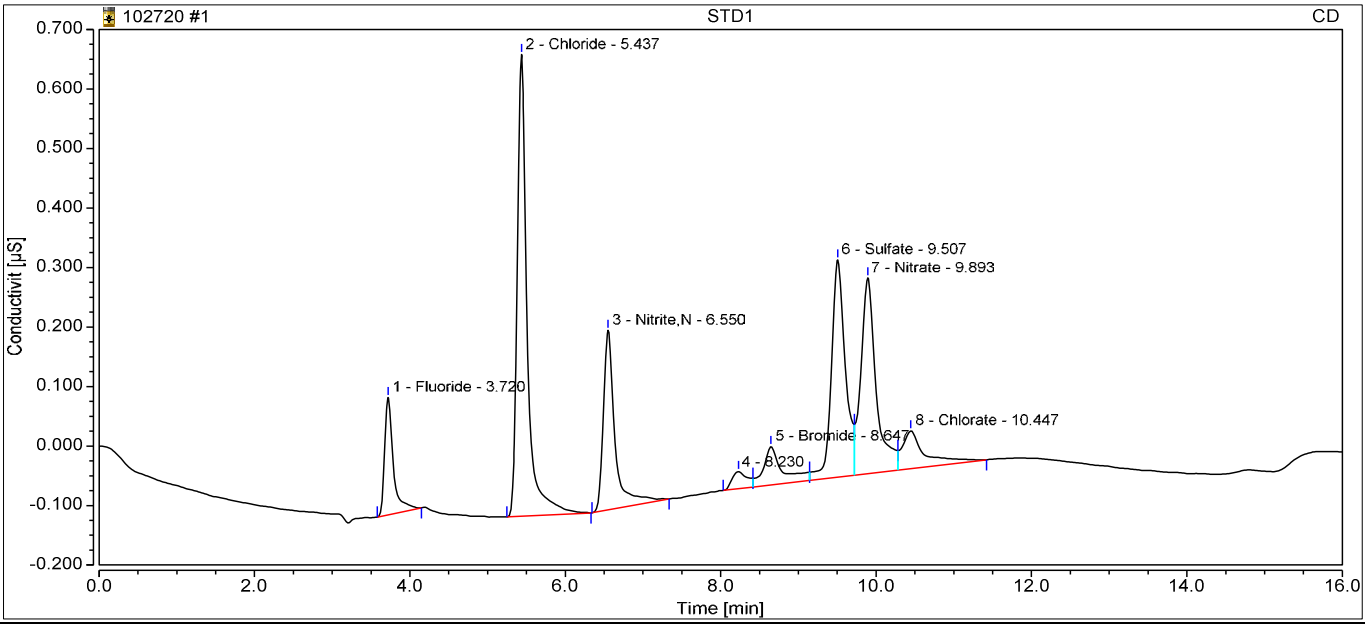
Calibration

Peak No.	Peak Name	Cal.Type	Eval.Type	Number of Points	Rel.Std.Dev. %	Coeff.of Determination	C0 (Offset)	C1 (Slope)	C2 (Curve)
1	*Fluoride*	*Lin, WithOffset, 1/*	*Area*	*6*	*17.3553*	*0.99849*	*-0.0040*	*0.3537*	*0.0000*
2	Chloride	Lin, WithOffset, 1/	Area	6	5.4804	0.99983	0.0129	0.2289	0.0000
3	Nitrite,N	Lin, WithOffset, 1/	Area	6	26.1376	0.99573	0.0186	0.4711	0.0000
5	Bromide	Lin, WithOffset, 1/	Area	6	0.9346	0.99999	0.0083	0.1008	0.0000
6	Sulfate	Lin, WithOffset, 1/	Area	6	5.2843	0.99985	-0.0019	0.1602	0.0000
7	Nitrate	Lin, WithOffset, 1/	Area	6	4.5248	0.99988	0.0144	0.6154	0.0000
8	Chlorate	Lin, WithOffset, 1/	Area	6	13.4374	0.99837	0.0139	0.1019	0.0000
10	Phosphate	Lin, WithOffset, 1/	Area	5	18.5357	0.99714	-0.0737	0.1942	0.0000
Maximum					**26.1376**	0.99999			
Minimum					0.9346	**0.99573**			

1 STD1

Sample Name:	**STD1**	*Injection Volume:*	**5.00**
Vial Number:	**BD1**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 10:46**	*Sample Weight:*	**1.0000**

Run Time:



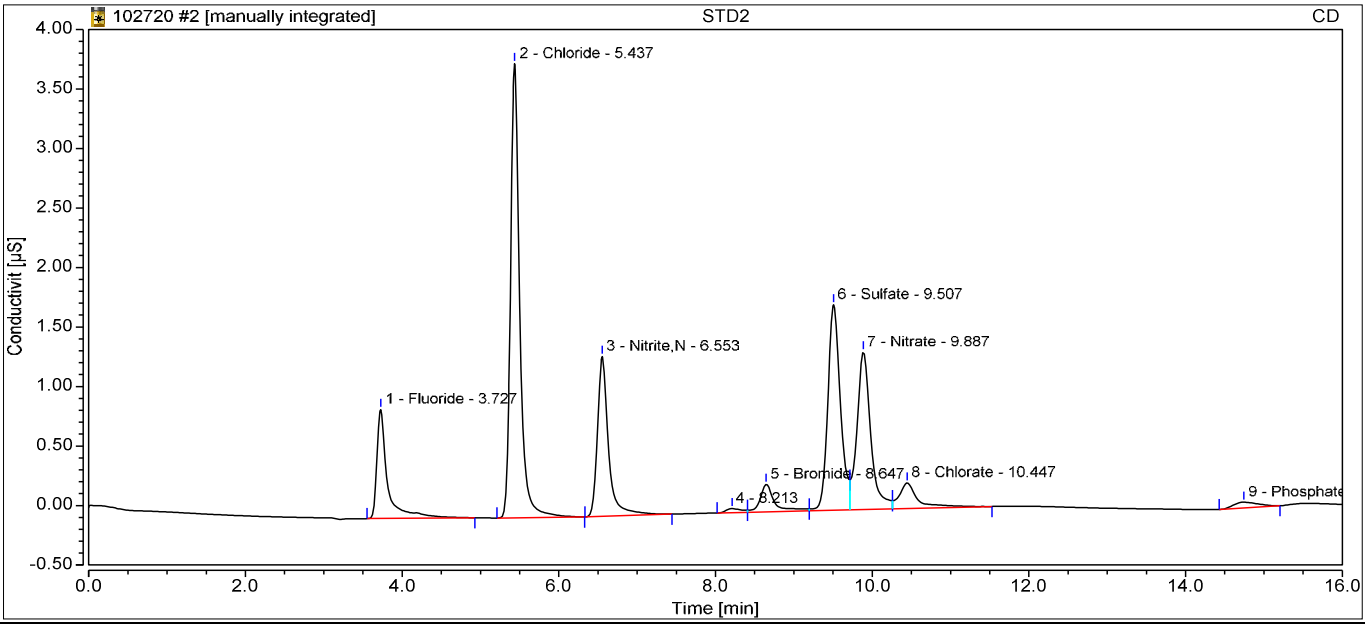
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.025	0.0833	0.0833	1.0000
2	5.44	Chloride	BMB	0.116	0.4487	0.4487	1.0000
3	6.55	Nitrite,N	BMB	0.052	0.0715	0.0715	1.0000
5	8.65	Bromide	M	0.018	0.0997	0.0997	1.0000
6	9.51	Sulfate	M	0.076	0.4861	0.4861	1.0000
7	9.89	Nitrate	M	0.075	0.0985	0.0985	1.0000
8	10.45	Chlorate	MB	0.021	0.0734	0.0734	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.384**		**1.36**	

2 STD2

Sample Name:	**STD2**	*Injection Volume:*	**5.00**
Vial Number:	**BD2**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 11:04**	*Sample Weight:*	**1.0000**

Run Time:



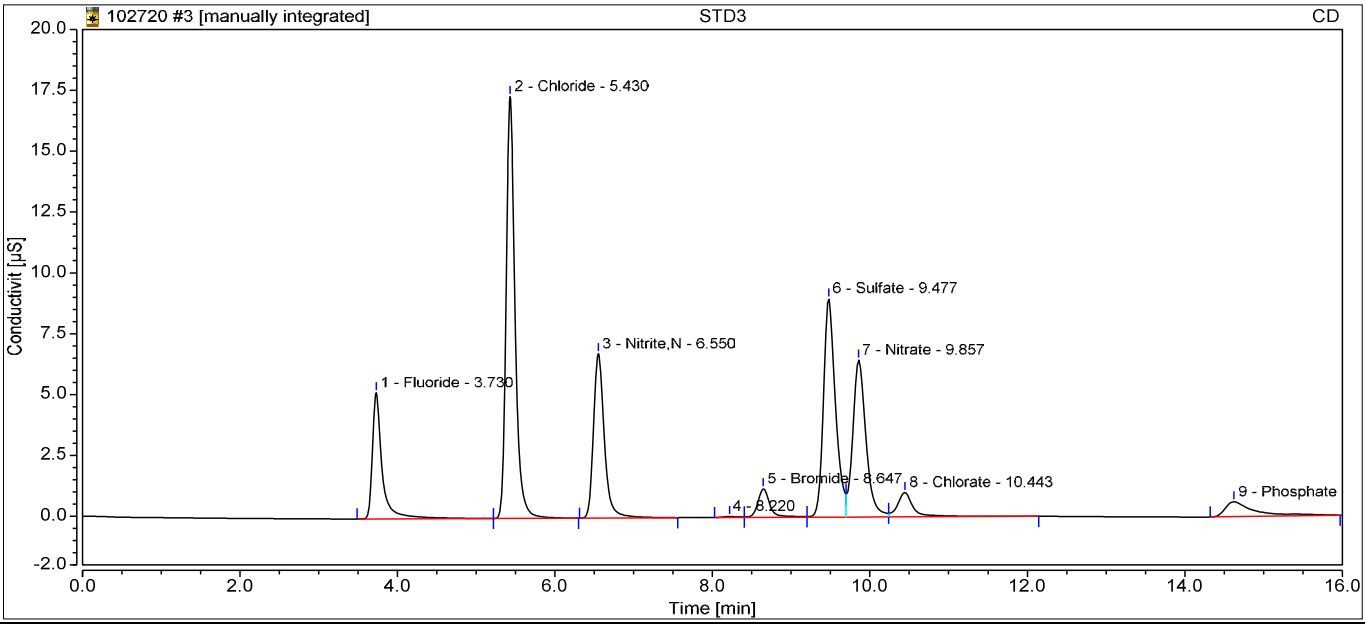
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.145	0.4204	0.4204	1.0000
2	5.44	Chloride	BMB	0.518	2.2084	2.2084	1.0000
3	6.55	Nitrite,N	BMB	0.221	0.4294	0.4294	1.0000
5	8.65	Bromide	M	0.049	0.4041	0.4041	1.0000
6	9.51	Sulfate	M	0.321	2.0151	2.0151	1.0000
7	9.89	Nitrate	M	0.270	0.4147	0.4147	1.0000
8	10.45	Chlorate	MB	0.060	0.4536	0.4536	1.0000
9	14.74	Phosphate	BMB	0.018	0.4703	0.4703	1.0000
Total:			**0.000**	**1.601**		**6.82**	

3 STD3

Sample Name:	**STD3**	*Injection Volume:*	**5.00**
Vial Number:	**BD3**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 11:22**	*Sample Weight:*	**1.0000**

Run Time:



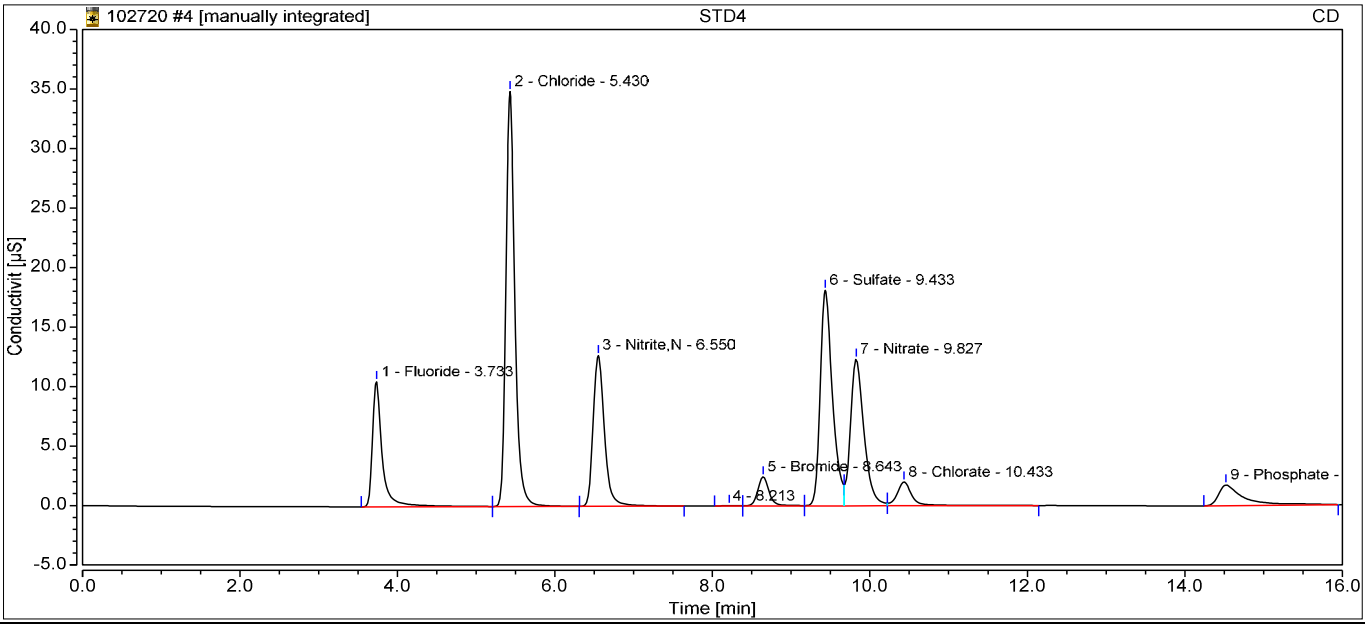
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.745	2.1166	2.1166	1.0000
2	5.43	Chloride	BMB	2.291	9.9533	9.9533	1.0000
3	6.55	Nitrite,N	BMB	1.077	2.2460	2.2460	1.0000
5	8.65	Bromide	M	0.209	1.9882	1.9882	1.0000
6	9.48	Sulfate	M	1.595	9.9688	9.9688	1.0000
7	9.86	Nitrate	M	1.238	1.9883	1.9883	1.0000
8	10.44	Chlorate	MB	0.239	2.2038	2.2038	1.0000
9	14.62	Phosphate	BM *	0.269	1.7634	1.7634	1.0000
Total:			**0.000**	**7.661**		**32.23**	

4 STD4

Sample Name:	**STD4**	*Injection Volume:*	**5.00**
Vial Number:	**BD4**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 11:40**	*Sample Weight:*	**1.0000**

Run Time:



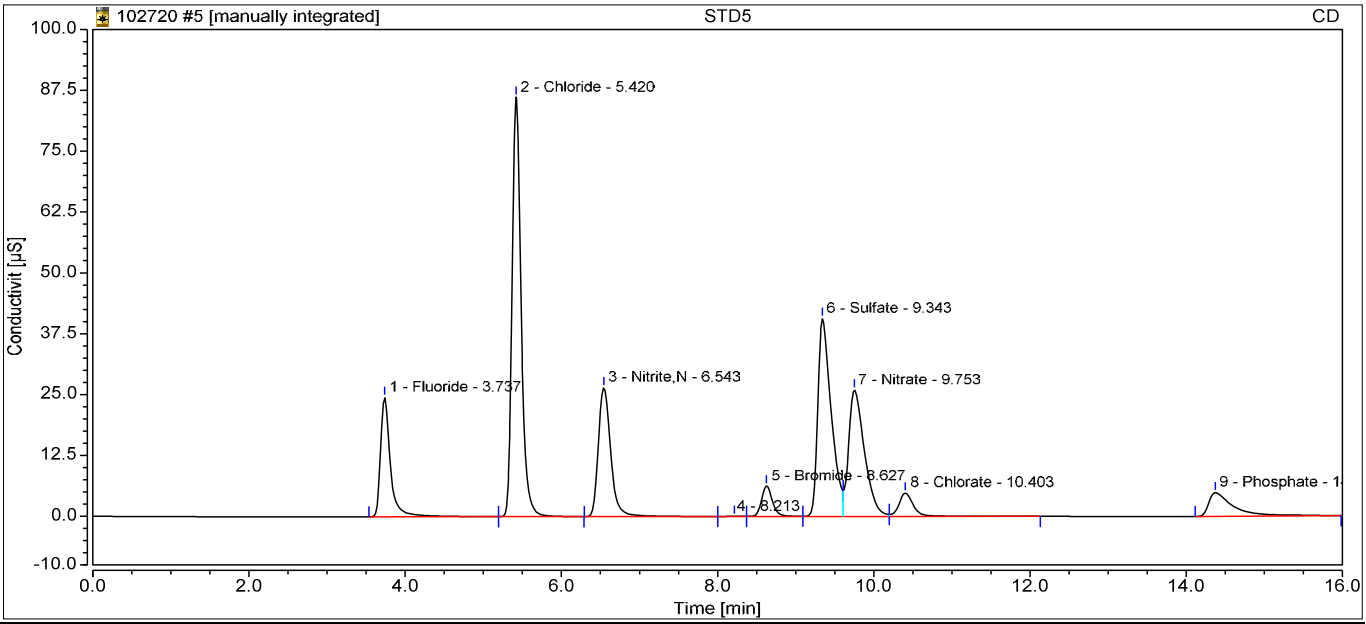
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	1.504	4.2630	4.2630	1.0000
2	5.43	Chloride	BMB	4.613	20.0986	20.0986	1.0000
3	6.55	Nitrite,N	BMB*	2.104	4.4276	4.4276	1.0000
5	8.64	Bromide	M	0.411	3.9946	3.9946	1.0000
6	9.43	Sulfate	M	3.273	20.4465	20.4465	1.0000
7	9.83	Nitrate	M	2.444	3.9482	3.9482	1.0000
8	10.43	Chlorate	MB	0.443	4.2079	4.2079	1.0000
9	14.52	Phosphate	BM *	0.648	3.7157	3.7157	1.0000
Total:			**0.000**	**15.439**		**65.10**	

5 STD5

Sample Name:	**STD5**	*Injection Volume:*	**5.00**
Vial Number:	**BD5**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 11:58**	*Sample Weight:*	**1.0000**

Run Time:



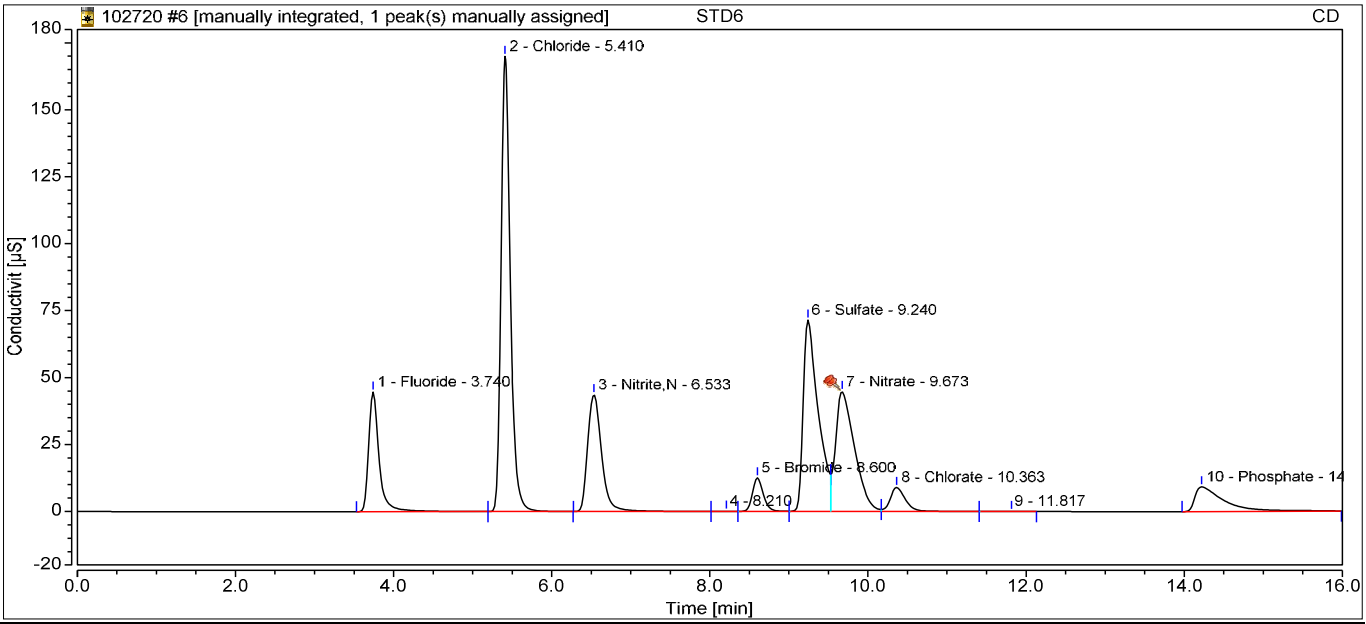
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.611	10.2228	10.2228	1.0000
2	5.42	Chloride	BMB	11.462	50.0272	50.0272	1.0000
3	6.54	Nitrite,N	BMB	4.877	10.3135	10.3135	1.0000
5	8.63	Bromide	M	1.014	9.9796	9.9796	1.0000
6	9.34	Sulfate	M	8.089	50.5200	50.5200	1.0000
7	9.75	Nitrate	M	6.097	9.8832	9.8832	1.0000
8	10.40	Chlorate	MB	1.032	9.9918	9.9918	1.0000
9	14.37	Phosphate	BM *	1.834	9.8223	9.8223	1.0000
Total:			**0.000**	**38.017**		**160.76**	

6 STD6

Sample Name:	**STD6**	*Injection Volume:*	**5.00**
Vial Number:	**BD6**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 12:16**	*Sample Weight:*	**1.0000**

Run Time:



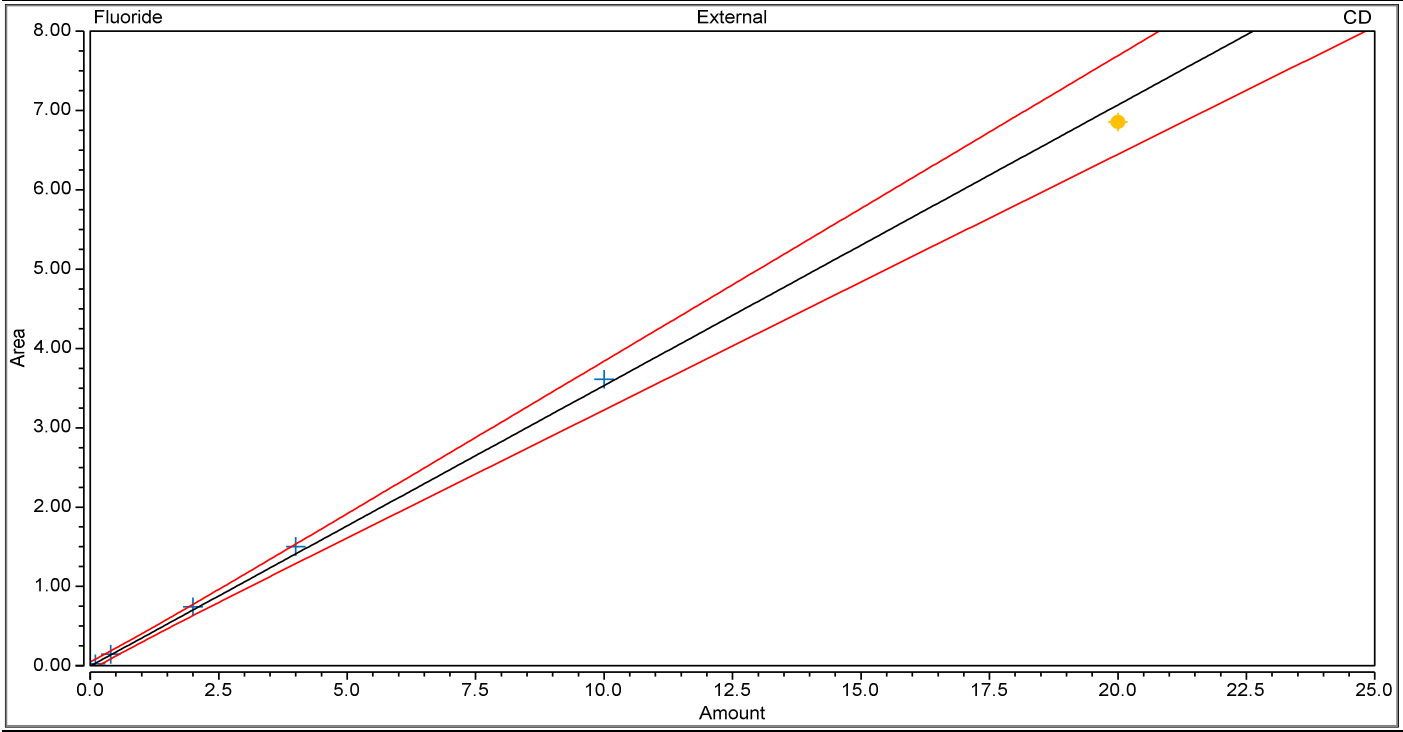
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	6.855	19.3940	19.3940	1.0000
2	5.41	Chloride	BMB	22.844	99.7639	99.7639	1.0000
3	6.53	Nitrite,N	BMB	8.975	19.0121	19.0121	1.0000
5	8.60	Bromide	M	2.028	20.0338	20.0338	1.0000
6	9.24	Sulfate	M	15.864	99.0635	99.0635	1.0000
7	9.67	Nitrate	M ^	12.426	20.1671	20.1671	1.0000
8	10.36	Chlorate	M	2.009	19.5694	19.5694	1.0000
10	14.22	Phosphate	BM *	3.933	20.6283	20.6283	1.0000
Total:			**0.000**	**74.933**		**317.63**	

Calibration

Calibration Details	Fluoride		
Calibration Type	Lin, WithOffset, 1/A	*Offset (C0)*	-0.0040
Evaluation Type	Area	*Slope (C1)*	0.3537
Number of Calibration Points	6	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.9985

Calibration Plot **Fluoride**

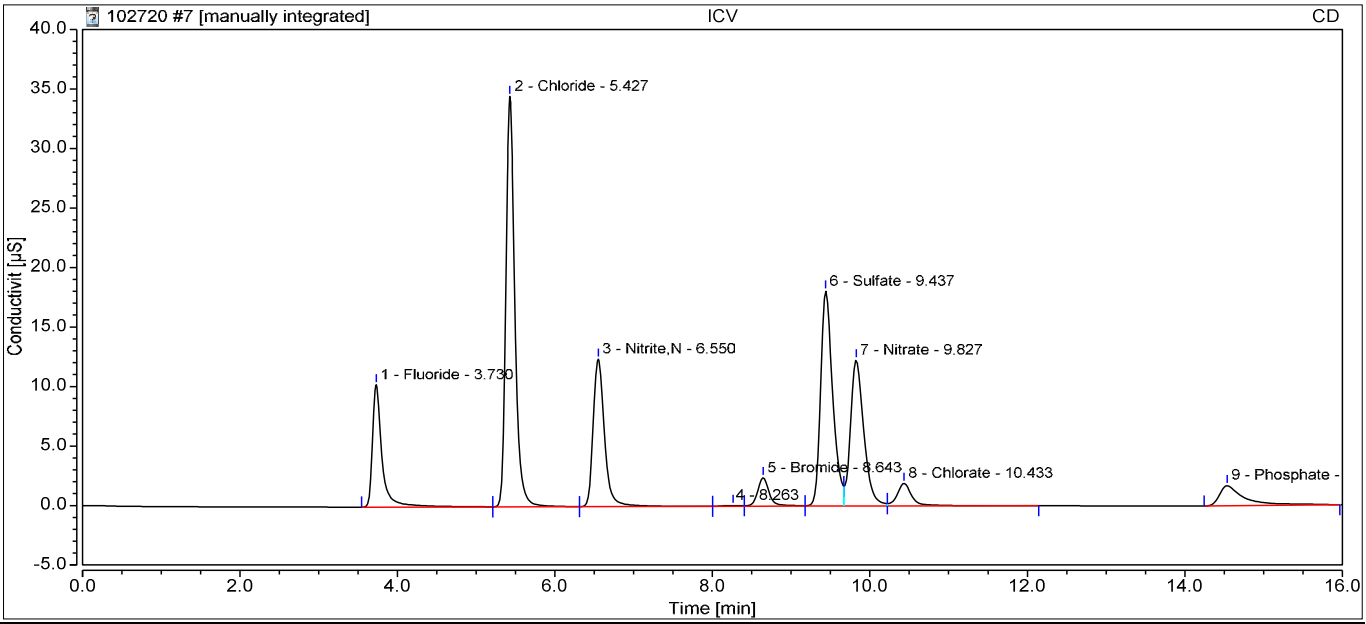


Calibration Results **Fluoride**

No.	Injection Name	Calibration Level	X Value CD Fluoride	Y Value CD Fluoride	Y Value CD Fluoride	Area µS*min CD Fluoride	Height µS CD Fluoride
1	STD1	1	0.1000	0.0254	0.0254	0.025	0.197
2	STD2	2	0.4000	0.1446	0.1446	0.145	0.916
3	STD3	3	2.0000	0.7445	0.7445	0.745	5.182
4	STD4	4	4.0000	1.5036	1.5036	1.504	10.507
5	STD5	5	10.0000	3.6113	3.6113	3.611	24.538
6	STD6	6	20.0000	6.8547	6.8547	6.855	44.677

7 ICV			
Sample Name:	**ICV**	*Injection Volume:*	**5.00**
Vial Number:	**BD7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 12:34**	*Sample Weight:*	**1.0000**

Run Time:



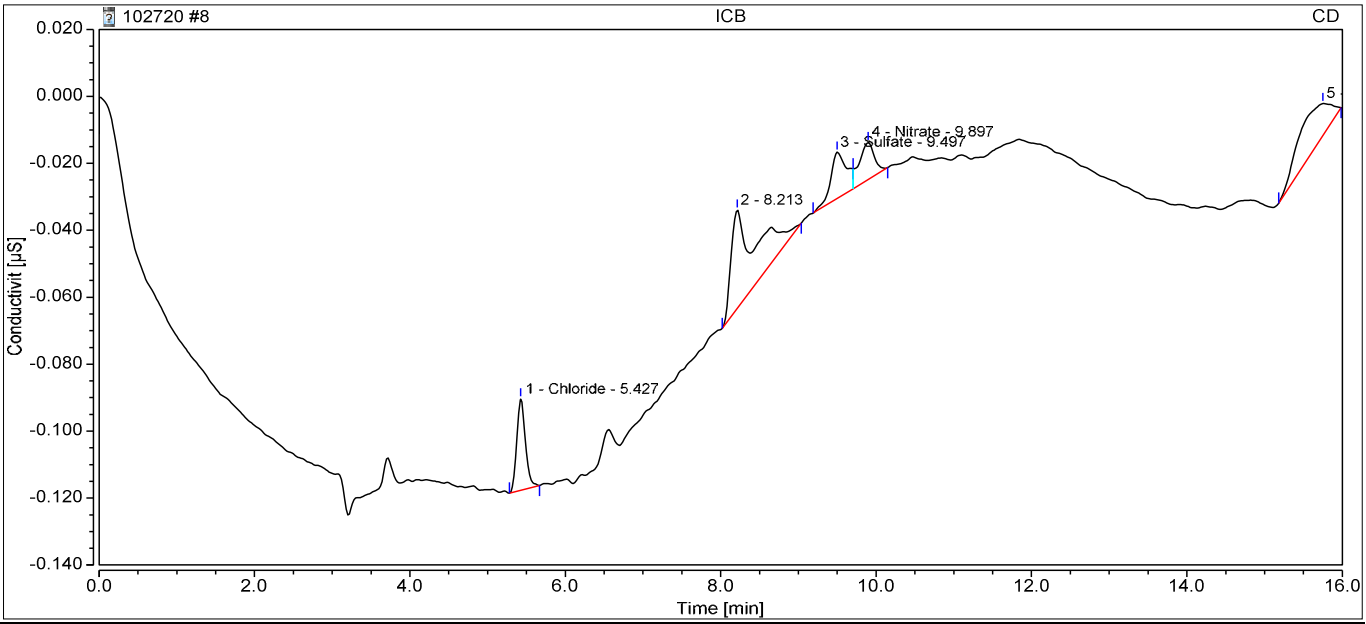
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	1.447	4.1020	4.1020	1.0000
2	5.43	Chloride	BMB	4.553	19.8399	19.8399	1.0000
3	6.55	Nitrite,N	BMB	2.061	4.3359	4.3359	1.0000
5	8.64	Bromide	M	0.413	4.0106	4.0106	1.0000
6	9.44	Sulfate	M	3.227	20.1622	20.1622	1.0000
7	9.83	Nitrate	M	2.405	3.8850	3.8850	1.0000
8	10.43	Chlorate	MB	0.422	4.0019	4.0019	1.0000
9	14.54	Phosphate	BM *	0.631	3.6292	3.6292	1.0000
Total:			**0.000**	**15.159**		**63.97**	

8 ICB

Sample Name:	**ICB**	*Injection Volume:*	**5.00**
Vial Number:	**BD8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 12:52**	*Sample Weight:*	**1.0000**

Run Time:



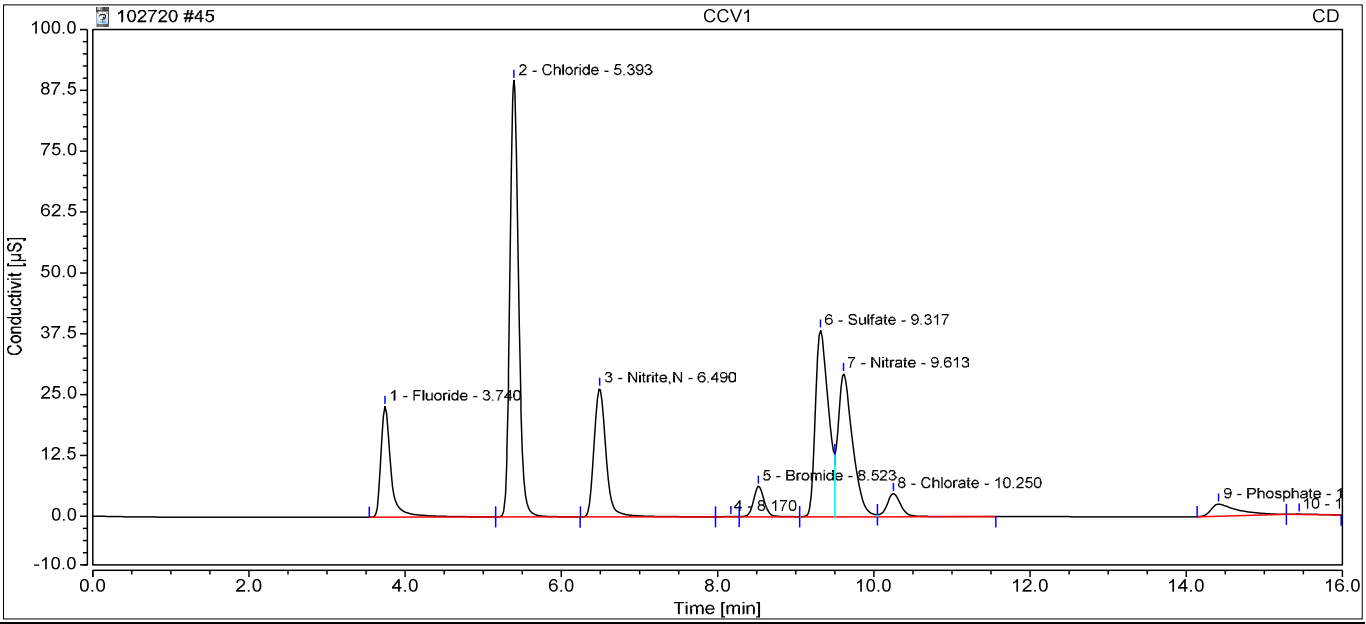
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.43	Chloride	BMB	0.004	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
3	9.50	Sulfate	BM	0.003	0.0318	0.0318	1.0000
4	9.90	Nitrate	MB	0.003	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.009**		**0.03**	

45 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**BB8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/28/2020 02:50**	*Sample Weight:*	**1.0000**

Run Time:



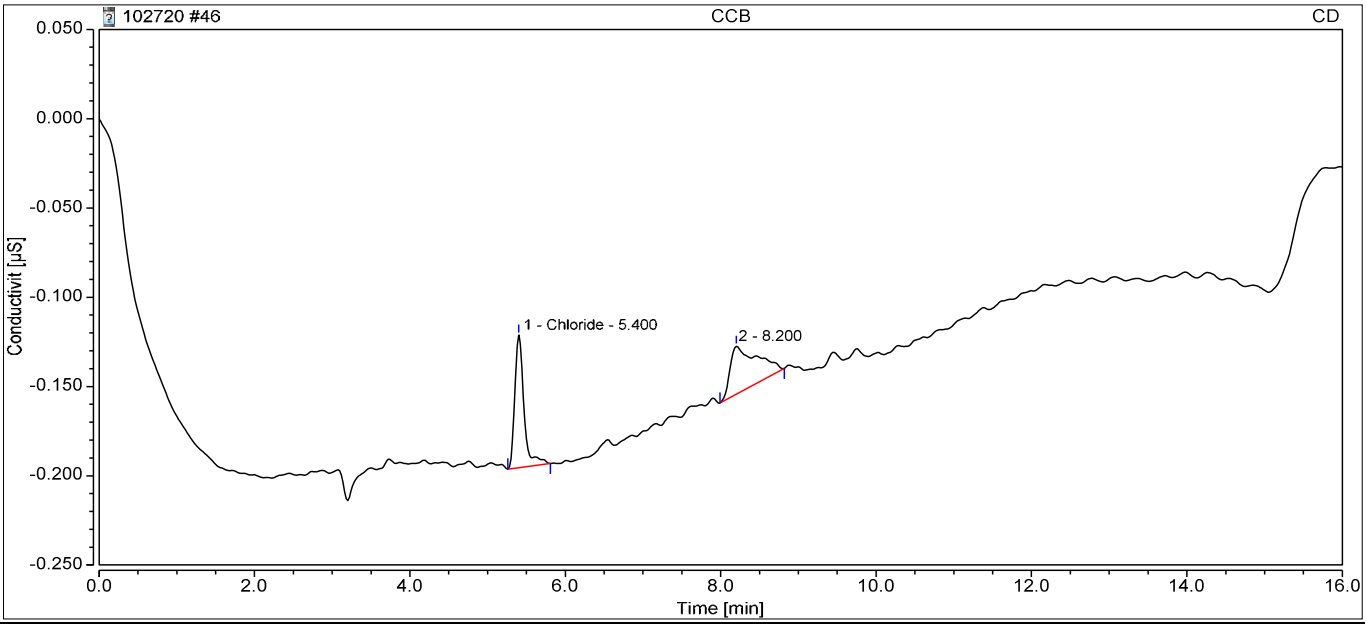
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.434	9.7229	9.7229	1.0000
2	5.39	Chloride	BMB	11.450	49.9746	49.9746	1.0000
3	6.49	Nitrite,N	BMB	4.702	9.9412	9.9412	1.0000
5	8.52	Bromide	M	0.997	9.8034	9.8034	1.0000
6	9.32	Sulfate	M	7.431	46.4116	46.4116	1.0000
7	9.61	Nitrate	M	6.428	10.4214	10.4214	1.0000
8	10.25	Chlorate	MB	0.986	9.5370	9.5370	1.0000
9	14.42	Phosphate	BMB	0.971	5.3783	5.3783	1.0000
Total:			**0.000**	**36.399**		**151.19**	

46 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/28/2020 03:08**	*Sample Weight:*	**1.0000**

Run Time:



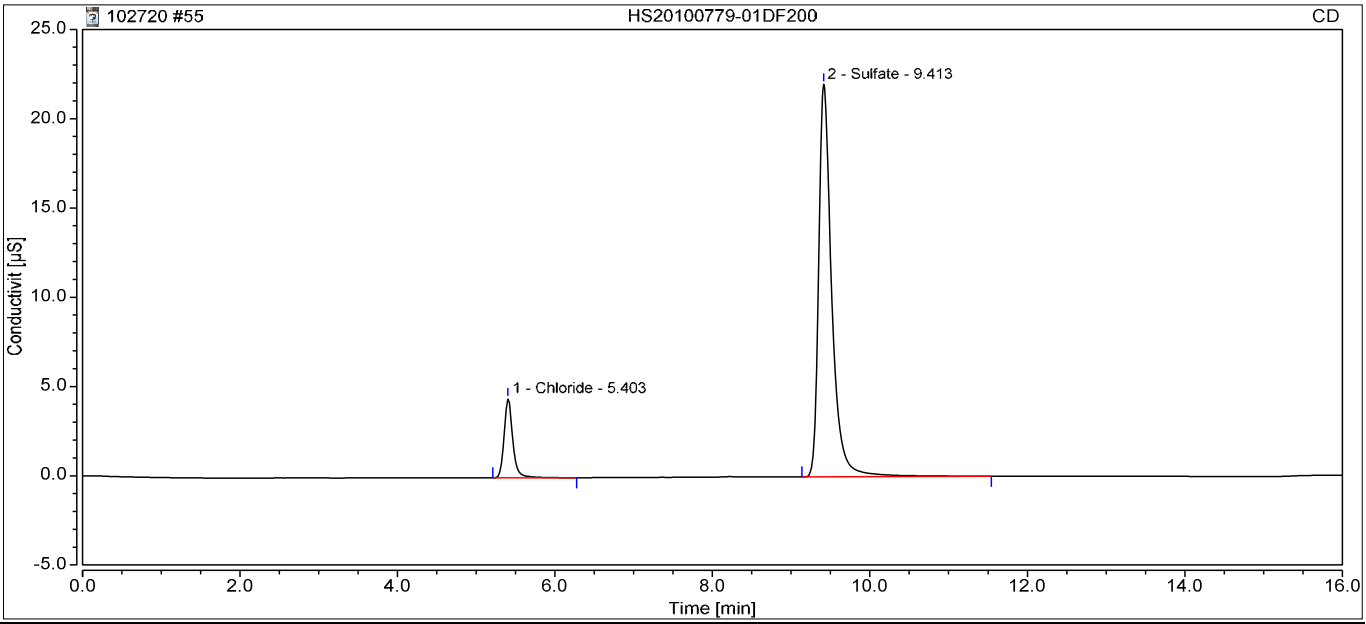
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.40	Chloride	BMB	0.010	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.010**		**0.00**	

55 HS20100779-01DF200

Sample Name:	**HS20100779-01DF200**	*Injection Volume:*	**5.00**
Vial Number:	**RB1**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**200.0000**
Recording Time:	**10/28/2020 05:51**	*Sample Weight:*	**1.0000**

Run Time:



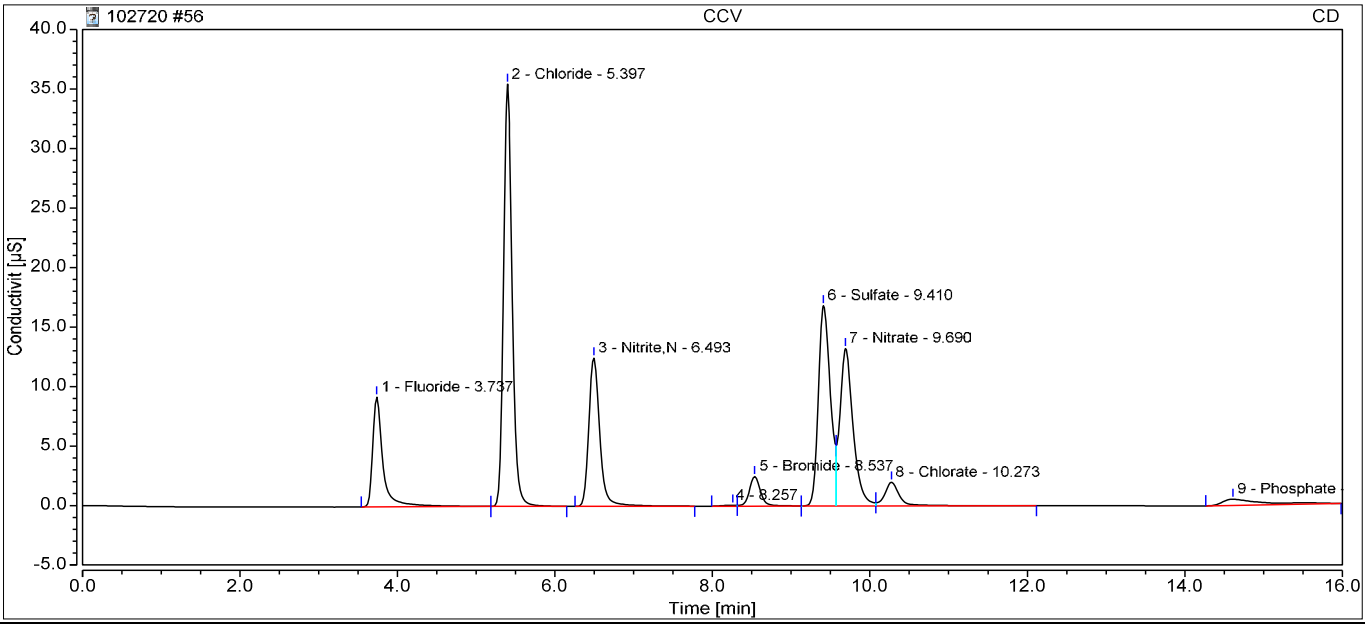
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	200.0000
1	5.40	Chloride	BMB	0.576	2.4604	492.0772	200.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	200.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	200.0000
2	9.41	Sulfate	BMB	4.219	26.3519	5270.3720	200.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	200.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	200.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	200.0000
Total:			**0.000**	**4.794**		**5762.45**	

56 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**BA2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/28/2020 06:09**	*Sample Weight:*	**1.0000**

Run Time:



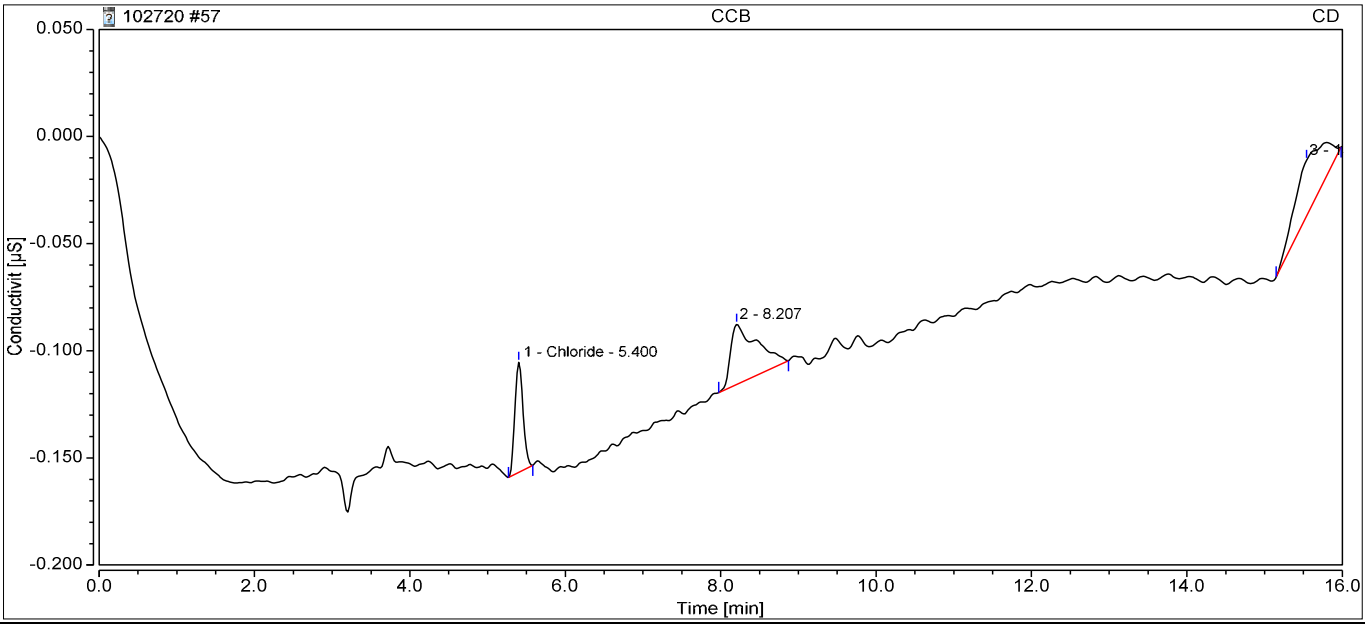
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.398	3.9631	3.9631	1.0000
2	5.40	Chloride	BMB	4.534	19.7567	19.7567	1.0000
3	6.49	Nitrite,N	BMB	2.036	4.2818	4.2818	1.0000
5	8.54	Bromide	M	0.410	3.9818	3.9818	1.0000
6	9.41	Sulfate	M	2.969	18.5501	18.5501	1.0000
7	9.69	Nitrate	M	2.574	4.1595	4.1595	1.0000
8	10.27	Chlorate	MB	0.440	4.1793	4.1793	1.0000
9	14.61	Phosphate	BMB	0.312	1.9871	1.9871	1.0000
Total:			**0.000**	**14.673**		**60.86**	

57 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/28/2020 06:27**	*Sample Weight:*	**1.0000**

Run Time:



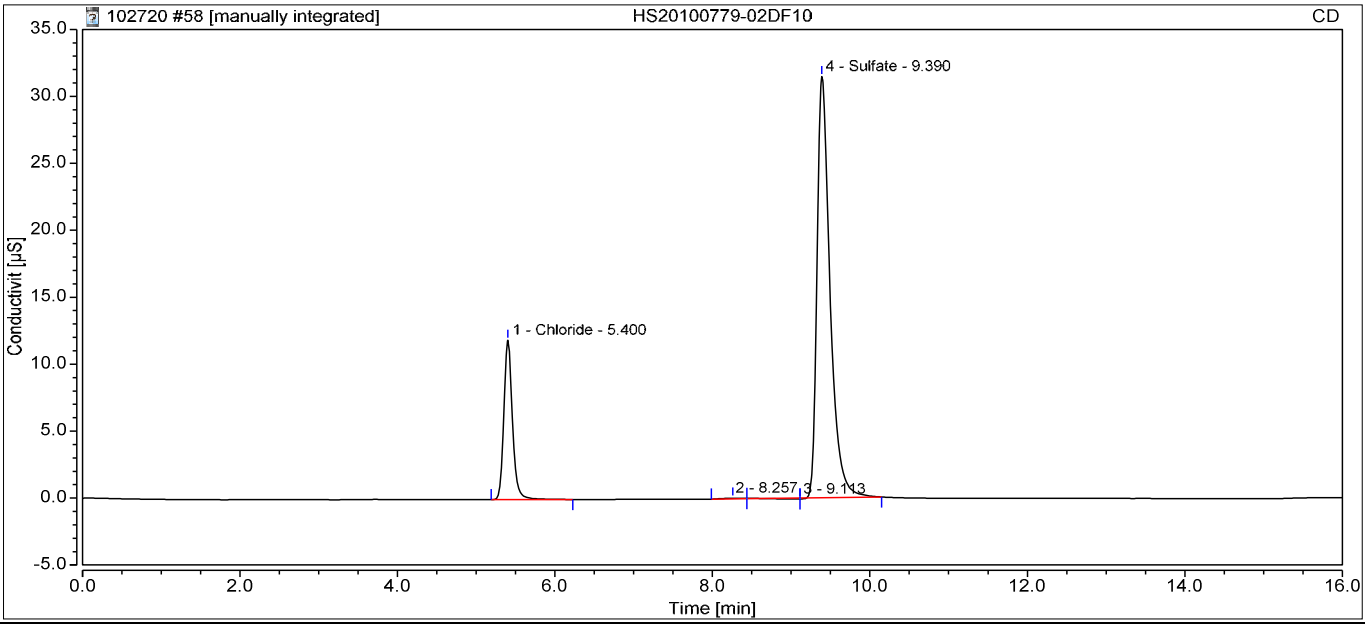
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.40	Chloride	BMB	0.006	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.006**		**0.00**	

58 HS20100779-02DF10

Sample Name:	**HS20100779-02DF10**	*Injection Volume:*	**5.00**
Vial Number:	**RB2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**10.0000**
Recording Time:	**10/28/2020 06:45**	*Sample Weight:*	**1.0000**

Run Time:



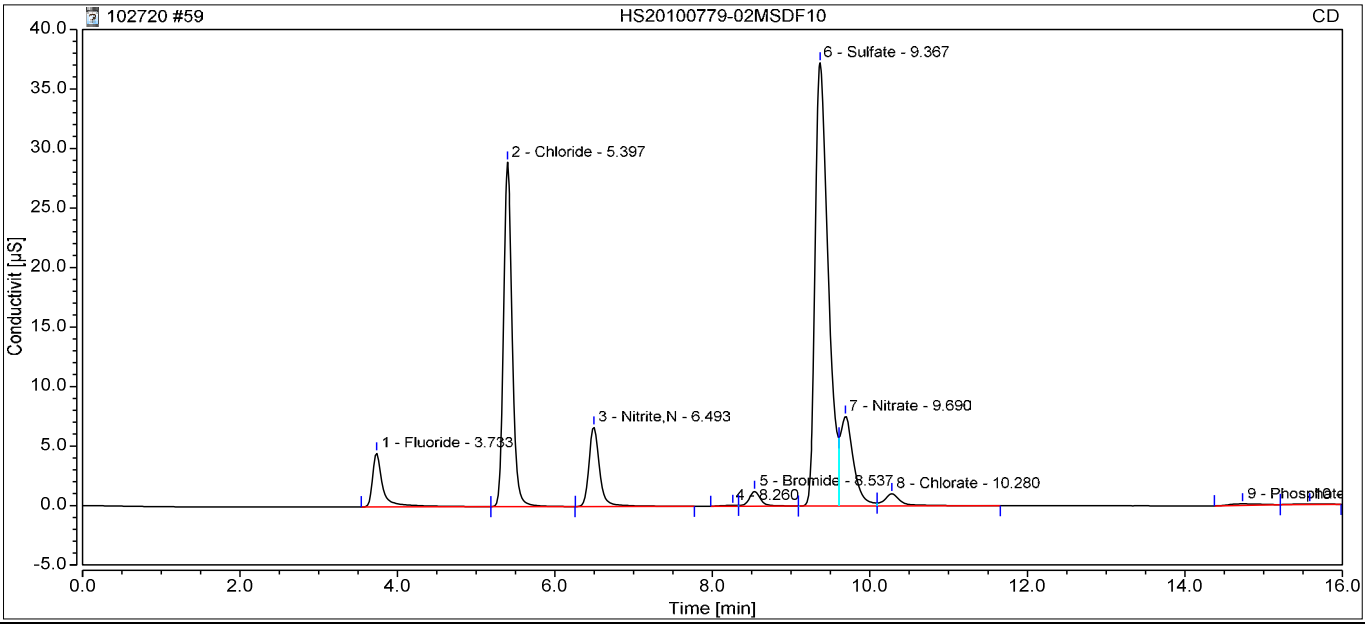
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	10.0000
1	5.40	Chloride	BMB	1.525	6.6053	66.0529	10.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	10.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	10.0000
4	9.39	Sulfate	MB*	5.996	37.4529	374.5294	10.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	10.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	10.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	10.0000
Total:			**0.000**	**7.521**		**440.58**	

59 HS20100779-02MSDF10

Sample Name:	**HS20100779-02MSDF10**	*Injection Volume:*	**5.00**
Vial Number:	**RB3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**10.0000**
Recording Time:	**10/28/2020 07:03**	*Sample Weight:*	**1.0000**

Run Time:



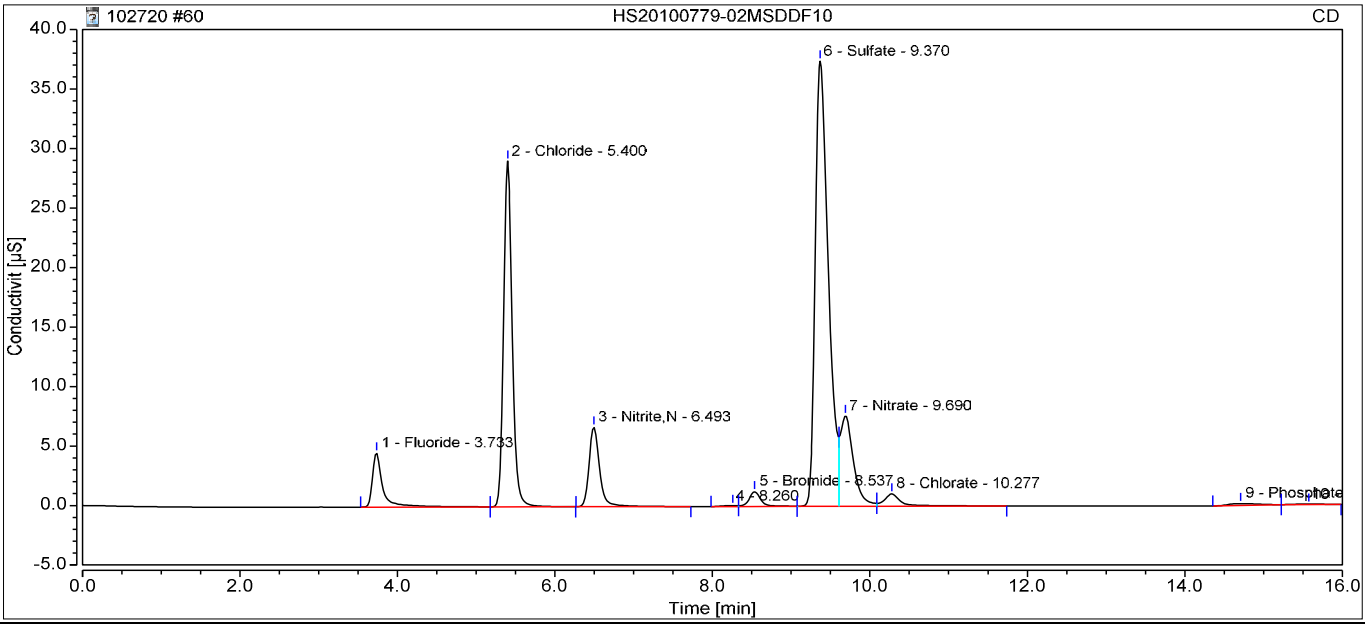
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.690	1.9628	19.6282	10.0000
2	5.40	Chloride	BMB	3.696	16.0939	160.9388	10.0000
3	6.49	Nitrite,N	BMB	1.050	2.1887	21.8869	10.0000
5	8.54	Bromide	M	0.213	2.0282	20.2816	10.0000
6	9.37	Sulfate	M	7.162	44.7284	447.2838	10.0000
7	9.69	Nitrate	M	1.483	2.3860	23.8604	10.0000
8	10.28	Chlorate	MB	0.251	2.3250	23.2499	10.0000
9	14.73	Phosphate	BMB	0.050	0.6385	6.3849	10.0000
Total:			**0.000**	**14.594**		**723.51**	

60 HS20100779-02MSDDF10

Sample Name:	**HS20100779-02MSDDF10**	*Injection Volume:*	**5.00**
Vial Number:	**RB4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**10.0000**
Recording Time:	**10/28/2020 07:21**	*Sample Weight:*	**1.0000**

Run Time:



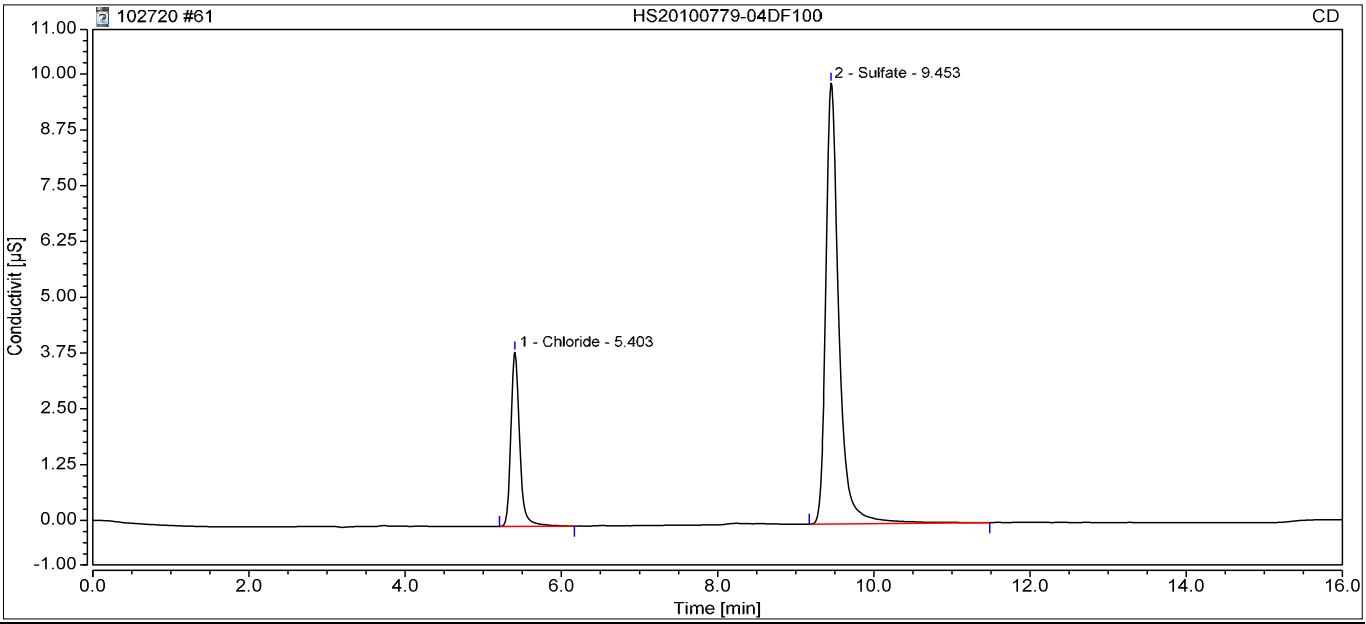
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.691	1.9640	19.6401	10.0000
2	5.40	Chloride	BMB	3.717	16.1859	161.8593	10.0000
3	6.49	Nitrite,N	BMB	1.046	2.1809	21.8091	10.0000
5	8.54	Bromide	M	0.213	2.0341	20.3413	10.0000
6	9.37	Sulfate	M	7.170	44.7823	447.8229	10.0000
7	9.69	Nitrate	M	1.481	2.3829	23.8290	10.0000
8	10.28	Chlorate	MB	0.252	2.3393	23.3929	10.0000
9	14.71	Phosphate	BMB	0.066	0.7184	7.1844	10.0000
Total:			**0.000**	**14.636**		**725.88**	

61 HS20100779-04DF100

Sample Name:	**HS20100779-04DF100**	*Injection Volume:*	**5.00**
Vial Number:	**RB5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**100.0000**
Recording Time:	**10/28/2020 07:39**	*Sample Weight:*	**1.0000**

Run Time:



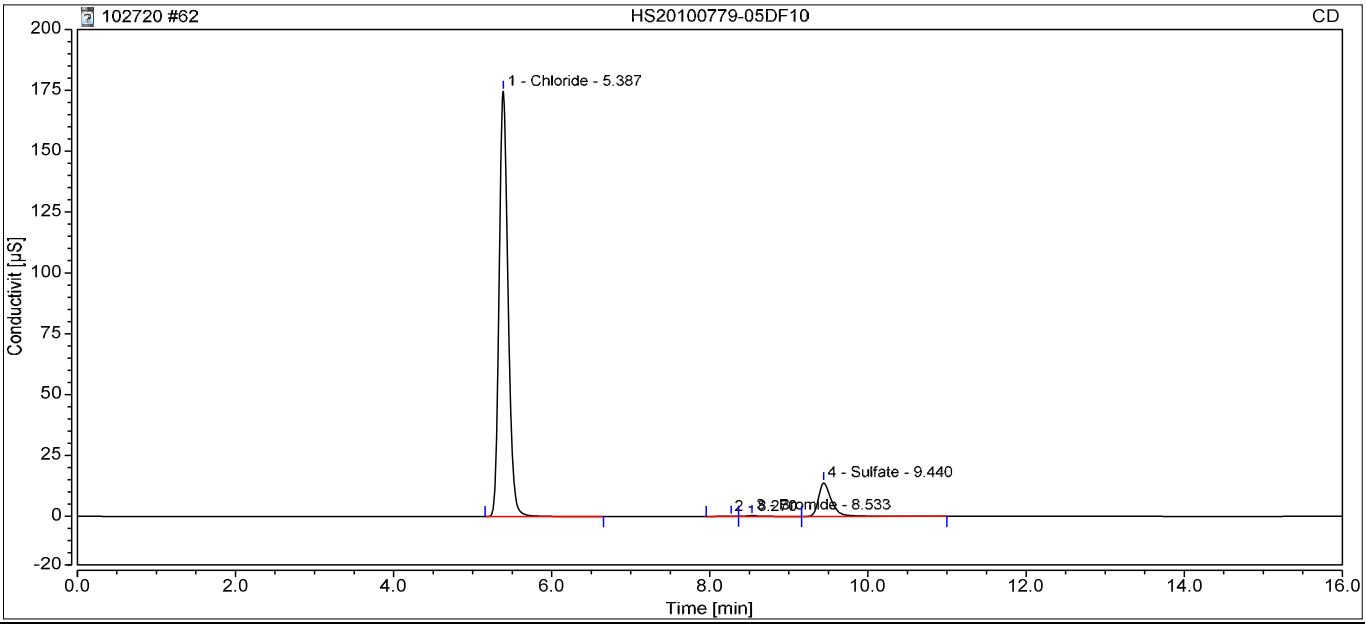
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	100.0000
1	5.40	Chloride	BMB	0.509	2.1662	216.6219	100.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	100.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	100.0000
2	9.45	Sulfate	BMB	1.928	12.0489	1204.8915	100.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	100.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	100.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	100.0000
Total:			**0.000**	**2.436**		**1421.51**	

62 HS20100779-05DF10

Sample Name:	**HS20100779-05DF10**	*Injection Volume:*	**5.00**
Vial Number:	**RB6**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**10.0000**
Recording Time:	**10/28/2020 07:57**	*Sample Weight:*	**1.0000**

Run Time:



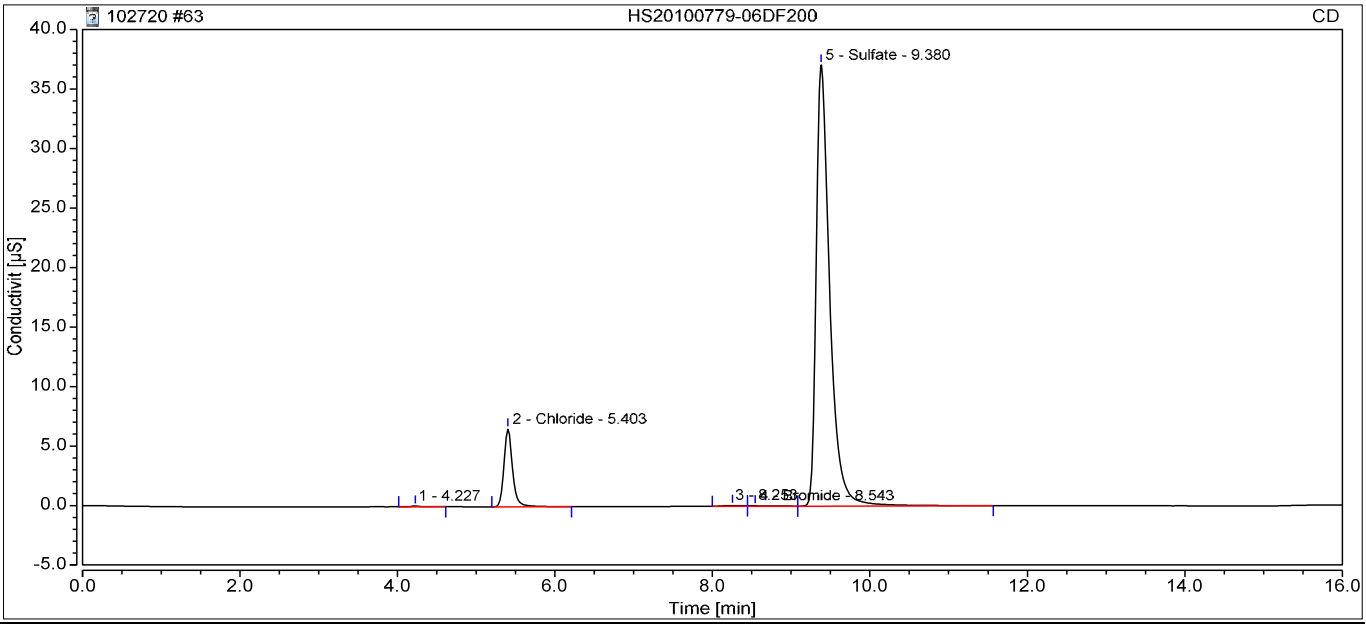
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	10.0000
1	5.39	Chloride	BMB	22.621	98.7866	987.8656	10.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	10.0000
3	8.53	Bromide	M	0.073	0.6392	6.3920	10.0000
4	9.44	Sulfate	MB	2.610	16.3112	163.1121	10.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	10.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	10.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	10.0000
Total:			**0.000**	**25.304**		**1157.37**	

63 HS20100779-06DF200

Sample Name:	**HS20100779-06DF200**	*Injection Volume:*	**5.00**
Vial Number:	**RB7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**200.0000**
Recording Time:	**10/28/2020 08:15**	*Sample Weight:*	**1.0000**

Run Time:



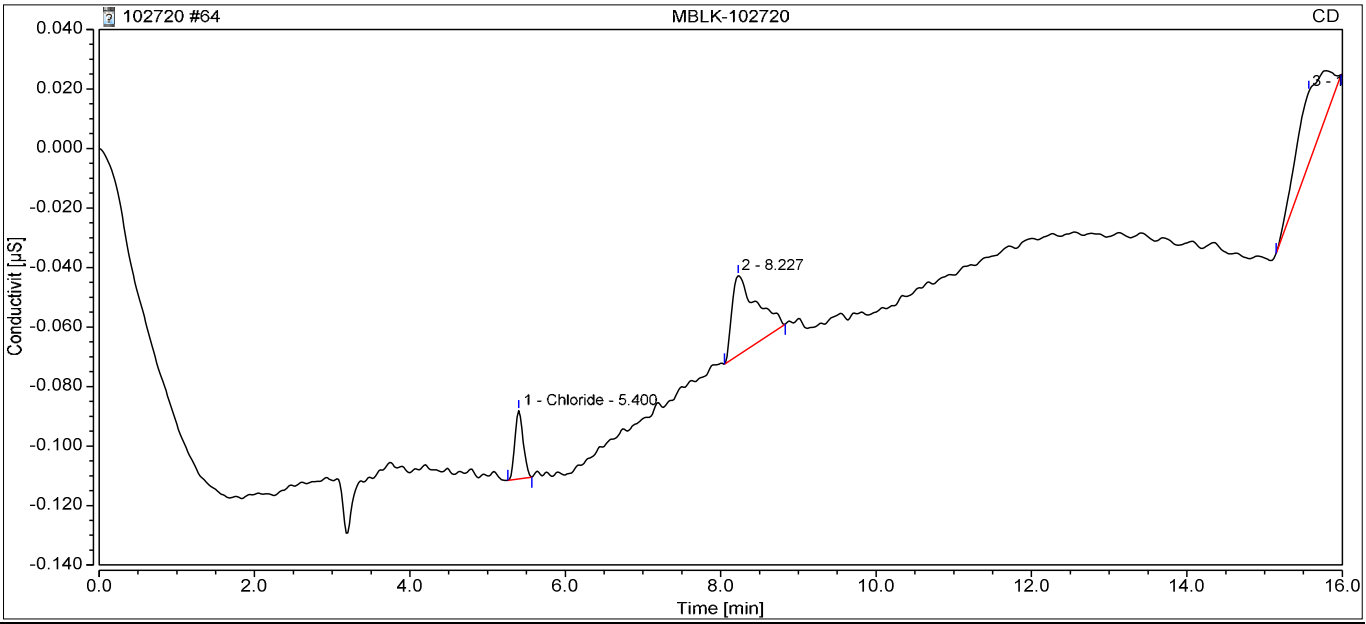
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	200.0000
2	5.40	Chloride	BMB	0.841	3.6184	723.6897	200.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	200.0000
4	8.54	Bromide	M	0.012	0.0409	8.1711	200.0000
5	9.38	Sulfate	MB	7.378	46.0780	9215.6092	200.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	200.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	200.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	200.0000
Total:			**0.000**	**8.231**		**9947.47**	

64 MBLK-102720

Sample Name:	**MBLK-102720**	*Injection Volume:*	**5.00**
Vial Number:	**BA7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/28/2020 08:33**	*Sample Weight:*	**1.0000**

Run Time:



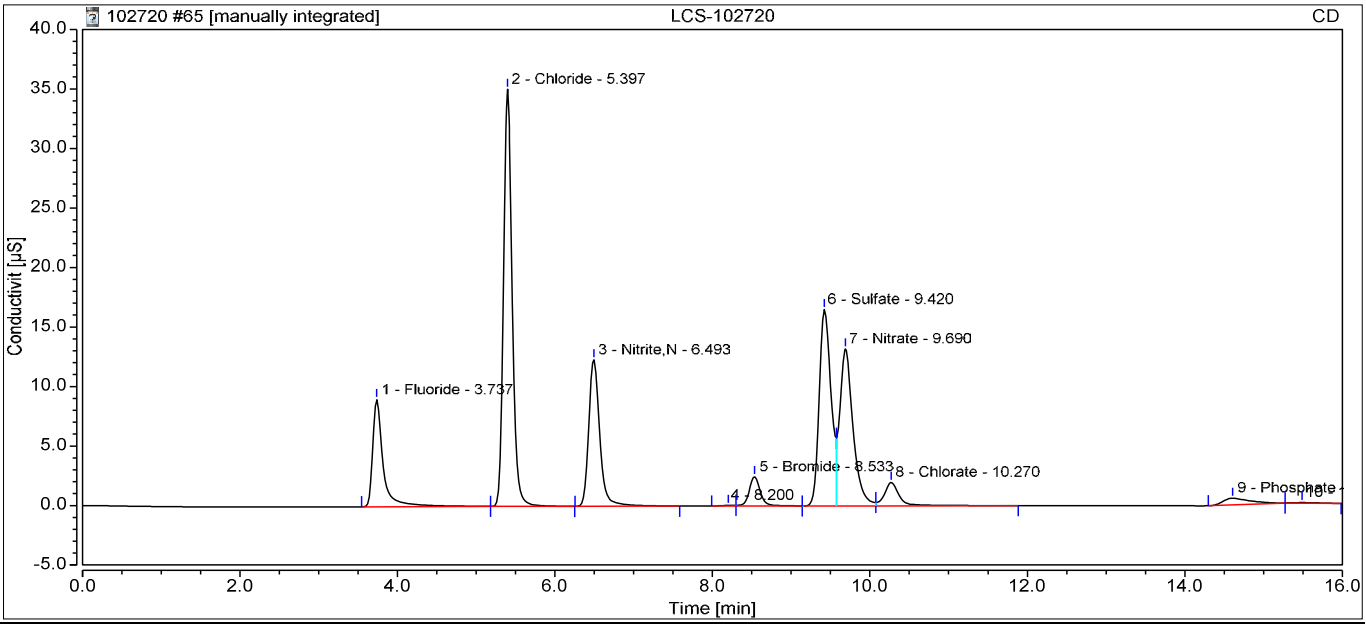
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.40	Chloride	BMB	0.003	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.003**		**0.00**	

65 LCS-102720

Sample Name:	**LCS-102720**	*Injection Volume:*	**5.00**
Vial Number:	**BA8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/28/2020 08:51**	*Sample Weight:*	**1.0000**

Run Time:



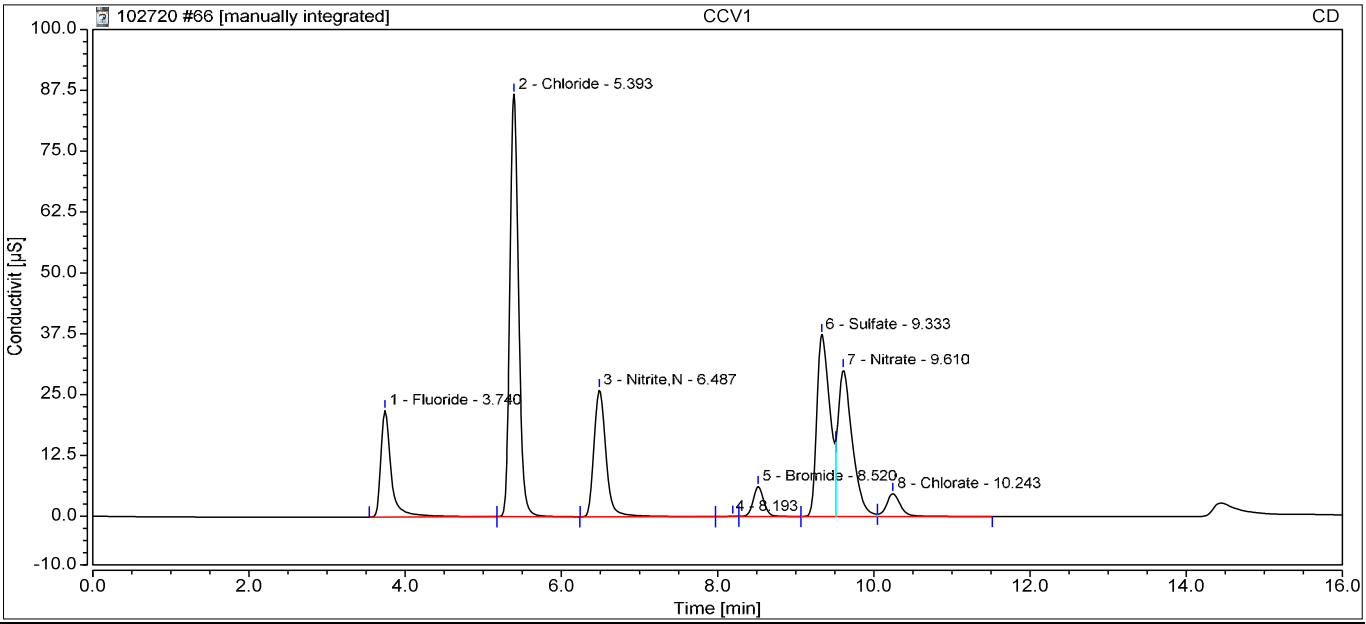
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.385	3.9266	3.9266	1.0000
2	5.40	Chloride	BMB	4.491	19.5674	19.5674	1.0000
3	6.49	Nitrite,N	BMB	2.015	4.2371	4.2371	1.0000
5	8.53	Bromide	M	0.406	3.9402	3.9402	1.0000
6	9.42	Sulfate	M *	2.889	18.0484	18.0484	1.0000
7	9.69	Nitrate	M *	2.584	4.1757	4.1757	1.0000
8	10.27	Chlorate	MB	0.435	4.1270	4.1270	1.0000
9	14.61	Phosphate	BMB	0.219	1.5050	1.5050	1.0000
Total:			**0.000**	**14.422**		**59.53**	

66 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**BB7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/28/2020 09:09**	*Sample Weight:*	**1.0000**

Run Time:



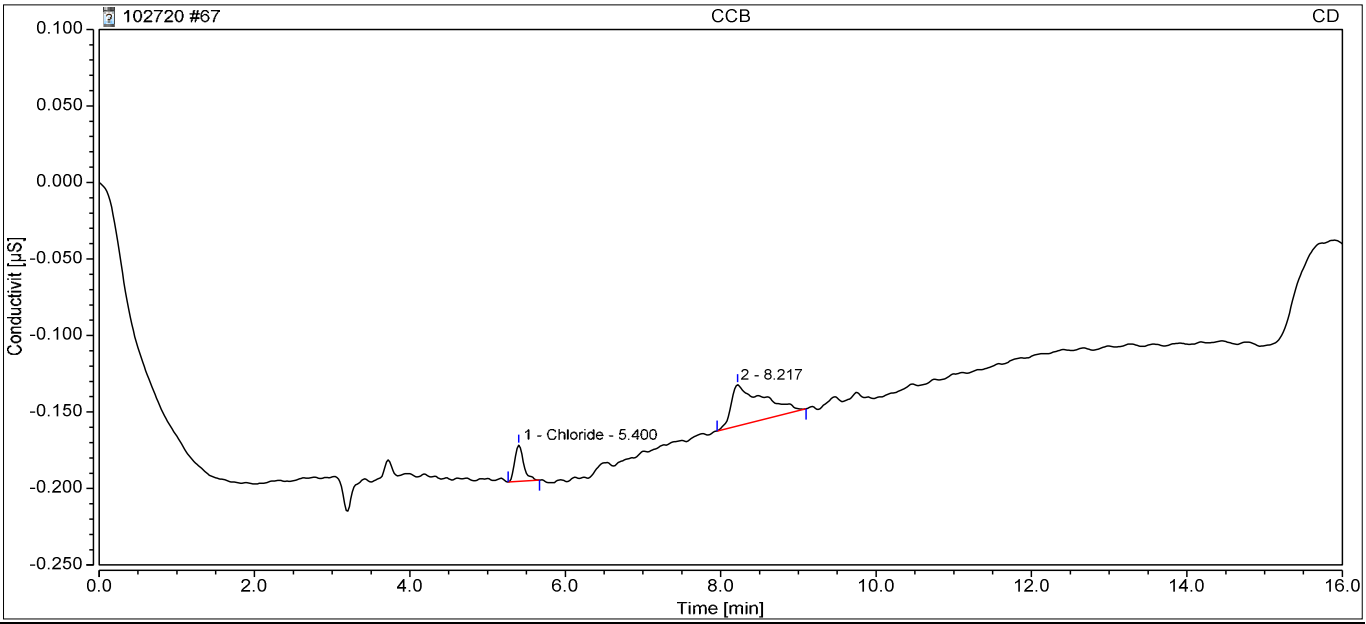
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.381	9.5726	9.5726	1.0000
2	5.39	Chloride	BMB	11.144	48.6370	48.6370	1.0000
3	6.49	Nitrite,N	BMB	4.670	9.8740	9.8740	1.0000
5	8.52	Bromide	M	0.992	9.7529	9.7529	1.0000
6	9.33	Sulfate	M *	7.273	45.4237	45.4237	1.0000
7	9.61	Nitrate	M *	6.386	10.3533	10.3533	1.0000
8	10.24	Chlorate	MB	0.988	9.5537	9.5537	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**34.834**		**143.17**	

67 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/28/2020 09:27**	*Sample Weight:*	**1.0000**

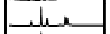
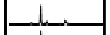
Run Time:



Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.40	Chloride	BMB	0.003	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.003**		**0.00**	

Sequence: 102820
Last Update Operator: alshs.nouser

CD	Name	Comment	Type	Position	Dilution	Level	Instrument Method	Processing Method	me	Status
	STD1		Calibration	BD1	1.00	1	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD2		Calibration	BD2	1.00	2	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD3		Calibration	BD3	1.00	3	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD4		Calibration	BD4	1.00	4	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD5		Calibration	BD5	1.00	5	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	STD6		Calibration	BD6	1.00	6	Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	ICV		Unknown	BD7	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	ICB		Unknown	BD8	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV		Unknown	BA2	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	MBLK-102820		Unknown	BA7	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	LCS-102820		Unknown	BA8	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV1		Unknown	BB8	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA5	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV1		Unknown	BB8	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA5	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100780-04DF10		Unknown	GA3	10.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100780-04MSDF10		Unknown	GA4	10.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100780-04MSDDF10		Unknown	GA5	10.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV		Unknown	BA2	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA3	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100779-03		Unknown	GB4	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100779-07		Unknown	GB5	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100779-08		Unknown	GB6	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	HS20100779-09DF2		Unknown	GB7	2.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCV1		Unknown	BB7	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished
	CCB		Unknown	BA5	1.00		Anions Program 06022020.1	Anions Processing Method	5.0	Finished

Sequence: 102820
Last Update Operator: alshs.nouser

Inject Time
8/11/2020 10:46:45 AM -05:00
8/11/2020 11:04:45 AM -05:00
8/11/2020 11:22:45 AM -05:00
8/11/2020 11:40:48 AM -05:00
8/11/2020 11:58:48 AM -05:00
8/11/2020 12:16:48 PM -05:00
8/11/2020 12:34:48 PM -05:00
8/11/2020 12:52:50 PM -05:00
10/28/2020 10:15:08 AM -05:00
10/28/2020 10:33:09 AM -05:00
10/28/2020 11:27:12 AM -05:00
10/28/2020 11:45:12 AM -05:00
10/28/2020 12:39:13 PM -05:00
10/28/2020 12:57:13 PM -05:00
10/29/2020 4:51:40 AM -05:00
10/29/2020 5:09:40 AM -05:00
10/29/2020 6:57:52 AM -05:00
10/29/2020 7:15:53 AM -05:00
10/29/2020 7:33:54 AM -05:00
10/29/2020 8:27:57 AM -05:00
10/29/2020 8:45:57 AM -05:00
10/29/2020 9:22:01 AM -05:00
10/29/2020 9:40:01 AM -05:00
10/29/2020 9:58:01 AM -05:00
10/29/2020 10:16:02 AM -05:00
10/29/2020 10:52:09 AM -05:00
10/29/2020 11:10:09 AM -05:00

Sequence: 101520
Injection #6: STD6

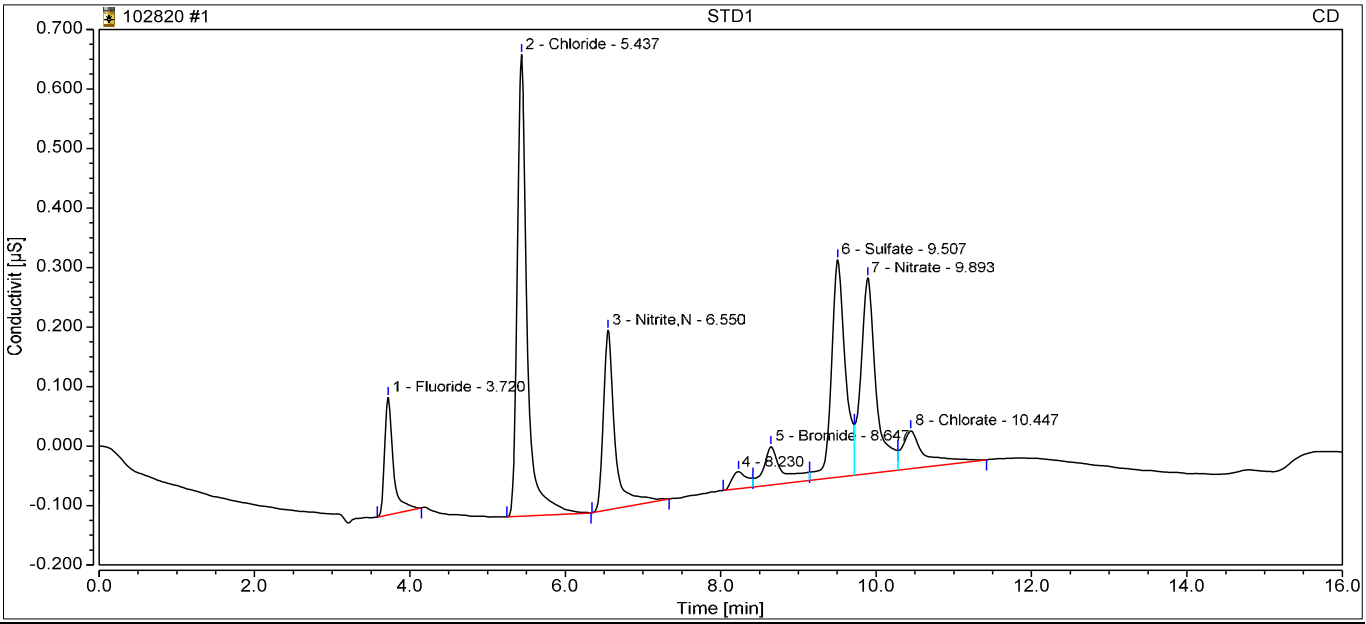
Calibration

Peak No.	Peak Name	Cal.Type	Eval.Type	Number of Points	Rel.Std.Dev. %	Coeff.of Determination	C0 (Offset)	C1 (Slope)	C2 (Curve)
1	***Fluoride***	***Lin, WithOffset, 1/***	***Area***	***6***	***17.3553***	***0.99849***	***-0.0040***	***0.3537***	***0.0000***
2	Chloride	Lin, WithOffset, 1/	Area	6	5.4804	0.99983	0.0129	0.2289	0.0000
3	Nitrite,N	Lin, WithOffset, 1/	Area	6	26.1376	0.99573	0.0186	0.4711	0.0000
5	Bromide	Lin, WithOffset, 1/	Area	6	0.9346	0.99999	0.0083	0.1008	0.0000
6	Sulfate	Lin, WithOffset, 1/	Area	6	5.2843	0.99985	-0.0019	0.1602	0.0000
7	Nitrate	Lin, WithOffset, 1/	Area	6	4.5248	0.99988	0.0144	0.6154	0.0000
8	Chlorate	Lin, WithOffset, 1/	Area	6	13.4374	0.99837	0.0139	0.1019	0.0000
10	Phosphate	Lin, WithOffset, 1/	Area	5	18.5357	0.99714	-0.0737	0.1942	0.0000
Maximum					**26.1376**	0.99999			
Minimum					0.9346	**0.99573**			

1 STD1

Sample Name:	**STD1**	*Injection Volume:*	**5.00**
Vial Number:	**BD1**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 10:46**	*Sample Weight:*	**1.0000**

Run Time:

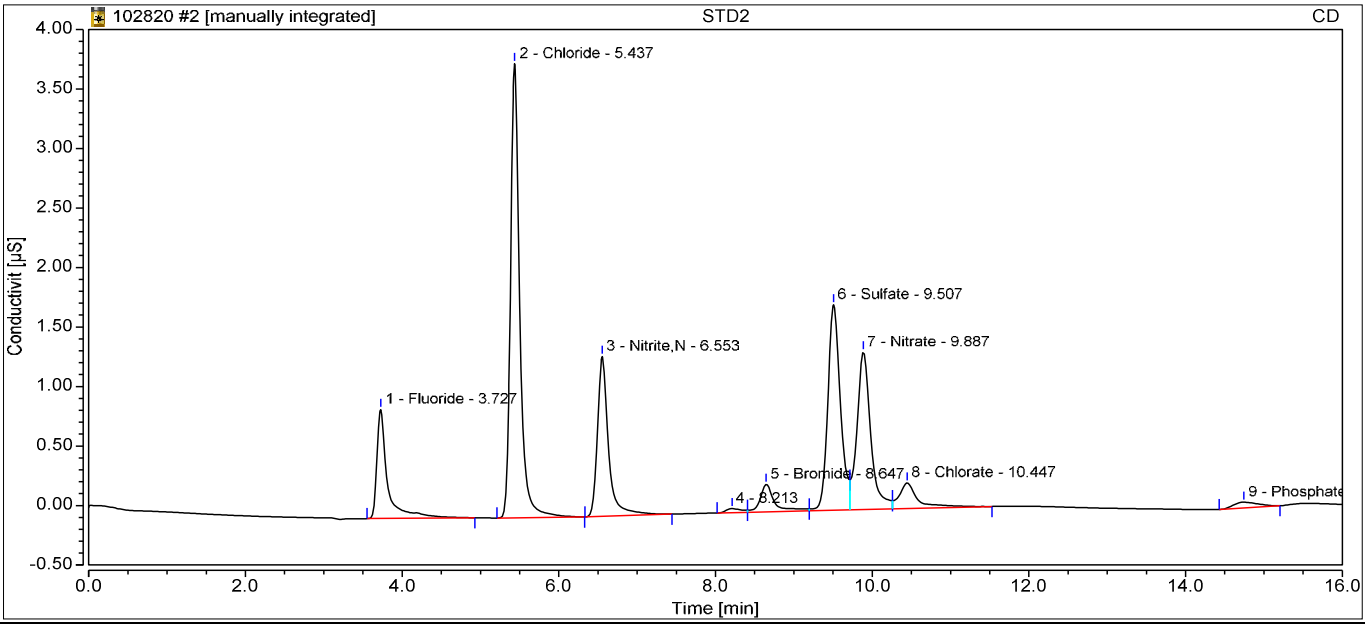


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.025	0.0833	0.0833	1.0000
2	5.44	Chloride	BMB	0.116	0.4487	0.4487	1.0000
3	6.55	Nitrite,N	BMB	0.052	0.0715	0.0715	1.0000
5	8.65	Bromide	M	0.018	0.0997	0.0997	1.0000
6	9.51	Sulfate	M	0.076	0.4861	0.4861	1.0000
7	9.89	Nitrate	M	0.075	0.0985	0.0985	1.0000
8	10.45	Chlorate	MB	0.021	0.0734	0.0734	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.384**		**1.36**	

2 STD2			
Sample Name:	**STD2**	*Injection Volume:*	**5.00**
Vial Number:	**BD2**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 11:04**	*Sample Weight:*	**1.0000**

Run Time:



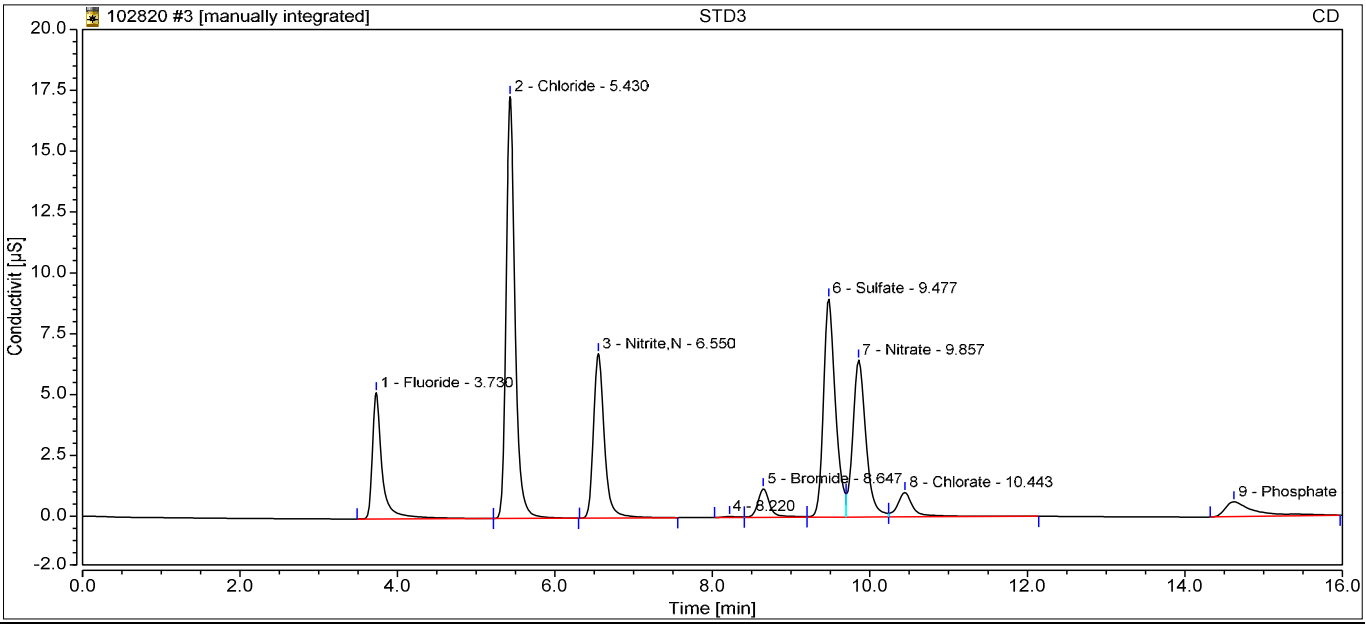
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.145	0.4204	0.4204	1.0000
2	5.44	Chloride	BMB	0.518	2.2084	2.2084	1.0000
3	6.55	Nitrite,N	BMB	0.221	0.4294	0.4294	1.0000
5	8.65	Bromide	M	0.049	0.4041	0.4041	1.0000
6	9.51	Sulfate	M	0.321	2.0151	2.0151	1.0000
7	9.89	Nitrate	M	0.270	0.4147	0.4147	1.0000
8	10.45	Chlorate	MB	0.060	0.4536	0.4536	1.0000
9	14.74	Phosphate	BMB	0.018	0.4703	0.4703	1.0000
Total:			**0.000**	**1.601**		**6.82**	

3 STD3

Sample Name:	**STD3**	*Injection Volume:*	**5.00**
Vial Number:	**BD3**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 11:22**	*Sample Weight:*	**1.0000**

Run Time:



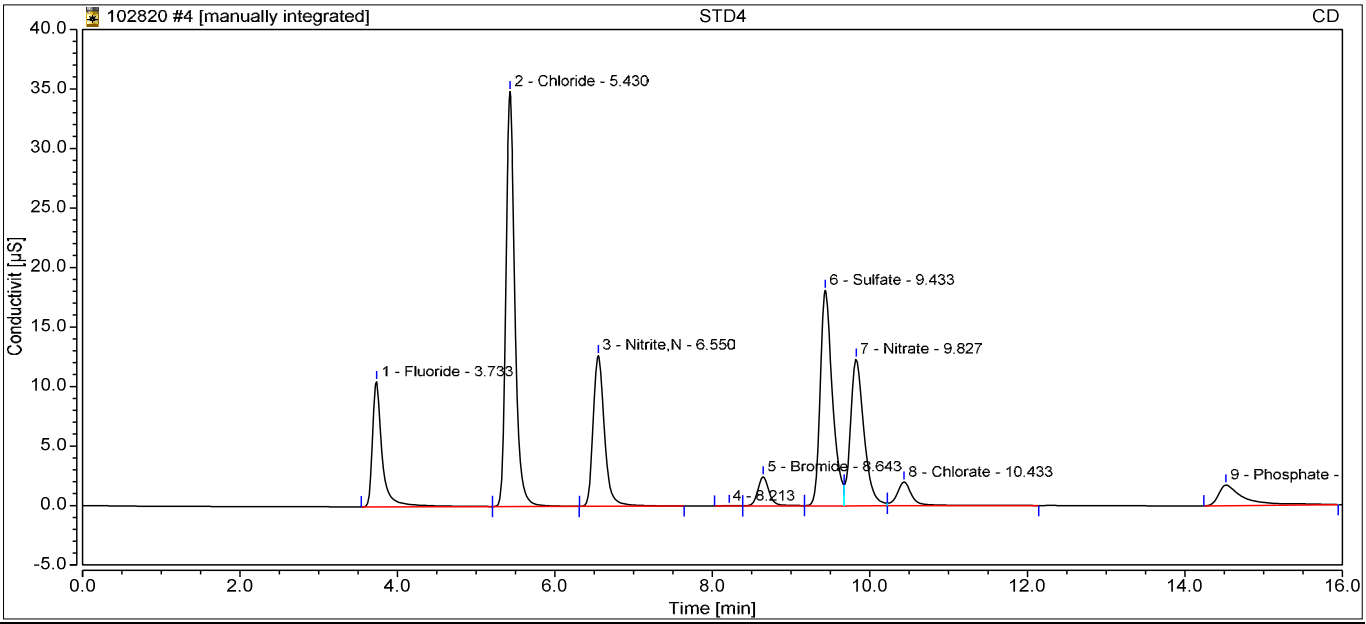
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.745	2.1166	2.1166	1.0000
2	5.43	Chloride	BMB	2.291	9.9533	9.9533	1.0000
3	6.55	Nitrite,N	BMB	1.077	2.2460	2.2460	1.0000
5	8.65	Bromide	M	0.209	1.9882	1.9882	1.0000
6	9.48	Sulfate	M	1.595	9.9688	9.9688	1.0000
7	9.86	Nitrate	M	1.238	1.9883	1.9883	1.0000
8	10.44	Chlorate	MB	0.239	2.2038	2.2038	1.0000
9	14.62	Phosphate	BM *	0.269	1.7634	1.7634	1.0000
Total:			**0.000**	**7.661**		**32.23**	

4 STD4

Sample Name:	**STD4**	*Injection Volume:*	**5.00**
Vial Number:	**BD4**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 11:40**	*Sample Weight:*	**1.0000**

Run Time:



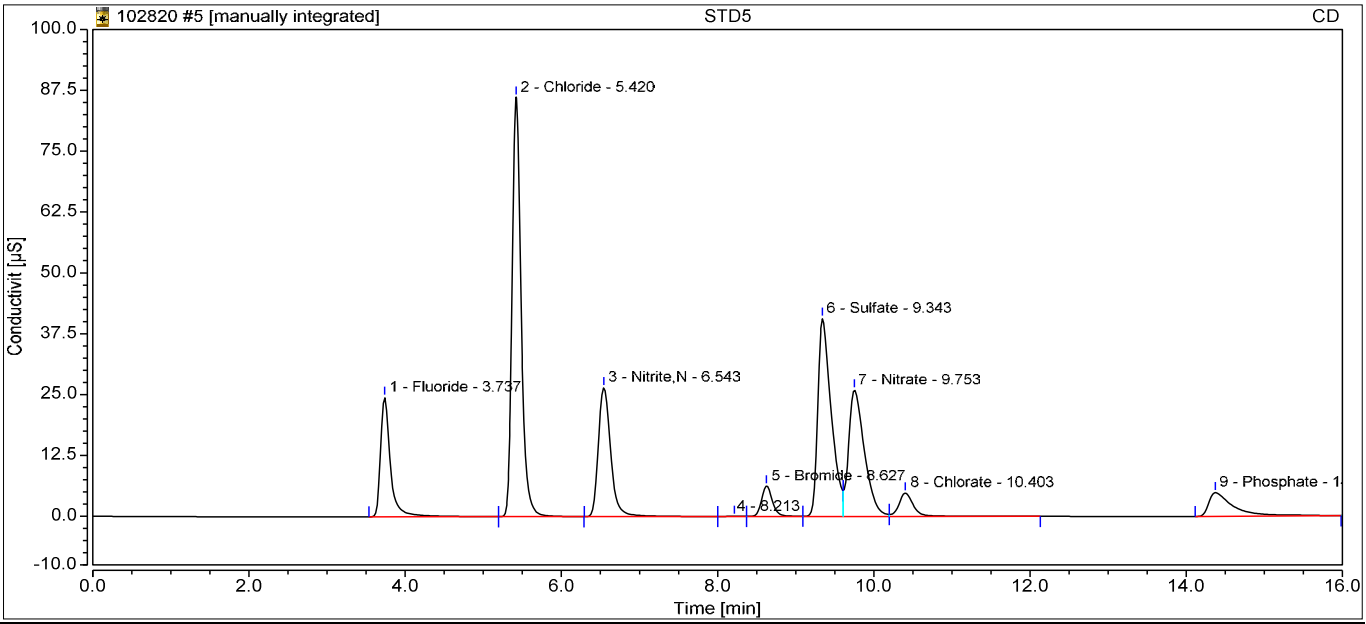
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	1.504	4.2630	4.2630	1.0000
2	5.43	Chloride	BMB	4.613	20.0986	20.0986	1.0000
3	6.55	Nitrite,N	BMB*	2.104	4.4276	4.4276	1.0000
5	8.64	Bromide	M	0.411	3.9946	3.9946	1.0000
6	9.43	Sulfate	M	3.273	20.4465	20.4465	1.0000
7	9.83	Nitrate	M	2.444	3.9482	3.9482	1.0000
8	10.43	Chlorate	MB	0.443	4.2079	4.2079	1.0000
9	14.52	Phosphate	BM *	0.648	3.7157	3.7157	1.0000
Total:			**0.000**	**15.439**		**65.10**	

5 STD5

Sample Name:	**STD5**	*Injection Volume:*	**5.00**
Vial Number:	**BD5**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 11:58**	*Sample Weight:*	**1.0000**

Run Time:



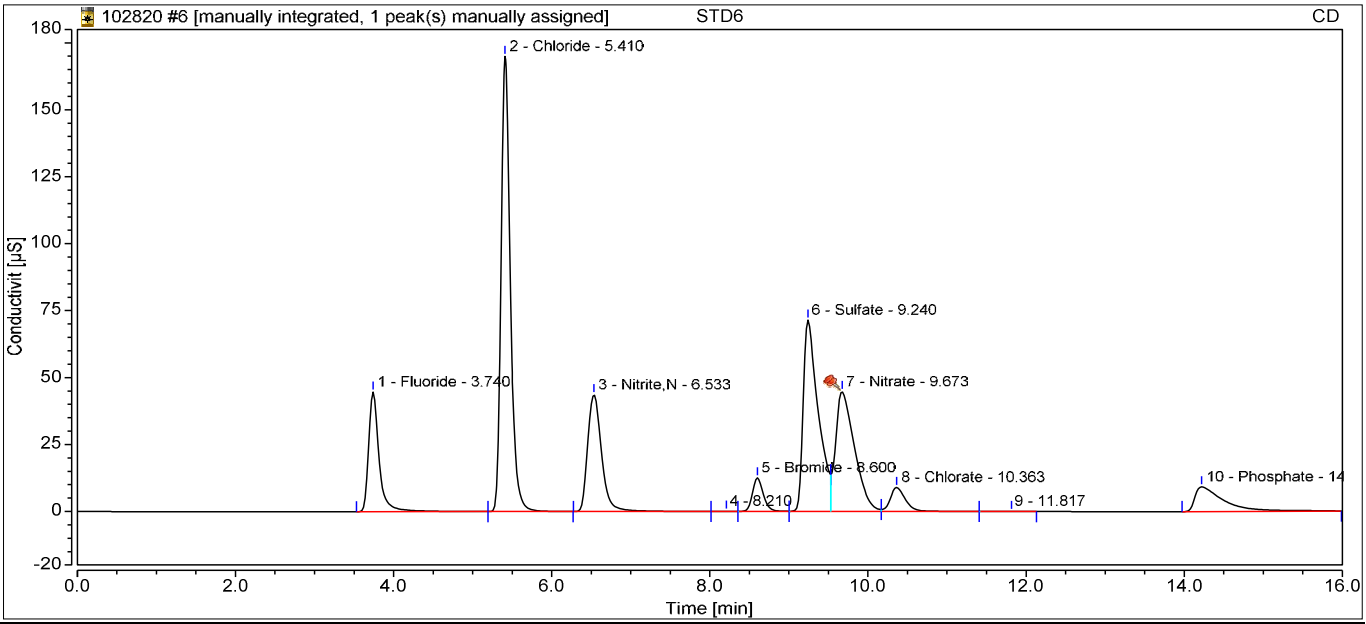
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.611	10.2228	10.2228	1.0000
2	5.42	Chloride	BMB	11.462	50.0272	50.0272	1.0000
3	6.54	Nitrite,N	BMB	4.877	10.3135	10.3135	1.0000
5	8.63	Bromide	M	1.014	9.9796	9.9796	1.0000
6	9.34	Sulfate	M	8.089	50.5200	50.5200	1.0000
7	9.75	Nitrate	M	6.097	9.8832	9.8832	1.0000
8	10.40	Chlorate	MB	1.032	9.9918	9.9918	1.0000
9	14.37	Phosphate	BM *	1.834	9.8223	9.8223	1.0000
Total:			**0.000**	**38.017**		**160.76**	

6 STD6

Sample Name:	**STD6**	*Injection Volume:*	**5.00**
Vial Number:	**BD6**	*Channel:*	**CD**
Sample Type:	**Calibration Standard**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 12:16**	*Sample Weight:*	**1.0000**

Run Time:



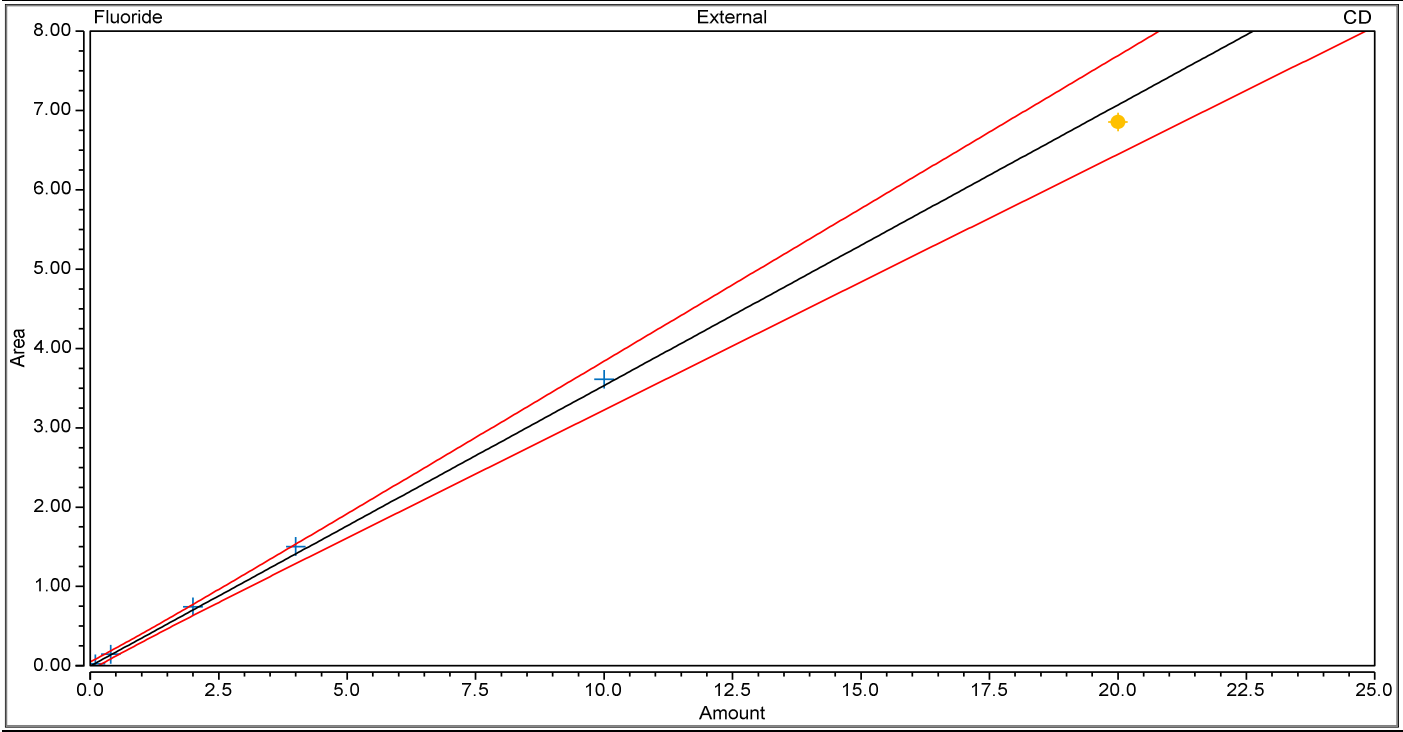
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	6.855	19.3940	19.3940	1.0000
2	5.41	Chloride	BMB	22.844	99.7639	99.7639	1.0000
3	6.53	Nitrite,N	BMB	8.975	19.0121	19.0121	1.0000
5	8.60	Bromide	M	2.028	20.0338	20.0338	1.0000
6	9.24	Sulfate	M	15.864	99.0635	99.0635	1.0000
7	9.67	Nitrate	M ^	12.426	20.1671	20.1671	1.0000
8	10.36	Chlorate	M	2.009	19.5694	19.5694	1.0000
10	14.22	Phosphate	BM *	3.933	20.6283	20.6283	1.0000
Total:			**0.000**	**74.933**		**317.63**	

Calibration

Calibration Details	Fluoride		
Calibration Type	Lin, WithOffset, 1/A	*Offset (C0)*	-0.0040
Evaluation Type	Area	*Slope (C1)*	0.3537
Number of Calibration Points	6	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.9985

Calibration Plot **Fluoride**



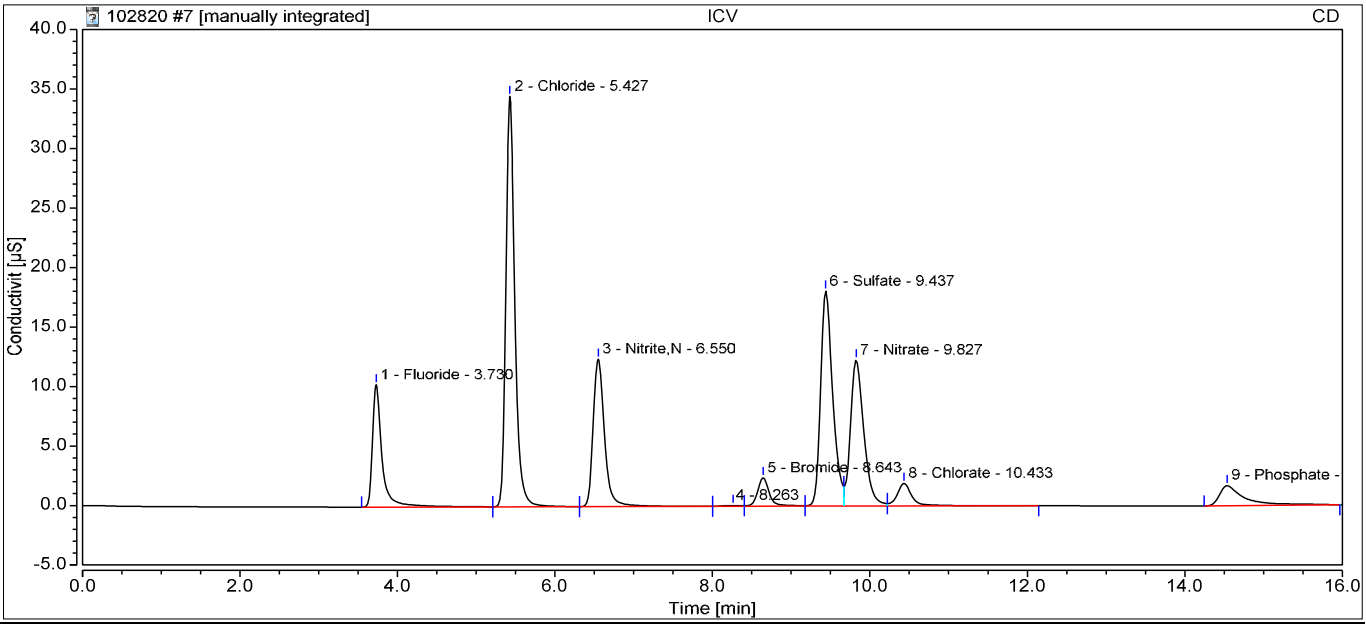
Calibration Results **Fluoride**

No.	Injection Name	Calibration Level	X Value CD Fluoride	Y Value CD Fluoride	Y Value CD Fluoride	Area µS*min CD Fluoride	Height µS CD Fluoride
1	STD1	1	0.1000	0.0254	0.0254	0.025	0.197
2	STD2	2	0.4000	0.1446	0.1446	0.145	0.916
3	STD3	3	2.0000	0.7445	0.7445	0.745	5.182
4	STD4	4	4.0000	1.5036	1.5036	1.504	10.507
5	STD5	5	10.0000	3.6113	3.6113	3.611	24.538
6	STD6	6	20.0000	6.8547	6.8547	6.855	44.677

7 ICV

Sample Name:	**ICV**	*Injection Volume:*	**5.00**
Vial Number:	**BD7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 12:34**	*Sample Weight:*	**1.0000**

Run Time:



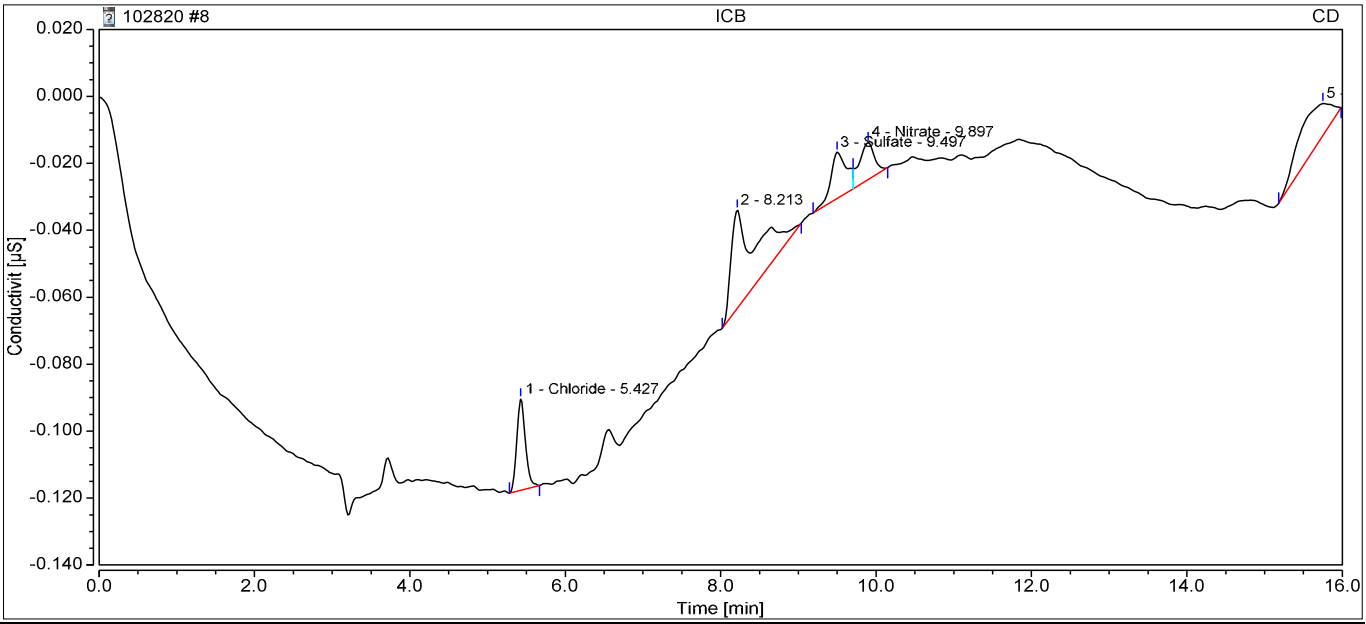
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	1.447	4.1020	4.1020	1.0000
2	5.43	Chloride	BMB	4.553	19.8399	19.8399	1.0000
3	6.55	Nitrite,N	BMB	2.061	4.3359	4.3359	1.0000
5	8.64	Bromide	M	0.413	4.0106	4.0106	1.0000
6	9.44	Sulfate	M	3.227	20.1622	20.1622	1.0000
7	9.83	Nitrate	M	2.405	3.8850	3.8850	1.0000
8	10.43	Chlorate	MB	0.422	4.0019	4.0019	1.0000
9	14.54	Phosphate	BM *	0.631	3.6292	3.6292	1.0000
Total:			**0.000**	**15.159**		**63.97**	

8 ICB

Sample Name:	**ICB**	*Injection Volume:*	**5.00**
Vial Number:	**BD8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**08/11/2020 12:52**	*Sample Weight:*	**1.0000**

Run Time:



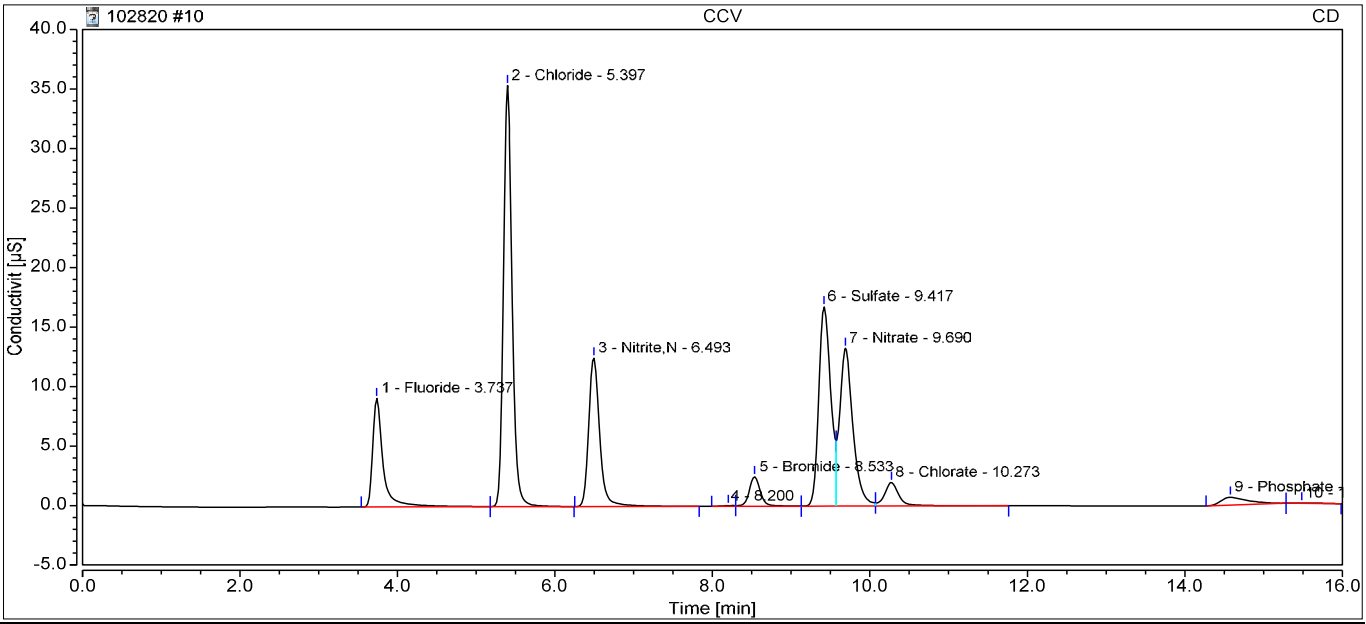
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.43	Chloride	BMB	0.004	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
3	9.50	Sulfate	BM	0.003	0.0318	0.0318	1.0000
4	9.90	Nitrate	MB	0.003	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.009**		**0.03**	

10 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**BA2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/28/2020 10:15**	*Sample Weight:*	**1.0000**

Run Time:



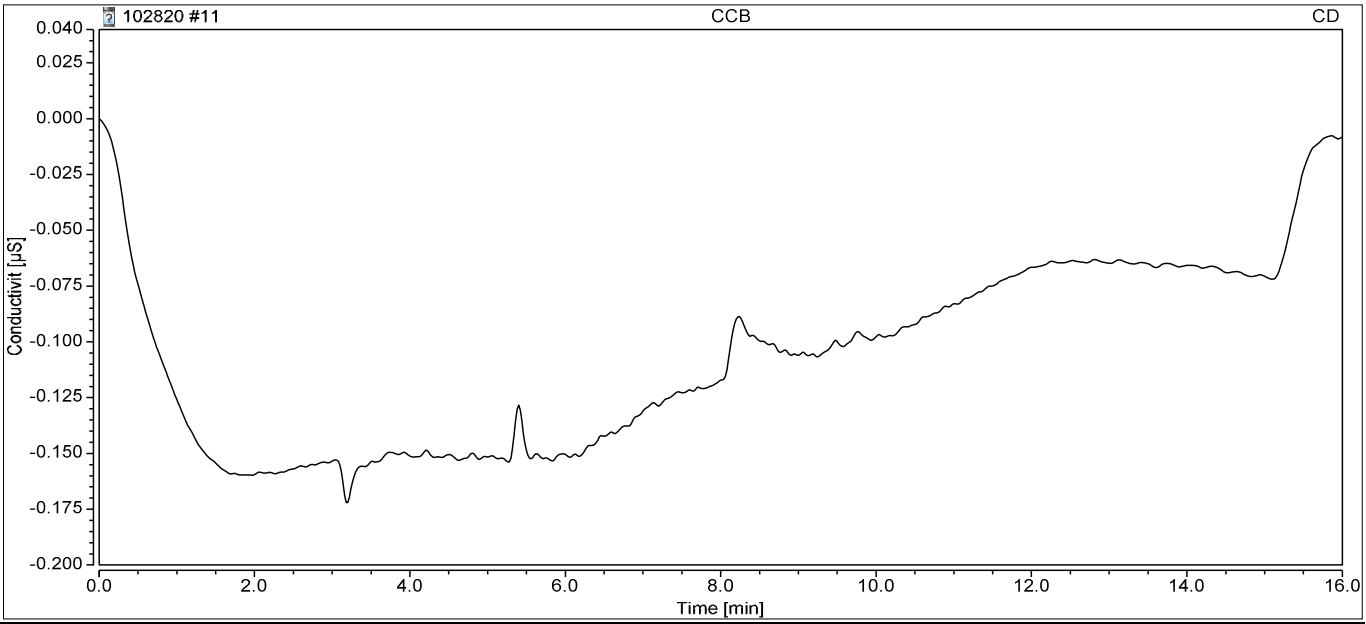
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.402	3.9747	3.9747	1.0000
2	5.40	Chloride	BMB	4.531	19.7433	19.7433	1.0000
3	6.49	Nitrite,N	BMB	2.035	4.2808	4.2808	1.0000
5	8.53	Bromide	M	0.409	3.9786	3.9786	1.0000
6	9.42	Sulfate	M	2.960	18.4947	18.4947	1.0000
7	9.69	Nitrate	M	2.590	4.1849	4.1849	1.0000
8	10.27	Chlorate	MB	0.426	4.0420	4.0420	1.0000
9	14.58	Phosphate	BMB	0.261	1.7212	1.7212	1.0000
Total:			**0.000**	**14.614**		**60.42**	

11 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/28/2020 10:33**	*Sample Weight:*	**1.0000**

Run Time:



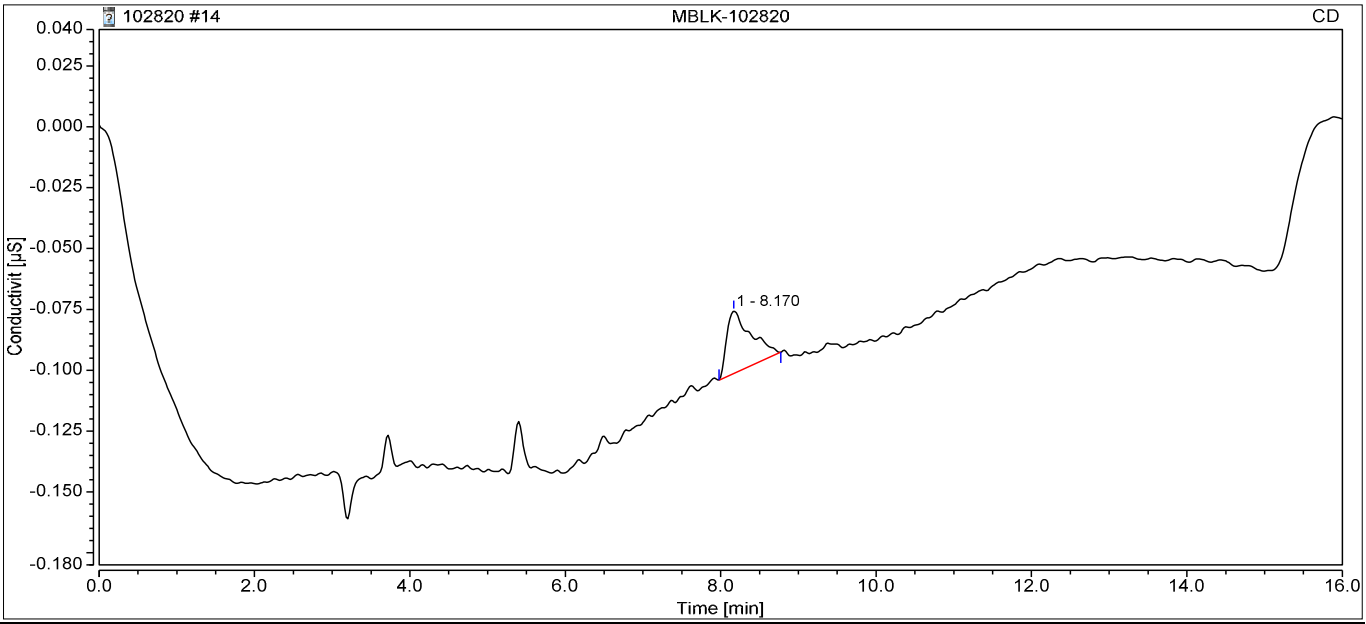
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.000**		**0.00**	

14 MBLK-102820

Sample Name:	**MBLK-102820**	*Injection Volume:*	**5.00**
Vial Number:	**BA7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/28/2020 11:27**	*Sample Weight:*	**1.0000**

Run Time:



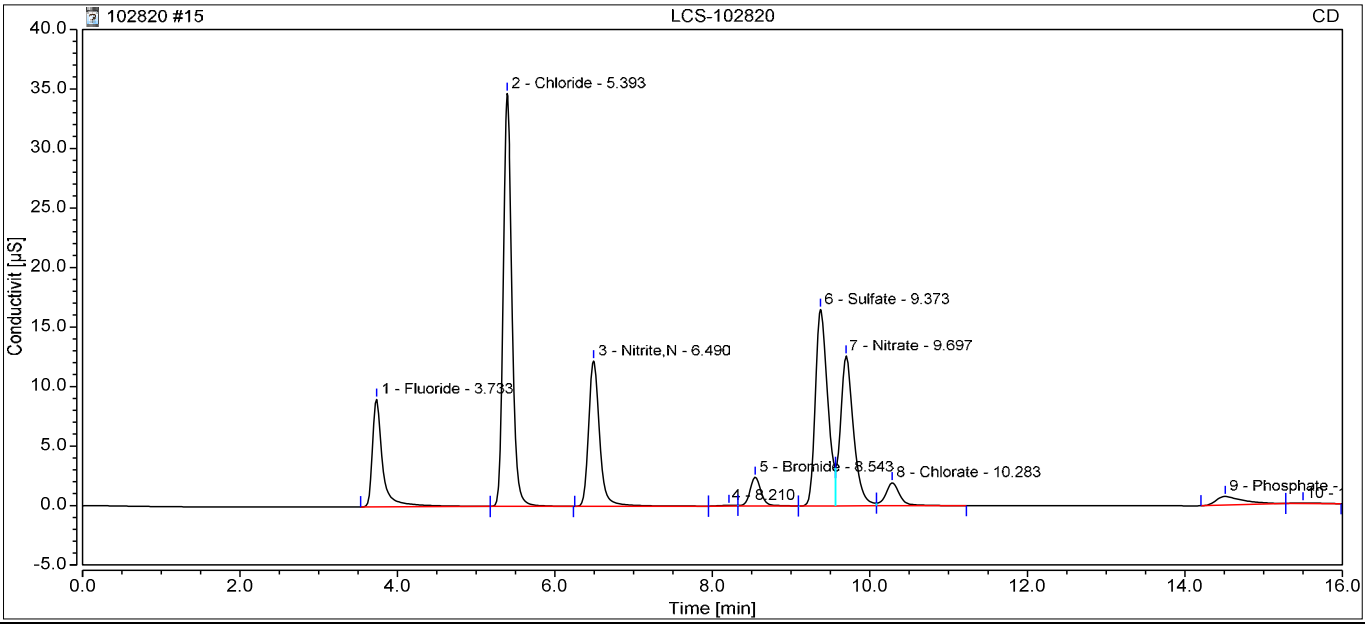
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.000**		**0.00**	

15 LCS-102820

Sample Name:	**LCS-102820**	*Injection Volume:*	**5.00**
Vial Number:	**BA8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/28/2020 11:45**	*Sample Weight:*	**1.0000**

Run Time:



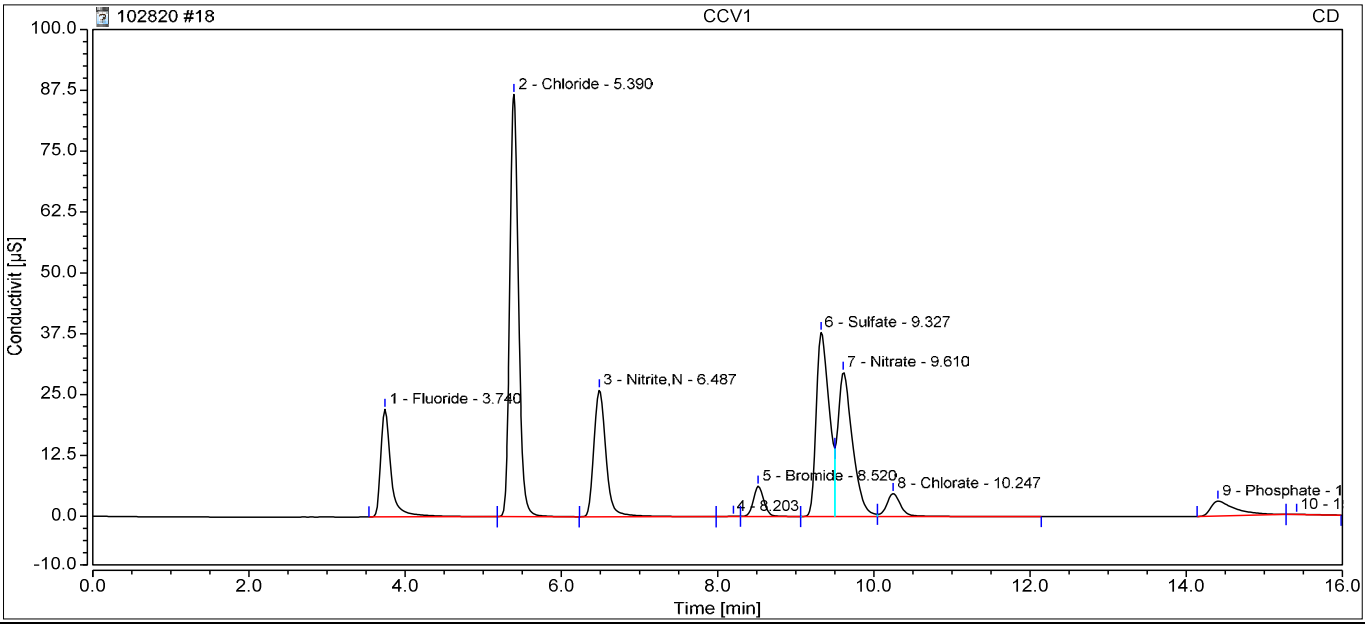
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	1.367	3.8771	3.8771	1.0000
2	5.39	Chloride	BMB	4.454	19.4053	19.4053	1.0000
3	6.49	Nitrite,N	BMB	2.003	4.2118	4.2118	1.0000
5	8.54	Bromide	M	0.397	3.8507	3.8507	1.0000
6	9.37	Sulfate	M	2.979	18.6150	18.6150	1.0000
7	9.70	Nitrate	M	2.448	3.9548	3.9548	1.0000
8	10.28	Chlorate	MB	0.402	3.8108	3.8108	1.0000
9	14.51	Phosphate	BMB	0.288	1.8607	1.8607	1.0000
Total:			**0.000**	**14.338**		**59.59**	

18 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**BB8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/28/2020 12:39**	*Sample Weight:*	**1.0000**

Run Time:



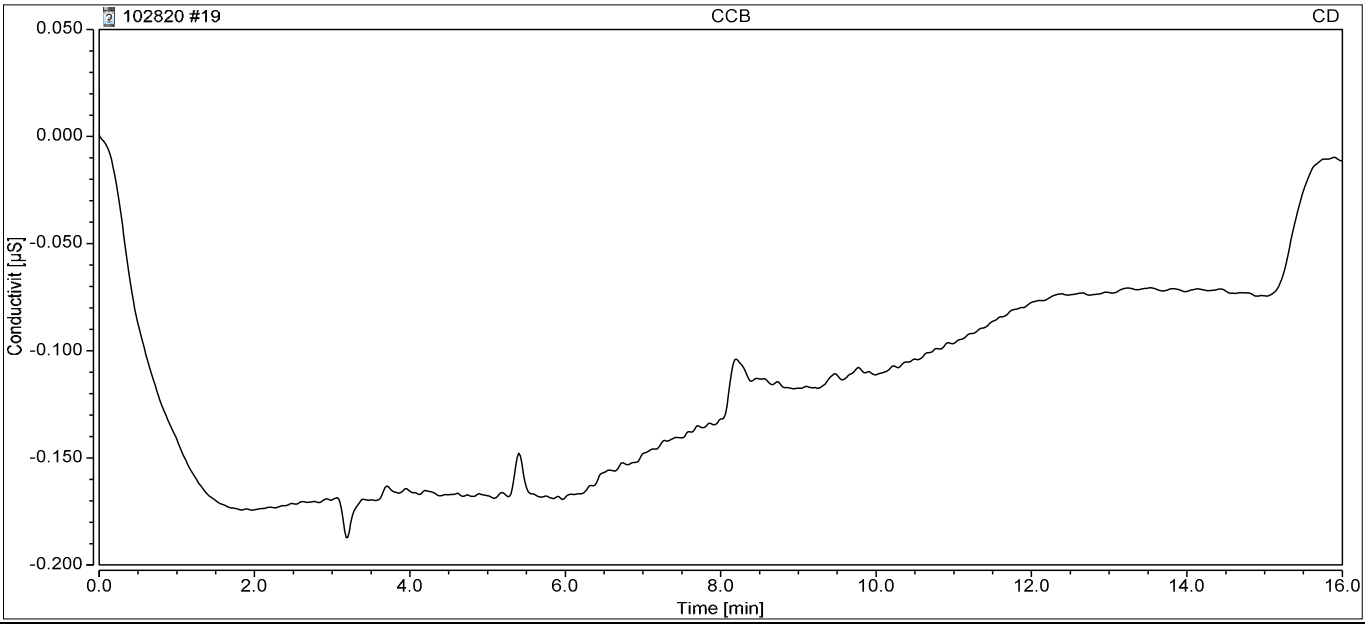
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.413	9.6634	9.6634	1.0000
2	5.39	Chloride	BMB	11.162	48.7181	48.7181	1.0000
3	6.49	Nitrite,N	BMB	4.692	9.9204	9.9204	1.0000
5	8.52	Bromide	M	0.992	9.7525	9.7525	1.0000
6	9.33	Sulfate	M	7.216	45.0702	45.0702	1.0000
7	9.61	Nitrate	M	6.526	10.5801	10.5801	1.0000
8	10.25	Chlorate	MB	1.007	9.7462	9.7462	1.0000
9	14.41	Phosphate	BMB	1.128	6.1860	6.1860	1.0000
Total:			**0.000**	**36.136**		**149.64**	

19 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/28/2020 12:57**	*Sample Weight:*	**1.0000**

Run Time:



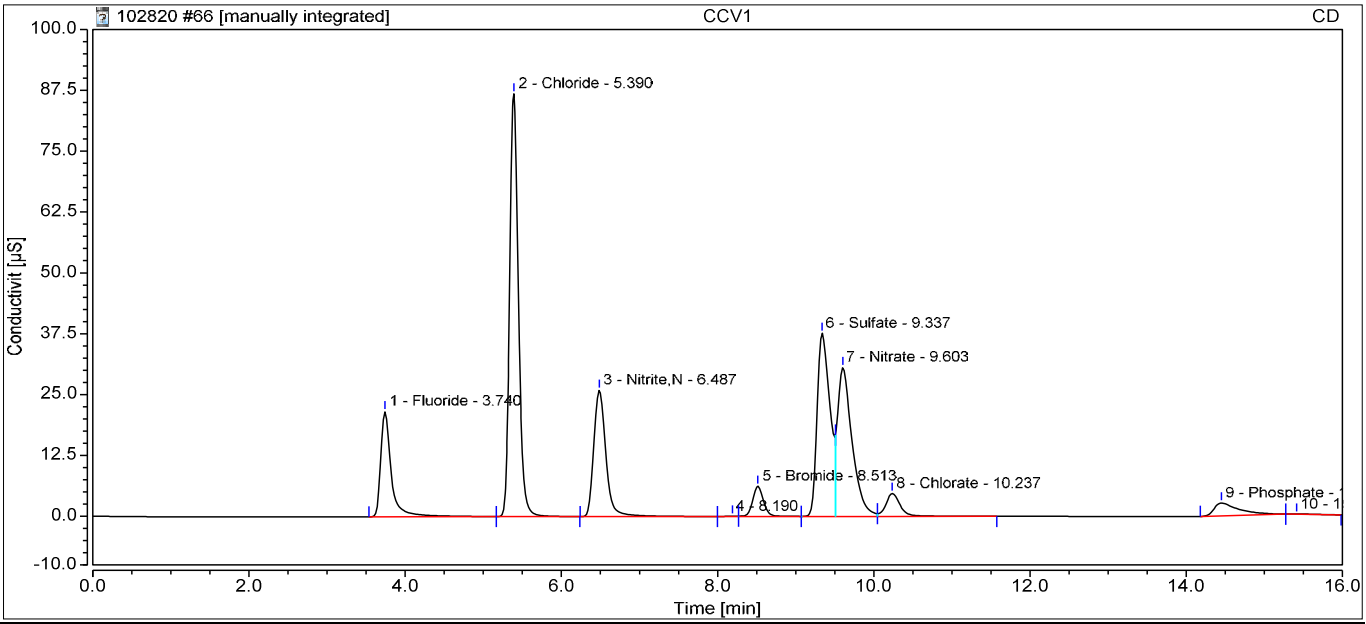
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.000**		**0.00**	

66 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**BB8**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/29/2020 04:51**	*Sample Weight:*	**1.0000**

Run Time:



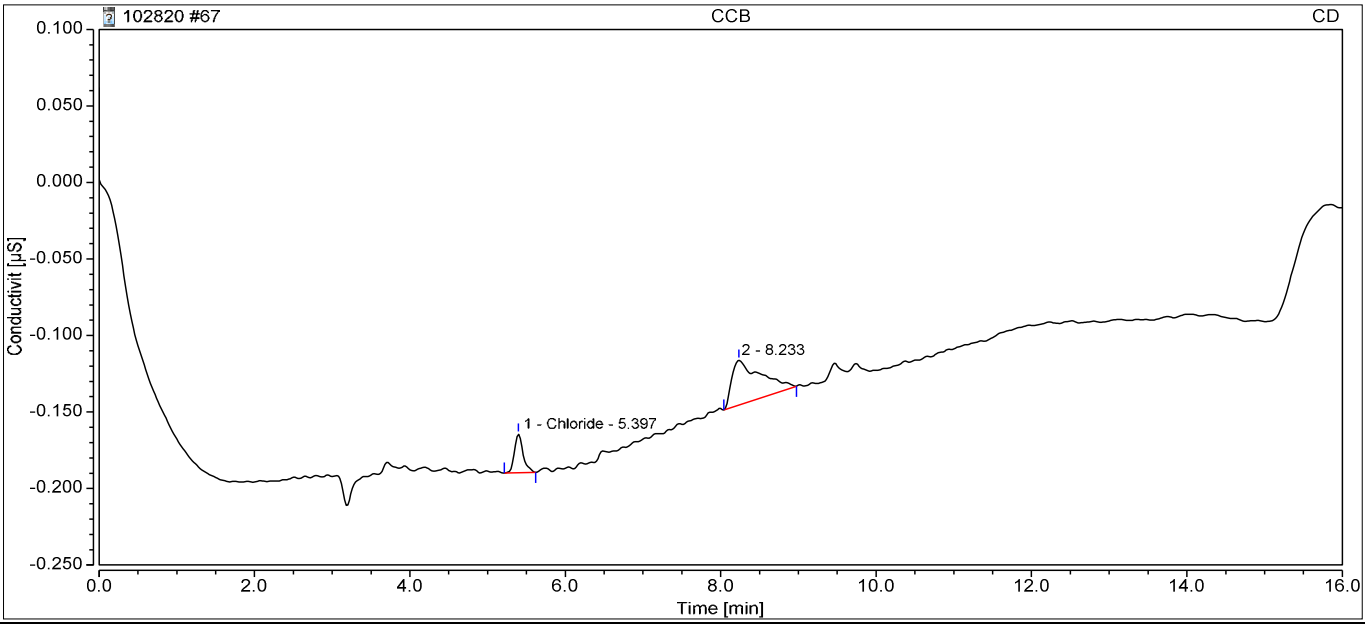
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.405	9.6390	9.6390	1.0000
2	5.39	Chloride	BMB	11.204	48.8991	48.8991	1.0000
3	6.49	Nitrite,N	BMB	4.697	9.9306	9.9306	1.0000
5	8.51	Bromide	M	1.002	9.8572	9.8572	1.0000
6	9.34	Sulfate	M *	7.227	45.1376	45.1376	1.0000
7	9.60	Nitrate	M *	6.564	10.6420	10.6420	1.0000
8	10.24	Chlorate	MB	1.014	9.8061	9.8061	1.0000
9	14.45	Phosphate	BMB	0.976	5.4057	5.4057	1.0000
Total:			**0.000**	**36.088**		**149.32**	

67 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/29/2020 05:09**	*Sample Weight:*	**1.0000**

Run Time:



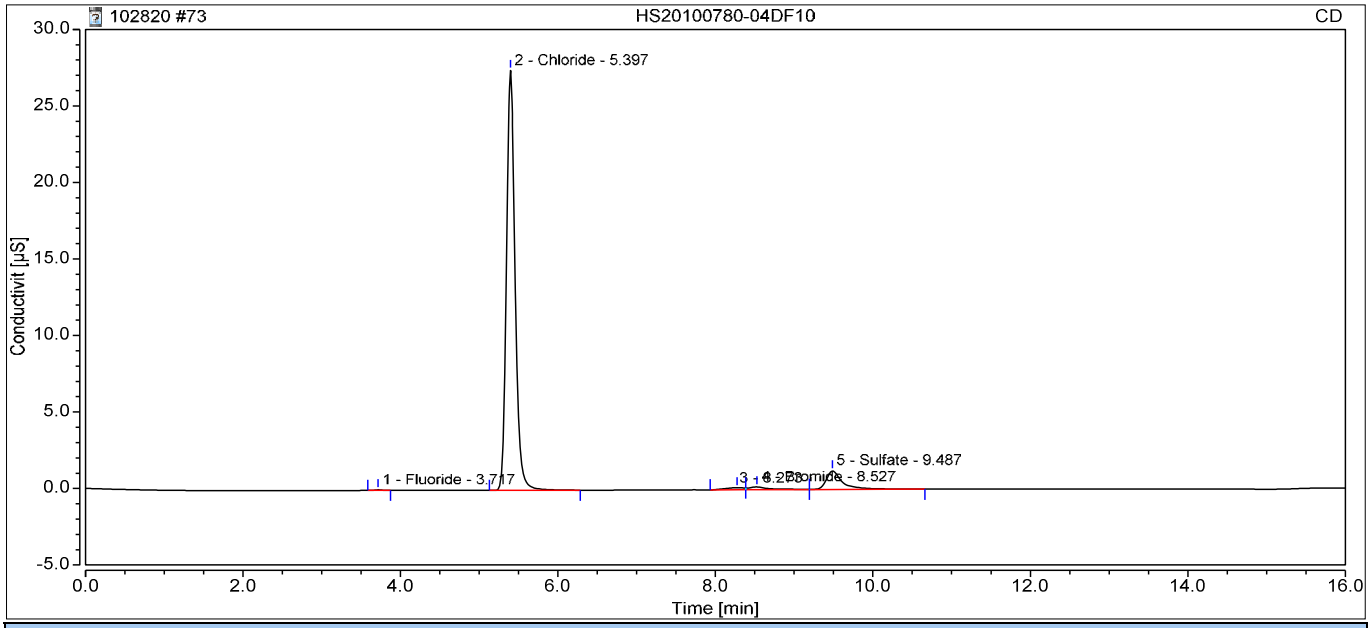
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.40	Chloride	BMB	0.003	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.003**		**0.00**	

73 HS20100780-04DF10

Sample Name:	**HS20100780-04DF10**	*Injection Volume:*	**5.00**
Vial Number:	**GA3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**10.0000**
Recording Time:	**10/29/2020 06:57**	*Sample Weight:*	**1.0000**

Run Time:



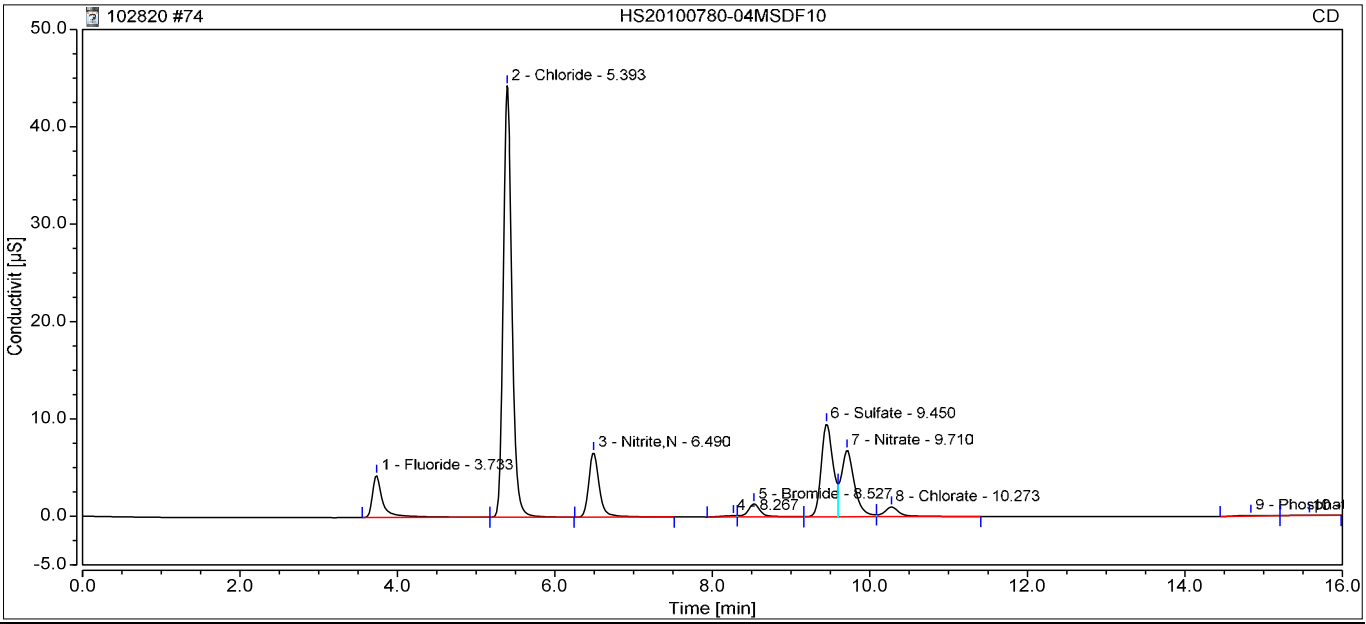
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.004	0.0233	0.2325	10.0000
2	5.40	Chloride	BMB	3.518	15.3149	153.1486	10.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	10.0000
4	8.53	Bromide	M	0.056	0.4767	4.7673	10.0000
5	9.49	Sulfate	MB	0.291	1.8294	18.2937	10.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	10.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	10.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	10.0000
Total:			**0.000**	**3.869**		**176.44**	

74 HS20100780-04MSDF10

Sample Name:	**HS20100780-04MSDF10**	*Injection Volume:*	**5.00**
Vial Number:	**GA4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**10.0000**
Recording Time:	**10/29/2020 07:15**	*Sample Weight:*	**1.0000**

Run Time:



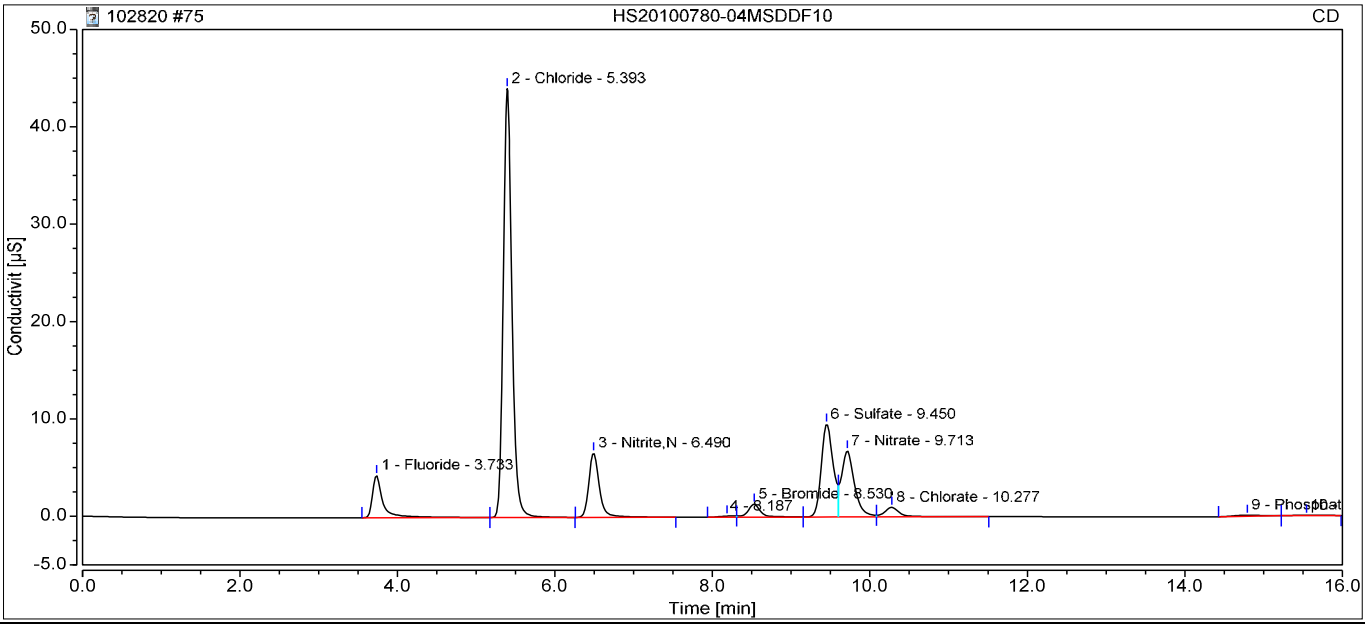
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.671	1.9085	19.0846	10.0000
2	5.39	Chloride	BMB	5.686	24.7901	247.9006	10.0000
3	6.49	Nitrite,N	BMB	1.037	2.1624	21.6242	10.0000
5	8.53	Bromide	M	0.251	2.4040	24.0399	10.0000
6	9.45	Sulfate	M	1.667	10.4187	104.1870	10.0000
7	9.71	Nitrate	M	1.337	2.1488	21.4879	10.0000
8	10.27	Chlorate	MB	0.226	2.0773	20.7729	10.0000
9	14.84	Phosphate	BMB	0.028	0.5228	5.2279	10.0000
Total:			**0.000**	**10.902**		**464.32**	

75 HS20100780-04MSDDF10

Sample Name:	**HS20100780-04MSDDF10**	*Injection Volume:*	**5.00**
Vial Number:	**GA5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**10.0000**
Recording Time:	**10/29/2020 07:33**	*Sample Weight:*	**1.0000**

Run Time:



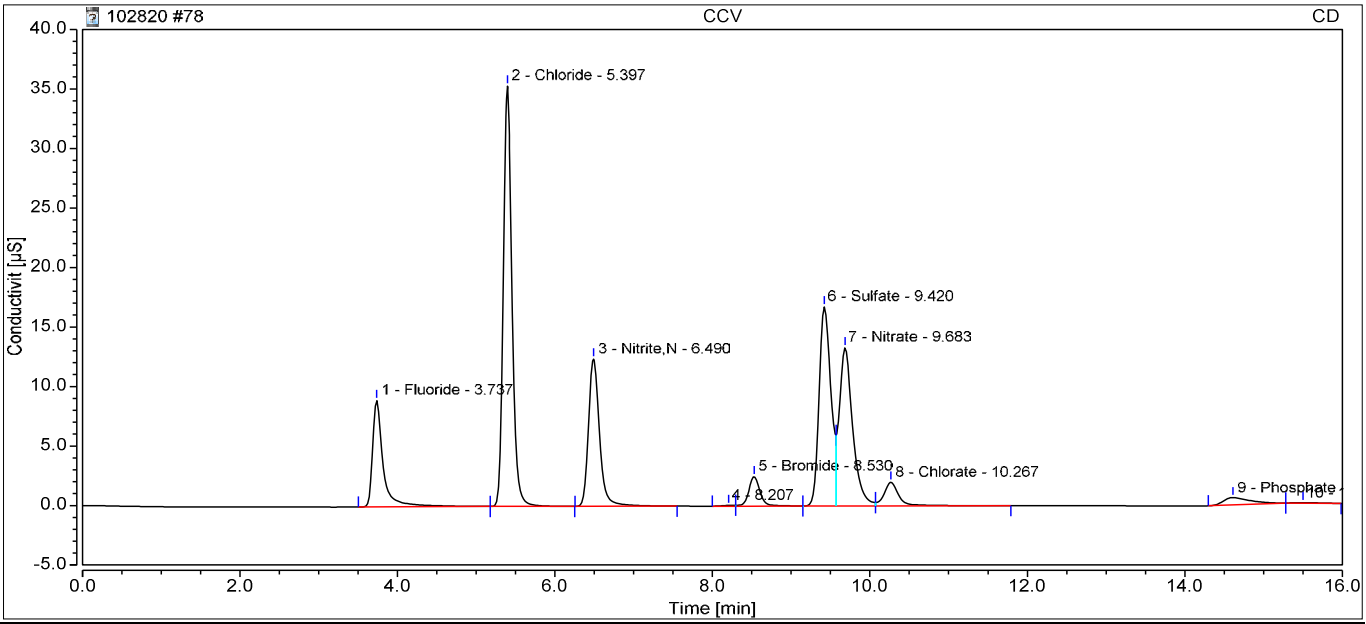
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.671	1.9094	19.0936	10.0000
2	5.39	Chloride	BMB	5.649	24.6273	246.2730	10.0000
3	6.49	Nitrite,N	BMB	1.034	2.1562	21.5622	10.0000
5	8.53	Bromide	M	0.249	2.3889	23.8891	10.0000
6	9.45	Sulfate	M	1.674	10.4612	104.6119	10.0000
7	9.71	Nitrate	M	1.309	2.1036	21.0361	10.0000
8	10.28	Chlorate	MB	0.223	2.0505	20.5052	10.0000
9	14.79	Phosphate	BMB	0.042	0.5965	5.9648	10.0000
Total:			**0.000**	**10.851**		**462.94**	

78 CCV

Sample Name:	**CCV**	*Injection Volume:*	**5.00**
Vial Number:	**BA2**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/29/2020 08:27**	*Sample Weight:*	**1.0000**

Run Time:



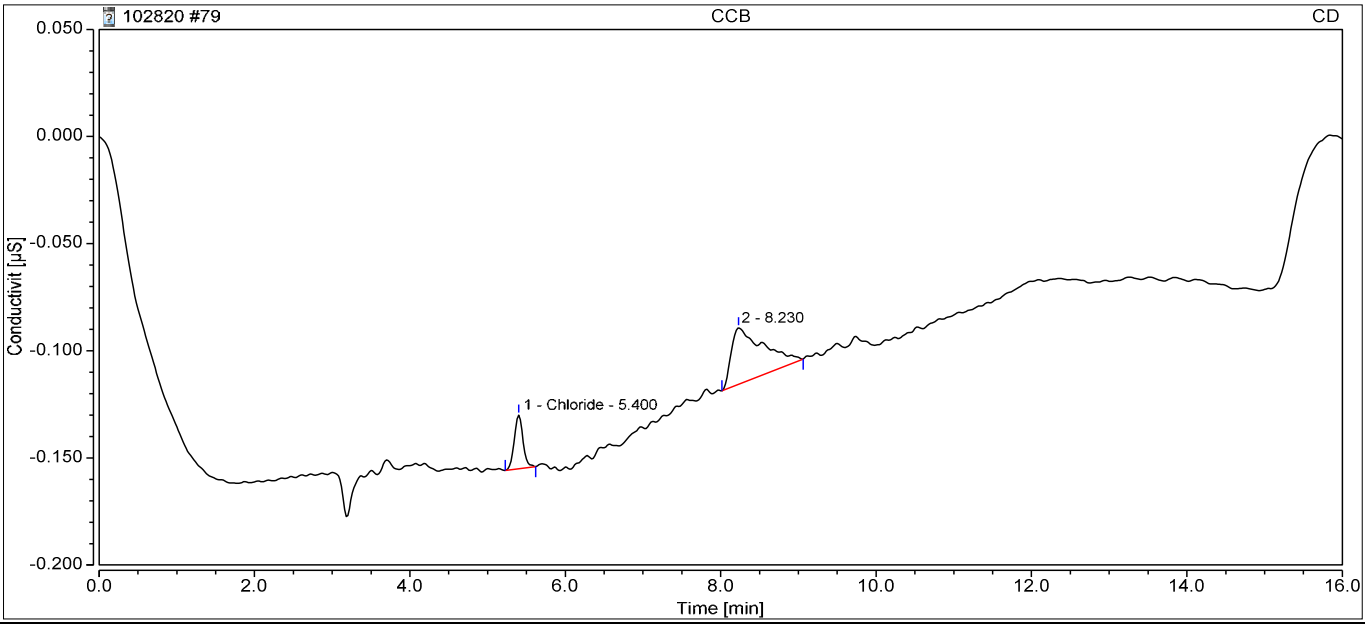
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	1.388	3.9364	3.9364	1.0000
2	5.40	Chloride	BMB	4.533	19.7507	19.7507	1.0000
3	6.49	Nitrite,N	BMB	2.030	4.2695	4.2695	1.0000
5	8.53	Bromide	M	0.411	3.9959	3.9959	1.0000
6	9.42	Sulfate	M	2.910	18.1809	18.1809	1.0000
7	9.68	Nitrate	M	2.633	4.2553	4.2553	1.0000
8	10.27	Chlorate	MB	0.434	4.1230	4.1230	1.0000
9	14.61	Phosphate	BMB	0.242	1.6232	1.6232	1.0000
Total:			**0.000**	**14.581**		**60.13**	

79 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA3**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/29/2020 08:45**	*Sample Weight:*	**1.0000**

Run Time:



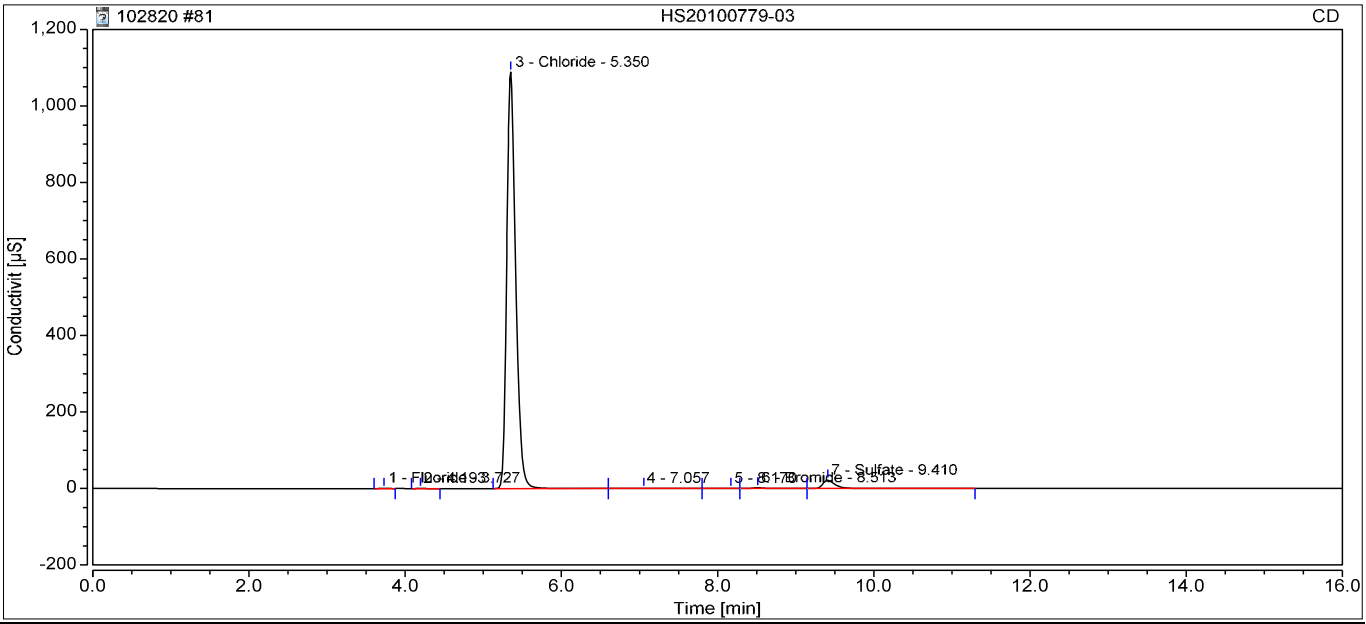
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.40	Chloride	BMB	0.003	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.003**		**0.00**	

81 HS20100779-03

Sample Name:	**HS20100779-03**	*Injection Volume:*	**5.00**
Vial Number:	**GB4**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/29/2020 09:22**	*Sample Weight:*	**1.0000**

Run Time:

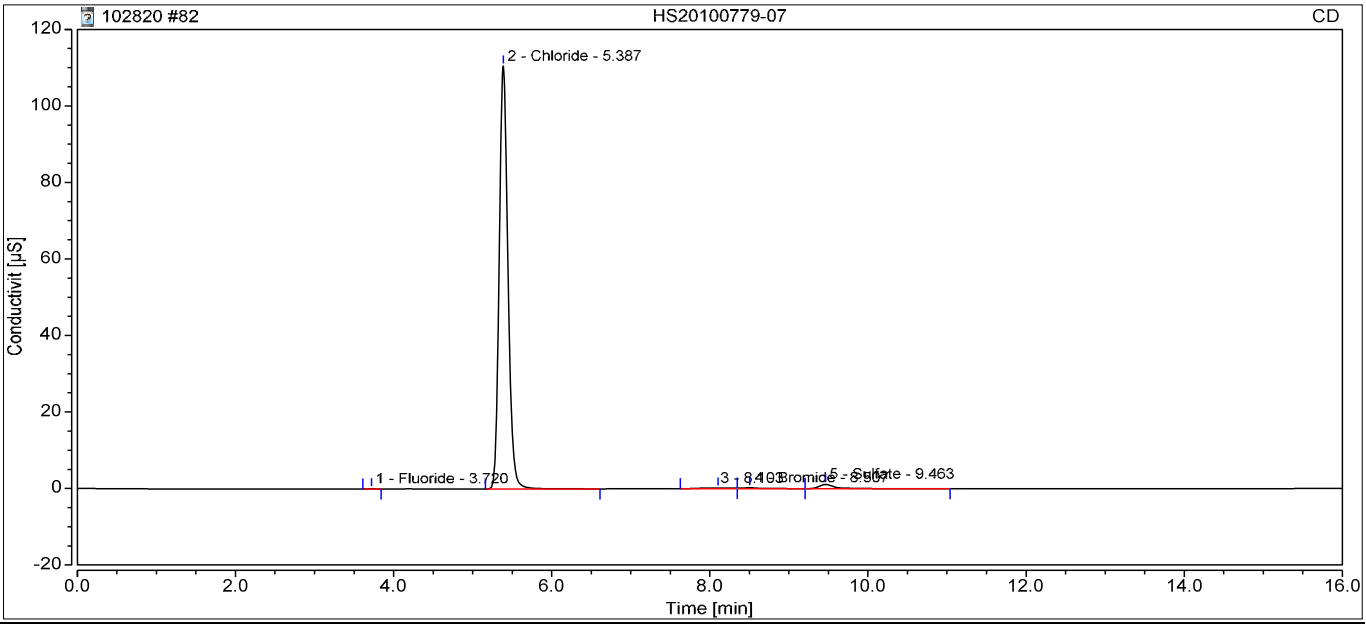


Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.73	Fluoride	BMB	0.009	0.0371	0.0371	1.0000
3	5.35	Chloride	BMB	144.227	630.1509	630.1509	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
6	8.51	Bromide	M	0.367	3.5584	3.5584	1.0000
7	9.41	Sulfate	MB	4.023	25.1335	25.1335	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**148.627**		**658.88**	

82 HS20100779-07			
Sample Name:	**HS20100779-07**	*Injection Volume:*	**5.00**
Vial Number:	**GB5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/29/2020 09:40**	*Sample Weight:*	**1.0000**

Run Time:



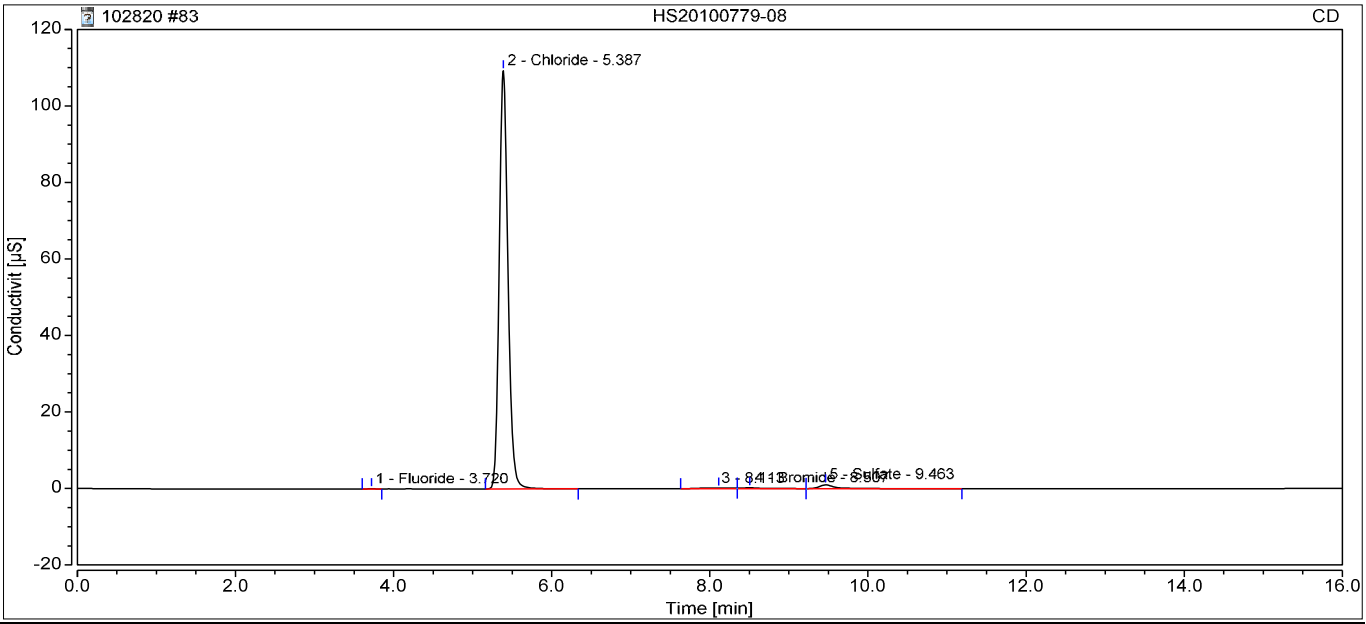
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.004	0.0224	0.0224	1.0000
2	5.39	Chloride	BMB	14.014	61.1766	61.1766	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
4	8.51	Bromide	M	0.095	0.8641	0.8641	1.0000
5	9.46	Sulfate	MB	0.275	1.7286	1.7286	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**14.388**		**63.79**	

83 HS20100779-08

Sample Name:	**HS20100779-08**	*Injection Volume:*	**5.00**
Vial Number:	**GB6**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/29/2020 09:58**	*Sample Weight:*	**1.0000**

Run Time:



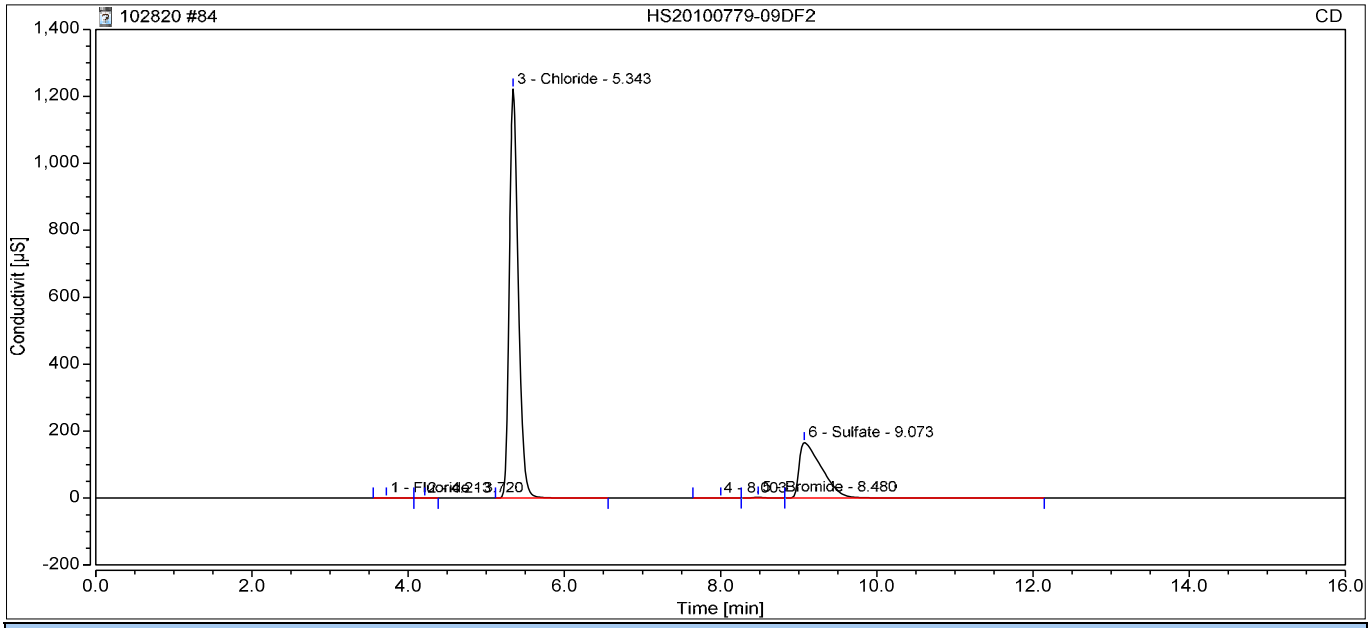
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.003	0.0201	0.0201	1.0000
2	5.39	Chloride	BMB	13.881	60.5957	60.5957	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
4	8.51	Bromide	M	0.099	0.8953	0.8953	1.0000
5	9.46	Sulfate	MB	0.253	1.5916	1.5916	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**14.235**		**63.10**	

84 HS20100779-09DF2

Sample Name:	**HS20100779-09DF2**	*Injection Volume:*	**5.00**
Vial Number:	**GB7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**2.0000**
Recording Time:	**10/29/2020 10:16**	*Sample Weight:*	**1.0000**

Run Time:



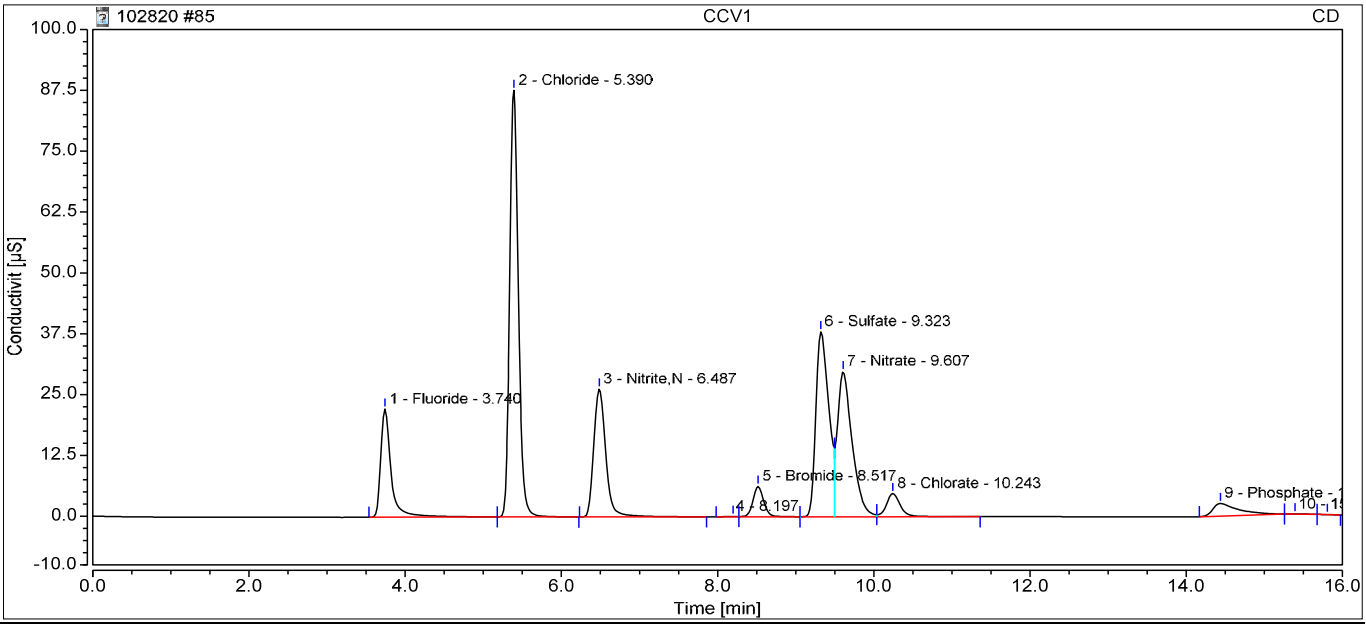
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.72	Fluoride	BMB	0.016	0.0562	0.1125	2.0000
3	5.34	Chloride	BMB	163.088	712.5630	1425.1261	2.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	2.0000
5	8.48	Bromide	M	0.407	3.9522	7.9043	2.0000
6	9.07	Sulfate	MB	55.322	345.4363	690.8726	2.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	2.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	2.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	2.0000
Total:			**0.000**	**218.833**		**2124.02**	

85 CCV1

Sample Name:	**CCV1**	*Injection Volume:*	**5.00**
Vial Number:	**BB7**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/29/2020 10:52**	*Sample Weight:*	**1.0000**

Run Time:



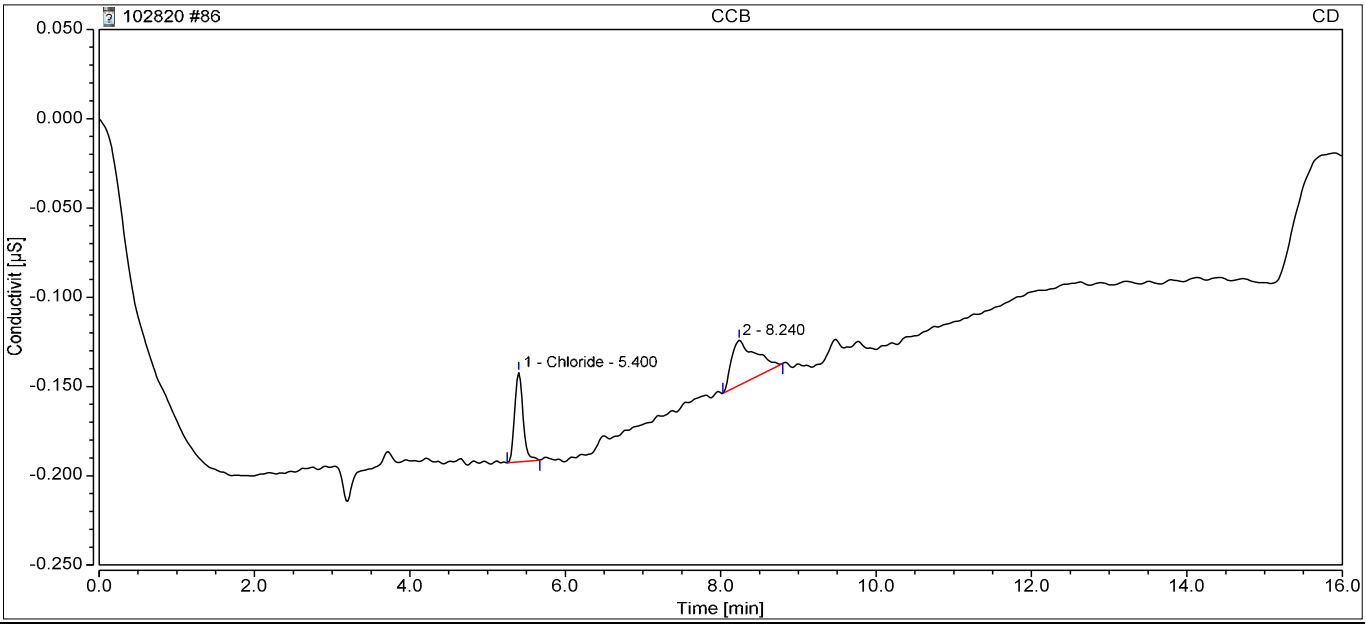
Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
1	3.74	Fluoride	BMB	3.412	9.6601	9.6601	1.0000
2	5.39	Chloride	BMB	11.202	48.8935	48.8935	1.0000
3	6.49	Nitrite,N	BMB	4.696	9.9298	9.9298	1.0000
5	8.52	Bromide	M	0.996	9.8010	9.8010	1.0000
6	9.32	Sulfate	M	7.281	45.4713	45.4713	1.0000
7	9.61	Nitrate	M	6.510	10.5551	10.5551	1.0000
8	10.24	Chlorate	MB	0.985	9.5288	9.5288	1.0000
9	14.44	Phosphate	BMB	0.979	5.4181	5.4181	1.0000
Total:			**0.000**	**36.062**		**149.26**	

86 CCB

Sample Name:	**CCB**	*Injection Volume:*	**5.00**
Vial Number:	**BA5**	*Channel:*	**CD**
Sample Type:	**Unknown**	*Wavelength:*	**210**
Control Program:	**Anions Program 06022020.1**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions Processing Method**	*Dilution Factor:*	**1.0000**
Recording Time:	**10/29/2020 11:10**	*Sample Weight:*	**1.0000**

Run Time:



Integration Results

No.	Retention min	Peak Name	Peak Type	Area µS*min	Amount ppm	Concentration ppm	Dilution
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	1.0000
1	5.40	Chloride	BMB	0.006	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrite,N	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Nitrate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	1.0000
n.a.	n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	1.0000
Total:			**0.000**	**0.006**		**0.00**	

HS20100779 Wet Chem Raw Data (ALK_W 2320B)

ALS WO# HS20100779

Report Date: 10/16/2020 : 6:49

PC-TitratION PLUS
Calibration Report

Calibration Record # 2292

Calibration Settings

Calibration ID	PH CAL 4-7-10	Date	10/16/2020
Channel	1	Time	6:49 PM
Probe Type	pH	Temperature	295.99 K 22.84 C
Probe ID	PH ELECTRODE	Analysis Type	Single Line Fit

Calibration Results

Slope	-58.470	CorrCoeff	0.9999
Intercept	4.557	Equation:	Y = (-58.470) X + (4.557)

Calibration Validity True Operator

	Result	Minimum	Maximum
Slope	-58.470	-65.00	-53.00
Intercept	4.557	-100.00	100.00
Correlation Coefficient	0.9999	0.99	1.00

Note: "True" means the calibration was within the specified ranges
"False" means the calibration was NOT within the specified ranges

Calibration Data	Standard	Reading
	4.00	181.27
	7.00	1.95
	10.00	-169.55

#370718

verified
ICP
10/19/20

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Report Date: 10/16/2020 : 10:04 PM

PC-TitratION PLUS
Water Analysis Report

Run Number 3935 **Order Number** 20201016-2

SampleID	RunDate	RunTime	Temp	cond (uS)	pH	palk-ppm	talk-ppm	bcarb-ppm	carb-ppm	hydr-ppm	mLs @ 8.3	mLs @ 4.5	mLs @ 4.2
ICV-PH	10/16/2020	7:00 PM	22.87	-1.00	6.03	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
TAP WATER	10/16/2020	7:06 PM	22.74	-1.00	8.00	.00	148.97	148.97	.00	.00	.00	1.42	1.42
WBLKW1-201016	10/16/2020	7:12 PM	22.96	-1.00	5.92	.00	.47	.47	.00	.00	.00	.02	.02
LCS1-201016	10/16/2020	7:20 PM	22.95	-1.00	10.97	534.57	1,030.13	.00	991.12	39.01	5.09	9.81	9.81
LCSD1-201016	10/16/2020	7:29 PM	22.99	-1.00	10.97	538.88	1,036.70	.00	995.65	41.05	5.13	9.87	9.87
HS20100868-02	10/16/2020	7:35 PM	22.83	-1.00	8.07	.00	123.88	123.88	.00	.00	.00	1.18	1.18
HS20100868-02DUP	10/16/2020	7:41 PM	22.72	-1.00	8.09	.00	127.27	127.27	.00	.00	.00	1.21	1.21
HS20100868-03	10/16/2020	7:48 PM	22.69	-1.00	7.97	.00	125.30	125.30	.00	.00	.00	1.19	1.19
HS20100465-11	10/16/2020	7:55 PM	22.72	-1.00	8.42	8.25	412.53	396.04	16.49	.00	.08	3.93	3.93
HS20100872-01	10/16/2020	8:02 PM	22.83	-1.00	7.52	.00	465.06	465.06	.00	.00	.00	4.43	4.43
HS20100872-02	10/16/2020	8:09 PM	22.90	-1.00	7.65	.00	583.99	583.99	.00	.00	.00	5.56	5.56
CCV-PH	10/16/2020	8:12 PM	23.11	-1.00	7.05	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
CCV-ALK	10/16/2020	8:20 PM	22.96	-1.00	10.95	529.48	1,027.07	.00	995.19	31.88	5.04	9.78	9.78
DI RINSE	10/16/2020	8:25 PM	22.98	-1.00	6.13	.00	.50	.50	.00	.00	.00	.02	.02
HS20100859-01	10/16/2020	8:30 PM	22.93	-1.00	5.71	.00	.45	.45	.00	.00	.00	.02	.02
HS20100658-01	10/16/2020	8:38 PM	22.86	-1.00	8.18	.00	119.04	119.04	.00	.00	.00	1.13	1.13
HS20100706-01	10/16/2020	8:45 PM	22.90	-1.00	8.03	.00	94.01	94.01	.00	.00	.00	.90	.90
HS20100788-01DF5	10/16/2020	8:54 PM	22.83	-1.00	8.66	265.71	841.60	310.18	531.42	.00	2.53	8.02	8.02
HS20100788-01DF20	10/16/2020	9:00 PM	22.89	-1.00	8.63	57.06	159.71	45.59	114.12	.00	.54	1.52	1.52 NR TH
CCV-PH	10/16/2020	9:02 PM	22.96	-1.00	7.05	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
CCV-ALK	10/16/2020	9:10 PM	22.98	-1.00	10.92	527.42	1,032.79	.00	1,010.75	22.04	5.02	9.84	9.84
DI RINSE	10/16/2020	9:15 PM	23.12	-1.00	6.16	.00	.37	.37	.00	.00	.00	.02	.02
HS20100779-01	10/16/2020	9:21 PM	23.04	-1.00	5.96	.00	52.70	52.70	.00	.00	.00	.50	.50
HS20100779-02	10/16/2020	9:26 PM	22.98	-1.00	6.21	.00	38.45	38.45	.00	.00	.00	.37	.37
HS20100779-04	10/16/2020	9:32 PM	22.95	-1.00	6.01	.00	71.82	71.82	.00	.00	.00	.68	.68
HS20100779-05	10/16/2020	9:38 PM	22.99	-1.00	6.94	.00	182.85	182.85	.00	.00	.00	1.74	1.74
HS20100779-06	10/16/2020	9:46 PM	23.01	-1.00	7.23	.00	1,004.60	1,004.60	.00	.00	.00	9.57	9.57

Run Number 3935 **Order Number** 20201016-2

SampleID	RunDate	RunTime	Temp	cond (uS)	pH	palk-ppm	talk-ppm	bcarb-ppm	carb-ppm	hydr-ppm	mLs @ 8.3	mLs @ 4.5	mLs @ 4.2
CCV-PH	10/16/2020	9:49 PM	23.03	-1.00	7.04	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
CCV-ALK	10/16/2020	9:57 PM	23.04	-1.00	10.89	524.56	1,029.87	.00	1,010.62	19.25	5.00	9.81	9.81
DI RINSE	10/16/2020	10:02 PM	23.31	-1.00	6.05	.00	1.22	1.22	.00	.00	.00	.02	.02

PC-TitratION PLUS by Man-Tech Associates, Inc.
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Batch ID Exception Report

Batch ID: R370718
QC Group: 0

Sample ID	Seq No	Sample Type	Test Code	Analyzed Date	Dilution Factor
	Analyte Type	Analyte		Qualifier	
HS20100868-02	5786723	SAMP	ALK_W 2320B	16 Oct 2020 7:35 PM	1
	A	Alkalinity, Total (As CaCO3)		*	

HS20100779 AlS Kelso Level IV K2009424

ALS WO# HS20100779

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October 22, 2020

Analytical Report for Service Request No: K2009424

RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Suite 210
Houston, TX 77099-4338

RE: HS20100779

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory October 16, 2020
For your reference, these analyses have been assigned our service request number **K2009424.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3350. You may also contact me via email at Kelley.Lovejoy@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Kelley Lovejoy

Kelley Lovejoy
Project Manager

RIGHT SOLUTIONS | RIGHT PARTNER

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Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjlabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water-	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Case Narrative

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Client: ALS Environmental - US
Project: HS20100779
Sample Matrix: Ground Water

Service Request: K2009424
Date Received: 10/16/2020

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier level IV requested by the client.

Sample Receipt:

Nine ground water samples were received for analysis at ALS Environmental on 10/16/2020. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

General Chemistry:

Method SM 5310 C, 10/19/2020: The matrix spike recovery of Total Organic Carbon for sample 16WW25-201014 was outside control criteria. Recovery in the Laboratory Control Sample (LCS) was acceptable, which indicated the analytical batch was in control. The matrix spike outlier suggested a potential low bias in this matrix. No further corrective action was appropriate.

Approved by Kelley Lovejoy Date 10/22/2020

Chain of Custody

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K2009424

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Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14949**

SUBCONTRACT TO:

ALS Environmental Kelso
1317 S. 13th Avenue
Kelso, WA 98626

Phone: +1 360 501 3312

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	RJ Modashia
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	RJ.Modashia@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS20100779
TSR:	Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20100779-01**	**16WW25-201014**	**Groundwater**	**14 Oct 2020 07:40**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			22 Oct 2020
2.	**HS20100779-02**	**16WW26-201014**	**Groundwater**	**14 Oct 2020 08:25**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			22 Oct 2020
3.	**HS20100779-03**	**16WW30-201014**	**Groundwater**	**14 Oct 2020 09:20**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			22 Oct 2020
4.	**HS20100779-04**	**16WW29-201014**	**Groundwater**	**14 Oct 2020 10:05**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			22 Oct 2020
5.	**HS20100779-05**	**16WW22-201014**	**Groundwater**	**14 Oct 2020 10:55**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			22 Oct 2020
6.	**HS20100779-06**	**16WW41-201014**	**Groundwater**	**14 Oct 2020 11:45**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			22 Oct 2020
7.	**HS20100779-07**	**16WW21-201014**	**Groundwater**	**14 Oct 2020 12:35**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			22 Oct 2020
8.	**HS20100779-08**	**16WW21-201014-FD**	**Groundwater**	**14 Oct 2020 12:35**
	TOC Analysis with DOD Level IV/EQuIS APTIM EDD			22 Oct 2020
9.	**HS20100779-09**	**16WW39-201014**	**Groundwater**	**14 Oct 2020 13:25**

Received By Mederson ALS 10/16/20 0950

K2009424

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14949**

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
ANALYSIS REQUESTED			DUE DATE
TOC Analysis with DOD Level IV/EQuIS APTIM EDD			22 Oct 2020

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: DOD IV (DoD Data Package)

Relinquished By: J. Hamm Date/Time: 10/15/20 18:00

Received By: N Pedersen Date/Time: 10/16/20 0950

Cooler ID(s): Temperature(s):

PM KL

Cooler Receipt and Preservation Form

Client ALS Houston Service Request K2009424

Received: 10/16/20 Opened: 10/16/20 By: AK Unloaded: 10/16/20 By: AK

1. Samples were received via? *USPS* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 2 Front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N
4. Was a Temperature Blank present in cooler? NA (Y) N If yes, notate the temperature in the appropriate column below:
   If no, take the temperature of a representative sample bottle contained within the cooler; notate in the column "Sample Temp":
5. Were samples received within the method specified temperature ranges? NA (Y) N
   If no, were they received on ice and same day as collected? If not, notate the cooler # below and notify the PM. (NA) Y N

If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*

Temp Blank	Sample Temp	IR Gun	Cooler #/COC ID / NA	Out of temp indicate with "X"	PM Notified If out of temp	Tracking Number NA	Filed
0.6	—	IR02		—	—	7691 8881 5860	
			14949				
			14975				

6. Packing material: *Inserts* (*Baggies*) (*Bubble Wrap*) *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* _____
7. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
8. Were samples received in good condition (unbroken) NA (Y) N
9. Were all sample labels complete (ie, analysis, preservation, etc.)? NA (Y) N
10. Did all sample labels and tags agree with custody papers? NA (Y) N
11. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
12. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
13. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
14. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, Resolutions: _____

General Chemistry

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ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	K2009424
Project:	HS20100779	**Date Collected:**	10/14/20
Sample Matrix:	Ground Water	**Date Received:**	10/16/20
Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Carbon, Total Organic

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
16WW25-201014	K2009424-001	**27.7**	0.50	0.20	0.07	1	10/19/20 11:49	
16WW26-201014	K2009424-002	**2.11**	0.50	0.20	0.07	1	10/19/20 11:49	
16WW30-201014	K2009424-003	**2.13**	0.50	0.20	0.07	1	10/19/20 11:49	
16WW29-201014	K2009424-004	**11.2**	0.50	0.20	0.07	1	10/19/20 11:49	
16WW22-201014	K2009424-005	**0.81**	0.50	0.20	0.07	1	10/19/20 11:49	
16WW41-201014	K2009424-006	**40.8**	0.50	0.20	0.07	1	10/19/20 11:49	
16WW21-201014	K2009424-007	**0.58**	0.50	0.20	0.07	1	10/19/20 11:49	
16WW21-201014-FD	K2009424-008	**0.12 J**	0.50	0.20	0.07	1	10/19/20 11:49	
16WW39-201014	K2009424-009	**2.31**	0.50	0.20	0.07	1	10/19/20 11:49	
Method Blank	K2009424-MB	ND U	0.50	0.20	0.07	1	10/19/20 11:49	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2009424
Project	HS20100779	**Date Collected:**	10/14/20
Sample Matrix:	Ground Water	**Date Received:**	10/16/20
		Date Analyzed:	10/19/20

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	16WW25-201014	**Units:**	mg/L
Lab Code:	K2009424-001	**Basis:**	NA

Analyte Name	Analysis Method	LOQ	LOD	MDL	Sample Result	Duplicate Sample K2009424-001DUP Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	0.50	0.20	0.07	27.7	27.1	27.4	2	10

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

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

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

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2009424
Project:	HS20100779	**Date Collected:**	10/14/20
Sample Matrix:	Ground Water	**Date Received:**	10/16/20
		Date Analyzed:	10/19/20
		Date Extracted:	NA

Matrix Spike Summary
Carbon, Total Organic

Sample Name:	16WW25-201014	**Units:**	mg/L
Lab Code:	K2009424-001	**Basis:**	NA
Analysis Method:	SM 5310 C		
Prep Method:	None		

Matrix Spike
K2009424-001MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	27.7	48.1	25.0	82 *	83-117

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

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

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

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2009424
Project:	HS20100779	**Date Analyzed:**	10/19/20
Sample Matrix:	Ground Water	**Date Extracted:**	NA

Lab Control Sample Summary
Carbon, Total Organic

Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	700002

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2009424-LCS	23.9	25.0	95	83-117

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:** K2009424
Project: HS20100779

Continuing Calibration Verification (CCV) Summary

Carbon, Total Organic

Analysis Method: SM 5310 C **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	700002	KQ2016021-12	10/19/20 11:49	25.0	25.4	102	90-110
CCV2	700002	KQ2016021-13	10/19/20 11:49	25.0	25.0	100	90-110
CCV3	700002	KQ2016021-14	10/19/20 11:49	25.0	24.7	99	90-110
CCV4	700002	KQ2016021-15	10/19/20 11:49	25.0	24.7	99	90-110
CCV5	700002	KQ2016021-16	10/19/20 11:49	25.0	25.1	100	90-110

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:**K2009424
Project: HS20100779

Continuing Calibration Blank (CCB) Summary
Carbon, Total Organic

Analysis Method: SM 5310 C **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	700002	KQ2016021-07	10/19/20 11:49	0.50	0.20	0.07	ND	U
CCB2	700002	KQ2016021-08	10/19/20 11:49	0.50	0.20	0.07	ND	U
CCB3	700002	KQ2016021-09	10/19/20 11:49	0.50	0.20	0.07	ND	U
CCB4	700002	KQ2016021-10	10/19/20 11:49	0.50	0.20	0.07	ND	U
CCB5	700002	KQ2016021-11	10/19/20 11:49	0.50	0.20	0.07	ND	U

Raw Data

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General Chemistry

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Work Request # 9335 9260 9424

Tier: IV II IV

Date Analyzed: 10/19/20

Analyst: MK Run # 189997/700002

Analysis: DOC, TDC

DATA QUALITY REPORT
INORGANICS

Explain any "no" responses to questions below, and any corrective actions in the comments section below.

1.	Is the method name and number correct and appropriate?	yes/no/NA
2.	Holding times met for all analyses and for all samples?	yes/no/NA
3.	Are calculations correct?	yes/no/NA
4.	Is the reporting basis correct? (Dry Weight)	yes/no/NA
5.	All quality control criteria met?	yes/no
6.	Is the calibration curve correlation coefficient ≥ 0.995?	yes/no/NA
7.	MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency?	yes/no/NA
8.	Are ICVs, CCVs, and CCBs all within acceptance limits?	yes/no/NA
9.	Are results for methods blanks all ND?	yes/no/NA
10.	Are all QC samples within acceptance criteria? (LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.)	yes/no/NA
11.	Are all exceptions explained?	yes/no/NA
12.	Have all applicable service requests been reviewed?	yes/no/NA
13.	Are all samples labeled correctly?	yes/no/NA
14.	Have all instructions on the service request been followed? (e.g. Special MRLs, QC on a specific sample, Form V)	yes/no/NA
15.	Are detection limits and units reported correctly?	yes/no/NA
16.	Is the unused space on the benchsheet crossed out?	yes/no/NA
17.	Was analysis turned in by the due date? (n-2) (If not record SR#)	yes/no/NA

COMMENTS:

9424-1MS failed low 82%
9260-1MS failed low 64%
9424-8 high RPD <5 times MRL

Final Approved by: _____ Date: 10/21/20

DQREPORT

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 700002 **Method/Testcode:** SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
K2009335-001	Carbon, Total Organic	N/A		Water	1.58 mg/L	10 mL	1.58 mg/L	1	0.07	0.50			10/19/20 11:49:00	N	IV
K2009424-001	Carbon, Total Organic	N/A		Ground Water	27.69 mg/L	10 mL	27.7 mg/L	1	0.07	0.50			10/19/20 11:49:00	N	IV
K2009424-002	Carbon, Total Organic	N/A		Ground Water	2.11 mg/L	10 mL	2.11 mg/L	1	0.07	0.50			10/19/20 11:49:00	N	IV
K2009424-003	Carbon, Total Organic	N/A		Ground Water	2.13 mg/L	10 mL	2.13 mg/L	1	0.07	0.50			10/19/20 11:49:00	N	IV
K2009424-004	Carbon, Total Organic	N/A		Ground Water	11.19 mg/L	10 mL	11.2 mg/L	1	0.07	0.50			10/19/20 11:49:00	N	IV
K2009424-005	Carbon, Total Organic	N/A		Ground Water	0.81 mg/L	10 mL	0.81 mg/L	1	0.07	0.50			10/19/20 11:49:00	N	IV
K2009424-006	Carbon, Total Organic	N/A		Ground Water	40.75 mg/L	10 mL	40.8 mg/L	1	0.07	0.50			10/19/20 11:49:00	N	IV
K2009424-007	Carbon, Total Organic	N/A		Ground Water	0.58 mg/L	10 mL	0.58 mg/L	1	0.07	0.50			10/19/20 11:49:00	N	IV
K2009424-008	Carbon, Total Organic	N/A		Ground Water	0.12 mg/L	10 mL	0.12 mg/L J	1	0.07	0.50			10/19/20 11:49:00	N	IV
K2009424-009	Carbon, Total Organic	N/A		Ground Water	2.31 mg/L	10 mL	2.31 mg/L	1	0.07	0.50			10/19/20 11:49:00	N	IV
KQ2016021-01	Carbon, Total Organic	DUP	K2009424-001	Ground Water	27.07 mg/L	10 mL	27.1 mg/L	1	0.07	0.50		2	10/19/20 11:49:00	N	IV
KQ2016021-02	Carbon, Total Organic	MS	K2009424-001	Ground Water	48.10 mg/L	10 mL	48.1 mg/L	1	0.07	0.50	82*		10/19/20 11:49:00	N	IV
KQ2016021-03	Carbon, Total Organic	DUP	K2009335-001	Water	1.67 mg/L	10 mL	1.67 mg/L	1	0.07	0.50		6	10/19/20 11:49:00	N	IV
KQ2016021-04	Carbon, Total Organic	MS	K2009335-001	Water	26.53 mg/L	10 mL	26.5 mg/L	1	0.07	0.50	100		10/19/20 11:49:00	N	IV
KQ2016021-05	Carbon, Total Organic	LCS		Ground Water	23.86 mg/L	10 mL	23.9 mg/L	1	0.07	0.50	95		10/19/20 11:49:00	N	IV
KQ2016021-06	Carbon, Total Organic	MB		Ground Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/19/20 11:49:00	N	IV
KQ2016021-07	Carbon, Total Organic	CCB		Ground Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/19/20 11:49:00	N	IV
KQ2016021-08	Carbon, Total Organic	CCB		Ground Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/19/20 11:49:00	N	IV
KQ2016021-09	Carbon, Total Organic	CCB		Ground Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/19/20 11:49:00	N	IV
KQ2016021-10	Carbon, Total Organic	CCB		Ground Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/19/20 11:49:00	N	IV
KQ2016021-11	Carbon, Total Organic	CCB		Ground Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/19/20 11:49:00	N	IV
KQ2016021-12	Carbon, Total Organic	CCV		Ground Water	25.38 mg/L	10 mL	25.4 mg/L	1					10/19/20 11:49:00	N	IV
KQ2016021-13	Carbon, Total Organic	CCV		Ground Water	24.96 mg/L	10 mL	25.0 mg/L	1					10/19/20 11:49:00	N	IV
KQ2016021-14	Carbon, Total Organic	CCV		Ground Water	24.67 mg/L	10 mL	24.7 mg/L	1					10/19/20 11:49:00	N	IV

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 700002 **Method/Testcode:** SM 5310 C/TOC T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
KQ2016021-15	Carbon, Total Organic	CCV		Ground Water	24.66 mg/L	10 mL	24.7 mg/L	1					10/19/20 11:49:00	N	IV
KQ2016021-16	Carbon, Total Organic	CCV		Ground Water	25.11 mg/L	10 mL	25.1 mg/L	1					10/19/20 11:49:00	N	IV

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 699997 **Method/Testcode:** SM 5310 C/TOC D

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
K2009260-001	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	5.09 mg/L	10 mL	5.09 mg/L	1	0.07	0.50			10/19/20 11:49:00	N	II
K2009260-002	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	4.67 mg/L	10 mL	4.67 mg/L	1	0.07	0.50			10/19/20 11:49:00	N	II
K2009260-003	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	2.00 mg/L	10 mL	2.00 mg/L	1	0.07	0.50			10/19/20 11:49:00	N	II
K2009260-004	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	3.37 mg/L	10 mL	3.37 mg/L	1	0.07	0.50			10/19/20 11:49:00	N	II
K2009260-005	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	3.11 mg/L	10 mL	3.11 mg/L	1	0.07	0.50			10/19/20 11:49:00	N	II
K2009260-006	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	4.33 mg/L	10 mL	4.33 mg/L	1	0.07	0.50			10/19/20 11:49:00	N	II
K2009260-007	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	4.73 mg/L	10 mL	4.73 mg/L	1	0.07	0.50			10/19/20 11:49:00	N	II
K2009260-008	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	4.41 mg/L	10 mL	4.41 mg/L	1	0.07	0.50			10/19/20 11:49:00	N	II
K2009260-009	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	3.80 mg/L	10 mL	3.80 mg/L	1	0.07	0.50			10/19/20 11:49:00	N	II
K2009260-010	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	2.91 mg/L	10 mL	2.91 mg/L	1	0.07	0.50			10/19/20 11:49:00	N	II
K2009260-011	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	3.61 mg/L	10 mL	3.61 mg/L	1	0.07	0.50			10/19/20 11:49:00	N	II
K2009260-012	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	4.46 mg/L	10 mL	4.46 mg/L	1	0.07	0.50			10/19/20 11:49:00	N	II
KQ2016018-01	Carbon, Dissolved Organic (DOC)	DUP	K2009260-001	Surface Water	5.08 mg/L	10 mL	5.08 mg/L	1	0.07	0.50		<1	10/19/20 11:49:00	N	II
KQ2016018-02	Carbon, Dissolved Organic (DOC)	MS	K2009260-001	Surface Water	21.17 mg/L	10 mL	21.2 mg/L	1	0.07	0.50	64*		10/19/20 11:49:00	N	II
KQ2016018-04	Carbon, Dissolved Organic (DOC)	MB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/19/20 11:49:00	N	II
KQ2016018-05	Carbon, Dissolved Organic (DOC)	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/19/20 11:49:00	N	II
KQ2016018-06	Carbon, Dissolved Organic (DOC)	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/19/20 11:49:00	N	II
KQ2016018-07	Carbon, Dissolved Organic (DOC)	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/19/20 11:49:00	N	II
KQ2016018-08	Carbon, Dissolved Organic (DOC)	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/19/20 11:49:00	N	II
KQ2016018-09	Carbon, Dissolved Organic (DOC)	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			10/19/20 11:49:00	N	II
KQ2016018-10	Carbon, Dissolved Organic (DOC)	CCV		Surface Water	25.38 mg/L	10 mL	25.4 mg/L	1					10/19/20 11:49:00	N	II
KQ2016018-11	Carbon, Dissolved Organic (DOC)	CCV		Surface Water	24.96 mg/L	10 mL	25.0 mg/L	1					10/19/20 11:49:00	N	II
KQ2016018-12	Carbon, Dissolved Organic (DOC)	CCV		Surface Water	24.67 mg/L	10 mL	24.7 mg/L	1					10/19/20 11:49:00	N	II

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-01 **Analyst:** MKANALY **Analysis Lot:** 699997 **Method/Testcode:** SM 5310 C/TOC D

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
KQ2016018-13	Carbon, Dissolved Organic (DOC)	CCV		Surface Water	24.66 mg/L	10 mL	24.7 mg/L	1					10/19/20 11:49:00	N	II
KQ2016018-14	Carbon, Dissolved Organic (DOC)	CCV		Surface Water	25.11 mg/L	10 mL	25.1 mg/L	1					10/19/20 11:49:00	N	II
KQ2016018-15	Carbon, Dissolved Organic (DOC)	LCS		Surface Water	24.30 mg/L	10 mL	24.3 mg/L	1	0.07	0.50	97		10/19/20 11:49:00	N	II
KQ2016018-16	Carbon, Dissolved Organic (DOC)	DLCS		Surface Water	24.32 mg/L	10 mL	24.3 mg/L	1	0.07	0.50	97	<1	10/19/20 11:49:00	N	II

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Schedule: 101920

Version: 8
Instrument: Fusion1
Last Saved by: Fusion1 (Fusion1)
Last Saved on: 2020/10/19 19:37 - Monday

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
(Clean)	Clean	Clean		1	True	Ready
(Clean)	Clean	Clean		1	True	Ready
(Clean)	Clean	Clean		1	True	Ready
(Blank)	Blank	Reagent/Acid Blank		1	True	Ready
D	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
B (1)	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
1	Sample	MB1	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
2	Sample	ICS	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
3	Sample	k2009260-001*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
4	Sample	K2009260-002*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
5	Sample	K2009260-003*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
6	Sample	K2009260-004*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
7	Sample	K2009260-005*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
8	Sample	K2009260-006*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
9	Sample	K2009260-007*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D (2)	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
10	Sample	K2009260-008*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
11	Sample	K2008260-009*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
12	Sample	K2008260-010*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
13	Sample	K2009260-011*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
14	Sample	K2009260-012*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
15	Sample	K2009424-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
16	Sample	K2009424-001D	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
17	Sample	K2009424-001MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
18	Sample	K2009424-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
19	Sample	K2009424-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B (3)	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
20	Sample	MB2	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
21	Sample	K2009424-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
22	Sample	K2009424-005	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
23	Sample	K2009424-006	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
24	Sample	K2009424-007	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
25	Sample	K2009424-008	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
26	Sample	K2009424-009	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
27	Sample	K2009335-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
28	Sample	K2009335-001D	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D (4)	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
29	Sample	K2009335-001MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
30	Sample	K2009260-001D*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
31	Sample	K2008260-001MS*	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
D (5)	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
					False	

Fusion Report - 101920
Monday, October 19, 2020 11:27 AM

(View - Reps, Unused Reps, Meta-Data, Signature, History)
Printed on 2020/10/20 07:48 - Tuesday

Report Summary Information

Company Location:	Gen Chem Lab		
Schedule Name:	101920	Engine Version:	1.1.5.1
Instrument Name:	Fusion1	Firmware Version:	1.2.0696
Report Version:	1 of 1	Connection:	RS232 COM1
Report Creation by Operators (schedule version):	Fusion1 (Fusion1) (v1) Fusion1 (Fusion1) (v3) Fusion1 (Fusion1) (v4) Fusion1 (Fusion1) (v6) Fusion1 (Fusion1) (v7) Fusion1 (Fusion1) (v8)		
Comment:			

Report Results

Sample Type: Clean — From Schedule Version 1

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/10/19 11:27

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	13.15	27.90	14.75	49.63	05:29
2	TC Clean	11.33	24.73	13.40	49.99	04:06
3	TC Clean	1.64	14.97	13.33	50.01	03:55
4	TC Clean	1.06	14.25	13.19	49.99	03:53

Sample Type: Clean — From Schedule Version 1

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/10/19 11:49

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	0.06	13.09	13.03	49.67	05:18
2	TC Clean	4.77	17.73	12.96	49.78	07:18

3	TC Clean	1.18	14.28	13.10	49.78	07:02
4	TC Clean	0.73	13.69	12.96	49.79	07:01

Sample Type: Clean From Schedule Version 1

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/10/19 12:21

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.37	12.52	12.89	49.65	05:24
2	TC Clean	4.51	17.35	12.84	49.83	07:18
3	TC Clean	0.92	13.85	12.93	50.00	07:01
4	TC Clean	0.87	13.66	12.79	50.01	04:05

Sample Type: Blank (Creating v1463) From Schedule Version 3

	Pos	Analysis Type	Sample ID	Start Time
◆	(blank)		Reagent/Acid Blank	2020/10/19 12:50

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	-0.25	12.42	12.67	49.55	05:24
2	TC Clean	4.32	17.10	12.78	49.98	04:09
3	TC Clean	0.89	13.85	12.96	49.94	03:51
4	TC Clean	0.83	13.89	13.06	49.95	03:58
5	Reagent Blank	4.91	17.82	12.92	49.97	05:09
6	Acid Blank	-0.17	12.78	12.95	49.63	05:30

Sample Type: Sample From Schedule Version 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	D	TOC	RB	0.1362 ppm	0.0000 ppm	0.0000%	2020/10/19 13:24

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1362	1.3616	10.18	23.03	12.84	50.04	10:34

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2298 (IC) (v1463)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	25.3825 ppm (PASS)	0.0000 ppm	0%	2020/10/19 13:38

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.3825	253.8252	187.95	200.78	12.84	50.03	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/10/19 13:53

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	7.99	20.84	12.85	50.10	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	1	TOC	MB1	0.0000 ppm	0.0000 ppm	0.0000%	2020/10/19 14:08

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	7.61	20.58	12.97	50.25	10:32

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2298 (IC) (v1463)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	24.2975 ppm (PASS)	0.0000 ppm	0%	2020/10/19 14:23

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	24.2975	242.9753	180.33	193.23	12.90	50.09	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Check Standard --> LCS From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	24.3208 ppm (PASS)	0.0000 ppm	0%	2020/10/19 14:38

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	24.3208	243.2076	180.50	193.55	13.05	50.08	10:28

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample From Schedule Version 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	2	TOC	ICS	0.0000 ppm	0.0000 ppm	0.0000%	2020/10/19 14:52

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	8.99	21.84	12.85	50.22	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2298 (IC) (v1463)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	3	TOC	k2009260-001*	5.0887 ppm	0.0060 ppm	0.1200%	2020/10/19 15:07

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	5.0929	50.9295	44.96	57.93	12.97	50.12	10:28
2	TOC	5.0844	50.8440	44.90	57.86	12.96	50.12	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2298 (IC) (v1463)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	4	TOC	K2009260-002*	4.6656 ppm	0.1027 ppm	2.2000%	2020/10/19 15:35

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.7383	47.3827	42.47	55.35	12.89	50.16	10:28
2	TOC	4.5930	45.9301	41.45	54.41	12.96	50.10	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2298 (IC) (v1463)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	5	TOC	K2009260-003*	1.9960 ppm	0.0283 ppm	1.4200%	2020/10/19 16:03

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.9760	19.7598	23.09	35.93	12.83	50.23	10:28
2	TOC	2.0160	20.1604	23.37	36.26	12.89	50.25	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2298 (IC) (v1463)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	6	TOC	K2009260-004*	3.3727 ppm	0.0231 ppm	0.6800%	2020/10/19 16:31

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.3890	33.8899	33.00	45.76	12.76	50.16	10:27
2	TOC	3.3563	33.5634	32.77	45.74	12.96	50.09	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2298 (IC) (v1463)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	7	TOC	K2009260-005*	3.1128 ppm	0.0064 ppm	0.2000%	2020/10/19 16:59

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.1173	31.1728	31.10	43.97	12.88	50.18	10:29
2	TOC	3.1083	31.0830	31.03	44.11	13.07	50.09	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2298 (IC) (v1463)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample From Schedule Version 4

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	8	TOC	K2009260-006*	4.3323 ppm	0.0638 ppm	1.4700%	2020/10/19 17:29

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.3775	43.7746	39.94	52.77	12.84	50.04	10:26

2	TOC	4.2872	42.8723	39.30	52.34	13.03	49.99	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2298 (IC) (v1463)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	9	TOC	K2009260-007*	4.7306 ppm	0.0661 ppm	1.4000%	2020/10/19 17:57

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.7773	47.7733	42.74	55.63	12.89	49.99	10:26
2	TOC	4.6838	46.8382	42.09	55.05	12.96	49.99	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2298 (IC) (v1463)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 4

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.9557 ppm (PASS)	0.0000 ppm	0%	2020/10/19 18:25

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.9557	249.5571	184.95	197.91	12.96	50.03	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 4

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/10/19 18:39

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	7.58	20.48	12.90	50.04	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 6

		Analysis			Std. Dev.		

	Pos	Type	Sample ID	Result (ppmC)	(ppmC)	RSD	Start Time
◈	10	TOC	K2009260-008*	4.4077 ppm	0.0444 ppm	1.0100%	2020/10/19 18:54

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.4390	44.3905	40.37	53.27	12.90	50.07	10:31
2	TOC	4.3763	43.7632	39.93	52.89	12.96	50.09	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2298 (IC) (v1463)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample From Schedule Version 7

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	11	TOC	K2008260-009*	3.7982 ppm	0.0465 ppm	1.2200%	2020/10/19 19:22

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.8311	38.3105	36.10	48.89	12.79	50.10	10:26
2	TOC	3.7653	37.6533	35.64	48.40	12.76	50.12	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2298 (IC) (v1463)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample From Schedule Version 8

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	12	TOC	K2008260-010*	2.9085 ppm	0.0146 ppm	0.5000%	2020/10/19 19:50

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.9188	29.1884	29.70	42.70	13.00	50.13	10:27
2	TOC	2.8982	28.9817	29.56	42.59	13.03	50.14	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2298 (IC) (v1463)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	13	TOC	K2009260-011*	3.6111 ppm	0.0738 ppm	2.0400%	2020/10/19 20:18

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.6633	36.6326	34.93	47.78	12.85	50.15	10:30
2	TOC	3.5589	35.5891	34.20	47.21	13.01	50.17	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2298 (IC) (v1463)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

		Analysis			Std. Dev.		

	Pos	Type	Sample ID	Result (ppmC)	(ppmC)	RSD	Start Time
◆	14	TOC	K2009260-012*	4.4577 ppm	0.0023 ppm	0.0500%	2020/10/19 20:46

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.4593	44.5929	40.51	53.48	12.97	50.18	10:26
2	TOC	4.4560	44.5601	40.49	53.33	12.85	50.19	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2298 (IC) (v1463)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	15	TOC	K2009424-001	27.6946 ppm	0.7200 ppm	2.6000%	2020/10/19 21:15

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	28.2037	282.0371	207.07	220.04	12.97	50.19	10:29
2	TOC	27.1854	271.8544	199.93	212.92	12.99	50.19	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2298 (IC) (v1463)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	16	TOC	K2009424-001D	27.0703 ppm	0.1302 ppm	0.4800%	2020/10/19 21:43

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	27.1623	271.6235	199.77	212.68	12.92	50.23	10:27
2	TOC	26.9782	269.7817	198.48	211.52	13.04	50.25	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2298 (IC) (v1463)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	17	TOC	K2009424-001MS	48.1047 ppm	1.0725 ppm	2.2300%	2020/10/19 22:11

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	47.3463	473.4631	341.36	354.40	13.04	50.25	10:27
2	TOC	48.8631	488.6310	352.00	365.21	13.21	50.28	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2298 (IC) (v1463)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	18	TOC	K2009424-002	2.1066 ppm	0.1317 ppm	6.2500%	2020/10/19 22:39

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.1998	21.9979	24.66	37.86	13.20	50.29	10:29
2	TOC	2.0135	20.1347	23.35	36.61	13.26	50.29	10:26

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	19	TOC	K2009424-003	2.1277 ppm	0.0130 ppm	0.6100%	2020/10/19 23:07

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.1369	21.3692	24.22	37.07	12.85	50.31	10:26
2	TOC	2.1185	21.1853	24.09	37.24	13.14	50.34	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2298 (IC) (v1463)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 8

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.6726 ppm (PASS)	0.0000 ppm	0%	2020/10/19 23:35

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.6726	246.7259	182.97	196.04	13.07	50.35	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 8

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/10/19 23:49

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	6.95	20.08	13.13	50.36	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 8

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	20	TOC	MB2	0.0000 ppm	0.0000 ppm	0.0000%	2020/10/20 00:04

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	6.83	20.01	13.18	50.39	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2298 (IC) (v1463)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 8

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [25.0 ppm]	0 / infinity (NA / NA)	23.8552 ppm (PASS)	0.0000 ppm	0%	2020/10/20 00:19

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	23.8552	238.5518	177.23	190.50	13.27	50.39	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	25 ppmC

Sample Type: Sample From Schedule Version 8

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	21	TOC	K2009424-004	11.1870 ppm	0.1228 ppm	1.1000%	2020/10/20 00:33

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	11.2739	112.7386	88.31	101.33	13.02	50.39	10:28
2	TOC	11.1002	111.0022	87.10	100.31	13.21	50.40	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2298 (IC) (v1463)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	22	TOC	K2009424-005	0.8132 ppm	0.0843 ppm	10.3600%	2020/10/20 01:01

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.8727	8.7274	15.35	28.40	13.05	50.42	10:27
2	TOC	0.7536	7.5357	14.52	27.73	13.22	50.46	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2298 (IC) (v1463)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	23	TOC	K2009424-006	40.7504 ppm	0.1190 ppm	0.2900%	2020/10/20 01:29

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	40.8345	408.3453	295.68	308.82	13.14	50.46	10:32
2	TOC	40.6662	406.6617	294.50	307.90	13.41	50.49	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2298 (IC) (v1463)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	24	TOC	K2009424-007	0.5779 ppm	0.1934 ppm	33.4700%	2020/10/20 01:58

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7147	7.1465	14.24	27.62	13.37	50.51	10:25
2	TOC	0.4411	4.4109	12.32	25.61	13.28	50.51	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2298 (IC) (v1463)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	25	TOC	K2009424-008	0.1228 ppm	0.0482 ppm	39.2500%	2020/10/20 02:26

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1568	1.5683	10.33	23.49	13.16	50.53	10:26
2	TOC	0.0887	0.8869	9.85	23.12	13.27	50.55	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2298 (IC) (v1463)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	26	TOC	K2009424-009	2.3141 ppm	0.1282 ppm	5.5400%	2020/10/20 02:54

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.4048	24.0479	26.10	39.35	13.25	50.56	10:26
2	TOC	2.2235	22.2346	24.83	38.14	13.32	50.58	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2298 (IC) (v1463)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	27	TOC	K2009335-001	1.5783 ppm	0.0771 ppm	4.8900%	2020/10/20 03:22

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.6328	16.3285	20.68	34.01	13.33	50.57	10:28
2	TOC	1.5238	15.2379	19.92	33.40	13.48	50.60	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2298 (IC)	CAS_salt_010711	CAS_salt_010711

(v1463) (v4) (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	28	TOC	K2009335-001D	1.6720 ppm	0.0360 ppm	2.1500%	2020/10/20 03:50

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.6974	16.9743	21.14	34.61	13.48	50.61	10:27
2	TOC	1.6465	16.4653	20.78	34.36	13.58	50.62	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2298 (IC) (v1463)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 8

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.6571 ppm (PASS)	0.0000 ppm	0%	2020/10/20 04:18

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.6571	246.5705	182.86	196.09	13.24	50.63	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 8

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/10/20 04:32

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	7.13	20.40	13.27	50.62	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Sample Type: Sample From Schedule Version 8

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	29	TOC	K2009335-001MS	26.5295 ppm	0.2163 ppm	0.8200%	2020/10/20 04:47

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	26.6825	266.8251	196.40	209.72	13.32	50.66	10:31
2	TOC	26.3766	263.7658	194.26	207.63	13.37	50.64	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2298 (IC) (v1463)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	30	TOC	K2009260-001D*	5.0783 ppm	0.0567 ppm	1.1200%	2020/10/20 05:15

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	5.1183	51.1832	45.13	58.54	13.40	50.64	10:25
2	TOC	5.0382	50.3821	44.57	57.77	13.20	50.65	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2298 (IC) (v1463)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	31	TOC	K2008260-001MS*	21.1678 ppm	0.3229 ppm	1.5300%	2020/10/20 05:43

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	20.9395	209.3953	156.12	169.54	13.42	50.67	10:31
2	TOC	21.3961	213.9613	159.32	172.71	13.39	50.66	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2298 (IC) (v1463)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 8

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	25.1060 ppm (PASS)	0.0000 ppm	0%	2020/10/20 06:11

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.1060	251.0596	186.01	199.28	13.27	50.68	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 8

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time

◈	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/10/20 06:26

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	7.77	21.18	13.41	50.67	10:34

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	0 ppmC

Meta Data Used in this Report

Blanks

Version	Reagent (Abs)	Acid (Abs)	DI IC (Abs)	DI TC (Abs)	DI TOC (Abs)	Save Time	Operator
v1462	1.7147	-0.0390	0.0000	0.0000	0.0000	2020/10/16 09:58	Fusion1 (Fusion1)
v1463	1.6350	-0.1710	0.0000	0.0000	0.0000	2020/10/19 13:24	Fusion1 (Fusion1)

Calibrations

Name: CAS_salt_010711 (TOC)

Version:	v38	Calibration curve formula:	TOC: y = 7.015x + 9.892
Ver Creation:	2020/06/13 16:40	r^2 value:	TOC: r^2 = 0.99974
Comment:			
Operator:	Fusion1 (Fusion1)		
Basic Analysis Type	TOC		

Basic Analysis Type: TOC

Sample ID	Y Raw Value	X Expected	Message	End Time
DI Water	9.5750	0.0000		2020/06/13 15:13
0.500 ppm	12.9010	0.5000		2020/06/13 15:28
1.0 ppm	15.6320	1.0000		2020/06/13 15:42
5.0 ppm	43.2510	5.0000		2020/06/13 15:56
10 ppm	82.4040	10.0000		2020/06/13 16:11
25 ppm	188.6880	25.0000		2020/06/13 16:25
50 ppm	358.6500	50.0000		2020/06/13 16:39

Methods

Name: CAS_salt_010711 (TOC)

Version: v4 Operator: Fusion1 (Fusion1)
Ver Creation: 2019/02/21 17:57
Comment:

Parameter	Value
SampleVolume	10.0 mL
Dilution	1:10
AcidVolume	0.5 ml
ReagentVolume	2.0 ml
UVReactorPrerinse	Off
UVReactorPrerinseVolume	5.0
NumberOfUVReactorPrerinses	1
ICSpargeTime	1.00 mins
DetectorSweepFlow	500 ml/min
PreSpargeTime	2.00 mins
SystemFlow	500 ml/min

Advanced Parameter	Value
NeedleRinseVolume	5.0 ml
VialPrimeVolume	2.0 ml
ICSamplePrimeVolume	2.0 ml
ICSpargeRinseVolume	12.0 ml
BaselineStabilizeTime	0.70 min
DetectorPressureFlow	150 ml/min
SyringeSpeedWaste	10
SyringeSpeedAcid	7
SyringeSpeedReagent	7
SyringeSpeedDIWater	7
NDIRPressurization	60 psig
SyringeSpeedSampleDispense	5
SyringeSpeedSampleAspirate	4
SyringeSpeedUVDispense	5
SyringeSpeedUVAspirate	5
SyringeSpeedICDispense	5
SyringeSpeedICAspirate	5
NDIRPressureStabilize	1.75 min
SampleMixing	Off
SampleMixingCycles	1
SampleMixingVolume	10.0
LowLevelFilterNDIR	Off

Acceptance / Approval

Electronic Signatures

Report Version	User Name	Acceptance	Reason	Date

Report History

Report History

Report Version	User Name	System Reason	User Reason	Date
1	Fusion1 (Fusion1)	Schedule completed	Schedule completed	2020/10/20 06:41

ALS Environmental

StarLIMS Run: 699997/700002

Analysis: DOC/TOC

Method: SM 5310 C, 9060A, 415.1, 9060

CCV: 19-GEN-8-40-C 50 ppm LCS: 19-GEN-8-41-k 25.0 ppm

ICAL Date: 6/16/2020

ICAL ID: 19-GEN-8-22-G

ICS ID: 19-GEN-8-35-J

ICS TV: 25.0 ppm ICS % R < 1

Spike ID: 19-GEN-8-15-B 0.05 ml of 5000 ppm stock ---> 10.0 ml = 25.0 ppm x dilution factor

Sodium Persulfate: 19-GEN-08-49-F

21 % H3PO4: 19-GEN-08-49-E

Equipment ID: K-TOC-03

PIPETTE ID: 124276B, 129001F, N11314F, Marge

FILTER ID: 16967789

Analyzed By: MC	Date Analyzed: 10-19-20
Reviewed By: JC	Date Reviewed: 10/21/20

HS20100779 - Sub Perch Report (E2000996)
IV

ALS WO# HS20100779

October 22, 2020 Service Request No:E2000996

RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Suite 210
Houston, TX 77099-4338

Laboratory Results for: HS20100779

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory October 16, 2020
For your reference, these analyses have been assigned our service request number **E2000996.**

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

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Corey Grandits
Project Manager

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PHONE +1 281 530 5656 | FAX +1 281 530 5887
ALS Group USA, Corp.
dba ALS Environmental

Certificate of Analysis

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
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ALS Environmental

Client:	ALS Houston	**Service Request No.:**	E2000996
Project:	HS20100779	**Date Received:**	10/16/20
Sample Matrix:	W		

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Nine samples were received for analysis at ALS Environmental in Houston on 10/16/20.

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

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2000513: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in addition to a MS/MSD for this extraction batch. The LCS and DLCS recoveries are within QC limits. The MS/MSD was performed on an unrelated sample.

DoD Certification is held for the method/matrix/analytes provided in this report.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

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

Client: ALS Environmental - US **Service Request:**E2000996
Project: HS20100779

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2000996-001	16WW25-201014	10/14/2020	0735
E2000996-002	16WW26-201014	10/14/2020	0825
E2000996-003	16WW30-201014	10/14/2020	0920
E2000996-004	16WW29-201014	10/14/2020	1005
E2000996-005	16WW22-201014	10/14/2020	1055
E2000996-006	16WW41-201014	10/14/2020	1145
E2000996-007	16WW21-201014	10/14/2020	1235
E2000996-008	16WW21-201014-FD	10/14/2020	1235
E2000996-009	16WW39-201014	10/14/2020	1325

Service Request Summary

Folder #: **E2000996**
Client Name: ALS Environmental - US
Project Name: HS20100779
Project Number:

Report To: RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 10/16/20
Internal Due Date: 10/29/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: N
Report to MDL?: Y
P.O. Number: HS20100779
EDD: No EDD Specified

9 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 10D
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2000996-001	16WW25-201014	Water	10/14/20 0735	**IV**
E2000996-002	16WW26-201014	Water	10/14/20 0825	**IV**
E2000996-003	16WW30-201014	Water	10/14/20 0920	**IV**
E2000996-004	16WW29-201014	Water	10/14/20 1005	**IV**
E2000996-005	16WW22-201014	Water	10/14/20 1055	**IV**
E2000996-006	16WW41-201014	Water	10/14/20 1145	**IV**
E2000996-007	16WW21-201014	Water	10/14/20 1235	**IV**
E2000996-008	16WW21-201014-FD	Water	10/14/20 1235	**IV**
E2000996-009	16WW39-201014	Water	10/14/20 1325	**IV**

Service Request Summary

Folder #: **E2000996**
Client Name: ALS Environmental - US
Project Name: HS20100779
Project Number:

Report To: RJ Modashia
ALS Laboratory Group
10450 Stancliff Road
Houston, TX 77099-4338
USA
Phone Number: 281-530-5656
Cell Number:
Fax Number: 281-530-5887
E-mail: rj.modashia@alsglobal.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 10/16/20
Internal Due Date: 10/29/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: N
Report to MDL?: Y
P.O. Number: HS20100779
EDD: No EDD Specified

9 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 10D
Pressure Gas:

Test Comments:

Group	Test/Method	Samples	Comments
Semivoa GCMS	ClO4 DOD/6850	9	Level II due 10/29,level IV 11/5

Data Qualifiers

Lab Standard

+	Possible Tedlar bag artifact.
A	TIC is a suspected aldol-condensation product
B	Analyte found in the associated method blank as well as in the sample.
BC	Reported results are not blank corrected.
BH	The back section of the tube yielded higher results than the front.
BT	Results indicated possible breakthrough; back section >=10% front section.
C	Result identification confirmed.
D	Compound identified in an analysis at a secondary dilution factor
D	Spike was diluted out
DE	Reported results are corrected for desorption efficiency.
E	Estimated value. Concentration above calibration range
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
H1	Sample analysis performed past holding time. See case narrative.
H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
H3	Sample was received and analyzed past holding time.
H4	Sample was extracted past required extraction holding time, but analyzed within analysis holding time. See case narrative.
I	Internal standard not within the specified limits. See case narrative.
J	Estimated Value. Concentration found below MRL.
K	A deflection in the QC ion may indicate interference with the quantitation of this ion. The concentration of this analyte should be considered as an estimate.
K	Analyte was detected above the method reporting limit prior to normalization.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
L1	Laboratory control sample recovery outside the specified limits; results may be biased high.
L2	Laboratory control sample recovery outside the specified limits; results may be biased low.
L3	Laboratory control sample recovery outside the specified limits.
M	Matrix interference; results may be biased high.
M	The duplicate injection precision not met.
M1	Matrix interference due to coelution with a non-target compound; results may be biased high.
N	Presumptive evidence of a compound for TICs that have been identified based on a mass spectral library search.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.

Data Qualifiers

Lab Standard

P	Indicates chlorodiphenyl ether interference present at the retention time of the target compound.
P	Pesticide/Aroclor target analyte > 40% difference for detected concentrations between GC columns
Q	Indicates as estimated value because the P and P + 2 theoretical abundance ratio does not meet method criteria.
R	Duplicate Precision not met.
R1	Duplicate precision not within the specified limits; however, the results are below the MRL and considered estimated.
S	Surrogate recovery not within specified limits.
S	The reported value was determined by the Method of Standard Additions (MSA).
T	Analyte is a tentatively identified compound, result is estimated.
U	Compound was analyzed for, but was not detected (ND).
V1	The continuing calibration verification standard was outside (biased high) the specified limits for this compound.
V2	The continuing calibration verification standard was outside (biased low) the specified limits for this compound.
W	Result quantified, but the corresponding peak was detected outside the generated retention time window.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
X	See case narrative.
Y	Recovery outside limits
Y	The chromatogram resembles a petroleum product but does not match the calibration standard.
Z	The chromatogram does not resemble a petroleum product.
i	The MRL/MDL has been elevated due to a matrix interference.

ALS Laboratory Group

Acronyms

Cal	Calibration
Conc	CONCentration
Dioxin(s)	Polychlorinated dibenzo-p-dioxin(s)
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
Flags	Data qualifiers
Furan(s)	Polychlorinated dibenzofuran(s)
g	Grams
ICAL	Initial CALibration
ID	IDentifier
Ions	Masses monitored for the analyte during data acquisition
L	Liter (s)
LCS	Laboratory Control Sample
DLCS	Duplicate Laboratory Control Sample
MB	Method Blank
MCL	Method Calibration Limit
MDL	Method Detection Limit
mL	Milliliters
MS	Matrix Spiked sample
DMS	Duplicate Matrix Spiked sample
NO	Number of peaks meeting all identification criteria
PCDD(s)	Polychlorinated dibenzo-p-dioxin(s)
PCDF(s)	Polychlorinated dibenzofuran(s)
ppb	Parts per billion
ppm	Parts per million
ppq	Parts per quadrillion
ppt	Parts per trillion
QA	Quality Assurance
QC	Quality Control
Ratio	Ratio of areas from monitored ions for an analyte
% Rec.	Percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
SDG	Sample Delivery Group
S/N	Signal-to-noise ratio
TEF	Toxicity Equivalence Factor
TEQ	Toxicity Equivalence Quotient

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ALS Environmental

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
American Association for Laboratory Accreditation	2897.01 2020	11/30/2021
Arizona Department of Health Services	AZ0793-2020	5/27/2021
Arkansas Department of Environmental Quality	20-030-0	3/26/2021
California Department of Health Services	2919-2020	4/30/2021
Department of Defense	A2LA 2897.01	11/30/2021
Florida Department of Health	E87611-2020	6/30/2021
Hawaii Department of Health	2020	4/30/2021
Illinois Environmental Protection Agency	2000322020-4	5/9/2021
Kansas Department of Health and Environment	E-10352-2020	7/31/2021
Louisiana Department of Environmental Quality	03087-2020	6/30/2021
Louisiana Department of Health and Hospitals	LA028-2020	12/31/2020
Maine Department of Health and Human Services	2020016	6/5/2022
Maryland Department of the Environment	343-2020	6/30/2021
Michigan Depratment of Environmental Quality	9971-2020	4/30/2021
Minnesota Department of Health	1785988	12/31/2020
Nebraska Department of Health and Human Services	NE-OS-25-13 (2020)	4/30/2021
Nevada Department of Concervation and Natural Resources	TX026932021-1	7/31/2021
New Hampshire Environmental Laboratory Accreditation Program	209420	4/24/2021
New Jersey Department of Environmental Protection	TX008	6/30/2021
New York Department of Health	11707	3/31/2021
Oklahoma Department of Environmental Quality	2020-123	8/31/2021
Pennsylvania Department of Environmental Protection	014	6/30/2021
Tennessee Department of Environment and Concervation	04016-2020	4/30/2021
Texas Commision on Environmental Quality	T104704231-20-26	4/30/2021
United States Department of Agriculture	P330-19-00299	10/10/2022
Washington Department of Health	C819	11/14/2020

Chain of Custody

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Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14951**

SUBCONTRACT TO:

ALS Environmental
10450 Stancliff RoadSuite 210
Houston, TX 77084

Phone: +1 281 530 5656

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	RJ Modashia
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	RJ.Modashia@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS20100779
TSR:	Sonia West

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20100779-01**	**16WW25-201014**	**Groundwater**	**14 Oct 2020 07:40**
	SUB_Perch-6850			22 Oct 2020
2.	**HS20100779-02**	**16WW26-201014**	**Groundwater**	**14 Oct 2020 08:25**
	SUB_Perch-6850			22 Oct 2020
3.	**HS20100779-03**	**16WW30-201014**	**Groundwater**	**14 Oct 2020 09:20**
	SUB_Perch-6850			22 Oct 2020
4.	**HS20100779-04**	**16WW29-201014**	**Groundwater**	**14 Oct 2020 10:05**
	SUB_Perch-6850			22 Oct 2020
5.	**HS20100779-05**	**16WW22-201014**	**Groundwater**	**14 Oct 2020 10:55**
	SUB_Perch-6850			22 Oct 2020
6.	**HS20100779-06**	**16WW41-201014**	**Groundwater**	**14 Oct 2020 11:45**
	SUB_Perch-6850			22 Oct 2020
7.	**HS20100779-07**	**16WW21-201014**	**Groundwater**	**14 Oct 2020 12:35**
	SUB_Perch-6850			22 Oct 2020
8.	**HS20100779-08**	**16WW21-201014-FD**	**Groundwater**	**14 Oct 2020 12:35**
	SUB_Perch-6850			22 Oct 2020
9.	**HS20100779-09**	**16WW39-201014**	**Groundwater**	**14 Oct 2020 13:25**

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14951**

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
ANALYSIS REQUESTED			DUE DATE
SUB_Perch-6850			22 Oct 2020

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: DOD IV (DoD Data Package)

Relinquished By: J. Sweeney Date/Time:

Received By: Corey G Date/Time: 10/16/20 1102

Cooler ID(s): Temperature(s):

ALS Environmental

Cooler Receipt Form

Project Chemist CG

Client/Project ALS-H

Thermometer ID 1051

Date/Time Received: 10/16/20 Initials: CG

Date/Time Logged in: 10/16/20 Initials CG

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ✓ ALS Courier ○ Client

2. Samples received in: ✓ Cooler ○ Box ○ Envelope ○ Other

3. Were custody seals on coolers? ○ Yes ✓ No

If yes, how many and where?

Were they intact? ○ Yes ○ No ✓ N/A

Were they signed and dated? ○ Yes ○ No ✓ N/A

4. Packing Material: ○ Inserts ✓ Baggies ○ Bubble Wrap ○ Gel Packs ✓ Wet Ice ○ Sleeves ○ Other

5. Foreign or Regulated Soil? ○ Yes ✓ No Location of Sampling:

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
-		10/16/20	1100	CG	1.1	☒
						☐
						☐
						☐

6. Were custody papers properly filled out (ink, signed, dated, etc)? ✓ Yes ○ No

7. Did all bottles arrive in good condition (not broken, no signs of leakage)? ✓ Yes ○ No

8. Were all sample labels complete (i.e., sample ID, analysis, preservation, etc)? ✓ Yes ○ No

9. Were appropriate bottles/containers and volumes received for the requested tests? ✓ Yes ○ No

10. Did sample labels and tags agree with custody documents? ✓ Yes ○ No

Notes, Discrepancies, & Resolutions:

Service request Label:

10450 Stancliff Rd., Suite 210
Houston, TX 77099
T: +1 713 266 1599
F: +1 713 266 1599
www.alsglobal.com

SAMPLE ACCEPTANCE POLICY

This policy outlines the criteria samples must meet to be accepted by ALS Environmental – Houston HRMS.

Cooler Custody Seals (desirable, mandatory if specified in SAP):

- ✓ Intact on outside of cooler, signed and dated

Chain-of-Custody (COC) documentation (mandatory):

The following is required on each COC:

- ✓ Sample ID, the location, date and time of collection, collector's name, preservation type, sample type, and any other special remarks concerning the sampleThe COC must be completed in ink.
- ✓ Signature and date of relinquishing party.

In the absence of a COC at sample receipt, the COC will be requested from the client.

Sample Integrity (mandatory):

Samples are inspected upon arrival to ensure that sample integrity was not compromised during transfer to the laboratory.

- ✓ Sample containers must arrive in good condition (not broken or leaking).
- ✓ Samples must be labeled appropriately, including Sample IDs, and requested test using durable labels and indelible ink.
- ✓ The correct type of sample bottle must be used for the method requested.
- ✓ An appropriate sample volume, or weight, must be received.
- ✓ Sample IDs and number of containers must reconcile with the COC.
- ✓ Samples must be received within the method defined holding time.

Temperature Requirement (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6ºC.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10ºC.
- ✓ Air samples are shipped and stored cold, at 0 to 6ºC
- ✓ The sample temperature must be recorded on the COC

All cooler inspections are documented on the Cooler Receipt Form (CRF). A separate CRF is completed for each service request. Any samples not meeting the above criteria are noted on the CRF and the Project Manager notified. The Project Manager must resolve any sample integrity issues with the client prior to proceeding with the analysis. Such resolutions are documented in writing and filed with the project folder. Data associated with samples received outside of this acceptance policy will be qualified on the case narrative of the final report

Preparation Information Benchsheets

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

Preparation Information Benchsheet

Prep Run#: 368005 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 10/19/20 09:34

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2000981-001	LH18/24-SP650_101320-AIX	.01	6850/ClO4 DOD			Water	10mL	
2	E2000982-001	LH18/24-SP140_101320	.01	6850/ClO4 DOD			Water	10mL	
3	E2000984-001	LH18/24-SP650_101320-AIX	.01	6850/ClO4 DOD			Water	10mL	
4	E2000985-001	16WW36-201013	.01	6850/ClO4 DOD			Water	10mL	
5	E2000985-002	16WW35-201013	.01	6850/ClO4 DOD			Water	10mL	
6	E2000985-003	16IW09-201013	.01	6850/ClO4 DOD			Water	10mL	
7	E2000985-004	16WW55-201013	.01	6850/ClO4 DOD			Water	10mL	
8	E2000985-005	16IW03-201013	.01	6850/ClO4 DOD			Water	10mL	
9	E2000985-006	16IW10-201013	.01	6850/ClO4 DOD			Water	10mL	
10	E2000996-001	16WW25-201014	.01	6850/ClO4 DOD			Water	10mL	
11	E2000996-002	16WW26-201014	.01	6850/ClO4 DOD			Water	10mL	
12	E2000996-003	16WW30-201014	.01	6850/ClO4 DOD			Water	10mL	
13	E2000996-004	16WW29-201014	.01	6850/ClO4 DOD			Water	10mL	
14	E2000996-005	16WW22-201014	.01	6850/ClO4 DOD			Water	10mL	
15	E2000996-006	16WW41-201014	.01	6850/ClO4 DOD			Water	10mL	
16	E2000996-007	16WW21-201014	.01	6850/ClO4 DOD			Water	10mL	
17	E2000996-008	16WW21-201014-FD	.01	6850/ClO4 DOD			Water	10mL	
18	E2000996-009	16WW39-201014	.01	6850/ClO4 DOD			Water	10mL	
19	EQ2000513-01	MB		6850/ClO4 DOD			Liquid	10mL	
20	EQ2000513-02	LCS		6850/ClO4 DOD			Liquid	10mL	
21	EQ2000513-03	DLCS		6850/ClO4 DOD			Liquid	10mL	
22	EQ2000513-04	16IW03-201013 MS	.01	6850/ClO4 DOD			Liquid	10mL	
23	EQ2000513-05	16IW03-201013 DMS	.01	6850/ClO4 DOD			Liquid	10mL	

Spiking Solutions

Name: Perchlorate Intermediate Stock1 Inventory ID 209764 Logbook Ref: Perchlorate Int. Stock1 51820 Expires On: 11/18/2020

EQ2000513-02	1.00µL	EQ2000513-03	1.00µL	EQ2000513-04	1.00µL	EQ2000513-05	1.00µL

Name: Sodium Perchlorate 1 ug/mL (IS) (18-O) as CLO4 Inventory ID 212340 Logbook Ref: Sodium Perchlorate Expires On: 07/13/2022

E2000981-001	100.00µL	E2000982-001	100.00µL	E2000984-001	100.00µL	E2000985-001	100.00µL	E2000985-002	100.00µL	E2000985-003	100.00µL
E2000985-004	100.00µL	E2000985-005	100.00µL	E2000985-006	100.00µL	E2000996-001	100.00µL	E2000996-002	100.00µL	E2000996-003	100.00µL
E2000996-004	100.00µL	E2000996-005	100.00µL	E2000996-006	100.00µL	E2000996-007	100.00µL	E2000996-008	100.00µL	E2000996-009	100.00µL
EQ2000513-01	100.00µL	EQ2000513-02	100.00µL	EQ2000513-03	100.00µL	EQ2000513-04	100.00µL	EQ2000513-05	100.00µL		

Preparation Information Benchsheet

Prep Run#: 368005 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 10/19/20 09:34

Preparation Steps

Step: Preparation
Started: 10/19/20 09:34
Finished: 10/19/20 14:58
By: GRIVERA
Comments

Comments: _____

Reviewed By: GR Date: 10/19/2020

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Analytical Results

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	10/14/20 0735
Sample Matrix:	Water	**Date Received:**	10/16/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/19/20 22:13
Sample Name:	16WW25-201014	**Units:**	µg/L
Lab Code:	E2000996-001	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700168
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201019\20201019_056	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**0.0770**	J	0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	10/14/20 0825
Sample Matrix:	Water	**Date Received:**	10/16/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/19/20 22:21
Sample Name:	16WW26-201014	**Units:**	µg/L
Lab Code:	E2000996-002	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700168
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201019\20201019_057	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	ND	U	0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	10/14/20 0920
Sample Matrix:	Water	**Date Received:**	10/16/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/21/20 11:58
Sample Name:	16WW30-201014	**Units:**	µg/L
Lab Code:	E2000996-003	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700177
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201021\20201021_019	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	ND	U	0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	10/14/20 1005
Sample Matrix:	Water	**Date Received:**	10/16/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/19/20 22:37
Sample Name:	16WW29-201014	**Units:**	µg/L
Lab Code:	E2000996-004	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700168
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201019\20201019_059	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	ND	U	0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	10/14/20 1055
Sample Matrix:	Water	**Date Received:**	10/16/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/21/20 12:06
Sample Name:	16WW22-201014	**Units:**	µg/L
Lab Code:	E2000996-005	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700177
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201021\20201021_020	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	ND	U	0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	10/14/20 1145
Sample Matrix:	Water	**Date Received:**	10/16/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/20/20 21:55
Sample Name:	16WW41-201014	**Units:**	µg/L
Lab Code:	E2000996-006	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700170
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201020\20201020_046	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	5

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**81.2**		0.500	0.250	0.125	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	10/14/20 1235
Sample Matrix:	Water	**Date Received:**	10/16/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/19/20 23:09
Sample Name:	16WW21-201014	**Units:**	µg/L
Lab Code:	E2000996-007	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700168
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201019\20201019_063	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	ND	U	0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	10/14/20 1235
Sample Matrix:	Water	**Date Received:**	10/16/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/19/20 23:16
Sample Name:	16WW21-201014-FD	**Units:**	µg/L
Lab Code:	E2000996-008	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700168
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201019\20201019_064	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	ND	U	0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	10/14/20 1325
Sample Matrix:	Water	**Date Received:**	10/16/20
		Date Extracted:	10/19/20
		Date Analyzed:	10/21/20 12:48
Sample Name:	16WW39-201014	**Units:**	µg/L
Lab Code:	E2000996-009	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700177
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201021\20201021_023	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	2

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**1.08**		0.200	0.100	0.0500	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	10/19/20
		Date Analyzed:	10/19/20 20:15
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000513-01	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700168
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201019\20201019_041	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	ND	U	0.100	0.0500	0.0250	

Accuracy & Precision

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ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20100779
Sample Matrix: Water

Service Request: E2000996
Date Analyzed: 10/20/20

Lab Control Sample Summary
Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Units: µg/L
Basis: NA

Extraction Lot: 368005

	Lab Control Sample EQ2000513-02			Duplicate Lab Control Sample EQ2000513-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.105	0.100	105	0.108	0.100	108	84 - 119	3	15

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

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

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	10/19/20
		Date Analyzed:	10/20/20 20:04
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000513-02	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700170
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201020\20201020_032	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**0.105**		0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	10/19/20
		Date Analyzed:	10/20/20 20:12
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000513-03	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700170
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201020\20201020_033	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**0.108**		0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Analyzed:	10/20/20

Matrix Spike Summary

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Sample Name:	Batch QC	**Units:**	µg/L
Lab Code:	E2000985-005	**Basis:**	NA

Analytical Method: 6850
Prep Method: Method

		Batch QCMS				Batch QCDMS					
		Matrix Spike				**Duplicate Matrix Spike**					
		EQ2000513-04				EQ2000513-05					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.0876	0.194	0.100	106	0.193	0.100	105	84 - 119	<1	15

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

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

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

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	10/19/20
		Date Analyzed:	10/20/20 20:20
Sample Name:	Batch QC	**Units:**	µg/L
Lab Code:	EQ2000513-04	**Basis:**	NA
Run Type:	Matrix Spike		

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700170
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201020\20201020_034	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**0.194**		0.100	0.0500	0.0250	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000996
Project:	HS20100779	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	10/19/20
		Date Analyzed:	10/20/20 20:28
Sample Name:	Batch QC	**Units:**	µg/L
Lab Code:	EQ2000513-05	**Basis:**	NA
Run Type:	Duplicate Matrix Spike		

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method:	6850	**Analysis Lot:**	700170
Prep Method:	Method	**Extraction Lot:**	368005
Data File Name:	I:\LCMS01\DATA\20201020\20201020_035	**Instrument Name:**	E-LCMS-01
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	LOQ	LOD	MDL	Note
14797-73-0	Perchlorate	**0.193**		0.100	0.0500	0.0250	

Initial Calibration

ALS Environmental - Houston HRMS
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www.alsglobal.com

20200915

ALS Environmental

ICAL Date: 9/15/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000032**

1st Review: Grivera
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	PERCHLORATE1		20200915_044	Perchlorate6850b.lcm	1x	☒	3100806-05	9/15/2020 17:55
2	PERCHLORATE2		20200915_024	Perchlorate6850b.lcm	1x	☒	3100806-06	9/15/2020 15:10
3	PERCHLORATE3		20200915_046	Perchlorate6850b.lcm	1x	☒	3100806-07	9/15/2020 18:13
4	PERCHLORATE4		20200915_047	Perchlorate6850b.lcm	1x	☒	3100807-01	9/15/2020 18:21
5	PERCHLORATE5		20200915_048	Perchlorate6850b.lcm	1x	☒	3100807-02	9/15/2020 18:29
6	PERCHLORATE6		20200915_049	Perchlorate6850b.lcm	1x	☒	3100807-03	9/15/2020 18:37
7	PERCHLORATE7		20200915_029	Perchlorate6850b.lcm	1x	☒	3100807-04	9/15/2020 15:49
8	PERCHLORATE8		20200915_051	Perchlorate6850b.lcm	1x	☒	3100807-05	9/15/2020 18:52
9	PERCHLORATE9		20200915_052	Perchlorate6850b.lcm	1x	☒	3100807-06	9/15/2020 19:00
10	PERCHLORATE10		20200915_053	Perchlorate6850b.lcm	1x	☒	3100807-07	9/15/2020 19:08
11	PERCHLORATE ICV		20200915_054	Perchlorate6850b.lcm	1x	☒	3100807-08	9/15/2020 19:16
12	LODV		20200915_055	Perchlorate6850b.lcm	1x	☒		9/15/2020 19:24
13	E2000817-001		20200915_056	Perchlorate6850b.lcm	1x	☒		9/15/2020 19:40
14	E2000817-001x10		20200915_057	Perchlorate6850b.lcm	1x	☒		9/15/2020 19:48
15	PERCHLORATE7		20200915_058	Perchlorate6850b.lcm	1x	☒	3100807-04	9/15/2020 19:56
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Initial Calibration - Detailed Report

Calibration ID: EC2000032 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2000032-01	PERCHLORATE2	20200915_024	09/15/2020 15:10
02	EC2000032-02	PERCHLORATE7	20200915_029	09/15/2020 15:49
03	EC2000032-03	PERCHLORATE1	20200915_044	09/15/2020 17:55
04	EC2000032-04	PERCHLORATE3	20200915_046	09/15/2020 18:13
05	EC2000032-05	PERCHLORATE4	20200915_047	09/15/2020 18:21
06	EC2000032-06	PERCHLORATE5	20200915_048	09/15/2020 18:29
07	EC2000032-07	PERCHLORATE6	20200915_049	09/15/2020 18:37
08	EC2000032-08	PERCHLORATE8	20200915_051	09/15/2020 18:52
09	EC2000032-09	PERCHLORATE9	20200915_052	09/15/2020 19:00
10	EC2000032-10	PERCHLORATE10	20200915_053	09/15/2020 19:08

Analyte **Curve Fit** **Weighting**

Perchlorate **Quadratic** **Equal** **COD = 0.9998** **Y= -9.474E-05 X² + 0.1066 X + 0.00148**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.5000	0.1319	02	10.0000	0.1001	03	0.1000	0.1399	04	0.7000	0.1079
05	1.0000	0.1089	06	2.0000	0.1096	07	5.0000	0.1086	08	20.0000	0.1062
09	30.0000	0.104	10	50.0000	0.1018						

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.5000	0.605	21.0	02	10.0000	9.45	-5.5	03	0.1000	0.117	17.3
04	0.7000	0.695	-0.8	05	1.0000	1.01	0.8	06	2.0000	2.05	2.3
07	5.0000	5.10	2.0	08	20.0000	20.3	1.3	09	30.0000	30.1	0.2
10	50.0000	50.0	-0.1								

Initial Calibration Verification Summary Report

Calibration ID:	EC2000032	**Instrument ID:**	E-LCMS-01
Datafile ID:	20200915_054	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2000032-11	T	Quadratic	10	9.462	ng/mL	-5.4	<= 15

ALS Group Houston

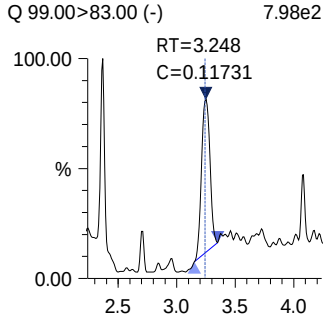
PERCHLORATE1

Date acquired: 9/15/2020 5:55:29 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200915\20200915_044.lcd
Vial: 5 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE1	9/15/2020 5:55:29 PM	2833	0.11731	20200915_044	3.248	25.0000	1.0000	5
Sodium Perchlorate-18O4_IS	PERCHLORATE1	9/15/2020 5:55:29 PM	202512	1.00000	20200915_044	3.237	25.0000	1.0000	5

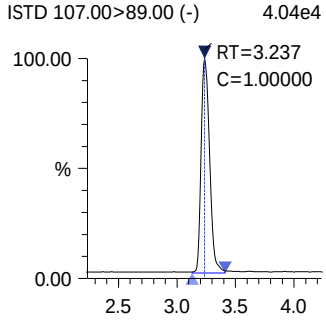
Perchlorate

Conc 0.11731
Area 2833



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 202512



ALS Group Houston

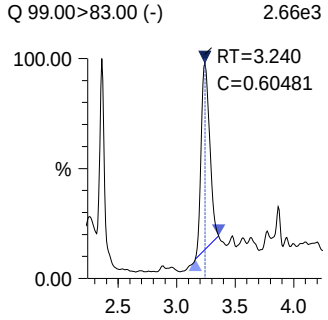
PERCHLORATE2

Date acquired: 9/15/2020 3:10:04 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200915\20200915_024.lcd
Vial: 6 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE2	9/15/2020 3:10:04 PM	11634	0.60481	20200915_024	3.240	25.0000	1.0000	6
Sodium Perchlorate-18O4_IS	PERCHLORATE2	9/15/2020 3:10:04 PM	176422	1.00000	20200915_024	3.240	25.0000	1.0000	6

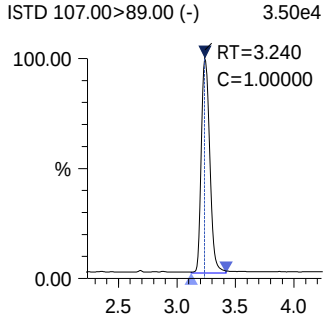
Perchlorate

Conc 0.60481
Area 11634



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 176422



ALS Group Houston

PERCHLORATE3

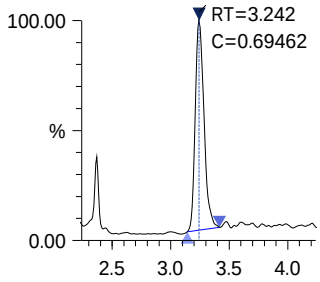
Date acquired: 9/15/2020 6:13:20 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200915\20200915_046.lcd
Vial: 7 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE3	9/15/2020 6:13:20 PM	14722	0.69462	20200915_046	3.242	25.0000	1.0000	7
Sodium Perchlorate-18O4_IS	PERCHLORATE3	9/15/2020 6:13:20 PM	194971	1.00000	20200915_046	3.239	25.0000	1.0000	7

Perchlorate

Conc 0.69462
Area 14722

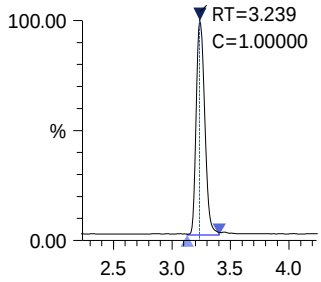
Q 99.00>83.00 (-) 2.91e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 194971

ISTD 107.00>89.00 (-) 3.85e4



ALS Group Houston

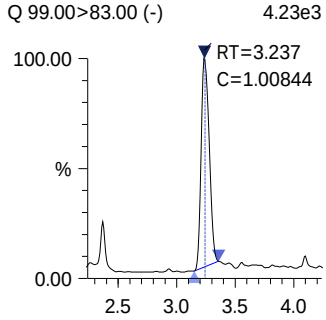
PERCHLORATE4

Date acquired: 9/15/2020 6:21:15 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200915\20200915_047.lcd
Vial: 8 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE4	9/15/2020 6:21:15 PM	19524	1.00844	20200915_047	3.237	25.0000	1.0000	8
Sodium Perchlorate-18O4_IS	PERCHLORATE4	9/15/2020 6:21:15 PM	179246	1.00000	20200915_047	3.240	25.0000	1.0000	8

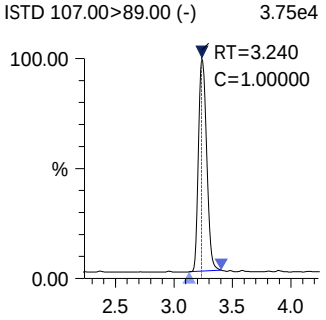
Perchlorate

Conc 1.00844
Area 19524



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 179246



ALS Group Houston

PERCHLORATE5

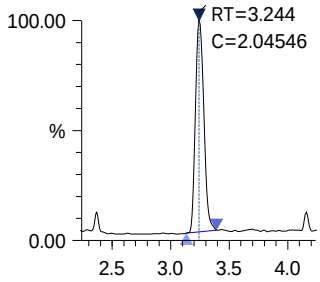
Date acquired: 9/15/2020 6:29:08 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200915\20200915_048.lcd
Vial: 9 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE5	9/15/2020 6:29:08 PM	38522	2.04546	20200915_048	3.244	25.0000	1.0000	9
Sodium Perchlorate-18O4_IS	PERCHLORATE5	9/15/2020 6:29:08 PM	175734	1.00000	20200915_048	3.240	25.0000	1.0000	9

Perchlorate

Conc 2.04546
Area 38522

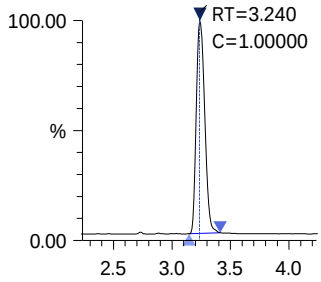
Q 99.00>83.00 (-) 7.92e3



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 175734

ISTD 107.00>89.00 (-) 3.56e4



ALS Group Houston

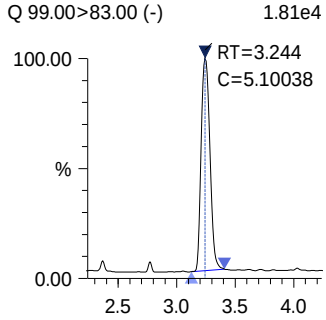
PERCHLORATE6

Date acquired: 9/15/2020 6:37:05 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200915\20200915_049.lcd
Vial: 10 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE6	9/15/2020 6:37:05 PM	92162	5.10038	20200915_049	3.244	25.0000	1.0000	10
Sodium Perchlorate-18O4_IS	PERCHLORATE6	9/15/2020 6:37:05 PM	169754	1.00000	20200915_049	3.239	25.0000	1.0000	10

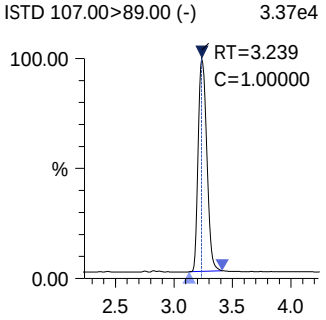
Perchlorate

Conc 5.10038
Area 92162



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 169754



ALS Group Houston

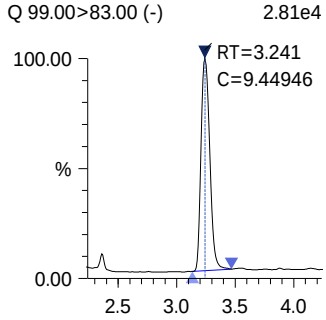
PERCHLORATE7

Date acquired: 9/15/2020 3:49:35 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200915\20200915_029.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	9/15/2020 3:49:35 PM	144012	9.44946	20200915_029	3.241	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	9/15/2020 3:49:35 PM	143911	1.00000	20200915_029	3.238	25.0000	1.0000	4

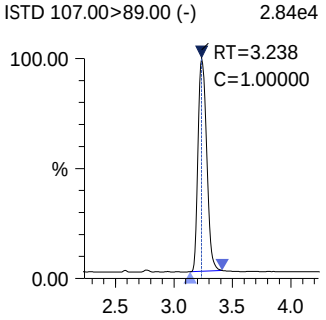
Perchlorate

Conc 9.44946
Area 144012



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 143911



ALS Group Houston

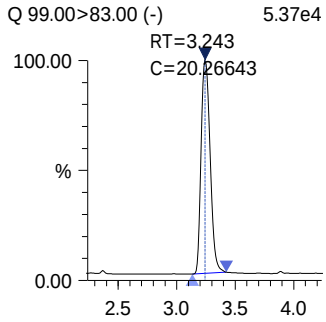
PERCHLORATE8

Date acquired: 9/15/2020 6:52:54 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200915\20200915_051.lcd
Vial: 11 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE8	9/15/2020 6:52:54 PM	284308	20.26643	20200915_051	3.243	25.0000	1.0000	11
Sodium Perchlorate-18O4_IS	PERCHLORATE8	9/15/2020 6:52:54 PM	133870	1.00000	20200915_051	3.240	25.0000	1.0000	11

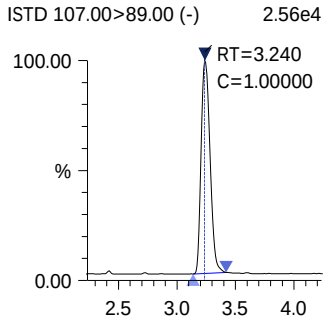
Perchlorate

Conc 20.26643
Area 284308



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 133870



ALS Group Houston

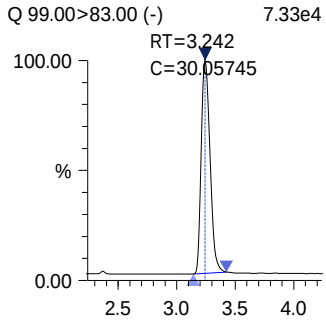
PERCHLORATE9

Date acquired: 9/15/2020 7:00:50 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200915\20200915_052.lcd
Vial: 12 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE9	9/15/2020 7:00:50 PM	377183	30.05745	20200915_052	3.242	25.0000	1.0000	12
Sodium Perchlorate-18O4_IS	PERCHLORATE9	9/15/2020 7:00:50 PM	120846	1.00000	20200915_052	3.240	25.0000	1.0000	12

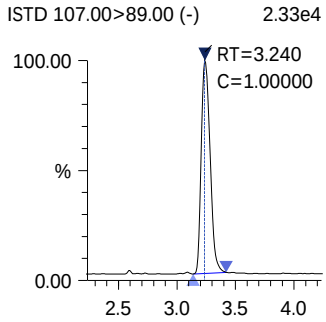
Perchlorate

Conc 30.05745
Area 377183



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 120846



ALS Group Houston

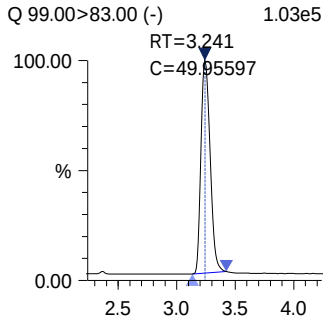
PERCHLORATE10

Date acquired: 9/15/2020 7:08:43 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200915\20200915_053.lcd
Vial: 13 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE10	9/15/2020 7:08:43 PM	553330	49.95597	20200915_053	3.241	25.0000	1.0000	13
Sodium Perchlorate-18O4_IS	PERCHLORATE10	9/15/2020 7:08:43 PM	108660	1.00000	20200915_053	3.240	25.0000	1.0000	13

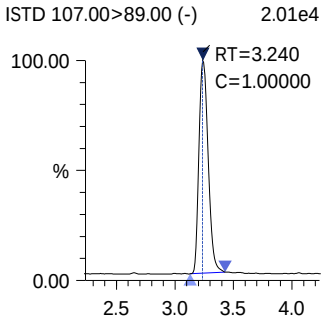
Perchlorate

Conc 49.95597
Area 553330



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 108660



ALS Group Houston

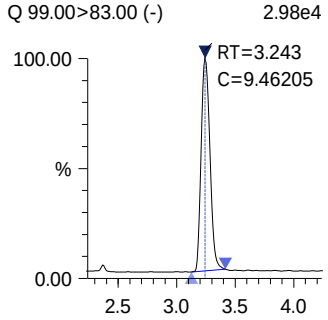
PERCHLORATEICV

Date acquired: 9/15/2020 7:16:39 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200915\20200915_054.lcd
Vial: 14 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATEICV	9/15/2020 7:16:39 PM	152650	9.46205	20200915_054	3.243	25.0000	1.0000	14
Sodium Perchlorate-18O4_IS	PERCHLORATEICV	9/15/2020 7:16:39 PM	152342	1.00000	20200915_054	3.241	25.0000	1.0000	14

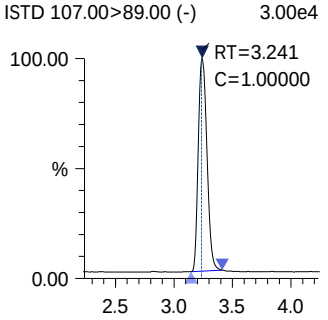
Perchlorate

Conc 9.46205
Area 152650



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 152342



20201020

ALS Environmental

ICAL Date: 9/20/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000045**

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	PERCHLORATE1		20201020_009	Perchlorate6850b.lcm	1x	☒	3100806-05	10/20/2020 17:02
2	PERCHLORATE2		20201020_011	Perchlorate6850b.lcm	1x	☒	3100806-07	10/20/2020 17:18
3	PERCHLORATE3		20201020_012	Perchlorate6850b.lcm	1x	☒	3100807-01	10/20/2020 17:26
4	PERCHLORATE4		20201020_013	Perchlorate6850b.lcm	1x	☒	3100807-02	10/20/2020 17:34
5	PERCHLORATE5		20201020_014	Perchlorate6850b.lcm	1x	☒	3100807-03	10/20/2020 17:42
6	PERCHLORATE6		20201020_015	Perchlorate6850b.lcm	1x	☒	3100807-04	10/20/2020 17:50
7	PERCHLORATE7		20201020_016	Perchlorate6850b.lcm	1x	☒	3100807-05	10/20/2020 17:58
8	PERCHLORATE8		20201020_017	Perchlorate6850b.lcm	1x	☒	3100807-06	10/20/2020 18:06
9	PERCHLORATE9		20201020_018	Perchlorate6850b.lcm	1x	☒	3100807-07	10/20/2020 18:14
10	PERCHLORATEICV		20201020_019	Perchlorate6850b.lcm	1x	☒	3100807-08	10/20/2020 18:21
11	IB		20201020_020	Perchlorate6850b.lcm	1x	☒		10/20/2020 18:29
12	LODV		20201020_021	Perchlorate6850b.lcm	1x	☒		10/20/2020 18:37
13	ICS		20201020_022	Perchlorate6850b.lcm	1x	☒		10/20/2020 18:45
14	PERCHLORATE7		20201020_023	Perchlorate6850b.lcm	1x	☒	3100807-05	10/20/2020 18:53
15	EQ2000512-03RR		20201020_024	Perchlorate6850b.lcm	1x	☒		10/20/2020 19:01
16	E2000965-005X2		20201020_025	Perchlorate6850b.lcm	2x	☒		10/20/2020 19:09
17	E2000966-002X2		20201020_026	Perchlorate6850b.lcm	2x	☒		10/20/2020 19:17
18	E2000971-001X2		20201020_027	Perchlorate6850b.lcm	2x	☒		10/20/2020 19:25
19	E2000971-003X2		20201020_028	Perchlorate6850b.lcm	2x	☒		10/20/2020 19:33
20	E2000971-004X2		20201020_029	Perchlorate6850b.lcm	2x	☒		10/20/2020 19:40
21	E2000971-005X10		20201020_030	Perchlorate6850b.lcm	10x	☒		10/20/2020 19:48
22	PERCHLORATE7		20201020_031	Perchlorate6850b.lcm	1x	☒	3100807-05	10/20/2020 19:56
23	EQ2000513-02RR		20201020_032	Perchlorate6850b.lcm	1x	☒		10/20/2020 20:04
24	EQ2000513-03RR		20201020_033	Perchlorate6850b.lcm	1x	☒		10/20/2020 20:12
25	EQ2000513-04RR		20201020_034	Perchlorate6850b.lcm	1x	☒		10/20/2020 20:20
26	EQ2000513-05RR		20201020_035	Perchlorate6850b.lcm	1x	☒		10/20/2020 20:28
27	E2000981-001X2		20201020_036	Perchlorate6850b.lcm	2x	☒		10/20/2020 20:36
28	E2000982-001X200		20201020_037	Perchlorate6850b.lcm	200x	☒		10/20/2020 20:44
29	E2000984-001X2		20201020_038	Perchlorate6850b.lcm	2x	☒		10/20/2020 20:51
30	E2000985-002X20		20201020_039	Perchlorate6850b.lcm	20x	☒		10/20/2020 20:59
31	E2000985-003X2		20201020_040	Perchlorate6850b.lcm	2x	☒		10/20/2020 21:07
32	E2000985-004X10		20201020_041	Perchlorate6850b.lcm	10x	☒		10/20/2020 21:15
33	PERCHLORATE7		20201020_042	Perchlorate6850b.lcm	1x	☒	3100807-05	10/20/2020 21:23
34	E2000985-006X10		20201020_043	Perchlorate6850b.lcm	10x	☒		10/20/2020 21:31
35	E2000996-003X2		20201020_044	Perchlorate6850b.lcm	2x	☒		10/20/2020 21:39
36	E2000996-005X2		20201020_045	Perchlorate6850b.lcm	2x	☒		10/20/2020 21:47
37	E2000996-006X5		20201020_046	Perchlorate6850b.lcm	5x	☒		10/20/2020 21:55
38	E2000996-009X5		20201020_047	Perchlorate6850b.lcm	5x	☒		10/20/2020 22:02
39	PERCHLORATE7		20201020_048	Perchlorate6850b.lcm	1x	☒	3100807-05	10/20/2020 22:10
40	null		20201020_049	Perchlorate6850b.lcm	1x	☒		10/20/2020 22:15
41	null		20201020_050	Perchlorate6850b.lcm	1x	☒		10/20/2020 22:20
42								
43								

Initial Calibration - Detailed Report

Calibration ID: EC2000045 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2000045-01	PERCHLORATE1	20201020_009	10/20/2020 17:02
02	EC2000045-02	PERCHLORATE2	20201020_011	10/20/2020 17:18
03	EC2000045-03	PERCHLORATE3	20201020_012	10/20/2020 17:26
04	EC2000045-04	PERCHLORATE4	20201020_013	10/20/2020 17:34
05	EC2000045-05	PERCHLORATE5	20201020_014	10/20/2020 17:42
06	EC2000045-06	PERCHLORATE6	20201020_015	10/20/2020 17:50
07	EC2000045-07	PERCHLORATE7	20201020_016	10/20/2020 17:58
08	EC2000045-08	PERCHLORATE8	20201020_017	10/20/2020 18:06
09	EC2000045-09	PERCHLORATE9	20201020_018	10/20/2020 18:14

Analyte	Curve Fit	Weighting		
Perchlorate	**Linear**	**Equal**	**R2 = 0.9997655579102110**	**Y=0.09298 X+0.005025**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1448	02	0.7000	0.09763	03	1.0000	0.1037	04	2.0000	0.09831
05	5.0000	0.0959	06	10.0000	0.08798	07	20.0000	0.09511	08	30.0000	0.09343
09	50.0000	0.09287									

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.102	1.6	02	0.7000	0.681	-2.7	03	1.0000	1.06	6.1
04	2.0000	2.06	3.0	05	5.0000	5.10	2.1	06	10.0000	9.41	-5.9
07	20.0000	20.4	2.0	08	30.0000	30.1	0.3	09	50.0000	49.9	-0.2

Initial Calibration Verification Summary Report

Calibration ID:	EC2000045	**Instrument ID:**	E-LCMS-01
Datafile ID:	20201020_019	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2000045-10	T	Linear	10	10.013	ng/mL	0.1	<= 15

ALS Group Houston

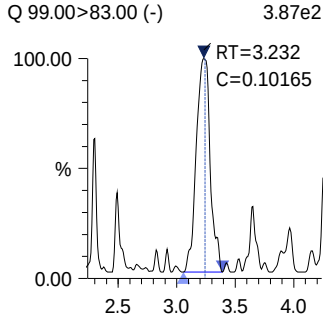
PERCHLORATE1

Date acquired: 10/20/2020 5:02:55 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201020\20201020_009.lcd
Vial: 5 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE1	10/20/2020 5:02:55 PM	3205	0.10165	20201020_009	3.232	25.0000	1.0000	5
Sodium Perchlorate-18O4_IS	PERCHLORATE1	10/20/2020 5:02:55 PM	221415	1.00000	20201020_009	3.222	25.0000	1.0000	5

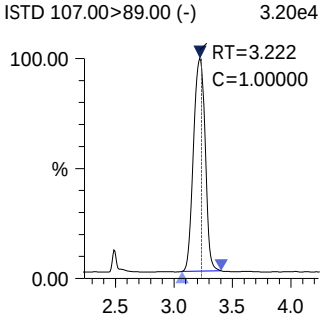
Perchlorate

Conc 0.10165
Area 3205



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 221415



ALS Group Houston

PERCHLORATE2

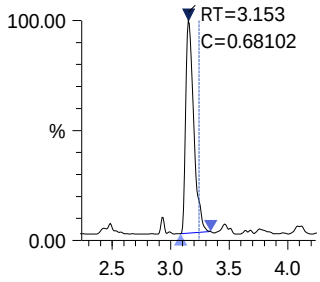
Date acquired: 10/20/2020 5:18:44 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201020\20201020_011.lcd
Vial: 7 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE2	10/20/2020 5:18:44 PM	12196	0.68102	20201020_011	3.153	25.0000	1.0000	7
Sodium Perchlorate-18O4_IS	PERCHLORATE2	10/20/2020 5:18:44 PM	178459	1.00000	20201020_011	3.151	25.0000	1.0000	7

Perchlorate

Conc 0.68102
Area 12196

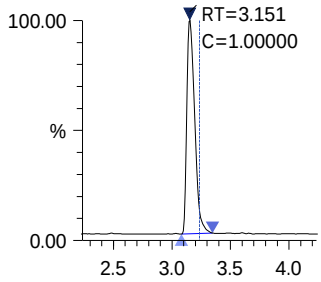
Q 99.00>83.00 (-) 2.52e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 178459

ISTD 107.00>89.00 (-) 3.74e4



ALS Group Houston

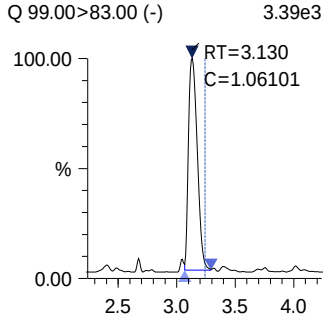
PERCHLORATE3

Date acquired: 10/20/2020 5:26:37 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201020\20201020_012.lcd
Vial: 8 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE3	10/20/2020 5:26:37 PM	17953	1.06101	20201020_012	3.130	25.0000	1.0000	8
Sodium Perchlorate-18O4_IS	PERCHLORATE3	10/20/2020 5:26:37 PM	173169	1.00000	20201020_012	3.123	25.0000	1.0000	8

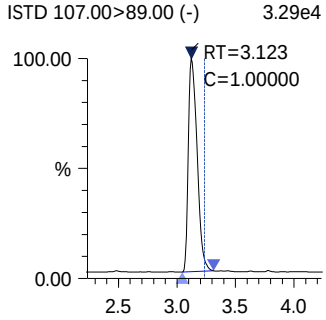
Perchlorate

Conc 1.06101
Area 17953



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 173169



ALS Group Houston

PERCHLORATE4

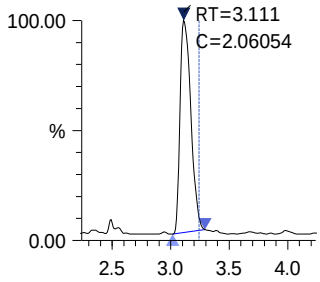
Date acquired: 10/20/2020 5:34:30 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201020\20201020_013.lcd
Vial: 9 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE4	10/20/2020 5:34:30 PM	36954	2.06054	20201020_013	3.111	25.0000	1.0000	9
Sodium Perchlorate-18O4_IS	PERCHLORATE4	10/20/2020 5:34:30 PM	187954	1.00000	20201020_013	3.113	25.0000	1.0000	9

Perchlorate

Conc 2.06054
Area 36954

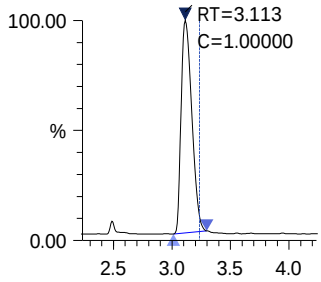
Q 99.00>83.00 (-) 5.74e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 187954

ISTD 107.00>89.00 (-) 2.97e4



ALS Group Houston

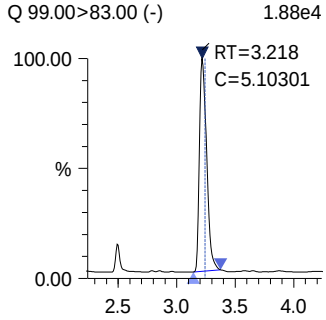
PERCHLORATE5

Date acquired: 10/20/2020 5:42:26 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201020\20201020_014.lcd
Vial: 10 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE5	10/20/2020 5:42:26 PM	79828	5.10301	20201020_014	3.218	25.0000	1.0000	10
Sodium Perchlorate-18O4_IS	PERCHLORATE5	10/20/2020 5:42:26 PM	166486	1.00000	20201020_014	3.217	25.0000	1.0000	10

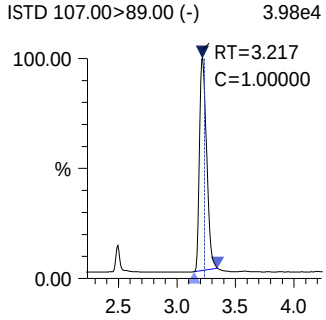
Perchlorate

Conc 5.10301
Area 79828



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 166486



ALS Group Houston

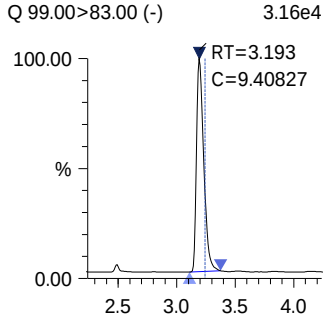
PERCHLORATE6

Date acquired: 10/20/2020 5:50:19 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201020\20201020_015.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE6	10/20/2020 5:50:19 PM	136097	9.40827	20201020_015	3.193	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE6	10/20/2020 5:50:19 PM	154693	1.00000	20201020_015	3.190	25.0000	1.0000	4

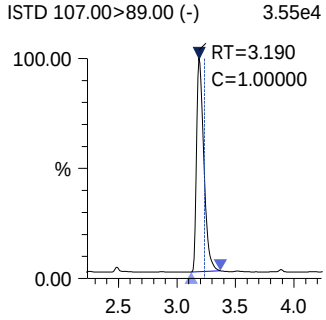
Perchlorate

Conc 9.40827
Area 136097



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 154693



ALS Group Houston

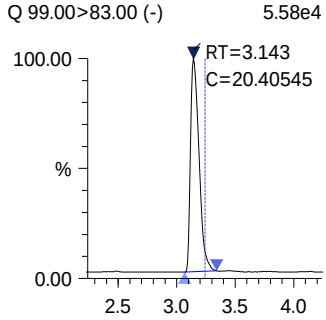
PERCHLORATE7

Date acquired: 10/20/2020 5:58:14 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201020\20201020_016.lcd
Vial: 11 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	10/20/2020 5:58:14 PM	286302	20.40545	20201020_016	3.143	25.0000	1.0000	11
Sodium Perchlorate-18O4_IS	PERCHLORATE7	10/20/2020 5:58:14 PM	150504	1.00000	20201020_016	3.142	25.0000	1.0000	11

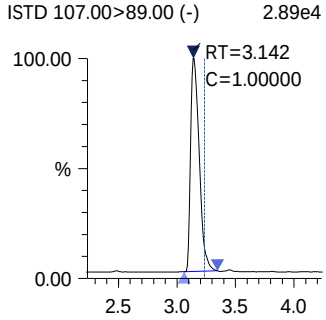
Perchlorate

Conc 20.40545
Area 286302



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 150504



ALS Group Houston

PERCHLORATE8

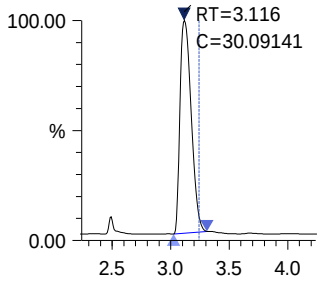
Date acquired: 10/20/2020 6:06:08 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201020\20201020_017.lcd
Vial: 12 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE8	10/20/2020 6:06:08 PM	429904	30.09141	20201020_017	3.116	25.0000	1.0000	12
Sodium Perchlorate-18O4_IS	PERCHLORATE8	10/20/2020 6:06:08 PM	153380	1.00000	20201020_017	3.115	25.0000	1.0000	12

Perchlorate

Conc 30.09141
Area 429904

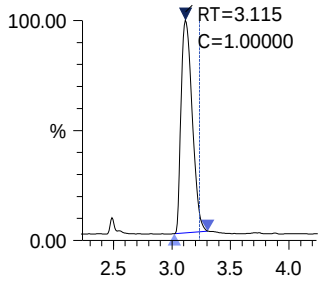
Q 99.00>83.00 (-) 6.42e4



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 153380

ISTD 107.00>89.00 (-) 2.32e4



ALS Group Houston

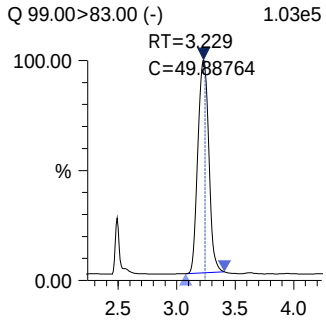
PERCHLORATE9

Date acquired: 10/20/2020 6:14:02 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201020\20201020_018.lcd
Vial: 13 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE9	10/20/2020 6:14:02 PM	663959	49.88764	20201020_018	3.229	25.0000	1.0000	13
Sodium Perchlorate-18O4_IS	PERCHLORATE9	10/20/2020 6:14:02 PM	142988	1.00000	20201020_018	3.226	25.0000	1.0000	13

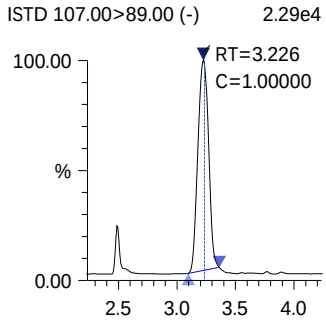
Perchlorate

Conc 49.88764
Area 663959



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 142988



ALS Group Houston

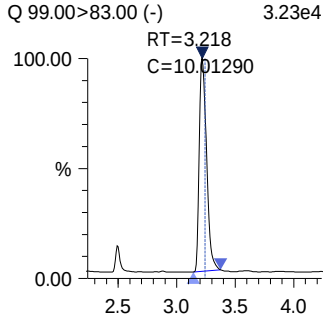
PERCHLORATEICV

Date acquired: 10/20/2020 6:21:55 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20201020\20201020_019.lcd
Vial: 14 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATEICV	10/20/2020 6:21:55 PM	138426	10.01290	20201020_019	3.218	25.0000	1.0000	14
Sodium Perchlorate-18O4_IS	PERCHLORATEICV	10/20/2020 6:21:55 PM	147890	1.00000	20201020_019	3.215	25.0000	1.0000	14

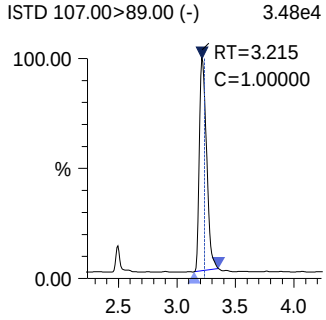
Perchlorate

Conc 10.01290
Area 138426



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 147890



Chromatograms and Selected Ion Monitoring

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 320, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

20201019

ALS Environmental

ICAL Date: 9/15/2020
Cal. Std. xp: 11/18/2020
ICAL ID: EC2000032

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	null		20201019_001	Perchlorate6850b.lcm	1x	☒		10/19/2020 14:37
2	null		20201019_002	Perchlorate6850b.lcm	1x	☒		10/19/2020 14:41
3	IB		20201019_003	Perchlorate6850b.lcm	1x	☒		10/19/2020 14:47
4	LODV		20201019_004	Perchlorate6850b.lcm	1x	☒		10/19/2020 14:55
5	ICS		20201019_006	Perchlorate6850b.lcm	1x	☒		10/19/2020 15:10
6	PERCHLORATE7		20201019_007	Perchlorate6850b.lcm	1x	☒	3100807-04	10/19/2020 15:18
7	E2000964-001X10		20201019_008	Perchlorate6850b.lcm	10x	☒		10/19/2020 15:26
8	E2000964-002X10		20201019_009	Perchlorate6850b.lcm	10x	☒		10/19/2020 15:34
9	E2000964-003X10		20201019_010	Perchlorate6850b.lcm	10x	☒		10/19/2020 15:42
10	E2000964-004X10		20201019_011	Perchlorate6850b.lcm	10x	☒		10/19/2020 15:50
11	E2000964-005X10		20201019_012	Perchlorate6850b.lcm	10x	☒		10/19/2020 15:58
12	E2000964-006		20201019_013	Perchlorate6850b.lcm	1x	☒		10/19/2020 16:06
13	E2000964-007X10		20201019_014	Perchlorate6850b.lcm	10x	☒		10/19/2020 16:42
14	E2000964-008X10		20201019_015	Perchlorate6850b.lcm	10x	☒		10/19/2020 16:50
15	PERCHLORATE7		20201019_016	Perchlorate6850b.lcm	1x	☒	3100807-04	10/19/2020 16:58
16	EQ2000512-01		20201019_017	Perchlorate6850b.lcm	1x	☒		10/19/2020 17:05
17	EQ2000512-02		20201019_018	Perchlorate6850b.lcm	1x	☒		10/19/2020 17:13
18	EQ2000512-03		20201019_019	Perchlorate6850b.lcm	1x	☒		10/19/2020 17:21
19	E2000965-001		20201019_020	Perchlorate6850b.lcm	1x	☒		10/19/2020 17:29
20	E2000965-002		20201019_021	Perchlorate6850b.lcm	1x	☒		10/19/2020 17:37
21	E2000965-003		20201019_022	Perchlorate6850b.lcm	1x	☒		10/19/2020 17:45
22	E2000965-004		20201019_023	Perchlorate6850b.lcm	1x	☒		10/19/2020 17:53
23	E2000965-005		20201019_024	Perchlorate6850b.lcm	1x	☒		10/19/2020 18:01
24	E2000966-001		20201019_025	Perchlorate6850b.lcm	1x	☒		10/19/2020 18:09
25	E2000966-002		20201019_026	Perchlorate6850b.lcm	1x	☒		10/19/2020 18:17
26	PERCHLORATE7		20201019_027	Perchlorate6850b.lcm	1x	☒	3100807-04	10/19/2020 18:25
27	E2000968-001		20201019_028	Perchlorate6850b.lcm	1x	☒		10/19/2020 18:33
28	E2000968-002		20201019_029	Perchlorate6850b.lcm	1x	☒		10/19/2020 18:40
29	E2000968-003		20201019_030	Perchlorate6850b.lcm	1x	☒		10/19/2020 18:48
30	E2000968-004		20201019_031	Perchlorate6850b.lcm	1x	☒		10/19/2020 18:56
31	E2000968-005		20201019_032	Perchlorate6850b.lcm	1x	☒		10/19/2020 19:04
32	E2000968-006		20201019_033	Perchlorate6850b.lcm	1x	☒		10/19/2020 19:12
33	E2000968-007		20201019_034	Perchlorate6850b.lcm	1x	☒		10/19/2020 19:20
34	E2000971-001		20201019_035	Perchlorate6850b.lcm	1x	☒		10/19/2020 19:28
35	E2000971-002		20201019_036	Perchlorate6850b.lcm	1x	☒		10/19/2020 19:36
36	E2000971-003		20201019_037	Perchlorate6850b.lcm	1x	☒		10/19/2020 19:44
37	PERCHLORATE7		20201019_038	Perchlorate6850b.lcm	1x	☒	3100807-04	10/19/2020 19:51
38	E2000971-004		20201019_039	Perchlorate6850b.lcm	1x	☒		10/19/2020 19:59
39	E2000971-005		20201019_040	Perchlorate6850b.lcm	1x	☒		10/19/2020 20:07
40	EQ2000513-01		20201019_041	Perchlorate6850b.lcm	1x	☒		10/19/2020 20:15
41	EQ2000513-02		20201019_042	Perchlorate6850b.lcm	1x	☒		10/19/2020 20:23
42	EQ2000513-03		20201019_043	Perchlorate6850b.lcm	1x	☒		10/19/2020 20:31
43	EQ2000513-04		20201019_044	Perchlorate6850b.lcm	1x	☒		10/19/2020 20:39
44	EQ2000513-05		20201019_045	Perchlorate6850b.lcm	1x	☒		10/19/2020 20:47
45	E2000981-001		20201019_046	Perchlorate6850b.lcm	1x	☒		10/19/2020 20:55
46	E2000982-001		20201019_047	Perchlorate6850b.lcm	1x	☒		10/19/2020 21:02
47	E2000984-001		20201019_048	Perchlorate6850b.lcm	1x	☒		10/19/2020 21:10
48	PERCHLORATE7		20201019_049	Perchlorate6850b.lcm	1x	☒	3100807-04	10/19/2020 21:18
49	E2000985-001		20201019_050	Perchlorate6850b.lcm	1x	☒		10/19/2020 21:26
50	E2000985-002		20201019_051	Perchlorate6850b.lcm	1x	☒		10/19/2020 21:34
51	E2000985-003		20201019_052	Perchlorate6850b.lcm	1x	☒		10/19/2020 21:42
52	E2000985-004		20201019_053	Perchlorate6850b.lcm	1x	☒		10/19/2020 21:50
53	E2000985-005		20201019_054	Perchlorate6850b.lcm	1x	☒		10/19/2020 21:58
54	E2000985-006		20201019_055	Perchlorate6850b.lcm	1x	☒		10/19/2020 22:05
55	E2000996-001		20201019_056	Perchlorate6850b.lcm	1x	☒		10/19/2020 22:13
56	E2000996-002		20201019_057	Perchlorate6850b.lcm	1x	☒		10/19/2020 22:21
57	E2000996-003		20201019_058	Perchlorate6850b.lcm	1x	☒		10/19/2020 22:29
58	E2000996-004		20201019_059	Perchlorate6850b.lcm	1x	☒		10/19/2020 22:37
59	PERCHLORATE7		20201019_060	Perchlorate6850b.lcm	1x	☒	3100807-04	10/19/2020 22:45
60	E2000996-005		20201019_061	Perchlorate6850b.lcm	1x	☒		10/19/2020 22:53
61	E2000996-006		20201019_062	Perchlorate6850b.lcm	1x	☒		10/19/2020 23:01

20201019

ALS Environmental

ICAL Date: 9/15/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000032**

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
62	E2000996-007		20201019_063	Perchlorate6850b.lcm	1x	☒		10/19/2020 23:09
63	E2000996-008		20201019_064	Perchlorate6850b.lcm	1x	☒		10/19/2020 23:16
64	E2000996-009		20201019_065	Perchlorate6850b.lcm	1x	☒		10/19/2020 23:24
65	PERCHLORATE7		20201019_066	Perchlorate6850b.lcm	1x	☒	3100807-04	10/19/2020 23:32
66	null		20201019_067	Perchlorate6850b.lcm	1x	☒		10/19/2020 23:37
67	null		20201019_068	Perchlorate6850b.lcm	1x	☒		10/19/2020 23:42
68								
69								

20201020

ALS Environmental

ICAL Date: 9/20/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000045**

1st Review: Grivera
2nd Review: Kneir

Injection Log
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100807-09 **B:** MeOH 3100802-01

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	PERCHLORATE1		20201020_009	Perchlorate6850b.lcm	1x	☒	3100806-05	10/20/2020 17:02
2	PERCHLORATE2		20201020_011	Perchlorate6850b.lcm	1x	☒	3100806-07	10/20/2020 17:18
3	PERCHLORATE3		20201020_012	Perchlorate6850b.lcm	1x	☒	3100807-01	10/20/2020 17:26
4	PERCHLORATE4		20201020_013	Perchlorate6850b.lcm	1x	☒	3100807-02	10/20/2020 17:34
5	PERCHLORATE5		20201020_014	Perchlorate6850b.lcm	1x	☒	3100807-03	10/20/2020 17:42
6	PERCHLORATE6		20201020_015	Perchlorate6850b.lcm	1x	☒	3100807-04	10/20/2020 17:50
7	PERCHLORATE7		20201020_016	Perchlorate6850b.lcm	1x	☒	3100807-05	10/20/2020 17:58
8	PERCHLORATE8		20201020_017	Perchlorate6850b.lcm	1x	☒	3100807-06	10/20/2020 18:06
9	PERCHLORATE9		20201020_018	Perchlorate6850b.lcm	1x	☒	3100807-07	10/20/2020 18:14
10	PERCHLORATEICV		20201020_019	Perchlorate6850b.lcm	1x	☒	3100807-08	10/20/2020 18:21
11	IB		20201020_020	Perchlorate6850b.lcm	1x	☒		10/20/2020 18:29
12	LODV		20201020_021	Perchlorate6850b.lcm	1x	☒		10/20/2020 18:37
13	ICS		20201020_022	Perchlorate6850b.lcm	1x	☒		10/20/2020 18:45
14	PERCHLORATE7		20201020_023	Perchlorate6850b.lcm	1x	☒	3100807-05	10/20/2020 18:53
15	EQ2000512-03RR		20201020_024	Perchlorate6850b.lcm	1x	☒		10/20/2020 19:01
16	E2000965-005X2		20201020_025	Perchlorate6850b.lcm	2x	☒		10/20/2020 19:09
17	E2000966-002X2		20201020_026	Perchlorate6850b.lcm	2x	☒		10/20/2020 19:17
18	E2000971-001X2		20201020_027	Perchlorate6850b.lcm	2x	☒		10/20/2020 19:25
19	E2000971-003X2		20201020_028	Perchlorate6850b.lcm	2x	☒		10/20/2020 19:33
20	E2000971-004X2		20201020_029	Perchlorate6850b.lcm	2x	☒		10/20/2020 19:40
21	E2000971-005X10		20201020_030	Perchlorate6850b.lcm	10x	☒		10/20/2020 19:48
22	PERCHLORATE7		20201020_031	Perchlorate6850b.lcm	1x	☒	3100807-05	10/20/2020 19:56
23	EQ2000513-02RR		20201020_032	Perchlorate6850b.lcm	1x	☒		10/20/2020 20:04
24	EQ2000513-03RR		20201020_033	Perchlorate6850b.lcm	1x	☒		10/20/2020 20:12
25	EQ2000513-04RR		20201020_034	Perchlorate6850b.lcm	1x	☒		10/20/2020 20:20
26	EQ2000513-05RR		20201020_035	Perchlorate6850b.lcm	1x	☒		10/20/2020 20:28
27	E2000981-001X2		20201020_036	Perchlorate6850b.lcm	2x	☒		10/20/2020 20:36
28	E2000982-001X200		20201020_037	Perchlorate6850b.lcm	200x	☒		10/20/2020 20:44
29	E2000984-001X2		20201020_038	Perchlorate6850b.lcm	2x	☒		10/20/2020 20:51
30	E2000985-002X20		20201020_039	Perchlorate6850b.lcm	20x	☒		10/20/2020 20:59
31	E2000985-003X2		20201020_040	Perchlorate6850b.lcm	2x	☒		10/20/2020 21:07
32	E2000985-004X10		20201020_041	Perchlorate6850b.lcm	10x	☒		10/20/2020 21:15
33	PERCHLORATE7		20201020_042	Perchlorate6850b.lcm	1x	☒	3100807-05	10/20/2020 21:23
34	E2000985-006X10		20201020_043	Perchlorate6850b.lcm	10x	☒		10/20/2020 21:31
35	E2000996-003X2		20201020_044	Perchlorate6850b.lcm	2x	☒		10/20/2020 21:39
36	E2000996-005X2		20201020_045	Perchlorate6850b.lcm	2x	☒		10/20/2020 21:47
37	E2000996-006X5		20201020_046	Perchlorate6850b.lcm	5x	☒		10/20/2020 21:55
38	E2000996-009X5		20201020_047	Perchlorate6850b.lcm	5x	☒		10/20/2020 22:02
39	PERCHLORATE7		20201020_048	Perchlorate6850b.lcm	1x	☒	3100807-05	10/20/2020 22:10
40	null		20201020_049	Perchlorate6850b.lcm	1x	☒		10/20/2020 22:15
41	null		20201020_050	Perchlorate6850b.lcm	1x	☒		10/20/2020 22:20
42								
43								